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A TABULATION OF HELICOPTER ROTOR-BLADE DIFFERENTIAL PRESSURES, STRESSES, AND MOTIONS AS MEASURED IN FLIGHT

by James Scheiman

Langley Research Center
Langley Station, Hampton, Va.

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Page 106, table 21(g): In the final column, the pitch-horn load opposite ψ_{nom} = 66 degrees should be 198 pounds instead of 333 pounds.

Page 654, table 131(c): Replace the data under the heading "Lag motion" with the following:

Lag motion		
n	E_n, deg	F_n, deg
0	-.849	
1	-.118	-.113
2	-.018	.044
3	0	.042
4	.024	.007
5	.002	.015
6	-.015	.010
7	-.010	-.040
8	-.006	-.010
9	0	.007
10	.002	0

NASA-Langley, 1965

Issued 4-15-65

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Langley Research Center

17832 Ames

SUMMARY

An extensive flight test program was conducted at the Langley Research Center to obtain helicopter rotor-blade airloads, bending moments, and blade motions. In addition, numerous flight parameters were recorded. The tabulated data presented herein are for forward speeds from 0 to 120 knots, flights in and out of ground effect, climbs, autorotations, maneuvers, and operations with forward and aft center-of-gravity locations. Basic helicopter characteristics and rotor-blade structural properties are presented. This report is a tabulation of the reduced rotor system data and the corresponding flight test conditions. The data are presented without analysis.

Author

INTRODUCTION

Vibratory loads is one of the major helicopter problems. Satisfactory methods for predicting vibratory blade loads have long been an objective of the helicopter industry. However, a shortage of experimental information on vibratory airloads has seemed the major impediment to devising and correlating theory with flight test results.

In order to help fill this gap, the NASA has flight tested a single-rotor helicopter equipped with extensive instrumentation. Tabulated data and the corresponding flight conditions are presented herein without analysis. Data for three additional trim level flight conditions are available in reference 1.

SYMBOLS

a slope of curve of section lift coefficient plotted against section angle of attack (assumed equal to 5.73), per radian

$a_{n,s}$, $b_{n,s}$ coefficients for harmonic series of blade flapping motion, deg

$A_{n,s}$, $B_{n,s}$ coefficients for harmonic series of blade pitching motion, deg

b number of blades

c blade-section chord, in. or ft

E_n, F_n coefficients for harmonic series of blade lagging motion, deg

I_l mass moment of inertia of blade about flapping hinge, slug-ft^2

l section aerodynamic loading, integral of chordwise differential pressures per unit span, lb/in.

L_n, M_n coefficients for harmonic series of section aerodynamic loading per unit span, lb/in.

n harmonic order

N_R rotor rotational speed, rpm

Δp differential pressure between upper and lower surfaces of blade, positive values indicate net lift, lb/sq in.

q forward-speed dynamic pressure, lb/sq ft

r spanwise distance along blade radius measured from center of rotation, in.

R blade radius from center of rotation to blade tip, in. or ft

t time, sec

T air temperature, ^{o}F

V true helicopter forward speed, knots or ft/sec

$V_{d,i}$, $V_{c,i}$ instantaneous (5 to 10 seconds) rate of descent or rate of climb, respectively, ft/min

$V_{d,av}$, $V_{c,av}$ average (1 to 2 minutes) rate of descent or rate of climb, respectively, ft/min

$\left(\frac{dV}{dt}\right)_i$ instantaneous (5 to 10 seconds) rate of change in forward speed, ft/sec^2

x chordwise distance from blade leading edge, in.

β_s blade flapping angle measured at blade root relative to plane normal to shaft axis, deg

γ mass constant of rotor blade, $c\rho aR^4/I_1$

ζ blade lag angle measured at blade root relative to a line drawn through center of rotation and lag hinge, deg

θ_s blade pitch angle measured at blade root relative to plane normal to shaft axis, deg

ρ mass density, slugs/cu ft

σ rotor solidity, $bc/\pi R$

ψ azimuth angle of rotor blade including lagging motion, measured in direction of rotation from downwind position, deg

ψ_{nom} azimuth angle of rotor blade without any lagging motion (hub azimuth position), measured in direction of rotation from downwind position, deg

DESCRIPTION OF TEST EQUIPMENT

The single-rotor helicopter used in the present investigation is shown in figure 1, and its principal dimensions and approximate physical characteristics are listed in table 1. The rotor was fully articulated, having four blades, each with a planform as shown in figure 2 and each having offset flapping and lag hinges. The test blade stiffness and weight distributions, which were obtained from the manufacturer, are shown in figure 2. In addition, the polar moment of inertia of the blade cross-sectional area had a constant value, of approximately 4.65 $in.^4$, from the 40-inch radius to the blade tip, and the blade polar mass moment of inertia in torsion was 4.85 $in\text{-}lb\text{-}sec^2$. The torsional stiffness of the total blade was 46,500 inch-pounds per radian, and the control-system stiffness was about 700,000 inch-pounds per radian. The rotor was a standard production rotor modified only to the extent required for the necessary instrumentation. Two-dimensional airfoil characteristics of the rotor blade section are available in reference 2. The full-span trailing-edge tab on the instrumented blade had zero deflection for spanwise stations $r/R = 0.25$, 0.40, 0.55, 0.75, and 0.95; the trim tab was deflected upward 4° at stations $r/R = 0.85$ and 0.90.

The pressure transducers used were the NASA miniature electrical pressure gages described in reference 3. Forty-nine gages were mounted inside the rotor blade in such a way that neither centrifugal force nor flapping accelerations materially affect gage output. The pressure gages were distributed over the blade in the chordwise and radial directions as shown in table 2. Each gage was connected to orifices on the upper and lower surfaces of the blade. The connecting tubing for all the gages had a 12-inch length and a 0.04-inch inside diameter. The outputs of the pressure transducers, blade-bending gages, and blade-motion gages were recorded simultaneously. Blade motions were measured with potentiometers.

Records of the flight parameters were obtained by the use of standard NASA recording instruments having synchronized time scales which measured dynamic pressure, absolute pressure, manifold pressure, rotor rotational speed,

pilot-control positions, angular velocities about the three principal inertia axes, and helicopter center-of-gravity accelerations. Appropriate portions of these data are included herein.

DATA REDUCTION AND ACCURACY

The rotor-blade measurements were recorded on six oscillograph tapes. Each tape was marked by means of a synchronized time scale, which was coincident with the time scale of the flight recording records. For each flight, the data for three consecutive rotor revolutions (with the exceptions noted below) were averaged to obtain the tabulated results. It was not always possible (for example, with conditions for blade-section stall) to choose the three rotor revolutions such that each channel looked exactly repetitive. For maneuver and other transient flight conditions, only one rotor revolution was used to obtain the data; these flight test conditions are noted in table 3.

The trace deflections were measured and transcribed to punch cards by the use of semiautomatic film reading equipment. These cards were then processed through an electronic digital computer, and the final results are tabulated herein.

An attempt was made to evaluate the accuracy in reading the oscillograph records. The most obvious conclusion was that accuracy depended greatly upon the type and quality of the record. High-amplitude and high-frequency records (which produced steep slopes) were most difficult to read. The estimated reading accuracy of an individual data point of the poorest records is ±5 percent with 99.7-percent confidence and ±3.5 percent with 95-percent confidence. When data for three rotor revolutions were averaged, this accuracy is ±3 percent and ±2 percent, respectively.

In addition to the errors in reading the oscillograph records discussed previously, some errors were introduced by the dynamic response of the recording system. The amplitude errors due to dynamic response, which have not been corrected in the tabulated data, are presented in the following table as a percent error, i.e., $100 \frac{\text{Measured value - True value}}{\text{True value}}$:

	Percent error at input frequency of -				
	0 cps	10 cps	20 cps	30 cps	40 cps
Differential pressure:					
Maximum	0	+2.0	+4.5	+5.5	+3.0
Average	0	+.9	+2.2	+3.0	+.4
Minimum	0	0	+.5	+1.0	-3.0
Flap bending moment:					
Maximum	0	+.5	+2.5	+5.0	+5.0
Average	0	+.4	+1.6	+2.4	0
Minimum	0	0	+1.0	+1.0	-2.0
Chord bending moment:					
Maximum	0	+.5	+1.5	+1.5	-.5
Average	0	+.5	+1.2	+1.0	-1.9
Minimum	0	+.5	+1.0	0	-3.0
Torsional moment:					
Maximum	0	+2.0	+3.0	+3.5	+2.5
Average	0	+1.3	+2.3	+2.8	+.8
Minimum	0	+.5	+1.5	+2.0	-1.0
Pitch-horn load:	0	0	+.5	+.5	-.2

The phase-angle error, which has not been corrected in the tabulated data, is estimated to be equivalent to a blade azimuth lag angle of about 4.5° for all frequencies of excitation. The phase angle is constant due to the damping ratio being approximately 64 percent of critical damping, which results in a near linear variation of phase lag angle with frequency ratio.

The amplitude and phase-angle errors can be corrected by performing a harmonic analysis of the desired data (assuming no interharmonic influence) and by applying dynamic-response corrections to the amplitude and phase of each harmonic coefficient.

The pressures measured by individual chordwise gages at one blade station were integrated numerically by using Gauss's method of numerical integration given in reference 4. The accuracy of integrating these pressures in a chordwise direction is estimated to range from 0 to +5 percent.

The steady flap bending moments (from a harmonic analysis not presented) indicated inconsistencies for trim level flights made on different days. These inconsistencies were due to the method of obtaining the zero trace deflection; thus, additional errors exist in the steady flap bending moments, in particular, for the inboard stations. This error had no effect on the harmonic amplitudes of the bending moments. Attempts to correct the steady flap bending moments were made but were unsuccessful because of the low sensitivity of the flap-bending-moment gages.

The flight instruments were read manually with a graduated scale, and the measurements were averaged for time intervals corresponding to the three rotor revolutions.

The fuselage attitude inclinometers were highly sensitive to fuselage accelerations. However, the mean inclination values, used to determine the shaft angles in table 3, are believed to be accurate within about $\pm 0.5^{\circ}$ for the worst records.

The rate of climb or rate of descent (table 3) was determined from absolute-pressure recorders and is believed to be accurate within about ± 100 feet per minute. The forward speeds were determined from one of two dynamic-pressure sensing systems; speeds below about 35 knots were determined from a special low-pressure pickup system. The airspeed instrumentation system was calibrated "on a bench," but the complete airspeed-system installation was not calibrated on the flight helicopter. The overall accuracy in level flight is estimated to be about ± 2 knots for speeds greater than about 15 knots.

The engine manifold pressure is estimated to be accurate within about ± 0.1 inch of mercury. Caution should be exercised in making performance estimates by using the manifold pressures (table 3), engine rotational speed (table 3, rotor speed and table 1, gear ratio), and engine characteristic charts to determine engine horsepower. Attempts to compare the horsepower utilized with helicopter forward speed have revealed some discrepancies which have not, at present, been explained.

The flight temperatures presented in the Remarks column of table 3 for the flights at high blade-tip Mach numbers were determined from measured ground temperatures and by assuming a standard temperature-altitude gradient. From these temperatures and the measured absolute pressures, the flight densities (table 3) were determined.

PRESENTATION OF DATA

The flight conditions for the tabulated data are presented in table 3; the number of rotor revolutions used in reducing these data is three unless otherwise noted in the Remarks column. The reduced rotor data are given in tables 4 to 132. For some maneuver flights, data obtained at various times during the maneuver were reduced. (For example, the data in tables 44 and 45 are at different time intervals of the same maneuver flight (flight 41).) The time histories of the maneuver flights are shown in figures 3 to 30 with a cross reference of the pertinent table numbers. (For the previous example (flight 41), see fig. 3.) The number of rotor revolutions used in reducing the data is indicated by the number of tick marks on the figure.

Figures 3 to 30 are included to provide a pictorial view. Some of these figures include the control stick positions which were obtained from potentiometers located at the pilot control stick. The electrical outputs of these potentiometers were calibrated with respect to the rotor-blade pitch angle. The rotor blade was positioned at the azimuth locations corresponding to the maximum blade pitch angle for longitudinal and lateral stick deflection. The direction of the ordinate for the cyclic control is indicated by the stick position (e.g., forward stick), and the scale is in terms of the cyclic blade pitch angle. Similarly, the position of the collective pitch control stick was calibrated with respect to the collective blade pitch angle at 75 percent of the blade radius. By taking into account blade twist, some disagreement may be noted in a comparison of the cyclic and collective blade pitch angles determined from the pilot control stick potentiometers with the blade-root pitch angle determined from the pitch potentiometer located at the blade root (part (c) of data tables). This disagreement can be at least partially explained by kinematics and flexibilities in the control system.

Note that there was an inadvertent shift in the blade azimuth angle in all the tabular data for some of the flights. This shift is indicated by the values of ψ_{nom} given in the data tables. For these flights note that the harmonic analysis is about the 6° hub azimuth position rather than the 0° hub azimuth position; this is indicated by the Fourier equations listed in parts (c) and (d) of the data tables.

The shaft inclination angles given in table 3 were measured from the rotor shaft to a line perpendicular to the horizon. For longitudinal inclination a positive sign indicates the rotor shaft is inclined rearward, and for lateral inclination, the rotor shaft is banked to the right.

For the forward-center-of-gravity tests (flights 77, 78, and 79), the center of gravity was located 137.3 inches from the reference plane; for the rearward-center-of-gravity tests (flights 80, 81, and 82), 145.6 inches; for all other tests, 141.1 inches. The center of the rotor head was 137.6 inches from this same reference plane; it should be recalled that the rotor drive shaft was tilted forward 3°.

The differential pressure (part (a) of data tables) represents the difference in pressure between the upper and lower surfaces at the specified blade location. A positive value represents a net negative pressure or a positive lift force.

The section aerodynamic loadings are the integral of the chordwise differential pressures per unit span. Positive values indicate positive lift per inch of span. The individual data points are presented in part (b) of the data tables.

All blade motions are measured at the blade root with respect to the rotor hub. The harmonic analysis of the blade motions is presented in part (c) of the data tables. For pitch motion, a positive sign indicates that the blade leading edge is rotated upward; for flap motion, that the blade span axis is above the plane perpendicular to the axis of the rotor shaft; and for lag motion, that the blade span axis is aft of a line through the center of rotation and lag hinge.

Part (d) of the data tables presents the harmonic analysis of the section aerodynamic loading given in part (b).

The blade flapwise bending moment is shown in part (e) of the data tables; the chordwise bending moment, in part (f); and the torsional moment, in part (g). For flapwise bending moment, a positive sign indicates compression in the upper surface of the blade; for chordwise bending moment, compression in the trailing edge of the blade; and for torsional moment, couple tending to rotate the blade leading edge upward. A positive pitch-horn load indicates a down load on the end of the pitch horn, which corresponds to a negative torsional moment from the blade.

Langley Research Center,
National Aeronautics and Space Administration,
Langley Station, Hampton, Va., December 11, 1963.

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3. Patterson, John L.: A Miniature Electrical Pressure Gage Utilizing a Stretched Flat Diaphragm. NACA TN 2659, 1952.

4. Milne, William Edmund: Numerical Calculus. Princeton Univ. Press, 1949.

TABLE 1

PRINCIPAL DIMENSIONS AND APPROXIMATE PHYSICAL CHARACTERISTICS

OF TEST HELICOPTER AND MAIN-ROTOR BLADE

Test weight, lb	Between 11,200 and 11,805
Number of blades	4
Blade radius, ft	28
Flapping and lagging hinge offset, ft	1
Weight per blade (approximate), lb	175
Blade type	All metal, constant chord
Blade twist, deg	-8
Airfoil section	Modified NACA 0012
Blade chord, ft	1.367
Rotor solidity, σ	0.0622
Approximate rotor-blade mass constant, γ	9.7
Lag damper outer hinge offset from blade feathering axis (approximate), in.	7.5
Lag damper damping value, lb-sec/ft	Between 60,500 and 71,200
Pitch link upper hinge offset from blade feathering axis (approximate), in.	8.0
Pitch link upper hinge offset from blade flapping hinge (approximate), in.	0
Engine	R1820-84A
Engine—main-rotor gear ratio	11.294:1
Normal rotor-blade tip speed, ft/sec	623
Normal rotor angular velocity, radians/sec	22.2
Test disk loading, lb/sq ft	Between 4.55 and 4.79
Mass moment of inertia of blade about flapping hinge, slug-ft^2	1,176
Forward shaft tilt with respect to fuselage floor, deg	3.0

TABLE 2

PRESSURE-ORIFICE LOCATIONS ON INSTRUMENTED ROTOR BLADE

x/c at -						
r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0.042	0.042	0.017	0.017	0.017	0.017	0.017
.158	.158	.090	.090	.040	.090	.090
.300	.300	.168	.168	.090	.168	.168
.600	.600	.233	.233	.130	.233	.233
.910	.910	.335	.335	.168	.335	.335
		.625	.625	.233	.625	.625
		.915	.915	.335	.915	.915
				.500		
				.625		
				.769		
				.915		

TABLE 3.- FLIGHT TEST CONDITIONS

Data table	Flight	V, knots	Manifold pressure, in. Hg	Air density, slugs/cu ft	N_R, rpm	Shaft inclination, deg		Remarks
						Long.	Lat.	
Trim level flight out of ground effect								
4	1	≈0	38.5	0.00232	222	-1.0	0.6	Hovering in light wind
5	2	≈11	40.3	.00253	218	-.5	-3.0	
6	3	23	36.5	.00254	207	-.6	-2.6	
7	4	32	37.4	.00254	211	.2	-1.9	
8	5	42	28.0	.00213	217	-.9	-.9	$V_{d,av}$ = 100 ft/min
9	6	48	33.5	.00254	214	-.7	-.6	
10	7	56	33.3	.00212	215	-2.0	-1.9	$V_{c,av}$ = 100 ft/min
11	8	66	35.6	.00220	190	-2.2	-.5	$V_{c,av}$ = 350 ft/min
12	9	68	29.7	.00221	194	-2.8	-1.2	$V_{c,av}$ = 120 ft/min
13	10	79	34.1	.00211	214	-3.8	-.7	$V_{c,av}$ = 200 ft/min
14	11	88	37.4	.00214	222	-4.0	-2.1	
15	12	92	34.4	.00211	212	-5.1	-.9	
16	13	99	39.5	.00212	211	-5.4	-1.3	
17	14	104	42.2	.00215	223	-6.1	-2.5	$V_{d,av}$ = 230 ft/min
18	15	105	41.2	.00222	210	-5.5	-1.3	
19	16	108	42.4	.00213	214	-6.0	-3.2	
20	17	110	45.3	.00212	246	-8.2	-2.4	T = 68° F; one per revolution vibration; $V_{d,av}$ = 200 ft/min
21	18	112	43.8	.00210	216	-7.2	-1.5	$V_{d,av}$ = 350 ft/min
22	19	115	46.5	.00209	231	-7.3	-.9	T = 68° F; high advancing blade tip Mach number; $V_{d,av}$ = 100 ft/min
23	20	122	49.4	.00212	245	-7.7	-1.7	$V_{d,av}$ = 450 ft/min

TABLE 3.- FLIGHT TEST CONDITIONS - Continued

Data table	Flight	V, knots	Manifold pressure, in. Hg	Air density, slugs/cu ft	N_R, rpm	Shaft inclination, deg		Remarks
						Long.	Lat.	
Trim level flight in ground effect								
24	21	13	43.1	0.00232	210	0.5	-3.5	
25	22	16	39.4	.00236	221	.2	-4.8	Hovering in slight wind
26	23	22	38.3	.00232	215	.9	-2.0	
27	24	27	34.7	.00251	214	.5	-1.4	Very rough
28	25	31	31.7	.00251	220	.7	-1.4	Very rough
29	26	37	36.5	.00232	215	1.0	-1.3	

Data table	Flight	V, knots	Manifold pressure, in. Hg	Air density, slugs/cu ft	N_R, rpm	Remarks
Climb						
30	27	25	30.0	0.00221	221	$V_{c,i}$ = 100 ft/min; $V_{c,av}$ = 0 ft/min
31	28	50	41.1	.00233	211	$V_{c,i}$ = 1,050 ft/min; $V_{c,av}$ = 1,550; $(dV/dt)_i$ = -0.3 ft/sec^2
32	29	65	39.6	.00212	211	$V_{c,i}$ = 1,000 ft/min; $V_{c,av}$ = 950; smooth
Autorotation						
33	30	53	12.7	0.00213	231	$V_{d,i}$ = 1,800 ft/min; $V_{d,av}$ = 1,600 ft/min; smooth
34	31	78	13.0	.00216	209	$V_{d,i}$ = 1,600 ft/min; $V_{d,av}$ = 1,800 ft/min; smooth
35	32	76	12.2	.00212	231	$V_{d,i}$ = 1,700 ft/min; $V_{d,av}$ = 1,800 ft/min
36	33	90	11.9	.00211	235	$V_{d,i}$ = 2,100 ft/min; $V_{d,av}$ = 2,400 ft min
37	34	99	12.8	.00214	206	$V_{d,av}$ = 2,200 ft/min
38	35	111	13.0	.00214	245	$V_{d,i}$ = 2,600 ft/min; $V_{d,av}$ = 3,200 ft/min; one per revolution vibration

TABLE 3.- FLIGHT TEST CONDITIONS - Continued

Data table	Flight	V, knots	Manifold pressure, in. Hg	Air density, slugs/cu ft	N_R, rpm	Remarks
Steady turn						
39	36	71	34.7	0.00213	221	Right turn; normal acceleration = 1.5g; $V_{c,av}$ = 75 ft/min; fairly rough
40	37	74	32.5	.00213	222	Left turn; normal acceleration = 1.52g; $V_{d,av}$ = 150 ft/min; fairly rough
41	38	84	32.9	.00217	224	Left turn; normal acceleration = 1.32g; $V_{d,av}$ = 700 ft/min; fairly rough
42	39	89	41.8	.00210	218	Right turn; normal acceleration = 1.34g; fairly rough
43	40	91	42.0	.00210	215	Left turn; normal acceleration = 1.35g; fairly rough
Landing approach and flare						
44	41	24	26.8	0.00243	209	See figure 3; $V_{d,av}$ = 200 ft/min
45	41	21	28.0	.00243	205	See figure 3
46	42	17	30.8	.00244	212	See figure 4; final flare in ground effect; moderate roughness; $V_{d,av}$ = 450 ft/min
47	43	24	36.5	.00234	204	See figure 5; $V_{d,av} \approx 0$ ft/min; moderate roughness; $(dV/dt)_i$ = -1.2 ft/sec^2
48	44	27	29.1	.00234	201	See figure 6; $V_{d,av}$ = 300 ft/min
49	44	16	29.6	.00235	202	See figure 6; one revolution only
50	44	14	34.8	.00235	203	See figure 6; one revolution only
51	45	19	38.3	.00231	218	See figure 7; $V_{d,av}$ = 50 ft/min; $(dV/dt)_i$ = -0.17 ft/sec^2
52	46	32	26.6	.00253	204	See figure 8; $V_{d,av}$ = 0 ft/min
53	46	21	30.2	.00254	210	See figure 8
54	46	20	35.4	.00254	213	See figure 8; one revolution only
55	47	16	37.9	.00244	206	See figure 9; $V_{d,av}$ = 750 ft/min; $(dV/dt)_i$ = -4.1 ft/sec^2

TABLE 3.- FLIGHT TEST CONDITIONS - Continued

Data table	Flight	V, knots	Manifold pressure, in. Hg	Air density, slugs/cu ft	N_R, rpm	Remarks
Landing approach and flare - Concluded						
56	48	21	14.2	0.00235	220	See figure 10; $V_{d,av}$ = 550 ft/min
57	48	17	35.2	.00236	203	See figure 10
58	49	30	24.2	.00240	209	See figure 11; $V_{d,av}$ = 450 ft/min
59	49	20	34.0	.00244	207	See figure 11; nonrepeating data for consecutive rotor revolutions, for statistical purposes
Level accelerating flight out of ground effect						
60	50	10	41.3	0.00250	217	See figure 12; $V_{d,av}$ = 100 ft/min
61	50	20	40.9	.00250	215	See figure 12; $V_{d,av}$ = 100 ft/min
62	50	29	40.8	.00250	215	See figure 12; $V_{d,av}$ = 100 ft/min
63	50	39	40.8	.00250	216	See figure 12; $V_{d,av}$ = 100 ft/min
64	50	49	40.2	.00250	217	See figure 12; $V_{d,av}$ = 100 ft/min
65	51	36	37.8	.00229	222	$(dV/dt)_i$ = 0.76 ft/sec^2; $V_{d,av}$ = 40 ft/min
Level decelerating flight						
66	52	36	33.8	0.00229	214	Out of ground effect; $(dV/dt)_i$ = -0.7 ft/sec^2
67	53	≈11	33.1	.00254	210	See figure 13; in ground effect
68	53	≈9	34.8	.00254	211	See figure 13; in ground effect
69	54	49	28.6	.00248	220	See figure 14; out of ground effect
70	54	39	30.0	.00249	208	See figure 14; out of ground effect
71	54	30	36.2	.00249	211	See figure 14; out of ground effect
72	54	20	39.4	.00249	214	See figure 14; out of ground effect
73	54	11	39.4	.00249	213	See figure 14; out of ground effect

TABLE 3.- FLIGHT TEST CONDITIONS - Continued

Data table	Flight	V, knots	Manifold pressure, in. Hg	Air density, slugs/cu ft	N_R, rpm	Remarks
Partial-power descent						
74	55	0	33.5	0.00217	211	$V_{d,i}$ = 700 ft/min; $V_{d,av}$ = 900 ft/min
75	56	0	31.4	.00221	214	$V_{d,av}$ = 1,200 ft/min; rough; blades flapping erratically; unsteady flight
76	57	0	35.2	.00213	215	$V_{d,av}$ = 1,350 ft/min; heavy roughness
77	58	7	19.4	.00217	234	See figure 15; $V_{d,av}$ = 1,000 ft/min
78	58	6	16.5	.00218	206	See figure 15; $V_{d,av}$ = 1,800 ft/min
79	59	≈8	39.3	.00214	210	See figure 16; $V_{d,av}$ = 2,100 ft/min; helicopter temporarily out of control
80	59	≈7	40.1	.00215	206	See figure 16; $V_{d,av}$ = 1,850 ft/min; helicopter temporarily out of control
81	60	10	29.9	.00209	211	$V_{d,av}$ = 800 ft/min; moderate roughness
82	61	≈12	30.3	.00211	223	$V_{d,i}$ = 400 ft/min; $V_{d,av}$ = 1,700 ft/min
83	62	≈14	35.4	.00211	225	See figure 17; $V_{d,av}$ = 2,000 ft/min; unsteady flight
84	62	≈6	37.4	.00214	218	See figure 17; $V_{d,av}$ = 2,600 ft/min; unsteady flight
85	63	15	36.2	.00244	214	$V_{d,av}$ = 650 ft/min
86	64	16	28.0	.00209	215	$V_{d,i}$ = 400 ft/min; $V_{d,av}$ = 500 ft/min; moderate roughness; temporary loss of directional control
87	65	17	43.4	.00211	215	$V_{d,i}$ = 450 ft/min; $V_{d,av}$ = 250 ft/min
88	66	16	33.6	.00208	215	$V_{d,av}$ = 550 ft/min
89	67	16	40.5	.00214	210	$V_{d,av}$ = 700 ft/min
90	68	18	37.2	.00212	204	$V_{d,av}$ = 650 ft/min
91	69	18	34.5	.00215	222	$V_{d,av}$ = 700 ft/min
92	70	20	43.5	.00214	211	$V_{d,av} \approx 0$; smooth; one per revolution blade flapping
93	71	21	19.7	.00223	215	$V_{d,av}$ = 1,000 ft/min

TABLE 3.- FLIGHT TEST CONDITIONS - Continued

Data table	Flight	V, knots	Manifold pressure, in. Hg	Air density, slugs/cu ft	N_R, rpm	Remarks
Partial-power descent - Concluded						
94	72	22	18.3	0.00220	208	$V_{d,av}$ = 1,000 ft/min; smooth
95	73	24	38.9	.00213	211	$V_{d,i}$ = 500 ft/min; $V_{d,av}$ = 250 ft/min; blades flapping erratically
96	74	26	29.7	.00236	225	$V_{d,av}$ = 450 ft/min
97	75	70	28.6	.00222	213	$V_{d,av}$ = 200 ft/min
98	76	112	42.2	.00212	213	See figure 18; $V_{d,i}$ = 400 ft/min; $V_{d,av}$ = 600 ft/min; one revolution only; rough
99	76	113	42.3	.00212	213	See figure 18; $V_{d,av}$ = 550 ft/min; rough

Data table	Flight	V, knots	Manifold pressure, in. Hg	Air density, slugs/cu ft	N_R, rpm	Shaft inclination, deg		Remarks
						Long.	Lat.	
Trim level flight with forward center of gravity								
100	77	15	43.1	0.00232	214	-1.9	-1.2	Hovering in light wind
101	78	72	33.0	.00229	211	-3.8	-.7	$V_{c,av}$ = 50 ft/min
102	79	107	42.2	.00230	211	-7.3	-3.0	$V_{d,av}$ = 300 ft/min
Trim level flight with rearward center of gravity								
103	80	≈10	43.9	0.00231	211	2.1	-1.1	Hovering in light wind
104	81	73	35.5	.00230	215	-.9	-2.9	$V_{c,av}$ = 200 ft/min
105	82	103	42.7	.00230	214	-4.7	-3.5	

Data table	Flight	V, knots	Manifold pressure, in. Hg	Air density, slugs/cu ft	N_R, rpm	Remarks
Collective pull-up from level flight						
106	83	70	26.7	0.00216	222	See figure 19; $V_{d,av}$ = 180 ft/min
107	83	66	34.0	.00216	214	See figure 19; one revolution only
108	84	86	37.0	.00212	216	See figure 20
109	84	85	41.9	.00212	215	See figure 20; one revolution only
110	84	85	41.3	.00211	202	See figure 20; one revolution only

TABLE 3.- FLIGHT TEST CONDITIONS - Concluded

Data table	Flight	V, knots	Manifold pressure, in. Hg	Air density, slugs/cu ft	N_R, rpm	Remarks
Cyclic pull-up from level flight						
111	85	69	29.7	0.00216	223	See figure 21
112	85	64	29.6	.00215	232	See figure 21; one revolution only
113	86	90	35.6	.00211	215	See figure 22
114	86	87	35.8	.00211	218	See figure 22; one revolution only
Combined collective and cyclic pull-up from level flight						
115	87	74	30.5	0.00216	222	See figure 23; light roughness; $V_{d,av}$ = 100 ft/min
116	87	74	30.6	.00216	224	See figure 23; light roughness; one revolution only
117	87	67	31.2	.00216	230	See figure 23; light roughness; one revolution only
118	87	63	36.0	.00216	230	See figure 23; light roughness; one revolution only
119	88	72	28.9	.00215	216	See figure 24
120	88	67	29.7	.00215	225	See figure 24; one revolution only
121	88	60	35.1	.00215	219	See figure 24; one revolution only
122	89	90	34.6	.00211	215	See figure 25
123	89	85	35.8	.00210	220	See figure 25; one revolution only
124	89	80	40.7	.00210	211	See figure 25; one revolution only
Pull-out starting from autorotation						
125	90	65	12.7	0.00212	204	See figure 26; smooth; $V_{d,i}$ = 1,600 ft/min
126	90	56	12.8	.00213	218	See figure 26; smooth; one revolution only
127	91	63	12.8	.00213	204	See figure 27; $V_{d,i}$ = 1,500 ft/min
128	91	55	13.1	.00214	210	See figure 27; one revolution only
129	92	83	13.2	.00214	210	See figure 28; smooth; $V_{d,i}$ = 1,500 ft/min
130	92	76	13.5	.00214	218	See figure 28; smooth; one revolution only
131	93	69	13.0	.00211	241	See figure 29
132	94	75	13.0	.00212	250	See figure 30

TABLE 4

FLIGHT 1, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V ≈ 0 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	Δp, lb/sq in., at - r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
6	5.96	3.89	3.17	1.97	1.00	.44	.078	6.37	3.15	2.42	2.06	1.38	.55	.002	6
21	7.57	4.69	3.71	2.37	1.26	.51	.090	6.94	3.53	2.67	2.28	1.54	.59	.005	21
36	7.90	4.98	3.83	2.45	1.32	.55	.092	7.01	3.57	2.74	2.32	1.57	.59	.002	36
51	8.37	5.19	3.87	2.52	1.37	.56	.093	6.42	3.24	2.57	2.17	1.49	.58	-.002	51
66	9.39	5.68	4.21	2.75	1.53	.59	.105	5.49	2.82	2.31	2.00	1.39	.58	.000	66
81	9.88	5.79	4.41	2.86	1.57	.61	.103	4.58	2.42	2.12	1.93	1.37	.57	.002	81
96	9.76	5.75	4.29	2.76	1.52	.57	.088	6.05	3.16	2.58	2.28	1.60	.66	.024	96
111	9.56	5.76	4.32	2.78	1.56	.61	.103	7.26	3.81	2.96	2.55	1.76	.70	.033	111
126	9.44	5.76	4.31	2.79	1.58	.64	.111	8.56	4.44	3.29	2.77	1.91	.75	.052	126
141	9.39	5.77	4.35	2.84	1.62	.67	.120	9.33	4.83	3.55	2.93	2.01	.77	.063	141
156	9.31	5.68	4.25	2.79	1.60	.66	.126	9.27	4.74	3.48	2.86	1.97	.75	.044	156
171	9.27	5.74	4.31	2.80	1.61	.67	.124	9.29	4.74	3.46	2.85	1.95	.74	.047	171
186	9.35	5.77	4.34	2.84	1.65	.68	.128	9.27	4.83	3.62	3.01	2.08	.84	.084	186
201	9.34	5.69	4.26	2.80	1.63	.67	.130	9.11	4.73	3.55	2.96	2.08	.85	.098	201
216	9.37	5.63	4.21	2.78	1.61	.68	.132	8.99	4.68	3.50	2.93	2.06	.84	.096	216
231	9.56	5.70	4.24	2.82	1.65	.68	.137	8.99	4.63	3.49	2.92	2.05	.85	.107	231
246	9.93	5.79	4.29	2.86	1.70	.70	.139	9.02	4.62	3.48	2.90	2.05	.86	.107	246
261	10.21	5.83	4.32	2.88	1.72	.71	.143	8.77	4.49	3.38	2.83	2.01	.85	.103	261
276	10.52	5.83	4.31	2.89	1.72	.69	.137	7.68	3.98	3.10	2.65	1.90	.81	.089	276
291	10.77	5.80	4.23	2.83	1.67	.64	.130	5.82	3.06	2.55	2.28	1.68	.75	.084	291
306	10.76	5.80	4.23	2.89	1.73	.67	.137	4.64	2.45	2.15	1.94	1.43	.63	.038	306
321	10.32	5.73	4.15	2.82	1.67	.68	.143	5.42	2.78	2.27	1.96	1.43	.63	.058	321
336	9.95	5.54	4.01	2.71	1.59	.65	.124	6.01	3.04	2.41	2.06	1.46	.62	.040	336
351	9.11	5.19	3.75	2.44	1.32	.52	.092	6.14	3.04	2.37	2.01	1.41	.56	.019	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
6	6.34	4.89	3.45	2.47	2.20	1.69	1.24	.58	.53	.27	.076	6
21	6.81	5.28	3.75	2.71	2.41	1.84	1.37	.63	.57	.29	.085	21
36	6.62	5.11	3.67	2.62	2.34	1.79	1.35	.62	.55	.28	.081	36
51	6.14	4.72	3.43	2.41	2.18	1.66	1.26	.57	.52	.25	.066	51
66	5.53	4.26	3.13	2.17	1.96	1.50	1.14	.49	.47	.22	.053	66
81	4.76	3.63	2.71	1.84	1.69	1.28	1.00	.41	.41	.19	.040	81
96	4.51	3.43	2.61	1.76	1.62	1.23	.98	.41	.41	.20	.045	96
111	4.02	3.06	2.35	1.57	1.47	1.14	.93	.40	.42	.21	.048	111
126	3.29	2.51	2.08	1.38	1.36	1.07	.90	.41	.45	.24	.070	126
141	2.86	2.27	1.99	1.37	1.39	1.13	.97	.47	.49	.27	.083	141
156	4.08	3.26	2.53	1.79	1.73	1.36	1.10	.54	.52	.28	.081	156
171	4.70	3.86	2.90	2.04	1.93	1.52	1.21	.61	.56	.31	.102	171
186	8.26	5.97	4.10	3.02	2.61	2.14	1.57	.88	.71	.44	.188	186
201	11.26	6.96	4.87	3.47	2.89	2.12	1.54	.80	.71	.42	.247	201
216	10.62	6.47	4.41	3.13	2.63	1.96	1.47	.77	.66	.38	.181	216
231	7.68	5.04	3.49	2.43	2.12	1.59	1.16	.52	.51	.27	.043	231
246	4.86	3.58	2.67	1.90	1.76	1.39	1.12	.55	.51	.26	.006	246
261	4.67	3.54	2.66	1.86	1.73	1.36	1.09	.54	.53	.31	.098	261
276	4.93	3.71	2.75	1.94	1.77	1.39	1.09	.54	.52	.28	.085	276
291	4.98	3.75	2.75	1.93	1.76	1.38	1.06	.49	.48	.25	.072	291
306	4.95	3.74	2.74	1.90	1.73	1.33	1.02	.47	.45	.23	.059	306
321	5.17	3.92	2.84	2.01	1.82	1.41	1.07	.50	.46	.24	.058	321
336	5.60	4.25	3.08	2.17	1.95	1.51	1.14	.54	.49	.25	.063	336
351	5.89	4.53	3.21	2.28	2.05	1.58	1.20	.56	.50	.25	.058	351

TABLE 4 - Continued

FLIGHT 1, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V ≈ 0 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75							r/R = 0.55							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	4.61	2.41	1.97	1.56	.98	.41	.086	2.88	1.44	.99	.79	.62	.34	.076	6
21	4.84	2.53	2.06	1.64	1.03	.43	.092	2.99	1.47	1.02	.82	.64	.36	.082	21
36	4.89	2.53	2.06	1.64	1.03	.43	.089	3.03	1.50	1.04	.84	.65	.36	.086	36
51	4.86	2.49	2.05	1.63	1.00	.40	.075	3.03	1.51	1.05	.83	.65	.34	.085	51
66	4.61	2.30	1.94	1.53	.93	.36	.067	2.83	1.40	.97	.77	.60	.32	.078	66
81	4.18	2.00	1.75	1.38	.82	.31	.063	2.61	1.27	.90	.71	.56	.31	.076	81
96	3.75	1.81	1.63	1.29	.79	.29	.056	2.45	1.23	.85	.68	.53	.28	.073	96
111	3.36	1.57	1.48	1.17	.67	.25	.051	2.29	1.16	.78	.63	.50	.26	.069	111
126	2.96	1.38	1.34	1.07	.62	.22	.041	2.10	1.06	.70	.59	.46	.25	.069	126
141	2.63	1.22	1.24	.99	.58	.22	.041	1.98	1.01	.68	.56	.44	.25	.067	141
156	2.40	1.14	1.21	.98	.58	.23	.051	1.94	.98	.69	.55	.44	.25	.066	156
171	2.53	1.26	1.31	1.07	.63	.27	.058	1.88	.96	.69	.53	.43	.24	.066	171
186	2.95	1.52	1.46	1.17	.69	.28	.056	1.86	.94	.67	.53	.43	.24	.066	186
201	2.91	1.40	1.36	1.09	.67	.26	.054	1.84	.93	.66	.52	.42	.24	.063	201
216	2.83	1.36	1.33	1.07	.65	.26	.051	1.81	.92	.64	.51	.41	.23	.059	216
231	2.82	1.36	1.33	1.05	.65	.26	.054	1.86	.94	.64	.52	.42	.24	.057	231
246	2.86	1.41	1.35	1.08	.67	.27	.060	1.89	.96	.66	.54	.42	.24	.054	246
261	3.12	1.57	1.45	1.17	.73	.29	.067	1.92	.97	.66	.55	.43	.25	.057	261
276	3.33	1.68	1.51	1.21	.77	.31	.065	1.99	1.00	.69	.56	.44	.26	.057	276
291	3.52	1.77	1.58	1.25	.79	.32	.067	2.07	1.04	.73	.58	.45	.27	.057	291
306	3.68	1.84	1.63	1.27	.81	.33	.070	2.17	1.07	.75	.60	.48	.27	.059	306
321	3.75	1.90	1.64	1.30	.82	.34	.073	2.37	1.16	.82	.65	.52	.30	.064	321
336	4.02	2.10	1.76	1.40	.89	.37	.080	2.59	1.28	.90	.71	.56	.32	.069	336
351	4.35	2.24	1.86	1.48	.93	.39	.080	2.73	1.35	.95	.74	.59	.33	.073	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40					r/R = 0.25					ψ_{nom}, deg
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.24	.60	.39	.27	.077	.51	.25	.16	.09	.041	6
21	1.30	.62	.40	.28	.082	.55	.27	.17	.09	.042	21
36	1.31	.63	.41	.29	.084	.57	.28	.18	.09	.044	36
51	1.33	.65	.42	.29	.086	.56	.28	.18	.09	.045	51
66	1.30	.63	.41	.28	.084	.57	.28	.18	.09	.045	66
81	1.23	.60	.39	.27	.080	.58	.28	.18	.09	.047	81
96	1.12	.55	.36	.26	.075	.55	.26	.17	.09	.044	96
111	1.01	.49	.32	.24	.070	.50	.24	.15	.08	.047	111
126	.91	.44	.29	.23	.069	.47	.22	.14	.08	.044	126
141	.90	.44	.29	.23	.068	.43	.21	.13	.08	.044	141
156	.90	.43	.29	.23	.066	.43	.21	.13	.08	.047	156
171	.85	.42	.28	.23	.064	.46	.22	.14	.08	.047	171
186	.82	.41	.27	.23	.062	.45	.21	.14	.08	.049	186
201	.79	.40	.26	.22	.058	.42	.20	.13	.08	.042	201
216	.73	.39	.25	.21	.064	.38	.18	.12	.07	.038	216
231	.75	.38	.25	.21	.058	.34	.15	.11	.06	.038	231
246	.75	.38	.25	.21	.056	.33	.14	.10	.06	.033	246
261	.76	.38	.25	.21	.057	.32	.14	.10	.06	.031	261
276	.79	.38	.26	.22	.058	.33	.15	.10	.06	.029	276
291	.83	.41	.28	.22	.062	.35	.16	.11	.06	.029	291
306	.89	.44	.30	.23	.062	.39	.18	.12	.07	.035	306
321	.97	.49	.32	.25	.068	.42	.20	.13	.07	.035	321
336	1.06	.53	.35	.25	.071	.46	.22	.14	.08	.036	336
351	1.17	.58	.37	.27	.075	.49	.23	.16	.08	.035	351

TABLE 4 - Continued

FLIGHT 1, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V ≈ 0 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	2.49	6.31	10.16	16.22	22.68	21.25	21.28
21	2.68	6.57	10.50	17.01	24.49	23.49	25.87
36	2.75	6.66	10.68	17.06	23.69	23.82	27.12
51	2.72	6.76	10.60	16.65	21.91	22.24	28.05
66	2.78	6.60	9.85	15.45	19.60	20.18	30.88
81	2.77	6.27	9.18	13.75	16.90	18.62	31.94
96	2.59	5.78	8.63	12.72	16.20	22.83	31.14
111	2.42	5.29	8.07	11.19	15.02	26.14	31.47
126	2.25	4.87	7.48	10.01	14.18	29.33	31.62
141	2.13	4.85	7.20	9.21	14.42	31.43	32.05
156	2.15	4.79	7.09	9.01	17.55	30.74	31.56
171	2.23	4.67	6.95	9.86	19.86	30.64	31.77
186	2.22	4.53	6.89	11.05	27.83	32.18	32.15
201	2.09	4.35	6.80	10.50	31.41	31.89	31.76
216	1.86	4.21	6.65	10.25	29.09	31.57	31.64
231	1.70	4.20	6.77	10.20	22.41	31.54	32.13
246	1.59	4.14	6.89	10.50	18.38	31.56	32.88
261	1.55	4.19	7.02	11.47	18.45	30.82	33.29
276	1.62	4.35	7.24	12.08	18.66	28.16	33.40
291	1.70	4.54	7.52	12.61	18.28	23.49	32.94
306	1.89	4.81	7.78	13.02	17.84	19.41	33.33
321	2.02	5.22	8.44	13.32	18.73	20.64	32.66
336	2.23	5.61	9.21	14.41	20.26	21.67	31.36
351	2.35	6.05	9.62	15.26	21.28	21.10	28.01

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	13.908		0	3.721		0	6.522	
1	.967	.505	1	-.914	-.498	1	-.186	.058
2	.044	.073	2	.012	.069	2	-.004	-.001
3	-.009	.023	3	.004	.049	3	-.027	-.011
4	.038	-.006	4	-.020	-.004	4	.000	-.008
5	-.003	-.032	5	.033	-.020	5	.003	-.016
6	-.003	.000	6	-.004	.012	6	.004	.000
7	.000	-.012	7	.020	-.012	7	.014	.001
8	.009	-.003	8	.008	.037	8	.000	.008
9	.006	-.003	9	.029	.000	9	-.001	.000
10	.023	.000	10	.024	.004	10	-.004	-.005

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 4 - Continued

FLIGHT 1, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V ≈ 0 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.197		.75	0	12.616		.95	0	30.846	
.25	1	.249	.458	.75	1	3.305	.483	.95	1	-2.237	-1.185
.25	2	.127	.072	.75	2	.537	1.011	.95	2	-2.102	-.819
.25	3	-.087	-.032	.75	3	-.371	.218	.95	3	-1.255	-.409
.25	4	.042	.000	.75	4	.304	.140	.95	4	-.718	-.429
.25	5	-.011	.015	.75	5	-.185	-.059	.95	5	-.570	-.057
.25	6	.001	.010	.75	6	.061	-.043	.95	6	-.339	.267
.25	7	-.014	.010	.75	7	-.053	-.003	.95	7	-.584	.146
.25	8	-.012	-.002	.75	8	.064	.000	.95	8	-.489	.001
.25	9	-.007	-.007	.75	9	-.094	.087	.95	9	-.509	-.063
.25	10	-.003	.006	.75	10	.017	.027	.95	10	-.336	-.046
.40	0	7.432		.85	0	20.380					
.40	1	1.222	1.200	.85	1	-.602	-1.571				
.40	2	.319	.291	.85	2	4.212	3.142				
.40	3	-.178	-.004	.85	3	-1.486	-.962				
.40	4	.046	-.075	.85	4	.871	1.570				
.40	5	.012	.020	.85	6	-.412	.471				
.40	6	-.011	.005	.85	7	.174	-.126				
.40	7	-.013	.005	.85	8	-.025	.268				
.40	8	.004	.009	.85	9	-.186	-.021				
.40	9	-.019	-.011	.85	10	.113	.119				
.40	10	-.006	.006	.85	10	.016	-.015				
.55	0	8.216		.90	0	26.031					
.55	1	1.699	.779	.90	1	-5.959	-1.150				
.55	2	.318	.381	.90	2	1.090	.719				
.55	3	-.019	.097	.90	3	1.867	1.273				
.55	4	-.005	-.023	.90	4	-.207	.276				
.55	5	-.068	-.007	.90	5	-.982	-.485				
.55	6	-.037	-.032	.90	6	-.406	.143				
.55	7	-.003	-.015	.90	7	-.187	.082				
.55	8	.024	.040	.90	8	.253	.278				
.55	9	.019	.010	.90	9	-.137	.165				
.55	10	.017	.019	.90	10	-.074	-.146				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o\right) + M_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 4 - Concluded

FLIGHT 1, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V ≈ 0 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	1192	1089	1338	508	326	-1251	-2761	-3679
21	1352	1378	1916	813	-677	-3072	-4268	-4300
36	1922	1304	1302	88	-853	-2813	-3237	-3752
51	827	545	786	-93	-264	-1430	-936	-2380
66	679	347	732	174	476	-664	481	-1584
81	1648	1180	1392	565	484	-316	1700	-1139
96	2264	1642	1989	1204	1109	470	1883	-2015
111	2150	1361	1944	1615	1945	1386	2510	-2380
126	1545	1337	1880	1319	1892	2132	4780	-1752
141	2001	1081	1320	890	2385	3008	5057	-2270
156	1397	1081	1844	1605	2464	2650	3535	-2570
171	2138	1568	2161	1643	2288	2232	1987	-3409
186	2298	1691	2242	1729	2236	1883	1778	-4000
201	1511	1271	2043	1815	2544	2411	2254	-3942
216	1317	1172	1844	1586	2552	2789	3802	-3066
231	1443	1411	2025	1672	2552	2719	4001	-2847
246	1511	1716	2450	2092	2667	2361	3049	-3066
261	1477	1947	2721	2225	2412	1993	3060	-2548
276	1409	1576	2251	1882	2403	2122	3232	-2073
291	645	1180	2043	1681	2104	1814	3007	-1409
306	861	1205	1808	1271	1444	789	2411	-986
321	1135	1320	1663	842	810	-57	1025	-1482
336	690	1139	1663	766	458	-664	-110	-2146
351	804	866	1356	727	440	-942	-743	-1847

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-5357	-5193	2923	14283
21	-4397	-4542	3355	14466
36	-4397	-3403	4443	14549
51	-2980	-3077	4203	14338
66	-2004	-3630	3227	13963
81	-2834	-4330	2971	13414
96	-1711	-4982	2267	12819
111	-131	-3761	2523	12554
126	-392	-3191	4443	14027
141	943	-2084	4107	13341
156	1122	-2247	3275	12609
171	-1873	-4412	3595	13707
186	-1645	-4982	1403	12526
201	-1873	-5551	795	12499
216	-4511	-5861	2427	13304
231	-4136	-5210	1995	12847
246	-4185	-5470	1835	12764
261	-7002	-6089	2731	13332
276	-7164	-6382	1787	12526
291	-6839	-6545	1083	12407
306	-8190	-6805	2331	13487
321	-6985	-5763	2171	13112
336	-6448	-4884	2955	13277
351	-7067	-5144	4107	14521

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	-79	164	54
21	53	322	50
36	256	437	85
51	377	581	108
66	265	474	113
81	278	421	118
96	421	447	134
111	329	429	118
126	152	274	97
141	169	288	97
156	144	300	88
171	15	116	82
186	82	232	89
201	43	203	81
216	-153	66	64
231	-249	21	41
246	-289	-30	25
261	-271	-8	28
276	-177	108	39
291	-219	89	28
306	-375	-42	13
321	-289	79	25
336	-98	192	53
351	18	257	62

TABLE 5

FLIGHT 2, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V ≈ 11 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
0	5.69	3.88	2.93	1.96	.96	.50	.068	5.76	2.94	2.27	2.02	1.23	.49	.011	0
15	5.87	4.04	3.08	2.01	.96	.50	.064	5.89	3.07	2.35	2.10	1.26	.51	.009	15
30	6.47	4.40	3.27	2.21	1.07	.54	.072	6.19	3.26	2.49	2.23	1.34	.53	.006	30
45	7.09	4.74	3.45	2.37	1.18	.56	.075	6.16	3.28	2.54	2.25	1.35	.53	.005	45
60	7.81	5.07	3.67	2.50	1.25	.57	.075	5.74	3.12	2.43	2.17	1.32	.53	.002	60
75	8.88	5.64	4.01	2.75	1.44	.63	.087	4.79	2.65	2.14	1.99	1.25	.52	.005	75
90	9.92	5.72	4.27	2.86	1.43	.57	.058	4.72	2.63	2.12	2.03	1.25	.53	.014	90
105	9.62	5.82	4.25	2.85	1.48	.61	.080	6.32	3.47	2.76	2.49	1.56	.66	.031	105
120	9.43	5.83	4.21	2.86	1.52	.65	.091	7.04	3.87	3.04	2.71	1.69	.70	.051	120
135	9.32	5.78	4.17	2.83	1.52	.67	.102	7.67	4.13	3.17	2.82	1.76	.74	.067	135
150	9.36	5.79	4.15	2.86	1.57	.69	.113	8.06	4.34	3.30	2.91	1.82	.77	.082	150
165	9.40	5.75	4.09	2.86	1.58	.70	.114	8.42	4.51	3.41	2.99	1.88	.80	.093	165
180	9.43	5.76	4.09	2.87	1.59	.71	.123	8.76	4.64	3.48	3.02	1.89	.80	.096	180
195	9.56	5.84	4.17	2.89	1.61	.72	.125	8.83	4.64	3.49	3.02	1.92	.81	.096	195
210	9.57	5.84	4.14	2.92	1.64	.74	.129	8.91	4.67	3.52	3.04	1.93	.81	.102	210
225	9.69	5.84	4.13	2.93	1.67	.74	.139	9.12	4.77	3.58	3.09	1.96	.83	.113	225
240	9.89	5.86	4.15	2.95	1.67	.74	.137	9.05	4.71	3.50	3.04	1.94	.83	.113	240
255	10.27	5.86	4.14	2.99	1.71	.75	.139	8.71	4.49	3.40	2.96	1.91	.82	.116	255
270	10.68	5.85	4.12	2.97	1.69	.73	.137	7.71	4.07	3.15	2.79	1.80	.79	.102	270
285	10.80	5.85	4.12	2.96	1.68	.70	.135	4.92	2.97	2.52	2.39	1.61	.76	.102	285
300	10.59	5.83	4.10	3.00	1.73	.74	.143	5.09	2.85	2.31	2.11	1.35	.55	-.029	300
315	9.94	5.74	4.02	2.90	1.66	.72	.135	6.05	3.27	2.52	2.25	1.42	.59	.045	315
330	9.25	5.44	3.80	2.73	1.53	.68	.117	6.32	3.35	2.58	2.29	1.43	.58	.034	330
345	7.85	4.86	3.45	2.44	1.30	.60	.080	6.25	3.26	2.49	2.20	1.36	.54	.025	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
0	5.66	4.26	3.03	2.20	1.89	1.62	1.06	.48	.47	.26	.045	0
15	5.88	4.35	3.15	2.27	1.97	1.68	1.10	.49	.48	.27	.054	15
30	6.09	4.53	3.29	2.39	2.06	1.76	1.17	.52	.51	.27	.048	30
45	5.96	4.42	3.26	2.33	2.03	1.72	1.15	.51	.49	.27	.044	45
60	5.62	4.18	3.11	2.18	1.93	1.61	1.09	.46	.47	.24	.027	60
75	4.99	3.70	2.77	1.90	1.67	1.41	.97	.39	.41	.21	.013	75
90	4.40	3.28	2.48	1.87	1.48	1.24	.87	.34	.38	.20	.013	90
105	4.34	3.32	2.50	1.86	1.57	1.28	.91	.37	.42	.23	.027	105
120	4.24	3.20	2.49	1.83	1.58	1.30	.92	.40	.44	.24	.037	120
135	4.17	3.14	2.44	1.79	1.58	1.32	.94	.42	.47	.26	.042	135
150	4.77	3.55	2.64	1.90	1.67	1.39	.98	.45	.49	.28	.045	150
165	6.73	4.92	3.38	2.48	2.08	1.66	1.06	.41	.45	.23	-.012	165
180	9.30	6.19	4.26	3.15	2.59	2.05	1.28	.59	.57	.33	.074	180
195	6.62	4.43	3.08	2.23	1.82	1.49	1.00	.30	.36	.21	.011	195
210	8.94	6.00	4.14	3.05	2.50	1.95	1.23	.53	.54	.30	.048	210
225	6.62	4.64	3.29	2.40	2.02	1.67	1.12	.47	.49	.26	.006	225
240	5.40	3.93	2.87	2.10	1.81	1.53	1.06	.49	.51	.28	.019	240
255	4.78	3.56	2.67	1.94	1.71	1.47	1.04	.51	.54	.31	.070	255
270	4.96	3.67	2.75	1.96	1.71	1.48	1.03	.50	.52	.30	.068	270
285	4.83	3.59	2.65	1.88	1.65	1.43	.98	.45	.47	.26	.050	285
300	4.78	3.55	2.60	1.84	1.60	1.39	.95	.43	.44	.25	.042	300
315	5.30	3.95	2.84	2.08	1.80	1.54	1.04	.48	.48	.27	.052	315
330	5.65	4.21	3.04	2.23	1.92	1.65	1.10	.52	.49	.28	.052	330
345	5.74	4.31	3.06	2.24	1.93	1.66	1.10	.52	.49	.27	.050	345

TABLE 5 - Continued

FLIGHT 2, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V ≈ 11 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75							r/R = 0.55							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	4.44	2.38	1.89	1.45	.92	.41	.067	2.48	1.20	.83	.74	.60	.32	.083	0
15	4.58	2.47	1.96	1.51	.96	.43	.072	2.52	1.24	.84	.76	.60	.33	.085	15
30	4.70	2.52	2.01	1.55	1.00	.43	.070	2.59	1.27	.87	.78	.62	.34	.088	30
45	4.72	2.53	2.02	1.56	1.00	.43	.070	2.63	1.31	.89	.80	.63	.35	.091	45
60	4.50	2.35	1.92	1.47	.93	.40	.058	2.55	1.24	.85	.77	.62	.34	.089	60
75	4.17	2.18	1.81	1.38	.88	.36	.055	2.38	1.21	.79	.73	.60	.31	.086	75
90	3.85	2.02	1.70	1.29	.81	.33	.046	2.26	1.16	.75	.69	.57	.31	.082	90
105	3.55	1.90	1.54	1.23	.76	.31	.046	2.12	1.09	.68	.65	.54	.29	.080	105
120	3.33	1.83	1.41	1.16	.73	.29	.039	1.94	.96	.62	.60	.50	.28	.077	120
135	3.16	1.78	1.32	1.12	.72	.29	.039	1.79	.89	.62	.55	.47	.26	.077	135
150	3.09	1.77	1.30	1.11	.71	.29	.039	1.70	.85	.61	.53	.46	.25	.076	150
165	3.05	1.75	1.30	1.09	.70	.29	.041	1.81	.90	.60	.55	.46	.25	.074	165
180	2.96	1.68	1.24	1.05	.69	.28	.036	1.81	.90	.58	.56	.47	.25	.073	180
195	2.90	1.68	1.22	1.03	.67	.28	.039	1.74	.86	.57	.54	.46	.26	.071	195
210	2.88	1.67	1.22	1.03	.66	.28	.039	1.71	.85	.56	.54	.45	.25	.070	210
225	2.99	1.73	1.30	1.07	.69	.30	.043	1.70	.85	.56	.54	.45	.26	.068	225
240	3.15	1.78	1.42	1.10	.71	.31	.039	1.74	.88	.56	.55	.45	.25	.067	240
255	3.30	1.83	1.51	1.16	.75	.33	.046	1.77	.89	.57	.55	.46	.26	.067	255
270	3.52	1.91	1.58	1.20	.79	.34	.051	1.83	.91	.60	.57	.47	.27	.065	270
285	3.68	1.98	1.61	1.24	.81	.35	.048	1.90	.94	.63	.59	.48	.28	.065	285
300	3.79	2.03	1.66	1.26	.81	.35	.048	1.99	.97	.67	.61	.50	.28	.065	300
315	3.99	2.14	1.73	1.33	.87	.37	.055	2.09	1.02	.70	.64	.51	.28	.067	315
330	4.23	2.26	1.82	1.39	.91	.39	.058	2.19	1.05	.73	.67	.53	.29	.071	330
345	4.32	2.29	1.84	1.41	.89	.40	.060	2.31	1.11	.78	.70	.55	.31	.076	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40					r/R = 0.25					ψ_{nom}, deg
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.11	.56	.35	.24	.072	.49	.22	.13	.10	.015	0
15	1.14	.58	.35	.25	.073	.50	.23	.14	.10	.014	15
30	1.17	.59	.36	.25	.077	.49	.22	.14	.10	.014	30
45	1.20	.60	.37	.26	.081	.52	.23	.14	.10	.017	45
60	1.21	.60	.37	.25	.081	.52	.24	.14	.10	.022	60
75	1.16	.57	.35	.24	.078	.52	.24	.14	.10	.019	75
90	1.10	.53	.34	.24	.079	.50	.23	.13	.09	.020	90
105	1.03	.53	.32	.24	.077	.46	.21	.12	.09	.018	105
120	.95	.52	.29	.23	.074	.44	.19	.11	.08	.017	120
135	.88	.49	.27	.22	.071	.42	.19	.10	.08	.018	135
150	.84	.47	.26	.21	.064	.41	.18	.10	.08	.020	150
165	.86	.48	.26	.21	.067	.44	.19	.12	.09	.023	165
180	.88	.49	.27	.21	.067	.43	.20	.12	.09	.019	180
195	.83	.46	.26	.21	.063	.40	.18	.11	.09	.017	195
210	.80	.44	.25	.21	.060	.36	.16	.09	.08	.020	210
225	.75	.43	.24	.20	.057	.31	.13	.08	.07	.017	225
240	.75	.43	.24	.19	.058	.30	.12	.07	.07	.012	240
255	.76	.43	.24	.20	.058	.29	.12	.07	.07	.008	255
270	.78	.43	.25	.20	.059	.31	.13	.08	.07	.009	270
285	.81	.43	.26	.20	.060	.34	.14	.08	.07	.008	285
300	.84	.44	.27	.21	.060	.36	.15	.09	.08	.009	300
315	.88	.46	.29	.22	.068	.38	.17	.10	.09	.007	315
330	.96	.50	.30	.23	.069	.41	.18	.11	.09	.011	330
345	1.02	.53	.32	.24	.073	.45	.21	.12	.09	.012	345

TABLE 5 - Continued

FLIGHT 2, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V ≈ 11 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	2.25	5.66	9.15	15.62	18.22	19.56	20.88
15	2.31	5.82	9.34	16.21	18.92	20.14	21.50
30	2.28	5.94	9.57	16.62	19.77	21.28	23.43
45	2.38	6.11	9.82	16.63	19.38	21.39	25.13
60	2.41	6.09	9.47	15.58	18.35	20.54	26.83
75	2.40	5.84	8.96	14.55	16.16	18.44	29.97
90	2.25	5.58	8.63	13.44	14.49	18.45	30.84
105	2.10	5.37	8.05	12.54	14.99	23.75	31.22
120	1.97	5.05	7.44	11.81	15.15	26.11	31.41
135	1.90	4.74	6.99	11.41	15.27	27.65	31.32
150	1.90	4.53	6.73	11.27	16.41	28.86	31.69
165	2.04	4.63	6.88	11.23	19.41	29.97	31.71
180	2.03	4.70	6.90	10.83	25.15	30.56	31.85
195	1.92	4.50	6.76	10.65	17.85	30.75	32.26
210	1.74	4.35	6.68	10.57	24.09	30.99	32.46
225	1.51	4.15	6.66	11.10	19.61	31.66	32.75
240	1.40	4.13	6.71	11.63	17.77	31.28	32.95
255	1.37	4.18	6.83	12.22	17.11	30.40	33.42
270	1.44	4.25	7.03	12.83	17.20	28.11	33.47
285	1.51	4.38	7.27	13.21	16.38	22.63	33.34
300	1.64	4.49	7.49	13.43	15.87	19.62	33.59
315	1.79	4.77	7.76	14.23	17.51	21.99	32.43
330	1.93	5.07	8.10	14.97	18.56	22.35	30.41
345	2.10	5.35	8.57	15.11	18.67	21.51	26.58

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	12.013		0	3.137		0	6.910	
1	1.194	-.331	1	.069	-.130	1	-.066	-.015
2	-.077	.027	2	.061	.002	2	.000	.005
3	-.032	.054	3	-.004	-.049	3	.006	-.002
4	.027	-.014	4	-.020	-.026	4	.002	.014
5	-.014	-.005	5	-.012	-.028	5	-.003	.005
6	-.009	.000	6	-.014	-.006	6	-.003	.006
7	.018	.018	7	-.008	-.002	7	.005	.005
8	-.018	.014	8	-.010	-.008	8	-.003	.000
9	.000	.000	9	-.018	.000	9	.008	-.002
10	.009	-.014	10	-.014	-.008	10	.002	-.002
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 5 - Continued

FLIGHT 2, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V ≈ 11 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	1.941		.75	0	13.237		.95	0	30.060	
.25	1	.177	.381	.75	1	2.652	.646	.95	1	-3.514	-2.224
.25	2	.140	.056	.75	2	.105	.449	.95	2	-2.396	-1.551
.25	3	-.083	-.043	.75	3	-.178	.307	.95	3	-1.062	-.946
.25	4	.051	-.007	.75	4	-.062	-.109	.95	4	-.498	-.314
.25	5	.005	-.005	.75	5	-.119	-.009	.95	5	-.400	-.001
.25	6	.013	.004	.75	6	-.067	-.047	.95	6	-.398	.015
.25	7	.004	.011	.75	7	-.026	.031	.95	7	-.269	-.114
.25	8	.002	-.005	.75	8	.024	.038	.95	8	-.226	-.171
.25	9	.005	.007	.75	9	.048	.015	.95	9	-.112	-.090
.25	10	-.004	-.001	.75	10	.006	.027	.95	10	-.101	.099
.40	0	4.986		.85	0	18.011					
.40	1	.588	.676	.85	1	-.525	-.800				
.40	2	.089	.188	.85	2	2.196	1.552				
.40	3	-.073	-.029	.85	3	-.812	-.215				
.40	4	.053	.005	.85	4	.004	.041				
.40	5	-.035	-.038	.85	5	-.443	-.243				
.40	6	.033	-.012	.85	6	-.001	-.469				
.40	7	.004	.019	.85	7	-.291	.726				
.40	8	.009	.004	.85	8	.342	-.506				
.40	9	-.002	.018	.85	9	-.561	.412				
.40	10	.012	-.012	.85	10	.723	-.468				
.55	0	7.824		.90	0	24.915					
.55	1	1.215	.786	.90	1	-5.562	-2.436				
.55	2	.063	.383	.90	2	1.059	.879				
.55	3	-.107	.016	.90	3	1.105	.779				
.55	4	.059	.024	.90	4	-.644	-.585				
.55	5	-.033	-.005	.90	5	-.988	-.768				
.55	6	.035	-.051	.90	6	-.199	-.128				
.55	7	.027	-.008	.90	7	.062	.497				
.55	8	.043	.000	.90	8	.005	.142				
.55	9	.013	.029	.90	9	-.067	-.297				
.55	10	.000	-.002	.90	10	.028	-.155				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 5 - Concluded

FLIGHT 2, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V ≈ 11 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	736	883	823	302	-727	-1854		
15	816	899	922	378	-982	-2560		
30	1101	899	705	-204	-1563	-2889		
45	930	520	217	-471	-1378	-2341		
60	577	272	235	-175	-797	-1695		
75	896	734	633	159	-621	-1247		
90	1523	1130	877	331	-111	-351		
105	1261	982	1040	817	963	1151		
120	1101	941	1320	1456	1729	1957		
135	1796	1361	1519	1418	1693	2216		
150	1671	1411	1718	1609	1825	2246		
165	1466	1081	1483	1704	2089	2355		
180	1557	1097	1220	1142	1614	2285		
195	1375	982	1103	960	1429	2126		
210	1112	850	1112	1142	1649	2345		
225	1238	1048	1410	1552	1852	2255		
240	1409	1609	1880	1695	1852	2385		
255	1375	1568	1971	1895	2327	2803		
270	1033	1403	1980	2143	2538	2852		
285	1192	1477	1871	1809	2019	2305		
300	1078	1403	1754	1561	963	902		
315	1124	965	1022	874	673	315		
330	235	710	877	579	-93	-630		
345	782	701	542	140	-480	-1227		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-5790	-7863	2113	
15	-4992	-7603	2545	
30	-3820	-6577	3009	
45	-2843	-5910	3025	
60	-2534	-6268	2961	
75	-2469	-6789	2321	
90	-2338	-7066	1505	
105	-1687	-7635	1361	
120	-776	-7033	1313	
135	-466	-6252	1921	
150	-727	-6024	2689	
165	-352	-6105	2145	
180	-759	-6724	1281	
195	-1671	-7782	753	
210	-2338	-8124	33	
225	-3185	-8694	129	
240	-4227	-8482	353	
255	-4976	-8742	673	
270	-5236	-9019	353	
285	-6294	-9149	721	
300	-6441	-8938	1137	
315	-5790	-8059	1329	
330	-6050	-7928	2225	
345	-6197	-7766	2273	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	-33	106	60
15	11	138	69
30	206	306	91
45	377	448	114
60	367	422	119
75	322	400	107
90	385	424	110
105	407	357	115
120	291	308	93
135	122	138	81
150	180	165	82
165	240	231	80
180	131	160	55
195	32	89	33
210	-3	78	26
225	-41	14	18
240	-137	-14	17
255	-95	1	24
270	-113	10	31
285	-43	62	36
300	-58	90	35
315	-38	146	41
330	28	205	45
345	-48	142	50

TABLE 6

FLIGHT 3, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 23 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.47	4.17	3.06	2.09	1.10	.53	.080	7.19	3.69	2.71	2.32	1.46	.58	.038	0
15	5.89	3.96	2.97	1.97	.99	.49	.067	6.76	3.44	2.56	2.23	1.36	.53	.014	15
30	5.69	3.85	2.92	1.92	.93	.47	.056	6.30	3.23	2.43	2.13	1.30	.50	.006	30
45	6.22	4.17	2.99	2.04	1.00	.49	.067	5.68	2.90	2.24	1.99	1.19	.46	-.009	45
60	6.78	4.45	3.17	2.16	1.06	.51	.064	5.48	2.83	2.21	1.99	1.18	.45	-.014	60
75	8.68	5.39	3.84	2.63	1.35	.59	.083	4.89	2.70	2.12	1.94	1.19	.47	-.022	75
90	9.49	5.67	3.96	2.67	1.36	.56	.063	4.58	2.67	2.22	2.09	1.32	.54	.006	90
105	9.51	5.82	4.15	2.87	1.56	.68	.110	7.66	4.04	3.07	2.68	1.64	.64	.036	105
120	9.33	5.70	4.11	2.82	1.55	.69	.109	8.59	4.46	3.29	2.83	1.77	.71	.062	120
135	9.01	5.48	3.98	2.73	1.50	.68	.114	8.00	4.20	3.13	2.71	1.71	.69	.065	135
150	8.66	5.27	3.85	2.65	1.45	.67	.113	7.88	4.13	3.08	2.66	1.65	.68	.065	150
165	8.38	5.12	3.72	2.58	1.41	.65	.110	7.93	4.07	3.00	2.61	1.64	.67	.067	165
180	8.21	5.02	3.61	2.54	1.41	.65	.110	7.73	4.00	2.97	2.59	1.62	.67	.071	180
195	8.06	4.93	3.52	2.49	1.37	.65	.113	7.61	3.96	2.93	2.56	1.62	.67	.070	195
210	8.12	4.91	3.48	2.47	1.38	.64	.110	7.70	3.97	2.96	2.56	1.62	.67	.081	210
225	8.23	4.91	3.45	2.47	1.39	.65	.118	7.75	4.01	2.97	2.57	1.64	.69	.087	225
240	8.68	5.01	3.50	2.52	1.42	.66	.123	7.93	4.07	3.00	2.58	1.65	.71	.105	240
255	9.21	5.23	3.61	2.62	1.51	.69	.135	8.22	4.20	3.07	2.64	1.71	.72	.109	255
270	9.79	5.39	3.70	2.71	1.60	.72	.147	9.69	4.29	3.06	2.56	1.66	.63	.090	270
285	9.84	5.20	3.58	2.62	1.55	.69	.141	5.50	2.94	2.32	2.13	1.41	.65	.085	285
300	9.36	5.19	3.62	2.63	1.56	.70	.141	5.70	3.05	2.32	2.03	1.31	.52	.038	300
315	7.88	4.64	3.25	2.33	1.33	.63	.114	7.32	3.76	2.78	2.33	1.52	.62	.067	315
330	7.32	4.47	3.14	2.25	1.24	.58	.102	7.23	3.71	2.75	2.34	1.49	.60	.065	330
345	7.03	4.37	3.13	2.20	1.18	.56	.084	7.42	3.79	2.82	2.39	1.49	.60	.049	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.85										
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	6.92	5.08	3.59	2.66	2.26	1.90	1.24	.61	.57	.31	.074	0
15	6.49	4.85	3.42	2.51	2.14	1.81	1.18	.56	.54	.28	.064	15
30	6.07	4.56	3.24	2.36	2.02	1.72	1.12	.51	.51	.26	.056	30
45	5.89	4.39	3.17	2.27	1.95	1.65	1.10	.49	.49	.25	.046	45
60	5.45	4.05	2.97	2.09	1.82	1.54	1.04	.44	.46	.23	.031	60
75	4.54	3.42	2.58	1.81	1.50	1.28	.89	.35	.39	.20	.013	75
90	3.65	2.67	2.06	1.59	1.34	1.01	.75	.28	.35	.17	.004	90
105	2.93	2.12	1.77	1.37	1.18	1.01	.74	.32	.39	.22	.035	105
120	4.10	3.12	2.37	1.93	1.60	1.37	.98	.46	.47	.28	.056	120
135	6.85	5.20	3.72	2.78	2.41	2.06	1.39	.70	.65	.37	.101	135
150	7.84	5.71	4.07	3.06	2.60	2.20	1.48	.76	.68	.39	.110	150
165	7.92	5.67	4.09	3.09	2.62	2.20	1.48	.76	.68	.38	.110	165
180	7.92	5.65	4.07	3.08	2.59	2.17	1.46	.75	.67	.38	.105	180
195	7.98	5.54	4.03	3.05	2.56	2.15	1.43	.73	.66	.37	.099	195
210	7.92	5.47	4.00	3.02	2.52	2.12	1.41	.72	.65	.36	.101	210
225	7.90	5.43	3.96	3.00	2.51	2.09	1.39	.71	.64	.36	.105	225
240	7.90	5.36	3.88	2.91	2.44	2.07	1.38	.72	.65	.37	.110	240
255	4.53	3.46	2.61	1.99	1.73	1.56	1.10	.60	.59	.36	.112	255
270	2.72	2.02	1.69	1.34	1.18	1.11	.81	.44	.49	.25	.031	270
285	3.94	2.88	2.18	1.59	1.33	1.15	.82	.39	.43	.24	.048	285
300	4.09	2.95	2.18	1.59	1.34	1.18	.82	.39	.44	.25	.052	300
315	5.85	4.34	3.10	2.30	1.96	1.67	1.12	.56	.54	.31	.079	315
330	6.64	4.88	3.43	2.60	2.19	1.86	1.22	.62	.58	.33	.085	330
345	7.04	5.11	3.65	2.73	2.30	1.94	1.27	.63	.59	.33	.085	345

TABLE 6 - Continued

FLIGHT 3, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 23 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75							Δp, lb/sq in., at - r/R = 0.55							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.32	2.86	2.14	1.65	1.12	.48	.086	2.83	1.41	.95	.84	.67	.36	.086	0
15	5.21	2.77	2.11	1.61	1.08	.47	.079	2.88	1.44	.97	.87	.69	.37	.089	15
30	5.10	2.71	2.08	1.59	1.05	.45	.074	2.86	1.42	.96	.85	.68	.36	.088	30
45	4.86	2.53	2.00	1.53	1.00	.43	.067	2.76	1.37	.92	.83	.67	.35	.088	45
60	4.49	2.32	1.87	1.43	.91	.39	.058	2.56	1.25	.85	.78	.63	.32	.084	60
75	3.97	2.01	1.66	1.27	.78	.33	.043	2.31	1.15	.77	.71	.58	.30	.081	75
90	3.30	1.64	1.28	1.06	.62	.26	.026	2.03	1.01	.64	.61	.51	.27	.075	90
105	2.64	1.38	1.04	.91	.51	.21	.022	1.89	.94	.60	.57	.48	.25	.072	105
120	2.26	1.33	1.03	.89	.54	.24	.031	1.78	.87	.59	.54	.46	.25	.072	120
135	1.72	1.21	1.11	1.00	.66	.30	.028	1.72	.85	.58	.53	.45	.25	.070	135
150	3.29	2.66	1.90	1.49	.96	.42	.110	1.60	.78	.56	.50	.43	.25	.069	150
165	4.80	3.14	2.31	1.76	1.14	.45	.058	1.59	.76	.55	.49	.42	.22	.067	165
180	5.54	3.13	2.34	1.79	1.20	.50	.079	1.42	.69	.52	.46	.40	.21	.064	180
195	5.60	2.88	2.20	1.71	1.16	.51	.086	1.37	.65	.48	.44	.37	.20	.059	195
210	5.27	2.76	2.12	1.64	1.12	.50	.084	1.26	.61	.46	.42	.36	.20	.056	210
225	5.41	2.85	2.13	1.64	1.10	.48	.084	1.30	.62	.46	.42	.36	.20	.054	225
240	5.04	2.47	1.87	1.44	.97	.42	.062	1.35	.66	.45	.44	.37	.21	.051	240
255	3.85	1.64	1.35	1.05	.69	.31	.036	1.43	.70	.46	.46	.39	.22	.051	255
270	2.91	1.38	1.01	.84	.54	.25	.024	1.55	.76	.52	.50	.41	.23	.053	270
285	2.76	1.51	1.23	.95	.60	.27	.033	1.77	.83	.58	.56	.45	.24	.056	285
300	3.21	1.80	1.45	1.10	.70	.32	.048	1.92	.91	.65	.60	.48	.27	.061	300
315	3.91	2.28	1.76	1.34	.88	.40	.062	2.20	1.08	.74	.68	.53	.28	.068	315
330	4.57	2.61	1.98	1.51	1.01	.45	.074	2.45	1.22	.83	.75	.59	.32	.073	330
345	5.08	2.80	2.09	1.61	1.08	.47	.074	2.70	1.34	.91	.81	.64	.34	.077	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40					Δp, lb/sq in., at - r/R = 0.25					ψ_{nom}, deg
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.27	.66	.41	.27	.080	.56	.25	.15	.11	.017	0
15	1.35	.69	.42	.27	.084	.57	.27	.16	.11	.017	15
30	1.38	.69	.42	.27	.083	.58	.27	.16	.11	.018	30
45	1.33	.66	.40	.27	.083	.61	.28	.17	.11	.018	45
60	1.31	.65	.39	.26	.082	.59	.28	.16	.11	.018	60
75	1.16	.58	.35	.24	.075	.58	.26	.15	.10	.018	75
90	1.06	.52	.32	.23	.076	.54	.24	.14	.10	.017	90
105	.98	.52	.30	.23	.074	.49	.22	.13	.09	.017	105
120	.96	.51	.29	.22	.074	.46	.21	.12	.09	.021	120
135	.93	.50	.28	.22	.068	.46	.20	.12	.08	.021	135
150	.87	.49	.27	.21	.066	.45	.20	.11	.08	.018	150
165	.82	.46	.25	.21	.062	.44	.19	.11	.09	.014	165
180	.77	.44	.24	.19	.058	.42	.19	.11	.09	.021	180
195	.69	.40	.22	.19	.058	.38	.17	.10	.08	.019	195
210	.62	.37	.20	.18	.053	.32	.13	.07	.07	.014	210
225	.58	.36	.19	.17	.049	.26	.10	.06	.06	.008	225
240	.58	.35	.19	.17	.046	.23	.09	.04	.05	.007	240
255	.61	.36	.20	.18	.051	.23	.09	.05	.06	.006	255
270	.68	.37	.22	.18	.055	.26	.10	.06	.06	.008	270
285	.78	.43	.25	.20	.058	.29	.12	.07	.07	.005	285
300	.87	.46	.28	.21	.062	.35	.15	.09	.08	.005	300
315	.97	.51	.31	.23	.068	.41	.18	.10	.08	.010	315
330	1.11	.58	.35	.24	.073	.48	.21	.13	.09	.008	330
345	1.18	.62	.38	.26	.077	.53	.24	.14	.10	.014	345

TABLE 6 - Continued

FLIGHT 3, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 23 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	2.59	6.50	10.40	18.49	21.82	23.69	22.83
15	2.66	6.76	10.64	17.97	20.68	22.12	21.26
30	2.72	6.78	10.45	17.58	19.49	20.85	20.54
45	2.76	6.58	10.13	16.66	18.89	18.98	21.90
60	2.69	6.45	9.42	15.36	17.64	18.62	23.30
75	2.58	5.77	8.63	13.30	14.86	17.92	28.67
90	2.42	5.35	7.60	10.68	12.40	17.33	29.62
105	2.21	5.16	7.09	8.78	11.60	26.22	31.75
120	2.11	5.03	6.79	8.70	15.37	28.79	31.40
135	2.07	4.90	6.66	9.08	23.30	27.40	30.42
150	2.02	4.66	6.38	15.51	25.35	26.87	29.39
165	1.99	4.41	6.13	18.59	25.47	26.58	28.56
180	1.97	4.20	5.71	19.73	25.25	26.23	28.09
195	1.79	3.88	5.40	19.12	24.96	26.01	27.58
210	1.47	3.58	5.15	18.35	24.67	26.22	27.50
225	1.20	3.42	5.22	18.42	24.51	26.46	27.64
240	1.01	3.39	5.36	16.33	24.32	26.95	28.38
255	1.07	3.53	5.63	11.73	17.56	27.76	29.80
270	1.18	3.78	6.03	9.19	12.14	28.15	31.16
285	1.36	4.24	6.60	9.98	13.72	21.21	30.33
300	1.60	4.63	7.21	11.75	13.91	20.21	30.12
315	1.87	5.12	8.13	14.59	19.25	24.53	26.31
330	2.16	5.70	9.05	16.71	21.31	24.17	24.91
345	2.42	6.08	9.88	17.91	22.29	24.50	24.12

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	12.326		0	3.566		0	6.851	
1	2.216	-.345	1	.012	-.342	1	-.146	-.046
2	.114	-.023	2	-.067	.097	2	.002	.019
3	-.041	.000	3	.091	.036	3	.003	.019
4	-.027	-.027	4	.010	.045	4	.005	-.003
5	.000	.036	5	.004	-.004	5	.008	.002
6	.036	-.018	6	-.006	.014	6	.000	.000
7	-.009	-.018	7	-.002	-.006	7	-.003	.003
8	.000	.000	8	-.008	-.002	8	.006	.005
9	.018	-.023	9	.004	.004	9	.003	-.002
10	.005	.000	10	-.006	.008	10	.002	.000

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 6 - Continued

FLIGHT 3, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 23 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	1.997		.75	0	14.772		.95	0	27.314	
.25	1	.400	.612	.75	1	.149	-.658	.95	1	-3.032	-.619
.25	2	.239	.005	.75	2	4.346	2.316	.95	2	-2.648	-2.072
.25	3	-.089	-.021	.75	3	-.769	-.767	.95	3	.189	-.303
.25	4	.034	-.002	.75	4	-.176	-.953	.95	4	.724	.242
.25	5	.000	-.027	.75	5	-.084	.731	.95	5	.264	-.005
.25	6	.002	.008	.75	6	.195	-.379	.95	6	.084	-.022
.25	7	.000	-.008	.75	7	-.009	.066	.95	7	-.021	-.091
.25	8	.012	-.005	.75	8	-.167	.135	.95	8	-.069	-.275
.25	9	-.003	.001	.75	9	.216	-.191	.95	9	-.005	-.146
.25	10	.002	.007	.75	10	.047	.158	.95	10	.100	.252
.40	0	4.995		.85	0	19.614					
.40	1	1.204	.926	.85	1	-2.473	-.907				
.40	2	.358	.014	.85	2	5.266	1.014				
.40	3	-.039	.109	.85	3	.556	.010				
.40	4	-.032	.006	.85	4	-1.649	-1.761				
.40	5	.001	-.037	.85	5	.403	.250				
.40	6	.029	.004	.85	6	.246	.345				
.40	7	-.008	.021	.85	7	-.320	-.452				
.40	8	-.016	.031	.85	8	.080	.430				
.40	9	-.021	.009	.85	9	.227	.243				
.40	10	.005	-.014	.85	10	.119	-.456				
.55	0	7.486		.90	0	24.073					
.55	1	2.306	1.018	.90	1	-2.908	-1.695				
.55	2	.596	.138	.90	2	.956	-1.271				
.55	3	.022	.175	.90	3	2.330	.586				
.55	4	-.026	-.082	.90	4	-.179	-.126				
.55	5	.021	-.030	.90	5	-1.048	-1.010				
.55	6	.020	.004	.90	6	.074	.150				
.55	7	-.017	.014	.90	7	.381	1.054				
.55	8	-.001	.005	.90	8	.021	-.048				
.55	9	.011	-.004	.90	9	.065	-.773				
.55	10	.006	.003	.90	10	.078	-.204				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 6 Concluded

FLIGHT 3, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 23 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-224	-157	-389	-1147	-2758	-4258		
15	84	-74	-560	-1595	-2652	-4179		
30	973	380	-199	-966	-2080	-3990		
45	620	850	922	379	-1596	-3243		
60	1498	1205	1166	685	-505	-1651		
75	1521	1180	1275	875	402	-199		
90	1065	718	633	255	560	1135		
105	780	-25	-217	-327	1290	2428		
120	415	-83	235	761	2109	3194		
135	1304	1427	1889	2058	3015	4040		
150	3060	2549	2902	3156	3288	3652		
165	2022	2450	3571	4052	3631	3672		
180	2113	1865	2613	3022	3420	3722		
195	1794	1279	1980	2383	3147	2906		
210	1486	1048	1781	2020	2452	2020		
225	1840	1436	1672	1343	1730	1523		
240	1988	1271	1139	933	1950	2100		
255	688	784	1248	1505	2206	2617		
270	1087	1370	1672	1925	2285	3463		
285	1635	2368	2676	2306	2839	3941		
300	1304	1799	2567	2993	2390	2359		
315	381	1543	2287	2268	1387	985		
330	1236	1361	1437	771	-470	-1880		
345	973	644	470	-298	-1570	-3442		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-5110	-6691	3819	
15	-3466	-6414	2075	
30	-4247	-8433	2219	
45	-3808	-8026	1483	
60	-2896	-7098	1931	
75	-2050	-6349	3659	
90	555	-4640	2635	
105	1776	-5649	2267	
120	2020	-6105	827	
135	2167	-7554	523	
150	1418	-6968	331	
165	327	-7163	1755	
180	604	-6268	1627	
195	-275	-6626	1723	
210	-2636	-7766	1851	
225	-3189	-8791	-181	
240	-4117	-10028	-1189	
255	-5354	-10549	-1189	
270	-6868	-9833	-1173	
285	-9880	-10875	331	
300	-10727	-11315	523	
315	-9587	-10631	75	
330	-8464	-9361	1867	
345	-7813	-6691	3739	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	21	213	68
15	128	295	88
30	302	264	104
45	310	349	113
60	430	384	129
75	519	448	121
90	386	428	114
105	350	289	97
120	339	291	92
135	339	160	91
150	288	123	85
165	249	101	78
180	190	112	62
195	56	28	38
210	-77	-54	16
225	-159	-87	6
240	-196	-137	2
255	-360	-276	-12
270	-572	-334	-25
285	-585	-412	-17
300	-360	-164	1
315	-346	-103	29
330	1	134	40
345	-65	133	58

TABLE 7

FLIGHT 4, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 32 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95							r/R = 0.90							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.90	3.95	2.97	2.01	1.01	.50	.068	6.51	3.36	2.51	2.14	1.34	.52	.022	0
15	5.22	3.71	2.84	1.88	.88	.45	.052	5.99	3.09	2.35	2.03	1.27	.48	-.002	15
30	4.82	3.56	2.76	1.79	.79	.43	.038	5.45	2.81	2.15	1.92	1.16	.43	-.027	30
45	4.82	3.60	2.85	1.77	.75	.41	.040	5.00	2.60	2.04	1.87	1.08	.41	-.034	45
60	6.04	4.16	3.16	2.00	.86	.43	.044	4.50	2.41	1.89	1.75	1.02	.39	-.047	60
75	8.62	5.32	3.74	2.36	1.04	.43	.026	3.07	1.71	1.46	1.44	.84	.36	-.045	75
90	9.32	5.87	4.31	2.89	1.46	.63	.076	3.67	2.20	1.99	1.89	1.19	.51	-.022	90
105	8.40	5.40	3.93	2.66	1.38	.63	.084	8.00	4.31	3.23	2.75	1.66	.63	.018	105
120	7.88	5.11	3.77	2.52	1.29	.59	.080	7.15	3.83	2.93	2.61	1.60	.66	.036	120
135	7.26	4.82	3.56	2.42	1.24	.58	.079	6.98	3.75	2.87	2.57	1.58	.64	.045	135
150	6.97	4.64	3.39	2.38	1.24	.59	.095	7.12	3.86	2.90	2.58	1.58	.63	.047	150
165	6.78	4.51	3.28	2.33	1.22	.60	.099	7.91	4.05	2.96	2.57	1.58	.62	.036	165
180	6.89	4.51	3.26	2.32	1.23	.61	.105	8.04	4.07	2.96	2.56	1.58	.62	.042	180
195	7.22	4.64	3.34	2.38	1.29	.63	.118	7.91	4.04	2.96	2.57	1.60	.64	.056	195
210	7.82	4.83	3.44	2.46	1.36	.64	.118	7.64	4.00	3.00	2.61	1.65	.68	.074	210
225	8.38	5.01	3.54	2.54	1.42	.67	.127	7.71	4.07	3.06	2.67	1.73	.74	.101	225
240	8.97	5.17	3.59	2.59	1.47	.68	.131	8.11	4.20	3.12	2.70	1.76	.77	.118	240
255	9.49	5.36	3.69	2.68	1.56	.71	.141	8.02	4.18	3.11	2.71	1.76	.78	.121	255
270	10.35	5.45	3.71	2.71	1.59	.70	.149	7.01	3.59	2.76	2.39	1.61	.71	.105	270
285	10.51	5.36	3.60	2.57	1.47	.61	.110	4.46	2.42	1.99	1.82	1.22	.57	.070	285
300	7.57	4.49	3.15	2.26	1.27	.60	.106	5.50	2.94	2.27	2.03	1.30	.55	.054	300
315	6.73	4.21	3.00	2.13	1.15	.56	.095	6.45	3.34	2.48	2.14	1.37	.57	.051	315
330	6.52	4.17	3.08	2.11	1.11	.55	.087	6.67	3.46	2.53	2.20	1.40	.56	.049	330
345	6.35	4.12	3.08	2.10	1.08	.53	.079	6.76	3.49	2.58	2.22	1.41	.55	.036	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85											ψ_{nom}, deg
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	6.74	5.03	3.55	2.61	2.20	1.88	1.22	.57	.55	.29	.062	0
15	6.26	4.64	3.33	2.42	2.08	1.77	1.15	.51	.51	.26	.052	15
30	5.79	4.24	3.11	2.22	1.93	1.65	1.06	.45	.46	.23	.040	30
45	5.25	3.86	2.86	1.94	1.74	1.48	.96	.38	.41	.20	.025	45
60	4.54	3.44	2.55	1.97	1.50	1.25	.87	.31	.36	.17	.006	60
75	3.21	2.45	1.83	1.39	1.17	1.03	.63	.18	.27	.12	-.018	75
90	3.28	2.38	1.82	1.44	1.19	1.08	.66	.21	.30	.14	-.016	90
105	5.06	3.78	2.83	2.04	1.76	1.49	1.02	.43	.46	.25	.037	105
120	6.44	4.85	3.54	2.65	2.28	1.96	1.32	.64	.60	.33	.087	120
135	7.27	5.51	3.93	2.90	2.46	2.03	1.33	.61	.56	.29	.052	135
150	7.18	5.29	3.82	2.81	2.40	2.00	1.34	.63	.59	.33	.079	150
165	6.58	4.89	3.58	2.72	2.32	1.96	1.34	.65	.62	.34	.083	165
180	6.36	4.78	3.50	2.64	2.27	1.94	1.33	.66	.63	.36	.091	180
195	6.42	4.79	3.51	2.68	2.29	1.95	1.33	.67	.63	.36	.097	195
210	7.49	5.33	3.87	2.95	2.46	2.08	1.39	.70	.64	.37	.108	210
225	8.27	5.68	4.12	3.12	2.60	2.17	1.43	.72	.64	.36	.099	225
240	9.64	6.18	4.33	3.26	2.68	2.22	1.42	.71	.61	.33	.101	240
255	6.42	4.27	3.08	2.28	1.89	1.62	1.10	.56	.55	.32	.077	255
270	4.15	3.02	2.27	1.63	1.42	1.28	.90	.45	.48	.28	.068	270
285	4.17	3.10	2.27	1.60	1.40	1.26	.86	.40	.43	.24	.043	285
300	4.92	3.64	2.59	1.91	1.64	1.46	.97	.46	.47	.27	.060	300
315	6.08	4.52	3.17	2.37	2.01	1.75	1.13	.56	.54	.30	.081	315
330	6.55	4.85	3.42	2.55	2.15	1.85	1.21	.60	.57	.31	.081	330
345	6.85	5.10	3.57	2.66	2.25	1.92	1.25	.61	.57	.31	.077	345

TABLE 7 - Continued

FLIGHT 4, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 32 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.39	2.89	2.18	1.68	1.14	.49	.081	3.13	1.58	1.06	.93	.73	.39	.094	0
15	5.26	2.79	2.13	1.64	1.09	.46	.074	3.20	1.60	1.07	.94	.74	.39	.095	15
30	4.96	2.61	2.03	1.56	1.01	.43	.067	3.06	1.51	1.02	.90	.73	.38	.095	30
45	4.57	2.37	1.90	1.47	.91	.39	.055	2.87	1.40	.95	.85	.69	.35	.093	45
60	4.06	2.06	1.72	1.32	.79	.33	.048	2.59	1.28	.85	.77	.63	.34	.089	60
75	3.48	1.76	1.33	1.15	.66	.28	.039	2.37	1.20	.76	.71	.58	.30	.089	75
90	3.13	1.67	1.28	1.09	.62	.26	.031	2.27	1.14	.71	.67	.57	.29	.087	90
105	2.92	1.62	1.21	1.05	.62	.26	.036	2.12	1.05	.66	.63	.52	.28	.084	105
120	2.46	1.49	1.19	1.06	.66	.31	.052	1.99	.98	.65	.60	.51	.27	.081	120
135	4.19	2.75	2.13	1.62	1.02	.45	.079	1.92	.95	.64	.58	.49	.27	.081	135
150	4.20	2.27	1.90	1.50	1.01	.48	.090	1.88	.94	.62	.58	.49	.25	.077	150
165	4.03	2.24	1.91	1.51	1.04	.49	.105	1.72	.85	.58	.54	.46	.24	.073	165
180	4.03	2.25	1.90	1.51	1.05	.50	.103	1.64	.79	.55	.52	.43	.24	.070	180
195	3.99	2.22	1.86	1.48	1.03	.51	.105	1.61	.79	.52	.52	.43	.24	.067	195
210	4.03	2.29	1.87	1.47	1.02	.50	.103	1.66	.82	.55	.54	.45	.25	.065	210
225	4.25	2.24	1.78	1.40	.97	.45	.071	1.65	.82	.56	.54	.44	.25	.062	225
240	3.45	1.73	1.40	1.09	.76	.35	.052	1.71	.83	.58	.56	.45	.25	.060	240
255	3.06	1.65	1.35	1.03	.69	.31	.043	1.76	.83	.60	.57	.46	.25	.058	255
270	3.10	1.67	1.38	1.05	.70	.31	.041	1.87	.87	.63	.59	.47	.27	.058	270
285	3.33	1.82	1.46	1.12	.72	.33	.048	2.00	.95	.67	.62	.49	.27	.060	285
300	3.76	2.08	1.63	1.26	.81	.37	.055	2.16	1.05	.72	.66	.52	.29	.065	300
315	4.33	2.45	1.86	1.44	.95	.42	.069	2.37	1.17	.80	.72	.57	.31	.070	315
330	4.81	2.68	2.02	1.56	1.05	.46	.074	2.66	1.33	.90	.80	.64	.34	.078	330
345	5.21	2.85	2.14	1.66	1.11	.48	.079	2.95	1.48	1.00	.87	.69	.36	.088	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.43	.74	.45	.29	.082	.61	.30	.19	.12	.014	0
15	1.51	.78	.47	.30	.088	.68	.32	.19	.13	.018	15
30	1.55	.77	.47	.30	.088	.75	.35	.21	.12	.015	30
45	1.52	.75	.45	.29	.090	.74	.35	.20	.12	.021	45
60	1.39	.69	.42	.27	.087	.70	.33	.19	.12	.021	60
75	1.27	.62	.38	.26	.088	.64	.30	.17	.11	.019	75
90	1.18	.57	.36	.25	.085	.59	.27	.15	.10	.018	90
105	1.16	.57	.35	.25	.082	.55	.25	.15	.09	.014	105
120	1.11	.56	.34	.24	.080	.57	.26	.15	.10	.021	120
135	1.05	.55	.32	.24	.077	.55	.25	.14	.09	.014	135
150	.99	.53	.30	.23	.071	.52	.24	.13	.09	.019	150
165	.89	.49	.27	.21	.064	.51	.23	.13	.09	.019	165
180	.82	.46	.26	.21	.064	.48	.22	.13	.09	.018	180
195	.76	.41	.24	.20	.062	.43	.19	.11	.08	.015	195
210	.74	.40	.24	.20	.060	.36	.16	.09	.07	.011	210
225	.73	.39	.24	.19	.055	.30	.12	.07	.06	.005	225
240	.73	.39	.23	.19	.054	.27	.10	.06	.06	.005	240
255	.75	.41	.24	.19	.053	.26	.10	.06	.06	.004	255
270	.80	.43	.25	.20	.058	.28	.11	.06	.06	.004	270
285	.87	.46	.27	.20	.060	.32	.13	.07	.07	.001	285
300	.94	.50	.29	.21	.066	.37	.16	.09	.08	.002	300
315	1.07	.56	.33	.24	.073	.45	.21	.12	.09	.007	315
330	1.16	.62	.38	.26	.076	.53	.26	.16	.11	.011	330
345	1.29	.69	.42	.28	.080	.54	.26	.16	.11	.011	345

TABLE 7 - Continued

FLIGHT 4, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 32 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	2.93	7.21	11.42	18.73	21.34	21.66	21.40
15	3.12	7.52	11.59	18.09	19.94	20.05	19.56
30	3.31	7.55	11.16	16.96	18.38	18.19	18.42
45	3.29	7.36	10.43	15.51	16.63	17.01	18.36
60	3.13	6.84	9.56	13.64	14.54	15.75	21.07
75	2.85	6.31	8.80	11.41	10.66	12.17	26.08
90	2.61	5.93	8.44	10.60	11.00	16.38	31.17
105	2.45	5.83	7.88	10.30	17.00	27.04	28.93
120	2.53	5.66	7.51	10.25	21.96	25.30	27.35
135	2.41	5.45	7.34	16.94	23.09	24.84	25.93
150	2.34	5.17	7.15	16.09	23.05	25.06	25.34
165	2.25	4.72	6.71	16.18	22.30	25.86	24.80
180	2.18	4.47	6.33	16.22	22.01	26.03	24.99
195	1.97	4.22	6.32	16.05	22.16	26.13	25.93
210	1.64	4.09	6.51	16.11	24.04	26.40	27.10
225	1.31	4.02	6.52	15.47	25.29	27.35	28.30
240	1.17	4.00	6.64	12.15	26.50	28.22	29.31
255	1.18	4.08	6.75	11.19	19.47	28.20	30.64
270	1.26	4.28	7.05	11.33	14.80	25.05	31.50
285	1.38	4.55	7.43	12.04	14.29	17.95	30.23
300	1.66	4.91	8.01	13.58	16.35	20.05	25.35
315	2.08	5.54	8.78	15.75	19.67	21.98	23.39
330	2.52	6.08	9.76	17.27	21.04	22.41	23.04
345	2.56	6.68	10.73	18.35	21.78	22.57	22.62

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	11.967		0	3.402		0	6.727	
1	1.984	-1.798	1	.579	-.502	1	-.155	-.016
2	.000	.009	2	-.020	.105	2	.002	.035
3	-.023	.005	3	.124	-.111	3	.030	.013
4	-.005	-.023	4	.040	.022	4	.014	.009
5	.027	.036	5	-.004	-.012	5	.005	.003
6	.000	.000	6	-.018	-.020	6	-.005	.000
7	.000	.000	7	.010	-.006	7	.003	.002
8	-.009	.014	8	-.008	-.002	8	.008	-.002
9	.014	-.009	9	-.010	-.006	9	-.002	-.006
10	.014	-.009	10	.008	.000	10	.002	.005
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 7 - Continued

FLIGHT 4, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 32 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.255		.75	0	14.592		.95	0	25.450	
.25	1	.470	.751	.75	1	.869	-.258	.95	1	-3.013	-1.743
.25	2	.306	.044	.75	2	3.497	-.027	.95	2	-3.396	-.777
.25	3	-.075	.035	.75	3	.007	.187	.95	3	.980	-.841
.25	4	-.031	.004	.75	4	-.667	-.209	.95	4	1.582	-.003
.25	5	-.043	-.039	.75	5	.581	-.058	.95	5	.355	.128
.25	6	-.006	.031	.75	6	-.317	.132	.95	6	-.591	-.143
.25	7	-.009	.020	.75	7	-.052	-.175	.95	7	-.223	-.183
.25	8	.004	.008	.75	8	.474	.115	.95	8	.180	.076
.25	9	.019	.013	.75	9	-.392	.121	.95	9	.130	.168
.25	10	.012	.015	.75	10	.073	-.269	.95	10	-.081	-.030
.40	0	5.520		.85	0	19.470					
.40	1	1.278	1.006	.85	1	-2.521	-1.764				
.40	2	.355	.095	.85	2	3.547	-.123				
.40	3	.106	.139	.85	3	2.637	-.036				
.40	4	-.056	.033	.85	4	-2.054	-.379				
.40	5	-.012	-.023	.85	5	-.508	.031				
.40	6	-.002	-.005	.85	6	.866	-.190				
.40	7	.013	.007	.85	7	.042	.051				
.40	8	.013	.015	.85	8	-.242	.259				
.40	9	.001	-.012	.85	9	.180	-.062				
.40	10	.014	.000	.85	10	-.027	-.278				
.55	0	8.284		.90	0	22.569					
.55	1	2.187	.750	.90	1	-3.961	-2.534				
.55	2	.631	.203	.90	2	1.304	-.798				
.55	3	.277	.126	.90	3	2.819	.064				
.55	4	.009	.021	.90	4	-.231	.063				
.55	5	.056	.035	.90	5	-1.767	-.367				
.55	6	-.049	-.009	.90	6	.293	-.366				
.55	7	.028	-.016	.90	7	1.129	.498				
.55	8	.004	.012	.90	8	-.030	.280				
.55	9	.002	.018	.90	9	-.592	-.456				
.55	10	-.016	-.005	.90	10	-.031	-.184				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 7 - Concluded

FLIGHT 4, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 32 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	102	-437	-994	-1969	-3731	-5701		
15	284	-281	-850	-1807	-3168	-4975		
30	752	355	-54	-891	-2516	-4268		
45	1265	751	470	-166	-1144	-2646		
60	1094	850	687	120	-739	-1621		
75	1048	569	380	-166	-976	-1293		
90	923	190	-452	-1063	-660	-49		
105	433	-272	-461	-672	264	1085		
120	1037	116	452	740	1162	1105		
135	2040	1675	1817	1465	1417	1304		
150	2348	1898	2305	2247	2244	1622		
165	1630	1403	2115	2524	2816	1981		
180	1493	1262	1582	1627	2218	1861		
195	1459	1097	1437	1379	1373	737		
210	1356	1031	1238	1217	1048	239		
225	1276	1139	1238	969	590	209		
240	1470	1048	1049	912	1136	1433		
255	934	1048	1455	1675	2077	2468		
270	1128	1757	2088	2057	2579	3393		
285	1162	1988	2576	2620	2737	2886		
300	786	1832	2486	2371	1822	1413		
315	1196	1238	1284	1074	528	-547		
330	273	718	678	-204	-2103	-3701		
345	524	-107	-859	-1836	-3247	-5014		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-4287	-6577	3427	
15	-3864	-7245	1299	
30	-5085	-8938	2323	
45	-3050	-6528	1939	
60	-2708	-5454	4227	
75	-1357	-3940	5155	
90	711	-3842	3731	
105	2045	-5682	1747	
120	1752	-7114	147	
135	808	-7977	611	
150	1150	-6121	1395	
165	808	-5177	3907	
180	1020	-4021	4051	
195	-397	-5389	3459	
210	-2464	-7538	1811	
225	-3229	-9361	-1053	
240	-4776	-10533	-1869	
255	-5818	-10826	-1501	
270	-8699	-10028	-221	
285	-10799	-10859	1491	
300	-10002	-9638	1203	
315	-8699	-8889	2595	
330	-6729	-6675	3491	
345	-6127	-5698	4595	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	254	400	108
15	303	431	112
30	321	284	113
45	310	374	118
60	408	395	125
75	453	520	130
90	576	581	132
105	461	426	104
120	283	189	77
135	263	74	74
150	339	180	63
165	182	40	40
180	-69	-23	13
195	-128	-110	5
210	-98	-77	12
225	-76	-19	10
240	-209	-146	-1
255	-372	-262	-11
270	-505	-336	-4
285	-373	-212	9
300	-308	-104	23
315	-198	-25	37
330	-154	116	61
345	59	220	97

TABLE 8

FLIGHT 5, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 42 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
0	6.22	4.26	3.01	2.05	1.11	.52	.059	7.33	3.60	2.62	2.13	1.33	.54	.029	0
15	4.68	3.45	2.80	1.70	.84	.41	.041	5.99	2.96	2.17	1.79	1.08	.42	-.015	15
30	3.68	2.92	2.55	1.54	.70	.38	.031	4.82	2.46	1.78	1.54	.93	.36	-.044	30
45	3.17	2.73	2.46	1.44	.58	.34	.010	4.38	2.24	1.62	1.43	.84	.32	-.073	45
60	2.38	2.37	2.18	1.03	.38	.28	-.004	3.87	1.91	1.43	1.28	.71	.25	-.106	60
75	.78	1.62	1.79	.73	.22	.25	-.004	3.12	1.51	1.16	1.09	.52	.20	-.125	75
90	5.77	4.64	3.67	2.24	1.05	.49	.042	3.27	1.86	1.63	1.59	.96	.43	-.060	90
105	5.84	4.55	3.53	2.20	1.02	.45	.042	5.55	3.03	2.30	2.06	1.22	.50	-.033	105
120	4.50	3.83	2.86	1.96	.86	.43	.046	6.01	3.12	2.32	2.03	1.16	.45	-.048	120
135	3.68	3.14	2.42	1.64	.73	.40	.051	5.44	2.83	2.05	1.82	1.05	.43	-.046	135
150	3.46	2.92	2.26	1.53	.70	.40	.059	5.13	2.67	1.92	1.72	1.01	.43	-.029	150
165	3.60	2.94	2.27	1.52	.72	.40	.061	5.15	2.64	1.92	1.71	1.00	.44	-.011	165
180	3.76	2.96	2.26	1.53	.77	.43	.075	5.28	2.69	1.93	1.68	1.03	.45	.006	180
195	4.13	3.14	2.31	1.60	.85	.45	.083	5.50	2.65	1.99	1.66	1.09	.47	.025	195
210	4.61	3.30	2.42	1.66	.94	.48	.097	5.90	2.91	2.10	1.72	1.16	.52	.046	210
225	5.10	3.47	2.53	1.75	1.02	.51	.105	6.44	3.25	2.28	1.85	1.25	.55	.064	225
240	5.55	3.67	2.64	1.85	1.10	.54	.122	7.12	3.55	2.47	2.00	1.35	.60	.084	240
255	6.56	4.13	2.91	2.07	1.26	.59	.142	8.70	4.01	2.73	2.17	1.45	.60	.093	255
270	8.17	4.66	3.16	2.26	1.36	.58	.138	6.06	2.98	2.12	1.83	1.26	.61	.097	270
285	4.84	3.34	2.26	1.66	1.00	.55	.144	4.69	2.26	1.61	1.34	.93	.43	.042	285
300	2.52	1.96	1.54	.99	.50	.30	.059	4.18	1.98	1.35	1.13	.74	.34	.020	300
315	4.92	3.35	2.42	1.64	.92	.46	.091	5.42	2.61	1.89	1.57	1.03	.47	.053	315
330	6.40	4.16	2.92	2.02	1.18	.55	.105	6.83	3.40	2.40	2.01	1.31	.59	.073	330
345	6.98	4.47	3.15	2.19	1.26	.59	.100	7.74	3.85	2.74	2.24	1.47	.63	.071	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
0	7.60	5.06	3.61	2.72	2.22	1.97	1.29	.66	.55	.27	.090	0
15	6.11	4.48	3.02	2.25	1.90	1.68	1.09	.49	.46	.20	.053	15
30	5.23	3.81	2.68	1.93	1.63	1.50	.96	.37	.39	.16	.038	30
45	4.83	3.54	2.56	2.01	1.50	1.39	.88	.30	.35	.14	.018	45
60	4.28	3.16	2.26	1.76	1.32	1.20	.75	.20	.28	.09	-.006	60
75	3.80	2.75	2.01	1.53	1.15	1.05	.65	.13	.22	.07	-.021	75
90	4.37	3.29	2.38	1.85	1.45	1.28	.82	.24	.29	.11	-.011	90
105	6.04	4.55	3.25	2.29	1.95	1.70	1.11	.42	.43	.19	.032	105
120	5.65	4.19	3.02	2.13	1.80	1.61	1.09	.43	.45	.21	.042	120
135	5.63	4.10	3.02	2.10	1.76	1.58	1.06	.42	.44	.21	.040	135
150	5.98	4.29	3.10	2.25	1.85	1.61	1.07	.44	.45	.21	.034	150
165	5.92	4.26	3.08	2.26	1.88	1.63	1.10	.47	.48	.23	.061	165
180	6.04	4.31	3.08	2.29	1.88	1.65	1.12	.50	.51	.25	.071	180
195	6.13	4.35	3.05	2.31	1.88	1.67	1.13	.52	.52	.27	.075	195
210	6.52	4.55	3.20	2.46	1.97	1.74	1.19	.57	.55	.29	.094	210
225	7.40	4.94	3.50	2.68	2.16	1.90	1.27	.62	.58	.31	.102	225
240	8.57	5.36	3.71	2.84	2.27	1.99	1.28	.64	.57	.30	.100	240
255	5.49	3.83	2.76	2.11	1.74	1.63	1.13	.61	.58	.32	.092	255
270	5.66	3.85	2.77	2.15	1.73	1.60	1.07	.58	.54	.29	.102	270
285	4.32	3.05	2.05	1.53	1.23	1.20	.78	.37	.39	.20	.053	285
300	4.54	3.14	2.12	1.57	1.27	1.22	.78	.38	.37	.19	.053	300
315	5.63	3.90	2.69	2.05	1.64	1.53	.98	.52	.47	.25	.092	315
330	7.16	4.80	3.42	2.61	2.11	1.92	1.26	.69	.57	.30	.116	330
345	8.31	5.38	3.83	2.93	2.38	2.12	1.40	.77	.62	.32	.122	345

TABLE 8 - Continued

FLIGHT 5, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 42 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75							Δp, lb/sq in., at - r/R = 0.55							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.99	3.07	2.37	1.75	1.27	.51	.099	3.53	1.68	1.24	.99	.78	.39	.092	0
15	5.69	2.74	2.18	1.61	1.14	.43	.078	3.30	1.59	1.17	.93	.74	.38	.093	15
30	5.15	2.48	2.05	1.52	1.04	.41	.052	3.25	1.57	1.15	.91	.72	.38	.098	30
45	4.70	2.38	2.00	1.49	.99	.37	.064	3.26	1.53	1.14	.90	.72	.37	.102	45
60	4.32	2.20	1.91	1.42	.91	.33	.052	3.02	1.48	1.05	.84	.68	.35	.099	60
75	3.86	1.92	1.59	1.32	.80	.29	.061	2.72	1.34	.92	.74	.61	.32	.096	75
90	3.49	1.74	1.59	1.23	.73	.26	.057	2.52	1.25	.86	.70	.59	.31	.101	90
105	3.96	2.37	2.05	1.53	1.00	.38	.085	3.19	1.57	1.14	.90	.72	.35	.104	105
120	4.23	2.43	2.09	1.58	1.06	.40	.090	2.43	1.23	.91	.73	.62	.33	.106	120
135	4.38	2.26	1.96	1.37	.98	.39	.104	3.15	1.50	1.11	.89	.71	.35	.099	135
150	4.19	2.25	1.97	1.48	1.02	.41	.104	3.02	1.48	1.09	.87	.70	.36	.104	150
165	4.72	2.46	2.10	1.55	1.13	.44	.119	2.88	1.41	1.08	.87	.70	.35	.104	165
180	4.92	2.50	2.10	1.56	1.13	.44	.111	2.72	1.34	1.03	.84	.69	.35	.099	180
195	4.96	2.50	2.07	1.53	1.13	.45	.121	2.59	1.28	1.00	.81	.66	.32	.088	195
210	4.89	2.46	2.02	1.50	1.11	.46	.119	2.41	1.17	.93	.76	.62	.31	.080	210
225	4.49	2.20	1.86	1.40	1.05	.47	.126	2.20	1.05	.83	.68	.56	.29	.070	225
240	4.32	2.18	1.80	1.33	1.01	.45	.111	2.03	.96	.76	.62	.49	.25	.055	240
255	4.59	2.43	1.92	1.41	1.07	.44	.111	2.03	.94	.76	.61	.48	.24	.049	255
270	4.35	1.71	1.50	1.08	.80	.32	.061	1.76	.76	.64	.53	.42	.21	.037	270
285	3.90	1.84	1.51	1.09	.81	.33	.088	1.79	.80	.66	.52	.41	.21	.032	285
300	3.68	1.84	1.49	1.10	.80	.32	.071	1.91	.86	.69	.55	.43	.20	.036	300
315	3.95	2.12	1.70	1.28	.94	.40	.080	2.13	.98	.78	.62	.47	.24	.049	315
330	4.66	2.73	2.11	1.58	1.18	.51	.099	2.76	1.31	.99	.79	.60	.32	.073	330
345	5.45	3.13	2.40	1.79	1.32	.55	.113	3.62	1.69	1.24	.99	.77	.40	.098	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40					Δp, lb/sq in., at - r/R = 0.25					ψ_{nom}, deg
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.67	.80	.53	.29	.096	.60	.34	.22	.12	.015	0
15	1.60	.77	.52	.30	.100	.68	.39	.25	.12	.022	15
30	1.66	.78	.53	.30	.109	.87	.48	.29	.13	.022	30
45	1.74	.78	.54	.29	.109	.75	.40	.24	.12	.011	45
60	1.65	.75	.52	.28	.107	.78	.41	.24	.12	.020	60
75	1.53	.69	.48	.27	.107	.76	.40	.23	.11	.020	75
90	1.46	.68	.47	.27	.109	.71	.37	.22	.10	.018	90
105	1.44	.66	.46	.27	.109	.62	.39	.26	.13	.027	105
120	1.62	.85	.56	.31	.121	.89	.46	.27	.12	.022	120
135	1.63	.76	.52	.30	.114	.76	.41	.25	.13	.031	135
150	1.56	.76	.53	.31	.114	.95	.50	.30	.14	.034	150
165	1.62	.81	.54	.29	.105	.80	.44	.27	.12	.029	165
180	1.52	.76	.48	.27	.093	.68	.38	.24	.11	.026	180
195	1.28	.66	.44	.25	.088	.56	.32	.20	.10	.020	195
210	1.15	.60	.40	.24	.081	.43	.24	.15	.08	.011	210
225	1.16	.56	.36	.21	.074	.32	.17	.11	.06	.000	225
240	1.16	.55	.34	.19	.069	.24	.13	.08	.04	-.005	240
255	.59	.34	.24	.17	.057	.19	.10	.06	.04	-.007	255
270	.63	.35	.23	.16	.057	.19	.11	.07	.04	-.006	270
285	.73	.40	.27	.17	.065	.43	.26	.13	.06	.000	285
300	.65	.34	.23	.15	.054	.11	.04	.02	.05	.000	300
315	.80	.43	.29	.19	.075	.18	.10	.06	.04	-.003	315
330	1.26	.63	.43	.26	.100	.29	.16	.10	.07	.004	330
345	1.67	.81	.54	.29	.105	.42	.24	.16	.09	.011	345

TABLE 8 - Continued

FLIGHT 5, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 42 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	3.06	7.99	12.31	20.32	22.47	22.75	22.55
15	3.46	7.86	11.68	18.38	18.64	18.42	18.25
30	4.11	8.06	11.55	16.86	16.17	15.29	15.69
45	3.49	8.18	11.41	15.99	14.92	13.73	14.18
60	3.57	7.82	10.74	14.72	12.84	11.65	11.41
75	3.43	7.36	9.69	12.95	11.10	9.08	7.79
90	3.24	7.20	9.21	12.00	13.60	13.60	23.32
105	3.44	7.13	11.32	15.70	18.82	19.45	22.75
120	4.01	8.35	9.46	16.38	18.02	19.36	19.12
135	3.68	7.95	11.10	15.65	17.76	17.56	16.16
150	4.40	7.97	10.94	15.83	18.37	16.79	15.35
165	3.82	8.04	10.72	17.34	18.68	16.87	15.57
180	3.34	7.38	10.34	17.52	19.02	17.24	16.03
195	2.85	6.57	9.82	17.56	19.20	17.77	17.05
210	2.18	5.99	9.19	17.36	20.31	19.16	18.36
225	1.52	5.65	8.35	16.28	22.14	20.87	19.66
240	1.11	5.42	7.44	15.69	23.45	22.82	20.95
255	.90	3.59	7.27	16.58	18.50	25.47	23.71
270	.97	3.60	6.25	12.92	18.21	20.52	26.32
285	1.92	4.07	6.26	12.99	13.36	15.20	19.07
300	.64	3.54	6.56	12.67	13.59	12.76	10.77
315	.89	4.43	7.45	14.56	17.18	17.34	18.48
330	1.50	6.52	9.67	18.11	21.80	22.10	22.99
345	2.23	8.08	12.39	20.57	24.49	24.76	24.69

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	11.005		0	3.307				
1	1.966	-2.801	1	.316	-.672			
2	.009	.023	2	.014	.087			
3	.014	.068	3	.150	-.065			
4	.050	-.050	4	.077	.055			
5	.014	-.050	5	.006	-.049			
6	-.018	-.027	6	.038	.024			
7	-.023	.014	7	.014	.008			
8	.005	.000	8	.026	.000			
9	-.018	-.014	9	.006	-.004			
10	-.009	.000	10	.018	.002			
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 8 - Continued

FLIGHT 5, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 42 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.656		.75	0	16.038		.95	0	18.342	
.25	1	-.236	1.465	.75	1	.274	-.074	.95	1	.378	-2.381
.25	2	.493	.036	.75	2	2.566	.243	.95	2	-.338	-.835
.25	3	-.016	.385	.75	3	1.317	-.196	.95	3	3.984	-.814
.25	4	.108	.119	.75	4	.210	-.280	.95	4	2.239	-.102
.25	5	.117	-.046	.75	5	-.433	-.652	.95	5	-1.730	-1.035
.25	6	-.057	-.102	.75	6	.352	-.265	.95	6	-1.766	-1.206
.25	7	-.100	.014	.75	7	.252	.130	.95	7	.607	.150
.25	8	-.132	.067	.75	8	-.382	-.125	.95	8	1.244	.876
.25	9	.122	-.040	.75	9	-.072	.116	.95	9	.085	.404
.25	10	.111	-.026	.75	10	.311	.007	.95	10	-.660	-.572
.40	0	6.614		.85	0	18.026					
.40	1	.060	1.901	.85	1	-.706	-1.830				
.40	2	1.129	.106	.85	2	2.559	-.081				
.40	3	.347	.021	.85	3	3.067	-.899				
.40	4	-.042	-.234	.85	4	.035	-.802				
.40	5	.050	-.183	.85	5	-.751	-.416				
.40	6	.098	-.283	.85	6	.077	-.835				
.40	7	-.239	-.035	.85	7	.174	.091				
.40	8	-.066	.025	.85	8	.134	.405				
.40	9	.156	.035	.85	9	.015	-.406				
.40	10	-.084	-.025	.85	10	-.217	-.224				
.55	0	9.630		.90	0	17.939					
.55	1	.451	1.846	.90	1	-.367	-2.829				
.55	2	1.625	.173	.90	2	1.393	-.408				
.55	3	.528	.023	.90	3	4.093	-.307				
.55	4	.134	-.219	.90	4	.680	-.875				
.55	5	.001	-.269	.90	5	-1.429	-1.066				
.55	6	.003	-.286	.90	6	-.074	-.437				
.55	7	.204	-.169	.90	7	.657	.192				
.55	8	-.077	.077	.90	8	.012	.105				
.55	9	-.267	-.089	.90	9	-.212	.070				
.55	10	.171	-.157	.90	10	.147	-.106				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 8 - Concluded

FLIGHT 5, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 42 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-1727	-1865	-2730	-3145	-4387	-6507		
15	-405	-924	-1853	-2563	-4528	-6487		
30	256	-8	-588	-1494	-3437	-5204		
45	-291	8	-307	-502	-1211	-2716		
60	-553	33	-63	-321	-1035	-2269		
75	655	74	-850	-1466	-1976	-2995		
90	-838	-545	-777	-2029	-4370	-5880		
105	496	-1889	-3535	-3765	-3235	-3433		
120	-2696	-2005	-2097	-2506	-3279	-4269		
135	336	-594	-1483	-1599	-2214	-3861		
150	1237	957	470	-636	-2680	-4696		
165	781	512	208	-264	-1325	-2995		
180	-143	-619	-642	-607	-1158	-2458		
195	-416	-503	-1031	-1618	-2143	-2756		
210	496	-264	-1166	-1676	-2460	-3831		
225	-17	413	0	-645	-2733	-5025		
240	815	660	-226	-893	-1360	-3084		
255	-405	470	624	328	-40	-557		
270	-97	644	850	1396	1957	2070		
285	-143	1411	2332	2722	2362	2249		
300	655	1832	2088	2179	2485	2189		
315	-724	1386	2251	2102	-23	-2388		
330	541	850	-344	-1561	-2839	-4418		
345	-633	-858	-2061	-3145	-4722	-6348		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-6017	-6431	4717	
15	-5903	-9019	1533	
30	-5431	-9003	397	
45	-6375	-8287	4333	
60	-3542	-4624	5517	
75	-1573	-2491	6845	
90	-2452	-3516	7949	
105	1472	-3663	2637	
120	1521	-7147	1213	
135	-1866	-8026	2829	
150	-173	-5991	3613	
165	1211	-2377	6045	
180	-1247	-1742	10205	
195	-303	-1986	7853	
210	-742	-4689	4237	
225	-4226	-9101	2861	
240	-4650	-9052	-243	
255	-6424	-10517	637	
270	-8313	-10077	797	
285	-10755	-11396	1085	
300	-12252	-10680	2829	
315	-11048	-8856	5421	
330	-7580	-5796	5709	
345	-4650	-4835	5565	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	617	416	135
15	307	45	94
30	388	160	109
45	707	155	149
60	526	206	130
75	366	45	107
90	482	146	94
105	484	314	102
120	561	150	67
135	255	-231	47
150	360	-300	45
165	181	-202	38
180	-87	-451	-1
195	-343	-486	-21
210	-79	-470	4
225	136	-333	21
240	-8	-392	13
255	-79	-415	4
270	-182	-520	32
285	-68	-398	31
300	-688	-827	-1
315	-634	-722	-2
330	-120	-279	61
345	531	247	139

TABLE 9

FLIGHT 6, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 48 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95							Δp, lb/sq in., at - r/R = 0.90							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.55	4.23	3.18	2.16	1.12	.54	.054	7.54	3.84	2.90	2.39	1.49	.55	.027	0
15	4.90	3.59	2.77	1.85	.85	.44	.030	6.28	3.27	2.51	2.09	1.28	.45	-.016	15
30	4.20	3.29	2.64	1.74	.72	.41	.028	5.25	2.82	2.15	1.86	1.12	.41	-.038	30
45	3.87	3.20	2.59	1.65	.63	.38	.012	4.84	2.58	2.07	1.79	1.04	.36	-.065	45
60	2.39	2.46	2.16	1.28	.37	.30	-.012	4.19	2.21	1.78	1.63	.88	.28	-.107	60
75	3.18	2.69	2.33	1.27	.28	.28	.030	2.61	1.33	1.24	1.16	.54	.18	-.129	75
90	8.24	5.68	4.20	2.72	1.27	.56	.058	3.06	1.79	1.68	1.64	.96	.41	-.067	90
105	7.90	5.50	4.08	2.66	1.28	.57	.042	6.40	3.60	2.87	2.59	1.56	.63	-.014	105
120	6.24	4.54	3.56	2.29	1.10	.52	.050	6.98	3.96	3.02	2.69	1.56	.55	-.031	120
135	4.51	3.57	2.91	1.84	.83	.45	.048	6.76	3.62	2.71	2.32	1.33	.49	-.031	135
150	4.10	3.16	2.55	1.67	.75	.45	.060	5.84	3.16	2.38	2.10	1.24	.48	-.014	150
165	4.41	3.16	2.52	1.72	.81	.48	.075	5.79	3.16	2.38	2.12	1.26	.51	.011	165
180	4.78	3.29	2.57	1.79	.88	.50	.084	6.11	3.30	2.47	2.16	1.31	.52	.020	180
195	5.13	3.50	2.66	1.85	.95	.51	.087	6.40	3.36	2.52	2.18	1.34	.54	.036	195
210	5.38	3.66	2.71	1.90	1.01	.54	.101	6.58	3.45	2.57	2.21	1.39	.57	.056	210
225	5.87	3.85	2.84	2.01	1.10	.56	.109	7.12	3.73	2.73	2.32	1.49	.61	.073	225
240	6.78	4.24	3.05	2.20	1.25	.62	.131	8.25	4.22	3.04	2.51	1.64	.66	.096	240
255	8.14	4.82	3.38	2.48	1.44	.68	.147	10.41	4.54	3.20	2.57	1.67	.62	.092	255
270	10.12	5.22	3.53	2.58	1.52	.65	.133	5.11	2.79	2.14	1.94	1.30	.62	.121	270
285	7.11	3.60	2.39	1.76	1.04	.51	.141	4.21	2.12	1.63	1.42	.94	.40	.036	285
300	4.29	2.82	2.11	1.45	.69	.36	.052	4.39	2.25	1.69	1.48	.96	.40	.031	300
315	6.06	3.87	2.80	1.93	1.01	.50	.087	5.83	3.06	2.24	1.94	1.27	.53	.058	315
330	7.05	4.39	3.21	2.21	1.22	.59	.093	7.23	3.76	2.76	2.34	1.53	.61	.070	330
345	7.34	4.59	3.37	2.33	1.28	.60	.087	8.00	4.08	3.03	2.53	1.60	.63	.060	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85											ψ_{nom}, deg
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	7.80	5.59	4.05	3.00	2.55	2.12	1.39	.69	.61	.31	.081	0
15	6.58	4.95	3.54	2.56	2.26	1.88	1.21	.55	.53	.26	.050	15
30	5.89	4.35	3.21	2.24	2.02	1.70	1.09	.45	.45	.22	.029	30
45	5.46	4.03	3.04	2.23	1.86	1.57	1.01	.37	.41	.19	.017	45
60	4.64	3.46	2.62	2.07	1.66	1.27	.84	.26	.32	.13	-.018	60
75	3.76	2.78	2.19	1.66	1.37	1.07	.69	.16	.25	.10	-.037	75
90	4.04	3.06	2.44	1.85	1.56	1.18	.82	.23	-.12	.14	-.025	90
105	6.17	4.64	3.46	2.48	2.07	1.64	1.09	.41	.46	.23	.023	105
120	5.99	4.57	3.51	2.49	2.19	1.83	1.28	.56	.53	.29	.040	120
135	6.20	4.64	3.51	2.41	2.14	1.79	1.22	.54	.51	.27	.040	135
150	6.61	4.86	3.61	2.57	2.21	1.83	1.21	.53	.53	.27	.048	150
165	7.09	5.22	3.82	2.78	2.35	1.91	1.28	.58	.56	.30	.054	165
180	7.36	5.38	3.89	2.89	2.41	1.96	1.33	.62	.60	.31	.072	180
195	7.44	5.42	3.88	2.89	2.44	1.98	1.34	.64	.61	.33	.072	195
210	7.72	5.43	3.95	2.95	2.44	1.99	1.34	.65	.60	.34	.087	210
225	8.63	5.82	4.16	3.10	2.56	2.09	1.36	.67	.60	.34	.089	225
240	7.36	5.02	3.71	2.75	2.30	1.98	1.37	.75	.68	.39	.110	240
255	5.30	3.98	2.92	2.22	1.90	1.68	1.18	.63	.61	.37	.108	255
270	5.39	3.86	2.86	2.12	1.79	1.54	1.06	.53	.52	.29	.064	270
285	4.54	3.34	2.41	1.76	1.48	1.33	.86	.41	.44	.23	.048	285
300	4.99	3.69	2.58	1.90	1.61	1.43	.90	.44	.44	.25	.062	300
315	6.36	4.57	3.25	2.42	2.04	1.79	1.15	.60	.55	.31	.093	315
330	7.78	5.36	3.95	2.97	2.53	2.12	1.39	.77	.65	.36	.113	330
345	8.46	5.78	4.25	3.19	2.70	2.26	1.48	.79	.67	.36	.108	345

TABLE 9 - Continued

FLIGHT 6, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 48 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.27	3.31	2.44	1.89	1.29	.54	.055	3.57	1.78	1.19	1.04	.83	.43	.099	0
15	5.85	2.99	2.27	1.75	1.17	.50	.045	3.50	1.75	1.17	1.02	.80	.43	.103	15
30	5.43	2.86	2.20	1.70	1.11	.47	.045	3.57	1.79	1.20	1.04	.82	.44	.109	30
45	5.09	2.72	2.14	1.66	1.05	.44	.043	3.43	1.69	1.14	.99	.80	.44	.110	45
60	4.59	2.40	1.95	1.51	.91	.37	.039	3.08	1.52	1.02	.90	.73	.37	.105	60
75	4.01	2.07	1.62	1.35	.77	.32	.039	2.73	1.40	.88	.80	.66	.35	.105	75
90	3.98	2.17	1.70	1.40	.80	.33	.043	2.78	1.42	.89	.80	.66	.35	.111	90
105	4.41	2.52	2.03	1.55	.93	.38	.052	3.01	1.52	1.00	.88	.71	.38	.114	105
120	4.03	2.30	1.86	1.58	1.03	.46	.084	2.91	1.45	.96	.86	.70	.36	.109	120
135	4.96	2.76	2.23	1.68	1.07	.43	.058	2.86	1.51	1.03	.88	.72	.37	.107	135
150	4.41	2.46	1.98	1.54	1.02	.45	.088	3.22	1.58	1.08	.96	.76	.38	.101	150
165	4.42	2.50	2.07	1.62	1.06	.48	.096	2.80	1.41	.98	.88	.72	.37	.103	165
180	4.78	2.61	2.09	1.63	1.08	.48	.088	2.61	1.32	.92	.83	.67	.35	.095	180
195	4.56	2.43	1.97	1.55	1.05	.47	.086	2.43	1.21	.84	.77	.62	.32	.087	195
210	4.26	2.23	1.82	1.42	.98	.45	.081	2.37	1.18	.81	.75	.59	.30	.082	210
225	4.37	2.37	1.83	1.42	.99	.46	.084	2.31	1.16	.80	.73	.57	.31	.071	225
240	4.79	2.66	1.99	1.54	1.06	.48	.081	2.25	1.13	.78	.72	.57	.29	.063	240
255	4.83	2.47	1.88	1.46	1.03	.45	.071	2.16	1.06	.74	.68	.54	.29	.054	255
270	4.29	2.15	1.64	1.27	.87	.38	.050	2.09	1.01	.71	.66	.52	.27	.050	270
285	3.96	2.07	1.57	1.21	.81	.35	.048	2.05	.98	.68	.64	.50	.27	.047	285
300	3.96	2.15	1.61	1.25	.82	.36	.055	2.13	1.03	.71	.65	.51	.26	.050	300
315	4.50	2.61	1.92	1.49	1.01	.45	.065	2.51	1.24	.84	.75	.57	.31	.064	315
330	5.28	3.16	2.30	1.79	1.24	.55	.069	3.17	1.57	1.07	.93	.72	.39	.086	330
345	6.02	3.41	2.49	1.93	1.34	.58	.067	3.66	1.82	1.22	1.06	.83	.43	.102	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.58	.81	.50	.32	.089	.66	.33	.21	.13	.027	0
15	1.56	.79	.49	.32	.093	.80	.39	.24	.14	.025	15
30	1.77	.85	.53	.33	.102	.84	.41	.25	.14	.019	30
45	1.78	.86	.53	.32	.104	.84	.40	.23	.13	.023	45
60	1.70	.82	.50	.30	.101	.82	.39	.23	.13	.029	60
75	1.54	.74	.46	.30	.104	.79	.37	.22	.12	.024	75
90	1.43	.71	.44	.30	.103	.75	.35	.21	.12	.029	90
105	1.53	.73	.47	.31	.106	.78	.37	.22	.13	.035	105
120	1.61	.78	.49	.32	.106	.88	.42	.25	.14	.034	120
135	1.75	.88	.55	.34	.105	.97	.46	.27	.14	.034	135
150	1.65	.80	.49	.32	.104	.89	.42	.24	.14	.035	150
165	1.35	.68	.41	.28	.088	.72	.35	.20	.12	.032	165
180	1.15	.61	.37	.27	.083	.61	.30	.19	.13	.038	180
195	1.03	.56	.35	.26	.083	.58	.29	.18	.11	.024	195
210	.94	.52	.32	.24	.079	.54	.24	.14	.09	.017	210
225	.84	.46	.27	.21	.066	.41	.18	.10	.07	.006	225
240	.81	.45	.26	.20	.058	.26	.12	.08	.06	.006	240
255	.77	.45	.26	.20	.052	.21	.08	.05	.05	.000	255
270	.75	.45	.25	.19	.050	.24	.09	.05	.06	.001	270
285	.77	.44	.25	.19	.051	.26	.10	.05	.05	-.001	285
300	.84	.47	.26	.20	.055	.27	.11	.06	.06	-.001	300
315	.94	.52	.31	.22	.071	.28	.12	.07	.07	.005	315
330	1.21	.66	.41	.28	.088	.38	.17	.10	.09	.012	330
345	1.50	.79	.49	.32	.094	.48	.23	.14	.10	.017	345

TABLE 9 - Continued

FLIGHT 6, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 48 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	3.26	7.90	12.81	21.17	24.35	24.40	23.20
15	3.75	7.83	12.61	19.40	21.07	20.59	18.82
30	3.84	8.52	12.90	18.44	18.76	17.76	17.04
45	3.72	8.53	12.45	17.50	17.39	16.35	15.98
60	3.66	8.07	11.17	15.50	14.55	13.72	11.70
75	3.49	7.56	10.15	13.31	11.89	8.55	12.57
90	3.38	7.23	10.24	13.75	11.18	13.36	28.78
105	3.57	7.62	11.07	15.81	19.35	23.90	28.14
120	4.02	7.92	10.68	15.93	20.70	24.56	23.83
135	4.29	8.70	10.93	17.69	20.45	22.14	18.74
150	3.94	8.02	11.63	16.52	21.07	19.99	17.06
165	3.30	6.79	10.68	17.05	22.38	20.27	17.69
180	3.06	6.08	9.99	17.57	23.24	21.10	18.64
195	2.79	5.66	9.25	16.74	23.43	21.78	19.65
210	2.34	5.25	8.89	15.60	23.73	22.46	20.53
225	1.75	4.58	8.70	15.99	24.99	24.18	21.85
240	1.29	4.36	8.43	17.35	23.61	27.04	24.37
255	.93	4.28	8.04	16.59	19.21	29.17	27.85
270	1.05	4.16	7.71	14.33	17.91	19.92	30.13
285	1.09	4.18	7.51	13.46	14.95	14.61	21.29
300	1.17	4.46	7.67	13.80	15.95	15.11	15.28
315	1.35	5.09	8.99	16.54	20.23	20.14	21.22
330	1.82	5.39	11.40	19.89	24.51	25.53	24.61
345	2.36	5.28	13.02	21.64	26.17	28.73	25.61

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	11.259		0	3.590		0	5.657	
1	1.966	-2.579	1	.431	-.516	1	-.223	-.036
2	.032	.018	2	.002	.279	2	.011	.035
3	.027	.091	3	.200	-.061	3	.049	.044
4	.082	-.082	4	.122	.105	4	.013	-.002
5	-.023	-.041	5	.008	-.053	5	.011	-.003
6	.023	-.023	6	.063	.036	6	.002	.005
7	.005	-.005	7	.032	.018	7	.000	.000
8	.032	.005	8	.057	.022	8	.006	-.009
9	.009	.000	9	.020	-.014	9	.013	.006
10	.005	.005	10	.047	.012	10	.000	.014
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 9 - Continued

FLIGHT 6, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 48 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.718		.75	0	16.731		.95	0	21.024	
.25	1	-.102	1.457	.75	1	1.066	-.010	.95	1	-.317	-2.229
.25	2	.457	.025	.75	2	2.347	-.086	.95	2	-1.836	-1.270
.25	3	.110	.212	.75	3	1.369	.102	.95	3	4.070	-1.319
.25	4	-.063	.127	.75	4	-.036	-.626	.95	4	2.628	.224
.25	5	.106	-.060	.75	5	-.632	-.422	.95	5	-2.225	-.669
.25	6	.008	.068	.75	6	.234	-.099	.95	6	-1.761	-.976
.25	7	-.022	.004	.75	7	.005	-.241	.95	7	.632	-.121
.25	8	.014	.033	.75	8	.087	.166	.95	8	1.294	.378
.25	9	.003	-.004	.75	9	-.106	.093	.95	9	.227	.295
.25	10	.007	-.001	.75	10	.087	-.196	.95	10	-.670	-.239
.40	0	6.393		.85	0	20.043					
.40	1	.278	2.085	.85	1	-1.192	-2.024				
.40	2	.453	.035	.85	2	4.090	-.275				
.40	3	.159	.501	.85	3	2.480	-.765				
.40	4	-.243	.121	.85	4	-.717	-.393				
.40	5	.097	-.021	.85	5	-.823	-.724				
.40	6	.017	.179	.85	6	.436	-.747				
.40	7	.134	.012	.85	7	.080	.476				
.40	8	.139	.077	.85	8	-.077	.271				
.40	9	.101	.031	.85	9	.007	-.485				
.40	10	.175	-.025	.85	10	.099	-.047				
.55	0	10.289		.90	0	20.640					
.55	1	1.029	1.617	.90	1	-1.252	-2.718				
.55	2	1.323	.011	.90	2	2.332	-.758				
.55	3	.573	.204	.90	3	4.943	-.552				
.55	4	-.044	-.284	.90	4	-.277	-.884				
.55	5	-.149	-.158	.90	5	-2.405	-1.372				
.55	6	-.169	-.289	.90	6	.576	-.473				
.55	7	.051	-.103	.90	7	.937	.015				
.55	8	-.060	.075	.90	8	-.442	.040				
.55	9	-.058	-.080	.90	9	-.598	.062				
.55	10	.057	.009	.90	10	.147	-.150				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 9 - Concluded

FLIGHT 6, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 48 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-532	-1040	-1546	-2595	-4528	-7072		
15	1155	223	-524	-1917	-4203	-6723		
30	1566	998	515	-648	-2584	-4803		
45	1110	644	515	86	-498	-2256		
60	711	586	687	201	-692	-1718		
75	1759	776	154	-677	-2205	-3698		
90	1087	322	-380	-1831	-4185	-5639		
105	745	-1114	-2332	-3405	-3411	-3609		
120	-612	-1906	-2233	-2327	-1448	-2524		
135	209	-256	81	-133	-1079	-2594		
150	3253	2318	1971	1145	-1123	-3072		
165	2945	2153	2242	1641	48	-2236		
180	768	512	949	744	312	-1012		
195	574	-173	-280	-792	-1026	-1679		
210	1383	388	-118	-1087	-2082	-3639		
225	1429	1031	850	-143	-2082	-4514		
240	1771	1262	1012	248	-1237	-2753		
255	1338	1097	1012	716	840	560		
270	505	1172	1817	2214	2864	3038		
285	1110	2285	3137	3263	3304	3356		
300	2079	3077	3715	3501	2485	1406		
315	1452	2393	2938	2357	-5	-2256		
330	1121	965	316	-954	-2839	-4475		
345	357	-751	-1853	-3119	-4344	-5927		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-5184	-7163	3817	
15	-5428	-9670	297	
30	-4891	-9149	-759	
45	-5575	-8433	3753	
60	-1000	-3875	4713	
75	-137	-1595	7017	
90	156	-2149	7673	
105	4730	-3028	2105	
120	2712	-6740	121	
135	-821	-8873	953	
150	237	-6870	1353	
165	791	-3696	4777	
180	-56	-1351	8729	
195	839	-1840	7305	
210	-447	-4640	3609	
225	-3784	-9247	1177	
240	-4159	-10582	-2071	
255	-6242	-10745	-2167	
270	-9694	-11738	-375	
285	-11419	-11787	169	
300	-11371	-10631	2089	
315	-9156	-7147	4937	
330	-4989	-4314	6153	
345	-2579	-3500	5369	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	420	546	115
15	293	380	103
30	511	507	133
45	663	477	147
60	473	519	127
75	362	387	114
90	596	640	122
105	907	915	139
120	702	552	102
135	206	46	52
150	157	26	35
165	205	25	42
180	4	4	18
195	-237	-107	-15
210	-244	-223	-16
225	-88	-154	-4
240	-39	-94	6
255	-56	-92	16
270	-144	-167	27
285	-376	-293	16
300	-608	-416	-9
315	-439	-255	12
330	10	193	65
345	346	540	115

TABLE 10

FLIGHT 7, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 56 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	7.75	4.76	3.31	2.29	1.30	.58	.089	8.46	4.06	2.88	2.36	1.53	.62	.066	0
15	6.03	4.20	3.15	1.99	1.05	.49	.055	7.04	3.48	2.53	2.10	1.31	.51	.017	15
30	4.62	3.60	2.90	1.73	.83	.41	.031	5.74	2.92	2.17	1.82	1.09	.42	-.025	30
45	3.90	3.15	2.74	1.62	.69	.38	.020	4.97	2.58	1.95	1.66	.96	.36	-.053	45
60	3.46	3.00	2.72	1.58	.60	.34	.002	4.51	2.35	1.74	1.53	.88	.33	-.091	60
75	2.75	2.78	2.52	1.14	.41	.29	-.012	3.95	2.04	1.52	1.40	.75	.26	-.119	75
90	1.39	2.21	2.23	1.02	.36	.29	-.006	3.63	1.87	1.46	1.35	.65	.23	-.134	90
105	6.57	5.18	3.85	2.36	1.02	.44	.016	3.36	2.02	1.71	1.66	.92	.40	-.088	105
120	4.69	4.14	3.16	2.14	.93	.47	.045	7.00	3.51	2.72	2.31	1.34	.48	-.071	120
135	3.99	3.53	2.69	1.81	.77	.42	.045	5.70	3.12	2.28	2.00	1.17	.47	-.048	135
150	3.46	3.07	2.42	1.56	.67	.39	.041	4.95	2.65	1.93	1.75	1.00	.42	-.044	150
165	3.44	2.96	2.39	1.50	.71	.42	.059	4.97	2.61	1.89	1.71	.99	.43	-.017	165
180	3.99	3.15	2.38	1.60	.81	.46	.079	5.46	2.78	2.04	1.75	1.09	.48	.025	180
195	4.48	3.34	2.44	1.65	.91	.48	.095	5.86	2.87	2.15	1.80	1.14	.51	.040	195
210	4.80	3.45	2.48	1.69	.96	.49	.097	6.10	3.05	2.19	1.79	1.17	.52	.055	210
225	5.08	3.46	2.49	1.72	1.01	.51	.105	6.27	3.14	2.21	1.78	1.20	.54	.073	225
240	5.39	3.52	2.53	1.77	1.05	.53	.111	6.56	3.29	2.29	1.83	1.25	.56	.088	240
255	5.94	3.80	2.66	1.89	1.17	.57	.138	7.62	3.62	2.48	2.00	1.38	.62	.117	255
270	6.91	4.19	2.92	2.11	1.33	.62	.154	9.32	3.94	2.71	2.16	1.52	.66	.137	270
285	7.49	4.27	2.89	2.06	1.27	.57	.136	5.81	2.79	1.90	1.57	1.09	.48	.060	285
300	4.69	3.16	2.15	1.49	.85	.41	.073	5.50	2.65	1.81	1.49	1.00	.44	.057	300
315	5.47	3.59	2.47	1.70	1.00	.48	.091	5.94	2.90	1.99	1.66	1.10	.50	.071	315
330	6.68	4.19	2.88	2.03	1.18	.51	.115	7.11	3.53	2.42	2.01	1.35	.60	.093	330
345	7.78	4.72	3.23	2.30	1.35	.56	.124	8.54	4.09	2.83	2.33	1.55	.67	.094	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.85										
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	9.01	5.60	3.96	3.04	2.45	2.19	1.45	.78	.61	.31	.102	0
15	7.01	4.99	3.46	2.61	2.14	1.91	1.26	.61	.52	.24	.073	15
30	5.94	4.30	2.96	2.19	1.86	1.65	1.07	.48	.44	.19	.040	30
45	5.31	3.98	2.77	2.16	1.69	1.54	.97	.37	.38	.14	.020	45
60	4.87	3.55	2.56	2.03	1.53	1.37	.88	.28	.32	.11	-.005	60
75	4.26	3.14	2.27	1.79	1.34	1.21	.74	.18	.26	.07	-.060	75
90	4.04	3.01	2.24	1.73	1.31	1.14	.72	.16	.23	.06	-.056	90
105	4.51	3.33	2.48	1.92	1.53	1.30	.85	.25	.30	.11	-.042	105
120	4.79	3.59	2.76	2.21	1.82	1.55	1.05	.41	.43	.20	-.006	120
135	7.07	5.22	3.70	2.68	2.22	1.87	1.21	.47	.45	.20	.022	135
150	5.81	4.20	3.09	2.26	1.89	1.62	1.11	.45	.47	.23	.037	150
165	5.75	4.12	3.04	2.25	1.87	1.62	1.10	.47	.49	.25	.030	165
180	6.15	4.35	3.13	2.39	1.95	1.70	1.17	.53	.54	.29	.065	180
195	6.49	4.56	3.22	2.49	2.04	1.76	1.21	.57	.56	.30	.073	195
210	6.52	4.49	3.17	2.47	2.00	1.76	1.21	.57	.56	.31	.081	210
225	6.74	4.55	3.20	2.52	2.00	1.80	1.21	.61	.57	.31	.090	225
240	7.36	4.85	3.40	2.64	2.12	1.91	1.27	.66	.61	.33	.092	240
255	8.64	5.27	3.70	2.93	2.34	2.10	1.39	.76	.65	.36	.090	255
270	5.94	3.80	2.67	2.10	1.66	1.56	1.03	.52	.46	.22	.026	270
285	5.43	3.58	2.56	1.96	1.56	1.47	.95	.51	.45	.23	.038	285
300	5.34	3.54	2.53	1.92	1.52	1.44	.91	.49	.42	.21	.065	300
315	5.98	3.91	2.76	2.13	1.71	1.59	1.01	.55	.46	.24	.083	315
330	7.39	4.91	3.38	2.64	2.13	1.94	1.25	.69	.56	.30	.110	330
345	9.10	5.77	3.97	3.09	2.50	2.23	1.47	.81	.64	.33	.123	345

TABLE 10 - Continued

FLIGHT 7, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 56 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.35	3.29	2.49	1.86	1.40	.55	.111	3.16	1.51	1.11	.91	.71	.37	.086	0
15	6.16	2.97	2.29	1.71	1.25	.49	.092	3.09	1.47	1.08	.88	.70	.36	.087	15
30	5.63	2.69	2.16	1.61	1.14	.44	.083	3.12	1.46	1.09	.88	.70	.37	.095	30
45	5.11	2.54	2.09	1.57	1.06	.40	.049	3.09	1.44	1.08	.86	.70	.36	.101	45
60	4.61	2.33	2.00	1.51	.98	.36	.049	2.90	1.45	1.01	.81	.67	.35	.107	60
75	4.08	2.05	1.71	1.39	.86	.30	.057	2.64	1.28	.89	.74	.61	.32	.099	75
90	3.61	1.81	1.59	1.30	.76	.27	.057	2.48	1.19	.91	.68	.58	.31	.101	90
105	3.73	2.10	1.73	1.40	.88	.32	.069	2.73	1.36	.94	.75	.63	.33	.113	105
120	4.39	2.68	2.20	1.62	1.11	.40	.100	3.18	1.61	1.13	.90	.72	.38	.123	120
135	4.38	2.59	2.14	1.59	1.08	.42	.111	3.15	1.52	1.14	.92	.74	.37	.119	135
150	4.52	2.59	2.12	1.59	1.13	.46	.130	3.41	1.70	1.25	.97	.77	.40	.126	150
165	4.99	2.88	2.35	1.72	1.22	.47	.123	3.36	1.65	1.23	1.00	.80	.39	.121	165
180	5.78	3.23	2.51	1.83	1.34	.52	.150	3.19	1.57	1.17	.95	.76	.37	.107	180
195	6.17	3.21	2.47	1.82	1.33	.53	.147	2.85	1.38	1.04	.85	.68	.34	.085	195
210	6.34	3.14	2.39	1.74	1.30	.53	.138	2.56	1.21	.94	.77	.61	.30	.068	210
225	6.42	3.17	2.37	1.72	1.29	.53	.140	2.38	1.11	.87	.71	.56	.28	.058	225
240	6.20	3.07	2.28	1.65	1.26	.49	.133	2.25	1.01	.80	.66	.51	.26	.049	240
255	5.43	1.95	1.63	1.20	.92	.37	.069	2.04	.88	.72	.60	.47	.22	.042	255
270	4.70	2.18	1.71	1.25	.94	.41	.097	1.79	.76	.64	.52	.42	.20	.027	270
285	4.38	2.12	1.66	1.21	.92	.39	.076	1.68	.72	.61	.49	.39	.19	.025	285
300	4.13	2.01	1.59	1.17	.88	.36	.076	1.65	.71	.60	.49	.38	.18	.024	300
315	4.19	2.17	1.70	1.26	.96	.39	.086	1.85	.81	.66	.54	.42	.21	.034	315
330	4.84	2.74	2.08	1.56	1.18	.49	.107	2.43	1.12	.86	.69	.53	.28	.059	330
345	5.67	3.26	2.44	1.82	1.39	.56	.104	3.14	1.47	1.09	.89	.68	.35	.082	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.11	.57	.39	.24	.095	.19	.12	.09	.07	.007	0
15	1.36	.65	.45	.27	.099	.38	.18	.11	.07	.007	15
30	1.41	.66	.46	.27	.109	.51	.28	.17	.10	.012	30
45	1.47	.68	.48	.28	.114	.58	.30	.18	.10	.009	45
60	1.50	.68	.49	.27	.116	.63	.33	.19	.10	.015	60
75	1.47	.66	.47	.28	.114	.66	.35	.20	.10	.020	75
90	1.40	.71	.46	.27	.118	.67	.34	.20	.10	.017	90
105	1.46	.74	.48	.29	.125	.75	.38	.23	.11	.026	105
120	1.70	.78	.56	.33	.134	.88	.45	.28	.14	.033	120
135	1.97	.93	.63	.35	.140	1.00	.52	.31	.15	.035	135
150	1.90	.91	.61	.34	.130	1.00	.52	.32	.15	.036	150
165	1.73	.84	.57	.32	.119	1.05	.56	.34	.15	.036	165
180	1.48	.75	.51	.30	.107	.87	.46	.29	.14	.029	180
195	1.21	.64	.44	.27	.101	.68	.36	.22	.11	.018	195
210	.96	.53	.38	.26	.102	.45	.24	.14	.07	.006	210
225	.74	.42	.30	.22	.083	.26	.13	.08	.04	-.012	225
240	.64	.36	.24	.17	.065	.15	.08	.04	.02	-.019	240
255	.56	.32	.22	.15	.057	.09	.05	.02	.01	-.016	255
270	.51	.30	.20	.14	.057	.06	.03	.02	.02	-.020	270
285	.48	.29	.19	.14	.059	.06	.04	.02	.02	-.018	285
300	.47	.29	.19	.14	.061	.08	.04	.02	.02	-.016	300
315	.59	.32	.22	.16	.072	.09	.05	.04	.03	-.013	315
330	.72	.38	.27	.19	.085	.16	.09	.06	.05	-.006	330
345	.91	.50	.35	.23	.095	.11	.07	.06	.05	-.002	345

TABLE 10 - Continued

FLIGHT 7, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 56 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	1.24	5.94	11.21	21.85	25.34	25.98	25.97
15	1.79	6.84	10.96	19.97	21.34	21.99	22.12
30	2.51	7.03	11.02	18.31	18.14	18.24	18.50
45	2.69	7.29	10.96	17.04	16.39	15.95	16.39
60	2.88	7.35	10.56	15.74	14.73	14.36	15.25
75	3.05	7.26	9.54	13.77	12.51	12.26	12.85
90	3.03	7.11	9.11	12.37	12.05	11.12	10.48
105	3.44	7.53	9.96	13.80	13.99	13.68	24.51
120	4.12	8.51	11.57	17.20	16.66	22.01	20.63
135	4.60	9.60	11.50	17.03	21.08	19.21	17.62
150	4.65	9.27	12.38	17.52	18.53	16.57	15.56
165	4.87	8.58	12.31	19.04	18.42	16.57	15.67
180	4.16	7.62	11.65	21.13	19.62	18.11	16.99
195	3.20	6.58	10.38	21.33	20.48	19.07	18.25
210	2.08	5.68	9.26	21.03	20.37	19.75	18.94
225	1.09	4.56	8.54	21.11	20.71	20.31	19.49
240	.57	3.71	7.87	20.26	22.08	21.20	20.12
255	.32	3.32	7.03	14.98	24.46	23.66	21.87
270	.23	3.09	6.15	15.29	17.36	26.47	24.53
285	.27	2.99	5.80	14.64	16.35	18.18	24.41
300	.35	3.01	5.67	13.89	15.98	17.06	17.00
315	.51	3.49	6.39	14.85	17.69	18.79	19.66
330	.85	4.20	8.46	18.16	21.83	22.77	22.97
345	.76	5.27	10.86	21.24	25.81	26.39	26.05

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	12.462		0	3.526				
1	2.161	-3.578	1	-.014	-.514			
2	-.009	.023	2	-.067	.040			
3	.009	.109	3	.148	-.057			
4	.068	-.036	4	.028	.040			
5	.000	-.104	5	.047	-.065			
6	.009	-.018	6	.030	.024			
7	.000	.018	7	.006	-.014			
8	.005	.009	8	.012	.028			
9	-.027	.023	9	.016	-.004			
10	.014	.000	10	.012	-.006			

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom}\right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom}\right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom}\right)$$

TABLE 10 - Continued

FLIGHT 7, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 56 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.219		.75	0	17.564		.95	0	19.409	
.25	1	-1.146	1.717	.75	1	-.726	-.824	.95	1	1.785	-2.748
.25	2	.524	-.291	.75	2	3.367	1.197	.95	2	.675	-1.008
.25	3	-.274	.266	.75	3	1.153	-.236	.95	3	2.897	.355
.25	4	-.032	-.015	.75	4	-.089	-.039	.95	4	1.099	1.013
.25	5	-.070	-.020	.75	5	.240	-.516	.95	5	-.473	-1.822
.25	6	-.002	.029	.75	6	.614	-.411	.95	6	.415	-1.179
.25	7	-.053	.037	.75	7	-.471	.075	.95	7	.255	.994
.25	8	-.026	-.030	.75	8	.021	.143	.95	8	-.518	.843
.25	9	.031	.030	.75	9	.273	-.163	.95	9	.016	-.679
.25	10	.012	-.012	.75	10	-.152	-.041	.95	10	.897	-.521
.40	0	6.076		.85	0	18.829					
.40	1	-.944	2.542	.85	1	.222	-2.503				
.40	2	.876	-.207	.85	2	3.039	.203				
.40	3	.071	.432	.85	3	2.652	.385				
.40	4	-.115	-.056	.85	4	.084	-1.088				
.40	5	.136	-.107	.85	5	-.076	-.970				
.40	6	-.021	.071	.85	6	.510	.490				
.40	7	-.036	.007	.85	7	.205	-.588				
.40	8	.012	-.014	.85	8	-.049	-.218				
.40	9	-.041	.033	.85	9	-.361	.423				
.40	10	-.016	-.030	.85	10	.335	-.131				
.55	0	9.547		.90	0	19.154					
.55	1	-.590	2.126	.90	1	1.099	-3.399				
.55	2	1.739	.136	.90	2	1.825	-.406				
.55	3	.435	.397	.90	3	3.077	.935				
.55	4	.064	-.316	.90	4	.611	-.274				
.55	5	-.008	-.273	.90	5	-.175	-2.130				
.55	6	.180	-.219	.90	6	.317	.324				
.55	7	-.022	.000	.90	7	-.175	.798				
.55	8	-.109	-.065	.90	8	.338	-.588				
.55	9	.025	-.057	.90	9	.200	-.339				
.55	10	-.017	.046	.90	10	-.519	.295				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 10 - Concluded

FLIGHT 7, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 56 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-804	-520	-1166	-1828	-3279	-5144		
15	370	404	-470	-1237	-3138	-5562		
30	815	1097	624	-235	-2487	-4776		
45	496	619	298	-25	-1114	-2537		
60	-257	-58	-99	-245	-612	-1532		
75	290	-116	-624	-1008	-1571	-2517		
90	610	-165	-967	-1847	-3437	-5134		
105	108	-858	-1853	-2916	-4986	-6557		
120	-325	-1997	-3363	-3965	-3965	-4428		
135	-1693	-1947	-2323	-2382	-2434	-3821		
150	370	-173	-551	-893	-2381	-4229		
165	1909	1229	660	-350	-2548	-4497		
180	461	248	253	-273	-1536	-3463		
195	-644	-817	-832	-1056	-1131	-2607		
210	-86	-322	-949	-1828	-2082	-3015		
225	621	586	0	-884	-2108	-3851		
240	450	1163	1202	547	-1325	-3463		
255	974	1444	1238	910	13	-905		
270	-143	1122	1582	1826	1825	1761		
285	-690	1163	2115	2884	3647	3662		
300	119	2063	2884	3123	3022	2667		
315	883	2368	2866	2665	1148	-497		
330	119	1312	1383	795	-885	-2915		
345	-587	-231	-796	-1284	-2355	-3890		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-4796	-7733	3293	
15	-6229	-10387	1181	
30	-5691	-10533	301	
45	-4601	-7880	2925	
60	-2875	-4640	6717	
75	88	-1856	7277	
90	869	-2230	7181	
105	1993	-3451	4941	
120	3165	-4526	2365	
135	1081	-6268	3005	
150	7	-5698	3901	
165	-466	-3858	5853	
180	-954	-2426	8141	
195	-1100	-2426	7933	
210	-1947	-4868	5517	
225	-4698	-8319	2973	
240	-6424	-11070	893	
255	-6636	-11070	-1011	
270	-9957	-11933	397	
285	-12529	-12519	1037	
300	-11748	-12194	1309	
315	-10868	-9898	3549	
330	-8052	-7017	5485	
345	-5024	-6235	5277	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	711	431	140
15	472	144	114
30	506	182	114
45	604	212	132
60	639	266	132
75	544	265	119
90	442	135	90
105	538	280	84
120	644	264	91
135	502	39	50
150	59	-425	12
165	-114	-527	6
180	-69	-417	10
195	-153	-408	-4
210	-248	-509	-12
225	-160	-553	-5
240	-173	-569	-5
255	-134	-514	15
270	52	-381	48
285	-15	-340	55
300	-503	-679	21
315	-616	-725	9
330	-144	-355	70
345	571	276	141

TABLE 11

FLIGHT 8, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 66 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	9.14	4.94	2.84	2.24	1.32	.56	.138	9.31	4.11	2.87	2.43	1.62	.54	.191	0
15	8.35	5.02	2.91	2.23	1.26	.55	.106	9.06	4.11	2.91	2.52	1.67	.59	.094	15
30	6.75	4.65	2.70	1.99	1.03	.54	.065	7.04	3.64	2.65	2.31	1.47	.54	.036	30
45	4.12	3.42	2.18	1.51	.63	.40	.028	4.65	2.62	1.98	1.82	1.10	.38	-.025	45
60	3.14	3.04	1.91	1.33	.54	.38	.033	3.65	2.11	1.61	1.55	.95	.34	-.048	60
75	2.96	3.01	1.92	1.32	.43	.34	.010	3.33	1.97	1.46	1.45	.87	.30	-.070	75
90	2.31	2.57	1.75	1.10	.28	.30	.002	2.63	1.58	1.21	1.29	.71	.24	-.101	90
105	3.47	3.25	2.29	1.48	.54	.39	.026	3.80	2.21	1.75	1.72	.96	.36	-.052	105
120	3.14	2.94	1.94	1.39	.55	.43	.057	4.17	2.55	1.90	1.84	1.11	.44	-.018	120
135	2.98	2.65	1.79	1.28	.50	.40	.041	3.81	2.30	1.72	1.67	1.02	.40	-.023	135
150	2.79	2.48	1.61	1.20	.50	.41	.059	3.67	2.17	1.60	1.60	.99	.41	.000	150
165	3.70	3.10	1.94	1.50	.73	.53	.106	4.69	2.62	1.99	1.82	1.20	.52	.060	165
180	5.03	3.75	2.28	1.76	.97	.60	.124	6.06	3.37	2.44	2.11	1.43	.63	.119	180
195	5.51	3.92	2.28	1.80	1.05	.61	.134	6.46	3.42	2.44	2.09	1.44	.61	.122	195
210	5.41	3.70	2.11	1.69	.99	.58	.130	6.15	3.19	2.26	1.93	1.37	.58	.119	210
225	5.29	3.61	2.02	1.64	.98	.59	.138	6.44	3.15	2.21	1.87	1.35	.58	.135	225
240	5.72	3.74	2.10	1.74	1.08	.61	.158	7.42	3.35	2.32	1.98	1.43	.61	.168	240
255	6.27	3.93	2.17	1.80	1.13	.60	.150	6.31	3.54	2.38	1.98	1.42	.57	.184	255
270	5.76	3.68	1.98	1.64	1.01	.54	.130	3.70	2.73	2.02	1.62	1.28	.56	.218	270
285	6.14	3.77	2.05	1.67	1.07	.57	.156	3.88	2.53	1.76	1.54	1.14	.42	.171	285
300	7.14	3.98	2.17	1.80	1.13	.56	.156	6.29	3.40	2.26	1.93	1.36	.51	.187	300
315	5.64	3.12	1.90	1.88	1.47	.80	.259	3.73	3.13	2.37	2.12	1.72	.82	.312	315
330	7.33	4.10	2.12	1.58	.81	.41	.211	5.99	2.91	1.96	1.64	1.23	.55	.227	330
345	8.41	4.58	2.59	2.03	1.20	.46	.138	9.13	3.80	2.65	2.24	1.52	.53	.148	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.85										
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	9.31	5.56	4.11	3.25	2.53	2.31	1.31	.68	.60	.41	.164	0
15	9.77	5.49	4.27	3.35	2.64	2.40	1.41	.76	.63	.34	.045	15
30	8.50	5.17	4.01	3.02	2.41	2.18	1.27	.65	.57	.31	.002	30
45	5.75	4.05	3.07	2.29	1.87	1.70	.95	.40	.44	.21	-.046	45
60	4.57	3.23	2.65	2.11	1.54	1.45	.79	.27	.37	.18	-.066	60
75	4.00	2.82	2.37	1.89	1.44	1.22	.68	.19	.32	.14	-.091	75
90	3.35	2.26	2.06	1.58	1.18	1.03	.52	.09	.24	.11	-.111	90
105	3.19	2.12	1.97	1.54	1.16	1.20	.57	.14	.28	.14	-.103	105
120	5.71	4.08	3.20	2.34	1.85	1.66	.96	.38	.46	.25	-.048	120
135	5.32	3.72	3.09	2.25	1.79	1.58	.97	.39	.49	.27	-.038	135
150	4.89	3.32	2.82	2.09	1.63	1.47	.90	.38	.48	.28	-.033	150
165	5.58	3.83	3.11	2.40	1.92	1.72	1.06	.52	.61	.37	.004	165
180	7.19	4.74	3.75	2.92	2.31	2.07	1.27	.66	.70	.44	.030	180
195	7.84	4.82	3.77	2.97	2.34	2.10	1.29	.66	.69	.43	.030	195
210	7.13	4.40	3.48	2.73	2.14	1.96	1.17	.61	.63	.39	.024	210
225	6.90	4.24	3.35	2.64	2.05	1.89	1.12	.62	.63	.39	.033	225
240	7.01	4.37	3.42	2.73	2.12	1.99	1.18	.68	.66	.41	.057	240
255	3.60	3.41	3.67	3.19	2.62	2.41	1.48	.72	.62	.38	.100	255
270	2.52	1.95	2.10	1.83	1.45	1.45	.78	.51	.58	.43	.174	270
285	3.81	2.28	1.87	1.48	1.07	1.14	.56	.35	.40	.25	.028	285
300	5.68	3.92	3.05	2.46	1.86	1.81	1.01	.54	.50	.33	.085	300
315	3.71	3.32	3.51	3.10	2.51	2.25	1.32	.77	.67	.47	.141	315
330	4.32	3.27	3.00	2.60	2.12	2.05	1.08	.59	.55	.42	.148	330
345	8.16	4.77	3.53	2.72	2.05	1.92	1.03	.60	.61	.44	.197	345

TABLE 11 - Continued

FLIGHT 8, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 66 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.54	3.75	2.48	1.88	1.41	.57	.100	3.13	1.39	.95	1.01	.80	.38	.072	0
15	7.36	3.79	2.53	1.96	1.42	.57	.065	3.38	1.54	1.03	1.08	.84	.40	.070	15
30	7.06	3.49	2.36	1.85	1.29	.52	.048	3.27	1.50	1.01	1.06	.84	.40	.071	30
45	6.11	2.91	2.03	1.60	1.07	.44	.036	2.71	1.22	.83	.91	.75	.38	.072	45
60	5.07	2.53	1.83	1.43	.92	.38	.000	2.43	1.14	.73	.84	.70	.34	.078	60
75	4.11	2.21	1.56	1.31	.79	.31	.013	2.23	1.02	.66	.78	.65	.31	.078	75
90	3.30	1.86	1.29	1.11	.62	.24	.013	1.83	.80	.59	.64	.59	.27	.066	90
105	3.18	2.14	1.40	1.19	.71	.28	.029	2.18	1.02	.69	.75	.64	.31	.088	105
120	3.58	2.54	1.67	1.39	.92	.39	.062	2.69	1.31	.88	.95	.80	.38	.104	120
135	3.95	2.70	1.96	1.57	1.07	.47	.093	3.29	1.55	1.06	1.10	.89	.41	.102	135
150	5.04	3.19	2.28	1.74	1.19	.50	.093	3.06	1.45	1.00	1.05	.86	.42	.110	150
165	5.51	3.36	2.36	1.83	1.29	.58	.123	3.25	1.57	1.08	1.11	.90	.43	.100	165
180	6.13	3.71	2.56	1.98	1.44	.62	.128	3.14	1.48	1.02	1.08	.87	.40	.083	180
195	6.60	3.61	2.45	1.88	1.40	.58	.112	2.70	1.23	.86	.96	.78	.36	.063	195
210	6.60	3.31	2.20	1.68	1.24	.53	.097	2.20	.96	.69	.83	.68	.33	.049	210
225	5.73	3.18	2.07	1.59	1.19	.51	.097	1.71	.70	.52	.68	.57	.26	.033	225
240	5.32	3.34	2.06	1.57	1.19	.52	.119	1.43	.52	.38	.56	.45	.21	.052	240
255	3.92	1.62	1.53	1.25	1.36	1.07	.296	1.12	.47	.35	.53	.42	.16	.003	255
270	2.57	1.17	.66	.47	.44	.28	.119	1.01	.36	.28	.48	.38	.14	.006	270
285	2.91	2.06	1.28	.96	.67	.26	.045	1.05	.43	.33	.52	.42	.19	.014	285
300	3.51	2.58	1.63	1.25	.94	.42	.065	1.35	.55	.42	.59	.46	.20	.024	300
315	4.09	2.87	1.97	1.56	1.15	.50	.067	1.50	.59	.43	.59	.47	.20	.018	315
330	4.73	3.04	1.93	1.50	1.14	.50	.097	2.01	.78	.54	.68	.53	.24	.030	330
345	5.41	3.43	2.24	1.73	1.26	.53	.088	2.62	1.10	.76	.86	.67	.32	.053	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	.78	.57	.27	.26	.085	.51	.18	.08	.13	.024	0
15	1.11	.69	.34	.29	.089	.42	.15	.07	.12	.003	15
30	1.37	.79	.39	.30	.092	.72	.29	.15	.14	.020	30
45	1.33	.74	.37	.28	.092	.70	.28	.14	.14	.019	45
60	1.18	.67	.34	.28	.100	.66	.27	.13	.14	.023	60
75	1.19	.68	.34	.29	.097	.68	.28	.14	.14	.028	75
90	1.07	.68	.30	.26	.096	.74	.30	.15	.15	.028	90
105	1.22	.74	.38	.31	.115	.78	.34	.18	.16	.034	105
120	1.59	.89	.49	.36	.122	1.02	.47	.27	.20	.046	120
135	1.66	.92	.49	.35	.118	1.21	.56	.32	.22	.055	135
150	1.54	.96	.53	.39	.113	1.25	.57	.32	.22	.053	150
165	1.93	1.11	.60	.41	.125	1.06	.52	.30	.21	.048	165
180	1.74	1.01	.53	.37	.102	.95	.44	.26	.20	.047	180
195	1.42	.85	.41	.31	.084	.85	.38	.19	.16	.032	195
210	1.04	.68	.30	.25	.069	.52	.34	.08	.12	.025	210
225	.71	.50	.20	.20	.054	.30	.21	.02	.08	.014	225
240	.50	.40	.14	.16	.048	.18	.09	-.02	.06	-.002	240
255	.34	.32	.08	.13	.040	.13	.02	-.02	.06	-.007	255
270	.21	.25	.05	.13	.036	.12	.00	-.02	.06	-.007	270
285	.17	.25	.06	.16	.048	.13	.00	-.02	.06	-.002	285
300	.20	.27	.07	.15	.054	.15	.01	-.01	.08	.000	300
315	.29	.31	.08	.15	.054	.14	.02	-.01	.09	.002	315
330	.39	.37	.12	.18	.060	.10	-.01	-.03	.07	-.002	330
345	.56	.44	.18	.22	.068	.12	.01	-.01	.09	.002	345

TABLE 11 - Continued

FLIGHT 8, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 66 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	2.26	5.05	11.20	22.74	25.60	26.96	26.68
15	1.92	6.20	11.97	23.40	26.50	27.02	25.95
30	3.10	7.02	11.76	21.69	23.78	23.27	22.89
45	2.98	6.73	10.26	18.34	17.48	16.60	16.01
60	2.87	6.22	9.38	15.77	14.45	13.66	13.89
75	2.99	6.32	8.63	13.42	12.62	12.41	13.08
90	3.19	5.83	7.36	10.90	10.22	9.92	10.86
105	3.59	6.84	8.59	11.98	10.49	14.37	15.10
120	4.71	8.37	10.72	14.72	17.71	16.46	14.23
135	5.54	8.50	12.31	16.77	17.40	14.92	13.06
150	5.58	8.70	11.87	19.36	16.16	14.46	12.51
165	5.07	10.01	12.45	20.96	18.96	18.03	16.28
180	4.58	8.98	11.83	23.01	23.09	22.42	20.02
195	3.78	7.30	10.26	22.61	23.64	22.71	20.99
210	2.52	5.60	8.69	20.84	21.63	21.37	19.94
225	1.45	4.06	6.84	19.51	20.99	21.43	19.59
240	.73	3.10	5.48	19.54	21.75	23.21	20.83
255	.50	2.28	4.60	19.46	21.54	22.51	21.67
270	.46	1.83	4.02	8.09	14.04	18.39	19.75
285	.50	2.04	4.64	11.11	11.69	16.43	20.77
300	.72	2.11	5.47	14.84	18.45	21.60	22.18
315	.74	2.37	5.64	17.48	21.00	23.02	22.45
330	.45	2.97	6.94	18.15	18.66	20.03	20.51
345	.68	3.81	9.22	20.30	22.30	25.46	24.25

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	15.790		0	4.449		0	9.856	
1	3.051	-6.901	1	-.302	-.567	1	-.535	.168
2	.064	.213	2	-.401	-.397	2	-.003	.011
3	-.200	.018	3	.156	-.219	3	.063	-.042
4	-.077	.036	4	.067	-.087	4	-.027	.022
5	-.154	.254	5	.049	-.036	5	.016	.041
6	.268	.195	6	.022	.000	6	.057	-.009
7	.127	.068	7	-.026	-.047	7	.005	-.027
8	.014	-.136	8	.008	-.059	8	-.028	-.014
9	-.036	-.023	9	-.038	.008	9	-.025	-.008
10	.000	-.027	10	-.002	-.006	10	-.028	.020

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 11 - Continued

FLIGHT 8, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 66 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.538		.75	0	17.708		.95	0	18.896	
.25	1	-1.308	1.784	.75	1	-.366	-.456	.95	1	2.708	-4.003
.25	2	.653	-.343	.75	2	5.121	1.683	.95	2	2.755	.815
.25	3	-.181	.442	.75	3	.725	.218	.95	3	1.063	.219
.25	4	-.086	.142	.75	4	-.683	-.417	.95	4	.979	1.374
.25	5	.068	-.026	.75	5	-.675	.717	.95	5	-.490	.338
.25	6	.048	.099	.75	6	.966	.911	.95	6	.947	.433
.25	7	.048	-.070	.75	7	.378	-.486	.95	7	.104	.091
.25	8	.113	-.063	.75	8	-.604	-.311	.95	8	-.342	-.287
.25	9	.102	-.055	.75	9	-.161	.343	.95	9	-.121	-.421
.25	10	.095	-.020	.75	10	.602	.129	.95	10	.323	-.358
.40	0	5.510		.85	0	18.755					
.40	1	-1.578	2.648	.85	1	.610	-2.157				
.40	2	1.429	-.046	.85	2	4.893	1.643				
.40	3	-.247	.563	.85	3	1.571	.438				
.40	4	.033	.150	.85	4	-.529	.538				
.40	5	-.162	.037	.85	5	-.892	.409				
.40	6	.157	-.043	.85	6	1.380	1.732				
.40	7	-.132	.130	.85	7	.093	-.086				
.40	8	-.091	-.155	.85	8	-.029	-.985				
.40	9	.116	.036	.85	9	-.059	-.141				
.40	10	.008	-.017	.85	10	-.167	.106				
.55	0	8.756		.90	0	19.443					
.55	1	-.555	2.615	.90	1	1.699	-3.726				
.55	2	2.571	-.026	.90	2	3.916	1.087				
.55	3	.158	.803	.90	3	1.718	.171				
.55	4	-.052	.254	.90	4	.347	.971				
.55	5	.191	-.075	.90	5	-.929	.450				
.55	6	.285	.116	.90	6	1.405	.855				
.55	7	-.140	.025	.90	7	.243	.048				
.55	8	-.073	-.174	.90	8	-.237	-.666				
.55	9	-.037	.027	.90	9	-.227	-.629				
.55	10	.054	-.071	.90	10	-.053	-.208				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 11 - Concluded

FLIGHT 8, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 66 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	709	-239	389	503	-814	-3225		
15	4368	2384	1049	-231	-2143	-3294		
30	4140	3350	3508	2459	-761	-3772		
45	3787	2756	3381	3079	585	-2489		
60	4163	1724	1003	-98	-876	-1086		
75	1039	-437	-551	-966	-1113	-1663		
90	902	-751	-1049	-1624	-3120	-5245		
105	3137	536	-1817	-4133	-6666	-7663		
120	982	-1609	-2784	-3551	-4405	-5822		
135	-1457	-1922	-1229	-1357	-2829	-4857		
150	3103	875	-560	-2397	-3516	-4518		
165	1974	1139	922	-346	-2521	-5344		
180	982	404	877	808	-735	-4668		
195	2624	1444	687	-375	-2548	-5016		
210	2145	1328	1012	179	-1861	-4548		
225	526	1337	2179	1905	-313	-3643		
240	2270	2492	2079	1419	999	-618		
255	412	2153	3390	3747	3375	2477		
270	971	2698	4312	4834	4844	4695		
285	2316	3424	3824	3518	3876	5820		
300	13	1708	3589	4949	5707	5123		
315	754	2855	4556	4920	2583	-409		
330	4516	4183	3046	1142	-1747	-3732		
345	937	1106	1374	570	-1597	-4061		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-1421	-9361	1223	
15	109	-11526	-5369	
30	-916	-10777	-1401	
45	2698	-2865	6263	
60	8201	4265	10727	
75	8282	6040	12231	
90	5319	-456	7559	
105	3756	-5551	-1465	
120	1168	-8400	-1593	
135	1054	-5649	1767	
150	1461	-1172	6487	
165	-721	2084	11223	
180	-2756	-798	10071	
195	-3781	-6789	2487	
210	-6484	-11591	-2409	
225	-9463	-13219	-2345	
240	-10505	-11689	-1737	
255	-12166	-11673	-857	
270	-13517	-13024	-505	
285	-12556	-14929	-3385	
300	-11661	-15254	-3289	
315	-12052	-10338	4071	
330	-4579	-3256	6023	
345	-2121	-4493	5751	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	1415	1112	189
15	1878	1402	291
30	1392	1002	193
45	578	279	97
60	655	383	138
75	873	815	146
90	340	315	52
105	33	54	26
120	782	423	65
135	205	152	-14
150	-898	-735	-127
165	-744	-749	-71
180	118	-92	25
195	199	81	-9
210	-792	-980	-104
225	-1517	-1484	-186
240	-692	-879	-65
255	-636	-1219	9
270	-2657	-2186	-284
285	-1304	-1182	-140
300	852	391	120
315	-182	-736	147
330	-1287	-774	-138
345	-690	-624	4

TABLE 12

FLIGHT 9, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 68 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
0	8.25	4.80	2.78	2.13	1.23	.51	.095	8.71	3.89	2.69	2.30	1.53	.45	.108	0
15	6.46	4.44	2.58	1.95	1.06	.55	.095	7.27	3.64	2.60	2.28	1.52	.58	.070	15
30	5.43	3.92	2.59	1.81	.90	.50	.075	6.05	3.22	2.40	2.15	1.39	.51	.038	30
45	4.26	3.65	2.33	1.62	.71	.42	.033	5.01	2.82	2.14	1.96	1.18	.43	-.016	45
60	3.11	3.08	1.99	1.38	.48	.34	.008	3.83	2.24	1.73	1.59	.98	.33	-.059	60
75	2.67	2.90	1.89	1.28	.38	.33	.006	3.16	1.84	1.42	1.44	.85	.30	-.081	75
90	2.89	3.07	2.17	1.38	.40	.35	.004	3.04	1.85	1.45	1.50	.83	.29	-.090	90
105	3.61	3.45	2.49	1.58	.60	.40	.022	3.32	2.11	1.68	1.75	1.01	.38	-.036	105
120	3.18	3.00	2.05	1.42	.54	.43	.053	4.21	2.60	1.96	1.88	1.12	.44	-.031	120
135	3.06	2.74	1.95	1.34	.53	.42	.041	3.96	2.39	1.81	1.76	1.06	.42	-.018	135
150	2.91	2.64	1.68	1.26	.51	.40	.049	3.73	2.22	1.67	1.64	1.01	.41	-.006	150
165	3.64	3.04	1.92	1.45	.67	.49	.087	4.26	2.46	1.85	1.71	1.11	.48	.036	165
180	4.51	3.45	2.12	1.60	.84	.54	.102	5.21	2.88	2.16	1.92	1.28	.56	.101	180
195	4.85	3.56	2.12	1.63	.90	.55	.115	5.64	3.09	2.25	1.93	1.34	.57	.103	195
210	5.15	3.61	2.09	1.66	.96	.57	.128	5.80	3.10	2.25	1.91	1.36	.58	.119	210
225	5.47	3.64	2.07	1.66	1.00	.57	.132	6.21	3.17	2.25	1.90	1.37	.57	.130	225
240	5.40	3.56	1.98	1.61	.98	.55	.134	6.83	3.12	2.19	1.85	1.34	.56	.130	240
255	5.68	3.65	2.04	1.65	1.03	.56	.138	6.64	3.14	2.19	1.87	1.38	.58	.148	255
270	6.26	3.89	2.18	1.78	1.13	.60	.152	6.80	3.33	2.32	1.95	1.44	.61	.162	270
285	6.20	3.73	2.04	1.68	1.07	.55	.152	3.62	2.35	1.66	1.58	1.28	.53	.182	285
300	5.74	3.65	2.00	1.56	.90	.45	.093	5.25	2.72	1.87	1.60	1.10	.39	.128	300
315	7.99	4.25	2.42	1.94	1.20	.57	.148	7.14	3.36	2.34	2.00	1.43	.59	.144	315
330	8.80	4.49	2.53	1.99	1.20	.51	.166	8.94	3.71	2.55	2.12	1.49	.55	.193	330
345	9.19	4.80	2.73	2.11	1.25	.50	.152	9.43	3.89	2.70	2.23	1.51	.51	.229	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
0	8.92	5.14	3.92	3.02	2.36	2.15	1.20	.57	.50	.30	.082	0
15	8.46	5.03	3.92	2.98	2.36	2.16	1.27	.70	.60	.34	.024	15
30	6.74	4.61	3.53	2.65	2.15	1.97	1.13	.56	.54	.29	-.001	30
45	5.88	4.14	3.16	2.32	1.94	1.75	1.00	.42	.46	.24	-.036	45
60	4.87	3.47	2.79	2.19	1.58	1.51	.81	.27	.36	.16	-.068	60
75	3.88	2.73	2.31	1.83	1.41	1.18	.64	.17	.29	.13	-.095	75
90	3.77	2.58	2.24	1.76	1.33	1.13	.61	.15	.28	.13	-.099	90
105	3.85	2.66	2.40	1.87	1.44	1.21	.72	.23	.34	.17	-.087	105
120	5.26	3.80	3.03	2.19	1.75	1.60	.92	.36	.44	.25	-.052	120
135	5.33	3.78	3.17	2.27	1.83	1.61	.99	.39	.48	.27	-.042	135
150	5.05	3.45	2.94	2.16	1.70	1.51	.93	.38	.49	.28	-.033	150
165	5.40	3.66	3.04	2.29	1.86	1.65	1.00	.46	.55	.34	-.009	165
180	6.37	4.31	3.39	2.63	2.10	1.88	1.16	.57	.62	.40	.014	180
195	6.77	4.38	3.47	2.70	2.15	1.93	1.17	.59	.65	.41	.018	195
210	6.71	4.31	3.35	2.64	2.08	1.90	1.15	.59	.64	.40	.024	210
225	6.95	4.32	3.39	2.65	2.08	1.91	1.14	.62	.63	.39	.032	225
240	7.00	4.24	3.31	2.62	2.03	1.88	1.12	.62	.61	.38	.038	240
255	6.06	4.17	3.24	2.57	2.01	1.88	1.10	.61	.59	.37	.048	255
270	4.46	3.75	3.53	3.04	2.37	2.19	1.22	.68	.58	.38	.108	270
285	3.23	1.94	1.73	1.39	1.03	1.14	.57	.29	.35	.30	.123	285
300	5.57	3.49	2.74	2.15	1.64	1.61	.88	.46	.43	.25	.030	300
315	6.23	4.20	3.25	2.57	2.01	1.92	1.12	.64	.59	.36	.053	315
330	7.20	5.23	3.83	2.97	2.28	2.11	1.22	.69	.62	.45	.133	330
345	6.04	4.89	4.13	3.44	2.69	2.31	1.35	.74	.64	.41	.137	345

TABLE 12 - Continued

FLIGHT 9, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 68 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75							r/R = 0.55							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.60	3.43	2.28	1.75	1.27	.50	.060	3.03	1.31	.89	.96	.75	.35	.064	0
15	6.59	3.35	2.25	1.77	1.27	.52	.053	2.84	1.31	.89	.97	.78	.38	.065	15
30	6.10	3.16	2.15	1.71	1.19	.49	.046	2.92	1.35	.91	.97	.77	.38	.075	30
45	5.47	2.94	2.08	1.64	1.09	.44	.034	2.82	1.27	.87	.94	.77	.38	.079	45
60	4.72	2.55	1.86	1.47	.93	.36	-.006	2.39	1.12	.72	.82	.68	.35	.080	60
75	3.87	2.13	1.49	1.29	.76	.30	.001	2.29	1.07	.66	.79	.67	.32	.084	75
90	3.40	2.07	1.46	1.25	.70	.29	.023	2.24	1.02	.69	.74	.63	.31	.083	90
105	3.59	2.48	1.77	1.39	.86	.35	.036	2.39	1.15	.70	.82	.69	.35	.094	105
120	3.72	2.50	1.66	1.42	.93	.39	.056	2.67	1.35	.88	.96	.79	.39	.111	120
135	4.25	2.84	2.10	1.63	1.09	.47	.079	3.49	1.70	1.16	1.18	.95	.43	.106	135
150	5.14	3.18	2.30	1.77	1.19	.49	.084	3.28	1.59	1.08	1.11	.91	.42	.115	150
165	5.45	3.18	2.29	1.77	1.23	.53	.110	3.32	1.63	1.12	1.14	.93	.43	.103	165
180	5.82	3.41	2.38	1.85	1.32	.57	.112	3.17	1.51	1.05	1.09	.88	.41	.088	180
195	6.12	3.37	2.33	1.78	1.29	.55	.107	2.68	1.25	.89	.97	.79	.37	.072	195
210	6.15	3.24	2.18	1.68	1.24	.53	.101	2.45	1.07	.78	.89	.73	.35	.059	210
225	5.69	3.21	2.12	1.62	1.20	.52	.096	1.99	.89	.65	.78	.64	.31	.042	225
240	5.26	3.10	2.02	1.54	1.15	.49	.096	1.46	.69	.49	.66	.53	.25	.021	240
255	4.99	2.86	1.83	1.39	1.05	.48	.133	1.15	.49	.38	.55	.44	.20	.014	255
270	3.70	1.59	1.26	.96	.91	.42	.101	1.03	.41	.32	.50	.41	.16	.019	270
285	3.31	2.03	1.26	.92	.62	.25	.062	.96	.38	.30	.48	.39	.17	.010	285
300	3.55	2.30	1.48	1.13	.82	.37	.041	1.18	.39	.31	.49	.40	.17	.012	300
315	4.12	2.70	1.75	1.36	1.01	.45	.075	1.40	.50	.38	.53	.43	.18	.012	315
330	4.80	3.24	2.11	1.62	1.18	.50	.075	1.98	.76	.54	.67	.53	.25	.031	330
345	5.75	3.84	2.46	1.88	1.34	.55	.112	2.60	1.10	.75	.84	.66	.31	.050	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40					r/R = 0.25					ψ_{nom}, deg
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	.76	.54	.25	.24	.076	.39	.12	.05	.11	.009	0
15	.94	.57	.28	.25	.080	.60	.25	.13	.13	.024	15
30	1.24	.70	.36	.29	.094	.57	.23	.11	.13	.021	30
45	1.33	.73	.37	.29	.095	.78	.33	.17	.15	.022	45
60	1.24	.69	.36	.28	.099	.70	.29	.14	.14	.026	60
75	1.23	.70	.36	.29	.101	.66	.28	.14	.14	.028	75
90	1.24	.75	.36	.29	.101	.82	.35	.19	.16	.035	90
105	1.20	.83	.47	.35	.123	.88	.39	.21	.17	.038	105
120	1.78	.97	.54	.38	.130	1.06	.50	.31	.23	.064	120
135	1.95	1.06	.58	.40	.128	1.34	.63	.36	.23	.059	135
150	1.76	1.03	.58	.41	.130	1.35	.64	.37	.23	.060	150
165	2.04	1.14	.62	.41	.121	1.21	.59	.34	.23	.054	165
180	1.77	1.02	.54	.37	.105	1.07	.52	.31	.23	.053	180
195	1.42	.86	.44	.32	.089	.93	.43	.25	.18	.039	195
210	1.11	.70	.33	.27	.078	.65	.42	.10	.14	.034	210
225	.79	.54	.22	.21	.057	.32	.27	.05	.08	.010	225
240	.53	.41	.14	.16	.051	.20	.16	.00	.06	.001	240
255	.34	.31	.09	.14	.047	.14	.05	-.02	.05	-.008	255
270	.21	.26	.08	.15	.043	.12	.02	-.01	.06	-.013	270
285	.14	.31	.08	.15	.039	.13	.01	-.01	.06	-.008	285
300	.19	.27	.06	.15	.054	.14	.01	-.01	.08	-.003	300
315	.25	.27	.08	.17	.062	.15	.02	.00	.09	.010	315
330	.51	.48	.18	.26	.067	.14	.02	-.01	.09	.008	330
345	.59	.47	.20	.21	.074	.16	.03	.00	.09	.004	345

TABLE 12 - Continued

FLIGHT 9, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 68 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	1.71	4.71	10.52	20.95	23.51	24.84	25.00
15	2.73	5.24	10.62	20.89	23.80	23.87	22.48
30	2.57	6.50	10.80	19.66	20.73	21.14	20.05
45	3.40	6.79	10.54	18.11	18.15	17.99	17.13
60	3.05	6.43	9.31	15.53	15.00	14.15	13.59
75	2.93	6.53	8.88	12.80	12.09	11.93	12.41
90	3.66	6.62	8.59	12.13	11.64	11.82	13.40
105	3.97	7.48	9.37	14.27	12.85	14.19	16.03
120	5.28	9.16	10.80	14.80	16.72	16.60	14.46
135	6.08	9.86	13.17	17.46	17.56	15.61	13.72
150	6.17	9.57	12.55	19.38	16.68	14.75	12.89
165	5.72	10.28	12.78	20.05	18.09	16.62	15.58
180	5.25	9.08	12.08	21.33	20.73	19.67	18.09
195	4.31	7.53	10.45	21.18	21.44	20.65	18.77
210	3.05	6.01	9.49	20.40	20.99	20.94	19.42
225	1.66	4.39	8.11	19.68	21.19	21.36	19.79
240	.96	3.19	6.36	18.72	20.88	21.50	19.31
255	.49	2.39	5.02	17.56	19.94	21.65	19.99
270	.47	2.05	4.41	12.94	20.45	22.70	21.63
285	.50	2.04	4.22	11.18	11.13	17.05	20.63
300	.62	2.06	4.49	13.44	16.50	17.42	18.70
315	.84	2.39	5.03	16.09	20.17	22.87	23.83
330	.75	4.02	6.92	18.86	22.93	25.15	24.66
345	.83	3.99	9.03	21.95	23.77	25.99	25.79

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.274		0	4.321		0	7.340	
1	2.647	-5.798	1	-.468	-.652	1	-.479	.068
2	.118	.154	2	-.182	-.156	2	-.020	.063
3	-.073	.005	3	.103	-.184	3	.115	-.005
4	-.045	-.095	4	.032	.018	4	-.008	-.006
5	-.127	-.009	5	.006	.014	5	-.030	.020
6	-.014	-.005	6	.051	.014	6	.027	.003
7	-.036	.050	7	.014	-.055	7	.006	-.019
8	-.009	-.005	8	.067	.030	8	-.019	.005
9	.023	.000	9	.016	.000	9	.014	.000
10	.000	-.014	10	.024	-.016	10	.006	.000
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 12 - Continued

FLIGHT 9, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 68 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.792		.75	0	17.471		.95	0	18.639	
.25	1	-1.578	1.916	.75	1	-.525	-.401	.95	1	2.904	-3.740
.25	2	.756	-.409	.75	2	4.132	1.127	.95	2	2.108	-.116
.25	3	-.195	.404	.75	3	1.079	.006	.95	3	1.257	-.661
.25	4	-.116	.154	.75	4	-.371	-.651	.95	4	.662	.456
.25	5	.009	-.033	.75	5	-.553	-.145	.95	5	-.760	-.465
.25	6	.016	.109	.75	6	.116	.061	.95	6	-.241	-.312
.25	7	.041	-.003	.75	7	.295	-.255	.95	7	-.002	.397
.25	8	.091	.069	.75	8	-.137	-.047	.95	8	.433	.143
.25	9	.034	.112	.75	9	-.384	-.092	.95	9	.142	-.176
.25	10	-.065	.052	.75	10	.054	-.004	.95	10	.150	-.353
.40	0	5.762		.85	0	18.623					
.40	1	-1.908	2.818	.85	1	.826	-2.311				
.40	2	1.267	-.370	.85	2	3.765	.954				
.40	3	-.173	.377	.85	3	1.802	.023				
.40	4	-.142	-.026	.85	4	-.367	-.377				
.40	5	-.151	-.166	.85	5	-1.027	-.664				
.40	6	-.012	-.086	.85	6	-.006	.818				
.40	7	-.168	.062	.85	7	.118	.531				
.40	8	-.027	-.102	.85	8	.552	-.299				
.40	9	.087	.129	.85	9	-.323	-.358				
.40	10	.025	.016	.85	10	-.721	.266				
.55	0	8.898		.90	0	19.185					
.55	1	-1.234	2.737	.90	1	2.018	-3.692				
.55	2	2.277	.105	.90	2	2.956	.526				
.55	3	.352	.553	.90	3	1.891	-.190				
.55	4	-.118	-.045	.90	4	.112	.008				
.55	5	.196	-.143	.90	5	-1.116	-.882				
.55	6	.066	-.072	.90	6	-.193	.282				
.55	7	-.114	-.082	.90	7	-.097	.603				
.55	8	.158	-.107	.90	8	.421	-.072				
.55	9	-.052	.093	.90	9	.060	-.304				
.55	10	.055	-.067	.90	10	-.263	-.026				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 12 - Concluded

FLIGHT 9, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 68 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-666	-173	1211	1607	-222	-3316		
15	3461	2087	1654	567	-2334	-3923		
30	3814	3011	2477	901	-1199	-3077		
45	1238	899	2206	2656	675	-1774		
60	3119	1328	669	-82	-1595	-2112		
75	3005	941	-325	-1809	-2959	-3615		
90	41	-875	-732	-1208	-3293	-5863		
105	1397	-404	-2016	-3850	-5502	-6192		
120	2594	-1238	-3155	-4251	-4420	-5505		
135	-1270	-1799	-1049	-1179	-2625	-5256		
150	2355	404	-416	-1809	-3953	-5575		
165	3381	1114	9	-1685	-3830	-6440		
180	109	-817	-190	-196	-1674	-5535		
195	976	-50	-298	-1103	-3513	-5644		
210	3233	1172	-18	-1379	-3487	-5833		
225	976	1328	2106	1693	-988	-5157		
240	2195	2665	2875	2179	121	-2212		
255	2252	2978	3155	2647	2506	2067		
270	-461	1526	3354	4688	5894	5599		
285	873	2632	3842	4297	4239	5052		
300	2800	3523	3535	3257	3817	4156		
315	-50	1922	4402	5556	3078	-650		
330	2458	2846	2477	1664	-979	-2709		
345	2207	1576	777	-578	-1912	-3296		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-5991	-10924	437	
15	-6138	-13382	-2699	
30	-2556	-9817	-3019	
45	-1010	-5747	5317	
60	4916	554	8053	
75	7375	3061	8421	
90	4053	-456	7909	
105	3825	-4070	1637	
120	2311	-6203	-715	
135	342	-6219	2133	
150	1253	-2833	4805	
165	960	1368	8517	
180	-2068	440	11557	
195	-2117	-3223	6005	
210	-4640	-8596	613	
225	-8140	-12959	-811	
240	-8840	-11526	-3211	
255	-13382	-12682	-411	
270	-13008	-13675	-2235	
285	-13757	-16052	-3675	
300	-13269	-14831	-2107	
315	-9964	-9687	1909	
330	-7554	-6626	4789	
345	-3207	-7114	2277	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	770	681	111
15	494	321	124
30	938	782	140
45	982	579	141
60	634	463	115
75	550	488	93
90	528	393	67
105	96	137	30
120	398	227	31
135	376	220	7
150	-412	-418	-58
165	-698	-575	-53
180	-257	-263	-25
195	-357	-298	-45
210	-223	-430	-20
225	-10	-355	-19
240	-1197	-1219	-98
255	-1195	-1251	-103
270	-598	-728	-40
285	-1113	-1057	-69
300	-313	-266	-18
315	70	-50	77
330	212	200	124
345	746	625	128

TABLE 13

FLIGHT 10, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 79 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	8.41	5.00	3.41	2.39	1.40	.56	.105	9.07	4.23	2.93	2.44	1.64	.63	.088	0
15	7.05	4.64	3.24	2.16	1.17	.53	.077	7.68	3.80	2.71	2.25	1.42	.56	.031	15
30	5.26	4.07	3.20	1.86	.91	.44	.042	6.22	3.23	2.34	2.01	1.20	.45	-.020	30
45	4.15	3.53	2.98	1.69	.73	.39	.008	5.12	2.78	2.08	1.80	1.03	.38	-.068	45
60	3.60	3.23	2.98	1.67	.63	.35	-.014	4.57	2.50	1.99	1.65	.95	.33	-.104	60
75	3.13	3.19	2.93	1.50	.52	.31	-.028	4.10	2.19	1.73	1.54	.85	.26	-.144	75
90	2.38	2.86	2.74	1.20	.42	.29	-.027	3.67	2.03	1.63	1.51	.74	.25	-.164	90
105	4.20	4.19	3.56	2.12	.71	.37	-.012	3.91	2.34	1.95	1.78	.96	.35	-.139	105
120	2.91	3.25	2.64	1.73	.57	.36	.014	4.57	2.69	1.99	1.81	.98	.38	-.110	120
135	2.74	2.81	2.46	1.51	.53	.35	.008	4.05	2.30	1.79	1.63	.87	.35	-.102	135
150	2.69	2.69	2.34	1.38	.54	.36	.027	4.00	2.20	1.67	1.51	.83	.36	-.071	150
165	3.21	2.87	2.34	1.44	.67	.41	.063	4.48	2.42	1.77	1.58	.94	.41	-.020	165
180	3.92	3.19	2.46	1.58	.83	.46	.087	5.18	2.73	1.99	1.69	1.07	.48	.057	180
195	4.45	3.40	2.48	1.64	.92	.50	.100	5.76	2.88	2.11	1.73	1.15	.51	.064	195
210	4.73	3.37	2.43	1.66	.96	.51	.107	5.93	3.00	2.10	1.70	1.16	.52	.073	210
225	5.06	3.41	2.41	1.69	1.01	.52	.111	6.05	3.06	2.11	1.68	1.17	.53	.094	225
240	5.36	3.52	2.41	1.70	1.05	.52	.119	6.40	3.13	2.14	1.71	1.20	.54	.108	240
255	5.61	3.51	2.46	1.74	1.10	.53	.132	7.12	3.24	2.20	1.74	1.24	.56	.117	255
270	6.31	3.81	2.59	1.88	1.21	.57	.144	8.18	3.43	2.32	1.85	1.33	.60	.128	270
285	6.80	4.03	2.71	1.97	1.27	.57	.144	7.41	3.21	2.14	1.70	1.22	.51	.110	285
300	5.79	3.52	2.35	1.66	1.02	.45	.091	6.22	2.93	1.93	1.58	1.10	.49	.084	300
315	6.34	3.87	2.62	1.86	1.14	.49	.111	6.95	3.20	2.14	1.76	1.22	.54	.102	315
330	7.45	4.44	3.00	2.14	1.31	.54	.136	8.41	3.78	2.56	2.11	1.46	.63	.110	330
345	8.77	4.92	3.33	2.39	1.45	.58	.140	9.42	4.28	2.95	2.41	1.69	.68	.133	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	9.54	5.87	4.12	3.18	2.56	2.31	1.50	.82	.63	.31	.126	0
15	7.97	5.31	3.74	2.84	2.31	2.08	1.37	.67	.56	.26	.096	15
30	6.53	4.75	3.20	2.42	2.05	1.82	1.19	.55	.45	.19	.055	30
45	5.61	4.12	2.97	2.34	1.79	1.60	1.00	.40	.38	.13	.016	45
60	5.03	3.73	2.74	2.16	1.65	1.49	.90	.28	.31	.09	-.015	60
75	4.40	3.23	2.44	1.91	1.45	1.27	.77	.15	.24	.05	-.046	75
90	4.10	3.01	2.38	1.81	1.37	1.18	.74	.13	.22	.05	-.044	90
105	4.26	3.12	2.46	1.90	1.50	1.26	.82	.20	.27	.08	-.042	105
120	5.84	4.41	3.30	2.33	1.90	1.64	1.04	.33	.37	.14	-.004	120
135	5.06	3.68	2.88	2.03	1.70	1.47	.99	.34	.39	.17	.018	135
150	4.96	3.52	2.69	1.97	1.60	1.38	.94	.34	.41	.20	.022	150
165	5.32	3.76	2.84	2.09	1.73	1.47	1.03	.41	.47	.24	.042	165
180	5.89	4.19	3.06	2.30	1.91	1.66	1.13	.51	.54	.30	.063	180
195	6.37	4.41	3.16	2.42	1.98	1.74	1.18	.55	.57	.32	.082	195
210	6.40	4.34	3.11	2.39	1.95	1.73	1.16	.56	.56	.32	.083	210
225	6.50	4.30	3.12	2.39	1.93	1.74	1.17	.58	.57	.32	.094	225
240	6.70	4.38	3.11	2.41	1.92	1.75	1.16	.61	.56	.31	.100	240
255	7.04	4.50	3.16	2.46	1.96	1.81	1.19	.65	.57	.32	.112	255
270	7.15	4.56	3.21	2.53	2.02	1.87	1.23	.68	.57	.31	.129	270
285	5.76	3.80	2.60	1.99	1.56	1.49	.94	.49	.42	.20	.077	285
300	5.89	3.77	2.67	2.06	1.61	1.55	.98	.54	.45	.24	.090	300
315	6.45	4.20	2.95	2.26	1.79	1.70	1.07	.60	.51	.26	.104	315
330	7.95	5.07	3.50	2.76	2.21	2.02	1.30	.73	.58	.31	.126	330
345	9.51	5.79	4.12	3.25	2.61	2.36	1.55	.87	.69	.36	.151	345

TABLE 13 - Continued

FLIGHT 10, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 79 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.57	3.39	2.51	1.88	1.41	.55	.109	2.90	1.36	1.01	.83	.65	.34	.078	0
15	6.58	3.16	2.40	1.80	1.30	.50	.090	2.98	1.40	1.04	.85	.66	.35	.083	15
30	6.08	2.87	2.25	1.69	1.19	.45	.079	2.99	1.38	1.04	.85	.66	.35	.094	30
45	5.46	2.63	2.15	1.63	1.09	.41	.067	2.99	1.46	1.04	.84	.67	.36	.104	45
60	4.84	2.42	2.07	1.57	1.00	.36	.017	2.80	1.36	.94	.77	.63	.34	.107	60
75	4.17	2.09	1.79	1.45	.86	.29	.028	2.55	1.24	.93	.69	.58	.32	.108	75
90	3.62	1.81	1.61	1.36	.79	.27	.050	2.53	1.23	.98	.68	.58	.31	.109	90
105	3.65	2.11	1.77	1.47	.90	.31	.071	2.83	1.42	1.07	.78	.65	.37	.124	105
120	3.93	2.42	1.88	1.55	1.00	.37	.095	3.29	1.71	1.15	.94	.75	.40	.140	120
135	4.00	2.49	1.99	1.64	1.11	.43	.131	3.75	1.84	1.34	1.08	.86	.43	.144	135
150	4.99	3.05	2.48	1.79	1.24	.46	.145	3.65	1.78	1.32	1.07	.85	.42	.153	150
165	5.25	2.75	2.37	1.74	1.25	.49	.143	3.68	1.83	1.34	1.09	.86	.43	.124	165
180	5.51	2.95	2.39	1.75	1.29	.52	.135	3.40	1.66	1.24	1.01	.81	.40	.112	180
195	5.73	2.98	2.35	1.72	1.28	.51	.145	2.94	1.42	1.08	.89	.71	.36	.092	195
210	5.73	2.88	2.24	1.64	1.23	.49	.140	2.48	1.17	.93	.77	.62	.32	.075	210
225	5.58	2.80	2.13	1.56	1.19	.48	.131	2.07	.94	.76	.63	.50	.27	.053	225
240	5.40	2.78	2.08	1.52	1.17	.48	.131	1.82	.77	.64	.53	.42	.20	.028	240
255	5.17	2.75	2.04	1.48	1.15	.48	.129	1.54	.59	.54	.44	.34	.15	.018	255
270	4.81	2.27	1.75	1.24	.95	.35	.107	1.45	.54	.49	.41	.31	.14	.012	270
285	4.36	1.93	1.50	1.08	.84	.34	.074	1.36	.52	.48	.39	.30	.14	.006	285
300	4.06	2.03	1.55	1.14	.87	.36	.086	1.33	.52	.48	.39	.30	.16	.010	300
315	4.23	2.14	1.65	1.23	.94	.39	.088	1.43	.59	.52	.43	.33	.18	.019	315
330	4.84	2.63	1.98	1.49	1.16	.48	.102	1.85	.81	.67	.55	.42	.23	.041	330
345	5.69	3.28	2.43	1.81	1.38	.57	.121	2.46	1.13	.87	.71	.55	.30	.065	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	.87	.44	.32	.22	.102	.12	.07	.04	.04	-.012	0
15	1.11	.54	.38	.25	.113	.17	.10	.06	.05	-.011	15
30	1.28	.59	.42	.27	.120	.41	.21	.12	.07	-.002	30
45	1.40	.63	.45	.28	.127	.51	.25	.14	.08	-.002	45
60	1.43	.65	.47	.28	.127	.56	.29	.16	.08	.007	60
75	1.43	.70	.47	.28	.127	.64	.33	.18	.09	.011	75
90	1.45	.73	.49	.29	.138	.71	.37	.20	.10	.014	90
105	1.66	.85	.56	.34	.151	.87	.46	.26	.13	.024	105
120	2.00	.92	.66	.38	.162	1.14	.59	.36	.17	.041	120
135	2.18	1.04	.72	.41	.164	1.34	.69	.42	.18	.042	135
150	2.29	1.15	.78	.42	.154	1.39	.70	.42	.19	.046	150
165	2.15	1.12	.75	.42	.147	1.24	.67	.41	.19	.039	165
180	1.96	.99	.66	.37	.133	1.06	.57	.36	.18	.036	180
195	1.59	.81	.54	.31	.113	.84	.44	.27	.12	.020	195
210	1.20	.62	.41	.24	.092	.45	.25	.14	.06	.001	210
225	.87	.46	.30	.19	.075	.18	.12	.05	.02	-.022	225
240	.60	.33	.21	.15	.064	.12	.04	.00	.00	-.023	240
255	.41	.25	.16	.12	.057	.01	.01	-.02	-.01	-.034	255
270	.32	.20	.13	.11	.057	-.01	.01	-.02	-.01	-.031	270
285	.28	.19	.13	.12	.063	-.01	.01	-.01	.00	-.030	285
300	.28	.19	.14	.13	.067	-.01	.01	.00	.01	-.026	300
315	.41	.23	.17	.15	.073	.00	.02	.01	.02	-.017	315
330	.57	.31	.23	.18	.081	-.04	.00	.00	.02	-.017	330
345	1.05	.52	.36	.25	.103	-.04	.01	.01	.02	-.018	345

TABLE 13 - Continued

FLIGHT 10, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 79 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	.64	4.99	10.18	22.23	26.53	27.23	27.31
15	.91	5.94	10.50	20.99	23.40	23.93	24.40
30	1.83	6.60	10.52	19.26	19.81	19.90	20.55
45	2.21	7.05	10.70	17.71	17.13	16.87	17.62
60	2.48	7.17	10.04	16.07	15.32	15.18	16.17
75	2.81	7.27	9.35	13.88	13.11	13.19	14.94
90	3.12	7.55	9.33	12.49	12.42	11.98	13.02
105	3.94	8.68	10.57	13.91	13.41	14.58	19.36
120	5.26	9.98	12.12	15.49	17.98	15.95	15.21
135	6.07	10.85	13.55	16.68	16.44	14.13	13.91
150	6.22	11.49	13.32	19.57	15.85	13.73	13.58
165	5.84	11.03	13.43	19.34	17.27	15.39	15.14
180	5.16	9.88	12.44	20.11	19.13	17.74	17.17
195	3.84	8.12	10.82	20.20	20.18	19.01	18.49
210	2.03	6.20	9.28	19.51	19.97	19.40	18.84
225	.67	4.64	7.60	18.91	20.13	19.76	19.36
240	.16	3.38	6.20	18.54	20.20	20.34	19.88
255	-.23	2.57	4.98	18.20	20.81	21.40	20.40
270	-.24	2.21	4.58	15.28	21.28	23.20	22.23
285	-.14	2.12	4.42	13.51	16.57	21.10	23.34
300	-.03	2.28	4.51	13.82	17.20	18.85	19.54
315	.12	2.81	5.02	14.67	19.06	20.92	21.56
330	-.02	3.65	6.52	17.68	22.95	24.90	24.78
345	.04	5.71	8.69	21.34	27.21	28.20	27.74

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	13.084		0	3.572				
1	2.211	-5.275	1	-.306	-.460			
2	.000	.077	2	-.081	-.130			
3	.005	.064	3	.089	-.105			
4	.059	-.032	4	.026	.006			
5	-.018	-.032	5	.024	-.038			
6	.041	-.023	6	.014	.002			
7	-.023	.018	7	-.004	-.006			
8	.000	.009	8	-.008	.004			
9	.005	.005	9	.008	-.010			
10	.014	.018	10	.018	-.014			
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 13 - Continued

FLIGHT 10, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 79 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.195		.75	0	17.475		.95	0	19.356	
.25	1	-1.949	2.157	.75	1	-.217	-.516	.95	1	3.608	-3.201
.25	2	.643	-.730	.75	2	3.331	1.147	.95	2	1.616	-.013
.25	3	-.322	.414	.75	3	1.153	.577	.95	3	1.622	-.415
.25	4	-.070	.025	.75	4	.237	-.573	.95	4	1.242	.512
.25	5	-.048	-.074	.75	5	.028	-.337	.95	5	-.128	-.772
.25	6	.061	.080	.75	6	.206	-.008	.95	6	.190	-.738
.25	7	-.024	-.039	.75	7	.289	-.123	.95	7	.007	.395
.25	8	.025	-.011	.75	8	-.215	-.026	.95	8	-.334	.553
.25	9	.063	-.034	.75	9	-.111	-.160	.95	9	-.038	-.369
.25	10	.027	-.019	.75	10	.104	.162	.95	10	.503	-.349
.40	0	6.341		.85	0	18.889					
.40	1	-2.083	3.207	.85	1	1.820	-2.687				
.40	2	1.373	-.608	.85	2	3.068	.370				
.40	3	-.082	.380	.85	3	2.156	.047				
.40	4	-.033	-.171	.85	4	.663	-.303				
.40	5	-.014	-.162	.85	5	-.177	-1.188				
.40	6	-.002	-.140	.85	6	.339	.106				
.40	7	-.055	-.080	.85	7	-.060	.301				
.40	8	-.094	-.079	.85	8	.126	-.395				
.40	9	-.081	-.105	.85	9	.023	-.220				
.40	10	-.093	-.023	.85	10	-.419	.178				
.55	0	9.111		.90	0	19.036					
.55	1	-1.512	3.186	.90	1	3.158	-3.888				
.55	2	2.028	-.115	.90	2	2.307	.159				
.55	3	.252	.599	.90	3	1.894	-.122				
.55	4	-.018	.017	.90	4	1.064	.028				
.55	5	.123	-.198	.90	5	-.130	-1.180				
.55	6	.162	-.100	.90	6	.181	-.277				
.55	7	-.011	-.007	.90	7	-.160	.415				
.55	8	.064	-.037	.90	8	-.056	.036				
.55	9	.000	.051	.90	9	.064	-.214				
.55	10	-.012	-.053	.90	10	-.041	-.041				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 13 - Concluded

FLIGHT 10, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 79 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-824	0	9	-339	-2044	-4134		
15	430	1180	832	272	-1577	-3875		
30	1570	2063	1790	1035	-1208	-3437		
45	863	1172	1238	1092	-64	-1656		
60	-117	182	136	-15	-337	-1129		
75	248	-281	-931	-1398	-2211	-3099		
90	316	-734	-1790	-2600	-3980	-5666		
105	-311	-1345	-2368	-3430	-5441	-7228		
120	8	-2195	-3652	-4269	-4825	-5865		
135	-1656	-2120	-2576	-3106	-4129	-5417		
150	-83	-1064	-1844	-2524	-3540	-5517		
165	840	-206	-1085	-2123	-3901	-6492		
180	191	-718	-1293	-1903	-3214	-5995		
195	-550	-1073	-1293	-1665	-3126	-5865		
210	487	-107	-949	-1694	-3293	-5557		
225	749	998	588	-196	-2369	-5089		
240	909	1551	1790	1655	-231	-3159		
255	977	1988	2224	2218	1978	861		
270	-151	1757	2631	3162	3606	3657		
285	-425	1584	2703	3582	4442	4433		
300	122	2021	2775	3019	3175	3378		
315	362	1749	2405	2676	2075	393		
330	-585	1295	1745	1321	-477	-2661		
345	111	454	-452	-988	-1401	-2960		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-5739	-10094	736	
15	-7237	-12291	-544	
30	-6846	-12031	-96	
45	-3818	-7017	2976	
60	-3346	-3468	8704	
75	627	-1319	7936	
90	2304	-2523	5376	
105	1115	-5128	4112	
120	2564	-4591	2112	
135	1717	-4624	4528	
150	790	-2344	6960	
165	1310	-781	8464	
180	790	-195	9120	
195	-969	-2247	8496	
210	-1652	-5291	5200	
225	-4371	-8710	2816	
240	-7253	-11608	1440	
255	-7725	-11543	-672	
270	-11111	-12910	592	
285	-13244	-13203	464	
300	-11160	-12910	-208	
315	-10948	-10924	2640	
330	-9060	-7896	4208	
345	-6732	-8140	3536	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	781	547	148
15	696	322	147
30	688	285	133
45	724	363	148
60	841	431	154
75	741	510	133
90	669	366	106
105	615	318	81
120	474	133	51
135	234	-134	10
150	-243	-509	-23
165	-380	-653	-31
180	-315	-554	-21
195	-226	-537	-21
210	-252	-650	-20
225	11	-599	6
240	-50	-660	9
255	-140	-633	14
270	87	-432	46
285	114	-352	66
300	-313	-608	51
315	-426	-635	31
330	-111	-233	74
345	543	181	140

TABLE 14

FLIGHT 11, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 88 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	7.93	5.18	3.58	2.46	1.42	.62	.105	9.73	4.49	3.20	2.65	1.92	.72	.087	6
21	6.92	4.84	3.61	2.23	1.15	.52	.071	7.86	4.05	2.88	2.45	1.69	.60	.028	21
36	5.13	4.24	3.43	1.94	.81	.39	.032	6.21	3.33	2.42	2.18	1.44	.47	-.047	36
51	3.96	3.82	3.30	1.76	.62	.31	-.002	4.98	2.80	2.12	2.00	1.24	.37	-.098	51
66	3.47	3.66	3.31	1.74	.47	.29	-.019	4.39	2.40	2.02	1.91	1.15	.29	-.150	66
81	3.08	3.52	3.29	1.69	.36	.22	-.031	3.82	2.00	1.88	1.76	.98	.23	-.192	81
96	2.93	3.43	3.24	1.67	.39	.22	-.015	3.47	1.85	1.74	1.68	.95	.20	-.197	96
111	2.69	3.65	3.28	1.81	.46	.27	-.006	4.21	2.30	2.18	1.92	1.13	.28	-.190	111
126	2.22	2.85	2.84	1.46	.41	.29	.011	3.79	2.16	1.99	1.76	1.03	.30	-.136	126
141	2.24	2.63	2.41	1.33	.42	.30	.015	3.71	2.06	1.82	1.58	.98	.31	-.117	141
156	2.39	2.61	2.20	1.31	.52	.36	.057	4.06	2.25	1.92	1.59	1.02	.40	-.063	156
171	3.02	2.94	2.35	1.47	.69	.43	.080	4.84	2.62	2.12	1.72	1.20	.48	.005	171
186	3.66	3.21	2.54	1.58	.86	.47	.099	5.57	2.92	2.31	1.84	1.30	.55	.061	186
201	4.54	3.30	2.52	1.65	.96	.51	.111	6.06	3.08	2.34	1.85	1.34	.56	.082	201
216	4.75	3.30	2.47	1.66	1.00	.52	.118	6.20	3.16	2.34	1.80	1.33	.57	.106	216
231	5.03	3.31	2.40	1.68	1.04	.52	.124	6.43	3.26	2.35	1.80	1.37	.57	.122	231
246	5.32	3.37	2.39	1.71	1.08	.52	.124	6.86	3.34	2.37	1.83	1.40	.60	.134	246
261	5.93	3.53	2.47	1.76	1.14	.55	.141	7.84	3.48	2.45	1.87	1.45	.65	.150	261
276	6.43	3.76	2.60	1.87	1.23	.57	.145	8.40	3.60	2.51	1.92	1.52	.64	.143	276
291	6.84	3.87	2.64	1.89	1.23	.55	.128	7.39	3.29	2.28	1.77	1.37	.59	.110	291
306	6.20	3.58	2.45	1.71	1.09	.45	.109	6.87	3.20	2.21	1.76	1.33	.55	.120	306
321	6.80	3.93	2.73	1.92	1.23	.52	.139	7.81	3.63	2.51	1.99	1.51	.59	.126	321
336	8.01	4.60	3.15	2.26	1.43	.65	.143	9.58	4.27	2.96	2.40	1.81	.72	.140	336
351	8.99	5.07	3.44	2.46	1.51	.66	.130	10.42	4.63	3.24	2.64	1.95	.77	.139	351

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	10.28	6.19	4.70	3.54	2.99	2.50	1.68	.89	.74	.36	.136	6
21	8.83	5.95	4.31	3.20	2.73	2.26	1.49	.71	.62	.29	.083	21
36	7.00	5.23	3.78	2.78	2.40	1.95	1.29	.53	.50	.20	.033	36
51	5.73	4.40	3.34	2.38	2.11	1.68	1.09	.39	.39	.13	-.015	51
66	5.09	3.91	3.13	2.30	1.95	1.50	.99	.30	.34	.09	-.045	66
81	4.37	3.41	2.79	2.04	1.74	1.23	.83	.17	.23	.03	-.082	81
96	4.07	3.08	2.61	1.71	1.62	1.15	.77	.14	.23	.03	-.086	96
111	4.15	3.16	2.70	1.88	1.65	1.26	.86	.20	.30	.09	-.078	111
126	5.22	4.13	3.36	2.37	2.05	1.55	1.07	.32	.39	.15	-.035	126
141	4.92	3.68	3.06	2.17	1.89	1.42	1.00	.32	.43	.19	.001	141
156	5.12	3.80	3.06	2.18	1.93	1.42	1.03	.39	.48	.24	.012	156
171	5.72	4.28	3.31	2.42	2.10	1.63	1.18	.51	.57	.31	.048	171
186	6.37	4.68	3.49	2.61	2.23	1.78	1.28	.61	.61	.36	.068	186
201	6.75	4.84	3.49	2.66	2.26	1.82	1.30	.65	.63	.37	.083	201
216	6.89	4.73	3.45	2.62	2.21	1.84	1.28	.67	.64	.37	.093	216
231	7.00	4.71	3.45	2.64	2.21	1.84	1.28	.69	.65	.37	.106	231
246	7.18	4.77	3.45	2.66	2.20	1.88	1.28	.71	.63	.36	.111	246
261	7.50	4.84	3.50	2.69	2.24	1.92	1.29	.73	.64	.35	.127	261
276	6.95	4.83	3.45	2.69	2.21	1.91	1.28	.74	.61	.34	.132	276
291	6.57	4.23	3.04	2.29	1.88	1.66	1.07	.62	.52	.28	.104	291
306	6.44	4.25	3.06	2.34	1.95	1.69	1.10	.63	.54	.29	.108	306
321	7.20	4.79	3.45	2.66	2.18	1.91	1.26	.72	.61	.33	.127	321
336	8.81	5.66	4.11	3.15	2.61	2.24	1.49	.85	.71	.38	.113	336
351	10.41	6.24	4.69	3.59	2.98	2.54	1.71	.96	.79	.41	.151	351

TABLE 14 - Continued

FLIGHT 11, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 88 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75							r/R = 0.55							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	6.80	3.47	2.53	2.00	1.40	.58	.072	3.17	1.50	1.07	.90	.70	.39	.063	6
21	6.64	3.25	2.42	1.93	1.30	.52	.050	3.21	1.51	1.08	.91	.70	.39	.074	21
36	6.15	2.94	2.26	1.82	1.16	.45	.029	3.19	1.52	1.08	.91	.70	.38	.083	36
51	5.37	2.59	2.14	1.69	1.01	.38	.027	3.06	1.46	1.02	.85	.68	.38	.092	51
66	4.61	2.34	2.01	1.58	.91	.33	-.035	2.73	1.30	.89	.76	.63	.35	.093	66
81	3.83	2.04	1.82	1.40	.74	.25	-.002	2.47	1.18	.83	.68	.58	.32	.092	81
96	3.26	1.80	1.70	1.32	.64	.24	.012	2.52	1.25	.89	.71	.59	.34	.098	96
111	3.31	2.02	1.89	1.45	.74	.28	.033	2.97	1.48	1.04	.86	.69	.39	.114	111
126	3.69	2.24	2.07	1.61	.94	.35	.070	3.68	1.80	1.29	1.06	.84	.44	.123	126
141	4.26	2.71	2.38	1.84	1.12	.42	.101	4.01	1.93	1.40	1.16	.92	.47	.136	141
156	4.78	2.80	2.38	1.83	1.18	.47	.115	4.03	1.96	1.43	1.18	.94	.47	.127	156
171	5.12	2.87	2.37	1.83	1.22	.50	.110	3.94	1.92	1.39	1.15	.90	.46	.102	171
186	5.41	2.98	2.36	1.83	1.25	.51	.125	3.58	1.74	1.25	1.05	.83	.43	.091	186
201	5.62	2.98	2.29	1.75	1.20	.50	.110	2.99	1.46	1.08	.94	.76	.38	.025	201
216	5.56	2.85	2.15	1.65	1.16	.48	.101	2.67	1.27	.97	.82	.62	.29	.045	216
231	5.48	2.77	2.04	1.58	1.13	.48	.101	2.27	1.03	.78	.68	.51	.23	.019	231
246	5.29	2.73	1.97	1.52	1.09	.46	.093	1.82	.78	.60	.52	.40	.17	-.035	246
261	4.83	2.65	1.89	1.45	1.06	.46	.089	1.48	.64	.50	.44	.34	.16	-.020	261
276	4.55	2.27	1.64	1.25	.89	.36	.065	1.28	.54	.43	.39	.30	.16	-.023	276
291	4.17	1.96	1.43	1.11	.79	.35	.041	1.20	.52	.42	.37	.29	.16	-.022	291
306	3.99	2.03	1.47	1.17	.85	.37	.044	1.25	.55	.44	.40	.31	.19	-.013	306
321	4.27	2.27	1.65	1.32	.96	.42	.058	1.49	.67	.52	.46	.36	.22	.003	321
336	4.92	2.76	1.99	1.60	1.17	.51	.067	2.00	.92	.68	.60	.46	.27	.028	336
351	5.90	3.35	2.41	1.94	1.39	.59	.086	2.71	1.27	.92	.78	.61	.35	.053	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40					r/R = 0.25					ψ_{nom}, deg
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	.67	.35	.25	.24	.072	.16	.06	.05	.04	.017	6
21	1.07	.54	.35	.28	.084	.12	.05	.05	.05	.018	21
36	1.16	.56	.37	.29	.088	.38	.17	.12	.07	.026	36
51	1.23	.60	.39	.30	.096	.53	.25	.15	.08	.035	51
66	1.24	.62	.40	.30	.099	.57	.27	.16	.08	.035	66
81	1.17	.61	.39	.30	.094	.63	.30	.19	.09	.044	81
96	1.21	.62	.41	.32	.108	.73	.36	.23	.10	.050	96
111	1.49	.77	.50	.38	.122	.97	.49	.30	.14	.061	111
126	1.85	1.00	.62	.44	.138	1.29	.66	.41	.18	.079	126
141	2.12	1.12	.70	.48	.148	1.50	.75	.47	.20	.085	141
156	2.27	1.22	.76	.50	.136	1.62	.80	.50	.22	.087	156
171	2.18	1.20	.74	.49	.131	1.46	.77	.49	.22	.083	171
186	1.92	1.07	.65	.44	.112	1.33	.68	.44	.20	.081	186
201	1.53	.85	.52	.36	.086	.87	.43	.28	.13	.049	201
216	1.11	.64	.37	.28	.060	.46	.21	.13	.05	.020	216
231	.73	.42	.24	.21	.035	.20	.09	.02	.01	.006	231
246	.46	.27	.15	.16	.019	.15	.03	.00	.00	-.006	246
261	.28	.18	.09	.13	.015	.09	-.02	-.02	-.01	-.013	261
276	.18	.13	.07	.13	.018	.07	-.02	-.02	-.01	-.026	276
291	.17	.12	.07	.13	.020	.06	-.01	-.01	.00	-.027	291
306	.17	.12	.08	.14	.029	.06	.00	.00	.02	-.006	306
321	.23	.15	.11	.17	.040	.07	.02	.02	.03	.005	321
336	.42	.25	.16	.20	.050	-.01	-.04	-.01	.02	.011	336
351	.56	.32	.22	.23	.064	.00	-.01	.01	.02	.017	351

TABLE 14 - Continued

FLIGHT 11, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 88 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	.82	4.24	11.10	22.58	29.79	30.03	27.85
21	.81	5.83	11.21	21.23	26.22	25.90	24.99
36	1.85	6.18	11.20	19.25	21.97	21.12	20.41
51	2.45	6.50	10.87	17.07	18.46	17.58	17.52
66	2.55	6.59	9.82	15.12	16.67	15.47	16.23
81	2.90	6.39	8.98	12.85	13.96	13.18	14.88
96	3.39	6.75	9.41	11.53	13.08	12.22	14.80
111	4.54	8.22	11.03	12.86	14.03	15.21	15.55
126	6.04	10.02	13.27	14.98	17.80	14.27	13.32
141	6.86	11.19	14.36	17.70	16.98	13.68	12.46
156	7.35	11.91	14.49	18.70	17.58	15.14	13.03
171	7.05	11.56	14.04	19.33	19.88	17.83	15.32
186	6.38	10.22	12.84	19.89	21.50	20.01	17.34
201	4.03	8.22	10.96	19.59	22.09	20.89	18.71
216	1.94	6.09	9.37	18.87	22.09	21.16	19.02
231	.64	4.11	7.62	18.39	22.27	21.68	19.34
246	.23	2.74	5.73	17.80	22.33	22.47	19.75
261	-.06	1.90	4.89	17.06	22.84	23.98	20.99
276	-.12	1.57	4.34	14.66	22.12	24.84	22.33
291	-.01	1.52	4.17	13.10	19.43	22.36	22.67
306	.18	1.68	4.53	13.49	19.68	21.44	20.40
321	.41	2.15	5.42	15.08	22.16	24.12	22.76
336	.04	3.01	7.16	18.06	26.35	28.96	26.74
351	.20	3.79	9.63	21.63	30.29	31.33	28.92

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	15.169		0	3.864		0	7.140	
1	1.571	-5.931	1	.204	-.249	1	-.383	.112
2	-.076	.061	2	-.151	-.090	2	.014	.022
3	.018	.120	3	.000	-.220	3	.061	-.054
4	.044	-.035	4	.082	-.045	4	.009	-.012
5	-.026	-.023	5	.000	-.004	5	.000	.014
6	.000	-.006	6	-.008	-.033	6	.000	.011
7	.023	.012	7	.020	.000	7	.001	.001
8	.000	.018	8	-.008	-.012	8	-.005	-.003
9	-.012	.009	9	.020	-.020	9	-.007	.001
10	.003	.000	10	.008	-.029	10	.000	-.007

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 14 - Continued

FLIGHT 11, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 88 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.519		.75	0	17.118		.95	0	19.388	
.25	1	-2.262	2.353	.75	1	.031	-.600	.95	1	4.235	-3.842
.25	2	.760	-1.026	.75	2	3.788	.803	.95	2	2.067	.154
.25	3	-.393	.567	.75	3	1.270	.645	.95	3	1.193	-.765
.25	4	-.022	-.064	.75	4	.092	-.517	.95	4	1.399	-.056
.25	5	-.148	-.028	.75	5	.067	-.359	.95	5	-.056	-.536
.25	6	.146	.007	.75	6	.232	.093	.95	6	-.120	-.377
.25	7	-.004	-.035	.75	7	.073	-.094	.95	7	-.076	.216
.25	8	.084	-.042	.75	8	-.005	-.073	.95	8	-.099	.319
.25	9	.057	-.050	.75	9	-.126	-.046	.95	9	-.032	.032
.25	10	.077	-.011	.75	10	.049	-.038	.95	10	.069	-.124
.40	0	5.933		.85	0	20.816					
.40	1	-2.578	3.375	.85	1	2.335	-3.482				
.40	2	1.589	-.705	.85	2	3.857	.312				
.40	3	-.200	.649	.85	3	1.986	-.045				
.40	4	-.130	-.010	.85	4	.730	-.476				
.40	5	-.053	-.072	.85	5	-.137	-.863				
.40	6	-.003	-.002	.85	6	.381	-.010				
.40	7	-.045	.074	.85	7	-.045	.296				
.40	8	-.090	.031	.85	8	-.020	-.275				
.40	9	-.049	.014	.85	9	.024	-.072				
.40	10	-.053	.021	.85	10	-.217	.076				
.55	0	9.435		.90	0	20.618					
.55	1	-1.465	3.429	.90	1	3.621	-5.136				
.55	2	2.429	-.465	.90	2	3.144	.036				
.55	3	.496	.689	.90	3	1.754	-.401				
.55	4	-.076	.072	.90	4	1.280	-.434				
.55	5	.081	-.228	.90	5	-.421	-.820				
.55	6	.111	-.128	.90	6	.022	-.353				
.55	7	.038	.014	.90	7	.115	.393				
.55	8	.060	-.096	.90	8	-.098	.151				
.55	9	-.010	.005	.90	9	-.110	-.196				
.55	10	.008	.016	.90	10	.082	-.022				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 14 - Concluded

FLIGHT 11, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 88 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	1273	1617	2278	1287	-674	-3688	-6077	-5716
21	2709	2772	2721	1554	109	-2703	-6119	-5709
36	2835	3119	3526	2318	408	-2096	-3426	-3402
51	2379	1964	2468	1774	1227	-723	-2547	-3015
66	1455	1106	1501	620	338	-1240	-1956	-2482
81	1786	512	172	-1088	-1607	-3459	-3117	-2657
96	1558	-107	-651	-2109	-3156	-5380	-5507	-3446
111	942	-602	-1257	-2996	-4168	-6265	-5476	-3913
126	783	-1262	-1736	-2901	-3464	-5479	-5633	-3548
141	76	-825	-750	-2052	-3112	-5410	-6062	-3446
156	1775	-17	-488	-1909	-2786	-5648	-6527	-3811
171	1535	41	-27	-1384	-2980	-6464	-6328	-3745
186	1193	-338	-344	-1346	-2469	-5877	-6857	-4672
201	1148	66	54	-1203	-2883	-6007	-5873	-3964
216	2196	1155	841	-602	-2628	-5410	-5905	-4365
231	2105	2096	2432	1268	-1132	-4385	-6030	-4563
246	2630	2665	3399	2823	1121	-1847	-4456	-3986
261	2436	3011	3923	3577	3374	1894	-915	-2978
276	1512	2863	4285	4359	4720	4033	962	-2738
291	1604	2846	4204	4321	4835	4103	2401	-1475
306	1900	2912	3869	3195	3506	2749	1538	-1920
321	1638	2087	2992	2699	2441	371	-2741	-4300
336	988	1749	2251	1259	267	-2345	-5183	-5504
351	1763	1535	1464	209	-498	-2763	-5894	-6096

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-5740	-8156	102	13222
21	-6684	-8889	-170	13176
36	-5919	-7228	2070	14109
51	-2663	-1791	5366	14448
66	-1816	537	9110	16031
81	1163	1286	7414	14796
96	2547	-228	4390	13771
111	1342	-2556	3766	14201
126	2352	-1612	3110	13451
141	1782	-586	5446	14841
156	805	1286	8390	16013
171	1570	2930	9014	15894
186	1131	2426	9158	16113
201	-497	195	7990	15820
216	-1751	-2654	5414	15079
231	-4681	-6040	3462	14759
246	-6830	-8466	1782	14301
261	-8605	-9084	326	13634
276	-11307	-9703	1254	14475
291	-12072	-8889	1878	14036
306	-10037	-7880	2038	14219
321	-8572	-5877	3654	14677
336	-6830	-4786	3894	14732
351	-5544	-6072	2326	14631

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	738	812	165
21	686	660	173
36	593	556	148
51	579	619	157
66	802	753	172
81	654	815	145
96	504	646	109
111	319	398	75
126	233	337	29
141	-190	-74	-14
156	-563	-439	-40
171	-674	-446	-49
186	-607	-437	-43
201	-547	-475	-41
216	-461	-536	-33
231	-182	-456	2
246	-178	-452	14
261	-71	-346	37
276	-27	-269	59
291	-224	-268	68
306	-624	-546	52
321	-490	-336	52
336	-193	13	81
351	286	372	130

TABLE 15

FLIGHT 12, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 92 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95							Δp, lb/sq in., at - r/R = 0.90							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	9.28	5.21	3.49	2.44	1.44	.52	.119	10.06	4.33	3.07	2.45	1.62	.53	.154	0
15	8.17	5.10	3.47	2.39	1.35	.59	.081	8.47	4.09	2.93	2.43	1.58	.62	.048	15
30	6.22	4.57	3.32	2.09	1.05	.48	.042	6.93	3.50	2.60	2.20	1.32	.48	-.017	30
45	4.69	3.98	3.28	1.86	.83	.41	.010	5.50	2.93	2.25	2.00	1.12	.39	-.068	45
60	3.97	3.64	3.21	1.81	.70	.37	-.024	4.75	2.61	2.13	1.83	.99	.32	-.119	60
75	3.34	3.57	3.15	1.67	.51	.29	-.041	4.10	2.20	1.87	1.60	.87	.26	-.164	75
90	2.53	3.10	3.01	1.25	.41	.29	-.042	3.67	2.03	1.79	1.61	.80	.25	-.174	90
105	3.67	4.00	3.57	1.93	.62	.35	-.016	4.39	2.51	2.13	1.89	1.01	.34	-.152	105
120	2.46	2.93	2.69	1.53	.42	.31	-.008	3.84	2.22	1.85	1.68	.85	.31	-.150	120
135	2.12	2.44	2.32	1.34	.39	.29	-.006	3.44	1.85	1.54	1.45	.73	.30	-.134	135
150	2.22	2.43	2.18	1.23	.43	.33	.024	3.51	1.85	1.40	1.25	.74	.33	-.084	150
165	3.03	2.81	2.30	1.40	.65	.42	.069	4.41	2.34	1.77	1.58	.93	.42	-.005	165
180	4.02	3.29	2.51	1.63	.88	.49	.093	5.38	2.78	2.07	1.76	1.12	.50	.053	180
195	4.64	3.44	2.54	1.71	.98	.53	.111	6.00	3.01	2.20	1.79	1.20	.53	.071	195
210	4.90	3.47	2.47	1.70	1.00	.53	.115	6.07	3.02	2.17	1.74	1.20	.54	.077	210
225	5.14	3.47	2.41	1.71	1.05	.55	.126	6.25	3.08	2.19	1.72	1.23	.55	.102	225
240	5.52	3.49	2.42	1.73	1.08	.54	.130	6.80	3.11	2.17	1.71	1.23	.54	.113	240
255	5.62	3.52	2.41	1.74	1.10	.53	.130	7.17	3.11	2.15	1.70	1.23	.53	.117	255
270	5.99	3.63	2.46	1.77	1.14	.53	.134	6.97	3.15	2.17	1.72	1.27	.55	.121	270
285	6.48	3.87	2.61	1.91	1.24	.57	.148	7.28	3.24	2.25	1.78	1.34	.58	.144	285
300	6.26	3.74	2.46	1.75	1.10	.45	.107	6.22	2.89	1.95	1.58	1.09	.43	.104	300
315	6.97	4.07	2.74	2.00	1.25	.53	.138	8.43	3.47	2.40	1.92	1.36	.60	.125	315
330	8.89	4.64	3.08	2.22	1.40	.59	.174	9.78	3.92	2.74	2.17	1.55	.65	.154	330
345	9.61	5.05	3.36	2.39	1.46	.57	.188	10.34	4.37	3.09	2.42	1.65	.64	.227	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85											ψ_{nom}, deg
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	10.22	6.01	4.30	3.33	2.69	2.41	1.56	.79	.63	.32	.192	0
15	9.34	5.86	4.11	3.13	2.54	2.27	1.50	.73	.61	.29	.098	15
30	7.34	5.25	3.62	2.73	2.29	2.02	1.33	.61	.51	.22	.063	30
45	5.90	4.42	3.17	2.39	1.94	1.71	1.08	.44	.39	.15	.020	45
60	5.30	3.99	2.97	2.34	1.79	1.60	.97	.32	.32	.09	-.021	60
75	4.49	3.38	2.55	2.03	1.54	1.35	.80	.16	.23	.04	-.052	75
90	4.20	3.10	2.46	1.92	1.49	1.26	.74	.12	.21	.04	-.056	90
105	4.17	3.15	2.59	2.06	1.67	1.33	.88	.22	.28	.08	-.050	105
120	5.13	3.84	3.05	2.17	1.87	1.49	.96	.26	.32	.11	-.029	120
135	4.37	3.12	2.51	1.72	1.46	1.26	.84	.23	.32	.12	-.009	135
150	4.43	3.05	2.40	1.72	1.45	1.20	.82	.26	.36	.16	.001	150
165	5.13	3.68	2.77	2.05	1.70	1.44	1.00	.39	.48	.25	.032	165
180	6.13	4.34	3.15	2.41	2.01	1.70	1.16	.52	.56	.32	.061	180
195	6.51	4.55	3.26	2.50	2.05	1.79	1.21	.57	.59	.34	.080	195
210	6.53	4.41	3.16	2.44	1.97	1.77	1.18	.57	.58	.34	.088	210
225	6.63	4.41	3.15	2.42	1.94	1.76	1.18	.59	.58	.33	.096	225
240	6.80	4.34	3.08	2.40	1.90	1.74	1.15	.61	.56	.31	.100	240
255	6.61	4.28	3.01	2.34	1.85	1.72	1.11	.60	.53	.29	.104	255
270	6.19	4.30	3.00	2.31	1.85	1.72	1.11	.61	.52	.28	.112	270
285	5.71	3.85	2.70	2.13	1.69	1.61	1.03	.58	.48	.26	.125	285
300	6.00	3.77	2.64	2.06	1.61	1.53	.96	.51	.42	.20	.083	300
315	7.26	4.53	3.15	2.48	1.94	1.83	1.16	.66	.53	.28	.116	315
330	8.70	5.21	3.65	2.89	2.28	2.11	1.37	.76	.60	.31	.139	330
345	10.01	6.38	4.20	3.35	2.68	2.42	1.58	.86	.71	.39	.184	345

TABLE 15 - Continued

FLIGHT 12, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 92 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75							Δp, lb/sq in., at - r/R = 0.55							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.68	3.53	2.62	1.97	1.49	.60	.124	3.11	1.44	1.07	.89	.69	.37	.085	0
15	6.95	3.33	2.52	1.89	1.39	.55	.090	3.16	1.49	1.09	.90	.70	.37	.088	15
30	6.57	3.11	2.42	1.82	1.30	.50	.083	3.12	1.44	1.07	.88	.68	.36	.096	30
45	5.83	2.75	2.22	1.69	1.14	.42	.071	3.09	1.49	1.07	.88	.68	.37	.109	45
60	5.16	2.55	2.16	1.66	1.07	.39	.053	2.92	1.44	.98	.81	.65	.35	.118	60
75	4.41	2.19	1.89	1.53	.91	.31	.034	2.63	1.26	.94	.71	.60	.33	.116	75
90	3.79	1.92	1.70	1.44	.82	.28	.059	2.73	1.35	1.05	.74	.62	.35	.124	90
105	3.76	2.21	1.85	1.56	.92	.33	.081	3.08	1.57	1.14	.86	.70	.38	.139	105
120	3.97	2.51	1.97	1.61	1.00	.36	.088	3.59	1.88	1.29	1.05	.84	.42	.146	120
135	4.34	2.84	2.23	1.68	1.12	.41	.112	3.78	1.91	1.37	1.11	.89	.45	.152	135
150	4.74	2.94	2.29	1.68	1.16	.44	.150	3.76	1.87	1.38	1.13	.90	.44	.149	150
165	5.01	2.94	2.32	1.72	1.23	.50	.150	3.82	1.89	1.39	1.15	.90	.45	.136	165
180	5.41	2.96	2.43	1.80	1.29	.54	.160	3.69	1.86	1.39	1.15	.92	.46	.133	180
195	5.77	3.05	2.40	1.76	1.30	.53	.157	4.01	2.03	1.50	1.22	.94	.41	.118	195
210	5.80	2.92	2.25	1.65	1.25	.51	.143	3.82	1.85	1.42	1.15	.84	.34	.098	210
225	5.58	2.80	2.13	1.57	1.20	.49	.135	1.17	1.45	1.54	1.34	.92	.34	.097	225
240	5.22	2.69	2.02	1.47	1.14	.45	.126	.55	.54	.74	.77	.70	.39	.142	240
255	4.84	2.52	1.87	1.35	1.05	.42	.126	.81	.21	.28	.27	.21	.17	.059	255
270	4.54	2.38	1.78	1.29	1.00	.41	.131	.80	.23	.26	.22	.16	.10	-.018	270
285	4.23	1.74	1.34	.94	.70	.24	.088	.88	.27	.31	.27	.18	.07	-.008	285
300	3.80	1.89	1.44	1.06	.81	.33	.079	1.06	.38	.37	.33	.23	.10	.003	300
315	4.08	2.25	1.71	1.27	.99	.40	.098	1.43	.55	.49	.41	.31	.16	.019	315
330	4.73	2.70	2.01	1.50	1.17	.48	.102	1.88	.79	.64	.54	.40	.20	.037	330
345	5.67	3.23	2.39	1.79	1.38	.57	.126	2.59	1.14	.87	.73	.54	.29	.062	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40					Δp, lb/sq in., at - r/R = 0.25					ψ_{nom}, deg
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	.69	.35	.26	.21	.094	.07	.07	.06	.06	.005	0
15	.99	.45	.33	.23	.101	.25	.12	.07	.05	-.001	15
30	1.21	.54	.39	.25	.109	.41	.21	.12	.06	.005	30
45	1.39	.62	.45	.27	.119	.53	.26	.15	.09	.007	45
60	1.50	.66	.47	.28	.121	.59	.31	.17	.10	.020	60
75	1.46	.70	.47	.28	.122	.69	.36	.20	.10	.023	75
90	1.58	.79	.53	.31	.143	.75	.40	.22	.12	.035	90
105	1.92	.95	.63	.37	.151	1.15	.60	.36	.17	.047	105
120	2.16	.99	.72	.40	.165	1.35	.68	.42	.20	.060	120
135	2.35	1.14	.80	.44	.168	1.48	.77	.46	.21	.061	135
150	2.56	1.24	.84	.46	.162	1.58	.81	.50	.24	.068	150
165	2.34	1.21	.81	.45	.154	1.73	.89	.54	.25	.072	165
180	2.17	1.09	.72	.41	.137	1.46	.75	.47	.23	.064	180
195	1.76	.87	.57	.32	.109	.94	.51	.32	.16	.042	195
210	1.27	.65	.42	.25	.088	.39	.39	.14	.08	.014	210
225	.83	.44	.28	.18	.067	.21	.10	.03	.02	-.002	225
240	.50	.28	.18	.13	.046	.01	.08	-.01	.00	-.020	240
255	.29	.18	.11	.10	.041	.01	.01	-.04	-.01	-.028	255
270	.19	.13	.08	.10	.042	.01	-.02	-.03	-.02	-.051	270
285	.15	.12	.08	.10	.047	.00	-.01	-.02	-.01	-.077	285
300	.18	.13	.10	.12	.058	.00	.00	.00	.01	-.057	300
315	.28	.19	.14	.14	.070	.01	.02	.01	.02	-.028	315
330	.57	.30	.22	.17	.075	-.04	-.01	.00	.03	-.006	330
345	.58	.32	.25	.20	.088	-.03	.01	.00	.03	-.005	345

TABLE 15 - Continued

FLIGHT 12, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 92 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	.79	4.19	10.90	23.30	27.95	27.91	28.32
15	1.14	5.24	11.09	22.26	26.09	26.20	27.24
30	1.83	6.13	10.85	20.90	22.21	21.83	22.95
45	2.43	6.89	10.99	18.54	18.24	18.07	19.60
60	2.72	7.29	10.44	17.18	16.37	15.83	17.66
75	3.12	7.31	9.59	14.70	13.51	13.42	15.85
90	3.51	8.18	10.15	13.18	12.72	12.41	13.76
105	5.33	9.69	11.46	14.51	14.03	15.55	18.18
120	6.24	10.72	13.29	15.74	16.33	13.54	13.52
135	6.84	11.77	13.94	17.57	14.00	11.74	11.77
150	7.36	12.57	13.87	18.52	14.01	11.83	12.06
165	7.96	11.91	13.98	19.37	16.88	15.28	14.82
180	6.94	10.85	13.97	20.36	19.82	18.42	17.89
195	4.58	8.68	14.39	20.62	20.75	19.84	19.24
210	2.31	6.47	13.02	19.86	20.40	19.89	19.46
225	.75	4.35	11.15	19.02	20.44	20.35	19.81
240	.03	2.88	7.67	17.91	20.16	20.73	20.24
255	-.27	1.94	3.29	16.68	19.56	20.97	20.36
270	-.41	1.52	2.40	15.86	19.22	21.15	21.03
285	-.39	1.50	2.62	11.89	17.78	22.13	22.60
300	-.15	1.77	3.36	12.85	16.97	18.58	20.69
315	.13	2.35	4.70	15.08	20.66	23.70	23.26
330	.06	3.49	6.27	17.78	24.18	26.93	27.01
345	.15	3.85	8.74	21.18	28.12	29.17	28.74

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	13.402		0	3.661				
1	2.379	-5.911	1	-.573	-.664			
2	-.027	.145	2	-.117	-.308			
3	.009	-.032	3	.045	-.109			
4	.018	.023	4	.028	.022			
5	-.050	.059	5	-.022	-.006			
6	.050	.018	6	.000	.014			
7	.023	.018	7	.004	.014			
8	.014	.045	8	.006	.012			
9	.005	.014	9	.002	.008			
10	.005	.005	10	.000	.004			
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 15 - Continued

FLIGHT 12, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 92 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.625		.75	0	17.701		.95	0	19.835	
.25	1	-2.481	2.589	.75	1	.119	.173	.95	1	4.817	-3.323
.25	2	.935	-.980	.75	2	3.627	1.507	.95	2	2.284	.803
.25	3	-.433	.456	.75	3	1.195	.443	.95	3	1.119	-.860
.25	4	.108	-.017	.75	4	.227	-.340	.95	4	1.105	.517
.25	5	-.239	.010	.75	5	-.049	-.424	.95	5	-.469	-.359
.25	6	.160	-.057	.75	6	.103	.200	.95	6	.170	-.503
.25	7	.028	.100	.75	7	.193	.186	.95	7	-.070	.403
.25	8	-.003	-.026	.75	8	.162	-.043	.95	8	-.406	.566
.25	9	.027	-.025	.75	9	-.103	-.302	.95	9	-.145	-.163
.25	10	.063	-.026	.75	10	-.075	-.076	.95	10	.400	-.211
.40	0	6.314		.85	0	19.182					
.40	1	-2.816	3.780	.85	1	2.959	-2.648				
.40	2	1.361	-.814	.85	2	3.720	1.017				
.40	3	-.284	.353	.85	3	1.790	-.447				
.40	4	-.104	-.075	.85	4	.784	.128				
.40	5	-.134	-.084	.85	5	-.410	-.735				
.40	6	-.054	-.073	.85	6	.406	-.077				
.40	7	.005	.005	.85	7	-.228	.406				
.40	8	-.052	.088	.85	8	-.053	-.044				
.40	9	-.071	.004	.85	9	.090	-.137				
.40	10	.028	.020	.85	10	-.171	-.087				
.55	0	9.672		.90	0	19.393					
.55	1	-2.556	3.586	.90	1	4.207	-4.133				
.55	2	2.944	.732	.90	2	2.886	.713				
.55	3	.540	-.437	.90	3	1.459	-.818				
.55	4	-.430	.450	.90	4	1.061	.244				
.55	5	.315	-.098	.90	5	-.645	-.631				
.55	6	.256	-.162	.90	6	.082	-.390				
.55	7	-.013	-.008	.90	7	-.221	.489				
.55	8	.103	.121	.90	8	-.175	.458				
.55	9	.140	-.049	.90	9	.101	-.083				
.55	10	-.121	-.017	.90	10	.226	-.358				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 15 - Concluded

FLIGHT 12, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 92 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-99	941	1229	592	-1853	-3997		
15	-42	1213	1519	1136	-604	-3062		
30	1828	1914	1718	1202	-630	-2694		
45	950	1436	1510	1069	-436	-1748		
60	15	314	334	277	-93	-1579		
75	631	-173	-777	-1297	-2522	-3977		
90	642	-685	-2133	-3272	-4264	-5350		
105	-464	-1881	-2703	-3482	-5320	-7221		
120	-395	-2368	-3670	-4340	-5030	-6415		
135	-1159	-1881	-2775	-4007	-5408	-6853		
150	220	-1617	-2875	-3568	-4784	-7101		
165	-350	-1559	-2152	-2957	-4942	-7868		
180	-270	-1625	-2224	-2900	-4757	-7300		
195	-270	-932	-1483	-2337	-4924	-7201		
210	608	305	-515	-1660	-4326	-6425		
225	916	1436	1067	-38	-2742	-4972		
240	1224	1947	2052	1641	-595	-2385		
255	551	2170	2802	2910	2177	799		
270	49	2054	3083	3893	4580	3794		
285	38	1955	3056	3940	4861	4948		
300	38	2087	2811	3044	3198	3495		
315	163	1172	1510	2194	3004	2620		
330	-1877	1279	2441	2395	655	-1679		
345	1543	1708	696	-305	-1308	-2902		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-6470	-12373	-711	
15	-6812	-12812	-1879	
30	-7024	-12129	777	
45	-2905	-5731	3657	
60	-2172	-3158	8857	
75	2207	-1563	7769	
90	4275	-1693	4841	
105	1165	-4933	5561	
120	2988	-3761	2569	
135	2370	-3940	4969	
150	1019	-1254	7929	
165	2451	798	9529	
180	1784	1368	10521	
195	-1098	-1547	9913	
210	-3003	-5633	6057	
225	-5770	-9833	2345	
240	-8017	-13024	-119	
255	-10361	-13724	-1175	
270	-13194	-13789	-119	
285	-12819	-13626	-167	
300	-11273	-12829	-791	
315	-11257	-11445	2457	
330	-9498	-9068	3465	
345	-8863	-9784	2233	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	972	694	157
15	1113	706	189
30	818	367	138
45	772	409	155
60	1098	635	168
75	885	571	138
90	709	423	111
105	818	402	103
120	484	196	71
135	183	-137	-8
150	-632	-764	-66
165	-627	-790	-70
180	-477	-647	-33
195	-249	-535	-26
210	-346	-745	-34
225	-152	-723	-15
240	-146	-800	8
255	-429	-1012	-19
270	-491	-986	-27
285	-171	-746	20
300	165	-248	67
315	-148	-547	90
330	-5	-28	64
345	141	-121	113

TABLE 16

FLIGHT 13, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 99 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
0	9.60	5.20	3.51	2.45	1.45	.51	.154	10.42	4.53	3.19	2.53	1.67	.56	.190	0
15	8.39	5.32	3.59	2.51	1.44	.60	.081	9.34	4.47	3.19	2.60	1.69	.64	.066	15
30	6.88	4.86	3.50	2.30	1.21	.54	.061	7.80	3.96	2.92	2.43	1.51	.56	.011	30
45	5.07	4.26	3.47	1.96	.91	.44	.020	5.82	3.24	2.43	2.10	1.19	.43	-.062	45
60	3.91	3.67	3.21	1.77	.67	.36	-.018	4.74	2.68	2.11	1.88	1.01	.32	-.121	60
75	3.07	3.46	3.08	1.62	.45	.29	-.037	4.05	2.21	1.90	1.59	.83	.25	-.167	75
90	2.49	3.25	2.90	1.14	.32	.26	-.045	3.54	1.98	1.68	1.54	.73	.21	-.192	90
105	2.60	3.18	3.01	1.38	.40	.28	-.028	3.99	2.30	1.90	1.72	.82	.28	-.187	105
120	2.01	2.63	2.56	1.38	.34	.29	-.010	3.72	2.16	1.81	1.67	.81	.30	-.159	120
135	2.07	2.49	2.40	1.36	.37	.31	-.006	3.72	2.11	1.66	1.57	.79	.32	-.139	135
150	2.49	2.64	2.34	1.34	.48	.35	.028	3.96	2.19	1.64	1.48	.84	.34	-.088	150
165	3.28	2.98	2.43	1.48	.67	.43	.067	4.81	2.61	1.92	1.69	.96	.43	-.002	165
180	4.22	3.37	2.60	1.70	.91	.51	.097	5.84	3.06	2.25	1.85	1.19	.52	.046	180
195	4.97	3.60	2.66	1.79	1.03	.57	.118	6.32	3.22	2.31	1.86	1.23	.55	.064	195
210	5.16	3.52	2.53	1.74	1.05	.56	.124	6.28	3.15	2.22	1.74	1.20	.55	.077	210
225	5.33	3.51	2.43	1.73	1.05	.57	.128	6.30	3.13	2.16	1.69	1.20	.54	.094	225
240	5.64	3.55	2.45	1.77	1.12	.57	.142	7.01	3.17	2.16	1.69	1.21	.54	.110	240
255	5.91	3.60	2.48	1.80	1.16	.56	.152	7.01	3.22	2.17	1.70	1.23	.54	.125	255
270	6.12	3.67	2.48	1.81	1.17	.56	.146	6.58	3.22	2.16	1.69	1.21	.53	.119	270
285	6.44	3.82	2.54	1.85	1.22	.55	.148	6.60	3.16	2.14	1.66	1.22	.52	.134	285
300	6.43	3.84	2.52	1.81	1.18	.49	.134	6.04	3.00	1.95	1.54	1.07	.43	.130	300
315	7.48	4.19	2.73	2.00	1.25	.52	.148	8.26	3.47	2.36	1.86	1.29	.56	.113	315
330	9.43	4.78	3.06	2.23	1.42	.61	.194	9.54	4.08	2.77	2.16	1.51	.63	.167	330
345	9.94	4.95	3.28	2.30	1.38	.54	.202	10.38	4.35	3.01	2.33	1.55	.60	.243	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
0	10.62	6.36	4.46	3.46	2.77	2.50	1.62	.87	.68	.36	.199	0
15	9.99	6.32	4.46	3.41	2.75	2.48	1.62	.81	.66	.32	.125	15
30	9.02	5.99	4.17	3.15	2.58	2.27	1.48	.71	.56	.25	.075	30
45	6.62	4.93	3.42	2.52	2.21	1.88	1.21	.51	.41	.16	.022	45
60	5.32	4.05	2.97	2.38	1.88	1.62	.95	.33	.31	.08	-.032	60
75	4.51	3.35	2.55	2.01	1.50	1.34	.79	.15	.21	.02	-.060	75
90	3.93	2.88	2.34	1.78	1.37	1.16	.66	.06	.16	.00	-.076	90
105	3.86	2.85	2.32	1.78	1.47	1.16	.72	.11	.19	.03	-.066	105
120	4.84	3.63	2.91	2.06	1.81	1.43	.90	.23	.28	.09	-.044	120
135	4.58	3.37	2.68	1.89	1.61	1.34	.90	.25	.32	.13	-.009	135
150	4.77	3.38	2.66	1.91	1.64	1.33	.91	.29	.38	.17	.001	150
165	5.37	3.94	2.95	2.17	1.82	1.52	1.05	.41	.49	.27	.032	165
180	6.37	4.56	3.30	2.50	2.13	1.79	1.22	.54	.59	.34	.065	180
195	6.82	4.79	3.46	2.61	2.11	1.87	1.27	.59	.61	.35	.077	195
210	6.73	4.50	3.21	2.50	2.02	1.80	1.21	.57	.58	.34	.084	210
225	6.63	4.35	3.12	2.41	1.91	1.76	1.17	.58	.57	.33	.084	225
240	6.75	4.39	3.07	2.40	1.89	1.74	1.14	.59	.56	.31	.087	240
255	6.43	4.25	2.99	2.40	1.88	1.73	1.12	.61	.53	.29	.098	255
270	6.02	4.14	2.91	2.27	1.80	1.68	1.07	.58	.48	.26	.100	270
285	5.77	3.95	2.72	2.17	1.68	1.61	1.01	.55	.46	.25	.123	285
300	5.59	3.67	2.56	1.98	1.54	1.49	.89	.47	.38	.21	.104	300
315	6.62	4.33	2.99	2.34	1.84	1.74	1.10	.62	.48	.26	.115	315
330	8.76	5.17	3.57	2.84	2.33	2.09	1.34	.76	.59	.32	.139	330
345	9.66	5.99	4.06	3.24	2.64	2.32	1.51	.82	.66	.36	.178	345

TABLE 16 - Continued

FLIGHT 13, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 99 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.40	3.47	2.58	1.94	1.47	.60	.114	2.68	1.25	.95	.78	.61	.34	.075	0
15	7.13	3.56	2.67	2.02	1.48	.59	.103	2.97	1.39	1.03	.85	.66	.36	.086	15
30	7.03	3.43	2.62	1.97	1.39	.54	.086	3.25	1.52	1.11	.92	.71	.38	.097	30
45	6.36	2.95	2.35	1.78	1.21	.44	.062	3.06	1.48	1.05	.87	.67	.35	.106	45
60	5.49	2.55	2.13	1.64	1.03	.36	.050	2.74	1.30	.93	.75	.61	.33	.110	60
75	4.51	2.08	1.86	1.49	.87	.28	.005	2.35	1.09	.84	.62	.53	.30	.108	75
90	3.68	1.75	1.57	1.34	.73	.24	.044	2.28	1.09	.88	.59	.51	.30	.110	90
105	3.39	1.91	1.64	1.38	.75	.26	.058	2.62	1.31	1.03	.70	.61	.34	.130	105
120	3.69	2.36	1.84	1.53	.96	.33	.081	3.32	1.73	1.19	.94	.76	.41	.147	120
135	4.34	3.00	2.25	1.77	1.16	.41	.114	3.75	1.92	1.35	1.09	.88	.44	.152	135
150	4.83	3.07	2.40	1.75	1.21	.45	.143	3.85	1.88	1.39	1.12	.89	.44	.153	150
165	5.11	3.07	2.40	1.77	1.24	.50	.148	3.79	1.88	1.39	1.14	.90	.45	.135	165
180	5.52	3.03	2.50	1.84	1.31	.55	.162	3.51	1.79	1.38	1.16	.94	.45	.101	180
195	5.89	3.13	2.46	1.80	1.31	.54	.153	4.45	2.32	1.68	1.35	1.03	.44	.122	195
210	5.89	2.95	2.27	1.66	1.25	.50	.148	3.18	1.98	1.49	1.18	.88	.39	.102	210
225	5.52	2.76	2.10	1.53	1.16	.48	.134	2.24	1.21	1.09	1.03	.81	.33	.086	225
240	5.11	2.63	1.98	1.44	1.10	.45	.120	1.54	.77	.77	.68	.57	.27	.077	240
255	4.73	2.46	1.83	1.33	1.03	.40	.117	.80	.39	.46	.45	.34	.19	.067	255
270	4.42	2.27	1.69	1.21	.94	.36	.112	.45	.14	.24	.22	.17	.10	.000	270
285	4.09	1.97	1.48	1.05	.80	.30	.110	.60	.11	.20	.18	.12	.06	-.012	285
300	3.75	1.75	1.34	.97	.74	.27	.067	.70	.20	.26	.22	.15	.07	-.002	300
315	3.78	2.08	1.58	1.17	.92	.37	.086	1.01	.35	.37	.31	.23	.13	.005	315
330	4.42	2.57	1.90	1.43	1.12	.45	.108	1.51	.63	.54	.45	.34	.18	.025	330
345	5.33	3.10	2.27	1.70	1.31	.53	.110	2.14	.95	.74	.62	.46	.25	.049	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	.51	.31	.21	.20	.091	.04	.03	.02	.04	.000	0
15	.85	.40	.30	.22	.103	.00	.02	.01	.03	-.007	15
30	1.20	.52	.39	.25	.105	.29	.16	.09	.06	.001	30
45	1.30	.57	.41	.25	.116	.49	.25	.13	.08	.007	45
60	1.32	.58	.42	.25	.119	.47	.23	.13	.08	.011	60
75	1.21	.60	.39	.25	.116	.49	.26	.13	.07	.012	75
90	1.25	.64	.42	.27	.127	.57	.30	.17	.09	.020	90
105	1.57	.80	.53	.33	.147	.84	.46	.25	.13	.037	105
120	2.01	.96	.67	.41	.163	1.17	.62	.37	.18	.053	120
135	2.40	1.13	.79	.45	.174	1.44	.75	.44	.21	.062	135
150	2.60	1.24	.84	.46	.165	1.63	.83	.50	.23	.064	150
165	2.35	1.23	.81	.46	.159	1.74	.92	.57	.27	.073	165
180	2.20	1.11	.74	.42	.144	1.49	.77	.48	.24	.062	180
195	1.80	.90	.59	.34	.116	.99	.51	.32	.16	.044	195
210	1.24	.63	.41	.25	.086	.44	.30	.13	.06	.017	210
225	.75	.40	.26	.18	.061	.24	.19	.02	.01	-.001	225
240	.41	.24	.16	.16	.046	.02	.01	-.02	-.01	-.023	240
255	.15	.12	.08	.12	.058	.01	-.03	-.04	-.03	-.047	255
270	.07	.07	.05	.09	.054	-.01	-.03	-.05	-.05	-.124	270
285	.04	.06	.04	.09	.037	-.01	-.03	-.04	-.05	-.112	285
300	.05	.08	.06	.10	.056	-.01	-.02	-.03	-.05	-.066	300
315	.13	.12	.10	.13	.064	.00	.00	-.02	-.02	-.033	315
330	.29	.19	.15	.15	.076	-.12	-.11	-.02	.01	-.014	330
345	.42	.25	.19	.18	.082	-.01	.01	.01	.04	-.004	345

TABLE 16 - Continued

FLIGHT 13, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 99 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	.38	3.58	9.61	22.84	29.13	29.13	28.66
15	.24	4.78	10.53	23.60	28.26	28.41	28.29
30	1.43	6.05	11.33	22.61	25.59	24.88	25.14
45	2.21	6.46	10.78	19.74	20.15	19.51	21.02
60	2.10	6.54	9.78	17.10	16.37	16.00	17.54
75	2.16	6.26	8.53	14.14	13.30	13.21	15.16
90	2.62	6.62	8.48	12.02	11.54	11.59	13.26
105	3.92	8.24	9.91	12.43	11.98	13.45	13.99
120	5.54	10.26	12.33	14.78	15.31	13.10	12.10
135	6.63	11.92	13.80	18.08	14.83	12.87	11.96
150	7.44	12.63	13.98	19.19	15.34	13.49	13.10
165	8.24	12.08	13.91	19.82	17.74	16.42	15.58
180	7.06	11.06	13.61	20.78	20.81	19.71	18.50
195	4.68	8.98	15.91	20.98	21.66	20.74	20.30
210	2.14	6.35	13.32	19.99	20.75	20.35	20.15
225	.84	4.08	10.29	18.68	20.20	20.23	20.20
240	-.17	2.75	7.34	17.54	20.01	20.90	20.80
255	-.56	1.61	4.49	16.26	19.49	21.08	21.25
270	-.99	1.08	2.14	14.94	18.51	20.62	21.53
285	-.90	.96	1.69	13.08	17.64	20.52	22.19
300	-.66	1.21	2.17	11.74	16.06	18.54	21.63
315	-.32	1.73	3.43	13.93	19.32	22.95	23.78
330	-.40	2.47	5.19	16.88	24.05	26.82	27.77
345	.26	3.13	7.34	20.06	27.01	28.45	28.27

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.505		0	3.590				
1	2.833	-7.191	1	.000	-.407			
2	-.009	.114	2	-.182	-.296			
3	.000	.091	3	.061	-.128			
4	.032	.005	4	.020	.014			
5	-.054	.032	5	.002	.004			
6	.064	.041	6	.002	.014			
7	.023	.032	7	-.010	.010			
8	.009	.023	8	.004	.016			
9	.000	-.027	9	.012	.010			
10	.009	.000	10	-.004	.004			

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom}\right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom}\right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom}\right)$$

TABLE 16 - Continued

FLIGHT 13, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 99 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.246		.75	0	17.550		.95	0	20.090	
.25	1	-2.711	2.383	.75	1	.065	.285	.95	1	4.981	-3.916
.25	2	1.277	-.943	.75	2	4.179	1.991	.95	2	3.050	1.316
.25	3	-.507	.547	.75	3	.900	1.263	.95	3	.672	-.200
.25	4	.002	-.194	.75	4	.033	-.128	.95	4	.699	.312
.25	5	-.211	-.056	.75	5	.131	-.402	.95	5	-.439	-.209
.25	6	.168	-.145	.75	6	-.071	.266	.95	6	-.144	-.041
.25	7	.004	-.029	.75	7	-.122	.050	.95	7	-.181	.131
.25	8	.059	-.118	.75	8	.077	.100	.95	8	-.227	.338
.25	9	.051	-.040	.75	9	.025	-.043	.95	9	-.025	.034
.25	10	.007	-.019	.75	10	.056	-.123	.95	10	.185	.013
.40	0	5.868		.85	0	19.376					
.40	1	-3.173	3.603	.85	1	3.078	-2.336				
.40	2	1.718	-.729	.85	2	4.735	1.728				
.40	3	-.345	.678	.85	3	1.640	.532				
.40	4	-.246	-.046	.85	4	.606	.284				
.40	5	-.123	-.154	.85	5	-.366	-.628				
.40	6	.016	.027	.85	6	.159	.178				
.40	7	-.053	-.046	.85	7	-.443	.223				
.40	8	-.051	.029	.85	8	-.067	.004				
.40	9	-.025	-.041	.85	9	.228	.015				
.40	10	.001	-.024	.85	10	.079	.002				
.55	0	9.162		.90	0	19.705					
.55	1	-3.068	3.373	.90	1	4.216	-3.799				
.55	2	3.223	1.180	.90	2	3.951	1.252				
.55	3	.435	.026	.90	3	1.397	.007				
.55	4	-.503	.479	.90	4	.800	.261				
.55	5	.111	-.378	.90	5	-.672	-.409				
.55	6	.034	.229	.90	6	-.030	.056				
.55	7	.136	-.182	.90	7	-.290	.335				
.55	8	-.145	.064	.90	8	-.130	.311				
.55	9	.186	-.050	.90	9	.084	-.033				
.55	10	-.106	.012	.90	10	.235	-.216				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 16 - Concluded

FLIGHT 13, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 99 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	718	1576	1564	816	-1601	-3751		
15	729	1931	2224	1980	-211	-3094		
30	1755	2409	2604	2200	352	-1452		
45	1345	1832	2152	1894	432	-825		
60	672	718	786	731	326	-975		
75	524	25	-515	-1034	-2173	-3353		
90	535	-726	-2007	-2895	-4074	-5213		
105	-411	-1691	-2775	-3696	-5051	-6547		
120	-799	-2310	-3453	-4211	-4945	-6069		
135	-1049	-2021	-2884	-3725	-5104	-6507		
150	170	-1469	-2495	-3238	-4426	-6875		
165	-172	-1419	-1844	-2627	-4505	-7651		
180	-263	-1535	-2007	-2570	-4743	-7193		
195	-35	-833	-1564	-2503	-4787	-6845		
210	923	388	-515	-1740	-4127	-6377		
225	1151	1477	1130	25	-2543	-4835		
240	1356	2021	2287	2028	-26	-1900		
255	889	2401	3019	3325	2799	1583		
270	227	2417	3697	4518	5008	4100		
285	364	2549	3743	4604	5245	5244		
300	501	2368	3218	3669	3916	3980		
315	-12	1353	1862	2209	2737	2627		
330	-1243	644	1474	1780	1144	-407		
345	535	1238	1058	540	-924	-2587		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-7723	-13871	-1517	
15	-7543	-14033	-3277	
30	-7039	-12764	-381	
45	-3441	-6219	4627	
60	-1194	-1758	8899	
75	1801	-1319	9347	
90	4390	-1661	4499	
105	2208	-5486	3907	
120	2111	-4868	2915	
135	2615	-3321	4803	
150	1948	-1449	8163	
165	2876	977	9555	
180	2778	1091	10499	
195	1004	-667	9587	
210	-1015	-4379	6899	
225	-4043	-8563	3443	
240	-6909	-12422	643	
255	-9790	-14082	-1917	
270	-12753	-15678	-1325	
285	-12981	-14033	-429	
300	-10620	-11347	275	
315	-9432	-9931	3267	
330	-7169	-7993	3363	
345	-6876	-9784	1587	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	663	378	126
15	1292	848	208
30	1181	703	191
45	867	454	159
60	967	592	161
75	1043	615	153
90	773	539	110
105	651	291	79
120	467	163	46
135	200	-93	1
150	-431	-657	-54
165	-703	-867	-72
180	-440	-680	-43
195	-286	-551	-23
210	-319	-726	-40
225	-470	-915	-44
240	-156	-818	-9
255	74	-727	41
270	42	-781	37
285	-155	-834	27
300	-143	-615	58
315	213	-313	105
330	144	-104	100
345	78	-97	72

TABLE 17

FLIGHT 14, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 104 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	9.00	5.34	3.77	2.58	1.53	.61	.097	10.58	4.63	3.37	2.78	2.01	.73	.107	6
21	7.58	5.26	3.90	2.45	1.33	.57	.071	9.01	4.43	3.26	2.73	1.89	.68	.042	21
36	5.97	5.02	3.92	2.21	.99	.43	.023	7.22	3.93	2.87	2.50	1.66	.51	-.038	36
51	4.27	4.50	3.80	1.98	.69	.34	-.006	5.55	3.18	2.48	2.27	1.43	.36	-.103	51
66	3.39	3.98	3.74	1.94	.47	.25	-.035	4.53	2.53	2.21	2.13	1.26	.25	-.169	66
81	2.71	3.53	3.72	1.88	.27	.18	-.040	3.74	1.85	1.98	1.92	1.01	.18	-.230	81
96	2.59	3.47	3.82	1.92	.25	.16	-.038	3.15	1.55	1.79	1.79	.91	.15	-.239	96
111	1.96	3.10	3.07	1.68	.26	.21	-.015	3.51	1.85	1.99	1.87	.98	.23	-.232	111
126	1.83	2.64	2.96	1.39	.29	.24	-.011	3.25	1.78	1.90	1.73	.97	.28	-.173	126
141	2.15	2.72	2.46	1.35	.40	.30	.015	3.57	2.00	1.89	1.62	1.00	.31	-.126	141
156	2.74	2.89	2.46	1.44	.57	.38	.065	4.18	2.32	2.05	1.70	1.12	.40	-.073	156
171	3.80	3.36	2.73	1.64	.81	.48	.093	5.29	2.92	2.38	1.91	1.32	.52	.040	171
186	4.52	3.53	2.71	1.72	.97	.51	.103	6.01	3.17	2.45	1.98	1.45	.54	.061	186
201	5.01	3.49	2.67	1.74	1.04	.52	.117	6.32	3.26	2.49	1.88	1.40	.56	.082	201
216	5.17	3.37	2.51	1.68	1.04	.53	.121	6.34	3.24	2.41	1.80	1.39	.55	.094	216
231	5.48	3.37	2.42	1.68	1.09	.52	.132	6.52	3.28	2.34	1.76	1.37	.54	.122	231
246	5.65	3.39	2.41	1.69	1.12	.53	.136	7.38	3.36	2.32	1.77	1.38	.57	.139	246
261	6.20	3.49	2.45	1.74	1.16	.53	.141	7.79	3.37	2.32	1.79	1.40	.58	.136	261
276	6.99	3.67	2.51	1.78	1.21	.53	.147	7.14	3.34	2.32	1.78	1.40	.58	.139	276
291	7.84	3.79	2.57	2.01	1.24	.50	.143	7.22	3.32	2.30	1.76	1.40	.55	.148	291
306	7.21	3.73	2.54	1.79	1.19	.46	.126	7.07	3.24	2.21	1.72	1.34	.55	.115	306
321	8.64	4.31	2.96	2.09	1.37	.58	.141	9.08	3.72	2.58	2.02	1.57	.63	.140	321
336	9.84	4.82	3.33	2.35	1.50	.60	.162	10.38	4.32	3.00	2.37	1.80	.70	.176	336
351	10.22	5.11	3.58	2.54	1.56	.60	.141	10.79	4.74	3.30	2.65	1.97	.73	.157	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.85										
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	10.85	7.84	5.01	3.85	3.24	2.72	1.83	.99	.82	.41	.185	6
21	9.73	7.05	4.88	3.69	3.16	2.61	1.72	.88	.75	.35	.166	21
36	7.97	5.97	4.32	3.24	2.81	2.28	1.50	.66	.57	.25	.085	36
51	6.09	4.82	3.73	2.68	2.38	1.91	1.22	.45	.44	.15	-.001	51
66	5.05	4.01	3.30	2.53	2.13	1.61	1.05	.30	.33	.07	-.043	66
81	4.21	3.24	2.88	2.20	1.84	1.32	.85	.15	.23	.01	-.093	81
96	3.89	2.95	2.64	1.79	1.71	1.21	.76	.10	.22	.01	-.097	96
111	4.55	3.44	3.00	2.12	1.83	1.36	.87	.16	.28	.07	-.082	111
126	4.69	3.62	3.15	2.26	1.98	1.47	1.01	.25	.36	.14	-.048	126
141	4.93	3.71	3.10	2.26	2.01	1.45	1.04	.32	.43	.18	-.012	141
156	5.64	4.25	3.40	2.47	2.20	1.64	1.18	.45	.55	.29	.033	156
171	6.53	4.87	3.74	2.77	2.39	1.88	1.33	.59	.66	.37	.063	171
186	7.26	5.18	3.88	2.92	2.52	2.01	1.43	.69	.73	.42	.111	186
201	7.32	5.11	3.75	2.85	2.44	1.98	1.40	.71	.74	.43	.126	201
216	7.23	4.88	3.60	2.76	2.33	1.94	1.36	.71	.72	.41	.127	216
231	7.34	4.84	3.52	2.71	2.27	1.93	1.34	.73	.70	.40	.142	231
246	7.40	4.79	3.49	2.69	2.26	1.91	1.30	.74	.67	.38	.149	246
261	6.65	4.71	3.38	2.63	2.17	1.89	1.26	.72	.62	.36	.155	261
276	6.46	4.61	3.28	2.57	2.10	1.88	1.22	.71	.61	.34	.166	276
291	6.28	4.29	3.08	2.37	1.95	1.74	1.10	.64	.54	.30	.168	291
306	7.01	4.46	3.22	2.49	2.03	1.80	1.15	.66	.57	.30	.155	306
321	8.64	5.29	3.76	2.94	2.41	2.10	1.37	.79	.68	.37	.174	321
336	9.99	6.05	4.36	3.40	2.82	2.41	1.58	.92	.76	.40	.194	336
351	11.08	7.13	4.84	3.79	3.17	2.70	1.80	1.02	.83	.43	.207	351

TABLE 17 - Continued

FLIGHT 14, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 104 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	6.48	3.46	2.43	1.93	1.40	.53	-.026	3.20	1.34	.97	.92	.76	.26	.150	6
21	6.88	3.46	2.46	1.93	1.34	.50	-.048	3.67	1.57	1.12	1.03	.83	.28	.165	21
36	6.54	3.24	2.37	1.86	1.24	.42	-.069	3.58	1.55	1.10	1.01	.83	.28	.173	36
51	6.00	2.91	2.32	1.86	1.12	.42	.017	3.14	1.49	1.03	.89	.69	.40	.085	51
66	5.08	2.50	2.13	1.69	.95	.34	-.045	2.69	1.26	.87	.76	.62	.35	.090	66
81	4.16	2.10	1.89	1.47	.74	.24	-.033	2.33	1.08	.79	.65	.54	.32	.087	81
96	3.31	1.78	1.74	1.34	.62	.21	-.002	2.40	1.16	.82	.68	.56	.33	.095	96
111	3.10	1.90	1.87	1.44	.69	.24	.020	3.03	1.49	1.05	.89	.70	.40	.117	111
126	3.51	2.26	2.11	1.65	.95	.35	.065	3.86	1.91	1.35	1.13	.88	.48	.132	126
141	4.36	2.84	2.48	1.93	1.19	.43	.101	4.24	2.08	1.48	1.24	.97	.51	.149	141
156	4.76	2.88	2.47	1.90	1.23	.48	.125	4.43	2.13	1.55	1.29	1.02	.52	.127	156
171	5.24	3.11	2.54	1.97	1.31	.53	.119	4.34	2.13	1.54	1.29	1.02	.52	.120	171
186	5.43	3.16	2.40	1.81	1.22	.46	.022	5.13	2.33	1.66	1.46	1.20	.41	.186	186
201	5.55	3.01	2.22	1.65	1.17	.44	.012	4.77	2.19	1.56	1.37	1.10	.36	.177	201
216	5.46	2.80	2.01	1.51	1.10	.41	.003	3.88	1.70	1.24	1.13	.91	.27	.148	216
231	5.29	2.64	1.86	1.39	1.04	.39	-.012	3.03	1.28	.96	.91	.73	.18	.117	231
246	4.70	2.49	1.72	1.28	.96	.35	-.028	2.23	.87	.72	.71	.58	.11	.102	246
261	4.30	2.32	1.56	1.15	.87	.31	-.040	1.46	.46	.44	.52	.44	.04	.078	261
276	4.03	2.11	1.42	1.04	.79	.27	-.050	1.05	.27	.23	.29	.27	.02	.071	276
291	3.71	1.76	1.17	.85	.66	.20	-.083	.92	.21	.23	.30	.27	.00	.066	291
306	3.43	1.73	1.18	.89	.69	.24	-.074	1.05	.30	.28	.36	.33	.02	.071	306
321	3.75	2.08	1.43	1.10	.85	.32	-.059	1.43	.46	.40	.45	.39	.08	.082	321
336	4.54	2.60	1.78	1.40	1.06	.40	-.042	2.00	.75	.58	.60	.51	.13	.102	336
351	5.51	3.12	2.16	1.70	1.26	.49	-.031	2.69	1.09	.82	.79	.66	.22	.132	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	.65	.23	.32	.10	-.039	.07	.00	.00	.02	-.004	6
21	.93	.44	.42	.14	-.026	.18	.05	.03	.05	.009	21
36	1.07	.50	.50	.17	-.015	.45	.18	.12	.06	.009	36
51	1.20	.60	.39	.30	.106	.52	.24	.14	.08	.036	51
66	1.25	.59	.38	.30	.104	.52	.24	.14	.07	.041	66
81	1.07	.55	.35	.29	.099	.54	.24	.16	.08	.044	81
96	1.19	.61	.41	.33	.120	.71	.35	.23	.10	.055	96
111	1.54	.80	.53	.41	.139	1.06	.55	.32	.16	.075	111
126	2.00	1.08	.68	.49	.159	1.41	.73	.45	.20	.096	126
141	2.51	1.31	.83	.55	.167	1.71	.87	.53	.23	.106	141
156	2.52	1.38	.85	.56	.158	1.91	.98	.61	.26	.110	156
171	2.43	1.32	.81	.53	.146	1.91	.98	.62	.28	.116	171
186	2.19	1.12	.81	.37	.031	1.50	.74	.46	.21	.066	186
201	1.76	.83	.64	.25	-.023	.88	.41	.26	.11	.029	201
216	1.33	.54	.46	.14	-.057	.37	.19	.07	.02	.003	216
231	.89	.30	.31	.06	-.095	.19	.03	-.03	-.03	-.025	231
246	.59	.13	.20	.01	-.103	.09	-.05	-.06	-.04	-.043	246
261	.43	.05	.16	.00	-.099	.06	-.05	-.08	-.08	-.128	261
276	.37	.02	.15	-.01	-.097	.06	-.05	-.07	-.08	-.148	276
291	.36	.01	.15	-.01	-.086	.07	-.05	-.06	-.09	-.108	291
306	.38	.02	.16	.01	-.081	.07	-.03	-.05	-.06	-.050	306
321	.42	.06	.20	.03	-.068	.01	-.05	-.03	-.03	-.018	321
336	.49	.12	.23	.06	-.061	.05	-.04	-.02	.03	.000	336
351	.58	.18	.27	.09	-.051	.05	.00	.00	.03	.004	351

TABLE 17 - Continued

FLIGHT 14, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 104 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	.20	3.05	10.61	21.56	32.27	31.61	29.50
21	.78	4.49	11.93	21.44	30.23	29.11	27.42
36	1.84	5.30	11.80	19.86	25.51	24.50	23.73
51	2.35	6.50	11.16	18.87	20.54	19.74	19.82
66	2.31	6.52	9.68	16.03	17.35	16.24	17.10
81	2.46	5.96	8.55	13.16	14.19	12.91	14.81
96	3.37	6.78	8.91	11.33	12.97	11.18	14.68
111	5.00	8.65	11.17	12.09	14.96	12.80	12.89
126	6.67	10.92	14.06	15.02	16.61	12.76	12.13
141	7.90	13.07	15.32	18.45	17.30	13.67	12.56
156	8.89	13.33	15.82	19.27	19.93	15.86	14.45
171	9.06	12.75	15.73	20.56	22.69	19.81	17.79
186	6.78	10.63	17.07	19.44	24.53	21.44	19.35
201	3.80	7.92	15.78	18.67	24.28	21.77	19.93
216	1.27	5.35	12.65	17.49	23.60	21.51	19.70
231	-.01	3.10	9.73	16.51	23.35	21.59	19.95
246	-.57	1.58	7.17	15.05	23.03	22.54	20.26
261	-1.19	.98	4.63	13.69	21.82	22.94	21.05
276	-1.25	.76	2.94	12.36	21.30	22.46	22.17
291	-1.09	.82	2.59	10.29	19.82	22.33	23.13
306	-.68	.99	3.25	10.43	21.00	21.61	21.92
321	-.38	1.44	4.57	12.67	25.03	25.79	25.81
336	.09	1.98	6.46	15.85	28.80	29.57	28.67
351	.29	2.57	8.93	19.18	32.06	31.73	29.99

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	16.264		0	3.998		0	8.197	
1	1.615	-6.868	1	-.151	-.371	1	-.358	.138
2	-.055	.114	2	-.290	-.216	2	-.008	.031
3	-.012	.105	3	-.033	-.245	3	.036	-.036
4	.015	-.035	4	.024	-.033	4	.000	-.039
5	-.035	.020	5	-.020	-.020	5	.008	-.024
6	.020	.003	6	-.008	.000	6	.023	.024
7	.006	.038	7	.020	.024	7	.023	.015
8	-.009	.003	8	.016	-.016	8	-.030	-.001
9	-.029	-.018	9	.000	.012	9	-.019	.003
10	-.023	-.023	10	-.004	.020	10	.018	-.014

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 17 - Continued

FLIGHT 14, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 104 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.412		.75	0	16.219		.95	0	20.366	
.25	1	-2.680	3.049	.75	1	-.190	1.229	.95	1	4.883	-4.199
.25	2	1.218	-1.470	.75	2	4.318	1.125	.95	2	3.309	.353
.25	3	-.379	.789	.75	3	.897	1.217	.95	3	.445	-.319
.25	4	-.094	-.271	.75	4	-.149	-.542	.95	4	1.009	-.236
.25	5	-.241	.083	.75	5	.145	-.364	.95	5	-.221	-.060
.25	6	.041	-.186	.75	6	.113	.048	.95	6	-.261	-.166
.25	7	-.041	.009	.75	7	.058	.129	.95	7	-.167	.169
.25	8	-.042	-.038	.75	8	.180	-.051	.95	8	.113	.198
.25	9	.026	-.004	.75	9	.057	.081	.95	9	.143	.130
.25	10	-.045	-.010	.75	10	-.102	-.011	.95	10	-.049	-.167
.40	0	5.643		.85	0	22.216					
.40	1	-3.306	4.108	.85	1	2.832	-3.411				
.40	2	1.576	-1.247	.85	2	5.480	.398				
.40	3	-.365	.969	.85	3	1.528	.028				
.40	4	-.319	-.090	.85	4	.581	-.280				
.40	5	-.056	-.167	.85	5	-.371	-.181				
.40	6	.015	-.046	.85	6	.223	-.048				
.40	7	.021	.036	.85	7	-.006	.333				
.40	8	.023	.034	.85	8	-.053	.067				
.40	9	-.067	.089	.85	9	-.024	-.200				
.40	10	-.057	-.025	.85	10	-.072	-.057				
.55	0	10.022		.90	0	21.061					
.55	1	-3.128	3.601	.90	1	4.304	-4.976				
.55	2	3.679	.311	.90	2	4.649	.517				
.55	3	.352	.367	.90	3	1.196	.106				
.55	4	-.170	.451	.90	4	.860	-.375				
.55	5	-.202	-.319	.90	5	-.482	-.261				
.55	6	.272	.123	.90	6	.092	-.151				
.55	7	-.091	-.102	.90	7	-.019	.327				
.55	8	.017	.072	.90	8	-.127	.176				
.55	9	-.045	-.057	.90	9	.076	.013				
.55	10	.008	.063	.90	10	.110	-.201				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 17 - Concluded

FLIGHT 14, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 104 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	1836	2219	3028	2112	138	-3049	-6266	-6256
21	2474	3193	3869	2789	1159	-1597	-5826	-6278
36	3295	3333	4032	3199	1617	-1010	-3243	-3723
51	2588	2533	2992	2093	1722	-64	-2045	-3022
66	1836	1304	1754	900	103	-1567	-2395	-2789
81	1813	404	199	-1141	-2194	-4213	-4142	-3066
96	1767	-231	-967	-2610	-3971	-6154	-5612	-3708
111	844	-1064	-1672	-3202	-4429	-6592	-5722	-3723
126	228	-1518	-1889	-3173	-3778	-5955	-6203	-3482
141	399	-965	-1229	-2668	-3602	-6194	-6286	-3365
156	1585	-553	-859	-2258	-3540	-6870	-6830	-3979
171	889	-701	-353	-1695	-3751	-7228	-7186	-4555
186	844	-635	-597	-1943	-3954	-6731	-7071	-4906
201	1391	149	-127	-1828	-4059	-6621	-6292	-4329
216	1938	1196	913	-903	-2871	-5537	-6579	-4643
231	2246	2261	2640	1282	-689	-3656	-5549	-4373
246	2759	3061	3770	3018	1784	-343	-2568	-3314
261	2086	3358	4547	4401	4195	3020	513	-2314
276	1505	3176	4827	5107	5735	4851	1611	-2227
291	1938	3292	4583	4640	4547	4523	2097	-2161
306	1847	2995	3941	3466	3350	2582	1475	-1862
321	1300	1865	2649	2341	2444	801	-2552	-4446
336	274	1427	2459	1683	508	-1816	-4749	-5570
351	2064	1749	1935	757	-337	-2621	-5753	-6278

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-6243	-10501	-2514	12545
21	-6976	-10940	-2082	12462
36	-5543	-7179	1950	13743
51	-1701	-537	7310	15006
66	529	2686	10590	16278
81	3769	2475	8174	14567
96	4860	195	3918	13139
111	1929	-2719	3390	13826
126	1718	-1742	3230	13286
141	1718	-260	5454	14603
156	1164	2100	8590	15848
171	1832	3923	10142	16379
186	1294	3516	10590	16653
201	-122	1433	8910	16031
216	-2141	-2312	6206	15582
231	-5315	-6333	3374	14850
246	-7301	-9442	446	13935
261	-11388	-11168	-146	13963
276	-13488	-11689	734	14713
291	-10785	-8970	814	13798
306	-9174	-6642	2990	14796
321	-7383	-4526	4750	15088
336	-5315	-4282	3518	14393
351	-5869	-7847	910	13935

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	795	889	170
21	1081	1038	223
36	875	885	182
51	802	827	181
66	1000	1018	191
81	914	1072	163
96	639	865	122
111	336	498	79
126	105	345	27
141	-318	-64	-24
156	-768	-492	-50
171	-790	-430	-54
186	-725	-397	-44
201	-646	-465	-39
216	-538	-573	-36
231	-292	-541	2
246	-49	-453	43
261	120	-428	66
276	-26	-503	66
291	-128	-333	74
306	-227	-314	92
321	-167	-117	98
336	-156	129	82
351	99	338	96

TABLE 18

FLIGHT 15, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 105 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	Δp, lb/sq in., at - r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
0	9.99	5.44	3.17	2.41	1.42	.65	.210	9.73	5.13	3.34	2.74	1.85	.70	.309	0
15	9.93	5.36	3.37	2.51	1.32	.49	.111	10.40	4.98	3.44	2.74	1.73	.49	.207	15
30	8.41	6.84	3.60	2.73	1.39	.58	.049	9.54	5.10	3.65	3.14	1.91	.63	.040	30
45	6.21	5.24	3.73	2.31	1.01	.47	.010	7.13	4.05	3.22	2.78	1.60	.53	-.038	45
60	3.78	4.36	3.05	1.74	.54	.32	-.057	4.63	2.89	2.38	2.14	1.11	.28	-.141	60
75	2.10	3.19	2.49	1.31	.18	.25	-.071	2.51	1.47	1.61	1.53	.72	.16	-.207	75
90	1.02	2.52	2.10	1.05	-.12	.18	-.081	1.26	.76	1.10	1.18	.50	.09	-.240	90
105	.67	2.10	1.92	.85	-.17	.21	-.041	1.04	.56	.92	1.06	.44	.13	-.215	105
120	1.16	2.42	2.33	1.06	.07	.28	-.020	1.81	1.23	1.43	1.48	.66	.24	-.184	120
135	1.36	2.35	2.09	1.08	.14	.29	-.026	2.15	1.48	1.51	1.43	.66	.27	-.155	135
150	1.81	2.50	1.88	1.19	.32	.38	.026	2.64	1.71	1.48	1.28	.83	.34	-.088	150
165	3.16	3.22	2.31	1.58	.68	.53	.081	4.10	2.58	2.08	1.94	1.19	.53	.065	165
180	5.34	4.34	2.97	2.16	1.15	.70	.141	6.36	3.71	2.90	2.49	1.64	.70	.108	180
195	5.99	4.34	2.79	2.09	1.17	.69	.129	7.16	3.94	2.93	2.36	1.62	.67	.105	195
210	5.23	3.70	2.27	1.74	.97	.58	.111	6.53	3.41	2.49	1.99	1.40	.56	.099	210
225	5.02	3.48	2.07	1.67	.98	.61	.148	5.97	3.13	2.28	1.88	1.36	.60	.137	225
240	6.04	3.86	2.25	1.86	1.16	.67	.182	7.85	3.47	2.44	2.03	1.47	.64	.166	240
255	6.52	3.90	2.20	1.81	1.15	.58	.148	6.43	3.65	2.43	1.91	1.41	.55	.173	255
270	5.03	3.24	1.74	1.41	.85	.44	.101	3.93	2.56	1.81	1.49	1.13	.47	.153	270
285	5.38	3.54	1.96	1.62	1.02	.55	.145	4.66	2.61	1.75	1.48	1.07	.47	.215	285
300	5.36	4.11	2.51	2.31	1.54	.70	.227	4.30	3.47	2.32	1.94	1.45	.66	.308	300
315	4.55	2.59	1.53	1.58	1.29	.80	.257	4.25	3.00	2.41	2.16	1.50	.67	.288	315
330	6.82	3.44	1.73	1.50	1.04	.57	.269	4.53	3.01	2.21	1.91	1.56	.75	.339	330
345	8.84	5.71	3.16	2.89	1.89	.84	.340	8.58	4.67	3.34	2.75	1.76	.73	.332	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
0	7.28	6.33	5.59	4.39	3.35	2.86	1.72	.99	.88	.58	.264	0
15	9.67	7.61	5.21	3.97	3.09	2.70	1.59	.81	.68	.46	.213	15
30	10.17	9.13	4.77	3.97	3.25	2.84	1.72	.83	.68	.31	.040	30
45	8.08	6.72	4.39	3.34	2.76	2.39	1.39	.63	.56	.25	-.018	45
60	5.20	4.05	3.28	2.68	2.09	1.74	.94	.27	.32	.10	-.110	60
75	3.16	2.24	2.18	1.76	1.42	1.08	.51	-.01	.14	-.01	-.165	75
90	1.92	1.17	1.39	1.13	.90	.88	.30	-.17	.05	-.06	-.196	90
105	1.77	1.06	1.37	1.03	.82	.92	.30	-.12	.09	-.01	-.163	105
120	3.28	2.38	2.39	1.79	1.50	1.47	.63	.08	.24	.09	-.126	120
135	3.51	2.46	2.43	1.69	1.43	1.39	.69	.12	.30	.14	-.091	135
150	4.11	2.89	2.65	1.93	1.60	1.23	.81	.23	.41	.23	-.067	150
165	5.66	4.16	3.46	2.62	2.15	1.82	1.16	.50	.64	.42	-.005	165
180	8.14	5.70	4.34	3.40	2.77	2.36	1.51	.71	.81	.52	.050	180
195	9.04	5.53	4.26	3.33	2.68	2.35	1.48	.72	.77	.49	.048	195
210	7.83	4.71	3.66	2.86	2.25	2.02	1.24	.61	.67	.42	.032	210
225	6.97	4.37	3.40	2.71	2.10	1.95	1.20	.65	.70	.44	.058	225
240	7.64	4.56	3.50	2.82	2.19	2.06	1.24	.70	.69	.44	.079	240
255	2.75	2.87	3.16	3.01	2.52	2.33	1.39	.71	.63	.39	.123	255
270	1.80	1.28	1.35	1.21	.93	1.13	.68	.51	.64	.54	.270	270
285	2.32	2.03	2.11	1.88	1.42	1.48	.75	.46	.54	.35	.129	285
300	2.27	2.03	2.21	2.01	1.55	1.55	.89	.62	.65	.61	.314	300
315	3.41	3.11	2.82	2.37	1.70	1.59	.86	.55	.49	.39	.129	315
330	4.79	3.59	2.84	2.19	1.59	1.50	.99	.53	.53	.42	.207	330
345	8.29	5.85	4.22	3.25	2.47	2.28	1.26	.77	.76	.52	.163	345

TABLE 18 - Continued

FLIGHT 15, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 105 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.50	4.21	2.79	2.17	1.62	.70	.154	3.14	1.39	.95	1.00	.79	.42	.087	0
15	7.00	4.47	3.00	2.31	1.64	.62	.124	3.69	1.71	1.14	1.13	.88	.44	.094	15
30	7.96	4.41	3.05	2.38	1.66	.64	.058	4.13	1.96	1.30	1.26	.98	.49	.104	30
45	7.45	3.67	2.63	2.09	1.39	.53	.036	3.54	1.65	1.11	1.11	.89	.42	.107	45
60	6.13	2.74	2.08	1.69	1.00	.35	-.004	2.51	1.15	.76	.83	.70	.36	.101	60
75	4.63	1.97	1.51	1.30	.66	.21	-.063	1.64	.65	.52	.55	.49	.25	.090	75
90	3.08	1.25	.96	.92	.36	.11	-.035	1.38	.55	.44	.59	.42	.24	.085	90
105	2.34	1.61	1.11	.96	.43	.17	-.002	1.95	.91	.66	.73	.55	.31	.117	105
120	2.97	2.39	1.63	1.44	.73	.29	.041	3.18	1.65	1.08	1.03	.85	.42	.148	120
135	3.98	3.22	2.10	1.77	1.04	.39	.074	3.66	1.88	1.24	1.21	1.01	.49	.156	135
150	4.51	3.32	2.33	1.81	1.09	.46	.122	3.88	1.91	1.33	1.28	1.04	.50	.161	150
165	5.22	3.52	2.64	2.03	1.37	.59	.139	4.11	2.14	1.52	1.44	1.19	.60	.172	165
180	6.09	4.13	2.94	2.28	1.63	.71	.169	5.94	3.46	2.12	1.86	1.45	.62	.166	180
195	6.64	3.96	2.76	2.12	1.52	.65	.150	2.24	2.50	2.31	1.93	1.38	.58	.194	195
210	6.83	3.44	2.35	1.78	1.30	.55	.117	1.32	1.36	1.43	1.65	1.53	.47	.176	210
225	6.13	3.17	2.13	1.64	1.22	.54	.122	.73	.81	.88	1.18	1.14	.50	.166	225
240	5.41	3.32	2.12	1.62	1.15	.51	.136	.26	.24	.42	.72	.80	.52	.151	240
255	4.10	1.48	1.55	1.29	1.34	1.14	.131	.13	.08	.17	.39	.39	.36	.113	255
270	2.72	.97	.59	.41	.40	.36	.223	.00	-.01	.12	.32	.27	.16	.063	270
285	1.67	1.23	.83	.68	.52	.36	.205	-.12	-.15	.07	.38	.40	.23	.057	285
300	1.41	1.58	1.08	.86	.77	.47	.250	.33	-.03	.02	.22	.15	.15	.028	300
315	1.84	1.87	1.33	1.13	1.05	.55	.165	.96	.26	.23	.41	.32	.17	.009	315
330	2.57	2.44	1.76	1.43	1.20	.57	.136	1.47	.56	.40	.54	.42	.19	.019	330
345	3.84	3.22	2.08	1.65	1.19	.54	.098	2.32	1.05	.73	.80	.60	.29	.051	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	.50	.39	.20	.25	.080	.56	.26	.16	.15	.027	0
15	1.10	.64	.34	.30	.092	.02	.02	.00	.08	.003	15
30	1.49	.78	.43	.31	.106	.84	.36	.18	.14	.024	30
45	1.76	.88	.48	.33	.108	.95	.40	.21	.16	.024	45
60	1.32	.69	.36	.27	.099	.66	.24	.11	.11	.016	60
75	.83	.46	.22	.22	.088	.38	.12	.05	.08	.010	75
90	.78	.50	.21	.24	.097	.60	.27	.14	.12	.029	90
105	1.14	.70	.35	.32	.132	.93	.44	.23	.17	.048	105
120	1.66	.96	.53	.42	.148	1.28	.63	.35	.22	.063	120
135	2.61	1.37	.83	.53	.173	1.51	.74	.43	.25	.079	135
150	2.67	1.40	.83	.54	.166	2.10	1.05	.62	.32	.091	150
165	2.51	1.42	.85	.55	.164	2.13	1.06	.64	.34	.099	165
180	2.55	1.40	.81	.52	.152	1.91	.92	.56	.31	.082	180
195	2.11	1.19	.66	.44	.119	1.17	.68	.37	.22	.057	195
210	1.44	.92	.56	.46	.191	.76	.44	.13	.13	.048	210
225	.11	.37	.26	.38	.160	.15	.23	.01	.04	.009	225
240	.04	.24	.12	.25	.164	.12	.04	-.07	.02	-.011	240
255	.01	.22	.08	.21	.185	.14	-.04	-.09	.00	-.031	255
270	.09	.20	.07	.19	.077	.10	-.06	-.08	-.01	-.081	270
285	-.02	.16	.02	.15	.070	.10	-.03	-.05	.02	-.097	285
300	.05	.20	.06	.16	.077	.10	-.02	-.05	.04	-.124	300
315	.15	.23	.07	.18	.066	.13	.01	-.01	.05	-.020	315
330	.25	.28	.11	.19	.064	.08	-.01	-.02	.06	-.007	330
345	.43	.36	.17	.24	.086	.14	.02	.01	.09	.013	345

TABLE 18 - Continued

FLIGHT 15, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 105 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	2.89	3.93	11.41	24.83	30.95	31.59	29.61
15	.56	6.16	13.00	26.16	29.96	30.05	28.29
30	3.56	7.50	14.63	26.84	29.90	30.97	30.17
45	3.99	8.38	12.75	23.09	24.92	25.17	24.25
60	2.59	6.56	9.66	17.45	16.81	16.84	17.35
75	1.45	4.51	6.50	12.16	9.84	9.67	11.84
90	2.73	4.59	5.81	7.55	5.71	5.61	8.01
105	4.24	6.65	8.00	8.41	5.81	4.97	6.94
120	5.90	9.20	12.41	12.80	11.67	8.86	9.69
135	7.02	13.23	14.37	17.24	12.42	9.81	9.67
150	9.64	13.45	14.92	18.79	14.32	11.52	11.29
165	9.90	13.31	16.81	21.90	20.38	17.82	16.33
180	8.83	13.04	21.98	25.54	26.90	25.09	23.50
195	5.87	10.82	18.00	24.59	26.99	25.63	23.60
210	3.37	9.27	14.27	21.84	23.07	22.26	19.89
225	.92	4.56	10.85	20.24	21.95	21.36	19.49
240	.07	2.94	7.68	19.55	22.94	24.13	22.13
255	-.29	2.53	4.36	19.20	19.91	22.61	21.79
270	-.56	2.11	2.40	8.48	11.90	16.72	17.02
285	-.29	1.42	2.92	8.91	13.44	17.26	19.38
300	-.28	1.83	1.81	11.24	15.46	21.92	24.27
315	.40	2.16	3.68	13.58	15.76	21.68	19.61
330	.33	2.62	5.25	16.19	17.48	22.25	20.56
345	.87	3.58	8.47	18.41	25.61	30.07	32.58

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.991		0	3.773		0	9.117	
1	3.373	-8.562	1	-.859	-.640	1	-.589	.251
2	.268	.350	2	-.500	-.656	2	.008	.053
3	-.241	.041	3	.034	-.245	3	.116	-.085
4	-.345	.059	4	.061	-.002	4	-.016	-.013
5	-.531	.427	5	-.059	.091	5	-.017	.042
6	.300	.218	6	.000	.063	6	-.006	.014
7	.200	.014	7	-.002	.024	7	-.006	-.017
8	.086	-.045	8	-.014	.006	8	-.011	-.014
9	.000	.045	9	-.002	.000	9	.019	.011
10	.027	.059	10	-.010	-.028	10	.022	.005

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 18 - Continued

FLIGHT 15, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 105 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.069		.75	0	17.707		.95	0	19.469	
.25	1	-2.729	2.453	.75	1	-.383	.086	.95	1	4.935	-4.464
.25	2	2.026	-.939	.75	2	6.863	3.986	.95	2	5.641	3.347
.25	3	-.661	.938	.75	3	.566	1.837	.95	3	-.087	1.168
.25	4	.011	-.118	.75	4	-.853	-.207	.95	4	.651	.603
.25	5	-.313	-.096	.75	5	-.905	.140	.95	5	-.708	-.421
.25	6	.077	-.383	.75	6	.977	.997	.95	6	1.634	-.348
.25	7	.335	-.177	.75	7	.137	-.418	.95	7	-.278	-1.798
.25	8	.205	-.107	.75	8	-.141	-.313	.95	8	-.575	-1.228
.25	9	.282	-.096	.75	9	-.075	.414	.95	9	-.529	-.503
.25	10	.284	-.073	.75	10	.746	.138	.95	10	-.254	-.079
.40	0	6.430		.85	0	18.921					
.40	1	-3.482	2.943	.85	1	1.940	-2.573				
.40	2	2.724	-.304	.85	2	7.988	4.890				
.40	3	-.676	1.299	.85	3	.788	1.710				
.40	4	-.572	.243	.85	4	.045	.650				
.40	5	-.150	-.521	.85	5	-.871	-.190				
.40	6	-.170	.125	.85	6	1.862	.231				
.40	7	.139	-.105	.85	7	-.090	-.896				
.40	8	.068	-.079	.85	8	-.107	-.583				
.40	9	-.218	.202	.85	9	.278	.066				
.40	10	.017	-.184	.85	10	.206	.013				
.55	0	10.079		.90	0	19.743					
.55	1	-3.568	3.005	.90	1	4.438	-5.154				
.55	2	5.320	1.554	.90	2	7.039	4.137				
.55	3	-.256	1.066	.90	3	.158	1.308				
.55	4	-.111	.822	.90	4	.056	.506				
.55	5	-.574	-.522	.90	5	-1.237	-.241				
.55	6	.639	.010	.90	6	1.591	.234				
.55	7	-.562	-.111	.90	7	-.003	-1.158				
.55	8	.325	.012	.90	8	-.115	-.834				
.55	9	-.068	-.039	.90	9	-.035	-.206				
.55	10	.340	-.157	.90	10	-.043	-.143				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 18 - Concluded

FLIGHT 15, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 105 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	4375	1988	1573	1090	-634	-3609		
15	1297	2038	2468	2378	519	-2017		
30	3554	2591	3245	3036	1672	-206		
45	4535	3416	4077	3503	1126	-1151		
60	3474	2632	3001	2292	-317	-2455		
75	2927	866	-181	-1162	-2341	-3480		
90	-162	-1246	-1962	-3127	-4444	-5052		
105	-504	-2648	-3824	-4577	-4963	-5947		
120	-390	-1799	-2884	-4615	-6494	-7937		
135	1719	-833	-2784	-4310	-6019	-8654		
150	123	-1328	-1654	-3156	-6160	-9678		
165	-71	-2549	-2793	-3432	-5544	-8146		
180	-504	-1931	-2052	-3299	-6415	-8206		
195	1685	91	-832	-2908	-6046	-8584		
210	2597	1840	877	-1286	-5315	-8425		
225	2334	1832	1202	50	-2323	-4355		
240	260	1345	1871	1948	1382	331		
255	830	2252	3372	4162	4321	3356		
270	2973	4529	5578	5259	4268	4381		
285	3246	3944	4918	4820	4066	4092		
300	545	1295	2052	2950	5166	5923		
315	-1108	223	1275	1796	2147	2381		
330	2448	1642	732	107	-185	-1649		
345	1069	2582	3155	1576	-2640	-5887		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-5275	-15173	-1471	
15	-1401	-13024	-5887	
30	1172	-9166	-1167	
45	3028	-1775	8641	
60	9295	5356	11217	
75	7895	3647	11425	
90	6446	-749	4401	
105	3060	-5975	369	
120	700	-7147	161	
135	325	-3403	2849	
150	-928	-163	9889	
165	2816	4217	12129	
180	1432	4396	13057	
195	-3143	-2393	10465	
210	-4250	-8026	449	
225	-9085	-16589	-4015	
240	-12943	-18592	-7951	
255	-14799	-19601	-7903	
270	-12194	-13398	-3599	
285	-10436	-9117	2849	
300	-5503	-6154	3201	
315	-3045	-3923	5681	
330	-5552	-3940	8913	
345	-1352	-7407	-431	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	627	15	202
15	2757	2230	401
30	2386	2118	313
45	1740	1145	256
60	1514	1207	249
75	1008	919	155
90	141	600	21
105	-220	-277	34
120	454	472	67
135	-276	-26	-20
150	-1460	-916	-169
165	-1778	-1244	-147
180	-417	-87	-11
195	-219	-178	12
210	-2446	-1039	-282
225	-2844	-1954	-327
240	-1266	-1191	-51
255	-1188	-1926	-82
270	-5734	-4996	-552
285	-3422	-2873	-373
300	-594	-1533	79
315	567	126	209
330	-2554	-2300	-119
345	-1604	-668	-182

TABLE 19

FLIGHT 16, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 108 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	9.94	5.21	3.52	2.47	1.43	.52	.172	10.59	4.53	3.18	2.45	1.62	.52	.238	0
15	8.95	5.46	3.69	2.54	1.48	.59	.083	9.98	4.57	3.29	2.63	1.70	.59	.077	15
30	7.58	5.23	3.70	2.47	1.31	.56	.059	8.56	4.35	3.18	2.58	1.60	.58	.011	30
45	5.44	4.56	3.69	2.05	.93	.44	.008	6.65	3.56	2.68	2.24	1.28	.41	-.073	45
60	3.82	3.79	3.29	1.76	.62	.33	-.024	4.88	2.71	2.14	1.88	.98	.28	-.141	60
75	3.10	3.60	3.24	1.67	.42	.27	-.049	3.86	2.11	1.89	1.63	.78	.20	-.196	75
90	2.54	3.37	3.14	1.30	.31	.25	-.065	3.37	1.80	1.67	1.48	.67	.16	-.233	90
105	2.42	3.23	3.15	1.32	.31	.25	-.051	3.08	1.72	1.63	1.48	.64	.19	-.238	105
120	1.95	2.73	2.77	1.39	.31	.27	-.020	3.33	1.92	1.74	1.59	.70	.25	-.196	120
135	2.25	2.70	2.64	1.50	.41	.32	-.014	3.50	2.02	1.75	1.59	.76	.29	-.167	135
150	2.60	2.85	2.54	1.45	.52	.36	.027	3.91	2.21	1.68	1.51	.85	.33	-.110	150
165	3.33	3.10	2.58	1.57	.70	.43	.065	4.66	2.59	1.96	1.73	1.00	.42	-.013	165
180	4.30	3.49	2.71	1.78	.93	.53	.099	5.73	3.08	2.28	1.92	1.21	.53	.046	180
195	5.14	3.73	2.76	1.88	1.08	.57	.122	6.52	3.38	2.46	1.96	1.30	.56	.060	195
210	5.26	3.56	2.57	1.78	1.06	.56	.115	6.54	3.28	2.33	1.80	1.26	.54	.073	210
225	5.32	3.43	2.43	1.72	1.05	.55	.129	6.39	3.19	2.24	1.71	1.23	.53	.093	225
240	5.58	3.52	2.42	1.74	1.10	.57	.142	6.96	3.19	2.21	1.72	1.24	.55	.110	240
255	5.96	3.59	2.48	1.81	1.17	.57	.152	7.47	3.29	2.26	1.75	1.26	.54	.125	255
270	6.21	3.67	2.47	1.81	1.19	.55	.144	6.83	3.23	2.18	1.67	1.23	.51	.128	270
285	6.35	3.72	2.48	1.81	1.19	.52	.138	6.67	3.13	2.10	1.61	1.16	.47	.141	285
300	6.41	3.73	2.47	1.80	1.17	.48	.138	5.94	3.01	1.99	1.53	1.07	.41	.139	300
315	7.12	3.99	2.66	1.93	1.22	.49	.134	6.92	3.23	2.16	1.71	1.21	.50	.114	315
330	9.39	4.55	3.03	2.21	1.42	.62	.201	9.85	3.88	2.66	2.10	1.52	.64	.172	330
345	10.00	4.93	3.20	2.25	1.36	.58	.215	10.42	4.26	2.90	2.25	1.56	.57	.258	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	10.66	6.33	4.47	3.46	2.78	2.50	1.64	.86	.68	.38	.219	0
15	10.11	6.50	4.55	3.50	2.84	2.54	1.67	.85	.69	.34	.139	15
30	9.54	6.35	4.38	3.33	2.73	2.40	1.58	.76	.61	.27	.094	30
45	6.87	5.10	3.53	2.59	2.22	1.96	1.27	.53	.43	.16	.026	45
60	5.09	3.91	2.85	2.30	1.73	1.55	.93	.31	.28	.06	-.040	60
75	4.00	2.98	2.30	1.83	1.39	1.22	.71	.09	.17	-.01	-.071	75
90	3.59	2.60	2.15	1.65	1.23	1.07	.62	.01	.13	-.02	-.089	90
105	3.39	2.42	2.06	1.56	1.29	1.05	.62	.02	.14	-.01	-.085	105
120	4.16	3.21	2.67	1.90	1.67	1.28	.82	.16	.23	.07	-.063	120
135	4.41	3.26	2.71	1.86	1.60	1.33	.88	.23	.32	.13	-.011	135
150	4.86	3.48	2.79	1.99	1.69	1.37	.94	.30	.39	.18	-.001	150
165	5.59	4.07	3.11	2.27	1.91	1.58	1.11	.42	.50	.28	.036	165
180	6.62	4.77	3.48	2.63	2.19	1.88	1.29	.57	.62	.37	.073	180
195	7.23	5.03	3.60	2.74	2.25	1.96	1.34	.62	.65	.38	.087	195
210	7.00	4.63	3.36	2.57	2.07	1.86	1.26	.60	.61	.36	.096	210
225	6.82	4.42	3.17	2.46	1.97	1.80	1.21	.60	.59	.35	.100	225
240	6.88	4.41	3.12	2.45	1.94	1.79	1.18	.62	.58	.34	.087	240
255	6.43	4.35	3.05	2.42	1.91	1.79	1.17	.63	.55	.31	.092	255
270	6.01	4.07	2.87	2.25	1.78	1.68	1.08	.57	.48	.27	.128	270
285	5.73	3.88	2.72	2.09	1.64	1.56	.96	.50	.42	.25	.147	285
300	5.38	3.64	2.55	1.96	1.51	1.46	.88	.44	.34	.21	.128	300
315	6.14	4.17	2.88	2.25	1.75	1.68	1.06	.59	.46	.25	.116	315
330	8.65	5.09	3.53	2.80	2.22	2.08	1.34	.75	.59	.32	.147	330
345	9.82	5.99	4.06	3.18	2.55	2.31	1.50	.83	.66	.38	.199	345

TABLE 19 - Continued

FLIGHT 16, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 108 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.32	3.44	2.54	1.92	1.45	.59	.112	2.50	1.16	.88	.73	.57	.32	.071	0
15	7.07	3.59	2.69	2.05	1.50	.60	.098	2.95	1.39	1.03	.84	.66	.37	.091	15
30	7.17	3.58	2.71	2.04	1.45	.56	.086	3.30	1.54	1.13	.93	.71	.38	.101	30
45	6.58	3.08	2.43	1.84	1.23	.44	.055	3.06	1.44	1.04	.86	.66	.36	.106	45
60	5.56	2.41	2.07	1.59	.98	.34	.046	2.52	1.15	.85	.68	.56	.32	.109	60
75	4.46	1.88	1.73	1.38	.77	.24	-.026	2.04	.89	.73	.53	.47	.26	.105	75
90	3.45	1.55	1.43	1.19	.65	.20	.024	1.93	.88	.74	.61	.43	.27	.108	90
105	3.04	1.64	1.47	1.17	.66	.21	.041	2.30	1.11	.89	.65	.53	.32	.126	105
120	3.33	2.13	1.68	1.43	.84	.29	.077	3.13	1.64	1.23	.88	.72	.39	.153	120
135	4.18	2.98	2.16	1.80	1.16	.40	.110	3.73	1.98	1.33	1.09	.88	.45	.160	135
150	4.73	3.15	2.46	1.81	1.22	.45	.151	4.01	1.99	1.46	1.18	.94	.47	.168	150
165	5.14	3.23	2.49	1.83	1.26	.51	.139	3.96	1.98	1.47	1.21	.95	.49	.147	165
180	5.64	3.15	2.61	1.92	1.37	.58	.167	4.83	2.42	1.75	1.41	1.13	.51	.136	180
195	6.02	3.28	2.55	1.87	1.36	.56	.160	4.57	2.40	1.72	1.41	1.09	.50	.136	195
210	6.05	3.05	2.34	1.71	1.27	.51	.153	3.77	1.88	1.39	1.14	.87	.40	.100	210
225	5.66	2.80	2.12	1.55	1.18	.49	.136	2.90	1.40	1.08	.89	.67	.29	.076	225
240	5.17	2.66	2.00	1.45	1.12	.45	.127	2.11	.97	.83	.70	.50	.21	.063	240
255	4.79	2.50	1.86	1.35	1.04	.40	.117	1.30	.70	.77	.65	.36	.17	.052	255
270	4.45	2.23	1.65	1.18	.90	.34	.124	.25	.20	.40	.45	.38	.13	.012	270
285	4.08	1.94	1.44	1.01	.75	.28	.129	.32	.06	.19	.17	.13	.11	.021	285
300	3.72	1.68	1.28	.91	.67	.23	.093	.54	.09	.18	.17	.12	.06	-.002	300
315	3.60	1.92	1.46	1.07	.80	.30	.091	.81	.27	.30	.27	.20	.10	.015	315
330	4.19	2.48	1.85	1.38	1.06	.43	.103	1.37	.54	.49	.42	.31	.19	.024	330
345	5.10	3.02	2.22	1.65	1.27	.51	.100	2.01	.87	.70	.58	.43	.25	.047	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	.44	.28	.19	.18	.087	.14	.09	.06	.07	.013	0
15	.67	.37	.25	.21	.098	-.05	.01	.01	.03	-.010	15
30	1.12	.49	.36	.24	.109	.35	.17	.10	.07	.013	30
45	1.28	.55	.39	.25	.116	.47	.23	.13	.08	.004	45
60	1.20	.52	.37	.23	.113	.37	.19	.10	.06	.012	60
75	1.00	.51	.31	.22	.111	.35	.19	.09	.06	.012	75
90	1.01	.51	.33	.24	.118	.40	.22	.12	.06	.019	90
105	1.29	.66	.44	.29	.140	.69	.38	.22	.11	.035	105
120	1.86	.94	.63	.39	.163	1.10	.57	.34	.17	.051	120
135	2.47	1.15	.81	.47	.182	1.45	.75	.46	.22	.067	135
150	2.67	1.28	.86	.48	.171	1.75	.89	.54	.25	.077	150
165	2.51	1.28	.85	.48	.164	1.87	.99	.61	.30	.078	165
180	2.32	1.17	.78	.44	.148	1.60	.85	.54	.26	.070	180
195	1.92	.96	.64	.36	.119	1.06	.57	.38	.18	.054	195
210	1.29	.66	.43	.26	.091	.50	.34	.17	.08	.020	210
225	.74	.38	.23	.14	.076	.25	.14	.01	.00	-.005	225
240	.15	.32	.23	.16	.045	.02	-.02	-.04	-.02	-.028	240
255	-.02	.04	.08	.18	.044	-.01	-.05	-.07	-.07	-.112	255
270	-.03	.02	.01	.10	.047	-.01	-.04	-.07	-.11	-.155	270
285	-.02	.04	.04	.11	.057	-.01	-.03	-.04	-.13	-.154	285
300	.09	.10	.09	.19	.109	-.01	-.01	-.01	-.13	-.112	300
315	.10	.10	.09	.12	.066	-.04	-.03	-.04	-.06	-.051	315
330	.22	.17	.13	.16	.064	-.04	-.03	-.01	.02	-.023	330
345	.43	.25	.19	.19	.080	-.04	-.02	-.01	.03	-.001	345

TABLE 19 - Continued

FLIGHT 16, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 108 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	1.02	3.27	8.99	22.51	29.26	28.97	28.99
15	.11	4.15	10.57	23.78	28.98	28.98	29.14
30	1.65	5.74	11.51	23.42	27.19	26.81	27.00
45	2.11	6.30	10.75	20.28	20.84	21.16	22.07
60	1.69	5.92	9.04	16.51	15.55	15.76	17.40
75	1.56	5.29	7.41	12.90	11.82	12.42	15.40
90	1.89	5.51	7.28	10.71	10.43	10.49	13.72
105	3.34	7.00	8.81	10.73	10.27	10.22	13.49
120	5.17	9.74	11.87	13.29	13.59	11.59	12.27
135	6.77	12.29	13.93	17.77	14.62	12.33	12.95
150	8.06	13.00	14.71	19.41	15.83	13.51	14.00
165	8.92	12.69	14.78	20.31	18.59	16.38	16.14
180	7.74	11.67	17.21	21.59	21.77	19.90	19.12
195	5.27	9.58	16.76	21.74	22.91	21.65	21.01
210	2.51	6.64	13.43	20.48	21.65	21.05	20.38
225	.69	3.74	10.18	18.94	20.83	20.55	19.98
240	-.35	2.70	7.54	17.78	20.57	21.12	20.61
255	-1.15	1.50	5.69	16.43	19.90	21.81	21.39
270	-1.54	.78	3.35	14.65	18.53	20.85	21.59
285	-1.50	1.02	1.80	12.72	17.19	20.01	21.56
300	-1.26	2.12	1.62	11.14	15.72	18.48	21.36
315	-.76	1.60	2.83	12.58	18.39	20.73	22.76
330	-.14	2.25	4.81	16.16	23.76	26.68	27.46
345	.06	3.20	6.96	19.34	27.06	28.08	28.33

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	15.009		0	3.489				
1	3.341	-7.836	1	-.113	-.130			
2	-.005	.127	2	-.168	-.342			
3	.009	.136	3	.091	-.190			
4	.032	-.036	4	.030	.000			
5	-.154	-.023	5	-.018	-.018			
6	-.027	.077	6	.000	.012			
7	-.009	.050	7	-.014	.010			
8	.032	.014	8	.006	.008			
9	.014	-.009	9	.012	.014			
10	-.005	.005	10	.004	.000			
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 19 - Continued

FLIGHT 16, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 108 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.161		.75	0	17.298		.95	0	20.337	
.25	1	-2.932	2.418	.75	1	-.262	-.001	.95	1	4.899	-3.501
.25	2	1.858	-.935	.75	2	4.763	2.543	.95	2	3.428	1.581
.25	3	-.535	.627	.75	3	.743	1.731	.95	3	.708	.219
.25	4	-.004	-.244	.75	4	-.019	-.111	.95	4	.721	.397
.25	5	-.205	-.087	.75	5	.084	-.396	.95	5	-.477	-.228
.25	6	.132	-.152	.75	6	-.168	.239	.95	6	-.366	.090
.25	7	.024	-.048	.75	7	-.170	-.127	.95	7	-.286	-.122
.25	8	.079	-.072	.75	8	.080	.111	.95	8	-.190	.173
.25	9	.147	-.026	.75	9	-.019	.042	.95	9	-.040	.049
.25	10	.111	-.020	.75	10	.088	-.084	.95	10	.138	.093
.40	0	5.737		.85	0	19.385					
.40	1	-3.453	3.240	.85	1	2.844	-2.772				
.40	2	2.088	-.903	.85	2	5.566	2.317				
.40	3	-.604	.871	.85	3	1.567	.995				
.40	4	-.379	-.040	.85	4	.563	.318				
.40	5	-.062	-.221	.85	5	-.472	-.554				
.40	6	.125	.037	.85	6	-.077	.154				
.40	7	-.024	-.265	.85	7	-.466	-.037				
.40	8	-.094	-.095	.85	8	-.053	-.032				
.40	9	-.062	.018	.85	9	.163	.045				
.40	10	-.049	-.021	.85	10	.029	-.001				
.55	0	9.242		.90	0	19.563					
.55	1	-3.765	2.933	.90	1	4.258	-4.153				
.55	2	3.727	1.299	.90	2	4.551	2.190				
.55	3	.149	.608	.90	3	1.194	.661				
.55	4	-.143	.391	.90	4	.642	.218				
.55	5	-.304	-.557	.90	5	-.633	-.595				
.55	6	.100	.326	.90	6	-.297	.125				
.55	7	-.089	-.180	.90	7	-.459	-.018				
.55	8	.071	.057	.90	8	-.190	.095				
.55	9	-.062	-.068	.90	9	.061	.167				
.55	10	.066	.070	.90	10	.130	.099				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

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TABLE 19 - Concluded

FLIGHT 16, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 108 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	1091	1716	1736	978	-1393	-3915		
15	1342	2360	2558	2132	-169	-3099		
30	1650	2533	3037	2733	799	-1298		
45	1388	1914	2368	2313	1591	453		
60	863	1130	1257	1092	508	-353		
75	783	512	-63	-721	-1797	-2900		
90	658	-454	-1636	-2552	-3945	-5378		
105	-311	-1683	-2830	-3726	-5300	-6800		
120	-1006	-2384	-3634	-4432	-5300	-6323		
135	-1109	-2269	-3254	-3935	-4772	-6353		
150	-243	-1617	-2522	-3287	-4684	-7268		
165	-231	-1353	-1826	-2753	-5053	-8054		
180	-710	-1724	-2133	-2810	-5168	-7537		
195	-550	-1337	-2025	-3058	-5273	-7099		
210	384	-107	-1049	-2485	-4869	-6810		
225	1057	1213	732	-539	-2853	-5278		
240	1274	2054	2215	1512	-152	-1955		
255	909	2648	3119	3105	2726	2135		
270	305	2648	3761	4517	4961	4602		
285	362	2929	3969	4755	5419	5140		
300	738	2772	3381	3725	4099	4115		
315	156	1469	1926	2218	2400	2533		
330	-984	198	615	978	1098	354		
345	-357	380	542	386	-680	-2253		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-6634	-13675	-2416	
15	-7464	-15336	-3616	
30	-6032	-12519	-1104	
45	-2955	-5975	5584	
60	106	-716	10224	
75	3769	505	9440	
90	5267	-1514	5296	
105	2727	-4933	3312	
120	1571	-5291	2864	
135	2206	-3663	4432	
150	1408	-1563	7904	
165	1978	733	9984	
180	1555	1612	11264	
195	415	-570	10224	
210	-1522	-3761	7136	
225	-5120	-8726	3968	
240	-6732	-12422	320	
255	-10704	-14864	-1968	
270	-14074	-16557	-1728	
285	-12414	-14408	-1344	
300	-9955	-10615	1120	
315	-7855	-7977	4112	
330	-5364	-6561	4208	
345	-4860	-9247	1648	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	361	217	92
15	1303	862	208
30	1543	1011	239
45	1080	630	189
60	1037	673	168
75	1127	701	174
90	973	704	128
105	576	342	77
120	362	83	37
135	182	-62	3
150	-305	-522	-40
165	-810	-940	-78
180	-513	-700	-48
195	-265	-504	-19
210	-236	-656	-33
225	-362	-900	-44
240	-70	-871	13
255	506	-531	89
270	271	-778	80
285	-333	-1079	20
300	-441	-919	26
315	194	-321	106
330	425	72	140
345	247	68	88

TABLE 20

FLIGHT 17, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 110 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
0	8.17	5.50	3.98	2.70	1.50	.63	.091	9.25	4.56	3.43	2.76	1.81	.72	.064	0
15	6.85	5.20	4.06	2.52	1.32	.55	.051	8.14	4.22	3.29	2.66	1.65	.61	.006	15
30	5.15	5.02	4.24	2.27	.95	.44	-.028	6.60	3.59	2.98	2.50	1.41	.47	-.084	30
45	3.76	4.31	4.09	2.12	.62	.31	-.077	5.17	2.81	2.68	2.32	1.20	.32	-.163	45
60	2.97	3.82	4.38	2.45	.27	.23	-.109	4.14	2.03	2.79	2.21	1.05	.23	-.237	60
75	2.60	3.67	3.96	3.23	.32	.12	-.129	3.57	1.57	3.15	3.13	.80	.11	-.319	75
90	2.28	3.40	3.73	2.61	2.76	-.01	-.142	3.28	1.40	2.81	3.13	.53	.06	-.367	90
105	1.95	3.00	3.57	2.31	2.63	-.03	-.125	3.05	1.29	2.68	2.96	1.72	.07	-.376	105
120	1.51	2.78	3.40	2.09	.97	.10	-.073	2.90	1.27	2.73	2.99	.11	.14	-.341	120
135	1.50	2.78	3.20	2.66	-.14	.19	-.063	2.90	1.38	2.71	1.84	.76	.21	-.305	135
150	1.60	2.78	3.10	1.39	.35	.26	-.018	2.98	1.63	1.86	1.38	.76	.29	-.222	150
165	2.32	2.97	2.99	1.53	.53	.35	.030	3.83	2.17	1.99	1.40	.88	.37	-.136	165
180	3.13	3.21	2.77	1.64	.72	.43	.061	4.63	2.58	2.08	1.72	1.03	.44	-.031	180
195	3.92	3.38	2.77	1.74	.88	.48	.093	5.52	2.94	2.24	1.84	1.16	.50	.015	195
210	4.40	3.43	2.70	1.77	.97	.51	.109	5.97	3.01	2.28	1.82	1.21	.52	.037	210
225	4.77	3.47	2.62	1.77	1.03	.52	.115	6.19	3.07	2.26	1.76	1.22	.54	.064	225
240	5.12	3.55	2.56	1.76	1.07	.52	.117	6.40	3.15	2.25	1.75	1.24	.56	.090	240
255	5.58	3.63	2.60	1.82	1.13	.53	.129	6.69	3.24	2.27	1.76	1.26	.56	.101	255
270	6.01	3.83	2.68	1.89	1.18	.54	.135	7.18	3.36	2.35	1.83	1.30	.57	.099	270
285	6.65	3.99	2.80	1.99	1.24	.56	.134	7.69	3.40	2.36	1.86	1.33	.56	.099	285
300	6.49	4.00	2.73	1.93	1.19	.48	.109	6.89	3.17	2.20	1.75	1.22	.53	.079	300
315	6.65	4.20	2.89	2.00	1.23	.49	.131	6.97	3.33	2.33	1.88	1.31	.57	.082	315
330	7.76	4.83	3.33	2.30	1.38	.56	.127	8.03	3.85	2.75	2.24	1.53	.64	.093	330
345	8.55	5.45	3.77	2.61	1.53	.67	.123	9.26	4.43	3.24	2.60	1.73	.71	.094	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
0	9.93	6.64	4.58	3.46	2.88	2.55	1.71	.86	.67	.34	.153	0
15	8.82	6.03	4.24	3.21	2.70	2.38	1.57	.76	.58	.26	.095	15
30	6.96	5.43	3.89	2.96	2.45	2.14	1.40	.60	.47	.16	.038	30
45	5.61	4.46	3.47	2.86	2.17	1.88	1.21	.40	.31	.06	-.028	45
60	4.73	3.70	3.07	2.83	2.02	1.78	1.03	.22	.20	-.03	-.092	60
75	4.10	3.07	2.74	2.70	2.04	1.70	.86	.05	.11	-.09	-.136	75
90	3.77	2.77	2.63	2.42	2.68	1.98	.77	-.02	.02	-.13	-.155	90
105	3.65	2.67	2.62	2.36	2.72	1.82	.73	-.04	.02	-.12	-.155	105
120	3.94	2.91	2.89	2.50	2.84	1.28	.77	.02	.08	-.07	-.135	120
135	3.99	2.85	2.86	2.30	1.83	1.32	.82	.05	.15	-.01	-.067	135
150	4.00	2.89	2.69	1.82	1.65	1.19	.82	.10	.23	.07	-.042	150
165	4.70	3.42	2.83	2.00	1.74	1.35	.96	.23	.35	.19	-.007	165
180	5.47	3.96	3.11	2.23	1.90	1.57	1.10	.37	.47	.28	.026	180
195	5.96	4.37	3.24	2.39	2.00	1.73	1.19	.47	.54	.32	.054	195
210	6.24	4.43	3.22	2.42	1.99	1.75	1.20	.52	.56	.33	.073	210
225	6.39	4.42	3.19	2.41	1.94	1.75	1.19	.56	.55	.33	.095	225
240	6.57	4.42	3.17	2.41	1.94	1.77	1.19	.59	.55	.32	.108	240
255	6.67	4.42	3.13	2.40	1.91	1.77	1.18	.60	.53	.30	.112	255
270	6.76	4.42	3.11	2.39	1.92	1.78	1.17	.63	.52	.30	.116	270
285	6.47	4.22	2.98	2.26	1.82	1.73	1.13	.60	.50	.27	.112	285
300	5.90	3.92	2.77	2.08	1.66	1.60	1.02	.55	.44	.23	.101	300
315	6.42	4.26	3.02	2.28	1.81	1.75	1.12	.62	.47	.26	.116	315
330	7.84	5.11	3.56	2.73	2.17	2.03	1.32	.73	.54	.30	.133	330
345	9.63	6.07	4.25	3.27	2.63	2.39	1.58	.80	.63	.33	.147	345

TABLE 20 - Continued

FLIGHT 17, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 110 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.93	3.35	2.57	1.98	1.44	.59	.114	2.58	1.18	.92	.72	.58	.36	.098	0
15	6.29	3.31	2.61	1.96	1.41	.55	.094	2.70	1.25	.95	.77	.61	.37	.111	15
30	6.05	3.15	2.51	1.91	1.28	.47	.054	2.96	1.45	1.04	.83	.66	.40	.124	30
45	5.55	2.86	2.38	1.85	1.16	.39	.049	2.82	1.39	1.01	.79	.64	.38	.138	45
60	4.87	2.52	2.30	1.79	1.02	.33	.016	2.59	1.23	.92	.67	.59	.37	.148	60
75	4.16	2.22	2.04	1.72	.91	.26	-.025	2.34	1.09	.92	.62	.55	.34	.150	75
90	3.51	2.03	1.91	1.47	.82	.21	.030	2.34	1.14	.94	.68	.54	.34	.151	90
105	3.22	2.08	1.94	1.47	.76	.22	.042	2.72	1.43	1.11	.71	.64	.39	.172	105
120	3.49	2.60	2.11	1.68	.85	.28	.068	3.38	1.83	1.41	.94	.79	.44	.189	120
135	3.98	2.97	2.31	1.91	1.11	.33	.104	3.84	2.06	1.34	1.09	.91	.47	.191	135
150	4.31	2.93	2.28	1.82	1.11	.36	.142	4.05	2.17	1.49	1.17	.95	.48	.199	150
165	4.55	2.94	2.21	1.78	1.10	.41	.131	4.12	2.05	1.53	1.22	.97	.48	.164	165
180	4.87	3.08	2.41	1.77	1.16	.46	.152	4.06	2.05	1.51	1.20	.97	.48	.157	180
195	5.20	2.85	2.41	1.76	1.21	.49	.156	3.98	2.00	1.48	1.18	.94	.45	.130	195
210	5.33	2.81	2.29	1.68	1.19	.48	.152	3.71	1.72	1.30	1.04	.81	.39	.104	210
225	5.31	2.71	2.15	1.59	1.14	.46	.137	2.81	1.35	1.05	.84	.66	.31	.071	225
240	5.27	2.61	2.03	1.51	1.11	.45	.125	1.95	.95	.80	.63	.49	.23	.041	240
255	5.13	2.50	1.92	1.42	1.06	.43	.121	1.59	.61	.56	.44	.34	.16	.010	255
270	4.82	2.34	1.81	1.34	1.00	.42	.116	1.04	.40	.41	.32	.25	.12	.000	270
285	4.48	2.08	1.63	1.20	.89	.36	.075	.86	.29	.34	.26	.21	.11	-.002	285
300	4.16	1.87	1.48	1.11	.83	.33	.078	.86	.28	.34	.26	.21	.11	.006	300
315	3.99	2.01	1.58	1.20	.90	.36	.080	1.03	.35	.40	.31	.24	.15	.023	315
330	4.44	2.38	1.86	1.42	1.05	.43	.094	1.43	.57	.52	.41	.31	.19	.043	330
345	5.17	2.88	2.22	1.71	1.26	.53	.108	2.03	.90	.73	.57	.43	.26	.070	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	.34	.21	.18	.20	.099	-.18	-.06	-.03	.00	-.008	0
15	.61	.31	.23	.21	.107	-.27	-.09	-.04	.01	-.015	15
30	1.00	.49	.34	.25	.119	.21	.07	.06	.04	-.004	30
45	1.18	.53	.38	.26	.127	.36	.16	.11	.07	.008	45
60	1.21	.58	.40	.26	.135	.36	.19	.10	.06	.011	60
75	1.18	.56	.38	.27	.133	.43	.26	.12	.07	.020	75
90	1.24	.61	.43	.29	.145	.56	.32	.18	.08	.028	90
105	1.57	.78	.55	.35	.162	.84	.45	.27	.12	.044	105
120	1.99	1.00	.69	.43	.174	1.17	.63	.36	.17	.057	120
135	2.39	1.12	.81	.50	.191	1.50	.80	.47	.21	.072	135
150	2.62	1.22	.86	.52	.185	1.72	.89	.53	.24	.077	150
165	2.62	1.25	.86	.51	.176	1.74	.93	.56	.26	.075	165
180	2.24	1.15	.80	.46	.161	1.60	.84	.53	.25	.066	180
195	1.89	.95	.65	.39	.131	1.06	.56	.36	.17	.040	195
210	1.39	.71	.47	.30	.098	.51	.26	.16	.06	.004	210
225	.86	.45	.30	.21	.065	.15	.07	.02	.00	-.015	225
240	.47	.24	.18	.14	.048	-.01	-.01	-.03	-.03	-.033	240
255	.24	.13	.11	.12	.044	-.03	-.03	-.05	-.05	-.064	255
270	.14	.09	.08	.11	.041	-.03	-.03	-.05	-.06	-.118	270
285	.08	.07	.07	.11	.044	-.03	-.02	-.04	-.05	-.107	285
300	.05	.07	.07	.12	.053	-.02	-.01	-.03	-.04	-.069	300
315	.09	.09	.09	.14	.068	-.02	.00	-.01	-.02	-.038	315
330	.21	.14	.14	.17	.080	-.17	-.09	-.03	.00	-.010	330
345	.33	.19	.18	.18	.088	-.10	-.04	-.04	.01	-.004	345

TABLE 20 - Continued

FLIGHT 17, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 110 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	-.51	3.06	9.49	22.16	29.04	29.74	29.42
15	-.74	3.97	9.94	22.07	26.24	26.89	26.89
30	.92	5.58	10.93	20.49	22.57	22.47	23.34
45	1.67	6.16	10.58	18.67	18.72	18.09	19.07
60	1.65	6.41	9.76	16.65	15.82	15.06	16.74
75	2.03	6.31	9.08	14.41	13.69	13.41	15.77
90	2.65	6.82	9.23	12.93	13.48	11.18	22.02
105	3.94	8.45	10.76	12.72	13.20	14.58	20.28
120	5.43	10.55	13.23	14.70	14.10	9.57	14.48
135	6.95	12.29	14.47	17.27	13.55	11.64	11.40
150	7.88	13.16	15.22	17.67	13.47	11.24	12.63
165	8.22	13.07	15.18	17.95	15.66	13.94	14.60
180	7.61	11.72	15.07	19.17	18.18	16.67	16.49
195	5.06	9.80	14.53	19.40	19.81	19.00	18.29
210	2.22	7.25	12.76	19.09	20.16	19.83	19.17
225	.39	4.67	10.01	18.41	20.20	20.21	19.68
240	-.45	2.82	7.27	17.81	20.32	20.72	20.03
255	-.81	1.83	5.08	17.02	20.18	21.21	20.91
270	-1.02	1.42	3.57	16.10	20.14	22.06	21.92
285	-.91	1.26	3.00	14.36	19.31	22.58	23.11
300	-.64	1.33	2.99	13.21	17.60	20.74	22.20
315	-.33	1.67	3.67	13.84	19.16	21.82	23.07
330	-.60	2.32	5.01	16.17	22.74	25.32	26.43
345	-.35	2.88	7.19	19.35	27.27	28.99	29.73

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	12.703		0	2.454				
1	1.743	-4.858	1	-.923	-.354			
2	-.077	.136	2	.000	-.142			
3	-.014	.159	3	.043	-.101			
4	.100	.036	4	.040	.030			
5	-.009	.027	5	-.010	.026			
6	.036	.000	6	-.002	.024			
7	.014	.018	7	-.006	.010			
8	-.009	.023	8	.030	.012			
9	.005	-.027	9	.012	.008			
10	.027	.018	10	.018	.012			

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 20 - Continued

FLIGHT 17, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 110 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.094		.75	0	17.151		.95	0	20.319	
.25	1	-3.100	2.377	.75	1	.252	-.219	.95	1	5.071	-2.694
.25	2	1.214	-1.160	.75	2	2.948	1.740	.95	2	1.184	.369
.25	3	-.721	.506	.75	3	.953	1.049	.95	3	1.592	-1.450
.25	4	.006	-.165	.75	4	.243	-.071	.95	4	1.993	.788
.25	5	-.254	-.100	.75	5	.343	-.374	.95	5	-.361	.427
.25	6	.085	-.066	.75	6	.105	.213	.95	6	-.512	-.845
.25	7	-.020	-.130	.75	7	-.051	-.040	.95	7	.291	-.377
.25	8	.083	-.086	.75	8	.169	.044	.95	8	.063	.303
.25	9	.029	-.078	.75	9	-.015	.036	.95	9	-.174	.171
.25	10	.068	-.045	.75	10	.024	-.035	.95	10	-.177	-.143
.40	0	6.033		.85	0	18.942					
.40	1	-3.745	3.502	.85	1	3.394	-2.960				
.40	2	1.702	-.800	.85	2	3.226	1.494				
.40	3	-.498	.598	.85	3	1.830	.003				
.40	4	-.223	-.044	.85	4	1.126	.277				
.40	5	-.080	-.205	.85	5	.137	-.534				
.40	6	-.054	-.051	.85	6	.208	-.145				
.40	7	-.028	-.019	.85	7	-.095	-.007				
.40	8	-.056	-.044	.85	8	.116	-.024				
.40	9	-.005	-.031	.85	9	.146	.035				
.40	10	-.012	-.036	.85	10	-.034	-.088				
.55	0	9.501		.90	0	19.039					
.55	1	-3.354	3.428	.90	1	4.849	-4.747				
.55	2	2.792	.616	.90	2	2.859	1.229				
.55	3	.266	.403	.90	3	1.495	-.262				
.55	4	-.215	.314	.90	4	1.311	.417				
.55	5	.109	-.240	.90	5	.148	-.361				
.55	6	.091	.005	.90	6	.033	-.370				
.55	7	.053	-.046	.90	7	.077	-.023				
.55	8	.010	-.068	.90	8	-.113	.378				
.55	9	.097	-.049	.90	9	-.235	-.170				
.55	10	.061	.001	.90	10	.398	-.387				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 20 - Concluded

FLIGHT 17, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 110 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-315	784	723	-54	-1424	-3091		
15	-269	1378	1582	948	-623	-2653		
30	768	1832	2170	1587	151	-1638		
45	780	1477	1736	1243	327	-902		
60	-87	578	506	70	-271	-1191		
75	-725	-322	-678	-1237	-1838	-3021		
90	-508	-792	-1672	-2582	-3765	-5081		
105	-463	-1295	-2368	-3431	-4883	-6295		
120	-839	-1749	-2766	-3727	-4795	-6265		
135	-1215	-1799	-2576	-3469	-4548	-6215		
150	-862	-1576	-2305	-3288	-4636	-6464		
165	-634	-1617	-2332	-3355	-4663	-6464		
180	-1227	-1815	-2260	-3145	-4557	-6434		
195	-1033	-1337	-2061	-3069	-4469	-6126		
210	-508	-231	-994	-2277	-4302	-5986		
225	84	718	380	-636	-2762	-4703		
240	472	1345	1582	1072	-509	-2365		
255	415	1832	2269	2178	1603	610		
270	84	1815	2631	2999	3354	2949		
285	-463	1790	2730	3161	3785	3605		
300	-201	1584	2269	2360	2624	2322		
315	-360	1139	1338	1015	1049	640		
330	-1113	206	506	375	1	-1350		
345	-1135	305	316	-331	-1248	-2693		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-5965	-10777	387	
15	-6649	-11950	-1837	
30	-5721	-10875	-749	
45	-5119	-6821	4643	
60	-2253	-2198	8179	
75	-56	114	9219	
90	1605	-1400	7139	
105	2110	-3077	4163	
120	823	-4884	3539	
135	205	-4835	3651	
150	-544	-3175	5523	
165	-609	-1465	8099	
180	-479	798	9315	
195	-1065	16	9811	
210	-3051	-2816	7859	
225	-4305	-7000	3747	
240	-6486	-10663	483	
255	-9514	-12764	-621	
270	-11549	-12584	243	
285	-11175	-10973	1667	
300	-9238	-8075	3299	
315	-7528	-6040	5491	
330	-5119	-5079	5219	
345	-4712	-6756	3091	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	564	356	151
15	1010	709	199
30	1181	838	218
45	1158	779	218
60	1305	1069	233
75	1479	1272	242
90	1454	1321	218
105	1224	1136	177
120	1123	799	131
135	595	404	41
150	-104	-310	-9
165	-537	-584	-55
180	-776	-710	-63
195	-670	-698	-53
210	-403	-760	-22
225	-129	-676	-10
240	148	-651	34
255	170	-682	60
270	226	-649	73
285	178	-524	84
300	-215	-646	95
315	-224	-568	90
330	-85	-195	93
345	95	3	102

TABLE 21

FLIGHT 18, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 112 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -													
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
6	9.95	5.21	3.57	2.54	1.52	.59	.100	10.56	4.61	3.29	2.74	1.96	.72	.153	6
21	8.49	5.32	3.82	2.50	1.39	.59	.061	9.55	4.47	3.29	2.80	1.94	.71	.073	21
36	6.81	5.13	3.82	2.26	1.05	.47	.029	7.72	4.09	2.99	2.61	1.73	.55	-.006	36
51	4.66	4.53	3.65	1.91	.67	.32	-.019	5.69	3.19	2.39	2.28	1.41	.39	-.088	51
66	3.47	3.99	3.52	1.75	.40	.23	-.040	4.19	2.33	1.97	1.99	1.12	.23	-.151	66
81	2.78	3.52	3.29	1.66	.20	.16	-.057	3.31	1.65	1.72	1.74	.92	.13	-.222	81
96	1.83	2.81	2.81	1.26	.03	.10	-.060	2.52	1.15	1.37	1.46	.70	.07	-.250	96
111	.90	1.86	2.20	1.01	-.10	.11	-.046	1.78	.71	.99	1.14	.52	.07	-.269	111
126	.99	1.66	2.16	.88	.02	.17	-.032	1.76	.73	1.04	1.15	.59	.17	-.206	126
141	1.65	2.15	1.98	1.06	.23	.26	.010	2.52	1.33	1.37	1.30	.77	.26	-.161	141
156	2.75	2.79	2.31	1.37	.54	.40	.063	3.72	2.09	1.86	1.64	1.08	.40	-.085	156
171	3.93	3.36	2.58	1.62	.82	.49	.086	5.08	2.77	2.33	1.93	1.34	.53	.030	171
186	4.66	3.59	2.63	1.75	.99	.54	.109	6.01	3.19	2.54	2.00	1.45	.56	.069	186
201	5.08	3.42	2.51	1.67	1.01	.53	.107	6.24	3.17	2.41	1.84	1.40	.56	.085	201
216	5.14	3.25	2.31	1.58	.99	.51	.113	6.03	3.03	2.23	1.71	1.30	.54	.088	216
231	5.28	3.20	2.19	1.56	1.01	.51	.121	6.03	2.97	2.15	1.66	1.29	.57	.108	231
246	5.47	3.22	2.17	1.56	1.12	.51	.126	6.62	2.96	2.12	1.65	1.29	.56	.124	246
261	5.96	3.31	2.21	1.59	1.08	.50	.126	6.11	3.01	2.12	1.64	1.30	.54	.142	261
276	6.64	3.43	2.24	1.62	1.11	.49	.122	5.91	3.01	2.11	1.64	1.29	.53	.138	276
291	7.14	3.54	2.30	1.66	1.14	.46	.117	6.10	2.99	2.11	1.62	1.26	.50	.142	291
306	7.48	3.59	2.34	1.68	1.12	.43	.117	5.72	2.97	2.09	1.62	1.28	.52	.142	306
321	8.66	4.10	2.67	1.92	1.27	.53	.136	7.61	3.39	2.37	1.90	1.48	.61	.148	321
336	9.75	4.62	3.05	2.19	1.41	.57	.161	10.06	3.98	2.78	2.25	1.69	.66	.173	336
351	10.41	4.97	3.34	2.41	1.51	.59	.141	10.42	4.43	3.09	2.53	1.86	.70	.183	351

ψ_{nom}, deg	Δp, lb/sq in., at -											
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
6	10.98	7.02	4.94	3.83	3.20	2.68	1.79	.99	.81	.42	.181	6
21	10.15	7.79	5.04	3.80	3.20	2.64	1.76	.90	.76	.37	.155	21
36	8.80	6.43	4.61	3.42	2.93	2.34	1.53	.70	.62	.26	.061	36
51	6.47	5.03	3.82	2.74	2.42	1.89	1.22	.44	.44	.13	-.007	51
66	4.91	3.81	3.16	2.30	1.96	1.50	.94	.25	.30	.05	-.065	66
81	3.92	2.96	2.67	2.00	1.64	1.14	.72	.08	.18	-.02	-.117	81
96	3.20	2.33	2.21	1.31	1.36	.86	.55	-.04	.10	-.05	-.138	96
111	2.81	1.92	1.88	1.06	1.08	.72	.47	-.07	.12	-.03	-.140	111
126	3.17	2.15	2.11	1.30	1.23	.89	.62	.04	.23	.05	-.078	126
141	3.84	2.73	2.50	1.68	1.56	1.08	.81	.19	.35	.14	-.037	141
156	5.00	3.72	3.11	2.22	2.00	1.47	1.09	.40	.52	.28	.014	156
171	6.22	4.65	3.72	2.72	2.38	1.84	1.33	.59	.67	.38	.052	171
186	7.09	5.16	3.93	2.90	2.51	1.97	1.42	.68	.72	.42	.085	186
201	7.06	4.94	3.72	2.78	2.38	1.92	1.36	.67	.70	.41	.105	201
216	6.80	4.56	3.51	2.63	2.22	1.84	1.29	.66	.69	.40	.121	216
231	6.70	4.38	3.33	2.53	2.14	1.79	1.23	.66	.65	.38	.118	231
246	6.54	4.32	3.24	2.47	2.07	1.77	1.19	.66	.63	.35	.130	246
261	5.99	4.21	3.14	2.40	1.99	1.72	1.13	.63	.58	.33	.136	261
276	5.88	4.12	3.07	2.33	1.95	1.67	1.09	.62	.55	.31	.148	276
291	5.77	4.01	3.01	2.26	1.88	1.64	1.04	.59	.51	.29	.157	291
306	5.83	4.02	2.97	2.26	1.87	1.64	1.05	.58	.51	.28	.148	306
321	6.92	4.67	3.45	2.65	2.21	1.92	1.24	.71	.60	.33	.168	321
336	9.02	5.55	4.04	3.15	2.62	2.25	1.48	.85	.70	.38	.185	336
351	10.20	6.30	4.55	3.55	2.95	2.50	1.67	.94	.77	.41	.181	351

TABLE 21 - Continued

FLIGHT 18, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 112 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75							Δp, lb/sq in., at - r/R = 0.55							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	6.15	3.44	2.35	1.86	1.34	.51	-.043	2.87	1.20	.86	.86	.73	.23	.149	6
21	6.83	3.59	2.48	2.00	1.38	.52	-.021	3.40	1.55	1.08	.99	.81	.30	.141	21
36	6.90	3.59	2.60	2.07	1.34	.51	.024	3.41	1.61	1.11	.98	.76	.39	.088	36
51	5.95	2.88	2.26	1.80	1.08	.39	-.002	2.93	1.38	.95	.86	.68	.36	.090	51
66	4.89	2.26	1.93	1.52	.83	.28	-.052	2.25	1.03	.70	.64	.55	.30	.086	66
81	3.73	1.77	1.63	1.26	.61	.18	-.064	1.82	.80	.58	.51	.46	.27	.083	81
96	2.77	1.43	1.44	1.10	.45	.13	-.035	1.82	.84	.60	.53	.46	.27	.085	96
111	2.38	1.38	1.47	1.12	.45	.15	-.014	2.46	1.21	.82	.73	.59	.33	.107	111
126	2.72	1.74	1.68	1.33	.72	.24	.031	3.22	1.57	1.10	.96	.77	.41	.123	126
141	3.51	2.28	2.04	1.60	.97	.36	.084	3.75	1.93	1.31	1.13	.91	.47	.151	141
156	4.19	2.73	2.27	1.77	1.15	.46	.093	4.14	2.01	1.46	1.26	1.01	.49	.131	156
171	4.89	3.13	2.49	1.93	1.28	.53	.117	4.92	2.45	1.70	1.44	1.15	.54	.133	171
186	5.47	3.35	2.50	1.93	1.29	.54	.117	5.41	2.45	1.71	1.47	1.15	.52	.129	186
201	5.56	3.08	2.24	1.69	1.16	.43	.053	4.04	1.94	1.36	1.23	.99	.37	.123	201
216	5.12	2.65	1.85	1.37	1.01	.38	-.019	3.30	1.44	1.03	1.00	.83	.20	.135	216
231	4.67	2.44	1.66	1.23	.93	.34	-.030	2.44	1.00	.74	.77	.65	.12	.105	231
246	4.05	2.25	1.50	1.11	.85	.31	-.043	1.76	.65	.51	.58	.51	.05	.088	246
261	3.72	2.05	1.35	.98	.76	.25	-.059	1.26	.39	.35	.45	.41	.01	.074	261
276	3.43	1.86	1.21	.88	.67	.22	-.064	.87	.20	.20	.33	.33	.00	.065	276
291	3.21	1.68	1.09	.78	.61	.20	-.073	.73	.13	.15	.28	.28	-.02	.068	291
306	3.04	1.65	1.07	.79	.62	.20	-.081	.80	.17	.19	.31	.30	-.01	.069	306
321	3.34	1.99	1.32	1.01	.79	.29	-.066	1.13	.34	.29	.40	.37	.04	.080	321
336	4.12	2.49	1.67	1.29	.99	.37	-.052	1.70	.64	.49	.56	.50	.10	.106	336
351	5.15	3.02	2.02	1.59	1.18	.46	-.047	2.34	.94	.69	.72	.62	.18	.128	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40					Δp, lb/sq in., at - r/R = 0.25					ψ_{nom}, deg
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	.81	.20	.29	.08	-.038	-.03	-.04	-.02	.03	-.002	6
21	.94	.48	.38	.19	.035	.05	-.01	.00	.06	.004	21
36	1.27	.59	.38	.29	.106	.55	.23	.14	.10	.038	36
51	1.32	.58	.36	.27	.102	.48	.20	.10	.08	.039	51
66	1.06	.49	.30	.24	.099	.43	.19	.09	.07	.038	66
81	.87	.44	.26	.23	.098	.41	.16	.10	.06	.038	81
96	.93	.47	.32	.27	.112	.59	.28	.16	.09	.056	96
111	1.30	.75	.44	.36	.135	.88	.44	.26	.14	.073	111
126	1.87	1.01	.63	.45	.164	1.27	.64	.39	.18	.093	126
141	2.33	1.23	.76	.51	.162	1.66	.84	.51	.24	.109	141
156	2.48	1.33	.80	.53	.157	1.93	1.00	.61	.28	.122	156
171	2.43	1.29	.78	.51	.144	1.85	.94	.59	.28	.113	171
186	2.13	1.12	.66	.44	.112	1.42	.71	.45	.22	.096	186
201	1.66	.77	.53	.24	.002	.75	.34	.21	.10	.038	201
216	1.28	.48	.40	.07	-.061	.30	.11	.03	.01	-.005	216
231	.98	.34	.25	.02	-.067	.14	-.04	-.07	-.03	-.030	231
246	.84	.19	.19	-.03	-.090	.08	-.07	-.10	-.10	-.229	246
261	.68	.09	.14	-.05	-.097	.09	-.06	-.11	-.11	-.386	261
276	.58	.03	.15	-.03	-.097	.09	-.06	-.09	-.12	-.333	276
291	.55	.02	.14	-.01	-.085	.10	-.05	-.09	-.19	-.174	291
306	.59	.05	.17	.01	-.060	.06	-.06	-.10	-.10	-.081	306
321	.66	.10	.20	.03	-.056	.02	-.18	-.07	-.01	-.025	321
336	.75	.18	.26	.07	-.049	.06	-.03	-.03	.03	-.011	336
351	.76	.15	.25	.07	-.044	.10	.00	-.02	.03	-.003	351

TABLE 21 - Continued

FLIGHT 18, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 112 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	.00	3.05	9.72	20.80	31.96	31.36	29.57
21	.41	4.92	11.58	22.03	31.00	30.10	28.41
36	2.52	6.51	11.84	22.26	26.98	25.87	24.78
51	2.06	6.40	10.43	18.31	20.95	19.87	19.71
66	1.84	5.41	8.22	14.44	16.11	14.82	16.37
81	1.80	4.83	6.87	11.01	12.46	11.23	13.70
96	2.73	5.42	6.95	8.75	9.70	8.19	10.21
111	4.17	7.53	9.20	8.63	8.32	5.63	6.91
126	5.97	10.23	11.90	11.39	10.53	6.73	7.39
141	7.74	12.20	14.02	15.02	13.56	9.86	9.78
156	9.14	12.83	15.14	17.77	18.16	14.75	14.05
171	8.76	12.42	17.46	20.14	22.36	19.48	17.76
186	6.77	10.67	17.78	20.96	24.30	21.74	19.67
201	3.30	7.32	14.03	18.85	23.53	21.46	19.51
216	.79	4.54	10.82	16.18	22.53	20.36	18.88
231	-.34	2.95	7.88	14.70	21.65	20.30	18.83
246	-1.77	1.90	5.57	13.19	21.07	20.69	19.36
261	-2.37	1.11	3.92	11.71	19.95	20.38	19.72
276	-2.20	1.01	2.76	10.51	19.42	20.08	20.49
291	-1.97	1.07	2.15	9.50	18.80	19.94	21.00
306	-1.26	1.53	2.49	9.34	18.75	19.79	21.18
321	-.69	1.97	3.73	11.62	22.07	23.51	24.41
336	.07	2.68	5.75	14.68	26.57	27.97	27.41
351	.25	2.61	7.92	18.00	29.78	30.22	29.28

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	17.345		0	3.713		0	9.149	
1	1.778	- 8.045	1	-.041	-.237	1	-.292	.171
2	-.061	.158	2	-.518	-.326	2	.036	.014
3	-.012	.207	3	.008	-.326	3	.038	-.043
4	.070	-.032	4	.004	-.008	4	-.005	.009
5	-.015	.067	5	-.061	.000	5	-.008	.000
6	.032	.055	6	.000	-.004	6	.000	.003
7	.015	.012	7	.045	.020	7	.004	-.008
8	.018	.012	8	.020	.012	8	-.007	-.007
9	.012	-.012	9	.000	.024	9	.011	.009
10	-.009	-.012	10	-.008	.008	10	.012	.000

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o \right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o \right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o \right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o \right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o \right) + F_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 21 - Continued

FLIGHT 18, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 112 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	1.988		.75	0	14.991		.95	0	19.099	
.25	1	-2.560	3.232	.75	1	.267	.875	.95	1	5.397	-4.864
.25	2	1.643	-1.542	.75	2	5.568	1.767	.95	2	4.838	1.305
.25	3	-.464	.852	.75	3	.094	1.730	.95	3	-.261	.455
.25	4	-.245	-.275	.75	4	.141	-.200	.95	4	.887	-.692
.25	5	-.235	.115	.75	5	-.239	-.021	.95	5	.060	.208
.25	6	-.125	-.228	.75	6	-.003	.079	.95	6	-.191	.169
.25	7	-.137	-.040	.75	7	-.286	-.015	.95	7	-.291	.122
.25	8	.021	-.092	.75	8	.093	-.069	.95	8	-.014	.024
.25	9	-.063	-.126	.75	9	.014	-.091	.95	9	.111	-.015
.25	10	.041	-.020	.75	10	.058	-.093	.95	10	-.014	-.046
.40	0	7.451		.85	0	20.438					
.40	1	-5.442	6.772	.85	1	3.425	-3.915				
.40	2	3.482	-2.814	.85	2	6.822	1.817				
.40	3	-.826	2.137	.85	3	.607	1.001				
.40	4	-.685	-.285	.85	4	.825	-.434				
.40	5	-.579	.114	.85	5	-.052	.136				
.40	6	-.143	-.282	.85	6	-.055	.059				
.40	7	-.313	-.021	.85	7	-.255	.182				
.40	8	.017	-.099	.85	8	.013	.016				
.40	9	-.107	-.126	.85	9	.127	.040				
.40	10	.041	-.005	.85	10	.016	-.015				
.55	0	9.089		.90	0	19.347					
.55	1	-3.066	3.367	.90	1	4.902	-5.440				
.55	2	4.207	.119	.90	2	6.372	1.799				
.55	3	-.117	1.104	.90	3	.261	.777				
.55	4	.154	.228	.90	4	.964	-.698				
.55	5	-.482	-.059	.90	5	-.196	.208				
.55	6	.202	-.074	.90	6	-.174	.093				
.55	7	-.215	.116	.90	7	-.306	.101				
.55	8	.069	-.114	.90	8	.020	.094				
.55	9	-.099	.066	.90	9	.145	.081				
.55	10	.041	-.051	.90	10	.009	-.005				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 21 - Concluded

FLIGHT 18, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 112 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	2378	2492	3137	2311	484	-2753	-6741	-6672
21	2959	3853	4647	3618	1461	-1699	-5701	-6074
36	3495	3655	4683	3990	2667	112	-3080	-4168
51	2845	2657	3381	2721	2438	739	-1062	-2635
66	1922	1526	1898	766	502	-1082	-1391	-2373
81	1796	462	136	-1152	-1971	-4017	-4231	-3110
96	1192	-314	-1003	-2821	-4171	-6425	-5680	-3227
111	611	-1188	-2061	-3699	-4725	-6813	-5591	-2789
126	-336	-1625	-2106	-3690	-4470	-6415	-4969	-2314
141	280	-1460	-1953	-3279	-3704	-5967	-5507	-2949
156	360	-957	-850	-2239	-3704	-6833	-6224	-3723
171	622	-586	-389	-1848	-3863	-6942	-7191	-4694
186	907	-256	-271	-1991	-4074	-6863	-7003	-4672
201	1477	347	-118	-2106	-3810	-6226	-6449	-4431
216	1682	1106	913	-999	-2675	-5251	-5920	-4190
231	2138	2203	2459	1080	-396	-2813	-4691	-3957
246	2560	3267	3842	2960	2042	252	-1893	-3146
261	1967	3762	4827	4610	4532	3406	1088	-1949
276	1728	3762	5080	5249	5896	5097	2427	-1759
291	2058	3655	4800	4706	5228	4500	2495	-1621
306	1944	2962	3842	3551	3864	2898	811	-2373
321	1010	1865	2676	2225	2218	759	-1736	-3964
336	941	1180	1826	1004	854	-1082	-3828	-5154
351	1317	1502	1989	966	0	-2345	-5141	-5869

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-5846	-11738	-2981	11895
21	-6285	-11852	-2485	11868
36	-3632	-6512	2539	13039
51	15	667	9707	15381
66	4378	4461	11003	15244
81	6967	3403	8155	14173
96	4834	-81	4507	12929
111	2571	-2865	2923	13085
126	2213	-1840	3451	12874
141	2294	602	6651	14439
156	2034	2833	9819	15711
171	1545	3728	11035	16113
186	699	2165	10011	15866
201	-294	-391	7163	14841
216	-2199	-3679	5323	14759
231	-4576	-6300	3355	13899
246	-7539	-8482	1547	13368
261	-11755	-11770	891	13981
276	-11902	-12080	-437	13258
291	-10176	-9410	987	12956
306	-7978	-6382	3803	14000
321	-4494	-3012	4923	14027
336	-3697	-4217	4203	14091
351	-4283	-7880	-69	12316

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	571	716	168
21	1099	1115	241
36	895	937	214
51	786	873	183
66	882	958	333
81	835	1012	170
96	388	762	111
111	-174	131	42
126	-419	3	-29
141	-967	-513	-66
156	-1135	-640	-84
171	-988	-578	-47
186	-717	-362	-31
201	-757	-499	-42
216	-721	-716	-41
231	-452	-655	0
246	59	-622	79
261	307	-523	121
276	169	-551	111
291	-242	-563	96
306	-338	-427	98
321	-223	-52	114
336	-337	-3	82
351	-180	234	85

TABLE 22

FLIGHT 19, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 115 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	9.91	5.06	3.87	2.77	1.59	.64	.154	10.80	4.91	3.55	2.91	1.88	.67	.188	0
15	8.68	4.73	4.20	2.84	1.56	.66	.085	10.04	4.76	3.61	3.03	1.91	.71	.097	15
30	7.31	5.68	4.34	2.73	1.37	.60	.037	8.33	4.86	3.48	2.97	1.80	.65	.017	30
45	5.11	5.08	4.23	2.35	.91	.45	-.037	6.37	3.74	2.98	2.61	1.45	.45	-.086	45
60	3.48	4.02	4.01	2.07	.52	.34	-.075	4.55	2.63	2.46	2.22	1.12	.30	-.170	60
75	2.63	3.49	4.17	1.97	.25	.24	-.096	3.69	1.90	2.29	1.97	.91	.17	-.239	75
90	2.18	3.08	3.74	2.91	.00	.19	-.087	3.26	1.65	2.79	1.93	.79	.15	-.281	90
105	2.27	3.21	3.92	3.22	-.05	.22	-.067	3.78	2.15	3.19	2.91	.85	.23	-.276	105
120	1.94	2.89	3.63	2.52	.24	.28	-.039	3.63	2.12	3.00	1.83	.91	.28	-.234	120
135	2.08	2.94	3.12	1.62	.43	.34	-.016	3.76	2.31	2.06	2.03	.98	.33	-.197	135
150	2.42	2.94	3.01	1.70	.56	.42	.033	4.28	2.60	2.09	1.84	1.02	.40	-.122	150
165	3.22	3.10	3.06	1.87	.77	.50	.067	5.39	3.13	2.34	2.07	1.19	.50	.009	165
180	4.45	3.49	3.15	2.09	1.04	.60	.116	6.53	3.56	2.63	2.23	1.41	.60	.053	180
195	5.11	3.67	3.04	2.10	1.14	.63	.128	7.09	3.70	2.64	2.16	1.45	.62	.075	195
210	5.25	3.53	2.78	1.97	1.13	.62	.130	7.02	3.59	2.48	1.96	1.37	.61	.104	210
225	5.40	3.39	2.63	1.89	1.14	.63	.140	7.11	3.54	2.41	1.90	1.34	.60	.124	225
240	5.81	3.37	2.58	1.91	1.18	.63	.154	7.98	3.58	2.39	1.90	1.36	.61	.142	240
255	6.26	3.41	2.59	1.93	1.23	.61	.156	8.51	3.57	2.35	1.89	1.36	.59	.150	255
270	6.65	3.48	2.59	1.94	1.24	.60	.148	8.18	3.50	2.29	1.83	1.32	.58	.150	270
285	7.41	3.73	2.64	2.00	1.30	.60	.162	8.02	3.49	2.27	1.81	1.32	.57	.179	285
300	8.05	3.82	2.67	2.00	1.30	.55	.178	6.66	3.55	2.24	1.75	1.22	.48	.197	300
315	8.50	4.04	2.90	2.14	1.34	.53	.164	9.45	3.94	2.60	2.08	1.45	.63	.177	315
330	9.78	4.63	3.29	2.41	1.52	.68	.191	10.17	4.52	3.06	2.42	1.69	.68	.237	330
345	9.94	4.97	3.51	2.57	1.53	.66	.235	10.92	4.80	3.26	2.58	1.68	.62	.252	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	11.20	8.44	4.84	3.80	3.01	2.88	1.77	.91	.75	.40	.156	0
15	10.74	8.85	4.93	3.88	3.11	2.91	1.79	.88	.74	.35	.104	15
30	9.84	8.05	4.74	3.71	3.01	2.77	1.69	.77	.63	.27	.036	30
45	7.39	6.02	4.09	3.18	2.45	2.31	1.38	.51	.44	.12	-.050	45
60	5.38	4.27	3.30	2.78	2.11	1.94	1.03	.26	.27	.01	-.122	60
75	4.37	3.17	2.73	2.42	1.87	1.59	.77	.03	.14	-.06	-.163	75
90	3.99	2.84	2.63	2.41	1.81	1.47	.70	-.06	.09	-.08	-.179	90
105	3.98	2.84	2.69	2.38	1.90	1.46	.79	.02	.13	-.04	-.172	105
120	5.02	3.77	3.45	2.94	2.39	1.71	.96	.18	.23	.03	-.131	120
135	5.11	3.85	3.44	2.56	2.09	1.67	1.03	.22	.33	.11	-.074	135
150	5.40	4.03	3.36	2.41	2.04	1.66	1.06	.27	.41	.17	-.057	150
165	6.27	4.73	3.64	2.69	2.18	1.93	1.23	.41	.53	.30	-.017	165
180	7.55	5.44	3.99	2.99	2.43	2.22	1.39	.55	.66	.38	.018	180
195	8.40	5.59	3.95	3.02	2.42	2.25	1.42	.60	.68	.41	.042	195
210	8.04	5.17	3.69	2.84	2.21	2.14	1.34	.60	.65	.39	.054	210
225	7.85	4.95	3.53	2.72	2.10	2.07	1.28	.62	.64	.37	.061	225
240	8.01	4.89	3.45	2.67	2.05	2.05	1.25	.62	.61	.35	.069	240
255	7.46	4.71	3.31	2.59	1.96	2.02	1.20	.62	.55	.31	.073	255
270	6.73	4.49	3.08	2.41	1.83	1.91	1.10	.56	.48	.29	.085	270
285	6.44	4.31	2.94	2.32	1.76	1.85	1.04	.53	.45	.26	.099	285
300	6.28	4.12	2.85	2.19	1.61	1.73	.94	.47	.38	.21	.093	300
315	7.91	4.91	3.37	2.65	2.01	2.07	1.20	.65	.51	.27	.081	315
330	9.58	5.95	4.16	3.22	2.43	2.44	1.46	.78	.64	.38	.134	330
345	10.84	6.87	4.43	3.50	2.71	2.62	1.58	.82	.67	.37	.150	345

TABLE 22 - Continued

FLIGHT 19, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 115 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.64	3.68	2.75	2.06	1.56	.63	.078	2.71	1.20	.95	.78	.66	.40	.067	0
15	7.39	3.89	2.94	1.84	1.63	.64	.069	3.15	1.43	1.09	.89	.75	.42	.087	15
30	7.58	3.93	3.02	2.24	1.60	.59	.047	3.67	1.67	1.25	1.02	.84	.46	.104	30
45	7.02	3.51	2.79	2.07	1.37	.47	.019	3.49	1.62	1.19	.97	.80	.43	.109	45
60	5.94	2.77	2.40	1.83	1.09	.34	-.005	2.90	1.33	.98	.79	.69	.39	.112	60
75	4.84	2.17	2.00	1.63	.85	.24	-.064	2.34	1.04	.80	.60	.59	.35	.110	75
90	3.91	1.87	1.75	1.48	.74	.20	-.007	2.29	1.04	.89	.61	.59	.35	.112	90
105	3.43	2.15	1.86	1.51	.77	.22	.003	2.75	1.33	1.12	.74	.71	.42	.143	105
120	3.75	2.79	2.20	1.72	1.02	.31	.035	3.84	2.02	1.39	1.10	.96	.52	.171	120
135	4.75	3.87	2.82	2.12	1.37	.43	.089	4.42	2.28	1.58	1.27	1.09	.56	.176	135
150	5.15	3.69	2.86	2.06	1.38	.46	.130	4.81	2.37	1.72	1.39	1.16	.59	.180	150
165	5.53	3.70	2.85	2.06	1.44	.52	.127	4.77	2.39	1.73	1.42	1.19	.60	.158	165
180	5.97	3.50	2.91	2.11	1.54	.60	.144	5.83	2.91	2.07	1.65	1.34	.62	.162	180
195	6.32	3.61	2.82	2.03	1.50	.57	.139	5.59	2.71	1.95	1.56	1.25	.58	.141	195
210	6.37	3.31	2.58	1.85	1.36	.52	.127	4.19	2.10	1.56	1.26	1.02	.47	.098	210
225	6.23	3.06	2.33	1.68	1.25	.49	.109	2.92	1.73	1.31	1.04	.82	.38	.078	225
240	5.70	2.87	2.16	1.55	1.18	.45	.097	1.87	1.01	1.02	.93	.73	.28	.069	240
255	5.22	2.63	1.97	1.41	1.08	.39	.089	.87	.55	.68	.62	.57	.28	.056	255
270	4.79	2.37	1.77	1.23	.94	.34	.101	.32	.23	.39	.36	.33	.23	.033	270
285	4.39	2.13	1.56	1.10	.81	.29	.092	.36	-.06	.15	.14	.15	.13	-.008	285
300	4.04	1.82	1.40	.98	.73	.21	.043	.54	.05	.21	.17	.17	.10	-.014	300
315	4.04	2.21	1.68	1.24	.93	.33	.040	.89	.25	.34	.29	.27	.17	-.001	315
330	4.76	2.79	2.09	1.54	1.16	.44	.059	1.58	.59	.54	.46	.39	.24	.012	330
345	5.77	3.29	2.46	1.81	1.36	.52	.063	2.20	.92	.75	.62	.53	.31	.038	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	.37	.27	.20	.23	.101	.36	.21	.12	.09	.009	0
15	.72	.42	.28	.26	.116	-.15	-.04	-.02	.03	-.022	15
30	1.29	.62	.43	.31	.132	.64	.31	.16	.08	-.002	30
45	1.48	.67	.48	.32	.138	.56	.27	.14	.09	-.009	45
60	1.36	.63	.45	.30	.135	.49	.24	.11	.07	-.006	60
75	1.19	.60	.40	.29	.134	.49	.24	.13	.07	.001	75
90	1.30	.70	.45	.33	.150	.66	.34	.19	.10	.016	90
105	1.68	.89	.58	.40	.173	1.04	.55	.28	.16	.036	105
120	2.29	1.18	.77	.50	.193	1.47	.77	.45	.21	.057	120
135	2.90	1.42	.97	.59	.217	1.83	.95	.56	.26	.072	135
150	3.06	1.55	1.03	.61	.200	2.18	1.12	.68	.30	.081	150
165	2.93	1.53	1.01	.60	.197	2.22	1.16	.71	.33	.078	165
180	2.66	1.40	.92	.55	.178	1.86	.96	.60	.29	.072	180
195	2.15	1.13	.74	.45	.142	1.21	.63	.39	.19	.044	195
210	1.44	.79	.51	.35	.108	.45	.41	.14	.07	.008	210
225	.80	.50	.39	.32	.111	.21	.18	-.04	.00	-.018	225
240	.09	.16	.20	.26	.089	.00	.00	-.07	-.03	-.049	240
255	.02	.06	.09	.21	.204	.02	-.06	-.09	-.08	-.153	255
270	-.01	.05	.05	.16	.125	-.01	-.04	-.08	-.08	-.222	270
285	.03	.11	.12	.17	.083	-.01	-.03	-.06	-.09	-.228	285
300	.07	.12	.10	.20	.080	.00	-.02	-.06	-.09	-.124	300
315	.11	.13	.11	.17	.076	-.01	-.01	-.05	-.05	-.050	315
330	.27	.21	.17	.20	.083	-.05	-.02	-.02	.02	-.027	330
345	.40	.26	.20	.21	.081	.01	.03	.00	.03	-.016	345

TABLE 22 - Continued

FLIGHT 19, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 115 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	1.97	3.46	10.06	23.95	31.38	31.97	30.59
15	-.29	4.82	11.48	25.14	31.15	31.44	29.51
30	2.55	6.96	13.00	25.24	28.86	29.13	28.82
45	2.38	7.61	12.44	22.33	22.74	22.64	23.33
60	1.97	7.15	10.60	18.14	17.10	16.59	18.14
75	2.06	6.57	8.86	14.26	13.33	12.97	15.44
90	2.96	7.40	8.99	12.33	12.16	12.27	13.62
105	4.70	9.27	10.98	12.78	12.91	15.25	14.34
120	6.75	12.10	14.82	15.95	16.81	14.66	14.21
135	8.38	14.82	16.70	21.27	17.40	14.53	14.08
150	9.95	15.61	17.74	21.65	18.00	15.92	15.26
165	10.30	15.18	17.87	22.47	20.79	19.54	17.57
180	8.71	13.82	20.58	23.44	24.10	22.92	20.87
195	5.74	11.22	19.35	23.37	24.94	23.77	21.98
210	2.35	7.94	15.25	21.79	23.58	23.01	21.36
225	.47	5.80	12.10	20.28	22.78	22.78	21.16
240	-.63	2.98	9.01	18.83	22.47	23.60	21.58
255	-1.44	2.42	6.43	17.09	21.27	23.81	22.01
270	-1.68	1.63	3.83	15.32	19.54	23.18	22.36
285	-1.66	1.95	1.66	13.56	18.63	23.04	23.61
300	-1.21	2.16	1.91	11.73	17.38	21.30	24.00
315	-.68	2.06	3.49	14.15	21.60	26.09	25.03
330	-.19	2.87	5.70	17.67	26.46	29.54	28.99
345	.21	3.34	7.93	20.89	28.84	30.51	30.07

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.378		0	4.188		0	7.717	
1	2.343	-6.933	1	-.966	-.612	1	-.403	.047
2	-.045	-.409	2	-.267	-.271	2	-.012	.042
3	-.118	.109	3	.043	-.190	3	.098	-.002
4	-.005	-.027	4	.057	.006	4	.010	-.027
5	-.136	.064	5	-.016	.032	5	-.042	-.015
6	.005	.059	6	.014	.024	6	.000	-.010
7	-.014	.032	7	-.002	.012	7	.015	.015
8	-.005	-.014	8	.000	.014	8	.005	.007
9	-.032	-.005	9	.008	.000	9	.000	-.007
10	-.023	-.009	10	.000	.014	10	.000	.002

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 22 - Continued

FLIGHT 19, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 115 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.652		.75	0	18.902		.95	0	21.580	
.25	1	-3.281	3.106	.75	1	-.527	.636	.95	1	5.048	-3.844
.25	2	1.995	-1.370	.75	2	5.016	2.248	.95	2	3.690	1.125
.25	3	-.475	.781	.75	3	.883	1.818	.95	3	.530	.328
.25	4	.038	-.239	.75	4	-.309	-.104	.95	4	.411	.633
.25	5	-.224	-.051	.75	5	.013	-.542	.95	5	-.579	-.258
.25	6	.135	-.218	.75	6	-.163	.247	.95	6	-.086	-.171
.25	7	.090	-.162	.75	7	-.261	-.155	.95	7	-.331	-.190
.25	8	.161	-.143	.75	8	.233	.124	.95	8	-.201	-.005
.25	9	.246	-.172	.75	9	.020	.081	.95	9	.032	-.083
.25	10	.221	-.062	.75	10	.082	-.204	.95	10	.266	.051
.40	0	7.047		.85	0	21.426					
.40	1	-4.276	3.888	.85	1	2.742	-2.565				
.40	2	2.097	-1.042	.85	2	5.802	1.905				
.40	3	-.625	1.002	.85	3	1.734	.797				
.40	4	-.456	.022	.85	4	.272	.435				
.40	5	-.119	-.222	.85	5	-.701	-.513				
.40	6	-.061	-.103	.85	6	.053	.250				
.40	7	-.111	-.126	.85	7	-.470	.127				
.40	8	.026	-.058	.85	8	.038	.058				
.40	9	-.139	.002	.85	9	.281	.096				
.40	10	.028	.070	.85	10	.089	-.025				
.55	0	10.864		.90	0	22.102					
.55	1	-4.721	3.673	.90	1	4.270	-4.466				
.55	2	4.195	1.238	.90	2	4.693	1.339				
.55	3	.182	.613	.90	3	1.389	.499				
.55	4	-.252	.312	.90	4	.632	.658				
.55	5	-.498	-.586	.90	5	-1.203	-.214				
.55	6	.206	.279	.90	6	-.168	-.095				
.55	7	-.137	-.170	.90	7	-.170	.257				
.55	8	.157	.031	.90	8	-.054	.305				
.55	9	-.048	-.158	.90	9	.181	-.070				
.55	10	.054	.127	.90	10	.335	-.235				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 22 - Concluded

FLIGHT 19, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 115 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	2454	1576	687	1377	-984	-2178		
15	2055	2417	1555	2560	98	-1681		
30	3263	2607	2170	3228	917	-577		
45	2932	2384	1772	2741	1198	657		
60	2408	1394	425	1529	310	-188		
75	1644	446	-1139	-522	-1688	-1900		
90	1348	-619	-2703	-2287	-3958	-4417		
105	1165	-1592	-3788	-3431	-5296	-6089		
120	413	-2021	-4104	-3803	-5340	-5830		
135	538	-1790	-3752	-3355	-4847	-6158		
150	1359	-1337	-3191	-2849	-4944	-7124		
165	858	-1337	-2866	-2716	-5498	-7532		
180	345	-1601	-2983	-2640	-5446	-6915		
195	1029	-652	-2477	-2621	-5393	-6537		
210	1975	792	-1139	-1733	-4662	-5940		
225	2568	1700	244	308	-2542	-4029		
240	2442	2318	1437	2178	98	-606		
255	1918	2789	2224	3647	2826	2936		
270	1450	2805	2866	4945	4903	5204		
285	1918	3003	2857	4840	5405	5881		
300	2043	2681	2323	4000	4164	4816		
315	1165	1617	1202	2626	2404	3085		
330	755	586	0	1672	1603	1244		
345	869	1229	588	1291	-588	-1542		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-12362	-13903	-5076	
15	-11776	-12405	-7300	
30	-10848	-11526	-4148	
45	-8065	-4803	3948	
60	-4043	2312	9004	
75	-918	2784	9244	
90	368	716	4300	
105	-2415	-3435	828	
120	-4923	-6610	-596	
135	-4581	-4868	-404	
150	-5606	-2295	4540	
165	-5183	1937	9116	
180	-3946	4624	11228	
195	-6062	2540	10988	
210	-8146	-2963	6300	
225	-11093	-9621	-916	
240	-14984	-15726	-5604	
255	-18712	-17778	-7684	
270	-19900	-16980	-5876	
285	-17426	-12129	-2244	
300	-13958	-6805	1436	
315	-11776	-4803	4412	
330	-10474	-4803	3420	
345	-9986	-9019	-1972	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	2343	1149	
15	3427	1908	
30	3746	2177	
45	3307	1761	
60	3079	1740	
75	3109	1735	
90	2984	1794	
105	2779	1619	
120	2686	1328	
135	2199	1038	
150	1526	385	
165	970	-53	
180	1071	161	
195	1272	224	
210	1166	52	
225	1027	-96	
240	1293	-113	
255	1678	-43	
270	1517	-399	
285	1481	-293	
300	1771	240	
315	2435	866	
330	2268	944	
345	1951	924	

TABLE 23

FLIGHT 20, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 122 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
0	9.22	5.45	4.09	2.86	1.65	.69	.119	10.57	4.95	3.59	3.01	2.01	.78	.135	0
15	7.73	6.36	4.25	2.80	1.47	.65	.053	8.88	4.59	3.54	3.04	1.92	.73	.067	15
30	6.39	7.06	4.06	2.72	1.26	.56	.006	7.56	4.97	3.54	3.03	1.81	.62	-.016	30
45	4.69	5.85	5.32	2.34	.80	.38	-.111	6.00	4.19	3.84	2.77	1.57	.43	-.132	45
60	3.22	4.95	4.43	3.67	.71	.18	-.153	4.56	3.00	3.85	3.71	1.17	.23	-.238	60
75	2.45	4.10	3.76	2.65	2.82	-.15	-.189	3.53	1.91	3.04	3.42	2.14	-.01	-.328	75
90	1.87	3.56	3.37	2.21	1.91	-.42	-.211	2.94	1.20	2.43	2.72	3.18	-.25	-.420	90
105	1.06	2.73	2.43	1.87	.87	-.35	-.169	2.40	.49	2.02	1.99	2.87	-.24	-.434	105
120	.60	2.37	2.00	1.40	.72	-.01	-.090	2.00	.30	1.83	1.86	2.75	.01	-.375	120
135	.87	2.48	2.64	1.61	1.87	.16	-.064	2.44	.93	2.33	2.71	.53	.21	-.324	135
150	1.54	3.03	3.09	2.78	.17	.32	-.002	3.23	1.87	2.51	1.63	1.00	.35	-.205	150
165	2.84	3.87	3.56	1.99	.79	.48	.057	4.70	2.96	2.56	2.13	1.29	.51	-.065	165
180	4.00	4.19	3.53	2.21	1.01	.56	.086	6.03	3.70	2.69	2.34	1.46	.59	.011	180
195	4.69	4.23	3.14	2.08	1.10	.59	.107	6.65	3.78	2.65	2.18	1.47	.59	.047	195
210	4.82	3.92	2.81	1.89	1.08	.57	.112	6.50	3.52	2.42	1.97	1.37	.59	.076	210
225	4.92	3.76	2.61	1.82	1.10	.57	.115	6.41	3.41	2.29	1.85	1.35	.58	.103	225
240	5.29	3.84	2.53	1.81	1.13	.58	.127	6.63	3.47	2.30	1.84	1.34	.60	.126	240
255	5.79	3.90	2.53	1.85	1.18	.59	.131	7.31	3.52	2.27	1.85	1.35	.60	.137	255
270	6.27	3.97	2.58	1.89	1.23	.58	.137	7.87	3.57	2.27	1.86	1.36	.58	.135	270
285	6.92	4.19	2.68	1.98	1.29	.60	.139	8.00	3.65	2.35	1.92	1.41	.61	.146	285
300	7.65	4.38	2.75	2.03	1.31	.55	.133	7.86	3.54	2.27	1.87	1.35	.58	.137	300
315	7.42	4.62	2.88	2.10	1.32	.55	.129	8.05	3.71	2.40	2.01	1.44	.62	.128	315
330	9.22	5.37	3.41	2.43	1.52	.67	.133	9.83	4.41	2.98	2.42	1.70	.70	.146	330
345	9.72	5.60	3.79	2.67	1.59	.66	.133	10.57	4.82	3.32	2.74	1.85	.74	.146	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
0	10.82	8.33	3.72	3.91	3.08	3.02	1.82	.95	.80	.40	.128	0
15	10.08	8.17	3.67	3.87	3.11	2.96	1.80	.87	.74	.34	.079	15
30	9.02	7.31	3.29	3.82	3.06	2.91	1.71	.76	.64	.25	.013	30
45	6.95	5.99	3.66	3.66	2.81	2.64	1.51	.55	.48	.11	-.068	45
60	5.47	4.37	2.75	3.02	3.02	2.62	1.25	.37	.31	-.01	-.154	60
75	4.49	3.10	1.81	2.44	2.77	3.15	.94	.13	.13	-.13	-.222	75
90	3.83	2.53	1.25	2.07	2.41	2.98	.51	-.14	-.03	-.21	-.268	90
105	3.30	1.99	.87	1.52	2.09	2.62	.22	-.24	-.07	-.21	-.268	105
120	3.52	2.16	1.06	1.75	2.28	2.70	.39	-.17	.02	-.13	-.208	120
135	3.90	2.50	1.47	2.32	2.51	1.32	.75	-.03	.17	-.02	-.134	135
150	4.83	3.42	2.06	2.64	2.00	1.73	1.00	.16	.37	.14	-.080	150
165	6.24	4.64	2.74	2.97	2.40	2.09	1.29	.39	.56	.29	-.022	165
180	7.43	5.45	2.96	3.21	2.55	2.32	1.45	.52	.69	.39	.013	180
195	8.07	5.51	2.78	3.11	2.45	2.30	1.43	.56	.70	.40	.034	195
210	7.59	5.04	2.40	2.84	2.22	2.14	1.32	.57	.68	.39	.042	210
225	7.42	4.73	2.22	2.71	2.05	2.09	1.26	.59	.66	.38	.066	225
240	7.48	4.64	2.14	2.66	2.00	2.07	1.23	.61	.63	.36	.071	240
255	7.49	4.58	2.04	2.60	1.94	2.04	1.19	.61	.60	.33	.073	255
270	7.00	4.51	1.96	2.56	1.90	2.02	1.16	.62	.57	.30	.071	270
285	6.78	4.45	1.94	2.52	1.89	2.00	1.16	.62	.56	.29	.077	285
300	6.79	4.19	1.77	2.34	1.73	1.90	1.07	.58	.51	.27	.073	300
315	7.53	4.69	2.06	2.61	1.93	2.07	1.17	.65	.56	.29	.079	315
330	9.38	5.65	2.71	3.15	2.36	2.41	1.44	.75	.65	.33	.102	330
345	10.56	6.42	3.27	3.58	2.73	2.70	1.63	.85	.70	.36	.108	345

TABLE 23 - Continued

FLIGHT 20, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 122 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.18	3.53	2.67	2.07	1.54	.62	.089	2.50	1.09	.88	.74	.65	.36	.079	0
15	6.74	3.72	2.85	2.18	1.58	.63	.075	2.85	1.26	1.00	.82	.73	.40	.106	15
30	6.79	3.83	2.92	2.23	1.57	.59	.047	3.35	1.53	1.16	.95	.82	.43	.125	30
45	6.38	3.64	2.89	2.20	1.45	.49	.021	3.32	1.59	1.15	.96	.83	.44	.142	45
60	5.58	3.08	2.72	2.04	1.25	.38	.010	2.88	1.34	1.01	.81	.75	.41	.141	60
75	4.64	2.57	2.50	1.86	1.02	.26	-.066	2.47	1.08	.94	.66	.67	.36	.141	75
90	3.75	2.13	2.30	1.68	.86	.17	-.018	2.18	.97	.89	.67	.62	.34	.138	90
105	3.07	2.08	2.16	1.54	.73	.14	-.013	2.32	1.10	.95	.69	.65	.34	.153	105
120	2.94	2.36	2.22	1.63	.81	.22	.035	3.18	1.66	1.33	.92	.86	.45	.181	120
135	3.69	3.02	2.62	1.92	1.07	.32	.093	3.91	2.11	1.44	1.18	1.05	.51	.197	135
150	4.26	3.46	2.74	2.01	1.23	.42	.135	4.47	2.41	1.67	1.33	1.14	.56	.207	150
165	4.94	3.54	2.90	2.15	1.41	.54	.147	4.83	2.44	1.80	1.46	1.25	.62	.185	165
180	5.55	3.69	3.00	2.19	1.55	.59	.161	6.31	3.15	2.19	1.74	1.47	.64	.188	180
195	5.90	3.68	2.83	2.06	1.50	.58	.156	5.92	2.67	1.92	1.55	1.30	.58	.154	195
210	6.00	3.33	2.56	1.85	1.39	.53	.135	3.97	2.05	1.52	1.23	1.05	.44	.104	210
225	5.80	3.02	2.29	1.67	1.28	.48	.126	3.10	1.41	1.14	.94	.78	.35	.059	225
240	5.43	2.80	2.08	1.53	1.18	.45	.098	2.23	.96	.84	.69	.59	.26	.033	240
255	4.97	2.59	1.92	1.39	1.08	.41	.091	1.58	.61	.62	.52	.46	.19	.011	255
270	4.61	2.41	1.78	1.31	1.01	.39	.075	1.04	.31	.41	.36	.35	.16	.003	270
285	4.33	2.27	1.68	1.24	.96	.36	.058	.72	.09	.25	.22	.24	.13	-.004	285
300	4.11	2.01	1.50	1.11	.85	.31	.047	.59	.05	.24	.21	.23	.10	-.009	300
315	4.08	2.20	1.64	1.24	.94	.36	.049	.82	.17	.31	.27	.27	.15	.001	315
330	4.69	2.64	1.96	1.49	1.12	.44	.075	1.29	.42	.46	.40	.36	.21	.022	330
345	5.40	3.03	2.28	1.74	1.30	.52	.075	1.92	.77	.67	.56	.50	.28	.047	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	.19	.20	.16	.22	.105	.14	.07	.02	.07	.006	0
15	.52	.32	.22	.24	.117	-.19	-.07	-.04	.02	-.031	15
30	1.08	.59	.37	.28	.139	.46	.22	.11	.07	-.006	30
45	1.40	.68	.45	.31	.148	.50	.23	.13	.09	.000	45
60	1.36	.63	.45	.31	.152	.42	.19	.08	.06	-.001	60
75	1.16	.55	.41	.29	.142	.39	.20	.08	.06	.006	75
90	1.15	.60	.41	.29	.142	.48	.27	.13	.07	.012	90
105	1.37	.72	.49	.35	.166	.78	.44	.25	.12	.031	105
120	1.96	1.00	.69	.46	.198	1.24	.66	.36	.18	.055	120
135	2.66	1.33	.89	.58	.223	1.67	.88	.51	.25	.075	135
150	3.01	1.53	1.00	.62	.219	2.18	1.12	.67	.31	.088	150
165	3.02	1.58	1.03	.61	.212	2.19	1.20	.71	.39	.093	165
180	2.68	1.50	.96	.57	.192	1.97	1.04	.64	.31	.084	180
195	2.20	1.20	.74	.46	.149	1.25	.65	.40	.20	.045	195
210	1.44	.80	.49	.33	.097	.47	.34	.13	.07	.003	210
225	.80	.45	.24	.22	.107	.25	.02	-.02	-.01	-.024	225
240	.19	.39	.19	.18	.094	.03	-.05	-.08	-.05	-.059	240
255	.02	.18	.22	.09	.044	-.02	-.06	-.10	-.11	-.216	255
270	-.02	.09	.07	.12	.032	.00	-.03	-.08	-.08	-.338	270
285	-.06	.06	.03	.16	.054	.00	-.02	-.06	-.07	-.348	285
300	.03	.12	.08	.18	.070	.01	-.01	-.04	-.07	-.183	300
315	.04	.12	.09	.17	.078	-.01	-.01	-.04	-.07	-.066	315
330	.19	.20	.15	.20	.090	-.05	-.03	-.04	.00	-.042	330
345	.45	.30	.22	.23	.097	-.06	-.03	-.04	.04	-.012	345

TABLE 23 - Continued

FLIGHT 20, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 122 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	.84	2.84	9.44	23.25	30.11	32.89	31.36
15	-.60	3.96	10.71	24.31	28.98	30.30	30.63
30	1.91	6.23	12.31	24.30	26.54	28.62	28.90
45	2.15	7.41	12.49	22.68	23.15	24.36	24.52
60	1.63	7.21	11.08	19.67	19.06	19.59	20.47
75	1.63	6.50	9.74	16.21	14.81	17.79	22.40
90	2.11	6.58	8.99	13.68	10.52	17.01	15.73
105	3.73	7.86	9.49	12.22	7.71	13.52	9.54
120	5.68	10.73	12.99	13.49	9.72	13.81	9.45
135	7.75	13.97	15.46	17.30	12.16	9.95	15.69
150	9.99	15.47	17.35	19.82	15.36	14.03	13.68
165	10.74	15.62	18.51	22.05	20.31	19.31	18.99
180	9.37	14.36	22.14	23.66	23.18	22.86	21.66
195	5.88	11.51	19.70	23.29	23.34	23.43	22.15
210	2.21	7.72	14.91	21.66	21.58	22.22	21.08
225	.23	4.56	11.15	19.97	20.70	21.72	20.69
240	-.82	2.99	8.07	18.37	20.33	22.13	21.15
255	-1.95	1.80	5.79	16.88	19.83	22.73	21.83
270	-2.02	1.16	4.05	15.73	19.02	23.15	22.52
285	-1.91	1.23	2.68	14.77	18.76	23.81	23.79
300	-1.22	1.82	2.28	13.25	17.66	23.07	24.46
315	-.85	1.87	3.15	14.36	19.63	24.24	24.89
330	-.43	2.69	4.85	17.14	24.12	28.88	29.49
345	-.12	3.69	7.12	19.84	27.41	31.37	31.01

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	12.538		0	2.336		0	6.352	
1	2.209	-7.654	1	.308	-.118	1	-.150	-.062
2	-.148	.157	2	-.029	-.347	2	-.008	-.015
3	-.243	.086	3	.050	-.176	3	.020	.000
4	.076	.033	4	.006	.025	4	.000	-.032
5	-.057	.100	5	-.037	-.002	5	-.002	.005
6	.005	.052	6	-.006	.004	6	-.018	-.002
7	-.024	.057	7	-.006	.008	7	.010	-.015
8	.000	.014	8	.006	.004	8	-.005	.002
9	.019	-.024	9	.002	.006	9	-.005	.012
10	-.019	-.010	10	-.004	-.006	10	.010	.018
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 23 - Continued

FLIGHT 20, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 122 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.329		.75	0	18.661		.95	0	21.919	
.25	1	-3.503	2.897	.75	1	-.063	.307	.95	1	5.848	-3.524
.25	2	2.233	-1.344	.75	2	4.336	2.874	.95	2	3.785	2.002
.25	3	-.847	.833	.75	3	-.289	1.327	.95	3	-.818	.180
.25	4	.021	-.360	.75	4	.246	-.194	.95	4	.942	-.651
.25	5	-.268	.022	.75	5	.151	-.203	.95	5	.567	-.029
.25	6	.141	-.246	.75	6	-.054	.069	.95	6	-.237	.754
.25	7	.023	-.160	.75	7	-.125	-.084	.95	7	-1.167	-.498
.25	8	.117	-.101	.75	8	.167	.140	.95	8	.213	-.521
.25	9	.167	-.163	.75	9	.045	.099	.95	9	.047	.381
.25	10	.153	-.030	.75	10	.091	-.058	.95	10	.145	-.092
.40	0	6.658		.85	0	19.748					
.40	1	-4.341	3.757	.85	1	3.586	-3.152				
.40	2	2.434	-.989	.85	2	5.657	3.027				
.40	3	-1.060	.960	.85	3	-.168	.956				
.40	4	-.351	-.354	.85	4	.882	-.502				
.40	5	-.157	-.310	.85	5	.041	-.369				
.40	6	.008	-.063	.85	6	.242	.059				
.40	7	-.095	-.257	.85	7	-.310	.034				
.40	8	-.064	-.086	.85	8	.059	-.016				
.40	9	-.081	-.018	.85	9	.211	.173				
.40	10	-.077	-.042	.85	10	.036	.047				
.55	0	10.602		.90	0	22.116					
.55	1	-4.818	3.537	.90	1	5.286	-3.740				
.55	2	4.215	1.401	.90	2	3.847	2.173				
.55	3	-.803	.725	.90	3	.079	-.288				
.55	4	.193	.184	.90	4	1.715	.213				
.55	5	-.314	-.546	.90	5	-.577	-.071				
.55	6	.295	.259	.90	6	.037	-.472				
.55	7	-.266	-.214	.90	7	-.259	-.047				
.55	8	.256	.021	.90	8	-.094	-.232				
.55	9	-.032	-.101	.90	9	.474	.099				
.55	10	.125	.116	.90	10	.014	.329				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 23 - Concluded

FLIGHT 20, TRIM LEVEL FLIGHT OUT OF GROUND EFFECT (V = 122 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	914	1370	940	884	-1361	-3049		
15	1176	2170	1709	1924	-103	-2104		
30	1689	2607	2848	3117	839	-1059		
45	2248	2525	2206	2516	1385	-54		
60	1701	1782	1157	1352	126	-1149		
75	526	726	-262	-375	-1907	-3019		
90	116	-553	-1862	-2006	-3755	-5288		
105	105	-1163	-3001	-3476	-5242	-6492		
120	-579	-1650	-3291	-3838	-5717	-6969		
135	-648	-1873	-3417	-3619	-5242	-7009		
150	-614	-1832	-3001	-3294	-5303	-7686		
165	-500	-1799	-2748	-3094	-5867	-8253		
180	-226	-1568	-2739	-3237	-6078	-7964		
195	173	-611	-2070	-3094	-6139	-7974		
210	743	371	-1130	-2283	-5189	-7099		
225	1153	1205	235	-499	-2927	-4790		
240	1552	1997	1591	1428	-543	-1905		
255	2191	2846	2495	3002	2335	1856		
270	1644	3275	3471	4347	3849	3548		
285	1005	2970	3309	4424	4473	4175		
300	891	2269	2296	3231	3417	3349		
315	492	1444	1094	1571	1209	1130		
330	264	569	-145	483	161	-661		
345	-374	726	316	474	-1071	-2711		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-7247	-12503	-2841	
15	-9217	-14408	-4729	
30	-7442	-12063	-3689	
45	-6449	-7635	4455	
60	-3617	-879	9719	
75	-116	2361	9591	
90	242	-830	7927	
105	991	-2735	3399	
120	584	-4689	1623	
135	-1093	-5242	3415	
150	-637	-1840	4967	
165	193	309	8711	
180	421	3061	11511	
195	-68	3256	11879	
210	-1989	-407	10023	
225	-3226	-5210	4503	
240	-6661	-9817	-153	
255	-10031	-14408	-2297	
270	-12978	-14001	-2569	
285	-12913	-12584	199	
300	-10340	-7196	2983	
315	-6531	-3826	5271	
330	-6254	-4363	6247	
345	-5180	-6593	1591	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	871	563	105
15	1828	1131	231
30	2327	1741	273
45	2328	1613	278
60	2381	1799	269
75	2422	1895	283
90	2302	1810	222
105	1641	1256	162
120	1357	778	71
135	826	305	-13
150	160	-95	-49
165	90	-262	-50
180	168	-112	-20
195	245	-79	-21
210	63	-524	-34
225	229	-513	-32
240	820	-389	41
255	1296	-417	100
270	1116	-427	100
285	1032	-397	102
300	781	-204	144
315	865	112	165
330	789	347	123
345	426	291	61

TABLE 24

FLIGHT 21, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 13 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
0	5.22	3.21	2.76	1.78	.88	.46	.071	5.84	3.03	2.04	1.77	1.15	.46	.018	0
15	4.62	3.00	2.68	1.68	.79	.41	.058	5.53	2.85	1.90	1.65	1.07	.41	.009	15
30	4.69	3.07	2.68	1.70	.79	.42	.060	5.39	2.81	1.90	1.65	1.05	.42	-.005	30
45	4.66	3.07	2.69	1.72	.78	.42	.060	5.37	2.83	1.90	1.66	1.07	.44	-.006	45
60	4.91	3.30	2.76	1.78	.81	.42	.054	5.46	2.87	1.93	1.70	1.07	.42	-.018	60
75	5.06	3.35	2.82	1.84	.82	.43	.052	5.10	2.72	1.84	1.65	1.03	.42	-.018	75
90	5.72	3.71	3.07	2.04	.97	.49	.066	5.26	2.82	1.96	1.76	1.10	.44	-.020	90
105	6.79	4.44	3.39	2.28	1.17	.54	.086	5.57	3.05	2.11	1.89	1.19	.51	-.002	105
120	7.85	4.96	3.71	2.49	1.35	.62	.104	6.90	3.65	2.55	2.19	1.38	.56	.032	120
135	7.95	5.13	3.69	2.50	1.33	.61	.107	7.63	3.97	2.68	2.27	1.45	.56	.036	135
150	8.65	5.46	3.92	2.70	1.47	.66	.118	8.62	4.33	2.97	2.55	1.65	.67	.065	150
165	7.99	5.10	3.80	2.63	1.46	.67	.121	9.74	4.89	3.28	2.71	1.74	.65	.056	165
180	7.64	4.87	3.64	2.53	1.39	.67	.126	10.18	5.02	3.35	2.77	1.79	.68	.070	180
195	7.29	4.55	3.44	2.38	1.34	.65	.133	9.77	4.76	3.19	2.62	1.69	.66	.076	195
210	7.68	4.79	3.52	2.44	1.40	.67	.137	9.71	4.65	3.09	2.54	1.66	.64	.076	210
225	7.98	4.84	3.55	2.47	1.43	.68	.141	10.35	4.76	3.12	2.55	1.67	.63	.074	225
240	8.94	5.22	3.72	2.59	1.49	.67	.141	8.72	4.33	2.90	2.47	1.62	.66	.087	240
255	9.01	5.16	3.70	2.59	1.48	.66	.130	8.51	4.14	2.79	2.33	1.53	.61	.078	255
270	8.46	5.02	3.63	2.54	1.45	.66	.129	6.56	3.52	2.43	2.09	1.36	.55	.045	270
285	8.51	5.09	3.65	2.52	1.41	.64	.116	6.35	3.27	2.21	1.87	1.24	.50	.032	285
300	5.57	3.45	2.71	1.83	.95	.48	.082	5.41	2.83	1.90	1.64	1.08	.44	.027	300
315	4.99	3.15	2.59	1.71	.86	.44	.078	5.21	2.67	1.79	1.54	1.02	.44	.029	315
330	5.37	3.33	2.70	1.80	.90	.46	.076	5.62	2.92	1.98	1.69	1.10	.46	.040	330
345	5.30	3.31	2.74	1.82	.91	.46	.074	5.84	3.04	2.03	1.77	1.15	.47	.025	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
0	6.05	4.28	1.65	2.16	1.74	1.72	1.05	.47	.46	.22	.041	0
15	5.82	4.07	1.51	2.07	1.66	1.64	1.00	.43	.43	.21	.035	15
30	5.73	4.00	1.49	2.02	1.65	1.62	.99	.42	.44	.20	.030	30
45	5.73	3.99	1.49	2.00	1.64	1.62	.99	.43	.42	.20	.030	45
60	5.57	3.91	1.44	1.95	1.61	1.58	.97	.41	.41	.19	.018	60
75	5.23	3.61	1.33	1.78	1.43	1.45	.91	.34	.38	.17	.016	75
90	5.20	3.59	1.32	1.81	1.47	1.44	.92	.34	.37	.16	.010	90
105	4.79	3.25	1.12	1.71	1.34	1.36	.87	.33	.37	.17	.004	105
120	4.44	3.00	.98	1.60	1.29	1.32	.90	.33	.38	.19	.014	120
135	4.88	3.17	1.17	1.80	1.46	1.44	.94	.40	.41	.21	.028	135
150	5.91	4.06	1.61	2.12	1.71	1.64	1.06	.45	.46	.23	.045	150
165	5.23	3.75	1.49	2.04	1.68	1.64	1.12	.51	.51	.27	.051	165
180	5.52	3.93	1.64	2.18	1.80	1.79	1.16	.56	.55	.28	.059	180
195	6.34	4.29	1.82	2.36	1.86	1.79	1.19	.57	.54	.29	.064	195
210	4.65	3.17	1.08	1.79	1.46	1.49	1.02	.47	.49	.26	.055	210
225	4.15	2.88	.89	1.64	1.33	1.40	.94	.45	.46	.25	.035	225
240	4.92	3.41	1.15	1.79	1.44	1.48	.97	.46	.46	.25	.053	240
255	4.70	3.20	1.03	1.68	1.34	1.38	.89	.41	.42	.22	.035	255
270	4.62	3.11	.99	1.62	1.31	1.35	.86	.36	.39	.19	.022	270
285	4.75	3.21	1.02	1.65	1.34	1.36	.86	.36	.38	.19	.022	285
300	5.08	3.44	1.12	1.76	1.42	1.43	.86	.38	.39	.19	.020	300
315	5.05	3.47	1.10	1.75	1.39	1.44	.86	.38	.39	.19	.024	315
330	5.76	3.99	1.45	2.04	1.62	1.61	.98	.44	.42	.20	.033	330
345	5.98	4.17	1.56	2.12	1.69	1.67	1.03	.46	.44	.21	.035	345

TABLE 24 - Continued

FLIGHT 21, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 13 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	4.59	2.34	1.92	1.44	1.03	.40	.100	2.73	1.31	.97	.75	.64	.33	.085	0
15	4.48	2.25	1.87	1.41	.99	.37	.084	2.80	1.36	.99	.77	.64	.33	.089	15
30	4.41	2.25	1.88	1.41	.98	.38	.086	2.69	1.29	.96	.75	.64	.34	.089	30
45	4.45	2.29	1.92	1.45	.99	.38	.084	2.79	1.36	1.00	.77	.66	.33	.093	45
60	4.37	2.18	1.85	1.40	.96	.36	.070	2.65	1.26	.94	.74	.63	.31	.089	60
75	4.08	1.99	1.74	1.31	.89	.33	.072	2.76	1.32	.97	.75	.63	.32	.095	75
90	3.80	1.86	1.67	1.26	.85	.31	.082	2.60	1.24	.92	.72	.61	.32	.093	90
105	3.54	1.68	1.57	1.16	.76	.28	.060	2.47	1.17	.87	.67	.58	.29	.089	105
120	3.57	1.76	1.59	1.20	.79	.29	.070	2.39	1.14	.85	.65	.56	.27	.089	120
135	3.71	1.88	1.67	1.24	.85	.30	.079	2.18	1.04	.78	.61	.53	.27	.084	135
150	3.67	1.80	1.61	1.21	.81	.31	.070	1.80	.84	.66	.50	.46	.24	.080	150
165	3.59	1.74	1.60	1.19	.81	.30	.068	1.80	.85	.65	.50	.45	.24	.079	165
180	3.57	1.77	1.58	1.19	.82	.31	.077	1.75	.79	.62	.48	.43	.22	.074	180
195	3.54	1.66	1.50	1.13	.80	.29	.068	1.70	.79	.61	.48	.43	.21	.067	195
210	3.30	1.54	1.41	1.07	.75	.27	.068	1.43	.64	.55	.40	.37	.19	.060	210
225	3.28	1.58	1.42	1.07	.76	.28	.066	1.34	.59	.54	.37	.35	.19	.059	225
240	3.21	1.57	1.39	1.05	.74	.27	.066	1.42	.61	.52	.39	.36	.19	.055	240
255	3.31	1.63	1.43	1.06	.73	.27	.054	1.51	.68	.55	.42	.38	.21	.055	255
270	3.40	1.66	1.46	1.10	.76	.28	.058	1.73	.78	.63	.48	.42	.21	.059	270
285	3.31	1.61	1.43	1.06	.75	.28	.072	2.03	.92	.73	.56	.48	.24	.064	285
300	3.60	1.83	1.57	1.17	.82	.32	.070	2.14	.99	.78	.60	.51	.26	.064	300
315	3.82	1.96	1.64	1.25	.86	.33	.079	2.36	1.12	.85	.66	.55	.28	.072	315
330	4.10	2.16	1.77	1.34	.94	.38	.089	2.51	1.20	.90	.69	.59	.30	.077	330
345	4.54	2.35	1.92	1.44	1.01	.39	.091	2.62	1.26	.94	.72	.62	.31	.081	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.35	.68	.45	.29	.104	.88	.45	.26	.13	.009	0
15	1.52	.77	.51	.32	.106	.84	.43	.27	.14	.020	15
30	1.45	.73	.49	.31	.098	.63	.37	.22	.15	.037	30
45	1.38	.71	.48	.32	.108	.67	.40	.24	.13	.040	45
60	1.45	.71	.47	.30	.104	.60	.36	.22	.13	.032	60
75	1.43	.69	.47	.30	.104	.64	.33	.19	.09	.002	75
90	1.35	.64	.43	.29	.102	.63	.32	.18	.08	.000	90
105	1.29	.63	.42	.28	.104	.55	.28	.16	.08	.002	105
120	1.11	.55	.37	.26	.096	.45	.24	.14	.08	-.002	120
135	.98	.48	.33	.25	.090	.41	.23	.13	.07	.001	135
150	.92	.46	.31	.23	.088	.41	.22	.13	.07	-.001	150
165	.87	.43	.29	.23	.082	.38	.21	.12	.06	-.002	165
180	.84	.41	.28	.22	.078	.39	.20	.12	.07	.002	180
195	.83	.41	.28	.22	.076	.35	.18	.11	.06	.002	195
210	.70	.36	.24	.20	.070	.29	.16	.09	.05	-.006	210
225	.59	.30	.22	.19	.070	.22	.12	.07	.04	-.011	225
240	.61	.31	.22	.19	.070	.19	.11	.06	.04	-.008	240
255	.69	.34	.24	.19	.069	.24	.14	.07	.05	-.011	255
270	.78	.39	.27	.21	.074	.30	.16	.09	.05	-.009	270
285	.93	.45	.30	.22	.080	.40	.21	.12	.07	-.005	285
300	1.04	.52	.35	.24	.080	.45	.25	.15	.08	-.001	300
315	1.13	.56	.38	.26	.090	.47	.27	.16	.09	-.004	315
330	1.20	.62	.41	.27	.092	.61	.33	.20	.11	-.002	330
345	1.26	.65	.44	.29	.096	.67	.37	.22	.12	.007	345

TABLE 24 - Continued

FLIGHT 21, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 13 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	3.90	7.05	9.84	16.08	16.40	18.80	18.82
15	3.93	7.84	10.04	15.46	15.51	17.50	17.35
30	3.46	7.50	9.84	15.46	15.40	17.27	17.56
45	3.54	7.40	10.09	15.68	15.31	17.43	17.49
60	3.25	7.38	9.57	15.06	14.86	17.52	18.19
75	2.77	7.30	9.81	13.96	13.73	16.73	18.62
90	2.69	6.87	9.45	13.26	13.76	17.54	20.89
105	2.42	6.70	8.86	12.07	12.78	19.14	24.31
120	2.07	5.92	8.58	12.46	12.40	22.78	27.48
135	1.92	5.36	8.00	13.15	13.67	24.25	27.65
150	1.89	5.05	6.82	12.78	16.18	27.37	29.87
165	1.75	4.79	6.75	12.55	16.02	29.62	28.70
180	1.77	4.60	6.43	12.67	17.02	30.63	27.61
195	1.61	4.58	6.29	12.14	18.02	29.24	26.30
210	1.32	4.01	5.45	11.39	14.18	28.67	27.36
225	.99	3.63	5.17	11.52	12.84	29.32	27.89
240	.93	3.66	5.24	11.27	14.06	27.24	29.57
255	1.10	3.93	5.65	11.40	13.00	25.93	29.42
270	1.37	4.37	6.28	11.74	12.54	22.06	28.59
285	1.83	4.95	7.23	11.55	12.69	20.38	28.43
300	2.13	5.52	7.73	12.80	13.23	17.64	19.75
315	2.31	5.97	8.50	13.53	13.18	16.83	18.19
330	2.86	6.41	9.01	14.78	15.23	18.29	19.11
345	3.22	6.74	9.45	15.96	15.91	18.86	19.12

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	11.900		0	2.815		0	7.740	
1	1.252	-.447	1	.483	.254	1	-.028	.028
2	.119	.095	2	-.045	.097	2	-.005	.028
3	.000	-.005	3	.124	.167	3	.008	.020
4	.048	-.033	4	.050	.056	4	.008	.015
5	.014	.033	5	.035	-.004	5	.035	.008
6	.024	.000	6	.031	.039	6	-.005	.028
7	.038	-.010	7	.033	.008	7	.008	.005
8	.043	.029	8	.014	.010	8	.012	.010
9	.033	.000	9	.021	.012	9	.002	.002
10	.024	.014	10	.031	.000	10	.012	.005
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 24 - Continued

FLIGHT 21, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 13 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.293		.75	0	13.279		.95	0	23.678	
.25	1	1.005	.648	.75	1	1.747	.930	.95	1	-5.819	-2.106
.25	2	.356	.034	.75	2	.944	.103	.95	2	-.972	-.663
.25	3	-.035	.032	.75	3	-.052	.081	.95	3	1.333	1.583
.25	4	.112	.072	.75	4	-.048	-.319	.95	4	.531	-.293
.25	5	.047	-.016	.75	5	.062	-.200	.95	5	.187	-.555
.25	6	.038	-.009	.75	6	.076	.026	.95	6	-.162	-.701
.25	7	.058	-.006	.75	7	-.023	-.128	.95	7	-.277	.122
.25	8	.018	.064	.75	8	.174	-.062	.95	8	-.287	.371
.25	9	-.008	.056	.75	9	-.069	-.010	.95	9	.388	.141
.25	10	.010	.033	.75	10	-.085	.052	.95	10	.371	-.153
.40	0	5.731		.85	0	14.496					
.40	1	1.406	1.222	.85	1	-.044	.379				
.40	2	.132	-.031	.85	2	1.820	.333				
.40	3	-.119	-.070	.85	3	-.496	.064				
.40	4	.101	.127	.85	4	.480	-.346				
.40	5	-.023	.029	.85	5	-.124	-.155				
.40	6	-.007	.063	.85	6	.056	.131				
.40	7	.009	.030	.85	7	.119	-.545				
.40	8	-.076	.060	.85	8	-.158	.393				
.40	9	-.026	-.007	.85	9	.121	-.094				
.40	10	-.021	.020	.85	10	-.095	.123				
.55	0	7.920		.90	0	22.126					
.55	1	1.797	1.479	.90	1	-6.203	-1.929				
.55	2	.116	-.272	.90	2	2.029	.865				
.55	3	-.093	-.099	.90	3	.532	.478				
.55	4	.097	.123	.90	4	.126	-.647				
.55	5	-.023	-.071	.90	5	-.117	-.182				
.55	6	.046	.060	.90	6	.283	-.355				
.55	7	-.068	-.033	.90	7	-.138	.101				
.55	8	.049	-.014	.90	8	-.020	-.060				
.55	9	.082	.062	.90	9	-.028	.112				
.55	10	-.024	.023	.90	10	.145	.198				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 24 - Concluded

FLIGHT 21, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 13 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-402	-784	-1808	-1884	-2941	-4263		
15	-687	-545	-1356	-1694	-3337	-4661		
30	384	-41	-1275	-1560	-3021	-4243		
45	-60	-99	-805	-692	-2026	-3268		
60	-345	124	-533	-301	-1014	-1995		
75	384	767	-108	-119	-1278	-2024		
90	977	1097	-45	-329	-1252	-1686		
105	191	413	-208	-234	-1190	-1626		
120	350	-91	-949	-873	-1225	-850		
135	-265	116	-425	-358	-768	-323		
150	350	470	570	1273	420	125		
165	1479	1502	1374	1789	1230	1398		
180	1023	1675	1808	2466	2286	2871		
195	487	1279	1483	2714	3958	4732		
210	430	1675	1916	2828	2831	3110		
225	1581	2178	1446	1550	1441	1816		
240	202	1064	904	1331	869	622		
255	-117	149	-280	214	367	742		
270	54	116	-443	-62	-222	383		
285	-231	520	353	806	288	224		
300	156	1559	1130	1102	112	-572		
315	715	1271	832	1035	-249	-1408		
330	-379	644	208	81	-1164	-2333		
345	-642	-322	-1157	-1293	-2466	-3467		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-2450	-3744	5648	
15	-2580	-5291	3920	
30	-3329	-6349	2960	
45	-3687	-6724	2752	
60	-3427	-6300	3680	
75	-2906	-5486	4560	
90	-2173	-4672	5088	
105	-1994	-4884	5040	
120	-1555	-5242	3120	
135	-2353	-7766	1248	
150	-2629	-9117	-384	
165	-3574	-9003	-432	
180	-3736	-8547	1040	
195	-3280	-7342	1984	
210	-3264	-7733	3040	
225	-3167	-6577	2368	
240	-3118	-7066	2576	
255	-3232	-7342	1712	
270	-3492	-8221	896	
285	-5739	-9166	1728	
300	-6243	-8694	1888	
315	-6553	-7407	4128	
330	-5446	-4737	5792	
345	-3183	-3923	6384	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	-5	8	61
15	-37	-101	60
30	-23	-63	57
45	129	-18	82
60	220	54	88
75	197	-44	84
90	319	-41	101
105	430	89	93
120	265	10	80
135	192	-85	51
150	327	14	64
165	388	30	69
180	366	18	53
195	107	-190	38
210	-69	-246	10
225	-76	-308	25
240	279	10	37
255	119	-87	25
270	40	-137	15
285	-92	-256	17
300	12	-204	29
315	-156	-356	29
330	-125	-155	27
345	-55	-168	42

TABLE 25

FLIGHT 22, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 16 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
6	4.74	3.11	2.82	1.70	.80	.33	.059	5.56	2.64	2.06	1.73	1.19	.41	-.014	6
21	4.79	3.22	2.85	1.72	.80	.34	.057	5.46	2.58	2.03	1.70	1.16	.40	-.025	21
36	4.81	3.25	2.87	1.75	.80	.34	.063	5.46	2.62	2.06	1.75	1.16	.42	-.014	36
51	5.11	3.45	3.00	1.82	.85	.36	.063	5.51	2.65	2.11	1.78	1.17	.43	-.028	51
66	5.09	3.45	2.99	1.82	.84	.34	.053	5.44	2.65	2.08	1.75	1.16	.42	-.040	66
81	4.85	3.33	2.92	1.76	.84	.32	.055	5.04	2.45	1.93	1.63	1.08	.40	-.042	81
96	5.66	3.71	3.09	1.93	.94	.38	.065	4.77	2.34	1.84	1.59	1.06	.40	-.035	96
111	5.66	3.74	3.18	1.94	.97	.40	.080	4.90	2.41	1.93	1.66	1.12	.42	-.007	111
126	7.04	4.45	3.54	2.25	1.20	.48	.093	5.01	2.54	2.02	1.74	1.20	.48	.002	126
141	7.02	4.46	3.62	2.26	1.20	.49	.091	5.36	2.72	2.18	1.84	1.25	.50	-.007	141
156	6.85	4.42	3.59	2.27	1.23	.50	.097	6.17	3.16	2.48	2.01	1.42	.51	-.009	156
171	8.10	5.00	3.91	2.51	1.42	.58	.124	5.91	3.09	2.45	2.02	1.41	.50	-.021	171
186	8.32	5.05	3.92	2.55	1.40	.58	.120	4.95	2.62	2.18	1.87	1.30	.49	-.030	186
201	7.85	4.84	3.79	2.42	1.31	.51	.091	5.20	2.63	2.15	1.84	1.28	.50	.005	201
216	6.44	4.13	3.40	2.14	1.13	.46	.091	6.26	3.16	2.41	1.97	1.34	.50	-.005	216
231	6.81	4.30	3.51	2.24	1.21	.49	.099	6.62	3.38	2.57	2.07	1.44	.52	-.002	231
246	6.21	3.93	3.27	2.06	1.09	.46	.093	6.21	3.11	2.38	1.92	1.34	.49	.007	246
261	7.52	4.58	3.56	2.34	1.31	.53	.110	5.71	2.84	2.24	1.88	1.31	.52	.014	261
276	8.96	5.25	3.96	2.60	1.49	.58	.112	5.63	2.87	2.29	1.89	1.37	.55	.033	276
291	7.69	4.64	3.60	2.32	1.28	.50	.093	5.67	2.82	2.24	1.84	1.29	.52	.016	291
306	6.95	4.27	3.38	2.14	1.13	.45	.086	5.74	2.79	2.16	1.81	1.26	.48	.009	306
321	6.26	3.90	3.14	2.00	1.06	.43	.082	5.69	2.74	2.15	1.78	1.23	.45	.000	321
336	6.04	3.84	3.11	1.95	1.02	.40	.070	5.67	2.73	2.13	1.78	1.21	.46	.005	336
351	4.97	3.24	2.84	1.74	.84	.33	.059	5.46	2.58	2.01	1.69	1.13	.42	-.011	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
6	5.69	4.32	3.01	2.11	1.91	1.50	1.09	.51	.44	.22	.053	6
21	5.54	4.24	2.93	2.07	1.88	1.47	1.08	.50	.45	.22	.068	21
36	5.70	4.36	3.05	2.12	1.94	1.51	1.12	.51	.47	.22	.072	36
51	5.69	4.32	3.00	2.11	1.91	1.48	1.11	.50	.45	.22	.060	51
66	5.49	4.26	3.02	2.03	1.87	1.44	1.09	.48	.42	.20	.062	66
81	5.10	3.91	2.77	1.89	1.73	1.33	1.01	.43	.38	.18	.051	81
96	4.79	3.67	2.62	1.75	1.59	1.24	.96	.40	.37	.17	.040	96
111	4.85	3.75	2.68	1.81	1.65	1.26	.97	.42	.38	.19	.040	111
126	4.79	3.67	2.71	1.80	1.66	1.28	.98	.43	.39	.20	.055	126
141	5.08	3.87	2.74	1.91	1.74	1.34	1.03	.45	.40	.22	.057	141
156	5.07	3.98	2.77	1.93	1.75	1.36	1.04	.47	.42	.22	.051	156
171	5.07	3.81	2.72	1.90	1.72	1.33	1.03	.47	.42	.22	.060	171
186	4.79	3.67	2.60	1.80	1.61	1.27	.98	.43	.40	.21	.047	186
201	4.88	3.66	2.62	1.83	1.67	1.28	.99	.44	.42	.21	.055	201
216	5.12	3.87	2.74	1.91	1.73	1.34	1.03	.47	.43	.22	.057	216
231	5.43	4.10	2.88	2.06	1.85	1.44	1.09	.51	.45	.23	.068	231
246	5.25	3.98	2.77	1.95	1.75	1.37	1.04	.47	.43	.23	.053	246
261	5.25	3.99	2.85	2.00	1.78	1.40	1.06	.48	.45	.23	.064	261
276	5.43	4.13	2.90	2.06	1.87	1.46	1.10	.52	.46	.24	.066	276
291	5.25	3.93	2.74	1.95	1.73	1.35	1.03	.47	.42	.22	.057	291
306	5.34	4.05	2.87	2.00	1.79	1.41	1.06	.49	.45	.23	.066	306
321	5.43	4.16	2.88	2.05	1.82	1.43	1.07	.51	.46	.23	.062	321
336	5.54	4.19	2.93	2.06	1.84	1.46	1.08	.52	.46	.23	.045	336
351	5.54	4.24	2.90	2.05	1.85	1.45	1.06	.50	.43	.21	.047	351

TABLE 25 - Continued

FLIGHT 22, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 16 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	4.34	2.14	1.82	1.46	.90	.37	.087	2.93	1.47	1.03	.78	.60	.36	.068	6
21	4.27	2.11	1.80	1.44	.87	.37	.089	2.83	1.42	1.01	.77	.59	.37	.074	21
36	4.31	2.16	1.83	1.48	.92	.39	.089	3.56	1.79	1.24	.96	.73	.41	.086	36
51	4.50	2.22	1.92	1.52	.93	.38	.085	3.70	1.84	1.28	.99	.75	.42	.083	51
66	4.38	2.16	1.85	1.47	.90	.36	.082	3.29	1.63	1.14	.88	.66	.39	.080	66
81	4.20	2.04	1.78	1.41	.83	.33	.080	3.12	1.55	1.09	.83	.63	.36	.080	81
96	3.93	1.86	1.69	1.33	.79	.31	.078	2.98	1.47	1.03	.79	.60	.36	.078	96
111	3.76	1.80	1.65	1.31	.78	.31	.075	2.90	1.44	1.01	.77	.59	.35	.077	111
126	3.69	1.78	1.64	1.30	.78	.32	.075	2.79	1.38	.98	.74	.57	.34	.079	126
141	3.82	1.85	1.71	1.35	.83	.31	.073	2.75	1.35	.96	.74	.56	.33	.077	141
156	3.71	1.77	1.64	1.29	.80	.30	.075	2.61	1.27	.92	.71	.54	.31	.074	156
171	3.63	1.77	1.62	1.29	.80	.30	.075	2.67	1.33	.93	.71	.53	.32	.074	171
186	3.63	1.73	1.61	1.27	.77	.30	.073	2.77	1.38	.98	.75	.56	.33	.078	186
201	3.44	1.62	1.53	1.21	.73	.30	.070	2.50	1.24	.89	.68	.51	.32	.070	201
216	3.52	1.69	1.57	1.24	.76	.30	.073	2.45	1.23	.87	.66	.49	.30	.063	216
231	3.70	1.80	1.63	1.29	.80	.32	.075	2.43	1.18	.86	.65	.49	.30	.060	231
246	3.78	1.80	1.62	1.27	.79	.31	.070	2.43	1.19	.86	.66	.49	.30	.059	246
261	3.65	1.78	1.59	1.28	.79	.32	.078	2.56	1.24	.90	.68	.51	.32	.060	261
276	4.05	2.04	1.77	1.41	.88	.35	.078	2.63	1.30	.92	.71	.52	.32	.059	276
291	3.88	1.82	1.61	1.27	.77	.32	.073	2.69	1.31	.94	.71	.53	.32	.058	291
306	3.89	1.90	1.67	1.32	.82	.34	.073	2.85	1.38	.98	.74	.56	.33	.062	306
321	4.01	1.95	1.69	1.34	.82	.34	.078	2.82	1.39	.98	.74	.56	.34	.062	321
336	4.11	2.01	1.74	1.38	.85	.35	.082	2.88	1.44	1.01	.77	.58	.35	.067	336
351	4.19	2.08	1.77	1.41	.86	.36	.075	2.96	1.46	1.03	.78	.59	.36	.069	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.57	.78	.53	.36	.093	.88	.42	.20	.16	.164	6
21	1.96	.95	.60	.38	.097	.73	.44	.30	.08	.101	21
36	1.89	.96	.62	.39	.098	.67	.39	.32	.12	.099	36
51	1.80	.90	.57	.38	.095	.90	.51	.33	.17	.076	51
66	1.70	.85	.55	.36	.089	.86	.42	.31	.15	.073	66
81	1.54	.76	.50	.34	.086	.78	.36	.23	.11	.071	81
96	1.44	.70	.47	.33	.090	.73	.37	.23	.08	.064	96
111	1.42	.69	.46	.32	.086	.74	.38	.25	.09	.046	111
126	1.37	.67	.44	.31	.082	.70	.35	.24	.10	.045	126
141	1.28	.62	.42	.30	.078	.66	.34	.23	.10	.052	141
156	1.33	.64	.42	.30	.078	.65	.34	.23	.10	.054	156
171	1.30	.63	.42	.29	.073	.65	.33	.22	.10	.054	171
186	1.35	.65	.43	.30	.076	.63	.32	.22	.09	.052	186
201	1.23	.60	.40	.29	.072	.61	.31	.21	.09	.044	201
216	1.13	.55	.37	.27	.068	.56	.28	.19	.08	.043	216
231	1.14	.55	.37	.27	.068	.56	.28	.19	.08	.037	231
246	1.15	.56	.38	.27	.067	.56	.27	.19	.08	.037	246
261	1.17	.56	.38	.27	.069	.56	.27	.19	.08	.037	261
276	1.20	.58	.39	.28	.069	.55	.28	.19	.08	.036	276
291	1.26	.61	.40	.29	.071	.56	.29	.20	.09	.039	291
306	1.29	.62	.41	.29	.070	.55	.30	.21	.09	.040	306
321	1.29	.63	.42	.30	.073	.64	.35	.24	.11	.045	321
336	1.30	.64	.43	.30	.074	.90	.44	.29	.13	.052	336
351	1.33	.66	.45	.32	.082	.92	.46	.32	.15	.089	351

TABLE 25 - Continued

FLIGHT 22, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 16 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	4.39	8.19	10.24	14.89	18.10	17.83	17.36
21	3.86	9.49	10.14	14.68	17.89	17.43	17.62
36	3.94	9.54	12.34	15.09	18.53	17.72	17.77
51	4.76	9.05	12.72	15.45	18.16	17.89	18.75
66	4.39	8.57	11.42	14.92	17.82	17.63	18.55
81	3.61	7.87	10.80	14.08	16.40	16.42	17.98
96	3.32	7.42	10.33	13.21	15.44	15.92	20.14
111	3.43	7.30	10.10	12.89	15.77	16.66	20.53
126	3.33	7.04	9.77	12.83	15.92	17.72	24.47
141	3.24	6.66	9.59	13.30	16.55	18.73	24.64
156	3.22	6.82	9.13	12.80	16.76	21.06	24.63
171	3.18	6.66	9.29	12.74	16.64	20.64	28.06
186	3.10	6.91	9.71	12.53	15.73	18.38	28.22
201	2.92	6.39	8.88	11.94	16.09	18.60	26.55
216	2.71	5.94	8.58	12.33	16.75	20.69	23.01
231	2.65	5.93	8.50	12.94	17.70	22.01	24.18
246	2.64	6.02	8.50	12.82	16.92	20.50	22.18
261	2.63	6.07	8.87	12.78	17.31	19.67	25.82
276	2.66	6.21	9.11	14.22	17.85	20.12	29.33
291	2.79	6.47	9.21	12.98	16.81	19.49	25.69
306	2.86	6.59	9.70	13.43	17.41	19.07	23.44
321	3.29	6.64	9.73	13.71	17.63	18.60	21.66
336	4.20	6.77	10.07	14.10	17.78	18.54	20.96
351	4.65	7.04	10.23	14.39	17.59	17.44	17.90

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	13.984		0	3.664		0	6.874	
1	.201	-.435	1	.228	-.090	1	-.028	.009
2	.041	.015	2	.102	.175	2	.003	-.007
3	-.009	.003	3	-.004	.024	3	-.003	-.020
4	-.003	.035	4	.057	.020	4	.000	.003
5	-.006	-.018	5	.057	-.012	5	-.005	-.011
6	.003	.000	6	.033	.024	6	-.003	-.007
7	.020	-.003	7	.020	.012	7	.000	.003
8	-.003	.000	8	.033	-.004	8	.004	.003
9	.006	.003	9	.029	.033	9	-.005	.001
10	.003	.009	10	.012	.037	10	-.007	.000

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 25 - Continued

FLIGHT 22, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 16 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.406		.75	0	13.543		.95	0	22.477	
.25	1	.650	.465	.75	1	1.157	.331	.95	1	-3.833	-2.184
.25	2	.317	.035	.75	2	.086	.280	.95	2	-.411	-1.322
.25	3	-.004	-.039	.75	3	-.023	.322	.95	3	-.988	1.329
.25	4	-.048	-.195	.75	4	-.123	-.178	.95	4	.699	.218
.25	5	-.047	-.223	.75	5	.052	-.139	.95	5	-.587	-.680
.25	6	.054	-.160	.75	6	-.029	-.075	.95	6	-.135	-.071
.25	7	.051	-.035	.75	7	-.018	.123	.95	7	-.326	.607
.25	8	.020	.039	.75	8	.237	-.038	.95	8	.558	-.126
.25	9	.008	.030	.75	9	-.032	-.088	.95	9	-.045	.059
.25	10	.005	.026	.75	10	-.061	-.010	.95	10	-.426	.410
.40	0	7.149		.85	0	17.063					
.40	1	.933	.924	.85	1	.815	-.386				
.40	2	.292	.443	.85	2	.257	.332				
.40	3	-.102	.393	.85	3	.062	.391				
.40	4	.038	.213	.85	4	-.384	-.149				
.40	5	-.091	.128	.85	5	.074	-.064				
.40	6	.051	.056	.85	6	-.100	-.066				
.40	7	-.032	.056	.85	7	.115	.188				
.40	8	-.021	.077	.85	8	.080	-.051				
.40	9	-.034	-.014	.85	9	-.066	-.136				
.40	10	.023	.031	.85	10	-.020	.023				
.55	0	9.874		.90	0	18.698					
.55	1	.958	.910	.90	1	-1.117	-1.354				
.55	2	.041	.309	.90	2	.280	.137				
.55	3	-.381	.226	.90	3	.097	.556				
.55	4	-.177	.029	.90	4	-.690	-.325				
.55	5	-.300	-.151	.90	5	.410	.203				
.55	6	-.018	-.170	.90	6	-.243	-.390				
.55	7	-.051	-.156	.90	7	.165	.331				
.55	8	.118	-.153	.90	8	-.013	.039				
.55	9	-.004	-.040	.90	9	.062	-.069				
.55	10	.104	-.006	.90	10	.009	.115				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 25 - Concluded

FLIGHT 22, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 16 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	243	-380	27	-520	-835	-2795	-3049	-2767
21	824	-182	-606	-1521	-1099	-2805	-3990	-3643
36	881	99	-217	-1626	-2569	-4337	-3467	-3146
51	1201	58	-244	-1483	-2367	-4636	-4712	-3811
66	653	91	-18	-1397	-2235	-4377	-4487	-3767
81	733	66	-136	-1254	-1742	-3262	-2924	-2767
96	745	206	235	-720	-985	-2437	-1386	-1825
111	1155	767	823	-195	-193	-1312	-1234	-2446
126	1600	1007	1302	511	150	-1372	-837	-2124
141	1372	1163	1464	530	370	-715	-256	-2241
156	1417	701	931	253	801	-98	-293	-2891
171	904	520	976	243	247	-715	434	-2373
186	1622	825	669	-291	-96	-815	675	-2015
201	1212	800	976	43	-123	-1133	345	-1752
216	1235	611	777	158	661	-536	-1339	-3336
231	927	916	1410	596	150	-1203	-1124	-3059
246	1907	1246	1229	358	441	-755	-1056	-3081
261	1212	1089	1474	711	344	-994	-319	-2205
276	984	908	1112	387	625	-357	220	-1964
291	1189	767	1040	310	555	-646	497	-1643
306	1041	932	1437	539	212	-954	-690	-2285
321	1577	916	1266	482	-79	-1840	-2306	-2957
336	950	726	1284	91	-835	-2655	-2448	-2803
351	1235	91	118	-777	-906	-2466	-2845	-3066

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-2924	-684	5615	14732
21	-3038	-684	5935	14713
36	-2989	-961	5567	14411
51	-2924	-1302	5551	14384
66	-2549	-1742	5023	14539
81	-2240	-1888	4335	13844
96	-3201	-3061	4655	14173
111	-3314	-3240	3743	13634
126	-3184	-3712	3647	13679
141	-3380	-3484	3823	13542
156	-2761	-3028	4191	13716
171	-2598	-2540	4367	13487
186	-2989	-2702	4223	13551
201	-3591	-3598	3535	13231
216	-3038	-4119	2639	13011
231	-4128	-4526	3471	13798
246	-3998	-3696	3727	13469
261	-3673	-2914	4367	13652
276	-4112	-3240	4719	13926
291	-3754	-3598	3391	13139
306	-4226	-4770	3103	13634
321	-4373	-4151	3487	13634
336	-3347	-2605	4559	14146
351	-2940	-1156	5791	14905

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	-344	166	49
21	-415	43	43
36	-278	148	50
51	-48	254	74
66	70	344	96
81	-1	253	87
96	-104	138	65
111	-77	105	69
126	14	145	68
141	50	207	65
156	20	181	58
171	-92	139	41
186	-128	118	38
201	10	184	48
216	15	135	56
231	-88	92	39
246	-166	19	46
261	-114	117	53
276	-13	171	54
291	-7	159	58
306	-57	100	50
321	-103	74	53
336	-153	178	51
351	-294	105	51

TABLE 26

FLIGHT 23, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 22 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95							Δp, lb/sq in., at - r/R = 0.90							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.11	3.07	3.13	2.08	1.05	.50	.076	6.96	3.63	2.43	2.09	1.34	.54	.027	0
15	5.24	2.62	2.98	1.85	.89	.43	.054	6.29	3.30	2.22	1.91	1.20	.47	.000	15
30	4.68	2.43	2.87	1.72	.80	.41	.050	5.69	2.99	2.02	1.77	1.07	.43	-.020	30
45	4.56	2.42	2.73	1.72	.77	.41	.048	5.30	2.77	1.92	1.70	1.04	.43	-.029	45
60	4.99	2.69	2.89	1.84	.81	.41	.048	5.14	2.77	1.90	1.72	1.05	.42	-.025	60
75	6.26	3.39	3.25	2.08	.93	.43	.046	4.56	2.43	1.74	1.59	.96	.40	-.043	75
90	8.22	4.52	3.71	2.36	1.07	.43	.046	3.42	1.83	1.36	1.39	.84	.37	-.049	90
105	8.94	5.03	4.25	2.84	1.46	.62	.094	4.92	2.90	2.22	2.05	1.33	.60	.033	105
120	8.67	4.81	4.09	2.73	1.44	.64	.098	8.58	4.57	3.12	2.66	1.65	.66	.018	120
135	8.03	4.49	3.85	2.59	1.35	.60	.093	7.99	4.29	2.94	2.55	1.61	.68	.056	135
150	7.48	4.06	3.63	2.47	1.29	.59	.090	7.68	4.10	2.84	2.44	1.57	.66	.063	150
165	7.31	3.89	3.53	2.41	1.29	.59	.100	7.65	4.08	2.80	2.40	1.53	.66	.065	165
180	7.36	3.95	3.53	2.42	1.30	.60	.108	7.75	4.09	2.83	2.40	1.54	.67	.074	180
195	7.52	4.00	3.55	2.43	1.33	.61	.111	7.86	4.10	2.83	2.42	1.57	.68	.076	195
210	7.67	4.15	3.55	2.43	1.35	.61	.115	7.84	4.14	2.84	2.41	1.57	.69	.086	210
225	7.87	4.14	3.54	2.44	1.37	.62	.118	8.20	4.24	2.90	2.46	1.60	.71	.094	225
240	8.20	4.26	3.60	2.49	1.42	.65	.125	8.49	4.37	2.98	2.50	1.66	.73	.108	240
255	8.70	4.35	3.68	2.57	1.47	.66	.129	8.74	4.48	3.05	2.55	1.70	.75	.116	255
270	9.11	4.43	3.69	2.59	1.49	.66	.134	8.11	4.14	2.87	2.43	1.64	.71	.110	270
285	9.34	4.37	3.58	2.48	1.42	.61	.112	5.07	2.74	1.84	1.84	1.27	.61	.070	285
300	7.58	3.79	3.30	2.30	1.32	.59	.104	5.01	2.68	1.92	1.70	1.13	.52	.054	300
315	6.34	3.25	3.02	2.03	1.11	.52	.093	6.16	3.22	2.21	1.88	1.24	.56	.056	315
330	6.36	3.25	3.07	2.09	1.12	.53	.086	6.83	3.58	2.43	2.05	1.36	.58	.054	330
345	6.36	3.27	3.13	2.13	1.11	.52	.082	7.08	3.69	2.49	2.11	1.37	.58	.045	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85											ψ_{nom}, deg
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	7.00	4.93	2.16	2.56	2.09	1.98	1.23	.56	.51	.25	.053	0
15	6.40	4.58	1.87	2.30	1.87	1.81	1.20	.48	.45	.21	.035	15
30	5.87	4.20	1.59	2.05	1.69	1.65	1.01	.41	.41	.18	.020	30
45	5.56	3.96	1.49	1.91	1.61	1.59	.97	.37	.39	.17	.016	45
60	5.27	3.71	1.41	1.83	1.50	1.49	.93	.34	.36	.16	.008	60
75	4.23	2.96	.91	1.44	1.23	1.20	.78	.23	.28	.11	-.021	75
90	2.79	1.76	.10	.80	.70	.78	.51	.09	.18	.05	-.048	90
105	3.11	2.02	.28	.96	.82	.89	.58	.15	.23	.09	-.036	105
120	5.04	3.64	1.37	1.93	1.61	1.61	1.07	.45	.46	.24	.033	120
135	7.03	5.17	2.24	2.67	2.20	2.09	1.35	.63	.58	.30	.074	135
150	7.43	5.33	2.38	2.77	2.24	2.11	1.35	.62	.56	.28	.064	150
165	7.40	5.23	2.37	2.78	2.24	2.10	1.34	.63	.57	.29	.068	165
180	7.55	5.31	2.42	2.83	2.27	2.12	1.37	.65	.57	.30	.066	180
195	7.81	5.40	2.48	2.89	2.31	2.15	1.38	.66	.57	.30	.066	195
210	7.80	5.39	2.48	2.88	2.30	2.15	1.37	.65	.56	.29	.064	210
225	7.95	5.48	2.52	2.89	2.31	2.14	1.33	.62	.55	.28	.066	225
240	7.95	5.33	2.37	2.74	2.16	2.04	1.30	.64	.56	.29	.072	240
255	5.27	3.59	1.37	2.05	1.61	1.67	1.09	.59	.53	.32	.117	255
270	3.91	2.59	.67	1.39	1.12	1.20	.81	.37	.41	.21	.012	270
285	3.88	2.60	.63	1.43	1.06	1.15	.74	.30	.34	.17	.014	285
300	4.44	3.00	.82	1.54	1.18	1.28	.80	.33	.35	.17	.016	300
315	5.76	4.03	1.49	2.08	1.67	1.65	1.02	.47	.45	.22	.037	315
330	6.58	4.60	1.89	2.42	1.93	1.87	1.16	.55	.50	.25	.055	330
345	6.97	4.90	2.11	2.56	2.06	1.96	1.23	.57	.51	.26	.051	345

TABLE 26 - Continued

FLIGHT 23, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 22 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.23	2.68	2.18	1.63	1.15	.45	.121	3.03	1.49	1.08	.83	.71	.38	.098	0
15	5.06	2.54	2.08	1.56	1.10	.41	.095	3.01	1.48	1.07	.83	.70	.36	.098	15
30	4.77	2.38	1.97	1.49	1.02	.39	.089	2.97	1.45	1.05	.81	.69	.36	.095	30
45	4.54	2.29	1.93	1.45	.98	.37	.091	3.04	1.50	1.08	.83	.71	.36	.104	45
60	4.34	2.18	1.87	1.41	.94	.35	.075	2.90	1.42	1.04	.80	.68	.36	.099	60
75	3.87	1.80	1.63	1.22	.79	.27	.060	2.53	1.19	.90	.69	.61	.32	.095	75
90	3.10	1.31	1.30	.95	.60	.19	.040	2.14	1.04	.75	.57	.52	.28	.090	90
105	2.55	1.10	1.17	.86	.52	.16	.035	1.96	.94	.71	.52	.48	.26	.086	105
120	2.23	1.04	1.14	.86	.57	.22	.066	1.86	.85	.69	.48	.45	.24	.081	120
135	2.48	1.66	1.54	1.22	.85	.28	.063	1.76	.80	.67	.46	.43	.23	.078	135
150	4.46	2.87	2.28	1.67	1.16	.43	.103	1.69	.76	.65	.45	.42	.22	.078	150
165	5.06	2.72	2.22	1.66	1.17	.44	.098	1.64	.74	.64	.44	.41	.22	.076	165
180	5.30	2.71	2.23	1.67	1.20	.47	.112	1.55	.69	.61	.42	.40	.22	.072	180
195	5.16	2.58	2.15	1.62	1.15	.46	.109	1.43	.64	.58	.38	.37	.20	.067	195
210	5.09	2.50	2.08	1.54	1.10	.43	.107	1.34	.59	.55	.36	.35	.19	.063	210
225	4.78	2.31	1.92	1.43	1.01	.40	.103	1.33	.58	.54	.36	.35	.19	.062	225
240	4.31	1.95	1.68	1.26	.88	.34	.086	1.44	.65	.56	.41	.37	.21	.063	240
255	3.35	1.36	1.29	.94	.68	.24	.058	1.61	.74	.59	.45	.40	.22	.064	255
270	2.85	1.33	1.22	.92	.65	.23	.049	1.77	.81	.65	.49	.44	.24	.063	270
285	2.86	1.38	1.28	.95	.66	.25	.058	1.94	.86	.71	.53	.47	.26	.066	285
300	3.22	1.63	1.43	1.09	.74	.30	.079	2.09	.97	.76	.58	.50	.27	.070	300
315	3.82	2.06	1.73	1.31	.92	.37	.093	2.37	1.14	.86	.66	.56	.31	.079	315
330	4.46	2.43	1.99	1.51	1.07	.43	.103	2.63	1.28	.96	.73	.62	.33	.086	330
345	4.96	2.65	2.14	1.61	1.15	.45	.103	2.89	1.43	1.05	.80	.68	.36	.092	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.40	.71	.48	.30	.098	.81	.43	.26	.13	.013	0
15	1.43	.72	.49	.31	.098	.92	.47	.28	.13	.012	15
30	1.66	.82	.54	.33	.104	.85	.45	.27	.12	.013	30
45	1.56	.78	.52	.33	.108	.88	.44	.26	.13	.019	45
60	1.60	.75	.50	.31	.108	.63	.34	.24	.14	.037	60
75	1.41	.67	.45	.28	.104	.53	.25	.11	.03	.023	75
90	1.22	.58	.40	.26	.100	.58	.29	.16	.05	-.002	90
105	1.06	.51	.35	.24	.094	.48	.25	.14	.07	-.005	105
120	.99	.48	.33	.24	.090	.44	.24	.14	.07	-.002	120
135	.99	.48	.32	.24	.090	.44	.23	.13	.07	-.001	135
150	.94	.46	.30	.23	.084	.44	.23	.13	.06	-.004	150
165	.88	.42	.29	.22	.080	.42	.22	.12	.06	-.002	165
180	.77	.38	.26	.21	.074	.38	.21	.11	.06	.001	180
195	.67	.34	.24	.20	.069	.33	.18	.10	.05	.001	195
210	.62	.31	.23	.20	.070	.27	.16	.09	.05	.000	210
225	.61	.31	.22	.19	.070	.22	.13	.07	.04	-.007	225
240	.62	.31	.23	.19	.072	.19	.11	.06	.03	-.007	240
255	.68	.35	.25	.20	.072	.20	.12	.07	.04	-.012	255
270	.80	.40	.28	.21	.074	.25	.14	.08	.05	-.007	270
285	.91	.45	.30	.22	.074	.33	.18	.11	.05	-.011	285
300	1.03	.51	.33	.23	.082	.43	.22	.13	.07	-.008	300
315	1.16	.56	.37	.25	.090	.44	.25	.15	.08	-.006	315
330	1.21	.62	.42	.27	.096	.58	.32	.19	.10	-.005	330
345	1.29	.67	.45	.29	.096	.66	.37	.23	.12	.009	345

TABLE 26 - Continued

FLIGHT 23, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 22 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	3.76	7.32	11.03	18.27	19.35	22.27	20.80
15	4.09	7.45	10.88	17.30	17.65	20.00	18.20
30	3.87	8.30	10.73	16.26	15.60	18.05	16.86
45	3.88	8.02	11.03	15.68	14.81	17.14	16.47
60	3.41	7.90	10.58	14.95	13.95	17.01	17.60
75	1.95	7.06	9.30	12.68	10.89	15.34	20.61
90	2.27	6.27	7.96	9.64	6.19	12.48	24.84
105	2.07	5.60	7.39	8.25	7.50	19.80	29.65
120	2.01	5.33	6.88	8.53	15.04	27.72	28.93
135	1.94	5.29	6.56	11.59	20.55	26.72	27.09
150	1.88	5.05	6.35	17.97	20.97	25.79	25.45
165	1.80	4.74	6.20	18.21	20.94	25.58	24.95
180	1.69	4.30	5.95	18.69	21.28	25.79	25.19
195	1.49	3.92	5.53	18.06	21.69	26.03	25.57
210	1.29	3.74	5.21	17.40	21.53	26.19	25.99
225	1.01	3.70	5.19	16.18	21.49	26.95	26.24
240	.90	3.76	5.59	14.07	20.99	27.80	27.08
255	.95	4.02	6.05	10.49	16.01	28.53	28.02
270	1.18	4.44	6.61	9.78	11.11	26.89	28.53
285	1.49	4.89	7.11	10.16	10.33	19.04	27.74
300	1.86	5.40	7.68	11.63	11.51	17.87	24.74
315	2.13	5.98	8.73	14.23	15.64	20.54	21.43
330	2.72	6.47	9.66	16.57	18.08	22.46	21.57
345	3.23	6.90	10.59	17.88	19.22	22.96	21.64

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	11.448		0	2.718		0	6.090	
1	2.090	-1.609	1	1.028	-.147	1	-.092	-.055
2	.067	-.010	2	-.126	.163	2	-.008	.008
3	-.019	-.005	3	.233	.027	3	.010	.025
4	.071	-.048	4	.047	.097	4	.010	-.008
5	.019	-.014	5	.039	-.019	5	.000	.002
6	.010	.019	6	.025	.014	6	-.005	.010
7	.010	.019	7	.031	.033	7	.012	-.002
8	.014	.033	8	-.006	.021	8	.002	.000
9	.024	.010	9	.008	.014	9	-.002	-.012
10	.000	.000	10	.004	.004	10	.025	.008

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom}\right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom}\right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom}\right)$$

TABLE 26 - Continued

FLIGHT 23, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 22 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.203		.75	0	14.354		.95	0	23.965	
.25	1	1.031	.666	.75	1	.074	-.333	.95	1	-3.845	-1.680
.25	2	.531	.138	.75	2	4.410	1.246	.95	2	-2.098	-1.916
.25	3	.007	.189	.75	3	-.799	-.195	.95	3	1.602	-.287
.25	4	-.042	.095	.75	4	-.289	-1.100	.95	4	1.018	.776
.25	5	-.036	-.058	.75	5	.495	.316	.95	5	-.068	-.348
.25	6	.035	-.077	.75	6	-.126	-.169	.95	6	.091	-.480
.25	7	.083	-.003	.75	7	.133	-.003	.95	7	.075	-.058
.25	8	.030	.079	.75	8	-.094	.307	.95	8	-.143	.081
.25	9	-.057	.080	.75	9	.065	-.261	.95	9	-.057	-.026
.25	10	-.065	-.008	.75	10	.099	.095	.95	10	.162	-.018
.40	0	5.660		.85	0	16.347					
.40	1	1.663	1.122	.85	1	-2.433	-1.585				
.40	2	.228	.156	.85	2	5.065	.820				
.40	3	-.196	.183	.85	3	1.198	.384				
.40	4	-.112	-.092	.85	4	-1.773	-1.458				
.40	5	.010	-.033	.85	5	.407	-.537				
.40	6	-.022	-.009	.85	6	.720	.678				
.40	7	-.019	-.010	.85	7	-.340	.031				
.40	8	.004	-.033	.85	8	-.044	.030				
.40	9	-.001	-.035	.85	9	.242	.071				
.40	10	.020	-.055	.85	10	.047	-.115				
.55	0	7.866		.90	0	22.456					
.55	1	2.621	1.029	.90	1	-3.922	-2.758				
.55	2	.493	.206	.90	2	1.667	-.506				
.55	3	-.131	.135	.90	3	2.681	1.118				
.55	4	.019	-.209	.90	4	-.560	-.779				
.55	5	.005	-.161	.90	5	-.693	-1.663				
.55	6	.098	-.037	.90	6	.550	.475				
.55	7	.051	.035	.90	7	.041	1.006				
.55	8	.017	.032	.90	8	-.109	-.311				
.55	9	.014	-.007	.90	9	.172	-.482				
.55	10	.011	-.015	.90	10	-.043	.186				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 26 - Concluded

FLIGHT 23, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 22 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-1153	-1312	-2350	-2606	-4165	-5311		
15	-1176	-1196	-2070	-2339	-4050	-5639		
30	295	-165	-1510	-1776	-3513	-5271		
45	249	454	-479	-851	-2281	-3420		
60	124	50	-479	-78	-557	-1411		
75	-207	470	-145	-21	-891	-1042		
90	967	553	-542	-756	-1595	-1430		
105	21	-58	-1094	-1137	-1507	-714		
120	-959	-850	-1600	-1090	191	1773		
135	-196	-322	-570	465	1503	2400		
150	1104	1535	1392	1935	2233	2599		
165	1731	2533	2820	3280	2893	2589		
180	1412	1757	2097	3118	3439	3236		
195	352	924	1022	1935	2893	3614		
210	21	404	380	1181	1943	2500		
225	557	710	253	818	667	550		
240	625	1180	542	485	-161	-87		
255	431	660	118	513	517	967		
270	-59	355	-18	656	1511	2719		
285	-13	858	615	1181	2031	3435		
300	295	1526	1672	2202	1432	1326		
315	751	1889	1519	1591	587	-306		
330	-424	800	642	389	-1621	-2913		
345	-173	-578	-1609	-1614	-2959	-4187		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-2615	-4770	4611	
15	-3478	-6528	3155	
30	-4731	-7961	2275	
45	-4080	-7261	2419	
60	-3673	-6203	4339	
75	-2110	-4363	5379	
90	-694	-2979	5443	
105	-287	-4249	4851	
120	1716	-5535	1235	
135	983	-8156	-221	
150	-661	-9312	35	
165	-1247	-8010	1267	
180	-1524	-5958	3555	
195	-1003	-5063	4467	
210	-1117	-5698	3795	
225	-1703	-7212	1779	
240	-3380	-8791	467	
255	-4438	-9459	-237	
270	-5090	-9638	-605	
285	-7369	-10028	723	
300	-9078	-9442	2387	
315	-8704	-7961	3827	
330	-7108	-6105	5523	
345	-4796	-4396	5539	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	401	312	111
15	319	264	100
30	186	86	85
45	262	112	100
60	436	235	115
75	534	250	122
90	535	260	120
105	630	269	115
120	627	293	105
135	484	3	75
150	335	-131	53
165	381	-130	46
180	259	-97	36
195	180	-102	25
210	124	-110	14
225	-26	-226	1
240	-12	-216	-3
255	-45	-304	3
270	-130	-295	-1
285	-213	-406	-1
300	-269	-357	5
315	-190	-290	19
330	21	-82	48
345	114	103	72

TABLE 27

FLIGHT 24, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 27 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	5.02	3.41	2.95	1.87	.85	.41	.041	5.77	2.93	2.30	1.98	1.15	.44	-.026	6
21	4.53	3.20	2.87	1.82	.77	.39	.040	5.17	2.63	2.15	1.91	1.04	.40	-.039	21
36	4.15	2.99	2.79	1.72	.68	.35	.022	4.56	2.34	1.91	1.72	.92	.35	-.061	36
51	5.49	3.64	3.06	1.88	.74	.34	.020	2.90	1.58	1.35	1.34	.72	.29	-.089	51
66	8.19	5.39	4.27	2.68	1.24	.51	.052	2.82	1.51	1.57	1.55	.87	.38	-.024	66
81	8.85	5.60	4.52	3.01	1.59	.68	.101	8.32	4.49	3.57	2.97	1.75	.67	.013	81
96	8.34	5.32	4.22	2.78	1.48	.63	.087	8.24	4.37	3.36	2.86	1.74	.68	.020	96
111	7.35	4.70	3.79	2.44	1.25	.54	.071	7.37	3.74	2.90	2.48	1.47	.58	.021	111
126	6.65	4.32	3.58	2.30	1.16	.53	.073	6.53	3.40	2.72	2.36	1.40	.58	.033	126
141	6.70	4.30	3.55	2.31	1.18	.54	.079	6.79	3.52	2.76	2.39	1.43	.59	.030	141
156	6.61	4.24	3.46	2.28	1.17	.53	.083	6.99	3.58	2.80	2.40	1.43	.59	.026	156
171	6.63	4.22	3.36	2.26	1.16	.53	.085	6.85	3.47	2.73	2.35	1.42	.59	.033	171
186	6.94	4.34	3.42	2.31	1.23	.56	.093	6.96	3.51	2.75	2.36	1.43	.60	.045	186
201	7.25	4.44	3.47	2.36	1.28	.57	.097	7.01	3.60	2.80	2.39	1.47	.63	.059	201
216	7.50	4.52	3.57	2.39	1.31	.59	.099	7.40	3.76	2.90	2.43	1.51	.64	.074	216
231	7.73	4.55	3.56	2.41	1.32	.60	.113	7.90	3.93	2.97	2.46	1.56	.66	.080	231
246	8.03	4.62	3.59	2.46	1.41	.64	.137	8.01	3.99	3.04	2.52	1.60	.68	.089	246
261	7.92	4.52	3.45	2.43	1.40	.63	.135	7.24	3.55	2.71	2.27	1.45	.60	.074	261
276	8.07	4.49	3.32	2.36	1.36	.60	.125	4.46	2.40	1.99	1.77	1.18	.51	.039	276
291	6.56	3.93	3.03	2.10	1.16	.53	.089	5.54	2.77	2.23	1.93	1.17	.51	.039	291
306	6.65	4.04	3.21	2.17	1.17	.53	.093	6.81	3.47	2.66	2.23	1.37	.58	.048	306
321	6.84	4.15	3.39	2.24	1.19	.53	.081	7.26	3.69	2.81	2.33	1.43	.58	.041	321
336	6.47	4.05	3.32	2.18	1.13	.51	.073	7.08	3.56	2.74	2.30	1.39	.55	.021	336
351	5.86	3.80	3.19	2.05	1.00	.46	.048	6.58	3.31	2.59	2.17	1.30	.50	.002	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.85										
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	5.93	4.56	3.20	2.30	2.08	1.63	1.14	.51	.46	.23	.070	6
21	5.40	4.14	2.94	2.01	1.89	1.47	1.04	.45	.40	.21	.054	21
36	4.61	3.51	2.60	2.01	1.62	1.23	.93	.36	.33	.17	.038	36
51	2.75	2.11	1.64	1.27	1.18	.86	.64	.20	.22	.10	.000	51
66	1.90	1.35	1.08	.81	.76	.71	.42	.11	.16	.07	-.016	66
81	5.40	4.05	2.73	2.01	1.67	1.31	.90	.38	.35	.20	.042	81
96	7.93	5.92	4.23	3.16	2.80	2.18	1.51	.69	.55	.28	.072	96
111	6.54	5.05	3.53	2.60	2.32	1.84	1.30	.63	.53	.30	.088	111
126	6.53	4.90	3.44	2.55	2.25	1.78	1.27	.63	.52	.29	.094	126
141	6.88	5.13	3.62	2.65	2.34	1.85	1.32	.66	.53	.30	.096	141
156	6.93	5.23	3.63	2.67	2.35	1.83	1.31	.64	.53	.30	.090	156
171	6.69	5.01	3.48	2.56	2.26	1.78	1.27	.61	.52	.30	.090	171
186	6.80	5.09	3.53	2.59	2.26	1.78	1.27	.62	.53	.30	.094	186
201	6.96	5.11	3.59	2.68	2.34	1.86	1.32	.68	.56	.33	.114	201
216	7.12	5.13	3.70	2.79	2.42	1.95	1.38	.73	.60	.36	.134	216
231	7.21	5.19	3.74	2.84	2.49	2.02	1.43	.77	.63	.37	.140	231
246	6.15	4.55	3.28	2.47	2.18	1.76	1.28	.68	.56	.33	.118	246
261	2.41	2.10	1.64	1.30	1.20	.95	.79	.41	.39	.23	.064	261
276	2.94	2.09	1.50	1.17	1.00	.84	.59	.26	.28	.17	.050	276
291	5.46	4.07	2.81	2.00	1.78	1.41	1.01	.49	.43	.26	.082	291
306	6.77	5.07	3.49	2.60	2.26	1.80	1.23	.63	.53	.31	.104	306
321	7.18	5.37	3.71	2.77	2.41	1.93	1.31	.66	.55	.31	.104	321
336	7.01	5.32	3.70	2.73	2.37	1.89	1.30	.64	.55	.30	.100	336
351	6.60	5.05	3.53	2.57	2.28	1.78	1.25	.59	.51	.27	.082	351

TABLE 27 - Continued

FLIGHT 24, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 27 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.55 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
6	5.33	2.73	2.14	1.65	1.08	.47	.103	3.39	1.73	1.18	.94	.73	.40	.106	6
21	4.97	2.49	2.02	1.56	.99	.42	.095	3.32	1.70	1.15	.92	.71	.39	.106	21
36	4.48	2.20	1.85	1.42	.89	.38	.078	3.08	1.54	1.05	.85	.66	.35	.105	36
51	3.70	1.69	1.41	1.19	.68	.29	.060	2.66	1.37	.92	.74	.57	.33	.096	51
66	2.98	1.33	1.12	1.01	.51	.22	.046	2.37	1.26	.81	.65	.52	.31	.095	66
81	2.53	1.25	1.03	.93	.48	.21	.044	2.31	1.22	.80	.63	.51	.29	.093	81
96	2.17	1.19	1.00	.89	.53	.25	.067	2.13	1.10	.71	.56	.45	.25	.080	96
111	3.67	2.56	2.08	1.63	1.04	.45	.099	1.78	.91	.62	.46	.39	.23	.078	111
126	4.54	2.62	2.12	1.64	1.07	.47	.106	1.69	.88	.59	.46	.38	.24	.083	126
141	5.00	2.70	2.18	1.69	1.13	.51	.117	1.86	.91	.62	.48	.40	.24	.080	141
156	5.24	2.75	2.22	1.71	1.14	.51	.115	2.30	1.17	.78	.61	.46	.25	.077	156
171	5.26	2.67	2.12	1.63	1.10	.49	.111	2.30	1.14	.78	.63	.49	.26	.078	171
186	5.44	2.81	2.17	1.66	1.10	.49	.115	1.95	1.00	.71	.57	.46	.24	.077	186
201	5.98	3.23	2.37	1.78	1.17	.49	.103	1.38	.74	.55	.47	.39	.23	.053	201
216	6.07	2.90	2.17	1.70	1.14	.48	.103	1.44	.76	.54	.42	.34	.23	.062	216
231	4.80	1.93	1.59	1.25	.85	.36	.073	1.54	.81	.53	.43	.35	.23	.059	231
246	2.88	.76	.74	.64	.43	.26	.076	1.59	.84	.55	.45	.36	.22	.061	246
261	2.22	.96	.81	.64	.41	.21	.053	1.72	.90	.60	.48	.39	.24	.065	261
276	2.42	1.29	1.05	.91	.50	.25	.067	2.01	1.01	.71	.57	.45	.27	.072	276
291	3.38	1.99	1.62	1.24	.79	.37	.092	2.34	1.20	.83	.66	.51	.31	.078	291
306	4.31	2.56	2.01	1.53	1.03	.46	.109	2.61	1.34	.92	.74	.57	.34	.085	306
321	5.01	2.79	2.16	1.66	1.13	.50	.117	2.89	1.48	1.02	.81	.63	.37	.097	321
336	5.42	2.88	2.22	1.71	1.15	.51	.115	3.13	1.62	1.10	.88	.68	.38	.103	336
351	5.53	2.88	2.23	1.70	1.14	.50	.113	3.33	1.72	1.16	.93	.72	.40	.108	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40 x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	r/R = 0.25 x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	ψ_{nom}, deg
6	1.58	.79	.51	.27	.090	.89	.45	.28	.13	.027	6
21	1.64	.81	.52	.27	.094	.80	.41	.26	.12	.020	21
36	1.56	.76	.49	.25	.090	.78	.39	.24	.11	.018	36
51	1.37	.66	.42	.23	.084	.72	.35	.22	.10	.020	51
66	1.18	.58	.38	.21	.084	.62	.30	.19	.09	.016	66
81	1.11	.54	.35	.21	.081	.54	.26	.16	.08	.017	81
96	1.09	.52	.34	.20	.077	.54	.25	.16	.07	.015	96
111	.99	.48	.32	.19	.075	.55	.26	.16	.07	.017	111
126	.92	.45	.30	.18	.071	.52	.24	.15	.07	.012	126
141	.84	.42	.27	.17	.062	.45	.21	.13	.06	.016	141
156	.73	.39	.23	.16	.056	.39	.19	.12	.06	.015	156
171	.66	.36	.22	.16	.060	.38	.18	.12	.06	.017	171
186	.66	.35	.22	.15	.056	.35	.17	.11	.06	.013	186
201	.65	.33	.22	.15	.056	.30	.14	.09	.05	.012	201
216	.66	.33	.23	.15	.054	.25	.12	.08	.04	.006	216
231	.72	.36	.24	.16	.056	.25	.11	.08	.04	.004	231
246	.79	.40	.26	.16	.052	.27	.12	.09	.05	.004	246
261	.86	.44	.28	.17	.056	.33	.15	.10	.05	.007	261
276	.94	.48	.31	.18	.063	.37	.17	.11	.06	.005	276
291	1.05	.54	.35	.20	.072	.44	.20	.14	.07	.006	291
306	1.20	.61	.40	.22	.075	.50	.25	.17	.09	.011	306
321	1.31	.68	.44	.24	.082	.58	.31	.20	.10	.015	321
336	1.40	.73	.47	.26	.082	.62	.33	.22	.11	.012	336
351	1.51	.77	.50	.27	.086	.66	.35	.24	.12	.022	351

TABLE 27 - Continued

FLIGHT 24, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 27 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	4.09	7.65	12.06	18.15	19.18	18.84	18.80
21	3.72	7.83	11.80	16.79	17.37	17.16	17.61
36	3.51	7.38	10.84	15.08	15.00	15.07	16.28
51	3.17	6.50	9.59	11.79	9.74	10.73	18.77
66	2.74	5.80	8.75	9.25	6.58	12.26	28.04
81	2.40	5.51	8.47	8.46	15.92	28.67	31.63
96	2.36	5.33	7.56	8.57	25.15	28.13	29.64
111	2.41	4.96	6.49	16.43	21.51	24.28	25.93
126	2.25	4.65	6.42	17.45	21.15	22.73	24.19
141	1.97	4.24	6.71	18.39	22.01	23.28	24.29
156	1.79	3.79	7.93	18.78	22.05	23.56	23.95
171	1.73	3.58	8.07	18.21	21.33	23.14	23.78
186	1.62	3.55	7.26	18.63	21.53	23.46	24.71
201	1.38	3.47	5.83	20.13	22.25	24.02	25.38
216	1.16	3.53	5.69	19.27	23.18	24.98	26.03
231	1.13	3.75	5.88	14.21	23.83	25.92	26.41
246	1.27	3.98	5.96	7.71	20.85	26.49	27.34
261	1.47	4.33	6.44	7.19	11.28	23.74	26.88
276	1.62	4.72	7.42	8.88	9.79	17.37	26.32
291	1.96	5.29	8.58	13.22	17.19	19.04	22.77
306	2.39	5.99	9.50	16.76	21.35	22.77	23.31
321	2.85	6.56	10.50	18.44	22.62	23.88	23.91
336	3.04	7.02	11.32	19.07	22.33	23.05	23.01
351	3.27	7.41	11.95	19.08	21.16	21.43	21.21

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	13.014		0	3.884		0	5.989	
1	1.644	-1.775	1	.155	-.771	1	-.211	.063
2	.041	-.091	2	.143	.188	2	.046	.011
3	-.088	.003	3	.016	-.228	3	.035	-.042
4	-.038	.000	4	.061	-.110	4	-.014	.007
5	.020	-.035	5	.049	.069	5	.009	.003
6	-.003	-.003	6	.020	-.004	6	-.012	-.022
7	-.023	.000	7	.008	-.016	7	.000	.007
8	.003	.000	8	-.029	.004	8	.004	.009
9	.015	-.015	9	-.012	.004	9	-.001	.000
10	-.015	-.003	10	.012	-.008	10	-.011	.005

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 27 - Continued

FLIGHT 24, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 27 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.304		.75	0	14.996		.95	0	24.174	
.25	1	1.027	.400	.75	1	-.666	.072	.95	1	-2.542	.122
.25	2	.312	-.118	.75	2	4.574	-2.999	.95	2	-2.994	.307
.25	3	.099	.063	.75	3	-.002	-1.004	.95	3	-.708	-2.211
.25	4	.056	.078	.75	4	-.878	1.976	.95	4	.635	-1.758
.25	5	-.037	.036	.75	5	.207	-.470	.95	5	.648	-.023
.25	6	.074	.009	.75	6	-.142	-.294	.95	6	.097	.902
.25	7	.062	.016	.75	7	.346	.277	.95	7	-.106	.385
.25	8	.048	.010	.75	8	-.364	-.008	.95	8	-.068	.052
.25	9	.044	.004	.75	9	-.219	-.309	.95	9	-.247	-.189
.25	10	.045	-.003	.75	10	.401	-.003	.95	10	-.218	-.160
.40	0	5.284		.85	0	18.931					
.40	1	1.975	.216	.85	1	-2.546	-.364				
.40	2	.310	-.104	.85	2	2.178	-3.055				
.40	3	.171	.008	.85	3	1.454	-3.657				
.40	4	.026	.121	.85	4	-.400	1.264				
.40	5	-.037	.078	.85	5	.498	2.652				
.40	6	-.013	.037	.85	6	-.572	-.276				
.40	7	-.037	-.007	.85	7	-.923	-1.291				
.40	8	.002	-.019	.85	8	.299	-.016				
.40	9	-.016	.004	.85	9	.497	.313				
.40	10	-.009	.006	.85	10	-.162	.015				
.55	0	8.375		.90	0	21.832					
.55	1	2.585	.098	.90	1	-3.284	-.746				
.55	2	1.130	-.535	.90	2	-.887	-1.599				
.55	3	-.193	.257	.90	3	1.170	-3.513				
.55	4	.185	-.271	.90	4	.772	-.888				
.55	5	.129	.279	.90	5	.425	2.269				
.55	6	-.067	-.066	.90	6	-.466	1.350				
.55	7	-.075	.066	.90	7	-.874	-.798				
.55	8	-.004	-.052	.90	8	-.381	-.916				
.55	9	.013	-.014	.90	9	.424	-.153				
.55	10	.023	.033	.90	10	.555	.322				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 27 - Concluded

FLIGHT 24, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 27 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	513	-652	-1275	-2121	-3678	-5046		
21	809	437	380	-423	-2341	-3544		
36	1482	1097	1410	1142	-88	-1454		
51	1710	1460	1772	1285	-185	-997		
66	1493	850	669	-89	-1311	-1056		
81	478	-743	-1392	-1768	-669	1163		
96	-1038	-1469	-1175	-690	1038	2645		
111	1208	371	958	1399	1707	1590		
126	3488	2987	3218	2850	1584	675		
141	2827	2558	3544	3909	3054	1561		
156	1105	1015	2405	3470	3573	2834		
171	1219	1015	1772	2182	1892	1839		
186	1869	1460	1808	1905	352	-927		
201	1596	1493	2007	1848	-466	-2628		
216	1675	1139	1003	665	-246	-1096		
231	581	-8	145	360	1144	2088		
246	11	83	768	1333	2763	4376		
261	1550	1799	2359	2525	2948	4446		
276	2074	2780	3444	3412	2860	3580		
291	832	1865	2830	3059	2631	2705		
306	558	677	1320	1600	827	-469		
321	581	545	181	-957	-3388	-4917		
336	524	-586	-1528	-2712	-4699	-6688		
351	-992	-1460	-1754	-2531	-4506	-6718		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-4602	-7896	1191	
21	-5904	-9638	743	
36	-4276	-7961	1415	
51	-2844	-5014	4919	
66	-939	-1661	6951	
81	1698	-1449	5479	
96	3180	-5535	1255	
111	1047	-9003	-1849	
126	-1118	-10435	-1337	
141	217	-7473	599	
156	1389	-4070	4551	
171	1031	-1791	7223	
186	-695	-3158	6439	
201	-1167	-6935	2391	
216	-1965	-9084	-2121	
231	-3658	-10875	-2889	
246	-5595	-10631	-1833	
261	-8265	-9296	-505	
276	-11602	-10533	2439	
291	-9746	-8759	2263	
306	-7304	-6707	3767	
321	-5986	-4444	5831	
336	-3251	-3712	4871	
351	-3690	-5926	3319	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	345	480	111
21	486	497	117
36	394	405	119
51	374	371	109
66	526	639	130
81	858	932	158
96	753	772	118
111	223	208	60
126	232	-6	54
141	521	296	82
156	375	294	54
171	-35	82	14
186	-65	32	6
201	97	98	17
216	183	211	23
231	-4	60	1
246	-420	-272	-38
261	-851	-511	-58
276	-646	-437	-26
291	-240	-15	16
306	-20	187	39
321	-23	298	52
336	33	373	67
351	334	590	93

TABLE 28

FLIGHT 25, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 31 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	Δp, lb/sq in., at - r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
6	4.29	3.09	2.80	1.74	.75	.36	.020	5.20	2.59	2.08	1.79	1.05	.38	-.045	6
21	3.60	2.72	2.55	1.57	.61	.34	.018	4.31	2.18	1.76	1.64	.90	.34	-.065	21
36	2.63	2.11	2.19	1.03	.41	.26	-.010	3.27	1.66	1.44	1.36	.67	.24	-.104	36
51	2.75	2.07	2.17	1.02	.21	.17	-.033	.29	.01	.29	.56	.17	.09	-.146	51
66	7.88	5.23	4.21	2.50	1.14	.45	.033	2.76	1.35	1.41	1.42	.68	.32	-.076	66
81	7.85	5.39	4.43	2.88	1.49	.66	.085	8.32	4.51	3.51	2.93	1.76	.63	-.020	81
96	7.68	4.98	4.01	2.58	1.33	.55	.063	7.43	3.92	3.04	2.60	1.57	.59	-.004	96
111	6.06	4.19	3.54	2.21	1.06	.46	.045	5.94	3.11	2.50	2.21	1.26	.51	-.015	111
126	5.50	3.85	3.36	2.11	1.02	.46	.057	5.96	3.06	2.46	2.17	1.25	.52	-.013	126
141	5.59	3.86	3.36	2.13	1.05	.49	.067	6.46	3.34	2.62	2.28	1.30	.53	-.002	141
156	5.47	3.69	3.21	2.06	1.02	.48	.069	6.48	3.26	2.58	2.23	1.29	.52	-.006	156
171	5.42	3.63	3.08	2.03	1.01	.49	.077	6.28	3.15	2.50	2.17	1.26	.52	.002	171
186	5.87	3.86	3.12	2.11	1.11	.51	.083	6.53	3.25	2.55	2.20	1.29	.53	.013	186
201	6.51	4.12	3.24	2.21	1.20	.53	.085	6.49	3.36	2.62	2.27	1.38	.57	.035	201
216	6.90	4.27	3.34	2.28	1.24	.54	.089	6.73	3.47	2.72	2.32	1.43	.61	.054	216
231	7.27	4.36	3.46	2.32	1.28	.56	.097	7.10	3.60	2.75	2.33	1.48	.63	.072	231
246	7.33	4.31	3.41	2.33	1.33	.60	.121	7.57	3.83	2.90	2.43	1.54	.63	.080	246
261	7.68	4.51	3.51	2.46	1.44	.64	.145	6.93	3.54	2.74	2.31	1.50	.63	.076	261
276	7.20	4.10	3.12	2.17	1.26	.56	.109	2.25	1.19	1.15	1.20	.83	.44	.033	276
291	4.27	2.70	2.26	1.47	.76	.35	.037	4.04	2.01	1.64	1.46	.79	.36	.004	291
306	5.71	3.60	3.03	1.95	1.03	.47	.081	6.21	3.14	2.43	2.01	1.22	.51	.030	306
321	6.49	4.03	3.31	2.18	1.17	.52	.077	7.08	3.59	2.75	2.27	1.40	.56	.033	321
336	6.17	3.94	3.28	2.13	1.12	.50	.065	6.91	3.54	2.68	2.24	1.38	.54	.011	336
351	5.40	3.60	3.12	1.97	.96	.43	.040	6.24	3.15	2.46	2.06	1.23	.46	-.015	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
6	5.38	4.23	3.02	2.03	1.91	1.50	1.05	.44	.40	.20	.056	6
21	4.58	3.55	2.57	2.06	1.62	1.26	.92	.35	.33	.16	.038	21
36	3.59	2.78	2.07	1.60	1.44	.91	.74	.23	.25	.12	.018	36
51	1.78	1.28	.99	.76	.72	.67	.38	.03	.09	.01	-.022	51
66	1.95	1.40	1.11	.84	.76	.71	.42	.08	.13	.04	-.012	66
81	6.39	4.94	3.42	2.53	2.21	1.67	1.19	.52	.44	.24	.074	81
96	6.78	5.32	3.74	2.76	2.48	1.95	1.37	.62	.52	.27	.070	96
111	6.08	4.63	3.24	2.32	2.09	1.64	1.20	.54	.45	.25	.068	111
126	5.97	4.57	3.30	2.29	2.08	1.62	1.16	.52	.45	.25	.074	126
141	6.16	4.72	3.37	2.42	2.16	1.69	1.23	.56	.48	.27	.082	141
156	5.79	4.44	3.20	2.29	2.09	1.63	1.21	.55	.47	.27	.078	156
171	5.37	4.09	2.96	2.13	1.93	1.52	1.14	.53	.46	.27	.074	171
186	5.67	4.36	3.05	2.23	1.98	1.56	1.15	.54	.48	.28	.086	186
201	6.58	4.94	3.40	2.51	2.17	1.72	1.21	.58	.50	.30	.094	201
216	6.71	5.00	3.50	2.61	2.27	1.80	1.28	.64	.52	.30	.108	216
231	6.64	4.96	3.48	2.62	2.29	1.86	1.31	.68	.55	.33	.118	231
246	6.34	4.77	3.35	2.53	2.22	1.80	1.31	.70	.58	.35	.130	246
261	2.93	2.33	1.81	1.39	1.27	1.02	.85	.45	.42	.24	.072	261
276	2.64	1.92	1.38	1.08	.95	.84	.56	.23	.27	.15	.038	276
291	4.68	3.46	2.36	1.72	1.49	1.16	.82	.37	.34	.20	.066	291
306	6.34	4.75	3.27	2.40	2.09	1.69	1.16	.57	.49	.28	.100	306
321	7.15	5.40	3.74	2.74	2.37	1.91	1.30	.65	.54	.30	.106	321
336	6.96	5.32	3.70	2.71	2.38	1.91	1.31	.64	.53	.29	.104	336
351	6.29	4.85	3.37	2.46	2.19	1.74	1.21	.55	.48	.25	.078	351

TABLE 28 - Continued

FLIGHT 25, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 31 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	5.19	2.59	2.06	1.59	1.02	.43	.083	3.43	1.75	1.18	.94	.73	.42	.110	6
21	4.74	2.36	1.94	1.50	.93	.40	.085	3.41	1.75	1.18	.94	.73	.43	.114	21
36	4.16	2.02	1.74	1.36	.81	.33	.077	3.24	1.63	1.10	.89	.69	.39	.107	36
51	3.38	1.51	1.26	1.13	.60	.25	.049	2.70	1.37	.92	.73	.58	.35	.104	51
66	2.90	1.36	1.16	1.05	.53	.22	.047	2.38	1.26	.82	.66	.53	.30	.101	66
81	2.42	1.18	1.01	.90	.49	.22	.047	2.38	1.27	.82	.65	.52	.30	.101	81
96	3.35	2.47	1.89	1.52	.91	.38	.079	2.15	1.11	.73	.57	.46	.27	.084	96
111	4.17	2.38	2.02	1.57	.99	.43	.099	1.36	.70	.53	.42	.34	.24	.082	111
126	4.33	2.29	1.96	1.54	.99	.45	.107	2.44	1.27	.84	.64	.50	.27	.093	126
141	4.50	2.38	2.02	1.59	1.03	.48	.107	2.98	1.46	.98	.78	.59	.33	.099	141
156	4.52	2.34	1.95	1.54	1.00	.45	.104	2.50	1.28	.87	.70	.55	.33	.099	156
171	4.32	2.12	1.80	1.40	.91	.41	.099	2.33	1.21	.84	.68	.54	.33	.104	171
186	4.09	2.07	1.76	1.37	.89	.42	.104	2.47	1.25	.86	.69	.54	.32	.096	186
201	4.12	2.20	1.83	1.42	.94	.45	.116	2.58	1.29	.87	.70	.54	.31	.087	201
216	4.69	2.62	2.04	1.57	1.06	.48	.118	1.95	1.01	.71	.57	.45	.28	.071	216
231	4.91	2.43	1.88	1.44	.98	.42	.090	1.77	.94	.64	.51	.41	.26	.063	231
246	3.35	1.07	.95	.83	.56	.32	.081	1.85	.94	.66	.53	.42	.26	.067	246
261	2.67	1.21	.99	.88	.52	.26	.065	1.93	.96	.69	.55	.44	.27	.069	261
276	2.76	1.41	1.14	.97	.58	.28	.069	2.10	1.05	.74	.59	.47	.29	.073	276
291	3.41	1.89	1.53	1.18	.74	.34	.083	2.29	1.16	.81	.64	.51	.30	.076	291
306	4.22	2.43	1.90	1.47	.98	.44	.111	2.58	1.32	.91	.73	.56	.33	.084	306
321	4.97	2.83	2.17	1.67	1.12	.50	.109	2.92	1.52	1.03	.83	.64	.39	.101	321
336	5.48	2.93	2.25	1.73	1.18	.51	.109	3.27	1.70	1.14	.92	.71	.41	.108	336
351	5.51	2.84	2.21	1.69	1.12	.48	.093	3.49	1.80	1.22	.97	.75	.42	.108	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.62	.82	.53	.28	.088	.82	.42	.28	.14	.030	6
21	1.71	.84	.54	.28	.092	.86	.44	.28	.13	.024	21
36	1.66	.80	.51	.26	.090	.80	.40	.25	.12	.019	36
51	1.45	.69	.45	.23	.086	.77	.37	.23	.10	.017	51
66	1.22	.58	.38	.22	.081	.65	.31	.20	.09	.021	66
81	1.14	.55	.36	.22	.077	.58	.28	.18	.08	.020	81
96	1.13	.55	.35	.21	.071	.60	.28	.18	.08	.021	96
111	1.06	.51	.33	.20	.073	.63	.30	.19	.09	.019	111
126	.97	.46	.31	.19	.071	.59	.28	.17	.08	.017	126
141	.88	.42	.27	.17	.061	.50	.24	.15	.07	.019	141
156	.76	.40	.24	.17	.060	.41	.20	.13	.07	.020	156
171	.73	.38	.24	.17	.060	.35	.18	.12	.06	.018	171
186	.69	.37	.24	.17	.060	.33	.16	.12	.06	.016	186
201	.70	.36	.23	.16	.056	.32	.15	.11	.05	.012	201
216	.72	.37	.24	.16	.054	.26	.12	.09	.05	.007	216
231	.76	.39	.26	.16	.050	.27	.12	.09	.05	.012	231
246	.83	.41	.27	.16	.050	.30	.14	.10	.05	.008	246
261	.89	.45	.29	.17	.050	.34	.15	.10	.05	.006	261
276	.94	.47	.30	.17	.054	.36	.16	.11	.05	.001	276
291	1.00	.50	.32	.19	.060	.43	.19	.12	.06	.003	291
306	1.15	.58	.38	.21	.070	.53	.26	.17	.08	.013	306
321	1.28	.67	.44	.24	.079	.71	.36	.23	.11	.024	321
336	1.41	.74	.48	.27	.081	.71	.38	.26	.13	.024	336
351	1.52	.78	.50	.27	.080	.78	.41	.28	.14	.026	351

TABLE 28 - Continued

FLIGHT 25, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 31 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	3.96	7.85	12.29	17.27	17.56	16.84	16.85
21	4.02	8.09	12.30	15.94	14.94	14.30	14.80
36	3.63	7.75	11.49	13.89	11.89	10.78	11.18
51	3.38	6.79	9.76	10.53	5.74	1.55	9.95
66	2.90	5.89	8.79	9.40	6.54	10.51	26.62
81	2.59	5.62	8.78	8.38	20.09	28.29	29.92
96	2.63	5.48	7.74	14.83	22.40	25.15	27.21
111	2.77	5.21	5.66	16.12	19.54	20.45	22.63
126	2.57	4.85	8.56	16.14	19.37	20.32	21.37
141	2.21	4.32	10.14	16.81	20.20	21.64	21.77
156	1.94	3.97	9.19	16.37	19.39	21.36	21.02
171	1.76	3.90	8.94	15.10	18.20	20.83	20.75
186	1.65	3.83	9.06	14.74	18.82	21.46	22.00
201	1.51	3.69	9.12	15.46	20.67	22.29	23.46
216	1.24	3.75	7.45	17.45	21.46	23.22	24.35
231	1.28	3.93	6.77	16.31	21.78	24.08	25.21
246	1.40	4.15	6.94	9.66	21.45	25.23	25.58
261	1.51	4.41	7.22	8.93	12.44	23.94	27.00
276	1.56	4.62	7.75	9.83	9.15	10.98	24.19
291	1.82	4.94	8.39	12.61	14.27	13.56	15.45
306	2.42	5.70	9.37	16.09	19.97	20.47	20.77
321	3.33	6.49	10.79	18.46	22.50	23.20	23.24
336	3.54	7.12	11.88	19.35	22.30	22.65	22.43
351	3.87	7.47	12.47	18.77	20.27	20.20	20.09

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	12.667		0	3.868		0	5.289	
1	1.624	-2.333	1	.379	-.698	1	-.181	.076
2	-.023	-.038	2	.200	.131	2	.047	.038
3	-.064	.082	3	.016	-.322	3	.063	-.036
4	-.023	-.009	4	.004	-.163	4	.011	-.004
5	.020	-.050	5	.037	.065	5	.028	-.012
6	-.009	.061	6	-.016	.000	6	.004	-.014
7	-.041	.015	7	.008	-.069	7	.011	.009
8	-.006	-.003	8	.008	-.004	8	.011	-.012
9	.015	.000	9	-.029	-.012	9	-.012	-.008
10	.029	-.003	10	-.008	-.004	10	-.003	.004

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 28 - Continued

FLIGHT 25, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 31 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.477		.75	0	14.519		.95	0	21.576	
.25	1	1.102	.472	.75	1	.160	-.138	.95	1	-2.914	-.582
.25	2	.340	-.193	.75	2	2.658	-2.548	.95	2	-2.834	.011
.25	3	.154	-.062	.75	3	.965	-1.762	.95	3	.048	-3.520
.25	4	-.026	.034	.75	4	-.748	1.280	.95	4	.872	-2.845
.25	5	-.120	.022	.75	5	.248	.404	.95	5	.706	.084
.25	6	.031	.024	.75	6	-.701	-.457	.95	6	.235	2.174
.25	7	.041	.016	.75	7	.233	.086	.95	7	.170	1.034
.25	8	.021	.023	.75	8	.329	.012	.95	8	-.275	-.249
.25	9	.004	-.015	.75	9	-.489	.162	.95	9	-.980	-.585
.25	10	-.016	-.003	.75	10	-.118	-.015	.95	10	-.539	-.298
.40	0	5.408		.85	0	17.539					
.40	1	1.917	.349	.85	1	-2.235	-.742				
.40	2	.428	-.001	.85	2	1.283	-2.859				
.40	3	.237	.002	.85	3	1.541	-4.447				
.40	4	.026	.106	.85	4	-.271	.102				
.40	5	-.122	.100	.85	5	.702	2.435				
.40	6	-.036	.031	.85	6	-.241	.920				
.40	7	-.024	.015	.85	7	-1.143	-.973				
.40	8	.035	-.029	.85	8	-.271	-.332				
.40	9	.001	.003	.85	9	.635	-.157				
.40	10	.003	.012	.85	10	.167	-.017				
.55	0	9.202		.90	0	19.303					
.55	1	1.711	.166	.90	1	-3.781	-1.139				
.55	2	1.676	-.598	.90	2	-.378	-2.112				
.55	3	-.025	.299	.90	3	1.706	-4.842				
.55	4	-.084	-.134	.90	4	.718	-1.994				
.55	5	.168	-.212	.90	5	.658	2.750				
.55	6	-.042	.530	.90	6	.057	2.749				
.55	7	-.382	-.171	.90	7	-1.034	-.613				
.55	8	.086	-.145	.90	8	-1.191	-1.278				
.55	9	.120	.074	.90	9	-.049	-.191				
.55	10	-.169	.027	.90	10	.865	.061				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 28 - Concluded

FLIGHT 25, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 31 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	242	-1007	-1916	-2877	-4329	-5887		
21	1200	800	506	-645	-3158	-4644		
36	1702	1205	1419	1139	-122	-1569		
51	1280	1337	1745	1330	-254	-1211		
66	1360	685	298	-826	-2314	-1888		
81	37	-1477	-1980	-2391	-1891	-415		
96	-1399	-2153	-1790	-1284	265	918		
111	972	512	985	958	98	-1330		
126	3754	3028	2965	2341	-140	-2256		
141	1987	2327	3426	3686	1576	-465		
156	733	941	2115	2866	2262	1177		
171	1325	850	1121	900	467	421		
186	1291	982	1166	528	-1354	-2674		
201	1211	809	958	414	-2243	-4843		
216	961	545	217	-531	-2340	-3698		
231	311	-347	-488	-559	-281	-126		
246	-77	215	678	872	1594	2729		
261	1599	1889	2341	2579	3019	3993		
276	1907	3053	4014	4029	3125	3446		
291	1542	2269	3146	3228	2729	2689		
306	288	710	1492	1635	397	-1151		
321	482	-107	-606	-1771	-4056	-5748		
336	277	-1312	-2712	-4146	-6045	-7808		
351	-1627	-2195	-2504	-3345	-5649	-8086		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-4121	-8807	-867	
21	-5668	-10533	-1059	
36	-5668	-8661	2429	
51	-1321	-3240	5245	
66	-507	358	9133	
81	1610	-798	7853	
96	4768	-4591	-83	
111	-360	-10647	-2483	
126	-2949	-12063	-1811	
141	30	-7310	-339	
156	-702	-3679	6925	
171	-832	-635	9709	
186	-425	-2149	6893	
201	-2802	-6740	3453	
216	-2949	-9719	-1523	
231	-2819	-11022	-4291	
246	-6807	-11217	-1475	
261	-9412	-9833	-3	
276	-10845	-10598	1341	
291	-10600	-9198	3341	
306	-7572	-5486	5597	
321	-3405	-2816	6157	
336	-2298	-2426	5789	
351	-3926	-5877	3901	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	361	525	116
21	487	557	121
36	421	334	130
51	192	284	101
66	322	550	117
81	849	986	166
96	693	903	112
111	71	75	43
126	218	-24	50
141	550	488	80
156	248	292	37
171	-335	-66	-14
186	-294	1	-16
201	-46	66	10
216	147	204	18
231	-30	98	-5
246	-571	-405	-48
261	-748	-450	-43
276	-553	-385	-5
291	-375	-182	6
306	-259	17	23
321	-137	243	53
336	-5	410	85
351	454	713	111

TABLE 29

FLIGHT 26, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 37 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.34	3.77	3.32	2.11	1.06	.49	.062	7.53	3.90	2.65	2.23	1.41	.55	-.033	0
15	5.07	3.36	3.05	1.83	.84	.41	.042	6.51	3.43	2.28	1.96	1.24	.46	-.006	15
30	4.25	2.94	2.79	1.64	.71	.38	.036	5.51	2.88	1.96	1.73	1.06	.42	-.027	30
45	3.82	2.65	2.40	1.55	.61	.34	.020	4.94	2.62	1.76	1.62	.95	.37	-.051	45
60	3.73	2.63	2.37	1.51	.51	.31	.014	3.78	1.96	1.40	1.35	.75	.29	-.081	60
75	7.55	4.70	3.59	2.10	.89	.40	.060	1.73	.77	.69	.89	.48	.26	-.076	75
90	8.74	5.46	4.38	2.83	1.39	.57	.058	4.83	2.62	2.07	2.01	1.25	.55	.005	90
105	8.39	5.34	4.07	2.66	1.37	.62	.089	8.07	4.35	3.02	2.59	1.62	.62	.011	105
120	7.02	4.29	3.60	2.38	1.16	.55	.071	7.14	3.81	2.65	2.31	1.46	.57	.022	120
135	6.22	3.90	3.33	2.20	1.08	.51	.074	6.76	3.56	2.48	2.16	1.37	.56	.018	135
150	5.82	3.71	3.18	2.11	1.04	.51	.078	6.87	3.65	2.51	2.14	1.38	.53	.018	150
165	5.59	3.53	3.07	2.05	1.02	.51	.084	7.05	3.67	2.51	2.12	1.35	.53	.013	165
180	5.69	3.53	3.07	2.06	1.04	.53	.094	7.12	3.69	2.52	2.13	1.37	.56	.025	180
195	6.14	3.74	3.15	2.13	1.11	.56	.104	7.37	3.81	2.57	2.15	1.42	.57	.036	195
210	6.55	4.12	3.24	2.22	1.18	.56	.104	7.45	3.87	2.58	2.21	1.42	.58	.049	210
225	7.08	4.35	3.35	2.28	1.26	.58	.111	7.15	3.81	2.60	2.25	1.46	.63	.081	225
240	7.53	4.54	3.43	2.34	1.29	.61	.116	7.66	4.01	2.72	2.31	1.53	.67	.097	240
255	8.06	4.63	3.48	2.43	1.38	.65	.137	8.10	4.21	2.84	2.39	1.60	.69	.110	255
270	8.57	4.78	3.59	2.52	1.46	.68	.155	8.09	4.06	2.73	2.27	1.53	.64	.097	270
285	7.31	4.00	2.97	2.06	1.15	.54	.100	2.88	1.63	1.21	1.17	.85	.45	.049	285
300	4.68	2.83	2.37	1.55	.80	.41	.058	4.07	2.04	1.35	1.23	.81	.38	.022	300
315	5.95	3.59	2.93	1.97	1.03	.50	.090	6.47	3.41	2.31	1.96	1.28	.55	.049	315
330	6.81	4.12	3.25	2.20	1.18	.56	.100	7.52	3.92	2.66	2.26	1.45	.61	.063	330
345	6.93	4.23	3.39	2.27	1.19	.55	.084	7.86	4.07	2.77	2.35	1.50	.62	.054	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	7.66	5.46	2.52	2.88	2.30	2.16	1.38	.64	.58	.27	.064	0
15	6.75	4.85	2.05	2.51	2.01	1.91	1.20	.52	.49	.22	.043	15
30	5.85	4.20	1.63	2.15	1.73	1.69	1.05	.42	.44	.19	.028	30
45	5.34	3.74	1.41	1.91	1.55	1.52	.93	.34	.37	.16	.012	45
60	4.11	2.83	.80	1.38	1.14	1.16	.74	.20	.26	.09	-.019	60
75	2.85	1.74	.07	.76	.63	.76	.47	.05	.16	.02	-.052	75
90	4.02	2.59	.59	1.22	.99	1.03	.66	.18	.27	.10	-.027	90
105	6.62	4.87	2.14	2.57	2.10	1.83	1.30	.52	.51	.23	.030	105
120	6.52	4.68	1.98	2.47	2.01	1.92	1.24	.54	.52	.26	.049	120
135	6.81	4.87	2.13	2.53	2.04	1.90	1.22	.53	.50	.24	.047	135
150	6.49	4.58	1.98	2.42	1.97	1.86	1.21	.53	.51	.26	.053	150
165	6.04	4.32	1.82	2.34	1.90	1.81	1.21	.54	.52	.26	.059	165
180	5.81	4.18	1.74	2.28	1.85	1.80	1.19	.55	.53	.27	.064	180
195	5.92	4.24	1.78	2.32	1.89	1.83	1.21	.57	.55	.28	.072	195
210	6.45	4.57	1.94	2.47	1.98	1.89	1.23	.58	.55	.29	.078	210
225	7.29	5.03	2.24	2.68	2.14	2.00	1.28	.62	.57	.30	.080	225
240	7.21	4.98	2.24	2.72	2.15	2.06	1.33	.67	.59	.31	.093	240
255	6.63	4.61	1.99	2.56	2.05	2.00	1.33	.69	.62	.33	.099	255
270	4.33	3.03	.89	1.63	1.31	1.40	.95	.47	.46	.24	.049	270
285	2.86	1.77	.07	.99	.78	.86	.53	.19	.28	.12	.004	285
300	4.37	2.95	.75	1.49	1.13	1.20	.72	.28	.33	.15	.020	300
315	6.40	4.57	1.84	2.39	1.87	1.82	1.16	.54	.50	.26	.066	315
330	7.62	5.26	2.44	2.88	2.27	2.15	1.37	.67	.59	.31	.082	330
345	7.98	5.57	2.61	3.01	2.39	2.26	1.43	.70	.60	.30	.080	345

TABLE 29 - Continued

FLIGHT 26, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 37 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.97	3.06	2.45	1.81	1.31	.51	.093	3.62	1.82	1.29	.99	.83	.43	.114	0
15	5.76	2.87	2.32	1.70	1.21	.44	.086	3.56	1.80	1.27	.97	.81	.42	.113	15
30	5.27	2.55	2.13	1.58	1.10	.41	.089	3.47	1.74	1.24	.95	.79	.42	.117	30
45	4.80	2.33	1.99	1.49	.99	.36	.082	3.26	1.62	1.16	.89	.76	.39	.111	45
60	4.28	2.00	1.77	1.32	.86	.29	.060	2.83	1.37	1.00	.76	.66	.33	.102	60
75	3.55	1.55	1.48	1.09	.68	.21	.040	2.45	1.23	.86	.65	.58	.48	.101	75
90	3.03	1.35	1.36	1.01	.60	.19	.035	2.30	1.12	.79	.60	.55	.29	.096	90
105	2.61	1.11	1.21	.89	.53	.18	.044	2.16	1.04	.76	.57	.52	.28	.092	105
120	3.02	1.99	1.80	1.46	1.00	.39	.095	2.01	.94	.75	.52	.48	.26	.090	120
135	4.12	2.39	2.06	1.54	1.06	.40	.091	1.98	.93	.74	.53	.48	.26	.089	135
150	4.37	2.27	2.00	1.53	1.07	.43	.103	1.87	.88	.72	.50	.46	.25	.086	150
165	4.42	2.29	2.00	1.52	1.08	.44	.093	1.57	.72	.63	.44	.43	.24	.084	165
180	4.35	2.23	1.95	1.48	1.06	.41	.098	1.47	.67	.61	.43	.41	.24	.089	180
195	4.17	2.14	1.88	1.44	1.04	.42	.100	1.52	.69	.61	.42	.40	.24	.084	195
210	4.08	2.13	1.85	1.43	1.03	.43	.107	1.68	.78	.62	.47	.42	.24	.079	210
225	4.43	2.37	1.97	1.50	1.09	.46	.114	1.77	.83	.67	.50	.44	.24	.073	225
240	4.96	2.66	2.12	1.58	1.13	.45	.109	1.75	.80	.66	.50	.45	.24	.069	240
255	4.37	1.65	1.49	1.10	.81	.31	.066	1.84	.81	.67	.51	.45	.25	.065	255
270	3.32	1.27	1.20	.91	.66	.26	.058	1.96	.90	.72	.55	.48	.26	.067	270
285	2.87	1.32	1.22	.92	.62	.24	.060	2.11	.98	.78	.58	.50	.27	.069	285
300	3.18	1.65	1.43	1.09	.76	.30	.075	2.34	1.12	.86	.65	.54	.29	.075	300
315	3.98	2.27	1.86	1.42	1.03	.41	.105	2.66	1.31	.97	.74	.61	.32	.085	315
330	4.83	2.80	2.23	1.70	1.23	.51	.123	3.09	1.57	1.14	.87	.72	.39	.104	330
345	5.57	3.09	2.45	1.83	1.34	.54	.112	3.47	1.75	1.25	.96	.80	.41	.113	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.69	.86	.56	.34	.110	.65	.36	.23	.12	.007	0
15	1.74	.89	.57	.35	.108	.77	.41	.26	.13	.018	15
30	1.72	.87	.57	.34	.110	.88	.46	.27	.12	.007	30
45	1.74	.84	.56	.33	.114	.81	.41	.25	.11	.006	45
60	1.62	.76	.51	.30	.110	.73	.38	.21	.10	.007	60
75	1.38	.65	.44	.28	.108	.64	.33	.19	.09	.006	75
90	1.23	.58	.40	.26	.104	.56	.29	.17	.08	.005	90
105	1.17	.56	.37	.26	.098	.53	.28	.16	.07	.006	105
120	1.13	.55	.36	.25	.098	.55	.28	.17	.08	.006	120
135	1.11	.53	.36	.25	.100	.55	.28	.16	.07	.001	135
150	1.03	.49	.34	.24	.090	.50	.26	.15	.07	.005	150
165	.84	.41	.28	.22	.082	.44	.24	.13	.06	.006	165
180	.68	.34	.25	.21	.082	.40	.21	.12	.06	.007	180
195	.63	.33	.23	.21	.084	.34	.18	.11	.05	.005	195
210	.69	.36	.25	.21	.080	.28	.16	.09	.04	.001	210
225	.72	.37	.26	.21	.078	.24	.14	.08	.04	-.002	225
240	.76	.38	.27	.21	.076	.23	.12	.08	.04	-.006	240
255	.82	.42	.29	.21	.076	.24	.14	.09	.04	-.005	255
270	.91	.45	.31	.22	.078	.29	.16	.09	.04	-.008	270
285	1.01	.50	.33	.23	.082	.34	.17	.10	.05	-.008	285
300	1.06	.53	.35	.24	.082	.39	.19	.11	.05	-.008	300
315	1.15	.60	.40	.26	.094	.47	.26	.15	.08	-.005	315
330	1.34	.69	.46	.30	.106	.76	.39	.23	.11	.012	330
345	1.55	.79	.54	.34	.116	.71	.39	.24	.12	.012	345

TABLE 29 - Continued

FLIGHT 26, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 37 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	3.22	8.62	13.09	20.58	21.62	23.75	22.10
15	3.71	8.80	12.83	19.19	18.61	20.52	18.85
30	3.92	8.70	12.57	17.51	16.01	17.52	16.60
45	3.57	8.58	11.84	16.00	14.18	15.69	14.63
60	3.19	7.90	10.19	13.83	10.29	12.09	13.97
75	2.81	6.94	9.97	11.03	5.85	6.61	23.51
90	2.48	6.30	8.43	9.77	9.40	18.52	29.64
105	2.36	6.07	7.98	8.59	19.13	26.58	28.98
120	2.42	5.87	7.44	14.16	18.71	23.69	24.58
135	2.35	5.81	7.39	16.19	18.94	22.35	22.53
150	2.19	5.44	7.10	16.36	18.41	22.46	21.58
165	1.96	4.66	6.28	16.43	17.83	22.44	20.93
180	1.78	4.09	6.09	16.02	17.49	22.82	21.22
195	1.56	3.93	6.13	15.62	17.91	23.55	22.40
210	1.30	4.11	6.46	15.58	18.73	23.86	23.66
225	1.14	4.23	6.72	16.71	20.33	24.12	24.93
240	1.05	4.36	6.69	17.82	20.66	25.47	25.98
255	1.16	4.61	6.79	12.87	19.93	26.66	27.16
270	1.28	4.93	7.25	10.24	13.02	25.63	28.48
285	1.48	5.31	7.73	9.80	7.16	12.24	23.33
300	1.65	5.56	8.50	11.73	10.89	13.27	16.62
315	2.17	6.21	9.63	15.59	17.83	21.31	21.06
330	3.39	7.12	11.40	18.88	21.56	24.38	23.81
345	3.44	8.16	12.60	20.68	22.58	25.23	24.23

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	11.105		0	2.815		0	5.548	
1	2.628	-2.613	1	1.344	-.407	1	-.153	-.085
2	.000	.029	2	-.058	.140	2	-.020	.000
3	-.014	.019	3	.250	-.130	3	.025	.022
4	.048	-.057	4	.134	.019	4	.010	-.015
5	.000	-.033	5	-.014	-.002	5	.015	-.015
6	-.024	-.005	6	.010	-.014	6	.008	.008
7	-.014	-.019	7	.062	-.006	7	.010	.002
8	.000	.000	8	.006	.019	8	-.025	-.010
9	-.010	.000	9	.025	.000	9	-.008	-.010
10	.014	-.014	10	.010	.006	10	.002	.015

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 29 - Continued

FLIGHT 26, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 37 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.316		.75	0	15.048		.95	0	22.532	
.25	1	.892	.741	.75	1	.973	-.443	.95	1	-2.021	-1.091
.25	2	.414	.002	.75	2	3.970	.472	.95	2	-2.243	-1.027
.25	3	.043	.062	.75	3	1.490	.123	.95	3	2.965	-1.912
.25	4	-.067	-.058	.75	4	-1.142	-1.134	.95	4	2.466	-.445
.25	5	-.091	-.097	.75	5	-.014	-.065	.95	5	-.471	.015
.25	6	-.103	-.016	.75	6	.484	.189	.95	6	-1.610	-.126
.25	7	-.106	.005	.75	7	-.404	-.163	.95	7	-.351	.012
.25	8	-.068	.021	.75	8	.087	.008	.95	8	.541	.116
.25	9	-.032	.026	.75	9	.337	.144	.95	9	.511	-.170
.25	10	.002	.030	.75	10	-.306	-.050	.95	10	.150	-.106
.40	0	6.097		.85	0	16.544					
.40	1	1.953	1.024	.85	1	-.932	-1.284				
.40	2	.382	.148	.85	2	3.775	-.652				
.40	3	.229	.259	.85	3	4.143	-.598				
.40	4	-.100	-.060	.85	4	-1.074	-.720				
.40	5	.086	-.098	.85	5	-1.996	-.436				
.40	6	-.017	-.059	.85	6	.211	-.178				
.40	7	.032	-.014	.85	7	1.107	.290				
.40	8	-.001	.022	.85	8	.057	.231				
.40	9	-.012	.004	.85	9	-.425	-.224				
.40	10	.005	-.007	.85	10	.186	-.091				
.55	0	8.796		.90	0	20.865					
.55	1	3.071	.803	.90	1	-2.552	-2.170				
.55	2	.876	.282	.90	2	2.190	-1.053				
.55	3	.363	.043	.90	3	4.631	-.537				
.55	4	-.062	-.100	.90	4	.651	-.298				
.55	5	.104	-.067	.90	5	-2.812	-.879				
.55	6	-.101	-.034	.90	6	-.941	-.442				
.55	7	-.061	-.063	.90	7	1.621	.567				
.55	8	.009	-.041	.90	8	.908	.577				
.55	9	.042	-.060	.90	9	-.510	-.347				
.55	10	.100	.068	.90	10	-.645	-.349				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 29 - Concluded

FLIGHT 26, TRIM LEVEL FLIGHT IN GROUND EFFECT (V = 37 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-2072	-2186	-3372	-3652	-5631	-7498		
15	-442	-998	-2703	-3117	-4813	-6523		
30	778	792	-407	-1286	-3722	-5448		
45	515	1089	515	536	-791	-2294		
60	470	800	380	632	-61	-632		
75	584	553	-371	-513	-1689	-1577		
90	14	-223	-1844	-2163	-2340	-1428		
105	-1468	-1609	-2396	-1849	-1425	-821		
120	-488	-619	-1483	-1019	-562	-145		
135	1142	1023	533	708	142	-941		
150	1473	1947	2061	2635	1338	-941		
165	1325	1790	2025	2616	1708	44		
180	949	1254	1148	1462	969	104		
195	310	578	407	727	247	-1170		
210	310	545	72	155	-923	-2931		
225	1108	734	-307	-475	-1742	-3050		
240	504	380	-434	-437	-1011	-1199		
255	-55	132	-307	241	749	1636		
270	584	957	696	1338	1937	3298		
285	914	2104	1971	2292	2315	3268		
300	857	2178	2079	2368	2051	2024		
315	208	1320	1031	1300	-70	-1846		
330	-55	470	-407	-1124	-3959	-5836		
345	-112	-1172	-3065	-3718	-5508	-7030		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-2811	-4591	4010	
15	-5415	-9361	1610	
30	-6929	-10338	-294	
45	-6604	-9345	1610	
60	-4634	-6121	5514	
75	-466	-1481	7258	
90	-108	-700	8218	
105	1911	-4021	4362	
120	2480	-7147	-1494	
135	-352	-11168	-1030	
150	-92	-8694	-22	
165	1178	-5031	4874	
180	657	-928	9162	
195	999	-1074	9082	
210	901	-4363	5194	
225	494	-7814	154	
240	-1069	-9719	-1622	
255	-3478	-9442	-934	
270	-5448	-9540	762	
285	-9567	-9214	1850	
300	-10967	-10501	3738	
315	-8736	-7163	4554	
330	-6685	-4070	7002	
345	-4894	-3012	7738	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	590	600	130
15	388	198	118
30	445	181	124
45	584	176	147
60	532	195	127
75	532	337	134
90	757	532	146
105	813	493	123
120	391	67	73
135	499	-195	55
150	532	3	57
165	362	-160	33
180	34	-240	7
195	48	-259	7
210	129	-194	9
225	150	-170	1
240	66	-247	-5
255	-210	-421	-15
270	-325	-517	-15
285	-492	-600	-9
300	-332	-468	-7
315	-275	-309	12
330	-129	-107	56
345	210	182	110

TABLE 30

FLIGHT 27, CLIMB

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
6	3.87	2.94	2.47	1.59	.68	.40	.040	5.27	2.73	2.07	1.84	1.10	.40	-.037	6
21	3.28	2.67	2.30	1.41	.57	.36	.026	4.29	2.28	1.75	1.63	.94	.34	-.054	21
36	1.10	1.52	1.48	.60	.16	.23	-.010	3.16	1.66	1.32	1.30	.67	.21	-.101	36
51	.31	.82	1.05	.26	-.13	.16	-.008	1.22	.54	.52	.62	.25	.07	-.138	51
66	7.54	5.18	4.15	2.65	1.27	.57	.080	1.83	.96	1.00	1.26	.80	.42	-.037	66
81	7.05	4.91	3.90	2.59	1.37	.66	.076	7.07	4.17	3.25	2.84	1.74	.65	.009	81
96	6.46	4.48	3.51	2.23	1.10	.51	.054	6.88	3.73	2.82	2.48	1.46	.52	-.022	96
111	4.64	3.45	2.75	1.81	.79	.43	.042	5.32	2.79	2.16	2.01	1.12	.42	-.042	111
126	4.18	3.14	2.51	1.73	.77	.45	.062	4.72	2.59	1.99	1.90	1.08	.45	-.018	126
141	4.67	3.36	2.63	1.87	.89	.50	.074	5.50	3.00	2.28	2.12	1.27	.50	-.004	141
156	4.46	3.19	2.47	1.74	.81	.45	.062	5.73	2.98	2.28	2.08	1.20	.45	-.013	156
171	4.48	3.14	2.44	1.73	.82	.49	.086	5.33	2.80	2.14	1.96	1.18	.45	-.002	171
186	5.05	3.46	2.64	1.83	.93	.51	.094	5.50	2.85	2.21	2.00	1.22	.50	.018	186
201	5.77	3.81	2.82	1.98	1.09	.56	.104	6.37	3.33	2.49	2.21	1.40	.56	.035	201
216	6.39	4.15	2.96	2.10	1.16	.57	.102	6.56	3.44	2.55	2.25	1.43	.57	.054	216
231	6.80	4.38	3.08	2.13	1.19	.58	.104	6.50	3.46	2.60	2.25	1.46	.61	.068	231
246	6.65	4.23	2.97	2.10	1.20	.60	.118	6.63	3.50	2.63	2.26	1.50	.63	.090	246
261	7.39	4.64	3.23	2.35	1.40	.71	.173	7.90	4.08	3.01	2.57	1.71	.70	.120	261
276	6.36	3.84	2.59	1.82	1.01	.52	.102	4.15	2.15	1.60	1.49	.91	.42	.042	276
291	1.43	1.41	1.19	.60	.26	.28	.068	2.36	1.19	.92	1.01	.65	.30	-.002	291
306	5.35	3.51	2.69	1.79	.93	.49	.086	5.23	2.78	2.12	1.87	1.23	.51	.030	306
321	6.27	4.03	3.02	2.03	1.12	.56	.088	6.56	3.48	2.58	2.23	1.43	.57	.044	321
336	6.11	3.93	3.05	2.04	1.10	.55	.072	6.95	3.66	2.69	2.31	1.47	.56	.037	336
351	5.26	3.60	2.85	1.81	.91	.45	.040	6.43	3.33	2.49	2.14	1.32	.47	-.006	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
6	5.81	4.30	3.09	2.21	1.92	1.67	1.04	.42	.45	.22	.004	6
21	4.84	3.59	2.69	2.19	1.60	1.43	.88	.33	.40	.18	-.014	21
36	3.91	2.88	2.21	1.77	1.46	1.09	.70	.20	.30	.12	-.040	36
51	2.72	1.78	1.51	1.12	.93	.90	.39	.01	.15	.04	-.076	51
66	2.31	1.43	1.31	1.03	.85	.91	.45	.12	.25	.11	-.042	66
81	6.68	5.18	3.75	2.78	2.44	2.07	1.35	.62	.59	.30	.042	81
96	6.44	4.89	3.47	2.59	2.22	1.90	1.23	.52	.51	.25	.002	96
111	5.41	3.99	2.92	2.07	1.76	1.50	.95	.37	.38	.19	-.014	111
126	4.87	3.61	2.71	2.18	1.60	1.41	.95	.39	.42	.24	.008	126
141	5.57	4.12	3.08	2.18	1.91	1.65	1.09	.49	.49	.28	.022	141
156	5.72	4.18	3.09	2.23	1.90	1.62	1.06	.46	.46	.25	.012	156
171	5.17	3.80	2.81	1.99	1.74	1.51	.99	.43	.44	.25	.004	171
186	5.15	3.77	2.76	2.00	1.72	1.51	.99	.46	.48	.28	.024	186
201	5.57	4.12	3.03	2.33	1.97	1.73	1.13	.56	.54	.32	.050	201
216	6.68	4.83	3.42	2.60	2.13	1.84	1.19	.58	.55	.32	.056	216
231	6.54	4.70	3.37	2.60	2.15	1.88	1.22	.63	.58	.34	.060	231
246	6.97	4.89	3.53	2.82	2.33	2.05	1.34	.71	.65	.37	.084	246
261	7.23	4.39	3.24	2.41	1.99	1.70	1.07	.54	.50	.29	.070	261
276	2.67	1.84	1.51	1.20	.97	.92	.58	.25	.36	.19	.002	276
291	3.97	2.69	1.98	1.61	1.27	1.13	.70	.30	.37	.20	.010	291
306	5.81	4.26	3.00	2.28	1.91	1.71	1.05	.50	.51	.29	.044	306
321	6.95	5.09	3.57	2.72	2.26	1.96	1.23	.62	.58	.32	.062	321
336	7.32	5.35	3.75	2.87	2.38	2.06	1.29	.64	.59	.32	.058	336
351	6.85	5.08	3.57	2.71	2.26	1.95	1.21	.55	.54	.28	.028	351

TABLE 30 - Continued

FLIGHT 27, CLIMB

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.55 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
6	5.22	2.79	2.12	1.62	1.10	.46	.057	3.49	1.71	1.14	1.04	.82	.42	.097	6
21	4.71	2.52	1.95	1.51	.99	.41	.052	3.56	1.73	1.16	1.05	.83	.42	.100	21
36	4.15	2.23	1.77	1.38	.86	.35	.052	3.27	1.56	1.05	.97	.77	.39	.093	36
51	3.51	1.79	1.36	1.19	.68	.28	.034	2.73	1.29	.86	.82	.66	.36	.089	51
66	3.01	1.64	1.29	1.14	.65	.27	.036	2.46	1.20	.76	.75	.62	.33	.092	66
81	3.68	2.74	1.97	1.64	1.10	.46	.082	2.43	1.18	.76	.74	.60	.30	.080	81
96	4.41	2.80	2.18	1.67	1.15	.45	.073	1.16	.51	.45	.48	.42	.24	.059	96
111	4.20	2.21	1.77	1.36	.91	.37	.062	3.02	1.40	.97	.90	.71	.35	.095	111
126	3.87	2.20	1.79	1.39	.93	.41	.082	2.29	1.16	.77	.76	.64	.35	.098	126
141	4.29	2.47	1.95	1.51	1.01	.45	.082	2.38	1.18	.80	.78	.65	.35	.095	141
156	4.42	2.39	1.90	1.45	.98	.41	.070	2.61	1.23	.86	.83	.67	.34	.086	156
171	4.01	2.18	1.75	1.34	.94	.39	.070	2.57	1.21	.83	.80	.65	.32	.089	171
186	4.00	2.23	1.79	1.37	.95	.42	.080	2.46	1.18	.83	.81	.66	.34	.087	186
201	4.17	2.37	1.86	1.44	1.01	.46	.098	2.10	1.00	.73	.74	.61	.34	.083	201
216	4.43	2.58	1.94	1.51	1.07	.49	.094	2.42	1.17	.81	.77	.61	.33	.081	216
231	5.07	3.10	2.21	1.69	1.17	.51	.094	1.91	.87	.64	.66	.54	.28	.051	231
246	3.85	1.33	1.24	1.03	.78	.41	.066	1.62	.73	.53	.55	.45	.25	.040	246
261	2.82	1.26	.94	.76	.51	.28	.057	1.86	.85	.61	.62	.50	.27	.058	261
276	2.97	1.79	1.35	1.06	.71	.33	.062	2.25	1.06	.74	.72	.57	.31	.066	276
291	3.57	2.14	1.61	1.23	.83	.38	.075	2.40	1.11	.77	.75	.60	.31	.058	291
306	4.20	2.58	1.92	1.47	1.02	.46	.082	2.57	1.23	.84	.80	.62	.33	.070	306
321	4.84	2.92	2.17	1.66	1.18	.52	.086	3.07	1.49	1.02	.93	.74	.39	.089	321
336	5.35	3.10	2.30	1.76	1.26	.55	.089	3.32	1.63	1.10	1.00	.80	.42	.093	336
351	5.57	3.08	2.28	1.75	1.22	.51	.070	3.46	1.68	1.12	1.02	.80	.41	.093	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40 x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	r/R = 0.25 x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	ψ_{nom}, deg
6	1.63	.91	.52	.33	.116	1.06	.50	.30	.17	.027	6
21	1.74	.95	.54	.33	.124	1.01	.47	.28	.17	.023	21
36	1.75	.93	.53	.32	.122	.92	.42	.23	.12	.020	36
51	1.47	.80	.45	.29	.118	.85	.38	.21	.12	.010	51
66	1.24	.69	.39	.27	.115	.68	.30	.17	.11	.012	66
81	1.17	.66	.36	.25	.109	.63	.27	.15	.10	.011	81
96	1.24	.68	.36	.24	.103	.76	.33	.19	.12	.017	96
111	.91	.53	.27	.22	.098	.72	.32	.18	.11	.012	111
126	.74	.50	.26	.24	.108	.53	.23	.12	.09	.004	126
141	1.26	.73	.43	.29	.130	.43	.19	.12	.10	.012	141
156	1.36	.78	.42	.28	.104	.47	.21	.13	.11	.019	156
171	1.32	.74	.40	.27	.104	.58	.27	.17	.12	.020	171
186	1.21	.72	.40	.27	.105	.55	.26	.16	.12	.020	186
201	1.22	.72	.41	.27	.100	.38	.17	.11	.10	.005	201
216	1.05	.64	.36	.26	.109	.30	.11	.06	.08	.001	216
231	.70	.45	.23	.20	.082	.31	.11	.06	.07	.000	231
246	.74	.46	.23	.19	.081	.49	.20	.11	.09	.007	246
261	.86	.53	.28	.21	.087	.56	.23	.13	.09	.006	261
276	.88	.55	.29	.22	.085	.45	.18	.10	.08	-.001	276
291	.96	.58	.31	.22	.089	.45	.18	.10	.08	-.005	291
306	1.11	.66	.36	.25	.098	.52	.24	.14	.11	.002	306
321	1.31	.77	.45	.30	.117	.66	.31	.19	.13	.008	321
336	1.44	.84	.48	.31	.114	.73	.36	.22	.14	.013	336
351	1.53	.87	.50	.31	.114	.79	.39	.25	.16	.014	351

TABLE 30 - Continued

FLIGHT 27, CLIMB

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	4.77	8.38	12.54	18.04	18.15	17.36	15.81
21	4.51	8.76	12.71	18.29	15.46	14.60	14.08
36	3.81	8.59	11.63	14.40	12.43	10.30	7.01
51	3.49	7.46	9.96	11.59	7.78	3.51	3.35
66	2.89	6.57	9.17	10.73	7.97	9.74	27.57
81	2.64	6.14	8.86	16.70	22.61	26.67	27.33
96	3.23	6.23	5.41	17.74	20.68	23.28	23.72
111	3.02	4.97	10.67	14.68	16.56	17.88	18.19
126	2.23	4.77	9.23	14.82	15.91	16.98	17.17
141	2.07	6.99	9.38	16.33	18.37	19.63	18.77
156	2.32	7.02	9.73	15.81	18.17	19.20	17.54
171	2.76	6.76	9.46	14.70	16.76	18.37	17.75
186	2.69	6.57	9.45	15.06	16.92	19.16	19.46
201	1.92	6.60	8.61	16.02	18.97	21.94	21.65
216	1.32	5.98	9.11	17.03	20.88	22.60	23.13
231	1.31	4.17	7.43	19.10	21.04	23.00	24.08
246	2.08	4.23	6.32	12.09	22.78	23.50	23.75
261	2.30	4.83	7.14	9.02	20.11	27.17	26.84
276	1.90	4.97	8.41	11.53	9.84	14.64	21.21
291	1.84	5.26	8.74	13.64	12.47	9.10	7.62
306	2.37	6.02	9.38	16.39	18.51	18.78	19.65
321	3.02	7.23	11.21	18.70	21.87	22.62	22.64
336	3.43	7.75	12.09	19.99	22.83	23.41	22.25
351	3.78	7.99	12.29	19.66	21.32	21.05	19.47

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	16.428		0	3.949		0	4.828	
1	1.139	-2.263	1	.286	-.453	1	-.284	.090
2	-.018	.012	2	.082	.122	2	.038	.000
3	.055	.327	3	-.106	-.053	3	.069	-.047
4	.137	-.082	4	.106	-.106	4	.023	.011
5	-.061	.029	5	.086	.114	5	.019	-.004
6	-.015	.000	6	-.065	.073	6	-.011	-.028
7	.018	.006	7	-.016	.008	7	.000	.009
8	.000	.009	8	-.004	-.020	8	.012	-.003
9	.026	.000	9	.037	.004	9	-.019	-.003
10	.000	-.012	10	-.020	.000	10	-.008	.008

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^0\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^0\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^0\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^0\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^0\right) + F_n \sin n \left(\psi_{nom} - 6^0\right) \right]$$

TABLE 30 - Continued

FLIGHT 27, CLIMB

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.737		.75	0	15.419		.95	0	19.167	
.25	1	.929	.446	.75	1	.630	.041	.95	1	-2.547	-1.320
.25	2	.478	-.044	.75	2	1.780	-1.475	.95	2	-2.072	.304
.25	3	.172	.078	.75	3	.449	-2.458	.95	3	.414	-4.593
.25	4	.321	-.085	.75	4	-.301	.330	.95	4	.732	-3.899
.25	5	-.221	.206	.75	5	1.095	.837	.95	5	.838	.184
.25	6	.086	.022	.75	6	-.782	-.026	.95	6	.713	3.405
.25	7	.127	-.033	.75	7	-.805	-.052	.95	7	.727	1.696
.25	8	.072	.057	.75	8	.592	-.249	.95	8	-.538	-.411
.25	9	.016	.072	.75	9	.011	-.286	.95	9	-2.072	-.704
.25	10	.021	-.006	.75	10	-.042	.364	.95	10	-1.057	-.396
.40	0	6.427		.85	0	17.433					
.40	1	1.058	.545	.85	1	-1.205	-1.531				
.40	2	1.277	-.172	.85	2	.812	-1.352				
.40	3	-.250	.228	.85	3	1.849	-3.847				
.40	4	.042	-.024	.85	4	-.089	-1.543				
.40	5	.054	.022	.85	5	.337	2.092				
.40	6	-.333	.329	.85	6	-.382	1.789				
.40	7	.066	-.188	.85	7	-.603	-1.134				
.40	8	.073	.007	.85	8	-.600	-.961				
.40	9	-.046	.122	.85	9	.389	.146				
.40	10	-.008	-.146	.85	10	.706	.286				
.55	0	9.537		.90	0	18.520					
.55	1	1.545	.314	.90	1	-2.780	-1.964				
.55	2	1.586	-.731	.90	2	-.197	-1.194				
.55	3	.170	.163	.90	3	2.091	-4.500				
.55	4	-.106	.363	.90	4	.983	-2.666				
.55	5	-.094	-.298	.90	5	.061	1.851				
.55	6	-.024	-.054	.90	6	-.659	3.310				
.55	7	.154	.578	.90	7	-.191	-.460				
.55	8	-.314	.068	.90	8	-.619	-1.628				
.55	9	-.157	-.362	.90	9	-.397	-.307				
.55	10	.482	-.123	.90	10	.505	.569				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 30 - Concluded

FLIGHT 27, CLIMB

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	-129	-1477	-2649	-3530	-5241	-5917		
21	646	454	-181	-945	-2399	-3788		
36	1387	1543	1727	1659	250	-1698		
51	2584	2376	2332	1354	-1114	-2474		
66	2972	1419	208	-926	-2813	-3230		
81	-1075	-1238	-1772	-3006	-1449	1167		
96	-699	-3605	-3309	-392	919	-1688		
111	-1623	1741	2748	1430	-3719	-5390		
126	7418	4406	1916	66	-2012	-3459		
141	464	1419	2820	2814	540	-2335		
156	99	-545	-886	-306	1975	3128		
171	1045	99	-36	-649	-2399	-1559		
186	2242	932	217	-96	-1422	-3718		
201	1250	1658	1383	343	-3552	-6365		
216	2402	1205	-497	-1842	-2883	-4096		
231	144	-875	-1474	-1212	-349	73		
246	-1828	-817	796	1831	2142	2133		
261	3758	2764	2513	2594	1737	1953		
276	2356	4158	4918	4044	1834	2152		
291	1410	1485	1907	3081	4870	4799		
306	-1440	627	1944	2003	-709	-3061		
321	2618	1403	-904	-3254	-5382	-6335		
336	361	-974	-1962	-3311	-6949	-9937		
351	-2409	-2698	-3200	-3826	-5030	-7201		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-5202	-9898	-1258	
21	-7172	-10989	-1306	
36	-7351	-9459	2438	
51	-3167	-3240	5718	
66	-465	928	9302	
81	284	-1188	8278	
96	4028	-6333	-122	
111	-1832	-10208	-3546	
126	-4225	-12975	278	
141	2645	-3289	-122	
156	740	-928	8566	
171	-1149	326	12694	
186	1326	-33	5718	
201	-3639	-8319	3942	
216	-3574	-8482	-2234	
231	-1458	-11656	-3642	
246	-6277	-9752	-1386	
261	-12056	-9133	1894	
276	-10607	-11266	230	
291	-10705	-9133	1846	
306	-10021	-7538	7046	
321	-5072	-1091	6070	
336	-3265	-3386	7110	
351	-4519	-5372	3622	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	993	290	104
21	1117	483	119
36	1143	199	119
51	674	-147	98
66	1200	642	116
81	1852	902	206
96	1350	681	82
111	410	99	-7
126	996	-411	51
141	1605	827	87
156	803	52	23
171	257	-233	-66
186	182	-319	-21
201	996	29	14
216	870	186	38
231	1008	61	-6
246	-148	-591	-89
261	-50	-724	-41
276	524	-135	20
291	414	-413	33
306	401	-130	18
321	247	-1	51
336	1081	358	117
351	1116	749	108

TABLE 31

FLIGHT 28, CLIMB

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	7.49	4.81	3.20	2.26	1.24	.62	.095	8.11	4.07	3.00	2.58	1.59	.64	.065	0
15	6.14	4.36	2.97	2.04	1.04	.54	.063	7.22	3.70	2.73	2.39	1.44	.56	.027	15
30	5.00	3.92	2.73	1.83	.84	.47	.041	5.84	3.13	2.41	2.12	1.24	.47	-.014	30
45	4.28	3.60	2.57	1.75	.70	.42	.022	4.95	2.78	2.18	1.90	1.12	.41	-.045	45
60	4.02	3.60	2.60	1.73	.62	.41	.008	4.56	2.57	2.01	1.80	1.04	.38	-.071	60
75	3.86	3.63	2.65	1.65	.56	.37	.008	4.15	2.35	1.86	1.79	.96	.34	-.094	75
90	4.53	3.91	3.00	1.75	.64	.39	.012	3.84	2.26	1.81	1.77	.93	.34	-.099	90
105	5.23	4.53	3.40	2.08	.86	.47	.033	4.26	2.59	2.07	1.98	1.09	.43	-.076	105
120	4.81	4.09	3.17	2.00	.86	.50	.049	5.94	3.48	2.64	2.41	1.37	.52	-.056	120
135	4.37	3.66	2.73	1.83	.78	.48	.054	5.78	3.33	2.52	2.34	1.32	.52	-.027	135
150	4.07	3.28	2.57	1.69	.73	.47	.054	5.28	3.01	2.28	2.10	1.22	.50	-.018	150
165	4.23	3.21	2.51	1.69	.77	.48	.067	5.22	2.95	2.26	2.06	1.22	.51	.011	165
180	4.67	3.42	2.44	1.74	.87	.52	.083	5.62	2.95	2.32	2.10	1.27	.55	.038	180
195	5.06	3.60	2.46	1.81	.94	.54	.093	6.01	3.24	2.41	2.12	1.31	.57	.056	195
210	5.33	3.68	2.45	1.80	.98	.55	.105	6.21	3.32	2.44	2.10	1.34	.58	.071	210
225	5.54	3.75	2.43	1.81	1.01	.56	.113	6.38	3.36	2.46	2.10	1.34	.59	.087	225
240	5.91	3.84	2.49	1.86	1.08	.59	.125	6.69	3.49	2.52	2.12	1.40	.61	.105	240
255	6.45	4.03	2.59	1.96	1.16	.61	.135	7.32	3.65	2.63	2.21	1.46	.65	.121	255
270	7.07	4.24	2.69	2.06	1.23	.63	.141	7.80	3.66	2.62	2.20	1.46	.63	.116	270
285	6.65	4.04	2.53	1.93	1.14	.58	.119	6.43	3.21	2.31	1.97	1.29	.55	.083	285
300	5.89	3.78	2.34	1.78	.99	.52	.099	5.89	3.02	2.16	1.87	1.22	.52	.081	300
315	6.28	4.03	2.51	1.88	1.06	.56	.103	6.14	3.19	2.29	1.98	1.30	.56	.085	315
330	7.13	4.44	2.79	2.09	1.19	.55	.113	7.09	3.64	2.62	2.27	1.47	.62	.099	330
345	7.85	4.81	3.04	2.28	1.29	.63	.111	8.06	4.04	2.96	2.52	1.61	.66	.096	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	9.31	5.68	4.23	3.23	2.65	2.29	1.43	.80	.64	.37	.067	0
15	7.66	5.31	3.89	2.94	2.46	2.11	1.31	.64	.57	.32	.026	15
30	6.48	4.74	3.36	2.55	2.17	1.87	1.14	.51	.48	.26	.001	30
45	5.64	4.18	3.15	2.24	1.95	1.72	1.01	.41	.43	.22	-.022	45
60	5.17	3.76	2.98	2.41	1.79	1.56	.93	.33	.38	.19	-.040	60
75	4.69	3.44	2.75	2.21	1.80	1.36	.83	.26	.33	.16	-.061	75
90	4.44	3.29	2.68	2.12	1.73	1.25	.83	.25	.32	.15	-.058	90
105	4.74	3.51	2.85	2.25	1.87	1.36	.88	.31	.36	.20	-.057	105
120	5.17	3.86	3.10	2.31	1.95	1.56	1.02	.41	.45	.26	-.024	120
135	6.95	5.15	3.91	2.89	2.39	1.95	1.23	.50	.53	.29	-.008	135
150	6.61	4.81	3.70	2.75	2.28	1.89	1.23	.53	.55	.32	.011	150
165	6.43	4.66	3.60	2.70	2.23	1.87	1.22	.55	.58	.34	.021	165
180	6.74	4.81	3.65	2.79	2.29	1.94	1.26	.60	.62	.37	.034	180
195	7.01	4.88	3.68	2.85	2.34	1.97	1.28	.63	.63	.39	.042	195
210	7.13	4.83	3.66	2.85	2.31	1.99	1.28	.65	.63	.39	.052	210
225	7.21	4.81	3.64	2.83	2.29	1.99	1.28	.66	.63	.40	.054	225
240	7.54	4.95	3.68	2.89	2.35	2.04	1.30	.69	.65	.41	.065	240
255	7.69	4.94	3.69	2.89	2.34	2.04	1.29	.70	.64	.40	.071	255
270	6.79	4.41	3.32	2.59	2.10	1.86	1.15	.63	.58	.35	.046	270
285	6.02	3.98	3.03	2.36	1.89	1.71	1.04	.57	.53	.32	.036	285
300	5.87	3.86	2.97	2.28	1.84	1.67	1.00	.56	.50	.31	.038	300
315	6.36	4.18	3.17	2.47	1.99	1.81	1.09	.62	.55	.34	.054	315
330	7.44	4.91	3.68	2.88	2.31	2.07	1.28	.73	.61	.37	.075	330
345	8.81	5.52	4.12	3.21	2.62	2.28	1.43	.81	.66	.40	.079	345

TABLE 31 - Continued

FLIGHT 28, CLIMB

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.29	3.48	2.42	1.90	1.34	.57	.072	2.96	1.43	.96	.95	.76	.38	.072	0
15	6.14	3.30	2.32	1.82	1.26	.53	.067	2.99	1.43	.96	.96	.77	.39	.075	15
30	5.68	2.99	2.18	1.72	1.16	.48	.053	2.88	1.37	.92	.93	.75	.38	.081	30
45	5.12	2.76	2.07	1.63	1.06	.44	.022	2.75	1.31	.88	.89	.73	.38	.086	45
60	4.60	2.57	1.99	1.56	.97	.40	.029	2.58	1.28	.81	.84	.69	.36	.090	60
75	4.13	2.34	1.77	1.46	.86	.35	.037	2.39	1.18	.72	.78	.66	.34	.087	75
90	3.83	2.21	1.61	1.40	.81	.33	.048	2.34	1.15	.74	.76	.65	.34	.092	90
105	3.92	2.39	1.67	1.45	.87	.36	.050	2.50	1.27	.76	.82	.68	.34	.099	105
120	4.29	2.74	2.06	1.58	1.02	.41	.067	2.81	1.42	.91	.91	.75	.39	.108	120
135	4.45	2.82	2.07	1.59	1.05	.43	.074	2.92	1.44	.96	.95	.79	.39	.108	135
150	4.38	2.82	2.03	1.58	1.01	.46	.093	2.92	1.42	.97	.96	.79	.39	.101	150
165	4.96	2.98	2.29	1.77	1.22	.51	.098	2.93	1.44	.98	.98	.79	.38	.108	165
180	5.67	3.41	2.47	1.90	1.33	.57	.117	2.85	1.39	.95	.96	.77	.37	.092	180
195	6.08	3.38	2.42	1.87	1.32	.56	.112	2.56	1.25	.86	.89	.72	.36	.074	195
210	6.15	3.26	2.30	1.78	1.27	.54	.106	2.31	1.11	.77	.81	.66	.80	.057	210
225	5.85	3.03	2.13	1.66	1.20	.52	.096	2.04	.97	.68	.75	.60	.30	.043	225
240	5.40	2.77	1.95	1.52	1.10	.49	.089	1.85	.88	.61	.69	.56	.28	.039	240
255	4.91	2.55	1.80	1.39	1.01	.46	.072	1.68	.77	.54	.63	.51	.24	.024	255
270	4.62	2.49	1.72	1.33	.96	.44	.063	1.50	.67	.48	.58	.47	.24	.016	270
285	4.40	2.36	1.64	1.27	.92	.40	.053	1.40	.60	.44	.54	.45	.22	.013	285
300	4.22	2.33	1.61	1.25	.89	.40	.050	1.41	.61	.43	.54	.44	.22	.015	300
315	4.41	2.54	1.76	1.38	.97	.43	.055	1.66	.74	.52	.60	.49	.25	.028	315
330	5.00	2.97	2.04	1.61	1.12	.51	.067	2.14	1.02	.69	.74	.59	.31	.048	330
345	5.68	3.35	2.31	1.82	1.29	.56	.079	2.65	1.28	.86	.88	.70	.37	.065	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	.98	.56	.29	.26	.072	.17	.04	.02	.09	.012	0
15	1.18	.64	.34	.28	.082	.30	.11	.06	.10	.016	15
30	1.21	.67	.36	.29	.088	.47	.19	.10	.12	.012	30
45	1.24	.68	.37	.29	.094	.54	.22	.12	.12	.019	45
60	1.24	.66	.36	.29	.095	.59	.25	.13	.13	.021	60
75	1.22	.68	.36	.29	.096	.63	.27	.13	.13	.027	75
90	1.20	.70	.36	.29	.100	.65	.28	.14	.13	.027	90
105	1.27	.74	.38	.32	.104	.73	.32	.17	.15	.034	105
120	1.45	.77	.43	.33	.109	.82	.37	.21	.16	.034	120
135	1.57	.83	.47	.34	.114	.94	.42	.24	.18	.041	135
150	1.57	.85	.46	.34	.106	.98	.44	.25	.18	.043	150
165	1.50	.82	.45	.34	.095	.95	.43	.25	.17	.040	165
180	1.35	.76	.40	.31	.083	.81	.39	.22	.16	.040	180
195	1.10	.68	.35	.29	.076	.63	.29	.16	.14	.024	195
210	.89	.58	.28	.25	.060	.45	.18	.09	.10	.016	210
225	.68	.48	.22	.21	.049	.30	.09	.04	.07	.002	225
240	.53	.39	.17	.19	.040	.20	.04	.00	.06	-.004	240
255	.45	.33	.13	.17	.038	.14	.01	-.02	.05	-.005	255
270	.39	.30	.10	.16	.034	.11	-.01	-.02	.06	-.009	270
285	.33	.28	.10	.15	.039	.09	-.02	-.03	.06	-.008	285
300	.32	.27	.09	.15	.042	.08	-.01	-.03	.06	-.005	300
315	.37	.30	.12	.17	.051	.07	-.02	-.03	.06	-.005	315
330	.54	.38	.18	.21	.062	.08	.00	-.01	.07	.001	330
345	.75	.47	.24	.23	.073	.11	.01	.00	.08	-.003	345

TABLE 31 - Continued

FLIGHT 28, CLIMB

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	.98	5.33	10.97	21.80	26.23	26.35	25.74
15	1.53	6.19	11.05	20.74	23.21	23.63	22.44
30	2.16	6.40	10.75	19.06	19.98	19.95	19.41
45	2.46	6.53	10.45	17.42	17.88	17.50	17.42
60	2.67	6.47	9.94	16.19	16.38	16.10	16.85
75	2.81	6.47	9.26	14.53	14.90	14.75	16.39
90	2.90	6.48	9.12	13.64	14.38	14.21	18.16
105	3.32	6.91	9.64	14.41	15.51	16.58	21.53
120	3.80	7.56	10.88	16.66	17.46	21.54	20.51
135	4.28	8.05	11.20	17.12	21.95	20.95	18.51
150	4.41	8.03	11.20	17.12	21.42	19.27	17.28
165	4.29	7.73	11.24	19.20	21.21	19.23	17.47
180	3.86	7.04	10.87	21.38	22.04	20.11	18.59
195	3.03	6.13	10.00	21.49	22.49	21.23	19.56
210	2.04	5.10	11.60	20.84	22.55	21.71	20.10
225	1.21	4.11	8.04	19.63	22.60	22.01	20.50
240	.76	3.35	7.40	18.05	23.18	22.89	21.41
255	.47	2.85	6.59	16.64	23.28	24.25	22.70
270	.38	2.53	6.00	15.86	20.75	24.48	24.03
285	.32	2.35	5.58	14.96	18.74	21.18	22.45
300	.32	2.32	5.60	14.61	18.19	19.84	20.29
315	.34	2.72	6.44	15.81	19.71	20.98	21.70
330	.49	3.57	8.21	18.34	22.85	23.90	23.83
345	.68	4.48	10.03	20.78	25.82	26.47	26.07

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.237		0	3.625		0	8.535	
1	2.184	-3.850	1	.261	-.350	1	-.196	-.016
2	.005	.036	2	-.101	-.016	2	.005	.027
3	.036	.064	3	.075	-.103	3	.016	.017
4	.032	-.068	4	-.012	.018	4	.009	.005
5	.009	-.036	5	.008	-.036	5	.000	-.019
6	-.009	-.005	6	-.010	-.010	6	.005	.003
7	.009	.014	7	.004	.000	7	.008	.006
8	.000	-.005	8	-.014	-.012	8	.002	.000
9	.005	.000	9	.004	-.006	9	.000	-.005
10	.000	.000	10	-.014	.000	10	.000	-.011

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 31 - Continued

FLIGHT 28, CLIMB

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.062		.75	0	17.761		.95	0	20.538	
.25	1	-1.165	1.548	.75	1	-.343	-.614	.95	1	1.633	-2.179
.25	2	.384	-.211	.75	2	3.115	1.048	.95	2	.421	-.756
.25	3	-.213	.242	.75	3	.708	-.099	.95	3	1.982	-.396
.25	4	-.022	-.003	.75	4	.304	.139	.95	4	1.070	.311
.25	5	-.037	-.034	.75	5	.012	-.516	.95	5	-.219	-.724
.25	6	.001	.014	.75	6	.317	-.005	.95	6	.050	-.345
.25	7	-.025	-.009	.75	7	-.187	.131	.95	7	.166	.231
.25	8	-.011	-.003	.75	8	.071	-.075	.95	8	.041	.175
.25	9	-.005	-.011	.75	9	.012	.030	.95	9	.006	-.167
.25	10	.007	-.011	.75	10	-.014	-.022	.95	10	.066	-.161
.40	0	5.362		.85	0	20.529					
.40	1	-.907	2.359	.85	1	-.079	-2.405				
.40	2	.851	-.017	.85	2	3.041	.167				
.40	3	.073	.320	.85	3	1.882	.506				
.40	4	.010	.002	.85	4	.235	-.787				
.40	5	.025	-.047	.85	5	.290	-.573				
.40	6	-.003	.027	.85	6	.129	.314				
.40	7	-.031	.020	.85	7	.068	-.263				
.40	8	-.013	.005	.85	8	.164	.030				
.40	9	-.004	.019	.85	9	-.173	.111				
.40	10	-.008	.008	.85	10	.113	-.148				
.55	0	9.251		.90	0	20.797					
.55	1	-.563	1.928	.90	1	.780	-2.996				
.55	2	1.704	.362	.90	2	1.830	-.466				
.55	3	.447	.078	.90	3	2.348	.601				
.55	4	-.022	.089	.90	4	.397	-.087				
.55	5	.194	-.310	.90	5	.037	-1.181				
.55	6	-.103	-.037	.90	6	.276	.235				
.55	7	.147	.120	.90	7	-.120	.330				
.55	8	-.117	-.211	.90	8	.029	-.214				
.55	9	.027	.242	.90	9	.106	-.044				
.55	10	.079	-.186	.90	10	-.163	.095				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 31 - Concluded

FLIGHT 28, CLIMB

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	1363	1312	868	-66	-2044	-4201		
15	2013	1675	1202	211	-1956	-4360		
30	2195	1807	1510	555	-1375	-3345		
45	1694	1361	1302	669	-654	-2191		
60	1500	1007	814	259	-786	-1962		
75	1751	809	389	-428	-1701	-2957		
90	1739	611	-27	-1115	-2845	-4300		
105	1614	50	-796	-1821	-3109	-4400		
120	1044	-380	-1031	-1830	-2511	-3534		
135	987	-116	-461	-1010	-1613	-2848		
150	1819	850	705	58	-1402	-3116		
165	2457	1460	1275	478	-1217	-2987		
180	1853	982	1003	421	-883	-2539		
195	1295	487	443	-18	-918	-2380		
210	1443	800	479	-199	-1270	-2698		
225	1853	1568	1275	469	-1094	-2858		
240	2081	1997	2043	1461	-20	-1853		
255	1922	2302	2567	2205	1397	297		
270	1352	2294	3019	3083	2945	2316		
285	987	2434	3471	3770	3641	3182		
300	1329	2780	3652	3636	2928	2237		
315	1580	2599	3209	2854	1432	117		
330	1238	1972	2170	1499	-179	-1902		
345	1055	1394	1202	335	-1507	-3405		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-4253	-7863	2205	
15	-4253	-9670	573	
30	-4107	-9149	1037	
45	-2446	-6154	3213	
60	-639	-3500	5917	
75	1575	-1872	6461	
90	3105	-2507	5469	
105	4424	-3207	3565	
120	4033	-3891	3245	
135	2763	-4103	3981	
150	2161	-3842	4365	
165	1070	-3500	5277	
180	696	-3403	5453	
195	-232	-3777	5037	
210	-1844	-5535	4205	
225	-3472	-7554	2205	
240	-4563	-9817	525	
255	-6646	-10435	-595	
270	-9837	-11787	45	
285	-11254	-12080	253	
300	-10293	-11347	525	
315	-8942	-9556	2237	
330	-7119	-7114	3361	
345	-5360	-7066	3837	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	419	534	131
15	343	428	109
30	267	332	105
45	317	380	112
60	427	460	126
75	423	506	117
90	391	467	90
105	345	412	84
120	425	402	74
135	253	236	37
150	-69	-91	-1
165	-239	-231	-12
180	-245	-199	-14
195	-289	-213	-15
210	-297	-264	-18
225	-326	-341	-18
240	-281	-331	-15
255	-239	-273	11
270	-200	-195	25
285	-396	-253	17
300	-721	-488	3
315	-590	-380	16
330	-233	-51	77
345	324	402	127

TABLE 32

FLIGHT 29, CLIMB

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	Δp, lb/sq in., at - r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
0	8.45	5.06	3.08	2.34	1.32	.53	.115	9.17	4.20	3.03	2.58	1.76	.66	.113	0
15	7.28	4.92	2.96	2.20	1.19	.57	.087	7.99	3.98	2.94	2.52	1.67	.62	.065	15
30	5.83	4.17	2.92	1.98	.96	.50	.050	6.53	3.55	2.65	2.33	1.48	.54	.023	30
45	4.71	3.96	2.69	1.83	.79	.44	.033	5.33	3.11	2.35	2.12	1.34	.47	-.020	45
60	4.12	3.89	2.64	1.78	.68	.40	.014	4.65	2.77	2.14	1.94	1.21	.42	-.054	60
75	3.68	3.78	2.62	1.71	.56	.37	.000	4.10	2.46	1.90	1.78	1.10	.36	-.083	75
90	3.56	3.65	2.71	1.60	.48	.33	-.002	3.54	2.21	1.76	1.75	.99	.33	-.103	90
105	4.43	4.13	3.14	1.91	.70	.41	.018	3.73	2.44	1.93	1.90	1.12	.41	-.079	105
120	4.00	3.75	2.81	1.83	.72	.45	.037	5.01	3.19	2.43	2.27	1.35	.47	-.056	120
135	3.79	3.46	2.52	1.70	.67	.44	.045	4.83	3.01	2.28	2.15	1.30	.48	-.036	135
150	3.66	3.16	2.38	1.60	.66	.44	.046	4.62	2.81	2.13	2.01	1.25	.48	-.016	150
165	3.89	3.24	2.28	1.64	.72	.48	.073	4.78	2.86	2.15	2.01	1.29	.51	.018	165
180	4.41	3.45	2.44	1.73	.83	.52	.091	5.37	2.89	2.25	2.04	1.35	.56	.059	180
195	4.83	3.65	2.36	1.75	.91	.54	.102	5.78	3.14	2.35	2.06	1.39	.58	.099	195
210	5.16	3.68	2.31	1.75	.95	.56	.106	5.99	3.21	2.35	2.02	1.42	.59	.108	210
225	5.40	3.74	2.28	1.76	.99	.56	.124	6.13	3.25	2.35	2.01	1.44	.60	.124	225
240	5.72	3.78	2.27	1.76	1.02	.57	.128	6.47	3.33	2.37	2.00	1.44	.61	.130	240
255	6.20	3.89	2.33	1.83	1.10	.59	.142	7.47	3.47	2.46	2.07	1.50	.62	.137	255
270	6.84	4.10	2.45	1.93	1.18	.61	.146	8.29	3.55	2.50	2.11	1.54	.63	.147	270
285	7.39	4.13	2.42	1.91	1.18	.59	.142	7.67	3.30	2.28	1.95	1.42	.56	.119	285
300	6.29	3.82	2.22	1.74	1.02	.52	.107	6.33	3.04	2.12	1.84	1.33	.54	.099	300
315	6.37	3.97	2.33	1.82	1.05	.51	.107	6.54	3.20	2.24	1.95	1.38	.58	.110	315
330	7.45	4.46	2.65	2.07	1.20	.56	.132	7.81	3.66	2.56	2.23	1.57	.64	.122	330
345	8.64	4.89	2.97	2.28	1.33	.57	.148	8.99	4.13	2.93	2.52	1.73	.67	.142	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
0	9.65	5.96	4.30	3.36	2.69	2.42	1.48	.82	.70	.37	.069	0
15	9.11	5.76	4.25	3.25	2.60	2.33	1.41	.78	.66	.35	.046	15
30	7.87	5.28	3.90	2.93	2.37	2.11	1.26	.60	.59	.29	.012	30
45	6.34	4.66	3.43	2.55	2.12	1.87	1.12	.48	.52	.24	-.023	45
60	5.53	4.14	3.22	2.56	1.86	1.75	1.00	.36	.46	.20	-.040	60
75	4.85	3.69	2.95	2.39	1.90	1.51	.89	.28	.40	.17	-.069	75
90	4.31	3.23	2.69	2.16	1.69	1.28	.77	.20	.34	.14	-.091	90
105	4.27	3.19	2.71	2.19	1.70	1.25	.82	.25	.37	.16	-.087	105
120	4.71	3.55	2.98	2.38	1.92	1.46	.95	.35	.47	.22	-.048	120
135	6.18	4.78	3.80	2.73	2.21	1.87	1.16	.45	.53	.27	-.030	135
150	5.91	4.41	3.53	2.61	2.09	1.78	1.14	.46	.56	.30	-.011	150
165	5.97	4.34	3.46	2.61	2.10	1.81	1.15	.51	.60	.33	-.005	165
180	6.39	4.57	3.53	2.73	2.20	1.91	1.21	.57	.64	.37	.016	180
195	6.83	4.71	3.57	2.79	2.25	1.96	1.24	.60	.67	.38	.024	195
210	6.95	4.60	3.50	2.75	2.18	1.94	1.21	.61	.66	.39	.033	210
225	7.00	4.48	3.45	2.70	2.14	1.94	1.19	.62	.66	.38	.041	225
240	7.20	4.49	3.48	2.73	2.14	1.96	1.20	.64	.67	.38	.051	240
255	7.59	4.60	3.54	2.81	2.20	2.00	1.23	.69	.67	.39	.057	255
270	7.65	4.52	3.45	2.73	2.15	1.96	1.19	.65	.63	.36	.065	270
285	6.76	4.03	3.08	2.43	1.88	1.74	1.04	.56	.56	.31	.024	285
300	6.09	3.83	2.91	2.30	1.81	1.70	.99	.55	.55	.31	.024	300
315	6.27	3.97	3.07	2.42	1.88	1.79	1.05	.60	.58	.33	.046	315
330	7.47	4.63	3.55	2.81	2.21	2.06	1.24	.72	.65	.37	.067	330
345	8.92	5.28	4.06	3.18	2.55	2.32	1.43	.82	.71	.40	.088	345

TABLE 32 - Continued

FLIGHT 29, CLIMB

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75							Δp, lb/sq in., at - r/R = 0.55							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.61	3.65	2.49	1.94	1.41	.58	.071	2.81	1.57	.90	.92	.74	.35	.087	0
15	6.85	3.57	2.46	1.93	1.35	.55	.053	2.92	1.66	.95	.96	.77	.37	.095	15
30	6.42	3.31	2.32	1.82	1.25	.51	.050	2.88	1.61	.93	.95	.77	.36	.096	30
45	5.84	3.06	2.21	1.74	1.15	.46	.039	2.78	1.53	.89	.91	.75	.36	.103	45
60	5.14	2.83	2.09	1.65	1.05	.41	-.002	2.59	1.54	.82	.86	.72	.35	.107	60
75	4.52	2.55	1.92	1.54	.92	.36	.010	2.33	1.37	.71	.78	.66	.32	.106	75
90	3.92	2.30	1.64	1.43	.81	.32	.017	2.22	1.29	.75	.74	.64	.34	.107	90
105	3.71	2.39	1.69	1.44	.82	.33	.032	2.40	1.41	.78	.79	.67	.33	.118	105
120	4.02	2.77	1.82	1.56	1.00	.39	.050	2.77	1.69	.89	.92	.77	.37	.127	120
135	4.26	2.92	2.10	1.60	1.06	.43	.065	3.00	1.73	1.00	.99	.82	.41	.129	135
150	4.62	3.13	2.26	1.74	1.15	.46	.088	3.18	1.82	1.07	1.05	.85	.39	.135	150
165	5.42	3.42	2.51	1.92	1.33	.55	.112	3.14	1.81	1.06	1.05	.86	.39	.131	165
180	5.89	3.49	2.50	1.92	1.35	.57	.110	2.97	1.71	1.01	1.01	.82	.37	.102	180
195	6.15	3.44	2.42	1.86	1.32	.55	.100	2.61	1.48	.88	.91	.74	.34	.084	195
210	6.15	3.29	2.30	1.76	1.27	.53	.093	2.25	1.30	.75	.81	.66	.29	.068	210
225	6.08	3.20	2.20	1.67	1.21	.52	.088	1.96	1.08	.65	.72	.59	.25	.052	225
240	6.08	3.13	2.12	1.62	1.18	.51	.086	1.76	.93	.56	.65	.53	.23	.041	240
255	5.54	2.92	1.96	1.50	1.11	.48	.076	1.59	.82	.49	.60	.49	.22	.034	255
270	5.02	2.58	1.74	1.31	.97	.42	.050	1.42	.71	.42	.54	.45	.19	.026	270
285	4.59	2.46	1.64	1.25	.92	.40	.041	1.24	.62	.37	.50	.41	.17	.021	285
300	4.35	2.41	1.60	1.23	.90	.39	.039	1.18	.61	.36	.49	.40	.18	.022	300
315	4.44	2.55	1.69	1.32	.96	.42	.045	1.37	.73	.43	.54	.44	.20	.034	315
330	4.98	2.99	1.99	1.55	1.13	.48	.065	1.85	1.00	.58	.68	.53	.26	.054	330
345	5.78	3.44	2.32	1.80	1.33	.57	.071	2.43	1.33	.77	.81	.65	.30	.075	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40					Δp, lb/sq in., at - r/R = 0.25					ψ_{nom}, deg
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	.76	.48	.24	.21	.069	.06	.00	.00	.08	.003	0
15	.96	.57	.30	.23	.073	.20	.06	.02	.08	.010	15
30	1.11	.63	.34	.24	.080	.39	.14	.07	.10	.019	30
45	1.18	.66	.36	.26	.087	.50	.20	.10	.11	.023	45
60	1.22	.67	.37	.26	.091	.57	.24	.12	.12	.027	60
75	1.20	.66	.36	.26	.090	.60	.25	.13	.12	.028	75
90	1.15	.70	.35	.25	.092	.63	.27	.14	.12	.030	90
105	1.20	.72	.37	.27	.099	.69	.31	.15	.13	.036	105
120	1.42	.81	.45	.31	.107	.84	.38	.22	.16	.042	120
135	1.64	.89	.51	.33	.114	1.00	.46	.27	.18	.049	135
150	1.70	.93	.53	.34	.112	1.11	.52	.30	.18	.052	150
165	1.66	.92	.52	.33	.099	1.14	.52	.30	.18	.049	165
180	1.50	.90	.50	.33	.092	.96	.48	.28	.18	.047	180
195	1.33	.81	.44	.29	.079	.77	.36	.21	.15	.031	195
210	1.07	.68	.35	.24	.065	.52	.22	.11	.10	.014	210
225	.78	.54	.25	.19	.047	.30	.10	.03	.06	.001	225
240	.56	.42	.18	.16	.037	.19	.03	-.01	.05	-.002	240
255	.40	.34	.13	.13	.029	.14	.00	-.03	.04	-.006	255
270	.27	.29	.10	.11	.027	.10	-.01	-.04	.04	-.007	270
285	.23	.25	.08	.11	.025	.09	-.01	-.03	.05	-.004	285
300	.21	.24	.08	.11	.029	.07	-.02	-.03	.05	-.006	300
315	.22	.25	.09	.12	.038	.06	-.01	-.03	.06	-.003	315
330	.34	.30	.13	.15	.049	.06	-.01	-.03	.05	.006	330
345	.53	.39	.19	.18	.060	.05	-.01	-.01	.06	-.009	345

TABLE 32 - Continued

FLIGHT 29, CLIMB

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	.55	4.37	10.74	22.67	27.18	28.18	26.53
15	1.00	5.18	11.28	22.25	26.05	26.18	24.89
30	1.79	5.80	11.09	20.69	23.20	22.80	21.34
45	2.25	6.14	10.80	19.13	19.96	19.78	18.89
60	2.58	6.28	10.37	17.33	17.86	17.60	17.62
75	2.65	6.19	9.38	15.53	16.06	15.55	16.44
90	2.80	6.12	9.28	13.72	14.06	13.99	15.70
105	3.12	6.47	9.76	13.92	14.41	15.70	19.06
120	3.90	7.47	11.17	15.91	16.66	19.77	18.06
135	4.59	8.35	12.06	17.12	20.60	19.10	16.83
150	5.02	8.61	12.44	18.60	19.98	18.28	16.07
165	5.08	8.42	12.36	21.17	20.23	18.89	16.71
180	4.58	7.98	11.71	21.78	21.36	20.14	18.31
195	3.58	7.05	10.38	21.53	22.11	21.29	19.24
210	2.25	5.80	9.05	20.78	21.92	21.65	19.67
225	1.15	4.39	7.84	20.11	21.74	21.96	20.12
240	.59	3.33	6.96	19.72	22.10	22.47	20.56
255	.35	2.54	6.28	18.30	22.65	23.82	21.63
270	.23	2.03	5.61	16.13	22.18	24.83	22.98
285	.27	1.79	4.99	15.16	19.45	22.76	23.23
300	.25	1.74	4.93	14.75	18.41	20.63	20.61
315	.30	1.94	5.62	15.54	19.36	21.65	21.12
330	.31	2.56	7.35	18.13	22.66	24.89	24.03
345	.36	3.46	9.24	21.08	26.05	27.84	26.61

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.787		0	3.629		0	8.613	
1	2.656	-5.121	1	.364	-.271	1	-.232	-.030
2	.027	.104	2	-.128	-.101	2	.003	.009
3	-.005	.095	3	.101	-.085	3	.028	.027
4	.104	-.123	4	-.014	.016	4	-.005	.000
5	.023	-.041	5	.030	-.036	5	-.005	-.016
6	.036	.000	6	.016	.002	6	-.005	.003
7	.018	.009	7	.014	-.006	7	.000	.003
8	.005	.027	8	.000	.002	8	.000	.002
9	.018	-.027	9	.002	.002	9	.013	.006
10	-.023	-.009	10	-.002	-.008	10	.003	.003

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 32 - Continued

FLIGHT 29, CLIMB

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.064		.75	0	18.377		.95	0	20.260	
.25	1	-1.565	1.578	.75	1	-.247	-.542	.95	1	2.773	-2.436
.25	2	.521	-.341	.75	2	3.321	1.612	.95	2	1.204	-.024
.25	3	-.407	.281	.75	3	.647	.552	.95	3	1.514	.059
.25	4	-.023	-.057	.75	4	.326	-.351	.95	4	.957	.465
.25	5	-.045	-.049	.75	5	.007	-.153	.95	5	.048	-.691
.25	6	.004	.019	.75	6	.343	-.026	.95	6	.159	-.372
.25	7	-.017	-.018	.75	7	-.074	.039	.95	7	-.100	.254
.25	8	-.007	-.011	.75	8	-.102	-.114	.95	8	-.201	.262
.25	9	.013	.000	.75	9	.092	.088	.95	9	-.079	-.105
.25	10	-.002	-.013	.75	10	-.014	.006	.95	10	.178	-.083
.40	0	5.166		.85	0	20.676					
.40	1	-1.701	2.438	.85	1	1.240	-2.176				
.40	2	1.028	.113	.85	2	3.134	.957				
.40	3	-.136	.336	.85	3	1.537	1.102				
.40	4	-.046	-.006	.85	4	.436	-.388				
.40	5	.065	-.085	.85	5	.358	-.673				
.40	6	.020	.049	.85	6	-.035	.416				
.40	7	-.024	-.019	.85	7	-.168	-.067				
.40	8	-.003	-.011	.85	8	.130	-.040				
.40	9	-.002	.009	.85	9	-.152	-.017				
.40	10	-.002	-.006	.85	10	-.023	-.107				
.55	0	9.195		.90	0	21.239					
.55	1	-.839	2.573	.90	1	2.171	-3.145				
.55	2	1.827	.233	.90	2	2.271	.219				
.55	3	.327	.616	.90	3	1.869	.833				
.55	4	.099	-.126	.90	4	.552	.106				
.55	5	.045	-.153	.90	5	.123	-1.095				
.55	6	.090	.000	.90	6	.195	.056				
.55	7	.000	.032	.90	7	-.236	.338				
.55	8	.011	.002	.90	8	-.036	-.128				
.55	9	-.017	.038	.90	9	.138	-.062				
.55	10	-.025	.006	.90	10	-.092	.082				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 32 - Concluded

FLIGHT 29, CLIMB

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	1283	1271	985	240	-1859	-3982		
15	2036	1856	1446	535	-1745	-4042		
30	2537	2236	1989	1137	-1279	-3435		
45	2081	1675	1681	1137	-355	-1932		
60	1591	949	913	507	-522	-1664		
75	1853	635	145	-619	-1824	-2897		
90	1899	338	-416	-1516	-3347	-4858		
105	1523	-248	-1229	-2365	-4191	-5683		
120	896	-850	-1826	-2813	-3795	-4778		
135	485	-875	-1455	-1935	-2748	-3912		
150	1431	157	-118	-810	-2387	-4012		
165	2389	1081	705	-342	-2247	-4201		
180	1819	668	488	-209	-1701	-3892		
195	1089	83	0	-485	-1587	-3634		
210	1511	470	-54	-791	-1991	-3793		
225	1751	1271	913	97	-1701	-3942		
240	2081	1889	1835	1299	-495	-2659		
255	2058	2302	2387	2071	957	-161		
270	1158	2120	2802	3054	2787	2277		
285	633	2129	3209	3789	3817	3530		
300	1352	2591	3408	3607	3139	2854		
315	1477	2500	3182	3111	1881	675		
330	1158	1889	2251	1871	121	-1614		
345	1089	1279	1049	421	-1243	-2927		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-4709	-8303	1997	
15	-5279	-10452	-3	
30	-4611	-10012	-19	
45	-3065	-6821	2893	
60	-835	-2719	7021	
75	2210	-309	7885	
90	4277	-928	6621	
105	4831	-2198	4589	
120	4359	-3061	3629	
135	3073	-3500	4253	
150	2275	-3061	4957	
165	1363	-2605	6205	
180	745	-1726	6781	
195	93	-2589	6797	
210	-965	-3793	5373	
225	-3097	-6528	3677	
240	-4709	-9003	1629	
255	-6337	-10028	-467	
270	-10196	-11933	125	
285	-11791	-12308	-99	
300	-10798	-11819	173	
315	-9398	-9540	2189	
330	-7428	-6968	4253	
345	-5377	-6496	4317	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	597	698	146
15	501	559	133
30	378	426	116
45	406	426	122
60	496	519	134
75	504	584	122
90	393	460	98
105	297	419	73
120	311	338	62
135	187	205	23
150	-204	-154	-10
165	-310	-329	-12
180	-304	-226	-10
195	-323	-252	-18
210	-407	-343	-21
225	-298	-372	-12
240	-254	-338	-4
255	-220	-289	19
270	-109	-194	40
285	-283	-205	34
300	-721	-519	14
315	-686	-441	15
330	-275	-78	73
345	290	380	132

TABLE 33

FLIGHT 30, AUTOROTATION

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	Δp, lb/sq in., at - r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
0	4.42	3.44	2.85	1.74	.82	.44	.032	5.59	2.87	2.04	1.73	1.10	.43	-.037	0
15	3.00	2.32	2.11	1.19	.44	.29	-.006	3.63	1.83	1.28	1.12	.68	.23	-.090	15
30	1.96	1.97	1.89	.98	.29	.24	-.018	2.87	1.36	1.00	.92	.50	.16	-.125	30
45	1.34	1.71	1.73	.83	.21	.24	-.014	2.41	1.10	.88	.90	.44	.15	-.128	45
60	2.45	2.27	2.08	1.07	.31	.28	.008	3.23	1.46	1.11	1.05	.53	.19	-.114	60
75	3.26	3.13	2.79	1.51	.57	.37	.010	4.06	2.07	1.57	1.42	.80	.30	-.110	75
90	4.22	3.95	3.33	1.87	.76	.41	.008	4.99	2.77	2.07	1.86	1.06	.39	-.110	90
105	4.03	3.92	3.34	1.89	.73	.39	.008	5.10	2.87	2.12	1.90	1.08	.38	-.114	105
120	3.16	3.23	2.62	1.63	.57	.34	.006	4.37	2.42	1.77	1.63	.90	.32	-.128	120
135	2.35	2.50	2.17	1.32	.40	.29	.004	3.56	1.91	1.46	1.36	.70	.27	-.130	135
150	1.78	2.01	1.82	1.07	.29	.26	-.006	2.88	1.50	1.17	1.11	.54	.22	-.128	150
165	1.45	1.71	1.60	.89	.26	.25	.002	2.59	1.30	.91	.90	.44	.20	-.117	165
180	1.46	1.71	1.54	.88	.28	.25	.014	2.70	1.34	.91	.89	.47	.21	-.082	180
195	1.84	1.86	1.60	.94	.37	.29	.028	3.12	1.55	1.04	.97	.55	.25	-.048	195
210	2.45	2.14	1.76	1.10	.50	.34	.049	3.75	1.89	1.26	1.17	.70	.32	-.015	210
225	3.24	2.57	1.91	1.33	.67	.40	.069	4.57	2.31	1.57	1.32	.88	.40	.006	225
240	3.95	2.97	2.15	1.48	.81	.44	.089	5.37	2.59	1.84	1.53	1.06	.46	.033	240
255	4.70	3.33	2.40	1.67	.93	.48	.097	5.88	2.91	2.01	1.66	1.14	.49	.044	255
270	5.01	3.46	2.52	1.73	.96	.48	.089	5.52	2.70	1.90	1.59	1.10	.46	.035	270
285	4.22	3.07	2.41	1.56	.83	.45	.079	4.88	2.38	1.66	1.40	.97	.42	.020	285
300	3.63	2.76	2.29	1.45	.75	.41	.071	4.53	2.25	1.54	1.31	.89	.39	.009	300
315	3.66	2.80	2.35	1.50	.76	.43	.069	4.64	2.35	1.62	1.40	.94	.40	.005	315
330	4.08	3.05	2.50	1.59	.84	.46	.071	5.27	2.65	1.85	1.56	1.03	.42	.006	330
345	4.56	3.38	2.73	1.70	.88	.46	.069	5.78	2.98	2.12	1.77	1.14	.46	.013	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
0	5.97	4.40	3.08	2.19	1.87	1.76	1.12	.47	.46	.21	.044	0
15	4.12	2.98	2.14	1.63	1.22	1.21	.72	.21	.26	.08	-.011	15
30	3.57	2.48	1.81	1.32	.99	1.01	.56	.09	.17	.03	-.033	30
45	2.99	1.99	1.50	1.08	.79	.85	.46	.03	.14	.02	-.044	45
60	3.41	2.32	1.71	1.28	.95	.97	.56	.09	.18	.04	-.031	60
75	4.41	3.14	2.30	1.76	1.29	1.22	.72	.15	.24	.08	-.017	75
90	5.27	4.00	2.97	2.30	1.73	1.58	.96	.29	.33	.13	-.009	90
105	5.49	4.20	3.15	2.45	1.81	1.64	1.05	.33	.35	.14	-.013	105
120	4.92	3.63	2.79	2.06	1.65	1.44	.91	.26	.30	.11	-.030	120
135	4.21	3.00	2.36	1.56	1.39	1.19	.76	.19	.25	.09	-.031	135
150	3.63	2.46	1.97	1.23	1.08	.99	.63	.12	.22	.08	-.025	150
165	3.31	2.16	1.71	1.08	.90	.88	.56	.10	.20	.08	-.017	165
180	3.35	2.21	1.72	1.11	.90	.89	.56	.12	.22	.10	-.011	180
195	3.54	2.45	1.82	1.24	.97	.96	.63	.19	.27	.13	.003	195
210	4.21	2.84	2.11	1.46	1.17	1.14	.74	.28	.33	.18	.026	210
225	4.92	3.42	2.47	1.77	1.44	1.38	.89	.38	.40	.22	.051	225
240	5.55	3.92	2.77	2.04	1.66	1.57	1.01	.46	.45	.24	.059	240
255	5.77	4.00	2.85	2.11	1.74	1.63	1.06	.49	.47	.25	.059	255
270	5.27	3.72	2.60	1.93	1.58	1.53	.97	.44	.43	.22	.056	270
285	4.73	3.32	2.30	1.65	1.35	1.36	.86	.37	.37	.19	.040	285
300	4.50	3.14	2.18	1.55	1.28	1.31	.80	.34	.35	.17	.036	300
315	4.69	3.30	2.30	1.65	1.43	1.38	.85	.37	.37	.18	.040	315
330	5.50	3.95	2.68	1.98	1.63	1.57	.97	.43	.41	.20	.048	330
345	6.41	4.64	3.19	2.34	1.97	1.79	1.13	.50	.46	.22	.061	345

TABLE 33 - Continued

FLIGHT 30, AUTOROTATION

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.59	2.99	2.37	1.77	1.23	.48	.068	4.50	2.15	1.55	1.24	.97	.48	.112	0
15	5.14	2.42	1.99	1.45	.92	.33	.034	3.15	1.48	1.13	.93	.75	.40	.101	15
30	4.32	1.89	1.63	1.23	.75	.25	-.002	2.82	1.28	.99	.79	.64	.34	.087	30
45	3.57	1.60	1.40	1.13	.68	.24	.015	2.77	1.32	.97	.78	.62	.34	.094	45
60	3.17	1.60	1.41	1.18	.72	.26	.029	2.98	1.44	1.07	.85	.68	.36	.100	60
75	3.52	1.91	1.64	1.33	.81	.30	.058	3.53	1.65	1.21	.97	.76	.39	.115	75
90	4.14	2.42	1.99	1.62	1.01	.39	.075	3.90	1.92	1.37	1.10	.86	.44	.131	90
105	4.69	2.68	2.33	1.74	1.09	.40	.075	3.96	1.94	1.40	1.12	.89	.43	.132	105
120	4.71	2.59	2.23	1.65	1.05	.36	.070	3.80	1.87	1.35	1.09	.87	.43	.131	120
135	4.41	2.47	1.95	1.51	.98	.32	.075	3.61	1.76	1.29	1.04	.83	.41	.126	135
150	4.06	2.28	1.70	1.38	.89	.29	.072	3.48	1.67	1.24	1.00	.80	.41	.123	150
165	3.74	2.13	1.58	1.28	.83	.28	.072	3.44	1.65	1.23	.99	.79	.39	.117	165
180	3.69	2.10	1.66	1.24	.84	.29	.084	3.41	1.65	1.24	.99	.78	.38	.118	180
195	3.73	2.15	1.69	1.26	.86	.32	.089	3.34	1.63	1.21	.98	.77	.37	.114	195
210	3.96	2.08	1.78	1.31	.93	.36	.105	3.28	1.59	1.22	.97	.76	.37	.105	210
225	4.31	2.26	1.89	1.40	1.01	.41	.108	3.26	1.54	1.16	.95	.74	.35	.092	225
240	4.65	2.42	1.95	1.45	1.06	.43	.099	3.10	1.44	1.11	.91	.71	.34	.075	240
255	4.78	2.44	1.95	1.45	1.05	.43	.099	2.84	1.29	1.01	.83	.64	.33	.062	255
270	4.64	2.34	1.85	1.37	.98	.39	.089	2.56	1.17	.92	.76	.59	.30	.053	270
285	4.30	2.10	1.71	1.26	.88	.35	.079	2.39	1.08	.86	.70	.55	.27	.050	285
300	3.95	1.97	1.62	1.21	.84	.35	.060	2.46	1.12	.89	.72	.56	.28	.051	300
315	4.00	2.08	1.70	1.28	.90	.37	.062	2.84	1.32	1.00	.80	.62	.32	.064	315
330	4.43	2.44	1.95	1.47	1.05	.44	.070	3.68	1.72	1.25	1.00	.75	.36	.085	330
345	5.08	2.89	2.24	1.69	1.21	.49	.079	4.19	2.00	1.44	1.13	.87	.42	.098	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	2.26	1.08	.72	.39	.133	1.09	.56	.34	.18	.054	0
15	2.07	1.02	.67	.37	.135	1.53	.72	.40	.18	.035	15
30	1.65	.77	.53	.32	.128	1.06	.55	.32	.17	.029	30
45	1.72	.79	.54	.32	.128	.91	.48	.29	.16	.031	45
60	1.92	.89	.61	.35	.135	1.09	.55	.33	.17	.038	60
75	2.22	1.01	.68	.38	.144	1.23	.63	.37	.19	.039	75
90	2.42	1.11	.74	.41	.153	1.36	.69	.41	.19	.042	90
105	2.47	1.14	.76	.42	.155	1.42	.72	.43	.21	.045	105
120	2.41	1.13	.75	.42	.153	1.42	.74	.44	.21	.050	120
135	2.33	1.11	.74	.41	.153	1.41	.73	.44	.22	.053	135
150	2.19	1.08	.72	.40	.153	1.39	.72	.44	.21	.049	150
165	2.09	1.06	.70	.40	.143	1.34	.69	.42	.21	.054	165
180	2.05	1.02	.68	.38	.135	1.23	.63	.38	.19	.046	180
195	1.95	.97	.64	.36	.129	1.05	.55	.34	.17	.045	195
210	1.82	.90	.59	.34	.120	.86	.45	.28	.15	.042	210
225	1.63	.82	.53	.31	.107	.63	.38	.24	.12	.033	225
240	1.47	.74	.48	.28	.102	.62	.30	.24	.10	.029	240
255	1.31	.66	.43	.25	.095	.24	.28	.25	.08	.017	255
270	1.20	.61	.39	.23	.091	.19	.16	.14	.13	.013	270
285	1.13	.57	.38	.23	.088	.18	.15	.10	.08	.032	285
300	1.12	.56	.37	.23	.086	.21	.17	.12	.08	.024	300
315	1.23	.61	.40	.24	.102	.29	.24	.22	.09	.025	315
330	1.50	.74	.49	.28	.117	.40	.33	.27	.19	.020	330
345	2.00	.96	.63	.33	.129	.80	.58	.39	.14	.027	345

TABLE 33 - Continued

FLIGHT 30, AUTOROTATION

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	5.19	10.82	15.42	19.55	18.69	17.86	18.19
15	6.34	10.18	11.53	15.75	12.20	10.87	12.05
30	4.91	8.23	9.98	12.65	9.76	8.06	9.52
45	4.36	8.43	9.93	11.09	8.06	6.93	8.15
60	5.04	9.38	10.77	11.14	9.49	9.00	10.98
75	5.62	10.55	12.20	12.90	12.59	12.82	15.40
90	6.13	11.43	13.81	15.88	16.34	16.79	19.03
105	6.44	11.69	14.02	17.54	17.26	17.14	18.71
120	6.57	11.53	13.61	16.86	15.18	14.36	15.15
135	6.57	11.25	12.96	15.58	12.81	11.49	11.91
150	6.48	10.87	12.52	14.14	10.67	9.06	9.61
165	6.27	10.55	12.28	13.23	9.47	7.68	8.37
180	5.73	10.23	12.22	13.36	9.70	8.09	8.45
195	5.01	9.71	12.01	13.74	10.60	9.52	9.59
210	4.16	9.04	11.79	14.47	12.68	11.88	11.51
225	3.34	8.14	11.42	15.74	15.16	14.67	14.00
240	3.06	7.38	10.82	16.56	17.18	17.21	16.28
255	2.29	6.59	9.95	16.65	17.86	18.80	18.45
270	1.86	6.08	9.04	15.76	16.37	17.70	19.07
285	1.51	5.82	8.39	14.31	14.39	15.66	17.12
300	1.61	5.75	8.57	13.53	13.62	14.50	15.49
315	2.27	6.23	9.86	14.23	14.43	15.14	15.83
330	3.34	7.48	12.19	16.39	16.60	16.81	17.16
345	4.60	9.53	14.05	18.86	19.40	18.75	18.52

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	6.410		0	2.817				
1	.926	-1.612	1	.111	-.905			
2	-.073	-.005	2	.373	.138			
3	.213	.018	3	-.087	.047			
4	.045	-.050	4	-.004	.002			
5	.023	.027	5	-.028	.006			
6	.009	.018	6	-.006	.002			
7	.014	.018	7	-.004	-.012			
8	.014	-.005	8	.002	.008			
9	-.005	.027	9	.000	.000			
10	.009	.000	10	.016	.004			

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom}\right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom}\right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom}\right)$$

TABLE 33 - Continued

FLIGHT 30, AUTOROTATION

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	4.529		.75	0	14.996		.95	0	14.105	
.25	1	-.596	2.062	.75	1	.293	-.624	.95	1	1.809	-1.668
.25	2	.812	-.136	.75	2	.100	-.892	.95	2	-2.901	-1.425
.25	3	.471	-.027	.75	3	2.461	-.727	.95	3	2.355	-1.734
.25	4	.318	-.011	.75	4	.961	-.073	.95	4	1.759	-.407
.25	5	.061	.122	.75	5	.077	-.116	.95	5	.215	-.067
.25	6	.026	.132	.75	6	.143	-.162	.95	6	-.114	-.137
.25	7	-.054	.088	.75	7	.164	-.100	.95	7	.192	-.080
.25	8	-.100	.086	.75	8	.152	.030	.95	8	.225	-.066
.25	9	-.065	.037	.75	9	.030	-.026	.95	9	.095	-.150
.25	10	-.106	-.016	.75	10	.072	-.012	.95	10	.150	-.108
.40	0	9.036		.85	0	13.770					
.40	1	-.776	2.252	.85	1	1.011	-1.700				
.40	2	.745	-.216	.85	2	-1.352	-1.139				
.40	3	.724	-.410	.85	3	3.002	-1.598				
.40	4	.582	-.027	.85	4	1.244	-.545				
.40	5	.309	.011	.85	5	.063	-.138				
.40	6	.163	.029	.85	6	.119	-.272				
.40	7	.083	.027	.85	7	.230	-.279				
.40	8	.040	.053	.85	8	.174	-.155				
.40	9	.005	.052	.85	9	.037	-.129				
.40	10	-.024	.016	.85	10	.152	-.135				
.55	0	11.639		.90	0	13.364					
.55	1	-.340	1.376	.90	1	1.360	-2.404				
.55	2	.894	-.503	.90	2	-2.367	-1.339				
.55	3	1.236	-1.023	.90	3	2.900	-1.867				
.55	4	.702	-.351	.90	4	1.449	-.589				
.55	5	.234	-.130	.90	5	.103	-.165				
.55	6	.173	-.131	.90	6	.061	-.183				
.55	7	.184	-.081	.90	7	.286	-.254				
.55	8	.192	-.013	.90	8	.218	-.113				
.55	9	.147	.020	.90	9	.076	-.090				
.55	10	.128	.005	.90	10	.173	-.101				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 33 - Concluded

FLIGHT 30, AUTOROTATION

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-481	-932	-1889	-3028	-4892	-6696		
15	-721	-1345	-2287	-3123	-4812	-6905		
30	-2237	-1988	-2830	-3571	-4302	-5183		
45	-2761	-2409	-2830	-3209	-3563	-4337		
60	-1222	-1543	-2405	-2999	-3316	-3840		
75	-755	-710	-1401	-2131	-3404	-4546		
90	-436	-833	-1474	-1883	-2771	-4357		
105	-1074	-1172	-1736	-2303	-3017	-4168		
120	-960	-1675	-2468	-2961	-3501	-4517		
135	-1211	-1964	-2748	-3400	-4293	-5561		
150	-1291	-1972	-2938	-3905	-5279	-6845		
165	-1074	-2203	-3553	-4611	-5807	-7402		
180	-1838	-2343	-3498	-4611	-5842	-7273		
195	-1428	-2137	-3309	-4220	-5103	-6467		
210	-630	-1196	-2152	-3113	-4513	-5919		
225	-14	-74	-859	-1873	-3211	-4745		
240	123	512	172	-375	-1627	-3382		
255	157	759	588	187	-553	-1701		
270	77	619	515	264	19	-656		
285	-117	446	407	178	-166	-825		
300	-128	470	208	-385	-1169	-2059		
315	-447	116	-235	-1167	-2401	-3780		
330	-835	-470	-1121	-2016	-3404	-4974		
345	-801	-891	-1745	-2722	-4328	-6049		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-7872	-6903	3836	
15	-8133	-5796	4780	
30	-7742	-5747	4876	
45	-6440	-6707	3692	
60	-5658	-7342	2044	
75	-6521	-7782	2700	
90	-6830	-7147	3500	
105	-5088	-6186	3708	
120	-4633	-5600	4876	
135	-2809	-4689	4588	
150	-2060	-3614	5068	
165	-2484	-2768	6716	
180	-2484	-2133	6876	
195	-2386	-2914	6252	
210	-3216	-4298	5148	
225	-4567	-6089	4268	
240	-5935	-7554	3404	
255	-7075	-8368	2972	
270	-6912	-8580	2828	
285	-7482	-7749	3420	
300	-8849	-7733	4924	
315	-8654	-7261	4460	
330	-8084	-7440	3932	
345	-8426	-7831	4172	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	1026	478	212
15	810	389	192
30	139	-64	95
45	19	-195	67
60	282	-88	118
75	929	414	172
90	1163	608	213
105	1023	583	175
120	707	244	140
135	490	144	99
150	279	-92	50
165	-108	-386	12
180	-293	-478	-20
195	-416	-621	-34
210	-314	-619	-21
225	-9	-472	14
240	114	-368	37
255	173	-248	44
270	101	-241	39
285	-260	-492	36
300	-334	-557	35
315	-286	-480	51
330	53	-208	82
345	529	138	143

TABLE 34

FLIGHT 31, AUTOROTATION

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	Δp, lb/sq in., at - r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
0	5.34	3.78	2.62	1.77	.96	.46	.067	6.29	3.09	2.21	1.81	1.25	.49	.035	0
15	3.30	2.75	2.11	1.25	.55	.30	.024	3.86	1.92	1.39	1.23	.79	.29	-.035	15
30	2.42	2.24	1.89	1.00	.42	.28	.016	3.29	1.59	1.16	1.09	.64	.22	-.068	30
45	2.07	2.03	1.88	1.00	.38	.29	.008	3.00	1.48	1.14	1.04	.62	.22	-.082	45
60	2.52	2.30	2.09	1.14	.35	.28	.006	3.40	1.64	1.26	1.11	.65	.23	-.088	60
75	3.23	2.93	2.62	1.45	.57	.36	.008	4.08	2.13	1.60	1.39	.86	.29	-.102	75
90	3.51	3.29	2.83	1.58	.59	.35	.002	4.37	2.39	1.75	1.62	.94	.33	-.110	90
105	2.78	2.93	2.53	1.45	.47	.32	.000	4.13	2.28	1.69	1.55	.86	.30	-.119	105
120	2.07	2.31	2.03	1.21	.34	.27	.002	3.23	1.72	1.29	1.27	.69	.26	-.124	120
135	1.49	1.80	1.67	.93	.25	.24	-.006	2.58	1.32	1.05	.95	.50	.20	-.121	135
150	1.21	1.62	1.45	.79	.23	.24	.010	2.39	1.19	.82	.66	.44	.20	-.093	150
165	1.47	1.70	1.44	.81	.32	.29	.041	2.72	1.38	.97	.73	.53	.25	-.051	165
180	2.11	1.99	1.58	.98	.46	.33	.051	3.47	1.74	1.20	1.03	.69	.31	.013	180
195	2.60	2.22	1.69	1.09	.58	.36	.069	3.95	1.97	1.35	1.15	.79	.35	.040	195
210	3.05	2.40	1.74	1.17	.68	.41	.085	4.34	2.09	1.46	1.21	.86	.40	.057	210
225	3.56	2.58	1.81	1.26	.77	.42	.095	4.79	2.39	1.61	1.28	.94	.43	.077	225
240	4.00	2.80	1.93	1.37	.85	.45	.110	5.23	2.60	1.74	1.39	1.02	.45	.082	240
255	4.48	3.03	2.05	1.47	.93	.47	.114	5.65	2.75	1.85	1.47	1.08	.47	.086	255
270	4.96	3.25	2.17	1.56	.99	.49	.114	6.07	2.91	1.93	1.55	1.13	.46	.082	270
285	5.20	3.37	2.25	1.60	.97	.46	.097	5.16	2.51	1.69	1.39	1.02	.43	.062	285
300	4.57	3.15	2.13	1.48	.91	.45	.101	5.34	2.65	1.78	1.45	1.03	.45	.066	300
315	4.64	3.21	2.19	1.53	.92	.47	.101	5.54	2.75	1.83	1.54	1.08	.47	.060	315
330	5.55	3.72	2.53	1.80	1.08	.53	.110	6.75	3.33	2.28	1.88	1.28	.54	.075	330
345	6.15	4.03	2.75	1.93	1.12	.53	.111	7.29	3.54	2.45	2.02	1.35	.57	.064	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
0	6.61	4.49	3.16	2.33	1.91	1.82	1.14	.57	.49	.24	.020	0
15	4.11	2.88	2.02	1.50	1.17	1.19	.71	.29	.28	.11	-.025	15
30	3.67	2.53	1.82	1.37	1.02	1.04	.60	.19	.21	.06	-.013	30
45	3.46	2.39	1.73	1.29	.98	1.01	.56	.16	.20	.06	-.029	45
60	3.63	2.51	1.86	1.37	1.06	1.05	.60	.13	.21	.05	-.035	60
75	4.23	3.06	2.23	1.72	1.29	1.23	.71	.17	.25	.08	-.027	75
90	4.84	3.57	2.63	2.03	1.53	1.42	.84	.22	.30	.11	-.023	90
105	4.82	3.56	2.68	2.03	1.60	1.41	.90	.24	.29	.12	-.048	105
120	3.97	2.83	2.19	1.47	1.33	1.12	.72	.16	.25	.09	-.066	120
135	3.30	2.16	1.75	1.10	.94	.89	.57	.09	.21	.08	-.052	135
150	3.06	2.01	1.57	1.02	.89	.80	.51	.08	.22	.09	-.052	150
165	3.30	2.15	1.65	1.11	1.02	.88	.58	.15	.27	.14	-.037	165
180	3.82	2.59	1.94	1.37	1.12	1.07	.70	.24	.35	.20	-.048	180
195	4.34	2.92	2.15	1.56	1.31	1.21	.79	.32	.39	.22	-.032	195
210	4.61	3.13	2.29	1.68	1.34	1.30	.83	.36	.41	.25	-.019	210
225	5.00	3.40	2.42	1.83	1.46	1.41	.90	.43	.45	.26	.008	225
240	5.47	3.63	2.59	1.97	1.57	1.50	.96	.48	.46	.26	-.004	240
255	5.77	3.80	2.69	2.05	1.62	1.58	.99	.51	.46	.26	.022	255
270	5.90	3.82	2.70	2.06	1.62	1.58	.98	.51	.44	.24	-.004	270
285	4.84	3.16	2.28	1.70	1.35	1.37	.84	.44	.40	.21	-.001	285
300	5.12	3.37	2.43	1.83	1.45	1.45	.89	.47	.41	.21	.028	300
315	5.30	3.54	2.53	1.93	1.53	1.53	.95	.49	.44	.23	-.011	315
330	7.10	4.69	3.29	2.53	2.00	1.88	1.19	.65	.53	.28	.061	330
345	7.93	5.11	3.61	2.75	2.22	2.05	1.30	.69	.54	.28	.040	345

TABLE 34 - Continued

FLIGHT 31, AUTOROTATION

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.55 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
0	6.42	3.06	2.35	1.76	1.24	.46	.074	3.57	1.64	1.19	.97	.73	.35	.072	0
15	5.20	1.99	1.63	1.23	.86	.32	.053	2.48	1.12	.87	.72	.57	.31	.075	15
30	4.20	1.73	1.44	1.13	.73	.25	.040	2.28	1.02	.78	.66	.52	.29	.077	30
45	3.53	1.68	1.47	1.16	.72	.26	.036	2.39	1.13	.81	.67	.54	.30	.087	45
60	3.35	1.74	1.52	1.21	.74	.27	.014	2.73	1.30	.93	.76	.60	.34	.099	60
75	3.65	1.96	1.64	1.37	.83	.32	.043	3.30	1.61	1.13	.91	.72	.37	.121	75
90	4.20	2.39	1.92	1.60	.97	.37	.076	3.73	1.81	1.31	1.07	.85	.42	.136	90
105	4.54	2.52	2.14	1.66	1.03	.37	.088	3.91	1.95	1.38	1.13	.90	.45	.141	105
120	4.35	2.47	1.87	1.52	1.00	.33	.067	3.89	1.92	1.37	1.12	.89	.44	.143	120
135	3.91	2.21	1.63	1.35	.88	.30	.081	3.75	1.84	1.33	1.09	.87	.43	.140	135
150	3.65	2.09	1.51	1.26	.83	.29	.095	3.76	1.84	1.33	1.09	.86	.43	.144	150
165	3.73	2.16	1.68	1.27	.87	.32	.098	3.82	1.90	1.37	1.12	.88	.43	.124	165
180	3.99	2.21	1.78	1.32	.94	.36	.100	3.84	1.86	1.36	1.12	.88	.42	.113	180
195	4.26	2.21	1.80	1.35	.97	.39	.104	3.80	1.74	1.29	1.06	.82	.41	.103	195
210	4.47	2.30	1.82	1.35	1.00	.40	.109	3.09	1.59	1.18	1.00	.76	.34	.089	210
225	4.59	2.40	1.84	1.37	1.01	.42	.117	2.80	1.36	1.05	.89	.67	.30	.066	225
240	4.66	2.48	1.86	1.37	1.01	.42	.093	2.38	1.13	.89	.75	.56	.26	.059	240
255	4.67	2.42	1.81	1.34	1.01	.40	.090	1.99	.92	.76	.63	.46	.20	.044	255
270	4.44	2.14	1.63	1.20	.91	.37	.067	1.65	.74	.64	.55	.39	.15	.027	270
285	4.03	1.89	1.47	1.09	.81	.34	.071	1.69	.65	.55	.46	.34	.15	.029	285
300	3.96	2.01	1.57	1.18	.89	.36	.069	1.72	.66	.55	.46	.33	.15	.050	300
315	4.16	2.19	1.69	1.27	.95	.39	.081	2.02	.84	.67	.57	.42	.17	.059	315
330	4.92	2.78	2.06	1.55	1.17	.46	.086	2.55	1.10	.85	.71	.52	.26	.049	330
345	5.89	3.22	2.38	1.81	1.34	.51	.088	3.29	1.45	1.08	.87	.66	.33	.071	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40 x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	r/R = 0.25 x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	ψ_{nom}, deg
0	1.69	.85	.53	.32	.131	.32	.18	.09	.05	-.011	0
15	1.41	.68	.45	.28	.118	.72	.34	.20	.10	.012	15
30	.99	.48	.35	.24	.105	.73	.37	.21	.11	.014	30
45	1.37	.63	.44	.28	.118	.60	.33	.20	.12	.020	45
60	1.66	.76	.54	.32	.133	.88	.44	.26	.14	.030	60
75	2.06	.94	.65	.36	.146	1.05	.54	.32	.16	.034	75
90	2.31	1.08	.74	.41	.164	1.33	.67	.39	.19	.042	90
105	2.50	1.18	.80	.44	.167	1.53	.78	.46	.23	.054	105
120	2.62	1.24	.83	.45	.174	1.67	.86	.52	.25	.065	120
135	2.65	1.26	.84	.45	.174	1.72	.90	.55	.26	.064	135
150	2.41	1.23	.82	.45	.162	1.75	.90	.55	.26	.070	150
165	2.44	1.22	.81	.44	.156	1.66	.85	.52	.26	.066	165
180	2.31	1.15	.76	.42	.147	1.41	.74	.46	.23	.066	180
195	2.02	1.01	.66	.36	.136	.87	.86	.29	.20	.067	195
210	1.64	.83	.54	.30	.127	.43	.70	.42	.09	.085	210
225	1.19	.70	.44	.25	.116	.14	.18	.38	.08	.027	225
240	.78	.73	.47	.20	.111	.06	.09	.15	.12	.007	240
255	.39	.42	.51	.17	.075	.02	.03	.05	.08	-.001	255
270	.29	.31	.24	.32	.100	.02	.02	.03	.07	.028	270
285	.25	.27	.19	.17	.179	.02	.02	.02	.05	.036	285
300	.45	.27	.14	.16	.090	.05	.03	.02	.04	.025	300
315	.59	.32	.23	.17	.111	.09	.06	.04	.06	.010	315
330	.87	.44	.29	.20	.137	.15	.09	.06	.06	.001	330
345	1.44	.71	.48	.30	.124	.23	.13	.08	.06	.001	345

TABLE 34 - Continued

FLIGHT 31, AUTOROTATION

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	1.39	8.45	11.71	20.14	19.50	20.00	19.74
15	3.10	7.13	8.88	14.34	12.00	12.29	13.44
30	3.26	5.43	8.19	12.10	10.40	10.02	11.05
45	3.01	6.94	8.57	11.59	9.80	9.46	10.34
60	4.02	8.23	9.77	11.69	10.38	10.33	11.28
75	4.85	9.93	11.62	13.17	12.34	13.11	14.77
90	5.92	11.24	13.31	15.58	14.53	14.52	15.88
105	6.98	12.12	14.10	16.57	14.73	13.61	13.77
120	7.74	12.60	13.98	15.50	11.98	10.62	10.88
135	8.04	12.55	13.57	13.84	9.57	8.12	8.55
150	8.11	12.16	13.55	13.10	8.86	7.17	7.69
165	7.76	12.09	13.74	13.83	9.92	8.63	8.65
180	6.76	11.39	13.59	14.72	11.78	11.30	10.60
195	5.29	9.95	12.99	15.26	13.34	12.87	12.09
210	4.18	8.22	11.38	15.71	14.13	14.07	13.42
225	2.48	6.54	10.03	16.12	15.38	15.55	14.61
240	1.50	5.71	8.51	16.27	16.40	16.84	15.99
255	.70	4.46	6.96	15.94	17.05	17.89	17.22
270	.65	4.06	5.73	14.48	16.95	18.68	18.39
285	.55	3.17	5.23	13.07	14.40	16.43	18.61
300	.52	2.96	5.29	13.76	15.30	17.05	17.36
315	.76	3.75	6.45	14.78	16.00	17.75	17.74
330	.94	4.84	8.31	17.97	20.74	21.34	20.63
345	1.22	7.46	10.67	20.70	22.54	22.67	22.03

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	7.986		0	3.556				
1	.554	-2.838	1	-.719	-1.201			
2	-.027	.023	2	.205	.006			
3	.159	-.086	3	-.138	.067			
4	.005	-.027	4	-.071	.006			
5	-.045	.023	5	-.059	-.045			
6	.018	.000	6	.018	.004			
7	-.014	.018	7	-.020	-.010			
8	.023	-.014	8	.026	-.014			
9	.005	.023	9	.028	.002			
10	.000	-.005	10	.008	-.002			

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 34 - Continued

FLIGHT 31, AUTOROTATION

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.740		.75	0	15.010		.95	0	14.364	
.25	1	-2.376	2.809	.75	1	.411	-.899	.95	1	3.125	-3.294
.25	2	.554	-.696	.75	2	.860	-.632	.95	2	-1.029	-.688
.25	3	-.038	.175	.75	3	1.909	-1.624	.95	3	1.051	-2.140
.25	4	.042	.182	.75	4	.998	-.459	.95	4	1.627	-.552
.25	5	-.035	.115	.75	5	-.068	-.345	.95	5	.292	-.372
.25	6	-.092	.063	.75	6	.262	-.380	.95	6	-.100	-.351
.25	7	-.086	.121	.75	7	.261	-.232	.95	7	-.147	-.294
.25	8	-.112	.019	.75	8	.145	-.177	.95	8	.118	-.137
.25	9	-.074	.011	.75	9	.048	-.026	.95	9	.177	-.005
.25	10	-.065	-.069	.75	10	.081	.027	.95	10	.148	.005
.40	0	7.974		.85	0	14.084					
.40	1	-2.441	3.406	.85	1	1.968	-2.886				
.40	2	.928	-.734	.85	2	-.066	-.721				
.40	3	.610	-.421	.85	3	1.781	-2.372				
.40	4	.702	-.239	.85	4	1.341	-.863				
.40	5	.243	-.175	.85	5	-.269	-.690				
.40	6	.283	-.047	.85	6	-.023	-.540				
.40	7	.134	.005	.85	7	.156	-.333				
.40	8	.141	.012	.85	8	.106	-.203				
.40	9	.087	.020	.85	9	-.043	-.173				
.40	10	-.076	-.018	.85	10	.037	.084				
.55	0	10.255		.90	0	14.180					
.55	1	-2.248	2.836	.90	1	2.702	-3.893				
.55	2	1.288	-.494	.90	2	-.582	-.642				
.55	3	.793	-.986	.90	3	1.432	-2.513				
.55	4	.694	-.222	.90	4	1.555	-.797				
.55	5	.154	-.126	.90	5	-.084	-.587				
.55	6	.199	-.157	.90	6	.029	-.360				
.55	7	.131	-.123	.90	7	.068	-.243				
.55	8	.114	-.035	.90	8	.241	-.231				
.55	9	.132	-.064	.90	9	.031	-.166				
.55	10	.079	-.019	.90	10	.078	.068				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 34 - Concluded

FLIGHT 31, AUTOROTATION

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-110	1328	416	-842	-2450	-4915		
15	609	924	108	-851	-3506	-5552		
30	-1181	-1337	-1392	-1748	-2502	-2646		
45	-3427	-2624	-1817	-1395	-2062	-2786		
60	449	-1262	-2269	-2883	-3558	-4199		
75	-235	-206	-1166	-2712	-4975	-6547		
90	-737	-1403	-2350	-2902	-4104	-6746		
105	-1261	-2162	-3535	-4372	-4738	-6159		
120	-1683	-2607	-4204	-5192	-5406	-6149		
135	-1888	-2978	-3960	-4629	-5688	-7721		
150	-885	-2582	-3860	-5249	-7316	-9064		
165	-1147	-2896	-4493	-5869	-7492	-8716		
180	-2150	-3614	-4421	-5144	-6542	-8139		
195	-737	-2294	-3462	-4467	-5785	-7323		
210	232	-173	-1474	-2931	-4993	-6895		
225	711	866	253	-403	-2370	-4875		
240	438	1543	1437	1047	-382	-2079		
255	757	1559	1546	1581	1493	707		
270	-178	1403	2197	2421	2144	1244		
285	164	1444	2197	2249	1414	478		
300	-64	1262	1546	1181	-21	-905		
315	-885	91	470	618	-188	-1910		
330	-1204	206	-45	-603	-1614	-3064		
345	-281	611	-316	-1166	-1966	-4129		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-11427	-11510	1659	
15	-10776	-10224	2075	
30	-8106	-8287	2923	
45	-5957	-7635	3307	
60	-5696	-7505	2939	
75	-5403	-7831	2555	
90	-4605	-7212	2891	
105	-2587	-6219	3531	
120	-747	-3761	4395	
135	-731	-2540	7035	
150	99	-1009	7611	
165	1402	49	7627	
180	913	-342	8171	
195	34	-1595	7035	
210	-2196	-4444	6139	
225	-5713	-7733	4827	
240	-7796	-11347	2299	
255	-8366	-12829	27	
270	-10466	-12959	507	
285	-11752	-12715	1547	
300	-11557	-11152	1499	
315	-11687	-11266	2651	
330	-10727	-10729	1643	
345	-10190	-11640	939	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	913	391	176
15	538	-68	149
30	170	-108	83
45	356	-30	95
60	521	58	132
75	994	484	158
90	963	460	169
105	846	343	109
120	553	135	52
135	183	-236	0
150	-261	-490	-43
165	-532	-704	-69
180	-412	-599	-61
195	-384	-575	-55
210	-320	-668	-49
225	-185	-632	-19
240	18	-450	4
255	-30	-318	5
270	-490	-456	8
285	-654	-679	6
300	-437	-617	34
315	-22	-347	88
330	377	-3	126
345	637	208	164

TABLE 35

FLIGHT 32, AUTOROTATION

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.04	3.32	3.02	1.97	.98	.50	.057	6.43	3.32	2.36	2.04	1.29	.55	.031	0
15	2.27	2.02	2.13	1.25	.45	.33	.004	4.86	2.50	1.71	1.49	.87	.32	-.047	15
30	1.57	1.55	1.86	.96	.23	.25	-.024	3.20	1.56	1.13	1.08	.58	.20	-.091	30
45	1.00	1.35	1.75	.85	.15	.23	-.025	2.32	1.06	.87	.92	.45	.18	-.117	45
60	1.67	1.75	2.04	1.02	.21	.26	.000	2.50	1.17	.98	1.03	.53	.18	-.120	60
75	2.90	2.84	2.86	1.51	.47	.34	.000	3.50	1.76	1.47	1.42	.75	.30	-.120	75
90	3.58	3.61	3.42	1.94	.69	.39	-.006	4.48	2.53	1.93	1.89	1.06	.39	-.122	90
105	3.32	3.52	3.41	1.92	.67	.39	-.012	4.94	2.93	2.30	2.07	1.13	.42	-.135	105
120	2.15	2.40	2.68	1.46	.42	.33	-.010	4.32	2.55	2.10	1.78	.92	.33	-.155	120
135	1.31	1.59	2.03	1.06	.25	.28	-.024	3.10	1.71	1.45	1.32	.61	.26	-.153	135
150	.68	1.12	1.46	.78	.14	.24	-.016	2.39	1.22	.92	.83	.41	.20	-.142	150
165	.59	.98	1.24	.69	.16	.25	.012	2.12	1.02	.68	.54	.35	.20	-.106	165
180	.89	1.07	1.31	.76	.25	.28	.029	2.30	1.13	.73	.57	.42	.23	-.059	180
195	1.53	1.35	1.49	.93	.39	.33	.055	2.85	1.46	.96	.76	.58	.30	-.016	195
210	2.15	1.62	1.65	1.08	.52	.38	.063	3.51	1.80	1.16	1.08	.73	.36	.016	210
225	2.90	1.91	1.87	1.25	.65	.41	.081	4.21	2.15	1.42	1.26	.86	.43	.048	225
240	3.56	2.16	2.04	1.40	.78	.46	.097	4.91	2.37	1.65	1.38	1.00	.48	.069	240
255	4.24	2.57	2.21	1.57	.90	.49	.107	5.68	2.86	1.87	1.56	1.11	.52	.082	255
270	4.86	3.05	2.36	1.70	.98	.52	.108	6.11	3.12	2.00	1.68	1.16	.53	.078	270
285	4.57	2.86	2.31	1.66	.94	.49	.081	5.50	2.71	1.80	1.52	1.05	.49	.069	285
300	3.80	2.43	2.13	1.49	.81	.46	.081	4.98	2.46	1.60	1.40	.96	.44	.051	300
315	3.71	2.34	2.16	1.49	.80	.45	.077	4.80	2.40	1.62	1.42	.95	.43	.051	315
330	4.46	2.81	2.48	1.68	.89	.49	.093	5.46	2.73	1.87	1.63	1.08	.50	.062	330
345	5.37	3.31	2.97	1.92	1.01	.53	.095	6.68	3.35	2.34	2.01	1.29	.57	.058	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	6.60	4.66	3.32	2.42	1.97	1.99	1.19	.52	.52	.23	.020	0
15	4.46	3.13	2.24	1.71	1.21	1.37	.76	.25	.31	.10	-.040	15
30	3.66	2.34	1.73	1.32	.96	1.08	.52	.09	.20	.02	-.078	30
45	3.06	1.87	1.45	1.06	.82	.96	.40	.00	.15	-.01	-.092	45
60	3.51	2.20	1.63	1.25	.95	1.03	.49	.03	.18	.01	-.094	60
75	4.37	3.02	2.42	1.69	1.35	1.31	.66	.08	.24	.04	-.082	75
90	5.33	3.94	3.05	2.44	1.83	1.68	.92	.22	.33	.10	-.060	90
105	5.75	4.31	3.38	2.71	2.11	1.81	1.08	.29	.36	.12	-.070	105
120	4.95	3.63	2.90	2.21	1.78	1.50	.90	.20	.30	.08	-.094	120
135	3.83	2.51	2.10	1.39	1.22	1.11	.63	.07	.23	.04	-.092	135
150	3.09	1.85	1.59	.98	.82	1.00	.46	.01	.18	.03	-.082	150
165	3.02	1.80	1.46	.89	.71	.82	.42	.00	.21	.06	-.086	165
180	3.25	1.96	1.56	1.02	.77	.88	.48	.07	.25	.09	-.054	180
195	3.80	2.40	1.86	1.30	.96	1.04	.61	.17	.31	.15	-.027	195
210	4.38	2.81	2.10	1.50	1.13	1.24	.72	.27	.40	.19	-.009	210
225	4.91	3.27	2.33	1.73	1.34	1.44	.84	.34	.43	.22	.013	225
240	5.66	3.76	2.67	2.02	1.52	1.63	.95	.44	.47	.25	.028	240
255	6.24	4.11	2.91	2.23	1.70	1.78	1.04	.49	.51	.27	.034	255
270	5.97	3.97	2.81	2.15	1.61	1.73	1.02	.50	.49	.24	.025	270
285	5.14	3.45	2.40	1.79	1.34	1.51	.86	.42	.42	.20	.013	285
300	4.79	3.24	2.22	1.64	1.24	1.44	.80	.37	.38	.18	.007	300
315	5.04	3.41	2.33	1.74	1.33	1.50	.84	.37	.39	.18	.005	315
330	6.08	4.15	2.80	2.13	1.65	1.74	1.00	.47	.48	.22	.025	330
345	7.36	5.15	3.45	2.65	2.09	2.07	1.22	.58	.53	.25	.035	345

TABLE 35 Continued

FLIGHT 32, AUTOROTATION

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.80	3.18	2.47	1.81	1.26	.47	.044	4.01	1.87	1.37	1.08	.90	.50	.105	0
15	5.21	2.58	2.07	1.50	1.00	.35	.014	3.30	1.51	1.12	.89	.74	.44	.085	15
30	4.20	1.74	1.54	1.15	.71	.22	-.008	2.62	1.13	.88	.70	.60	.35	.063	30
45	3.41	1.57	1.44	1.11	.63	.19	-.045	2.69	1.21	.90	.70	.60	.36	.080	45
60	3.09	1.57	1.44	1.17	.66	.21	-.024	2.95	1.34	.99	.77	.66	.38	.091	60
75	3.41	1.89	1.62	1.34	.75	.26	-.001	3.56	1.67	1.19	.93	.78	.44	.109	75
90	4.07	2.45	2.00	1.66	.98	.35	.044	4.13	2.02	1.42	1.12	.93	.51	.132	90
105	4.66	2.83	2.36	1.82	1.12	.39	.046	4.45	2.17	1.54	1.21	.99	.53	.140	105
120	4.87	2.89	2.39	1.73	1.14	.35	.034	4.41	2.13	1.52	1.20	.99	.53	.138	120
135	4.42	2.57	1.90	1.48	.96	.27	.030	4.13	1.98	1.44	1.13	.95	.50	.131	135
150	3.85	2.15	1.66	1.25	.82	.23	.034	4.01	1.91	1.41	1.10	.92	.49	.128	150
165	3.47	1.99	1.62	1.17	.77	.22	.051	3.95	1.89	1.38	1.09	.90	.47	.131	165
180	3.45	2.01	1.63	1.17	.79	.25	.058	3.95	1.88	1.38	1.09	.89	.47	.109	180
195	3.68	2.18	1.71	1.23	.85	.29	.060	3.79	1.78	1.33	1.06	.86	.45	.090	195
210	3.99	2.07	1.80	1.30	.92	.34	.063	3.66	1.69	1.28	1.01	.83	.43	.079	210
225	4.29	2.33	1.89	1.38	.99	.39	.070	3.62	1.55	1.19	.95	.78	.40	.063	225
240	4.60	2.50	1.98	1.44	1.05	.43	.080	3.13	1.40	1.09	.87	.71	.37	.051	240
255	4.85	2.54	1.99	1.45	1.07	.42	.058	2.78	1.21	.96	.77	.63	.33	.038	255
270	4.62	2.30	1.83	1.32	.97	.38	.040	2.69	1.07	.86	.69	.57	.30	.027	270
285	4.23	2.08	1.67	1.21	.87	.32	.037	2.35	.97	.79	.63	.53	.28	.020	285
300	3.85	1.91	1.57	1.14	.81	.30	.018	2.18	.91	.76	.59	.50	.28	.021	300
315	3.84	2.02	1.63	1.21	.85	.32	.020	2.40	1.03	.82	.65	.54	.30	.031	315
330	4.29	2.41	1.90	1.42	1.00	.40	.049	2.98	1.31	1.01	.80	.64	.38	.054	330
345	5.13	3.09	2.35	1.76	1.26	.49	.049	4.22	1.89	1.37	1.07	.84	.46	.081	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.99	.99	.64	.36	.130	.73	.37	.22	.13	.011	0
15	2.17	1.05	.67	.37	.118	.72	.35	.20	.11	.010	15
30	1.29	.64	.45	.30	.118	1.09	.51	.27	.12	.014	30
45	1.44	.68	.47	.30	.122	.78	.40	.23	.11	.015	45
60	1.72	.81	.56	.34	.132	.97	.49	.29	.14	.026	60
75	2.12	1.01	.67	.39	.146	1.19	.60	.36	.16	.030	75
90	2.46	1.17	.78	.45	.164	1.45	.72	.42	.19	.036	90
105	2.68	1.28	.85	.49	.170	1.62	.82	.49	.22	.044	105
120	2.74	1.31	.86	.49	.168	1.75	.87	.52	.24	.048	120
135	2.67	1.32	.86	.49	.172	1.70	.90	.54	.25	.055	135
150	2.56	1.31	.85	.49	.164	1.73	.91	.55	.25	.055	150
165	2.49	1.28	.82	.47	.154	1.73	.88	.53	.24	.055	165
180	2.38	1.22	.79	.45	.149	1.57	.81	.49	.23	.049	180
195	2.19	1.13	.73	.42	.141	1.28	.66	.41	.19	.043	195
210	1.91	.99	.63	.37	.126	.76	.75	.28	.15	.038	210
225	1.62	.84	.54	.32	.113	.53	.67	.24	.08	.045	225
240	1.34	.71	.45	.27	.103	.17	.28	.38	.05	.018	240
255	1.08	.58	.36	.23	.095	.09	.12	.18	.11	-.004	255
270	.90	.48	.31	.22	.089	.06	.08	.05	.11	-.001	270
285	.55	.49	.37	.21	.069	.07	.06	.03	.06	.004	285
300	.71	.46	.27	.20	.103	.09	.09	.03	.03	.019	300
315	.75	.39	.24	.19	.117	.18	.19	.05	.05	.006	315
330	1.09	.57	.38	.25	.106	.33	.19	.11	.06	-.002	330
345	1.44	.74	.48	.29	.112	.37	.22	.14	.09	.004	345

TABLE 35 - Continued

FLIGHT 32, AUTOROTATION

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	3.41	9.77	14.18	20.12	20.26	21.28	19.86
15	3.14	10.27	11.74	16.45	13.01	14.80	11.45
30	4.33	6.99	9.31	11.83	9.64	9.41	8.44
45	3.48	7.38	9.56	10.35	7.85	7.04	7.21
60	4.34	8.66	10.48	10.47	9.06	7.82	9.14
75	5.30	10.40	12.50	12.11	12.41	11.69	14.29
90	6.33	12.00	14.83	15.53	16.35	15.92	17.91
105	7.21	13.01	15.83	17.74	18.25	17.77	17.44
120	7.76	13.26	15.68	17.74	15.32	15.09	12.63
135	7.85	13.16	14.78	15.12	11.11	10.40	8.83
150	7.94	12.85	14.39	12.96	8.50	7.16	6.23
165	7.84	12.48	14.09	12.21	7.97	6.11	5.87
180	7.21	11.95	13.99	12.45	8.92	7.08	6.86
195	5.94	11.05	13.41	13.45	10.97	9.40	8.89
210	4.49	9.67	12.82	14.21	13.03	11.80	10.78
225	3.49	8.26	12.06	15.50	14.75	14.15	12.84
240	2.47	6.95	10.81	16.59	16.81	16.20	14.72
255	1.61	5.76	9.54	16.78	18.44	18.52	16.73
270	1.04	5.02	8.70	15.37	17.73	19.60	18.53
285	.67	4.51	7.92	13.80	15.08	17.63	17.57
300	.65	4.47	7.56	12.75	13.95	15.91	15.48
315	1.09	4.28	8.29	13.27	14.65	15.65	15.23
330	1.61	5.96	10.30	15.67	17.72	17.93	17.58
345	1.97	7.43	13.85	19.40	21.43	21.66	20.40

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	6.632		0	3.416		0	-.826	
1	.463	-2.306	1	.046	-1.152	1	-.049	-.071
2	-.049	-.013	2	.409	.125	2	.009	.024
3	.227	.040	3	-.121	.060	3	-.002	.014
4	.063	-.054	4	-.026	.032	4	-.012	-.012
5	.018	-.018	5	-.012	-.034	5	.000	-.019
6	.000	.022	6	.014	.002	6	-.012	.009
7	-.013	.004	7	.002	-.008	7	-.002	.000
8	-.018	.018	8	.026	.006	8	.009	-.007
9	.004	-.036	9	.014	.028	9	.004	.019
10	.004	.004	10	.000	.012	10	.000	-.007
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 35 - Continued

FLIGHT 32, AUTOROTATION

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	4.215		.75	0	14.661		.95	0	13.122	
.25	1	-2.162	2.633	.75	1	.421	-.624	.95	1	2.991	-2.404
.25	2	.697	-.403	.75	2	.099	-.827	.95	2	-2.583	-1.386
.25	3	.176	.050	.75	3	3.086	-.835	.95	3	2.410	-2.352
.25	4	.177	.081	.75	4	1.174	.129	.95	4	2.323	-.165
.25	5	-.085	.121	.75	5	.091	-.274	.95	5	.456	-.325
.25	6	.009	.022	.75	6	.379	-.152	.95	6	-.064	-.491
.25	7	-.050	.020	.75	7	.214	-.041	.95	7	.181	-.295
.25	8	.021	-.045	.75	8	.051	.007	.95	8	.287	-.115
.25	9	.065	-.098	.75	9	.044	.039	.95	9	.213	-.175
.25	10	.107	-.066	.75	10	-.058	.041	.95	10	.219	-.112
.40	0	8.980		.85	0	13.883					
.40	1	-2.295	3.136	.85	1	1.836	-2.192				
.40	2	1.026	-.457	.85	2	-1.449	-1.095				
.40	3	.869	-.284	.85	3	3.358	-2.056				
.40	4	.727	.198	.85	4	1.805	-.224				
.40	5	.354	.156	.85	5	-.062	-.546				
.40	6	.213	.154	.85	6	.113	-.394				
.40	7	.075	.158	.85	7	.353	-.185				
.40	8	-.003	.201	.85	8	.071	-.201				
.40	9	-.050	.180	.85	9	.052	-.185				
.40	10	-.064	.160	.85	10	.111	-.091				
.55	0	11.942		.90	0	13.751					
.55	1	-1.674	2.177	.90	1	2.900	-3.004				
.55	2	1.008	-.633	.90	2	-1.944	-1.553				
.55	3	1.428	-.952	.90	3	3.568	-1.723				
.55	4	.898	-.121	.90	4	2.064	.342				
.55	5	.302	-.143	.90	5	.265	.501				
.55	6	.196	-.254	.90	6	.129	-.324				
.55	7	.123	-.087	.90	7	.262	-.042				
.55	8	.105	-.034	.90	8	.140	-.105				
.55	9	.012	-.027	.90	9	.058	-.142				
.55	10	-.044	.017	.90	10	.024	.013				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 35 - Concluded

FLIGHT 32, AUTOROTATION

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	1245	33	-2188	-1609	-3976	-5661		
15	1325	347	-1916	-1867	-3950	-5174		
30	1086	-718	-2396	-1791	-3694	-4238		
45	-1810	-1856	-2757	-1810	-2920	-2507		
60	-579	-1617	-3489	-2344	-3026	-2557		
75	390	-297	-2513	-2287	-3844	-4198		
90	994	-495	-2486	-2077	-3624	-4656		
105	573	-1378	-2947	-2201	-4046	-5084		
120	139	-1823	-3770	-3355	-4768	-4845		
135	71	-2343	-4348	-3670	-5437	-6089		
150	-351	-2120	-4511	-4262	-6370	-7253		
165	94	-2261	-4945	-5091	-6968	-7462		
180	-385	-2846	-5090	-4920	-6625	-7392		
195	-704	-2632	-4737	-4490	-5806	-6238		
210	424	-1411	-3489	-3250	-5129	-5790		
225	1678	206	-1718	-1390	-3272	-4567		
240	1872	1155	-235	327	-1406	-2527		
255	2043	1295	334	1443	230	-408		
270	1827	1254	362	1682	996	1175		
285	1405	1081	371	1587	574	886		
300	1485	1172	27	890	-421	-378		
315	1074	899	-362	270	-1670	-2169		
330	584	256	-1211	-627	-2656	-3661		
345	641	-223	-1935	-1419	-3457	-4358		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-14755	-7814	-212	
15	-14885	-6870	876	
30	-15031	-6105	2492	
45	-12703	-5958	1548	
60	-11580	-6675	332	
75	-11841	-6968	76	
90	-11775	-6382	764	
105	-11140	-5600	1756	
120	-9789	-4249	1948	
135	-7933	-3549	2396	
150	-7184	-1742	3468	
165	-6761	33	5244	
180	-6957	765	6508	
195	-6859	33	5468	
210	-7771	-2409	3964	
225	-10017	-5519	2172	
240	-11401	-7814	556	
255	-13241	-8873	236	
270	-12931	-8840	268	
285	-12882	-7375	908	
300	-14934	-7163	2972	
315	-14885	-7033	2348	
330	-14283	-7635	652	
345	-14690	-9214	316	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	2942	1493	
15	2733	1240	
30	1972	708	
45	1873	771	
60	2165	830	
75	2770	1366	
90	3066	1551	
105	3100	1617	
120	2785	1405	
135	2374	1015	
150	1886	708	
165	1522	409	
180	1225	183	
195	1246	247	
210	1470	203	
225	1658	299	
240	1888	387	
255	1979	574	
270	1895	693	
285	1554	413	
300	1471	333	
315	1428	246	
330	1838	602	
345	2542	1118	

TABLE 36

FLIGHT 33, AUTOROTATION

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95							Δp, lb/sq in., at - r/R = 0.90							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.14	3.56	3.17	2.05	1.01	.53	.059	7.70	3.96	2.81	2.37	1.47	.60	.040	0
15	2.41	2.13	2.17	1.22	.45	.31	-.010	4.55	2.39	1.65	1.51	.87	.33	-.053	15
30	1.49	1.71	2.00	.98	.23	.27	-.033	3.25	1.60	1.21	1.20	.61	.21	-.106	30
45	.94	1.39	1.91	.87	.06	.22	-.047	2.28	1.07	.93	1.00	.43	.13	-.153	45
60	1.58	1.95	2.32	.99	.05	.21	-.037	2.53	1.09	.95	1.05	.46	.14	-.159	60
75	2.45	3.08	3.25	1.55	.30	.29	-.033	3.21	1.56	1.55	1.45	.73	.23	-.179	75
90	2.99	3.61	4.09	1.98	.51	.33	-.049	4.14	2.28	2.27	2.06	1.04	.32	-.188	90
105	2.31	3.22	3.60	1.82	.43	.32	-.036	4.33	2.53	2.44	2.10	1.04	.30	-.210	105
120	1.20	2.05	2.63	1.24	.20	.25	-.040	3.37	1.96	1.84	1.71	.73	.24	-.226	120
135	.37	1.21	1.73	.80	.04	.21	-.053	2.30	1.17	1.15	1.08	.38	.17	-.221	135
150	-.01	.71	1.16	.55	-.03	.19	-.032	1.71	.71	.76	.49	.35	.12	-.195	150
165	.14	.74	1.16	.57	.04	.22	-.004	1.54	.64	.63	.33	.32	.13	-.139	165
180	.68	.90	1.30	.71	.16	.26	.020	1.92	.86	.59	.42	.33	.20	-.080	180
195	1.45	1.35	1.49	.91	.35	.31	.037	2.69	1.35	.92	.70	.54	.28	.009	195
210	2.13	1.69	1.68	1.08	.50	.37	.055	3.40	1.71	1.13	1.01	.69	.35	.044	210
225	2.95	1.96	1.90	1.27	.66	.42	.077	4.28	2.17	1.45	1.28	.87	.43	.078	225
240	3.64	2.23	2.03	1.40	.80	.45	.099	4.96	2.44	1.65	1.38	.95	.47	.075	240
255	4.24	2.57	2.13	1.52	.87	.49	.104	5.53	2.79	1.82	1.49	1.06	.51	.086	255
270	4.86	2.95	2.31	1.64	.96	.50	.104	6.06	3.00	1.97	1.60	1.13	.51	.091	270
285	4.72	2.99	2.29	1.70	.96	.49	.085	6.00	2.94	1.87	1.59	1.10	.49	.073	285
300	3.95	2.41	2.09	1.45	.80	.45	.075	4.96	2.46	1.60	1.35	.92	.44	.051	300
315	3.95	2.55	2.28	1.53	.82	.45	.075	5.00	2.51	1.69	1.48	.97	.46	.051	315
330	5.17	3.11	2.67	1.79	.95	.52	.099	5.78	2.88	1.99	1.73	1.14	.52	.062	330
345	5.98	3.70	3.07	2.08	1.10	.57	.099	7.07	3.54	2.49	2.12	1.38	.59	.062	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85											ψ_{nom}, deg
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	8.94	5.76	4.03	3.04	2.40	2.35	1.40	.65	.59	.27	.050	0
15	4.86	3.70	2.50	1.84	1.38	1.56	.85	.30	.34	.11	-.042	15
30	3.74	2.45	1.89	1.43	.92	1.11	.58	.11	.19	.01	-.092	30
45	3.00	1.80	1.48	1.11	.83	.99	.42	-.02	.12	-.04	-.129	45
60	3.32	2.09	1.65	1.25	.92	.99	.45	-.04	.11	-.05	-.121	60
75	3.90	2.69	2.14	1.73	1.35	1.26	.59	.00	.16	-.02	-.123	75
90	4.95	3.63	3.12	2.52	1.97	1.71	.90	.15	.27	.04	-.104	90
105	5.36	4.08	3.49	2.93	2.26	1.79	1.04	.20	.29	.06	-.114	105
120	4.33	3.08	2.77	2.07	1.72	1.31	.78	.07	.21	.01	-.133	120
135	3.15	1.87	1.82	1.09	.95	1.06	.49	-.06	.14	-.02	-.123	135
150	2.50	1.41	1.29	.68	.59	.70	.31	-.12	.12	-.02	-.129	150
165	2.50	1.33	1.25	.66	.52	.64	.33	-.10	.16	.03	-.102	165
180	2.86	1.64	1.38	.84	.66	.79	.42	.00	.23	.10	-.074	180
195	3.63	2.23	1.82	1.20	.89	1.01	.58	.13	.31	.17	-.040	195
210	4.30	2.83	2.09	1.47	1.09	1.26	.70	.24	.38	.21	-.019	210
225	4.95	3.28	2.38	1.77	1.33	1.47	.84	.35	.44	.24	.010	225
240	5.56	3.66	2.63	2.01	1.49	1.62	.94	.48	.47	.25	.025	240
255	6.14	4.08	2.87	2.18	1.65	1.77	1.01	.49	.51	.27	.038	255
270	6.43	4.19	2.96	2.26	1.70	1.81	1.03	.53	.51	.25	.034	270
285	5.37	3.49	2.56	1.90	1.41	1.60	.89	.45	.45	.22	.025	285
300	5.09	3.35	2.38	1.79	1.29	1.51	.82	.41	.40	.20	.020	300
315	5.27	3.49	2.47	1.84	1.38	1.60	.86	.42	.42	.20	.022	315
330	6.50	4.44	3.10	2.34	1.81	1.89	1.07	.52	.50	.24	.042	330
345	8.38	5.55	3.86	2.95	2.32	2.30	1.38	.67	.60	.29	.052	345

TABLE 36 - Continued

FLIGHT 33, AUTOROTATION

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.55 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
0	5.97	3.21	2.49	1.84	1.30	.49	.040	4.34	1.94	1.42	1.15	.93	.49	.096	0
15	5.23	2.40	2.03	1.47	.99	.34	-.001	4.05	1.85	1.33	1.06	.85	.45	.074	15
30	4.26	1.82	1.59	1.20	.74	.22	-.015	2.45	1.08	.84	.68	.59	.35	.068	30
45	3.47	1.53	1.48	1.13	.63	.17	-.034	2.55	1.11	.84	.67	.59	.35	.080	45
60	3.05	1.55	1.49	1.19	.65	.18	-.065	2.72	1.23	.91	.72	.63	.37	.095	60
75	3.29	1.84	1.62	1.37	.72	.23	-.031	3.47	1.64	1.13	.90	.77	.44	.126	75
90	3.87	2.46	2.11	1.73	.97	.34	.028	4.20	2.09	1.45	1.16	.97	.53	.149	90
105	4.51	2.96	2.43	1.92	1.11	.38	.032	4.66	2.32	1.62	1.29	1.08	.56	.156	105
120	4.80	3.16	2.29	1.82	1.08	.32	.025	4.71	2.33	1.65	1.31	1.08	.56	.158	120
135	4.30	2.58	1.98	1.49	.94	.24	.028	4.62	2.25	1.60	1.27	1.06	.54	.152	135
150	3.54	1.97	1.62	1.20	.76	.19	.042	4.41	2.10	1.53	1.22	1.01	.52	.154	150
165	3.10	1.78	1.55	1.10	.70	.18	.042	4.33	2.07	1.50	1.22	.99	.51	.132	165
180	3.13	1.86	1.56	1.12	.73	.22	.042	4.29	2.05	1.50	1.21	.98	.51	.115	180
195	3.49	2.12	1.65	1.21	.83	.29	.051	4.12	1.93	1.43	1.15	.93	.49	.101	195
210	3.85	2.07	1.77	1.29	.91	.34	.066	4.00	1.78	1.33	1.08	.87	.44	.083	210
225	4.19	2.32	1.89	1.36	.98	.38	.066	3.29	1.58	1.19	.97	.79	.40	.064	225
240	4.48	2.46	1.97	1.40	1.04	.40	.068	2.95	1.35	1.05	.86	.69	.34	.041	240
255	4.78	2.56	1.97	1.42	1.07	.42	.063	2.51	1.12	.89	.73	.59	.30	.031	255
270	4.84	2.44	1.88	1.35	1.00	.39	.028	2.09	.91	.77	.63	.51	.25	.013	270
285	4.40	2.07	1.63	1.20	.87	.31	.020	2.12	.76	.68	.55	.46	.24	.003	285
300	3.93	1.93	1.54	1.12	.81	.29	.009	1.91	.73	.65	.53	.44	.25	.003	300
315	3.82	2.00	1.61	1.19	.85	.31	.020	2.08	.82	.70	.58	.48	.26	.015	315
330	4.30	2.44	1.92	1.43	1.05	.40	.037	2.61	1.11	.87	.71	.58	.33	.034	330
345	5.22	3.23	2.43	1.81	1.31	.50	.046	3.46	1.54	1.13	.91	.74	.42	.066	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40 x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	r/R = 0.25 x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	ψ_{nom}, deg
0	2.07	1.04	.68	.42	.147	.14	.09	.06	.04	-.020	0
15	1.40	.73	.50	.34	.122	.78	.37	.20	.09	.001	15
30	1.15	.57	.38	.27	.113	.90	.42	.21	.10	.005	30
45	1.23	.58	.42	.29	.128	.74	.38	.21	.11	.011	45
60	1.65	.75	.52	.33	.138	.91	.45	.26	.14	.021	60
75	2.09	.98	.67	.40	.156	1.17	.60	.35	.17	.028	75
90	2.57	1.23	.81	.47	.177	1.54	.76	.44	.20	.038	90
105	2.87	1.38	.91	.53	.189	1.84	.93	.54	.25	.050	105
120	3.06	1.48	.97	.55	.194	2.05	1.02	.60	.29	.069	120
135	3.05	1.50	.98	.56	.202	2.08	1.08	.63	.31	.071	135
150	2.90	1.47	.96	.55	.189	2.10	1.09	.66	.30	.071	150
165	2.83	1.45	.94	.54	.176	2.10	1.07	.64	.30	.069	165
180	2.72	1.40	.90	.52	.174	1.88	.95	.58	.28	.063	180
195	2.43	1.26	.80	.47	.157	1.37	.81	.46	.23	.064	195
210	2.06	1.07	.69	.40	.140	1.05	.97	.26	.19	.064	210
225	1.61	.85	.55	.33	.128	.28	.50	.51	.06	.064	225
240	1.11	.72	.45	.27	.120	.09	.13	.29	.07	.005	240
255	.74	.76	.44	.22	.108	.04	.06	.09	.08	-.009	255
270	.37	.46	.42	.24	.075	.03	.04	.04	.06	-.016	270
285	.45	.34	.22	.24	.136	.02	.02	.02	.04	.010	285
300	.34	.20	.11	.18	.104	.04	.03	.01	.04	.010	300
315	.51	.30	.22	.20	.132	.07	.05	.02	.04	-.012	315
330	.87	.46	.29	.24	.111	.13	.08	.05	.05	-.012	330
345	1.31	.68	.45	.30	.136	.26	.15	.09	.06	-.009	345

TABLE 36 - Continued

FLIGHT 33, AUTOROTATION

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	.72	10.54	14.67	20.54	24.98	24.81	20.80
15	3.16	7.73	13.59	15.98	14.48	14.40	11.56
30	3.55	6.18	8.96	12.21	9.97	9.84	8.91
45	3.25	6.65	9.11	10.31	7.64	6.71	6.96
60	4.04	8.27	9.88	10.10	8.29	7.08	8.79
75	5.28	10.40	12.36	11.61	10.90	10.68	13.86
90	6.69	12.59	15.32	15.44	15.86	15.19	17.32
105	8.16	14.08	16.86	17.86	17.67	15.80	15.25
120	9.17	14.90	16.99	17.61	13.46	11.82	9.97
135	9.50	15.01	16.47	14.92	8.74	7.00	5.85
150	9.61	14.55	15.79	11.98	6.09	4.74	3.70
165	9.50	14.20	15.38	11.03	6.28	4.36	4.38
180	8.59	13.66	15.24	11.51	7.77	5.59	5.99
195	6.79	12.27	14.52	13.06	10.54	8.92	8.53
210	5.56	10.49	13.50	14.04	12.68	11.41	10.75
225	3.71	8.42	11.86	15.29	14.90	14.43	13.04
240	1.89	6.63	10.34	16.18	16.60	16.15	14.89
255	.89	5.76	8.77	16.70	18.15	17.94	16.50
270	.55	4.58	7.39	15.88	18.61	19.17	18.07
285	.43	3.96	6.74	13.75	15.93	18.62	17.96
300	.40	2.68	6.46	12.68	14.75	15.69	15.39
315	.44	3.75	7.07	13.13	15.46	16.28	15.96
330	.77	5.03	8.93	15.88	19.18	18.90	19.19
345	1.29	7.11	11.81	20.05	24.15	22.90	22.10

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	6.783		0	3.283		0	-.844	
1	.232	-2.697	1	-.202	-1.282	1	-.079	-.089
2	-.059	.050	2	.326	-.036	2	-.010	.012
3	.227	.073	3	-.190	-.022	3	.000	-.005
4	.068	-.068	4	-.083	-.040	4	-.002	-.020
5	.068	.009	5	-.014	-.026	5	.002	.000
6	.000	-.005	6	-.020	-.018	6	.000	-.010
7	.000	.005	7	.006	-.038	7	.000	.007
8	-.009	.027	8	.012	.010	8	.012	.010
9	.014	.014	9	-.002	.002	9	-.007	-.005
10	.000	-.005	10	.000	.008	10	.000	.007

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom}\right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom}\right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom}\right)$$

TABLE 36 - Continued

FLIGHT 33, AUTOROTATION

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	4.329		.75	0	14.488		.95	0	12.737	
.25	1	-3.301	3.166	.75	1	.808	-.757	.95	1	4.100	-3.317
.25	2	.770	-.739	.75	2	-.027	-.832	.95	2	-2.214	-.890
.25	3	-.046	.118	.75	3	3.315	-.932	.95	3	2.273	-2.886
.25	4	-.008	.286	.75	4	1.200	.266	.95	4	2.471	-.368
.25	5	-.111	.132	.75	5	.060	-.516	.95	5	.437	-.298
.25	6	-.160	-.023	.75	6	.265	-.241	.95	6	-.177	-.619
.25	7	-.185	.114	.75	7	.227	-.130	.95	7	.005	-.390
.25	8	-.150	-.057	.75	8	.138	-.083	.95	8	.260	-.144
.25	9	-.164	.003	.75	9	.025	-.049	.95	9	.309	-.123
.25	10	-.092	-.031	.75	10	-.055	-.021	.95	10	.238	-.181
.40	0	9.143		.85	0	13.877					
.40	1	-3.521	3.687	.85	1	3.421	-3.149				
.40	2	1.256	-.845	.85	2	-.880	-.983				
.40	3	1.027	-.394	.85	3	3.866	-2.406				
.40	4	.911	.024	.85	4	2.419	-.012				
.40	5	.374	-.152	.85	5	.171	-.611				
.40	6	.271	.041	.85	6	.288	-.692				
.40	7	.222	.079	.85	7	.615	-.221				
.40	8	.256	.058	.85	8	.367	-.113				
.40	9	.216	.074	.85	9	.174	-.233				
.40	10	.230	-.037	.85	10	.162	-.126				
.55	0	12.000		.90	0	13.267					
.55	1	-2.547	3.036	.90	1	4.223	-4.015				
.55	2	1.509	-.676	.90	2	-1.474	-1.064				
.55	3	1.703	-.727	.90	3	3.621	-2.155				
.55	4	1.058	.314	.90	4	2.446	.271				
.55	5	.410	.148	.90	5	.544	-.321				
.55	6	.307	.085	.90	6	.158	-.633				
.55	7	.223	.084	.90	7	.407	-.212				
.55	8	.142	.174	.90	8	.380	-.002				
.55	9	.032	.209	.90	9	.448	-.198				
.55	10	-.016	.118	.90	10	.326	-.104				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 36 - Concluded

FLIGHT 33, AUTOROTATION

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	857	710	-1238	-837	-3457	-4617		
15	2636	957	-1103	-1190	-3624	-4408		
30	755	264	-1302	-1180	-2780	-3174		
45	-1651	-1634	-2441	-1219	-1486	-1622		
60	-636	-1617	-2974	-2163	-3255	-2438		
75	1302	-718	-3092	-2774	-4636	-4587		
90	253	-1048	-2992	-2650	-4566	-5970		
105	128	-1592	-3706	-3222	-5085	-6020		
120	549	-2145	-4638	-4252	-6009	-6786		
135	-613	-2813	-4864	-4548	-6467	-7293		
150	-625	-3259	-5514	-5092	-7523	-8040		
165	-477	-2987	-5894	-5922	-8095	-8348		
180	-819	-3251	-5984	-6074	-7100	-7482		
195	-978	-2987	-5153	-4758	-6000	-6975		
210	333	-1444	-3526	-3489	-5200	-6089		
225	1849	289	-1627	-1247	-3132	-4358		
240	1963	1139	-154	775	-527	-1821		
255	1997	1757	642	1682	802	478		
270	2202	1584	696	2149	1664	1662		
285	1393	1229	723	2063	1189	1333		
300	1359	1106	334	1290	-703	-298		
315	1199	817	-633	251	-1451	-1970		
330	59	297	-1094	-360	-2445	-3094		
345	538	-25	-1808	-1095	-2630	-3672		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-14964	-10273	-1555	
15	-15354	-8726	-643	
30	-15094	-6626	1901	
45	-13417	-5405	2989	
60	-11529	-5193	1437	
75	-10535	-5763	173	
90	-12115	-6219	973	
105	-11447	-5812	1197	
120	-9819	-4656	1149	
135	-8907	-3516	2781	
150	-7117	-586	4141	
165	-6482	1514	6269	
180	-6498	2393	7837	
195	-6368	1612	6749	
210	-7393	-1449	4413	
225	-9949	-5665	2445	
240	-12001	-8287	173	
255	-13987	-10598	-659	
270	-14101	-10501	-451	
285	-13368	-7928	125	
300	-14687	-7033	2637	
315	-15826	-6431	3405	
330	-14231	-7261	717	
345	-14166	-9882	-1251	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	3165	1636	
15	2969	1397	
30	2348	1033	
45	2050	761	
60	2425	1212	
75	2932	1477	
90	3301	1879	
105	3402	1921	
120	3017	1572	
135	2541	1158	
150	1842	684	
165	1279	319	
180	972	30	
195	1133	172	
210	1373	153	
225	1706	280	
240	1836	405	
255	2034	541	
270	1936	722	
285	1507	461	
300	1541	372	
315	1478	244	
330	2022	722	
345	2591	1157	

TABLE 37

FLIGHT 34, AUTOROTATION

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.22	3.70	2.60	1.73	.92	.47	.077	6.44	3.09	2.19	1.83	1.22	.47	.033	0
15	3.67	2.98	2.14	1.29	.56	.31	.024	4.08	1.98	1.43	1.27	.83	.29	-.029	15
30	2.65	2.50	1.90	1.08	.48	.31	.031	3.62	1.70	1.29	1.21	.71	.25	-.062	30
45	2.79	2.69	2.28	1.21	.46	.32	.020	3.84	1.89	1.46	1.35	.75	.25	-.084	45
60	3.11	2.95	2.62	1.40	.51	.33	-.014	3.91	2.00	1.63	1.42	.79	.24	-.121	60
75	2.85	3.00	2.66	1.36	.40	.28	-.027	3.59	1.81	1.51	1.32	.75	.20	-.161	75
90	2.32	2.73	2.48	1.27	.33	.28	-.024	3.53	1.88	1.57	1.41	.72	.23	-.164	90
105	1.58	2.28	2.18	1.13	.19	.23	-.024	2.85	1.50	1.32	1.25	.59	.19	-.183	105
120	.93	1.62	1.67	.85	.08	.20	-.035	2.04	.94	.93	.90	.34	.14	-.181	120
135	.47	1.28	1.28	.59	.02	.18	-.031	1.42	.58	.54	.40	.37	.10	-.172	135
150	.55	1.17	1.15	.53	.08	.22	.004	1.61	.73	.53	.37	.40	.15	-.108	150
165	1.35	1.66	1.40	.80	.33	.32	.045	2.78	1.38	1.03	.77	.51	.28	-.006	165
180	2.38	2.21	1.68	1.07	.55	.39	.069	3.84	1.91	1.40	1.19	.80	.37	.017	180
195	2.97	2.43	1.78	1.19	.66	.41	.083	4.34	2.12	1.52	1.23	.87	.38	.033	195
210	3.27	2.52	1.76	1.21	.73	.43	.093	4.61	2.26	1.60	1.25	.92	.42	.079	210
225	3.76	2.71	1.84	1.30	.83	.47	.111	5.03	2.45	1.69	1.33	1.02	.45	.086	225
240	4.31	2.93	1.94	1.40	.90	.47	.114	5.54	2.59	1.77	1.37	1.05	.45	.093	240
255	4.43	2.95	1.94	1.40	.90	.45	.110	5.28	2.54	1.69	1.32	1.01	.42	.082	255
270	4.51	3.01	1.97	1.40	.92	.43	.104	5.16	2.56	1.70	1.32	1.00	.42	.073	270
285	5.27	3.34	2.14	1.57	1.05	.47	.115	5.89	2.83	1.87	1.51	1.14	.48	.088	285
300	5.10	3.33	2.17	1.59	1.00	.47	.122	5.79	2.66	1.78	1.45	1.08	.48	.084	300
315	6.10	3.81	2.48	1.80	1.14	.49	.136	7.32	3.21	2.17	1.75	1.27	.53	.091	315
330	7.49	4.43	2.88	2.07	1.31	.59	.132	8.32	3.58	2.48	2.01	1.42	.59	.106	330
345	8.33	4.90	3.18	2.26	1.40	.60	.124	9.49	4.16	2.90	2.31	1.61	.63	.104	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	6.61	4.41	3.13	2.30	1.85	1.79	1.12	.54	.46	.22	.032	0
15	4.74	3.20	2.28	1.62	1.34	1.35	.81	.33	.32	.13	-.032	15
30	3.99	2.77	1.98	1.53	1.10	1.15	.68	.24	.24	.07	-.050	30
45	4.23	2.94	2.14	1.64	1.21	1.20	.70	.20	.23	.06	-.048	45
60	4.27	3.05	2.27	1.73	1.30	1.27	.70	.15	.22	.04	-.048	60
75	3.91	2.83	2.12	1.63	1.20	1.16	.64	.07	.18	.02	-.070	75
90	4.26	3.06	2.40	1.82	1.36	1.27	.71	.11	.21	.06	-.064	90
105	3.82	2.80	2.26	1.62	1.35	1.15	.69	.09	.19	.04	-.078	105
120	2.79	1.80	1.56	.85	.88	.76	.45	-.03	.12	.01	-.085	120
135	2.19	1.26	1.13	.59	.51	.52	.30	-.08	.10	.00	-.078	135
150	2.26	1.35	1.16	.66	.58	.58	.35	-.03	.16	.08	-.058	150
165	3.41	2.25	1.74	1.19	.98	.95	.61	.15	.30	.18	-.025	165
180	4.37	2.97	2.20	1.58	1.28	1.24	.79	.29	.41	.24	.010	180
195	4.77	3.27	2.38	1.75	1.40	1.36	.86	.36	.44	.26	-.007	195
210	4.96	3.35	2.40	1.83	1.45	1.42	.89	.40	.46	.27	.010	210
225	5.35	3.49	2.52	1.93	1.50	1.49	.94	.46	.48	.28	.018	225
240	5.60	3.60	2.57	1.98	1.54	1.52	.95	.49	.46	.26	.040	240
255	5.36	3.49	2.44	1.86	1.45	1.46	.89	.45	.42	.22	.026	255
270	5.17	3.42	2.42	1.84	1.42	1.44	.85	.44	.39	.21	.030	270
285	5.48	3.49	2.47	1.90	1.46	1.50	.91	.49	.41	.22	.014	285
300	5.36	3.42	2.43	1.84	1.43	1.47	.89	.49	.42	.24	.030	300
315	6.56	4.16	2.91	2.25	1.77	1.71	1.06	.58	.47	.25	.010	315
330	7.34	4.67	3.28	2.53	2.01	1.95	1.22	.68	.53	.27	.098	330
345	8.78	5.45	3.83	2.94	2.35	2.19	1.37	.71	.59	.31	.108	345

TABLE 37 Continued

FLIGHT 34, AUTOROTATION

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.48	3.51	2.49	1.80	1.25	.44	.055	3.48	1.49	1.11	.95	.73	.38	.097	0
15	5.70	2.27	1.79	1.32	.89	.33	.050	2.77	1.21	.92	.78	.61	.32	.069	15
30	4.64	1.90	1.54	1.19	.79	.28	.038	1.97	.88	.67	.57	.45	.26	.071	30
45	3.98	1.93	1.61	1.28	.81	.28	.034	2.67	1.21	.89	.74	.58	.33	.093	45
60	3.77	1.99	1.73	1.36	.83	.28	.022	2.91	1.37	.94	.77	.62	.36	.107	60
75	3.61	1.94	1.67	1.38	.79	.27	.017	3.29	1.62	1.10	.92	.73	.41	.127	75
90	3.80	2.13	1.79	1.53	.89	.33	.074	3.87	1.94	1.35	1.11	.88	.44	.149	90
105	4.29	2.54	2.00	1.66	.98	.33	.067	4.19	2.11	1.48	1.22	.97	.49	.157	105
120	4.05	2.36	1.79	1.45	.89	.28	.062	4.12	2.04	1.45	1.19	.95	.47	.155	120
135	3.34	1.84	1.41	1.16	.71	.21	.076	4.04	1.95	1.43	1.17	.94	.49	.158	135
150	2.97	1.71	1.31	1.08	.69	.25	.088	4.10	2.01	1.46	1.20	.94	.47	.149	150
165	3.40	2.11	1.59	1.26	.84	.35	.109	4.43	2.20	1.58	1.29	1.02	.53	.148	165
180	4.02	2.35	1.92	1.44	1.01	.41	.124	4.82	2.20	1.59	1.31	1.02	.49	.135	180
195	4.50	2.47	1.94	1.44	1.06	.42	.126	3.86	1.95	1.42	1.19	.91	.42	.115	195
210	4.64	2.47	1.89	1.40	1.06	.43	.119	3.33	1.59	1.22	1.02	.78	.34	.093	210
225	4.63	2.45	1.84	1.36	1.04	.42	.114	2.61	1.23	1.11	.91	.65	.27	.100	225
240	4.50	2.40	1.77	1.30	1.00	.39	.107	1.27	1.43	1.24	1.05	.45	.23	.114	240
255	4.27	2.22	1.61	1.19	.89	.34	.090	.53	.48	.71	.79	.82	.26	.018	255
270	4.04	2.08	1.51	1.11	.83	.30	.086	.28	.04	.22	.27	.26	.35	.159	270
285	3.87	1.96	1.46	1.08	.81	.32	.069	.45	.27	.41	.38	.29	.15	.109	285
300	3.62	1.88	1.43	1.07	.83	.34	.071	.99	.48	.48	.41	.29	.15	.035	300
315	3.86	2.17	1.61	1.21	.94	.38	.083	1.51	.66	.56	.47	.34	.22	.028	315
330	4.61	2.68	1.96	1.49	1.15	.45	.086	2.14	.98	.77	.64	.45	.25	.072	330
345	5.45	2.98	2.18	1.67	1.25	.51	.090	2.91	1.34	1.02	.86	.62	.26	.106	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.07	.53	.36	.24	.097	.63	.33	.19	.10	.010	0
15	1.03	.50	.34	.23	.100	.38	.17	.07	.06	.005	15
30	.90	.43	.32	.23	.103	1.00	.48	.25	.11	.009	30
45	1.36	.62	.45	.28	.127	.60	.31	.18	.11	.017	45
60	1.75	.79	.55	.32	.139	.87	.44	.24	.13	.025	60
75	2.11	.95	.67	.38	.155	1.14	.57	.33	.16	.038	75
90	2.44	1.14	.79	.44	.175	1.45	.75	.43	.21	.056	90
105	2.80	1.32	.90	.49	.188	1.81	.93	.55	.27	.064	105
120	2.98	1.41	.94	.50	.194	2.03	1.05	.63	.30	.083	120
135	2.90	1.42	.94	.51	.194	2.11	1.11	.67	.31	.083	135
150	2.79	1.44	.96	.53	.191	2.17	1.12	.68	.32	.085	150
165	2.87	1.44	.96	.53	.186	2.07	1.07	.67	.32	.092	165
180	2.67	1.35	.88	.48	.175	1.42	1.16	.52	.29	.094	180
195	2.14	1.15	.73	.40	.162	.77	1.18	.76	.16	.141	195
210	1.56	1.43	.51	.34	.206	.19	.21	.48	.16	.054	210
225	.52	.78	.94	.28	.118	.07	.13	.25	.16	.002	225
240	.14	.22	.23	.46	.117	.00	.02	.07	.05	.007	240
255	.05	.12	.11	.24	.232	.00	.02	.03	.03	.063	255
270	.04	.09	.08	.18	.184	.00	.02	.01	.02	.047	270
285	.13	.14	.11	.17	.139	.00	.00	-.01	.03	.021	285
300	.21	.20	.13	.16	.100	.01	.00	.00	.03	-.005	300
315	.42	.35	.18	.19	.105	.02	.02	.01	.04	-.004	315
330	.75	.42	.30	.24	.107	.08	.06	.04	.06	.006	330
345	.99	.53	.37	.25	.111	.25	.14	.09	.08	.010	345

TABLE 37 - Continued

FLIGHT 34, AUTOROTATION

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	2.86	5.68	11.61	20.94	19.20	19.91	19.46
15	1.49	5.42	9.48	15.49	13.64	12.74	14.16
30	3.98	5.03	7.14	13.17	11.30	11.08	12.05
45	2.81	6.95	9.41	12.95	11.89	11.90	12.97
60	3.87	8.52	10.18	13.11	12.22	12.34	14.22
75	5.08	10.23	11.88	12.65	11.00	11.12	13.47
90	6.60	11.97	13.95	14.24	12.42	11.33	12.15
105	8.31	13.57	15.24	15.78	11.55	9.19	9.73
120	9.40	14.23	14.83	14.29	7.77	5.91	6.96
135	9.81	14.19	14.73	11.47	5.46	4.04	5.13
150	10.08	14.19	14.78	11.00	6.24	4.90	5.36
165	9.74	14.29	16.07	13.47	10.45	9.02	8.69
180	8.12	13.22	16.15	15.79	13.66	12.87	11.94
195	7.38	10.97	13.96	16.58	14.82	14.08	13.43
210	3.54	9.45	11.71	16.55	15.35	15.12	14.15
225	2.17	7.59	9.72	16.32	16.21	16.35	15.50
240	.62	4.52	8.45	15.67	16.53	17.18	16.67
255	.51	2.94	6.84	14.27	15.54	16.46	16.65
270	.33	2.24	4.09	13.31	15.06	16.34	16.81
285	.20	2.34	3.72	12.91	15.72	18.45	18.79
300	.13	2.46	4.19	12.75	15.56	17.77	18.62
315	.29	3.42	5.50	14.28	18.46	21.32	21.19
330	.72	4.80	7.53	17.30	21.21	24.03	24.84
345	1.43	5.70	9.81	19.43	24.49	27.30	26.96

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	8.576		0	3.651				
1	.436	-4.563	1	-.895	-1.296			
2	.045	.100	2	.059	-.227			
3	.127	-.222	3	-.194	.047			
4	-.054	-.054	4	-.101	.018			
5	-.100	.073	5	-.061	-.032			
6	.050	.014	6	.036	-.012			
7	.032	-.018	7	.000	.032			
8	.036	-.018	8	-.006	.014			
9	.041	-.014	9	.014	.020			
10	.000	-.018	10	.000	.008			
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 37 - Continued

FLIGHT 34, AUTOROTATION

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	4.144		.75	0	14.738		.95	0	14.579	
.25	1	-3.074	3.506	.75	1	.733	-.815	.95	1	4.717	-4.765
.25	2	.945	-1.246	.75	2	1.532	.412	.95	2	.533	.005
.25	3	-.040	.287	.75	3	1.355	-1.737	.95	3	-.165	-2.816
.25	4	.311	.172	.75	4	1.053	.044	.95	4	.839	-1.368
.25	5	-.113	-.103	.75	5	-.175	-.429	.95	5	-.158	-.850
.25	6	-.020	-.009	.75	6	.580	-.509	.95	6	.211	-.718
.25	7	.024	-.158	.75	7	.270	.076	.95	7	-.330	-.312
.25	8	-.021	-.082	.75	8	.174	.092	.95	8	-.185	-.025
.25	9	.167	-.301	.75	9	.186	.030	.95	9	-.117	.003
.25	10	.088	-.043	.75	10	.181	-.043	.95	10	-.132	-.184
.40	0	8.080		.85	0	13.989					
.40	1	-3.845	4.310	.85	1	2.933	-3.935				
.40	2	1.075	-1.109	.85	2	1.225	.381				
.40	3	.091	-.711	.85	3	.440	-2.769				
.40	4	.173	-.125	.85	4	1.154	-.864				
.40	5	.096	-.073	.85	5	-.444	-.532				
.40	6	.081	-.272	.85	6	.280	-.948				
.40	7	-.006	.169	.85	7	.081	-.253				
.40	8	.078	.000	.85	8	.056	.035				
.40	9	-.052	.082	.85	9	-.096	-.038				
.40	10	.020	.068	.85	10	-.159	-.284				
.55	0	10.456		.90	0	14.197					
.55	1	-3.168	3.724	.90	1	4.172	-5.466				
.55	2	1.796	-.482	.90	2	1.079	.069				
.55	3	.675	-.945	.90	3	.013	-3.090				
.55	4	.879	-.379	.90	4	.988	-1.300				
.55	5	-.089	.015	.90	5	-.286	-.792				
.55	6	.519	-.132	.90	6	.265	-1.037				
.55	7	.294	-.066	.90	7	-.134	-.436				
.55	8	.189	.064	.90	8	.058	-.063				
.55	9	.053	.253	.90	9	-.009	-.063				
.55	10	.116	.074	.90	10	-.064	-.382				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 37 - Concluded

FLIGHT 34, AUTOROTATION

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	1124	1947	2197	1849	-1453	-4602		
15	531	2162	1681	790	-969	-2751		
30	-997	-561	-271	-412	-1110	-2413		
45	-2650	-2483	-2640	-2091	-1074	-1398		
60	-1601	-998	-2197	-3550	-3802	-4393		
75	599	-470	-2043	-3388	-6020	-8552		
90	-256	-1724	-2884	-4123	-6328	-8383		
105	-2068	-3399	-4565	-5563	-6407	-7438		
120	-2068	-4595	-5758	-6260	-6592	-7816		
135	-2137	-4018	-5451	-6746	-8158	-9398		
150	-1783	-3845	-5614	-7366	-8730	-10343		
165	-2262	-4480	-6003	-7271	-8581	-10313		
180	-2273	-4067	-5659	-6908	-7701	-8860		
195	-1088	-2269	-3553	-4962	-6830	-8482		
210	1044	-58	-1329	-2501	-4982	-7040		
225	1010	1551	1040	-106	-2298	-4015		
240	1147	1832	1889	1639	923	-75		
255	542	1832	2875	3204	2622	2164		
270	303	2129	3046	3194	3070	2433		
285	-221	1650	2459	2679	2745	1557		
300	-620	718	1229	1334	958	-15		
315	-1247	173	-199	-564	-212	-293		
330	-1863	-182	27	123	-291	-1975		
345	417	1172	922	351	-1180	-3109		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-13571	-16020	-288	
15	-11991	-10908	896	
30	-8605	-9442	4304	
45	-4535	-5389	3744	
60	-5414	-6659	4160	
75	-4291	-8466	1424	
90	-3282	-7635	912	
105	-3021	-6626	4416	
120	528	-1498	5120	
135	788	-1026	8912	
150	2661	2214	8672	
165	4012	2605	9840	
180	3133	2702	9888	
195	739	-293	8864	
210	-1670	-5747	6736	
225	-5545	-10582	2848	
240	-9045	-15482	-768	
255	-9452	-16964	-4368	
270	-12366	-15938	-2128	
285	-13831	-13171	816	
300	-11519	-11608	704	
315	-11845	-11656	1600	
330	-10852	-12715	-464	
345	-12057	-14082	-1600	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	1035	439	190
15	438	52	117
30	237	-346	88
45	816	446	147
60	1219	563	189
75	981	556	157
90	1051	457	128
105	1046	457	99
120	394	209	26
135	-256	-503	-58
150	-953	-921	-128
165	-851	-963	-112
180	-559	-616	-74
195	-568	-689	-88
210	-820	-855	-115
225	-643	-842	-75
240	-512	-436	-54
255	-1193	-977	-93
270	-1946	-1673	-141
285	-1102	-1170	-88
300	-21	-358	20
315	-9	-389	100
330	651	298	139
345	856	301	192

TABLE 38

FLIGHT 35, AUTOROTATION

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	Δp, lb/sq in., at - r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
0	6.65	4.53	3.74	2.36	1.05	.55	.032	6.24	3.52	2.65	2.43	1.58	.61	.022	0
15	3.29	2.97	2.54	1.46	.49	.37	-.020	4.13	2.38	1.82	1.76	1.06	.33	-.069	15
30	1.77	2.29	2.15	1.04	.11	.27	-.069	2.40	1.38	1.25	1.36	.70	.17	-.155	30
45	1.08	1.83	2.02	.83	-.09	.22	-.059	1.75	.88	.97	1.14	.51	.05	-.195	45
60	1.35	2.58	2.64	1.21	-.13	.23	-.077	2.00	.94	1.32	1.39	.60	.06	-.239	60
75	1.94	2.88	3.44	2.39	-.20	.22	-.096	2.60	1.11	2.46	2.27	.86	.12	-.283	75
90	2.08	2.94	3.41	2.74	1.64	.13	-.108	2.79	1.52	2.85	3.32	.53	.12	-.321	90
105	1.23	2.46	3.01	1.90	1.39	.13	-.083	2.27	1.25	2.63	3.13	.16	.11	-.340	105
120	.65	1.97	2.45	1.66	-.59	.19	-.079	1.45	.68	1.96	1.80	.54	.12	-.338	120
135	.00	1.31	1.66	.71	-.16	.19	-.055	.81	.40	.68	.66	.36	.10	-.309	135
150	-.38	.76	1.23	.44	-.23	.17	-.041	.41	.15	.33	.26	.29	.06	-.263	150
165	-.45	.47	.94	.41	-.17	.22	-.012	.51	.21	.27	.24	.28	.09	-.164	165
180	.38	.86	1.09	.63	.07	.31	.024	1.50	.88	.68	.57	.50	.21	-.062	180
195	1.35	1.47	1.36	.91	.32	.39	.061	2.47	1.37	1.02	.87	.67	.29	-.005	195
210	2.29	1.92	1.59	1.12	.52	.44	.077	3.38	1.90	1.37	1.27	.88	.39	.042	210
225	3.10	2.24	1.79	1.30	.68	.49	.095	4.18	2.24	1.63	1.43	1.01	.44	.078	225
240	3.81	2.44	1.91	1.41	.80	.51	.108	4.89	2.63	1.83	1.53	1.13	.48	.100	240
255	4.46	2.74	2.01	1.52	.88	.52	.112	5.41	2.83	1.92	1.64	1.21	.51	.100	255
270	5.01	3.01	2.12	1.61	.96	.54	.118	5.84	3.02	2.02	1.75	1.26	.52	.100	270
285	5.69	3.39	2.34	1.76	1.03	.56	.111	6.09	3.10	2.09	1.84	1.30	.53	.095	285
300	4.81	3.14	2.14	1.59	.88	.51	.103	4.98	2.61	1.77	1.60	1.14	.48	.075	300
315	5.22	3.26	2.31	1.67	.92	.55	.108	5.55	2.91	2.04	1.79	1.24	.51	.075	315
330	5.85	3.75	2.65	1.94	1.05	.61	.108	6.73	3.50	2.47	2.19	1.46	.59	.082	330
345	7.10	4.61	3.39	2.33	1.23	.64	.095	8.00	4.17	3.04	2.62	1.67	.64	.070	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
0	8.16	5.60	4.03	3.06	2.48	2.36	1.39	.63	.61	.29	.027	0
15	4.88	3.66	2.85	2.15	1.65	1.69	.95	.32	.39	.13	-.054	15
30	3.46	2.42	2.10	1.68	1.10	1.20	.63	.10	.22	.00	-.130	30
45	3.03	1.85	1.79	1.37	.95	1.04	.46	-.04	.10	-.07	-.171	45
60	3.20	1.99	2.00	1.62	1.05	1.13	.46	-.08	.09	-.09	-.193	60
75	3.55	2.35	2.41	2.40	1.64	1.50	.66	-.07	.14	-.08	-.207	75
90	4.01	2.88	2.92	2.78	2.73	1.79	.83	-.01	.15	-.06	-.193	90
105	4.04	2.95	3.14	2.67	3.17	1.88	.86	-.01	.16	-.06	-.207	105
120	3.13	2.02	2.51	2.06	1.87	1.09	.58	-.12	.14	-.07	-.199	120
135	2.40	1.22	1.80	1.13	.93	.71	.36	-.21	.08	-.07	-.179	135
150	1.71	.67	1.12	.56	.49	.46	.19	-.26	.07	-.04	-.166	150
165	1.72	.67	1.03	.51	.43	.50	.20	-.20	.13	.05	-.146	165
180	2.52	1.42	1.52	.93	.75	.80	.40	-.04	.27	.15	-.099	180
195	3.46	2.13	1.98	1.35	1.04	1.09	.59	.10	.38	.22	-.057	195
210	4.41	2.93	2.36	1.81	1.34	1.38	.79	.26	.48	.29	-.014	210
225	5.04	3.35	2.68	2.08	1.85	1.60	.91	.38	.53	.31	.015	225
240	5.59	3.74	2.85	2.23	1.71	1.71	.98	.46	.54	.31	.029	240
255	6.04	3.90	2.96	2.40	1.75	1.79	1.02	.49	.55	.30	.033	255
270	6.19	4.01	3.01	2.37	1.79	1.83	1.03	.52	.54	.29	.033	270
285	5.96	3.87	3.00	2.30	1.77	1.81	1.02	.52	.52	.27	.031	285
300	5.19	3.36	2.63	2.00	1.55	1.62	.88	.45	.47	.25	.027	300
315	5.75	3.76	2.86	2.22	1.65	1.75	.95	.49	.50	.26	.033	315
330	6.93	4.60	3.41	2.66	2.03	2.05	1.18	.58	.58	.29	.045	330
345	8.94	5.91	4.19	3.30	2.58	2.45	1.43	.70	.65	.32	.060	345

TABLE 38 - Continued

FLIGHT 35, AUTOROTATION

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.42	3.89	2.74	2.05	1.49	.60	.028	4.20	1.79	1.37	1.23	1.05	.52	.099	0
15	5.87	2.97	2.16	1.61	1.10	.38	-.012	2.79	1.27	.92	.87	.75	.39	.106	15
30	4.81	2.21	1.69	1.29	.81	.24	-.057	2.40	.97	.71	.71	.62	.31	.086	30
45	3.88	1.95	1.63	1.27	.70	.19	-.063	2.47	1.06	.76	.74	.66	.34	.116	45
60	3.43	1.92	1.64	1.31	.67	.19	-.080	2.91	1.25	.86	.82	.73	.37	.132	60
75	3.34	2.26	1.81	1.57	.81	.25	-.073	3.39	1.62	1.07	.96	.86	.45	.164	75
90	3.65	2.65	2.17	1.83	.95	.30	-.007	4.13	2.10	1.34	1.24	1.08	.53	.184	90
105	4.31	3.50	2.70	2.06	1.13	.35	.005	4.72	2.48	1.60	1.43	1.23	.60	.209	105
120	4.53	3.69	2.62	1.96	1.08	.31	.005	5.15	2.68	1.78	1.54	1.30	.61	.202	120
135	3.95	2.74	1.99	1.50	.92	.21	.014	5.34	2.65	1.81	1.56	1.31	.60	.206	135
150	3.20	2.10	1.66	1.19	.68	.17	.016	5.20	2.48	1.74	1.50	1.25	.58	.199	150
165	2.79	1.87	1.47	1.05	.66	.19	.014	4.99	2.40	1.66	1.47	1.20	.56	.169	165
180	3.05	2.16	1.57	1.17	.79	.27	.042	4.84	2.32	1.62	1.43	1.19	.55	.170	180
195	3.61	2.58	1.78	1.31	.93	.35	.059	4.71	2.16	1.52	1.36	1.13	.51	.139	195
210	4.07	2.54	1.91	1.40	1.02	.41	.061	4.07	1.91	1.37	1.24	1.01	.44	.103	210
225	4.46	2.79	1.98	1.46	1.09	.43	.061	3.48	1.59	1.17	1.07	.88	.37	.073	225
240	4.70	2.83	1.97	1.45	1.09	.44	.056	2.96	1.29	.97	.92	.75	.30	.060	240
255	4.87	2.81	1.93	1.41	1.07	.44	.045	2.40	.98	.77	.77	.64	.26	.049	255
270	4.88	2.79	1.88	1.38	1.04	.41	.019	1.91	.73	.58	.62	.52	.22	.047	270
285	4.69	2.52	1.74	1.27	.97	.38	.005	1.47	.47	.40	.47	.43	.20	.052	285
300	4.25	2.28	1.58	1.18	.89	.34	.002	1.43	.40	.35	.40	.35	.20	.019	300
315	4.10	2.39	1.65	1.24	.91	.35	.007	1.71	.60	.49	.55	.47	.18	.045	315
330	4.66	2.86	2.00	1.52	1.10	.44	.019	2.40	.99	.74	.73	.62	.28	.040	330
345	5.35	3.29	2.32	1.76	1.28	.52	.021	3.57	1.53	1.07	1.00	.82	.40	.077	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.08	.62	.39	.27	.106	.57	.34	.14	.12	.002	0
15	1.97	.98	.59	.31	.127	.66	.28	.12	.12	.020	15
30	1.07	.58	.37	.24	.114	1.24	.51	.23	.14	.009	30
45	1.29	.65	.43	.27	.132	.75	.34	.15	.13	.011	45
60	1.64	.82	.54	.32	.149	.95	.45	.22	.17	.025	60
75	2.29	1.09	.71	.40	.163	1.36	.66	.35	.22	.039	75
90	2.69	1.34	.87	.49	.189	1.82	.89	.50	.28	.059	90
105	3.20	1.64	1.04	.58	.209	2.27	1.15	.65	.35	.071	105
120	3.42	1.80	1.14	.62	.221	2.55	1.30	.76	.40	.092	120
135	3.49	1.86	1.17	.63	.230	2.61	1.38	.80	.41	.097	135
150	3.38	1.84	1.15	.62	.211	2.67	1.39	.82	.42	.104	150
165	3.33	1.82	1.14	.61	.214	2.62	1.34	.81	.43	.102	165
180	3.17	1.74	1.07	.58	.197	2.25	1.16	.71	.38	.099	180
195	2.70	1.50	.91	.49	.176	1.61	1.43	.44	.33	.109	195
210	2.07	1.22	.71	.38	.155	.49	.72	.69	.15	.124	210
225	1.37	1.37	.43	.30	.167	.16	.17	.40	.14	.011	225
240	.60	1.08	.62	.23	.161	.08	.08	.15	.13	.005	240
255	.27	.50	.65	.23	.084	.03	.03	.04	.07	-.005	255
270	.05	.25	.12	.35	.086	.05	.02	.00	.06	.006	270
285	.10	.25	.12	.14	.194	.06	.00	-.03	.06	-.001	285
300	.22	.23	.13	.14	.116	.05	.00	-.03	.05	-.018	300
315	.36	.31	.19	.18	.094	.06	.01	-.02	.06	-.012	315
330	.71	.47	.27	.22	.102	.12	.04	.00	.08	-.006	330
345	.99	.59	.37	.26	.107	.38	.20	.10	.12	.006	345

TABLE 38 - Continued

FLIGHT 35, AUTOROTATION

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	2.70	6.16	14.93	23.46	24.52	23.34	24.34
15	2.76	9.21	10.66	18.07	15.99	15.07	14.43
30	4.55	5.83	8.61	13.50	10.54	9.03	9.63
45	3.16	6.79	9.27	11.71	8.15	5.92	7.24
60	4.16	8.42	10.47	11.25	8.63	7.07	9.45
75	6.01	11.04	12.75	12.89	11.39	10.94	11.82
90	8.13	13.33	15.67	15.29	14.79	11.66	17.94
105	10.21	15.81	18.10	18.71	15.83	9.11	14.78
120	11.75	17.10	19.30	18.56	11.00	7.22	6.37
135	12.21	17.56	19.42	14.61	6.94	3.24	4.79
150	12.47	17.14	18.60	11.54	4.18	1.52	2.74
165	12.28	16.94	17.83	10.61	4.43	2.05	2.44
180	10.78	16.07	17.44	12.34	7.95	6.24	5.39
195	8.92	13.71	16.44	14.70	11.25	9.48	8.84
210	5.79	10.77	14.44	15.82	14.40	13.03	11.62
225	2.87	8.44	12.26	16.95	16.96	15.39	13.87
240	1.55	6.90	10.23	17.19	17.80	17.45	15.51
255	.62	5.29	8.40	17.09	18.57	18.69	16.96
270	.45	3.30	6.71	16.64	18.81	19.75	18.27
285	.33	2.53	5.34	15.45	18.46	20.35	20.03
300	.21	2.40	4.67	13.99	16.19	17.39	17.87
315	.38	3.20	5.80	14.33	17.59	19.26	18.97
330	.70	4.59	8.35	17.20	21.12	22.94	21.50
345	2.03	5.81	12.02	19.97	25.95	26.78	25.59

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	6.710		0	3.165		0	-.905	
1	-.095	-3.823	1	-.213	-1.164	1	-.047	-.101
2	-.064	.041	2	.348	-.196	2	-.002	.000
3	.186	.123	3	-.235	.002	3	.005	.000
4	.109	-.045	4	-.067	-.059	4	.007	-.042
5	.023	.009	5	-.012	.034	5	-.005	.000
6	.014	.045	6	.002	-.024	6	-.002	.005
7	-.009	.023	7	.008	-.002	7	.002	-.007
8	-.018	-.009	8	.012	-.016	8	.000	-.005
9	.023	-.005	9	.004	.014	9	.012	.000
10	-.027	.027	10	.018	-.004	10	-.012	.002

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 38 - Continued

FLIGHT 35, AUTOROTATION

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	5.209		.75	0	15.493		.95	0	13.349	
.25	1	-4.081	4.131[4]	.75	1	1.268	-1.041	.95	1	5.777	-4.599
.25	2	1.289	-1.475	.75	2	.144	-.359	.95	2	-1.581	-.833
.25	3	.047	.293	.75	3	3.318	-1.141	.95	3	2.370	-3.350
.25	4	.368	.340	.75	4	1.196	.798	.95	4	2.598	-.177
.25	5	-.142	.001	.75	5	.247	-.557	.95	5	.780	-.036
.25	6	-.079	.001	.75	6	.567	-.142	.95	6	-.229	-.679
.25	7	-.070	-.114	.75	7	.248	.137	.95	7	.412	-.785
.25	8	-.126	-.154	.75	8	.173	.121	.95	8	.500	.360
.25	9	.094	-.181	.75	9	.286	-.036	.95	9	-.116	.052
.25	10	.016	-.164	.75	10	.256	.147	.95	10	.191	-.508
.40	0	9.514		.85	0	14.225					
.40	1	-5.002	4.747	.85	1	4.284	-4.535				
.40	2	1.407	-1.211	.85	2	-.712	-.344				
.40	3	.739	-.193	.85	3	3.420	-2.955				
.40	4	.538	.089	.85	4	2.119	.115				
.40	5	-.113	.179	.85	5	.364	-.580				
.40	6	.175	.307	.85	6	.188	-.670				
.40	7	-.112	.212	.85	7	.179	-.249				
.40	8	-.158	.226	.85	8	.237	.056				
.40	9	-.193	.219	.85	9	.006	-.160				
.40	10	-.180	.134	.85	10	.243	-.183				
.55	0	12.404		.90	0	13.037					
.55	1	-4.062	4.008	.90	1	5.574	-6.660				
.55	2	1.947	-1.036	.90	2	-.673	-.452				
.55	3	1.781	-.758	.90	3	2.636	-2.954				
.55	4	.953	-.078	.90	4	2.133	-.488				
.55	5	.404	-.398	.90	5	.709	-.697				
.55	6	.388	-.111	.90	6	.064	-.243				
.55	7	.301	-.114	.90	7	-.390	-.199				
.55	8	.284	.012	.90	8	.062	-.154				
.55	9	.197	-.001	.90	9	.248	-.066				
.55	10	.162	.000	.90	10	.151	-.091				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 38 - Concluded

FLIGHT 35, AUTOROTATION

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	1221	949	-271	-65	-2463	-3682		
15	3057	1526	-362	126	-1927	-3483		
30	1381	314	-624	365	-1786	-2687		
45	-2176	-866	-1681	-952	-1909	-1543		
60	800	-1997	-4321	-2688	-2094	-1812		
75	-1344	-974	-2839	-2946	-5271	-4846		
90	1381	-1741	-4167	-3251	-4892	-6478		
105	104	-1922	-4113	-4043	-6423	-7762		
120	-717	-2912	-5270	-5035	-6749	-7533		
135	-1025	-4125	-6292	-5636	-7479	-8498		
150	-1754	-3977	-6509	-6857	-9055	-8647		
165	-626	-4571	-7521	-7449	-8685	-8896		
180	-1709	-4001	-6464	-6743	-8650	-8747		
195	-637	-2879	-5343	-5512	-7022	-7443		
210	708	-1304	-3200	-2927	-5279	-6548		
225	1917	817	-1121	-1038	-2912	-3503		
240	3000	1650	443	1500	-52	-996		
255	2487	2360	1600	2607	1743	1950		
270	1917	1980	1727	3131	2738	2785		
285	1632	1328	1076	2692	2095	2268		
300	1005	1023	353	1471	485	417		
315	948	520	-805	31	-1091	-1424		
330	195	17	-1338	-656	-1962	-2349		
345	435	-25	-1175	-561	-2446	-2956		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-15676	-14098	-5169	
15	-17059	-11136	-3537	
30	-16066	-7228	383	
45	-16213	-4151	5183	
60	-11931	-3744	3423	
75	-9929	-4412	-417	
90	-12322	-6821	143	
105	-12680	-6219	95	
120	-9896	-4461	335	
135	-10092	-2035	3471	
150	-6966	130	4991	
165	-5387	4493	6463	
180	-5875	4493	9455	
195	-7666	4086	9071	
210	-6982	-1074	5343	
225	-10271	-6772	911	
240	-12631	-12357	-2145	
255	-15350	-13008	-3697	
270	-15334	-12796	-1681	
285	-14585	-7912	191	
300	-13787	-5356	2719	
315	-16099	-5096	4687	
330	-14227	-7521	815	
345	-14324	-10631	-3713	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	3742	1899	
15	3552	1927	
30	2747	1377	
45	2573	1195	
60	2957	1647	
75	3629	2200	
90	3778	2265	
105	3801	2303	
120	3483	2007	
135	2860	1346	
150	1984	795	
165	907	188	
180	708	-75	
195	838	-11	
210	1330	193	
225	1734	337	
240	1906	302	
255	2013	589	
270	1707	506	
285	1559	414	
300	1922	638	
315	1758	492	
330	2190	829	
345	2792	1376	

TABLE 39

FLIGHT 36, STEADY TURN

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95							Δp, lb/sq in., at - r/R = 0.90							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	9.01	5.31	3.58	2.49	1.43	.56	.095	11.14	4.73	3.30	2.55	1.64	.51	.190	0
15	8.85	5.66	3.91	2.72	1.53	.61	.085	10.22	4.73	3.52	2.84	1.86	.63	.084	15
30	8.40	5.58	4.22	2.80	1.54	.67	.093	9.29	4.66	3.68	3.02	1.89	.72	.060	30
45	7.52	4.94	4.31	2.66	1.31	.56	.020	8.36	4.59	3.49	2.82	1.75	.61	-.029	45
60	5.55	5.02	3.94	2.28	.96	.45	-.010	6.47	3.64	2.78	2.29	1.47	.46	-.091	60
75	4.06	4.09	3.51	2.04	.77	.43	-.008	5.14	2.91	2.37	2.09	1.16	.44	-.113	75
90	5.78	5.10	4.23	2.60	1.25	.59	.051	6.01	3.39	2.83	2.50	1.50	.58	-.046	90
105	7.31	7.08	4.76	2.96	1.40	.60	.055	7.48	4.45	3.50	3.04	1.82	.70	-.011	105
120	6.50	6.00	4.41	2.79	1.32	.58	.059	8.18	6.07	3.57	3.02	1.83	.64	-.042	120
135	5.29	4.58	3.52	2.31	1.02	.50	.061	6.98	3.62	2.92	2.48	1.49	.58	-.031	135
150	4.74	3.98	3.23	2.06	.98	.50	.063	6.56	3.53	2.65	2.27	1.41	.56	-.017	150
165	4.96	3.97	3.06	2.01	1.05	.55	.097	6.93	3.47	2.69	2.27	1.44	.60	.042	165
180	5.91	4.27	3.14	2.19	1.21	.62	.122	7.77	4.03	2.92	2.39	1.56	.66	.110	180
195	6.43	4.42	3.15	2.19	1.26	.62	.130	8.10	4.03	2.90	2.35	1.58	.67	.110	195
210	6.70	4.36	3.09	2.16	1.29	.63	.136	8.26	4.03	2.86	2.28	1.57	.68	.117	210
225	6.89	4.33	3.06	2.17	1.33	.65	.154	8.67	4.08	2.86	2.27	1.58	.70	.148	225
240	7.39	4.39	3.05	2.18	1.37	.64	.154	9.38	4.09	2.85	2.22	1.58	.67	.145	240
255	7.61	4.43	3.04	2.19	1.41	.65	.162	9.91	4.09	2.85	2.23	1.58	.67	.161	255
270	8.65	4.68	3.16	2.31	1.51	.69	.184	8.60	4.35	3.04	2.36	1.59	.61	.236	270
285	7.29	4.79	3.05	2.20	1.27	.70	.363	7.08	3.28	2.28	1.87	1.36	.66	.210	285
300	8.01	4.82	3.25	2.45	1.63	.72	.195	9.18	4.19	2.87	2.23	1.65	.75	.223	300
315	8.57	4.75	3.22	2.37	1.53	.64	.180	9.82	4.57	3.23	2.52	1.74	.75	.245	315
330	9.52	5.13	3.32	2.33	1.38	.51	.162	10.26	4.39	3.01	2.32	1.43	.54	.258	330
345	10.58	5.69	3.88	2.75	1.62	.59	.191	11.09	4.90	3.41	2.63	1.77	.59	.247	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85											ψ_{nom}, deg
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	11.10	7.90	4.72	3.62	2.88	2.52	1.55	.72	.54	.33	.252	0
15	10.55	8.09	4.89	3.76	3.07	2.72	1.79	.96	.74	.38	.157	15
30	10.34	8.66	5.10	3.95	3.26	2.82	1.87	.93	.74	.36	.143	30
45	9.86	8.30	4.87	3.82	3.17	2.70	1.74	.80	.64	.28	.073	45
60	7.58	6.11	4.15	3.05	2.65	2.27	1.43	.56	.50	.20	.020	60
75	5.36	4.34	3.16	2.45	1.93	1.69	1.08	.36	.37	.13	-.027	75
90	5.47	4.35	3.19	2.52	2.01	1.80	1.18	.46	.46	.20	.018	90
105	6.99	5.71	4.24	3.22	2.62	2.29	1.57	.66	.62	.31	.051	105
120	9.47	8.09	5.08	3.95	3.29	2.76	1.80	.77	.67	.33	.067	120
135	8.93	7.07	4.69	3.51	2.93	2.41	1.60	.69	.62	.31	.063	135
150	7.91	5.87	4.24	3.16	2.61	2.20	1.51	.66	.63	.33	.077	150
165	8.25	5.92	4.22	3.20	2.63	2.22	1.52	.70	.67	.36	.083	165
180	9.37	6.17	4.38	3.38	2.81	2.36	1.62	.80	.74	.42	.114	180
195	9.69	6.10	4.30	3.33	2.72	2.33	1.60	.80	.73	.41	.118	195
210	9.67	5.95	4.20	3.25	2.66	2.31	1.55	.79	.71	.41	.126	210
225	9.74	5.86	4.16	3.25	2.61	2.31	1.55	.82	.73	.42	.147	225
240	9.83	5.73	4.06	3.13	2.52	2.24	1.48	.78	.64	.39	.192	240
255	7.28	5.67	4.35	3.30	2.49	2.18	1.46	.74	.61	.39	.240	255
270	4.02	3.06	2.69	2.41	2.19	2.12	1.37	.69	.56	.43	.258	270
285	7.31	5.00	3.49	2.68	2.12	1.95	1.27	.70	.57	.30	.118	285
300	8.16	5.32	3.70	2.89	2.35	2.17	1.42	.77	.63	.37	.197	300
315	7.93	6.42	4.55	3.52	2.83	2.54	1.64	.90	.73	.45	.229	315
330	9.72	6.10	4.08	3.16	2.49	2.20	1.34	.66	.53	.37	.186	330
345	10.60	7.57	4.84	3.75	3.10	2.65	1.73	.90	.69	.45	.291	345

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TABLE 39 - Continued

FLIGHT 36, STEADY TURN

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	8.03	3.77	2.68	2.10	1.39	.45	.212	4.18	1.96	1.42	1.16	.91	.46	.102	0
15	8.00	3.70	2.77	2.12	1.56	.64	.121	4.57	2.23	1.60	1.26	.99	.52	.124	15
30	8.27	4.39	3.24	2.45	1.79	.71	.129	5.23	2.61	1.82	1.38	1.05	.55	.139	30
45	8.43	4.54	3.39	2.50	1.80	.68	.117	4.74	2.30	1.63	1.34	1.07	.54	.132	45
60	8.10	4.07	3.15	2.33	1.63	.61	.074	4.99	2.49	1.74	1.39	1.11	.55	.142	60
75	7.14	3.38	2.75	1.93	1.39	.51	.071	3.92	2.05	1.44	1.11	.88	.50	.151	75
90	6.22	3.06	2.53	1.99	1.32	.50	.100	3.48	1.73	1.24	1.03	.84	.46	.136	90
105	5.79	3.26	2.72	2.15	1.47	.60	.133	4.47	2.28	1.63	1.31	1.04	.54	.152	105
120	6.33	3.59	2.99	2.24	1.55	.62	.138	4.86	2.49	1.76	1.40	1.12	.57	.169	120
135	6.57	3.82	3.08	2.32	1.64	.64	.152	5.27	2.69	1.87	1.48	1.16	.57	.170	135
150	7.11	4.05	3.17	2.35	1.68	.66	.169	4.99	2.52	1.80	1.43	1.13	.58	.175	150
165	7.59	4.12	3.17	2.33	1.69	.68	.185	4.96	2.50	1.78	1.44	1.14	.56	.171	165
180	7.93	4.20	3.15	2.35	1.74	.70	.183	4.99	2.40	1.72	1.38	1.09	.53	.147	180
195	8.13	4.06	3.04	2.23	1.67	.66	.185	4.57	2.14	1.55	1.25	.99	.50	.124	195
210	8.19	3.93	2.88	2.10	1.59	.62	.178	3.71	1.90	1.39	1.14	.89	.43	.103	210
225	8.25	3.80	2.77	2.07	1.56	.63	.226	3.33	1.64	1.22	1.01	.78	.37	.086	225
240	7.65	3.87	3.04	2.23	1.62	.65	.259	2.85	1.39	1.06	.88	.67	.31	.062	240
255	6.40	2.37	2.14	1.48	1.17	.54	.314	2.42	1.14	.90	.74	.56	.27	.043	255
270	5.42	2.21	1.48	1.19	.87	.43	.205	2.58	1.21	.92	.74	.55	.26	.050	270
285	5.06	2.78	1.84	1.56	1.21	.52	.131	2.33	1.07	.85	.72	.53	.28	.069	285
300	5.30	2.86	2.28	1.74	1.25	.56	.214	2.25	1.05	.82	.67	.50	.22	.075	300
315	5.58	3.34	2.31	1.84	1.42	.60	.185	2.63	1.27	.98	.78	.57	.29	.062	315
330	6.27	3.33	2.50	1.76	1.32	.54	.188	3.55	1.81	1.34	1.09	.82	.39	.108	330
345	7.19	3.90	2.76	2.04	1.56	.64	.243	4.50	2.26	1.62	1.29	.97	.47	.125	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.72	.86	.57	.35	.158	.43	.23	.15	.10	.012	0
15	1.68	.86	.59	.37	.120	.78	.41	.27	.16	.032	15
30	2.28	1.09	.73	.39	.138	1.07	.55	.34	.17	.025	30
45	2.16	1.04	.70	.38	.139	.88	.48	.30	.17	.031	45
60	2.47	1.17	.78	.40	.142	1.04	.53	.31	.15	.027	60
75	1.94	.91	.63	.37	.143	.99	.53	.32	.17	.035	75
90	2.38	1.09	.74	.39	.148	1.23	.64	.39	.20	.043	90
105	2.25	1.12	.79	.46	.174	1.34	.71	.43	.22	.048	105
120	2.74	1.33	.88	.47	.162	1.47	.79	.50	.25	.059	120
135	2.63	1.34	.90	.49	.170	1.82	.93	.55	.25	.065	135
150	2.81	1.40	.93	.50	.178	1.68	.87	.53	.25	.059	150
165	2.85	1.41	.94	.50	.171	1.61	.83	.51	.25	.063	165
180	2.71	1.33	.87	.46	.156	1.42	.74	.46	.23	.056	180
195	2.26	1.13	.73	.40	.142	1.02	.62	.36	.17	.053	195
210	1.86	.94	.60	.33	.125	.66	.69	.28	.12	.054	210
225	1.43	.75	.48	.27	.109	.20	.29	.43	.05	.013	225
240	1.19	.70	.46	.23	.103	.07	.09	.14	.11	.001	240
255	.55	.61	.64	.20	.087	.03	.04	.03	.09	.007	255
270	.45	.38	.27	.42	.151	.05	.04	.02	.06	.038	270
285	.29	.23	.15	.14	.145	.06	.04	.03	.04	.042	285
300	.53	.28	.20	.17	.090	.09	.07	.03	.05	.020	300
315	.80	.43	.28	.20	.094	.16	.15	.10	.07	.020	315
330	1.07	.56	.39	.25	.105	.37	.19	.11	.09	.012	330
345	1.46	.74	.50	.30	.123	.14	.10	.07	.07	.009	345

TABLE 39 - Continued

FLIGHT 36, STEADY TURN

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	2.28	8.91	14.34	23.91	29.17	29.70	28.48
15	3.95	8.89	15.97	25.25	30.97	30.61	30.04
30	4.98	10.96	17.78	28.40	31.64	30.70	30.52
45	4.43	10.52	16.72	28.80	29.55	28.12	27.35
60	4.66	11.63	17.56	26.35	23.89	22.19	23.40
75	4.76	9.65	14.55	22.54	17.56	18.27	19.56
90	5.79	11.16	13.08	21.03	18.85	22.61	26.22
105	6.38	11.71	16.45	22.54	24.80	28.27	31.57
120	7.19	13.19	17.71	24.15	30.10	30.63	28.57
135	8.21	13.27	18.64	25.33	27.50	23.76	22.79
150	7.78	13.87	18.06	26.45	25.34	22.47	20.89
165	7.53	13.96	17.87	27.05	25.89	23.25	21.38
180	6.74	13.01	17.28	27.69	28.12	25.98	23.75
195	5.21	11.04	15.69	26.96	27.97	26.25	24.56
210	4.10	9.10	13.69	26.00	27.44	26.31	24.70
225	2.73	7.27	11.97	25.81	27.56	26.91	25.08
240	1.42	6.46	10.17	26.37	26.77	27.22	25.60
255	.75	5.74	8.58	19.74	25.15	27.67	26.02
270	.73	5.31	8.72	15.75	19.62	27.41	27.99
285	.65	2.76	8.37	18.42	22.03	22.89	26.79
300	.70	3.37	7.79	20.04	24.53	28.18	28.57
315	1.38	4.54	9.22	21.71	27.81	30.24	27.95
330	1.89	5.89	12.88	21.72	25.55	27.72	27.93
345	1.12	7.64	15.68	25.24	30.92	31.21	31.86

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	13.166		0	5.164				
1	2.057	-4.413	1	-.579	-1.164			
2	.068	.041	2	-.008	-.012			
3	-.141	-.059	3	.105	-.061			
4	-.168	.077	4	.160	.032			
5	-.141	.195	5	-.040	-.053			
6	.000	.045	6	.032	-.004			
7	-.064	-.018	7	-.008	.014			
8	-.059	.045	8	.026	-.010			
9	.045	.018	9	.006	.002			
10	-.032	-.005	10	-.006	-.006			

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom}\right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom}\right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom}\right)$$

TABLE 39 - Continued

FLIGHT 36, STEADY TURN

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.972		.75	0	24.051		.95	0	26.315	
.25	1	-1.824	2.803	.75	1	-1.004	1.980	.95	1	2.712	-.771
.25	2	.787	-.417	.75	2	3.005	1.747	.95	2	.028	-.461
.25	3	-.150	.375	.75	3	-.063	.142	.95	3	1.743	-.320
.25	4	-.198	.236	.75	4	-1.594	-.269	.95	4	.339	2.071
.25	5	-.146	.124	.75	5	-.464	.211	.95	5	-1.624	-.307
.25	6	-.190	.119	.75	6	.765	-.528	.95	6	.011	-1.093
.25	7	-.144	.121	.75	7	-.173	-.675	.95	7	.373	-.228
.25	8	.062	.058	.75	8	-.299	.065	.95	8	-.114	-.027
.25	9	-.053	.089	.75	9	.121	-.167	.95	9	-.588	-.411
.25	10	.027	-.071	.75	10	-.062	-.383	.95	10	-.533	-.209
.40	0	9.160		.85	0	26.197					
.40	1	-2.090	3.811	.85	1	.613	-.036				
.40	2	1.513	.100	.85	2	3.655	.371				
.40	3	.165	.527	.85	3	1.739	.661				
.40	4	.194	-.275	.85	4	-1.804	1.329				
.40	5	-.360	-.277	.85	5	-1.378	-.458				
.40	6	.024	-.060	.85	6	1.180	-.315				
.40	7	.171	.093	.85	7	.214	-.274				
.40	8	.088	-.099	.85	8	-.175	-.425				
.40	9	-.074	-.139	.85	9	-.156	-.134				
.40	10	-.173	-.166	.85	10	-.129	-.237				
.55	0	14.115		.90	0	26.606					
.55	1	-.903	4.019	.90	1	1.820	-1.335				
.55	2	2.446	.121	.90	2	1.455	-.219				
.55	3	.253	.562	.90	3	2.076	.041				
.55	4	-.364	-.137	.90	4	-.568	1.723				
.55	5	-.207	-.832	.90	5	-2.074	-.315				
.55	6	.054	-.369	.90	6	.557	-.322				
.55	7	-.336	.167	.90	7	.680	.185				
.55	8	-.370	.107	.90	8	.234	-.620				
.55	9	-.320	-.255	.90	9	-.211	-.614				
.55	10	-.045	-.280	.90	10	-.597	.155				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 39 - Concluded

FLIGHT 36, STEADY TURN

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	615	-1056	-1781	-1783	-2440	-5066		
15	1174	182	108	-1049	-3813	-5563		
30	1367	1419	1275	-257	-2897	-5533		
45	2713	800	1202	1260	-1481	-5274		
60	1048	1559	1139	-467	-1613	-2508		
75	1880	-74	-588	-991	-1287	-3314		
90	239	-305	-922	-2804	-3522	-4469		
105	-525	-1403	-2712	-3710	-4121	-4250		
120	991	-2591	-2748	-1812	-4200	-6807		
135	524	-627	-1365	-2136	-3786	-5832		
150	968	413	-922	-1907	-3909	-7493		
165	1459	-718	-2269	-2432	-3161	-6578		
180	-1654	-677	-1609	-2756	-3575	-5812		
195	1014	-1056	-1808	-2222	-3637	-6817		
210	1345	215	-72	-1287	-4288	-6876		
225	946	974	1022	49	-2484	-5155		
240	1504	866	1003	1012	86	-2439		
255	398	1922	1573	888	1230	2069		
270	-970	1510	2124	2252	3456	3870		
285	-172	1757	2911	3779	3236	2596		
300	934	3028	3571	3512	2972	1621		
315	775	2607	3932	4160	878	-3812		
330	1926	1625	1085	774	-1481	-4449		
345	-1015	470	-416	-1964	-3135	-3613		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-3787	-9898	-584	
15	-5089	-13447	40	
30	-4341	-8466	-344	
45	-2664	-6333	6024	
60	-173	-1888	9624	
75	4385	1221	9496	
90	4223	0	8232	
105	4906	-2328	4584	
120	967	-5600	3384	
135	755	-7440	1864	
150	364	-4672	4280	
165	185	-716	10168	
180	1553	3061	13192	
195	-759	2458	13480	
210	-3706	-3858	9256	
225	-5269	-10419	968	
240	-8639	-14505	-3752	
255	-12448	-16378	-4600	
270	-15102	-16703	-1192	
285	-13278	-14180	888	
300	-12383	-12926	4712	
315	-9778	-8238	5992	
330	-8687	-5649	8232	
345	-6115	-7945	5992	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	338	79	47
15	1355	871	214
30	2040	1465	325
45	1699	1243	270
60	996	670	149
75	289	-106	101
90	311	187	74
105	1010	471	156
120	1249	993	152
135	690	172	77
150	295	-189	4
165	-338	-801	0
180	126	-124	0
195	-90	-472	26
210	-242	-537	-29
225	-215	-606	-36
240	-1136	-1632	-48
255	-1672	-1243	-188
270	-1953	-1671	-167
285	-1098	-888	-76
300	-196	-669	66
315	355	131	109
330	-316	-562	99
345	447	181	84

TABLE 40

FLIGHT 37, STEADY TURN

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	Δp, lb/sq in., at - r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
0	9.91	5.43	3.78	2.66	1.49	.50	.136	11.07	4.79	3.41	2.63	1.74	.50	.213	0
15	9.26	5.64	3.98	2.78	1.61	.66	.132	9.84	4.65	3.42	2.79	1.86	.70	.077	15
30	8.24	5.61	4.11	2.77	1.55	.70	.124	9.11	4.66	3.61	2.97	1.90	.75	.073	30
45	7.78	5.51	4.49	2.84	1.46	.62	.041	8.71	5.06	3.73	3.07	1.89	.68	.006	45
60	6.36	5.73	4.38	2.59	1.22	.51	.002	7.56	4.48	3.45	2.78	1.69	.57	-.051	60
75	4.63	4.77	4.00	2.15	.88	.42	-.031	5.69	3.23	2.76	2.24	1.36	.44	-.128	75
90	5.48	5.27	4.35	2.59	1.21	.56	.042	5.21	3.21	2.65	2.35	1.41	.58	-.077	90
105	7.04	6.79	4.58	2.90	1.35	.59	.046	6.45	3.88	3.23	2.85	1.73	.68	-.046	105
120	6.38	6.59	4.48	2.92	1.34	.60	.057	8.02	6.06	3.53	3.08	1.87	.65	-.046	120
135	5.60	5.16	4.01	2.53	1.15	.53	.057	7.30	4.74	3.32	2.78	1.68	.59	-.048	135
150	4.71	4.18	3.45	2.19	.96	.51	.057	6.49	3.59	2.75	2.37	1.46	.55	-.051	150
165	4.49	3.80	3.06	1.96	.94	.50	.073	6.26	3.41	2.54	2.20	1.36	.56	.002	165
180	4.95	3.94	3.06	2.00	1.06	.56	.103	6.73	3.39	2.65	2.21	1.42	.60	.060	180
195	5.64	4.11	3.01	2.09	1.16	.60	.122	7.25	3.68	2.72	2.23	1.48	.62	.097	195
210	6.01	4.13	3.01	2.09	1.21	.62	.128	7.58	3.80	2.75	2.22	1.51	.65	.106	210
225	6.34	4.16	2.97	2.09	1.27	.63	.146	7.73	3.82	2.74	2.20	1.53	.65	.125	225
240	6.96	4.32	3.04	2.18	1.37	.66	.160	8.73	4.05	2.85	2.26	1.58	.68	.141	240
255	7.23	4.34	3.00	2.16	1.37	.64	.154	9.26	4.01	2.81	2.21	1.56	.66	.145	255
270	7.64	4.42	3.06	2.21	1.41	.64	.162	10.03	4.06	2.84	2.23	1.58	.65	.156	270
285	9.58	5.04	3.34	2.50	1.62	.72	.241	7.65	3.90	2.73	2.18	1.56	.61	.233	285
300	6.54	4.07	2.82	2.02	1.27	.64	.193	8.69	3.79	2.68	2.17	1.53	.71	.152	300
315	7.69	4.41	3.02	2.16	1.34	.60	.144	9.31	3.99	2.78	2.22	1.55	.64	.152	315
330	9.58	4.95	3.34	2.38	1.42	.55	.183	9.98	4.22	2.85	2.18	1.50	.58	.223	330
345	10.27	5.56	3.95	2.82	1.69	.60	.209	11.18	5.07	3.55	2.77	1.85	.65	.243	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
0	11.18	7.75	4.70	3.64	2.93	2.56	1.61	.77	.65	.42	.283	0
15	10.25	6.68	4.57	3.52	2.85	2.53	1.62	.77	.55	.22	.131	15
30	10.15	7.89	4.93	3.82	3.18	2.76	1.85	.94	.75	.38	.139	30
45	10.09	8.65	5.00	4.00	3.34	2.84	1.84	.90	.70	.34	.113	45
60	9.17	7.73	4.72	3.69	3.12	2.67	1.69	.73	.60	.26	.049	60
75	7.66	6.57	4.39	3.26	2.81	2.32	1.51	.57	.49	.19	-.001	75
90	6.39	5.35	3.90	3.06	2.43	2.10	1.34	.48	.46	.18	.001	90
105	7.02	5.85	4.27	3.25	2.70	2.28	1.49	.58	.53	.24	.032	105
120	8.13	6.96	4.91	3.66	3.05	2.61	1.74	.72	.67	.33	.065	120
135	9.23	7.80	5.07	3.84	3.17	2.61	1.71	.72	.64	.31	.057	135
150	8.18	6.43	4.46	3.36	2.76	2.29	1.54	.64	.61	.31	.065	150
165	7.49	5.50	4.03	3.03	2.51	2.11	1.45	.63	.62	.32	.065	165
180	7.67	5.56	3.99	3.05	2.53	2.13	1.47	.69	.67	.38	.092	180
195	8.52	5.71	4.05	3.13	2.57	2.19	1.50	.72	.69	.38	.096	195
210	8.82	5.65	4.02	3.12	2.54	2.21	1.52	.75	.70	.40	.116	210
225	9.01	5.60	3.99	3.09	2.51	2.21	1.50	.77	.70	.40	.126	225
240	9.59	5.78	4.12	3.22	2.62	2.32	1.55	.83	.72	.41	.154	240
255	9.64	5.65	3.97	3.11	2.50	2.24	1.47	.78	.63	.38	.178	255
270	6.76	5.43	4.27	3.26	2.53	2.18	1.39	.71	.58	.36	.217	270
285	6.25	4.05	2.89	2.23	1.79	1.69	1.11	.59	.50	.29	.180	285
300	8.40	5.25	3.73	2.94	2.38	2.19	1.46	.83	.68	.39	.164	300
315	8.81	5.34	3.83	2.96	2.38	2.19	1.44	.79	.62	.34	.162	315
330	9.01	5.73	3.94	3.06	2.50	2.24	1.47	.81	.64	.40	.229	330
345	10.74	7.44	4.85	3.77	3.05	2.69	1.75	.93	.69	.43	.297	345

TABLE 40 - Continued

FLIGHT 37, STEADY TURN

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75							r/R = 0.55							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	8.02	3.65	2.57	1.79	1.39	.69	.312	4.72	2.47	1.76	1.41	1.09	.55	.148	0
15	8.18	3.81	2.77	2.05	1.50	.51	.090	4.20	2.01	1.46	1.18	.92	.47	.131	15
30	8.23	4.30	3.16	2.41	1.76	.71	.129	4.12	2.05	1.48	1.20	.95	.52	.127	30
45	8.33	4.35	3.25	2.52	1.81	.73	.129	5.30	2.57	1.80	1.46	1.15	.57	.144	45
60	8.30	4.32	3.29	2.46	1.78	.69	.090	5.38	2.80	1.95	1.52	1.23	.61	.169	60
75	7.65	3.69	2.96	2.21	1.55	.63	.090	4.00	1.96	1.42	1.15	.93	.50	.143	75
90	6.67	2.99	2.59	2.02	1.40	.53	.102	4.11	2.00	1.44	1.18	.95	.51	.145	90
105	6.17	3.21	2.68	2.02	1.36	.59	.135	4.43	2.31	1.63	1.31	1.06	.56	.166	105
120	6.22	3.62	2.98	2.18	1.47	.58	.121	4.57	2.42	1.72	1.38	1.11	.57	.174	120
135	6.13	3.64	3.04	2.28	1.61	.66	.162	5.29	2.71	1.88	1.49	1.17	.59	.183	135
150	6.80	4.05	3.23	2.34	1.69	.65	.157	5.20	2.61	1.84	1.47	1.17	.59	.177	150
165	7.27	4.04	3.14	2.26	1.64	.64	.169	5.07	2.60	1.83	1.47	1.17	.61	.187	165
180	7.45	3.92	3.03	2.21	1.64	.66	.172	5.02	2.50	1.78	1.43	1.14	.56	.157	180
195	7.58	3.92	2.97	2.16	1.61	.65	.172	4.85	2.32	1.67	1.34	1.07	.54	.141	195
210	7.60	3.84	2.88	2.09	1.58	.64	.169	4.38	2.08	1.51	1.22	.98	.48	.125	210
225	7.64	3.74	2.75	2.00	1.55	.64	.176	3.57	1.82	1.35	1.10	.87	.43	.102	225
240	7.82	3.79	2.73	1.98	1.53	.65	.224	3.33	1.62	1.20	.98	.76	.38	.081	240
255	7.21	3.72	2.99	2.12	1.63	.65	.267	2.62	1.27	.97	.80	.62	.29	.059	255
270	5.96	1.84	1.97	1.42	1.09	.52	.288	2.27	1.08	.85	.69	.54	.27	.044	270
285	5.16	2.46	1.38	1.38	1.05	.46	.090	2.74	1.31	.97	.79	.59	.29	.057	285
300	5.29	3.18	1.95	1.73	1.36	.56	.152	2.30	.97	.78	.66	.51	.25	.062	300
315	5.72	2.86	2.15	1.78	1.25	.54	.129	2.46	1.12	.87	.72	.54	.29	.056	315
330	6.48	4.12	2.67	2.23	1.57	.63	.191	2.85	1.39	1.04	.85	.65	.33	.082	330
345	7.15	3.91	2.80	2.20	1.65	.72	.219	3.87	2.01	1.46	1.17	.91	.47	.127	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40					r/R = 0.25					ψ_{nom}, deg
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.59	.77	.52	.30	.150	.26	.15	.10	.08	.002	0
15	1.72	.87	.61	.36	.150	.51	.26	.17	.10	.016	15
30	2.02	.99	.67	.38	.135	1.04	.55	.34	.18	.038	30
45	2.20	1.07	.72	.40	.144	.89	.48	.32	.18	.029	45
60	2.51	1.21	.82	.42	.155	1.07	.54	.32	.16	.025	60
75	2.37	1.10	.75	.41	.148	1.03	.54	.32	.16	.032	75
90	2.50	1.14	.78	.41	.150	1.11	.59	.36	.19	.047	90
105	2.20	1.07	.77	.43	.164	1.24	.69	.41	.21	.049	105
120	2.84	1.35	.90	.47	.168	1.46	.78	.48	.26	.057	120
135	2.79	1.39	.93	.50	.175	1.83	.94	.56	.26	.065	135
150	2.89	1.44	.95	.50	.176	1.81	.94	.57	.27	.068	150
165	2.91	1.45	.95	.50	.171	1.80	.93	.56	.27	.070	165
180	2.85	1.41	.92	.48	.160	1.66	.86	.54	.27	.066	180
195	2.49	1.25	.81	.44	.149	1.36	.72	.45	.23	.066	195
210	2.10	1.05	.69	.37	.136	.78	.82	.28	.17	.056	210
225	1.72	.87	.56	.31	.127	.32	.59	.42	.06	.056	225
240	1.30	.69	.46	.25	.111	.10	.15	.29	.10	.005	240
255	.97	.74	.43	.21	.100	.05	.07	.07	.12	-.001	255
270	.50	.48	.54	.26	.093	.03	.04	.03	.09	.016	270
285	.39	.32	.24	.33	.158	.04	.03	.01	.06	.050	285
300	.31	.24	.17	.14	.095	.06	.04	.02	.05	.046	300
315	.66	.34	.23	.18	.097	.11	.10	.04	.06	.016	315
330	.92	.47	.32	.21	.099	.28	.16	.08	.08	.016	330
345	1.25	.64	.44	.27	.133	.24	.17	.13	.10	.024	345

TABLE 40 - Continued

FLIGHT 37, STEADY TURN

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	1.47	8.07	17.33	25.01	30.19	30.32	29.69
15	2.53	9.08	14.73	24.44	28.17	30.39	31.17
30	4.98	10.04	15.13	28.00	31.08	30.69	30.51
45	4.55	10.83	18.25	28.65	31.05	30.51	29.61
60	4.84	12.09	19.48	28.12	28.29	26.81	27.02
75	4.82	11.34	14.63	25.09	24.72	20.38	21.86
90	5.40	11.72	14.95	21.78	21.72	21.05	26.08
105	6.07	11.24	16.67	22.13	24.18	25.73	30.44
120	7.13	13.50	17.36	23.53	28.28	30.65	29.65
135	8.34	13.80	18.93	24.70	29.13	26.90	25.25
150	8.39	14.11	18.60	26.23	26.10	22.72	21.49
165	8.35	14.18	18.61	26.17	24.24	21.79	20.06
180	7.88	13.71	17.87	26.09	24.82	22.89	21.42
195	6.60	12.16	16.93	25.90	25.84	24.23	22.79
210	4.82	10.33	15.24	25.44	26.17	24.94	23.37
225	3.58	8.52	13.29	25.06	26.23	25.20	23.95
240	2.01	6.83	11.85	25.35	27.40	26.83	25.28
255	1.15	5.97	9.39	25.78	26.32	26.88	25.35
270	.81	5.41	8.22	18.01	24.22	27.59	26.03
285	.69	4.52	9.41	16.26	19.14	25.43	30.25
300	.69	2.68	7.76	20.21	25.10	26.16	23.92
315	.89	3.91	8.60	19.79	25.15	26.70	25.44
330	1.49	5.03	10.23	24.86	26.06	27.32	28.28
345	1.81	6.73	14.40	26.07	31.10	32.32	32.02

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	12.726		0	5.172				
1	2.742	-3.578	1	-.664	-1.130			
2	.000	.041	2	.063	-.034			
3	-.050	-.082	3	.140	-.040			
4	-.159	-.054	4	.103	.117			
5	-.136	.050	5	-.043	-.053			
6	.005	.054	6	-.036	.000			
7	-.018	-.032	7	-.045	-.016			
8	.000	-.018	8	.032	.024			
9	.000	-.014	9	-.008	.014			
10	.023	.005	10	.016	-.024			
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 40 - Continued

FLIGHT 37, STEADY TURN

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	4.136		.75	0	24.277		.95	0	26.288	
.25	1	-2.442	2.622	.75	1	-.372	1.806	.95	1	3.430	.539
.25	2	.944	-.244	.75	2	2.209	2.080	.95	2	-.311	-.039
.25	3	-.376	.315	.75	3	.329	.129	.95	3	2.093	.332
.25	4	-.247	.047	.75	4	-1.021	-1.571	.95	4	.100	1.498
.25	5	-.184	-.096	.75	5	-.684	-.460	.95	5	-.686	-1.201
.25	6	-.157	-.061	.75	6	.332	.114	.95	6	.102	-1.206
.25	7	-.213	-.109	.75	7	.286	-.539	.95	7	-.282	-.162
.25	8	-.022	-.082	.75	8	-.642	-.506	.95	8	-.356	.722
.25	9	-.090	-.098	.75	9	-.416	.101	.95	9	-.048	.281
.25	10	-.033	-.092	.75	10	.286	.337	.95	10	-.042	-.450
.40	0	9.408		.85	0	26.445					
.40	1	-2.701	3.840	.85	1	1.349	.990				
.40	2	1.226	.501	.85	2	1.852	1.050				
.40	3	-.099	.471	.85	3	1.522	.671				
.40	4	.179	-.197	.85	4	-1.500	-.452				
.40	5	.086	-.374	.85	5	-.385	-1.105				
.40	6	.020	.022	.85	6	.727	.284				
.40	7	-.136	.162	.85	7	.386	-.512				
.40	8	.087	.021	.85	8	.119	-.854				
.40	9	.087	.056	.85	9	-.246	-.573				
.40	10	-.084	-.070	.85	10	-.310	-.017				
.55	0	14.494		.90	0	26.434					
.55	1	-1.615	4.099	.90	1	2.678	-.444				
.55	2	2.168	.752	.90	2	.924	.209				
.55	3	.177	.411	.90	3	2.078	1.073				
.55	4	-.094	-.286	.90	4	-.993	.950				
.55	5	.500	-.808	.90	5	-.803	-1.630				
.55	6	.773	-.617	.90	6	.780	-.458				
.55	7	.469	-.131	.90	7	.174	.010				
.55	8	.187	.390	.90	8	-.040	-.314				
.55	9	.059	.156	.90	9	-.088	-.209				
.55	10	.066	-.366	.90	10	-.563	-.141				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 40 - Concluded

FLIGHT 37, STEADY TURN

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-688	-553	-1058	-1718	-3270	-4614		
15	65	66	-1311	-2443	-3367	-4484		
30	1079	264	-63	-144	-2971	-6285		
45	1706	1172	1157	934	-1176	-4982		
60	1410	2582	2025	677	-1933	-3897		
75	3120	660	45	-172	-1088	-3439		
90	-483	-437	380	-1088	-3235	-3310		
105	1980	-2277	-2052	-3034	-3833	-4405		
120	851	-2195	-2296	-3034	-4590	-5798		
135	-494	-800	-1573	-3244	-3481	-4653		
150	999	-305	-1220	-1937	-3473	-7469		
165	1353	107	-1745	-2948	-4353	-6534		
180	-1155	-1328	-2052	-2758	-4045	-6464		
195	258	-2261	-2667	-2176	-4071	-7390		
210	566	0	-1392	-2824	-5004	-7240		
225	863	652	27	-850	-3552	-7409		
240	851	1023	416	123	-1035	-4206		
255	19	1749	1772	829	267	-335		
270	1056	1345	1483	1860	2951	3187		
285	-984	1386	3155	3443	3277	3934		
300	965	2054	3164	3539	3119	3018		
315	1250	2401	3526	4121	2529	-713		
330	-27	3069	3263	1736	-445	-3529		
345	817	1031	36	-449	-2601	-4992		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-4909	-7261	2454	
15	-6195	-10338	1062	
30	-7335	-12226	502	
45	-3721	-7945	694	
60	-4616	-7733	7462	
75	-1132	-1888	8262	
90	4159	-423	8134	
105	3003	-1498	8038	
120	3068	-2979	4150	
135	1945	-6284	2502	
150	-449	-6121	3638	
165	545	-2735	6646	
180	1391	2198	11238	
195	186	3419	14550	
210	-1539	781	11638	
225	-3428	-5177	6022	
240	-7693	-11656	678	
255	-8589	-15482	-4506	
270	-13017	-15238	-3578	
285	-14563	-16817	918	
300	-12138	-13057	118	
315	-11535	-11950	3990	
330	-9354	-8189	6806	
345	-9044	-6952	7270	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	-171	-173	64
15	922	764	106
30	1420	770	254
45	1848	1533	278
60	1765	963	244
75	949	608	185
90	673	334	102
105	510	393	105
120	1111	841	162
135	1321	698	157
150	584	166	77
165	-78	-444	15
180	-246	-330	-14
195	-481	-639	0
210	-306	-354	-40
225	-216	-679	6
240	-8	-443	-3
255	-855	-1325	-45
270	-1530	-1311	-157
285	-1152	-768	-134
300	-591	-791	0
315	243	-16	81
330	-31	-343	130
345	311	-52	97

TABLE 41

FLIGHT 38, STEADY TURN

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95							Δp, lb/sq in., at - r/R = 0.90							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	9.34	5.34	3.82	2.71	1.60	.60	.111	10.68	4.87	3.42	2.75	1.94	.57	.089	6
21	8.70	5.86	4.33	2.83	1.66	.71	.139	10.43	5.01	3.59	3.01	2.11	.70	.110	21
36	8.53	8.08	4.38	2.88	1.67	.70	.093	9.68	6.61	3.84	3.38	2.31	.84	.063	36
51	6.89	7.10	4.31	2.60	1.33	.52	-.002	8.46	6.81	3.71	3.06	2.06	.66	-.033	51
66	3.60	4.22	3.66	2.04	.80	.37	-.032	6.60	4.72	3.01	2.72	1.69	.45	-.124	66
81	3.36	3.52	3.35	1.84	.57	.36	-.004	4.36	2.51	2.15	2.05	1.22	.34	-.145	81
96	5.17	5.03	4.22	2.44	.85	.46	.035	4.95	2.80	2.52	2.34	1.48	.46	-.107	96
111	5.27	5.75	5.03	2.51	1.08	.50	.040	6.56	4.31	3.37	2.85	1.81	.56	-.082	111
126	4.33	4.62	3.72	2.25	.95	.45	.042	6.58	4.65	3.16	2.72	1.67	.54	-.089	126
141	3.74	3.73	3.00	1.81	.79	.42	.029	5.70	3.36	2.78	2.30	1.44	.49	-.091	141
156	3.39	3.18	2.54	1.56	.71	.42	.063	5.24	2.97	2.37	1.94	1.29	.49	-.024	156
171	4.92	3.95	2.97	1.96	1.05	.56	.109	6.21	3.52	2.73	2.24	1.57	.63	.040	171
186	5.25	3.90	2.92	1.92	1.09	.57	.114	7.00	3.78	2.83	2.24	1.60	.63	.089	186
201	5.87	3.92	2.95	1.97	1.19	.59	.130	7.37	3.86	2.84	2.22	1.63	.65	.103	201
216	6.19	3.92	2.86	1.97	1.23	.62	.143	7.42	3.77	2.73	2.14	1.60	.68	.145	216
231	7.14	4.18	2.97	2.10	1.38	.66	.154	8.78	4.14	2.94	2.26	1.70	.72	.148	231
246	7.18	4.01	2.83	2.01	1.33	.59	.136	9.55	4.09	2.87	2.19	1.66	.67	.140	246
261	6.69	3.73	2.64	1.86	1.22	.54	.132	8.98	3.77	2.62	1.99	1.51	.62	.126	261
276	8.93	4.52	3.16	2.28	1.54	.71	.191	9.68	4.23	2.96	2.31	1.78	.77	.211	276
291	7.08	4.35	3.09	2.20	1.58	.72	.315	7.91	3.92	2.59	1.94	1.63	.70	.317	291
306	9.93	5.48	3.54	2.63	1.83	.75	.221	9.27	4.80	3.40	2.66	2.01	.88	.271	306
321	9.05	4.55	3.05	2.06	1.23	.40	.143	8.95	3.53	2.19	1.61	1.22	.46	.279	321
336	10.52	5.33	3.55	2.54	1.70	.63	.191	10.75	5.24	3.66	2.81	2.04	.91	.267	336
351	10.50	5.39	3.72	2.57	1.63	.57	.157	11.04	4.65	2.99	2.25	1.49	.44	.307	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85											ψ_{nom}, deg
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	11.60	7.97	4.98	3.76	3.05	2.37	1.43	.71	.66	.42	.365	6
21	10.93	9.75	5.35	4.19	3.56	2.96	1.99	1.05	.84	.41	.199	21
36	10.96	10.23	7.53	4.48	3.93	3.26	2.20	1.15	.93	.45	.201	36
51	9.96	8.99	7.06	4.74	3.64	3.00	2.05	.99	.80	.36	.115	51
66	6.98	5.92	4.61	3.13	2.90	2.28	1.53	.64	.54	.17	-.003	66
81	5.11	4.02	3.27	2.41	2.13	1.66	1.13	.39	.40	.14	-.024	81
96	5.97	4.90	3.93	2.92	2.55	1.94	1.33	.51	.49	.20	.008	96
111	7.29	6.10	4.81	3.56	3.02	2.35	1.60	.67	.63	.28	.032	111
126	7.93	6.93	5.63	3.69	3.16	2.44	1.64	.66	.63	.29	.036	126
141	7.20	5.87	4.50	3.32	2.79	2.14	1.49	.60	.60	.28	.040	141
156	6.93	5.28	4.10	3.00	2.59	1.98	1.41	.62	.64	.33	.055	156
171	8.13	6.04	4.43	3.37	2.89	2.27	1.63	.78	.75	.42	.106	171
186	8.70	6.09	4.46	3.39	2.88	2.30	1.62	.82	.79	.45	.119	186
201	9.23	5.99	4.40	3.39	2.86	2.31	1.64	.85	.81	.46	.143	201
216	9.32	5.93	4.34	3.34	2.84	2.32	1.64	.90	.83	.48	.175	216
231	10.13	6.06	4.52	3.50	2.94	2.44	1.69	.94	.83	.49	.196	231
246	10.05	5.92	4.30	3.34	2.77	2.31	1.58	.87	.74	.41	.192	246
261	9.18	5.50	3.97	3.08	2.53	2.15	1.43	.78	.68	.36	.186	261
276	6.08	5.40	4.75	3.76	3.01	2.50	1.55	.86	.72	.42	.245	276
291	8.77	5.37	3.83	2.94	2.44	2.07	1.43	.85	.71	.41	.228	291
306	6.26	5.59	4.70	4.01	3.55	3.08	2.20	1.27	.99	.56	.316	306
321	8.80	5.33	3.69	2.67	2.08	1.75	.99	.54	.52	.38	.301	321
336	9.54	7.95	5.63	4.47	3.71	3.03	1.99	1.10	.87	.56	.331	336
351	10.89	7.68	4.87	3.66	3.03	2.49	1.69	1.07	.94	.72	.513	351

TABLE 41 - Continued

FLIGHT 38, STEADY TURN

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	6.90	3.89	2.73	1.98	1.44	.52	.082	4.87	2.20	1.56	1.37	1.09	.33	.197	6
21	7.68	3.81	2.73	2.09	1.52	.58	-.038	4.95	2.24	1.55	1.36	1.08	.39	.183	21
36	8.11	4.82	3.31	2.66	1.93	.71	.003	5.49	2.50	1.75	1.53	1.21	.46	.215	36
51	8.11	4.35	3.17	2.48	1.78	.67	-.023	6.21	2.87	1.97	1.65	1.31	.46	.207	51
66	7.73	3.63	2.92	2.16	1.41	.52	-.011	4.40	2.07	1.47	1.23	.96	.46	.124	66
81	6.48	2.55	2.25	1.68	1.01	.43	.013	4.13	2.03	1.43	1.20	.92	.47	.104	81
96	5.55	2.57	2.23	1.80	1.07	.43	.054	4.02	2.02	1.44	1.19	.92	.47	.118	96
111	5.41	3.20	2.65	2.07	1.24	.50	.070	4.37	2.19	1.54	1.28	1.00	.53	.141	111
126	5.54	3.37	2.85	2.24	1.38	.55	.092	5.36	2.63	1.83	1.49	1.14	.58	.158	126
141	6.07	3.71	3.04	2.35	1.51	.57	.106	5.59	2.71	1.89	1.56	1.20	.60	.156	141
156	6.48	3.75	2.98	2.28	1.50	.58	.137	5.46	2.67	1.87	1.55	1.19	.60	.170	156
171	6.85	3.92	3.05	2.35	1.62	.67	.142	5.89	2.83	1.98	1.62	1.25	.63	.152	171
186	7.23	3.94	2.99	2.30	1.59	.66	.139	5.86	2.72	1.92	1.59	1.22	.61	.134	186
201	7.23	3.74	2.76	2.08	1.47	.55	.037	5.22	2.42	1.72	1.50	1.20	.42	.188	201
216	7.25	3.49	2.52	1.90	1.40	.55	.034	4.80	2.22	1.59	1.40	1.12	.36	.189	216
231	7.49	3.59	2.50	1.89	1.41	.53	.048	4.17	1.87	1.36	1.21	.96	.28	.191	231
246	6.69	3.72	2.76	2.16	1.59	.51	.056	3.37	1.44	1.07	.98	.78	.23	.164	246
261	5.28	2.26	2.26	1.61	1.42	.61	.151	2.53	1.00	.77	.74	.60	.14	.107	261
276	4.32	1.56	1.46	.73	.63	.27	.060	2.11	.86	.67	.64	.55	.11	.101	276
291	4.06	2.42	1.61	1.18	.99	.38	-.018	2.29	.94	.73	.70	.59	.13	.114	291
306	4.61	3.57	2.17	1.98	1.59	.60	.051	3.16	1.32	.95	.87	.69	.16	.134	306
321	4.69	2.15	1.87	1.09	.86	.45	.103	2.64	1.05	.73	.68	.54	.14	.157	321
336	5.29	3.48	2.36	1.84	1.43	.54	.024	3.27	1.43	1.04	.94	.77	.18	.165	336
351	6.16	4.69	3.42	2.54	2.19	.97	.163	4.30	1.91	1.35	1.20	.95	.31	.173	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	2.10	.96	.73	.30	.000	.49	.20	.11	.05	.003	6
21	1.79	.85	.69	.30	.003	.77	.39	.25	.13	.022	21
36	2.09	.99	.78	.31	-.002	1.18	.57	.35	.16	.027	36
51	2.40	1.23	.89	.35	.012	1.06	.51	.32	.14	.022	51
66	2.26	1.08	.71	.42	.093	1.05	.52	.32	.15	.041	66
81	2.11	1.06	.67	.43	.117	1.17	.57	.35	.15	.055	81
96	1.98	1.03	.69	.48	.140	1.19	.60	.38	.18	.067	96
111	2.35	1.25	.79	.51	.147	1.54	.79	.48	.22	.079	111
126	2.74	1.44	.90	.59	.173	1.85	.92	.57	.25	.088	126
141	2.92	1.56	.96	.61	.171	1.93	1.00	.62	.27	.097	141
156	3.04	1.65	1.02	.63	.169	2.09	1.10	.69	.30	.117	156
171	2.99	1.62	.99	.61	.160	2.11	1.08	.70	.31	.106	171
186	2.85	1.52	.93	.58	.151	1.86	.97	.61	.27	.111	186
201	2.51	1.24	.87	.37	.032	1.25	1.14	.39	.20	.089	201
216	2.10	1.01	.74	.26	.006	.55	.76	.57	.06	.080	216
231	1.91	.89	.59	.18	-.013	.22	.23	.41	.04	.009	231
246	1.76	.77	.66	.11	-.035	.11	.05	.11	.07	-.015	246
261	1.17	.37	.57	.13	-.063	.09	.02	.04	.06	-.015	261
276	1.03	.28	.38	.19	-.041	.07	.01	.03	.04	-.006	276
291	1.05	.31	.28	.09	-.004	.07	.01	.02	.03	.008	291
306	.96	.24	.26	.08	-.028	.10	.02	.02	.04	-.003	306
321	1.16	.39	.38	.11	.011	.14	.04	.04	.04	-.003	321
336	1.21	.41	.46	.15	.040	.15	.04	.04	.04	.001	336
351	1.67	.74	.61	.25	-.007	.29	.13	.09	.06	.007	351

TABLE 41 - Continued

FLIGHT 38, STEADY TURN

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	1.80	9.45	15.74	23.35	30.61	30.87	30.10
21	3.63	8.58	16.09	24.08	34.05	32.60	32.07
36	5.19	9.66	18.13	29.19	38.94	36.13	34.82
51	4.62	11.26	19.88	27.37	35.46	32.97	29.55
66	4.75	10.83	15.02	23.53	24.95	24.89	19.29
81	5.20	10.55	14.54	18.21	18.14	16.42	16.86
96	5.59	10.74	14.50	17.93	21.65	19.60	23.48
111	7.12	12.25	15.86	20.47	26.49	26.07	26.64
126	8.38	14.20	18.56	21.98	28.43	25.56	21.83
141	8.99	15.02	19.20	23.80	25.05	21.31	18.09
156	9.91	15.70	19.05	24.14	23.90	19.33	16.19
171	9.92	15.34	20.08	25.65	27.37	23.46	21.30
186	8.86	14.45	19.56	25.70	28.04	24.74	21.57
201	6.82	11.61	17.44	23.56	28.56	25.35	22.61
216	4.89	9.32	16.04	22.58	28.74	25.27	23.05
231	2.54	7.72	13.70	22.84	30.07	27.73	25.12
246	1.00	7.04	10.96	23.49	28.50	27.61	24.04
261	.62	5.11	7.93	19.75	26.12	25.47	22.29
276	.44	4.47	6.88	11.53	26.69	29.31	28.17
291	.42	3.72	7.54	14.58	25.75	26.30	27.13
306	.48	3.29	9.61	21.35	31.81	32.21	32.25
321	.65	4.55	7.92	15.30	22.59	22.95	25.10
336	.69	5.32	10.56	20.90	34.32	34.60	31.27
351	1.39	7.57	13.87	30.49	32.91	28.40	30.89

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.279		0	5.671		0	5.801	
1	2.094	-6.039	1	.424	-.971	1	-.421	.065
2	.073	.085	2	-.094	-.192	2	-.026	.072
3	-.234	-.018	3	.029	-.114	3	.080	.072
4	-.169	.161	4	.102	-.045	4	.040	.007
5	.076	.248	5	-.118	.037	5	.022	-.018
6	.076	-.108	6	.004	-.053	6	.012	-.009
7	-.102	-.105	7	-.045	-.020	7	.001	-.005
8	-.073	-.003	8	.029	-.041	8	.001	-.004
9	-.088	-.006	9	.000	-.020	9	-.008	.003
10	-.006	.020	10	-.024	-.012	10	-.005	-.005

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o \right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o \right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o \right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o \right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o \right) + F_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 41 - Continued

FLIGHT 38, STEADY TURN

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	4.329		.75	0	22.157		.95	0	25.154	
.25	1	-2.764	3.305	.75	1	.060	2.016	.95	1	4.985	-2.256
.25	2	1.245	-.577	.75	2	4.121	1.444	.95	2	1.339	.426
.25	3	-.441	.630	.75	3	.840	.544	.95	3	.977	.305
.25	4	-.017	.249	.75	4	-1.334	-.605	.95	4	.333	2.764
.25	5	-.174	.045	.75	5	-.712	-.127	.95	5	-1.650	.580
.25	6	-.119	-.007	.75	6	1.094	-1.393	.95	6	-.657	-1.967
.25	7	-.063	.074	.75	7	-.215	-1.917	.95	7	-.328	-.552
.25	8	-.143	-.125	.75	8	-1.181	-1.044	.95	8	-.007	-.292
.25	9	-.045	-.100	.75	9	-1.135	-.031	.95	9	-.503	.074
.25	10	.032	-.052	.75	10	-.318	-.060	.95	10	-.674	.476
.40	0	9.489		.85	0	28.297					
.40	1	-2.783	4.082	.85	1	2.567	-1.050				
.40	2	1.744	-.295	.85	2	3.271	1.448				
.40	3	.129	.651	.85	3	1.220	1.288				
.40	4	.021	-.348	.85	4	-1.356	1.919				
.40	5	-.062	-.236	.85	5	-1.918	-.554				
.40	6	.337	-.203	.85	6	-.158	-1.963				
.40	7	.084	-.050	.85	7	-.644	-.693				
.40	8	.218	.001	.85	8	-.776	-.429				
.40	9	.223	-.090	.85	9	-.763	.484				
.40	10	.090	-.056	.85	10	-.535	1.062				
.55	0	14.527		.90	0	26.632					
.55	1	-1.928	4.350	.90	1	3.757	-2.153				
.55	2	3.120	.654	.90	2	1.892	1.346				
.55	3	.045	.684	.90	3	1.016	1.338				
.55	4	-.525	.524	.90	4	-.932	2.116				
.55	5	-.060	-.178	.90	5	-2.063	-.543				
.55	6	.358	-.651	.90	6	.136	-1.736				
.55	7	-.061	-.455	.90	7	-.359	.090				
.55	8	.146	-.451	.90	8	-.447	.276				
.55	9	.132	.189	.90	9	-.647	.452				
.55	10	.001	.310	.90	10	-.354	1.028				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^0 \right) + M_n \sin n \left(\psi_{nom} - 6^0 \right) \right]$$

TABLE 41 - Concluded

FLIGHT 38, STEADY TURN

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	-1299	990	2170	61	-2783	-6024	-6569	-5088
21	6806	2046	-172	-1819	-2414	-4462	-8609	-7811
36	741	1782	3887	2446	-1525	-6293	-8436	-5825
51	3580	1832	1645	938	1529	-1159	-9791	-9227
66	3375	3028	3155	1053	-2493	-4711	-900	-321
81	3739	1469	624	-521	-108	-1925	-4576	-3891
96	274	-875	-54	-731	-2845	-4751	-3954	-3453
111	2269	-1023	-2242	-3469	-3857	-5218	-4456	-4811
126	1722	-660	-2206	-3765	-4455	-7039	-8969	-5679
141	-342	-635	-154	-1800	-4200	-8203	-11464	-6059
156	3466	-388	-1709	-3469	-4543	-7935	-9435	-4811
171	399	-1073	-796	-2963	-4737	-7825	-7050	-4278
186	1117	-2277	-2251	-2897	-3303	-6572	-8996	-6395
201	616	66	334	-1819	-5080	-8691	-7380	-4497
216	3922	1741	570	-1561	-3074	-6303	-9147	-6643
231	1710	1790	2387	1358	-1111	-5029	-6893	-4928
246	2314	2186	2396	1578	1300	-174	-4383	-4563
261	3090	2549	2893	2121	2690	2672	-178	-3037
276	1060	2054	3526	3753	4829	4562	2008	-3533
291	855	2368	4014	4258	4371	4483	2835	-584
306	2463	3663	4683	4058	3350	2334	-1559	-4446
321	3101	3655	5153	4716	1476	-3368	-6721	-5329
336	2178	3671	3634	1320	-874	-2641	-5821	-6059
351	2109	-91	-488	-588	596	-2562	-6490	-5263

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-5315	-7261	1422	12746
21	-8767	-10598	638	15033
36	-3704	-8140	-1490	12371
51	-3687	-3858	4510	13176
66	-3215	-2458	10382	18703
81	4420	4705	7118	14027
96	3606	2068	9582	16699
111	1490	440	6926	14649
126	4974	-537	1358	12343
141	-122	-4168	4286	15866
156	-464	537	5934	15079
171	3915	4542	9550	16726
186	1913	8075	14654	18300
201	-382	4591	15038	20569
216	-1799	1628	8414	16763
231	-4176	-6756	3150	16470
246	-8343	-10110	-2338	13085
261	-11176	-12617	-4530	11492
276	-15702	-12731	-2434	12764
291	-15279	-13187	-50	14631
306	-12999	-11054	1374	14576
321	-10948	-4412	5614	15143
336	-9548	-2051	10190	18346
351	-5332	-1628	6846	15674

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	575	1408	5
21	534	85	246
36	2642	2765	333
51	2277	1906	389
66	1112	1066	190
81	19	144	102
96	145	280	55
111	877	974	158
126	1143	1012	149
141	798	597	39
156	-792	-766	-13
171	-75	299	-44
186	-802	-578	19
201	-616	-171	-100
216	-978	-899	-37
231	-170	-240	-1
246	-854	-1026	-7
261	-3354	-2705	-329
276	-2394	-1141	-322
291	-1150	-1080	-36
306	559	536	110
321	-2335	-1837	4
336	-549	602	-81
351	-1103	-1429	124

TABLE 42

FLIGHT 39, STEADY TURN

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	Δp, lb/sq in., at - r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
0	10.60	6.29	3.97	3.03	1.98	.88	.326	11.01	5.32	3.55	2.76	1.92	.94	.408	0
15	10.44	5.37	3.69	2.54	1.39	.41	.188	11.01	4.85	3.30	2.55	1.55	.45	.245	15
30	8.92	5.21	4.02	2.77	1.55	.60	.071	9.98	4.51	3.57	2.91	1.81	.61	.040	30
45	6.70	5.11	4.03	2.41	1.21	.51	.022	7.53	4.13	3.01	2.54	1.52	.52	-.037	45
60	4.92	4.53	3.71	2.13	.91	.44	-.010	6.18	3.55	2.71	2.29	1.29	.43	-.097	60
75	3.82	4.05	3.50	1.88	.69	.37	-.031	4.82	2.75	2.33	1.97	1.08	.35	-.145	75
90	4.21	4.30	3.70	2.07	.81	.43	-.004	4.86	2.78	2.32	2.05	1.15	.39	-.119	90
105	3.97	4.27	3.63	1.94	.64	.34	-.022	4.26	2.45	2.08	1.85	.96	.33	-.154	105
120	3.32	3.72	3.14	1.94	.67	.39	.014	5.04	3.02	2.34	2.07	1.11	.40	-.128	120
135	3.01	3.15	2.76	1.72	.60	.39	.024	4.67	2.71	2.07	1.91	1.04	.43	-.093	135
150	3.96	3.65	3.03	1.89	.84	.49	.057	5.59	3.19	2.36	2.09	1.22	.49	-.046	150
165	4.66	3.88	3.08	1.99	1.03	.59	.126	6.37	3.52	2.60	2.23	1.36	.60	.057	165
180	6.83	4.96	3.60	2.51	1.45	.72	.150	8.35	4.52	3.24	2.61	1.74	.72	.091	180
195	6.73	4.55	3.28	2.28	1.37	.71	.156	8.40	4.29	3.03	2.42	1.64	.71	.117	195
210	6.59	4.29	2.96	2.10	1.27	.62	.134	8.18	3.99	2.73	2.14	1.49	.62	.086	210
225	6.34	4.04	2.82	2.02	1.28	.67	.168	8.06	3.81	2.63	2.09	1.49	.67	.141	225
240	7.01	4.26	2.90	2.12	1.37	.68	.180	9.29	3.90	2.68	2.10	1.52	.66	.152	240
255	7.54	4.21	2.84	2.10	1.37	.62	.154	9.71	3.77	2.57	1.98	1.44	.59	.164	255
270	6.52	3.83	2.60	1.87	1.21	.56	.142	7.86	3.39	2.26	1.79	1.25	.50	.152	270
285	8.01	4.79	3.06	2.29	1.55	.73	.229	5.01	4.02	2.94	2.36	1.55	.66	.258	285
300	4.92	2.93	1.87	1.38	1.06	.67	.286	6.34	2.78	1.80	1.33	.93	.48	.320	300
315	5.29	4.81	3.53	2.70	1.99	.98	.365	4.89	3.88	2.93	2.52	2.09	1.16	.360	315
330	5.80	3.15	1.81	.95	.47	.26	.107	6.25	2.43	1.35	.95	.66	.31	.258	330
345	9.61	5.13	3.44	2.47	1.51	.57	.178	10.48	4.57	3.23	2.52	1.66	.64	.144	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
0	9.59	7.50	4.95	3.95	3.29	2.95	2.01	1.19	1.01	.70	.457	0
15	11.18	8.15	4.81	3.68	2.92	2.52	1.52	.70	.59	.38	.277	15
30	10.71	9.23	4.93	3.84	3.13	2.74	1.77	.83	.61	.25	.114	30
45	9.07	7.02	4.52	3.33	2.76	2.39	1.52	.68	.54	.23	.053	45
60	6.98	5.49	3.88	2.83	2.41	2.11	1.30	.51	.45	.18	.018	60
75	5.51	4.35	3.22	2.60	1.97	1.71	1.03	.30	.32	.08	-.042	75
90	4.66	3.61	2.77	2.27	1.73	1.57	.99	.29	.35	.11	-.034	90
105	4.42	3.55	2.64	2.06	1.61	1.37	.87	.21	.28	.07	-.052	105
120	5.78	4.58	3.46	2.62	2.00	1.75	1.14	.38	.40	.17	-.006	120
135	5.82	4.49	3.51	2.49	2.07	1.77	1.17	.42	.47	.22	.016	135
150	6.58	5.02	3.83	2.82	2.32	1.98	1.33	.54	.56	.28	.049	150
165	7.22	5.36	3.94	2.97	2.48	2.11	1.46	.67	.68	.39	.090	165
180	9.56	7.10	4.77	3.72	3.06	2.61	1.77	.85	.81	.46	.127	180
195	9.85	6.25	4.50	3.48	2.87	2.47	1.67	.84	.79	.46	.129	195
210	9.68	5.85	4.15	3.21	2.61	2.27	1.51	.72	.68	.39	.112	210
225	8.77	5.33	3.81	2.97	2.40	2.16	1.45	.75	.71	.43	.131	225
240	8.89	5.27	3.75	2.95	2.36	2.16	1.43	.77	.67	.40	.153	240
255	5.46	4.83	4.20	3.33	2.51	2.17	1.44	.69	.57	.35	.192	255
270	3.08	2.80	2.61	2.35	1.97	1.86	1.09	.61	.57	.42	.225	270
285	2.78	2.43	2.27	1.89	1.36	1.64	1.17	.83	.71	.54	.371	285
300	5.65	3.80	2.69	2.16	1.57	1.50	.90	.50	.48	.33	.190	300
315	5.25	4.41	3.54	3.15	2.74	2.64	1.93	1.17	.86	.53	.299	315
330	5.60	3.51	2.12	1.54	1.18	1.21	.77	.44	.44	.29	.274	330
345	9.39	6.07	4.11	3.07	2.54	2.30	1.45	.71	.54	.31	.172	345

TABLE 42 - Continued

FLIGHT 39, STEADY TURN

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.29	4.24	2.97	2.30	1.81	.83	.237	4.21	2.14	1.62	1.30	.99	.48	.176	0
15	7.40	4.21	3.03	2.15	1.55	.58	.190	4.63	2.23	1.58	1.29	1.01	.49	.128	15
30	8.34	4.22	3.05	2.31	1.65	.61	.095	4.59	2.20	1.55	1.26	.96	.48	.111	30
45	8.27	3.88	2.91	2.20	1.51	.56	.078	4.35	2.14	1.51	1.22	.95	.47	.132	45
60	7.39	3.41	2.71	2.04	1.34	.50	.066	3.62	1.78	1.27	1.05	.84	.43	.129	60
75	6.64	3.21	2.60	1.93	1.20	.38	.012	3.65	1.79	1.27	1.05	.83	.43	.136	75
90	5.49	2.57	2.14	1.73	1.04	.37	.052	2.81	1.42	1.07	.81	.68	.37	.123	90
105	4.43	2.10	1.81	1.50	.86	.30	.057	2.66	1.33	1.07	.77	.67	.35	.134	105
120	4.13	2.49	1.97	1.68	1.05	.42	.095	3.17	1.65	1.22	.96	.81	.44	.153	120
135	4.74	3.11	2.44	1.91	1.28	.52	.135	4.42	2.26	1.61	1.30	1.03	.52	.163	135
150	5.90	3.84	3.12	2.31	1.61	.61	.169	4.71	2.42	1.72	1.40	1.13	.54	.184	150
165	6.58	3.89	3.09	2.30	1.68	.71	.200	4.83	2.48	1.76	1.43	1.15	.57	.175	165
180	7.32	4.46	3.39	2.51	1.85	.76	.200	5.03	2.53	1.81	1.48	1.19	.58	.169	180
195	7.84	4.24	3.15	2.31	1.72	.68	.195	4.87	2.41	1.77	1.45	1.17	.55	.146	195
210	8.09	3.92	2.85	2.07	1.53	.57	.171	3.19	1.34	1.23	1.22	1.24	.78	.309	210
225	7.93	3.47	2.55	1.87	1.43	.58	.173	1.73	.72	.83	.78	.71	.41	.245	225
240	7.29	3.40	2.44	1.77	1.36	.52	.216	1.41	.61	.63	.63	.61	.53	.285	240
255	6.15	2.84	2.42	1.76	1.49	.82	.302	1.25	.43	.45	.40	.33	.25	.095	255
270	4.69	1.49	1.32	.92	.79	.47	.268	1.16	.46	.46	.40	.26	.14	.052	270
285	3.07	.85	.86	.51	.49	.29	.202	1.13	.57	.57	.48	.32	.14	.028	285
300	3.50	2.30	1.65	1.27	.97	.40	.130	1.43	.71	.63	.50	.36	.19	.064	300
315	4.21	3.31	2.32	1.79	1.42	.52	.178	1.74	.74	.67	.58	.44	.27	.071	315
330	4.35	2.04	1.90	1.19	.91	.52	.292	2.24	.99	.74	.62	.47	.22	.065	330
345	5.09	3.02	2.06	1.58	1.18	.43	.147	3.33	1.62	1.19	.95	.71	.33	.112	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.12	.64	.45	.32	.133	.22	.13	.10	.09	.023	0
15	1.48	.76	.51	.32	.125	.15	.10	.09	.08	.004	15
30	1.85	.86	.58	.34	.138	.85	.43	.24	.13	.017	30
45	2.12	.97	.64	.36	.138	.76	.38	.22	.11	.016	45
60	1.48	.71	.55	.30	.124	.36	.23	.13	.08	.011	60
75	2.02	.90	.63	.35	.133	1.07	.54	.31	.14	.028	75
90	1.44	.73	.46	.28	.127	.77	.41	.22	.13	.034	90
105	2.06	.96	.66	.38	.149	.70	.39	.26	.16	.044	105
120	2.04	.95	.70	.42	.171	1.36	.70	.41	.20	.053	120
135	2.39	1.18	.83	.49	.189	1.47	.78	.47	.24	.070	135
150	3.02	1.50	.98	.52	.186	1.58	.82	.51	.25	.078	150
165	2.92	1.49	.99	.54	.187	1.74	.94	.60	.31	.084	165
180	2.80	1.39	.91	.49	.172	1.85	1.01	.54	.29	.081	180
195	2.24	1.12	.71	.38	.123	.99	1.02	.40	.22	.066	195
210	1.62	.81	.51	.29	.114	.66	.79	.20	.11	.062	210
225	1.09	.59	.37	.23	.091	.23	.43	.15	.04	.022	225
240	.69	.44	.26	.18	.072	.07	.22	.04	.02	-.007	240
255	.45	.32	.20	.14	.059	.01	.07	.02	.00	-.016	255
270	.23	.24	.17	.12	.055	.01	.02	-.01	.00	-.022	270
285	.20	.21	.12	.17	.088	.01	.01	-.02	.01	-.022	285
300	.34	.24	.14	.16	.099	.01	.01	.00	.03	-.024	300
315	.51	.31	.23	.20	.092	.03	.03	.03	.06	-.002	315
330	.67	.39	.23	.20	.090	.02	.02	.02	.05	-.001	330
345	1.07	.52	.40	.29	.129	.01	.01	.01	.05	.002	345

TABLE 42 - Continued

FLIGHT 39, STEADY TURN

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	1.55	6.84	15.59	27.41	34.06	34.91	36.29
15	1.21	7.84	15.92	25.73	29.63	29.30	29.13
30	3.78	9.06	15.53	26.75	30.27	29.81	29.67
45	3.38	9.98	15.20	25.14	26.38	24.78	25.86
60	1.96	7.82	13.10	22.57	21.98	20.98	21.66
75	4.70	9.58	13.16	20.23	17.33	16.83	18.53
90	3.58	7.34	10.74	17.27	15.71	17.48	20.35
105	3.81	10.10	10.36	14.33	14.21	15.08	18.84
120	6.18	10.53	12.49	16.36	18.80	17.88	17.50
135	7.04	12.40	16.24	19.95	19.58	16.78	15.61
150	7.57	14.65	17.40	24.70	22.20	19.72	18.92
165	8.72	14.64	17.83	26.07	24.37	22.54	21.31
180	8.60	13.64	18.35	28.77	30.21	28.52	27.65
195	6.27	10.76	17.66	27.50	29.26	27.52	26.08
210	3.97	7.95	16.16	25.32	26.97	25.24	24.22
225	1.93	5.76	9.36	23.84	25.49	25.18	23.86
240	.69	4.09	9.08	22.60	25.24	26.35	25.18
255	.18	3.01	5.21	23.38	23.20	25.66	25.02
270	-.05	2.30	4.19	13.97	17.31	22.08	22.39
285	-.05	2.38	4.64	8.82	17.17	24.43	28.02
300	.10	2.76	5.65	14.70	17.21	18.55	19.23
315	.54	3.66	6.78	20.24	26.44	29.18	30.36
330	.39	4.06	7.42	16.23	15.29	15.12	14.93
345	.34	6.22	11.47	18.50	25.84	29.54	29.11

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.437		0	4.496				
1	3.037	-6.719	1	-.814	-.883			
2	.009	.272	2	-.251	-.373			
3	-.472	.023	3	.158	-.040			
4	-.127	.272	4	.099	.063			
5	-.091	.490	5	.045	.144			
6	.227	.241	6	.034	.079			
7	.177	.118	7	.032	.014			
8	.041	.041	8	.008	.047			
9	.132	-.005	9	-.008	.024			
10	-.014	-.054	10	.010	.045			

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom}\right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom}\right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom}\right)$$

TABLE 42 - Continued

FLIGHT 39, STEADY TURN

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.183		.75	0	21.265		.95	0	23.738	
.25	1	-2.684	2.338	.75	1	-1.536	1.180	.95	1	2.670	-2.272
.25	2	1.403	-.486	.75	2	5.016	3.768	.95	2	3.038	2.550
.25	3	-.721	.449	.75	3	-.107	.813	.95	3	.365	.850
.25	4	.088	.053	.75	4	-.340	-1.067	.95	4	1.946	1.302
.25	5	-.194	.042	.75	5	-.669	1.029	.95	5	.002	.633
.25	6	-.013	.151	.75	6	.680	1.694	.95	6	1.419	-.189
.25	7	-.318	-.083	.75	7	1.318	-.112	.95	7	1.075	-.571
.25	8	.139	-.441	.75	8	.808	-.637	.95	8	1.558	-.132
.25	9	.348	-.110	.75	9	.161	-.287	.95	9	1.375	-1.064
.25	10	.264	.070	.75	10	.536	.125	.95	10	.841	-1.802
.40	0	7.806		.85	0	23.090					
.40	1	-2.623	3.767	.85	1	.400	-.916				
.40	2	2.380	-.338	.85	2	5.766	3.465				
.40	3	-.564	.801	.85	3	.549	1.088				
.40	4	.012	-.194	.85	4	.077	.583				
.40	5	-.123	.065	.85	5	-.273	.484				
.40	6	.027	-.152	.85	6	1.645	.998				
.40	7	.020	-.091	.85	7	1.029	-.339				
.40	8	-.066	-.147	.85	8	1.307	-.650				
.40	9	.104	-.309	.85	9	.902	-.880				
.40	10	.304	.107	.85	10	.399	-1.005				
.55	0	12.064		.90	0	23.477					
.55	1	-1.931	3.819	.90	1	1.759	-2.769				
.55	2	4.388	1.234	.90	2	4.184	2.901				
.55	3	-.391	.601	.90	3	.704	1.158				
.55	4	.083	.270	.90	4	1.308	.800				
.55	5	.634	-.083	.90	5	-.137	.377				
.55	6	.236	.510	.90	6	1.480	.310				
.55	7	.201	-.387	.90	7	.814	-.493				
.55	8	-.007	-.137	.90	8	1.386	-.545				
.55	9	.399	.134	.90	9	1.144	-1.138				
.55	10	.129	-.340	.90	10	.302	-1.590				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 42 - Concluded

FLIGHT 39, STEADY TURN

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-321	-1007	-1474	-2473	-2581	-3052		
15	-2875	-1584	-244	437	-1894	-4674		
30	5687	2500	-90	-1261	-1929	-3331		
45	1127	3985	4393	2316	-1736	-5381		
60	3088	1617	904	1639	1230	-2226		
75	306	421	199	-784	-1982	-2276		
90	249	-1708	-3381	-3160	-1771	-1789		
105	-1666	-1345	-2124	-2530	-4789	-7062		
120	2461	-611	-3318	-4591	-5757	-7560		
135	-959	-1790	-2097	-2959	-5722	-8177		
150	-412	-2030	-2974	-3560	-4094	-6555		
165	-321	-1617	-2287	-3246	-4640	-7540		
180	340	-916	-1356	-2148	-4323	-7978		
195	466	338	-127	-1528	-4446	-7928		
210	773	784	407	-1032	-4209	-6923		
225	739	272	-226	-870	-1032	-2913		
240	-1267	594	1573	1610	957	-774		
255	1127	2063	2423	2793	3095	1843		
270	762	3201	4122	3852	3342	2749		
285	454	2401	2766	3165	4565	5266		
300	-1666	594	2088	3165	4266	4211		
315	215	1295	958	1563	3958	3425		
330	-526	2855	4511	3251	-1797	-6346		
345	4467	3152	1040	-1347	-4816	-6545		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-336	-10322	-1085	
15	250	-10566	-4429	
30	-7987	-14457	2739	
45	999	-4884	1475	
60	3164	114	11139	
75	3164	163	15379	
90	11793	5617	5795	
105	1471	-4135	8163	
120	-645	-8042	2755	
135	5802	-4526	-3437	
150	-792	-5210	8195	
165	-2078	1775	12931	
180	2497	3956	12915	
195	-4129	260	12739	
210	-7352	-7586	5699	
225	-5269	-11363	-6205	
240	-10250	-17973	-7149	
255	-17576	-17794	-4077	
270	-11862	-14668	-4317	
285	-11960	-11152	659	
300	-12432	-12731	5203	
315	-7222	-6463	5507	
330	-7222	-3012	9107	
345	-7743	-6805	9379	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	989	-1093	205
15	3011	2912	416
30	2103	1214	295
45	1195	865	222
60	1475	829	219
75	1001	312	170
90	1003	1134	101
105	30	-711	90
120	789	625	26
135	156	-255	32
150	-280	-206	-135
165	-1315	-1933	-23
180	519	742	-9
195	-125	-928	49
210	-1548	-1611	-178
225	-2073	-2071	-302
240	-1722	-2408	-89
255	-1182	-1303	-205
270	-4698	-4858	-394
285	-1681	-1531	-237
300	-472	-1501	100
315	1774	761	296
330	-4100	-3909	-99
345	-2237	-798	-208

TABLE 43

FLIGHT 40, STEADY TURN

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	10.38	6.22	3.83	2.82	1.76	.80	.369	10.56	4.62	3.09	2.40	1.77	1.06	.551	0
15	10.45	5.40	3.52	2.39	1.33	.44	.235	11.12	5.09	3.43	2.62	1.67	.49	.218	15
30	9.80	5.79	4.03	2.91	1.63	.61	.081	10.59	5.37	3.65	3.05	1.89	.59	.082	30
45	8.38	7.52	4.15	2.84	1.42	.55	.041	8.94	6.10	3.56	2.98	1.80	.57	-.015	45
60	6.38	5.43	4.26	2.48	1.12	.47	-.022	7.22	4.24	3.21	2.63	1.54	.51	-.073	60
75	3.96	4.26	3.60	1.93	.70	.35	-.037	4.94	2.84	2.35	1.97	1.08	.33	-.152	75
90	3.56	3.77	3.48	1.93	.71	.39	-.014	4.66	2.61	2.21	1.97	1.08	.38	-.130	90
105	3.96	4.16	3.57	1.85	.54	.29	-.042	3.98	2.30	2.01	1.78	.92	.30	-.170	105
120	2.99	3.49	3.27	1.82	.57	.35	.000	4.61	2.78	2.19	1.95	1.03	.36	-.144	120
135	2.64	3.04	2.69	1.60	.50	.33	.006	4.12	2.44	1.93	1.79	.92	.38	-.117	135
150	3.39	3.37	2.96	1.82	.76	.44	.038	5.19	3.06	2.26	2.04	1.17	.48	-.064	150
165	3.88	3.53	2.90	1.80	.85	.50	.087	5.77	3.26	2.39	2.09	1.24	.56	.022	165
180	5.83	4.54	3.46	2.38	1.35	.69	.136	7.78	4.27	3.15	2.55	1.67	.74	.094	180
195	6.39	4.52	3.25	2.23	1.29	.67	.142	8.10	4.19	2.98	2.39	1.59	.71	.108	195
210	6.72	4.45	3.15	2.22	1.30	.63	.129	8.38	4.10	2.89	2.23	1.55	.65	.093	210
225	6.36	4.06	2.85	2.05	1.27	.64	.158	8.25	3.88	2.71	2.13	1.51	.66	.137	225
240	6.74	4.09	2.82	2.04	1.27	.62	.154	8.94	3.77	2.60	2.04	1.44	.62	.139	240
255	6.97	4.12	2.81	2.09	1.35	.63	.166	9.66	3.79	2.62	2.04	1.48	.63	.154	255
270	7.09	4.00	2.69	1.93	1.23	.57	.146	8.63	3.49	2.35	1.85	1.33	.53	.170	270
285	7.96	4.49	2.99	2.27	1.53	.72	.221	4.94	3.92	2.82	2.24	1.65	.76	.263	285
300	3.39	3.49	2.44	1.76	1.54	.70	.300	4.85	2.22	1.40	1.08	.90	.36	.267	300
315	7.18	5.10	3.29	2.61	1.95	.72	.235	5.91	4.55	3.52	2.97	2.12	.88	.300	315
330	5.08	2.60	1.76	1.27	.62	.54	.302	6.31	2.55	1.29	1.05	.97	.48	.300	330
345	9.11	4.94	3.21	2.32	1.49	.56	.193	10.21	4.66	3.32	2.60	1.71	.63	.236	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	9.87	7.55	4.93	3.87	3.22	2.88	1.96	1.11	.94	.63	.424	0
15	10.92	7.75	4.76	3.55	2.83	2.46	1.54	.72	.62	.42	.309	15
30	11.14	9.81	4.98	4.01	3.34	2.86	1.84	.85	.60	.26	.184	30
45	10.28	9.15	4.84	3.90	3.25	2.78	1.78	.82	.63	.26	.082	45
60	8.69	7.33	4.48	3.43	2.88	2.45	1.52	.65	.53	.21	.026	60
75	5.78	4.72	3.37	2.66	2.02	1.76	1.08	.31	.32	.08	-.050	75
90	4.62	3.60	2.75	2.26	1.72	1.54	.99	.29	.32	.09	-.037	90
105	4.49	3.44	2.71	2.11	1.61	1.39	.87	.19	.25	.07	-.048	105
120	5.06	3.90	3.06	2.37	1.90	1.57	1.03	.31	.34	.15	-.015	120
135	5.32	4.12	3.24	2.27	1.93	1.60	1.05	.33	.37	.18	-.003	135
150	6.22	4.77	3.67	2.71	2.36	1.89	1.29	.50	.53	.26	.047	150
165	6.73	5.05	3.79	2.81	2.36	1.96	1.37	.59	.62	.34	.067	165
180	9.10	6.74	4.61	3.61	3.00	2.53	1.73	.82	.79	.46	.121	180
195	9.74	6.22	4.43	3.44	2.83	2.43	1.65	.82	.78	.46	.121	195
210	9.74	6.04	4.29	3.33	2.70	2.35	1.59	.77	.72	.40	.125	210
225	9.27	5.54	3.90	3.08	2.50	2.22	1.50	.77	.72	.42	.133	225
240	9.00	5.24	3.70	2.92	2.35	2.10	1.41	.73	.67	.37	.141	240
255	8.18	5.35	3.74	2.88	2.27	2.04	1.36	.73	.63	.37	.178	255
270	3.61	3.41	3.13	2.54	2.04	1.91	1.52	.87	.70	.45	.264	270
285	3.12	2.12	1.67	1.46	1.22	1.39	1.11	.95	.99	.75	.424	285
300	4.37	2.81	1.83	1.37	.91	.99	.54	.25	.36	.26	.168	300
315	5.94	5.49	3.95	3.33	2.75	2.58	1.69	.98	.70	.43	.266	315
330	5.24	3.27	2.22	1.71	1.43	1.40	.82	.39	.43	.45	.385	330
345	9.19	6.36	4.20	3.28	2.59	2.31	1.42	.75	.61	.39	.233	345

TABLE 43 - Continued

FLIGHT 40, STEADY TURN

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.35	4.34	2.96	2.31	1.79	.83	.278	4.08	2.20	1.59	1.27	.98	.49	.206	0
15	7.29	4.20	3.05	2.22	1.66	.64	.200	4.61	2.19	1.56	1.27	.99	.51	.125	15
30	8.36	4.43	3.17	2.40	1.75	.65	.121	4.81	2.32	1.63	1.32	1.02	.51	.128	30
45	8.57	4.48	3.31	2.48	1.77	.67	.110	5.22	2.57	1.81	1.45	1.13	.56	.156	45
60	8.22	4.04	3.11	2.29	1.56	.58	.083	3.92	1.91	1.38	1.17	.92	.49	.134	60
75	7.29	3.44	2.70	2.01	1.24	.40	.014	3.72	1.81	1.28	1.06	.85	.43	.136	75
90	5.99	2.54	2.16	1.72	1.05	.38	.048	3.14	1.61	1.17	.88	.72	.40	.135	90
105	4.88	2.16	1.85	1.53	.88	.30	.055	2.68	1.36	1.09	.79	.70	.39	.135	105
120	4.35	2.39	1.95	1.65	.99	.39	.093	3.30	1.73	1.24	.99	.82	.44	.150	120
135	4.65	2.94	2.18	1.82	1.19	.48	.127	4.39	2.23	1.57	1.26	1.00	.51	.168	135
150	5.68	3.66	3.05	2.26	1.58	.59	.166	4.80	2.47	1.76	1.41	1.14	.56	.189	150
165	6.38	3.79	3.04	2.25	1.62	.66	.195	4.92	2.52	1.79	1.44	1.16	.56	.183	165
180	7.17	4.40	3.34	2.47	1.82	.74	.197	5.18	2.62	1.88	1.53	1.24	.61	.174	180
195	7.67	4.21	3.14	2.31	1.71	.70	.205	4.84	2.63	1.92	1.56	1.24	.59	.177	195
210	8.00	3.97	2.92	2.13	1.59	.61	.186	3.80	1.74	1.62	1.44	1.18	.55	.247	210
225	8.08	3.58	2.63	1.88	1.47	.58	.181	1.23	.68	.75	.81	.80	.56	.248	225
240	7.52	3.41	2.43	1.75	1.33	.49	.197	1.04	.76	.75	.69	.62	.55	.148	240
255	6.47	2.58	2.23	1.74	1.46	.67	.290	1.00	.48	.53	.48	.42	.30	.192	255
270	5.11	1.29	1.27	.95	.77	.57	.312	.97	.60	.52	.41	.31	.19	.036	270
285	3.68	1.43	1.26	.99	.90	.43	.188	1.02	.66	.64	.53	.36	.17	.065	285
300	3.72	2.23	1.63	1.22	.93	.37	.114	1.18	.72	.67	.53	.41	.21	.057	300
315	4.32	3.13	2.16	1.64	1.34	.55	.181	1.46	.76	.67	.59	.45	.24	.097	315
330	4.57	2.14	2.15	1.72	1.26	.84	.502	2.28	.98	.77	.63	.47	.25	.065	330
345	5.06	3.04	2.04	1.57	1.17	.45	.143	3.18	1.56	1.14	.92	.70	.34	.121	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.00	.57	.42	.31	.142	.38	.21	.15	.12	.049	0
15	1.42	.73	.51	.33	.147	.47	.27	.18	.14	.054	15
30	2.36	1.13	.76	.42	.174	.90	.46	.28	.16	.046	30
45	2.44	1.15	.76	.42	.172	1.02	.51	.31	.18	.052	45
60	1.67	.82	.58	.34	.150	.51	.29	.18	.13	.039	60
75	2.20	.99	.67	.36	.151	1.12	.56	.32	.17	.053	75
90	1.56	.79	.51	.31	.152	.84	.44	.25	.15	.057	90
105	2.08	.96	.68	.38	.168	.77	.42	.29	.19	.070	105
120	2.09	1.02	.72	.43	.184	1.36	.71	.43	.22	.074	120
135	2.52	1.25	.88	.51	.217	1.55	.82	.51	.28	.099	135
150	3.10	1.56	1.02	.54	.210	1.68	.89	.56	.29	.105	150
165	3.06	1.57	1.03	.57	.217	2.00	1.05	.68	.35	.118	165
180	2.98	1.49	.98	.53	.197	2.01	1.03	.65	.32	.113	180
195	2.55	1.28	.82	.44	.166	1.22	.97	.45	.27	.106	195
210	1.88	.97	.62	.34	.146	.75	.90	.28	.15	.108	210
225	1.36	.75	.46	.26	.129	.29	.47	.28	.08	.057	225
240	.91	.69	.33	.22	.100	.12	.13	.19	.03	.019	240
255	.49	.55	.29	.17	.088	.07	.09	.10	.03	.010	255
270	.30	.29	.24	.18	.089	.05	.06	.04	.03	.002	270
285	.32	.27	.18	.18	.107	.06	.04	.01	.03	.000	285
300	.31	.24	.15	.17	.113	.06	.03	.02	.05	.001	300
315	.50	.39	.25	.21	.140	.08	.06	.05	.08	.028	315
330	.72	.50	.26	.25	.112	.09	.06	.06	.09	.029	330
345	1.11	.58	.42	.30	.148	.06	.05	.04	.07	.028	345

TABLE 43 - Continued

FLIGHT 40, STEADY TURN

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	2.38	6.45	15.69	27.63	33.39	33.42	34.65
15	2.90	7.85	15.88	26.45	29.58	30.46	29.02
30	4.37	11.57	16.41	27.91	31.48	31.95	31.54
45	4.89	11.72	18.16	28.48	30.08	30.82	31.80
60	2.83	8.74	14.38	25.96	26.11	24.90	25.74
75	5.08	10.34	13.31	21.44	17.95	16.97	18.99
90	4.05	8.06	11.73	17.69	15.46	16.58	18.20
105	4.36	10.32	10.78	14.87	14.22	14.15	17.85
120	6.49	10.89	12.79	15.97	16.78	16.43	16.44
135	7.73	13.18	15.97	18.68	17.57	14.96	14.31
150	8.33	15.27	17.77	23.93	21.38	18.78	17.39
165	9.95	15.45	18.04	25.21	22.79	20.61	18.63
180	9.67	14.69	19.06	28.30	29.20	27.49	25.50
195	7.21	12.45	18.79	27.42	28.82	26.91	25.21
210	4.98	9.46	16.15	25.94	27.89	26.23	25.00
225	2.92	7.10	10.04	24.35	26.38	25.59	23.70
240	1.33	5.47	8.90	22.47	25.05	25.25	23.89
255	.86	4.07	6.14	22.04	24.15	26.06	24.48
270	.51	3.20	4.72	14.62	20.83	23.43	23.31
285	.38	3.02	5.20	13.06	17.76	24.90	27.33
300	.47	2.85	5.84	14.35	11.92	15.13	21.78
315	.98	4.08	6.57	19.61	25.63	30.35	29.71
330	1.06	4.82	7.59	20.92	16.17	17.41	16.53
345	.86	6.58	11.24	18.52	26.38	30.05	27.99

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.301		0	4.615				
1	3.323	-6.406	1	-1.094	-1.217			
2	-.005	.318	2	-.200	-.526			
3	-.486	.018	3	.174	-.085			
4	-.186	.204	4	.117	.038			
5	-.100	.354	5	-.010	.103			
6	.059	.191	6	.030	.059			
7	.073	.163	7	.018	.026			
8	.114	.104	8	.004	.032			
9	.191	.050	9	.008	.020			
10	-.054	-.018	10	.010	.034			
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 43 - Continued

FLIGHT 40, STEADY TURN

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.941		.75	0	21.908		.95	0	23.707	
.25	1	-2.720	2.393	.75	1	-.423	1.242	.95	1	4.002	-2.124
.25	2	1.681	-.259	.75	2	4.688	4.240	.95	2	2.542	3.659
.25	3	-.753	.571	.75	3	-.818	.613	.95	3	-.679	1.168
.25	4	.080	.062	.75	4	-.591	-1.048	.95	4	.644	1.482
.25	5	-.215	.079	.75	5	-.560	.392	.95	5	-.128	-.205
.25	6	-.011	.117	.75	6	.305	.930	.95	6	1.336	-.467
.25	7	-.240	.018	.75	7	.755	.204	.95	7	1.432	-.474
.25	8	.201	-.336	.75	8	.511	.265	.95	8	1.438	-.138
.25	9	.292	.054	.75	9	.396	.295	.95	9	1.007	-.918
.25	10	.203	.149	.75	10	.910	.326	.95	10	.782	-1.253
.40	0	8.650		.85	0	23.207					
.40	1	-2.857	3.738	.85	1	1.061	-.756				
.40	2	2.424	.206	.85	2	5.318	5.107				
.40	3	-.758	.902	.85	3	.385	1.332				
.40	4	-.264	-.169	.85	4	.139	-.109				
.40	5	-.394	-.059	.85	5	-.506	-.689				
.40	6	-.275	-.185	.85	6	.771	.509				
.40	7	-.176	-.285	.85	7	1.121	.328				
.40	8	-.091	-.237	.85	8	1.610	-.018				
.40	9	.180	-.381	.85	9	.946	-1.031				
.40	10	.320	.003	.85	10	.486	-1.284				
.55	0	12.547		.90	0	23.700					
.55	1	-1.880	4.058	.90	1	3.036	-2.529				
.55	2	4.250	1.696	.90	2	4.142	4.298				
.55	3	-.747	.794	.90	3	.083	1.385				
.55	4	.019	.324	.90	4	.518	.442				
.55	5	.369	-.321	.90	5	-.690	-.647				
.55	6	.190	.267	.90	6	.686	-.034				
.55	7	.378	-.565	.90	7	.913	.043				
.55	8	.195	-.045	.90	8	1.628	-.048				
.55	9	.432	.225	.90	9	1.179	-.939				
.55	10	.134	-.015	.90	10	.396	-1.558				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 43 - Concluded

FLIGHT 40, STEADY TURN

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	724	-924	-1356	-2076	-2381	-3214		
15	-2845	-1353	208	776	-2091	-5701		
30	4497	2772	-307	-1494	-1615	-2975		
45	2035	3647	3571	1988	-1871	-5632		
60	3175	1964	1275	1625	717	-2806		
75	849	1196	814	-350	-1571	-2607		
90	1237	-1213	-2694	-2725	-2460	-2806		
105	-1477	-1947	-2594	-2811	-3763	-5333		
120	1202	-1180	-3092	-4280	-5778	-7652		
135	450	-1502	-2730	-3803	-6024	-8438		
150	-713	-1823	-2911	-3946	-5426	-7681		
165	-633	-2170	-2875	-3555	-4317	-7751		
180	-63	-1419	-2016	-2725	-5188	-8358		
195	461	-33	-750	-2200	-4959	-8119		
210	746	446	163	-979	-4880	-7990		
225	1123	578	-99	-1008	-2337	-4189		
240	-565	660	1139	910	-137	-1672		
255	382	1502	1844	2303	2749	2000		
270	142	2739	3743	3705	3779	3094		
285	1339	3053	3155	3447	4105	4557		
300	-964	1584	3037	3676	4193	3612		
315	-280	1592	1365	1539	3110	4279		
330	-63	1089	2866	3171	1579	-2617		
345	2867	3152	2079	-579	-5611	-6856		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	430	-12324	-1731	
15	-563	-11461	-4371	
30	-6017	-14473	1741	
45	2449	-5079	2349	
60	6014	944	10541	
75	3328	1661	17069	
90	11337	5177	7565	
105	3230	-3468	6365	
120	-1149	-9345	2829	
135	4370	-4917	-3235	
150	886	-4884	7229	
165	-1052	3663	13661	
180	2302	5551	15261	
195	-2826	2214	13533	
210	-7157	-7652	6749	
225	-6050	-10566	-5795	
240	-10478	-17941	-7699	
255	-17853	-18282	-4643	
270	-12366	-15726	-5075	
285	-12203	-11982	29	
300	-13310	-11950	6333	
315	-7271	-5779	5661	
330	-6978	-3354	8781	
345	-7319	-7310	7837	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	-397	-2032	122
15	2393	2393	355
30	2514	1607	339
45	2114	1572	334
60	2021	1328	262
75	997	180	165
90	1121	959	119
105	127	-389	88
120	911	621	25
135	86	-349	47
150	119	74	-95
165	-1542	-1979	-33
180	243	602	-41
195	-327	-837	53
210	-998	-1034	-125
225	-1682	-1689	-244
240	-2339	-2959	-155
255	-1468	-1378	-276
270	-4464	-4845	-330
285	-2084	-1946	-268
300	-1864	-2111	-63
315	970	488	162
330	-4416	-4408	-61
345	-2554	-335	-308

TABLE 44

FLIGHT 41, LANDING APPROACH AND FLARE

(SEE FIG. 3, t = 3.4 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	5.29	3.61	2.88	1.85	.94	.47	.057	6.21	3.18	2.43	2.10	1.29	.48	.013	6
21	4.35	3.15	2.60	1.63	.74	.39	.022	5.64	2.89	2.26	1.91	1.13	.37	-.033	21
36	2.46	2.10	1.90	1.01	.36	.27	-.002	3.84	1.86	1.57	1.36	.76	.23	-.085	36
51	.81	1.08	1.33	.47	.06	.20	-.004	2.16	.99	.96	.91	.44	.15	-.102	51
66	6.15	4.24	3.36	2.11	.97	.47	.042	3.09	1.57	1.54	1.59	.93	.39	-.022	66
81	5.96	4.15	3.27	2.16	1.10	.53	.053	7.52	4.01	3.09	2.60	1.60	.59	.018	81
96	5.40	3.71	2.93	1.87	.91	.46	.048	6.09	3.10	2.37	2.11	1.23	.45	-.018	96
111	4.48	3.22	2.66	1.66	.70	.37	.022	4.96	2.50	1.95	1.78	.97	.34	-.050	111
126	4.11	2.99	2.55	1.60	.70	.40	.052	4.30	2.20	1.74	1.67	.93	.39	-.020	126
141	4.52	3.23	2.60	1.71	.80	.43	.057	4.90	2.52	1.99	1.85	1.05	.41	-.011	141
156	4.21	2.92	2.38	1.61	.73	.39	.040	5.17	2.63	2.07	1.85	1.04	.41	-.030	156
171	3.87	2.63	2.19	1.48	.66	.38	.048	4.43	2.28	1.78	1.63	.89	.35	-.037	171
186	3.92	2.61	2.16	1.49	.69	.39	.060	4.39	2.28	1.76	1.63	.93	.38	-.002	186
201	4.46	2.94	2.38	1.62	.81	.43	.073	5.23	2.63	2.04	1.85	1.09	.45	.009	201
216	5.19	3.36	2.62	1.79	.95	.49	.092	5.85	2.96	2.28	2.02	1.22	.52	.033	216
231	5.95	3.82	2.87	1.94	1.06	.52	.093	5.99	3.05	2.35	2.07	1.27	.51	.042	231
246	5.83	3.72	2.85	1.89	1.01	.50	.085	5.99	3.05	2.30	2.00	1.20	.51	.044	246
261	6.09	3.82	2.91	1.95	1.10	.57	.125	6.44	3.37	2.50	2.17	1.39	.61	.074	261
276	7.49	4.52	3.28	2.29	1.34	.65	.141	7.89	4.05	2.97	2.55	1.64	.67	.111	276
291	4.18	2.89	2.26	1.48	.80	.42	.061	4.02	2.15	1.60	1.43	.84	.26	-.002	291
306	2.27	1.61	1.56	.82	.33	.27	.046	2.65	1.25	1.08	1.05	.58	.26	-.026	306
321	4.50	2.98	2.45	1.57	.78	.42	.069	4.48	2.30	1.78	1.61	.98	.41	.020	321
336	5.36	3.53	2.76	1.80	.96	.48	.073	5.74	3.00	2.27	1.96	1.23	.50	.033	336
351	5.34	3.60	2.83	1.82	.95	.48	.072	6.19	3.20	2.42	2.07	1.30	.52	.024	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.85										
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	6.61	4.91	3.38	2.57	2.21	1.85	1.21	.57	.52	.26	.060	6
21	5.92	4.37	3.09	2.24	1.97	1.63	1.06	.44	.42	.20	.030	21
36	3.95	2.83	2.10	1.68	1.37	1.07	.70	.21	.24	.11	-.018	36
51	2.90	2.09	1.60	1.22	1.02	.80	.51	.11	.19	.08	-.028	51
66	2.91	1.94	1.48	1.17	.99	.84	.50	.14	.24	.11	-.010	66
81	7.57	5.66	3.97	3.02	2.61	2.15	1.44	.68	.59	.30	.082	81
96	5.93	4.42	3.14	2.31	2.03	1.69	1.12	.49	.45	.22	.030	96
111	4.69	3.33	2.44	1.71	1.50	1.23	.79	.29	.31	.16	.010	111
126	4.51	3.25	2.40	1.89	1.40	1.19	.83	.32	.33	.19	.020	126
141	4.95	3.70	2.65	1.84	1.63	1.37	.95	.40	.39	.21	.024	141
156	4.73	3.43	2.54	1.79	1.57	1.31	.88	.36	.35	.19	.012	156
171	4.36	3.14	2.33	1.74	1.38	1.21	.81	.33	.34	.18	.012	171
186	4.76	3.44	2.51	1.89	1.55	1.32	.89	.41	.39	.23	.032	186
201	5.55	4.05	2.89	2.13	1.86	1.56	1.05	.51	.46	.27	.056	201
216	5.77	4.24	3.03	2.27	1.96	1.64	1.11	.54	.50	.29	.060	216
231	5.92	4.35	3.06	2.31	1.98	1.67	1.13	.55	.50	.28	.060	231
246	5.81	4.29	3.02	2.28	1.95	1.65	1.11	.55	.49	.28	.064	246
261	7.00	4.99	3.51	2.72	2.30	1.97	1.30	.68	.59	.34	.106	261
276	8.06	5.50	3.99	3.13	2.66	2.21	1.51	.82	.68	.41	.140	276
291	3.07	2.20	1.65	1.32	1.10	.93	.62	.28	.29	.15	.012	291
306	3.53	2.46	1.79	1.44	1.18	.95	.61	.23	.25	.13	.010	306
321	4.64	3.39	2.40	1.71	1.47	1.31	.84	.39	.40	.21	.046	321
336	5.84	4.37	3.06	2.29	1.96	1.68	1.08	.53	.49	.27	.086	336
351	6.58	4.90	3.42	2.57	2.21	1.86	1.22	.60	.54	.30	.080	351

TABLE 44 - Continued

FLIGHT 41, LANDING APPROACH AND FLARE

(SEE FIG. 3, t = 3.4 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.55 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
6	5.46	3.04	2.28	1.76	1.23	.53	.083	3.85	1.89	1.27	1.11	.86	.46	.094	6
21	5.29	2.74	2.11	1.61	1.09	.44	.058	3.40	1.65	1.08	.95	.73	.37	.080	21
36	4.41	2.03	1.66	1.27	.79	.33	.042	2.84	1.35	.91	.81	.64	.36	.081	36
51	3.49	1.68	1.29	1.15	.69	.30	.051	2.61	1.32	.88	.79	.63	.37	.088	51
66	3.04	1.54	1.23	1.09	.62	.26	.045	2.81	1.37	.92	.83	.64	.36	.084	66
81	3.92	2.63	2.03	1.64	1.11	.49	.074	2.99	1.49	.97	.87	.68	.35	.091	81
96	4.87	2.83	2.20	1.67	1.13	.46	.072	3.34	1.59	1.06	.93	.72	.36	.083	96
111	4.13	1.94	1.61	1.23	.78	.33	.055	2.49	1.22	.84	.76	.60	.32	.078	111
126	3.60	1.83	1.53	1.19	.75	.34	.069	2.25	1.14	.77	.71	.57	.34	.083	126
141	3.76	2.06	1.69	1.33	.86	.39	.074	2.78	1.37	.93	.84	.67	.35	.086	141
156	4.10	2.17	1.78	1.36	.90	.36	.061	2.81	1.35	.91	.81	.64	.33	.080	156
171	3.76	1.89	1.58	1.21	.79	.33	.053	2.55	1.24	.85	.77	.61	.32	.086	171
186	3.48	1.86	1.55	1.21	.81	.36	.074	2.53	1.24	.85	.77	.62	.34	.090	186
201	3.94	2.19	1.77	1.37	.94	.42	.090	2.47	1.23	.85	.78	.62	.35	.087	201
216	4.26	2.36	1.87	1.45	1.00	.46	.090	2.52	1.26	.86	.80	.63	.37	.083	216
231	4.50	2.49	1.92	1.49	1.03	.46	.088	2.78	1.37	.92	.83	.65	.36	.081	231
246	4.71	2.54	1.95	1.51	1.05	.48	.093	3.01	1.44	.99	.90	.70	.38	.080	246
261	5.14	2.97	2.20	1.72	1.21	.57	.127	1.89	.92	.67	.66	.53	.33	.080	261
276	5.06	2.37	1.94	1.49	1.09	.51	.095	1.55	.75	.52	.51	.42	.27	.055	276
291	3.75	1.62	1.29	1.03	.69	.33	.065	2.02	.96	.68	.62	.50	.28	.055	291
306	3.43	1.79	1.41	1.08	.70	.30	.039	2.18	1.05	.72	.66	.52	.29	.052	306
321	3.38	1.84	1.47	1.14	.76	.36	.061	2.34	1.12	.77	.70	.55	.32	.060	321
336	4.07	2.41	1.86	1.46	1.01	.47	.093	2.66	1.33	.91	.82	.65	.38	.084	336
351	4.81	2.82	2.15	1.66	1.17	.52	.097	3.37	1.71	1.15	1.01	.79	.45	.106	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40 x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	r/R = 0.25 x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	ψ_{nom}, deg
6	1.87	.99	.59	.34	.101	.99	.42	.25	.16	.057	6
21	1.54	.84	.50	.32	.093	.97	.45	.28	.14	.047	21
36	1.63	.85	.49	.29	.097	1.19	.55	.32	.15	.035	36
51	1.61	.85	.50	.31	.104	1.04	.48	.28	.14	.027	51
66	1.24	.67	.38	.25	.088	.75	.35	.21	.12	.018	66
81	1.26	.70	.43	.28	.105	.58	.28	.18	.12	.024	81
96	1.68	.87	.49	.28	.090	.69	.34	.22	.14	.029	96
111	1.34	.71	.41	.27	.091	.93	.44	.26	.14	.030	111
126	1.31	.72	.42	.27	.090	.90	.43	.25	.13	.030	126
141	1.32	.71	.41	.27	.091	.76	.36	.22	.13	.036	141
156	1.32	.70	.40	.26	.087	.72	.34	.21	.13	.035	156
171	1.20	.65	.38	.26	.091	.80	.38	.23	.13	.035	171
186	1.18	.67	.39	.26	.084	.72	.35	.21	.13	.035	186
201	1.14	.65	.38	.25	.084	.70	.33	.20	.13	.031	201
216	1.24	.70	.41	.27	.087	.72	.34	.21	.13	.034	216
231	1.21	.69	.40	.27	.082	.69	.33	.21	.13	.027	231
246	1.27	.69	.39	.26	.084	.68	.33	.20	.13	.023	246
261	.78	.45	.24	.20	.072	.68	.31	.19	.12	.022	261
276	.87	.51	.30	.22	.076	.69	.32	.20	.13	.024	276
291	.86	.49	.26	.19	.065	.51	.24	.15	.11	.018	291
306	.83	.47	.27	.21	.072	.37	.16	.10	.09	.014	306
321	1.11	.62	.36	.24	.085	.67	.31	.19	.13	.028	321
336	1.32	.75	.46	.30	.099	.97	.46	.31	.17	.040	336
351	1.79	.95	.57	.34	.108	.79	.50	.32	.21	.053	351

TABLE 44 - Continued

FLIGHT 41, LANDING APPROACH AND FLARE

(SEE FIG. 3, t = 3.4 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	4.36	9.19	13.56	19.74	20.78	20.63	19.85
21	4.34	7.91	11.60	17.79	18.29	18.12	16.76
36	5.03	7.88	10.10	13.69	11.93	11.92	10.55
51	4.44	8.02	9.89	11.49	8.87	6.78	5.46
66	3.35	6.33	10.13	10.39	9.05	12.74	22.17
81	2.84	6.79	10.66	17.01	24.26	25.58	22.65
96	3.39	7.92	11.33	18.07	18.81	19.88	19.93
111	4.13	6.75	9.17	13.27	13.97	15.85	16.82
126	3.94	6.73	8.79	12.63	13.90	14.85	16.33
141	3.51	6.71	10.20	14.02	15.75	16.69	17.59
156	3.36	6.58	9.88	14.49	14.81	17.06	16.09
171	3.66	6.27	9.34	12.91	13.62	14.65	14.79
186	3.41	6.25	9.49	12.93	15.12	15.01	15.01
201	3.29	6.07	9.49	14.95	17.81	17.58	16.87
216	3.41	6.57	9.67	16.03	18.75	19.84	19.30
231	3.28	6.41	10.15	16.60	19.02	20.32	21.47
246	3.21	6.46	10.82	17.03	18.75	20.00	20.89
261	3.08	4.34	7.87	19.59	22.30	22.42	22.12
276	3.21	4.88	6.28	17.34	25.71	26.61	26.11
291	2.48	4.53	7.52	11.75	10.32	13.25	16.25
306	1.83	4.55	7.97	11.70	10.70	9.09	9.20
321	3.14	5.87	8.54	12.45	14.69	15.53	16.86
336	4.60	7.15	10.08	16.05	18.85	19.69	19.75
351	4.70	8.91	12.52	18.53	21.04	20.90	19.91

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.223		0	3.982		0	4.296	
1	2.403	-2.354	1	.204	-.579	1	-.358	.001
2	-.169	.581	2	.110	.049	2	.023	.012
3	-.158	.120	3	-.045	-.098	3	.016	-.038
4	.032	.032	4	.037	-.135	4	-.001	.011
5	-.026	.023	5	.082	.061	5	.003	.039
6	.044	.018	6	.012	-.057	6	.009	.000
7	.009	-.003	7	.057	-.012	7	-.001	-.014
8	.020	-.018	8	.053	.049	8	.009	-.014
9	.006	.020	9	.000	.020	9	-.008	.007
10	.018	-.015	10	-.012	.000	10	-.015	.000

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o \right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o \right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o \right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o \right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o \right) + F_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 44 - Continued

FLIGHT 41, LANDING APPROACH AND FLARE

(SEE FIG. 3, t = 3.4 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.583		.75	0	15.018		.95	0	17.614	
.25	1	.377	.398	.75	1	.395	-.867	.95	1	-.791	-1.350
.25	2	.516	.122	.75	2	.312	.833	.95	2	-1.739	.649
.25	3	.431	.025	.75	3	2.332	-.694	.95	3	2.174	-1.792
.25	4	-.010	-.026	.75	4	1.701	-1.026	.95	4	2.121	-2.622
.25	5	-.364	-.191	.75	5	.555	.271	.95	5	1.618	-1.137
.25	6	-.242	-.208	.75	6	-.937	.938	.95	6	-.690	1.513
.25	7	-.055	.072	.75	7	.063	-.349	.95	7	-.565	2.142
.25	8	.010	.019	.75	8	.312	-.461	.95	8	.171	.777
.25	9	.054	-.009	.75	9	.065	.076	.95	9	-.393	-.755
.25	10	.017	-.062	.75	10	-.059	.508	.95	10	-.366	-1.018
.40	0	6.628		.85	0	16.546					
.40	1	.694	.936	.85	1	-.329	-1.730				
.40	2	.877	.259	.85	2	-.227	.790				
.40	3	.642	-.369	.85	3	2.772	-1.605				
.40	4	.075	-.132	.85	4	2.878	-1.949				
.40	5	.084	.028	.85	5	.829	-.461				
.40	6	-.122	-.267	.85	6	-1.715	2.187				
.40	7	-.057	-.246	.85	7	-.560	.655				
.40	8	.280	-.018	.85	8	.798	-1.058				
.40	9	.233	.014	.85	9	.321	-.945				
.40	10	-.096	-.067	.85	10	-.215	.760				
.55	0	9.793		.90	0	17.290					
.55	1	.659	.656	.90	1	-.763	-1.497				
.55	2	1.095	.442	.90	2	-.833	.643				
.55	3	.823	-.642	.90	3	2.787	-1.724				
.55	4	.188	-.505	.90	4	2.866	-2.349				
.55	5	.550	.348	.90	5	1.365	-.499				
.55	6	.284	-.021	.90	6	-1.891	2.014				
.55	7	-.087	-.494	.90	7	-.750	1.285				
.55	8	.136	.128	.90	8	.391	-.358				
.55	9	.108	.159	.90	9	.320	-1.086				
.55	10	-.018	-.136	.90	10	.011	.092				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 44 - Concluded

FLIGHT 41, LANDING APPROACH AND FLARE

(SEE FIG. 3, t = 3.4 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	-1986	-2360	-2640	-2211	-2358	-3828		
21	-3035	-3152	-3517	-2698	-1065	-1241		
36	681	693	99	-1343	-3881	-4942		
51	5264	2582	1130	164	-2526	-6096		
66	-356	1172	1989	870	-3749	-6166		
81	1742	-1048	-3137	-4129	-458	2550		
96	-2146	-3053	-1275	756	176	-1500		
111	2597	2129	1907	1166	-1417	-3927		
126	6347	4678	3001	222	-4242	-5470		
141	1365	-157	-63	346	370	-1330		
156	-2716	-2657	-2368	-1543	-35	630		
171	887	-215	-1329	-2736	-3546	-2803		
186	4124	1526	633	-208	-3740	-7300		
201	1012	1848	2152	651	-3282	-6514		
216	2494	17	-1202	-1772	-1751	-1768		
231	-481	-1337	-1148	-580	70	361		
246	225	413	750	1309	1047	222		
261	3224	3383	4032	3341	-845	-4106		
276	4204	3523	3254	3122	1382	-1281		
291	-1827	520	1709	2072	1373	809		
306	-162	-957	-1826	-2364	986	5048		
321	-584	-1345	-127	1166	-968	-3619		
336	1012	2120	2368	727	-4558	-8634		
351	4797	2153	-217	-2764	-6653	-7967		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-1466	-3533	1553	
21	-8157	-8987	6913	
36	-2524	-5763	-959	
51	-3957	-6382	2481	
66	-5373	-6789	8465	
81	5828	472	1537	
96	1448	-5551	5249	
111	-3305	-6121	4337	
126	2604	-6838	321	
141	3093	-2295	3121	
156	179	-3044	9361	
171	4786	-977	4097	
186	1351	-2996	4241	
201	-5308	-7228	7089	
216	16	-4510	-607	
231	-2736	-9328	193	
246	-8320	-10745	2145	
261	-6675	-10452	-15	
276	-11331	-8775	2273	
291	-10648	-9605	2145	
306	-6919	-9752	-255	
321	-9752	-8531	2577	
336	-13985	-8449	6641	
351	-6806	-6626	2817	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	1405	962	145
21	1435	398	133
36	522	188	37
51	913	-77	105
66	1424	458	140
81	1245	772	132
96	1446	522	80
111	638	-133	71
126	1174	48	60
141	1454	570	112
156	1275	357	89
171	435	-46	-14
186	392	-337	-33
201	602	-319	-7
216	712	69	18
231	1073	210	32
246	234	-446	-43
261	29	-470	-91
276	321	-385	24
291	1001	125	85
306	473	-106	25
321	-428	-674	-70
336	-20	-432	-21
351	868	249	58

TABLE 45

FLIGHT 41, LANDING APPROACH AND FLARE

(SEE FIG. 3, t = 6.6 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
6	5.25	3.55	2.79	1.81	.93	.46	.065	6.24	3.18	2.42	2.08	1.30	.50	.022	6
21	4.98	3.43	2.74	1.75	.85	.43	.046	5.85	2.97	2.31	1.99	1.21	.47	.006	21
36	4.04	2.97	2.50	1.55	.66	.36	.028	4.61	2.34	1.86	1.68	.98	.36	-.037	36
51	1.43	1.45	1.46	.69	.17	.21	-.004	2.66	1.30	1.09	1.08	.55	.17	-.081	51
66	2.12	1.72	1.65	.82	.25	.24	.022	1.30	.58	.66	.83	.33	.10	-.096	66
81	8.15	5.01	4.04	2.70	1.48	.66	.097	7.01	3.72	3.01	2.62	1.56	.64	.046	81
96	7.61	4.85	3.65	2.44	1.34	.62	.085	8.63	4.44	3.30	2.79	1.79	.66	.039	96
111	6.13	3.94	3.03	1.94	.96	.45	.048	6.15	3.09	2.37	2.06	1.23	.50	-.004	111
126	4.80	3.33	2.70	1.69	.78	.40	.046	5.03	2.53	1.96	1.83	1.04	.38	-.015	126
141	5.10	3.47	2.81	1.82	.91	.48	.084	5.32	2.72	2.12	1.98	1.16	.43	.029	141
156	5.79	3.84	2.90	1.94	1.00	.47	.060	6.12	3.15	2.39	2.13	1.28	.44	.013	156
171	5.10	3.39	2.61	1.74	.84	.43	.052	5.49	2.72	2.13	1.91	1.13	.42	-.006	171
186	4.90	3.23	2.52	1.70	.84	.44	.069	4.83	2.46	1.92	1.77	1.05	.43	.009	186
201	5.40	3.47	2.66	1.82	.96	.50	.080	5.69	2.88	2.23	2.00	1.21	.50	.030	201
216	5.76	3.70	2.78	1.91	1.03	.50	.088	6.15	3.16	2.39	2.11	1.29	.55	.042	216
231	6.30	3.99	3.00	2.03	1.12	.55	.097	6.39	3.28	2.46	2.14	1.34	.55	.063	231
246	6.30	3.94	2.92	1.96	1.07	.52	.085	6.21	3.14	2.34	2.04	1.28	.51	.046	246
261	5.95	3.80	2.87	1.92	1.07	.53	.100	6.79	3.54	2.58	2.25	1.40	.60	.078	261
276	6.86	4.30	3.20	2.23	1.32	.68	.155	8.31	4.22	3.04	2.60	1.68	.75	.125	276
291	7.22	4.20	2.99	2.13	1.23	.57	.117	5.08	2.74	2.05	1.81	1.21	.55	.069	291
306	1.92	1.59	1.44	.86	.36	.28	.044	2.56	1.23	1.01	1.03	.58	.30	-.015	306
321	4.58	2.94	2.43	1.55	.76	.41	.076	5.23	2.64	2.01	1.76	1.06	.43	.020	321
336	6.50	4.08	3.04	2.05	1.13	.54	.088	6.69	3.50	2.58	2.22	1.39	.57	.054	336
351	6.52	4.10	3.06	2.04	1.11	.52	.068	7.06	3.61	2.65	2.26	1.41	.55	.044	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
6	6.88	5.13	3.54	2.66	2.28	1.92	1.26	.61	.56	.31	.072	6
21	6.66	4.94	3.41	2.55	2.20	1.84	1.19	.54	.50	.26	.056	21
36	5.48	4.03	2.85	2.02	1.80	1.51	.97	.40	.39	.19	.024	36
51	3.69	2.69	2.00	1.55	1.30	.97	.65	.21	.26	.12	-.008	51
66	2.78	1.90	1.52	1.13	.96	.79	.47	.09	.18	.07	-.034	66
81	4.39	3.25	2.38	1.82	1.52	1.31	.92	.42	.41	.23	.044	81
96	9.90	6.70	4.77	3.67	3.13	2.55	1.71	.84	.69	.36	.106	96
111	6.75	4.87	3.41	2.50	2.17	1.79	1.15	.52	.46	.23	.040	111
126	5.17	3.79	2.71	1.89	1.68	1.43	.93	.41	.39	.22	.038	126
141	5.34	3.90	2.80	2.03	1.79	1.53	1.04	.50	.47	.27	.070	141
156	6.22	4.65	3.27	2.42	2.07	1.73	1.16	.55	.49	.27	.060	156
171	5.74	4.24	3.01	2.15	1.86	1.55	1.05	.45	.41	.22	.024	171
186	4.69	3.43	2.48	1.79	1.55	1.31	.91	.40	.40	.22	.026	186
201	5.32	3.95	2.83	2.03	1.79	1.54	1.04	.50	.47	.28	.060	201
216	6.34	4.63	3.22	2.41	2.04	1.72	1.14	.57	.52	.29	.078	216
231	6.30	4.60	3.26	2.47	2.12	1.81	1.20	.61	.55	.30	.076	231
246	6.34	4.53	3.22	2.45	2.07	1.76	1.17	.58	.52	.29	.078	246
261	7.16	5.12	3.57	2.78	2.34	1.98	1.31	.68	.60	.34	.108	261
276	8.47	5.72	4.12	3.20	2.71	2.28	1.54	.85	.73	.42	.150	276
291	4.07	2.91	2.16	1.63	1.39	1.25	.84	.43	.45	.26	.064	291
306	3.70	2.61	1.94	1.52	1.20	1.05	.68	.28	.32	.16	.022	306
321	5.26	3.85	2.66	1.97	1.72	1.48	.94	.46	.44	.24	.054	321
336	6.63	4.80	3.36	2.58	2.18	1.85	1.21	.62	.57	.32	.090	336
351	7.46	5.25	3.81	2.88	2.41	2.03	1.33	.68	.59	.33	.086	351

TABLE 45 - Continued

FLIGHT 41, LANDING APPROACH AND FLARE

(SEE FIG. 3, t = 6.6 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	5.59	3.12	2.32	1.77	1.26	.56	.095	3.66	1.84	1.22	1.06	.83	.45	.097	6
21	5.73	3.03	2.28	1.75	1.22	.51	.083	3.65	1.79	1.19	1.04	.80	.42	.090	21
36	5.05	2.45	1.93	1.47	.99	.41	.072	3.59	1.76	1.16	1.01	.78	.41	.091	36
51	4.11	1.95	1.60	1.26	.82	.35	.063	3.18	1.57	1.03	.93	.73	.38	.093	51
66	3.57	1.82	1.45	1.21	.73	.31	.058	3.06	1.49	.99	.89	.70	.36	.093	66
81	3.04	1.53	1.21	1.07	.65	.30	.055	2.78	1.36	.90	.82	.64	.34	.088	81
96	4.16	3.22	2.32	1.89	1.32	.57	.111	2.53	1.22	.81	.73	.58	.32	.080	96
111	4.96	2.79	2.18	1.66	1.13	.46	.074	2.55	1.29	.87	.77	.62	.34	.087	111
126	4.30	2.09	1.72	1.35	.88	.40	.079	2.20	1.08	.75	.70	.58	.33	.083	126
141	4.05	2.23	1.82	1.42	.96	.46	.097	2.40	1.14	.84	.76	.62	.37	.100	141
156	4.55	2.59	2.05	1.59	1.10	.48	.088	3.09	1.53	1.02	.91	.72	.36	.084	156
171	4.61	2.32	1.85	1.41	.95	.38	.063	2.74	1.31	.89	.80	.61	.32	.077	171
186	3.88	1.91	1.58	1.22	.81	.37	.067	2.58	1.26	.86	.78	.61	.34	.091	186
201	3.99	2.19	1.76	1.37	.94	.44	.099	2.72	1.35	.92	.83	.66	.37	.094	201
216	4.29	2.42	1.87	1.45	1.02	.47	.097	3.02	1.51	1.01	.90	.71	.38	.093	216
231	4.73	2.60	1.97	1.52	1.07	.48	.086	3.19	1.71	1.14	1.00	.77	.41	.093	231
246	4.93	2.71	2.01	1.54	1.07	.46	.086	1.78	.84	.61	.61	.50	.30	.061	246
261	5.31	2.97	2.21	1.71	1.21	.57	.116	1.13	.53	.40	.39	.33	.22	.052	261
276	4.91	2.27	1.85	1.47	1.08	.52	.106	1.80	.86	.62	.59	.47	.30	.067	276
291	3.77	1.75	1.42	1.11	.77	.39	.083	2.37	1.15	.80	.73	.58	.33	.068	291
306	3.77	2.05	1.60	1.22	.83	.37	.058	2.53	1.23	.83	.76	.59	.32	.059	306
321	3.95	2.16	1.67	1.28	.87	.40	.074	2.51	1.21	.83	.75	.58	.32	.060	321
336	4.49	2.60	1.96	1.53	1.07	.50	.102	2.77	1.39	.94	.84	.67	.38	.084	336
351	5.24	3.08	2.28	1.76	1.26	.55	.106	3.20	1.60	1.07	.95	.75	.41	.096	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.76	.96	.57	.34	.110	.69	.35	.30	.28	.068	6
21	1.95	1.03	.61	.36	.106	1.10	.51	.29	.16	.070	21
36	1.83	.99	.59	.35	.108	.99	.47	.28	.16	.038	36
51	1.60	.84	.50	.31	.097	.97	.49	.28	.14	.029	51
66	1.61	.83	.47	.29	.097	.72	.33	.21	.12	.020	66
81	1.49	.78	.47	.29	.099	.67	.31	.19	.12	.029	81
96	1.20	.64	.38	.25	.087	.59	.28	.18	.12	.024	96
111	1.52	.78	.44	.26	.088	.61	.28	.17	.11	.023	111
126	1.29	.70	.40	.27	.095	.79	.36	.21	.12	.027	126
141	1.42	.78	.45	.29	.095	.75	.34	.20	.12	.028	141
156	1.50	.78	.43	.26	.085	.76	.35	.21	.13	.035	156
171	1.35	.72	.41	.26	.087	.81	.38	.22	.14	.035	171
186	1.33	.73	.42	.28	.097	.83	.39	.23	.14	.037	186
201	1.39	.76	.44	.28	.087	.74	.36	.22	.13	.028	201
216	1.34	.75	.45	.28	.090	.77	.37	.23	.14	.030	216
231	1.44	.76	.44	.28	.085	.67	.32	.20	.13	.028	231
246	.74	.44	.24	.19	.059	.64	.29	.17	.11	.022	246
261	.81	.46	.26	.20	.071	.51	.23	.15	.11	.023	261
276	.92	.52	.30	.22	.075	.36	.15	.10	.09	.009	276
291	.86	.50	.28	.21	.069	.36	.15	.10	.09	.010	291
306	.93	.53	.30	.22	.073	.44	.20	.12	.10	.014	306
321	1.12	.63	.37	.25	.083	.86	.39	.23	.14	.030	321
336	1.21	.69	.42	.28	.095	1.09	.50	.30	.16	.040	336
351	1.48	.83	.50	.31	.099	1.02	.49	.30	.16	.043	351

TABLE 45 - Continued

FLIGHT 41, LANDING APPROACH AND FLARE

(SEE FIG. 3, t = 6.6 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	4.69	8.91	13.12	20.29	21.77	20.73	19.54
21	4.89	9.58	12.73	19.74	20.67	19.44	18.59
36	4.48	9.19	12.43	16.46	16.82	15.38	15.71
51	4.34	7.95	11.31	13.53	11.41	8.43	7.18
66	3.26	7.74	10.82	12.19	8.38	4.52	8.83
81	3.12	7.46	9.98	10.72	14.88	24.94	28.96
96	2.84	6.17	9.07	19.80	29.57	28.46	26.93
111	2.80	7.20	9.55	18.06	20.26	20.16	21.09
126	3.43	6.64	8.62	14.68	16.11	16.54	17.80
141	3.31	7.24	9.41	15.51	17.49	18.18	19.46
156	3.47	7.16	11.02	17.32	19.76	20.18	20.81
171	3.69	6.72	9.59	15.47	17.71	17.97	18.38
186	3.79	6.87	9.55	13.37	15.10	16.60	18.03
201	3.44	7.04	10.16	15.09	17.44	19.38	19.72
216	3.63	7.01	10.99	16.30	19.90	20.97	20.80
231	3.19	7.17	12.02	17.23	20.40	21.65	22.55
246	2.83	4.11	7.21	17.50	20.04	20.65	21.98
261	2.49	4.42	4.84	19.65	22.65	23.09	21.51
276	1.73	4.99	7.21	17.04	26.70	27.89	25.37
291	1.71	4.69	8.89	12.82	14.15	18.78	24.12
306	2.10	5.06	9.09	13.53	11.78	9.17	8.97
321	3.82	5.93	9.03	14.33	16.54	17.30	16.72
336	4.75	6.62	10.37	17.21	21.13	22.62	22.87
351	4.65	7.76	11.71	19.93	23.28	23.10	22.67

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	15.321		0	4.366		0	4.996	
1	2.911	-1.183	1	.008	-.910	1	-.412	-.115
2	-.257	.242	2	.180	.110	2	-.001	-.045
3	-.085	.064	3	.078	-.388	3	.054	-.082
4	.000	-.018	4	.106	-.004	4	-.018	-.031
5	-.003	-.012	5	.139	.122	5	-.024	.023
6	-.038	-.041	6	.041	-.016	6	-.004	-.026
7	-.035	.000	7	.016	-.078	7	-.019	-.018
8	-.023	.009	8	-.024	.069	8	-.009	.000
9	.003	-.032	9	.041	.012	9	-.008	-.014
10	-.015	-.009	10	-.012	-.020	10	-.031	.001

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 45 - Continued

FLIGHT 41, LANDING APPROACH AND FLARE

(SEE FIG. 3, t = 6.6 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.435		.75	0	16.157		.95	0	19.523	
.25	1	.472	.388	.75	1	.451	-.501	.95	1	-1.594	-.985
.25	2	.994	.112	.75	2	.775	.010	.95	2	-1.464	-.658
.25	3	.229	-.165	.75	3	2.774	-.128	.95	3	2.593	-2.049
.25	4	-.183	-.128	.75	4	1.087	-.239	.95	4	3.551	-1.387
.25	5	-.200	-.013	.75	5	-.353	.626	.95	5	1.408	.547
.25	6	-.065	.058	.75	6	-1.047	-.168	.95	6	-3.112	.748
.25	7	-.033	.091	.75	7	.961	-.458	.95	7	-2.550	.259
.25	8	.029	-.031	.75	8	.231	.231	.95	8	-.053	.232
.25	9	.078	.093	.75	9	-.545	.289	.95	9	1.321	-.598
.25	10	.048	.045	.75	10	-.521	.052	.95	10	.892	-.207
.40	0	6.818		.85	0	18.498					
.40	1	.643	1.190	.85	1	-.410	-1.131				
.40	2	1.182	.436	.85	2	-.212	-.437				
.40	3	.210	.013	.85	3	3.810	-1.123				
.40	4	-.057	.320	.85	4	2.990	-.773				
.40	5	.288	-.049	.85	5	-.328	.832				
.40	6	-.151	.015	.85	6	-3.392	.205				
.40	7	-.013	.280	.85	7	.354	-.333				
.40	8	.086	-.009	.85	8	1.375	-.094				
.40	9	-.212	-.245	.85	9	-.034	.095				
.40	10	.124	.065	.85	10	-1.246	.089				
.55	0	9.946		.90	0	19.005					
.55	1	.934	.927	.90	1	-1.263	-1.497				
.55	2	1.700	.492	.90	2	-.917	-.668				
.55	3	.033	-.316	.90	3	3.412	-1.934				
.55	4	-.365	.500	.90	4	3.877	-1.246				
.55	5	.935	.197	.90	5	.573	.733				
.55	6	-.224	-.577	.90	6	-3.941	1.020				
.55	7	-.116	.165	.90	7	-1.387	.044				
.55	8	.144	.253	.90	8	.900	-.392				
.55	9	-.119	-.354	.90	9	1.195	-.500				
.55	10	.122	.153	.90	10	.104	.340				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 45 - Concluded

FLIGHT 41, LANDING APPROACH AND FLARE

(SEE FIG. 3, t = 6.6 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	-1920	-3011	-3128	-3445	-5149	-7079		
21	-2365	-4166	-4972	-4113	-1761	-1378		
36	269	132	-533	-1299	-2562	-3149		
51	5422	3836	2830	1573	-2025	-5467		
66	3005	3746	3752	2021	-2403	-6035		
81	1397	66	-1085	-2320	-2676	-1756		
96	-791	-4208	-5370	-3846	1416	4413		
111	-4234	-941	1700	2736	950	-1955		
126	10073	6295	3878	1410	-2905	-6144		
141	6083	5049	4186	2078	-3028	-5368		
156	-2786	-2690	-949	1296	3484	2711		
171	-1031	-2376	-2649	-2081	642	2323		
186	3814	1708	-425	-2110	-3477	-3637		
201	2230	2624	3001	1802	-3257	-8363		
216	3484	1774	524	-889	-3978	-6841		
231	1272	-1295	-2830	-3341	-2430	-642		
246	-3208	-2657	-904	943	1319	731		
261	2127	2054	3101	3643	2094	-1338		
276	6858	6938	6192	4444	369	-1955		
291	1842	3209	4384	4635	3238	2124		
306	-1681	-858	18	1286	4742	7706		
321	-438	-1081	-633	275	1865	2015		
336	1865	2104	2124	399	-5281	-9447		
351	3894	1667	-289	-2682	-7463	-11527		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	1993	-1319	-80	
21	-6049	-9703	4640	
36	-4731	-8596	-1296	
51	-4356	-7928	-32	
66	-5610	-6870	8256	
81	4761	2605	6352	
96	6844	-586	6064	
111	-742	-6561	3072	
126	-3510	-12405	-2048	
141	951	-9687	-3424	
156	4109	-2735	4224	
171	2888	472	12496	
186	4728	4884	8656	
201	-2924	-4900	9648	
216	-1898	-7066	-128	
231	463	-9752	-5328	
246	-5398	-13089	-288	
261	-6456	-9052	16	
276	-12431	-10663	3632	
291	-10917	-9149	-1264	
306	-8035	-14375	-1264	
321	-6000	-7570	1488	
336	-8801	-2686	8448	
351	-6391	-2947	11216	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	931	891	49
21	1358	333	121
36	1040	489	77
51	689	-182	88
66	1020	-62	102
81	1214	727	125
96	1749	1026	146
111	906	274	48
126	306	-553	-24
141	1407	169	92
156	2070	1017	183
171	684	175	10
186	-221	-455	-66
201	668	-463	-7
216	830	61	32
231	1492	544	83
246	691	-63	-29
261	-559	-865	-135
276	-93	-736	-47
291	729	-14	67
306	939	-151	50
321	-127	-421	-46
336	-53	-412	-35
351	449	-269	23

TABLE 46

FLIGHT 42, LANDING APPROACH AND FLARE

(SEE FIG. 4)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	5.52	3.73	2.98	1.91	.97	.46	.053	6.44	3.33	2.49	2.16	1.30	.50	.004	6
21	4.82	3.42	2.81	1.77	.82	.42	.040	5.82	2.94	2.29	2.04	1.20	.43	-.029	21
36	3.85	2.90	2.51	1.54	.60	.34	.008	4.60	2.35	1.88	1.72	.93	.32	-.069	36
51	.06	.75	1.06	.37	-.05	.13	-.034	1.81	.78	.76	.84	.33	.10	-.129	51
66	2.46	2.14	1.97	1.12	.30	.24	.024	.85	.25	.51	.66	.27	.12	-.109	66
81	8.05	5.57	4.38	2.91	1.56	.69	.105	6.71	3.66	3.07	2.71	1.60	.65	.011	81
96	8.05	5.27	4.02	2.67	1.44	.64	.076	9.37	4.89	3.65	2.87	1.92	.71	.044	96
111	6.25	4.20	3.24	2.05	1.00	.44	.036	6.56	3.31	2.47	2.16	1.27	.46	-.022	111
126	4.63	3.28	2.74	1.71	.76	.39	.038	5.05	2.52	1.99	1.84	1.01	.40	-.035	126
141	4.90	3.44	2.87	1.84	.88	.47	.076	5.25	2.70	2.13	1.97	1.13	.50	.004	141
156	5.65	3.85	3.06	1.98	1.00	.47	.061	6.08	3.13	2.42	2.17	1.27	.51	.002	156
171	5.31	3.60	2.86	1.85	.91	.45	.060	5.74	2.89	2.25	2.03	1.17	.46	-.013	171
186	5.17	3.55	2.81	1.83	.88	.46	.065	5.12	2.59	2.04	1.88	1.10	.45	-.009	186
201	5.79	3.84	2.93	1.96	1.03	.50	.077	5.77	2.96	2.29	2.09	1.22	.51	.018	201
216	6.28	4.06	3.10	2.06	1.10	.52	.085	6.38	3.30	2.50	2.21	1.35	.56	.035	216
231	6.55	4.22	3.23	2.14	1.17	.55	.100	6.74	3.45	2.56	2.23	1.35	.57	.054	231
246	6.33	4.01	3.03	2.03	1.13	.53	.093	6.76	3.45	2.57	2.19	1.37	.55	.050	246
261	6.45	4.12	3.18	2.15	1.20	.59	.111	7.60	3.92	2.90	2.47	1.56	.64	.069	261
276	7.69	4.70	3.44	2.43	1.44	.70	.163	8.75	4.36	3.17	2.68	1.73	.73	.116	276
291	4.73	3.06	2.36	1.58	.84	.45	.093	2.80	1.57	1.32	1.37	.84	.38	.026	291
306	2.29	1.72	1.62	.92	.38	.29	.052	3.00	1.40	1.18	1.16	.64	.29	-.022	306
321	5.84	3.70	2.95	1.94	1.00	.48	.076	6.22	3.25	2.46	2.08	1.27	.51	.030	321
336	6.80	4.30	3.25	2.16	1.18	.54	.081	7.04	3.65	2.69	2.32	1.42	.56	.026	336
351	6.36	4.08	3.15	2.06	1.07	.48	.048	6.95	3.57	2.63	2.27	1.37	.51	.013	351

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	6.94	5.22	3.64	2.72	2.32	1.91	1.26	.60	.56	.29	.066	6
21	6.40	4.80	3.31	2.46	2.14	1.78	1.17	.52	.48	.25	.046	21
36	5.20	3.89	2.83	1.96	1.72	1.44	.95	.37	.38	.17	.016	36
51	3.04	2.07	1.64	1.29	1.10	.85	.51	.12	.19	.07	-.028	51
66	1.99	1.21	1.14	.80	.71	.69	.34	.02	.13	.03	-.038	66
81	3.44	2.55	1.94	1.54	1.32	1.13	.78	.33	.37	.20	.028	81
96	10.02	7.01	4.95	3.83	3.26	2.65	1.77	.86	.70	.36	.106	96
111	7.38	5.16	3.60	2.62	2.28	1.86	1.20	.52	.47	.23	.034	111
126	4.93	3.64	2.59	1.87	1.63	1.33	.91	.38	.36	.20	.036	126
141	5.05	3.77	2.70	1.98	1.77	1.50	1.02	.49	.46	.27	.058	141
156	6.11	4.58	3.21	2.38	2.08	1.73	1.17	.55	.52	.27	.060	156
171	5.77	4.32	3.04	2.20	1.93	1.59	1.07	.47	.44	.23	.036	171
186	4.89	3.69	2.61	1.95	1.66	1.39	.96	.41	.43	.23	.036	186
201	5.51	4.12	2.93	2.12	1.85	1.57	1.06	.50	.48	.28	.062	201
216	6.21	4.60	3.19	2.42	2.07	1.73	1.18	.59	.54	.31	.084	216
231	6.46	4.77	3.33	2.55	2.16	1.84	1.23	.63	.55	.31	.084	231
246	7.09	5.12	3.57	2.73	2.32	1.92	1.29	.65	.57	.31	.088	246
261	7.65	5.40	3.84	2.97	2.51	2.11	1.43	.75	.65	.37	.114	261
276	7.38	5.10	3.64	2.78	2.37	2.00	1.36	.73	.63	.37	.122	276
291	2.60	1.92	1.46	1.21	1.02	.85	.61	.29	.33	.18	.030	291
306	3.89	2.79	2.00	1.51	1.31	1.07	.72	.31	.35	.18	.038	306
321	5.99	4.45	3.01	2.27	1.98	1.67	1.10	.53	.49	.28	.072	321
336	6.91	5.14	3.54	2.69	2.28	1.92	1.26	.63	.56	.31	.082	336
351	7.09	5.28	3.66	2.77	2.35	1.95	1.28	.62	.57	.30	.080	351

TABLE 46 - Continued

FLIGHT 42, LANDING APPROACH AND FLARE

(SEE FIG. 4)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.55 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
6	5.76	3.17	2.39	1.83	1.27	.54	.099	3.74	1.88	1.25	1.07	.84	.45	.111	6
21	5.59	2.91	2.24	1.73	1.17	.49	.093	3.56	1.78	1.18	1.01	.79	.42	.104	21
36	4.92	2.40	1.93	1.47	.95	.39	.063	3.62	1.81	1.19	1.01	.79	.41	.106	36
51	3.87	1.75	1.43	1.18	.70	.30	.051	2.94	1.45	.97	.85	.68	.38	.097	51
66	3.20	1.55	1.26	1.10	.62	.26	.045	2.81	1.41	.93	.82	.65	.34	.103	66
81	2.79	1.37	1.13	.99	.57	.26	.039	2.66	1.33	.88	.77	.62	.34	.098	81
96	3.94	2.96	2.19	1.79	1.23	.52	.093	2.20	1.11	.72	.66	.54	.27	.080	96
111	4.63	2.68	2.13	1.64	1.10	.45	.074	2.56	1.24	.84	.74	.60	.31	.083	111
126	4.10	2.02	1.67	1.33	.87	.39	.072	1.58	.84	.62	.59	.50	.30	.093	126
141	4.07	2.24	1.84	1.45	.95	.45	.093	2.55	1.29	.89	.80	.64	.37	.111	141
156	4.61	2.63	2.09	1.62	1.09	.48	.088	3.13	1.56	1.05	.91	.71	.36	.099	156
171	4.60	2.41	1.89	1.44	.95	.38	.069	2.76	1.35	.91	.81	.64	.33	.094	171
186	4.05	2.05	1.70	1.31	.85	.38	.067	2.59	1.28	.88	.77	.62	.35	.102	186
201	4.06	2.19	1.79	1.39	.92	.43	.097	2.70	1.38	.95	.84	.67	.36	.107	201
216	4.38	2.50	1.95	1.51	1.05	.49	.102	3.22	1.61	1.08	.93	.72	.41	.111	216
231	5.03	2.93	2.16	1.66	1.15	.51	.099	1.80	.96	.68	.65	.55	.33	.086	231
246	5.36	2.93	2.21	1.69	1.17	.52	.097	1.69	.80	.58	.52	.43	.27	.062	246
261	5.39	2.77	2.13	1.64	1.17	.53	.099	1.34	.66	.46	.43	.36	.22	.055	261
276	3.73	1.13	1.07	.88	.62	.35	.079	1.94	.94	.65	.60	.48	.29	.078	276
291	3.32	1.75	1.37	1.11	.73	.35	.072	2.47	1.21	.83	.74	.59	.33	.080	291
306	3.80	2.12	1.68	1.28	.85	.38	.077	2.59	1.26	.87	.76	.60	.33	.074	306
321	4.28	2.40	1.87	1.44	.99	.43	.090	2.52	1.24	.85	.74	.58	.33	.077	321
336	4.78	2.67	2.07	1.59	1.10	.49	.104	2.97	1.48	1.00	.87	.68	.38	.094	336
351	5.27	2.93	2.22	1.71	1.19	.52	.106	3.39	1.67	1.13	.97	.77	.42	.104	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40 x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	r/R = 0.25 x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	ψ_{nom}, deg
6	1.86	.97	.58	.32	.095	.93	.47	.30	.18	.075	6
21	1.80	.95	.57	.33	.097	1.02	.50	.32	.18	.056	21
36	1.86	.96	.57	.32	.097	1.05	.50	.30	.16	.056	36
51	1.52	.80	.48	.28	.091	.90	.42	.25	.14	.037	51
66	1.62	.82	.48	.27	.089	.68	.32	.19	.10	.027	66
81	1.27	.67	.41	.26	.091	.62	.30	.19	.12	.031	81
96	1.48	.75	.44	.26	.088	.57	.27	.17	.11	.027	96
111	1.28	.67	.38	.23	.081	.68	.32	.19	.12	.027	111
126	.93	.53	.32	.23	.084	.70	.31	.18	.10	.022	126
141	1.37	.73	.45	.27	.089	.63	.29	.17	.10	.029	141
156	1.40	.74	.43	.26	.082	.63	.30	.18	.11	.030	156
171	1.36	.71	.42	.25	.081	.69	.33	.20	.12	.036	171
186	1.24	.68	.41	.26	.093	.68	.32	.20	.12	.029	186
201	1.29	.71	.43	.27	.088	.56	.27	.18	.12	.035	201
216	1.21	.66	.40	.25	.081	.49	.24	.16	.11	.027	216
231	1.02	.57	.34	.23	.073	.36	.17	.12	.10	.027	231
246	.82	.47	.27	.20	.063	.37	.18	.12	.10	.024	246
261	.69	.40	.23	.18	.061	.38	.17	.11	.09	.020	261
276	.82	.46	.28	.20	.067	.39	.17	.10	.08	.014	276
291	.96	.53	.32	.21	.072	.41	.19	.12	.09	.011	291
306	1.03	.57	.34	.23	.074	.61	.29	.17	.11	.020	306
321	1.18	.65	.39	.25	.082	.71	.37	.24	.14	.024	321
336	1.46	.78	.47	.28	.097	.86	.42	.26	.15	.034	336
351	1.52	.82	.49	.30	.091	1.01	.49	.31	.16	.035	351

TABLE 46 - Continued

FLIGHT 42, LANDING APPROACH AND FLARE

(SEE FIG. 4)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	4.72	8.95	13.41	20.58	21.98	21.22	20.37
21	4.91	8.87	12.66	19.17	20.03	19.06	18.37
36	4.72	8.90	12.66	16.00	16.25	14.96	15.07
51	4.04	7.53	10.71	12.12	9.20	5.18	3.17
66	2.99	7.65	10.20	10.56	6.18	3.29	10.47
81	2.96	6.48	9.77	9.56	12.46	24.86	30.75
96	2.74	7.10	8.13	18.40	30.40	30.90	28.87
111	3.14	6.21	9.21	17.46	21.37	20.84	21.94
126	3.00	5.20	7.20	14.20	15.39	16.54	17.49
141	2.83	6.96	9.92	15.46	16.91	18.29	19.17
156	2.96	6.86	11.14	17.46	19.79	20.50	20.97
171	3.21	6.68	9.89	15.70	18.18	18.99	19.62
186	3.15	6.55	9.73	14.09	16.02	17.45	19.32
201	2.82	6.72	10.29	15.13	18.01	19.71	21.21
216	2.53	6.27	11.65	16.80	20.03	21.76	22.55
231	1.98	5.44	7.93	18.71	20.85	22.43	23.63
246	1.98	4.48	6.56	19.16	22.21	22.39	22.58
261	1.89	3.90	5.43	18.88	24.41	25.45	23.73
276	1.76	4.50	7.46	10.61	23.33	28.64	27.55
291	1.96	5.11	9.12	12.07	9.82	11.93	17.52
306	2.78	5.45	9.40	13.99	12.50	10.14	9.84
321	3.53	6.17	9.23	15.90	18.85	20.87	20.85
336	4.06	7.39	10.80	17.76	21.84	23.24	23.85
351	4.64	7.69	12.17	19.19	22.32	22.51	22.22

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.331		0	4.374		0	5.094	
1	2.619	-1.615	1	.228	-1.065	1	-.375	-.054
2	-.423	.117	2	.273	.241	2	-.001	-.038
3	-.225	.593	3	.143	-.371	3	.096	-.115
4	.231	.251	4	.000	-.228	4	.011	-.030
5	.146	-.102	5	.065	.257	5	-.030	.043
6	-.029	.035	6	.004	.008	6	-.019	-.030
7	-.026	.050	7	.041	-.049	7	-.012	-.023
8	.032	.026	8	.012	.078	8	-.014	.012
9	.032	.000	9	.016	.012	9	-.039	.020
10	.000	.015	10	.004	-.037	10	-.038	-.015

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 46 - Continued

FLIGHT 42, LANDING APPROACH AND FLARE

(SEE FIG. 4)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.136		.75	0	15.789		.95	0	20.046	
.25	1	.845	.491	.75	1	.065	-.721	.95	1	-2.137	-1.145
.25	2	.833	-.087	.75	2	1.703	-.178	.95	2	-1.379	-.677
.25	3	.116	-.005	.75	3	2.946	-.890	.95	3	2.674	-3.273
.25	4	.022	.085	.75	4	.175	-.251	.95	4	3.798	-2.181
.25	5	-.169	.059	.75	5	-.450	1.583	.95	5	.907	1.114
.25	6	-.012	-.003	.75	6	-.370	-.096	.95	6	-3.234	2.165
.25	7	.022	-.017	.75	7	.869	-.835	.95	7	-1.716	1.115
.25	8	-.043	-.064	.75	8	-.056	.321	.95	8	.321	-.314
.25	9	.014	-.025	.75	9	-.398	.591	.95	9	.794	-1.326
.25	10	.022	-.003	.75	10	.083	-.051	.95	10	.429	-.464
.40	0	6.544		.85	0	18.263					
.40	1	.935	1.005	.85	1	-.999	-1.481				
.40	2	1.198	.171	.85	2	.346	-.692				
.40	3	-.063	-.022	.85	3	4.393	-1.978				
.40	4	.060	.115	.85	4	2.678	-1.011				
.40	5	.224	.095	.85	5	-1.353	1.916				
.40	6	-.229	.037	.85	6	-3.113	.744				
.40	7	.006	-.094	.85	7	1.019	-.673				
.40	8	.106	.197	.85	8	1.429	-.167				
.40	9	-.106	.060	.85	9	-.247	.171				
.40	10	.004	-.175	.85	10	-1.166	.008				
.55	0	9.778		.90	0	19.213					
.55	1	1.188	.780	.90	1	-1.880	-1.714				
.55	2	1.996	.047	.90	2	-.771	-.925				
.55	3	-.280	.065	.90	3	4.032	-2.887				
.55	4	.033	.451	.90	4	3.893	-1.897				
.55	5	.821	-.094	.90	5	-.294	1.719				
.55	6	-.446	-.146	.90	6	-4.081	2.196				
.55	7	.182	-.110	.90	7	-.618	.305				
.55	8	-.214	.131	.90	8	1.409	-1.029				
.55	9	-.083	-.108	.90	9	.845	-.922				
.55	10	.338	-.318	.90	10	-.367	.233				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 46 - Concluded

FLIGHT 42, LANDING APPROACH AND FLARE

(SEE FIG. 4)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	-1799	-2805	-2884	-3326	-5284	-6973		
21	-1423	-3234	-4204	-3956	-2055	-1848		
36	-192	330	-63	-617	-1685	-2346		
51	4619	3548	2911	2064	-444	-3590		
66	3502	3770	3526	1921	-2354	-5321		
81	1758	-107	-1293	-2448	-2750	-1510		
96	-1719	-4232	-5279	-4051	1069	3793		
111	-3566	-1799	597	1778	788	-1440		
126	8119	5453	3887	1826	-2864	-5987		
141	6181	5264	4339	2169	-2063	-4594		
156	-1594	-1254	253	1997	3296	2291		
171	-899	-2104	-2405	-1695	1536	3196		
186	2362	1419	-90	-2028	-2609	-2306		
201	3376	2500	2341	1215	-3075	-7769		
216	2772	2360	1880	185	-4307	-7550		
231	1427	-767	-2188	-2563	-2556	-2127		
246	-2312	-2566	-1519	252	2257	1953		
261	1473	1700	2658	3247	2821	1256		
276	5850	6295	5804	4297	1589	560		
291	2100	3861	4882	4879	3375	2778		
306	-1001	-215	542	1921	5302	6639		
321	-1548	-693	-334	-359	453	-8		
336	2442	1147	-271	-2362	-6481	-9609		
351	1963	-149	-1510	-3450	-8065	-11530		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	645	-2637	-1142	
21	-6128	-10891	1866	
36	-7414	-10387	-390	
51	-3604	-6724	-102	
66	-4907	-4803	9418	
81	3966	3598	8586	
96	7906	472	4842	
111	-1162	-8026	2090	
126	-4907	-12275	-2902	
141	-381	-11445	-4134	
156	3217	-3109	2314	
171	1003	977	13114	
186	3852	4558	10410	
201	-1553	-2475	8666	
216	-3018	-8531	2410	
231	1101	-9133	-7110	
246	-3849	-13626	-2790	
261	-8456	-10061	474	
276	-12365	-10435	2746	
291	-10849	-10712	-694	
306	-8847	-11249	1258	
321	-6242	-4900	5002	
336	-7023	-228	8890	
351	-5656	-3842	9162	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	1265	1019	96
21	1484	493	145
36	1206	525	98
51	758	-112	89
66	1145	66	99
81	1605	892	181
96	2093	1430	150
111	883	164	31
126	360	-483	-29
141	1679	311	98
156	1993	1020	153
171	554	119	9
186	207	-222	-55
201	682	-345	-4
216	1135	170	50
231	1557	656	59
246	704	-138	-63
261	-388	-780	-125
276	9	-725	-37
291	739	-93	47
306	864	-96	41
321	323	24	-1
336	337	32	13
351	828	91	65

TABLE 47

FLIGHT 43, LANDING APPROACH AND FLARE

(SEE FIG. 5)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	7.07	4.28	3.20	2.19	1.21	.49	.069	7.81	3.88	2.70	2.23	1.44	.53	.045	0
15	5.93	3.76	3.00	1.97	1.08	.45	.061	6.89	3.42	2.43	2.03	1.30	.51	.025	15
30	5.26	3.39	2.94	1.86	.98	.41	.053	6.23	3.08	2.23	1.92	1.17	.47	.009	30
45	4.79	3.13	2.79	1.74	.86	.37	.039	5.58	2.77	2.07	1.78	1.07	.41	-.009	45
60	4.48	2.95	2.56	1.67	.79	.34	.028	3.99	2.07	1.57	1.39	.79	.31	-.038	60
75	8.17	5.02	3.79	2.46	1.30	.50	.065	4.58	2.23	1.82	1.64	.98	.39	-.020	75
90	9.34	5.69	4.41	3.02	1.74	.72	.130	9.15	4.82	3.46	2.91	1.86	.73	.056	90
105	9.34	5.53	4.15	2.80	1.59	.65	.107	9.78	4.80	3.38	2.79	1.81	.69	.064	105
120	7.89	4.84	3.61	2.42	1.35	.56	.093	7.81	3.95	2.79	2.37	1.53	.62	.060	120
135	6.67	4.18	3.33	2.21	1.26	.54	.093	7.45	3.73	2.67	2.28	1.46	.62	.064	135
150	6.91	4.30	3.33	2.27	1.32	.56	.097	7.47	3.81	2.71	2.29	1.49	.62	.060	150
165	6.85	4.22	3.24	2.20	1.24	.51	.081	7.18	3.61	2.55	2.15	1.40	.58	.049	165
180	6.26	3.89	3.02	2.08	1.20	.51	.093	6.70	3.37	2.40	2.08	1.35	.56	.056	180
195	6.54	4.07	3.11	2.15	1.26	.53	.093	6.77	3.44	2.46	2.09	1.37	.59	.064	195
210	6.77	4.19	3.14	2.17	1.26	.52	.091	6.91	3.48	2.46	2.08	1.38	.58	.067	210
225	6.67	4.08	3.09	2.12	1.24	.52	.097	7.06	3.54	2.49	2.09	1.38	.59	.078	225
240	6.75	4.08	3.10	2.15	1.27	.55	.111	7.42	3.70	2.59	2.15	1.44	.62	.089	240
255	6.98	4.14	3.16	2.23	1.38	.62	.144	8.42	4.15	2.88	2.40	1.62	.69	.118	255
270	7.75	4.45	3.34	2.41	1.51	.66	.153	8.81	4.17	2.91	2.40	1.66	.70	.125	270
285	7.44	4.28	3.19	2.19	1.31	.55	.113	5.10	2.57	1.82	1.57	1.08	.48	.064	285
300	4.86	2.96	2.32	1.36	.61	.28	.040	3.48	1.65	1.21	1.07	.63	.29	.006	300
315	4.56	2.83	2.37	1.72	1.06	.48	.085	6.65	3.36	2.40	1.98	1.29	.55	.063	315
330	7.22	4.32	3.24	2.29	1.37	.57	.101	8.27	4.15	2.88	2.37	1.56	.64	.078	330
345	7.70	4.51	3.35	2.33	1.36	.55	.083	8.40	4.15	2.89	2.38	1.53	.61	.058	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.85										
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	7.96	5.58	3.82	2.94	2.45	2.09	1.40	.70	.60	.31	.133	0
15	6.98	5.23	3.48	2.63	2.22	1.89	1.26	.61	.54	.27	.112	15
30	6.27	4.78	3.11	2.35	2.00	1.71	1.15	.53	.49	.24	.100	30
45	5.51	4.18	2.76	2.01	1.75	1.51	1.01	.45	.41	.21	.084	45
60	3.89	2.92	2.03	1.54	1.25	1.03	.76	.29	.30	.13	.047	60
75	1.59	1.13	.84	.64	.57	.65	.39	.10	.18	.07	.019	75
90	6.40	4.91	3.16	2.42	1.96	1.66	1.08	.48	.45	.23	.100	90
105	9.33	6.35	4.34	3.36	2.82	2.40	1.60	.79	.64	.34	.138	105
120	8.12	5.65	3.83	2.96	2.55	2.09	1.41	.68	.57	.29	.121	120
135	6.83	5.17	3.43	2.63	2.24	1.94	1.31	.67	.58	.32	.138	135
150	7.07	5.28	3.51	2.70	2.27	1.95	1.32	.67	.57	.31	.133	150
165	6.89	5.04	3.34	2.56	2.14	1.82	1.24	.62	.53	.28	.117	165
180	6.34	4.78	3.08	2.38	1.99	1.70	1.17	.57	.52	.28	.112	180
195	6.40	4.80	3.12	2.39	2.00	1.73	1.19	.59	.52	.29	.121	195
210	6.50	4.74	3.17	2.44	2.02	1.76	1.20	.61	.54	.30	.129	210
225	6.75	4.80	3.27	2.56	2.12	1.84	1.26	.66	.56	.31	.139	225
240	7.18	5.05	3.47	2.72	2.25	1.96	1.35	.72	.61	.34	.152	240
255	8.41	5.69	3.92	3.05	2.53	2.17	1.48	.80	.65	.37	.170	255
270	6.91	4.80	3.25	2.53	2.10	1.82	1.25	.66	.56	.30	.135	270
285	2.29	1.77	1.23	.96	.81	.80	.58	.30	.31	.17	.071	285
300	3.86	2.68	1.78	1.37	1.11	1.00	.67	.29	.30	.16	.081	300
315	6.47	4.74	3.12	2.40	2.01	1.75	1.17	.60	.53	.29	.135	315
330	8.09	5.61	3.84	3.00	2.48	2.13	1.42	.74	.62	.34	.150	330
345	8.45	5.79	4.01	3.09	2.55	2.19	1.45	.75	.62	.32	.141	345

TABLE 47 - Continued

FLIGHT 43, LANDING APPROACH AND FLARE

(SEE FIG. 5)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.28	3.15	2.44	1.84	1.31	.56	.121	3.65	1.85	1.28	1.00	.78	.48	.094	0
15	6.10	2.95	2.32	1.75	1.23	.51	.113	3.75	1.91	1.32	1.03	.80	.49	.094	15
30	5.64	2.70	2.16	1.64	1.15	.47	.099	3.66	1.87	1.29	1.00	.79	.48	.093	30
45	5.06	2.38	2.00	1.51	1.02	.43	.084	3.40	1.70	1.19	.93	.72	.45	.090	45
60	4.30	1.91	1.69	1.27	.82	.34	.066	2.90	1.45	1.03	.80	.64	.40	.084	60
75	3.35	1.36	1.19	.99	.58	.23	.042	2.51	1.24	.88	.69	.55	.36	.079	75
90	2.39	.90	.85	.71	.42	.18	.032	2.26	1.15	.79	.61	.49	.32	.066	90
105	1.67	.81	.93	.83	.60	.31	.084	1.95	.97	.67	.51	.42	.29	.056	105
120	3.59	2.67	2.22	1.64	1.10	.45	.094	1.66	.82	.64	.44	.38	.28	.058	120
135	4.66	2.89	2.32	1.78	1.24	.54	.115	1.50	.74	.58	.43	.37	.28	.061	135
150	5.39	2.91	2.34	1.79	1.25	.54	.109	1.49	.78	.61	.48	.39	.29	.073	150
165	5.35	2.65	2.16	1.64	1.15	.49	.106	1.98	.99	.74	.59	.49	.34	.074	165
180	5.03	2.43	1.99	1.52	1.06	.46	.101	1.70	.86	.66	.52	.45	.32	.074	180
195	4.97	2.50	2.02	1.53	1.07	.47	.109	1.83	.94	.72	.58	.48	.33	.070	195
210	5.31	2.71	2.11	1.60	1.13	.48	.111	1.43	.74	.59	.46	.39	.29	.058	210
225	5.49	2.81	2.19	1.66	1.18	.51	.113	1.24	.62	.50	.38	.32	.26	.048	225
240	5.75	2.89	2.25	1.71	1.22	.53	.109	1.39	.70	.52	.40	.34	.27	.044	240
255	5.12	2.14	1.78	1.37	.99	.44	.084	1.63	.82	.60	.47	.38	.28	.045	255
270	3.43	.91	.90	.76	.52	.29	.070	1.87	.91	.70	.53	.43	.30	.053	270
285	2.61	1.07	.95	.79	.50	.25	.059	2.13	1.06	.78	.61	.48	.33	.053	285
300	3.07	1.64	1.40	1.07	.70	.32	.068	2.33	1.17	.85	.65	.52	.35	.056	300
315	4.01	2.38	1.90	1.45	1.01	.46	.104	2.59	1.32	.95	.73	.58	.38	.069	315
330	4.98	2.93	2.27	1.73	1.23	.55	.118	2.98	1.52	1.09	.84	.66	.43	.082	330
345	5.81	3.12	2.41	1.82	1.31	.56	.118	3.37	1.71	1.20	.93	.73	.45	.090	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.66	.83	.53	.32	.101	.88	.45	.30	.15	.039	0
15	1.73	.87	.55	.32	.103	.93	.48	.31	.14	.040	15
30	1.81	.89	.56	.32	.106	.87	.41	.26	.16	.052	30
45	1.78	.87	.54	.31	.106	.78	.37	.21	.08	.026	45
60	1.49	.71	.45	.27	.096	.69	.32	.18	.04	.026	60
75	1.22	.59	.38	.24	.092	.59	.29	.18	.08	.019	75
90	1.13	.55	.35	.23	.088	.52	.25	.16	.07	.022	90
105	1.07	.51	.32	.21	.084	.52	.25	.16	.08	.023	105
120	.89	.43	.28	.21	.080	.52	.25	.16	.07	.021	120
135	.97	.47	.31	.22	.082	.48	.23	.15	.07	.019	135
150	.91	.44	.27	.19	.066	.40	.19	.12	.06	.021	150
165	.80	.41	.27	.19	.070	.33	.16	.10	.05	.022	165
180	.88	.44	.29	.20	.074	.29	.14	.09	.05	.017	180
195	.62	.33	.22	.18	.070	.24	.12	.08	.04	.016	195
210	.59	.31	.21	.17	.061	.24	.11	.08	.04	.015	210
225	.54	.28	.19	.16	.060	.24	.11	.08	.04	.009	225
240	.68	.34	.23	.18	.063	.27	.13	.09	.05	.015	240
255	.81	.41	.26	.19	.068	.33	.16	.11	.06	.015	255
270	.91	.46	.30	.20	.069	.39	.18	.12	.06	.011	270
285	.98	.51	.32	.21	.072	.40	.19	.13	.06	.011	285
300	1.06	.54	.35	.23	.076	.44	.23	.15	.07	.009	300
315	1.22	.62	.40	.25	.086	.55	.29	.20	.10	.018	315
330	1.34	.69	.45	.28	.094	.76	.38	.25	.12	.023	330
345	1.45	.74	.48	.30	.094	.83	.43	.28	.13	.029	345

TABLE 47 - Continued

FLIGHT 43, LANDING APPROACH AND FLARE

(SEE FIG. 5)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	4.27	8.24	13.15	21.29	24.18	24.02	23.79
15	4.41	8.52	13.51	20.14	21.68	21.61	21.11
30	4.13	8.72	13.23	18.63	19.53	19.60	19.42
45	3.19	8.51	12.23	16.76	17.11	17.71	17.74
60	2.66	7.17	10.65	13.72	12.38	13.01	16.47
75	2.62	6.10	9.31	9.95	5.85	15.34	26.89
90	2.38	5.63	8.32	7.13	19.17	30.33	32.82
105	2.37	5.31	7.16	8.18	27.53	30.27	31.12
120	2.36	4.66	6.45	16.89	24.26	25.23	26.77
135	2.17	5.05	6.13	19.20	22.06	24.18	24.08
150	1.78	4.54	6.48	19.82	22.38	24.46	24.75
165	1.53	4.34	7.95	18.46	21.17	23.09	23.84
180	1.35	4.65	7.15	17.16	19.79	21.99	22.52
195	1.20	3.65	7.64	17.35	20.06	22.42	23.44
210	1.15	3.43	6.27	18.34	20.41	22.57	23.78
225	1.11	3.18	5.34	19.08	21.27	22.89	23.40
240	1.33	3.79	5.71	19.71	22.73	23.94	23.81
255	1.59	4.32	6.37	16.01	25.51	26.94	25.06
270	1.72	4.76	7.19	9.07	21.26	27.52	27.07
285	1.81	5.09	8.09	8.42	8.88	17.28	24.84
300	2.11	5.49	8.72	11.44	11.59	10.91	15.32
315	2.73	6.28	9.72	16.02	20.14	21.58	18.03
330	3.54	6.95	11.14	19.42	24.61	26.21	25.14
345	3.95	7.40	12.29	20.86	25.33	26.00	25.73

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	12.707		0	4.232		0	6.925	
1	2.638	-1.189	1	.439	-1.025	1	-.427	-.110
2	.095	-.018	2	.020	.304	2	.006	.000
3	-.173	.109	3	.328	-.182	3	.097	.017
4	.036	.018	4	.221	.083	4	-.005	-.030
5	.100	.009	5	-.024	.075	5	-.009	-.017
6	.009	.050	6	.077	.022	6	.006	.002
7	.000	-.023	7	.087	.016	7	.000	.003
8	.018	-.005	8	.022	.016	8	-.011	-.006
9	.027	.000	9	.022	.018	9	-.009	-.006
10	.005	.014	10	.040	-.004	10	-.014	.000
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 47 - Continued

FLIGHT 43, LANDING APPROACH AND FLARE

(SEE FIG. 5)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.394		.75	0	15.960		.95	0	23.623	
.25	1	1.249	.454	.75	1	-.172	-.621	.95	1	-1.784	1.163
.25	2	.411	-.081	.75	2	4.927	.571	.95	2	-1.680	-1.070
.25	3	.301	.089	.75	3	2.270	.664	.95	3	2.598	-1.578
.25	4	.062	.040	.75	4	-2.143	-1.341	.95	4	3.019	-.426
.25	5	-.050	.001	.75	5	-.157	-.249	.95	5	-.069	-.202
.25	6	-.053	.063	.75	6	.651	.574	.95	6	-2.025	-.672
.25	7	-.057	.016	.75	7	-.092	-.062	.95	7	-.712	-.173
.25	8	-.029	-.023	.75	8	-.248	-.274	.95	8	.058	.280
.25	9	.004	-.005	.75	9	.324	.226	.95	9	.746	.172
.25	10	.020	-.006	.75	10	-.014	.162	.95	10	.309	.156
.40	0	5.656		.85	0	19.953					
.40	1	2.088	.818	.85	1	-1.214	-.405				
.40	2	.536	.156	.85	2	2.439	-1.290				
.40	3	-.064	.398	.85	3	5.240	-.307				
.40	4	.022	.019	.85	4	.239	-.435				
.40	5	-.172	-.044	.85	5	-3.291	-.565				
.40	6	-.003	.007	.85	6	-1.035	-.500				
.40	7	.008	-.063	.85	7	1.908	.377				
.40	8	.131	.041	.85	8	.668	.477				
.40	9	-.041	.062	.85	9	-.673	-.136				
.40	10	.091	-.056	.85	10	-.517	-.167				
.55	0	8.757		.90	0	22.463					
.55	1	3.162	.773	.90	1	-1.791	.162				
.55	2	1.387	.420	.90	2	.073	-1.415				
.55	3	-.344	.261	.90	3	4.304	-1.082				
.55	4	.351	.085	.90	4	2.167	-.657				
.55	5	-.125	-.032	.90	5	-2.271	-.324				
.55	6	-.067	-.032	.90	6	-2.632	-.430				
.55	7	.048	-.024	.90	7	.682	.089				
.55	8	-.103	-.015	.90	8	1.313	.686				
.55	9	.144	.069	.90	9	.242	.174				
.55	10	-.121	-.022	.90	10	-.404	-.307				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 47 - Concluded

FLIGHT 43, LANDING APPROACH AND FLARE

(SEE FIG. 5)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-1200	-2285	-2974	-3693	-6273	-8537		
15	579	-842	-1971	-2825	-4469	-5602		
30	2049	1856	1627	600	-2788	-4229		
45	3828	3515	3381	2995	371	-1553		
60	3326	3622	3553	2823	1383	69		
75	2369	1650	1311	963	890	447		
90	1422	-413	-1437	-1785	-483	2029		
105	260	-1064	-1392	-964	1163	3353		
120	1502	1238	1962	2336	1779	627		
135	5298	4340	4167	3472	1717	-617		
150	3999	3878	4954	5256	2580	-826		
165	2494	2657	3960	4416	3838	1482		
180	3041	2912	2685	1945	2298	686		
195	2517	2219	2287	1564	213	-2100		
210	2038	1741	1727	1268	-870	-4707		
225	2357	1444	886	180	-2049	-4796		
240	1650	751	416	257	-667	-1443		
255	909	932	1654	2251	2307	2507		
270	2369	3135	3327	3357	3671	4815		
285	2642	3713	4457	4550	4419	5631		
300	1616	2673	3797	4302	5026	5084		
315	1206	2005	2477	2375	2685	318		
330	1525	1502	542	-1279	-3149	-6756		
345	818	-1081	-2640	-4113	-6475	-9015		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-1143	-3354	3573	
15	-4692	-11217	-1035	
30	-7574	-13789	-3211	
45	-6141	-10810	-475	
60	-2706	-4330	6757	
75	1722	2198	10981	
90	7518	1921	8869	
105	5841	-2637	1653	
120	-622	-12812	-2491	
135	-1241	-15010	-6667	
150	990	-11315	-3099	
165	1364	-3370	7573	
180	2032	3028	13269	
195	1478	749	11461	
210	371	-5698	3957	
225	-606	-12275	-4603	
240	-3015	-13496	-6411	
255	-6353	-12340	-1851	
270	-11481	-8921	885	
285	-11562	-12324	821	
300	-11253	-11836	677	
315	-9136	-7440	5397	
330	-5311	-684	9205	
345	-2169	-391	9493	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	173	528	79
15	351	274	105
30	420	395	105
45	184	64	104
60	377	131	122
75	714	638	156
90	1022	938	160
105	449	454	84
120	5	-187	14
135	229	-134	54
150	888	412	127
165	224	52	69
180	-195	-164	13
195	-3	-106	34
210	187	29	27
225	166	11	6
240	-196	-220	-25
255	-476	-441	-40
270	-880	-586	-33
285	-612	-552	-18
300	-644	-591	-15
315	-363	-134	-3
330	-322	30	27
345	-24	232	62

TABLE 48

FLIGHT 44, LANDING APPROACH AND FLARE

(SEE FIG. 6, t = 13.5 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95							Δp, lb/sq in., at - r/R = 0.90							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	4.66	3.14	2.91	1.83	.94	.40	.045	6.22	3.13	2.24	1.92	1.21	.45	-.009	0
15	3.92	2.84	2.69	1.67	.78	.35	.024	5.55	2.80	2.07	1.82	1.09	.39	-.038	15
30	2.64	2.22	2.26	1.24	.53	.27	-.012	4.35	2.14	1.68	1.47	.82	.28	-.078	30
45	.74	1.10	1.48	.56	.16	.16	-.024	2.67	1.19	1.02	.96	.48	.16	-.110	45
60	4.99	3.61	3.11	1.82	.72	.32	.018	1.75	.77	.82	.90	.48	.21	-.094	60
75	7.13	4.81	3.95	2.60	1.40	.57	.068	7.56	4.09	3.09	2.64	1.67	.63	.016	75
90	6.06	4.07	3.47	2.20	1.13	.48	.050	7.23	3.65	2.63	2.27	1.39	.52	-.020	90
105	4.97	3.45	3.12	1.92	.89	.37	.020	5.73	2.86	2.16	1.89	1.07	.38	-.049	105
120	4.10	2.96	2.80	1.74	.79	.36	.036	4.82	2.46	1.89	1.68	.95	.39	-.038	120
135	4.39	3.08	2.82	1.84	.86	.39	.046	5.48	2.81	2.12	1.85	1.08	.45	-.025	135
150	4.35	2.99	2.68	1.79	.86	.39	.038	5.93	2.98	2.27	1.90	1.12	.43	-.025	150
165	3.99	2.73	2.48	1.67	.78	.36	.042	5.34	2.68	2.03	1.72	1.02	.39	-.031	165
180	4.08	2.77	2.47	1.66	.79	.36	.050	5.01	2.52	1.91	1.65	.97	.39	-.022	180
195	4.80	3.11	2.73	1.82	.97	.44	.079	5.90	2.92	2.15	1.89	1.16	.48	.016	195
210	5.47	3.55	2.95	1.98	1.10	.49	.087	6.75	3.38	2.41	2.08	1.30	.53	.033	210
225	6.29	4.00	3.18	2.16	1.25	.52	.097	6.85	3.46	2.50	2.15	1.39	.59	.052	225
240	6.04	3.82	3.03	2.03	1.14	.48	.075	6.56	3.26	2.31	1.97	1.27	.51	.038	240
255	5.92	3.73	3.03	2.02	1.14	.51	.103	6.65	3.34	2.37	1.99	1.31	.56	.060	255
270	7.15	4.44	3.43	2.36	1.36	.63	.135	7.89	3.98	2.82	2.37	1.59	.69	.114	270
285	4.35	2.91	2.58	1.62	1.01	.44	.073	4.64	2.36	1.70	1.47	1.00	.43	.017	285
300	2.45	1.75	1.83	.99	.45	.27	.050	3.69	1.67	1.27	1.20	.69	.29	-.017	300
315	4.97	3.14	2.80	1.75	.92	.39	.059	5.54	2.75	1.96	1.67	1.07	.42	.016	315
330	5.38	3.45	2.98	1.90	1.04	.44	.061	6.24	3.13	2.23	1.90	1.22	.44	.016	330
345	5.06	3.34	2.97	1.86	1.00	.43	.050	6.34	3.20	2.28	1.96	1.24	.48	.011	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85											ψ_{nom}, deg
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	6.41	4.94	3.18	2.41	2.06	1.79	1.18	.55	.50	.23	.114	0
15	5.77	4.47	2.93	2.11	1.85	1.60	1.07	.44	.42	.18	.085	15
30	4.52	3.55	2.34	1.88	1.45	1.22	.82	.28	.29	.11	.049	30
45	3.15	2.41	1.61	1.24	1.05	.84	.54	.12	.20	.06	.022	45
60	2.49	1.85	1.26	.95	.85	.81	.44	.06	.15	.05	.013	60
75	5.67	4.44	3.02	2.39	2.03	1.71	1.19	.57	.51	.26	.121	75
90	7.11	5.46	3.59	2.73	2.36	2.00	1.35	.61	.52	.24	.098	90
105	5.17	3.93	2.62	1.90	1.60	1.40	.96	.36	.35	.17	.065	105
120	4.61	3.55	2.38	1.83	1.51	1.23	.87	.33	.36	.17	.071	120
135	5.19	4.01	2.70	1.99	1.64	1.44	1.02	.44	.41	.21	.085	135
150	5.52	4.22	2.85	2.03	1.79	1.52	1.07	.47	.43	.23	.083	150
165	5.09	3.84	2.55	1.81	1.59	1.37	.97	.40	.38	.18	.067	165
180	4.45	3.36	2.27	1.78	1.36	1.20	.88	.38	.38	.19	.073	180
195	5.29	4.05	2.67	1.93	1.68	1.49	1.04	.49	.47	.26	.108	195
210	5.99	4.56	3.03	2.29	1.94	1.69	1.18	.58	.52	.29	.129	210
225	6.47	4.87	3.20	2.44	2.05	1.78	1.22	.60	.53	.28	.125	225
240	5.99	4.52	2.99	2.30	1.92	1.69	1.17	.57	.49	.27	.127	240
255	6.57	4.86	3.18	2.49	2.05	1.81	1.23	.63	.55	.30	.150	255
270	7.56	5.33	3.65	2.83	2.38	2.04	1.41	.73	.62	.35	.168	270
285	2.87	2.19	1.45	1.21	1.00	.88	.65	.30	.34	.18	.088	285
300	4.14	3.09	1.98	1.56	1.24	1.15	.76	.31	.33	.16	.080	300
315	5.32	4.04	2.58	1.90	1.65	1.49	.97	.44	.43	.21	.108	315
330	5.96	4.55	2.93	2.23	1.88	1.66	1.11	.54	.48	.25	.125	330
345	6.31	4.83	3.13	2.38	2.02	1.77	1.18	.58	.52	.26	.129	345

TABLE 48 - Continued

FLIGHT 44, LANDING APPROACH AND FLARE

(SEE FIG. 6, t = 13.5 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.34	2.78	2.25	1.69	1.17	.50	.076	3.32	1.70	1.20	.92	.72	.46	.093	0
15	5.32	2.64	2.16	1.62	1.09	.43	.062	3.50	1.77	1.23	.93	.73	.45	.093	15
30	4.67	2.12	1.84	1.37	.88	.34	.048	3.45	1.72	1.20	.91	.71	.44	.093	30
45	3.82	1.65	1.53	1.20	.71	.30	.055	3.15	1.56	1.11	.84	.66	.41	.091	45
60	3.39	1.59	1.49	1.19	.68	.27	.052	2.95	1.48	1.03	.78	.61	.38	.092	60
75	3.36	1.72	1.56	1.28	.80	.36	.079	2.53	1.28	.89	.68	.54	.35	.084	75
90	4.55	2.86	2.31	1.78	1.22	.50	.088	2.58	1.28	.90	.68	.54	.32	.076	90
105	4.58	2.12	1.88	1.38	.87	.34	.064	2.76	1.36	.98	.75	.59	.37	.083	105
120	3.84	1.72	1.60	1.22	.77	.34	.076	2.22	1.16	.82	.63	.52	.36	.089	120
135	3.91	1.98	1.78	1.36	.89	.39	.085	2.67	1.35	1.01	.76	.61	.41	.096	135
150	4.39	2.21	1.93	1.45	.98	.39	.076	2.93	1.45	1.03	.78	.60	.36	.078	150
165	4.21	1.97	1.78	1.32	.88	.34	.069	2.70	1.33	.96	.72	.57	.35	.079	165
180	3.73	1.75	1.61	1.21	.81	.34	.071	2.70	1.35	.98	.74	.58	.38	.089	180
195	3.92	1.98	1.79	1.37	.95	.42	.100	2.58	1.31	.97	.74	.59	.38	.092	195
210	4.42	2.31	1.96	1.48	1.04	.46	.098	2.57	1.32	.96	.74	.59	.39	.083	210
225	4.70	2.41	1.99	1.51	1.06	.47	.090	2.60	1.35	.97	.75	.58	.38	.079	225
240	4.74	2.38	1.97	1.48	1.04	.44	.088	2.30	1.06	.80	.61	.48	.31	.042	240
255	4.84	2.48	1.99	1.51	1.07	.48	.102	1.18	.58	.46	.32	.26	.23	.042	255
270	4.21	1.62	1.52	1.17	.81	.41	.085	1.85	.92	.68	.51	.41	.30	.060	270
285	3.42	1.55	1.35	1.08	.72	.34	.076	2.33	1.17	.86	.65	.51	.35	.062	285
300	3.73	1.89	1.62	1.21	.82	.34	.064	2.52	1.25	.91	.68	.53	.34	.057	300
315	3.98	2.00	1.70	1.27	.87	.37	.067	2.54	1.24	.90	.67	.52	.35	.057	315
330	4.37	2.26	1.88	1.43	.99	.44	.079	2.72	1.39	1.00	.77	.60	.40	.082	330
345	4.83	2.55	2.08	1.58	1.11	.48	.085	3.13	1.59	1.13	.88	.68	.44	.088	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.90	.94	.61	.35	.112	.89	.46	.28	.17	.086	0
15	2.09	1.02	.64	.36	.114	.97	.51	.33	.14	.049	15
30	1.82	.88	.57	.32	.112	.89	.45	.26	.12	.027	30
45	1.69	.80	.52	.30	.107	.69	.36	.23	.09	.025	45
60	1.45	.70	.47	.28	.105	.90	.46	.29	.12	.034	60
75	1.48	.74	.50	.30	.112	.78	.42	.27	.11	.034	75
90	1.35	.66	.43	.26	.088	.58	.30	.20	.09	.023	90
105	1.32	.65	.42	.26	.101	.81	.40	.25	.10	.030	105
120	1.32	.64	.42	.27	.095	.80	.40	.24	.09	.024	120
135	1.39	.67	.43	.27	.097	.70	.36	.22	.09	.026	135
150	1.38	.68	.43	.26	.090	.66	.33	.22	.10	.031	150
165	1.32	.65	.42	.26	.092	.67	.36	.23	.11	.033	165
180	1.34	.66	.43	.27	.096	.65	.35	.23	.10	.034	180
195	1.33	.65	.42	.27	.088	.58	.31	.21	.09	.029	195
210	1.39	.68	.44	.27	.091	.57	.30	.20	.10	.030	210
225	1.20	.59	.39	.25	.087	.49	.25	.17	.08	.024	225
240	.75	.38	.25	.19	.067	.42	.21	.15	.07	.019	240
255	.78	.39	.26	.19	.067	.47	.22	.15	.07	.022	255
270	.89	.44	.30	.21	.073	.48	.22	.14	.06	.013	270
285	.97	.48	.32	.21	.075	.38	.20	.14	.06	.018	285
300	1.02	.51	.34	.22	.075	.42	.22	.15	.07	.013	300
315	1.18	.60	.39	.24	.085	.76	.37	.24	.10	.025	315
330	1.36	.71	.46	.30	.109	1.01	.49	.31	.13	.033	330
345	1.91	.95	.61	.35	.113	.93	.42	.30	.18	.065	345

TABLE 48 - Continued

FLIGHT 44, LANDING APPROACH AND FLARE

(SEE FIG. 6, t = 13.5 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	4.52	9.28	12.25	18.80	20.13	19.65	18.37
15	4.59	9.93	12.45	17.76	17.95	17.59	16.16
30	3.91	8.74	12.18	14.72	13.79	13.37	12.07
45	3.18	8.11	11.29	12.15	9.48	7.69	5.77
60	4.10	7.23	10.56	11.42	7.59	6.55	18.17
75	3.72	7.60	9.27	12.75	19.36	26.24	26.92
90	2.80	6.72	9.15	18.70	22.38	22.78	22.73
105	3.60	6.66	9.98	14.75	15.80	17.82	18.94
120	3.48	6.69	8.78	12.87	14.61	15.80	16.71
135	3.18	6.89	10.27	14.31	16.63	17.94	17.67
150	3.10	6.78	10.30	15.51	17.61	18.78	17.22
165	3.27	6.64	9.65	14.15	15.81	16.92	15.86
180	3.22	6.78	9.97	12.94	14.24	16.13	16.03
195	2.86	6.65	9.85	14.76	17.19	19.05	18.62
210	2.83	6.87	9.87	16.39	19.51	21.60	20.83
225	2.36	6.13	9.84	16.88	20.48	22.64	23.17
240	2.09	4.12	8.10	16.61	19.24	20.87	21.81
255	2.17	4.22	4.76	17.22	20.80	21.67	21.83
270	2.03	4.77	7.10	13.38	23.82	26.15	25.95
285	1.90	5.08	8.72	11.72	10.37	15.70	17.80
300	2.08	5.28	9.07	13.13	12.80	11.36	10.50
315	3.40	6.05	9.10	13.96	16.62	17.52	18.31
330	4.50	7.30	10.25	15.80	18.80	19.70	20.06
345	4.56	9.35	11.58	17.56	20.03	20.28	19.38

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	9.938		0	3.299		0	3.812	
1	2.393	-2.216	1	.593	-.648	1	-.168	-.033
2	.050	.041	2	.304	.105	2	.008	.022
3	-.159	.104	3	.091	-.008	3	.020	.008
4	.000	.145	4	.117	-.075	4	.002	-.011
5	.259	-.050	5	.124	.328	5	-.002	.019
6	.018	-.014	6	.026	.057	6	.006	.002
7	-.005	-.032	7	.073	-.018	7	.005	-.002
8	.000	.036	8	.055	.063	8	.005	.000
9	.014	.045	9	.024	.010	9	.000	-.002
10	-.014	.032	10	.028	.002	10	-.005	-.005

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 48 - Continued

FLIGHT 44, LANDING APPROACH AND FLARE

(SEE FIG. 6, t = 13.5 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.226		.75	0	14.925		.95	0	18.370	
.25	1	.615	.603	.75	1	.238	-.415	.95	1	-1.459	-1.256
.25	2	.631	-.103	.75	2	.885	.375	.95	2	-2.182	.500
.25	3	.183	-.219	.75	3	2.017	-.804	.95	3	1.835	-2.482
.25	4	.061	-.162	.75	4	.720	-.354	.95	4	2.269	-2.140
.25	5	-.052	-.124	.75	5	.217	.948	.95	5	1.541	-.221
.25	6	.027	.087	.75	6	-.727	.296	.95	6	-1.439	1.549
.25	7	-.036	.265	.75	7	.549	-.562	.95	7	-1.116	1.652
.25	8	-.140	.053	.75	8	.213	-.033	.95	8	.130	.337
.25	9	-.067	-.040	.75	9	-.220	.410	.95	9	.199	-1.085
.25	10	.070	-.069	.75	10	-.239	.111	.95	10	.051	-.711
.40	0	6.828		.85	0	16.876					
.40	1	1.040	1.123	.85	1	-.793	-1.518				
.40	2	1.296	.204	.85	2	-.005	.014				
.40	3	.247	-.143	.85	3	2.960	-1.543				
.40	4	.161	.190	.85	4	2.004	-1.243				
.40	5	.314	-.122	.85	5	.460	.760				
.40	6	-.149	-.053	.85	6	-2.275	1.382				
.40	7	-.100	.094	.85	7	.053	.152				
.40	8	.014	-.120	.85	8	1.097	-.878				
.40	9	-.112	-.044	.85	9	.265	-.632				
.40	10	-.006	.071	.85	10	-.677	.545				
.55	0	9.764		.90	0	18.074					
.55	1	.920	1.059	.90	1	-1.717	-1.797				
.55	2	1.530	.163	.90	2	-.857	-.086				
.55	3	.020	-.120	.90	3	2.730	-2.016				
.55	4	-.288	.465	.90	4	2.711	-1.351				
.55	5	.485	.137	.90	5	1.183	.663				
.55	6	-.009	-.447	.90	6	-2.668	1.581				
.55	7	-.204	-.088	.90	7	-1.104	.563				
.55	8	.107	.366	.90	8	.737	-.806				
.55	9	-.098	-.170	.90	9	.984	-1.053				
.55	10	-.029	-.170	.90	10	.237	.383				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\,\psi_{nom} + M_n \sin n\,\psi_{nom} \right)$$

TABLE 48 - Concluded

FLIGHT 44, LANDING APPROACH AND FLARE

(SEE FIG. 6, t = 13.5 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-2080	-2360	-2540	-2915	-4365	-5989		
15	-929	-2566	-3914	-3821	-2244	-2407		
30	200	413	-18	-1178	-3053	-3999		
45	4053	3069	1998	844	-1654	-4377		
60	2514	2657	2721	1646	-2226	-5123		
75	850	-33	-678	-1846	-1267	678		
90	-553	-3449	-3571	-1312	1866	1325		
105	-2388	866	2305	1455	-1760	-3660		
120	8442	4571	1835	-62	-3370	-5581		
135	2343	2566	2567	1579	-1725	-4685		
150	-1487	-1832	-1709	-739	1549	1832		
165	120	-1188	-1437	-1522	-2147	-1322		
180	3255	1559	27	-1159	-2200	-3790		
195	1807	2351	2739	1646	-2851	-6576		
210	3289	1774	759	-119	-1918	-3899		
225	815	25	-958	-1569	-405	-38		
240	-1043	-957	-90	920	1514	947		
255	2309	1906	2278	2628	1681	-566		
270	3939	4769	4701	3506	933	-486		
285	2560	2756	3001	3115	1980	1633		
300	-621	116	362	692	2790	4310		
315	-530	-685	-181	358	-387	-1272		
330	1670	1741	1356	-482	-5685	-9033		
345	3175	1196	-1157	-3248	-5817	-8496		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-481	-2589	85	
15	-7009	-6870	3381	
30	-7889	-10435	1829	
45	-4877	-5926	-1163	
60	-8116	-9166	7701	
75	-904	0	4229	
90	1554	-3419	5141	
105	-3151	-6724	3461	
120	-2011	-7896	-763	
135	72	-7928	965	
150	756	-1416	4613	
165	170	-3223	9285	
180	2645	635	4277	
195	-4339	-5877	7157	
210	-4974	-7245	2741	
225	-953	-6968	-3515	
240	-6700	-12519	1157	
255	-6179	-9149	-731	
270	-9793	-9459	1925	
285	-13082	-9247	2549	
300	-7482	-10240	229	
315	-6977	-7505	2933	
330	-10412	-3598	6725	
345	-8523	-4965	7253	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	630	973	110
15	639	480	136
30	514	410	84
45	131	69	109
60	639	108	119
75	739	876	151
90	997	723	124
105	200	332	37
120	203	-253	48
135	959	468	98
150	856	754	107
165	122	-11	10
180	-492	-206	-38
195	27	-337	-14
210	146	-17	39
225	788	607	74
240	29	-166	-27
255	-957	-717	-101
270	-367	-427	-24
285	166	-63	75
300	428	200	84
315	-446	-216	3
330	-668	-205	-18
345	69	-74	65

TABLE 49

FLIGHT 44, LANDING APPROACH AND FLARE

(SEE FIG. 6, t = 18.0 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	Δp, lb/sq in., at - r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
0	5.38	3.48	3.03	1.91	.97	.41	.049	6.51	3.19	2.33	1.96	1.24	.47	-.002	0
15	4.41	3.06	2.82	1.79	.88	.38	.042	5.99	2.97	2.21	1.91	1.17	.45	-.016	15
30	4.10	2.96	2.79	1.71	.76	.34	.008	5.30	2.63	2.06	1.77	1.00	.36	-.056	30
45	1.25	1.47	1.71	.57	.05	.06	-.050	2.22	1.03	.83	.75	.28	.04	-.145	45
60	.80	.91	1.39	.72	.24	.18	.012	.85	.12	.34	.49	.17	.11	-.105	60
75	7.27	5.22	4.32	2.91	1.63	.75	.127	8.79	4.57	3.64	3.09	1.93	.77	.074	75
90	8.55	5.53	4.40	2.89	1.57	.63	.068	9.78	5.12	3.76	3.07	1.93	.73	.025	90
105	7.02	4.49	3.62	2.27	1.15	.44	.038	7.39	3.67	2.61	2.16	1.31	.45	-.033	105
120	4.87	3.29	2.99	1.82	.83	.36	.035	5.22	2.57	1.99	1.70	.99	.37	-.042	120
135	4.39	2.98	2.79	1.81	.90	.43	.067	5.22	2.66	2.01	1.81	1.03	.46	.006	135
150	5.21	3.38	3.06	1.97	1.02	.43	.065	6.12	3.00	2.29	1.96	1.18	.47	-.005	150
165	4.76	3.15	2.86	1.80	.87	.40	.045	5.70	2.79	2.10	1.81	1.06	.41	-.027	165
180	4.57	3.03	2.73	1.74	.89	.40	.053	4.95	2.46	1.91	1.63	.96	.39	-.027	180
195	4.38	2.95	2.59	1.72	.90	.40	.063	5.13	2.58	1.95	1.70	1.00	.43	-.005	195
210	4.84	3.15	2.78	1.82	.98	.44	.067	6.05	2.99	2.20	1.89	1.15	.48	.017	210
225	5.71	3.57	3.07	2.05	1.15	.50	.093	6.44	3.22	2.33	2.00	1.27	.53	.036	225
240	5.66	3.59	3.00	1.93	1.07	.46	.085	6.10	3.07	2.20	1.86	1.20	.48	.036	240
255	5.41	3.40	2.90	1.92	1.11	.48	.093	6.92	3.44	2.44	2.05	1.32	.55	.049	255
270	6.27	4.00	3.19	2.22	1.35	.63	.152	7.89	3.95	2.74	2.31	1.51	.67	.107	270
285	7.31	4.39	3.30	2.20	1.29	.51	.087	5.10	2.71	1.92	1.58	1.10	.52	.044	285
300	2.49	1.84	1.84	1.02	.43	.27	.053	3.26	1.48	1.15	1.11	.64	.29	-.017	300
315	3.72	2.50	2.38	1.53	.81	.38	.063	5.42	2.65	1.93	1.66	1.02	.39	.000	315
330	5.47	3.48	3.02	1.92	1.05	.44	.059	6.26	3.13	2.25	1.89	1.20	.47	.014	330
345	5.54	3.52	3.09	1.98	1.08	.46	.061	6.57	3.31	2.39	2.00	1.27	.49	.017	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
0	6.59	5.05	3.29	2.46	2.10	1.82	1.21	.55	.52	.24	.106	0
15	6.25	4.84	3.13	2.36	2.01	1.73	1.18	.52	.49	.24	.102	15
30	5.26	4.11	2.69	1.93	1.66	1.45	.97	.38	.37	.17	.067	30
45	2.81	2.15	1.47	1.11	.93	.74	.46	.07	.13	.02	-.003	45
60	1.05	.68	.50	.32	.30	.44	.20	-.07	.06	-.01	.005	60
75	5.89	4.64	3.11	2.38	2.07	1.78	1.21	.58	.51	.27	.127	75
90	10.81	7.45	5.12	3.96	3.36	2.83	1.92	.95	.78	.40	.166	90
105	6.85	5.18	3.30	2.52	2.12	1.78	1.20	.51	.45	.21	.088	105
120	4.50	3.45	2.36	1.72	1.44	1.27	.88	.35	.34	.16	.071	120
135	5.00	3.76	2.49	1.85	1.57	1.40	.97	.44	.43	.23	.102	135
150	5.96	4.51	2.99	2.17	1.86	1.57	1.09	.49	.43	.23	.098	150
165	5.38	4.11	2.70	1.93	1.69	1.46	1.00	.41	.38	.17	.081	165
180	4.33	3.30	2.25	1.77	1.30	1.15	.83	.33	.34	.16	.067	180
195	4.68	3.55	2.37	1.82	1.42	1.28	.91	.41	.39	.22	.090	195
210	5.82	4.40	2.84	2.13	1.80	1.56	1.06	.50	.46	.26	.119	210
225	5.84	4.50	2.89	2.21	1.88	1.64	1.13	.56	.48	.27	.125	225
240	5.67	4.27	2.77	2.13	1.78	1.58	1.09	.52	.47	.24	.112	240
255	6.63	4.95	3.25	2.51	2.06	1.81	1.21	.61	.52	.28	.129	255
270	7.04	5.12	3.52	2.72	2.25	2.01	1.38	.74	.64	.37	.181	270
285	3.35	2.57	1.70	1.37	1.13	1.02	.76	.40	.39	.21	.100	285
300	3.88	2.89	1.85	1.50	1.23	1.06	.73	.31	.33	.15	.085	300
315	5.15	3.90	2.46	1.78	1.55	1.41	.92	.41	.39	.18	.100	315
330	5.83	4.50	2.87	2.18	1.84	1.63	1.08	.51	.46	.24	.112	330
345	6.43	4.87	3.22	2.42	2.03	1.78	1.19	.57	.51	.27	.127	345

TABLE 49 - Continued

FLIGHT 44, LANDING APPROACH AND FLARE

(SEE FIG. 6, t = 18.0 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75							Δp, lb/sq in., at - r/R = 0.55							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.47	2.89	2.26	1.70	1.19	.52	.104	3.23	1.62	1.15	.93	.70	.45	.079	0
15	5.63	2.86	2.29	1.72	1.18	.51	.093	4.03	2.03	1.41	1.01	.84	.50	.101	15
30	5.26	2.51	2.11	1.56	1.04	.41	.076	3.75	1.90	1.31	.99	.78	.46	.099	30
45	4.27	1.72	1.58	1.18	.70	.27	.052	3.15	1.58	1.12	.84	.67	.41	.088	45
60	3.10	1.12	1.08	.90	.51	.21	.048	2.66	1.39	.94	.72	.58	.38	.088	60
75	2.23	.86	.91	.67	.48	.25	.055	2.59	1.37	.92	.71	.57	.37	.091	75
90	3.36	3.71	2.69	2.27	1.63	.65	.114	2.38	1.13	.78	.57	.46	.29	.064	90
105	5.16	3.06	2.50	1.80	1.20	.45	.085	2.30	1.19	.86	.67	.54	.33	.070	105
120	4.59	1.99	1.78	1.32	.86	.36	.067	2.42	1.24	.91	.73	.60	.40	.109	120
135	3.75	1.74	1.62	1.27	.84	.40	.088	3.15	1.56	1.11	.84	.66	.42	.103	135
150	4.06	2.16	1.90	1.46	.98	.44	.085	3.25	1.63	1.14	.87	.68	.39	.087	150
165	4.39	2.14	1.85	1.37	.89	.35	.067	2.72	1.36	.98	.74	.57	.36	.079	165
180	3.80	1.70	1.54	1.16	.73	.30	.064	2.67	1.31	.96	.73	.57	.38	.088	180
195	3.51	1.72	1.58	1.22	.81	.39	.093	2.55	1.30	.95	.73	.58	.38	.093	195
210	3.92	2.03	1.78	1.35	.94	.43	.100	2.71	1.36	1.03	.80	.64	.40	.087	210
225	4.31	2.23	1.86	1.40	.99	.45	.088	3.25	1.65	1.16	.88	.68	.43	.085	225
240	4.75	2.50	2.02	1.51	1.03	.44	.085	2.83	1.46	1.07	.84	.67	.40	.076	240
255	4.72	2.40	1.95	1.48	1.02	.45	.093	1.36	.69	.54	.39	.34	.27	.048	255
270	4.17	1.71	1.59	1.25	.86	.44	.104	1.61	.83	.60	.45	.36	.28	.062	270
285	3.13	1.32	1.19	1.01	.67	.33	.079	2.21	1.10	.82	.62	.49	.34	.066	285
300	3.63	1.95	1.66	1.24	.86	.36	.060	2.54	1.28	.93	.70	.55	.35	.065	300
315	3.99	1.98	1.69	1.26	.86	.35	.069	2.56	1.26	.91	.68	.52	.34	.060	315
330	4.12	2.08	1.77	1.33	.92	.42	.093	2.79	1.40	1.00	.75	.59	.39	.076	330
345	4.64	2.48	2.01	1.54	1.09	.48	.104	3.29	1.70	1.18	.90	.69	.44	.097	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40					Δp, lb/sq in., at - r/R = 0.25					ψ_{nom}, deg
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.88	.97	.64	.37	.122	1.11	.53	.36	.17	.049	0
15	2.01	1.00	.65	.37	.122	.74	.40	.27	.25	.044	15
30	2.19	1.06	.68	.37	.117	.98	.43	.28	.12	.132	30
45	1.88	.90	.57	.31	.109	.81	.36	.21	.12	.036	45
60	1.52	.72	.46	.28	.101	.69	.33	.20	.04	.018	60
75	1.30	.63	.42	.26	.105	.52	.29	.19	.08	.022	75
90	1.25	.59	.37	.23	.085	.73	.36	.23	.09	.031	90
105	.75	.35	.22	.18	.073	.96	.47	.28	.10	.027	105
120	.93	.50	.39	.28	.122	.60	.29	.18	.07	.017	120
135	1.39	.68	.44	.27	.091	.62	.29	.17	.06	.024	135
150	1.57	.75	.46	.26	.092	.67	.32	.21	.09	.036	150
165	1.41	.69	.44	.27	.095	.68	.35	.23	.10	.033	165
180	1.31	.67	.44	.27	.098	.70	.36	.23	.10	.037	180
195	1.48	.72	.46	.28	.092	.68	.35	.24	.11	.042	195
210	1.48	.75	.49	.30	.098	.59	.29	.19	.10	.034	210
225	1.77	.87	.55	.31	.097	.44	.23	.17	.08	.029	225
240	.72	.39	.26	.21	.065	.44	.20	.14	.07	.024	240
255	.55	.30	.20	.17	.067	.54	.26	.17	.07	.019	255
270	.72	.36	.26	.19	.075	.44	.20	.13	.05	.013	270
285	.89	.46	.30	.20	.081	.34	.16	.11	.05	.009	285
300	1.05	.52	.35	.23	.081	.47	.23	.15	.08	.020	300
315	1.20	.61	.39	.25	.084	.69	.34	.23	.10	.033	315
330	1.44	.73	.48	.29	.101	.87	.44	.29	.12	.034	330
345	1.78	.88	.57	.33	.101	.83	.43	.28	.12	.031	345

TABLE 49 - Continued

FLIGHT 44, LANDING APPROACH AND FLARE

(SEE FIG. 6, t = 18.0 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	5.11	9.58	11.82	19.34	20.62	20.31	19.72
15	4.47	9.90	14.18	19.35	19.73	19.05	17.61
30	4.53	10.40	13.27	17.15	16.25	16.63	16.40
45	3.50	8.85	11.35	12.42	8.07	5.30	5.90
60	2.71	7.34	9.94	8.90	3.18	2.38	6.03
75	2.55	6.56	9.71	7.67	19.87	30.63	30.26
90	3.24	6.00	8.05	22.15	32.62	31.85	30.59
105	4.03	3.88	8.77	19.35	20.39	22.17	24.08
120	2.58	5.82	9.75	14.46	14.37	16.36	18.18
135	2.57	6.90	11.38	13.51	16.06	17.41	17.90
150	3.03	7.32	11.47	15.46	18.37	19.53	19.89
165	3.24	6.92	9.78	14.66	16.59	17.79	18.10
180	3.30	6.79	9.82	12.29	13.67	15.92	17.67
195	3.36	7.24	9.77	13.08	14.92	16.76	17.31
210	2.85	7.52	10.41	14.77	18.11	19.26	18.72
225	2.27	8.47	11.72	15.76	18.74	20.90	21.49
240	2.05	4.21	10.77	16.78	17.99	19.68	20.81
255	2.41	3.35	5.71	16.58	20.68	22.04	20.47
270	1.88	4.08	6.40	14.03	23.12	25.54	24.36
285	1.57	4.79	8.36	10.74	12.00	17.76	24.63
300	2.20	5.44	9.33	13.44	12.26	10.40	10.60
315	3.26	6.10	9.08	13.80	15.71	16.89	15.39
330	4.04	7.34	10.15	14.84	18.30	19.79	20.25
345	3.89	8.74	11.97	17.22	20.27	20.90	20.69

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	10.456		0	3.254		0	4.057	
1	3.124	-1.766	1	.642	-.462	1	-.198	-.089
2	-.091	-.027	2	.498	.067	2	-.003	-.024
3	-.322	.059	3	.000	-.107	3	.046	-.009
4	-.086	.163	4	.142	-.211	4	-.008	-.003
5	.368	.059	5	.002	.484	5	-.016	.000
6	-.009	.014	6	-.045	-.030	6	.003	.000
7	-.032	-.045	7	.063	-.111	7	.003	.000
8	.014	-.023	8	.010	.124	8	-.008	.009
9	.009	.032	9	-.028	-.032	9	-.013	.002
10	-.032	.000	10	.024	.002	10	-.019	-.005

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 49 - Continued

FLIGHT 44, LANDING APPROACH AND FLARE

(SEE FIG. 6, t = 18.0 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.109		.75	0	14.906		.95	0	19.043	
.25	1	.562	.467	.75	1	.495	.148	.95	1	-1.513	-.188
.25	2	.797	.018	.75	2	.700	-.191	.95	2	-2.503	-1.071
.25	3	.257	-.152	.75	3	3.060	-.404	.95	3	2.660	-2.193
.25	4	.225	.122	.75	4	1.146	.739	.95	4	4.400	-.647
.25	5	-.294	.128	.75	5	-.951	1.803	.95	5	1.342	1.713
.25	6	-.135	.009	.75	6	-1.099	-.513	.95	6	-3.100	.337
.25	7	.230	-.005	.75	7	1.130	-.790	.95	7	-2.581	-.140
.25	8	.029	.074	.75	8	.505	.183	.95	8	.083	-.202
.25	9	.001	-.038	.75	9	-.403	.449	.95	9	1.407	-.707
.25	10	.161	-.024	.75	10	-.739	-.105	.95	10	1.211	-.066
.40	0	6.814		.85	0	17.161					
.40	1	.981	.805	.85	1	-.429	-.173				
.40	2	1.957	.728	.85	2	-.924	-.725				
.40	3	.048	.062	.85	3	3.680	-1.930				
.40	4	-.491	.232	.85	4	3.688	-.522				
.40	5	.590	.072	.85	5	.105	2.495				
.40	6	-.290	-.132	.85	6	-3.724	.908				
.40	7	-.315	.022	.85	7	-.078	-.772				
.40	8	.282	-.198	.85	8	1.414	-.976				
.40	9	-.043	-.094	.85	9	.298	-.048				
.40	10	-.094	.218	.85	10	-.717	.394				
.55	0	10.124		.90	0	18.552					
.55	1	.677	.798	.90	1	-1.200	-.273				
.55	2	1.779	.505	.90	2	-1.970	-.851				
.55	3	.606	.195	.90	3	3.325	-2.471				
.55	4	-.906	.313	.90	4	4.555	-1.037				
.55	5	.593	.502	.90	5	.971	2.327				
.55	6	.140	-.176	.90	6	-3.962	1.496				
.55	7	-.584	-.180	.90	7	-1.834	-.120				
.55	8	-.172	.252	.90	8	.712	-1.220				
.55	9	-.062	-.226	.90	9	1.282	-.936				
.55	10	-.121	-.028	.90	10	.643	.323				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 49 - Concluded

FLIGHT 44, LANDING APPROACH AND FLARE

(SEE FIG. 6, t = 18.0 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-514	-1741	-2757	-3349	-6711	-10374		
15	-1665	-2780	-4122	-4627	-4080	-3210		
30	-308	-974	-1573	-1689	-1924	-1498		
45	3556	2978	2739	1898	-225	-2603		
60	4787	4876	4149	2022	-1924	-5200		
75	2735	1568	-63	-1822	-3490	-2941		
90	-1973	-4183	-4656	-2614	2811	6919		
105	-5142	-2483	1998	4035	3374	-454		
120	10453	6848	4728	1984	-2636	-5807		
135	6805	6608	5578	2652	-3657	-6304		
150	-2417	-1601	-199	1173	2010	870		
165	-1779	-3449	-4294	-3740	936	2631		
180	1037	25	-1980	-3711	-3983	-2344		
195	2336	2046	2477	1192	-3666	-9070		
210	4195	3185	1998	-96	-4924	-9170		
225	1789	-41	-2106	-3263	-2830	-842		
240	-3250	-2987	-2088	-821	1816	3218		
255	1003	1130	1446	1621	2142	1288		
270	5107	6410	6274	4264	224	-2483		
285	3853	4241	5026	4627	1570	-702		
300	-1232	-91	777	858	2415	5019		
315	-673	-2599	-1980	-267	2969	3347		
330	444	1048	1085	-391	-3684	-6165		
345	4400	2879	27	-2977	-7151	-11060		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-2308	-4575	1354	
15	-3936	-7017	-2582	
30	-12223	-14554	1306	
45	-3790	-7700	-3878	
60	-6443	-5828	7946	
75	-3741	2686	11994	
90	5018	3663	4650	
105	-924	-11396	1210	
120	-6818	-12096	-6358	
135	-6753	-17452	-2102	
150	2983	-1709	-22	
165	1794	1270	14090	
180	2641	5258	12986	
195	997	1905	7434	
210	-6883	-11201	5210	
225	-29	-7684	-9430	
240	-1608	-16215	-4502	
255	-8218	-9784	1322	
270	-8625	-4884	5418	
285	-10937	-7098	7226	
300	-5857	-6626	26	
315	-6964	-10924	2298	
330	-6753	-5633	650	
345	-11181	-7017	6906	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	155	464	56
15	622	655	137
30	988	482	137
45	-245	13	67
60	205	-329	70
75	869	876	196
90	1805	1709	186
105	280	161	60
120	-486	-467	-18
135	1047	92	93
150	1070	1147	144
165	47	235	27
180	-805	-168	-59
195	-133	-404	-21
210	148	-374	46
225	1067	907	99
240	442	-95	-14
255	-1400	-905	-147
270	-681	-819	-42
285	231	-126	94
300	530	253	111
315	-62	-81	1
330	-865	-160	-26
345	105	-166	52

TABLE 50

FLIGHT 44, LANDING APPROACH AND FLARE

(SEE FIG. 6, t = 19.1 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95							Δp, lb/sq in., at - r/R = 0.90							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.69	4.18	3.37	2.16	1.16	.43	.038	7.87	3.92	2.73	2.25	1.41	.52	.009	0
15	4.88	3.29	2.95	1.83	.92	.40	.045	6.39	3.11	2.29	1.96	1.21	.46	-.009	15
30	4.43	3.13	2.87	1.79	.85	.38	.042	5.70	2.78	2.10	1.87	1.11	.43	-.027	30
45	2.74	2.17	2.19	1.19	.45	.24	-.012	3.96	2.02	1.56	1.28	.72	.26	-.085	45
60	1.77	1.32	1.60	.68	.15	.11	-.050	.61	.18	.27	.38	.09	.04	-.138	60
75	6.37	4.60	3.86	2.42	1.17	.48	.054	2.75	1.22	1.24	1.28	.76	.30	-.071	75
90	9.68	5.60	4.73	3.22	1.82	.73	.121	10.03	5.26	4.02	3.37	2.16	.80	.067	90
105	7.94	5.07	3.99	2.61	1.39	.52	.054	10.01	4.76	3.30	2.69	1.70	.57	-.009	105
120	5.11	3.46	2.98	1.85	.89	.37	.032	6.06	3.00	2.15	1.85	1.12	.43	-.011	120
135	4.47	3.06	2.79	1.75	.88	.41	.065	5.44	2.73	2.04	1.78	1.07	.45	.000	135
150	5.27	3.45	3.06	1.93	1.04	.45	.073	6.28	3.20	2.33	2.00	1.26	.52	.022	150
165	5.85	3.71	3.17	2.04	1.09	.47	.067	6.61	3.31	2.40	2.06	1.29	.52	.022	165
180	5.71	3.61	3.14	2.00	1.06	.47	.065	6.34	3.17	2.36	2.03	1.26	.51	.020	180
195	6.25	3.97	3.31	2.16	1.18	.51	.091	6.51	3.23	2.39	2.08	1.32	.55	.033	195
210	6.90	4.39	3.43	2.30	1.31	.55	.097	6.85	3.55	2.55	2.21	1.44	.62	.067	210
225	7.29	4.49	3.41	2.30	1.32	.55	.089	7.39	3.76	2.68	2.25	1.45	.63	.074	225
240	6.60	4.11	3.25	2.21	1.32	.57	.113	7.94	4.04	2.86	2.39	1.57	.65	.091	240
255	7.57	4.52	3.40	2.36	1.40	.61	.134	9.06	4.51	3.16	2.60	1.72	.71	.102	255
270	8.11	4.73	3.59	2.57	1.58	.69	.172	9.50	4.54	3.22	2.65	1.78	.75	.110	270
285	8.51	4.61	3.47	2.42	1.45	.61	.131	6.15	2.96	2.12	1.85	1.21	.54	.083	285
300	3.47	2.36	2.00	1.16	.63	.30	.049	2.57	1.27	.98	.95	.57	.33	.022	300
315	5.57	3.51	3.02	2.03	1.15	.52	.099	7.07	3.57	2.62	2.17	1.39	.59	.053	315
330	8.86	5.34	3.91	2.76	1.63	.66	.123	9.50	4.83	3.37	2.76	1.81	.75	.094	330
345	9.31	5.38	3.93	2.75	1.59	.63	.087	10.18	4.84	3.40	2.72	1.79	.67	.053	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85										ψ_{nom}, deg
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	7.99	5.72	3.89	2.92	2.44	2.08	1.37	.66	.57	.28	.114	0
15	6.70	5.08	3.30	2.49	2.12	1.82	1.21	.56	.50	.24	.096	15
30	5.90	4.47	2.94	2.17	1.87	1.63	1.08	.46	.43	.21	.083	30
45	4.62	3.43	2.34	1.80	1.40	1.20	.80	.30	.31	.12	.054	45
60	2.17	1.59	1.04	.80	.64	.67	.34	-.01	.08	.01	-.001	60
75	.70	.39	.30	.18	.18	.35	.19	-.03	.09	.01	.015	75
90	7.10	5.65	3.61	2.75	2.31	1.91	1.30	.56	.51	.24	.102	90
105	10.68	7.04	4.81	3.68	3.05	2.54	1.66	.74	.60	.28	.123	105
120	5.99	4.62	2.99	2.23	1.91	1.63	1.08	.47	.43	.22	.085	120
135	5.01	3.88	2.56	1.86	1.61	1.42	.99	.45	.42	.23	.102	135
150	5.55	4.34	2.91	2.19	1.92	1.70	1.20	.59	.52	.28	.127	150
165	6.41	4.84	3.16	2.41	2.03	1.74	1.20	.57	.50	.25	.108	165
180	5.99	4.59	2.98	2.27	1.93	1.67	1.14	.53	.49	.25	.102	180
195	6.02	4.55	2.99	2.26	1.94	1.67	1.14	.55	.51	.27	.114	195
210	6.62	5.04	3.29	2.49	2.09	1.82	1.25	.63	.57	.33	.142	210
225	6.97	5.09	3.47	2.69	2.26	1.97	1.35	.71	.63	.35	.164	225
240	8.82	6.02	4.13	3.23	2.70	2.27	1.57	.81	.67	.37	.172	240
255	9.94	6.31	4.32	3.34	2.78	2.36	1.62	.85	.70	.39	.178	255
270	8.19	5.58	3.83	2.96	2.44	2.10	1.44	.76	.63	.34	.158	270
285	3.03	2.30	1.53	1.30	1.09	.99	.74	.38	.40	.23	.104	285
300	3.76	2.75	1.74	1.40	1.14	1.01	.69	.30	.33	.16	.085	300
315	7.04	5.19	3.45	2.67	2.24	1.96	1.30	.66	.59	.33	.160	315
330	9.75	6.48	4.45	3.46	2.87	2.44	1.64	.85	.71	.38	.176	330
345	10.51	6.66	4.58	3.50	2.90	2.46	1.64	.82	.68	.35	.156	345

TABLE 50 - Continued

FLIGHT 44, LANDING APPROACH AND FLARE

(SEE FIG. 6, t = 19.1 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75							Δp, lb/sq in., at - r/R = 0.55							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.35	3.22	2.51	1.87	1.30	.55	.112	3.32	1.68	1.18	.90	.70	.44	.089	0
15	6.05	2.87	2.30	1.73	1.17	.50	.098	3.45	1.76	1.23	.93	.74	.45	.089	15
30	5.48	2.58	2.14	1.61	1.07	.45	.085	3.68	1.85	1.30	.98	.76	.48	.099	30
45	4.75	2.16	1.86	1.37	.90	.35	.060	3.45	1.74	1.22	.92	.74	.44	.090	45
60	3.76	1.52	1.39	1.08	.61	.23	.038	2.69	1.32	.96	.72	.59	.37	.082	60
75	2.78	1.03	.99	.79	.44	.18	.033	2.34	1.22	.82	.62	.51	.36	.084	75
90	2.00	.75	.81	.87	.40	.19	.036	2.28	1.17	.79	.59	.48	.31	.070	90
105	2.96	2.20	1.79	1.55	1.04	.40	.073	1.67	.77	.63	.38	.32	.23	.039	105
120	4.36	2.66	2.17	1.59	1.04	.44	.085	.74	.32	.33	.25	.19	.19	.039	120
135	4.19	2.07	1.84	1.42	.97	.45	.107	.91	.44	.44	.35	.30	.27	.079	135
150	4.51	2.57	2.19	1.70	1.19	.54	.121	1.95	1.02	.81	.75	.54	.37	.087	150
165	5.26	2.81	2.30	1.71	1.16	.48	.098	3.08	1.53	1.08	.84	.66	.40	.097	165
180	5.13	2.46	2.06	1.54	1.04	.44	.093	3.01	1.52	1.08	.82	.64	.38	.092	180
195	4.71	2.31	1.93	1.49	1.00	.46	.102	3.02	1.51	1.09	.83	.67	.42	.100	195
210	4.89	2.48	2.02	1.57	1.09	.51	.119	2.84	1.46	1.06	.83	.66	.44	.094	210
225	5.43	3.07	2.37	1.80	1.28	.56	.129	3.49	1.72	1.23	.97	.76	.47	.105	225
240	6.15	3.30	2.59	1.94	1.41	.62	.116	1.62	.83	.63	.45	.38	.29	.058	240
255	5.97	2.98	2.35	1.76	1.26	.54	.116	1.89	.95	.73	.52	.42	.32	.052	255
270	4.60	1.26	1.32	1.00	.70	.36	.088	2.15	1.07	.80	.60	.48	.34	.070	270
285	3.39	1.20	1.07	.93	.60	.31	.073	2.56	1.29	.94	.71	.57	.38	.070	285
300	3.44	1.86	1.57	1.21	.82	.38	.090	2.90	1.45	1.05	.79	.62	.38	.076	300
315	4.47	2.67	2.14	1.64	1.17	.52	.121	3.03	1.52	1.09	.82	.63	.41	.073	315
330	5.43	3.21	2.49	1.90	1.38	.61	.133	3.34	1.65	1.20	.91	.70	.45	.088	330
345	6.23	3.46	2.67	1.99	1.42	.60	.121	3.96	1.97	1.34	1.02	.79	.47	.097	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40					Δp, lb/sq in., at - r/R = 0.25					ψ_{nom}, deg
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.81	.90	.58	.33	.099	.56	.51	.51	.26	.084	0
15	1.96	1.00	.66	.37	.121	.57	.57	.38	.33	.192	15
30	2.01	.93	.54	.29	.096	.59	.20	.13	.08	.094	30
45	2.00	.94	.59	.31	.098	.88	.41	.25	.10	.048	45
60	1.46	.70	.44	.26	.095	.92	.43	.25	.08	.030	60
75	1.13	.54	.35	.23	.094	.48	.24	.16	.04	.005	75
90	1.05	.50	.32	.21	.085	.41	.19	.13	.05	.024	90
105	1.04	.48	.31	.21	.080	.40	.19	.13	.06	.020	105
120	1.20	.57	.36	.24	.091	.27	.16	.12	.06	.016	120
135	1.09	.52	.33	.23	.086	.31	.17	.13	.06	.024	135
150	1.20	.60	.37	.22	.073	.50	.26	.18	.08	.030	150
165	.98	.49	.33	.22	.075	.57	.29	.19	.09	.027	165
180	1.24	.61	.40	.26	.095	.61	.31	.21	.10	.033	180
195	1.51	.77	.50	.30	.107	.50	.27	.20	.10	.030	195
210	1.38	.68	.43	.27	.085	.25	.14	.11	.06	.018	210
225	.99	.51	.36	.25	.088	.11	.06	.06	.03	.005	225
240	.85	.43	.29	.21	.069	.20	.10	.08	.04	.014	240
255	.92	.46	.31	.21	.073	.36	.18	.13	.06	.020	255
270	1.03	.53	.35	.23	.082	.46	.23	.15	.07	.019	270
285	1.16	.60	.39	.25	.084	.48	.25	.17	.07	.019	285
300	1.23	.63	.40	.25	.092	.58	.31	.21	.09	.022	300
315	1.30	.66	.44	.27	.096	.75	.38	.25	.12	.026	315
330	1.32	.68	.47	.29	.105	.99	.50	.32	.15	.040	330
345	1.81	.91	.58	.33	.101	.60	.46	.28	.15	.056	345

TABLE 50 - Continued

FLIGHT 44, LANDING APPROACH AND FLARE

(SEE FIG. 6, t = 19.1 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	5.42	8.83	12.01	21.46	23.93	23.92	22.97
15	5.88	9.85	12.43	19.66	20.60	19.90	18.69
30	2.56	8.82	13.13	17.85	18.24	18.05	17.65
45	3.79	9.13	12.36	14.99	13.85	12.16	11.51
60	3.68	7.01	9.81	10.85	5.89	1.35	6.64
75	2.01	5.66	8.84	7.89	2.61	10.19	24.53
90	1.86	5.22	8.28	6.69	22.04	34.11	33.82
105	1.84	5.11	5.83	14.62	29.49	28.89	27.56
120	1.53	5.91	3.39	17.03	18.40	18.77	18.86
135	1.70	5.49	4.86	15.43	16.29	17.71	17.80
150	2.49	5.86	8.57	18.30	19.13	20.61	20.22
165	2.69	5.12	11.08	18.84	20.08	21.24	21.48
180	2.93	6.30	10.85	17.14	19.02	20.61	21.04
195	2.68	7.70	11.17	16.42	19.24	21.33	22.96
210	1.44	6.84	11.00	17.61	21.21	23.28	24.99
225	.66	5.56	12.66	20.41	22.74	24.26	25.38
240	1.09	4.62	6.54	22.31	26.78	25.90	24.25
255	1.79	4.88	7.33	20.38	28.33	28.80	26.39
270	2.15	5.48	8.24	12.14	24.74	29.76	28.64
285	2.32	6.03	9.60	10.17	11.45	19.94	27.47
300	2.84	6.33	10.48	13.14	11.75	9.39	13.17
315	3.52	6.73	10.91	18.09	22.32	23.14	21.37
330	4.61	7.04	12.04	21.46	28.67	30.45	30.45
345	3.81	8.85	13.62	22.72	29.24	23.00	30.35

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	12.240		0	3.544		0	5.652	
1	3.364	-3.682	1	1.782	-.921	1	-.458	-.411
2	-.177	-.095	2	.099	.215	2	-.075	-.171
3	-.418	-.154	3	.279	-.356	3	.094	-.044
4	-.109	-.173	4	.334	-.043	4	-.027	-.088
5	.154	.005	5	-.227	.132	5	-.094	-.035
6	-.118	-.036	6	.014	-.109	6	-.016	-.047
7	-.073	-.041	7	.079	-.061	7	-.024	-.035
8	-.118	-.032	8	.004	-.043	8	-.050	-.016
9	-.109	-.027	9	-.049	-.016	9	-.042	-.027
10	-.005	-.036	10	-.012	-.024	10	-.036	-.035

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 50 - Continued

FLIGHT 44, LANDING APPROACH AND FLARE

(SEE FIG. 6, t = 19.1 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.720		.75	0	16.484		.95	0	22.423	
.25	1	1.258	.128	.75	1	.011	-2.260	.95	1	-.880	-2.614
.25	2	.955	-.189	.75	2	3.916	-.020	.95	2	-1.170	-1.447
.25	3	-.197	.157	.75	3	3.219	.172	.95	3	3.097	-3.594
.25	4	.341	-.080	.75	4	-1.284	-1.171	.95	4	4.334	-.935
.25	5	-.006	-.076	.75	5	-1.571	.222	.95	5	-.469	.493
.25	6	.199	.206	.75	6	.656	-.323	.95	6	-4.068	-1.003
.25	7	.276	.243	.75	7	.522	.282	.95	7	-1.567	-.628
.25	8	.034	.427	.75	8	-.691	-.121	.95	8	.392	.058
.25	9	-.039	.276	.75	9	.058	-.251	.95	9	1.110	.198
.25	10	-.069	.201	.75	10	.368	.168	.95	10	.629	-.123
.40	0	6.599		.85	0	19.835					
.40	1	1.348	.246	.85	1	-.530	-3.440				
.40	2	1.275	.483	.85	2	1.944	-1.400				
.40	3	-.061	.140	.85	3	6.071	-1.705				
.40	4	-.058	.544	.85	4	1.668	-.746				
.40	5	.081	-.398	.85	5	-4.339	.368				
.40	6	-.022	.042	.85	6	-2.357	-1.456				
.40	7	.119	-.137	.85	7	1.913	-.196				
.40	8	-.006	.057	.85	8	.781	.823				
.40	9	.014	-.034	.85	9	-.662	-.069				
.40	10	-.144	.175	.85	10	-.548	-.558				
.55	0	9.792		.90	0	21.116					
.55	1	1.691	-.913	.90	1	-1.766	-3.240				
.55	2	2.338	1.189	.90	2	-.240	-1.674				
.55	3	-1.194	-.431	.90	3	5.138	-2.270				
.55	4	.088	-.057	.90	4	3.655	-.144				
.55	5	.295	.446	.90	5	-3.289	1.395				
.55	6	-.682	-.801	.90	6	-4.692	-.702				
.55	7	-.045	-.001	.90	7	.346	-.262				
.55	8	.230	-.209	.90	8	2.093	1.131				
.55	9	-.341	-.201	.90	9	1.068	.966				
.55	10	-.071	.324	.90	10	.098	-.137				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 50 - Concluded

FLIGHT 44, LANDING APPROACH AND FLARE

(SEE FIG. 6, t = 19.1 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-976	-1997	-2260	-2925	-6241	-10222		
15	506	-1427	-3318	-3907	-4261	-4451		
30	1155	206	-1012	-1141	-970	-1088		
45	1896	2822	3661	3782	1916	-272		
60	5738	4983	4818	3448	649	-1545		
75	4872	3069	2477	939	-2545	-3486		
90	-156	-2005	-3327	-3573	-996	2305		
105	-2618	-4117	-4186	-2610	2163	4823		
120	1782	1064	940	1788	1811	-1874		
135	7357	6724	5433	3954	-776	-5137		
150	5294	4538	5035	5127	1476	-2282		
165	369	8	1591	3439	3492	2693		
180	585	-132	-262	-406	922	2276		
195	3173	1469	461	-540	-1718	-3486		
210	3595	2822	1690	-234	-4261	-8580		
225	3139	2219	642	-1856	-5484	-7535		
240	1497	-908	-1835	-1389	-935	-1854		
255	-919	-718	316	1702	3439	2892		
270	2615	3828	4213	3524	3052	4325		
285	5419	5024	5786	5852	5137	5469		
300	996	3308	5279	5986	6352	6494		
315	996	1609	2387	2914	3852	2405		
330	1828	1015	624	-692	-3962	-7237		
345	1908	-503	-2730	-4537	-7297	-9645		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-3468	-3907	5775	
15	521	-10289	-5569	
30	-4835	-13691	-5905	
45	-8694	-12389	1327	
60	-1856	-3305	5679	
75	3419	4249	13599	
90	8693	6528	12719	
105	7017	-293	3087	
120	-1335	-12731	-4273	
135	-4884	-19064	-8689	
150	-228	-12910	-5953	
165	3842	147	7919	
180	553	6398	20911	
195	5503	7668	14351	
210	3500	-1123	6479	
225	-1123	-11347	-1121	
240	1416	-12470	-10721	
255	-4249	-14131	-5329	
270	-12210	-12177	47	
285	-12405	-12373	-1505	
300	-11624	-12031	-545	
315	-10696	-8075	7871	
330	-2116	3223	10047	
345	-244	4200	11999	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	16	694	30
15	180	620	45
30	721	414	117
45	521	145	107
60	253	-167	118
75	967	643	159
90	1677	1659	226
105	691	790	80
120	-409	-354	-83
135	27	-563	8
150	1323	625	130
165	640	643	47
180	-342	-187	-40
195	-649	-378	-41
210	175	-138	22
225	937	486	83
240	512	437	-2
255	-774	-689	-97
270	-1090	-815	-72
285	-730	-665	-30
300	-511	-493	10
315	-144	-130	19
330	-111	385	89
345	339	649	120

TABLE 51

FLIGHT 45, LANDING APPROACH AND FLARE

(SEE FIG. 7)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.95	4.76	3.41	2.28	1.18	.56	.078	8.26	4.25	2.84	2.37	1.52	.59	.032	0
15	5.22	3.81	3.02	1.86	.87	.45	.053	6.51	3.39	2.25	1.91	1.23	.47	-.013	15
30	3.88	3.18	2.39	1.53	.66	.38	.036	4.94	2.62	1.74	1.55	.95	.36	-.043	30
45	4.26	3.18	2.40	1.52	.69	.38	.048	3.94	2.06	1.41	1.29	.78	.34	-.029	45
60	5.21	3.72	2.73	1.79	.91	.45	.053	5.34	2.85	1.90	1.65	1.06	.41	.002	60
75	5.56	3.91	3.03	1.96	.91	.47	.066	6.24	3.26	2.18	1.89	1.21	.48	.002	75
90	6.82	4.75	3.62	2.34	1.18	.57	.075	8.09	4.29	2.90	2.44	1.54	.57	.020	90
105	6.12	4.21	3.26	2.08	1.05	.53	.082	6.47	3.49	2.34	2.05	1.31	.52	.016	105
120	5.69	4.03	3.20	2.00	1.01	.53	.082	6.04	3.25	2.18	1.93	1.25	.52	.018	120
135	5.58	3.98	3.15	2.00	1.00	.52	.082	6.31	3.39	2.26	1.96	1.27	.53	.022	135
150	5.42	3.83	3.05	1.94	.95	.50	.075	6.13	3.41	2.21	1.89	1.23	.49	.013	150
165	5.10	3.63	2.97	1.84	.90	.49	.076	5.73	3.07	2.04	1.77	1.16	.47	.009	165
180	5.56	3.92	3.07	1.99	1.00	.54	.097	6.00	3.20	2.14	1.87	1.25	.54	.032	180
195	6.29	4.36	3.30	2.19	1.15	.60	.112	6.72	3.56	2.43	2.08	1.40	.61	.060	195
210	6.82	4.69	3.39	2.29	1.23	.62	.115	7.29	3.81	2.54	2.18	1.46	.62	.065	210
225	6.95	4.75	3.31	2.27	1.24	.63	.125	7.61	3.96	2.62	2.23	1.47	.63	.083	225
240	7.15	4.76	3.33	2.30	1.28	.66	.139	8.04	4.15	2.77	2.35	1.58	.67	.099	240
255	7.63	4.97	3.45	2.46	1.42	.72	.171	8.82	4.49	3.01	2.51	1.73	.75	.130	255
270	8.28	5.09	3.51	2.54	1.52	.77	.185	8.83	4.31	2.91	2.44	1.69	.73	.141	270
285	7.15	4.39	2.94	2.07	1.20	.58	.121	4.78	2.61	1.79	1.58	1.09	.50	.056	285
300	4.53	3.24	2.39	1.57	.81	.45	.075	4.91	2.53	1.68	1.48	.97	.43	.027	300
315	7.05	4.70	3.31	2.25	1.22	.59	.102	7.27	3.86	2.58	2.17	1.47	.61	.065	315
330	8.46	5.44	3.71	2.57	1.45	.68	.116	8.75	4.57	3.07	2.56	1.71	.70	.086	330
345	8.18	5.38	3.66	2.54	1.40	.65	.108	8.89	4.63	3.08	2.58	1.70	.68	.070	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	8.45	5.83	2.83	3.09	2.48	2.32	1.44	.65	.59	.29	.055	0
15	6.67	4.77	2.05	2.46	2.00	1.94	1.17	.47	.48	.22	.022	15
30	5.18	3.69	1.37	1.82	1.50	1.53	.90	.32	.37	.15	-.005	30
45	4.09	2.73	.71	1.34	1.02	1.18	.66	.20	.27	.11	-.020	45
60	5.47	3.79	1.41	1.93	1.55	1.60	.93	.36	.37	.17	.005	60
75	6.32	4.69	1.91	2.34	1.86	1.84	1.08	.43	.42	.19	.013	75
90	8.57	5.86	2.87	3.14	2.52	2.34	1.46	.64	.57	.28	.053	90
105	6.27	4.55	1.94	2.39	1.95	1.92	1.19	.51	.50	.24	.028	105
120	5.98	4.24	1.77	2.24	1.85	1.84	1.15	.52	.50	.24	.034	120
135	6.30	4.45	1.85	2.32	1.87	1.89	1.16	.51	.50	.25	.041	135
150	6.22	4.42	1.81	2.26	1.83	1.83	1.09	.47	.46	.23	.028	150
165	5.84	4.09	1.57	2.09	1.69	1.71	1.02	.43	.44	.21	.020	165
180	6.13	4.34	1.73	2.24	1.81	1.83	1.10	.50	.49	.25	.036	180
195	6.85	4.86	2.09	2.53	2.02	2.00	1.22	.59	.56	.30	.061	195
210	7.39	5.07	2.32	2.74	2.17	2.13	1.33	.64	.60	.32	.082	210
225	7.77	5.28	2.48	2.89	2.28	2.22	1.38	.68	.61	.33	.084	225
240	8.51	5.63	2.70	3.07	2.43	2.34	1.48	.74	.65	.34	.090	240
255	8.67	5.60	2.72	3.03	2.46	2.36	1.49	.78	.67	.36	.104	255
270	6.53	4.41	1.87	2.48	1.95	1.99	1.24	.65	.59	.31	.075	270
285	3.14	2.01	.20	1.00	.76	.98	.58	.24	.31	.15	-.009	285
300	5.14	3.52	1.18	1.75	1.39	1.46	.85	.34	.34	.17	.001	300
315	7.26	5.00	2.23	2.67	2.11	2.05	1.23	.58	.54	.28	.055	315
330	9.21	6.10	2.91	3.24	2.57	2.44	1.49	.75	.65	.34	.080	330
345	9.72	6.21	3.07	3.35	2.66	2.49	1.54	.75	.66	.33	.072	345

TABLE 51 - Continued

FLIGHT 45, LANDING APPROACH AND FLARE

(SEE FIG. 7)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.41	3.41	2.63	1.94	1.41	.53	.108	3.69	1.81	1.28	1.02	.85	.42	.101	0
15	5.99	2.87	2.29	1.44	1.19	.44	.083	3.40	1.66	1.19	.94	.79	.40	.094	15
30	5.19	2.34	1.94	1.45	.97	.35	.071	3.01	1.44	1.06	.85	.72	.36	.089	30
45	4.07	1.73	1.55	1.15	.77	.26	.057	2.55	1.17	.90	.72	.63	.32	.082	45
60	3.57	1.77	1.54	1.19	.79	.28	.067	2.01	.93	.69	.56	.51	.27	.076	60
75	3.69	1.88	1.63	1.23	.83	.30	.067	1.39	.55	.53	.38	.37	.19	.051	75
90	4.41	2.72	2.18	1.67	1.20	.46	.100	.55	.10	.24	.20	.21	.12	.035	90
105	5.18	2.90	2.32	1.71	1.20	.45	.092	.73	.21	.32	.24	.26	.15	.048	105
120	5.12	2.70	2.19	1.65	1.16	.45	.097	2.05	.94	.76	.61	.55	.30	.094	120
135	4.96	2.59	2.15	1.62	1.16	.45	.100	2.82	1.35	1.03	.82	.70	.37	.099	135
150	4.99	2.58	2.12	1.59	1.12	.43	.094	3.45	1.65	1.17	.91	.75	.36	.102	150
165	4.67	2.37	1.97	1.48	1.04	.39	.088	3.37	1.63	1.18	.94	.77	.37	.097	165
180	4.59	2.43	2.02	1.52	1.06	.43	.100	3.05	1.47	1.09	.87	.75	.38	.108	180
195	4.97	2.73	2.21	1.66	1.20	.50	.125	2.65	1.29	1.04	.87	.77	.41	.117	195
210	5.54	3.07	2.40	1.79	1.30	.53	.130	1.26	.57	.58	.52	.53	.34	.096	210
225	5.86	3.19	2.47	1.87	1.36	.56	.125	.36	.05	.26	.23	.28	.21	.060	225
240	5.90	3.02	2.38	1.80	1.34	.55	.118	.57	.11	.25	.21	.21	.14	.044	240
255	4.94	1.95	1.73	1.30	.97	.42	.102	1.03	.37	.44	.33	.29	.18	.051	255
270	3.14	.78	.93	.77	.59	.28	.074	1.52	.67	.57	.43	.40	.23	.063	270
285	2.36	.99	.95	.70	.44	.17	.053	1.95	.86	.70	.55	.48	.26	.066	285
300	3.15	1.82	1.55	1.16	.79	.29	.071	2.18	.98	.79	.61	.53	.28	.066	300
315	4.01	2.49	2.01	1.52	1.08	.44	.108	2.46	1.15	.89	.70	.60	.31	.078	315
330	4.99	3.09	2.43	1.83	1.34	.55	.125	2.96	1.45	1.07	.85	.72	.38	.097	330
345	5.86	3.45	2.66	1.99	1.46	.58	.125	3.54	1.75	1.26	1.00	.82	.42	.104	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.57	.82	.53	.33	.114	.76	.41	.25	.15	.008	0
15	1.64	.86	.54	.34	.113	.85	.45	.27	.15	.008	15
30	1.62	.82	.52	.32	.111	.79	.41	.24	.13	-.002	30
45	1.47	.72	.46	.29	.107	.69	.34	.19	.10	-.003	45
60	1.14	.56	.38	.26	.103	.51	.26	.14	.08	-.004	60
75	.93	.45	.31	.22	.096	.39	.20	.11	.07	-.001	75
90	.62	.32	.21	.19	.082	.31	.16	.08	.06	-.010	90
105	.36	.23	.14	.17	.074	.27	.14	.07	.05	-.008	105
120	.10	.12	.09	.15	.075	.19	.10	.05	.04	-.014	120
135	.37	.23	.17	.18	.084	.11	.07	.02	.03	-.013	135
150	.24	.18	.14	.17	.081	.07	.05	.01	.03	-.006	150
165	.36	.24	.19	.19	.089	.06	.05	.02	.03	-.006	165
180	.44	.28	.21	.21	.089	.06	.06	.03	.04	-.008	180
195	.25	.20	.15	.18	.077	.07	.06	.03	.04	-.008	195
210	.21	.18	.13	.17	.075	.05	.05	.02	.03	-.010	210
225	.29	.20	.15	.17	.073	.10	.07	.03	.04	-.009	225
240	.41	.25	.18	.18	.074	.16	.09	.05	.05	-.010	240
255	.56	.33	.22	.21	.080	.22	.13	.07	.06	-.003	255
270	.76	.41	.28	.22	.083	.29	.16	.09	.07	-.003	270
285	.92	.48	.31	.24	.086	.36	.19	.11	.08	-.007	285
300	1.05	.53	.35	.25	.092	.42	.23	.13	.09	-.001	300
315	1.18	.58	.39	.27	.101	.49	.26	.15	.10	-.004	315
330	1.26	.64	.44	.30	.110	.51	.29	.17	.10	-.003	330
345	1.39	.75	.50	.33	.110	.66	.35	.21	.12	.004	345

TABLE 51 - Continued

FLIGHT 45, LANDING APPROACH AND FLARE

(SEE FIG. 7)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	3.72	8.22	13.12	22.24	23.26	25.72	25.00
15	3.98	8.44	12.18	19.03	18.35	20.33	19.91
30	3.54	8.20	10.88	16.01	13.77	15.60	15.84
45	2.93	7.38	9.31	12.41	9.80	12.84	16.29
60	2.20	6.03	7.50	12.31	14.29	17.28	19.43
75	1.74	5.04	5.21	12.97	16.96	19.91	20.68
90	1.34	3.73	2.47	17.90	23.38	25.69	25.30
105	1.18	2.75	3.26	18.87	18.01	21.32	22.75
120	.82	1.86	8.05	18.23	17.24	20.23	21.84
135	.51	2.91	10.59	17.89	17.73	20.85	21.59
150	.38	2.49	11.85	17.57	17.05	20.29	20.78
165	.40	3.08	11.85	16.24	15.77	18.81	19.92
180	.50	3.49	11.31	16.70	17.06	20.17	21.54
195	.49	2.63	10.95	18.69	19.34	22.70	24.00
210	.41	2.38	6.83	20.42	20.98	23.95	25.43
225	.60	2.60	3.16	21.30	21.94	24.71	25.59
240	.84	3.06	2.68	20.78	23.63	26.18	26.14
255	1.16	3.79	4.19	15.42	24.00	28.68	27.99
270	1.42	4.55	5.90	8.91	18.95	28.07	29.35
285	1.72	5.11	7.20	7.43	7.88	17.14	24.20
300	2.02	5.62	7.97	12.18	12.98	16.04	17.44
315	2.34	6.25	9.04	16.52	19.87	24.03	25.20
330	2.51	6.85	11.02	20.36	24.67	28.37	29.29
345	3.11	7.61	12.75	22.46	25.63	28.38	28.59

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	11.595		0	2.872		0	5.952	
1	3.456	-4.674	1	2.451	-.481	1	-.292	-.118
2	.086	.071	2	.114	.025	2	-.038	.000
3	.000	.086	3	.112	-.163	3	.038	.012
4	.038	.014	4	.136	-.145	4	.008	-.035
5	.086	-.152	5	.116	.126	5	.008	-.012
6	.033	.038	6	.012	-.017	6	.005	.010
7	-.014	.014	7	.023	-.006	7	-.002	.010
8	.000	.033	8	.023	.021	8	.005	-.015
9	.033	.005	9	.029	.027	9	.000	-.005
10	-.005	.024	10	.054	.000	10	-.030	-.005

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom}\right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom}\right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom}\right)$$

TABLE 51 - Continued

FLIGHT 45, LANDING APPROACH AND FLARE

(SEE FIG. 7)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	1.660		.75	0	16.783		.95	0	23.087	
.25	1	1.523	.096	.75	1	-.637	.429	.95	1	-.345	-3.001
.25	2	.318	.186	.75	2	3.030	.075	.95	2	-.636	-.710
.25	3	.109	.165	.75	3	3.481	-2.670	.95	3	2.165	-2.166
.25	4	.093	.132	.75	4	-.479	-.524	.95	4	1.537	-1.545
.25	5	-.025	.057	.75	5	-.396	.789	.95	5	-.135	-1.381
.25	6	.042	.024	.75	6	.106	.151	.95	6	-1.218	.168
.25	7	.017	.010	.75	7	.345	-.459	.95	7	-.059	.469
.25	8	.010	.007	.75	8	-.052	.080	.95	8	.644	.633
.25	9	.002	-.019	.75	9	-.138	.030	.95	9	.263	.174
.25	10	.004	.006	.75	10	-.106	-.098	.95	10	-.175	-.348
.40	0	4.752		.85	0	18.438					
.40	1	2.797	-.042	.85	1	-.267	-1.443				
.40	2	.792	.330	.85	2	1.062	.038				
.40	3	-.249	.416	.85	3	3.773	-3.269				
.40	4	.153	-.069	.85	4	1.165	-2.416				
.40	5	-.026	.044	.85	5	-.682	.154				
.40	6	.006	.045	.85	6	-.862	1.435				
.40	7	-.095	-.057	.85	7	.521	-.082				
.40	8	.139	-.016	.85	8	.560	-.299				
.40	9	-.083	.036	.85	9	-.473	-.058				
.40	10	.061	-.083	.85	10	-.704	-.068				
.55	0	8.303		.90	0	21.970					
.55	1	1.131	.497	.90	1	-.314	-2.736				
.55	2	3.948	-1.494	.90	2	-.073	-.501				
.55	3	-.681	1.338	.90	3	3.253	-2.491				
.55	4	.093	.021	.90	4	1.824	-2.208				
.55	5	.290	-.927	.90	5	-.438	-.717				
.55	6	.141	.385	.90	6	-1.363	1.108				
.55	7	-.059	-.054	.90	7	.311	.370				
.55	8	-.191	-.079	.90	8	.789	.145				
.55	9	.193	-.048	.90	9	-.147	-.150				
.55	10	-.073	.093	.90	10	-.532	-.225				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 51 - Concluded

FLIGHT 45, LANDING APPROACH AND FLARE

(SEE FIG. 7)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-2654	-2772	-3761	-3680	-4452	-5866		
15	-1012	-965	-1926	-2020	-2578	-3627		
30	1906	2153	1455	1204	-950	-2523		
45	2191	3003	2974	3017	951	-781		
60	857	1898	1148	956	1110	2502		
75	-488	-1106	-1410	136	2210	3189		
90	-2015	-1056	-1022	183	1778	1577		
105	652	1015	1166	1929	-386	-3697		
120	2932	3242	3245	2826	-2410	-6304		
135	1610	2747	2531	2063	-906	-2841		
150	-408	627	1356	1967	-70	-851		
165	470	965	759	727	-589	-911		
180	1370	2153	1944	842	-2595	-3975		
195	2237	2087	1880	1519	-3079	-6403		
210	470	1592	1428	1176	-2842	-6204		
225	470	322	-235	651	-166	-2931		
240	2	512	615	1767	2157	393		
255	1177	1832	2025	2941	3802	4283		
270	1256	2747	2947	3599	4418	6472		
285	128	1733	2387	3532	5175	7557		
300	-750	1056	1537	2502	3486	4791		
315	82	957	886	1300	-413	-2204		
330	493	1576	108	-1639	-6212	-9169		
345	230	-635	-2947	-4005	-6511	-8771		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-2534	-7440	250	
15	-8183	-11884	-2822	
30	-10706	-14001	-2774	
45	-7646	-9866	2410	
60	-2322	-2605	7690	
75	1211	1042	10026	
90	4141	-2458	5914	
105	3278	-6870	-470	
120	-1003	-12959	-1174	
135	1325	-10256	-1318	
150	3653	-4640	4058	
165	3197	-179	11546	
180	2887	1986	11642	
195	576	-3272	8938	
210	625	-8531	1082	
225	1259	-12063	-4646	
240	-3136	-12959	-3622	
255	-6180	-10924	-518	
270	-10104	-9768	218	
285	-11488	-12698	218	
300	-10462	-11445	1386	
315	-8932	-6626	5610	
330	-6832	-2540	9114	
345	-4048	-2816	7530	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	1047	892	166
15	645	246	123
30	205	-44	96
45	230	-198	102
60	633	156	142
75	827	530	158
90	564	331	78
105	167	-175	39
120	546	-140	63
135	1046	358	103
150	664	247	45
165	-186	-375	-34
180	-444	-596	-40
195	73	-319	16
210	540	106	45
225	420	-42	10
240	-432	-659	-72
255	-913	-994	-86
270	-544	-768	-14
285	-312	-568	17
300	-358	-454	1
315	-510	-431	14
330	-116	-65	74
345	737	537	163

TABLE 52

FLIGHT 46, LANDING APPROACH AND FLARE

(SEE FIG. 8, t = 11.7 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	4.87	3.37	2.57	1.74	.85	.43	.050	5.97	3.03	2.26	1.95	1.21	.49	.005	0
15	4.17	3.03	2.37	1.57	.68	.37	.022	5.16	2.61	1.96	1.69	1.04	.38	-.027	15
30	3.07	2.48	2.03	1.30	.46	.31	.010	4.01	1.99	1.55	1.39	.82	.30	-.058	30
45	1.95	1.80	1.63	.99	.26	.25	.000	2.93	1.50	1.16	1.16	.64	.23	-.076	45
60	1.97	1.88	1.67	1.00	.23	.24	.008	2.03	1.05	1.01	1.03	.54	.22	-.081	60
75	5.53	4.09	3.15	2.13	1.04	.50	.054	5.97	3.14	2.49	2.20	1.35	.54	.000	75
90	5.67	3.91	2.98	1.99	.95	.48	.060	5.99	3.03	2.30	2.03	1.21	.47	-.018	90
105	5.17	3.71	2.85	1.82	.82	.41	.034	5.07	2.60	2.01	1.84	1.06	.41	-.022	105
120	4.52	3.24	2.64	1.69	.76	.41	.046	4.87	2.57	1.96	1.82	1.06	.44	-.020	120
135	4.58	3.22	2.57	1.72	.82	.44	.054	5.45	2.83	2.16	1.96	1.15	.48	.000	135
150	4.29	2.97	2.39	1.59	.74	.40	.048	5.50	2.78	2.12	1.88	1.11	.45	-.005	150
165	3.88	2.71	2.18	1.50	.69	.39	.058	4.91	2.51	1.92	1.72	1.01	.43	-.005	165
180	3.96	2.74	2.20	1.50	.71	.40	.064	4.98	2.50	1.92	1.74	1.05	.45	.016	180
195	4.47	2.96	2.37	1.62	.81	.44	.072	5.74	2.94	2.23	1.87	1.19	.51	.031	195
210	4.99	3.33	2.50	1.76	.93	.49	.097	6.49	3.36	2.46	2.08	1.34	.57	.060	210
225	5.87	3.79	2.73	1.96	1.08	.53	.101	6.94	3.50	2.55	2.16	1.39	.58	.060	225
240	6.25	3.94	2.77	1.98	1.10	.52	.091	6.18	3.20	2.38	2.05	1.33	.58	.071	240
255	6.25	3.96	2.79	2.01	1.13	.57	.113	6.52	3.34	2.47	2.13	1.38	.61	.087	255
270	6.95	4.24	3.00	2.20	1.28	.63	.145	7.88	4.02	2.94	2.52	1.68	.74	.132	270
285	6.29	3.79	2.64	1.92	1.07	.50	.079	4.46	2.35	1.61	1.41	.89	.39	.031	285
300	2.31	1.69	1.48	.95	.39	.29	.054	3.40	1.72	1.18	1.18	.75	.32	.005	300
315	4.70	3.07	2.36	1.60	.80	.42	.068	4.98	2.57	1.93	1.69	1.08	.47	.040	315
330	5.48	3.57	2.65	1.82	.97	.49	.072	6.08	3.16	2.32	1.99	1.29	.54	.054	330
345	5.42	3.59	2.70	1.84	.96	.49	.068	6.56	3.34	2.46	2.09	1.32	.55	.045	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	6.29	4.68	3.32	2.42	2.06	1.77	1.13	.55	.53	.26	.052	0
15	5.60	4.13	2.95	2.06	1.80	1.53	.97	.42	.43	.19	.025	15
30	4.35	3.20	2.39	1.78	1.40	1.20	.77	.26	.33	.14	-.004	30
45	3.59	2.66	2.00	1.53	1.28	.97	.64	.19	.28	.12	-.012	45
60	2.91	2.08	1.65	1.21	1.02	.83	.49	.09	.21	.08	-.028	60
75	6.07	4.60	3.25	2.52	2.14	1.83	1.18	.54	.51	.25	.058	75
90	5.64	4.25	3.11	2.24	1.93	1.65	1.09	.48	.47	.23	.035	90
105	5.07	3.74	2.73	1.87	1.60	1.36	.89	.35	.38	.19	.021	105
120	5.00	3.71	2.75	1.88	1.63	1.40	.94	.39	.41	.21	.035	120
135	5.33	3.99	2.95	2.00	1.78	1.53	1.03	.45	.47	.25	.048	135
150	5.55	4.13	3.03	2.11	1.83	1.54	1.03	.45	.45	.23	.035	150
165	4.92	3.64	2.67	1.84	1.59	1.35	.92	.38	.41	.20	.021	165
180	5.01	3.69	2.67	1.89	1.63	1.40	.95	.43	.45	.25	.048	180
195	5.91	4.34	3.17	2.30	1.93	1.66	1.10	.54	.51	.29	.066	195
210	6.44	4.70	3.37	2.49	2.07	1.79	1.19	.61	.56	.32	.081	210
225	6.13	4.49	3.23	2.41	2.05	1.75	1.17	.60	.58	.31	.085	225
240	6.20	4.45	3.21	2.40	2.00	1.70	1.13	.58	.54	.29	.083	240
255	6.24	4.48	3.26	2.50	2.10	1.84	1.22	.66	.62	.34	.110	255
270	7.59	5.13	3.75	2.80	2.33	1.98	1.30	.69	.63	.34	.103	270
285	3.26	2.37	1.74	1.33	1.06	.96	.64	.29	.34	.18	.033	285
300	4.15	2.99	2.13	1.48	1.25	1.17	.73	.32	.36	.18	.025	300
315	5.29	3.92	2.75	2.01	1.70	1.51	.96	.48	.47	.25	.068	315
330	6.32	4.60	3.33	2.45	2.05	1.79	1.15	.62	.55	.30	.079	330
345	6.73	4.93	3.54	2.62	2.20	1.89	1.21	.65	.57	.30	.074	345

TABLE 52 - Continued

FLIGHT 46, LANDING APPROACH AND FLARE

(SEE FIG. 8, t = 11.7 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.25	2.80	2.11	1.62	1.10	.47	.058	3.75	1.86	1.25	1.08	.86	.45	.099	0
15	4.96	2.50	1.94	1.48	.96	.39	.041	3.49	1.75	1.17	1.00	.81	.43	.097	15
30	4.25	2.13	1.69	1.31	.81	.34	.031	3.02	1.51	1.01	.89	.72	.40	.098	30
45	3.75	1.97	1.60	1.25	.76	.32	.036	2.95	1.46	.99	.87	.71	.38	.100	45
60	3.48	1.80	1.40	1.16	.66	.26	.028	2.52	1.24	.85	.77	.64	.34	.095	60
75	3.39	2.00	1.57	1.31	.82	.38	.058	2.79	1.40	.91	.77	.61	.33	.093	75
90	4.36	2.53	2.00	1.55	1.00	.41	.060	2.29	1.14	.78	.73	.60	.33	.086	90
105	4.09	2.05	1.66	1.27	.78	.33	.052	2.63	1.29	.90	.81	.66	.35	.092	105
120	4.00	2.11	1.71	1.31	.82	.36	.067	2.38	1.19	.83	.75	.62	.35	.096	120
135	4.28	2.31	1.87	1.43	.93	.39	.069	2.90	1.44	.96	.85	.68	.36	.096	135
150	4.37	2.28	1.85	1.40	.94	.38	.058	2.73	1.35	.91	.81	.65	.35	.089	150
165	3.95	2.03	1.66	1.26	.84	.34	.050	2.66	1.34	.91	.81	.65	.34	.093	165
180	3.84	2.06	1.67	1.28	.86	.37	.067	2.76	1.39	.95	.84	.68	.37	.102	180
195	4.31	2.40	1.86	1.45	.98	.43	.079	2.66	1.36	.93	.83	.68	.36	.100	195
210	4.81	2.61	1.98	1.53	1.05	.46	.079	2.58	1.31	.91	.82	.66	.37	.088	210
225	4.75	2.52	1.91	1.49	1.02	.44	.074	2.68	1.35	.92	.82	.66	.36	.081	225
240	4.56	2.45	1.86	1.44	.98	.44	.081	2.12	1.06	.75	.70	.59	.33	.077	240
255	5.02	2.93	2.13	1.65	1.14	.52	.101	1.98	.97	.71	.70	.56	.33	.082	255
270	3.95	1.62	1.34	1.04	.72	.37	.079	1.88	.90	.64	.59	.48	.29	.063	270
285	3.54	1.90	1.46	1.11	.72	.33	.048	2.09	1.02	.71	.65	.53	.30	.059	285
300	3.63	1.94	1.48	1.13	.72	.31	.039	2.27	1.11	.76	.68	.54	.30	.058	300
315	3.89	2.17	1.64	1.26	.83	.38	.058	2.51	1.24	.84	.74	.58	.33	.070	315
330	4.52	2.63	1.96	1.52	1.04	.47	.069	3.02	1.55	1.04	.90	.70	.40	.095	330
345	5.13	2.84	2.11	1.64	1.12	.49	.077	4.07	2.01	1.34	1.14	.89	.48	.112	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.85	.95	.59	.35	.103	.77	.34	.20	.19	.071	0
15	1.70	.87	.54	.33	.092	.85	.41	.25	.14	.035	15
30	1.55	.78	.48	.30	.093	1.04	.51	.29	.14	.032	30
45	1.87	.91	.56	.33	.106	.75	.39	.24	.13	.021	45
60	1.52	.76	.47	.30	.091	.92	.44	.26	.14	.032	60
75	1.58	.78	.47	.30	.099	.78	.37	.22	.12	.024	75
90	1.05	.60	.40	.28	.095	.66	.31	.19	.11	.022	90
105	1.48	.70	.43	.27	.085	.82	.40	.24	.14	.032	105
120	1.40	.72	.45	.30	.097	.89	.43	.24	.12	.025	120
135	1.44	.73	.44	.28	.087	.78	.37	.22	.12	.029	135
150	1.47	.73	.44	.28	.086	.75	.37	.22	.13	.030	150
165	1.41	.72	.44	.29	.089	.76	.38	.23	.13	.035	165
180	1.36	.72	.44	.29	.090	.70	.35	.21	.12	.030	180
195	1.24	.67	.41	.27	.083	.63	.31	.19	.11	.025	195
210	1.17	.64	.39	.26	.076	.56	.28	.17	.11	.024	210
225	1.20	.64	.38	.25	.073	.52	.26	.16	.10	.022	225
240	1.25	.66	.40	.26	.071	.55	.26	.16	.10	.019	240
255	.82	.46	.28	.21	.064	.62	.29	.17	.10	.022	255
270	.87	.49	.29	.22	.070	.53	.24	.14	.09	.011	270
285	.93	.51	.29	.21	.064	.57	.27	.16	.10	.017	285
300	.88	.47	.28	.21	.062	.60	.27	.15	.09	.008	300
315	1.14	.61	.37	.25	.079	.64	.32	.20	.12	.021	315
330	1.60	.82	.50	.31	.097	.91	.45	.28	.15	.030	330
345	1.97	.99	.61	.37	.106	.67	.37	.31	.24	.065	345

TABLE 52 - Continued

FLIGHT 46, LANDING APPROACH AND FLARE

(SEE FIG. 8, t - 11.7 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	3.89	9.15	13.36	18.06	20.01	19.64	18.19
15	3.88	8.43	12.58	16.14	17.26	16.61	15.80
30	4.54	7.67	11.20	13.85	13.48	12.87	12.52
45	3.59	8.92	10.88	12.84	11.35	9.71	8.98
60	4.10	7.52	9.52	11.42	9.00	7.73	9.04
75	3.49	7.69	9.88	13.24	19.95	21.00	21.71
90	3.01	6.17	8.88	16.20	18.45	19.61	20.84
105	3.75	7.03	9.90	13.49	15.62	17.01	19.02
120	3.85	7.18	9.36	13.94	16.08	16.83	17.37
135	3.48	7.14	10.57	15.28	17.53	18.56	17.70
150	3.46	7.15	10.00	15.15	17.73	18.14	16.33
165	3.54	7.07	9.93	13.59	15.71	16.52	15.14
180	3.29	7.02	10.46	13.86	16.24	16.90	15.42
195	2.98	6.49	10.24	15.80	19.08	19.39	16.98
210	2.73	6.22	9.99	17.10	20.64	21.88	18.90
225	2.52	6.15	10.06	16.60	20.21	22.81	21.34
240	2.58	6.35	8.56	16.15	19.76	21.39	21.86
255	2.76	4.58	8.16	18.66	20.95	22.42	22.39
270	2.34	4.79	7.28	12.34	23.29	27.06	24.62
285	2.60	4.88	7.92	12.28	10.98	14.84	21.21
300	2.54	4.69	8.34	12.34	12.88	11.55	9.69
315	3.05	5.95	9.16	13.95	16.95	17.23	17.11
330	4.22	5.35	11.22	16.86	20.28	23.37	19.85
345	4.48	9.59	14.27	18.31	21.36	21.70	19.88

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	10.705		0	3.728		0	3.894	
1	2.247	-1.934	1	-.190	-1.006	1	-.248	-.066
2	-.123	-.009	2	.239	-.128	2	.003	-.019
3	-.073	.159	3	.030	-.083	3	.016	.000
4	.000	.041	4	.012	-.061	4	.000	-.013
5	.109	-.145	5	.134	.162	5	-.005	.011
6	-.027	-.027	6	-.036	.018	6	.003	.008
7	-.045	-.005	7	-.006	-.059	7	.003	-.019
8	.027	-.036	8	.000	.073	8	-.002	-.003
9	-.009	-.005	9	-.022	.004	9	-.003	.002
10	.000	.027	10	-.022	-.022	10	-.009	-.003

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 52 - Continued

FLIGHT 46, LANDING APPROACH AND FLARE

(SEE FIG. 8, t = 11.7 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.361		.75	0	14.893		.95	0	17.578	
.25	1	.422	.543	.75	1	-.061	-.686	.95	1	-1.274	-2.150
.25	2	.397	-.096	.75	2	1.107	.291	.95	2	-1.779	-.371
.25	3	.127	.007	.75	3	1.866	-.888	.95	3	2.823	-1.383
.25	4	-.031	-.127	.75	4	.346	-.608	.95	4	2.270	-1.061
.25	5	-.160	-.155	.75	5	.074	.040	.95	5	.545	-.201
.25	6	-.003	-.069	.75	6	-.477	.497	.95	6	-1.790	.509
.25	7	-.095	.053	.75	7	.321	-.642	.95	7	-1.379	.513
.25	8	-.215	-.025	.75	8	-.002	-.270	.95	8	.446	.180
.25	9	-.062	-.057	.75	9	-.111	.582	.95	9	1.055	-.364
.25	10	.067	-.080	.75	10	.216	.256	.95	10	.607	-.240
.40	0	6.800		.85	0	17.283					
.40	1	.570	1.160	.85	1	-.971	-1.710				
.40	2	.996	.351	.85	2	.569	.027				
.40	3	.400	.045	.85	3	2.589	-1.549				
.40	4	.066	-.194	.85	4	1.457	-1.352				
.40	5	.228	-.180	.85	5	.250	-.296				
.40	6	.380	-.279	.85	6	-1.659	1.373				
.40	7	.067	-.153	.85	7	-.120	.227				
.40	8	.113	-.109	.85	8	.722	-.818				
.40	9	.175	-.265	.85	9	.363	-.736				
.40	10	-.072	-.136	.85	10	-.284	.619				
.55	0	10.072		.90	0	18.115					
.55	1	.911	.661	.90	1	-1.568	-2.623				
.55	2	1.721	.078	.90	2	-.139	-.317				
.55	3	.690	-.338	.90	3	3.009	-1.773				
.55	4	.138	-.145	.90	4	1.896	-1.537				
.55	5	.223	-.221	.90	5	.323	-.541				
.55	6	.087	-.197	.90	6	-2.408	1.052				
.55	7	-.093	-.202	.90	7	-.901	.677				
.55	8	.011	-.086	.90	8	.824	-.454				
.55	9	-.197	-.069	.90	9	.605	-.641				
.55	10	.109	.026	.90	10	.013	.551				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 52 - Concluded

FLIGHT 46, LANDING APPROACH AND FLARE

(SEE FIG. 8, t = 11.7 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-2139	-2921	-3282	-4308	-5141	-6301		
15	-2652	-3341	-3815	-3955	-2959	-3495		
30	699	190	-452	-1971	-4534	-6262		
45	3276	2219	922	-444	-2862	-5336		
60	335	1031	1383	567	-2290	-4759		
75	1338	-998	-2522	-2686	-2308	-1525		
90	-1512	-2384	-1953	-1484	218	-351		
105	312	503	1139	510	-1630	-3515		
120	5943	3176	1573	-854	-3328	-5456		
135	1292	-58	244	-5	-1683	-3665		
150	-1945	-2302	-1763	-1017	737	475		
165	1098	-355	-1392	-2448	-2281	-2023		
180	2706	1147	380	-854	-3073	-5018		
195	802	1196	1501	357	-3170	-6391		
210	2204	503	-560	-1646	-2827	-4351		
225	-7	-809	-985	-988	-1340	-1505		
240	-612	-248	416	930	896	126		
255	2717	2417	2549	1779	271	-1038		
270	2432	2665	3119	2828	1098	-331		
285	-805	586	2016	2609	2506	1758		
300	574	-8	-687	-998	1679	3430		
315	-1136	-314	777	949	-627	-2610		
330	927	1213	777	-749	-4332	-7814		
345	2569	520	-1663	-4041	-6479	-8381		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-1726	-3077	3183	
15	-5503	-7863	5375	
30	-2084	-6349	-689	
45	-4200	-7961	2927	
60	-1921	-5014	5423	
75	5226	-342	4031	
90	2947	-2882	6527	
105	1335	-4542	3551	
120	2702	-6593	1023	
135	2963	-3842	2191	
150	2751	-3630	6351	
165	3761	-635	5199	
180	-570	-3012	6847	
195	-3224	-5600	5455	
210	-1075	-6496	-177	
225	-4705	-9882	-321	
240	-6561	-11249	-273	
255	-7863	-9621	-513	
270	-12080	-10305	2479	
285	-9849	-10240	-193	
300	-8515	-11070	-33	
315	-10403	-7961	3711	
330	-9849	-6105	6079	
345	-3191	-4396	3903	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	432	740	125
15	366	289	105
30	-61	255	70
45	412	95	140
60	496	367	130
75	388	456	119
90	397	444	72
105	25	46	78
120	436	134	84
135	738	549	124
150	321	188	70
165	-492	-181	-17
180	-400	-469	-15
195	-234	-207	3
210	74	58	44
225	142	142	28
240	-587	-497	-48
255	-933	-598	-58
270	-286	-326	37
285	117	166	81
300	-589	-469	17
315	-869	-421	-31
330	-509	-258	26
345	190	374	87

TABLE 53

FLIGHT 46, LANDING APPROACH AND FLARE

(SEE FIG. 8, t = 27.6 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
0	6.59	4.23	3.13	2.14	1.13	.54	.064	7.37	3.78	2.76	2.32	1.45	.57	.038	0
15	5.50	3.83	2.91	1.96	.98	.49	.064	6.70	3.43	2.53	2.17	1.37	.53	.018	15
30	5.17	3.69	2.84	1.87	.88	.46	.046	6.19	3.17	2.40	2.04	1.26	.48	-.006	30
45	3.88	3.00	2.45	1.54	.64	.36	.010	5.14	2.63	2.01	1.75	1.03	.37	-.045	45
60	.28	.95	1.09	.48	-.01	.12	-.032	2.20	1.13	.91	.84	.37	.12	-.112	60
75	2.78	1.89	2.10	1.25	.33	.27	.030	1.00	.46	.63	.69	.31	.14	-.101	75
90	8.80	5.51	4.40	3.03	1.60	.70	.099	5.92	3.26	2.82	2.59	1.59	.67	.022	90
105	7.92	5.17	3.83	2.61	1.39	.64	.064	8.86	4.60	3.42	2.85	1.80	.67	.022	105
120	6.24	4.21	3.16	2.07	.98	.46	.038	6.72	3.41	2.51	2.17	1.29	.47	-.011	120
135	4.70	3.44	2.71	1.72	.74	.40	.028	5.09	2.63	2.02	1.82	1.07	.41	-.027	135
150	4.83	3.47	2.79	1.79	.85	.47	.071	5.09	2.65	2.01	1.87	1.14	.49	.016	150
165	5.43	3.77	2.86	1.90	.91	.46	.048	5.88	3.01	2.32	2.03	1.23	.48	.000	165
180	4.78	3.34	2.65	1.72	.81	.43	.054	5.50	2.74	2.12	1.89	1.13	.43	-.018	180
195	4.82	3.29	2.55	1.71	.81	.43	.063	4.87	2.45	1.90	1.74	1.05	.42	-.006	195
210	5.32	3.61	2.71	1.85	.94	.49	.075	5.46	2.79	2.14	1.92	1.20	.50	.022	210
225	5.90	3.94	2.90	2.00	1.05	.53	.080	6.36	3.26	2.46	2.14	1.34	.55	.038	225
240	6.47	4.19	3.08	2.12	1.13	.55	.088	6.49	3.37	2.50	2.19	1.38	.57	.056	240
255	6.13	3.99	2.92	2.00	1.05	.52	.084	6.34	3.22	2.37	2.05	1.30	.53	.047	255
270	6.06	3.99	2.92	2.03	1.09	.55	.097	6.54	3.37	2.51	2.16	1.38	.60	.078	270
285	7.32	4.57	3.31	2.37	1.37	.70	.153	8.11	4.09	2.99	2.55	1.66	.73	.113	285
300	6.13	3.83	2.78	1.92	1.10	.54	.101	5.63	2.85	2.01	1.73	1.10	.49	.047	300
315	1.85	1.64	1.53	.90	.33	.29	.052	2.62	1.36	1.06	1.02	.65	.28	-.009	315
330	5.43	3.56	2.71	1.83	.91	.46	.072	5.41	2.84	2.15	1.85	1.18	.48	.022	330
345	6.84	4.33	3.17	2.20	1.18	.56	.088	6.90	3.61	2.67	2.27	1.44	.58	.049	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
0	7.52	5.41	3.92	2.88	2.44	2.07	1.35	.68	.62	.32	.093	0
15	7.17	5.34	3.78	2.78	2.37	2.02	1.31	.63	.59	.31	.078	15
30	6.70	4.97	3.54	2.59	2.21	1.88	1.22	.55	.53	.25	.064	30
45	5.54	4.06	2.99	2.08	1.83	1.56	.99	.39	.41	.19	.023	45
60	3.07	2.23	1.72	1.31	1.09	.84	.51	.10	.21	.07	-.029	60
75	2.11	1.46	1.17	.87	.72	.74	.37	.04	.17	.06	-.024	75
90	3.31	2.45	1.93	1.49	1.32	1.18	.79	.34	.39	.21	.037	90
105	9.64	6.73	4.84	3.63	3.08	2.56	1.69	.82	.70	.35	.093	105
120	6.39	5.01	3.34	2.44	2.09	1.75	1.13	.49	.46	.23	.046	120
135	5.08	3.75	2.74	1.87	1.64	1.41	.91	.38	.39	.22	.036	135
150	5.23	3.90	2.82	1.97	1.72	1.50	1.01	.46	.46	.26	.062	150
165	5.86	4.43	3.15	2.26	1.94	1.63	1.10	.48	.47	.24	.041	165
180	5.41	4.00	2.87	2.01	1.74	1.46	1.00	.42	.43	.21	.025	180
195	4.50	3.35	2.47	1.72	1.48	1.27	.88	.38	.40	.21	.027	195
210	5.23	3.90	2.81	1.98	1.73	1.51	1.03	.49	.49	.28	.064	210
225	6.18	4.58	3.28	2.41	2.03	1.74	1.16	.56	.53	.30	.076	225
240	6.30	4.69	3.33	2.49	2.10	1.82	1.21	.61	.55	.31	.075	240
255	6.21	4.54	3.23	2.42	2.03	1.75	1.16	.57	.53	.29	.078	255
270	7.03	5.12	3.67	2.76	2.31	1.98	1.31	.68	.63	.35	.114	270
285	7.69	5.34	3.92	2.97	2.51	2.16	1.45	.79	.70	.40	.132	285
300	2.91	2.21	1.65	1.30	1.09	1.00	.68	.33	.38	.21	.052	300
315	3.94	2.86	2.02	1.57	1.25	1.14	.72	.31	.36	.18	.036	315
330	5.71	4.26	2.94	2.17	1.84	1.61	1.04	.49	.48	.26	.070	330
345	6.90	5.09	3.62	2.70	2.26	1.95	1.27	.64	.60	.32	.097	345

TABLE 53 - Continued

FLIGHT 46, LANDING APPROACH AND FLARE

(SEE FIG. 8, t = 27.6 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.56	3.17	2.36	1.81	1.24	.54	.085	3.51	1.78	1.20	1.03	.81	.45	.108	0
15	6.03	3.24	2.42	1.86	1.26	.55	.085	3.86	1.96	1.32	1.10	.87	.48	.110	15
30	5.92	3.05	2.33	1.79	1.19	.49	.068	3.80	1.92	1.28	1.09	.87	.47	.109	30
45	5.22	2.51	2.00	1.53	.98	.39	.051	3.49	1.75	1.17	1.00	.81	.42	.102	45
60	4.20	1.87	1.53	1.20	.70	.29	.032	2.96	1.47	1.00	.87	.71	.38	.095	60
75	3.41	1.67	1.30	1.12	.63	.26	.032	2.81	1.37	.92	.81	.66	.37	.102	75
90	2.86	1.40	1.18	1.00	.57	.24	.020	2.62	1.32	.86	.77	.62	.35	.096	90
105	4.44	3.58	2.58	2.07	1.37	.56	.089	2.63	1.28	.86	.75	.60	.30	.082	105
120	4.92	2.61	2.07	1.57	1.02	.41	.053	1.82	.90	.65	.60	.50	.28	.080	120
135	4.18	2.03	1.70	1.33	.82	.37	.049	1.67	.81	.64	.60	.52	.32	.090	135
150	4.09	2.23	1.82	1.41	.88	.41	.068	2.54	1.30	.89	.78	.63	.41	.118	150
165	4.41	2.41	1.95	1.52	.97	.42	.058	2.81	1.41	.97	.85	.68	.35	.088	165
180	4.27	2.13	1.73	1.33	.83	.33	.042	2.53	1.24	.85	.75	.60	.30	.086	180
195	3.71	1.88	1.57	1.19	.75	.32	.046	2.42	1.19	.83	.74	.60	.35	.095	195
210	3.96	2.19	1.76	1.36	.88	.40	.072	2.42	1.21	.86	.76	.63	.36	.102	210
225	4.33	2.41	1.87	1.45	.96	.44	.077	2.78	1.43	.96	.84	.67	.37	.096	225
240	4.81	2.64	2.00	1.54	1.03	.46	.068	3.18	1.58	1.09	.97	.76	.40	.096	240
255	5.12	2.77	2.05	1.57	1.02	.43	.066	1.02	.47	.38	.39	.35	.26	.066	255
270	5.08	2.67	2.03	1.60	1.10	.50	.087	1.32	.62	.46	.42	.36	.24	.052	270
285	4.03	1.61	1.40	1.14	.81	.41	.066	1.88	.91	.66	.59	.49	.30	.074	285
300	3.45	1.80	1.43	1.11	.70	.35	.055	2.33	1.17	.81	.72	.58	.34	.076	300
315	3.91	2.14	1.67	1.27	.82	.35	.046	2.53	1.24	.86	.75	.61	.34	.072	315
330	4.26	2.32	1.79	1.37	.89	.39	.058	2.45	1.22	.83	.73	.59	.33	.069	330
345	4.82	2.76	2.09	1.62	1.08	.49	.080	2.85	1.45	.98	.85	.67	.39	.093	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.67	.85	.54	.34	.097	.96	.46	.28	.15	.036	0
15	1.77	.90	.56	.35	.100	.94	.46	.26	.16	.050	15
30	1.88	.94	.59	.36	.106	.82	.40	.23	.16	.031	30
45	1.84	.92	.56	.33	.095	.92	.45	.26	.15	.042	45
60	1.70	.84	.52	.32	.095	.92	.45	.26	.13	.024	60
75	1.60	.78	.48	.29	.093	.80	.38	.21	.10	.008	75
90	1.31	.63	.40	.26	.091	.63	.32	.18	.11	.023	90
105	1.33	.65	.40	.27	.087	.58	.28	.17	.11	.022	105
120	1.14	.59	.34	.24	.074	.53	.26	.16	.10	.014	120
135	1.19	.63	.39	.28	.095	.59	.28	.17	.10	.019	135
150	1.37	.71	.43	.28	.079	.72	.35	.20	.11	.020	150
165	1.43	.72	.42	.27	.078	.72	.36	.21	.12	.030	165
180	1.37	.69	.41	.27	.079	.88	.41	.23	.13	.032	180
195	1.37	.71	.43	.28	.093	.79	.40	.24	.13	.030	195
210	1.39	.71	.44	.29	.084	.81	.39	.23	.13	.024	210
225	1.38	.73	.46	.30	.084	.68	.33	.21	.13	.026	225
240	1.23	.63	.39	.27	.074	.53	.25	.15	.10	.015	240
255	1.02	.55	.33	.24	.065	.48	.22	.14	.09	.015	255
270	.71	.39	.25	.20	.055	.33	.15	.09	.08	.014	270
285	.85	.46	.27	.21	.062	.34	.14	.08	.06	.003	285
300	.96	.51	.32	.22	.068	.34	.15	.09	.07	.003	300
315	1.05	.56	.34	.24	.069	.41	.19	.11	.09	.007	315
330	1.19	.63	.39	.26	.077	.65	.32	.20	.12	.023	330
345	1.26	.69	.44	.29	.089	.91	.43	.26	.14	.026	345

TABLE 53 - Continued

FLIGHT 46, LANDING APPROACH AND FLARE

(SEE FIG. 8, t = 27.6 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	4.35	8.40	12.88	20.19	23.77	23.98	23.23
15	4.37	8.81	13.96	20.88	22.87	22.03	20.68
30	3.86	9.29	13.73	19.79	21.19	20.32	19.51
45	4.23	8.83	12.58	16.56	17.29	16.55	15.42
60	3.99	8.26	10.91	12.52	9.37	6.45	3.81
75	3.28	7.69	10.31	10.92	6.66	4.16	10.93
90	2.90	6.51	9.72	9.60	12.57	23.48	31.51
105	2.70	6.56	9.26	21.00	29.36	29.09	28.14
120	2.51	5.73	7.30	16.85	19.69	21.31	21.90
135	2.71	6.38	7.43	13.95	15.92	17.07	17.68
150	3.17	6.90	10.13	14.88	17.11	17.92	18.89
165	3.34	6.92	10.34	15.93	18.72	19.68	19.98
180	3.79	6.72	9.16	14.00	16.96	18.01	18.03
195	3.67	6.96	9.30	12.66	14.74	16.50	17.90
210	3.64	7.06	9.55	14.58	17.37	18.86	19.80
225	3.29	7.18	10.49	15.86	19.95	21.53	21.63
240	2.49	6.32	11.68	17.05	20.56	22.18	23.12
255	2.25	5.39	4.99	17.38	19.94	21.06	21.85
270	1.61	4.03	5.41	17.99	22.83	22.41	22.17
285	1.45	4.58	7.43	13.02	25.01	27.27	26.59
300	1.56	5.12	8.93	12.11	11.04	18.43	21.73
315	1.93	5.47	9.33	13.69	12.61	9.58	9.09
330	3.10	6.20	9.08	14.93	18.12	18.67	19.55
345	4.07	6.79	10.67	17.79	22.22	23.30	24.03

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	11.250		0	3.621		0	4.905	
1	3.282	-.486	1	.136	-.818	1	-.300	-.143
2	.027	-.005	2	.223	.273	2	-.002	.006
3	-.163	-.145	3	.243	-.079	3	.069	.058
4	-.154	.027	4	.229	.081	4	.009	-.006
5	.123	.259	5	-.423	.107	5	-.038	-.013
6	.000	-.027	6	-.008	-.014	6	-.009	.005
7	.082	-.027	7	.057	.093	7	.000	.014
8	-.018	.000	8	.000	-.061	8	.000	.003
9	.018	.005	9	.028	.034	9	-.003	-.014
10	.014	-.014	10	-.018	.034	10	.002	.005
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 53 - Continued

FLIGHT 46, LANDING APPROACH AND FLARE

(SEE FIG. 8, t = 27.6 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.094		.75	0	15.585		.95	0	19.882	
.25	1	.201	.582	.75	1	1.036	-.145	.95	1	-.943	-1.284
.25	2	.853	.585	.75	2	1.147	.525	.95	2	-1.091	-1.426
.25	3	.088	-.118	.75	3	2.707	1.465	.95	3	4.066	-.240
.25	4	.075	-.139	.75	4	.423	.685	.95	4	3.502	2.460
.25	5	.062	-.111	.75	5	-1.220	-.006	.95	5	-.391	1.676
.25	6	.035	-.074	.75	6	.084	-.890	.95	6	-1.633	-3.139
.25	7	.055	.002	.75	7	.722	.981	.95	7	-.421	-2.565
.25	8	.007	.031	.75	8	-.365	.116	.95	8	-.037	-.076
.25	9	-.087	.049	.75	9	-.131	-.783	.95	9	.046	1.475
.25	10	.022	.061	.75	10	.435	-.222	.95	10	-.381	.860
.40	0	6.753		.85	0	18.161					
.40	1	.494	1.050	.85	1	.294	-1.500				
.40	2	.927	1.016	.85	2	.817	-.386				
.40	3	.068	.052	.85	3	4.298	1.927				
.40	4	-.232	-.025	.85	4	1.907	2.063				
.40	5	.103	.245	.85	5	-1.426	-.413				
.40	6	.046	-.012	.85	6	-.649	-3.318				
.40	7	.066	-.044	.85	7	.209	.695				
.40	8	-.064	.045	.85	8	-.423	1.467				
.40	9	-.010	-.023	.85	9	.144	-.253				
.40	10	.169	.011	.85	10	1.166	-.753				
.55	0	9.774		.90	0	19.159					
.55	1	1.284	1.085	.90	1	-.520	-1.833				
.55	2	1.615	1.314	.90	2	-.022	-1.144				
.55	3	.091	-.078	.90	3	4.424	1.119				
.55	4	-.431	.098	.90	4	2.718	2.917				
.55	5	.273	1.242	.90	5	-1.012	.725				
.55	6	.270	-.455	.90	6	-.941	-3.918				
.55	7	-.033	-.257	.90	7	.138	-1.365				
.55	8	-.148	.428	.90	8	-.084	.937				
.55	9	.385	-.231	.90	9	-.328	1.179				
.55	10	-.158	-.190	.90	10	-.010	.084				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 53 - Concluded

FLIGHT 46, LANDING APPROACH AND FLARE

(SEE FIG. 8, t = 27.6 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	2521	545	-1564	-3924	-7038	-10698		
15	-1925	-2615	-2848	-3924	-6325	-8480		
30	-1571	-3308	-4402	-4487	-2418	-2450		
45	-1149	-149	208	-442	-2022	-3246		
60	4573	3028	2522	1714	-781	-3823		
75	3433	3350	3218	1466	-2602	-5107		
90	173	-479	-1058	-2006	-2180	-1027		
105	-1263	-4018	-5415	-4611	1974	4147		
120	-4341	-1823	687	1628	-226	-2669		
135	7959	4934	3001	1161	-2726	-6360		
150	5839	4529	3923	1991	-2646	-4957		
165	-1685	-2021	-597	846	3241	2843		
180	-1879	-3193	-2820	-1902	768	2893		
195	1712	619	-750	-2503	-2858	-3107		
210	2749	1823	1681	569	-3377	-8022		
225	2088	1460	606	-938	-4125	-7385		
240	834	-1411	-3046	-3628	-2594	-1186		
255	-2871	-3094	-2115	-642	1164	615		
270	572	776	1781	2344	2581	455		
285	4619	5948	6174	4299	759	-967		
300	3969	3944	4339	4233	3637	2535		
315	-2175	-206	1067	1848	4570	6704		
330	-728	-1691	-1229	-222	1815	2296		
345	264	1163	985	-1005	-6228	-10042		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-5277	-3744	9207	
15	1170	-2979	-761	
30	-6466	-11543	1335	
45	-5277	-11298	-2457	
60	-3861	-7456	-313	
75	-4072	-4347	9751	
90	4182	4070	9175	
105	8496	-309	5383	
120	-51	-7538	935	
135	-4773	-13691	-2889	
150	1658	-11054	-4761	
165	4637	-1921	3335	
180	2635	1644	14487	
195	4165	6691	10711	
210	-1744	-4249	9383	
225	-2070	-7652	-1273	
240	421	-11298	-7081	
255	-4984	-13105	-2329	
270	-6482	-9019	471	
285	-12945	-10289	4247	
300	-9575	-9019	-1417	
315	-7980	-13431	-617	
330	-6270	-6479	3175	
345	-7182	-1726	8071	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	-73	15	69
15	255	800	85
30	760	462	173
45	479	563	110
60	-249	-262	87
75	280	0	110
90	720	861	197
105	1116	1249	151
120	15	108	43
135	-485	-486	-4
150	836	324	118
165	1018	847	173
180	-291	58	2
195	-1097	-481	-56
210	-220	-534	-4
225	123	138	67
240	907	666	86
255	-434	-353	-59
270	-1440	-945	-128
285	-885	-747	-29
300	-183	-130	69
315	104	-174	52
330	-851	-298	-27
345	-682	-241	5

TABLE 54

FLIGHT 46, LANDING APPROACH AND FLARE

(SEE FIG. 8, t = 29.9 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	7.86	4.84	3.52	2.42	1.31	.60	.075	8.25	4.21	3.07	2.60	1.66	.67	.067	0
15	6.56	4.26	3.12	2.12	1.04	.49	.048	7.64	3.87	2.82	2.38	1.49	.58	.025	15
30	5.22	3.77	2.87	1.89	.90	.45	.050	6.42	3.28	2.48	2.13	1.30	.51	.018	30
45	4.87	3.63	2.80	1.83	.84	.44	.040	5.90	3.05	2.32	2.06	1.26	.50	-.006	45
60	4.04	3.12	2.60	1.58	.61	.36	.006	5.01	2.57	2.04	1.85	1.04	.40	-.038	60
75	2.53	2.10	1.88	.96	.18	.17	-.044	2.51	1.40	1.15	1.06	.54	.19	-.107	75
90	7.28	5.17	3.88	2.50	1.04	.47	.032	.56	.47	.83	.96	.60	.32	-.042	90
105	9.98	5.76	4.72	3.29	1.82	.78	.127	8.36	4.68	3.70	3.23	1.97	.82	.067	105
120	8.45	5.61	4.07	2.77	1.49	.67	.084	9.85	4.95	3.68	3.09	1.91	.71	.042	120
135	6.72	4.45	3.31	2.20	1.10	.51	.060	7.07	3.60	2.71	2.34	1.43	.55	.009	135
150	5.43	3.79	2.88	1.89	.88	.45	.056	5.64	2.92	2.23	2.02	1.22	.50	.014	150
165	6.31	4.28	3.27	2.17	1.11	.54	.079	6.31	3.32	2.49	2.24	1.36	.58	.036	165
180	6.19	4.11	3.12	2.06	1.02	.49	.060	6.54	3.40	2.56	2.24	1.37	.54	.020	180
195	5.65	3.85	2.95	1.94	.94	.49	.068	5.90	3.01	2.30	2.06	1.27	.53	.014	195
210	6.04	4.11	3.03	2.04	1.04	.52	.072	5.83	2.98	2.30	2.06	1.28	.53	.020	210
225	6.54	4.28	3.16	2.15	1.14	.54	.084	6.47	3.36	2.50	2.23	1.37	.61	.045	225
240	6.97	4.44	3.28	2.24	1.17	.55	.087	6.67	3.49	2.61	2.28	1.44	.62	.065	240
255	7.12	4.48	3.26	2.26	1.19	.57	.095	7.21	3.68	2.69	2.32	1.44	.62	.076	255
270	6.95	4.28	3.13	2.20	1.18	.59	.113	7.51	3.80	2.76	2.36	1.49	.62	.078	270
285	7.26	4.49	3.26	2.32	1.28	.63	.131	7.66	3.96	2.91	2.52	1.65	.72	.116	285
300	7.79	4.73	3.34	2.46	1.45	.70	.151	7.49	3.82	2.82	2.43	1.60	.73	.123	300
315	5.18	3.27	2.41	1.58	.93	.47	.075	3.36	2.01	1.52	1.35	.92	.43	.034	315
330	3.36	2.59	2.16	1.26	.53	.36	.058	4.01	1.99	1.54	1.41	.90	.41	.020	330
345	7.55	4.71	3.43	2.35	1.28	.60	.135	7.48	3.90	2.87	2.44	1.57	.65	.067	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	8.39	5.81	4.27	3.20	2.66	2.24	1.46	.75	.69	.35	.099	0
15	7.92	5.68	4.11	3.05	2.56	2.16	1.39	.68	.62	.32	.081	15
30	6.80	5.16	3.66	2.68	2.28	1.92	1.24	.57	.56	.29	.066	30
45	6.46	4.75	3.43	2.51	2.16	1.84	1.19	.53	.52	.26	.060	45
60	5.52	4.13	3.05	2.09	1.85	1.57	1.02	.43	.42	.21	.035	60
75	3.44	2.44	1.93	1.48	1.18	.91	.61	.15	.23	.09	-.022	75
90	1.68	1.14	.93	.70	.58	.66	.34	.02	.16	.05	-.041	90
105	6.79	5.22	3.76	2.77	2.38	1.98	1.30	.59	.56	.30	.064	105
120	10.16	6.95	5.00	3.77	3.19	2.62	1.73	.84	.73	.36	.095	120
135	6.95	5.13	3.65	2.68	2.27	1.94	1.25	.58	.55	.27	.058	135
150	5.39	4.00	3.03	2.14	1.84	1.60	1.07	.51	.50	.27	.048	150
165	5.70	4.17	3.07	2.19	1.93	1.65	1.12	.54	.54	.30	.071	165
180	6.74	5.03	3.55	2.57	2.18	1.83	1.21	.56	.54	.28	.056	180
195	5.82	4.37	3.10	2.24	1.94	1.63	1.08	.50	.50	.25	.050	195
210	5.61	4.28	3.03	2.21	1.89	1.61	1.09	.51	.51	.28	.064	210
225	6.38	4.78	3.38	2.50	2.11	1.80	1.19	.60	.57	.32	.083	225
240	6.66	4.85	3.54	2.62	2.20	1.89	1.26	.65	.59	.33	.093	240
255	7.18	5.05	3.71	2.80	2.37	2.04	1.35	.71	.62	.35	.099	255
270	7.26	5.08	3.68	2.83	2.34	2.01	1.36	.72	.65	.36	.103	270
285	7.80	5.45	4.01	3.05	2.56	2.19	1.46	.79	.70	.39	.126	285
300	5.47	3.91	2.86	2.10	1.77	1.54	1.04	.57	.56	.30	.079	300
315	2.50	1.77	1.39	1.13	.93	.82	.56	.24	.34	.17	.023	315
330	4.84	3.67	2.59	1.83	1.59	1.41	.92	.43	.45	.25	.066	330
345	7.54	5.38	3.87	2.92	2.45	2.08	1.34	.69	.63	.35	.097	345

TABLE 54 - Continued

FLIGHT 46, LANDING APPROACH AND FLARE

(SEE FIG. 8, t = 29.9 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.71	3.30	2.44	1.89	1.30	.56	.101	3.08	1.57	1.06	.92	.74	.41	.102	0
15	6.18	3.31	2.46	1.90	1.30	.54	.088	3.19	1.63	1.10	.94	.75	.43	.098	15
30	6.02	3.14	2.37	1.83	1.22	.52	.086	3.68	1.89	1.24	1.03	.82	.45	.106	30
45	5.77	3.04	2.33	1.81	1.20	.50	.090	4.02	2.04	1.35	1.15	.91	.48	.118	45
60	5.26	2.69	2.11	1.64	1.06	.45	.067	3.80	1.92	1.28	1.10	.87	.45	.108	60
75	4.39	2.13	1.72	1.30	.82	.33	.041	3.10	1.52	1.04	.91	.73	.39	.098	75
90	3.35	1.51	1.20	1.04	.58	.23	.012	2.66	1.29	.86	.77	.64	.35	.098	90
105	2.31	1.01	.90	.74	.43	.22	.017	2.46	1.27	.82	.72	.60	.30	.090	105
120	4.32	3.43	2.43	1.91	1.20	.47	.074	1.83	.85	.60	.54	.45	.23	.062	120
135	4.83	2.60	2.09	1.63	1.08	.45	.067	.95	.42	.35	.37	.30	.19	.051	135
150	4.83	2.61	2.06	1.59	1.04	.46	.079	1.09	.56	.50	.51	.44	.28	.087	150
165	5.00	2.86	2.20	1.71	1.13	.49	.074	3.75	1.86	1.21	1.03	.78	.35	.101	165
180	4.85	2.62	2.09	1.64	1.09	.47	.067	3.56	1.77	1.17	1.01	.81	.40	.102	180
195	4.57	2.31	1.85	1.43	.91	.39	.058	3.41	1.71	1.14	.97	.77	.36	.095	195
210	4.43	2.35	1.87	1.43	.92	.40	.065	3.39	1.71	1.13	.97	.77	.39	.105	210
225	4.90	2.71	2.06	1.58	1.04	.47	.084	3.69	1.89	1.25	1.05	.81	.40	.111	225
240	5.22	2.89	2.17	1.67	1.14	.50	.090	3.82	1.88	1.30	1.15	.89	.43	.092	240
255	5.62	3.14	2.31	1.78	1.19	.52	.074	.84	.40	.35	.40	.39	.29	.070	255
270	5.66	3.07	2.29	1.77	1.20	.53	.084	1.35	.62	.47	.41	.37	.23	.051	270
285	4.39	1.53	1.53	1.33	.99	.48	.067	1.59	.78	.52	.50	.41	.24	.058	285
300	3.13	1.26	.96	.84	.52	.27	.045	1.97	.94	.68	.60	.48	.28	.068	300
315	3.31	1.87	1.46	1.10	.67	.31	.048	2.38	1.17	.81	.71	.57	.31	.070	315
330	4.17	2.50	1.90	1.45	.94	.41	.074	2.70	1.35	.91	.80	.63	.35	.067	330
345	5.03	3.07	2.28	1.75	1.18	.52	.093	3.10	1.54	1.03	.88	.69	.36	.085	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.49	.79	.49	.32	.085	.57	.33	.13	.20	.164	0
15	1.82	.91	.56	.34	.093	.32	.19	.17	.14	.073	15
30	2.14	1.05	.67	.39	.113	.84	.35	.27	.22	.097	30
45	2.15	1.08	.67	.38	.102	.94	.44	.25	.11	.028	45
60	2.07	1.01	.61	.35	.097	.93	.45	.26	.11	.027	60
75	1.70	.83	.50	.30	.089	.86	.40	.23	.12	.023	75
90	1.32	.64	.39	.25	.083	.63	.28	.17	.10	.023	90
105	1.20	.58	.36	.25	.082	.56	.26	.15	.09	.023	105
120	1.23	.60	.35	.24	.078	.59	.27	.16	.10	.022	120
135	1.07	.50	.30	.22	.071	.66	.30	.18	.11	.019	135
150	.76	.43	.23	.20	.064	.57	.27	.15	.09	.021	150
165	.58	.34	.19	.18	.051	.52	.24	.13	.08	.023	165
180	.91	.51	.26	.21	.053	.63	.29	.17	.11	.028	180
195	.39	.29	.19	.18	.062	.62	.27	.15	.09	.021	195
210	.74	.42	.26	.21	.072	.39	.18	.12	.09	.023	210
225	.55	.36	.24	.21	.066	.40	.16	.10	.07	.012	225
240	.62	.36	.21	.19	.062	.30	.14	.09	.07	.010	240
255	.70	.38	.23	.19	.058	.25	.12	.09	.08	.011	255
270	.79	.42	.24	.19	.054	.33	.15	.09	.08	.014	270
285	.88	.48	.28	.21	.058	.40	.18	.11	.08	.015	285
300	.97	.51	.30	.21	.062	.37	.16	.10	.07	.007	300
315	1.04	.55	.32	.23	.070	.42	.18	.11	.09	.011	315
330	1.18	.62	.38	.25	.074	.51	.26	.16	.11	.021	330
345	1.39	.73	.45	.29	.085	.69	.34	.21	.13	.025	345

TABLE 54 - Continued

FLIGHT 46, LANDING APPROACH AND FLARE

(SEE FIG. 8, t = 29.9 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	3.70	7.68	11.56	21.05	26.09	27.17	26.65
15	2.52	8.88	11.87	21.27	24.62	24.55	22.58
30	4.60	10.38	13.21	20.37	21.80	21.21	19.74
45	3.91	10.32	14.42	19.81	20.61	19.98	18.88
60	3.95	9.65	13.60	17.70	17.60	16.74	15.80
75	3.69	8.04	11.32	14.00	10.57	8.46	9.24
90	2.73	6.40	9.76	10.10	5.62	6.50	25.46
105	2.51	6.00	9.07	7.49	22.26	31.07	34.58
120	2.69	5.94	6.66	19.27	30.43	31.46	30.17
135	2.90	5.16	4.23	17.33	21.81	23.21	23.61
150	2.57	4.21	5.91	17.19	18.16	19.39	19.89
165	2.27	3.45	12.49	18.40	19.02	21.93	23.29
180	2.84	4.68	12.51	17.51	21.12	22.01	22.04
195	2.58	3.08	11.92	15.33	18.73	20.15	20.73
210	1.98	4.35	12.06	15.45	18.55	20.11	22.05
225	1.73	3.83	12.94	17.47	20.70	22.34	23.44
240	1.53	3.70	13.55	18.68	21.72	23.16	24.33
255	1.40	3.95	5.04	19.80	23.18	23.98	24.66
270	1.64	4.19	5.41	19.83	23.31	24.71	24.21
285	1.88	4.69	6.15	14.47	25.26	26.51	25.57
300	1.67	4.98	7.45	9.25	18.16	25.92	27.55
315	1.94	4.03	8.75	11.77	9.38	15.05	18.50
330	2.53	6.07	9.83	15.63	15.92	14.05	13.68
345	3.29	7.10	10.96	19.23	23.77	25.40	26.22

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	11.881		0	3.754		0	6.341	
1	3.264	-.191	1	.834	-.571	1	-.218	-.331
2	-.014	-.014	2	.075	.322	2	-.031	-.061
3	-.032	-.195	3	.379	.259	3	-.019	.035
4	.068	-.159	4	.028	.373	4	.009	-.009
5	-.077	.100	5	-.079	-.200	5	.003	-.031
6	.023	.000	6	.008	.059	6	-.009	-.014
7	.018	.014	7	-.053	.028	7	-.003	-.006
8	.009	.005	8	.028	.036	8	-.008	-.003
9	.005	-.009	9	.008	-.008	9	-.005	-.002
10	.009	.000	10	.016	.014	10	-.002	-.002

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 54 - Continued

FLIGHT 46, LANDING APPROACH AND FLARE

(SEE FIG. 8, t - 29.9 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.626		.75	0	16.600		.95	0	22.618	
.25	1	.501	.847	.75	1	.460	-.340	.95	1	-1.407	-.667
.25	2	.345	.264	.75	2	2.208	1.915	.95	2	-1.107	-2.012
.25	3	-.157	.081	.75	3	1.731	2.869	.95	3	3.603	.568
.25	4	-.020	-.058	.75	4	.030	-1.280	.95	4	1.731	3.310
.25	5	.026	-.254	.75	5	.024	-1.523	.95	5	-.759	.437
.25	6	.027	-.046	.75	6	.407	.219	.95	6	1.792	-2.721
.25	7	-.140	-.163	.75	7	-.838	.863	.95	7	1.828	-.950
.25	8	.047	-.110	.75	8	.258	-.579	.95	8	.229	-.417
.25	9	.068	-.182	.75	9	.692	.167	.95	9	-.979	.126
.25	10	.173	-.111	.75	10	-.458	.349	.95	10	-.931	-.659
.40	0	5.864		.85	0	19.931					
.40	1	2.165	1.786	.85	1	-.285	-1.162				
.40	2	.166	1.022	.85	2	1.314	.079				
.40	3	-.089	.420	.85	3	3.711	3.646				
.40	4	-.203	.154	.85	4	.514	2.157				
.40	5	.000	-.301	.85	5	-.148	-2.805				
.40	6	.085	-.188	.85	6	2.647	-1.945				
.40	7	-.222	-.019	.85	7	-.537	.862				
.40	8	-.079	-.138	.85	8	-1.353	-.087				
.40	9	-.242	.093	.85	9	-.150	-.218				
.40	10	.191	.030	.85	10	.611	.510				
.55	0	10.027		.90	0	21.460					
.55	1	.620	.787	.90	1	-.792	-1.833				
.55	2	1.861	2.890	.90	2	.705	-1.510				
.55	3	-.794	-1.228	.90	3	3.694	3.097				
.55	4	-.234	-.312	.90	4	.401	3.458				
.55	5	-.526	.798	.90	5	-.588	-1.688				
.55	6	.762	-1.076	.90	6	3.374	-2.652				
.55	7	-.294	.196	.90	7	1.064	.680				
.55	8	-.081	.196	.90	8	-1.340	-.204				
.55	9	.497	-.040	.90	9	-.839	-1.012				
.55	10	-.399	-.370	.90	10	.415	-.125				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 54 - Concluded

FLIGHT 46, LANDING APPROACH AND FLARE

(SEE FIG. 8, t = 29.9 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	668	-173	-2088	-4731	-8336	-11663		
15	-1236	-2681	-4104	-5532	-7263	-10589		
30	-1430	-3407	-4348	-4893	-5423	-7355		
45	189	-503	-1528	-2479	-2959	-3276		
60	1785	2203	2802	2348	437	-1604		
75	4327	3589	4041	3684	1221	-1644		
90	3005	3061	2613	946	-1648	-1952		
105	177	-1007	-2423	-3223	-751	2088		
120	-2194	-4216	-4529	-2956	2479	4257		
135	-1339	-545	877	1814	930	-2818		
150	5946	5371	4475	2777	-1877	-5325		
165	4977	4010	4954	4561	-205	-3365		
180	485	479	1745	3293	2734	2277		
195	109	-578	235	-294	6	1799		
210	2457	767	606	-600	-2220	-3395		
225	2685	2417	2133	-75	-4587	-7474		
240	2195	1922	1302	-676	-5793	-7862		
255	1397	-932	-1763	-1449	-1666	-3266		
270	-2296	-1502	-353	841	2224	1083		
285	2423	2261	2585	2529	3429	3490		
300	3951	4595	5225	4828	3209	2893		
315	1967	3308	4104	4199	5057	6087		
330	-472	289	1510	2568	4010	4366		
345	246	-58	36	39	-1331	-3465		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-4432	1221	12221	
15	-297	-2409	5357	
30	-3879	-8026	-2739	
45	-10863	-15531	-1763	
60	-7884	-11966	-3235	
75	-3749	-8059	3437	
90	793	1888	11357	
105	6247	4493	12861	
120	7582	65	3261	
135	-558	-13122	-2451	
150	-3374	-17599	-6963	
165	2128	-10826	-5747	
180	1901	-2442	7997	
195	4880	4982	16413	
210	5433	6659	13741	
225	-704	-4444	9325	
240	2177	-10110	-4195	
255	793	-13724	-8227	
270	-6239	-13024	-2435	
285	-8079	-8694	-99	
300	-11351	-10012	1837	
315	-11042	-10256	493	
330	-7428	-10208	2845	
345	-5018	-1644	6205	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	-410	207	77
15	-128	438	42
30	-99	332	70
45	703	342	152
60	548	495	155
75	359	78	137
90	473	528	136
105	1000	1066	194
120	719	977	129
135	-96	-110	4
150	-163	-526	25
165	1166	796	146
180	732	505	136
195	-407	-79	-11
210	-683	-279	-28
225	-35	-260	19
240	598	402	74
255	536	389	28
270	-523	-495	-60
285	-989	-754	-65
300	-745	-647	-17
315	-613	-468	9
330	-301	-294	-3
345	-545	10	14

TABLE 55

FLIGHT 47, LANDING APPROACH AND FLARE

(SEE FIG. 9)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	6.41	4.11	3.13	2.09	1.14	.54	.081	7.43	3.78	2.79	2.39	1.49	.58	.039	6
21	5.85	3.87	3.03	1.97	1.00	.50	.060	7.02	3.58	2.65	2.29	1.40	.51	.015	21
36	4.22	3.03	2.50	1.55	.67	.35	.024	5.39	2.68	2.07	1.82	1.01	.35	-.048	36
51	3.07	2.28	1.98	1.15	.46	.27	.014	2.47	1.22	1.03	1.05	.49	.21	-.078	51
66	4.51	3.23	2.64	1.58	.66	.35	.030	1.71	.81	.86	1.01	.52	.15	-.054	66
81	9.76	6.04	4.63	3.21	1.89	.84	.159	8.38	4.48	3.65	3.23	2.06	.77	.098	81
96	8.79	5.38	4.06	2.74	1.53	.68	.093	10.71	5.28	3.84	3.19	1.97	.71	.050	96
111	7.52	4.69	3.50	2.31	1.23	.56	.076	7.90	3.93	2.88	2.47	1.48	.58	.015	111
126	5.54	3.69	2.89	1.85	.93	.47	.069	5.78	2.94	2.26	2.01	1.21	.48	.018	126
141	5.61	3.73	2.92	1.93	1.04	.53	.100	5.37	2.81	2.18	2.03	1.26	.54	.039	141
156	6.88	4.31	3.24	2.16	1.17	.54	.084	6.74	3.50	2.61	2.29	1.42	.55	.035	156
171	6.33	4.03	3.05	2.00	1.06	.51	.069	6.51	3.28	2.47	2.17	1.31	.51	.015	171
186	5.91	3.82	2.90	1.93	1.02	.50	.080	5.78	2.92	2.24	2.04	1.20	.51	.022	186
201	6.12	3.91	2.96	1.99	1.08	.53	.088	6.12	3.16	2.37	2.14	1.30	.55	.050	201
216	6.48	4.13	3.12	2.10	1.17	.57	.105	6.58	3.39	2.52	2.23	1.39	.59	.068	216
231	6.52	4.11	3.05	2.10	1.21	.59	.121	6.79	3.52	2.61	2.27	1.46	.62	.074	231
246	6.85	4.23	3.10	2.17	1.26	.61	.124	7.70	3.91	2.87	2.43	1.56	.63	.092	246
261	7.52	4.52	3.28	2.32	1.37	.66	.147	8.47	4.28	3.10	2.63	1.71	.70	.122	261
276	8.32	4.83	3.42	2.50	1.56	.77	.183	9.30	4.46	3.26	2.75	1.82	.63	.151	276
291	6.97	3.98	2.86	1.97	1.12	.56	.124	5.64	2.80	2.13	1.85	1.20	.45	.059	291
306	8.31	4.90	3.49	2.46	1.45	.65	.133	5.66	3.01	2.37	2.19	1.38	.58	.072	306
321	5.96	3.71	2.75	1.87	1.05	.51	.089	6.13	3.14	2.32	2.03	1.28	.53	.053	321
336	7.96	4.74	3.43	2.38	1.39	.64	.112	7.84	4.10	2.98	2.54	1.61	.61	.074	336
351	7.71	4.65	3.38	2.28	1.28	.58	.081	8.40	4.25	3.07	2.58	1.61	.62	.057	351

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	8.00	5.68	4.02	3.06	2.62	2.17	1.44	.72	.65	.34	.090	6
21	7.66	5.58	3.84	2.93	2.50	2.07	1.36	.64	.58	.30	.064	21
36	5.73	4.22	2.97	2.12	1.86	1.55	1.00	.42	.40	.20	.016	36
51	3.32	2.40	1.85	1.41	1.18	.86	.56	.17	.25	.10	-.016	51
66	1.91	1.29	1.07	.80	.69	.67	.37	.09	.19	.08	-.024	66
81	4.88	3.68	2.75	2.15	1.91	1.67	1.19	.61	.57	.33	.092	81
96	11.77	9.48	5.41	4.22	3.55	2.84	1.89	.92	.73	.36	.114	96
111	8.25	5.54	3.94	3.00	2.53	2.08	1.39	.66	.57	.29	.062	111
126	5.85	4.25	3.07	2.25	1.95	1.62	1.09	.52	.50	.27	.052	126
141	5.45	4.04	2.94	2.15	1.92	1.63	1.13	.56	.53	.29	.070	141
156	6.65	5.08	3.50	2.63	2.27	1.88	1.26	.63	.56	.31	.070	156
171	6.48	4.75	3.26	2.47	2.11	1.75	1.18	.54	.49	.26	.048	171
186	5.54	4.11	2.85	2.13	1.84	1.55	1.05	.50	.48	.26	.052	186
201	6.08	4.49	3.19	2.36	2.02	1.72	1.14	.59	.54	.33	.084	201
216	6.26	4.59	3.22	2.47	2.12	1.81	1.23	.65	.59	.34	.096	216
231	7.15	5.08	3.60	2.82	2.41	2.04	1.39	.74	.64	.36	.114	231
246	8.34	5.61	4.03	3.13	2.64	2.19	1.48	.78	.66	.37	.114	246
261	8.49	5.77	4.13	3.22	2.73	2.26	1.55	.84	.75	.43	.142	261
276	8.31	5.49	3.95	3.08	2.59	2.17	1.47	.80	.69	.40	.134	276
291	3.45	2.51	1.92	1.41	1.19	1.07	.75	.38	.40	.23	.048	291
306	4.35	3.16	2.25	1.73	1.48	1.28	.91	.45	.45	.26	.056	306
321	6.15	4.55	3.14	2.41	2.04	1.74	1.13	.57	.54	.28	.072	321
336	7.64	5.37	3.85	3.01	2.52	2.13	1.41	.75	.65	.36	.106	336
351	8.71	5.90	4.25	3.27	2.73	2.26	1.50	.77	.67	.37	.106	351

TABLE 55 - Continued

FLIGHT 47, LANDING APPROACH AND FLARE

(SEE FIG. 9)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75							r/R = 0.55							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	6.57	3.70	2.69	2.07	1.47	.63	.117	4.48	2.18	1.43	1.22	.95	.48	.116	6
21	6.41	3.25	2.43	1.86	1.31	.54	.099	4.37	2.16	1.42	1.21	.94	.49	.116	21
36	5.47	2.51	1.96	1.50	1.00	.42	.064	3.57	1.77	1.17	1.03	.82	.43	.103	36
51	4.31	1.87	1.53	1.20	.75	.33	.055	3.09	1.53	1.03	.92	.74	.40	.102	51
66	3.37	1.57	1.24	1.07	.62	.28	.044	2.80	1.37	.92	.83	.67	.35	.097	66
81	2.97	1.54	1.25	1.10	.67	.32	.058	2.57	1.26	.83	.76	.60	.32	.089	81
96	4.42	3.17	2.37	1.82	1.34	.58	.115	2.26	1.13	.77	.71	.58	.29	.082	96
111	5.25	3.18	2.39	1.82	1.25	.52	.089	2.49	1.22	.83	.75	.60	.31	.082	111
126	5.36	2.82	2.17	1.66	1.14	.50	.101	2.18	1.11	.79	.75	.62	.35	.103	126
141	4.91	2.59	2.03	1.59	1.11	.51	.096	3.18	1.61	1.09	.95	.75	.42	.120	141
156	5.23	2.90	2.21	1.71	1.16	.50	.092	3.32	1.66	1.12	.99	.78	.39	.102	156
171	5.05	2.55	1.99	1.53	1.05	.44	.076	2.94	1.45	.98	.87	.68	.35	.100	171
186	4.46	2.27	1.81	1.39	.94	.42	.078	3.11	1.55	1.04	.92	.72	.39	.111	186
201	4.49	2.46	1.92	1.49	1.03	.49	.112	3.15	1.61	1.11	1.01	.80	.43	.125	201
216	4.83	2.86	2.13	1.64	1.16	.55	.115	3.01	1.53	1.06	.96	.78	.46	.120	216
231	5.63	3.38	2.45	1.89	1.34	.59	.107	3.32	1.58	1.14	1.02	.81	.44	.106	231
246	6.05	3.25	2.40	1.84	1.30	.56	.110	1.59	.80	.56	.57	.49	.30	.065	246
261	5.66	2.82	2.13	1.67	1.22	.57	.115	1.09	.51	.38	.39	.32	.22	.055	261
276	4.26	1.35	1.22	1.00	.73	.40	.089	1.80	.87	.61	.57	.46	.28	.075	276
291	3.50	1.73	1.37	1.09	.71	.35	.064	2.36	1.15	.79	.72	.58	.32	.077	291
306	3.87	2.17	1.70	1.30	.87	.39	.073	2.58	1.27	.86	.77	.61	.32	.076	306
321	4.43	2.53	1.92	1.47	1.01	.45	.089	2.73	1.35	.91	.81	.63	.35	.077	321
336	5.18	3.09	2.28	1.77	1.26	.57	.121	3.22	1.61	1.07	.94	.74	.40	.100	336
351	5.99	3.48	2.53	1.95	1.39	.61	.126	3.56	1.77	1.19	1.04	.81	.44	.110	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40					r/R = 0.25					ψ_{nom}, deg
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.98	1.06	.65	.36	.108	.83	.52	.26	.18	.047	6
21	1.98	1.05	.62	.34	.101	.96	.49	.34	.19	.069	21
36	1.88	.98	.58	.33	.094	.90	.42	.24	.13	.043	36
51	1.59	.83	.49	.29	.088	.83	.39	.22	.11	.034	51
66	1.29	.69	.40	.25	.082	.69	.32	.19	.11	.021	66
81	1.07	.58	.34	.23	.084	.45	.22	.14	.11	.026	81
96	1.29	.65	.38	.24	.084	.57	.27	.17	.12	.029	96
111	1.25	.64	.35	.20	.065	.65	.30	.17	.11	.026	111
126	1.12	.63	.36	.25	.076	.60	.27	.15	.10	.023	126
141	1.26	.68	.40	.25	.080	.66	.31	.18	.11	.027	141
156	1.38	.74	.42	.25	.078	.70	.34	.20	.13	.039	156
171	1.47	.79	.46	.27	.091	.82	.39	.24	.15	.045	171
186	1.54	.83	.49	.29	.096	.62	.31	.20	.14	.041	186
201	1.47	.82	.49	.30	.089	.56	.27	.18	.12	.029	201
216	1.34	.75	.46	.28	.089	.37	.18	.12	.11	.025	216
231	1.18	.69	.42	.28	.083	.28	.12	.08	.09	.019	231
246	.61	.37	.21	.17	.053	.31	.13	.08	.08	.017	246
261	.58	.36	.20	.16	.058	.34	.14	.09	.08	.017	261
276	.74	.43	.25	.19	.061	.34	.13	.08	.07	.008	276
291	.88	.49	.28	.19	.064	.37	.16	.10	.09	.012	291
306	1.02	.57	.33	.22	.068	.50	.23	.15	.11	.021	306
321	1.21	.68	.40	.25	.076	.68	.34	.22	.14	.032	321
336	1.33	.74	.44	.27	.080	.91	.43	.27	.16	.038	336
351	1.45	.80	.48	.30	.091	.97	.46	.28	.16	.034	351

TABLE 55 - Continued

FLIGHT 47, LANDING APPROACH AND FLARE

(SEE FIG. 9)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	4.35	9.84	15.25	23.69	25.04	24.29	22.96
21	4.97	9.59	15.12	21.37	23.59	22.67	21.23
36	3.92	9.06	12.74	16.95	17.39	16.79	15.88
51	3.59	7.74	11.40	13.07	10.29	8.09	11.87
66	3.08	6.41	10.25	10.73	6.43	6.63	16.56
81	2.31	5.55	9.36	10.92	18.50	30.87	35.27
96	2.80	6.28	8.51	20.09	33.38	33.05	30.26
111	2.91	5.78	9.09	20.01	24.23	24.89	25.60
126	2.62	5.90	9.02	18.74	18.74	19.41	20.12
141	2.99	6.41	11.87	17.78	18.59	19.42	21.16
156	3.32	6.77	12.01	18.88	21.53	22.70	23.93
171	3.85	7.28	10.62	17.05	20.01	21.27	22.15
186	3.25	7.68	11.36	15.49	17.78	19.52	21.18
201	2.83	7.56	12.20	16.73	19.77	21.00	21.95
216	2.07	7.07	11.93	18.69	20.75	22.52	23.37
231	1.52	6.51	12.34	21.43	23.34	23.37	23.59
246	1.54	3.56	6.92	21.16	25.62	25.50	24.43
261	1.61	3.41	4.77	19.60	26.84	28.03	26.37
276	1.51	4.12	7.05	12.21	25.59	29.26	29.00
291	1.77	4.60	8.81	12.05	12.31	18.80	22.93
306	2.44	5.36	9.35	14.30	14.84	21.03	27.98
321	3.43	6.25	9.91	16.43	19.68	20.67	20.99
336	4.25	6.87	11.65	20.01	24.36	26.09	27.04
351	4.40	7.51	12.82	22.30	26.46	26.83	25.82

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	16.770		0	5.239		0	7.691	
1	2.403	-2.245	1	.967	-.612	1	-.514	-.113
2	-.555	1.463	2	.453	.061	2	.020	-.038
3	.044	.263	3	-.159	-.184	3	.036	-.111
4	.058	.009	4	.163	-.033	4	-.027	-.039
5	.032	-.050	5	.253	.286	5	.007	.040
6	-.029	-.006	6	.041	.049	6	-.009	-.018
7	-.023	.003	7	-.024	-.065	7	-.012	-.031
8	-.038	-.012	8	-.004	.057	8	-.018	-.015
9	.000	.000	9	.012	.024	9	-.034	-.009
10	-.003	-.018	10	-.024	.029	10	-.026	.028

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 55 - Continued

FLIGHT 47, LANDING APPROACH AND FLARE

(SEE FIG. 9)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.971		.75	0	17.486		.95	0	23.401	
.25	1	.705	.549	.75	1	-.116	-.379	.95	1	-.497	-1.315
.25	2	.973	-.305	.75	2	2.046	-.410	.95	2	-2.586	-1.569
.25	3	.014	.050	.75	3	4.058	-1.303	.95	3	.656	-2.608
.25	4	.091	-.061	.75	4	.255	-.131	.95	4	3.067	-1.624
.25	5	-.178	.093	.75	5	-.447	1.316	.95	5	1.731	1.376
.25	6	-.050	.009	.75	6	-.228	-.257	.95	6	-1.354	1.252
.25	7	.073	.050	.75	7	.663	-.622	.95	7	-.801	-.220
.25	8	-.041	.104	.75	8	.037	.173	.95	8	-.776	-.961
.25	9	-.059	.113	.75	9	-.213	.489	.95	9	-.358	-.634
.25	10	-.102	-.015	.75	10	-.100	.226	.95	10	.160	1.149
.40	0	6.545		.85	0	20.627					
.40	1	.692	.891	.85	1	-.709	-1.314				
.40	2	1.857	.259	.85	2	-.006	-.819				
.40	3	.003	-.031	.85	3	5.033	-2.363				
.40	4	.096	.547	.85	4	3.409	-1.309				
.40	5	.188	.149	.85	5	-1.024	2.194				
.40	6	-.118	-.054	.85	6	-2.881	.862				
.40	7	.064	.120	.85	7	.387	-.796				
.40	8	.307	.000	.85	8	1.085	-.410				
.40	9	-.026	.016	.85	9	.026	-.034				
.40	10	.040	.084	.85	10	-1.154	.520				
.55	0	10.598		.90	0	22.196					
.55	1	.843	.854	.90	1	-.805	-1.881				
.55	2	2.807	.153	.90	2	-1.674	-1.554				
.55	3	.237	-.209	.90	3	3.279	-2.806				
.55	4	-.324	.711	.90	4	4.285	-1.503				
.55	5	1.071	.057	.90	5	.570	2.268				
.55	6	-.146	-.155	.90	6	-2.834	1.619				
.55	7	-.183	.150	.90	7	-.874	-.562				
.55	8	.363	.392	.90	8	.012	-1.333				
.55	9	-.201	-.160	.90	9	.390	-.655				
.55	10	.103	.180	.90	10	-.113	1.014				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 55 - Concluded

FLIGHT 47, LANDING APPROACH AND FLARE

(SEE FIG. 9)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	-1396	-2937	-3987	-4609	-5096	-6194		
21	-1920	-4191	-4701	-4046	-1902	-1408		
36	827	784	497	-297	-2738	-4313		
51	6835	5107	4059	2307	-2069	-5547		
66	3951	3803	4059	2250	-2509	-4771		
81	1842	-891	-2161	-2310	-203	2910		
96	-2319	-3812	-3950	-1633	4338	7577		
111	-1430	751	3715	4692	3264	105		
126	10688	8423	6780	4120	-1532	-5935		
141	7177	5932	5442	3853	-1426	-4572		
156	-2034	-2021	-796	514	2498	2702		
171	-1236	-3680	-4457	-3798	-687	1040		
186	2275	380	-1419	-3112	-4938	-6074		
201	3666	3011	2378	294	-5677	-10870		
216	4589	2764	1148	-870	-5254	-8492		
231	1204	-388	-1546	-2005	-1532	-174		
246	-1202	-1378	154	2250	3238	2702		
261	2435	3696	5017	5722	3880	682		
276	6459	7343	7277	5999	3211	2105		
291	1888	3308	4773	5064	4883	5766		
306	-598	-1262	-588	1401	6247	9139		
321	-1510	-322	425	666	1117	871		
336	3176	2681	1763	-278	-4762	-9617		
351	3746	2195	560	-2005	-7877	-12731		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	3002	33	4320	
21	-5072	-9735	4832	
36	-2484	-9003	-3904	
51	-5545	-11445	1344	
66	267	-2833	6288	
81	8440	4770	8496	
96	6861	781	8400	
111	626	-7261	1648	
126	-2240	-15450	-4192	
141	2465	-9801	-4512	
156	5168	-423	7184	
171	5607	5845	16640	
186	5965	8856	12976	
201	-2696	-5161	11104	
216	-547	-8287	-4496	
231	-156	-16247	-9008	
246	-7401	-15092	-2976	
261	-10543	-9084	896	
276	-11373	-10842	3552	
291	-7189	-7570	-2496	
306	-8670	-12666	3504	
321	-3917	-3761	2480	
336	-8361	-3940	10608	
351	-3331	-2784	7488	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	1178	760	113
21	1510	532	141
36	941	388	90
51	855	-224	91
66	1095	232	118
81	1752	1128	190
96	1795	1037	156
111	722	121	14
126	348	-678	-8
141	1750	532	125
156	1850	1002	146
171	45	29	-56
186	-519	-639	-111
201	318	-788	-27
216	1060	432	47
231	1494	282	50
246	300	-390	-97
261	-881	-1073	-139
276	-13	-785	-29
291	808	55	64
306	771	-147	16
321	-126	-161	-8
336	330	-234	32
351	518	117	58

TABLE 56

FLIGHT 48, LANDING APPROACH AND FLARE

(SEE FIG. 10, t = 6.3 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	3.30	2.37	2.32	1.32	.50	.26	.026	4.53	2.20	1.63	1.44	.91	.32	-.054	6
21	2.75	2.13	2.17	1.19	.38	.20	.010	4.38	2.05	1.57	1.39	.81	.26	-.079	21
36	2.22	1.87	2.02	.99	.31	.21	.023	3.53	1.58	1.28	1.21	.70	.24	-.077	36
51	3.14	2.36	2.33	1.29	.46	.24	.031	3.71	1.73	1.41	1.33	.83	.29	-.063	51
66	4.17	3.12	2.86	1.66	.61	.32	.040	4.39	2.22	1.77	1.64	1.04	.35	-.052	66
81	5.03	3.76	3.26	2.01	.83	.38	.042	5.65	2.86	2.21	1.96	1.27	.40	-.061	81
96	4.86	3.75	3.24	2.01	.86	.37	.040	6.04	3.12	2.45	2.12	1.33	.44	-.063	96
111	3.80	3.06	2.80	1.66	.67	.30	.029	5.58	2.85	2.25	1.91	1.19	.39	-.079	111
126	2.94	2.44	2.43	1.32	.50	.25	.031	4.75	2.34	1.86	1.62	1.01	.34	-.084	126
141	2.40	1.98	2.07	1.11	.40	.22	.023	4.06	2.00	1.63	1.39	.85	.28	-.077	141
156	2.06	1.68	1.82	.97	.36	.22	.034	3.62	1.72	1.44	1.21	.74	.27	-.065	156
171	2.11	1.64	1.68	.93	.37	.22	.032	3.47	1.61	1.34	1.11	.74	.24	-.056	171
186	2.42	1.78	1.72	1.03	.46	.25	.055	3.67	1.79	1.47	1.19	.78	.31	-.021	186
201	3.12	2.16	1.93	1.21	.59	.30	.076	4.26	2.10	1.63	1.36	.97	.38	.007	201
216	3.88	2.54	2.15	1.41	.72	.35	.088	5.11	2.42	1.91	1.57	1.11	.44	.033	216
231	4.72	2.94	2.42	1.61	.88	.41	.103	5.94	2.93	2.18	1.76	1.25	.50	.054	231
246	5.39	3.31	2.70	1.76	.99	.43	.104	6.49	3.23	2.34	1.89	1.33	.50	.061	246
261	5.27	3.29	2.77	1.76	1.00	.44	.104	6.22	3.09	2.24	1.87	1.33	.51	.068	261
276	4.74	3.02	2.62	1.62	.89	.41	.093	5.77	2.80	2.08	1.73	1.21	.49	.047	276
291	4.35	2.87	2.59	1.57	.81	.38	.078	5.35	2.66	2.01	1.69	1.16	.47	.038	291
306	4.31	2.91	2.62	1.60	.80	.38	.076	5.43	2.67	2.03	1.70	1.18	.46	.030	306
321	4.41	2.97	2.68	1.63	.82	.38	.076	5.58	2.75	2.08	1.77	1.22	.48	.016	321
336	4.88	3.23	2.83	1.72	.90	.40	.083	6.19	3.10	2.27	1.89	1.33	.53	.033	336
351	4.39	3.10	2.77	1.68	.84	.36	.053	6.67	3.34	2.45	2.03	1.40	.49	.009	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.85										
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	5.30	3.98	2.82	1.90	1.80	1.39	.99	.44	.38	.17	.038	6
21	4.81	3.63	2.62	1.69	1.64	1.26	.91	.36	.34	.14	.033	21
36	4.20	3.19	2.28	1.53	1.44	1.10	.81	.30	.31	.13	.031	36
51	4.57	3.43	2.46	1.68	1.59	1.21	.90	.36	.35	.15	.031	51
66	5.48	4.18	2.98	2.01	1.92	1.45	1.06	.45	.41	.19	.059	66
81	6.20	4.85	3.47	2.38	2.22	1.66	1.21	.52	.46	.22	.048	81
96	6.39	5.05	3.68	2.55	2.30	1.75	1.29	.55	.47	.22	.053	96
111	5.71	4.51	3.32	2.28	2.06	1.57	1.16	.46	.44	.20	.035	111
126	5.16	3.95	2.90	1.99	1.79	1.36	1.02	.39	.40	.18	.020	126
141	4.62	3.48	2.60	1.74	1.60	1.19	.91	.34	.37	.17	.020	141
156	4.44	3.19	2.37	1.60	1.46	1.12	.83	.31	.34	.18	.044	156
171	4.32	3.16	2.30	1.59	1.46	1.13	.84	.34	.36	.18	.057	171
186	4.60	3.37	2.51	1.70	1.52	1.22	.90	.39	.40	.22	.076	186
201	5.26	3.85	2.78	1.98	1.76	1.40	1.03	.50	.46	.26	.085	201
216	5.97	4.40	3.11	2.29	2.00	1.61	1.18	.61	.53	.31	.098	216
231	6.52	4.83	3.38	2.49	2.19	1.74	1.26	.68	.59	.32	.115	231
246	6.40	4.77	3.33	2.48	2.17	1.74	1.26	.68	.58	.32	.113	246
261	6.09	4.60	3.20	2.34	2.04	1.64	1.19	.64	.57	.30	.106	261
276	5.67	4.26	2.95	2.17	1.92	1.58	1.14	.59	.52	.29	.102	276
291	5.62	4.22	2.94	2.11	1.93	1.56	1.12	.59	.50	.27	.093	291
306	5.71	4.36	3.04	2.19	2.00	1.59	1.16	.61	.52	.27	.102	306
321	6.19	4.67	3.26	2.39	2.16	1.73	1.23	.66	.56	.29	.108	321
336	7.07	5.37	3.69	2.72	2.41	1.91	1.37	.73	.60	.30	.068	336
351	6.79	5.23	3.65	2.64	2.39	1.86	1.37	.67	.55	.29	.078	351

TABLE 56 - Continued

FLIGHT 48, LANDING APPROACH AND FLARE

(SEE FIG. 10, t = 6.3 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75							Δp, lb/sq in., at - r/R = 0.55							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	5.40	2.41	1.97	1.54	.95	.38	.054	3.95	1.97	1.37	1.08	.82	.47	.101	6
21	4.73	2.19	1.80	1.43	.86	.33	.033	3.57	1.77	1.22	.96	.72	.42	.086	21
36	4.10	1.91	1.63	1.31	.78	.30	.033	3.48	1.73	1.19	.94	.71	.42	.087	36
51	3.79	1.91	1.67	1.34	.81	.33	.050	3.55	1.78	1.23	.97	.74	.44	.096	51
66	4.09	2.20	1.90	1.53	.93	.38	.081	3.93	2.00	1.38	1.10	.83	.46	.107	66
81	4.65	2.54	2.13	1.72	1.02	.42	.088	4.33	2.14	1.47	1.15	.87	.48	.114	81
96	5.13	2.72	2.31	1.81	1.11	.43	.086	4.33	2.16	1.49	1.17	.89	.48	.112	96
111	4.99	2.48	2.16	1.69	1.02	.39	.074	4.14	2.05	1.43	1.12	.85	.46	.112	111
126	4.49	2.17	1.96	1.53	.94	.35	.071	3.89	1.94	1.34	1.06	.81	.45	.109	126
141	4.18	2.03	1.83	1.43	.89	.32	.076	3.77	1.87	1.31	1.03	.78	.43	.104	141
156	3.99	1.94	1.73	1.37	.85	.32	.076	3.71	1.85	1.29	1.03	.78	.43	.102	156
171	3.95	1.91	1.70	1.35	.85	.33	.086	3.69	1.83	1.29	1.02	.77	.42	.099	171
186	4.05	1.98	1.72	1.37	.88	.36	.090	3.71	1.84	1.29	1.03	.77	.42	.094	186
201	4.28	2.19	1.80	1.45	.96	.40	.098	3.69	1.83	1.29	1.02	.77	.42	.087	201
216	4.62	2.38	1.91	1.53	1.02	.45	.100	3.67	1.80	1.26	1.01	.75	.43	.076	216
231	4.91	2.49	1.97	1.57	1.08	.45	.098	3.52	1.72	1.21	.96	.72	.40	.069	231
246	5.00	2.48	1.95	1.56	1.07	.44	.093	3.29	1.63	1.13	.91	.68	.37	.057	246
261	4.80	2.34	1.85	1.48	.96	.42	.088	3.06	1.51	1.07	.84	.63	.36	.051	261
276	4.46	2.17	1.74	1.40	.91	.39	.088	2.95	1.45	1.02	.81	.61	.36	.051	276
291	4.22	2.12	1.72	1.38	.91	.39	.071	2.96	1.47	1.03	.81	.61	.35	.051	291
306	4.28	2.23	1.81	1.45	.97	.42	.074	3.26	1.60	1.12	.88	.66	.39	.064	306
321	4.66	2.52	1.99	1.60	1.07	.46	.081	3.93	1.93	1.33	1.04	.78	.44	.082	321
336	5.46	3.04	2.30	1.84	1.23	.51	.088	4.76	2.33	1.59	1.25	.92	.49	.096	336
351	6.04	3.15	2.44	1.93	1.27	.52	.081	5.24	2.53	1.73	1.36	1.02	.54	.105	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40					Δp, lb/sq in., at - r/R = 0.25					ψ_{nom}, deg
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	2.31	1.16	.72	.44	.106	1.48	.74	.45	.18	.082	6
21	1.82	.94	.60	.40	.105	1.38	.70	.44	.19	.066	21
36	1.81	.91	.59	.39	.103	1.09	.58	.38	.18	.073	36
51	1.99	1.00	.65	.43	.116	1.23	.65	.42	.19	.075	51
66	2.18	1.11	.70	.45	.118	1.33	.70	.44	.19	.075	66
81	2.30	1.15	.72	.45	.123	1.40	.73	.46	.20	.077	81
96	2.29	1.16	.73	.46	.120	1.42	.75	.47	.20	.080	96
111	2.22	1.12	.71	.45	.118	1.40	.74	.46	.20	.080	111
126	2.15	1.09	.69	.44	.118	1.38	.74	.46	.20	.085	126
141	2.08	1.07	.67	.44	.120	1.36	.71	.45	.19	.080	141
156	2.02	1.04	.66	.43	.116	1.30	.68	.43	.19	.080	156
171	1.96	1.02	.64	.42	.109	1.21	.62	.40	.18	.078	171
186	1.88	.97	.61	.40	.099	1.07	.55	.36	.16	.071	186
201	1.76	.92	.58	.38	.090	.92	.46	.30	.13	.065	201
216	1.64	.85	.54	.35	.082	.76	.37	.25	.11	.059	216
231	1.47	.77	.48	.32	.069	.60	.29	.22	.09	.045	231
246	1.33	.69	.43	.29	.063	.44	.25	.22	.09	.047	246
261	1.24	.64	.40	.28	.062	.35	.25	.16	.10	.043	261
276	1.19	.62	.39	.28	.061	.30	.20	.14	.08	.051	276
291	1.23	.63	.40	.28	.064	.29	.21	.12	.08	.060	291
306	1.35	.69	.44	.30	.071	.36	.28	.14	.12	.069	306
321	1.62	.82	.51	.34	.084	.51	.32	.17	.17	.071	321
336	2.08	1.03	.63	.38	.101	.85	.35	.27	.17	.091	336
351	2.51	1.25	.77	.44	.104	1.56	.76	.44	.18	.082	351

TABLE 56 - Continued

FLIGHT 48, LANDING APPROACH AND FLARE

(SEE FIG. 10, t = 6.3 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	6.62	11.27	13.84	16.37	16.64	14.09	12.84
21	6.32	9.40	12.34	14.64	15.16	12.95	11.03
36	5.45	9.25	12.11	13.07	13.38	10.73	9.78
51	6.00	10.17	12.58	13.24	14.68	12.04	12.49
66	6.33	10.99	13.90	15.09	17.62	15.01	16.20
81	6.56	11.37	14.80	16.95	20.13	18.61	19.54
96	6.72	11.38	14.89	18.19	21.07	20.11	19.41
111	6.67	11.10	14.28	16.88	18.92	18.18	15.87
126	6.63	10.84	13.57	15.26	16.73	15.24	12.77
141	6.42	10.57	13.10	14.27	15.01	13.00	10.65
156	6.18	10.33	12.98	13.68	14.00	11.53	9.42
171	5.78	10.04	12.84	13.67	14.02	10.91	9.23
186	5.15	9.60	12.86	14.12	15.11	12.16	10.31
201	4.36	9.03	12.82	15.30	17.23	14.45	12.56
216	3.59	8.38	12.64	16.49	19.55	16.94	14.80
231	2.90	7.52	12.03	17.14	21.36	19.59	17.33
246	2.57	6.83	11.26	17.04	21.09	20.99	19.34
261	2.25	6.42	10.58	16.04	20.16	20.56	19.40
276	1.96	6.24	10.21	15.03	18.87	18.95	17.74
291	1.94	6.40	10.24	14.70	18.59	18.00	16.70
306	2.50	6.96	11.23	15.41	19.18	18.06	16.75
321	3.23	8.12	13.29	17.02	20.61	18.62	17.07
336	4.27	9.96	15.78	19.74	22.86	20.61	18.44
351	6.78	11.93	17.26	20.71	22.30	21.54	17.30

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	9.767		0	4.394		0	1.077	
1	.864	-2.038	1	.188	-.926	1	-.157	-.001
2	-.047	.058	2	.432	.008	2	-.011	.003
3	.143	-.123	3	.033	.135	3	.032	-.008
4	.012	-.053	4	.029	.098	4	.005	-.001
5	.012	-.047	5	-.029	.131	5	-.015	-.005
6	.035	-.009	6	-.024	.033	6	-.005	-.001
7	.006	.018	7	-.016	.024	7	.015	.000
8	.000	-.009	8	-.004	-.004	8	.009	-.003
9	.006	-.020	9	.004	-.008	9	-.004	.007
10	.000	.000	10	.008	-.004	10	-.007	-.007

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o \right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o \right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o \right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o \right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o \right) + F_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 56 - Continued

FLIGHT 48, LANDING APPROACH AND FLARE

(SEE FIG. 10, t = 6.3 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	4.882		.75	0	15.835		.95	0	14.875	
.25	1	.326	2.244	.75	1	.722	-.592	.95	1	1.175	-1.884
.25	2	.739	-.251	.75	2	-.238	-.375	.95	2	-3.235	.516
.25	3	.358	-.188	.75	3	.857	-2.081	.95	3	.377	-2.498
.25	4	.288	-.235	.75	4	.300	-.807	.95	4	.402	-1.342
.25	5	.145	-.113	.75	5	.026	-.141	.95	5	.084	-.055
.25	6	.136	-.078	.75	6	-.241	-.176	.95	6	-.115	.110
.25	7	.074	-.082	.75	7	-.180	-.182	.95	7	-.169	-.192
.25	8	-.007	-.065	.75	8	-.162	-.038	.95	8	-.143	-.001
.25	9	-.052	-.022	.75	9	-.181	.026	.95	9	-.094	.121
.25	10	-.102	-.015	.75	10	-.202	-.027	.95	10	-.149	.119
.40	0	9.337		.85	0	18.094					
.40	1	.386	2.105	.85	1	.707	-1.792				
.40	2	.736	-.409	.85	2	-1.541	-.095				
.40	3	.222	-.683	.85	3	.661	-2.788				
.40	4	.264	-.469	.85	4	.090	-.970				
.40	5	.172	-.314	.85	5	.060	-.119				
.40	6	.080	-.197	.85	6	-.281	-.131				
.40	7	.059	-.115	.85	7	-.278	-.087				
.40	8	.023	-.085	.85	8	-.176	.002				
.40	9	.009	-.032	.85	9	-.238	.086				
.40	10	-.003	-.028	.85	10	-.227	.068				
.55	0	12.976		.90	0	16.369					
.55	1	.621	1.189	.90	1	.812	-2.355				
.55	2	.667	-.581	.90	2	-2.582	-.212				
.55	3	.235	-1.422	.90	3	1.200	-2.759				
.55	4	.138	-.734	.90	4	.425	-1.097				
.55	5	-.014	-.346	.90	5	-.038	-.144				
.55	6	-.161	-.193	.90	6	-.278	-.173				
.55	7	-.125	-.129	.90	7	-.316	-.334				
.55	8	-.127	-.103	.90	8	-.299	-.063				
.55	9	-.120	-.087	.90	9	-.353	-.016				
.55	10	-.105	-.054	.90	10	-.344	.043				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o\right) + M_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 56 - Concluded

FLIGHT 48, LANDING APPROACH AND FLARE

(SEE FIG. 10, t = 6.3 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	797	-495	-850	-2470	-4402	-7115	-6930	-4088
21	79	-1180	-1663	-3128	-3619	-5613	-5162	-3409
36	-1483	-1766	-1654	-2718	-3012	-4548	-3651	-2562
51	216	-916	-1220	-2184	-2537	-4299	-3661	-2650
66	1265	363	18	-1449	-2457	-4687	-4555	-3468
81	1117	347	479	-715	-1665	-4011	-5199	-4365
96	1082	-231	-217	-1125	-1692	-3692	-3881	-3511
111	512	-545	-651	-1802	-2220	-3782	-3671	-3278
126	718	-809	-1049	-2098	-2880	-5075	-5246	-3665
141	547	-668	-1067	-2508	-3874	-6419	-6213	-3657
156	923	-842	-1546	-3262	-4376	-6707	-6323	-3635
171	296	-1295	-1853	-3310	-4244	-6518	-5732	-3227
186	387	-1147	-1736	-3128	-3698	-5931	-5580	-3409
201	957	-198	-651	-2184	-3302	-5573	-5565	-3723
216	1903	776	461	-972	-2061	-4677	-5889	-4285
231	1880	1510	1573	344	-812	-3235	-4833	-4198
246	2063	1683	1862	888	323	-1513	-2856	-3599
261	1869	1617	1953	1241	904	-608	-1297	-2606
276	1607	1650	2052	1165	763	-697	-1820	-3000
291	1778	1683	1880	802	-345	-2319	-3206	-3365
306	1447	1427	1428	-66	-1507	-3802	-4681	-4008
321	843	701	524	-1125	-2625	-4966	-5523	-4307
336	866	116	-307	-1926	-3496	-6041	-6360	-4606
351	1003	-17	-470	-2298	-3909	-6996	-7814	-5227

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-8118	-3370	4792	14576
21	-6587	-2800	4600	14594
36	-5366	-3337	4408	14796
51	-5366	-3435	3752	14082
66	-5855	-4314	3800	14256
81	-5187	-4330	3624	14091
96	-4210	-3484	4056	14301
111	-2420	-2800	4600	14704
126	-759	-944	5080	14311
141	-547	-130	6568	15216
156	-43	1123	6808	14924
171	202	700	6760	15043
186	-433	0	5912	14741
201	-1801	-1563	5336	14759
216	-3738	-2914	4696	14549
231	-5643	-4640	3912	14420
246	-6717	-5877	2968	14009
261	-6978	-6447	2376	13762
276	-7971	-6040	3224	14201
291	-9534	-5161	4904	15015
306	-10006	-4168	5480	15006
321	-9811	-4640	5032	15116
336	-9306	-5161	3960	14759
351	-8801	-4461	3848	14411

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	691	644	201
21	-96	292	89
36	-293	-6	47
51	-98	98	96
66	501	476	150
81	859	790	189
96	792	793	169
111	455	506	129
126	222	351	99
141	70	194	65
156	-212	-11	19
171	-432	-149	-19
186	-595	-330	-32
201	-466	-298	-22
216	-263	-195	12
231	-90	-81	36
246	-92	-6	31
261	-276	-119	17
276	-354	-135	17
291	-518	-246	20
306	-571	-222	23
321	-357	-72	34
336	17	165	91
351	586	564	171

TABLE 57

FLIGHT 48, LANDING APPROACH AND FLARE

(SEE FIG. 10, t = 38.5 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	5.33	3.51	2.96	1.86	1.00	.43	.078	7.14	3.52	2.58	2.08	1.43	.53	.033	6
21	3.65	2.57	2.36	1.44	.68	.29	.047	5.52	2.64	2.01	1.65	1.10	.37	-.009	21
36	4.35	2.79	2.39	1.39	.66	.27	.055	3.39	1.63	1.31	1.40	.75	.29	-.038	36
51	5.84	3.64	3.03	1.83	.88	.36	.065	4.19	1.99	1.61	1.39	.92	.35	-.021	51
66	8.91	5.59	4.24	2.84	1.67	.70	.137	9.17	4.63	3.51	2.84	2.02	.77	.096	66
81	7.15	4.40	3.51	2.32	1.30	.53	.093	9.49	4.51	3.23	2.60	1.77	.65	.047	81
96	5.52	3.51	2.92	1.82	.96	.39	.076	6.64	3.25	2.38	1.95	1.34	.50	.030	96
111	4.57	3.00	2.62	1.59	.83	.37	.089	5.09	2.48	1.90	1.62	1.15	.46	.028	111
126	5.76	3.62	3.01	1.90	1.03	.46	.103	6.17	3.06	2.26	1.91	1.34	.55	.056	126
141	5.90	3.66	3.03	1.91	1.04	.43	.089	6.58	3.32	2.42	1.99	1.37	.54	.044	141
156	5.50	3.43	2.82	1.79	.95	.41	.082	6.12	2.97	2.21	1.84	1.27	.47	.021	156
171	5.43	3.45	2.77	1.79	.96	.42	.088	5.87	2.83	2.16	1.78	1.24	.50	.042	171
186	5.90	3.63	2.92	1.90	1.07	.46	.103	6.33	3.13	2.33	1.92	1.37	.56	.063	186
201	6.45	3.91	3.13	2.04	1.19	.52	.122	6.83	3.44	2.51	2.06	1.47	.62	.091	201
216	6.60	3.93	3.14	2.06	1.22	.55	.128	7.23	3.59	2.61	2.11	1.51	.64	.093	216
231	6.74	3.94	3.13	2.06	1.22	.53	.128	7.75	3.82	2.72	2.19	1.58	.66	.103	231
246	7.75	4.42	3.46	2.35	1.45	.67	.173	9.34	4.48	3.20	2.57	1.88	.81	.156	246
261	8.35	4.59	3.44	2.13	1.57	.70	.185	8.99	4.00	2.90	2.30	1.73	.73	.147	261
276	4.76	3.03	2.49	1.58	.94	.40	.107	3.34	1.71	1.37	1.24	.92	.44	.052	276
291	4.98	3.26	2.64	1.65	.91	.41	.103	5.40	2.66	1.97	1.60	1.16	.49	.052	291
306	6.70	4.03	3.17	2.06	1.20	.50	.114	7.31	3.63	2.62	2.08	1.49	.62	.082	306
321	7.54	4.30	3.33	2.21	1.30	.54	.101	8.30	4.09	2.91	2.32	1.67	.65	.079	321
336	6.78	4.00	3.19	2.08	1.19	.49	.092	8.13	3.95	2.84	2.28	1.61	.63	.061	336
351	6.09	3.82	3.08	1.99	1.11	.47	.095	7.59	3.72	2.67	2.19	1.52	.58	.058	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.85										
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	7.55	5.56	3.90	2.85	2.50	1.97	1.42	.72	.60	.30	.100	6
21	5.84	4.46	3.08	2.17	1.99	1.56	1.11	.52	.46	.22	.063	21
36	3.77	2.84	2.06	1.30	1.28	1.01	.74	.30	.32	.14	.027	36
51	3.32	2.42	1.72	1.09	1.06	.83	.64	.25	.28	.13	.035	51
66	7.30	5.53	3.90	2.88	2.54	2.00	1.43	.73	.61	.31	.126	66
81	10.32	6.59	4.73	3.53	3.03	2.38	1.67	.85	.67	.33	.119	81
96	6.68	4.93	3.45	2.52	2.21	1.73	1.26	.62	.54	.27	.083	96
111	5.10	3.82	2.68	1.92	1.76	1.42	1.06	.53	.47	.25	.083	111
126	5.84	4.42	3.10	2.25	2.02	1.63	1.22	.62	.55	.30	.110	126
141	6.68	4.98	3.43	2.49	2.18	1.73	1.26	.64	.54	.28	.098	141
156	5.82	4.37	3.01	2.18	1.92	1.52	1.12	.54	.48	.25	.080	156
171	5.43	4.14	2.86	2.06	1.84	1.47	1.08	.54	.48	.27	.091	171
186	6.16	4.63	3.20	2.33	2.04	1.64	1.20	.64	.56	.32	.121	186
201	6.59	4.88	3.42	2.55	2.24	1.82	1.33	.74	.62	.36	.147	201
216	7.47	5.21	3.73	2.83	2.45	1.98	1.44	.79	.62	.36	.145	216
231	8.52	5.75	4.15	3.11	2.68	2.15	1.54	.84	.68	.38	.160	231
246	9.43	6.27	4.47	3.41	2.90	2.35	1.70	.96	.79	.45	.198	246
261	5.01	3.68	2.53	1.92	1.73	1.47	1.08	.66	.57	.33	.132	261
276	3.99	2.92	2.05	1.42	1.35	1.11	.84	.42	.41	.22	.080	276
291	5.72	4.26	2.90	2.14	1.89	1.53	1.11	.57	.49	.26	.106	291
306	7.24	5.15	3.67	2.72	2.36	1.92	1.36	.74	.62	.34	.138	306
321	8.37	5.74	4.20	3.11	2.66	2.15	1.53	.85	.69	.37	.147	321
336	8.43	5.77	4.21	3.13	2.68	2.15	1.54	.83	.67	.36	.121	336
351	7.97	5.67	4.02	2.99	2.59	2.07	1.48	.78	.64	.33	.095	351

TABLE 57 - Continued

FLIGHT 48, LANDING APPROACH AND FLARE

(SEE FIG. 10, t = 38.5 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	6.06	2.98	2.30	1.81	1.19	.48	.095	4.03	1.98	1.36	1.07	.80	.44	.077	6
21	5.55	2.57	2.06	1.59	1.01	.40	.079	3.70	1.84	1.26	.99	.75	.41	.075	21
36	4.58	1.91	1.63	1.28	.76	.30	.057	3.43	1.68	1.17	.92	.69	.39	.073	36
51	3.56	1.45	1.33	1.04	.57	.22	.041	2.98	1.46	1.02	.80	.60	.34	.069	51
66	2.54	1.00	1.08	.90	.52	.24	.048	2.52	1.23	.87	.68	.51	.30	.055	66
81	3.82	2.60	2.03	1.68	1.10	.44	.084	2.28	1.09	.76	.59	.44	.25	.035	81
96	4.65	2.59	2.05	1.62	1.02	.41	.084	1.74	.86	.64	.48	.33	.24	.036	96
111	4.47	2.25	1.83	1.48	.95	.41	.086	1.87	1.02	.75	.60	.45	.30	.068	111
126	4.48	2.29	1.89	1.53	.99	.43	.095	2.96	1.47	1.04	.83	.63	.39	.074	126
141	4.78	2.46	2.00	1.59	1.02	.42	.081	3.38	1.65	1.15	.91	.67	.35	.061	141
156	4.61	2.14	1.75	1.38	.86	.34	.069	2.70	1.34	.95	.74	.56	.32	.065	156
171	4.00	1.91	1.61	1.27	.80	.35	.076	2.76	1.37	.97	.77	.59	.34	.072	171
186	4.05	2.07	1.72	1.39	.91	.41	.103	2.93	1.47	1.06	.84	.64	.37	.079	186
201	4.63	2.62	2.02	1.63	1.09	.49	.103	3.55	1.79	1.24	.99	.74	.43	.089	201
216	5.27	2.85	2.19	1.75	1.19	.51	.105	2.38	1.16	.85	.68	.51	.32	.052	216
231	5.58	2.94	2.22	1.78	1.20	.51	.112	1.46	.75	.56	.44	.33	.23	.024	231
246	5.32	2.26	1.85	1.50	1.02	.50	.117	1.72	.87	.64	.51	.39	.26	.040	246
261	3.90	1.41	1.26	1.04	.68	.33	.081	2.39	1.20	.87	.69	.53	.32	.055	261
276	3.67	1.88	1.56	1.24	.80	.35	.079	2.72	1.34	.95	.74	.56	.32	.045	276
291	4.13	2.15	1.73	1.37	.89	.37	.084	2.68	1.31	.94	.73	.55	.32	.044	291
306	4.55	2.40	1.89	1.51	1.00	.45	.100	2.82	1.39	.98	.77	.57	.35	.055	306
321	5.22	2.87	2.20	1.76	1.21	.52	.120	3.20	1.61	1.13	.89	.67	.39	.074	321
336	5.94	3.15	2.37	1.88	1.27	.54	.117	3.64	1.82	1.26	1.00	.76	.43	.079	336
351	6.24	3.15	2.39	1.89	1.26	.53	.107	3.98	1.97	1.37	1.06	.81	.44	.080	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.86	.94	.59	.39	.094	.84	.42	.30	.15	.068	6
21	1.75	.84	.51	.37	.101	.69	.43	.30	.14	.068	21
36	1.64	.81	.50	.30	.084	.86	.44	.27	.15	.086	36
51	1.47	.74	.47	.32	.083	.75	.35	.21	.10	.059	51
66	1.09	.54	.36	.27	.074	.54	.26	.18	.09	.050	66
81	1.33	.65	.42	.30	.082	.58	.29	.19	.08	.050	81
96	1.27	.61	.37	.27	.065	.64	.32	.21	.09	.043	96
111	.87	.45	.30	.26	.065	.49	.25	.17	.07	.038	111
126	1.08	.54	.37	.29	.079	.49	.25	.16	.07	.042	126
141	1.29	.65	.42	.29	.076	.62	.32	.20	.10	.055	141
156	1.29	.66	.42	.30	.078	.58	.30	.21	.10	.052	156
171	1.29	.67	.43	.31	.080	.53	.28	.20	.10	.056	171
186	1.31	.69	.45	.33	.081	.47	.26	.19	.09	.045	186
201	1.24	.66	.44	.33	.081	.55	.27	.19	.09	.052	201
216	.77	.41	.30	.26	.061	.26	.15	.11	.06	.041	216
231	.80	.39	.26	.23	.054	.29	.14	.11	.06	.038	231
246	1.21	.43	.30	.24	.059	.36	.17	.12	.06	.036	246
261	1.80	.48	.32	.26	.061	.39	.19	.14	.06	.030	261
276	1.78	.52	.34	.26	.062	.47	.24	.16	.08	.038	276
291	1.14	.56	.36	.28	.064	.63	.33	.22	.10	.045	291
306	1.28	.64	.42	.30	.080	.79	.40	.26	.12	.053	306
321	1.41	.72	.48	.34	.086	.71	.42	.27	.16	.060	321
336	1.55	.80	.52	.35	.091	.78	.43	.33	.16	.080	336
351	1.79	.90	.58	.39	.099	.81	.49	.33	.18	.094	351

TABLE 57 - Continued

FLIGHT 48, LANDING APPROACH AND FLARE

(SEE FIG. 10, t = 38.5 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	4.25	9.35	13.53	19.77	23.90	22.74	19.93
21	3.97	8.63	12.60	17.25	18.68	17.16	14.37
36	4.25	7.91	11.68	13.40	12.29	11.42	15.01
51	3.34	7.48	10.23	10.34	10.57	13.81	19.70
66	2.69	5.82	8.70	8.51	23.99	31.01	31.69
81	2.76	6.82	7.51	16.62	29.36	28.88	25.11
96	3.05	6.25	6.16	16.76	21.19	21.17	19.59
111	2.37	5.00	7.58	15.56	17.13	17.26	17.16
126	2.38	5.96	10.60	16.01	19.81	20.74	20.79
141	3.03	6.69	11.25	16.63	21.18	21.65	20.84
156	3.00	6.78	9.45	14.58	18.67	19.69	19.42
171	2.85	6.88	9.80	13.41	17.94	19.33	19.46
186	2.55	7.09	10.60	14.69	20.20	21.23	20.95
201	2.77	6.88	12.51	17.47	22.10	23.14	22.91
216	1.60	4.77	8.61	19.04	23.94	24.00	23.33
231	1.60	4.41	5.59	19.52	26.39	25.31	23.37
246	1.80	5.39	6.51	17.08	29.20	30.31	27.08
261	1.91	6.60	8.74	11.58	17.63	27.81	28.16
276	2.36	6.72	9.42	13.03	13.64	13.14	17.73
291	3.15	5.95	9.22	14.54	18.52	18.06	18.39
306	3.80	6.69	9.82	16.34	23.19	23.91	23.20
321	4.01	7.52	11.29	19.22	26.31	26.59	25.03
336	4.38	8.11	12.72	20.77	26.21	25.77	23.12
351	4.72	9.13	13.56	20.83	25.00	24.19	21.75

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.895		0	4.676		0	7.375	
1	2.310	-4.739	1	1.661	-.975	1	-.446	-.151
2	-.099	-.058	2	.335	-.122	2	.026	-.136
3	.085	.251	3	-.249	-.228	3	.027	-.166
4	.041	.015	4	-.212	-.269	4	-.049	-.040
5	-.134	-.260	5	.339	-.188	5	.003	-.049
6	.009	.047	6	-.057	.049	6	-.059	-.054
7	.023	.038	7	-.102	.049	7	-.054	-.020
8	.006	-.067	8	.049	-.049	8	-.023	-.008
9	.000	-.035	9	.004	.037	9	-.022	-.016
10	-.003	.000	10	.024	.016	10	-.020	-.020

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^0\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^0\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^0\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^0\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^0\right) + F_n \sin n \left(\psi_{nom} - 6^0\right) \right]$$

TABLE 57 - Continued

FLIGHT 48, LANDING APPROACH AND FLARE

(SEE FIG. 10, t = 38.5 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.024		.75	0	15.956		.95	0	21.587	
.25	1	.973	.107	.75	1	.398	-1.195	.95	1	-.639	-1.229
.25	2	.520	-.477	.75	2	1.570	-1.257	.95	2	-1.361	1.105
.25	3	-.127	.049	.75	3	1.686	-2.797	.95	3	-.961	-2.005
.25	4	.045	.015	.75	4	-.058	.451	.95	4	-1.574	-2.933
.25	5	-.016	.052	.75	5	.907	.668	.95	5	.229	-1.004
.25	6	-.098	.035	.75	6	-.431	.381	.95	6	2.121	1.383
.25	7	-.091	-.245	.75	7	-.827	-.252	.95	7	.854	.004
.25	8	.000	-.010	.75	8	.288	-.105	.95	8	-.694	-.193
.25	9	.024	-.048	.75	9	.533	-.204	.95	9	-.379	.308
.25	10	-.073	-.013	.75	10	.029	.140	.95	10	.130	-.421
.40	0	6.784		.85	0	21.128					
.40	1	1.135	.076	.85	1	-.118	-1.417				
.40	2	.960	-.374	.85	2	.222	-.384				
.40	3	.028	.336	.85	3	.532	-4.689				
.40	4	.462	-.269	.85	4	-.916	-2.334				
.40	5	-.135	-.131	.85	5	2.294	1.064				
.40	6	-.018	.358	.85	6	2.029	1.642				
.40	7	-.036	-.246	.85	7	-1.236	.165				
.40	8	.154	-.159	.85	8	-.703	.386				
.40	9	.157	-.045	.85	9	.389	-.234				
.40	10	-.072	.151	.85	10	.067	-.605				
.55	0	9.903		.90	0	22.013					
.55	1	1.354	-.105	.90	1	-.619	-1.467				
.55	2	2.109	-1.022	.90	2	-.832	.475				
.55	3	.055	.479	.90	3	.015	-3.846				
.55	4	.256	.407	.90	4	-1.217	-3.702				
.55	5	-.314	-1.123	.90	5	1.269	.172				
.55	6	.144	.661	.90	6	2.896	2.272				
.55	7	.005	-.133	.90	7	.243	.033				
.55	8	-.145	-.075	.90	8	-1.309	.152				
.55	9	.199	-.031	.90	9	-.408	.601				
.55	10	-.117	.001	.90	10	.350	-.483				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o\right) + M_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 57 - Concluded

FLIGHT 48, LANDING APPROACH AND FLARE

(SEE FIG. 10, t = 38.5 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	-532	-1320	-1329	-1599	-548	-1764	-1093	-2051
21	3572	3028	3083	1550	-319	-3127	-5146	-3876
36	4370	4604	5451	3629	-424	-4560	-6145	-3833
51	3960	2756	2558	806	-451	-1167	1470	-1117
66	-201	-2096	-1989	-2514	121	3350	6339	-2059
81	-2265	-3704	-3110	-1532	4248	4494	-471	-3957
96	380	2145	3697	3219	236	-3356	-7332	-5351
111	9660	7211	5858	3105	-1190	-5406	-7918	-5008
126	3196	3820	4963	3601	1388	-1874	-2709	-3081
141	-748	-1469	-434	338	3606	4047	2531	-2015
156	141	-1337	-1455	-1894	-794	-182	3535	-88
171	2843	1279	1003	-578	-2308	-6013	-7897	-5731
186	3561	2888	2739	395	-4085	-9386	-12024	-8030
201	3515	1386	551	-1627	-3179	-4998	-3902	-3592
216	61	-1584	-1437	-1160	878	-600	-31	-1898
231	-1398	-116	1663	2256	3756	1499	-5078	-5358
246	4712	4934	5270	4459	3342	1002	-4921	-6468
261	4382	5849	7006	5909	5172	2713	3060	-2635
276	825	1815	3553	3916	6325	7440	7343	5548
291	-361	-932	1148	2504	4143	4584	4116	-723
306	711	1122	1663	367	-2466	-5237	-7071	-7015
321	3139	2252	1211	-2009	-6620	-11406	-14294	-9016
336	1030	-1040	-1844	-3554	-5784	-9754	-11271	-6869
351	-1512	-3086	-3272	-3793	-2730	-4709	-4398	-3635

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-8335	-11331	1279	14503
21	-6056	-7424	-3617	7723
36	-5910	-7066	4655	13085
51	-163	2670	9327	12847
66	8596	7342	9823	13414
81	4672	1595	7119	13926
96	765	-6805	-1393	9232
111	-2198	-13854	-4785	9388
126	1140	-7538	-1985	8821
141	5193	3028	9103	13304
156	5747	8905	16959	16845
171	4819	8059	13135	14411
186	391	-3435	6975	14503
201	2442	-6398	-4897	7128
216	-195	-10696	-4977	10019
231	-4542	-8319	-273	11520
246	-8938	-5405	2559	12956
261	-13089	-10289	1375	11438
276	-9622	-9508	-4929	6231
291	-9687	-12259	3071	14329
306	-6007	1693	6127	11255
321	-5079	2361	14175	18812
336	-472	3598	7551	13688
351	700	-3956	687	11804

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	539	457	129
21	85	478	98
36	-40	-165	92
51	147	243	117
66	742	1094	157
81	544	690	125
96	-193	-44	-2
111	-365	-658	-6
126	827	496	116
141	710	639	117
156	-595	-60	-29
171	-1025	-621	-77
186	-208	-398	-18
201	347	388	49
216	422	184	42
231	-939	-527	-112
246	-1536	-1040	-112
261	-488	-382	15
276	-200	-204	58
291	-374	-329	-4
306	-1044	-268	-4
321	-476	-306	51
336	-416	254	38
351	135	445	89

TABLE 58

FLIGHT 49, LANDING APPROACH AND FLARE

(SEE FIG. 11, t = 3.6 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	Δp, lb/sq in., at - r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
6	4.30	3.06	2.51	1.61	.76	.42	.056	5.00	2.59	2.08	1.80	1.09	.39	-.006	6
21	4.28	3.12	2.60	1.62	.71	.38	.024	4.98	2.58	2.09	1.78	1.06	.38	-.030	21
36	3.15	2.50	2.19	1.27	.44	.29	-.006	4.09	2.06	1.72	1.48	.85	.27	-.078	36
51	1.32	1.45	1.50	.61	.12	.20	-.016	2.31	1.08	1.03	1.00	.52	.12	-.102	51
66	4.15	2.98	2.57	1.52	.65	.38	.040	2.23	.89	1.00	1.13	.63	.22	-.054	66
81	6.29	4.41	3.49	2.25	1.12	.54	.054	6.72	3.66	2.84	2.41	1.48	.59	-.004	81
96	5.72	3.94	3.13	2.00	.97	.49	.057	6.20	3.22	2.49	2.20	1.29	.51	-.009	96
111	5.22	3.72	3.03	1.88	.85	.42	.046	5.36	2.73	2.16	1.96	1.10	.46	-.039	111
126	4.50	3.27	2.71	1.71	.74	.40	.042	4.77	2.46	1.93	1.83	.99	.41	-.029	126
141	4.34	3.14	2.59	1.67	.71	.39	.042	4.87	2.53	1.98	1.83	1.00	.36	-.042	141
156	3.84	2.72	2.22	1.53	.65	.38	.048	4.66	2.43	1.87	1.73	.94	.31	-.037	156
171	3.44	2.44	2.03	1.38	.57	.35	.038	4.11	2.13	1.66	1.53	.85	.30	-.044	171
186	3.42	2.40	1.97	1.35	.59	.35	.052	4.03	2.12	1.61	1.53	.83	.32	-.022	186
201	3.65	2.48	2.07	1.43	.66	.39	.060	4.57	2.36	1.79	1.65	.94	.33	-.009	201
216	4.01	2.68	2.19	1.51	.74	.42	.076	5.05	2.52	1.98	1.79	1.06	.33	.015	216
231	4.88	3.24	2.48	1.69	.88	.45	.081	5.41	2.70	2.10	1.90	1.14	.28	.020	231
246	5.30	3.44	2.66	1.76	.93	.47	.076	5.36	2.68	2.07	1.86	1.14	.33	.029	246
261	5.33	3.44	2.71	1.79	.97	.51	.092	5.62	2.85	2.17	1.91	1.18	.35	.050	261
276	5.56	3.62	2.77	1.89	1.06	.54	.112	6.23	3.29	2.48	2.15	1.38	.55	.083	276
291	6.76	4.21	3.08	2.10	1.16	.56	.108	6.28	3.25	2.36	2.06	1.29	.39	.050	291
306	1.41	1.20	1.24	.64	.21	.24	.040	2.26	1.04	.93	.93	.49	.06	-.035	306
321	3.61	2.40	2.10	1.33	.60	.35	.054	3.91	1.97	1.56	1.41	.85	.32	-.015	321
336	4.32	2.97	2.41	1.53	.76	.40	.056	4.72	2.42	1.90	1.65	1.00	.35	.004	336
351	4.34	3.03	2.46	1.57	.78	.42	.060	4.94	2.56	1.98	1.74	1.06	.43	.011	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
6	5.39	4.03	2.85	2.05	1.84	1.56	1.03	.45	.47	.23	.046	6
21	5.35	4.06	2.88	2.03	1.83	1.54	1.01	.42	.41	.20	.030	21
36	4.73	3.54	2.59	2.00	1.53	1.29	.82	.28	.33	.13	-.012	36
51	3.20	2.34	1.77	1.36	1.17	.83	.54	.13	.22	.08	-.044	51
66	2.75	1.91	1.50	1.13	.96	.82	.48	.11	.22	.09	-.022	66
81	6.17	4.70	3.33	2.49	2.23	1.86	1.26	.58	.53	.27	.062	81
96	6.43	4.86	3.39	2.54	2.20	1.82	1.21	.54	.49	.25	.046	96
111	5.39	4.02	2.85	2.00	1.79	1.45	.96	.39	.40	.19	.028	111
126	4.80	3.61	2.59	1.95	1.58	1.33	.89	.37	.36	.21	.020	126
141	4.92	3.66	2.70	1.92	1.64	1.36	.94	.38	.38	.20	.006	141
156	4.74	3.57	2.61	1.86	1.59	1.32	.90	.37	.35	.20	.010	156
171	4.32	3.12	2.32	1.76	1.38	1.14	.80	.31	.33	.18	.002	171
186	4.17	2.99	2.25	1.72	1.37	1.11	.78	.33	.34	.19	.012	186
201	4.72	3.38	2.54	1.72	1.54	1.30	.88	.39	.39	.21	.028	201
216	5.04	3.76	2.70	1.94	1.70	1.44	1.00	.47	.44	.25	.044	216
231	5.3[illegible]	4.00	2.85	2.09	1.82	1.52	1.05	.49	.47	.26	.052	231
246	5.35	3.95	2.75	2.05	1.77	1.52	1.00	.48	.45	.25	.050	246
261	5.36	4.02	2.79	2.17	1.86	1.59	1.07	.54	.51	.29	.078	261
276	6.59	4.84	3.41	2.66	2.24	1.92	1.29	.67	.59	.33	.104	276
291	5.85	4.15	2.91	2.10	1.84	1.57	1.02	.50	.46	.25	.060	291
306	3.06	2.12	1.56	1.27	1.05	.85	.55	.21	.27	.12	.000	306
321	4.06	2.94	2.13	1.65	1.31	1.15	.74	.33	.35	.18	.026	321
336	4.77	3.49	2.49	1.78	1.58	1.38	.89	.42	.41	.21	.046	336
351	5.16	3.87	2.73	1.98	1.76	1.52	.99	.48	.46	.25	.058	351

TABLE 58 - Continued

FLIGHT 49, LANDING APPROACH AND FLARE

(SEE FIG. 11, t = 3.6 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.55 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
6	4.48	2.51	1.96	1.52	1.03	.46	.071	4.23	2.10	1.38	1.20	.93	.48	.113	6
21	4.69	2.59	2.01	1.56	1.06	.44	.060	3.51	1.75	1.16	1.02	.81	.43	.103	21
36	4.43	2.29	1.83	1.40	.92	.36	.044	2.86	1.39	.93	.83	.66	.36	.091	36
51	3.57	1.71	1.36	1.16	.69	.29	.044	2.84	1.40	.93	.83	.66	.37	.101	51
66	2.81	1.37	1.13	1.04	.59	.27	.046	2.73	1.40	.95	.86	.69	.37	.103	66
81	3.95	2.66	2.04	1.68	1.15	.50	.085	2.98	1.48	.99	.89	.70	.38	.096	81
96	4.86	2.93	2.25	1.74	1.18	.48	.080	3.30	1.66	1.10	.96	.75	.39	.097	96
111	4.54	2.24	1.82	1.40	.90	.38	.073	2.76	1.37	.94	.86	.69	.37	.095	111
126	3.96	2.00	1.66	1.29	.82	.36	.073	2.59	1.30	.89	.81	.66	.35	.096	126
141	3.95	2.09	1.73	1.34	.86	.37	.066	2.73	1.31	.89	.80	.64	.34	.088	141
156	3.84	2.03	1.68	1.29	.85	.35	.064	2.62	1.28	.86	.78	.62	.32	.087	156
171	3.53	1.84	1.54	1.19	.78	.32	.058	2.58	1.26	.86	.78	.61	.32	.090	171
186	3.40	1.84	1.52	1.18	.78	.34	.064	2.63	1.29	.87	.79	.63	.34	.092	186
201	3.70	2.04	1.67	1.29	.88	.38	.076	2.63	1.29	.87	.79	.63	.34	.092	201
216	4.07	2.21	1.76	1.36	.94	.42	.080	2.52	1.28	.87	.80	.64	.35	.088	216
231	4.17	2.23	1.75	1.35	.93	.42	.082	2.65	1.30	.89	.81	.64	.35	.078	231
246	4.07	2.21	1.73	1.34	.92	.42	.082	2.75	1.34	.90	.81	.63	.35	.081	246
261	4.29	2.43	1.86	1.46	1.02	.48	.096	2.59	1.26	.89	.83	.67	.38	.090	261
276	5.04	2.94	2.18	1.71	1.21	.55	.096	2.38	1.21	.85	.77	.60	.35	.088	276
291	3.79	1.54	1.31	1.03	.71	.38	.058	1.44	.66	.46	.46	.38	.24	.054	291
306	3.31	1.72	1.35	1.05	.68	.30	.041	2.06	.99	.69	.64	.51	.30	.064	306
321	3.29	1.78	1.43	1.11	.73	.33	.055	2.30	1.11	.75	.69	.54	.30	.067	321
336	3.60	2.02	1.58	1.25	.85	.39	.066	2.93	1.45	.96	.85	.66	.38	.086	336
351	4.02	2.31	1.78	1.41	.98	.45	.087	3.86	1.89	1.26	1.10	.85	.43	.105	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40 x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	r/R = 0.25 x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	ψ_{nom}, deg
6	2.14	1.11	.65	.35	.106	1.10	.50	.30	.20	.089	6
21	1.46	.82	.49	.31	.094	1.21	.56	.32	.17	.058	21
36	1.47	.78	.47	.28	.088	1.11	.56	.34	.18	.040	36
51	1.68	.91	.55	.33	.116	1.06	.51	.31	.16	.039	51
66	1.54	.82	.48	.28	.086	1.00	.47	.28	.15	.029	66
81	1.49	.79	.47	.29	.102	.81	.39	.24	.14	.030	81
96	1.49	.79	.46	.28	.092	.89	.43	.25	.14	.033	96
111	1.52	.81	.47	.29	.095	.97	.47	.28	.15	.036	111
126	1.46	.77	.45	.27	.088	.93	.44	.25	.14	.030	126
141	1.33	.72	.41	.25	.086	.86	.40	.24	.14	.036	141
156	1.34	.71	.41	.25	.087	.81	.37	.23	.14	.039	156
171	1.32	.71	.40	.26	.087	.76	.37	.22	.14	.035	171
186	1.28	.70	.40	.25	.086	.72	.35	.21	.13	.035	186
201	1.21	.67	.38	.25	.080	.66	.32	.19	.12	.030	201
216	1.15	.66	.38	.24	.078	.62	.30	.19	.12	.032	216
231	1.19	.66	.39	.25	.076	.59	.28	.18	.12	.023	231
246	1.21	.67	.39	.25	.080	.58	.28	.18	.12	.021	246
261	1.15	.64	.37	.24	.080	.71	.31	.19	.12	.021	261
276	1.54	.82	.48	.28	.090	.70	.34	.20	.12	.021	276
291	1.00	.57	.31	.23	.070	.69	.32	.20	.12	.020	291
306	.99	.55	.31	.21	.074	.80	.37	.22	.13	.023	306
321	1.07	.60	.35	.25	.086	.66	.42	.31	.14	.040	321
336	1.46	.80	.49	.31	.106	.57	.43	.37	.26	.056	336
351	2.05	1.07	.64	.36	.114	.57	.36	.29	.32	.071	351

TABLE 58 - Continued

FLIGHT 49, LANDING APPROACH AND FLARE

(SEE FIG. 11, t = 3.6 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	5.19	10.13	14.80	16.57	17.55	17.03	16.84
21	5.25	7.62	12.64	16.91	17.06	16.73	16.52
36	5.15	7.33	10.30	15.01	14.43	13.20	12.60
51	4.77	8.57	10.39	11.62	9.75	7.28	6.82
66	4.37	7.56	10.48	9.76	8.65	8.16	16.01
81	3.76	7.48	10.94	17.31	20.66	23.57	23.71
96	4.01	7.37	11.80	18.67	20.42	20.92	21.23
111	4.39	7.55	10.40	15.14	16.71	17.99	19.51
126	4.06	7.17	9.89	13.74	15.10	16.19	17.40
141	3.86	6.62	9.85	14.15	15.64	16.16	16.77
156	3.69	6.62	9.51	13.72	15.03	15.17	14.95
171	3.59	6.61	9.41	12.53	13.45	13.58	13.50
186	3.43	6.50	9.70	12.55	13.23	13.51	13.39
201	3.12	6.19	9.69	13.93	15.01	15.05	14.37
216	3.01	6.07	9.63	15.05	16.56	16.48	15.61
231	2.84	6.14	9.79	15.06	17.52	17.20	18.20
246	2.82	6.25	9.91	14.89	17.05	17.40	19.26
261	3.13	5.98	10.01	16.35	17.97	18.29	19.80
276	3.24	7.57	9.33	19.20	21.74	21.81	20.92
291	3.14	5.29	5.67	12.01	17.90	20.28	23.56
306	3.53	5.12	7.75	11.37	9.67	6.87	6.91
321	3.90	5.78	8.36	12.00	12.90	13.15	13.73
336	4.67	7.68	10.57	13.60	15.33	15.75	16.43
351	4.67	9.94	13.41	15.51	16.90	16.92	16.79

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.290		0	4.635		0	3.434	
1	2.146	-1.697	1	.351	-.816	1	-.216	-.022
2	-.689	1.212	2	.306	-.053	2	.001	.000
3	-.088	.190	3	-.098	-.053	3	.000	-.028
4	.181	.172	4	-.037	.057	4	.000	.018
5	.044	.000	5	.122	.208	5	.005	.020
6	-.012	.015	6	-.016	.078	6	-.008	-.003
7	-.035	-.018	7	-.024	.008	7	-.008	-.003
8	.023	.020	8	-.037	.037	8	.012	-.011
9	.000	.020	9	-.008	.000	9	-.008	.000
10	.006	-.009	10	-.024	.008	10	-.008	.007

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

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TABLE 58 - Continued

FLIGHT 49, LANDING APPROACH AND FLARE

(SEE FIG. 11, t = 3.6 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.899		.75	0	14.444		.95	0	16.451	
.25	1	.776	.548	.75	1	.115	.014	.95	1	-.634	-.165
.25	2	.345	-.078	.75	2	-.549	.597	.95	2	-2.826	.150
.25	3	.171	.095	.75	3	1.767	-.265	.95	3	2.133	-.951
.25	4	.031	.067	.75	4	1.702	-.039	.95	4	2.595	-1.008
.25	5	-.134	-.024	.75	5	.317	.322	.95	5	1.433	-.286
.25	6	-.031	-.031	.75	6	-1.363	.731	.95	6	-.993	.543
.25	7	.060	.051	.75	7	-.249	.005	.95	7	-1.782	1.082
.25	8	.004	.039	.75	8	.533	-.499	.95	8	-.464	1.031
.25	9	-.049	.031	.75	9	.151	-.368	.95	9	.730	-.150
.25	10	.027	.008	.75	10	-.272	.268	.95	10	.841	-.974
.40	0	7.047		.85	0	15.677					
.40	1	.898	.689	.85	1	-.441	-.631				
.40	2	.502	.148	.85	2	-1.275	.246				
.40	3	.597	-.109	.85	3	2.228	-.559				
.40	4	.490	-.417	.85	4	2.420	-.186				
.40	5	.052	-.515	.85	5	.967	.219				
.40	6	.007	-.369	.85	6	-1.855	.584				
.40	7	.156	-.014	.85	7	-1.134	.213				
.40	8	.287	-.066	.85	8	.418	-.143				
.40	9	.132	-.175	.85	9	.799	-.375				
.40	10	-.085	.059	.85	10	.286	.021				
.55	0	10.177		.90	0	15.778					
.55	1	.909	.941	.90	1	-.869	-.431				
.55	2	.951	.534	.90	2	-1.803	-.108				
.55	3	1.241	-.511	.90	3	2.451	-.929				
.55	4	.775	-.595	.90	4	3.006	-.437				
.55	5	.130	-.090	.90	5	1.193	.097				
.55	6	.115	.201	.90	6	-2.015	.809				
.55	7	.338	-.080	.90	7	-1.764	.578				
.55	8	.325	-.177	.90	8	.105	.104				
.55	9	-.130	-.034	.90	9	1.229	-.434				
.55	10	-.224	.159	.90	10	.772	-.291				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^0\right) + M_n \sin n \left(\psi_{nom} - 6^0\right) \right]$$

TABLE 58 - Concluded

FLIGHT 49, LANDING APPROACH AND FLARE

(SEE FIG. 11, t = 3.6 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	198	124	-886	-2731	-6498	-7850		
21	-1728	-2549	-3101	-3160	-2344	-2915		
36	-1683	-2030	-1157	-966	-3356	-5184		
51	3516	1427	-235	-1672	-3462	-4895		
66	1008	1205	1112	-79	-3629	-5721		
81	-30	-594	-1962	-2292	-1455	-796		
96	-1489	-1733	-976	-21	50	-895		
111	1794	1518	1275	570	-1675	-3323		
126	4895	2797	1772	503	-2291	-4159		
141	859	198	606	341	-1244	-2636		
156	-315	-1799	-1926	-1557	-478	-338		
171	16	-635	-1202	-2015	-2969	-3014		
186	2558	660	-479	-1252	-3259	-5442		
201	1464	1361	913	-489	-4218	-6975		
216	1988	239	-949	-1624	-2573	-3791		
231	-326	-718	-678	-689	-1297	-1582		
246	985	264	45	236	261	-228		
261	2182	2450	2712	2011	-813	-2288		
276	3516	2690	2341	2154	639	-1801		
291	825	974	1003	1372	824	-378		
306	-1409	-776	-253	-842	-1226	-89		
321	1008	-1988	-2938	-1767	-74	329		
336	-2378	495	1139	-107	-4192	-6805		
351	4291	1518	-1293	-3255	-5098	-7154		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-6364	-6170	1739	
21	-6217	-5975	4075	
36	-6120	-7017	4043	
51	-4719	-4819	1579	
66	-6478	-7586	5755	
81	-1968	-3598	2315	
96	-698	-7993	2763	
111	-3287	-6284	2107	
126	-1154	-7017	3067	
141	2297	-2784	3691	
156	1027	-1595	7483	
171	1418	-3093	6331	
186	2314	-2882	2075	
201	-2554	-7473	5211	
216	-1284	-4168	2027	
231	-1724	-6886	2651	
246	-5989	-7375	2651	
261	-6315	-9801	1003	
276	-7113	-9540	539	
291	-9001	-7424	2715	
306	-7861	-7375	3243	
321	-7796	-6659	3163	
336	-9864	-7733	3675	
351	-11280	-7847	4171	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	1227	710	116
21	1512	674	162
36	765	344	55
51	515	-44	75
66	1187	230	121
81	1409	837	144
96	1445	402	108
111	971	292	86
126	1475	236	117
141	1363	532	121
156	972	217	69
171	704	18	17
186	655	-26	-3
201	784	-227	-1
216	649	37	4
231	980	71	15
246	379	-191	-28
261	408	-345	-28
276	573	-190	11
291	806	12	46
306	634	125	37
321	-95	-482	-26
336	-110	-185	-43
351	534	-98	26

TABLE 59

FLIGHT 49, LANDING APPROACH AND FLARE

(SEE FIG. 11, t = 13.1 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	Δp, lb/sq in., at - r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
6	5.95	3.86	2.97	1.96	1.05	.51	.076	6.97	3.58	2.62	2.25	1.40	.55	.037	6
21	5.47	3.70	2.90	1.88	.96	.48	.061	6.45	3.31	2.48	2.16	1.32	.51	.018	21
36	4.91	3.44	2.77	1.76	.83	.43	.042	5.87	3.01	2.28	1.99	1.19	.44	-.018	36
51	2.99	2.35	2.07	1.18	.41	.28	.004	3.73	1.88	1.44	1.41	.74	.26	-.074	51
66	.33	.76	1.05	.34	-.01	.18	-.006	1.41	.61	.66	.70	.33	.10	-.107	66
81	6.72	4.67	3.65	2.34	1.19	.56	.076	4.30	2.12	1.91	1.89	1.09	.44	-.009	81
96	9.19	5.80	4.37	2.91	1.64	.72	.104	9.94	5.25	4.02	3.33	2.14	.77	.085	96
111	7.68	4.95	3.71	2.48	1.29	.60	.077	8.37	4.26	3.14	2.70	1.64	.61	.020	111
126	5.89	3.90	3.03	1.91	.91	.43	.044	5.81	2.95	2.26	2.00	1.15	.42	-.020	126
141	4.95	3.43	2.77	1.76	.86	.46	.072	5.24	2.64	2.04	1.92	1.10	.46	.002	141
156	5.66	3.81	2.98	1.96	1.02	.51	.080	5.81	3.00	2.31	2.11	1.23	.53	.020	156
171	5.51	3.68	2.81	1.83	.91	.43	.048	5.98	3.04	2.32	2.05	1.18	.45	-.011	171
186	4.71	3.21	2.51	1.64	.79	.42	.052	4.82	2.38	1.91	1.74	.98	.37	-.024	186
201	4.72	3.18	2.48	1.67	.83	.45	.072	4.75	2.43	1.86	1.78	1.03	.45	.006	201
216	5.39	3.56	2.70	1.81	.96	.48	.076	5.67	2.90	2.23	2.00	1.19	.51	.026	216
231	5.74	3.74	2.91	1.93	1.04	.52	.097	6.08	3.11	2.35	2.10	1.27	.54	.050	231
246	5.96	3.85	2.90	1.95	1.07	.53	.101	5.88	3.03	2.27	2.01	1.26	.52	.039	246
261	5.75	3.69	2.81	1.88	1.02	.51	.089	6.28	3.25	2.37	2.09	1.27	.53	.048	261
276	6.35	4.09	3.10	2.12	1.23	.66	.143	7.26	3.82	2.79	2.43	1.54	.67	.105	276
291	8.06	4.79	3.45	2.49	1.53	.74	.177	8.66	4.18	3.07	2.55	1.69	.67	.120	291
306	4.17	2.70	2.13	1.40	.70	.39	.076	2.77	1.46	1.21	1.25	.73	.29	.006	306
321	2.45	1.77	1.66	.93	.41	.32	.064	3.70	1.83	1.46	1.35	.80	.32	-.009	321
336	6.27	3.98	3.03	2.00	1.10	.54	.092	6.33	3.28	2.44	2.12	1.32	.55	.046	336
351	7.10	4.43	3.27	2.19	1.23	.57	.081	7.36	3.82	2.80	2.39	1.49	.58	.057	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
6	7.46	5.39	3.81	2.89	2.45	2.04	1.34	.67	.60	.32	.086	6
21	7.08	5.28	3.65	2.77	2.37	1.97	1.30	.62	.57	.28	.070	21
36	6.31	4.73	3.28	2.41	2.12	1.74	1.13	.50	.47	.23	.044	36
51	4.50	3.32	2.37	1.83	1.46	1.21	.80	.29	.34	.15	.000	51
66	2.78	1.95	1.58	1.17	1.01	.76	.49	.12	.21	.09	-.024	66
81	2.10	1.48	1.24	.97	.85	.79	.49	.17	.26	.13	-.004	81
96	10.16	7.77	5.25	4.09	3.49	2.86	1.94	.98	.81	.42	.142	96
111	9.57	6.39	4.42	3.42	2.90	2.34	1.55	.75	.62	.32	.068	111
126	5.85	4.31	3.03	2.22	1.94	1.58	1.03	.46	.42	.21	.018	126
141	4.96	3.68	2.63	1.93	1.70	1.44	.99	.45	.44	.24	.048	141
156	5.80	4.34	3.08	2.29	1.99	1.68	1.13	.55	.52	.28	.056	156
171	6.09	4.53	3.19	2.34	2.03	1.66	1.10	.47	.45	.24	.026	171
186	4.77	3.49	2.57	1.73	1.54	1.31	.89	.35	.37	.18	.002	186
201	4.54	3.28	2.40	1.82	1.50	1.27	.89	.42	.42	.23	.034	201
216	5.65	4.19	2.94	2.15	1.86	1.57	1.06	.51	.47	.27	.050	216
231	5.83	4.33	3.05	2.31	2.01	1.68	1.12	.59	.52	.31	.076	231
246	5.85	4.31	3.03	2.29	1.96	1.66	1.11	.53	.49	.27	.054	246
261	6.39	4.71	3.34	2.51	2.17	1.82	1.21	.61	.54	.31	.084	261
276	7.93	5.49	3.99	3.08	2.59	2.19	1.45	.77	.68	.39	.122	276
291	6.01	4.02	2.85	2.04	1.83	1.58	1.06	.59	.55	.32	.098	291
306	2.49	1.75	1.37	1.13	.94	.81	.57	.25	.29	.16	.022	306
321	4.29	3.06	2.21	1.67	1.38	1.19	.77	.33	.35	.19	.030	321
336	6.11	4.59	3.14	2.39	2.06	1.74	1.14	.57	.53	.30	.076	336
351	7.31	5.27	3.74	2.89	2.45	2.04	1.36	.69	.62	.33	.094	351

TABLE 59 - Continued

FLIGHT 49, LANDING APPROACH AND FLARE

(SEE FIG. 11, t = 13.1 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	5.54	3.22	2.37	1.84	1.31	.58	.101	3.70	1.85	1.22	1.06	.82	.45	.109	6
21	5.98	3.21	2.40	1.85	1.30	.55	.092	4.23	2.08	1.38	1.18	.92	.46	.106	21
36	5.61	2.86	2.17	1.68	1.15	.47	.076	3.84	1.91	1.25	1.08	.85	.43	.103	36
51	4.63	2.14	1.73	1.33	.85	.37	.060	3.29	1.62	1.08	.96	.76	.40	.095	51
66	3.72	1.77	1.42	1.18	.71	.31	.055	3.07	1.52	1.02	.91	.73	.39	.104	66
81	3.22	1.63	1.28	1.13	.66	.29	.046	2.92	1.43	.95	.86	.69	.37	.104	81
96	3.55	2.48	1.85	1.61	1.13	.54	.107	2.73	1.35	.90	.82	.65	.35	.098	96
111	5.28	3.61	2.73	2.08	1.45	.59	.092	3.02	1.46	.98	.86	.67	.35	.091	111
126	5.09	2.46	1.95	1.50	1.00	.43	.064	2.50	1.23	.85	.78	.64	.35	.094	126
141	4.24	2.10	1.73	1.36	.91	.42	.082	2.92	1.46	.99	.90	.71	.40	.115	141
156	4.30	2.45	1.95	1.54	1.04	.48	.085	3.03	1.51	1.02	.90	.71	.38	.106	156
171	4.69	2.49	1.94	1.48	1.00	.40	.066	2.87	1.39	.94	.85	.66	.33	.082	171
186	4.03	1.90	1.58	1.20	.76	.32	.050	2.54	1.24	.84	.77	.61	.33	.090	186
201	3.60	1.91	1.57	1.23	.80	.39	.080	2.51	1.25	.86	.79	.63	.36	.104	201
216	3.95	2.23	1.77	1.38	.93	.44	.099	2.76	1.39	.95	.86	.68	.38	.104	216
231	4.34	2.45	1.88	1.46	1.02	.47	.087	3.01	1.50	1.03	.93	.74	.42	.099	231
246	4.87	2.79	2.07	1.60	1.09	.46	.080	1.84	.89	.64	.74	.59	.34	.071	246
261	5.24	2.85	2.12	1.63	1.13	.49	.092	1.16	.54	.40	.39	.33	.22	.049	261
276	5.13	2.65	2.04	1.60	1.17	.55	.112	1.51	.74	.51	.50	.41	.26	.067	276
291	3.54	1.41	1.16	1.00	.69	.37	.082	2.18	1.07	.75	.69	.55	.33	.078	291
306	3.44	1.89	1.51	1.16	.77	.36	.058	2.56	1.26	.85	.77	.62	.33	.072	306
321	3.75	2.07	1.61	1.24	.83	.36	.066	2.50	1.20	.82	.74	.59	.32	.064	321
336	4.21	2.40	1.85	1.43	.98	.46	.094	2.69	1.34	.90	.81	.63	.37	.084	336
351	4.99	3.00	2.25	1.74	1.24	.56	.115	3.23	1.62	1.10	.96	.75	.43	.104	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.91	1.00	.59	.34	.113	.96	.48	.33	.17	.067	6
21	1.88	1.02	.61	.35	.112	.76	.45	.38	.24	.067	21
36	2.13	1.10	.65	.35	.104	1.05	.46	.25	.15	.064	36
51	1.66	.89	.53	.31	.095	.97	.43	.28	.18	.035	51
66	1.53	.80	.46	.28	.089	.81	.38	.22	.12	.026	66
81	1.19	.66	.40	.26	.093	.57	.27	.16	.10	.023	81
96	1.62	.86	.50	.29	.100	.54	.26	.17	.12	.032	96
111	1.30	.71	.41	.25	.083	.69	.34	.22	.14	.029	111
126	1.19	.63	.34	.22	.076	.84	.35	.21	.12	.025	126
141	1.12	.64	.38	.27	.088	.76	.35	.20	.11	.023	141
156	1.40	.74	.43	.26	.085	.76	.35	.21	.13	.036	156
171	1.45	.76	.43	.25	.080	.75	.34	.21	.13	.035	171
186	1.44	.76	.44	.27	.090	.92	.42	.25	.15	.043	186
201	1.51	.81	.47	.28	.092	.83	.40	.25	.15	.036	201
216	1.51	.82	.48	.28	.088	.71	.35	.22	.14	.028	216
231	1.53	.84	.50	.30	.094	.74	.37	.24	.15	.033	231
246	1.34	.73	.40	.25	.072	.53	.25	.16	.12	.023	246
261	.67	.41	.22	.18	.058	.41	.17	.11	.09	.019	261
276	.72	.42	.24	.19	.067	.35	.14	.09	.08	.013	276
291	.84	.49	.28	.21	.070	.30	.12	.07	.07	.007	291
306	.95	.53	.30	.20	.065	.37	.16	.10	.09	.013	306
321	1.09	.62	.36	.24	.078	.58	.27	.17	.12	.019	321
336	1.24	.69	.40	.26	.085	.86	.42	.26	.15	.038	336
351	1.35	.76	.46	.29	.093	.96	.46	.28	.15	.027	351

TABLE 59 - Continued

FLIGHT 49, LANDING APPROACH AND FLARE

(SEE FIG. 11, t = 13.1 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	4.80	9.30	13.17	20.81	23.42	22.88	21.49
21	4.99	9.42	14.57	20.94	22.43	21.36	20.27
36	4.52	10.10	13.35	18.76	19.63	19.16	18.44
51	4.46	8.26	11.80	14.63	13.86	11.86	11.91
66	3.57	7.46	11.24	12.14	8.75	4.49	3.84
81	2.65	6.30	10.62	11.06	7.98	15.94	25.07
96	2.75	7.95	10.01	16.69	32.67	33.85	32.29
111	3.40	6.57	10.56	22.31	27.34	26.94	26.91
126	3.49	5.77	9.56	16.63	17.89	18.78	20.56
141	3.27	6.15	11.03	14.84	16.35	17.71	18.86
156	3.43	6.88	11.10	16.57	19.08	20.01	21.16
171	3.43	6.92	10.17	16.23	18.89	19.44	19.65
186	4.11	7.08	9.36	12.95	14.94	15.81	17.42
201	3.96	7.48	9.68	13.29	14.84	16.47	17.75
216	3.49	7.50	10.47	15.16	18.01	19.34	19.74
231	3.69	7.78	11.42	16.35	19.12	20.65	21.18
246	2.64	6.57	7.99	17.71	18.73	20.09	21.67
261	1.97	3.82	4.87	18.51	20.70	20.98	20.78
276	1.63	4.09	6.18	18.51	25.22	25.14	24.05
291	1.40	4.66	8.44	11.36	18.70	27.67	28.56
306	1.79	4.92	9.41	12.66	9.09	10.57	15.28
321	2.76	5.77	9.02	13.58	13.40	12.51	10.41
336	4.05	6.43	9.97	15.93	19.71	21.44	22.39
351	4.33	7.17	11.92	19.55	23.42	24.35	24.66

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	16.454		0	4.888		0	6.376	
1	2.467	-.902	1	.816	-.628	1	-.420	-.131
2	-.815	.748	2	.534	.384	2	.008	.005
3	-.470	.219	3	.163	-.106	3	.066	-.011
4	.146	.347	4	.212	.061	4	-.026	-.003
5	.166	-.067	5	-.131	.461	5	-.050	.051
6	-.020	-.038	6	.057	-.008	6	.000	-.003
7	-.038	-.044	7	.082	.029	7	.000	.003
8	.000	.003	8	-.106	.020	8	-.015	.004
9	.023	.029	9	.020	-.012	9	-.016	-.014
10	.009	.026	10	.024	.008	10	-.018	-.024

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 59 - Continued

FLIGHT 49, LANDING APPROACH AND FLARE

(SEE FIG. 11, t = 13.1 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.358		.75	0	16.131		.95	0	20.179	
.25	1	.287	.595	.75	1	.780	.257	.95	1	-.940	-.214
.25	2	1.071	.324	.75	2	.671	.120	.95	2	-1.973	-1.479
.25	3	.297	-.133	.75	3	3.357	.527	.95	3	3.404	-1.246
.25	4	-.109	.071	.75	4	1.117	.245	.95	4	4.430	.599
.25	5	-.174	-.086	.75	5	-1.025	.591	.95	5	1.067	1.392
.25	6	.044	-.091	.75	6	-.726	-.684	.95	6	-3.151	-1.644
.25	7	-.015	.073	.75	7	1.112	.311	.95	7	-2.303	-1.582
.25	8	.078	.127	.75	8	-.086	.121	.95	8	-.481	-.120
.25	9	-.054	-.016	.75	9	-.458	-.484	.95	9	1.126	.548
.25	10	.017	.114	.75	10	-.305	-.164	.95	10	.766	.788
.40	0	6.848		.85	0	18.505					
.40	1	.535	1.015	.85	1	.117	.179				
.40	2	1.315	.964	.85	2	-.361	-.711				
.40	3	.271	-.177	.85	3	4.729	-.254				
.40	4	-.098	.352	.85	4	3.769	.771				
.40	5	.119	.503	.85	5	-1.211	1.042				
.40	6	-.153	-.202	.85	6	-3.459	-2.136				
.40	7	-.058	-.143	.85	7	.735	-.452				
.40	8	.201	.215	.85	8	1.366	1.009				
.40	9	.092	-.041	.85	9	-.186	.823				
.40	10	-.077	-.136	.85	10	-1.063	-.617				
.55	0	10.245		.90	0	19.476					
.55	1	1.091	1.573	.90	1	-.441	-.550				
.55	2	1.663	.425	.90	2	-1.323	-1.351				
.55	3	.333	-.124	.90	3	4.229	-.733				
.55	4	-.473	.589	.90	4	4.548	.979				
.55	5	.852	.522	.90	5	.194	1.276				
.55	6	-.030	-.378	.90	6	-3.860	-2.161				
.55	7	-.211	.041	.90	7	-1.183	-1.106				
.55	8	.003	.229	.90	8	.574	.715				
.55	9	-.213	-.154	.90	9	.918	.987				
.55	10	-.048	-.010	.90	10	.107	-.238				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o\right) + M_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 59 - Concluded

FLIGHT 49, LANDING APPROACH AND FLARE

(SEE FIG. 11, t = 13.1 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	1938	470	-1229	-3317	-7469	-10669		
21	-2816	-4175	-4945	-4681	-3562	-3395		
36	-2371	-3284	-3960	-3317	-1670	-1206		
51	3454	2467	1700	480	-2646	-4619		
66	5723	4884	4430	2541	-2655	-6380		
81	2234	2228	2396	1062	-3060	-5644		
96	707	-2021	-4412	-4901	29	4963		
111	-4708	-4521	-1654	1901	4059	2615		
126	3055	4026	4348	3552	-499	-4738		
141	11035	8877	5713	1396	-4679	-7057		
156	1060	660	1519	2083	469	-1664		
171	-4515	-4859	-3950	-1791	2977	4266		
186	216	-1163	-2495	-4061	-3535	-1067		
201	4822	1667	859	41	-4072	-7813		
216	1721	2690	3191	1491	-4767	-10002		
231	3739	553	-2007	-3594	-3438	-2977		
246	-2303	-3226	-2992	-1581	-191	863		
261	-1619	-701	154	1816	3786	1908		
276	4412	5759	6292	4668	196	-3087		
291	7319	5907	5162	4325	1578	87		
306	-2246	668	2983	3523	3417	5192		
321	0	-2731	-2640	-245	5230	7659		
336	-867	998	1781	766	-2875	-5485		
351	4389	3077	1031	-1676	-6994	-11684		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-77	195	3861	
21	-2226	-3858	3189	
36	-8706	-11298	3173	
51	-1673	-9035	-5019	
66	-7371	-9963	5381	
81	-1819	-977	8821	
96	7949	3516	6901	
111	2365	-4510	6373	
126	-3138	-8987	-395	
141	-1038	-14799	-2971	
156	3993	-3093	-1227	
171	3097	-586	12149	
186	4953	5389	12021	
201	1632	1335	9461	
216	-4847	-8482	6869	
231	818	-6121	-6139	
246	-2519	-14196	-2123	
261	-6247	-8775	21	
276	-9731	-9296	3621	
291	-10692	-9101	2341	
306	-7012	-10208	-2667	
321	-7957	-12422	2693	
336	-6980	-1579	4069	
351	-9341	-4542	12453	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	692	624	45
21	1238	711	127
36	1312	414	107
51	538	89	55
66	804	-383	101
81	1191	620	121
96	1828	1149	198
111	1662	911	116
126	343	-196	-1
141	1094	-389	50
156	2216	1168	187
171	1471	631	78
186	-318	-241	-84
201	472	-658	-51
216	686	-271	10
231	1480	640	94
246	1161	291	14
261	-556	-804	-143
276	-406	-918	-105
291	459	-426	50
306	1146	183	87
321	347	-425	-22
336	-352	-301	-55
351	570	-341	43

TABLE 60

FLIGHT 50, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(SEE FIG. 12, t = 8.3 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	Δp, lb/sq in., at - r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
6	5.94	3.84	3.07	2.06	1.01	.50	.075	5.95	2.96	2.35	2.08	1.24	.51	.006	6
21	6.54	4.15	3.30	2.20	1.08	.51	.081	6.15	3.11	2.44	2.16	1.27	.53	.011	21
36	6.66	4.24	3.35	2.27	1.16	.54	.083	6.61	3.37	2.61	2.28	1.34	.55	.011	36
51	6.89	4.42	3.53	2.30	1.13	.53	.073	6.49	3.33	2.59	2.28	1.33	.55	.004	51
66	7.10	4.57	3.60	2.39	1.19	.55	.081	6.45	3.29	2.59	2.28	1.33	.54	-.004	66
81	7.19	4.56	3.58	2.36	1.18	.54	.077	6.02	3.08	2.46	2.19	1.27	.52	-.002	81
96	7.89	4.84	3.72	2.48	1.24	.56	.081	5.57	2.90	2.34	2.08	1.24	.52	-.006	96
111	9.11	5.48	4.15	2.81	1.50	.66	.115	5.32	2.88	2.35	2.12	1.29	.53	.000	111
126	9.63	5.63	4.36	2.99	1.63	.71	.127	4.59	2.65	2.30	2.12	1.32	.55	-.026	126
141	9.67	5.53	4.27	2.92	1.57	.65	.101	5.42	3.08	2.65	2.42	1.51	.67	.059	141
156	9.59	5.60	4.21	2.88	1.56	.66	.113	7.72	4.11	3.21	2.78	1.74	.75	.074	156
171	9.46	5.60	4.21	2.87	1.58	.68	.117	8.08	4.26	3.30	2.86	1.79	.78	.085	171
186	9.37	5.52	4.10	2.83	1.57	.68	.119	8.15	4.33	3.35	2.87	1.82	.79	.089	186
201	9.44	5.51	4.06	2.85	1.58	.70	.129	8.39	4.42	3.40	2.90	1.84	.78	.093	201
216	9.51	5.52	4.07	2.86	1.60	.70	.129	8.44	4.41	3.37	2.90	1.84	.80	.098	216
231	9.76	5.59	4.12	2.89	1.63	.72	.139	8.83	4.55	3.46	2.93	1.87	.81	.107	231
246	10.23	5.66	4.21	2.97	1.70	.74	.145	9.04	4.58	3.48	2.94	1.89	.81	.109	246
261	10.51	5.62	4.28	3.03	1.74	.75	.151	9.19	4.67	3.55	3.02	1.93	.84	.104	261
276	10.77	5.57	4.28	3.07	1.75	.73	.151	8.65	4.46	3.44	2.96	1.89	.82	.109	276
291	10.90	5.61	4.31	3.07	1.75	.70	.137	5.57	3.36	2.90	2.67	1.75	.84	.142	291
306	10.88	5.66	4.33	3.10	1.79	.75	.149	4.29	2.56	2.28	2.16	1.33	.49	-.104	306
321	10.82	5.66	4.33	3.09	1.78	.77	.155	5.86	3.04	2.49	2.19	1.39	.61	.024	321
336	9.53	5.35	4.25	3.02	1.75	.73	.143	7.30	3.90	3.08	2.63	1.61	.69	.061	336
351	5.93	3.87	3.14	2.10	1.04	.51	.071	6.68	3.42	2.61	2.25	1.33	.53	.000	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
6	5.80	4.37	3.09	2.27	2.03	1.58	1.13	.54	.46	.26	.080	6
21	5.99	4.53	3.24	2.35	2.09	1.63	1.17	.57	.48	.28	.090	21
36	6.38	4.84	3.41	2.51	2.24	1.75	1.25	.61	.51	.29	.094	36
51	6.41	4.89	3.44	2.53	2.25	1.74	1.25	.59	.50	.28	.084	51
66	6.10	4.66	3.29	2.41	2.17	1.67	1.23	.56	.48	.27	.076	66
81	5.62	4.28	3.10	2.20	2.00	1.53	1.13	.52	.44	.25	.064	81
96	5.12	3.91	2.84	1.98	1.83	1.41	1.05	.48	.42	.23	.056	96
111	4.99	3.76	2.75	1.91	1.76	1.35	1.01	.46	.41	.23	.058	111
126	4.75	3.53	2.62	1.80	1.66	1.27	.99	.44	.40	.23	.056	126
141	4.67	3.45	2.57	1.83	1.66	1.27	.98	.46	.41	.24	.068	141
156	4.69	3.51	2.64	1.93	1.77	1.34	1.04	.51	.47	.28	.080	156
171	5.01	3.73	2.73	2.01	1.84	1.38	1.06	.52	.48	.28	.076	171
186	6.63	4.84	3.39	2.50	2.19	1.60	1.14	.51	.47	.27	.048	186
201	7.74	5.37	3.79	2.84	2.44	1.79	1.24	.58	.52	.30	.080	201
216	8.22	5.58	3.89	2.92	2.50	1.86	1.28	.60	.55	.31	.084	216
231	7.18	4.77	3.50	2.64	2.27	1.68	1.20	.58	.52	.30	.098	231
246	5.30	3.88	2.80	2.10	1.88	1.45	1.09	.54	.46	.24	-.002	246
261	5.05	3.75	2.81	2.07	1.91	1.46	1.12	.58	.53	.31	.082	261
276	5.42	4.10	2.98	2.19	1.97	1.52	1.14	.57	.52	.31	.098	276
291	4.95	3.68	2.69	1.96	1.78	1.37	1.05	.51	.45	.27	.078	291
306	4.73	3.48	2.55	1.86	1.67	1.30	.98	.47	.41	.26	.068	306
321	5.10	3.79	2.75	1.99	1.82	1.42	1.05	.52	.45	.27	.078	321
336	7.21	5.37	3.79	2.87	2.50	1.94	1.38	.70	.59	.34	.106	336
351	5.78	4.30	3.05	2.26	2.01	1.56	1.13	.55	.46	.26	.076	351

TABLE 60 - Continued

FLIGHT 50, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(SEE FIG. 12, t = 8.3 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	4.32	2.27	1.83	1.42	.92	.42	.097	2.38	1.21	.84	.67	.54	.32	.092	6
21	4.49	2.34	1.89	1.47	.97	.44	.101	2.47	1.25	.86	.69	.56	.33	.095	21
36	4.76	2.51	2.00	1.56	1.03	.47	.111	2.59	1.34	.91	.74	.59	.34	.102	36
51	4.99	2.59	2.06	1.60	1.04	.46	.106	2.72	1.42	.96	.76	.61	.34	.102	51
66	4.90	2.50	2.02	1.57	1.01	.45	.099	2.76	1.42	.96	.77	.61	.35	.103	66
81	4.71	2.37	1.94	1.51	.95	.42	.092	2.77	1.43	.97	.78	.62	.34	.103	81
96	4.39	2.17	1.82	1.42	.89	.39	.087	2.77	1.43	.97	.77	.62	.36	.108	96
111	4.20	2.12	1.80	1.39	.90	.39	.085	2.66	1.37	.94	.75	.60	.33	.106	111
126	4.16	2.10	1.79	1.36	.88	.37	.081	2.36	1.25	.83	.66	.54	.31	.102	126
141	3.90	1.96	1.69	1.30	.83	.34	.076	2.19	1.19	.77	.62	.51	.29	.094	141
156	3.59	1.79	1.53	1.19	.77	.32	.069	2.13	1.15	.75	.59	.48	.29	.094	156
171	3.49	1.84	1.53	1.21	.78	.32	.076	1.99	1.07	.70	.56	.47	.28	.093	171
186	3.36	1.77	1.48	1.15	.75	.32	.076	1.98	1.07	.70	.55	.46	.27	.087	186
201	3.23	1.71	1.40	1.12	.73	.31	.073	1.91	1.03	.67	.53	.44	.27	.085	201
216	3.08	1.64	1.31	1.07	.70	.30	.071	1.89	1.02	.66	.53	.44	.26	.082	216
231	2.85	1.55	1.20	1.03	.66	.30	.073	1.65	.88	.57	.46	.39	.25	.078	231
246	2.95	1.59	1.29	1.05	.67	.30	.073	1.72	.92	.60	.49	.40	.25	.078	246
261	3.20	1.73	1.41	1.14	.74	.33	.081	1.78	.96	.63	.50	.42	.26	.077	261
276	3.40	1.79	1.53	1.19	.82	.35	.083	1.86	1.00	.65	.53	.43	.26	.075	276
291	3.67	1.88	1.59	1.23	.83	.36	.081	1.93	1.00	.68	.54	.45	.27	.075	291
306	3.76	1.91	1.60	1.24	.83	.37	.085	1.95	1.03	.69	.56	.45	.26	.078	306
321	3.96	2.09	1.71	1.32	.87	.39	.087	1.99	1.02	.71	.57	.46	.29	.080	321
336	4.43	2.56	2.00	1.57	1.06	.47	.117	2.17	1.10	.76	.61	.49	.29	.082	336
351	4.30	2.13	1.73	1.34	.87	.40	.095	2.32	1.17	.81	.64	.52	.29	.084	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.01	.50	.33	.18	.056	.44	.21	.14	.07	.017	6
21	1.05	.51	.34	.19	.063	.44	.21	.14	.07	.015	21
36	1.09	.53	.35	.20	.065	.46	.22	.15	.08	.022	36
51	1.16	.57	.37	.21	.068	.48	.24	.16	.08	.020	51
66	1.21	.59	.39	.21	.071	.51	.25	.17	.08	.022	66
81	1.21	.59	.39	.21	.070	.52	.25	.17	.08	.022	81
96	1.17	.57	.37	.20	.067	.50	.24	.16	.07	.019	96
111	1.06	.52	.34	.19	.063	.45	.22	.14	.07	.023	111
126	1.05	.51	.33	.19	.062	.42	.20	.14	.07	.020	126
141	.98	.48	.31	.18	.061	.43	.21	.14	.07	.024	141
156	.96	.47	.31	.18	.058	.42	.21	.14	.06	.019	156
171	.91	.45	.29	.17	.054	.43	.21	.14	.07	.025	171
186	.91	.45	.29	.17	.052	.43	.21	.14	.07	.023	186
201	.85	.42	.27	.16	.048	.40	.20	.13	.06	.019	201
216	.80	.40	.26	.16	.046	.35	.16	.12	.06	.018	216
231	.74	.36	.24	.14	.043	.29	.13	.09	.05	.012	231
246	.72	.35	.24	.14	.043	.25	.11	.08	.04	.009	246
261	.72	.35	.24	.15	.044	.24	.11	.08	.04	.007	261
276	.76	.37	.24	.15	.044	.27	.13	.09	.04	.006	276
291	.80	.39	.26	.16	.047	.28	.13	.09	.05	.006	291
306	.81	.40	.26	.16	.047	.30	.14	.10	.05	.010	306
321	.85	.43	.28	.17	.052	.32	.15	.11	.06	.007	321
336	.93	.47	.31	.17	.054	.37	.18	.12	.06	.011	336
351	1.01	.50	.33	.18	.056	.42	.21	.14	.07	.010	351

TABLE 60 - Continued

FLIGHT 50, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(SEE FIG. 12, t = 8.3 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	2.02	4.92	8.85	15.42	18.86	19.95	21.48
21	2.05	5.16	9.14	16.02	19.57	20.75	23.08
36	2.19	5.33	9.66	17.06	20.85	22.09	23.83
51	2.29	5.62	9.97	17.45	20.78	21.83	24.31
66	2.41	5.81	10.12	16.95	20.02	21.69	25.20
81	2.41	5.82	10.10	16.14	18.48	20.55	25.06
96	2.27	5.58	10.21	15.00	17.09	19.57	26.57
111	2.10	5.17	9.77	14.78	16.53	19.70	30.68
126	1.96	5.06	8.89	14.50	15.84	18.89	32.39
141	2.01	4.79	8.28	13.62	15.80	22.41	31.49
156	1.96	4.71	8.06	12.51	16.64	27.66	31.51
171	2.03	4.45	7.63	12.60	17.28	28.69	31.59
186	2.04	4.48	7.55	12.16	20.04	29.11	31.22
201	1.89	4.17	7.30	11.74	22.58	29.53	31.35
216	1.65	3.99	7.18	11.20	23.49	29.62	31.56
231	1.34	3.67	6.43	10.63	21.41	30.43	32.14
246	1.14	3.60	6.64	10.96	17.36	30.75	33.12
261	1.11	3.64	6.92	11.95	18.03	31.36	33.59
276	1.21	3.76	7.08	12.75	18.74	30.32	33.72
291	1.29	3.95	7.29	13.25	16.87	25.37	33.67
306	1.37	4.04	7.36	13.46	15.87	18.05	34.18
321	1.51	4.26	7.59	14.31	17.14	21.36	34.24
336	1.75	4.59	8.04	17.06	23.33	26.03	32.42
351	1.98	4.95	8.47	14.72	18.74	21.97	21.78

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.226		0	4.178		0	7.942	
1	.937	.196	1	.000	-.273	1	-.128	.012
2	.029	-.012	2	.114	.057	2	-.019	.004
3	.000	-.026	3	.008	.069	3	.015	-.026
4	.003	-.023	4	-.012	.020	4	-.001	.003
5	-.009	-.023	5	-.057	-.004	5	.005	-.005
6	-.009	.003	6	-.004	.029	6	-.003	-.001
7	-.003	.000	7	-.012	.004	7	-.005	.003
8	.000	-.020	8	-.016	-.004	8	-.004	-.001
9	.000	-.003	9	.012	-.008	9	-.003	-.005
10	-.003	.006	10	.008	-.016	10	-.008	-.007

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 60 - Continued

FLIGHT 50, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(SEE FIG. 12, t = 8.3 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	1.833		.75	0	14.009		.95	0	29.590	
.25	1	.396	.514	.75	1	2.244	1.618	.95	1	-3.432	-3.173
.25	2	.151	.037	.75	2	-.007	-.063	.95	2	-1.961	-2.178
.25	3	-.108	-.052	.75	3	-.365	.073	.95	3	-.741	.022
.25	4	.050	-.021	.75	4	-.162	-.064	.95	4	-1.325	.469
.25	5	.017	-.038	.75	5	-.364	-.329	.95	5	-1.113	.244
.25	6	-.009	-.004	.75	6	-.178	.028	.95	6	-.167	.387
.25	7	-.011	-.008	.75	7	-.183	.201	.95	7	-.039	.755
.25	8	.003	-.010	.75	8	-.092	.118	.95	8	-.194	.510
.25	9	-.008	-.001	.75	9	.081	.231	.95	9	.139	.270
.25	10	.000	-.013	.75	10	.143	.130	.95	10	.234	.245
.40	0	4.646		.85	0	18.805					
.40	1	.398	.875	.85	1	.242	-.540				
.40	2	.021	.054	.85	2	1.486	1.881				
.40	3	-.114	-.056	.85	3	-.503	-1.027				
.40	4	.041	-.050	.85	4	-.255	.124				
.40	5	.024	-.053	.85	5	-.291	-.957				
.40	6	-.003	.002	.85	6	-1.012	.001				
.40	7	-.027	-.012	.85	7	-.268	.476				
.40	8	-.012	-.006	.85	8	-.073	.313				
.40	9	-.009	.004	.85	9	-.141	.253				
.40	10	-.001	.009	.85	10	.294	.431				
.55	0	8.272		.90	0	24.485					
.55	1	.765	1.455	.90	1	-3.763	-3.550				
.55	2	-.188	.147	.90	2	.886	1.952				
.55	3	-.106	-.078	.90	3	.020	.808				
.55	4	.147	.042	.90	4	.373	-1.783				
.55	5	-.043	-.043	.90	5	-.692	-.626				
.55	6	-.067	-.021	.90	6	-1.403	-.169				
.55	7	.066	-.050	.90	7	-.335	.472				
.55	8	-.028	.011	.90	8	-.113	.741				
.55	9	-.003	.027	.90	9	.104	.000				
.55	10	.034	-.032	.90	10	.312	.000				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 60 - Concluded

FLIGHT 50, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(SEE FIG. 12, t = 8.3 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	439	1766	2016	1178	-665	-1454		
21	2081	1180	796	511	-920	-2181		
36	86	479	931	511	-1448	-3086		
51	804	91	-217	-692	-1149	-1613		
66	587	223	533	291	-1290	-2280		
81	1442	1163	1022	568	-243	-1325		
96	1556	1691	1907	1340	-515	-1156		
111	1967	1370	1428	1178	514	78		
126	1100	908	1130	1054	884	874		
141	1180	743	1184	1312	945	1202		
156	2195	1130	1067	988	1051	1521		
171	1271	1304	1935	1913	1236	1362		
186	2104	1172	1329	1617	2116	2695		
201	1306	1213	1808	1961	1993	2775		
216	1830	1279	1609	1865	2415	3381		
231	1579	1502	2115	2314	2301	2824		
246	1648	1609	2170	2314	2389	3003		
261	1534	1460	2016	2190	2274	3202		
276	1135	1238	1916	2266	2705	3391		
291	1306	1477	2152	2371	1940	2446		
306	1659	1955	2332	2104	1253	1501		
321	1294	1337	1645	1674	1641	1561		
336	131	710	1492	1646	1183	1332		
351	1032	833	967	1312	1077	406		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-7491	-9019	1599	
21	-6872	-7766	2031	
36	-5277	-7082	3295	
51	-3665	-5633	3135	
66	-3681	-6642	3215	
81	-3649	-6854	1791	
96	-3779	-8319	2031	
111	-2330	-6789	1599	
126	-1842	-5779	2927	
141	-572	-5828	3071	
156	63	-4982	1695	
171	-1370	-7375	2287	
186	-1239	-6903	367	
201	-425	-8287	-1	
216	-2200	-7163	927	
231	-2835	-7277	1743	
246	-2607	-6903	815	
261	-4170	-8368	815	
276	-4740	-9296	-129	
291	-4626	-9394	-689	
306	-6514	-8954	1087	
321	-6368	-7766	1791	
336	-5651	-7277	1775	
351	-7442	-8514	2511	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	-153	220	27
21	-210	34	36
36	146	411	57
51	222	472	81
66	257	452	85
81	253	415	99
96	365	407	97
111	257	389	94
126	300	404	89
141	364	470	88
156	164	294	88
171	267	319	70
186	122	222	68
201	179	236	53
216	-13	95	39
231	-18	117	21
246	-50	118	22
261	12	177	19
276	93	206	29
291	1	189	19
306	-169	77	9
321	5	241	29
336	151	455	44
351	186	292	65

TABLE 61

FLIGHT 50, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(SEE FIG. 12, t = 12.8 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95							Δp, lb/sq in., at - r/R = 0.90							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	6.02	3.82	3.02	2.06	1.04	.50	.079	6.09	3.04	2.36	2.04	1.23	.52	.015	6
21	5.56	3.59	3.01	1.93	.93	.47	.067	5.95	2.97	2.32	2.04	1.19	.49	.004	21
36	5.63	3.68	3.11	2.00	.94	.47	.063	5.84	2.96	2.32	2.05	1.19	.48	-.011	36
51	5.72	3.78	3.21	2.04	.96	.48	.063	5.81	2.92	2.34	2.08	1.20	.49	-.013	51
66	6.18	4.07	3.40	2.15	1.03	.50	.069	5.89	3.00	2.39	2.12	1.21	.49	-.020	66
81	7.05	4.49	3.55	2.35	1.17	.54	.077	5.56	2.90	2.31	2.06	1.20	.49	-.021	81
96	8.30	5.15	3.93	2.63	1.36	.60	.087	4.54	2.47	2.07	1.90	1.13	.49	-.013	96
111	9.36	5.67	4.37	2.91	1.54	.66	.107	3.71	2.15	1.90	1.87	1.13	.55	.018	111
126	9.39	5.53	4.21	2.82	1.47	.61	.079	5.91	3.20	2.65	2.39	1.46	.63	.033	126
141	9.24	5.55	4.21	2.84	1.53	.65	.105	6.47	3.55	2.93	2.66	1.63	.73	.072	141
156	9.06	5.43	4.12	2.81	1.53	.66	.109	6.27	3.64	3.00	2.73	1.68	.78	.102	156
171	8.85	5.36	4.11	2.82	1.54	.69	.121	7.97	4.32	3.23	2.78	1.69	.69	.059	171
186	8.73	5.26	3.97	2.78	1.54	.70	.133	9.35	4.59	3.33	2.77	1.68	.62	.035	186
201	8.71	5.20	3.88	2.75	1.54	.70	.133	9.56	4.55	3.29	2.72	1.65	.63	.041	201
216	8.85	5.20	3.85	2.75	1.55	.70	.139	8.88	4.37	3.22	2.71	1.66	.65	.048	216
231	9.32	5.39	3.93	2.81	1.59	.70	.139	7.72	4.06	3.13	2.74	1.70	.75	.083	231
246	9.55	5.43	3.97	2.83	1.61	.71	.143	8.15	4.24	3.26	2.82	1.81	.80	.115	246
261	10.12	5.51	4.01	2.86	1.64	.70	.145	7.81	4.09	3.18	2.74	1.77	.79	.111	261
276	10.66	5.53	4.03	2.88	1.64	.69	.143	6.66	3.49	2.85	2.48	1.62	.75	.100	276
291	10.84	5.51	4.04	2.89	1.67	.69	.147	4.48	2.56	2.21	2.09	1.36	.65	.069	291
306	9.69	5.30	3.90	2.78	1.60	.71	.139	6.31	3.24	2.55	2.20	1.37	.58	.035	306
321	8.42	4.77	3.52	2.49	1.38	.63	.119	6.51	3.31	2.53	2.20	1.35	.57	.037	321
336	7.52	4.43	3.33	2.35	1.27	.59	.101	6.65	3.34	2.56	2.20	1.33	.56	.035	336
351	7.21	4.31	3.27	2.29	1.21	.56	.095	6.63	3.33	2.56	2.21	1.33	.56	.030	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85											ψ_{nom}, deg
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	6.04	4.53	3.16	2.35	2.08	1.63	1.14	.56	.48	.27	.080	6
21	5.99	4.53	3.14	2.33	2.08	1.62	1.14	.54	.46	.26	.080	21
36	5.96	4.50	3.14	2.31	2.07	1.61	1.13	.54	.46	.26	.072	36
51	5.87	4.47	3.14	2.28	2.05	1.58	1.12	.52	.44	.25	.068	51
66	5.74	4.39	3.14	2.23	2.02	1.55	1.13	.51	.43	.24	.056	66
81	5.24	4.00	2.92	2.00	1.88	1.42	1.06	.47	.39	.22	.046	81
96	4.67	3.53	2.57	1.88	1.63	1.24	.95	.40	.36	.19	.032	96
111	4.25	3.16	2.36	1.76	1.52	1.10	.87	.36	.33	.18	.028	111
126	4.50	3.35	2.49	1.78	1.58	1.19	.93	.42	.38	.22	.050	126
141	5.20	3.90	2.87	2.04	1.85	1.38	1.03	.47	.43	.24	.060	141
156	5.61	4.21	3.06	2.20	1.98	1.50	1.10	.50	.45	.25	.064	156
171	5.52	4.16	3.05	2.25	2.04	1.57	1.16	.57	.49	.28	.082	171
186	5.56	4.21	3.10	2.30	2.07	1.63	1.21	.61	.53	.31	.092	186
201	5.37	4.02	2.96	2.19	2.00	1.55	1.18	.59	.52	.31	.092	201
216	5.72	4.25	3.09	2.32	2.08	1.64	1.21	.62	.54	.32	.098	216
231	6.63	4.81	3.46	2.65	2.31	1.79	1.30	.66	.56	.33	.106	231
246	6.29	4.55	3.28	2.49	2.18	1.67	1.21	.61	.53	.31	.092	246
261	5.26	3.88	2.84	2.12	1.90	1.45	1.09	.56	.49	.29	.076	261
276	4.88	3.61	2.60	1.91	1.73	1.35	1.02	.52	.46	.27	.080	276
291	4.79	3.53	2.54	1.83	1.67	1.30	.97	.48	.42	.24	.068	291
306	5.31	3.91	2.79	2.08	1.85	1.46	1.06	.53	.45	.26	.072	306
321	5.83	4.32	3.02	2.26	2.00	1.56	1.12	.56	.47	.27	.074	321
336	6.15	4.59	3.21	2.40	2.11	1.66	1.17	.59	.49	.28	.082	336
351	6.26	4.70	3.28	2.46	2.17	1.69	1.19	.60	.49	.29	.082	351

TABLE 61 - Continued

FLIGHT 50, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(SEE FIG. 12, t = 12.8 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75							Δp, lb/sq in., at - r/R = 0.55							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	4.79	2.50	1.96	1.51	1.01	.45	.109	2.64	1.36	.93	.74	.59	.34	.096	6
21	4.78	2.46	1.95	1.52	1.01	.45	.103	2.71	1.40	.96	.76	.60	.35	.099	21
36	4.84	2.52	1.99	1.54	1.01	.45	.109	2.74	1.42	.96	.77	.61	.36	.101	36
51	4.79	2.48	1.99	1.55	1.00	.44	.103	2.88	1.49	1.01	.80	.63	.36	.107	51
66	4.74	2.44	1.98	1.54	.99	.43	.101	2.87	1.48	1.01	.80	.64	.35	.105	66
81	4.50	2.24	1.88	1.45	.91	.40	.092	2.73	1.40	.95	.75	.60	.33	.102	81
96	4.09	2.03	1.73	1.34	.83	.35	.083	2.45	1.30	.86	.68	.55	.32	.102	96
111	3.76	1.91	1.64	1.27	.81	.33	.081	2.35	1.26	.83	.65	.54	.30	.099	111
126	3.58	1.86	1.58	1.24	.79	.33	.076	2.21	1.18	.77	.61	.50	.29	.097	126
141	3.55	1.88	1.57	1.23	.80	.33	.078	2.10	1.13	.74	.59	.48	.28	.093	141
156	3.59	1.92	1.60	1.24	.82	.33	.083	2.01	1.08	.72	.56	.47	.28	.092	156
171	3.56	1.91	1.59	1.23	.82	.34	.087	2.00	1.07	.71	.56	.46	.27	.091	171
186	3.43	1.86	1.54	1.21	.81	.35	.095	1.97	1.07	.70	.55	.46	.27	.086	186
201	3.34	1.79	1.49	1.17	.77	.35	.092	1.86	1.01	.66	.53	.43	.25	.081	201
216	3.33	1.79	1.49	1.16	.78	.35	.090	1.72	.93	.61	.49	.41	.25	.078	216
231	3.38	1.77	1.48	1.16	.79	.35	.090	1.71	.92	.61	.49	.40	.24	.075	231
246	3.43	1.78	1.49	1.16	.78	.35	.085	1.75	.95	.63	.50	.40	.25	.071	246
261	3.51	1.79	1.52	1.18	.80	.35	.085	1.82	.95	.64	.51	.41	.25	.070	261
276	3.56	1.80	1.53	1.18	.81	.36	.085	1.88	.97	.66	.53	.43	.26	.072	276
291	3.72	1.88	1.57	1.22	.82	.37	.087	1.94	.98	.68	.54	.43	.27	.072	291
306	3.96	2.05	1.67	1.29	.87	.39	.090	2.03	1.03	.71	.57	.45	.28	.075	306
321	4.23	2.19	1.76	1.36	.92	.41	.099	2.18	1.12	.77	.61	.48	.28	.078	321
336	4.50	2.35	1.86	1.44	.95	.43	.103	2.31	1.20	.82	.65	.52	.30	.085	336
351	4.74	2.48	1.95	1.50	1.00	.45	.111	2.51	1.31	.89	.71	.56	.34	.090	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40					Δp, lb/sq in., at - r/R = 0.25					ψ_{nom}, deg
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.14	.57	.37	.20	.065	.49	.24	.16	.08	.018	6
21	1.22	.60	.39	.21	.068	.52	.26	.17	.08	.019	21
36	1.24	.61	.40	.21	.072	.53	.26	.17	.08	.020	36
51	1.27	.62	.40	.21	.070	.53	.26	.17	.08	.018	51
66	1.25	.61	.40	.21	.072	.55	.27	.18	.08	.023	66
81	1.22	.59	.38	.20	.068	.54	.26	.17	.08	.022	81
96	1.11	.54	.35	.20	.066	.50	.25	.16	.07	.022	96
111	1.04	.50	.33	.19	.065	.45	.22	.14	.07	.020	111
126	.97	.47	.31	.18	.063	.43	.21	.14	.07	.020	126
141	.95	.46	.30	.18	.060	.43	.21	.13	.07	.022	141
156	.93	.45	.30	.17	.058	.43	.21	.14	.06	.020	156
171	.91	.45	.30	.17	.052	.44	.22	.14	.07	.023	171
186	.88	.43	.29	.16	.052	.43	.21	.14	.07	.022	186
201	.79	.39	.26	.15	.046	.37	.18	.13	.06	.022	201
216	.71	.35	.24	.15	.046	.29	.14	.10	.05	.010	216
231	.68	.33	.22	.14	.040	.24	.11	.08	.04	.007	231
246	.65	.32	.22	.14	.039	.20	.09	.07	.04	.005	246
261	.68	.33	.22	.14	.041	.19	.09	.07	.03	.004	261
276	.72	.35	.23	.14	.041	.20	.09	.07	.03	.003	276
291	.75	.37	.25	.15	.044	.22	.10	.07	.04	.002	291
306	.80	.40	.26	.15	.045	.27	.12	.09	.05	.003	306
321	.89	.44	.29	.16	.050	.33	.15	.10	.05	.009	321
336	.97	.49	.32	.18	.054	.39	.19	.13	.06	.012	336
351	1.07	.53	.35	.19	.061	.44	.21	.15	.07	.012	351

TABLE 61 - Continued

FLIGHT 50, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(SEE FIG. 12, t = 12.8 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	2.31	5.54	9.71	16.79	19.35	20.18	21.56
21	2.47	5.87	9.97	16.71	19.15	19.66	20.24
36	2.50	6.00	10.09	16.93	19.09	19.46	20.62
51	2.48	6.07	10.51	16.76	18.80	19.46	21.06
66	2.54	5.99	10.45	16.49	18.59	19.74	22.49
81	2.46	5.77	9.85	15.43	17.17	19.20	24.78
96	2.32	5.36	9.11	13.99	15.22	17.24	28.32
111	2.08	5.05	8.75	13.23	13.95	16.37	31.61
126	2.00	4.77	8.30	12.82	14.99	22.39	30.50
141	1.98	4.66	7.92	12.85	17.17	25.13	30.92
156	1.98	4.54	7.70	13.11	18.33	25.74	30.63
171	2.06	4.48	7.58	13.14	18.89	27.65	30.61
186	2.02	4.31	7.52	12.91	19.45	28.64	30.25
201	1.79	3.90	7.07	12.51	18.83	28.58	29.97
216	1.36	3.60	6.72	12.54	19.65	27.93	30.12
231	1.13	3.41	6.60	12.54	21.64	27.37	30.98
246	.97	3.31	6.70	12.57	20.44	28.93	31.44
261	.90	3.41	6.86	12.74	17.87	28.11	32.11
276	.92	3.56	7.07	12.89	16.59	25.08	32.46
291	1.00	3.74	7.18	13.31	15.89	19.58	32.69
306	1.24	3.94	7.52	14.19	17.44	21.89	31.21
321	1.51	4.36	8.00	15.04	18.70	21.97	27.57
336	1.81	4.78	8.53	15.91	19.71	22.03	25.44
351	2.05	5.26	9.31	16.74	20.08	22.02	24.56

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.290		0	4.162		0	8.058	
1	1.288	-.435	1	.078	-.359	1	-.105	.008
2	.023	-.018	2	.090	.094	2	.039	.028
3	-.032	.018	3	.045	-.008	3	-.034	-.023
4	.006	-.009	4	.016	.045	4	-.019	.014
5	.006	.006	5	.000	-.016	5	.011	.004
6	.000	-.009	6	.024	-.004	6	-.016	-.003
7	.012	.023	7	-.016	.008	7	.005	.000
8	.003	.018	8	.000	-.020	8	.001	-.003
9	.009	-.003	9	.012	-.037	9	-.007	-.005
10	-.009	.003	10	.004	-.029	10	-.009	-.003

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 61 - Continued

FLIGHT 50, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(SEE FIG. 12, t = 12.8 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	1.828		.75	0	14.256		.95	0	28.005	
.25	1	.243	.674	.75	1	2.128	.686	.95	1	-4.315	-2.365
.25	2	.268	.053	.75	2	.653	.338	.95	2	-2.255	-2.000
.25	3	-.084	-.015	.75	3	-.197	.044	.95	3	.183	-.122
.25	4	.057	-.024	.75	4	-.083	-.280	.95	4	.342	.354
.25	5	-.010	.006	.75	5	.038	-.041	.95	5	-.068	.081
.25	6	.016	.026	.75	6	.034	-.037	.95	6	-.012	-.494
.25	7	-.012	.001	.75	7	.012	.013	.95	7	.054	-.263
.25	8	.006	.005	.75	8	-.035	-.049	.95	8	-.115	.001
.25	9	-.002	.001	.75	9	-.036	-.040	.95	9	-.257	-.094
.25	10	-.010	.002	.75	10	.020	-.023	.95	10	.025	-.108
.40	0	4.654		.85	0	18.208					
.40	1	.754	.987	.85	1	.147	-.994				
.40	2	.228	.119	.85	2	1.674	1.082				
.40	3	-.089	.057	.85	3	.035	-.202				
.40	4	.046	-.047	.85	4	-.743	-.872				
.40	5	-.006	-.013	.85	5	.167	.246				
.40	6	.001	-.003	.85	6	.139	-.031				
.40	7	-.015	.013	.85	7	-.253	.016				
.40	8	.006	-.004	.85	8	.158	-.020				
.40	9	-.013	-.002	.85	9	-.153	-.105				
.40	10	.004	-.006	.85	10	-.066	.030				
.55	0	8.292		.90	0	23.097					
.55	1	1.248	1.220	.90	1	-3.933	-2.805				
.55	2	.183	.276	.90	2	1.692	.681				
.55	3	-.111	.066	.90	3	.233	.498				
.55	4	.054	-.099	.90	4	-.522	-1.267				
.55	5	-.018	-.085	.90	5	-.349	-.471				
.55	6	.082	-.022	.90	6	.358	.849				
.55	7	.025	.017	.90	7	-.110	-.022				
.55	8	.011	.009	.90	8	.036	-.580				
.55	9	-.019	-.016	.90	9	-.029	-.017				
.55	10	-.002	.001	.90	10	-.422	.101				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 61 - Concluded

FLIGHT 50, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(SEE FIG. 12, t = 12.8 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	694	380	262	-194	-1515	-2543		
21	454	248	136	-375	-1656	-2911		
36	990	569	398	-165	-1982	-3538		
51	1457	842	597	-22	-1753	-3080		
66	933	809	967	465	-1084	-2194		
81	1321	734	832	550	-362	-1110		
96	1321	941	967	646	-195	-334		
111	1423	883	967	789	254	363		
126	1435	932	1094	1027	606	950		
141	1731	1031	1293	1457	1345	1617		
156	1663	1361	1889	1896	1442	1597		
171	2176	1444	1754	1791	1653	1995		
186	1571	1205	1772	1924	1908	2223		
201	1503	1130	1609	1915	1978	2233		
216	1868	1361	1745	1752	1494	1875		
231	1651	1403	1754	1819	1521	1766		
246	1321	1345	1935	2134	1917	2074		
261	1503	1592	2152	2220	1996	2422		
276	1628	1708	2260	2334	2242	2811		
291	1001	1700	2522	2649	2401	2681		
306	1161	1642	2305	2296	1908	2064		
321	1184	1312	1808	1838	1389	1059		
336	659	1196	1609	1333	254	-592		
351	933	850	886	455	-873	-1995		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-4532	-6545	3135	
21	-4158	-6854	2831	
36	-3783	-6854	2575	
51	-2953	-6593	2431	
66	-2806	-6121	3391	
81	-2253	-5438	3583	
96	-1520	-5356	3071	
111	-967	-5942	2607	
126	-120	-6398	1615	
141	596	-6463	1279	
156	-6	-6170	2095	
171	-120	-5796	2719	
186	108	-5551	2255	
201	-967	-6300	2207	
216	-2074	-7082	1503	
231	-2888	-7945	447	
246	-3913	-8856	239	
261	-4174	-8921	47	
276	-5346	-8677	447	
291	-7267	-8824	1567	
306	-7767	-8970	1231	
321	-7169	-8873	1503	
336	-6958	-7945	2431	
351	-6193	-7407	3167	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	24	259	54
21	59	252	66
36	145	341	76
51	287	416	100
66	399	499	109
81	363	489	108
96	344	475	98
111	356	439	91
126	414	437	96
141	326	376	83
156	212	242	74
171	255	279	67
186	209	299	54
201	41	143	26
216	-60	74	9
231	-85	52	8
246	-50	84	9
261	-117	27	5
276	-213	-18	4
291	-151	31	13
306	-69	139	25
321	-100	113	26
336	-128	180	23
351	-65	210	37

TABLE 62

FLIGHT 50, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(SEE FIG. 12, t = 15.6 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	6.47	3.98	3.20	2.14	1.12	.54	.087	6.72	3.35	2.61	2.19	1.34	.55	.029	6
21	5.81	3.74	3.09	2.01	1.01	.48	.069	6.31	3.16	2.48	2.09	1.28	.51	.006	21
36	5.51	3.67	3.10	1.98	.93	.46	.060	6.01	3.02	2.40	2.06	1.21	.49	-.004	36
51	5.32	3.60	3.08	1.96	.88	.45	.053	5.70	2.86	2.29	2.02	1.18	.46	-.021	51
66	5.30	3.63	3.14	1.99	.86	.43	.053	5.49	2.81	2.23	2.01	1.13	.45	-.030	66
81	5.83	3.93	3.36	2.09	.93	.46	.057	5.22	2.72	2.18	1.96	1.12	.44	-.044	81
96	7.25	4.70	3.65	2.37	1.12	.51	.061	4.36	2.36	1.92	1.80	1.07	.43	-.039	96
111	8.75	5.46	4.18	2.75	1.38	.59	.087	3.41	1.96	1.74	1.74	1.05	.48	-.009	111
126	9.30	5.69	4.37	2.90	1.50	.63	.093	3.45	2.04	1.94	1.93	1.18	.54	.013	126
141	9.06	5.62	4.35	2.89	1.53	.65	.103	4.59	2.93	2.60	2.50	1.51	.68	.065	141
156	8.67	5.38	4.19	2.80	1.50	.66	.105	6.97	3.98	3.07	2.78	1.68	.71	.068	156
171	8.05	5.07	4.01	2.68	1.44	.65	.115	9.13	4.53	3.29	2.72	1.63	.59	.006	171
186	7.74	4.90	3.81	2.63	1.42	.66	.121	9.71	4.69	3.40	2.80	1.70	.62	.021	186
201	7.76	4.87	3.72	2.61	1.43	.68	.131	10.13	4.80	3.49	2.86	1.73	.64	.035	201
216	7.80	4.82	3.68	2.61	1.44	.68	.137	10.47	4.89	3.57	2.90	1.78	.68	.056	216
231	7.99	4.85	3.69	2.63	1.47	.70	.141	11.05	4.93	3.61	2.90	1.81	.69	.068	231
246	8.38	4.97	3.74	2.68	1.51	.71	.147	11.62	4.94	3.61	2.89	1.83	.69	.076	246
261	8.81	5.09	3.80	2.76	1.58	.74	.155	10.90	4.62	3.43	2.78	1.79	.69	.091	261
276	9.22	5.24	3.86	2.78	1.63	.75	.164	6.92	3.51	2.68	2.27	1.51	.60	.041	276
291	9.13	5.09	3.73	2.66	1.56	.71	.149	6.04	3.11	2.44	2.10	1.34	.56	.018	291
306	8.22	4.67	3.45	2.44	1.39	.64	.129	6.02	3.04	2.39	2.06	1.30	.55	.041	306
321	7.31	4.32	3.21	2.27	1.24	.59	.109	6.31	3.17	2.46	2.06	1.28	.55	.039	321
336	6.84	4.12	3.14	2.20	1.18	.56	.103	6.58	3.31	2.53	2.19	1.33	.56	.037	336
351	6.78	4.12	3.24	2.22	1.18	.58	.105	6.88	3.49	2.65	2.25	1.37	.57	.041	351

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	6.69	5.00	3.48	2.60	2.28	1.79	1.25	.62	.51	.29	.092	6
21	6.39	4.86	3.36	2.50	2.21	1.73	1.21	.58	.48	.27	.078	21
36	6.10	4.66	3.24	2.37	2.12	1.65	1.15	.53	.45	.24	.074	36
51	5.84	4.45	3.14	2.25	2.05	1.57	1.11	.50	.43	.23	.062	51
66	5.56	4.22	3.06	2.08	1.94	1.49	1.08	.47	.40	.22	.052	66
81	5.12	3.91	2.86	2.01	1.80	1.36	1.02	.43	.37	.19	.032	81
96	4.51	3.40	2.55	2.01	1.58	1.17	.92	.36	.32	.17	.016	96
111	4.15	3.12	2.32	1.80	1.60	1.02	.83	.32	.30	.16	.012	111
126	4.25	3.19	2.34	1.79	1.61	1.07	.86	.35	.32	.18	.024	126
141	4.88	3.65	2.67	1.91	1.69	1.27	.97	.42	.38	.21	.046	141
156	5.42	4.11	3.02	2.16	1.98	1.49	1.12	.51	.43	.25	.060	156
171	5.12	3.91	2.92	2.09	1.91	1.49	1.14	.54	.48	.28	.070	171
186	4.98	3.79	2.87	2.08	1.93	1.52	1.17	.58	.52	.31	.086	186
201	4.69	3.61	2.79	2.03	1.88	1.49	1.17	.60	.53	.32	.098	201
216	4.25	3.23	2.58	1.97	1.77	1.41	1.13	.58	.52	.32	.102	216
231	3.96	3.01	2.38	1.77	1.64	1.30	1.06	.55	.50	.31	.098	231
246	4.12	3.06	2.34	1.73	1.60	1.26	1.01	.53	.48	.30	.096	246
261	4.56	3.31	2.50	1.83	1.66	1.32	1.01	.53	.47	.30	.098	261
276	4.85	3.57	2.59	1.92	1.72	1.34	1.01	.51	.45	.28	.082	276
291	5.05	3.69	2.66	1.96	1.75	1.36	1.02	.51	.43	.26	.074	291
306	5.26	3.87	2.76	2.03	1.80	1.42	1.04	.52	.44	.26	.072	306
321	5.66	4.22	2.94	2.20	1.95	1.54	1.11	.55	.46	.28	.084	321
336	6.22	4.64	3.24	2.41	2.13	1.66	1.18	.60	.50	.29	.092	336
351	6.70	5.00	3.46	2.61	2.28	1.79	1.25	.64	.53	.31	.100	351

TABLE 62 - Continued

FLIGHT 50, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(SEE FIG. 12, t = 15.6 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	5.16	2.68	2.08	1.61	1.10	.49	.115	2.79	1.46	.98	.79	.63	.36	.098	6
21	5.13	2.65	2.07	1.60	1.08	.47	.113	2.87	1.47	.99	.80	.63	.36	.098	21
36	5.00	2.56	2.03	1.57	1.05	.45	.109	2.85	1.48	.99	.80	.64	.36	.102	36
51	4.83	2.48	2.00	1.54	1.00	.43	.106	2.81	1.44	.98	.78	.62	.36	.103	51
66	4.59	2.34	1.93	1.49	.95	.41	.095	2.72	1.38	.94	.75	.60	.36	.105	66
81	4.32	2.18	1.83	1.42	.88	.37	.087	2.61	1.35	.90	.72	.58	.33	.105	81
96	3.97	1.97	1.72	1.33	.80	.35	.081	2.41	1.29	.84	.66	.54	.32	.102	96
111	3.64	1.84	1.50	1.26	.74	.32	.078	2.28	1.22	.80	.63	.52	.30	.104	111
126	3.61	1.89	1.54	1.27	.79	.33	.081	2.25	1.20	.79	.62	.51	.30	.103	126
141	3.71	1.97	1.66	1.29	.83	.34	.078	2.22	1.17	.78	.62	.51	.30	.102	141
156	3.62	1.96	1.60	1.27	.82	.34	.081	2.18	1.15	.76	.61	.49	.30	.101	156
171	3.49	1.93	1.56	1.25	.82	.35	.095	2.11	1.14	.75	.60	.49	.29	.098	171
186	3.49	2.00	1.62	1.29	.85	.38	.099	2.08	1.13	.74	.59	.48	.30	.096	186
201	3.89	2.11	1.74	1.37	.91	.40	.101	2.01	1.09	.72	.57	.47	.29	.091	201
216	4.09	2.09	1.75	1.35	.93	.39	.097	1.96	1.07	.71	.56	.46	.28	.085	216
231	3.98	2.01	1.69	1.30	.90	.39	.097	1.89	1.03	.69	.54	.44	.28	.083	231
246	3.95	1.99	1.67	1.29	.88	.39	.092	1.87	.99	.68	.54	.44	.29	.078	246
261	3.91	1.97	1.65	1.28	.88	.39	.097	1.91	.98	.69	.55	.45	.27	.074	261
276	3.86	1.95	1.62	1.25	.86	.38	.087	1.95	1.00	.70	.56	.45	.27	.074	276
291	3.85	1.94	1.61	1.25	.86	.37	.085	1.98	1.01	.71	.56	.45	.28	.072	291
306	3.90	1.97	1.63	1.26	.85	.38	.090	2.02	1.03	.72	.57	.46	.28	.072	306
321	4.14	2.15	1.73	1.33	.88	.40	.099	2.12	1.07	.75	.59	.47	.29	.078	321
336	4.51	2.40	1.89	1.45	.98	.44	.103	2.37	1.23	.84	.67	.54	.32	.088	336
351	4.91	2.61	2.02	1.57	1.07	.48	.115	2.62	1.36	.93	.74	.59	.35	.095	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.20	.59	.39	.21	.070	.50	.24	.16	.08	.013	6
21	1.25	.61	.40	.22	.069	.54	.25	.17	.08	.017	21
36	1.26	.61	.40	.21	.071	.52	.26	.17	.08	.019	36
51	1.25	.61	.40	.21	.075	.51	.25	.17	.08	.017	51
66	1.22	.59	.39	.21	.075	.53	.26	.17	.08	.015	66
81	1.17	.56	.37	.20	.070	.52	.25	.16	.07	.022	81
96	1.09	.52	.34	.19	.068	.47	.23	.15	.07	.017	96
111	1.02	.49	.32	.19	.065	.43	.21	.14	.07	.017	111
126	1.01	.49	.32	.19	.067	.42	.20	.13	.06	.016	126
141	.99	.48	.32	.18	.063	.44	.21	.14	.06	.019	141
156	1.01	.49	.32	.18	.061	.48	.23	.15	.07	.018	156
171	.99	.48	.31	.18	.058	.52	.25	.16	.07	.026	171
186	.97	.48	.31	.18	.056	.52	.25	.17	.08	.026	186
201	.90	.45	.29	.17	.054	.46	.23	.15	.07	.020	201
216	.85	.42	.27	.16	.050	.38	.19	.13	.06	.015	216
231	.77	.39	.26	.16	.047	.30	.14	.10	.04	.007	231
246	.73	.36	.24	.15	.046	.25	.11	.08	.04	.005	246
261	.71	.35	.24	.14	.040	.22	.10	.07	.03	.002	261
276	.74	.37	.24	.14	.042	.22	.10	.07	.03	.003	276
291	.77	.38	.25	.15	.043	.23	.10	.07	.04	.002	291
306	.81	.40	.26	.15	.046	.25	.11	.08	.04	.002	306
321	.89	.44	.29	.16	.052	.29	.14	.09	.05	.002	321
336	.97	.49	.32	.18	.058	.35	.17	.12	.06	.009	336
351	1.11	.55	.37	.20	.065	.44	.21	.14	.07	.012	351

TABLE 62 - Continued

FLIGHT 50, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(SEE FIG. 12, t = 15.6 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	2.31	5.84	10.31	18.07	21.23	22.13	22.93
21	2.45	6.03	10.41	17.81	20.36	20.80	21.14
36	2.46	6.01	10.45	17.32	19.43	19.88	20.39
51	2.38	6.00	10.23	16.77	18.64	18.97	19.89
66	2.44	5.86	9.96	15.95	17.84	21.45	19.83
81	2.35	5.58	9.54	14.87	16.55	17.81	21.35
96	2.15	5.26	9.01	13.65	14.61	16.05	24.96
111	1.98	4.98	8.58	12.59	13.47	14.87	29.46
126	1.87	4.97	8.50	12.88	13.92	16.25	31.21
141	2.00	4.87	8.39	13.42	15.83	21.62	31.14
156	2.14	4.87	8.22	13.25	18.11	30.79	30.21
171	2.36	4.80	8.09	13.14	18.02	27.86	28.80
186	2.40	4.74	8.03	13.63	18.26	29.15	28.07
201	2.15	4.49	7.79	14.58	17.96	30.06	28.07
216	1.80	4.17	7.56	14.74	16.95	30.97	28.04
231	1.36	3.90	7.41	14.30	15.84	31.72	28.43
246	1.13	3.72	7.34	14.12	15.57	32.22	29.25
261	.98	3.58	7.28	14.04	16.20	30.86	30.25
276	.99	3.67	7.33	13.78	16.43	23.54	31.10
291	1.02	3.81	7.44	13.69	16.65	21.01	30.07
306	1.12	3.99	7.54	13.82	17.13	20.69	27.28
321	1.30	4.36	7.87	14.68	18.34	21.11	24.87
336	1.65	4.83	8.86	16.18	19.95	21.88	23.74
351	2.04	5.47	9.73	17.55	21.37	22.75	23.92

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.326		0	4.227		0	8.008	
1	1.609	-1.781	1	1.216	-.457	1	-.188	-.068
2	.012	-.003	2	-.053	-.004	2	-.040	-.005
3	.023	.006	3	.090	-.016	3	.007	-.022
4	.029	-.032	4	-.012	.016	4	.011	.024
5	.020	-.032	5	-.012	-.037	5	.014	.009
6	.018	.020	6	-.024	.008	6	-.012	-.018
7	.000	.000	7	.000	-.024	7	-.014	.000
8	-.006	-.018	8	-.033	.012	8	.000	.007
9	.000	-.006	9	.000	-.041	9	.005	-.009
10	-.083	.000	10	.004	.004	10	-.001	-.003

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 62 - Continued

FLIGHT 50, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(SEE FIG. 12, t = 15.6 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	1.867		.75	0	14.785		.95	0	26.432	
.25	1	.055	.597	.75	1	1.760	.062	.95	1	-4.006	-1.901
.25	2	.385	.135	.75	2	1.122	.860	.95	2	-1.300	-2.194
.25	3	-.099	-.002	.75	3	.257	.000	.95	3	1.349	.718
.25	4	.099	-.017	.75	4	-.001	-.121	.95	4	.358	.599
.25	5	.018	-.005	.75	5	.187	-.262	.95	5	-.015	-.402
.25	6	.006	.007	.75	6	-.038	.114	.95	6	.011	-.312
.25	7	-.010	.002	.75	7	-.012	-.084	.95	7	.084	-.071
.25	8	-.007	-.001	.75	8	.003	-.013	.95	8	-.011	.037
.25	9	-.009	.002	.75	9	.023	.036	.95	9	.019	-.106
.25	10	.000	-.016	.75	10	-.018	-.006	.95	10	.026	-.039
.40	0	4.824		.85	0	17.443					
.40	1	.560	.864	.85	1	1.638	-.423				
.40	2	.397	.160	.85	2	2.193	.141				
.40	3	-.017	.044	.85	3	-.391	.332				
.40	4	.044	-.019	.85	4	.226	-.558				
.40	5	.032	-.032	.85	5	.260	-.212				
.40	6	.025	-.006	.85	6	-.128	.105				
.40	7	-.011	-.001	.85	7	.069	-.096				
.40	8	.005	.001	.85	8	-.046	.025				
.40	9	.007	-.006	.85	9	-.028	-.078				
.40	10	-.011	.003	.85	10	.049	.040				
.55	0	8.579		.90	0	23.518					
.55	1	1.017	.983	.90	1	-4.379	-4.169				
.55	2	.469	.322	.90	2	2.734	2.282				
.55	3	.101	.102	.90	3	.286	.609				
.55	4	.034	-.054	.90	4	-.551	-2.245				
.55	5	.050	-.069	.90	5	.511	.357				
.55	6	.021	-.016	.90	6	-.103	.424				
.55	7	-.042	-.019	.90	7	.679	-.410				
.55	8	-.006	-.007	.90	8	-.481	.435				
.55	9	.005	.007	.90	9	-.399	-.277				
.55	10	.009	.007	.90	10	.291	.132				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o\right) + M_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 62 - Concluded

FLIGHT 50, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(SEE FIG. 12, t = 15.6 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	694	635	560	26	-1550	-2850		
21	934	487	208	-374	-1946	-3427		
36	740	569	443	-231	-2113	-3666		
51	1082	677	416	-126	-1550	-2920		
66	1048	743	768	322	-1136	-2253		
81	1242	866	895	570	-529	-1408		
96	1287	1015	1031	656	-467	-1039		
111	1378	817	805	494	-388	-552		
126	1116	479	542	389	87	354		
141	1230	520	741	789	677	1010		
156	1675	1139	1410	1390	1081	1179		
171	2097	1601	1980	1925	1354	1189		
186	1926	1312	1853	1982	1803	1767		
201	1504	949	1555	1848	1865	2005		
216	1675	1007	1365	1591	1407	1508		
231	1937	1378	1609	1591	853	791		
246	1766	1493	1808	1629	809	553		
261	1424	1337	1709	1734	1222	1179		
276	1458	1312	1690	1848	1724	1906		
291	1458	1667	2152	2163	1882	2174		
306	1572	1856	2495	2526	1856	1577		
321	1356	1823	2296	2163	1196	622		
336	991	1238	1546	1362	333	-452		
351	626	635	741	494	-661	-1636		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-6686	-7912	2253	
21	-6425	-7798	2429	
36	-5302	-7326	2429	
51	-4488	-6838	2925	
66	-3413	-6349	3293	
81	-2339	-5633	3309	
96	-1948	-5438	3613	
111	-760	-5128	3165	
126	1064	-5503	2253	
141	2398	-5682	1565	
156	1829	-5307	2285	
171	1568	-4917	3261	
186	1617	-4330	3069	
201	1324	-5242	3021	
216	608	-5551	2013	
231	-825	-6886	1661	
246	-2388	-6984	1293	
261	-3381	-7814	1085	
276	-4162	-8580	589	
291	-6302	-8873	621	
306	-7793	-9426	1741	
321	-8314	-8173	2253	
336	-7956	-7993	3213	
351	-7125	-7375	2877	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	180	410	92
21	215	404	100
36	155	404	88
51	169	388	90
66	318	454	105
81	436	549	117
96	398	532	107
111	324	472	96
126	432	501	96
141	540	539	94
156	449	435	67
171	281	269	39
186	164	225	28
201	174	204	20
216	86	176	17
231	56	138	12
246	-42	105	9
261	-71	49	6
276	-86	32	9
291	-121	42	14
306	-199	-11	9
321	-337	-23	12
336	-298	e	26
351	-85	191	66

TABLE 63

FLIGHT 50, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(SEE FIG. 12, t = 18.4 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95							Δp, lb/sq in., at - r/R = 0.90							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	6.40	4.03	3.27	2.17	1.11	.53	.077	7.03	3.56	2.69	2.28	1.41	.56	.020	6
21	5.96	3.93	3.24	2.09	1.01	.48	.056	6.65	3.38	2.60	2.20	1.35	.52	-.004	21
36	5.46	3.72	3.16	2.00	.93	.45	.048	6.13	3.15	2.43	2.11	1.24	.48	-.021	36
51	5.05	3.55	3.08	1.96	.82	.42	.037	5.49	2.83	2.25	2.04	1.13	.44	-.039	51
66	5.36	3.73	3.24	2.03	.83	.43	.041	5.25	2.74	2.18	1.98	1.09	.43	-.054	66
81	6.53	4.36	3.53	2.21	.95	.45	.048	4.59	2.43	1.99	1.82	1.05	.41	-.061	81
96	8.42	5.36	4.13	2.65	1.27	.53	.057	3.75	2.07	1.79	1.72	1.00	.43	-.050	96
111	9.01	5.64	4.39	2.87	1.44	.61	.077	3.23	1.93	1.80	1.81	1.09	.52	.000	111
126	8.48	5.43	4.26	2.84	1.45	.63	.085	3.52	2.55	2.37	2.32	1.33	.55	-.021	126
141	7.82	5.09	4.07	2.68	1.39	.63	.097	8.20	4.38	3.23	2.70	1.59	.58	.006	141
156	7.19	4.74	3.86	2.56	1.32	.62	.103	9.36	4.62	3.36	2.77	1.63	.59	-.004	156
171	7.17	4.66	3.70	2.51	1.32	.63	.109	9.19	4.62	3.39	2.81	1.68	.64	.029	171
186	7.23	4.64	3.59	2.51	1.34	.65	.121	9.26	4.66	3.42	2.82	1.70	.67	.044	186
201	7.31	4.59	3.51	2.48	1.35	.65	.127	9.40	4.66	3.43	2.82	1.72	.69	.054	201
216	7.66	4.67	3.58	2.54	1.40	.67	.133	9.90	4.78	3.49	2.83	1.76	.69	.065	216
231	8.09	4.82	3.64	2.61	1.48	.69	.143	10.87	4.87	3.55	2.85	1.78	.69	.074	231
246	8.52	4.95	3.72	2.67	1.53	.71	.147	11.62	4.85	3.51	2.82	1.76	.65	.069	246
261	9.18	5.18	3.82	2.76	1.61	.73	.155	9.04	4.10	3.09	2.54	1.63	.62	.133	261
276	9.49	5.18	3.78	2.72	1.59	.71	.152	5.44	2.84	2.32	2.01	1.30	.49	-.026	276
291	8.48	4.72	3.47	2.47	1.43	.66	.127	5.84	2.93	2.32	2.02	1.26	.55	.044	291
306	6.86	4.08	3.06	2.17	1.17	.55	.099	6.02	3.01	2.34	1.98	1.24	.53	.037	306
321	6.24	3.80	3.00	2.05	1.08	.52	.093	6.24	3.13	2.40	2.06	1.25	.52	.037	321
336	6.33	3.86	3.14	2.09	1.09	.53	.089	6.63	3.34	2.56	2.12	1.31	.55	.037	336
351	6.59	4.07	3.27	2.19	1.14	.55	.089	7.08	3.60	2.72	2.28	1.42	.58	.035	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85											ψ_{nom}, deg
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	7.12	5.39	3.74	2.79	2.45	1.93	1.34	.66	.56	.30	.104	6
21	6.82	5.19	3.61	2.65	2.35	1.84	1.27	.60	.51	.27	.086	21
36	6.39	4.86	3.41	2.47	2.22	1.70	1.21	.55	.47	.24	.072	36
51	5.68	4.35	3.12	2.16	2.01	1.54	1.09	.47	.40	.21	.050	51
66	5.24	4.02	2.93	2.12	1.85	1.39	1.03	.42	.38	.19	.038	66
81	4.58	3.56	2.62	2.06	1.66	1.20	.94	.37	.32	.17	.024	81
96	4.18	3.20	2.37	1.84	1.63	1.04	.84	.34	.29	.15	.002	96
111	4.19	3.16	2.33	1.79	1.62	1.04	.84	.32	.30	.16	.010	111
126	4.58	3.48	2.57	1.83	1.67	1.21	.92	.37	.34	.19	.032	126
141	4.70	3.58	2.72	1.93	1.74	1.35	1.04	.46	.41	.23	.046	141
156	4.75	3.66	2.80	2.05	1.83	1.44	1.11	.54	.48	.28	.072	156
171	5.18	3.99	3.02	2.21	2.02	1.59	1.22	.63	.55	.33	.100	171
186	5.87	4.53	3.35	2.47	2.26	1.79	1.34	.71	.61	.37	.118	186
201	6.22	4.78	3.46	2.59	2.33	1.85	1.38	.74	.64	.39	.138	201
216	5.40	4.18	3.10	2.36	2.14	1.72	1.30	.71	.62	.39	.136	216
231	4.61	3.54	2.75	2.09	1.91	1.53	1.20	.65	.57	.36	.124	231
246	4.45	3.31	2.51	1.86	1.72	1.38	1.08	.57	.51	.32	.100	246
261	4.64	3.43	2.51	1.84	1.66	1.32	1.00	.51	.46	.28	.084	261
276	4.80	3.51	2.59	1.87	1.68	1.32	.98	.50	.45	.26	.080	276
291	4.99	3.68	2.66	1.93	1.72	1.35	1.00	.50	.44	.26	.074	291
306	5.43	4.00	2.81	2.08	1.86	1.46	1.05	.53	.46	.26	.078	306
321	5.99	4.45	3.09	2.31	2.03	1.60	1.11	.57	.48	.27	.088	321
336	6.58	4.86	3.41	2.57	2.24	1.77	1.22	.63	.52	.29	.100	336
351	7.14	5.29	3.70	2.77	2.42	1.92	1.32	.67	.56	.32	.114	351

TABLE 63 - Continued

FLIGHT 50, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(SEE FIG. 12, t = 18.4 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	5.62	2.95	2.26	1.74	1.19	.52	.106	3.16	1.65	1.11	.88	.69	.39	.106	6
21	5.55	2.85	2.22	1.72	1.15	.50	.097	3.21	1.66	1.12	.89	.70	.40	.106	21
36	5.39	2.76	2.18	1.69	1.11	.47	.095	3.17	1.64	1.11	.88	.69	.38	.109	36
51	5.03	2.54	2.05	1.59	1.02	.43	.097	3.03	1.54	1.05	.85	.66	.38	.109	51
66	4.59	2.30	1.92	1.49	.92	.39	.085	2.82	1.45	.97	.78	.61	.35	.108	66
81	4.16	2.05	1.78	1.38	.83	.35	.076	2.57	1.37	.89	.71	.56	.34	.108	81
96	3.78	1.88	1.53	1.30	.74	.31	.069	2.44	1.30	.84	.67	.54	.31	.105	96
111	3.67	1.91	1.53	1.29	.77	.32	.069	2.34	1.24	.81	.64	.52	.31	.103	111
126	3.70	1.99	1.59	1.30	.81	.32	.071	2.32	1.24	.81	.64	.52	.31	.103	126
141	3.67	2.02	1.61	1.30	.84	.34	.081	2.31	1.25	.81	.64	.52	.31	.103	141
156	3.59	2.04	1.63	1.33	.84	.37	.090	2.29	1.25	.81	.64	.51	.30	.101	156
171	4.33	2.49	2.00	1.54	1.00	.42	.099	2.22	1.21	.79	.63	.51	.30	.096	171
186	5.19	2.81	2.20	1.68	1.12	.47	.113	2.17	1.17	.78	.62	.50	.29	.093	186
201	5.24	2.64	2.10	1.61	1.08	.47	.111	2.01	1.11	.73	.59	.47	.28	.088	201
216	5.09	2.53	2.00	1.53	1.05	.45	.103	1.95	1.04	.71	.57	.45	.28	.080	216
231	4.59	2.18	1.78	1.38	.95	.41	.099	1.93	1.01	.71	.56	.44	.27	.075	231
246	4.15	2.00	1.68	1.30	.91	.40	.095	1.89	.96	.69	.54	.43	.27	.071	246
261	3.84	1.89	1.59	1.22	.85	.37	.085	1.88	.97	.69	.55	.43	.26	.067	261
276	3.78	1.90	1.58	1.22	.83	.37	.085	1.91	.97	.69	.55	.43	.27	.069	276
291	3.80	1.92	1.57	1.22	.82	.36	.083	1.99	1.02	.71	.57	.44	.28	.070	291
306	3.96	2.04	1.64	1.27	.84	.38	.092	2.11	1.07	.74	.58	.46	.28	.071	306
321	4.33	2.31	1.81	1.39	.94	.42	.099	2.37	1.23	.83	.66	.52	.30	.081	321
336	4.82	2.62	2.01	1.55	1.06	.47	.111	2.66	1.39	.94	.75	.58	.34	.092	336
351	5.30	2.87	2.20	1.69	1.15	.51	.117	2.94	1.54	1.04	.83	.65	.38	.101	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.35	.68	.44	.24	.074	.56	.29	.20	.10	.018	6
21	1.39	.69	.45	.24	.076	.60	.30	.20	.09	.015	21
36	1.40	.68	.44	.23	.075	.63	.31	.20	.10	.017	36
51	1.39	.67	.44	.23	.079	.66	.32	.21	.09	.024	51
66	1.32	.64	.41	.22	.077	.61	.30	.19	.09	.017	66
81	1.23	.59	.39	.21	.075	.57	.28	.18	.08	.016	81
96	1.16	.55	.36	.21	.073	.55	.26	.17	.07	.018	96
111	1.11	.54	.35	.21	.072	.51	.25	.16	.07	.017	111
126	1.12	.55	.36	.20	.071	.52	.25	.16	.07	.019	126
141	1.12	.55	.36	.20	.069	.55	.26	.17	.08	.019	141
156	1.11	.54	.35	.19	.065	.57	.28	.18	.08	.025	156
171	1.04	.51	.33	.19	.062	.57	.28	.18	.08	.024	171
186	.96	.48	.31	.18	.056	.54	.26	.17	.08	.024	186
201	.87	.44	.29	.17	.052	.44	.21	.14	.07	.017	201
216	.83	.41	.27	.16	.048	.34	.16	.11	.05	.011	216
231	.76	.38	.25	.15	.043	.25	.12	.09	.04	.007	231
246	.72	.36	.24	.14	.042	.20	.09	.07	.03	.000	246
261	.70	.36	.24	.14	.038	.20	.09	.06	.03	.003	261
276	.72	.36	.24	.14	.042	.19	.09	.06	.03	-.005	276
291	.78	.39	.25	.15	.043	.21	.09	.07	.03	.000	291
306	.85	.42	.27	.16	.048	.24	.11	.08	.04	-.006	306
321	.97	.48	.32	.18	.054	.32	.15	.10	.05	.005	321
336	1.11	.56	.37	.20	.064	.43	.20	.14	.07	.007	336
351	1.25	.64	.42	.23	.072	.50	.26	.17	.09	.016	351

TABLE 63 - Continued

FLIGHT 50, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(SEE FIG. 12, t = 18.4 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	2.72	6.58	11.45	19.59	22.81	23.07	22.89
21	2.77	6.70	11.60	19.03	21.68	21.85	21.69
36	2.88	6.64	11.43	18.43	20.35	20.23	20.41
51	2.98	6.60	10.96	17.12	18.20	18.40	19.19
66	2.76	6.26	10.21	15.64	16.91	17.68	20.01
81	2.56	5.91	9.53	14.12	14.96	16.16	22.77
96	2.42	5.58	8.99	12.74	13.56	14.72	28.16
111	2.29	5.46	8.75	12.80	13.60	15.16	30.57
126	2.35	5.46	8.72	13.21	14.98	18.25	29.87
141	2.45	5.47	8.70	13.47	16.29	26.69	28.42
156	2.59	5.32	8.63	13.70	17.31	28.26	26.84
171	2.58	5.05	8.43	16.32	19.14	28.76	26.51
186	2.47	4.73	8.25	18.46	21.39	29.22	26.62
201	2.02	4.37	7.78	17.93	22.25	29.48	26.56
216	1.58	4.12	7.54	17.26	20.45	30.31	27.34
231	1.18	3.78	7.35	15.48	18.32	31.28	28.40
246	.89	3.63	7.17	14.48	16.72	31.44	29.31
261	.88	3.55	7.11	13.53	16.11	27.40	30.71
276	.81	3.63	7.19	13.43	16.24	19.36	30.69
291	.93	3.84	7.43	13.35	16.55	20.18	27.80
306	1.04	4.16	7.74	13.99	17.58	20.23	23.47
321	1.44	4.76	8.63	15.51	19.06	20.68	21.98
336	1.93	5.48	9.72	17.41	20.97	21.87	22.37
351	2.45	6.19	10.83	18.99	22.71	23.40	23.39

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.083		0	4.129		0	7.927	
1	1.781	-1.822	1	.649	-.481	1	-.248	.004
2	.006	.012	2	-.098	.020	2	-.039	.030
3	.012	.018	3	.118	.004	3	.027	-.016
4	.035	-.012	4	.016	.012	4	.027	-.014
5	.018	-.012	5	-.029	-.004	5	.005	-.008
6	.003	.000	6	.008	-.020	6	-.003	.000
7	.006	-.006	7	-.020	.000	7	-.007	.009
8	.000	-.015	8	-.012	.020	8	-.003	.007
9	-.012	.009	9	.004	-.004	9	.001	.008
10	-.006	-.009	10	-.029	.000	10	.000	-.003

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 63 - Continued

FLIGHT 50, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(SEE FIG. 12, t = 18.4 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.041		.75	0	15.665		.95	0	25.666	
.25	1	.192	.876	.75	1	1.072	-.189	.95	1	-3.584	-1.139
.25	2	.472	.036	.75	2	2.720	.974	.95	2	-2.003	-.901
.25	3	-.055	.067	.75	3	-.129	-.272	.95	3	2.081	.044
.25	4	.050	-.055	.75	4	.303	.132	.95	4	1.298	.418
.25	5	-.009	-.043	.75	5	-.222	-.292	.95	5	-.254	-.194
.25	6	.004	-.025	.75	6	.200	-.039	.95	6	-.304	-.311
.25	7	.004	-.016	.75	7	-.134	.089	.95	7	-.031	.013
.25	8	.019	-.010	.75	8	.059	-.109	.95	8	.128	.050
.25	9	.004	.010	.75	9	-.006	.036	.95	9	-.084	.032
.25	10	.017	.007	.75	10	.052	-.108	.95	10	-.027	-.111
.40	0	5.136		.85	0	18.256					
.40	1	.823	1.098	.85	1	.927	-1.142				
.40	2	.518	.028	.85	2	3.510	.482				
.40	3	.080	.078	.85	3	-.200	-.264				
.40	4	-.007	-.047	.85	4	.249	.187				
.40	5	.026	-.050	.85	5	.031	-.457				
.40	6	.005	-.015	.85	6	.126	.153				
.40	7	.005	-.004	.85	7	-.077	-.045				
.40	8	.004	-.001	.85	8	-.023	-.021				
.40	9	.008	.011	.85	9	-.029	-.082				
.40	10	.005	-.005	.85	10	-.037	-.037				
.55	0	8.923		.90	0	23.086					
.55	1	1.444	1.105	.90	1	-4.483	-3.439				
.55	2	.859	.218	.90	2	3.837	1.297				
.55	3	.187	.163	.90	3	1.184	.498				
.55	4	.032	-.045	.90	4	-1.137	-1.392				
.55	5	.007	-.045	.90	5	.519	.467				
.55	6	.003	-.032	.90	6	.430	.424				
.55	7	-.020	.002	.90	7	-.147	-.725				
.55	8	.018	-.003	.90	8	-.158	.084				
.55	9	.000	-.004	.90	9	-.245	.341				
.55	10	.020	-.003	.90	10	.287	-.296				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 63 - Concluded

FLIGHT 50, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT
(SEE FIG. 12, t = 18.4 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	428	124	-118	-702	-2495	-4099		
21	736	371	99	-616	-2345	-4148		
36	1260	842	678	-34	-2002	-3770		
51	1351	949	931	452	-1113	-2556		
66	1260	833	904	548	-664	-1641		
81	1260	685	642	242	-708	-1342		
96	1366	512	407	-25	-1016	-1352		
111	1180	256	45	-292	-876	-925		
126	1078	272	172	-53	-277	-109		
141	1397	619	886	805	524	458		
156	1898	1262	1546	1588	1104	946		
171	2058	1526	2079	2112	1624	1404		
186	1841	1328	1889	2112	2028	1842		
201	1625	1163	1790	1950	1720	1543		
216	1807	1304	1573	1540	1192	1155		
231	1625	1370	1709	1597	814	528		
246	1568	1345	1618	1597	1052	856		
261	1340	1370	1790	1759	1342	1444		
276	1465	1559	1935	1950	1756	2120		
291	1157	1667	2368	2494	1940	1891		
306	1203	1823	2414	2379	1465	1046		
321	1283	1634	1944	1616	286	-527		
336	918	982	1058	614	-902	-2158		
351	485	371	172	-378	-1940	-3402		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-6136	-7310	2955	
21	-5582	-7375	2267	
36	-5110	-7863	2347	
51	-3792	-6789	2779	
66	-2310	-5438	3787	
81	-1825	-4151	4843	
96	-747	-3907	4459	
111	1027	-5031	2843	
126	2167	-5747	1211	
141	1695	-6300	1675	
156	1548	-5128	2571	
171	1402	-4444	3675	
186	669	-4379	4059	
201	376	-5486	2843	
216	-780	-6642	1435	
231	-2528	-7961	1003	
246	-3743	-8124	571	
261	-4264	-8531	507	
276	-6250	-8466	795	
291	-8529	-9524	1803	
306	-9441	-9084	1851	
321	-9299	-8875	2411	
336	-7666	-7717	3051	
351	-6445	-6700	3467	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	306	516	108
21	331	551	111
36	313	495	102
51	338	476	108
66	417	531	115
81	448	594	120
96	480	639	114
111	507	591	102
126	492	518	97
141	460	408	85
156	351	338	59
171	213	210	33
186	133	195	23
201	92	157	14
216	39	116	11
231	7	113	6
246	-107	41	1
261	-214	-33	-4
276	-264	-59	4
291	-224	-26	8
306	-330	-51	7
321	-340	-23	9
336	-297	28	26
351	-32	288	70

TABLE 64

FLIGHT 50, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(SEE FIG. 12, t = 22.6 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
6	6.37	4.08	3.33	2.17	1.10	.51	.060	7.20	3.65	2.73	2.33	1.45	.58	.024	6
21	5.44	3.72	3.17	2.00	.93	.45	.041	6.36	3.28	2.50	2.14	1.30	.50	-.013	21
36	4.76	3.40	3.03	1.90	.78	.41	.029	5.52	2.86	2.23	1.95	1.16	.45	-.035	36
51	4.69	3.39	3.04	1.91	.75	.40	.028	5.18	2.69	2.14	1.94	1.09	.42	-.050	51
66	4.89	3.57	3.20	1.97	.74	.40	.029	4.87	2.55	2.08	1.93	1.04	.40	-.063	66
81	6.14	4.26	3.56	2.17	.89	.41	.036	4.55	2.45	2.01	1.86	1.03	.41	-.069	81
96	7.52	5.13	4.02	2.49	1.10	.47	.033	4.18	2.32	1.93	1.82	1.03	.43	-.065	96
111	7.66	5.30	4.25	2.69	1.29	.56	.067	4.34	2.53	2.15	2.02	1.18	.51	-.029	111
126	6.77	4.85	3.97	2.56	1.24	.57	.077	6.86	3.76	2.88	2.48	1.43	.54	-.059	126
141	5.93	4.20	3.59	2.32	1.11	.54	.075	7.97	4.20	3.15	2.66	1.59	.61	-.002	141
156	5.30	3.72	3.25	2.13	.98	.50	.073	7.28	3.87	2.94	2.50	1.48	.60	.009	156
171	5.09	3.52	3.01	2.02	.94	.49	.079	6.72	3.51	2.71	2.32	1.43	.59	.018	171
186	5.18	3.51	2.83	1.99	.96	.51	.089	6.68	3.45	2.68	2.28	1.40	.59	.035	186
201	5.63	3.72	2.96	2.06	1.05	.53	.101	7.00	3.60	2.74	2.34	1.44	.62	.053	201
216	5.94	3.83	3.00	2.10	1.11	.55	.107	7.38	3.79	2.84	2.40	1.48	.64	.068	216
231	6.31	3.95	3.08	2.16	1.18	.58	.117	7.92	3.99	2.96	2.47	1.55	.67	.083	231
246	6.98	4.22	3.24	2.30	1.28	.61	.125	8.51	4.21	3.10	2.53	1.62	.69	.095	246
261	7.82	4.55	3.40	2.42	1.39	.64	.135	7.47	3.67	2.79	2.33	1.53	.65	.089	261
276	8.42	4.69	3.44	2.44	1.43	.65	.135	5.34	2.69	2.16	1.89	1.23	.55	.045	276
291	6.84	4.02	2.98	2.11	1.17	.54	.097	5.20	2.55	2.04	1.74	1.10	.50	.041	291
306	5.91	3.60	2.79	1.93	1.02	.49	.089	5.57	2.77	2.14	1.85	1.13	.50	.039	306
321	5.93	3.64	2.97	1.96	1.02	.49	.089	6.11	3.08	2.33	1.97	1.24	.54	.045	321
336	6.51	3.95	3.19	2.13	1.13	.54	.093	6.78	3.43	2.58	2.20	1.39	.59	.054	336
351	6.78	4.18	3.37	2.24	1.17	.55	.085	7.33	3.73	2.79	2.36	1.48	.61	.048	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
6	7.37	5.50	3.83	2.87	2.54	1.99	1.37	.70	.56	.30	.100	6
21	6.54	4.98	3.44	2.55	2.30	1.78	1.24	.57	.48	.25	.080	21
36	5.83	4.45	3.16	2.21	2.05	1.58	1.11	.47	.41	.22	.054	36
51	5.42	4.16	2.99	2.26	1.89	1.44	1.04	.43	.37	.19	.040	51
66	4.99	3.91	2.82	2.28	1.74	1.33	.99	.39	.34	.17	.026	66
81	4.80	3.73	2.72	2.16	1.80	1.25	.96	.36	.31	.16	.012	81
96	4.51	3.48	2.58	2.01	1.73	1.17	.90	.33	.30	.15	.000	96
111	4.80	3.68	2.72	2.08	1.74	1.28	.96	.37	.32	.17	.008	111
126	4.85	3.69	2.79	1.99	1.77	1.36	1.03	.43	.40	.21	.026	126
141	4.69	3.56	2.79	2.02	1.84	1.41	1.08	.49	.45	.26	.060	141
156	6.88	4.98	3.44	2.52	2.24	1.61	1.17	.49	.45	.26	.042	156
171	7.85	5.71	4.00	2.97	2.56	1.86	1.31	.59	.50	.28	.070	171
186	7.94	5.73	4.06	3.06	2.62	1.94	1.38	.65	.55	.31	.090	186
201	8.42	5.87	4.17	3.16	2.71	2.04	1.43	.70	.58	.33	.100	201
216	8.76	5.87	4.17	3.16	2.71	2.04	1.43	.71	.58	.34	.104	216
231	7.74	5.27	3.75	2.86	2.46	1.85	1.30	.64	.54	.32	.098	231
246	5.05	3.75	2.79	2.09	1.88	1.46	1.12	.59	.51	.30	.062	246
261	5.10	3.71	2.67	2.00	1.78	1.40	1.04	.54	.47	.29	.088	261
276	4.95	3.64	2.57	1.92	1.71	1.34	.99	.50	.42	.25	.068	276
291	4.89	3.62	2.50	1.87	1.66	1.30	.95	.47	.39	.23	.062	291
306	5.36	3.96	2.73	2.04	1.80	1.42	.99	.50	.41	.24	.072	306
321	6.13	4.55	3.12	2.35	2.06	1.63	1.13	.57	.48	.28	.094	321
336	6.96	5.11	3.53	2.69	2.33	1.85	1.28	.67	.54	.31	.104	336
351	7.63	5.57	3.92	2.96	2.56	2.05	1.40	.75	.59	.33	.116	351

TABLE 64 - Continued

FLIGHT 50, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(SEE FIG. 12, t = 22.6 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	5.89	3.08	2.36	1.82	1.25	.53	.095	3.42	1.77	1.20	.95	.76	.43	.118	6
21	5.67	2.88	2.24	1.73	1.16	.49	.083	3.41	1.77	1.19	.95	.75	.41	.122	21
36	5.23	2.62	2.10	1.63	1.06	.45	.081	3.29	1.70	1.15	.91	.72	.42	.119	36
51	4.80	2.46	2.01	1.57	.99	.42	.081	3.15	1.61	1.10	.87	.70	.40	.123	51
66	4.47	2.30	1.93	1.51	.93	.39	.083	3.00	1.56	1.04	.83	.67	.38	.121	66
81	4.17	2.12	1.78	1.45	.85	.36	.076	2.75	1.48	.96	.76	.61	.36	.119	81
96	3.98	2.04	1.67	1.40	.81	.34	.071	2.64	1.42	.92	.73	.60	.35	.120	96
111	4.09	2.18	1.77	1.44	.87	.36	.073	2.70	1.45	.95	.74	.61	.34	.121	111
126	4.21	2.29	1.89	1.46	.93	.37	.081	2.71	1.45	.96	.74	.61	.35	.123	126
141	4.20	2.31	1.87	1.44	.93	.37	.085	2.68	1.42	.95	.75	.61	.34	.121	141
156	4.25	2.35	1.87	1.43	.94	.38	.092	2.59	1.35	.92	.73	.60	.35	.113	156
171	4.14	2.29	1.80	1.39	.92	.39	.095	2.42	1.28	.87	.69	.56	.34	.108	171
186	4.12	2.19	1.77	1.37	.92	.39	.101	2.37	1.22	.85	.68	.55	.32	.100	186
201	4.07	2.11	1.72	1.34	.91	.39	.099	2.20	1.13	.80	.64	.52	.31	.091	201
216	4.05	2.02	1.69	1.31	.89	.39	.095	2.10	1.07	.77	.61	.49	.29	.085	216
231	4.03	2.00	1.67	1.29	.88	.38	.097	2.02	1.05	.74	.59	.47	.29	.077	231
246	4.08	2.05	1.68	1.29	.90	.40	.095	2.01	1.04	.72	.58	.47	.29	.072	246
261	4.05	2.01	1.63	1.27	.88	.39	.087	1.98	1.02	.71	.57	.45	.27	.068	261
276	3.90	1.93	1.58	1.22	.84	.37	.083	1.97	1.01	.70	.56	.45	.27	.066	276
291	3.83	1.93	1.56	1.20	.80	.36	.083	2.00	1.02	.70	.56	.45	.25	.066	291
306	3.98	2.07	1.63	1.26	.83	.38	.085	2.13	1.08	.74	.58	.46	.29	.069	306
321	4.44	2.41	1.86	1.45	.99	.44	.099	2.46	1.27	.86	.68	.54	.32	.085	321
336	5.05	2.78	2.12	1.65	1.13	.50	.101	2.91	1.52	1.03	.81	.64	.37	.102	336
351	5.64	3.09	2.33	1.81	1.25	.55	.109	3.29	1.72	1.16	.92	.72	.41	.112	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.43	.73	.47	.25	.079	.51	.25	.18	.09	.019	6
21	1.52	.74	.48	.25	.080	.59	.30	.20	.10	.019	21
36	1.51	.73	.48	.25	.083	.68	.33	.21	.10	.023	36
51	1.47	.71	.47	.24	.082	.65	.32	.21	.10	.023	51
66	1.42	.69	.45	.24	.084	.65	.32	.21	.09	.024	66
81	1.33	.64	.42	.23	.081	.62	.30	.20	.09	.024	81
96	1.27	.61	.40	.23	.082	.60	.29	.19	.08	.020	96
111	1.28	.62	.41	.23	.081	.60	.29	.19	.08	.024	111
126	1.30	.64	.42	.23	.080	.62	.30	.20	.09	.027	126
141	1.28	.62	.41	.22	.076	.67	.32	.21	.09	.029	141
156	1.22	.59	.39	.21	.072	.68	.33	.21	.09	.029	156
171	1.14	.56	.37	.21	.070	.66	.33	.21	.09	.030	171
186	1.08	.53	.34	.20	.062	.59	.29	.19	.09	.025	186
201	.97	.48	.31	.18	.058	.47	.23	.15	.07	.019	201
216	.85	.42	.27	.16	.048	.34	.17	.11	.05	.012	216
231	.77	.38	.25	.15	.044	.25	.11	.08	.03	.004	231
246	.70	.36	.23	.14	.039	.17	.08	.06	.02	.000	246
261	.69	.35	.23	.13	.037	.14	.06	.05	.02	-.004	261
276	.69	.35	.22	.13	.037	.12	.06	.04	.02	-.004	276
291	.72	.35	.23	.13	.039	.13	.06	.04	.02	-.004	291
306	.78	.39	.26	.15	.047	.15	.07	.05	.03	-.002	306
321	.93	.46	.31	.17	.056	.21	.10	.07	.04	.004	321
336	1.11	.56	.38	.21	.068	.30	.15	.10	.06	.011	336
351	1.29	.66	.44	.24	.074	.41	.20	.14	.07	.013	351

TABLE 64 - Continued

FLIGHT 50, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(SEE FIG. 12, t = 22.6 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	2.48	6.99	12.47	20.36	23.37	23.66	22.90
21	2.79	7.19	12.35	19.14	20.84	21.03	20.39
36	3.08	7.15	12.01	17.63	18.55	18.51	18.47
51	2.99	6.97	11.54	16.57	17.22	17.48	18.23
66	2.95	6.80	11.05	15.58	16.02	16.66	18.87
81	2.80	6.40	10.26	14.43	15.47	16.13	21.94
96	2.71	6.17	9.91	13.71	14.59	15.67	25.95
111	2.69	6.24	10.03	14.46	15.47	17.57	28.00
126	2.86	6.30	10.15	15.17	16.38	23.30	26.22
141	3.02	6.16	10.04	15.19	16.99	26.27	23.38
156	3.04	5.90	9.76	15.37	20.34	24.56	21.07
171	2.99	5.56	9.27	15.05	23.28	22.94	20.09
186	2.73	5.25	8.95	14.91	24.11	22.83	20.06
201	2.19	4.78	8.39	14.61	25.18	23.73	21.35
216	1.59	4.21	8.00	14.35	25.46	24.76	22.14
231	1.04	3.82	7.72	14.20	22.99	26.07	23.14
246	.75	3.53	7.66	14.45	17.79	27.39	24.85
261	.60	3.43	10.14	14.17	17.07	24.81	26.76
276	.53	3.41	7.34	13.55	16.19	19.11	27.64
291	.57	3.51	7.28	13.28	15.63	17.82	23.14
306	.68	3.87	7.78	13.93	16.85	18.70	20.68
321	.99	4.62	9.00	16.08	19.34	20.46	21.03
336	1.47	5.58	10.66	18.35	21.89	22.73	22.96
351	1.97	6.44	12.00	20.32	24.07	24.29	23.96

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	13.890		0	4.251		0	7.856	
1	1.571	-1.989	1	.894	-.583	1	-.300	-.015
2	.356	-.210	2	-.020	.016	2	.051	.012
3	-.274	-.277	3	.073	-.086	3	.023	-.016
4	-.181	.339	4	.024	-.008	4	-.018	.012
5	.429	.061	5	-.033	-.065	5	.015	.005
6	.012	-.429	6	.004	.024	6	.005	-.005
7	-.420	.114	7	-.004	-.004	7	-.003	-.001
8	.210	.409	8	.000	-.008	8	.001	-.003
9	.315	-.312	9	-.024	-.012	9	.000	.000
10	-.380	-.228	10	-.004	-.012	10	.003	-.001

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o \right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o \right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o \right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o \right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o \right) + F_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 64 - Continued

FLIGHT 50, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(SEE FIG. 12, t = 22.6 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R.	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.062		.75	0	15.619		.95	0	22.634	
.25	1	-.063	1.242	.75	1	1.862	.384	.95	1	-.773	-.657
.25	2	.480	.032	.75	2	1.865	-.133	.95	2	-2.149	-.927
.25	3	-.046	.149	.75	3	.903	-.031	.95	3	2.365	-.760
.25	4	.042	-.008	.75	4	.067	-.373	.95	4	1.331	-.009
.25	5	-.013	-.018	.75	5	-.057	-.262	.95	5	-.404	-.578
.25	6	.002	.011	.75	6	.121	-.021	.95	6	-.387	-.143
.25	7	-.017	-.003	.75	7	.052	.030	.95	7	.174	.103
.25	8	-.001	-.009	.75	8	-.048	.012	.95	8	.158	.026
.25	9	.001	.003	.75	9	.024	-.053	.95	9	.028	-.115
.25	10	.009	-.015	.75	10	.020	-.016	.95	10	-.120	.024
.40	0	5.428		.85	0	19.379					
.40	1	.735	1.545	.85	1	-1.020	-1.378				
.40	2	.635	.006	.85	2	4.338	.499				
.40	3	.161	.072	.85	3	.123	-1.249				
.40	4	.029	-.029	.85	4	.301	-.115				
.40	5	-.014	-.077	.85	5	.281	-.296				
.40	6	.027	.003	.85	6	-.209	-.314				
.40	7	-.003	.016	.85	7	.262	.352				
.40	8	-.004	.012	.85	8	-.029	-.287				
.40	9	-.010	-.011	.85	9	-.030	-.104				
.40	10	.003	-.002	.85	10	.047	.157				
.55	0	9.740		.90	0	21.519					
.55	1	1.337	1.303	.90	1	-2.293	-1.882				
.55	2	.816	.151	.90	2	2.293	-.277				
.55	3	.595	.233	.90	3	2.613	.042				
.55	4	.141	-.348	.90	4	-1.096	-1.017				
.55	5	-.250	-.198	.90	5	.154	-.383				
.55	6	.031	.194	.90	6	.600	.522				
.55	7	.212	-.055	.90	7	-.128	-.325				
.55	8	-.118	-.174	.90	8	-.078	-.141				
.55	9	-.175	.144	.90	9	.081	.205				
.55	10	.195	.098	.90	10	.034	.006				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 64 - Concluded

FLIGHT 50, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(SEE FIG. 12, t = 22.6 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	592	17	-470	-1146	-2976	-4862		
21	991	520	145	-688	-2897	-4942		
36	1572	949	642	-173	-2061	-3808		
51	1196	809	805	294	-1154	-2405		
66	1071	619	642	323	-714	-1519		
81	1173	652	570	84	-1172	-1937		
96	1253	578	334	-307	-1691	-2455		
111	1116	140	-163	-688	-1533	-2027		
126	797	-74	-226	-488	-908	-1241		
141	1185	281	344	285	-327	-902		
156	1686	1097	1356	1029	-98	-892		
171	2040	1304	1690	1515	245	-763		
186	1618	916	1311	1210	271	-445		
201	1196	536	768	676	25	-405		
216	1276	578	678	514	-345	-932		
231	1572	1130	1184	867	-433	-1340		
246	1652	1477	1672	1344	130	-664		
261	1470	1526	1953	1859	1230	869		
276	1367	1625	2152	2260	1996	2083		
291	1276	1889	2558	2641	2146	2083		
306	1299	2038	2640	2593	1556	899		
321	1196	1774	2233	1830	-72	-1320		
336	1333	1130	931	266	-1630	-3062		
351	683	347	-27	-765	-2659	-4305		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-5436	-7310	3201	
21	-5078	-7554	1809	
36	-4769	-7749	2225	
51	-3678	-6398	3489	
66	-1969	-4477	4481	
81	-1415	-3907	5233	
96	-243	-3956	4385	
111	1580	-4982	2833	
126	2460	-5242	1873	
141	2118	-5242	2833	
156	2167	-4054	3809	
171	1890	-3158	4849	
186	946	-3321	5585	
201	1483	-4103	3857	
216	180	-5682	2545	
231	-2017	-7261	1921	
246	-3483	-7912	1121	
261	-4459	-8759	913	
276	-6478	-8661	897	
291	-8529	-9621	2225	
306	-8936	-8466	2561	
321	-8871	-7993	3713	
336	-7097	-7163	3665	
351	-5469	-6610	3073	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	463	634	124
21	313	576	103
36	265	436	101
51	347	501	107
66	435	575	122
81	527	670	124
96	537	695	120
111	579	645	107
126	585	592	101
141	523	466	74
156	273	278	40
171	55	88	18
186	-19	32	9
201	-35	60	3
216	-33	12	-1
231	-156	-49	-9
246	-222	-117	-9
261	-139	-60	5
276	-169	-33	16
291	-242	-61	11
306	-523	-160	6
321	-472	-129	14
336	-228	81	54
351	261	519	106

TABLE 65

FLIGHT 51, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	4.41	3.00	2.86	1.77	.81	.38	.033	5.87	2.93	2.09	1.82	1.09	.44	-.020	0
15	3.88	2.86	2.76	1.66	.73	.36	.021	5.40	2.67	1.93	1.70	1.01	.40	-.044	15
30	4.25	2.96	2.85	1.67	.67	.32	.012	4.68	2.36	1.71	1.59	.88	.34	-.075	30
45	7.56	4.66	3.57	2.08	.84	.32	.021	2.72	1.34	1.13	1.12	.57	.29	-.075	45
60	8.58	5.27	4.46	2.88	1.39	.52	.053	3.78	2.05	1.72	1.66	.99	.46	-.047	60
75	7.89	5.13	4.09	2.65	1.36	.56	.071	8.50	4.40	3.15	2.62	1.57	.57	-.009	75
90	6.52	4.14	3.61	2.35	1.17	.49	.053	7.05	3.56	2.66	2.34	1.41	.57	.013	90
105	5.46	3.62	3.25	2.14	1.05	.47	.047	6.24	3.21	2.37	2.13	1.27	.54	.017	105
120	5.44	3.50	3.23	2.10	1.04	.49	.075	7.14	3.55	2.54	2.13	1.32	.54	.009	120
135	5.50	3.39	3.20	2.10	1.08	.50	.080	7.46	3.74	2.65	2.21	1.35	.55	.017	135
150	5.39	3.44	3.18	2.09	1.07	.50	.087	7.61	3.75	2.66	2.21	1.39	.56	.028	150
165	5.91	3.66	3.27	2.19	1.15	.54	.088	7.86	3.87	2.73	2.25	1.40	.58	.044	165
180	6.56	4.12	3.35	2.30	1.25	.57	.104	8.11	3.99	2.78	2.31	1.46	.61	.051	180
195	7.03	4.45	3.48	2.40	1.36	.58	.112	7.79	3.94	2.79	2.37	1.49	.66	.077	195
210	7.46	4.63	3.55	2.46	1.40	.59	.114	7.74	3.98	2.84	2.42	1.56	.70	.097	210
225	8.42	4.66	3.61	2.52	1.44	.61	.126	8.22	4.07	2.88	2.43	1.58	.70	.110	225
240	8.43	4.68	3.56	2.57	1.51	.66	.142	8.98	4.16	2.73	2.36	1.56	.66	.106	240
255	8.11	4.59	3.40	2.38	1.37	.60	.130	4.30	2.19	1.65	1.53	1.04	.52	.055	255
270	5.77	3.52	2.87	1.97	1.10	.45	.071	4.75	2.32	1.65	1.47	.95	.45	.051	270
285	5.81	3.55	2.95	1.99	1.08	.48	.084	6.58	3.27	2.29	1.92	1.23	.53	.053	285
300	6.34	3.87	3.18	2.17	1.18	.52	.084	7.32	3.67	2.55	2.14	1.35	.58	.048	300
315	6.38	3.84	3.29	2.19	1.17	.52	.076	7.54	3.77	2.65	2.23	1.39	.58	.051	315
330	5.72	3.53	3.23	2.10	1.08	.49	.061	7.31	3.62	2.57	2.16	1.34	.55	.027	330
345	4.84	3.25	3.05	1.93	.92	.42	.037	6.63	3.29	2.35	2.00	1.23	.48	-.005	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	5.91	4.44	2.93	2.02	1.75	1.66	1.04	.40	.40	.17	.017	0
15	5.44	4.06	2.74	2.04	1.54	1.52	.94	.33	.34	.14	.005	15
30	4.50	3.33	2.30	1.76	1.41	1.27	.82	.25	.27	.10	-.017	30
45	3.44	2.40	1.68	1.22	.96	.89	.58	.10	.17	.04	-.042	45
60	3.79	2.65	1.85	1.36	1.07	.96	.65	.15	.21	.07	-.033	60
75	5.10	3.86	2.66	2.01	1.61	1.51	.97	.35	.36	.15	-.003	75
90	6.65	4.92	3.15	2.30	1.87	1.77	1.13	.48	.46	.22	.038	90
105	6.19	4.57	3.08	2.23	1.87	1.72	1.12	.43	.41	.18	.009	105
120	5.61	4.17	2.89	2.12	1.77	1.68	1.12	.48	.45	.22	.038	120
135	5.74	4.27	2.95	2.15	1.82	1.74	1.18	.53	.48	.25	.048	135
150	5.87	4.39	2.97	2.18	1.85	1.76	1.19	.55	.49	.27	.054	150
165	5.97	4.46	3.01	2.25	1.89	1.80	1.22	.57	.51	.28	.066	165
180	6.33	4.71	3.17	2.40	2.00	1.87	1.24	.60	.53	.30	.070	180
195	7.54	5.34	3.57	2.71	2.20	2.03	1.32	.63	.54	.30	.083	195
210	8.14	5.62	3.72	2.83	2.28	2.08	1.33	.64	.52	.28	.074	210
225	6.33	4.46	3.02	2.31	1.90	1.87	1.24	.65	.54	.31	.089	225
240	3.59	2.58	1.77	1.32	1.07	1.16	.83	.40	.38	.21	.038	240
255	3.53	2.51	1.67	1.29	1.00	.99	.67	.27	.28	.15	.005	255
270	4.84	3.46	2.18	1.54	1.24	1.28	.79	.32	.32	.16	.017	270
285	6.36	4.61	3.01	2.24	1.80	1.73	1.09	.49	.44	.23	.046	285
300	7.08	5.10	3.39	2.55	2.06	1.94	1.24	.57	.49	.25	.060	300
315	7.39	5.37	3.55	2.67	2.18	2.02	1.30	.61	.51	.26	.060	315
330	7.10	5.26	3.46	2.58	2.13	1.96	1.26	.56	.49	.23	.044	330
345	6.43	4.84	3.12	2.30	1.95	1.82	1.15	.46	.42	.20	.024	345

TABLE 65 - Continued

FLIGHT 51, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75							Δp, lb/sq in., at - r/R = 0.55							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.19	2.54	2.19	1.60	1.07	.41	.088	3.44	1.72	1.23	.90	.74	.42	.109	0
15	4.81	2.33	2.07	1.50	.97	.37	.084	3.38	1.67	1.20	.88	.73	.40	.101	15
30	4.36	2.04	1.91	1.38	.85	.32	.065	3.04	1.49	1.07	.78	.66	.35	.100	30
45	3.76	1.68	1.51	1.20	.71	.25	.053	2.63	1.29	.93	.67	.58	.34	.094	45
60	3.44	1.62	1.47	1.16	.68	.23	.048	2.47	1.20	.85	.62	.54	.31	.089	60
75	3.25	1.56	1.40	1.08	.66	.22	.041	2.36	1.13	.80	.59	.52	.29	.081	75
90	2.73	1.36	1.27	1.02	.65	.22	.058	2.04	.96	.78	.50	.46	.26	.076	90
105	3.71	1.97	1.75	1.29	.84	.32	.074	1.88	.91	.75	.46	.42	.25	.075	105
120	3.43	1.73	1.59	1.26	.88	.37	.100	1.86	.92	.75	.47	.43	.25	.076	120
135	3.69	1.92	1.84	1.41	.99	.42	.110	1.68	.81	.67	.46	.42	.25	.071	135
150	4.16	2.16	2.01	1.48	1.05	.42	.098	1.39	.76	.68	.50	.45	.24	.066	150
165	4.23	2.10	1.96	1.46	1.05	.43	.110	1.17	.60	.59	.45	.41	.25	.067	165
180	4.07	2.02	1.90	1.43	1.03	.45	.117	1.55	.72	.60	.41	.39	.24	.066	180
195	3.95	1.98	1.87	1.40	1.01	.45	.122	1.70	.81	.64	.46	.41	.24	.061	195
210	4.28	2.23	1.95	1.42	1.00	.41	.103	1.71	.81	.66	.47	.41	.23	.058	210
225	3.67	1.46	1.44	1.06	.73	.30	.067	1.75	.82	.68	.48	.41	.24	.056	225
240	3.03	1.31	1.27	.93	.66	.25	.060	1.84	.86	.69	.49	.42	.24	.056	240
255	2.91	1.36	1.37	.98	.65	.26	.060	1.99	.97	.75	.54	.46	.27	.058	255
270	3.30	1.66	1.55	1.13	.74	.30	.074	2.19	1.07	.83	.59	.49	.30	.064	270
285	3.97	2.15	1.87	1.37	.95	.39	.091	2.48	1.22	.92	.66	.55	.32	.072	285
300	4.64	2.54	2.13	1.57	1.10	.45	.108	2.85	1.40	1.03	.76	.62	.36	.083	300
315	5.23	2.78	2.30	1.69	1.19	.48	.098	3.20	1.60	1.16	.85	.70	.40	.095	315
330	5.60	2.86	2.35	1.72	1.20	.48	.093	3.33	1.66	1.20	.88	.73	.40	.097	330
345	5.47	2.71	2.28	1.66	1.13	.44	.084	3.36	1.67	1.19	.88	.72	.40	.097	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40					Δp, lb/sq in., at - r/R = 0.25					ψ_{nom}, deg
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.70	.80	.55	.33	.105	.79	.43	.27	.11	.002	0
15	1.75	.81	.56	.33	.108	.80	.43	.26	.10	.002	15
30	1.69	.75	.53	.31	.105	.76	.40	.24	.10	-.001	30
45	1.46	.65	.48	.29	.100	.70	.37	.22	.09	.002	45
60	1.30	.57	.43	.27	.100	.62	.33	.20	.07	-.001	60
75	1.25	.56	.40	.26	.094	.58	.31	.18	.07	-.003	75
90	1.16	.55	.38	.26	.094	.57	.31	.18	.07	.001	90
105	1.10	.53	.36	.26	.093	.54	.29	.17	.06	-.005	105
120	1.03	.49	.35	.25	.089	.49	.27	.16	.06	-.001	120
135	.94	.46	.32	.23	.084	.43	.24	.14	.05	-.003	135
150	.89	.42	.31	.22	.082	.41	.22	.14	.05	.001	150
165	.83	.40	.29	.22	.077	.38	.21	.13	.05	-.003	165
180	.80	.37	.28	.22	.075	.33	.19	.12	.05	-.004	180
195	.77	.36	.27	.21	.070	.27	.16	.10	.04	-.011	195
210	.76	.36	.28	.21	.070	.22	.13	.08	.03	-.014	210
225	.78	.37	.28	.21	.069	.20	.13	.07	.02	-.015	225
240	.82	.39	.29	.21	.068	.21	.12	.07	.02	-.016	240
255	.89	.42	.31	.22	.071	.23	.13	.08	.02	-.016	255
270	.99	.46	.34	.23	.075	.28	.16	.10	.03	-.016	270
285	1.14	.54	.39	.25	.085	.41	.23	.14	.05	-.010	285
300	1.24	.62	.44	.28	.094	.58	.32	.20	.08	-.003	300
315	1.31	.66	.47	.30	.098	.50	.30	.18	.08	-.003	315
330	1.40	.69	.50	.30	.095	.55	.31	.20	.09	-.008	330
345	1.54	.75	.53	.32	.096	.68	.39	.25	.11	-.001	345

TABLE 65 - Continued

FLIGHT 51, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	3.62	8.40	12.27	17.44	17.55	18.38	17.30
15	3.56	8.55	11.95	16.06	15.86	16.77	16.06
30	3.33	8.13	10.73	14.30	13.33	14.59	16.15
45	3.07	7.26	9.50	11.83	9.42	9.35	22.68
60	2.67	6.55	8.84	11.22	10.58	14.69	29.14
75	2.51	6.29	8.35	10.68	15.77	26.58	27.94
90	2.47	6.01	7.44	9.87	19.32	23.12	23.65
105	2.34	5.84	6.99	13.48	18.41	20.89	21.06
120	2.14	5.50	6.98	13.23	17.93	22.38	20.93
135	1.89	5.11	6.56	14.79	18.62	23.25	21.02
150	1.81	4.87	6.39	15.85	18.90	23.62	21.02
165	1.69	4.63	5.75	15.85	19.38	24.25	22.35
180	1.53	4.48	6.06	15.62	20.26	25.07	24.16
195	1.22	4.34	6.40	15.34	22.41	25.32	25.66
210	.97	4.33	6.41	15.74	23.09	25.96	26.56
225	.89	4.38	6.53	11.69	20.03	26.62	27.69
240	.86	4.52	6.67	10.10	12.27	26.74	28.26
255	.97	4.77	7.37	10.31	10.71	15.96	26.73
270	1.19	5.20	8.07	11.96	13.53	15.69	20.65
285	1.80	5.92	9.01	14.90	18.57	20.89	20.96
300	2.65	6.62	10.25	17.34	20.96	23.12	22.79
315	2.44	7.04	11.52	18.84	21.90	23.77	22.88
330	2.61	7.35	11.88	19.29	21.16	22.78	21.28
345	3.28	7.86	11.89	18.36	19.04	20.61	18.91

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	11.809		0	3.815		0	5.616	
1	1.135	-3.015	1	.484	-.804	1	-.157	.015
2	-.005	.059	2	.034	.071	2	-.005	-.007
3	-.041	.064	3	-.083	-.249	3	.025	-.030
4	-.032	.009	4	.028	-.099	4	-.012	-.030
5	.027	-.054	5	.000	-.008	5	-.007	.005
6	.027	.054	6	-.028	-.014	6	-.002	.000
7	-.036	.009	7	-.043	.014	7	.005	-.007
8	.009	.036	8	-.004	-.022	8	.000	.005
9	.005	-.009	9	.004	-.018	9	.000	.000
10	.000	.014	10	-.014	.014	10	.000	-.002

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 65 - Continued

FLIGHT 51, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.145		.75	0	14.336		.95	0	22.743	
.25	1	.998	.545	.75	1	1.060	-.948	.95	1	-2.400	-.697
.25	2	.295	-.166	.75	2	2.662	-2.303	.95	2	-1.900	2.101
.25	3	-.008	.041	.75	3	-.446	-.507	.95	3	-1.448	-1.985
.25	4	.058	.115	.75	4	-.275	.631	.95	4	-.979	-1.837
.25	5	.047	.087	.75	5	.194	-.098	.95	5	.269	-.186
.25	6	.092	-.040	.75	6	-.171	-.008	.95	6	1.106	.553
.25	7	.039	-.069	.75	7	.258	.225	.95	7	.280	.062
.25	8	-.007	-.050	.75	8	-.333	.030	.95	8	-.239	.079
.25	9	-.031	-.005	.75	9	-.122	-.041	.95	9	-.152	.294
.25	10	-.012	.033	.75	10	.317	-.231	.95	10	.081	.069
.40	0	5.997		.85	0	17.458					
.40	1	1.827	.381	.85	1	-1.585	-.916				
.40	2	.384	-.114	.85	2	1.982	-2.785				
.40	3	.126	.071	.85	3	-.620	-2.958				
.40	4	.039	.172	.85	4	.139	1.642				
.40	5	.013	.110	.85	5	1.072	.747				
.40	6	.014	.019	.85	6	-.817	.034				
.40	7	-.001	-.004	.85	7	-.334	.102				
.40	8	-.012	-.014	.85	8	.121	-.149				
.40	9	.004	-.013	.85	9	-.056	.011				
.40	10	.018	.003	.85	10	.074	.055				
.55	0	8.492		.90	0	21.266					
.55	1	2.923	-.395	.90	1	-3.649	-1.042				
.55	2	.653	-.359	.90	2	.579	-1.720				
.55	3	.107	-.135	.90	3	.027	-3.459				
.55	4	-.040	.114	.90	4	-.169	-.384				
.55	5	.063	.024	.90	5	1.431	1.985				
.55	6	.014	.207	.90	6	.386	.753				
.55	7	.010	.069	.90	7	-1.726	-.220				
.55	8	.000	.029	.90	8	-.609	-.126				
.55	9	.019	-.047	.90	9	.742	-.466				
.55	10	.038	.053	.90	10	.198	-.289				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 65 - Concluded

FLIGHT 51, LEVEL ACCELERATING FLIGHT OUT OF GROUND EFFECT

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	1006	41	-1564	-1046	-2717	-3481		
15	1451	734	-542	118	-1265	-1889		
30	1679	776	-307	633	-658	-934		
45	1303	487	-868	-54	-1283	-1103		
60	824	-297	-1971	-1304	-1793	-536		
75	-8	-1320	-2730	-1513	-1027	419		
90	334	-883	-1826	-350	-447	419		
105	1930	784	-479	547	213	708		
120	1975	1427	615	1797	1331	1205		
135	1747	1147	570	2293	2264	2021		
150	1588	1064	425	1883	1419	1553		
165	1770	883	118	1434	653	409		
180	1599	635	-199	986	-24	-675		
195	1280	495	-588	356	-561	-516		
210	1314	223	-1238	-16	143	956		
225	516	338	-524	843	1085	2131		
240	1599	1122	154	1520	1894	3334		
255	1508	1922	1275	2503	1973	3265		
270	1348	1625	1085	2560	2281	2946		
285	778	1139	479	1682	451	170		
300	949	718	-452	-25	-2752	-3481		
315	1109	-206	-2296	-2000	-4187	-5093		
330	-738	-1345	-2920	-2439	-4380	-5402		
345	26	-1213	-2920	-2200	-3623	-4446		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-10592	-8026	-998	
15	-11243	-7880	858	
30	-9127	-5551	2538	
45	-6831	-2230	4330	
60	-6229	-2247	5242	
75	-3640	-3289	1386	
90	-3201	-6300	-1798	
105	-5724	-8531	-1494	
120	-5024	-7131	-902	
135	-4064	-4754	1850	
150	-4552	-2556	4634	
165	-5041	-2686	4842	
180	-5855	-4510	2234	
195	-7124	-7310	-774	
210	-8443	-9117	-2886	
225	-10071	-9719	-3590	
240	-11992	-10175	-2326	
255	-15150	-9345	-774	
270	-16697	-9426	1194	
285	-14890	-7766	2026	
300	-13294	-5519	2986	
315	-11618	-4705	3466	
330	-10429	-5324	2074	
345	-10234	-7863	-230	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	2146	1011	
15	2186	951	
30	2150	926	
45	2182	1053	
60	2487	1281	
75	2578	1377	
90	2159	946	
105	1892	508	
120	2055	647	
135	2090	663	
150	1797	505	
165	1659	431	
180	1646	428	
195	1768	554	
210	1691	470	
225	1428	372	
240	1152	63	
255	1153	151	
270	1376	357	
285	1506	476	
300	1514	621	
315	1670	753	
330	2103	1078	
345	2162	1036	

TABLE 66

FLIGHT 52, LEVEL DECELERATING FLIGHT

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
0	5.65	3.45	3.09	1.99	1.05	.46	.043	7.03	3.47	2.45	2.06	1.28	.50	.020	0
15	4.32	2.90	2.73	1.70	.78	.37	.033	5.85	2.87	2.04	1.75	1.08	.42	-.013	15
30	3.63	2.56	2.52	1.52	.66	.34	.028	5.00	2.48	1.78	1.56	.93	.37	-.031	30
45	2.63	2.10	2.16	1.23	.45	.26	-.008	4.09	2.02	1.43	1.29	.76	.29	-.070	45
60	-.21	.72	1.23	.53	.00	.13	-.037	2.05	.86	.64	.65	.32	.11	-.130	60
75	5.14	3.27	2.85	1.66	.68	.31	.039	2.32	1.04	.86	.91	.42	.24	-.081	75
90	7.50	4.78	4.15	2.74	1.38	.60	.069	7.82	4.13	3.07	2.59	1.58	.61	.009	90
105	6.90	4.29	3.66	2.35	1.16	.48	.053	7.23	3.64	2.65	2.28	1.41	.56	-.002	105
120	5.43	3.56	3.10	1.97	.93	.42	.037	5.99	2.99	2.18	1.93	1.15	.47	-.016	120
135	4.63	3.06	2.86	1.82	.87	.40	.041	5.94	3.01	2.15	1.85	1.13	.47	-.013	135
150	4.65	3.06	2.93	1.89	.93	.46	.073	6.60	3.28	2.40	2.02	1.23	.51	.011	150
165	4.85	2.99	2.92	1.88	.94	.43	.065	6.78	3.37	2.40	2.00	1.24	.49	.002	165
180	4.75	2.93	2.86	1.85	.93	.46	.080	6.71	3.29	2.36	1.96	1.22	.50	.017	180
195	5.25	3.22	2.94	1.96	1.04	.49	.088	7.03	3.47	2.45	2.01	1.26	.52	.027	195
210	5.96	3.62	3.14	2.11	1.17	.55	.102	7.75	3.86	2.68	2.19	1.37	.57	.048	210
225	6.56	4.03	3.19	2.19	1.23	.54	.099	7.48	3.74	2.64	2.20	1.40	.59	.051	225
240	7.00	4.15	3.25	2.24	1.27	.53	.102	7.25	3.69	2.63	2.23	1.44	.62	.086	240
255	7.23	4.17	3.27	2.29	1.29	.58	.112	7.57	3.81	2.69	2.25	1.46	.64	.092	255
270	7.05	4.13	3.32	2.36	1.37	.64	.140	7.87	3.90	2.73	2.29	1.51	.66	.108	270
285	7.45	4.15	3.10	2.23	1.17	.53	.099	2.89	1.51	1.08	1.13	.82	.43	.042	285
300	2.34	1.75	1.78	1.09	.51	.31	.065	3.96	1.83	1.24	1.06	.62	.31	.002	300
315	5.12	3.08	2.66	1.79	.94	.44	.079	6.31	3.17	2.21	1.83	1.13	.50	.044	315
330	6.18	3.83	3.15	2.13	1.16	.53	.087	7.47	3.74	2.62	2.17	1.36	.58	.055	330
345	6.39	3.83	3.25	2.17	1.17	.52	.069	7.60	3.78	2.64	2.20	1.37	.57	.048	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
0	7.17	5.26	3.45	2.57	2.10	1.95	1.24	.56	.49	.22	.042	0
15	6.18	4.62	2.97	2.16	1.79	1.69	1.07	.43	.41	.17	.019	15
30	5.38	4.02	2.65	1.85	1.54	1.49	.94	.34	.35	.14	.009	30
45	4.72	3.49	2.29	1.80	1.38	1.29	.78	.24	.26	.10	-.012	45
60	3.57	2.45	1.58	1.11	.97	.88	.50	.06	.13	.00	-.056	60
75	2.79	1.89	1.28	.92	.70	.72	.41	.02	.11	.00	-.056	75
90	4.50	3.32	2.23	1.78	1.38	1.32	.86	.30	.32	.13	-.015	90
105	6.73	5.14	3.34	2.46	2.08	1.90	1.23	.51	.46	.21	.021	105
120	6.02	4.49	2.90	2.07	1.73	1.61	1.03	.40	.37	.17	.009	120
135	5.48	4.05	2.73	1.90	1.60	1.52	.99	.39	.38	.18	.013	135
150	5.71	4.23	2.82	2.06	1.74	1.64	1.08	.48	.43	.23	.043	150
165	6.35	4.67	3.06	2.26	1.85	1.72	1.13	.49	.43	.23	.031	165
180	6.13	4.49	2.95	2.17	1.78	1.68	1.10	.48	.43	.22	.025	180
195	5.92	4.35	2.84	2.09	1.73	1.63	1.08	.49	.45	.23	.035	195
210	5.67	4.20	2.81	2.11	1.74	1.68	1.13	.55	.49	.27	.062	210
225	6.26	4.55	3.03	2.36	1.94	1.81	1.19	.58	.50	.27	.066	225
240	7.30	5.09	3.40	2.61	2.09	1.94	1.25	.61	.51	.27	.064	240
255	7.06	4.95	3.34	2.58	2.10	1.97	1.30	.66	.54	.29	.078	255
270	5.32	3.81	2.53	1.91	1.56	1.53	1.02	.51	.57	.24	.048	270
285	2.92	2.08	1.32	1.05	.82	.81	.54	.21	.23	.11	-.007	285
300	3.98	2.84	1.75	1.30	1.03	1.07	.66	.25	.25	.12	.009	300
315	5.79	4.26	2.72	2.03	1.65	1.61	1.00	.48	.41	.21	.048	315
330	7.12	5.03	3.35	2.55	2.08	1.94	1.24	.62	.49	.26	.068	330
345	7.58	5.33	3.56	2.72	2.20	2.03	1.31	.64	.53	.25	.055	345

TABLE 66 - Continued

FLIGHT 52, LEVEL DECELERATING FLIGHT

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75							r/R = 0.55							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.72	2.86	2.34	1.70	1.18	.46	.076	3.49	1.71	1.24	.91	.75	.41	.098	0
15	5.45	2.63	2.18	1.60	1.08	.41	.064	3.40	1.70	1.21	.88	.72	.40	.093	15
30	5.02	2.38	2.06	1.51	.99	.37	.057	3.51	1.75	1.25	.92	.74	.41	.108	30
45	4.56	2.17	1.94	1.42	.89	.33	.057	3.44	1.71	1.21	.89	.73	.39	.102	45
60	4.04	1.82	1.69	1.26	.72	.24	.036	3.01	1.47	1.05	.77	.63	.35	.090	60
75	3.39	1.45	1.35	1.09	.61	.21	.031	2.53	1.25	.88	.64	.55	.30	.091	75
90	3.02	1.35	1.28	1.02	.57	.20	.028	2.42	1.18	.82	.60	.54	.30	.092	90
105	3.45	2.18	1.91	1.52	.99	.37	.057	2.08	.96	.73	.50	.44	.25	.068	105
120	4.14	2.11	1.94	1.43	.93	.36	.066	2.40	1.18	.86	.59	.51	.28	.087	120
135	4.14	2.01	1.86	1.37	.89	.35	.078	2.16	1.04	.81	.59	.53	.32	.095	135
150	4.28	2.13	1.96	1.46	.98	.39	.088	2.10	1.09	.87	.63	.58	.35	.113	150
165	4.61	2.31	2.06	1.52	1.03	.39	.076	2.89	1.45	1.06	.79	.67	.35	.101	165
180	4.48	2.14	1.92	1.41	.96	.36	.071	2.80	1.39	1.02	.75	.63	.32	.087	180
195	4.31	2.06	1.86	1.36	.94	.36	.073	2.69	1.34	1.00	.74	.61	.33	.088	195
210	4.25	2.09	1.86	1.39	.96	.39	.088	2.41	1.22	.95	.72	.60	.33	.084	210
225	4.18	2.08	1.86	1.41	.99	.42	.095	1.63	.79	.64	.46	.42	.29	.082	225
240	4.48	2.40	2.02	1.52	1.04	.44	.095	2.01	.96	.76	.55	.45	.26	.060	240
255	4.31	1.87	1.66	1.21	.84	.32	.050	1.83	.88	.69	.50	.43	.24	.051	255
270	3.28	1.15	1.12	.87	.59	.24	.055	1.91	.91	.72	.51	.43	.27	.055	270
285	2.88	1.29	1.26	.93	.59	.23	.047	2.06	.99	.77	.55	.46	.28	.061	285
300	3.17	1.56	1.43	1.06	.68	.27	.057	2.20	1.05	.81	.58	.48	.27	.060	300
315	3.82	2.06	1.76	1.32	.90	.37	.083	2.43	1.18	.89	.64	.53	.31	.068	315
330	4.61	2.57	2.11	1.58	1.11	.46	.083	2.84	1.42	1.05	.77	.63	.36	.088	330
345	5.23	2.82	2.29	1.70	1.18	.48	.083	3.28	1.64	1.18	.87	.72	.40	.095	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40					r/R = 0.25					ψ_{nom}, deg
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.63	.80	.56	.33	.105	.92	.49	.30	.13	.011	0
15	1.71	.83	.59	.34	.106	.97	.52	.33	.14	.012	15
30	1.74	.84	.58	.34	.106	.97	.52	.32	.13	.013	30
45	1.80	.84	.58	.33	.110	.84	.44	.25	.09	-.001	45
60	1.66	.75	.52	.30	.104	.77	.40	.23	.08	-.001	60
75	1.37	.62	.44	.28	.104	.64	.34	.20	.07	.000	75
90	1.25	.57	.41	.26	.099	.55	.30	.17	.06	.000	90
105	1.25	.57	.40	.26	.094	.57	.30	.18	.06	.002	105
120	1.15	.54	.37	.25	.089	.59	.31	.19	.07	-.001	120
135	.93	.47	.33	.25	.090	.62	.34	.20	.08	.008	135
150	1.16	.57	.43	.28	.096	.64	.34	.20	.07	.002	150
165	1.51	.68	.46	.28	.097	.61	.33	.18	.07	.005	165
180	1.39	.67	.47	.28	.090	.52	.28	.16	.06	.002	180
195	1.36	.66	.46	.28	.088	.45	.25	.15	.06	.001	195
210	1.28	.62	.44	.27	.087	.42	.22	.13	.05	-.006	210
225	.84	.42	.32	.23	.076	.41	.22	.12	.03	-.009	225
240	.76	.37	.28	.21	.070	.30	.17	.10	.03	-.009	240
255	.86	.41	.30	.21	.070	.26	.15	.09	.03	-.016	255
270	.89	.45	.32	.22	.071	.25	.14	.09	.02	-.020	270
285	.93	.46	.32	.22	.065	.29	.16	.09	.03	-.020	285
300	.99	.49	.35	.23	.076	.34	.18	.11	.03	-.020	300
315	1.11	.56	.40	.26	.090	.55	.30	.18	.07	-.011	315
330	1.37	.68	.49	.30	.105	.72	.39	.23	.09	.000	330
345	1.58	.76	.54	.33	.100	.82	.43	.27	.10	.005	345

TABLE 66 - Continued

FLIGHT 52, LEVEL DECELERATING FLIGHT

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	4.18	8.33	12.27	19.15	21.05	21.68	20.54
15	4.51	8.70	11.98	17.69	18.03	18.01	16.68
30	4.38	8.70	12.36	16.27	15.71	15.52	14.76
45	3.53	8.73	11.99	14.87	13.34	12.48	11.41
60	3.25	7.95	10.48	12.44	8.84	5.21	3.43
75	2.71	6.85	8.99	10.33	7.00	7.37	17.28
90	2.38	6.32	8.64	9.55	13.69	25.91	27.58
105	2.44	6.32	7.23	14.69	20.30	23.18	24.12
120	2.58	5.85	8.48	14.81	17.28	19.08	19.87
135	2.79	5.27	8.31	14.40	16.35	18.91	17.90
150	2.72	6.34	8.87	15.41	17.60	20.87	18.68
165	2.60	7.24	10.56	16.17	18.73	21.01	18.58
180	2.26	7.07	9.96	15.16	18.21	20.77	18.48
195	2.01	6.93	9.81	14.79	17.84	21.70	20.02
210	1.76	6.61	9.31	15.11	18.14	23.93	22.20
225	1.64	4.81	6.77	15.33	19.50	23.71	23.50
240	1.32	4.34	7.33	16.53	21.28	23.92	24.21
255	1.11	4.67	6.75	13.53	21.47	24.62	24.78
270	.99	4.88	7.07	9.54	17.21	25.34	25.43
285	1.13	4.94	7.54	9.61	8.64	11.68	23.94
300	1.36	5.26	7.85	11.05	11.04	11.54	10.85
315	2.38	6.01	8.75	14.18	17.02	19.82	18.57
330	3.22	7.31	10.36	17.31	20.98	23.48	22.50
345	3.63	8.08	11.74	18.81	22.20	23.67	22.72

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	11.391		0	3.906		0	5.380	
1	2.306	-2.379	1	.824	-.794	1	-.194	-.111
2	.050	.000	2	.091	.130	2	-.002	-.039
3	-.095	-.009	3	.286	-.190	3	.034	.015
4	.036	-.054	4	.178	.012	4	.020	-.020
5	.045	.000	5	-.099	.032	5	-.015	-.022
6	-.027	-.068	6	.049	-.030	6	.002	-.005
7	-.005	-.027	7	.055	.000	7	-.005	.000
8	.009	.000	8	-.028	-.020	8	-.002	-.022
9	-.014	-.009	9	.000	.012	9	.002	.000
10	-.023	-.027	10	.010	-.006	10	.000	.005

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom}\right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom}\right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom}\right)$$

TABLE 66 - Continued

FLIGHT 52, LEVEL DECELERATING FLIGHT

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.536		.75	0	14.446		.95	0	19.500	
.25	1	.792	.832	.75	1	.453	.089	.95	1	-2.106	-2.642
.25	2	.792	.083	.75	2	3.048	.141	.95	2	-1.215	-1.098
.25	3	.203	.111	.75	3	1.840	-.173	.95	3	3.827	-1.878
.25	4	-.061	-.028	.75	4	-.586	-.471	.95	4	3.038	.018
.25	5	-.025	.023	.75	5	-.723	.069	.95	5	-.738	.551
.25	6	-.043	.046	.75	6	.497	-.380	.95	6	-2.815	-.753
.25	7	-.047	.069	.75	7	.292	.082	.95	7	-.881	-.566
.25	8	-.017	.034	.75	8	-.424	.172	.95	8	.925	.182
.25	9	-.033	-.010	.75	9	.133	-.047	.95	9	1.483	.356
.25	10	.017	-.037	.75	10	.262	-.114	.95	10	.534	-.046
.40	0	6.562		.85	0	16.727					
.40	1	.955	.965	.85	1	-1.067	-1.682				
.40	2	1.170	.416	.85	2	2.679	-.486				
.40	3	-.315	.005	.85	3	3.873	-.621				
.40	4	.205	.039	.85	4	.469	-.802				
.40	5	-.144	-.172	.85	5	-2.310	-.010				
.40	6	-.115	-.141	.85	6	-.469	-.417				
.40	7	.164	.101	.85	7	1.091	.166				
.40	8	-.135	-.032	.85	8	.319	.140				
.40	9	.022	.058	.85	9	-.284	-.239				
.40	10	-.009	.008	.85	10	-.119	-.066				
.55	0	9.308		.90	0	19.309					
.55	1	1.283	.929	.90	1	-2.748	-2.533				
.55	2	1.805	.445	.90	2	1.535	-1.000				
.55	3	-.303	.226	.90	3	4.506	-1.717				
.55	4	.158	-.038	.90	4	1.886	-.398				
.55	5	-.087	-.236	.90	5	-2.328	.476				
.55	6	-.022	-.104	.90	6	-2.738	-.441				
.55	7	.026	-.084	.90	7	1.129	-.314				
.55	8	-.090	-.176	.90	8	1.769	.095				
.55	9	.268	.227	.90	9	.024	.216				
.55	10	-.154	-.122	.90	10	-.998	-.076				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 66 - Concluded

FLIGHT 52, LEVEL DECELERATING FLIGHT

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-1957	-2888	-4457	-3755	-5788	-7182		
15	266	-1667	-3932	-3507	-4961	-5859		
30	1155	182	-1519	-1332	-3782	-4476		
45	1440	850	-217	757	-552	-1332		
60	2044	1262	325	1282	-438	-1013		
75	2033	776	-904	-416	-2118	-2068		
90	106	-1345	-3101	-2524	-3130	-1720		
105	-498	-2838	-4719	-2668	-209	250		
120	-1353	-182	-597	423	-1854	-2755		
135	5202	2401	253	729	-1617	-3003		
150	2284	2112	1781	2207	-798	-1899		
165	1075	198	-380	1406	1551	1872		
180	1155	-17	-1157	99	-42	708		
195	1873	602	-1229	-712	-1590	-1362		
210	1315	751	-777	-378	-2514	-3929		
225	1691	512	-1266	-922	-3034	-4347		
240	779	-454	-2097	-1046	-1054	-466		
255	-247	-479	-850	967	1111	2131		
270	2318	1617	579	1969	2334	3892		
285	2135	2937	2540	3514	2625	3783		
300	1634	1939	1654	3161	3417	3932		
315	232	718	443	1826	478	-585		
330	1064	8	-2115	-1838	-3922	-4516		
345	-145	-1790	-4095	-3841	-6043	-7252		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-9422	-4103	3673	
15	-9097	-8189	-2247	
30	-10513	-10435	-3607	
45	-12239	-8987	569	
60	-8218	-4347	3865	
75	-4603	1270	7177	
90	-5466	912	9001	
105	-387	-2458	857	
120	-3301	-8221	-4343	
135	-9618	-13089	-2039	
150	-4376	-7310	-3159	
165	-3480	-2491	4681	
180	-6443	716	11401	
195	-3285	1433	6761	
210	-5401	-4624	3305	
225	-8120	-8726	-1783	
240	-6378	-10094	-5911	
255	-10220	-10028	-3607	
270	-14013	-9931	-727	
285	-15527	-10077	-1047	
300	-16765	-9328	617	
315	-15527	-7635	4345	
330	-10171	-2035	4185	
345	-8934	-1433	5705	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	2028	1116	
15	1907	889	
30	2131	977	
45	2217	871	
60	1947	677	
75	1911	860	
90	2435	1239	
105	2425	1323	
120	1777	630	
135	1769	252	
150	2212	877	
165	2121	830	
180	1371	369	
195	1281	370	
210	1650	382	
225	1843	597	
240	1800	587	
255	1258	237	
270	1032	-14	
285	1250	216	
300	1096	77	
315	1292	262	
330	1426	634	
345	1683	837	

TABLE 67

FLIGHT 53, LEVEL DECELERATING FLIGHT

(SEE FIG. 13, t = 11.4 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.53	4.16	3.12	2.13	1.11	.51	.071	7.38	3.74	2.71	2.30	1.41	.53	.022	0
15	5.21	3.61	2.80	1.88	.91	.45	.056	6.45	3.27	2.43	2.07	1.29	.48	.000	15
30	4.65	3.43	2.67	1.76	.81	.43	.038	5.64	2.86	2.20	1.91	1.16	.43	-.022	30
45	3.66	2.80	2.35	1.49	.60	.35	.012	4.73	2.41	1.85	1.66	.95	.32	-.062	45
60	.28	.94	1.12	.54	-.03	.14	-.028	2.49	1.25	1.04	.92	.42	.12	-.118	60
75	4.53	3.14	2.50	1.47	.44	.28	.040	.50	.16	.42	.56	.25	.13	-.096	75
90	8.37	5.61	4.20	2.87	1.45	.69	.097	5.88	3.27	2.76	2.55	1.54	.60	.000	90
105	7.76	5.04	3.76	2.58	1.45	.61	.071	8.65	4.44	3.26	2.76	1.68	.63	.014	105
120	6.14	4.15	3.15	2.05	1.05	.46	.048	6.68	3.41	2.49	2.15	1.27	.46	-.016	120
135	5.05	3.63	2.87	1.86	.86	.44	.050	5.56	2.86	2.20	1.96	1.14	.45	-.011	135
150	5.42	3.78	3.01	1.98	.97	.51	.083	5.59	2.93	2.27	2.05	1.23	.53	.018	150
165	5.81	3.94	3.01	2.04	1.02	.50	.068	6.40	3.33	2.52	2.20	1.32	.51	.009	165
180	5.28	3.58	2.79	1.88	.92	.48	.067	5.93	3.01	2.29	2.02	1.22	.47	.000	180
195	5.56	3.76	2.85	1.95	.98	.51	.080	5.61	2.85	2.21	1.99	1.22	.50	.016	195
210	6.12	4.10	2.98	2.09	1.09	.54	.090	6.11	3.18	2.41	2.13	1.32	.54	.036	210
225	6.63	4.26	3.11	2.17	1.15	.55	.097	6.65	3.43	2.57	2.23	1.39	.57	.047	225
240	6.84	4.31	3.17	2.20	1.17	.56	.101	6.65	3.45	2.59	2.23	1.41	.59	.065	240
255	6.72	4.20	3.03	2.15	1.16	.56	.105	7.03	3.57	2.63	2.23	1.41	.59	.069	255
270	7.00	4.28	3.14	2.24	1.24	.61	.129	7.51	3.87	2.87	2.44	1.56	.66	.098	270
285	7.64	4.59	3.27	2.42	1.43	.70	.159	7.89	3.96	2.93	2.49	1.63	.73	.118	285
300	6.19	3.77	2.68	1.92	1.08	.53	.109	2.96	1.71	1.36	1.22	.85	.42	.038	300
315	4.40	2.86	2.14	1.46	.71	.37	.056	3.64	1.71	1.49	1.38	.86	.37	.014	315
330	6.59	4.20	3.02	2.13	1.12	.54	.088	6.56	3.45	2.57	2.18	1.40	.56	.049	330
345	7.42	4.60	3.29	2.35	1.27	.59	.093	7.70	3.98	2.90	2.46	1.55	.62	.056	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	7.56	5.44	3.91	2.89	2.44	2.05	1.34	.65	.60	.31	.076	0
15	6.86	5.15	3.61	2.63	2.26	1.91	1.26	.58	.55	.28	.064	15
30	6.07	4.43	3.24	2.34	2.03	1.73	1.12	.49	.47	.24	.050	30
45	5.07	3.75	2.81	1.92	1.67	1.42	.92	.36	.38	.18	.023	45
60	3.28	2.35	1.82	1.39	1.18	.88	.58	.14	.23	.09	-.016	60
75	1.70	1.20	.95	.69	.59	.68	.30	-.01	.13	.04	-.037	75
90	5.02	3.57	2.61	1.85	1.53	1.33	.85	.34	.38	.19	.025	90
105	9.04	6.31	4.56	3.38	2.88	2.39	1.56	.74	.63	.31	.076	105
120	6.14	4.57	3.28	2.37	2.04	1.73	1.14	.49	.48	.24	.037	120
135	5.13	3.82	2.82	1.97	1.73	1.49	1.00	.44	.43	.24	.046	135
150	5.90	4.36	3.13	2.26	1.96	1.69	1.14	.53	.51	.29	.070	150
165	6.42	4.80	3.42	2.46	2.11	1.77	1.19	.54	.50	.27	.056	165
180	5.63	4.24	3.02	2.16	1.88	1.59	1.08	.48	.47	.24	.039	180
195	5.26	3.97	2.86	2.03	1.77	1.51	1.03	.47	.48	.25	.046	195
210	5.83	4.36	3.08	2.26	1.94	1.67	1.12	.54	.52	.29	.076	210
225	6.61	4.80	3.39	2.50	2.11	1.79	1.19	.58	.55	.31	.083	225
240	6.56	4.75	3.40	2.59	2.18	1.88	1.26	.64	.58	.32	.095	240
255	7.05	4.92	3.65	2.75	2.29	1.98	1.33	.69	.62	.35	.109	255
270	7.94	5.46	3.99	3.01	2.53	2.16	1.44	.76	.68	.38	.128	270
285	5.83	4.11	2.99	2.19	1.86	1.63	1.08	.58	.54	.30	.081	285
300	2.65	1.92	1.47	1.16	.95	.85	.58	.26	.33	.18	.023	300
315	4.73	3.49	2.41	1.74	1.47	1.33	.83	.35	.41	.22	.052	315
330	6.84	4.94	3.52	2.60	2.20	1.89	1.22	.61	.56	.31	.093	330
345	7.81	5.46	3.97	2.99	2.52	2.13	1.38	.71	.64	.35	.099	345

TABLE 67 - Continued

FLIGHT 53, LEVEL DECELERATING FLIGHT

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.79	3.17	2.35	1.81	1.24	.54	.094	3.36	1.71	1.14	.99	.79	.43	.102	0
15	5.92	3.12	2.34	1.80	1.21	.53	.087	3.52	1.78	1.19	1.03	.81	.45	.102	15
30	5.60	2.87	2.20	1.69	1.13	.48	.077	3.66	1.84	1.22	1.05	.83	.45	.102	30
45	5.01	2.49	1.97	1.52	.96	.41	.066	3.44	1.73	1.15	1.00	.80	.42	.100	45
60	4.19	2.01	1.64	1.27	.77	.32	.049	3.01	1.50	1.01	.88	.72	.38	.096	60
75	3.36	1.59	1.25	1.08	.60	.26	.039	2.61	1.31	.87	.79	.64	.34	.093	75
90	2.72	1.27	1.05	.95	.51	.22	.023	2.40	1.23	.79	.71	.59	.32	.092	90
105	3.55	2.56	1.96	1.61	1.03	.44	.080	2.06	1.00	.66	.60	.49	.26	.070	105
120	4.54	2.62	2.09	1.61	1.05	.42	.066	.96	.43	.37	.38	.32	.20	.058	120
135	4.11	2.14	1.76	1.37	.89	.40	.068	1.12	.52	.43	.44	.37	.27	.079	135
150	4.30	2.41	1.96	1.53	.99	.46	.087	2.25	1.20	.86	.76	.62	.35	.107	150
165	4.76	2.63	2.09	1.63	1.08	.47	.077	3.49	1.73	1.15	1.01	.79	.38	.096	165
180	4.59	2.29	1.85	1.41	.92	.39	.063	2.77	1.37	.93	.82	.66	.34	.089	180
195	4.15	2.14	1.74	1.34	.88	.39	.066	2.76	1.37	.92	.82	.65	.37	.100	195
210	4.33	2.33	1.84	1.43	.95	.43	.087	2.98	1.50	1.02	.88	.69	.38	.105	210
225	4.73	2.69	2.02	1.56	1.04	.47	.091	3.17	1.60	1.08	.95	.74	.37	.100	225
240	5.40	3.07	2.24	1.72	1.19	.51	.087	1.41	.74	.55	.58	.50	.31	.064	240
255	5.64	3.05	2.25	1.67	1.19	.52	.094	1.52	.75	.50	.48	.41	.25	.055	255
270	5.23	2.08	1.74	1.39	1.00	.45	.072	1.66	.80	.56	.53	.43	.26	.058	270
285	3.58	1.22	.98	.85	.55	.30	.055	1.96	.96	.68	.62	.50	.30	.069	285
300	3.18	1.67	1.32	1.04	.64	.31	.053	2.30	1.14	.79	.71	.56	.31	.069	300
315	3.77	2.17	1.67	1.28	.84	.36	.066	2.43	1.20	.83	.73	.57	.32	.066	315
330	4.49	2.64	2.00	1.53	1.03	.46	.087	2.62	1.33	.90	.78	.62	.35	.076	330
345	5.21	3.04	2.24	1.74	1.20	.53	.104	3.03	1.55	1.05	.91	.72	.40	.094	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.43	.75	.47	.31	.085	1.03	.50	.30	.16	.036	0
15	1.69	.86	.54	.34	.101	.88	.42	.28	.21	.055	15
30	1.71	.88	.55	.34	.100	.92	.43	.27	.16	.049	30
45	1.86	.91	.56	.33	.097	.93	.41	.24	.13	.027	45
60	1.66	.82	.50	.31	.095	.93	.44	.25	.11	.037	60
75	1.53	.74	.45	.28	.083	.76	.35	.20	.10	.012	75
90	1.23	.59	.37	.25	.087	.59	.28	.17	.10	.022	90
105	1.19	.57	.35	.25	.084	.54	.25	.14	.09	.018	105
120	1.14	.58	.33	.23	.074	.59	.27	.16	.10	.019	120
135	.85	.45	.27	.23	.078	.61	.29	.17	.10	.024	135
150	1.11	.57	.34	.25	.076	.64	.30	.17	.09	.018	150
165	1.06	.55	.33	.23	.069	.54	.26	.14	.09	.019	165
180	1.11	.59	.36	.25	.077	.51	.24	.14	.09	.022	180
195	1.17	.62	.38	.26	.083	.43	.21	.13	.09	.023	195
210	.93	.55	.36	.26	.080	.33	.16	.10	.08	.014	210
225	.89	.46	.26	.21	.070	.38	.18	.11	.08	.019	225
240	.64	.37	.23	.20	.059	.43	.20	.11	.08	.013	240
255	.82	.43	.26	.20	.058	.37	.17	.11	.08	.012	255
270	.88	.47	.28	.21	.064	.37	.16	.10	.07	.009	270
285	.95	.51	.30	.22	.065	.40	.17	.10	.07	.007	285
300	1.01	.53	.32	.23	.067	.41	.18	.11	.07	.008	300
315	1.09	.58	.35	.24	.075	.49	.23	.14	.09	.011	315
330	1.23	.65	.40	.27	.082	.68	.34	.21	.13	.023	330
345	1.34	.71	.45	.29	.085	.83	.41	.25	.14	.029	345

TABLE 67 - Continued

FLIGHT 53, LEVEL DECELERATING FLIGHT

(SEE FIG. 13, t = 11.4 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	4.69	7.36	12.36	20.41	23.60	23.46	22.84
15	4.58	8.47	12.85	20.21	21.71	20.81	19.48
30	4.31	8.59	13.13	18.80	19.27	18.48	18.07
45	3.96	8.89	12.45	16.43	15.99	15.11	14.64
60	3.91	8.07	11.04	13.36	10.19	7.18	3.94
75	3.16	7.27	9.73	10.62	5.34	2.76	15.06
90	2.69	6.12	9.04	8.78	15.20	22.72	30.33
105	2.40	5.92	7.51	16.03	27.30	27.81	27.81
120	2.63	5.65	4.42	16.87	19.47	21.08	21.99
135	2.74	4.70	5.42	14.62	16.81	18.54	19.25
150	2.73	5.71	9.32	16.27	19.22	19.67	20.83
165	2.40	5.42	12.24	17.44	20.34	21.43	21.41
180	2.33	5.86	10.11	15.39	18.19	19.60	19.72
195	2.09	6.15	10.22	14.53	17.43	19.23	20.68
210	1.67	5.55	10.98	15.66	19.11	21.05	22.42
225	1.79	4.66	11.49	17.32	20.78	22.50	23.53
240	1.95	3.82	6.80	19.38	21.38	22.76	23.98
255	1.77	4.37	6.06	19.63	22.76	23.27	23.51
270	1.70	4.70	6.51	16.01	25.15	25.51	24.65
285	1.70	4.96	7.64	9.84	18.84	26.66	27.06
300	1.79	5.23	8.58	11.12	9.66	12.47	21.47
315	2.26	5.68	8.91	13.85	14.82	12.90	15.58
330	3.24	6.42	9.74	16.94	21.52	22.40	23.06
345	3.84	5.84	11.29	19.46	24.44	26.61	25.55

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	11.681		0	3.550		0	5.726	
1	3.269	-1.112	1	.385	-.624	1	-.290	-.118
2	.009	.077	2	.071	.215	2	-.005	-.008
3	-.236	-.045	3	.348	-.126	3	.061	.046
4	-.064	-.068	4	.196	.117	4	.000	-.009
5	.118	.154	5	-.233	.085	5	-.028	-.006
6	-.041	-.014	6	.014	-.010	6	-.009	-.002
7	.045	-.018	7	.006	.071	7	.003	.011
8	.005	-.027	8	.000	-.040	8	.000	-.002
9	-.014	.004	9	.000	.012	9	.000	.002
10	.032	-.004	10	-.016	.002	10	-.009	-.013

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 67 - Continued

FLIGHT 53, LEVEL DECELERATING FLIGHT

(SEE FIG. 13, t = 11.4 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.763		.75	0	15.790		.95	0	21.119	
.25	1	.901	.722	.75	1	.397	-.675	.95	1	-1.451	-2.251
.25	2	.568	.219	.75	2	2.328	.965	.95	2	-.948	-2.051
.25	3	.194	.191	.75	3	2.846	1.184	.95	3	3.429	-1.191
.25	4	.042	-.131	.75	4	-.162	-.725	.95	4	3.077	1.563
.25	5	.058	-.057	.75	5	-1.308	-.239	.95	5	-.381	1.320
.25	6	.081	.041	.75	6	.339	-.256	.95	6	-2.119	-2.202
.25	7	-.025	.004	.75	7	.612	.720	.95	7	-.507	-1.895
.25	8	.005	.075	.75	8	-.439	-.220	.95	8	.197	-.191
.25	9	.010	-.001	.75	9	-.046	-.434	.95	9	.518	.854
.25	10	.009	.012	.75	10	.085	.098	.95	10	-.039	.683
.40	0	6.058		.85	0	18.687					
.40	1	1.123	1.095	.85	1	-.530	-1.900				
.40	2	.589	.654	.85	2	1.586	-.551				
.40	3	-.454	.153	.85	3	4.620	1.025				
.40	4	-.018	.260	.85	4	1.908	.549				
.40	5	-.078	-.075	.85	5	-2.105	-.832				
.40	6	-.092	.080	.85	6	-1.415	-2.401				
.40	7	.107	.167	.85	7	.901	.804				
.40	8	-.062	.115	.85	8	.129	1.243				
.40	9	.065	.000	.85	9	-.217	-.277				
.40	10	.104	.217	.85	10	.189	-.562				
.55	0	9.492		.90	0	19.750					
.55	1	1.203	.501	.90	1	-1.365	-2.696				
.55	2	2.220	1.522	.90	2	.869	-1.447				
.55	3	-.899	-.213	.90	3	4.779	.616				
.55	4	.125	-.064	.90	4	2.834	1.552				
.55	5	.431	.790	.90	5	-1.529	-.555				
.55	6	-.451	-.785	.90	6	-1.939	-3.551				
.55	7	.272	.237	.90	7	.133	-.655				
.55	8	.044	-.095	.90	8	.293	1.399				
.55	9	-.126	-.079	.90	9	-.105	1.035				
.55	10	-.041	.094	.90	10	-.223	-.559				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 67 - Concluded

FLIGHT 53, LEVEL DECELERATING FLIGHT

(SEE FIG. 13, t = 11.4 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	298	-1543	-2748	-4363	-7292	-10780		
15	-1982	-3119	-3887	-4830	-5743	-7477		
30	-762	-2005	-2893	-3418	-3235	-3885		
45	732	1097	1347	760	-1264	-3258		
60	4334	3317	3110	2124	-41	-2233		
75	2692	2566	2676	1466	-1405	-3358		
90	606	-734	-1501	-2369	-2091	-930		
105	-1184	-3490	-4836	-4554	417	3418		
120	-2837	-2170	-461	598	619	-2333		
135	4790	3416	3037	2229	-1775	-5716		
150	5611	4777	4357	2592	-1264	-3676		
165	150	611	2215	2888	2793	2274		
180	196	-710	-199	312	1728	2413		
195	2122	1460	371	-1215	-1959	-1885		
210	2293	1733	1238	-146	-3112	-6353		
225	1552	1130	615	-852	-4705	-7497		
240	1074	-644	-1727	-2426	-3156	-3626		
255	-1526	-1700	-922	73	1437	672		
270	1017	1172	2070	2620	2951	2453		
285	3958	4843	4981	3889	2872	3687		
300	2157	3259	4439	4757	4931	5727		
315	-283	710	1916	3012	4905	5468		
330	150	347	579	340	-639	-1895		
345	1062	677	-217	-2359	-6131	-9208		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-1663	-1970	7687	
15	877	-5551	-489	
30	-6563	-11770	-409	
45	-6075	-12080	-1833	
60	-2965	-7684	1399	
75	-1793	-1009	9895	
90	4426	3549	11959	
105	9847	1823	4663	
120	909	-8254	743	
135	-3372	-14864	-3993	
150	1365	-11770	-6617	
165	1463	-5454	4055	
180	1707	1791	13383	
195	3823	3940	12279	
210	-1142	-2312	9671	
225	-1191	-9003	-89	
240	1365	-11787	-8025	
255	-4414	-12812	-3945	
270	-7442	-10973	423	
285	-11464	-9735	1335	
300	-12050	-11738	103	
315	-9705	-11868	1207	
330	-5814	-4737	4327	
345	-5863	-879	9911	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	-86	310	66
15	249	596	87
30	561	417	144
45	370	343	122
60	57	-81	108
75	257	133	118
90	854	876	194
105	791	1149	119
120	-109	-161	5
135	-392	-493	1
150	899	429	131
165	952	662	136
180	-418	-101	-1
195	-694	-259	-32
210	-191	-298	13
225	260	225	50
240	486	404	36
255	-366	-372	-43
270	-1072	-728	-81
285	-847	-676	-19
300	-307	-302	35
315	-243	-231	23
330	-561	-69	19
345	-295	-4	55

TABLE 68

FLIGHT 53, LEVEL DECELERATING FLIGHT

(SEE FIG. 13, t = 14.5 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.63	4.19	3.17	2.15	1.14	.54	.079	7.06	3.61	2.67	2.24	1.40	.54	.022	0
15	5.72	3.83	2.92	1.95	.97	.47	.054	6.53	3.34	2.47	2.10	1.31	.48	.002	15
30	5.12	3.61	2.82	1.84	.87	.44	.048	5.90	2.98	2.27	1.97	1.19	.44	-.020	30
45	4.77	3.47	2.78	1.77	.79	.42	.040	5.48	2.80	2.14	1.91	1.10	.41	-.031	45
60	4.54	3.34	2.74	1.69	.72	.39	.034	4.94	2.60	1.99	1.79	1.02	.36	-.056	60
75	5.31	3.74	2.89	1.79	.74	.38	.030	4.26	2.28	1.76	1.62	.89	.32	-.065	75
90	8.56	5.61	4.09	2.66	1.25	.52	.046	2.33	1.47	1.43	1.46	.86	.36	-.062	90
105	8.95	5.76	4.27	2.90	1.52	.68	.098	6.90	3.72	2.94	2.62	1.55	.60	.011	105
120	8.37	5.35	3.93	2.72	1.44	.66	.098	8.38	4.44	3.32	2.85	1.73	.67	.027	120
135	7.46	4.83	3.59	2.40	1.23	.57	.083	7.46	3.85	2.90	2.48	1.51	.59	.020	135
150	6.86	4.54	3.46	2.30	1.18	.56	.080	6.94	3.60	2.72	2.38	1.44	.58	.027	150
165	6.90	4.56	3.44	2.31	1.19	.57	.084	6.78	3.59	2.73	2.41	1.45	.58	.034	165
180	6.63	4.40	3.30	2.24	1.15	.55	.079	6.96	3.63	2.72	2.38	1.44	.57	.022	180
195	6.32	4.24	3.15	2.16	1.09	.54	.072	6.60	3.39	2.56	2.24	1.37	.55	.016	195
210	6.40	4.27	3.12	2.14	1.12	.54	.084	6.43	3.30	2.48	2.19	1.36	.56	.027	210
225	6.73	4.38	3.17	2.21	1.16	.56	.090	6.72	3.47	2.59	2.27	1.38	.58	.038	225
240	7.09	4.47	3.26	2.28	1.22	.57	.098	6.85	3.59	2.69	2.31	1.44	.60	.054	240
255	7.41	4.56	3.33	2.32	1.27	.60	.105	7.14	3.68	2.76	2.37	1.50	.61	.069	255
270	7.65	4.60	3.28	2.34	1.29	.62	.117	7.72	3.91	2.85	2.43	1.54	.63	.076	270
285	8.03	4.79	3.38	2.44	1.39	.66	.139	7.70	3.89	2.87	2.43	1.56	.64	.078	285
300	8.16	4.76	3.36	2.46	1.45	.68	.141	7.26	3.54	2.55	2.15	1.37	.56	.060	300
315	7.19	4.26	3.00	2.16	1.21	.55	.090	3.20	1.80	1.55	1.50	.96	.45	.016	315
330	6.49	4.14	2.96	2.09	1.12	.54	.090	6.24	3.22	2.41	2.06	1.30	.53	.034	330
345	6.71	4.23	3.13	2.15	1.15	.55	.084	6.78	3.50	2.58	2.19	1.37	.53	.031	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	7.11	5.26	3.71	2.72	2.30	1.95	1.27	.61	.57	.30	.075	0
15	6.78	5.06	3.55	2.61	2.22	1.87	1.21	.56	.53	.27	.066	15
30	6.20	4.58	3.29	2.38	2.05	1.74	1.12	.50	.48	.25	.050	30
45	5.79	4.25	3.07	2.18	1.91	1.62	1.04	.45	.44	.22	.037	45
60	5.19	3.82	2.87	1.92	1.68	1.42	.94	.36	.38	.19	.018	60
75	4.06	3.02	2.31	1.77	1.43	1.08	.76	.27	.31	.15	-.008	75
90	2.11	1.46	1.22	.86	.76	.84	.42	.08	.19	.08	-.033	90
105	3.98	2.82	2.11	1.53	1.29	1.19	.72	.25	.33	.17	.010	105
120	9.10	6.42	4.62	3.39	2.85	2.30	1.47	.65	.57	.29	.060	120
135	7.05	5.15	3.72	2.74	2.37	2.00	1.34	.64	.60	.32	.075	135
150	6.62	4.87	3.52	2.58	2.24	1.89	1.26	.61	.57	.32	.076	150
165	6.84	5.08	3.65	2.67	2.30	1.94	1.30	.62	.58	.31	.081	165
180	7.09	5.23	3.70	2.71	2.31	1.92	1.28	.60	.54	.29	.068	180
195	6.55	4.87	3.45	2.50	2.13	1.78	1.19	.55	.52	.28	.056	195
210	6.30	4.71	3.33	2.41	2.07	1.74	1.15	.55	.53	.29	.064	210
225	6.78	5.01	3.53	2.55	2.16	1.82	1.21	.58	.54	.31	.076	225
240	6.84	4.94	3.58	2.66	2.23	1.91	1.28	.66	.60	.34	.093	240
255	7.09	5.04	3.67	2.74	2.33	2.00	1.32	.69	.62	.34	.101	255
270	6.80	4.92	3.55	2.69	2.28	1.97	1.32	.70	.63	.36	.105	270
285	5.95	4.30	3.13	2.26	1.96	1.68	1.14	.58	.56	.31	.076	285
300	2.75	1.98	1.57	1.18	.99	.90	.63	.30	.36	.21	.027	300
315	3.65	2.64	1.93	1.47	1.20	1.02	.69	.29	.35	.19	.029	315
330	5.79	4.32	3.04	2.20	1.92	1.67	1.09	.53	.51	.28	.081	330
345	6.67	4.93	3.45	2.56	2.17	1.84	1.20	.59	.56	.30	.087	345

TABLE 68 - Continued

FLIGHT 53, LEVEL DECELERATING FLIGHT

(SEE FIG. 13, t = 14.5 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.21	2.87	2.16	1.67	1.12	.49	.091	2.93	1.48	1.01	.87	.70	.39	.093	0
15	5.38	2.86	2.16	1.67	1.12	.48	.089	3.10	1.57	1.06	.91	.73	.40	.094	15
30	5.23	2.73	2.11	1.62	1.07	.46	.082	3.12	1.57	1.06	.91	.73	.40	.094	30
45	4.89	2.55	2.01	1.55	1.01	.42	.068	3.08	1.53	1.05	.90	.73	.39	.095	45
60	4.42	2.27	1.84	1.42	.90	.38	.058	2.88	1.42	.97	.85	.68	.37	.093	60
75	3.71	1.80	1.47	1.19	.70	.29	.036	2.54	1.26	.86	.75	.61	.34	.088	75
90	2.93	1.39	1.11	.97	.52	.21	.020	2.27	1.17	.75	.67	.57	.31	.088	90
105	2.31	1.17	.92	.84	.41	.17	.010	2.19	1.11	.69	.64	.54	.29	.084	105
120	1.99	1.12	.94	.74	.46	.20	.020	1.91	.93	.64	.55	.47	.24	.072	120
135	2.53	1.69	1.51	1.27	.83	.39	.072	1.56	.74	.55	.46	.40	.23	.068	135
150	4.24	2.95	2.12	1.72	1.11	.45	.068	1.48	.70	.53	.45	.39	.24	.074	150
165	4.95	2.85	2.25	1.73	1.16	.50	.080	1.51	.71	.54	.47	.41	.23	.072	165
180	5.10	2.76	2.18	1.70	1.12	.49	.085	1.41	.68	.51	.47	.40	.22	.065	180
195	4.91	2.53	1.98	1.53	1.02	.44	.077	1.49	.71	.51	.50	.42	.23	.062	195
210	4.77	2.49	1.94	1.50	1.00	.44	.082	1.97	.95	.66	.60	.47	.26	.071	210
225	4.92	2.69	2.06	1.60	1.07	.47	.094	1.43	.70	.51	.48	.41	.24	.062	225
240	5.40	2.94	2.19	1.69	1.14	.50	.091	1.45	.71	.50	.47	.40	.24	.058	240
255	5.42	2.72	2.00	1.50	1.02	.42	.063	1.41	.69	.49	.45	.38	.23	.056	255
270	3.44	.97	.93	.82	.60	.30	.017	1.43	.69	.48	.45	.38	.23	.052	270
285	2.53	1.09	.85	.74	.47	.23	.042	1.48	.71	.51	.47	.40	.24	.055	285
300	2.32	1.25	.98	.83	.49	.23	.034	1.70	.81	.57	.53	.44	.25	.059	300
315	2.97	1.70	1.35	1.05	.62	.29	.042	2.01	.97	.68	.61	.50	.29	.065	315
330	3.85	2.28	1.78	1.36	.88	.40	.070	2.32	1.13	.79	.69	.56	.32	.072	330
345	4.53	2.61	2.00	1.53	1.02	.45	.075	2.56	1.29	.88	.77	.62	.34	.079	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.30	.68	.42	.28	.082	.59	.28	.17	.10	.009	0
15	1.37	.72	.44	.29	.083	.58	.28	.18	.11	.012	15
30	1.45	.73	.45	.29	.091	.63	.31	.19	.12	.015	30
45	1.53	.75	.47	.30	.091	.69	.33	.20	.11	.012	45
60	1.52	.73	.45	.28	.091	.72	.34	.20	.11	.011	60
75	1.37	.66	.41	.26	.087	.67	.32	.18	.10	.008	75
90	1.19	.57	.37	.25	.082	.59	.27	.15	.09	.012	90
105	1.09	.56	.33	.24	.079	.51	.23	.14	.08	.012	105
120	1.05	.54	.31	.23	.073	.51	.23	.13	.08	.007	120
135	.96	.51	.29	.22	.071	.52	.24	.13	.08	.012	135
150	.87	.47	.27	.22	.071	.49	.22	.12	.07	.003	150
165	.80	.44	.25	.20	.065	.45	.20	.11	.07	.011	165
180	.71	.40	.21	.19	.058	.42	.19	.11	.07	.013	180
195	.63	.36	.20	.18	.059	.40	.18	.10	.07	.011	195
210	.60	.35	.20	.18	.060	.34	.15	.09	.06	.005	210
225	.59	.35	.19	.18	.053	.28	.12	.06	.05	.001	225
240	.60	.35	.20	.17	.053	.25	.10	.05	.05	.001	240
255	.63	.35	.21	.18	.051	.25	.10	.05	.05	-.004	255
270	.70	.39	.23	.18	.053	.27	.11	.06	.05	-.004	270
285	.73	.40	.24	.19	.055	.30	.12	.07	.06	.000	285
300	.80	.43	.26	.20	.061	.32	.13	.08	.05	-.006	300
315	.90	.47	.29	.21	.065	.36	.16	.09	.07	-.003	315
330	1.08	.55	.34	.24	.074	.46	.21	.12	.08	.002	330
345	1.19	.62	.39	.26	.076	.55	.27	.16	.10	.011	345

TABLE 68 - Continued

FLIGHT 53, LEVEL DECELERATING FLIGHT

(SEE FIG. 13, t = 14.5 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	2.69	6.73	10.93	18.55	22.29	22.94	23.32
15	2.72	6.99	11.40	18.59	21.27	21.16	20.65
30	2.98	7.26	11.46	17.88	19.55	19.14	19.20
45	3.08	7.48	11.25	16.74	18.15	17.86	18.27
60	3.11	7.33	10.57	15.05	16.19	16.25	17.35
75	2.84	6.69	9.47	12.04	13.02	14.27	18.73
90	2.51	5.98	8.60	9.15	7.12	11.32	28.39
105	2.21	5.59	8.19	7.46	12.61	24.45	31.26
120	2.18	5.33	7.04	7.45	26.63	28.20	29.34
135	2.24	5.02	6.05	12.25	22.80	24.71	26.04
150	2.02	4.70	5.94	17.55	21.55	23.40	24.72
165	1.90	4.35	6.01	18.63	22.20	23.36	24.87
180	1.81	3.88	5.70	18.32	22.12	23.36	23.94
195	1.72	3.58	5.96	16.83	20.61	22.10	22.94
210	1.48	3.55	7.31	16.57	20.10	21.77	23.18
225	1.18	3.44	5.91	17.64	21.19	22.64	23.93
240	1.03	3.50	5.86	18.93	22.10	23.46	24.72
255	1.02	3.58	5.69	17.31	22.85	24.20	25.58
270	1.14	3.87	5.66	9.36	22.44	25.41	25.97
285	1.28	4.01	5.92	7.98	19.53	25.50	27.32
300	1.30	4.32	6.54	8.32	10.28	22.89	27.70
315	1.56	3.29	7.64	10.85	11.93	15.18	23.93
330	2.00	5.58	8.61	14.61	18.85	21.02	22.82
345	2.52	4.20	9.59	16.74	21.14	22.35	23.47

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	11.482		0	3.193		0	6.247	
1	2.406	-.354	1	.587	-.557	1	-.176	-.028
2	.109	-.023	2	-.045	.223	2	-.013	.069
3	-.023	-.050	3	.190	.071	3	.027	.071
4	.023	-.059	4	.034	.144	4	.025	.013
5	-.018	.077	5	-.061	-.061	5	.005	.005
6	.014	.005	6	.016	.028	6	.002	.009
7	.014	.005	7	-.022	.008	7	.005	.006
8	.023	.014	8	.006	.006	8	.002	.008
9	.018	.000	9	.004	-.010	9	.011	.009
10	.000	.005	10	.000	.000	10	.013	-.003

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 68 - Continued

FLIGHT 53, LEVEL DECELERATING FLIGHT

(SEE FIG. 13, t = 14.5 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.021		.75	0	14.366		.95	0	24.068	
.25	1	.452	.774	.75	1	-.473	-.539	.95	1	-1.838	-.760
.25	2	.217	.133	.75	2	4.108	3.001	.95	2	-1.765	-2.894
.25	3	-.055	.025	.75	3	.677	.958	.95	3	1.576	-.466
.25	4	.012	-.042	.75	4	-.207	-2.151	.95	4	1.028	1.396
.25	5	.051	-.100	.75	5	-.239	.643	.95	5	-.493	.604
.25	6	.000	-.005	.75	6	.126	.224	.95	6	.175	-.937
.25	7	-.019	-.028	.75	7	.260	-.363	.95	7	.486	-.456
.25	8	.004	-.009	.75	8	-.258	.151	.95	8	.154	-.020
.25	9	.003	-.001	.75	9	-.138	.215	.95	9	-.177	.285
.25	10	-.001	-.024	.75	10	.356	.041	.95	10	-.185	.013
.40	0	5.011		.85	0	19.021					
.40	1	1.119	1.437	.85	1	-2.062	-1.283				
.40	2	.034	.452	.85	2	2.681	.523				
.40	3	-.033	.333	.85	3	2.837	3.006				
.40	4	-.005	.052	.85	4	-.091	-.528				
.40	5	.080	-.008	.85	5	-.101	-2.623				
.40	6	.012	.007	.85	6	.835	-.196				
.40	7	-.035	.103	.85	7	-1.256	1.257				
.40	8	-.049	.144	.85	8	-.516	-.221				
.40	9	.037	.213	.85	9	.902	.095				
.40	10	.142	.207	.85	10	.197	.433				
.55	0	7.803		.90	0	21.537					
.55	1	2.270	1.431	.90	1	-2.110	-1.922				
.55	2	.602	.918	.90	2	.609	-1.604				
.55	3	.119	-.149	.90	3	2.260	2.085				
.55	4	-.043	.151	.90	4	.272	1.220				
.55	5	.026	-.010	.90	5	-.110	-1.559				
.55	6	-.078	-.056	.90	6	1.252	-1.213				
.55	7	.210	.127	.90	7	-.281	.536				
.55	8	-.086	-.047	.90	8	-1.112	.084				
.55	9	.051	.094	.90	9	-.244	-.222				
.55	10	.068	-.104	.90	10	.530	.545				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 68 - Concluded

FLIGHT 53, LEVEL DECELERATING FLIGHT

(SEE FIG. 13, t = 14.5 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	1242	479	-597	-2103	-4408	-6696		
15	-274	-899	-1401	-2618	-4716	-7094		
30	-525	-1229	-1853	-2761	-3907	-5472		
45	296	-215	-850	-1673	-2604	-3950		
60	809	982	913	368	-836	-2537		
75	1915	1733	1718	1084	-132	-1452		
90	1687	1345	1103	339	-739	-915		
105	501	-206	-1112	-1607	317	2528		
120	-935	-1609	-1284	-624	2183	4249		
135	695	223	913	1465	2324	2329		
150	3442	2978	3019	2391	1470	578		
165	2804	2483	3001	3068	2728	1175		
180	626	668	1718	2772	3652	2339		
195	718	668	1139	1484	1866	1334		
210	1812	1394	1573	1274	185	-1134		
225	1880	1526	1709	1427	-96	-2537		
240	1151	1015	1003	559	-79	-1203		
255	478	58	54	63	1048	1632		
270	68	74	506	969	2728	3781		
285	661	1642	2287	2467	2922	3811		
300	2040	2723	3074	2848	2966	3523		
315	718	1898	2576	2591	2632	2906		
330	159	536	786	988	1813	1533		
345	-320	272	615	-71	-2050	-3850		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-6697	-4314	5619	
15	-4287	-7440	3331	
30	-3278	-7505	-877	
45	-6795	-10582	1587	
60	-4825	-7603	1203	
75	-2871	-6170	3651	
90	-1699	-3305	6163	
105	890	-2149	4563	
120	2827	-6268	1939	
135	613	-8059	-1597	
150	-1357	-11168	-461	
165	1069	-6789	-445	
180	1215	-4689	4595	
195	1118	-2458	6899	
210	-413	-3077	5347	
225	-3213	-8303	3187	
240	-2806	-9068	-2509	
255	-4808	-11819	-2621	
270	-6388	-10875	-1693	
285	-10083	-10110	3	
300	-11906	-11526	1251	
315	-9562	-10159	-205	
330	-9302	-9149	3011	
345	-7381	-5584	4883	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	-27	260	83
15	216	327	93
30	173	458	96
45	364	277	123
60	303	385	126
75	341	269	130
90	519	553	137
105	687	704	161
120	631	552	104
135	21	39	60
150	233	-104	71
165	615	387	112
180	436	255	91
195	-97	-38	24
210	-223	-104	5
225	24	-101	20
240	82	112	32
255	-66	-67	7
270	-523	-371	-29
285	-798	-503	-40
300	-698	-556	-17
315	-402	-223	14
330	-126	-20	30
345	-214	108	40

TABLE 69

FLIGHT 54, LEVEL DECELERATING FLIGHT

(SEE FIG. 14, t = 4.3 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
6	5.57	3.77	3.18	2.02	.99	.47	.045	6.70	3.43	2.68	2.24	1.35	.53	.009	6
21	4.20	3.11	2.78	1.71	.72	.37	.014	5.47	2.87	2.31	1.92	1.13	.42	-.035	21
36	3.40	2.69	2.59	1.54	.55	.33	.004	4.38	2.30	2.01	1.67	.95	.35	-.069	36
51	2.76	2.36	2.42	1.31	.41	.30	-.010	3.79	1.97	1.78	1.51	.83	.29	-.096	51
66	1.55	1.68	1.98	.82	.20	.24	-.022	3.25	1.65	1.50	1.42	.71	.23	-.133	66
81	3.48	2.60	2.44	1.11	.19	.26	.014	2.45	1.19	1.11	1.22	.53	.19	-.150	81
96	6.87	5.14	4.23	2.64	1.13	.51	.032	4.17	2.33	2.18	2.13	1.20	.52	-.061	96
111	6.25	4.74	3.95	2.43	1.05	.48	.029	6.15	3.44	2.80	2.47	1.42	.55	-.050	111
126	4.77	3.73	3.38	2.12	.86	.44	.029	5.90	3.26	2.62	2.34	1.32	.50	-.054	126
141	3.73	2.92	2.84	1.76	.67	.40	.036	5.43	2.95	2.31	2.05	1.16	.45	-.063	141
156	3.63	2.71	2.63	1.66	.65	.40	.049	4.97	2.72	2.17	1.94	1.10	.46	-.041	156
171	3.65	2.58	2.42	1.61	.65	.40	.052	4.93	2.63	2.11	1.88	1.09	.46	-.029	171
186	3.70	2.54	2.32	1.57	.65	.40	.057	4.86	2.57	2.04	1.83	1.08	.45	-.009	186
201	4.06	2.68	2.36	1.64	.74	.42	.065	4.99	2.61	2.07	1.83	1.08	.47	.004	201
216	4.49	2.90	2.46	1.71	.83	.46	.085	5.45	2.68	2.18	1.92	1.15	.52	.035	216
231	5.05	3.19	2.61	1.79	.92	.48	.091	6.17	3.11	2.40	2.06	1.25	.56	.045	231
246	5.59	3.48	2.76	1.92	1.02	.51	.105	6.84	3.47	2.60	2.14	1.36	.60	.068	246
261	6.97	4.15	3.12	2.20	1.20	.57	.123	7.74	3.82	2.82	2.33	1.46	.61	.069	261
276	7.18	4.22	3.19	2.25	1.24	.57	.107	6.05	3.14	2.46	2.14	1.39	.67	.104	276
291	2.95	2.07	1.98	1.44	.84	.46	.075	3.77	1.92	1.51	1.35	.88	.42	.037	291
306	3.09	1.92	1.90	1.06	.43	.29	.049	3.72	1.82	1.41	1.29	.78	.35	.006	306
321	5.29	3.31	2.75	1.78	.88	.46	.077	5.16	2.61	2.02	1.77	1.11	.49	.041	321
336	6.36	3.92	3.21	2.11	1.10	.54	.091	6.60	3.37	2.62	2.17	1.38	.60	.054	336
351	6.55	4.12	3.37	2.22	1.15	.55	.081	7.36	3.74	2.90	2.39	1.49	.61	.050	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
6	6.64	5.11	3.51	2.65	2.38	1.85	1.30	.68	.53	.27	.090	6
21	5.58	4.34	3.07	2.18	2.05	1.59	1.11	.48	.42	.21	.054	21
36	4.75	3.68	2.68	2.17	1.76	1.32	.95	.36	.33	.16	.026	36
51	4.38	3.38	2.47	1.97	1.75	1.15	.85	.29	.28	.12	.010	51
66	3.74	2.91	2.16	1.74	1.53	.95	.79	.21	.21	.08	-.020	66
81	3.33	2.55	1.98	1.57	1.37	1.04	.67	.16	.17	.07	-.028	81
96	5.14	4.15	3.07	2.39	1.98	1.45	1.02	.35	.32	.15	.000	96
111	6.38	5.06	3.64	2.61	2.35	1.74	1.27	.54	.45	.24	.040	111
126	5.75	4.52	3.29	2.29	2.12	1.59	1.17	.49	.42	.22	.042	126
141	5.29	4.08	3.04	2.19	1.94	1.46	1.09	.45	.40	.22	.034	141
156	5.94	4.47	3.27	2.29	2.07	1.55	1.12	.48	.41	.23	.040	156
171	5.86	4.38	3.21	2.34	2.09	1.56	1.14	.50	.43	.24	.046	171
186	5.72	4.25	3.12	2.29	2.04	1.52	1.13	.50	.44	.25	.060	186
201	5.84	4.31	3.10	2.31	2.03	1.52	1.13	.51	.46	.26	.074	201
216	6.44	4.72	3.36	2.53	2.18	1.64	1.19	.58	.49	.29	.084	216
231	7.16	5.08	3.63	2.74	2.35	1.80	1.27	.63	.52	.31	.092	231
246	6.83	4.84	3.51	2.67	2.33	1.84	1.30	.68	.54	.33	.102	246
261	5.75	4.20	3.00	2.29	2.01	1.64	1.19	.65	.54	.34	.106	261
276	4.48	3.30	2.45	1.90	1.71	1.44	1.06	.57	.46	.28	.096	276
291	4.02	2.99	2.09	1.52	1.39	1.11	.81	.39	.35	.20	.058	291
306	4.44	3.22	2.21	1.63	1.45	1.16	.80	.38	.33	.19	.056	306
321	5.89	4.35	2.99	2.23	1.97	1.57	1.08	.57	.46	.27	.092	321
336	7.19	5.17	3.66	2.78	2.43	1.91	1.32	.74	.56	.32	.118	336
351	7.65	5.57	3.94	3.00	2.64	2.06	1.43	.80	.61	.34	.116	351

TABLE 69 - Continued

FLIGHT 54, LEVEL DECELERATING FLIGHT

(SEE FIG. 14, t = 4.3 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	5.82	3.03	2.30	1.79	1.21	.53	.086	3.67	1.91	1.29	1.03	.81	.44	.120	6
21	5.54	2.77	2.15	1.67	1.10	.46	.061	3.50	1.81	1.20	.97	.77	.42	.120	21
36	5.02	2.51	2.00	1.57	1.00	.42	.056	3.51	1.80	1.21	.97	.77	.43	.129	36
51	4.60	2.39	1.95	1.54	.93	.39	.061	3.43	1.74	1.18	.95	.75	.41	.131	51
66	4.25	2.19	1.78	1.48	.86	.35	.064	3.15	1.65	1.09	.88	.70	.38	.129	66
81	3.81	1.95	1.53	1.37	.75	.32	.070	2.85	1.50	.98	.79	.64	.36	.128	81
96	3.71	1.95	1.58	1.38	.75	.32	.068	3.07	1.62	1.08	.85	.69	.38	.140	96
111	4.04	2.59	2.07	1.72	1.06	.44	.084	3.08	1.67	1.11	.84	.67	.38	.133	111
126	4.47	2.44	2.11	1.66	1.03	.46	.106	2.94	1.54	1.06	.87	.70	.40	.128	126
141	4.79	2.49	2.06	1.57	.98	.40	.098	3.36	1.79	1.22	.97	.78	.41	.137	141
156	4.40	2.36	1.97	1.53	.97	.45	.114	3.04	1.62	1.11	.91	.73	.40	.132	156
171	4.69	2.47	2.06	1.59	1.04	.44	.108	3.09	1.65	1.12	.91	.73	.40	.127	171
186	4.89	2.48	2.03	1.56	1.05	.44	.110	3.07	1.58	1.06	.85	.69	.37	.118	186
201	4.72	2.37	1.94	1.50	1.02	.44	.114	2.95	1.53	1.03	.83	.66	.37	.113	201
216	4.69	2.37	1.90	1.47	1.02	.46	.119	2.83	1.49	1.00	.81	.63	.36	.103	216
231	4.41	2.25	1.83	1.44	.99	.47	.122	2.36	1.25	.87	.73	.58	.34	.088	231
246	4.46	2.34	1.84	1.43	.99	.47	.124	3.01	1.47	.96	.76	.57	.32	.087	246
261	5.12	2.81	2.04	1.55	1.05	.45	.100	1.74	.92	.66	.57	.49	.31	.072	261
276	4.20	1.82	1.50	1.17	.80	.40	.108	2.20	1.15	.78	.62	.48	.28	.073	276
291	3.78	1.82	1.44	1.12	.75	.34	.089	2.02	1.03	.71	.57	.45	.27	.056	291
306	3.65	1.87	1.46	1.13	.75	.34	.078	2.18	1.11	.76	.61	.49	.28	.069	306
321	3.98	2.19	1.69	1.34	.91	.43	.098	2.48	1.29	.87	.70	.54	.32	.084	321
336	4.78	2.81	2.08	1.66	1.16	.53	.106	3.11	1.62	1.08	.86	.67	.39	.108	336
351	5.55	3.19	2.38	1.86	1.31	.58	.110	3.86	1.99	1.34	1.07	.83	.46	.133	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.86	.95	.60	.31	.089	.79	.40	.26	.12	.026	6
21	1.73	.87	.56	.28	.082	.99	.49	.32	.15	.033	21
36	1.64	.80	.54	.27	.093	.91	.47	.30	.13	.026	36
51	1.78	.86	.55	.27	.093	.83	.43	.27	.13	.027	51
66	1.65	.79	.51	.26	.090	.84	.41	.26	.12	.027	66
81	1.57	.76	.49	.26	.091	.82	.40	.26	.12	.029	81
96	1.40	.68	.44	.24	.084	.74	.37	.24	.11	.023	96
111	1.83	.90	.58	.30	.099	.81	.40	.25	.12	.027	111
126	1.34	.69	.46	.27	.093	.85	.45	.30	.15	.042	126
141	1.91	.92	.58	.29	.086	1.03	.50	.31	.13	.032	141
156	1.55	.77	.50	.27	.091	.88	.44	.28	.13	.036	156
171	1.49	.77	.51	.27	.086	.85	.45	.30	.14	.039	171
186	1.56	.78	.48	.26	.079	.86	.44	.27	.12	.032	186
201	1.43	.73	.46	.24	.078	.76	.37	.23	.10	.023	201
216	1.34	.69	.44	.23	.067	.65	.31	.19	.09	.019	216
231	1.06	.56	.37	.20	.055	.54	.25	.16	.07	.010	231
246	.88	.47	.30	.18	.051	.45	.22	.14	.06	.008	246
261	1.07	.54	.34	.19	.052	.29	.16	.11	.05	.004	261
276	.73	.39	.24	.15	.039	.26	.13	.09	.05	-.001	276
291	.85	.44	.27	.15	.046	.29	.14	.09	.05	-.003	291
306	.90	.46	.28	.16	.049	.46	.21	.13	.06	.003	306
321	.98	.50	.33	.19	.063	.51	.24	.15	.07	.007	321
336	1.45	.76	.51	.27	.093	.61	.30	.20	.10	.021	336
351	1.93	.97	.63	.32	.097	.63	.33	.21	.11	.019	351

TABLE 69 - Continued

FLIGHT 54, LEVEL DECELERATING FLIGHT

(SEE FIG. 14, t = 4.3 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	3.71	8.90	13.25	19.98	21.73	22.17	20.88
21	4.57	8.26	12.58	18.32	18.29	18.30	16.69
36	4.21	7.88	12.70	16.69	15.45	15.08	14.35
51	3.93	8.27	12.32	15.77	14.11	12.98	12.33
66	3.82	7.72	11.48	14.51	12.12	10.86	8.53
81	3.72	7.43	10.54	12.94	10.79	8.04	12.18
96	3.41	6.69	11.38	12.95	16.78	17.33	26.21
111	3.69	8.68	11.39	16.72	20.81	22.29	24.24
126	4.24	6.91	11.25	16.96	19.01	20.87	19.98
141	4.51	8.71	12.56	16.60	17.58	18.64	16.26
156	4.07	7.53	11.63	16.23	18.79	17.65	15.56
171	4.17	7.45	11.74	16.97	18.89	17.39	15.11
186	3.96	7.37	11.14	17.07	18.64	17.14	14.97
201	3.38	6.93	10.81	16.52	18.81	17.50	15.93
216	2.83	6.51	10.42	16.58	20.29	18.73	17.31
231	2.28	5.38	9.21	16.05	21.98	20.80	18.76
246	1.98	4.55	10.00	16.23	21.86	22.75	20.46
261	1.49	5.14	7.38	17.73	19.46	24.72	24.05
276	1.24	3.70	8.03	13.61	16.34	22.18	24.47
291	1.28	4.16	7.41	13.48	13.21	13.71	14.25
306	1.96	4.32	7.92	12.60	13.71	12.53	11.35
321	2.22	4.95	9.06	14.82	18.53	17.85	19.02
336	2.87	7.38	11.27	18.44	22.73	22.52	22.69
351	3.02	9.26	13.84	20.85	24.47	24.55	23.62

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	11.733		0	4.145		0	4.567	
1	1.641	-1.629	1	-.237	-.808	1	-.243	.051
2	-.029	-.003	2	.057	.114	2	.038	.039
3	.006	.096	3	.061	-.163	3	.032	-.009
4	.050	-.038	4	.086	.020	4	-.003	.005
5	.023	-.055	5	-.016	-.045	5	.009	.016
6	-.020	-.020	6	.033	-.020	6	.011	-.007
7	-.009	-.012	7	-.024	.000	7	-.003	-.001
8	.009	-.006	8	.024	-.024	8	.004	.009
9	-.009	-.003	9	.008	-.033	9	.014	.003
10	-.012	-.003	10	.012	.000	10	-.003	.000

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 69 - Continued

FLIGHT 54, LEVEL DECELERATING FLIGHT

(SEE FIG. 14, t = 4.3 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.189		.75	0	16.191		.95	0	17.883	
.25	1	-.064	1.242	.75	1	.319	-.035	.95	1	-.005	-1.373
.25	2	.693	-.024	.75	2	2.044	-.087	.95	2	-1.079	-1.342
.25	3	.068	.130	.75	3	1.678	-.063	.95	3	4.256	-1.874
.25	4	-.079	.074	.75	4	.251	-.435	.95	4	2.340	-.584
.25	5	-.027	.047	.75	5	-.582	-.622	.95	5	-2.007	-.160
.25	6	.087	.126	.75	6	.237	-.243	.95	6	-2.035	-.349
.25	7	-.078	.065	.75	7	.225	.044	.95	7	.678	-.088
.25	8	-.032	.001	.75	8	-.336	-.063	.95	8	1.230	.028
.25	9	-.035	.063	.75	9	-.181	.177	.95	9	.155	.098
.25	10	-.025	.020	.75	10	.343	-.053	.95	10	-.594	-.052
.40	0	6.837		.85	0	18.098					
.40	1	.393	1.659	.85	1	-.786	-1.387				
.40	2	1.200	-.036	.85	2	2.211	-.745				
.40	3	.448	-.161	.85	3	3.175	-1.583				
.40	4	.134	-.203	.85	4	.139	-.689				
.40	5	.002	-.387	.85	5	-1.095	-.003				
.40	6	.007	-.149	.85	6	-.276	-.833				
.40	7	.123	-.180	.85	7	.488	.014				
.40	8	-.090	.023	.85	8	.111	.329				
.40	9	-.288	.085	.85	9	-.154	-.048				
.40	10	.264	-.112	.85	10	-.125	-.094				
.55	0	10.804		.90	0	18.190					
.55	1	.509	1.694	.90	1	-.747	-2.219				
.55	2	1.522	.048	.90	2	.922	-1.060				
.55	3	.628	-.109	.90	3	4.570	-.617				
.55	4	.014	-.245	.90	4	.941	-.685				
.55	5	.001	-.221	.90	5	-1.866	-.775				
.55	6	-.033	-.248	.90	6	-.597	-.556				
.55	7	-.080	-.306	.90	7	.842	.232				
.55	8	.064	.056	.90	8	.444	.264				
.55	9	.032	.007	.90	9	-.359	-.006				
.55	10	-.245	-.317	.90	10	-.375	-.171				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 69 - Concluded

FLIGHT 54, LEVEL DECELERATING FLIGHT

(SEE FIG. 14, t = 4.3 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	-1475	-1774	-2188	-2807	-4625	-6880		
21	1033	-734	-1998	-2788	-4608	-6691		
36	304	446	316	-1070	-3578	-5368		
51	1421	206	-154	-240	-956	-2363		
66	7	536	904	456	-1378	-2423		
81	1934	619	-217	-908	-2029	-2662		
96	338	-190	-181	-889	-4423	-5527		
111	1010	-866	-2685	-3427	-2267	-2711		
126	-1247	-1535	-967	-1099	-2733	-3895		
141	1900	173	-325	-641	-1924	-3567		
156	2367	1576	1202	141	-2346	-4094		
171	1398	503	868	551	-876	-2552		
186	896	-281	-344	-488	-1651	-2552		
201	315	17	-380	-1376	-2672	-3338		
216	1501	-58	-805	-1347	-2724	-4363		
231	315	578	633	-374	-2830	-5169		
246	1831	677	81	-593	-1492	-2522		
261	657	479	985	1114	39	-1020		
276	805	1205	1428	1458	2256	2622		
291	919	1931	2920	3165	1878	1478		
306	2014	2318	2495	2307	2661	2413		
321	121	1097	2694	2707	-964	-2711		
336	1227	553	-45	-1004	-3041	-4562		
351	429	-652	-2106	-3369	-5224	-6482		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-4625	-5014	4020	
21	-5309	-7896	2260	
36	-3925	-7847	52	
51	-6009	-7326	3828	
66	-3974	-5731	5028	
81	389	-2002	4164	
96	-2948	-3663	8260	
111	763	-3468	3428	
126	3238	-6317	-348	
141	-2004	-7945	2260	
156	-1011	-5503	3012	
171	1659	-2654	4788	
186	-1060	-1335	8996	
201	-783	-1937	7780	
216	-881	-3582	3780	
231	-4674	-8319	2996	
246	-5211	-8921	-204	
261	-5260	-10208	-908	
276	-9509	-9442	788	
291	-10942	-11249	1764	
306	-10681	-8873	1476	
321	-9786	-8189	5444	
336	-8060	-4217	5956	
351	-3925	-4103	5044	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	487	810	123
21	410	515	115
36	433	690	114
51	533	438	136
66	412	552	111
81	248	430	106
96	642	772	110
111	606	762	127
126	649	694	73
141	185	121	62
156	380	334	58
171	181	293	37
186	-251	-87	-4
201	-411	-68	-29
216	-217	-91	-1
231	-25	54	7
246	-176	-54	1
261	-158	-26	-9
276	-377	-224	22
291	-169	-28	15
306	-880	-550	-14
321	-583	-310	-25
336	-349	130	27
351	310	527	87

TABLE 70

FLIGHT 54, LEVEL DECELERATING FLIGHT

(SEE FIG. 14, t = 18.8 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	5.60	3.60	2.98	1.95	.98	.47	.056	6.72	3.35	2.53	2.13	1.35	.51	-.020	6
21	4.59	3.15	2.72	1.74	.80	.40	.041	5.75	2.85	2.23	1.92	1.18	.45	-.011	21
36	4.02	2.83	2.56	1.62	.66	.36	.036	4.90	2.48	1.96	1.74	1.03	.39	-.024	36
51	3.19	2.37	2.27	1.39	.49	.31	.014	4.22	2.12	1.69	1.58	.87	.32	-.059	51
66	2.88	2.03	1.93	1.02	.30	.23	-.004	2.83	1.46	1.21	1.18	.57	.21	-.093	66
81	7.86	4.82	3.66	2.16	.82	.36	.060	1.42	.68	.71	.91	.45	.23	-.078	81
96	7.90	5.11	4.07	2.73	1.40	.63	.089	5.90	3.15	2.63	2.35	1.38	.55	-.009	96
111	7.48	4.73	3.73	2.44	1.25	.55	.073	7.22	3.76	2.90	2.49	1.51	.60	.009	111
126	6.15	4.10	3.34	2.16	1.04	.47	.053	6.25	3.23	2.56	2.24	1.35	.55	.011	126
141	5.37	3.65	2.99	2.00	.96	.46	.065	6.13	3.06	2.43	2.13	1.26	.52	.004	141
156	5.23	3.44	2.83	1.95	.95	.48	.077	6.49	3.28	2.54	2.20	1.29	.53	.011	156
171	5.03	3.28	2.70	1.87	.91	.47	.079	6.45	3.23	2.48	2.14	1.29	.53	.018	171
186	5.19	3.36	2.71	1.88	.94	.48	.087	6.44	3.22	2.47	2.12	1.28	.53	.026	186
201	5.68	3.61	2.84	1.97	1.02	.52	.097	6.74	3.40	2.56	2.17	1.33	.56	.041	201
216	6.17	3.83	2.95	2.07	1.10	.54	.103	7.24	3.63	2.71	2.24	1.41	.59	.050	216
231	6.60	3.99	3.04	2.15	1.16	.55	.105	7.65	3.74	2.76	2.29	1.41	.58	.053	231
246	7.16	4.24	3.15	2.23	1.23	.56	.113	6.79	3.46	2.65	2.26	1.43	.64	.078	246
261	7.92	4.44	3.26	2.32	1.29	.60	.123	7.26	3.68	2.77	2.33	1.52	.69	.102	261
276	7.74	4.41	3.31	2.39	1.40	.65	.147	8.58	3.99	2.92	2.38	1.54	.64	.093	276
291	6.40	3.62	2.70	2.00	1.20	.58	.115	3.63	1.97	1.60	1.48	.98	.45	.037	291
306	3.70	2.24	1.90	1.27	.61	.32	.033	3.02	1.46	1.16	1.09	.66	.32	.013	306
321	5.74	3.50	2.78	1.83	.93	.45	.087	5.42	2.74	2.13	1.77	1.12	.50	.050	321
336	6.52	3.94	3.09	2.08	1.13	.52	.091	6.79	3.44	2.59	2.15	1.36	.58	.059	336
351	6.38	3.89	3.11	2.09	1.11	.52	.079	7.14	3.58	2.68	2.23	1.41	.57	.045	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.85										
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	6.73	5.08	3.54	2.64	2.33	1.83	1.28	.65	.53	.28	.094	6
21	5.81	4.43	3.11	2.28	2.06	1.61	1.13	.52	.45	.24	.070	21
36	5.17	3.90	2.81	1.93	1.80	1.42	1.00	.43	.39	.21	.052	36
51	4.44	3.39	2.46	1.97	1.54	1.21	.88	.35	.31	.16	.032	51
66	3.07	2.31	1.74	1.37	1.25	.77	.65	.20	.20	.10	.002	66
81	2.51	1.83	1.41	1.09	.99	.84	.51	.13	.16	.07	-.014	81
96	4.07	2.87	2.03	1.57	1.36	1.08	.71	.28	.28	.15	.014	96
111	6.21	4.81	3.42	2.52	2.32	1.80	1.28	.59	.49	.26	.062	111
126	6.37	4.81	3.36	2.45	2.19	1.69	1.19	.55	.46	.25	.064	126
141	5.36	4.10	3.02	2.21	2.03	1.56	1.14	.53	.45	.26	.068	141
156	5.71	4.27	3.05	2.22	2.00	1.58	1.17	.58	.49	.30	.086	156
171	6.19	4.66	3.25	2.40	2.10	1.63	1.18	.57	.49	.28	.074	171
186	6.09	4.58	3.21	2.38	2.08	1.62	1.18	.58	.50	.28	.074	186
201	5.86	4.36	3.09	2.31	2.03	1.59	1.17	.59	.50	.30	.086	201
216	5.34	3.99	2.93	2.18	1.95	1.55	1.15	.62	.52	.32	.102	216
231	5.86	4.35	3.10	2.38	2.09	1.66	1.21	.64	.54	.34	.110	231
246	7.35	5.06	3.62	2.78	2.37	1.86	1.29	.67	.53	.33	.114	246
261	6.19	4.18	3.19	2.41	2.11	1.71	1.22	.68	.54	.32	.102	261
276	3.02	2.21	1.76	1.36	1.26	1.03	.85	.47	.42	.26	.080	276
291	3.12	2.23	1.60	1.30	1.11	.81	.62	.30	.28	.18	.050	291
306	4.25	3.02	2.08	1.49	1.32	1.07	.74	.34	.31	.18	.052	306
321	6.02	4.46	3.09	2.29	2.00	1.60	1.08	.55	.47	.28	.096	321
336	7.07	5.02	3.61	2.73	2.34	1.87	1.28	.68	.55	.32	.112	336
351	7.24	5.25	3.76	2.81	2.44	1.94	1.34	.71	.56	.32	.108	351

TABLE 70 - Continued

FLIGHT 54, LEVEL DECELERATING FLIGHT

(SEE FIG. 14, t = 18.8 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	5.76	2.98	2.25	1.74	1.19	.52	.106	3.47	1.81	1.20	.97	.76	.43	.109	6
21	5.54	2.80	2.14	1.65	1.10	.48	.100	3.40	1.76	1.18	.95	.74	.41	.111	21
36	5.14	2.58	2.02	1.56	1.02	.44	.092	3.41	1.76	1.18	.95	.74	.41	.114	36
51	4.71	2.37	1.90	1.47	.93	.40	.094	3.16	1.62	1.09	.88	.69	.39	.109	51
66	4.16	2.03	1.68	1.30	.77	.33	.075	2.76	1.44	.96	.77	.61	.35	.106	66
81	3.50	1.63	1.31	1.14	.64	.27	.066	2.43	1.31	.84	.67	.55	.32	.105	81
96	3.18	1.60	1.28	1.12	.61	.27	.066	2.44	1.31	.84	.66	.54	.32	.105	96
111	3.11	1.67	1.33	1.16	.70	.31	.078	2.32	1.23	.80	.63	.52	.30	.097	111
126	3.93	2.43	1.94	1.53	.98	.42	.096	2.10	1.12	.73	.58	.48	.29	.094	126
141	4.31	2.26	1.89	1.48	.98	.46	.119	1.53	.86	.62	.49	.43	.29	.099	141
156	4.34	2.32	1.93	1.52	1.03	.46	.112	2.72	1.36	.95	.73	.56	.31	.094	156
171	4.68	2.45	2.00	1.55	1.03	.44	.100	3.39	1.66	1.05	.82	.61	.29	.078	171
186	4.72	2.41	1.91	1.47	.98	.41	.100	2.92	1.46	.96	.76	.59	.31	.090	186
201	4.63	2.38	1.86	1.44	.96	.42	.100	2.87	1.44	.93	.73	.57	.31	.093	201
216	4.59	2.36	1.85	1.43	.98	.43	.106	2.80	1.40	.90	.71	.53	.29	.079	216
231	4.23	2.15	1.76	1.39	.98	.48	.117	1.59	.86	.62	.53	.44	.28	.063	231
246	3.68	1.86	1.57	1.24	.88	.45	.126	1.83	.94	.65	.52	.41	.26	.062	246
261	3.61	1.80	1.48	1.15	.80	.36	.089	1.91	.99	.68	.55	.44	.27	.065	261
276	3.00	1.45	1.24	.96	.64	.31	.084	1.98	1.03	.71	.57	.45	.28	.065	276
291	2.93	1.51	1.25	.97	.63	.30	.084	2.02	1.04	.72	.57	.45	.28	.065	291
306	3.27	1.72	1.38	1.07	.71	.33	.092	2.17	1.11	.76	.60	.47	.29	.069	306
321	3.85	2.18	1.68	1.32	.91	.43	.114	2.51	1.29	.87	.70	.54	.32	.081	321
336	4.67	2.74	2.05	1.60	1.11	.51	.112	3.01	1.57	1.04	.83	.65	.36	.100	336
351	5.37	2.99	2.23	1.73	1.21	.53	.117	3.42	1.78	1.19	.95	.74	.41	.109	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.53	.78	.50	.26	.080	.61	.33	.22	.12	.026	6
21	1.54	.78	.50	.26	.081	.74	.38	.25	.12	.025	21
36	1.64	.81	.52	.26	.085	.77	.38	.25	.12	.023	36
51	1.59	.77	.49	.24	.083	.78	.38	.24	.11	.017	51
66	1.40	.68	.43	.22	.074	.72	.35	.22	.10	.022	66
81	1.23	.59	.38	.21	.076	.63	.30	.19	.09	.026	81
96	1.15	.56	.37	.21	.075	.58	.28	.18	.08	.023	96
111	1.19	.58	.37	.20	.073	.58	.28	.18	.08	.022	111
126	1.17	.57	.36	.20	.071	.62	.30	.19	.09	.019	126
141	1.11	.53	.35	.20	.067	.64	.31	.19	.09	.022	141
156	.90	.47	.32	.19	.063	.60	.29	.18	.08	.021	156
171	.95	.54	.34	.18	.056	.51	.25	.16	.07	.022	171
186	1.27	.54	.31	.15	.045	.40	.21	.14	.07	.025	186
201	1.18	.55	.31	.16	.047	.38	.19	.13	.06	.019	201
216	.95	.47	.29	.15	.048	.32	.15	.11	.05	.009	216
231	.71	.37	.24	.15	.042	.28	.13	.09	.05	.005	231
246	.76	.39	.25	.15	.043	.26	.12	.08	.04	.002	246
261	.78	.40	.26	.15	.043	.28	.13	.09	.04	.007	261
276	.82	.43	.27	.15	.043	.31	.13	.09	.05	.007	276
291	.86	.44	.28	.15	.048	.32	.14	.09	.05	.002	291
306	.92	.48	.31	.17	.053	.35	.16	.10	.05	.001	306
321	1.04	.55	.36	.20	.063	.42	.19	.13	.07	.008	321
336	1.28	.67	.44	.24	.075	.59	.30	.20	.10	.022	336
351	1.44	.74	.48	.26	.078	.79	.39	.25	.12	.026	351

TABLE 70 - Continued

FLIGHT 54, LEVEL DECELERATING FLIGHT

(SEE FIG. 14, t = 18.8 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	3.14	7.44	12.57	19.74	21.64	21.73	20.43
21	3.49	7.43	12.27	18.53	18.87	18.79	17.51
36	3.60	7.75	12.25	17.21	16.66	16.33	15.67
51	3.51	7.36	11.39	15.88	14.26	13.85	12.98
66	3.17	6.50	10.13	13.61	10.10	9.23	10.38
81	2.84	5.85	9.09	11.20	8.22	6.08	23.60
96	2.60	5.62	9.07	10.76	12.30	21.41	28.54
111	2.61	5.70	8.61	11.49	20.77	24.44	26.07
126	2.78	5.62	7.95	15.75	20.05	21.54	22.30
141	2.85	5.36	6.81	16.00	18.33	20.51	20.24
156	2.63	4.73	9.49	16.35	18.99	21.43	19.76
171	2.31	4.92	10.59	16.75	19.78	21.20	18.92
186	2.00	5.12	9.92	16.20	19.66	21.19	19.38
201	1.80	5.05	9.75	15.96	19.28	22.20	20.82
216	1.49	4.44	9.27	16.07	18.67	23.54	22.11
231	1.29	3.65	6.74	15.66	19.86	24.08	23.05
246	1.17	3.79	6.89	14.01	22.39	23.37	24.35
261	1.26	3.89	7.22	12.88	20.26	24.87	25.84
276	1.34	4.04	7.42	10.62	12.43	26.26	26.49
291	1.36	4.21	7.52	10.60	10.31	14.42	22.20
306	1.51	4.60	7.94	11.83	12.80	10.48	13.08
321	1.87	5.29	9.08	14.73	18.91	18.45	19.83
336	2.83	6.43	10.83	17.89	22.20	22.56	22.66
351	3.63	7.11	12.28	19.58	22.96	23.27	22.39

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	13.263		0	4.317		0	5.875	
1	2.073	-1.553	1	.175	-.906	1	-.225	.026
2	.023	.015	2	.016	.167	2	.019	.030
3	-.064	.050	3	.249	-.265	3	.047	.000
4	.018	-.041	4	.171	.004	4	-.009	-.011
5	.044	-.026	5	-.065	-.016	5	.011	-.008
6	-.015	.000	6	.020	-.012	6	.001	-.001
7	.006	.009	7	.029	.000	7	.001	.008
8	.009	.015	8	.016	.049	8	.008	.003
9	-.015	.003	9	.033	-.020	9	-.001	-.016
10	-.003	.000	10	.016	-.020	10	-.007	-.003

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^0 \right) + B_{n,s} \sin n \left(\psi_{nom} - 6^0 \right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^0 \right) + b_{n,s} \sin n \left(\psi_{nom} - 6^0 \right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^0 \right) + F_n \sin n \left(\psi_{nom} - 6^0 \right) \right]$$

TABLE 70 - Continued

FLIGHT 54, LEVEL DECELERATING FLIGHT

(SEE FIG. 14, t = 18.8 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.377		.75	0	14.970		.95	0	20.775	
.25	1	.614	.845	.75	1	.626	.268	.95	1	-1.872	-1.147
.25	2	.410	-.039	.75	2	3.506	.006	.95	2	-2.151	-.794
.25	3	.119	.098	.75	3	1.186	.073	.95	3	3.008	-2.013
.25	4	-.031	-.086	.75	4	-.652	-.349	.95	4	2.687	-.587
.25	5	-.024	-.150	.75	5	-.106	-.384	.95	5	-.495	.184
.25	6	-.061	-.049	.75	6	.187	-.056	.95	6	-2.110	.187
.25	7	-.058	-.045	.75	7	-.049	.134	.95	7	-.753	-.065
.25	8	-.053	-.026	.75	8	-.023	-.205	.95	8	.592	-.011
.25	9	-.051	-.010	.75	9	.124	.165	.95	9	1.034	-.116
.25	10	-.049	.008	.75	10	-.054	.140	.95	10	.456	-.030
.40	0	5.495		.85	0	17.488					
.40	1	1.217	.972	.85	1	-1.121	-1.161				
.40	2	.712	.121	.85	2	3.387	-1.006				
.40	3	.080	.033	.85	3	3.579	-.907				
.40	4	.061	.115	.85	4	-.502	-.541				
.40	5	-.175	-.204	.85	5	-2.191	.176				
.40	6	.005	-.005	.85	6	.450	-.339				
.40	7	-.021	-.062	.85	7	.719	-.095				
.40	8	-.011	-.025	.85	8	-.315	.253				
.40	9	.025	.028	.85	9	.009	-.057				
.40	10	.008	-.038	.85	10	.308	-.111				
.55	0	9.378		.90	0	19.634					
.55	1	1.429	.837	.90	1	-2.895	-2.279				
.55	2	1.770	.327	.90	2	1.535	-.816				
.55	3	-.254	.013	.90	3	4.487	-.578				
.55	4	.521	-.071	.90	4	1.426	-.021				
.55	5	-.212	-.037	.90	5	-2.189	-.676				
.55	6	-.246	-.242	.90	6	-1.999	-.862				
.55	7	.298	.019	.90	7	1.059	.381				
.55	8	-.253	-.080	.90	8	1.300	.660				
.55	9	.157	.015	.90	9	-.198	.005				
.55	10	-.027	-.010	.90	10	-.724	-.303				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 70 - Concluded

FLIGHT 54, LEVEL DECELERATING FLIGHT

(SEE FIG. 14, t = 18.8 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	-1090	-2063	-2640	-3418	-5046	-7283		
21	392	-850	-1528	-2549	-4421	-6328		
36	1703	1015	479	-546	-2406	-4417		
51	1521	1304	1718	1496	155	-1602		
66	1703	1370	1591	1267	-3	-597		
81	1646	932	669	45	-1895	-2209		
96	1008	-256	-1094	-1910	-2476	-2238		
111	73	-1394	-2043	-2368	-1262	-587		
126	73	-982	-651	-222	-30	-1343		
141	1954	1477	1808	1629	217	-1681		
156	3333	2764	3164	2793	701	-895		
171	2170	1922	2956	3146	1845	528		
186	1327	1106	1808	1915	894	647		
201	1361	932	1067	589	-830	-1413		
216	1429	776	732	313	-1746	-3532		
231	1167	685	669	131	-1605	-3482		
246	1236	503	181	-88	-250	-636		
261	563	545	940	1152	1634	1931		
276	1042	1601	2197	2497	3244	4080		
291	1509	2632	3706	3909	3429	3791		
306	1714	2698	3417	3451	3033	2866		
321	745	1568	2332	2316	76	-1522		
336	928	545	217	-823	-4025	-5741		
351	472	-1097	-2251	-3522	-5679	-7472		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-2994	-4542	5083	
21	-3873	-8612	283	
36	-5599	-10745	-1333	
51	-5289	-9442	1339	
66	-2066	-4737	5019	
81	767	-277	8699	
96	2818	358	8523	
111	5863	-2475	2219	
126	2346	-7814	-725	
141	-1415	-10826	-1509	
156	51	-8856	-437	
171	474	-4477	4619	
186	67	-1042	9259	
201	-31	-1188	8059	
216	-910	-5307	3819	
231	-2538	-9491	-997	
246	-3205	-10973	-3445	
261	-5843	-10973	-1397	
276	-8789	-9426	-85	
291	-11655	-11738	1435	
306	-11378	-10926	1019	
321	-9506	-8482	3915	
336	-6087	-4005	6491	
351	-2750	-1791	6859	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	331	573	92
21	330	485	103
36	528	512	126
51	454	419	117
66	273	329	100
81	329	465	108
96	774	848	131
111	606	722	101
126	247	179	50
141	193	72	57
156	486	245	71
171	145	180	34
186	-212	-38	-3
201	-254	-9	-3
216	26	62	11
231	41	103	4
246	-161	-57	-15
261	-352	-225	-24
276	-549	-264	-3
291	-493	-279	-11
306	-699	-375	-23
321	-342	-86	-7
336	-248	152	31
351	12	395	68

TABLE 71

FLIGHT 54, LEVEL DECELERATING FLIGHT

(SEE FIG. 14, t = 28.4 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	6.19	3.78	3.08	2.06	1.08	.52	.085	6.76	3.39	2.59	2.16	1.35	.56	.039	6
21	5.99	3.79	3.11	2.04	1.04	.50	.075	6.65	3.33	2.55	2.16	1.32	.54	.029	21
36	5.62	3.69	3.07	1.97	.96	.47	.060	6.25	3.17	2.46	2.09	1.26	.51	.004	36
51	5.38	3.60	3.06	1.94	.91	.45	.053	5.95	3.01	2.37	2.07	1.21	.49	-.002	51
66	5.50	3.66	3.13	1.96	.88	.43	.048	5.56	2.83	2.26	2.01	1.15	.46	-.026	66
81	6.59	4.23	3.45	2.15	.98	.46	.057	5.35	2.77	2.21	1.97	1.13	.44	-.030	81
96	9.02	5.47	4.06	2.61	1.24	.51	.069	3.22	1.84	1.62	1.58	.94	.41	-.035	96
111	9.46	5.48	4.38	2.88	1.46	.60	.081	5.29	2.83	2.40	2.14	1.28	.54	-.009	111
126	8.99	5.41	4.20	2.84	1.54	.67	.101	7.71	4.05	3.16	2.67	1.61	.62	.059	126
141	8.33	4.98	3.83	2.58	1.37	.61	.095	8.15	4.18	3.19	2.71	1.67	.68	.048	141
156	7.74	4.74	3.72	2.50	1.29	.60	.093	7.14	3.69	2.90	2.52	1.56	.66	.054	156
171	7.55	4.67	3.59	2.45	1.29	.59	.095	7.22	3.78	2.91	2.52	1.55	.66	.061	171
186	7.26	4.50	3.46	2.39	1.25	.57	.089	7.36	3.79	2.92	2.50	1.53	.64	.053	186
201	7.18	4.40	3.37	2.35	1.24	.57	.095	7.19	3.68	2.84	2.47	1.52	.63	.054	201
216	7.41	4.49	3.41	2.36	1.25	.57	.099	7.11	3.65	2.82	2.43	1.52	.64	.061	216
231	7.76	4.62	3.47	2.43	1.32	.60	.109	7.21	3.74	2.87	2.47	1.56	.67	.078	231
246	8.27	4.79	3.53	2.48	1.35	.62	.111	7.54	3.91	3.00	2.53	1.61	.70	.092	246
261	8.86	4.99	3.62	2.58	1.45	.65	.129	8.03	4.08	3.08	2.60	1.69	.74	.109	261
276	9.52	5.18	3.72	2.66	1.51	.66	.139	8.22	4.18	3.16	2.68	1.74	.77	.122	276
291	10.07	5.22	3.74	2.70	1.56	.69	.143	7.51	3.78	2.92	2.49	1.63	.73	.102	291
306	10.38	5.16	3.67	2.60	1.49	.63	.127	5.51	2.88	2.37	2.10	1.40	.64	.083	306
321	8.09	4.50	3.34	2.42	1.43	.64	.125	5.28	2.75	2.24	1.98	1.22	.53	.045	321
336	7.01	4.15	3.14	2.22	1.20	.57	.107	6.56	3.30	2.53	2.10	1.35	.58	.059	336
351	6.94	4.15	3.20	2.22	1.20	.57	.103	6.90	3.47	2.65	2.23	1.39	.60	.057	351

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	6.69	4.99	3.47	2.61	2.29	1.82	1.25	.64	.55	.31	.104	6
21	6.63	4.99	3.47	2.61	2.29	1.80	1.25	.62	.53	.30	.100	21
36	6.40	4.84	3.40	2.51	2.23	1.74	1.21	.58	.51	.28	.086	36
51	6.09	4.63	3.27	2.39	2.13	1.66	1.15	.54	.47	.25	.076	51
66	5.61	4.31	3.04	2.17	1.99	1.54	1.09	.49	.43	.24	.064	66
81	4.88	3.72	2.73	1.90	1.74	1.32	.99	.42	.37	.20	.036	81
96	3.23	2.42	1.84	1.44	1.30	.83	.69	.25	.26	.13	.006	96
111	3.01	2.23	1.73	1.36	1.21	.94	.68	.27	.28	.15	.020	111
126	4.35	3.36	2.42	1.83	1.62	1.19	.93	.42	.38	.22	.048	126
141	6.79	5.25	3.68	2.75	2.45	1.93	1.37	.68	.56	.33	.102	141
156	7.05	5.34	3.71	2.78	2.47	1.94	1.38	.69	.58	.33	.106	156
171	7.13	5.36	3.75	2.81	2.46	1.94	1.37	.68	.57	.32	.102	171
186	7.49	5.45	3.84	2.89	2.51	1.96	1.39	.69	.57	.33	.104	186
201	7.24	5.34	3.75	2.81	2.45	1.91	1.36	.67	.57	.32	.104	201
216	7.16	5.29	3.68	2.78	2.42	1.90	1.35	.68	.57	.33	.106	216
231	7.36	5.20	3.75	2.85	2.47	1.94	1.36	.70	.58	.33	.110	231
246	8.11	5.56	3.92	2.98	2.55	1.99	1.37	.69	.57	.32	.116	246
261	9.03	5.68	3.84	2.85	2.40	1.91	1.34	.77	.62	.37	.142	261
276	4.92	3.45	2.62	2.04	1.77	1.42	1.06	.53	.46	.31	.138	276
291	3.94	2.89	2.16	1.57	1.43	1.15	.90	.47	.49	.28	.090	291
306	4.07	2.96	2.17	1.59	1.43	1.14	.86	.44	.44	.24	.074	306
321	4.44	3.31	2.37	1.70	1.53	1.23	.90	.45	.41	.24	.070	321
336	5.94	4.46	3.11	2.34	2.06	1.63	1.16	.60	.52	.30	.096	336
351	6.62	4.92	3.43	2.59	2.26	1.78	1.24	.65	.55	.32	.106	351

TABLE 71 - Continued

FLIGHT 54, LEVEL DECELERATING FLIGHT

(SEE FIG. 14, t = 28.4 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	5.06	2.70	2.06	1.60	1.11	.49	.124	2.83	1.47	.99	.80	.63	.36	.100	6
21	5.29	2.78	2.13	1.65	1.11	.49	.119	3.04	1.59	1.06	.86	.68	.37	.103	21
36	5.37	2.78	2.14	1.66	1.11	.48	.119	3.09	1.61	1.08	.87	.69	.39	.106	36
51	5.20	2.67	2.09	1.62	1.07	.46	.108	3.09	1.60	1.08	.87	.68	.38	.106	51
66	4.95	2.51	2.01	1.55	1.00	.44	.098	2.95	1.50	1.02	.82	.66	.36	.106	66
81	4.47	2.19	1.81	1.38	.87	.38	.082	2.72	1.40	.94	.77	.61	.33	.106	81
96	3.76	1.75	1.46	1.17	.68	.30	.064	2.42	1.28	.83	.67	.54	.31	.100	96
111	3.18	1.56	1.23	1.08	.60	.26	.064	2.24	1.21	.78	.63	.52	.29	.100	111
126	2.79	1.44	1.14	1.01	.59	.25	.061	2.10	1.12	.73	.58	.47	.28	.094	126
141	2.43	1.32	1.02	.93	.58	.26	.068	1.94	1.02	.67	.53	.44	.26	.088	141
156	1.89	1.22	1.05	.97	.66	.29	.066	1.77	.93	.62	.49	.41	.25	.088	156
171	3.99	2.83	2.13	1.63	1.07	.46	.100	1.79	.95	.62	.50	.43	.24	.087	171
186	4.89	2.84	2.18	1.69	1.13	.50	.119	1.69	.90	.58	.47	.40	.25	.082	186
201	5.24	2.71	2.12	1.63	1.10	.49	.117	1.55	.82	.54	.44	.37	.23	.078	201
216	5.17	2.61	2.06	1.58	1.07	.49	.119	1.51	.81	.54	.43	.37	.25	.078	216
231	5.23	2.66	2.06	1.58	1.06	.48	.119	1.57	.85	.57	.46	.38	.25	.075	231
246	5.06	2.52	1.95	1.49	1.02	.46	.110	1.56	.83	.55	.45	.37	.25	.069	246
261	4.26	1.92	1.58	1.23	.84	.37	.082	1.64	.89	.58	.48	.39	.24	.068	261
276	3.33	1.48	1.22	.98	.66	.30	.070	1.65	.86	.58	.47	.39	.25	.065	276
291	2.85	1.45	1.20	.97	.63	.29	.070	1.71	.88	.61	.49	.39	.25	.066	291
306	2.95	1.51	1.25	1.00	.66	.30	.080	1.83	.91	.65	.51	.41	.28	.071	306
321	3.38	1.79	1.48	1.14	.75	.35	.086	2.09	1.06	.73	.59	.47	.27	.076	321
336	3.99	2.23	1.75	1.37	.92	.43	.106	2.31	1.19	.81	.65	.52	.31	.084	336
351	4.61	2.56	1.96	1.53	1.04	.47	.110	2.62	1.38	.92	.75	.59	.33	.091	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.23	.63	.41	.22	.071	.51	.26	.18	.09	.016	6
21	1.31	.67	.43	.23	.074	.55	.28	.19	.10	.021	21
36	1.39	.68	.44	.23	.078	.59	.28	.19	.09	.019	36
51	1.38	.67	.44	.23	.078	.60	.29	.19	.09	.021	51
66	1.36	.66	.43	.22	.076	.60	.29	.19	.09	.016	66
81	1.27	.61	.39	.20	.071	.60	.29	.18	.09	.022	81
96	1.14	.56	.35	.20	.069	.54	.26	.17	.08	.021	96
111	1.05	.52	.33	.19	.069	.48	.23	.15	.08	.021	111
126	1.02	.50	.32	.18	.065	.46	.22	.14	.07	.016	126
141	.96	.47	.30	.17	.061	.48	.23	.14	.07	.022	141
156	.91	.44	.29	.17	.055	.50	.23	.15	.07	.019	156
171	.87	.42	.28	.16	.051	.50	.24	.15	.08	.025	171
186	.82	.40	.26	.15	.051	.48	.22	.15	.07	.025	186
201	.77	.38	.25	.16	.051	.44	.21	.14	.07	.021	201
216	.73	.37	.24	.15	.050	.36	.17	.12	.06	.014	216
231	.70	.35	.23	.14	.046	.31	.14	.10	.05	.010	231
246	.69	.35	.23	.14	.045	.26	.12	.08	.05	.004	246
261	.69	.35	.23	.14	.044	.25	.11	.08	.04	.009	261
276	.71	.36	.24	.15	.044	.25	.11	.08	.04	.004	276
291	.75	.38	.25	.15	.046	.28	.13	.09	.05	.005	291
306	.81	.41	.27	.16	.052	.30	.13	.09	.05	.001	306
321	.89	.45	.29	.17	.054	.35	.16	.11	.06	.005	321
336	1.02	.52	.34	.19	.061	.41	.19	.13	.07	.008	336
351	1.13	.58	.38	.21	.069	.47	.24	.16	.08	.017	351

TABLE 71 - Continued

FLIGHT 54, LEVEL DECELERATING FLIGHT

(SEE FIG. 14, t = 28.4 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	2.48	6.10	10.40	18.11	21.50	22.27	22.00
21	2.68	6.42	11.10	18.51	21.31	21.78	21.59
36	2.72	6.63	11.32	18.50	20.63	20.70	20.60
51	2.73	6.56	11.23	17.88	19.58	19.79	19.96
66	2.74	6.43	10.69	16.88	18.21	18.63	20.01
81	2.72	5.95	9.94	14.91	16.01	18.08	22.66
96	2.46	5.46	8.95	12.01	10.94	13.44	28.44
111	2.24	5.13	8.45	10.50	10.72	19.69	30.70
126	2.10	4.95	7.86	9.79	14.81	26.28	30.69
141	2.18	4.66	7.27	9.17	22.62	27.33	28.05
156	2.20	4.43	6.81	9.13	23.02	24.91	26.74
171	2.30	4.24	6.83	17.22	23.01	25.13	26.26
186	2.20	4.02	6.56	18.51	23.59	25.07	25.36
201	2.04	3.91	6.06	18.30	23.03	24.53	25.01
216	1.69	3.73	6.06	17.87	22.80	24.46	25.40
231	1.42	3.57	6.25	17.91	23.24	25.07	26.38
246	1.20	3.50	6.19	17.07	24.19	26.17	27.31
261	1.15	3.47	6.38	13.84	24.73	27.48	28.76
276	1.13	3.62	6.36	10.82	17.08	28.29	29.96
291	1.25	3.77	6.55	10.26	14.52	26.14	30.83
306	1.28	4.08	6.96	10.75	14.21	21.10	30.20
321	1.56	4.43	7.68	12.41	14.88	19.19	26.92
336	1.86	5.05	8.56	15.05	19.56	22.09	24.01
351	2.28	5.62	9.66	17.03	21.30	23.01	24.07

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	13.987		0	4.308		0	7.347	
1	2.394	-1.200	1	1.232	-.355	1	-.146	-.057
2	-.006	.058	2	-.045	.008	2	-.014	.011
3	-.009	.018	3	.118	.033	3	.004	-.008
4	.015	-.035	4	.016	.049	4	-.009	.004
5	-.012	.015	5	-.069	-.057	5	-.008	.022
6	.000	.000	6	-.020	.029	6	.000	.005
7	-.006	.009	7	.004	.000	7	.016	.015
8	.000	-.012	8	-.020	.016	8	.004	.001
9	-.012	.000	9	.000	.000	9	.001	.000
10	.003	.000	10	-.033	-.020	10	.000	.000

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^0\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^0\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^0\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^0\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^0\right) + F_n \sin n \left(\psi_{nom} - 6^0\right) \right]$$

TABLE 71 - Continued

FLIGHT 54, LEVEL DECELERATING FLIGHT

(SEE FIG. 14, t = 28.4 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.025		.75	0	14.684		.95	0	25.911	
.25	1	.208	.671	.75	1	.679	-.283	.95	1	-2.174	-1.544
.25	2	.280	.121	.75	2	2.956	3.472	.95	2	-2.554	-2.619
.25	3	-.076	.006	.75	3	-.333	-.786	.95	3	.834	-.062
.25	4	.068	-.033	.75	4	.403	-.480	.95	4	.576	1.098
.25	5	.023	-.008	.75	5	-.594	.214	.95	5	-.219	.356
.25	6	-.005	.009	.75	6	.642	-.304	.95	6	.035	-.434
.25	7	-.015	-.004	.75	7	-.353	.291	.95	7	.096	-.199
.25	8	-.004	-.002	.75	8	-.083	-.305	.95	8	-.027	-.176
.25	9	.001	-.002	.75	9	.139	.293	.95	9	-.097	.028
.25	10	-.001	-.008	.75	10	-.154	-.224	.95	10	-.241	.026
.40	0	4.822		.85	0	19.394					
.40	1	1.013	1.045	.85	1	-1.908	-1.613				
.40	2	.257	.258	.85	2	3.666	2.118				
.40	3	.002	.066	.85	3	1.134	1.597				
.40	4	-.014	-.005	.85	4	-.717	-2.022				
.40	5	.017	-.040	.85	5	.159	-.580				
.40	6	.013	-.004	.85	6	.206	.851				
.40	7	-.007	.010	.85	7	-.243	-.442				
.40	8	-.022	-.002	.85	8	-.216	-.212				
.40	9	.001	-.007	.85	9	-.387	.359				
.40	10	-.011	-.001	.85	10	.396	.064				
.55	0	8.088		.90	0	22.943					
.55	1	1.962	1.509	.90	1	-2.482	-2.567				
.55	2	.350	.587	.90	2	.688	-.544				
.55	3	.068	.154	.90	3	1.505	2.223				
.55	4	.008	-.051	.90	4	-.132	-.059				
.55	5	-.049	-.001	.90	5	.161	-1.667				
.55	6	.050	-.044	.90	6	.469	-.037				
.55	7	-.021	.055	.90	7	-.737	.546				
.55	8	-.003	-.044	.90	8	-.386	-.166				
.55	9	-.028	.001	.90	9	.150	-.093				
.55	10	.011	.000	.90	10	.247	.092				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 71 - Concluded

FLIGHT 54, LEVEL DECELERATING FLIGHT

(SEE FIG. 14, t = 28.4 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	1103	487	99	-570	-2729	-4189		
21	635	17	-353	-1218	-3319	-5253		
36	453	-83	-506	-1247	-2835	-4607		
51	806	388	108	-570	-2157	-3731		
66	1297	1007	904	384	-828	-2258		
81	1490	1361	1528	1157	-203	-1194		
96	1661	1262	1266	928	-71	-278		
111	1217	635	570	51	166	1373		
126	829	-413	-127	327	1275	2358		
141	613	305	796	1090	1917	2657		
156	2243	1807	2043	1920	1495	1970		
171	2847	2005	2405	2674	2718	2239		
186	1319	1295	2179	2712	3255	3214		
201	1308	850	1546	2063	2569	3174		
216	1992	1048	1419	1758	1750	1672		
231	1570	1403	2034	1901	1275	697		
246	1958	1337	1645	1596	932	866		
261	1422	1031	1229	1348	1539	1911		
276	691	784	1320	1596	2340	3403		
291	1490	1378	1871	2197	2569	3712		
306	1627	2153	2730	2760	2665	3055		
321	989	1997	2902	3008	2129	2130		
336	1103	1411	1727	1835	1187	916		
351	339	817	1257	995	-1119	-2089		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-6644	-6740	3062	
21	-5358	-6935	3014	
36	-5065	-6805	2646	
51	-5065	-7521	2518	
66	-4447	-7749	2326	
81	-3470	-6659	2614	
96	-2428	-5779	3942	
111	-84	-3858	3430	
126	828	-5177	3286	
141	2424	-5893	710	
156	1968	-7424	582	
171	1251	-6219	1670	
186	2472	-4982	2886	
201	2586	-3810	3974	
216	1512	-4217	3942	
231	14	-5991	2614	
246	-995	-7375	406	
261	-3014	-8628	-234	
276	-4447	-9442	-602	
291	-5098	-9817	-970	
306	-9777	-9638	662	
321	-10747	-10012	2374	
336	-8972	-8514	1734	
351	-8517	-8368	3334	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	-75	234	64
21	188	411	90
36	229	459	100
51	294	453	104
66	390	503	115
81	423	511	121
96	475	558	119
111	542	688	123
126	653	619	115
141	288	349	85
156	277	138	60
171	379	253	63
186	406	302	47
201	82	121	13
216	-48	-6	0
231	-7	31	5
246	20	76	10
261	-80	48	1
276	-312	-146	-15
291	-407	-187	-26
306	-530	-266	-14
321	-353	-68	-4
336	-341	-26	16
351	-130	131	42

TABLE 72

FLIGHT 54, LEVEL DECELERATING FLIGHT

(SEE FIG. 14, t = 31.6 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	5.95	3.73	2.99	1.99	1.00	.48	.071	6.15	3.08	2.39	2.05	1.23	.51	.020	6
21	5.62	3.62	3.03	1.95	.94	.45	.064	5.93	2.96	2.35	2.02	1.20	.49	.009	21
36	5.68	3.71	3.11	1.99	.93	.45	.061	5.95	2.99	2.37	2.07	1.21	.49	-.002	36
51	5.60	3.74	3.14	1.98	.89	.43	.049	5.80	2.92	2.36	2.05	1.17	.47	-.011	51
66	6.07	4.00	3.32	2.09	.96	.45	.053	5.67	2.90	2.32	2.06	1.18	.47	-.013	66
81	7.34	4.66	3.62	2.33	1.11	.50	.064	5.28	2.78	2.24	2.00	1.15	.47	-.024	81
96	9.48	5.52	4.21	2.81	1.42	.58	.081	4.26	2.33	2.01	1.86	1.10	.50	.009	96
111	9.50	5.56	4.27	2.81	1.44	.60	.081	6.12	3.31	2.72	2.41	1.48	.62	.024	111
126	9.62	5.48	4.49	3.01	1.63	.69	.113	8.62	4.60	3.54	2.99	1.84	.75	.068	126
141	9.52	5.61	4.39	2.99	1.62	.70	.113	9.64	4.86	3.67	3.05	1.88	.71	.050	141
156	9.17	5.52	4.21	2.82	1.54	.67	.107	8.60	4.45	3.40	2.88	1.79	.73	.063	156
171	8.93	5.31	4.06	2.72	1.47	.65	.105	8.17	4.24	3.27	2.79	1.75	.74	.078	171
186	8.82	5.24	3.98	2.70	1.46	.65	.107	8.10	4.23	3.23	2.76	1.74	.73	.083	186
201	8.81	5.20	3.94	2.69	1.45	.65	.107	8.20	4.25	3.26	2.74	1.73	.72	.083	201
216	8.84	5.20	3.90	2.69	1.47	.66	.111	8.37	4.26	3.26	2.76	1.74	.72	.087	216
231	8.90	5.20	3.87	2.69	1.47	.65	.111	8.47	4.32	3.29	2.78	1.77	.74	.096	231
246	9.16	5.31	3.91	2.73	1.53	.68	.125	8.63	4.41	3.35	2.82	1.80	.77	.107	246
261	9.50	5.43	3.96	2.78	1.56	.69	.129	8.80	4.47	3.43	2.86	1.86	.79	.119	261
276	10.07	5.52	4.04	2.86	1.63	.71	.143	8.90	4.47	3.43	2.88	1.88	.81	.124	276
291	10.40	5.49	3.97	2.84	1.62	.69	.133	8.13	4.10	3.20	2.70	1.75	.77	.107	291
306	10.59	5.48	3.94	2.81	1.58	.64	.125	5.81	3.12	2.63	2.34	1.53	.71	.096	306
321	9.62	5.27	3.84	2.74	1.57	.69	.129	5.33	2.87	2.40	2.09	1.34	.55	.030	321
336	7.96	4.62	3.42	2.40	1.32	.60	.103	6.52	3.35	2.59	2.24	1.39	.58	.050	336
351	7.18	4.32	3.26	2.28	1.21	.55	.089	6.69	3.40	2.61	2.24	1.36	.58	.044	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.85										
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	6.02	4.54	3.18	2.35	2.07	1.63	1.14	.56	.49	.27	.082	6
21	6.00	4.54	3.14	2.34	2.08	1.63	1.14	.55	.48	.26	.074	21
36	6.03	4.61	3.21	2.36	2.11	1.65	1.15	.54	.47	.26	.074	36
51	5.84	4.44	3.14	2.28	2.04	1.58	1.12	.52	.46	.25	.064	51
66	5.61	4.31	3.09	2.17	1.98	1.52	1.11	.49	.43	.23	.054	66
81	5.10	3.87	2.84	1.93	1.80	1.37	1.03	.44	.40	.21	.042	81
96	4.12	3.07	2.30	1.78	1.50	1.07	.85	.35	.34	.18	.022	96
111	3.68	2.74	2.07	1.60	1.46	.97	.81	.35	.36	.19	.032	111
126	2.91	2.23	1.89	1.52	1.42	1.08	.87	.43	.42	.25	.062	126
141	3.88	3.04	2.37	1.95	1.72	1.34	1.03	.52	.46	.28	.082	141
156	6.76	5.20	3.64	2.75	2.47	1.98	1.42	.75	.62	.37	.128	156
171	7.74	5.83	4.03	3.03	2.65	2.11	1.50	.77	.63	.37	.122	171
186	7.92	5.81	4.06	3.06	2.66	2.10	1.49	.77	.63	.36	.114	186
201	7.96	5.79	4.02	3.02	2.64	2.08	1.47	.76	.63	.36	.114	201
216	8.32	5.81	4.05	3.04	2.62	2.06	1.42	.74	.60	.34	.110	216
231	9.08	5.97	4.18	3.13	2.67	2.08	1.42	.71	.58	.32	.104	231
246	10.09	6.05	4.11	3.03	2.55	2.01	1.41	.77	.61	.36	.118	246
261	8.16	5.02	3.53	2.76	2.42	1.99	1.37	.82	.64	.44	.244	261
276	4.98	3.65	2.61	1.95	1.75	1.36	1.03	.48	.43	.23	-.006	276
291	4.60	3.36	2.49	1.81	1.66	1.28	.99	.50	.49	.29	.088	291
306	4.56	3.34	2.46	1.75	1.59	1.26	.95	.46	.43	.25	.074	306
321	4.96	3.70	2.62	1.88	1.71	1.35	.99	.49	.43	.26	.072	321
336	5.96	4.46	3.12	2.33	2.07	1.63	1.15	.58	.49	.29	.086	336
351	6.27	4.69	3.29	2.46	2.16	1.71	1.20	.60	.51	.29	.088	351

TABLE 72 - Continued

FLIGHT 54, LEVEL DECELERATING FLIGHT

(SEE FIG. 14, t = 31.6 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	4.69	2.45	1.93	1.48	.99	.44	.100	2.53	1.31	.89	.72	.58	.32	.093	6
21	4.75	2.47	1.95	1.51	.99	.44	.098	2.64	1.37	.92	.75	.60	.34	.096	21
36	4.87	2.55	2.00	1.56	1.02	.45	.096	2.80	1.45	.98	.80	.63	.35	.100	36
51	4.85	2.49	2.00	1.54	1.00	.43	.098	2.80	1.45	.98	.79	.63	.36	.103	51
66	4.68	2.39	1.94	1.50	.96	.42	.092	2.75	1.41	.95	.77	.61	.33	.103	66
81	4.37	2.19	1.83	1.42	.89	.38	.082	2.61	1.32	.90	.73	.59	.33	.100	81
96	3.87	1.87	1.61	1.26	.75	.32	.068	2.36	1.26	.82	.67	.54	.29	.096	96
111	3.24	1.58	1.26	1.09	.63	.26	.056	2.14	1.15	.75	.61	.50	.29	.096	111
126	2.82	1.48	1.15	1.01	.59	.24	.052	2.02	1.08	.70	.57	.46	.27	.091	126
141	2.76	1.54	1.23	1.05	.63	.27	.066	1.90	1.00	.66	.53	.43	.26	.090	141
156	2.92	1.64	1.43	1.16	.73	.32	.061	1.81	.95	.62	.50	.41	.24	.085	156
171	3.46	2.11	1.70	1.35	.89	.39	.072	1.67	.88	.59	.46	.39	.25	.081	171
186	4.87	2.89	2.19	1.67	1.10	.46	.103	1.54	.82	.58	.43	.37	.22	.076	186
201	5.36	2.79	2.14	1.64	1.08	.46	.103	1.49	.79	.57	.41	.36	.23	.073	201
216	5.31	2.60	2.03	1.55	1.02	.44	.098	1.45	.77	.54	.40	.35	.21	.071	216
231	4.56	2.11	1.72	1.34	.88	.40	.086	1.40	.74	.53	.40	.34	.22	.068	231
246	3.90	1.87	1.53	1.21	.78	.36	.080	1.49	.79	.53	.42	.36	.22	.068	246
261	3.21	1.58	1.30	1.05	.69	.31	.072	1.56	.83	.55	.45	.37	.23	.068	261
276	2.90	1.52	1.23	1.01	.66	.29	.070	1.61	.85	.57	.46	.38	.24	.069	276
291	2.96	1.56	1.29	1.03	.67	.30	.070	1.68	.89	.58	.47	.39	.24	.068	291
306	3.17	1.65	1.41	1.09	.71	.31	.072	1.81	.95	.63	.52	.41	.26	.072	306
321	3.56	1.88	1.57	1.21	.80	.36	.082	2.01	1.01	.70	.56	.46	.28	.078	321
336	4.10	2.22	1.78	1.37	.92	.41	.098	2.24	1.13	.78	.63	.50	.30	.084	336
351	4.53	2.41	1.90	1.47	.98	.44	.098	2.42	1.25	.85	.69	.55	.31	.088	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.13	.56	.37	.20	.067	.50	.24	.16	.08	.016	6
21	1.19	.59	.39	.21	.075	.52	.25	.16	.08	.014	21
36	1.24	.62	.40	.21	.076	.53	.26	.17	.09	.016	36
51	1.26	.63	.40	.22	.076	.54	.26	.17	.08	.016	51
66	1.24	.61	.39	.21	.075	.55	.26	.17	.08	.017	66
81	1.18	.58	.37	.20	.071	.53	.26	.16	.08	.017	81
96	1.07	.53	.34	.19	.067	.50	.24	.15	.07	.015	96
111	.98	.49	.31	.18	.065	.45	.21	.14	.07	.017	111
126	.94	.46	.29	.17	.063	.43	.20	.13	.06	.016	126
141	.88	.43	.28	.18	.059	.42	.20	.13	.06	.019	141
156	.86	.42	.27	.16	.055	.43	.20	.13	.06	.016	156
171	.82	.40	.26	.16	.053	.43	.20	.13	.06	.016	171
186	.74	.37	.24	.15	.048	.42	.20	.13	.06	.017	186
201	.72	.36	.24	.15	.048	.36	.17	.11	.06	.012	201
216	.66	.34	.22	.14	.045	.31	.14	.10	.05	.014	216
231	.62	.33	.21	.14	.046	.26	.12	.08	.04	.004	231
246	.63	.33	.21	.14	.043	.24	.10	.07	.04	.007	246
261	.65	.33	.22	.14	.043	.22	.10	.07	.04	.002	261
276	.67	.34	.22	.14	.041	.23	.10	.07	.04	.002	276
291	.73	.36	.24	.15	.048	.25	.11	.08	.04	.002	291
306	.79	.40	.26	.15	.049	.29	.13	.09	.05	.002	306
321	.87	.44	.29	.17	.055	.34	.16	.11	.06	.004	321
336	.97	.50	.33	.18	.061	.39	.18	.12	.06	.004	336
351	1.06	.54	.35	.20	.065	.46	.22	.14	.07	.010	351

TABLE 72 - Continued

FLIGHT 54, LEVEL DECELERATING FLIGHT

(SEE FIG. 14, t = 31.6 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	2.32	5.53	9.33	16.44	19.42	20.31	21.02
21	2.39	5.84	9.75	16.58	19.25	19.69	20.30
36	2.48	6.02	10.25	17.00	19.39	19.79	20.55
51	2.48	6.09	10.31	16.77	18.87	19.29	20.31
66	2.50	5.97	9.98	16.14	18.28	19.17	21.67
81	2.41	5.62	9.53	14.96	16.72	18.41	24.82
96	2.23	5.19	8.75	12.94	13.67	16.77	30.22
111	2.04	4.86	8.13	10.73	12.91	22.80	30.56
126	1.92	4.59	7.59	9.82	12.82	29.92	32.25
141	1.91	5.36	7.19	10.34	15.57	31.09	32.20
156	1.91	5.11	6.79	11.51	23.22	29.14	31.03
171	1.93	4.96	6.47	13.98	25.07	28.28	29.90
186	1.91	3.74	5.99	18.16	25.17	28.10	29.62
201	1.68	3.67	5.89	18.20	25.07	28.12	29.44
216	1.45	3.41	5.68	17.39	24.99	28.33	29.50
231	1.18	3.28	5.60	14.85	25.61	28.73	29.51
246	1.06	3.29	5.79	13.14	26.24	29.38	30.30
261	.98	3.35	6.07	11.18	24.34	30.10	31.04
276	1.03	3.42	6.21	10.59	16.27	30.34	32.14
291	1.10	3.71	6.42	10.85	16.14	28.15	32.04
306	1.31	3.97	6.87	11.57	15.49	23.07	31.66
321	1.55	4.40	7.51	13.03	16.34	20.13	30.76
336	1.76	4.88	8.26	15.05	19.37	22.38	26.43
351	2.08	5.28	8.95	16.21	20.27	22.46	24.49

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	13.823		0	4.158		0	7.540	
1	1.880	-.105	1	.216	.024	1	-.122	-.028
2	.073	.012	2	.037	.200	2	.019	.026
3	.015	.006	3	.053	.073	3	.015	-.016
4	.029	-.009	4	-.008	.078	4	-.004	.011
5	.003	-.009	5	.033	.004	5	.004	.000
6	-.009	.003	6	.016	.004	6	.007	.003
7	-.009	-.009	7	.029	.004	7	-.011	.000
8	-.006	.015	8	.012	.008	8	-.001	-.005
9	.012	-.003	9	.008	.004	9	-.003	-.001
10	.000	.006	10	.000	.000	10	.003	.000

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 72 - Continued

FLIGHT 54, LEVEL DECELERATING FLIGHT

(SEE FIG. 14, t = 31.6 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	1.817		.75	0	14.060		.95	0	27.990	
.25	1	.267	.597	.75	1	.687	.288	.95	1	-3.980	-2.079
.25	2	.226	.071	.75	2	2.595	2.204	.95	2	-2.360	-2.965
.25	3	-.069	-.011	.75	3	-1.004	-1.011	.95	3	.099	-.426
.25	4	.039	-.018	.75	4	.306	-.001	.95	4	-.016	.479
.25	5	.008	.000	.75	5	-.117	-.245	.95	5	-.190	.230
.25	6	.012	.009	.75	6	.066	.075	.95	6	-.279	.147
.25	7	.003	-.004	.75	7	-.227	-.128	.95	7	-.056	-.248
.25	8	.009	-.008	.75	8	.081	.006	.95	8	.232	-.177
.25	9	.000	-.006	.75	9	-.074	.035	.95	9	.001	-.020
.25	10	.003	-.013	.75	10	.107	-.067	.95	10	-.290	-.174
.40	0	4.646		.85	0	19.603					
.40	1	.740	1.041	.85	1	-2.682	-2.396				
.40	2	.281	-.036	.85	2	3.221	2.804				
.40	3	-.052	.220	.85	3	-.053	.207				
.40	4	-.102	-.173	.85	4	-.155	-1.983				
.40	5	.100	.028	.85	5	-.250	.604				
.40	6	-.079	.005	.85	6	.042	-.131				
.40	7	.029	-.028	.85	7	.212	-.350				
.40	8	-.021	.009	.85	8	-.738	.101				
.40	9	.008	.040	.85	9	-.024	.065				
.40	10	-.037	-.056	.85	10	.401	.205				
.55	0	7.638		.90	0	24.747					
.55	1	1.704	1.401	.90	1	-4.951	-2.786				
.55	2	.127	.311	.90	2	-.036	-1.055				
.55	3	-.036	.082	.90	3	1.509	1.922				
.55	4	-.027	-.090	.90	4	-.443	.041				
.55	5	-.032	-.049	.90	5	.130	-1.631				
.55	6	-.033	.006	.90	6	.266	-.180				
.55	7	.006	-.023	.90	7	-.642	.295				
.55	8	-.027	-.028	.90	8	-.403	-.111				
.55	9	.015	-.011	.90	9	.037	-.043				
.55	10	-.004	-.003	.90	10	.095	.075				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 72 - Concluded

FLIGHT 54, LEVEL DECELERATING FLIGHT

(SEE FIG. 14, t = 31.6 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	744	380	262	-258	-1616	-2824		
21	892	281	-145	-964	-2716	-4047		
36	619	124	-90	-821	-2549	-4306		
51	949	305	136	-449	-2100	-3709		
66	1212	800	705	-19	-1238	-2207		
81	1223	899	1094	858	-23	-804		
96	1246	1040	1419	1259	425	181		
111	1793	1139	1094	696	698	1783		
126	1257	652	940	1259	1737	2709		
141	972	800	1365	1765	2361	3534		
156	1998	1477	1718	1965	2731	4102		
171	1975	1592	2540	3091	3373	3684		
186	2067	1774	2622	2938	3224	3654		
201	2101	1378	1944	2213	2916	3783		
216	1246	842	1627	2156	2863	3485		
231	1177	1031	1718	2118	2388	2828		
246	1725	1609	2007	2041	1798	2171		
261	1668	1576	1953	2118	2089	2669		
276	984	1196	1880	2280	2599	3465		
291	1291	1229	1727	2156	2845	4072		
306	1086	1592	2378	2556	2502	3196		
321	1166	1708	2504	2585	1719	1624		
336	1257	1436	1718	1612	936	539		
351	425	817	1229	954	-428	-1381		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-5293	-6838	3404	
21	-3454	-6317	2652	
36	-3323	-5796	2988	
51	-3926	-6659	3804	
66	-2347	-5975	2188	
81	-3226	-6691	2924	
96	-2965	-6659	3068	
111	-507	-5698	1500	
126	-198	-6463	2188	
141	600	-5877	1356	
156	1219	-6935	1084	
171	258	-6317	1276	
186	-426	-6805	2284	
201	1072	-5796	1100	
216	95	-6040	1772	
231	-1777	-6984	2236	
246	-1842	-7082	140	
261	-4284	-8954	444	
276	-4528	-9394	-708	
291	-4528	-9524	-1124	
306	-7035	-9231	988	
321	-8338	-8189	2428	
336	-7133	-7766	2604	
351	-6303	-6984	2828	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	-11	206	47
21	54	286	61
36	201	407	84
51	319	414	100
66	369	514	105
81	443	481	114
96	397	508	104
111	387	473	104
126	455	450	99
141	409	472	99
156	424	309	96
171	261	255	79
186	283	202	73
201	238	260	56
216	135	192	31
231	17	93	14
246	-62	108	10
261	-53	34	9
276	-105	26	2
291	-199	-40	-5
306	-295	-92	-8
321	-191	40	13
336	-39	169	33
351	17	262	35

TABLE 73

FLIGHT 54, LEVEL DECELERATING FLIGHT

(SEE FIG. 14, t = 36.4 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	6.42	3.98	3.05	2.08	1.06	.51	.079	6.15	3.06	2.44	2.09	1.26	.52	.026	6
21	6.32	4.02	3.08	2.09	1.05	.50	.081	6.10	3.05	2.43	2.10	1.24	.51	.021	21
36	6.97	4.32	3.29	2.26	1.16	.54	.085	6.45	3.28	2.58	2.22	1.32	.54	.021	36
51	7.32	4.52	3.42	2.35	1.24	.56	.085	6.49	3.30	2.62	2.26	1.34	.55	.021	51
66	8.02	4.85	3.62	2.49	1.31	.58	.091	6.45	3.32	2.62	2.26	1.34	.55	.018	66
81	8.18	4.92	3.70	2.53	1.33	.59	.093	6.13	3.10	2.53	2.17	1.30	.54	.011	81
96	8.27	4.99	3.76	2.57	1.36	.60	.099	5.78	2.94	2.43	2.13	1.27	.53	.006	96
111	9.03	5.36	3.97	2.75	1.50	.66	.113	5.22	2.81	2.34	2.09	1.29	.53	.013	111
126	9.62	5.65	4.26	2.93	1.63	.71	.127	4.61	2.59	2.25	2.08	1.29	.56	.018	126
141	9.98	5.61	4.31	2.97	1.61	.67	.115	4.63	2.63	2.29	2.11	1.32	.57	.024	141
156	10.09	5.49	4.17	2.85	1.54	.63	.101	6.10	3.30	2.74	2.43	1.50	.66	.054	156
171	9.70	5.54	4.14	2.84	1.55	.64	.107	6.96	3.73	2.98	2.63	1.65	.72	.076	171
186	9.52	5.52	4.09	2.80	1.56	.66	.113	7.49	3.98	3.14	2.74	1.72	.74	.092	186
201	9.54	5.52	4.06	2.81	1.56	.67	.121	7.79	4.08	3.21	2.76	1.74	.75	.093	201
216	9.62	5.54	4.07	2.82	1.57	.67	.123	8.12	4.23	3.27	2.80	1.77	.76	.098	216
231	9.50	5.50	4.05	2.81	1.58	.69	.123	8.20	4.28	3.32	2.83	1.79	.76	.098	231
246	9.67	5.56	4.06	2.85	1.60	.69	.129	8.26	4.28	3.33	2.84	1.81	.76	.098	246
261	9.89	5.56	4.07	2.87	1.62	.69	.135	8.13	4.23	3.29	2.82	1.81	.77	.104	261
276	10.16	5.57	4.09	2.86	1.61	.67	.123	7.42	3.90	3.09	2.67	1.70	.75	.098	276
291	10.30	5.57	4.05	2.87	1.60	.66	.119	5.63	3.19	2.73	2.47	1.62	.75	.122	291
306	10.18	5.56	4.09	2.91	1.67	.70	.129	3.40	2.30	2.18	2.08	1.26	.52	.035	306
321	10.00	5.52	4.05	2.87	1.66	.72	.137	5.29	2.81	2.36	2.03	1.27	.47	-.087	321
336	9.30	5.25	3.83	2.70	1.55	.69	.129	5.65	2.93	2.40	2.08	1.31	.55	.035	336
351	8.18	4.69	3.47	2.42	1.33	.59	.101	5.81	2.94	2.34	2.06	1.24	.53	.029	351

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	5.81	4.35	3.06	2.26	2.02	1.58	1.13	.53	.47	.27	.082	6
21	5.90	4.47	3.15	2.32	2.05	1.61	1.15	.55	.48	.27	.078	21
36	6.09	4.63	3.25	2.39	2.13	1.65	1.19	.58	.50	.28	.078	36
51	5.96	4.52	3.20	2.35	2.08	1.63	1.17	.56	.49	.27	.070	51
66	5.86	4.43	3.14	2.31	2.05	1.60	1.16	.55	.48	.27	.068	66
81	5.52	4.13	2.99	2.14	1.93	1.50	1.09	.51	.45	.24	.062	81
96	5.14	3.86	2.80	1.97	1.81	1.38	1.04	.47	.42	.23	.056	96
111	4.92	3.68	2.71	1.90	1.74	1.35	1.00	.46	.41	.23	.054	111
126	4.69	3.48	2.59	1.78	1.64	1.26	.96	.43	.39	.22	.048	126
141	4.60	3.44	2.54	1.76	1.62	1.25	.95	.43	.39	.22	.052	141
156	4.73	3.52	2.60	1.83	1.66	1.29	.97	.45	.41	.24	.058	156
171	4.67	3.48	2.61	1.82	1.67	1.29	.99	.47	.43	.25	.070	171
186	4.92	3.67	2.67	1.97	1.80	1.36	1.02	.49	.46	.26	.066	186
201	4.78	3.55	2.62	1.93	1.76	1.34	1.01	.50	.47	.27	.066	201
216	4.86	3.59	2.66	1.94	1.75	1.34	1.03	.51	.47	.27	.068	216
231	4.94	3.67	2.67	1.97	1.79	1.35	1.02	.50	.47	.27	.064	231
246	4.83	3.56	2.63	1.95	1.77	1.37	1.03	.51	.49	.29	.078	246
261	4.83	3.63	2.67	1.94	1.76	1.37	1.04	.53	.49	.29	.080	261
276	4.91	3.63	2.67	1.92	1.74	1.36	1.02	.51	.47	.28	.080	276
291	4.67	3.50	2.58	1.84	1.68	1.32	.99	.48	.44	.26	.068	291
306	4.31	3.14	2.30	1.63	1.49	1.14	.89	.41	.40	.22	.054	306
321	4.72	3.48	2.50	1.80	1.63	1.27	.94	.45	.42	.24	.064	321
336	5.14	3.81	2.75	1.98	1.78	1.39	1.01	.50	.43	.26	.068	336
351	5.33	3.98	2.84	2.05	1.85	1.46	1.05	.50	.45	.26	.068	351

TABLE 73 - Continued

FLIGHT 54, LEVEL DECELERATING FLIGHT

(SEE FIG. 14, t = 36.4 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	4.44	2.30	1.84	1.43	.93	.43	.106	2.42	1.23	.84	.68	.55	.32	.088	6
21	4.56	2.37	1.90	1.47	.96	.43	.103	2.44	1.25	.86	.69	.55	.31	.090	21
36	4.71	2.45	1.95	1.51	.99	.45	.103	2.49	1.27	.87	.71	.56	.32	.093	36
51	4.72	2.42	1.95	1.51	.99	.44	.100	2.52	1.30	.88	.72	.57	.32	.094	51
66	4.66	2.37	1.92	1.49	.98	.43	.094	2.49	1.27	.87	.71	.56	.32	.093	66
81	4.42	2.23	1.83	1.41	.93	.40	.092	2.41	1.22	.84	.69	.55	.31	.090	81
96	4.17	2.11	1.74	1.35	.89	.38	.086	2.31	1.19	.80	.65	.53	.29	.090	96
111	4.08	2.08	1.76	1.34	.89	.37	.084	2.20	1.17	.78	.63	.51	.29	.090	111
126	3.85	1.93	1.65	1.27	.82	.35	.078	2.14	1.14	.75	.61	.50	.27	.090	126
141	3.70	1.89	1.61	1.24	.81	.33	.078	2.05	1.09	.72	.58	.48	.27	.087	141
156	3.57	1.82	1.56	1.20	.79	.32	.072	1.97	1.06	.69	.56	.46	.26	.087	156
171	3.45	1.77	1.50	1.16	.76	.32	.070	1.88	1.01	.66	.54	.44	.26	.082	171
186	3.34	1.75	1.46	1.13	.75	.32	.072	1.85	.99	.65	.53	.43	.25	.082	186
201	3.27	1.71	1.43	1.12	.72	.31	.072	1.85	.98	.65	.52	.43	.25	.081	201
216	3.17	1.68	1.38	1.09	.70	.30	.070	1.78	.96	.62	.51	.42	.26	.079	216
231	3.10	1.66	1.36	1.08	.70	.30	.072	1.71	.92	.59	.49	.40	.25	.076	231
246	3.18	1.70	1.42	1.10	.72	.31	.078	1.73	.92	.59	.49	.40	.25	.074	246
261	3.34	1.76	1.49	1.15	.77	.33	.080	1.75	.93	.61	.49	.41	.24	.073	261
276	3.49	1.82	1.53	1.17	.78	.34	.080	1.74	.93	.60	.49	.41	.25	.072	276
291	3.52	1.81	1.53	1.17	.78	.33	.078	1.76	.93	.61	.49	.41	.25	.071	291
306	3.50	1.79	1.52	1.15	.77	.33	.078	1.77	.92	.61	.49	.40	.26	.071	306
321	3.63	1.86	1.56	1.20	.80	.35	.082	1.91	.98	.66	.53	.43	.26	.076	321
336	3.85	1.98	1.65	1.27	.85	.37	.086	2.09	1.07	.73	.59	.48	.28	.081	336
351	4.07	2.11	1.72	1.32	.87	.39	.094	2.27	1.15	.79	.64	.51	.29	.084	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.04	.53	.34	.19	.065	.42	.20	.13	.07	.008	6
21	1.04	.53	.34	.19	.063	.44	.21	.14	.07	.010	21
36	1.05	.52	.34	.19	.067	.45	.21	.14	.07	.016	36
51	1.07	.54	.35	.19	.069	.46	.22	.14	.08	.019	51
66	1.04	.52	.34	.19	.069	.48	.23	.15	.07	.017	66
81	1.01	.50	.33	.18	.065	.46	.22	.14	.07	.014	81
96	.99	.49	.32	.18	.063	.42	.20	.13	.06	.015	96
111	.94	.47	.30	.18	.061	.39	.18	.12	.06	.011	111
126	.89	.44	.29	.17	.058	.37	.18	.11	.06	.015	126
141	.86	.42	.27	.17	.056	.36	.17	.11	.06	.012	141
156	.83	.41	.26	.16	.052	.37	.17	.11	.06	.015	156
171	.83	.41	.26	.16	.052	.38	.17	.11	.06	.012	171
186	.80	.40	.26	.16	.054	.37	.18	.11	.06	.016	186
201	.79	.39	.25	.15	.049	.36	.17	.11	.06	.015	201
216	.76	.38	.24	.15	.047	.32	.15	.10	.05	.011	216
231	.72	.35	.23	.14	.043	.29	.13	.09	.05	.007	231
246	.71	.35	.23	.15	.047	.27	.12	.08	.04	.005	246
261	.70	.35	.23	.14	.045	.26	.11	.07	.04	.003	261
276	.69	.34	.23	.14	.044	.25	.11	.07	.04	.002	276
291	.70	.34	.23	.15	.046	.25	.11	.07	.04	.001	291
306	.73	.36	.24	.15	.049	.26	.12	.08	.04	-.001	306
321	.77	.39	.26	.16	.052	.30	.14	.10	.05	.007	321
336	.86	.44	.29	.17	.055	.35	.16	.11	.06	.007	336
351	.94	.48	.31	.18	.061	.38	.18	.12	.06	.009	351

TABLE 73 - Continued

FLIGHT 54, LEVEL DECELERATING FLIGHT

(SEE FIG. 14, t = 36.4 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	1.91	5.16	8.91	15.70	18.87	20.55	22.26
21	2.00	5.14	8.98	16.07	19.20	20.39	22.21
36	2.06	5.17	9.15	16.57	19.87	21.66	24.10
51	2.15	5.28	9.31	16.48	19.47	21.89	25.24
66	2.17	5.15	9.16	16.20	19.14	21.88	26.93
81	2.08	4.99	8.89	15.29	18.08	20.97	27.38
96	1.89	4.86	8.50	14.53	16.91	20.17	27.86
111	1.76	4.64	8.30	14.40	16.33	19.54	30.16
126	1.70	4.40	8.01	13.48	15.56	18.85	32.25
141	1.64	4.26	7.74	13.14	15.36	19.17	32.22
156	1.68	4.11	7.46	12.67	15.79	23.15	31.37
171	1.68	4.10	7.18	12.30	16.00	25.75	31.21
186	1.71	4.06	7.06	12.06	16.75	27.15	31.12
201	1.65	3.93	7.00	11.80	16.54	27.74	31.20
216	1.47	3.79	6.88	11.44	16.71	28.49	31.37
231	1.30	3.59	6.58	11.34	16.79	28.77	31.27
246	1.17	3.60	6.62	11.70	16.85	28.92	31.66
261	1.13	3.54	6.65	12.30	16.95	28.74	31.92
276	1.06	3.50	6.65	12.66	16.78	26.89	31.96
291	1.08	3.55	6.69	12.61	16.01	23.82	31.93
306	1.15	3.71	6.72	12.49	14.40	17.24	32.37
321	1.39	3.97	7.14	12.98	15.57	18.83	32.18
336	1.59	4.38	7.75	13.82	16.84	20.36	30.32
351	1.76	4.73	8.33	14.45	17.43	19.97	26.73

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.238		0	4.190		0	7.644	
1	.856	1.562	1	-1.244	-.078	1	-.066	.026
2	.064	.085	2	.196	.098	2	-.008	-.012
3	.064	.044	3	.000	.024	3	-.011	-.011
4	.044	.003	4	-.029	.041	4	-.004	.005
5	.003	-.026	5	.012	-.004	5	-.004	-.007
6	.018	.029	6	.037	.008	6	.001	.000
7	.020	.012	7	.037	.024	7	.000	.000
8	.015	.012	8	.008	.004	8	-.003	.000
9	.038	-.006	9	.008	.020	9	.000	.005
10	.026	.006	10	.016	.012	10	-.012	.008

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 73 - Continued

FLIGHT 54, LEVEL DECELERATING FLIGHT

(SEE FIG. 14, t = 36.4 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	1.632		.75	0	13.603		.95	0	29.466	
.25	1	.148	.410	.75	1	1.738	1.459	.95	1	-3.033	-1.909
.25	2	.157	.115	.75	2	.075	.461	.95	2	-1.512	-1.848
.25	3	-.048	-.026	.75	3	.025	.331	.95	3	-.627	-.423
.25	4	.013	-.029	.75	4	.118	.010	.95	4	-.960	-.140
.25	5	-.006	-.022	.75	5	-.063	-.112	.95	5	-.486	-.397
.25	6	.006	.012	.75	6	-.066	.000	.95	6	-.032	.046
.25	7	.003	.008	.75	7	.054	.037	.95	7	-.174	.104
.25	8	.000	.005	.75	8	.009	.068	.95	8	-.205	-.112
.25	9	.005	-.003	.75	9	-.003	-.021	.95	9	-.080	-.071
.25	10	.007	.004	.75	10	.072	-.037	.95	10	-.065	-.078
.40	0	4.316		.85	0	17.008					
.40	1	.485	.654	.85	1	1.044	.635				
.40	2	.182	.158	.85	2	.428	1.373				
.40	3	.026	-.019	.85	3	.104	.298				
.40	4	.053	-.019	.85	4	.234	-.178				
.40	5	-.005	-.017	.85	5	-.098	-.166				
.40	6	.023	-.006	.85	6	-.111	-.028				
.40	7	.024	-.014	.85	7	-.064	.135				
.40	8	.018	.005	.85	8	.054	.124				
.40	9	.013	.021	.85	9	.061	-.032				
.40	10	.012	-.002	.85	10	.166	-.068				
.55	0	7.736		.90	0	22.953					
.55	1	.780	1.037	.90	1	-3.164	-2.510				
.55	2	.168	.262	.90	2	.394	2.960				
.55	3	.072	.029	.90	3	.028	.456				
.55	4	.040	-.021	.90	4	.774	-.867				
.55	5	.014	-.085	.90	5	-.354	-.338				
.55	6	.007	.000	.90	6	-.512	-.326				
.55	7	.028	-.007	.90	7	-.078	.335				
.55	8	.001	.011	.90	8	-.027	.298				
.55	9	.030	.009	.90	9	.313	.009				
.55	10	.030	-.008	.90	10	.279	-.122				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 73 - Concluded

FLIGHT 54, LEVEL DECELERATING FLIGHT

(SEE FIG. 14, t = 36.4 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	1502	1229	1311	863	-204	-947		
21	1251	1106	1356	920	-617	-1872		
36	1103	817	958	405	-864	-2061		
51	1069	602	597	99	-1048	-1932		
66	1149	536	624	319	-503	-1126		
81	1172	899	1320	1072	34	-599		
96	2186	1526	1709	1406	518	157		
111	2141	1625	2007	1893	1028	725		
126	1844	1345	1871	1960	1539	1501		
141	1958	1246	1582	1588	1345	1720		
156	2072	1229	1492	1406	1310	1700		
171	1753	1229	1672	1721	1319	1302		
186	2106	1345	1609	1502	1002	1172		
201	1992	1147	1347	1368	1372	1929		
216	1137	949	1591	1826	1820	2456		
231	1616	1246	1754	2026	2287	2963		
246	1730	1807	2396	2532	2146	2734		
261	1673	1823	2459	2704	2604	2973		
276	1343	1535	2314	2666	2410	2715		
291	1400	1370	1835	1941	2040	2526		
306	875	1163	1727	1807	1372	1501		
321	1149	1031	1329	1158	808	934		
336	875	842	1148	1053	544	356		
351	704	866	1284	1120	272	-191		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-3817	-7456	2090	
21	-3362	-6838	2538	
36	-3052	-5926	3514	
51	-2173	-5438	3418	
66	-2092	-5975	2682	
81	-2352	-7505	1866	
96	-2027	-7717	938	
111	-1180	-7261	1578	
126	-643	-5649	2906	
141	920	-4835	3194	
156	1311	-4624	2922	
171	220	-5779	2682	
186	204	-6610	1178	
201	-399	-7228	474	
216	-1406	-7603	1034	
231	-2271	-7082	1178	
246	-3345	-7766	1626	
261	-4078	-7961	986	
276	-3966	-8954	554	
291	-3703	-8221	474	
306	-3752	-7668	1594	
321	-3443	-6545	2074	
336	-3509	-6691	2538	
351	-4013	-7179	2394	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	92	184	32
21	53	221	23
36	80	242	31
51	245	387	49
66	294	448	65
81	326	390	77
96	295	343	84
111	282	294	86
126	361	385	98
141	442	463	104
156	391	427	99
171	270	278	82
186	211	272	77
201	212	251	81
216	178	236	72
231	-17	116	57
246	14	99	51
261	97	175	49
276	141	193	41
291	-7	132	24
306	-46	113	7
321	-38	157	13
336	19	158	24
351	68	203	30

TABLE 74

FLIGHT 55, PARTIAL-POWER DESCENT

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	5.12	3.39	2.51	1.64	.80	.44	.064	4.08	2.12	1.69	1.55	1.00	.40	.011	6
21	5.38	3.51	2.72	1.82	.99	.51	.100	5.43	2.87	2.20	1.94	1.28	.53	.048	21
36	6.81	4.43	3.11	2.15	1.19	.57	.104	7.51	3.88	2.87	2.39	1.55	.61	.059	36
51	6.51	4.18	3.08	2.11	1.18	.58	.102	6.39	3.41	2.61	2.24	1.48	.61	.053	51
66	6.60	4.21	3.08	2.08	1.14	.56	.098	6.56	3.46	2.60	2.22	1.47	.59	.053	66
81	6.24	3.93	3.00	2.02	1.10	.55	.098	6.46	3.35	2.52	2.16	1.40	.58	.050	81
96	6.09	3.86	2.94	1.98	1.07	.55	.100	6.23	3.24	2.46	2.10	1.37	.56	.053	96
111	6.06	3.83	2.92	1.96	1.07	.55	.102	6.18	3.24	2.43	2.08	1.39	.57	.054	111
126	6.27	4.01	2.97	2.03	1.14	.58	.114	6.55	3.46	2.58	2.20	1.45	.62	.066	126
141	6.70	4.27	3.04	2.14	1.23	.62	.125	7.01	3.71	2.76	2.31	1.55	.65	.086	141
156	6.82	4.29	2.97	2.11	1.22	.61	.128	6.56	3.40	2.55	2.15	1.46	.62	.086	156
171	5.35	3.47	2.53	1.79	1.03	.54	.121	6.09	3.17	2.39	2.03	1.36	.57	.077	171
186	4.01	2.72	2.10	1.47	.80	.49	.112	3.80	2.10	1.66	1.55	1.03	.48	.046	186
201	9.70	5.44	3.90	2.85	1.75	.79	.196	6.41	3.68	2.97	2.58	1.76	.78	.142	201
216	8.15	5.30	3.26	2.40	1.28	.61	.106	7.00	3.71	2.76	2.33	1.54	.60	.048	216
231	6.95	4.40	3.06	2.17	1.24	.56	.112	6.78	3.56	2.63	2.22	1.50	.59	.066	231
246	7.11	4.35	2.96	2.08	1.17	.55	.098	6.83	3.52	2.61	2.17	1.46	.58	.057	246
261	6.20	3.96	2.88	1.96	1.08	.53	.092	6.48	3.39	2.51	2.12	1.39	.55	.048	261
276	6.05	3.83	2.87	1.93	1.03	.51	.080	6.41	3.32	2.48	2.10	1.35	.54	.039	276
291	5.47	3.54	2.76	1.81	.94	.47	.068	5.92	3.04	2.31	1.99	1.27	.49	.018	291
306	4.74	3.19	2.58	1.65	.79	.41	.052	5.06	2.64	2.05	1.81	1.13	.45	-.002	306
321	4.32	3.05	2.35	1.60	.83	.43	.068	4.05	2.23	1.75	1.65	1.05	.43	.006	321
336	7.74	4.85	3.31	2.38	1.43	.65	.124	8.98	4.26	3.14	2.56	1.69	.61	.101	336
351	8.60	4.82	3.30	2.34	1.37	.59	.114	8.08	3.71	2.71	2.23	1.47	.53	.063	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.85										
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	4.38	2.99	2.24	1.67	1.42	1.25	.81	.37	.38	.20	.008	6
21	5.42	3.93	2.81	2.13	1.77	1.57	.99	.49	.48	.26	.036	21
36	8.25	5.43	3.92	3.07	2.56	2.15	1.40	.70	.64	.35	.088	36
51	6.90	4.97	3.53	2.72	2.29	1.94	1.29	.64	.57	.32	.062	51
66	6.87	4.97	3.52	2.71	2.26	1.93	1.28	.64	.58	.32	.072	66
81	6.59	4.73	3.33	2.58	2.16	1.84	1.21	.60	.58	.31	.056	81
96	6.40	4.63	3.23	2.49	2.08	1.78	1.17	.58	.55	.30	.054	96
111	6.40	4.63	3.25	2.51	2.10	1.81	1.18	.59	.56	.32	.064	111
126	6.85	4.94	3.44	2.70	2.25	1.94	1.26	.64	.60	.34	.074	126
141	7.41	4.99	3.67	2.85	2.37	2.02	1.33	.70	.65	.37	.084	141
156	6.75	4.59	3.35	2.63	2.19	1.88	1.26	.66	.63	.34	.080	156
171	6.54	4.53	3.28	2.53	2.14	1.82	1.20	.60	.56	.31	.070	171
186	3.69	2.65	2.03	1.55	1.27	1.10	.73	.33	.38	.22	.002	186
201	6.41	4.76	3.37	2.65	2.26	1.88	1.28	.63	.62	.35	.070	201
216	6.19	4.41	3.18	2.41	2.06	1.74	1.16	.61	.55	.31	.046	216
231	6.60	4.70	3.27	2.58	2.14	1.82	1.18	.59	.55	.30	.056	231
246	6.66	4.72	3.34	2.56	2.15	1.83	1.17	.59	.56	.30	.048	246
261	6.66	4.78	3.34	2.57	2.16	1.84	1.18	.58	.55	.30	.046	261
276	6.70	4.84	3.39	2.59	2.17	1.85	1.18	.57	.52	.29	.038	276
291	6.19	4.52	3.16	2.40	2.04	1.72	1.11	.50	.49	.26	.022	291
306	5.42	3.92	2.80	2.09	1.78	1.52	.97	.42	.43	.23	.010	306
321	4.20	3.01	2.28	1.74	1.41	1.20	.79	.33	.37	.19	-.004	321
336	5.60	3.97	2.98	2.26	1.94	1.65	1.11	.54	.53	.30	.054	336
351	4.28	3.09	2.26	1.71	1.46	1.33	.83	.42	.43	.24	.022	351

TABLE 74 - Continued

FLIGHT 55, PARTIAL-POWER DESCENT

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	3.38	1.92	1.46	1.10	.75	.31	.052	.97	.40	.32	.34	.28	.17	.045	6
21	3.56	2.06	1.59	1.23	.86	.39	.075	.51	.15	.16	.23	.20	.12	.037	21
36	4.52	3.00	2.17	1.70	1.23	.54	.110	.54	.15	.17	.25	.22	.16	.044	36
51	5.44	3.33	2.45	1.86	1.32	.55	.108	1.58	.73	.52	.53	.44	.24	.065	51
66	5.64	3.08	2.30	1.75	1.26	.54	.112	2.16	1.04	.74	.70	.57	.31	.087	66
81	5.66	2.99	2.24	1.71	1.22	.53	.108	2.33	1.15	.81	.76	.62	.33	.095	81
96	5.46	2.89	2.17	1.65	1.17	.52	.108	2.60	1.27	.89	.84	.68	.35	.096	96
111	5.42	2.94	2.20	1.67	1.20	.53	.116	1.96	.91	.69	.70	.58	.32	.089	111
126	5.63	3.09	2.30	1.75	1.27	.56	.126	.77	.35	.33	.41	.37	.26	.074	126
141	5.69	3.00	2.24	1.71	1.25	.56	.118	.44	.13	.18	.28	.25	.17	.054	141
156	5.89	3.23	2.32	1.76	1.26	.52	.098	.34	.06	.10	.21	.18	.12	.044	156
171	5.29	2.39	1.86	1.40	.99	.45	.091	.76	.28	.24	.30	.23	.14	.048	171
186	3.94	1.54	1.29	1.01	.67	.30	.064	1.21	.54	.41	.40	.33	.19	.062	186
201	3.93	2.31	1.76	1.36	.98	.44	.091	1.69	.80	.54	.54	.44	.24	.072	201
216	4.07	2.31	1.81	1.39	.98	.45	.094	2.19	1.05	.74	.69	.55	.28	.080	216
231	4.48	2.58	1.94	1.48	1.05	.46	.094	2.45	1.18	.82	.75	.59	.31	.079	231
246	4.77	2.67	2.00	1.52	1.08	.47	.091	2.57	1.25	.86	.79	.62	.32	.081	246
261	5.04	2.80	2.08	1.58	1.11	.49	.094	2.82	1.37	.94	.85	.66	.35	.087	261
276	5.18	2.85	2.12	1.61	1.13	.49	.089	2.96	1.44	.97	.88	.69	.36	.089	276
291	5.11	2.77	2.08	1.56	1.08	.46	.084	3.01	1.46	.99	.89	.69	.35	.090	291
306	4.76	2.53	1.95	1.45	.99	.42	.075	2.93	1.40	.95	.86	.68	.35	.086	306
321	4.12	2.08	1.66	1.25	.81	.35	.059	2.68	1.26	.88	.80	.63	.32	.086	321
336	3.79	2.14	1.69	1.30	.90	.39	.073	2.11	1.00	.67	.64	.52	.27	.068	336
351	3.16	1.53	1.24	.93	.63	.29	.041	1.61	.73	.51	.49	.41	.21	.055	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	.73	.42	.22	.16	.056	.48	.20	.12	.08	.013	6
21	.52	.34	.15	.14	.050	.43	.18	.10	.08	.012	21
36	.28	.23	.10	.11	.047	.34	.13	.07	.06	.012	36
51	.14	.15	.05	.09	.043	.25	.09	.05	.05	.008	51
66	.02	.10	.03	.09	.047	.17	.06	.03	.05	.006	66
81	-.01	.10	.03	.09	.050	.13	.03	.02	.04	.007	81
96	.00	.10	.03	.09	.047	.13	.04	.02	.04	.010	96
111	.00	.10	.03	.09	.047	.13	.04	.02	.04	.008	111
126	.02	.11	.03	.09	.045	.14	.04	.02	.05	.010	126
141	.12	.15	.05	.10	.043	.17	.06	.03	.05	.013	141
156	.23	.20	.08	.11	.045	.22	.09	.05	.06	.014	156
171	.40	.29	.13	.13	.054	.29	.13	.07	.08	.023	171
186	.58	.36	.18	.15	.054	.36	.16	.10	.08	.021	186
201	.73	.43	.24	.17	.065	.45	.20	.12	.10	.024	201
216	.94	.53	.29	.19	.066	.48	.23	.14	.11	.028	216
231	1.01	.58	.32	.20	.066	.51	.24	.16	.11	.024	231
246	1.07	.62	.35	.21	.071	.62	.29	.18	.12	.027	246
261	1.14	.65	.37	.23	.073	.72	.33	.20	.12	.026	261
276	1.22	.68	.39	.23	.073	.76	.36	.22	.13	.027	276
291	1.27	.70	.40	.23	.075	.65	.33	.21	.13	.019	291
306	1.32	.72	.41	.24	.077	.84	.38	.22	.13	.021	306
321	1.27	.69	.39	.23	.073	.70	.34	.20	.12	.014	321
336	1.06	.60	.33	.20	.067	.65	.29	.17	.10	.010	336
351	.91	.51	.28	.18	.062	.54	.24	.15	.09	.013	351

TABLE 74 - Continued

FLIGHT 55, PARTIAL-POWER DESCENT

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	2.09	3.79	3.95	12.21	13.84	14.85	18.15
21	1.88	2.94	2.43	13.68	17.32	19.54	20.07
36	1.45	2.01	2.78	18.97	24.77	25.02	24.14
51	1.06	1.34	6.25	20.92	21.92	22.92	23.51
66	.77	.99	8.41	20.17	21.91	22.89	23.36
81	.58	.99	9.11	19.76	20.94	22.24	22.38
96	.60	.99	9.95	19.12	20.22	21.59	21.96
111	.61	.98	8.12	19.42	20.40	21.64	21.85
126	.69	1.03	4.68	20.41	21.82	23.00	22.84
141	.85	1.35	2.88	20.12	23.28	24.55	24.20
156	1.08	1.81	2.03	20.49	21.70	22.97	24.15
171	1.47	2.59	3.19	16.67	20.69	21.33	20.13
186	1.75	3.27	4.81	11.53	12.47	15.18	16.22
201	2.16	3.99	6.51	15.36	21.55	26.18	32.54
216	2.43	4.85	8.17	15.61	19.85	24.11	27.16
231	2.55	5.13	8.93	16.77	20.57	23.39	24.27
246	2.94	5.50	9.41	17.38	20.71	23.09	23.79
261	3.26	5.85	10.21	18.13	20.69	22.06	22.00
276	3.50	6.16	10.62	18.40	20.66	21.62	21.35
291	3.20	6.29	10.70	17.83	19.23	19.95	19.70
306	3.61	6.51	10.40	16.42	16.90	17.56	17.47
321	3.17	6.19	9.60	13.76	13.53	15.45	16.98
336	2.76	5.32	7.70	14.26	18.71	27.75	27.09
351	2.40	4.60	5.87	10.54	14.32	24.20	27.10

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	16.486		0	4.496		0	5.870	
1	-1.077	-1.910	1	-2.195	.494	1	.068	.317
2	.231	-.061	2	.016	-.343	2	-.059	-.034
3	-.108	-.032	3	.118	.000	3	.012	.043
4	-.006	.003	4	.012	-.037	4	-.014	.003
5	-.023	-.058	5	-.037	-.045	5	.008	.012
6	-.003	-.026	6	.000	-.049	6	-.008	-.004
7	-.020	-.032	7	.004	-.020	7	.000	-.001
8	-.009	-.003	8	-.016	-.033	8	-.004	.000
9	-.009	-.006	9	-.041	-.004	9	-.009	-.012
10	-.018	-.009	10	.000	-.004	10	.007	.001

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 74 - Continued

FLIGHT 55, PARTIAL-POWER DESCENT

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	1.953		.75	0	16.996		.95	0	22.600	
.25	1	.210	-1.395	.75	1	-.958	1.923	.95	1	-1.038	.324
.25	2	-.016	-.065	.75	2	-2.722	.461	.95	2	.888	1.390
.25	3	-.040	.035	.75	3	-.175	1.430	.95	3	.895	-1.462
.25	4	.020	.055	.75	4	-1.374	.021	.95	4	-1.115	-.303
.25	5	-.034	.029	.75	5	.178	-.221	.95	5	.135	-2.445
.25	6	.003	.051	.75	6	-.728	-.111	.95	6	-2.001	.133
.25	7	.051	-.001	.75	7	.249	-.159	.95	7	-.284	-1.336
.25	8	-.008	-.036	.75	8	-.395	.150	.95	8	-1.771	.673
.25	9	-.030	-.006	.75	9	.488	-.047	.95	9	.394	-.367
.25	10	-.052	.013	.75	10	.004	.380	.95	10	-1.121	.394
.40	0	3.519		.85	0	19.499					
.40	1	.281	-2.808	.85	1	-1.268	1.549				
.40	2	-.009	-.214	.85	2	-1.594	1.302				
.40	3	-.068	-.188	.85	3	.349	1.391				
.40	4	.027	.069	.85	4	-1.477	.157				
.40	5	.031	.069	.85	5	.012	-.600				
.40	6	-.004	.031	.85	6	-1.523	.016				
.40	7	.040	.017	.85	7	-.371	-.303				
.40	8	.008	-.042	.85	8	-1.190	.111				
.40	9	-.004	.009	.85	9	.499	.000				
.40	10	-.009	-.022	.85	10	-.526	.132				
.55	0	6.945		.90	0	21.793					
.55	1	.301	-1.998	.90	1	-.753	.666				
.55	2	-2.946	.526	.90	2	-.157	.925				
.55	3	-.872	-1.600	.90	3	.873	-.482				
.55	4	.247	-.156	.90	4	-1.475	-.687				
.55	5	-.043	-.102	.90	5	-1.312	-1.776				
.55	6	.034	-.193	.90	6	-2.207	-.285				
.55	7	.254	-.038	.90	7	-1.035	-.692				
.55	8	.177	.065	.90	8	-1.851	.324				
.55	9	-.057	.131	.90	9	.012	.158				
.55	10	-.041	-.045	.90	10	-.931	.371				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 74 - Concluded

FLIGHT 55, PARTIAL-POWER DESCENT

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	410	487	850	969	1919	3493		
21	2314	792	1374	2591	3344	2150		
36	2633	2582	3598	4146	1945	-855		
51	3682	3465	4448	4747	1215	-2397		
66	3283	3234	4384	4318	-88	-3223		
81	2975	2335	2748	2591	71	-1820		
96	1310	1823	2784	2534	-1126	-3044		
111	3089	2079	2260	1904	-1390	-3980		
126	2599	2549	3019	2562	-1724	-5353		
141	2279	1922	2432	2953	766	-2905		
156	1356	1419	2441	3411	2746	787		
171	1322	1708	2007	2896	4814	6070		
186	330	1733	3354	4442	4673	4956		
201	1960	2409	2938	2753	2948	4359		
216	1903	1485	2197	2677	2702	2856		
231	-92	924	2133	2076	502	-776		
246	1561	1172	497	-367	-1848	-3422		
261	182	74	-488	-1321	-3784	-5591		
276	-320	-833	-1501	-1702	-2684	-4547		
291	-103	124	-244	-1130	-3176	-4746		
306	2576	982	81	-452	-1724	-3044		
321	1219	1403	2061	1570	-1152	-2975		
336	2735	1394	841	158	-123	667		
351	1607	-8	597	950	1391	2100		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	2859	-5047	4179	
21	1052	-8042	1379	
36	2339	-7847	-2301	
51	-934	-10387	2307	
66	2273	-4917	3283	
81	3218	-2751	6739	
96	955	-2702	8531	
111	580	-4493	4867	
126	-462	-9101	931	
141	-4955	-9849	-893	
156	-7202	-13171	-1037	
171	-7934	-9849	-4029	
186	-14674	-14326	1955	
201	-12427	-10208	-237	
216	-8032	-9084	-845	
231	-11044	-9231	5827	
246	-6615	-4005	4019	
261	-4320	-5731	4899	
276	-5118	-6219	3299	
291	-4597	-9133	547	
306	-3392	-9540	-541	
321	-3164	-6984	2803	
336	-6	-3533	5587	
351	4553	-1042	4083	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	982	59	52
21	785	-291	44
36	1081	254	61
51	1441	165	111
66	1131	308	92
81	1025	75	79
96	785	75	45
111	717	-107	31
126	810	-58	22
141	649	-83	5
156	381	-406	-32
171	-257	-648	-60
186	-152	-802	-73
201	134	-188	-22
216	977	168	75
231	696	127	45
246	307	-38	27
261	693	144	31
276	870	309	70
291	1043	323	85
306	855	76	75
321	1091	171	108
336	1204	314	116
351	1022	230	95

TABLE 75

FLIGHT 56, PARTIAL-POWER DESCENT

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	4.14	2.91	2.28	1.47	.67	.39	.054	4.44	2.29	1.74	1.61	1.00	.40	-.002	6
21	4.12	2.89	2.32	1.53	.72	.41	.060	4.45	2.37	1.83	1.66	1.04	.40	-.002	21
36	4.46	3.04	2.43	1.61	.79	.45	.070	4.81	2.53	1.97	1.78	1.13	.46	.024	36
51	4.84	3.26	2.60	1.73	.90	.50	.086	5.23	2.76	2.12	1.89	1.21	.51	.030	51
66	5.25	3.50	2.73	1.82	.95	.52	.096	5.48	2.81	2.17	1.89	1.24	.53	.042	66
81	5.28	3.51	2.67	1.79	.97	.53	.104	5.86	2.97	2.25	1.94	1.29	.54	.053	81
96	5.52	3.67	2.74	1.89	1.02	.55	.100	6.23	3.31	2.49	2.21	1.44	.60	.078	96
111	4.96	3.48	2.70	1.84	1.00	.56	.102	5.91	3.13	2.43	2.15	1.37	.58	.048	111
126	5.78	4.02	3.15	2.08	1.07	.58	.104	6.30	3.37	2.54	2.22	1.45	.61	.062	126
141	5.44	3.77	2.93	1.94	.99	.52	.090	5.66	3.00	2.30	2.01	1.29	.52	.033	141
156	4.79	3.21	2.48	1.71	.90	.50	.100	4.98	2.58	2.01	1.80	1.18	.50	.042	156
171	5.88	3.80	2.81	1.97	1.11	.58	.116	6.07	3.22	2.40	2.10	1.38	.59	.059	171
186	7.02	4.51	3.16	2.23	1.29	.63	.128	7.13	3.77	2.77	2.36	1.58	.64	.074	186
201	7.14	4.57	3.24	2.23	1.26	.62	.110	7.45	3.87	2.87	2.44	1.57	.63	.066	201
216	7.05	4.60	3.31	2.23	1.23	.59	.092	7.64	4.02	2.95	2.49	1.61	.62	.042	216
231	6.69	4.33	3.19	2.13	1.10	.52	.072	6.94	3.61	2.68	2.25	1.44	.53	.013	231
246	3.97	2.78	2.18	1.38	.58	.35	.034	4.20	2.20	1.69	1.51	.94	.35	-.015	246
261	4.65	3.06	2.27	1.59	.86	.45	.076	4.61	2.40	1.82	1.67	1.06	.43	.011	261
276	5.50	3.54	2.51	1.75	.96	.47	.082	6.14	3.17	2.34	2.00	1.26	.49	.030	276
291	5.44	3.60	2.60	1.73	.86	.43	.060	5.65	2.91	2.18	1.89	1.20	.45	.000	291
306	5.25	3.48	2.69	1.76	.91	.46	.068	5.50	2.86	2.17	1.91	1.21	.49	.018	306
321	5.84	3.84	2.92	1.95	1.01	.49	.074	5.87	3.10	2.37	2.06	1.33	.53	.020	321
336	5.80	3.75	2.85	1.86	.95	.47	.068	5.54	2.87	2.21	1.96	1.24	.49	.022	336
351	5.36	3.55	2.62	1.73	.82	.44	.062	4.86	2.49	1.93	1.71	1.08	.42	-.002	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.85										
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	4.73	3.39	2.46	1.83	1.52	1.33	.84	.37	.40	.20	.006	6
21	4.76	3.43	2.48	1.83	1.55	1.37	.87	.39	.43	.22	.018	21
36	5.19	3.77	2.74	2.03	1.72	1.52	.98	.47	.47	.27	.032	36
51	5.57	4.07	2.89	2.19	1.84	1.62	1.04	.51	.53	.28	.050	51
66	5.56	4.00	2.86	2.19	1.85	1.64	1.04	.52	.52	.29	.046	66
81	6.04	4.36	3.09	2.41	2.00	1.75	1.14	.57	.53	.31	.062	81
96	7.10	5.16	3.63	2.83	2.34	2.02	1.32	.70	.63	.35	.080	96
111	6.47	4.68	3.35	2.60	2.20	1.87	1.27	.64	.61	.35	.068	111
126	6.91	4.94	3.51	2.71	2.24	1.94	1.26	.64	.60	.34	.070	126
141	5.37	3.85	2.79	2.07	1.77	1.55	1.04	.46	.49	.27	.036	141
156	5.09	3.65	2.62	1.97	1.65	1.50	.96	.46	.47	.27	.040	156
171	6.16	4.45	3.11	2.42	1.99	1.76	1.14	.58	.56	.32	.066	171
186	7.26	5.12	3.67	2.84	2.33	2.02	1.32	.68	.63	.36	.076	186
201	8.01	5.50	3.90	3.02	2.49	2.14	1.37	.70	.65	.36	.072	201
216	8.31	5.69	4.05	3.13	2.58	2.19	1.40	.68	.62	.33	.058	216
231	7.28	5.18	3.67	2.76	2.29	1.95	1.24	.56	.54	.28	.028	231
246	4.69	3.36	2.47	1.85	1.53	1.33	.84	.35	.37	.19	-.002	246
261	4.95	3.55	2.55	1.93	1.58	1.40	.87	.39	.41	.23	.006	261
276	6.28	4.56	3.20	2.44	2.03	1.76	1.11	.53	.51	.28	.032	276
291	5.91	4.23	3.00	2.29	1.91	1.64	1.03	.46	.48	.24	.024	291
306	5.85	4.19	2.99	2.26	1.88	1.63	1.04	.48	.49	.25	.022	306
321	5.92	4.34	3.11	2.38	2.01	1.73	1.13	.54	.52	.29	.036	321
336	5.67	4.14	3.01	2.30	1.92	1.68	1.10	.51	.52	.27	.030	336
351	5.20	3.69	2.63	1.97	1.66	1.46	.92	.42	.43	.23	.014	351

TABLE 75 - Continued

FLIGHT 56, PARTIAL-POWER DESCENT

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	4.10	2.17	1.68	1.27	.85	.37	.066	3.05	1.47	.98	.90	.70	.36	.083	6
21	3.90	2.16	1.68	1.29	.86	.39	.075	2.95	1.42	.95	.88	.69	.36	.087	21
36	4.20	2.42	1.88	1.44	.99	.45	.091	3.10	1.51	1.02	.93	.74	.39	.095	36
51	4.48	2.53	1.96	1.48	1.04	.47	.098	3.51	1.72	1.14	1.03	.82	.44	.105	51
66	4.68	2.64	2.00	1.53	1.07	.49	.105	3.52	1.70	1.14	1.04	.82	.42	.103	66
81	5.16	2.99	2.21	1.69	1.20	.54	.112	3.46	1.68	1.15	1.04	.83	.43	.102	81
96	5.54	3.19	2.36	1.83	1.31	.59	.114	2.52	1.23	.88	.86	.72	.39	.103	96
111	5.55	3.08	2.32	1.78	1.29	.57	.124	2.04	.99	.71	.70	.58	.34	.089	111
126	5.07	2.56	1.92	1.51	1.08	.48	.091	2.19	1.06	.72	.71	.57	.32	.086	126
141	4.31	2.19	1.71	1.31	.92	.42	.084	2.54	1.21	.84	.79	.63	.34	.083	141
156	3.89	2.14	1.66	1.27	.89	.41	.084	2.46	1.18	.82	.80	.65	.33	.079	156
171	4.09	2.37	1.82	1.41	.98	.46	.100	2.30	1.09	.77	.75	.60	.32	.083	171
186	4.65	2.84	2.12	1.64	1.17	.54	.110	2.99	1.47	1.00	.92	.73	.36	.097	186
201	5.49	3.35	2.45	1.88	1.35	.58	.110	3.53	1.71	1.17	1.04	.82	.42	.107	201
216	5.94	3.28	2.44	1.84	1.30	.55	.096	3.64	1.75	1.18	1.06	.84	.40	.098	216
231	5.71	2.93	2.21	1.66	1.17	.48	.075	3.01	1.37	.95	.88	.71	.37	.091	231
246	4.75	2.19	1.77	1.33	.87	.37	.057	2.85	1.31	.91	.84	.67	.34	.089	246
261	4.18	2.21	1.69	1.28	.85	.37	.062	2.74	1.34	.90	.83	.66	.35	.092	261
276	4.60	2.85	2.10	1.60	1.10	.45	.078	2.93	1.42	.97	.89	.70	.35	.086	276
291	4.63	2.59	1.96	1.48	1.01	.42	.070	2.83	1.33	.91	.84	.67	.34	.080	291
306	4.77	2.63	2.00	1.49	1.04	.44	.086	3.03	1.46	.97	.88	.69	.35	.087	306
321	5.07	2.82	2.13	1.61	1.14	.48	.084	3.73	1.76	1.16	1.02	.79	.40	.096	321
336	4.85	2.55	1.95	1.47	1.03	.44	.082	3.41	1.64	1.10	.99	.78	.38	.084	336
351	4.48	2.37	1.83	1.37	.95	.40	.070	3.03	1.46	.98	.89	.70	.36	.081	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.39	.78	.44	.27	.084	.64	.30	.19	.13	.024	6
21	1.37	.76	.43	.27	.087	.68	.30	.20	.15	.039	21
36	1.49	.82	.47	.28	.091	.69	.32	.23	.16	.046	36
51	1.56	.86	.51	.31	.105	.71	.33	.19	.15	.053	51
66	1.58	.86	.50	.31	.100	.79	.42	.24	.15	.046	66
81	1.31	.75	.43	.28	.098	.62	.40	.22	.16	.043	81
96	.87	.55	.32	.25	.088	.55	.30	.22	.16	.038	96
111	.69	.45	.25	.21	.077	.49	.25	.15	.14	.043	111
126	.68	.43	.25	.20	.073	.46	.27	.18	.13	.043	126
141	1.08	.63	.36	.25	.087	.49	.29	.22	.20	.062	141
156	1.10	.64	.36	.24	.073	.49	.37	.27	.22	.090	156
171	1.56	.85	.48	.29	.091	.46	.31	.22	.20	.116	171
186	1.49	.83	.47	.28	.081	.58	.35	.25	.19	.092	186
201	1.78	.94	.53	.30	.098	.72	.41	.27	.18	.090	201
216	1.59	.86	.47	.26	.098	.64	.36	.23	.19	.071	216
231	1.65	.92	.51	.27	.079	.78	.33	.19	.14	.056	231
246	1.49	.77	.42	.24	.067	.79	.33	.19	.12	.030	246
261	1.33	.72	.40	.24	.075	.63	.27	.15	.10	.023	261
276	.99	.58	.31	.20	.062	.38	.16	.10	.08	.010	276
291	.85	.50	.26	.18	.064	.46	.19	.11	.08	.014	291
306	1.03	.60	.34	.22	.073	.43	.17	.09	.08	.006	306
321	1.20	.69	.38	.24	.075	.35	.15	.09	.08	.012	321
336	1.21	.67	.37	.24	.077	.68	.29	.17	.11	.017	336
351	1.49	.82	.46	.27	.087	.68	.31	.19	.12	.018	351

TABLE 75 - Continued

FLIGHT 56, PARTIAL-POWER DESCENT

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	3.07	7.02	10.77	14.18	14.78	15.35	15.61
21	3.36	6.92	10.59	14.24	15.20	15.81	15.99
36	3.55	7.46	11.25	16.00	16.87	17.22	17.13
51	3.45	8.00	12.65	16.78	18.13	18.73	18.68
66	3.85	7.99	12.56	17.41	18.10	19.28	19.88
81	3.52	6.96	12.58	19.34	19.44	20.17	19.96
96	3.25	5.27	10.21	20.86	22.84	22.35	20.81
111	2.72	4.27	8.42	20.51	21.37	21.29	20.01
126	2.73	4.14	8.46	17.40	21.93	22.57	22.50
141	3.45	5.86	9.42	15.01	17.44	20.04	20.86
156	4.00	5.81	9.33	14.38	16.47	17.95	18.50
171	3.67	7.72	8.79	15.79	19.71	21.62	21.87
186	3.87	7.42	10.92	18.49	22.94	24.80	25.23
201	4.21	8.47	12.62	21.25	24.36	25.24	25.31
216	3.82	7.61	12.71	21.05	24.86	25.72	25.07
231	3.52	7.92	10.68	19.07	21.95	22.94	23.33
246	3.35	6.87	10.10	14.87	14.59	14.39	14.55
261	2.68	6.47	10.05	14.28	15.38	16.20	17.31
276	1.75	5.11	10.53	17.64	19.54	20.38	19.51
291	1.97	4.47	10.06	16.48	18.26	18.84	19.02
306	1.77	5.46	10.63	16.98	18.20	18.97	19.19
321	1.64	6.12	12.59	18.24	19.23	20.56	21.09
336	2.89	6.10	11.86	16.80	18.63	19.20	20.45
351	3.08	7.35	10.76	15.52	16.10	16.68	18.79

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.071		0	4.965		0	5.779	
1	-3.781	.964	1	-1.546	1.073	1	.328	.143
2	-.505	.426	2	.061	.126	2	-.008	.022
3	-.073	-.164	3	.086	-.057	3	.016	.001
4	.015	-.067	4	.012	-.049	4	-.015	-.019
5	-.035	-.044	5	.090	-.167	5	.014	-.008
6	-.038	-.006	6	-.020	-.033	6	-.003	.000
7	-.061	-.020	7	-.053	-.029	7	-.003	.003
8	-.053	.000	8	-.020	-.049	8	-.001	.000
9	.032	.000	9	-.029	-.004	9	.005	-.012
10	.000	-.061	10	-.012	-.020	10	-.003	-.007

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o \right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o \right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o \right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o \right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o \right) + F_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 75 - Continued

FLIGHT 56, PARTIAL-POWER DESCENT

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.132		.75	0	17.189		.95	0	20.027	
.25	1	-.410	.490	.75	1	-.969	.433	.95	1	-2.374	.191
.25	2	.517	.483	.75	2	-.695	.523	.95	2	.661	-.332
.25	3	-.007	-.061	.75	3	-1.081	-2.150	.95	3	-1.538	-1.802
.25	4	-.043	-.209	.75	4	.277	1.122	.95	4	-.191	.931
.25	5	.102	-.033	.75	5	-.211	-.278	.95	5	-.158	-1.063
.25	6	-.052	.036	.75	6	-.617	-.151	.95	6	-.375	-.098
.25	7	-.073	-.145	.75	7	.050	.235	.95	7	-.411	.791
.25	8	-.133	.110	.75	8	.343	-.032	.95	8	.614	-.586
.25	9	-.049	.049	.75	9	.009	-.368	.95	9	-.402	.063
.25	10	.020	.024	.75	10	-.146	-.023	.95	10	-.156	.245
.40	0	6.532		.85	0	19.012					
.40	1	-.041	-.030	.85	1	-2.236	.501				
.40	2	1.042	1.145	.85	2	-.156	.181				
.40	3	-.409	-.147	.85	3	-1.352	-2.200				
.40	4	-.207	-.467	.85	4	.285	1.635				
.40	5	.053	-.069	.85	5	-.348	-.632				
.40	6	.128	.090	.85	6	-.722	-.374				
.40	7	.065	-.087	.85	7	-.189	.708				
.40	8	.058	-.165	.85	8	.594	-.397				
.40	9	-.063	-.046	.85	9	.027	.041				
.40	10	-.155	-.071	.85	10	-.287	.299				
.55	0	10.773		.90	0	19.846					
.55	1	.645	-.259	.90	1	-2.599	.511				
.55	2	.340	.892	.90	2	.195	-.102				
.55	3	-.952	-.665	.90	3	-1.612	-1.896				
.55	4	-.369	-.093	.90	4	.074	1.456				
.55	5	.134	-.446	.90	5	-.182	-.801				
.55	6	-.204	.541	.90	6	-.621	-.174				
.55	7	.072	-.018	.90	7	-.242	.909				
.55	8	.200	.023	.90	8	.799	-.516				
.55	9	.153	-.053	.90	9	-.176	.054				
.55	10	.102	-.021	.90	10	-.217	.198				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 75 - Concluded

FLIGHT 56, PARTIAL-POWER DESCENT

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	1620	388	-777	-1804	-2498	-2201		
21	1700	866	687	-258	-3370	-5017		
36	2737	858	470	-96	-2525	-4918		
51	1779	635	63	-1022	-3114	-4211		
66	1095	-248	-1012	-1365	-1724	-2311		
81	81	165	208	-115	-1786	-3316		
96	2270	1873	1356	419	-2032	-4321		
111	1973	2368	2504	1831	-1803	-4778		
126	525	1452	1989	1497	-914	-1783		
141	651	-173	36	906	1558	1988		
156	-854	314	1392	1602	1224	1729		
171	1654	1502	1193	1192	1180	-122		
186	1335	1955	1880	906	-1020	-3525		
201	1369	924	-199	-1060	-2050	-3544		
216	-375	-536	-588	-1193	-2366	-3495		
231	1004	-173	-805	-1050	-2120	-3584		
246	1973	1502	994	-153	-2956	-4798		
261	2669	1460	814	-10	-2886	-4400		
276	833	487	190	114	-589	-1674		
291	560	974	1383	1192	-413	-1445		
306	3672	2624	2079	1211	-474	-2350		
321	3273	2937	2947	1840	-1451	-3753		
336	2475	1980	1700	390	-1548	-2868		
351	1586	173	-660	-1079	-1882	-2758		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	3621	-1465	5798	
21	1147	-3256	6294	
36	349	-3289	4870	
51	-432	-4249	4566	
66	-1914	-4444	4486	
81	-3933	-6154	4278	
96	-6505	-8287	3302	
111	-8589	-9247	1254	
126	-10738	-10908	-90	
141	-11486	-11966	-1802	
156	-13066	-12373	54	
171	-12528	-9833	2822	
186	-8784	-5519	3942	
201	-7156	-4917	6102	
216	-4551	-5421	4694	
231	-2907	-6886	790	
246	-3933	-8791	646	
261	-2874	-7326	2038	
276	1684	-4461	3734	
291	2319	-3207	5862	
306	1586	-3337	6502	
321	3849	-3989	4486	
336	3117	-3451	4934	
351	3491	-2637	5654	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	641	-89	10
21	551	-205	-22
36	513	-217	-9
51	765	54	7
66	587	-94	0
81	177	-227	-65
96	-50	-584	-58
111	219	-249	-15
126	364	-109	1
141	9	-289	-45
156	-500	-667	-99
171	-369	-618	-60
186	428	123	28
201	1000	338	125
216	1294	775	128
231	912	361	96
246	775	-29	79
261	990	131	100
276	1354	525	135
291	1338	481	128
306	1086	82	100
321	1309	326	103
336	1424	310	131
351	1416	458	105

TABLE 76

FLIGHT 57, PARTIAL-POWER DESCENT

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.88	4.29	3.12	2.14	1.24	.50	.087	6.14	3.01	2.18	4.54	1.19	.47	.022	0
15	3.78	2.57	1.97	1.31	.65	.33	.039	4.33	2.09	1.48	4.13	.83	.34	.000	15
30	4.70	3.11	2.50	1.57	.91	.39	.063	5.65	2.83	1.99	1.69	1.07	.45	.018	30
45	4.58	3.11	2.50	1.67	.89	.39	.047	5.95	2.97	2.10	1.79	1.12	.43	-.005	45
60	4.47	3.06	2.47	1.65	.84	.39	.049	5.63	2.80	2.00	1.70	1.07	.43	-.006	60
75	4.51	3.10	2.49	1.67	.85	.38	.045	5.30	2.67	1.90	1.63	1.03	.41	-.009	75
90	4.28	2.89	2.34	1.53	.75	.35	.045	5.00	2.46	1.73	1.51	.94	.37	-.020	90
105	4.12	2.89	2.36	1.55	.77	.37	.059	4.67	2.32	1.67	1.48	.92	.40	-.002	105
120	4.49	3.03	2.45	1.64	.85	.41	.073	5.10	2.55	1.85	1.60	1.01	.43	.006	120
135	4.51	3.06	2.53	1.66	.87	.42	.073	5.03	2.55	1.85	1.62	1.02	.45	.016	135
150	4.68	3.19	2.67	1.77	.96	.47	.085	5.61	2.86	2.07	1.80	1.14	.50	.025	150
165	5.37	3.56	2.83	1.91	1.07	.51	.097	6.17	3.13	2.25	1.95	1.26	.56	.042	165
180	5.09	3.45	2.87	1.90	1.03	.48	.075	6.09	3.11	2.22	1.94	1.23	.53	.027	180
195	3.91	2.83	2.41	1.55	.80	.40	.063	5.29	2.65	1.92	1.66	1.06	.45	.009	195
210	5.15	3.50	2.81	1.84	.96	.45	.081	5.39	2.78	2.01	1.78	1.10	.48	.014	210
225	5.86	3.95	3.20	2.17	1.17	.53	.089	6.96	3.59	2.58	2.20	1.38	.58	.036	225
240	6.13	4.04	3.12	2.14	1.19	.54	.097	7.10	3.62	2.58	2.19	1.40	.59	.038	240
255	5.09	3.41	2.65	1.84	1.00	.45	.073	5.63	2.84	2.03	1.72	1.14	.47	.018	255
270	4.33	2.86	2.45	1.61	.85	.40	.069	4.98	2.50	1.79	1.56	1.00	.44	.011	270
285	4.76	3.22	2.66	1.75	.93	.42	.059	5.34	2.72	1.95	1.69	1.07	.45	.002	285
300	4.54	3.14	2.58	1.67	.82	.38	.047	4.88	2.48	1.80	1.58	.97	.40	-.014	300
315	6.18	3.95	2.90	1.97	1.07	.44	.057	5.61	2.83	2.04	1.75	1.07	.44	-.016	315
330	6.99	4.31	3.04	2.12	1.25	.52	.091	6.99	3.49	2.43	1.99	1.31	.51	.027	330
345	5.68	3.63	2.63	1.81	1.04	.42	.065	5.88	2.86	2.01	1.67	1.11	.44	.020	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	4.37	3.11	2.11	1.63	1.31	1.21	.77	.34	.37	.18	.049	0
15	3.72	2.59	1.78	1.33	1.10	1.04	.64	.25	.30	.14	.034	15
30	5.36	3.88	2.60	1.99	1.63	1.50	.95	.45	.44	.23	.088	30
45	6.08	4.43	2.98	2.26	1.84	1.68	1.05	.49	.47	.24	.082	45
60	6.13	4.47	3.01	2.29	1.89	1.69	1.08	.48	.47	.23	.074	60
75	5.54	4.06	2.75	2.15	1.72	1.58	1.01	.46	.43	.21	.065	75
90	5.14	3.75	2.57	1.96	1.60	1.48	.94	.42	.42	.20	.059	90
105	4.73	3.42	2.37	1.84	1.48	1.40	.89	.40	.42	.22	.074	105
120	4.76	3.43	2.38	1.79	1.48	1.41	.92	.42	.43	.23	.074	120
135	5.11	3.74	2.57	1.93	1.61	1.49	.98	.46	.44	.24	.080	135
150	5.42	3.96	2.71	2.05	1.71	1.57	1.02	.48	.48	.25	.082	150
165	5.54	4.07	2.78	2.11	1.77	1.62	1.07	.51	.50	.26	.094	165
180	5.52	4.06	2.77	2.09	1.73	1.59	1.04	.50	.48	.24	.088	180
195	4.76	3.54	2.37	1.82	1.50	1.37	.89	.39	.41	.21	.067	195
210	4.42	3.07	2.22	1.68	1.34	1.24	.81	.35	.38	.21	.065	210
225	5.61	4.20	2.83	2.15	1.79	1.64	1.05	.50	.49	.27	.092	225
240	5.70	4.18	2.83	2.17	1.78	1.61	1.05	.49	.48	.25	.078	240
255	4.48	3.27	2.25	1.73	1.41	1.41	.86	.40	.41	.21	.070	255
270	4.91	3.46	2.30	1.81	1.47	1.37	.88	.40	.43	.21	.072	270
285	5.35	3.94	2.69	2.03	1.70	1.58	1.01	.47	.48	.25	.082	285
300	6.34	4.54	3.10	2.38	1.97	1.79	1.13	.51	.49	.25	.082	300
315	6.06	4.32	2.92	2.20	1.80	1.61	1.02	.46	.44	.22	.062	315
330	5.61	3.97	2.75	2.09	1.69	1.52	.98	.45	.43	.23	.057	330
345	4.83	3.42	2.39	1.79	1.45	1.32	.84	.36	.38	.19	.041	345

TABLE 76 - Continued

FLIGHT 57, PARTIAL-POWER DESCENT

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.55 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
0	3.70	1.76	1.44	1.07	.72	.31	.048	2.17	1.02	.76	.63	.51	.32	.047	0
15	3.90	2.25	1.74	1.33	.90	.37	.067	2.49	1.21	.88	.71	.56	.35	.056	15
30	4.37	2.37	1.88	1.42	.98	.41	.073	2.50	1.19	.87	.70	.56	.35	.054	30
45	4.73	2.54	2.00	1.53	1.04	.42	.070	2.86	1.39	1.01	.83	.65	.38	.064	45
60	4.69	2.45	1.94	1.47	1.03	.42	.070	3.04	1.48	1.05	.86	.68	.40	.073	60
75	4.55	2.37	1.89	1.43	1.00	.41	.067	3.00	1.46	1.04	.85	.67	.40	.069	75
90	4.45	2.25	1.80	1.36	.93	.38	.070	2.95	1.44	1.02	.83	.65	.40	.070	90
105	4.40	2.24	1.79	1.34	.91	.39	.070	3.38	1.64	1.17	.94	.73	.44	.091	105
120	4.22	2.17	1.77	1.35	.95	.42	.077	3.32	1.63	1.17	.95	.74	.45	.088	120
135	4.42	2.36	1.89	1.44	1.01	.43	.079	3.35	1.63	1.17	.95	.77	.44	.087	135
150	4.57	2.40	1.96	1.47	1.03	.44	.081	3.18	1.56	1.14	.93	.74	.45	.094	150
165	4.44	2.34	1.96	1.46	1.04	.47	.089	2.96	1.47	1.08	.89	.73	.44	.099	165
180	4.60	2.51	2.01	1.55	1.08	.47	.081	2.57	1.29	.97	.80	.65	.42	.090	180
195	4.58	2.48	2.01	1.54	1.06	.45	.081	2.21	1.08	.84	.69	.57	.39	.077	195
210	4.32	2.17	1.77	1.38	.95	.41	.075	2.56	1.22	.90	.74	.59	.37	.069	210
225	4.59	2.48	1.97	1.51	1.07	.48	.089	2.44	1.17	.89	.73	.59	.39	.071	225
240	4.89	2.61	2.08	1.57	1.11	.49	.094	2.43	1.19	.89	.73	.59	.38	.072	240
255	4.60	2.33	1.84	1.39	.97	.42	.070	3.08	1.49	1.08	.88	.70	.43	.078	255
270	4.44	2.24	1.80	1.36	.93	.40	.063	3.60	1.75	1.24	.99	.77	.46	.088	270
285	4.23	2.10	1.72	1.32	.89	.39	.060	2.91	1.39	1.03	.84	.68	.43	.070	285
300	3.69	1.81	1.53	1.18	.77	.33	.048	2.47	1.17	.88	.71	.57	.37	.064	300
315	3.21	1.55	1.33	1.04	.66	.29	.044	2.40	1.15	.85	.68	.55	.36	.064	315
330	3.32	1.78	1.48	1.10	.74	.30	.042	2.36	1.09	.81	.65	.52	.33	.047	330
345	3.51	1.86	1.51	1.13	.78	.31	.039	2.41	1.14	.84	.66	.54	.35	.056	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40 x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	r/R = 0.25 x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	ψ_{nom}, deg
0	1.39	.71	.43	.26	.094	.57	.23	.14	.10	.026	0
15	1.56	.78	.46	.27	.090	.78	.36	.19	.08	.039	15
30	1.42	.74	.44	.27	.094	.84	.39	.23	.10	.022	30
45	1.40	.73	.44	.27	.096	.87	.42	.25	.11	.031	45
60	1.47	.76	.47	.29	.104	.85	.41	.24	.11	.031	60
75	1.52	.78	.47	.29	.101	.92	.44	.27	.13	.034	75
90	1.73	.87	.51	.31	.110	1.01	.50	.30	.14	.038	90
105	1.87	.95	.56	.34	.122	.82	.52	.34	.16	.047	105
120	1.94	.99	.60	.35	.118	.52	.42	.35	.22	.096	120
135	1.95	.99	.59	.34	.110	.43	.32	.26	.23	.147	135
150	1.86	.96	.58	.34	.109	.43	.32	.27	.20	.087	150
165	1.88	.95	.57	.33	.106	.42	.32	.26	.21	.141	165
180	1.53	.82	.50	.32	.104	.46	.35	.30	.20	.111	180
195	1.20	.66	.40	.27	.094	.47	.35	.28	.23	.121	195
210	1.11	.60	.38	.26	.090	.54	.36	.22	.19	.095	210
225	1.28	.67	.43	.28	.099	.56	.37	.29	.22	.084	225
240	1.50	.79	.49	.29	.099	.59	.35	.22	.16	.081	240
255	1.69	.87	.52	.30	.101	.57	.39	.43	.16	.073	255
270	1.88	.96	.57	.32	.106	.53	.37	.25	.18	.095	270
285	1.68	.86	.51	.29	.092	.57	.33	.26	.17	.069	285
300	1.63	.83	.49	.28	.099	.50	.30	.24	.20	.095	300
315	1.32	.69	.43	.28	.094	.41	.30	.21	.18	.060	315
330	1.08	.56	.34	.23	.087	.60	.32	.22	.17	.081	330
345	1.16	.59	.34	.23	.094	.61	.43	.31	.17	.065	345

TABLE 76 - Continued

FLIGHT 57, PARTIAL-POWER DESCENT

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	2.52	6.87	8.07	12.03	13.44	21.38	23.70
15	3.18	7.41	9.12	14.48	11.24	15.59	13.98
30	3.49	7.05	9.09	15.71	16.59	17.93	17.50
45	3.80	6.98	10.39	16.70	18.50	18.55	17.39
60	3.70	7.41	10.95	16.36	18.71	17.68	17.01
75	4.09	7.52	10.86	15.89	17.18	16.86	17.12
90	4.52	8.32	10.69	15.13	16.11	15.50	15.84
105	4.54	9.12	12.08	15.02	15.19	15.09	16.01
120	4.46	9.44	12.12	15.06	15.37	16.56	17.19
135	4.07	9.37	12.18	15.99	16.41	16.66	17.50
150	3.65	9.07	11.89	16.39	17.35	18.69	18.63
165	3.91	9.00	11.44	16.43	17.95	20.58	20.60
180	3.95	7.89	10.26	17.01	17.62	20.13	19.95
195	4.15	6.44	9.00	16.83	15.14	17.25	16.08
210	3.69	6.02	9.48	15.12	13.94	18.03	19.53
225	4.18	6.73	9.42	16.94	17.99	22.92	22.58
240	3.57	7.60	9.40	17.70	17.96	23.16	22.92
255	4.36	8.21	11.32	15.77	14.61	18.37	19.28
270	3.80	9.00	12.74	15.19	15.23	16.31	16.75
285	3.70	8.05	10.84	14.50	17.25	17.45	18.26
300	3.68	7.81	9.25	12.56	19.48	15.84	17.21
315	3.19	6.80	9.00	10.90	17.99	17.86	21.30
330	3.59	5.55	8.46	11.89	17.02	21.75	23.90
345	4.09	5.82	8.78	12.33	14.68	18.25	19.91

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	12.312		0	3.503		0	5.891	
1	.940	-1.839	1	-1.642	-.047	1	-.188	.190
2	.054	-.018	2	-.152	-.124	2	-.022	-.038
3	.009	.163	3	-.087	-.478	3	.011	-.057
4	.009	-.005	4	-.075	-.138	4	.000	-.011
5	-.036	-.018	5	-.028	-.111	5	-.003	.000
6	.023	-.005	6	-.008	-.053	6	-.002	-.014
7	-.014	.009	7	-.089	-.038	7	-.008	-.013
8	-.005	-.023	8	-.014	-.043	8	.002	.000
9	-.005	.000	9	-.016	-.010	9	.005	.005
10	.000	-.009	10	-.020	-.002	10	-.003	.000

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 76 - Continued

FLIGHT 57, PARTIAL-POWER DESCENT

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.827		.75	0	15.081		.95	0	18.756	
.25	1	-.328	.169	.75	1	-1.699	.666	.95	1	-.003	-1.724
.25	2	-.293	-.027	.75	2	-.294	1.406	.95	2	1.132	-.249
.25	3	.027	-.144	.75	3	-.136	.781	.95	3	.715	-.887
.25	4	.053	-.005	.75	4	-.078	-.252	.95	4	-.740	-1.704
.25	5	-.161	-.122	.75	5	-.151	-.008	.95	5	-.137	.368
.25	6	-.072	-.098	.75	6	.109	-.172	.95	6	.486	-.791
.25	7	-.095	-.098	.75	7	-.435	-.255	.95	7	-.196	.272
.25	8	-.076	-.122	.75	8	-.095	.311	.95	8	.619	-.111
.25	9	-.158	.001	.75	9	-.052	-.077	.95	9	.891	.180
.25	10	-.098	.108	.75	10	-.133	.109	.95	10	1.146	-.252
.40	0	7.645		.85	0	16.372					
.40	1	-.693	.521	.85	1	-.333	-.081				
.40	2	-.710	-.578	.85	2	-.674	-.258				
.40	3	.177	.822	.85	3	-1.572	.045				
.40	4	.252	.083	.85	4	-1.256	-.814				
.40	5	-.034	.205	.85	5	-.217	.463				
.40	6	.168	.004	.85	6	.527	-.749				
.40	7	.071	.147	.85	7	-.407	-.416				
.40	8	.101	-.016	.85	8	.287	.004				
.40	9	-.044	-.049	.85	9	.065	-.305				
.40	10	-.097	-.032	.85	10	.076	.032				
.55	0	10.284		.90	0	18.266					
.55	1	-.884	.644	.90	1	-.429	-1.168				
.55	2	-1.029	-.434	.90	2	1.221	.728				
.55	3	.009	.786	.90	3	.522	-.256				
.55	4	.181	-.152	.90	4	-.649	-1.559				
.55	5	-.023	-.368	.90	5	-.198	.443				
.55	6	-.192	-.122	.90	6	.544	-.855				
.55	7	.097	.359	.90	7	-.537	.154				
.55	8	.061	-.044	.90	8	.399	.308				
.55	9	-.154	-.063	.90	9	.720	.135				
.55	10	-.055	-.029	.90	10	.659	.156				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 76 - Concluded

FLIGHT 57, PARTIAL-POWER DESCENT

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	10261	2607	2242	1659	907	376		
15	10614	3589	3309	2756	1567	-152		
30	1928	2120	2622	2737	2042	157		
45	1654	825	949	524	-1777	-2967		
60	3033	74	-1681	-2968	-4250	-4957		
75	-90	-1221	-1636	-2786	-5086	-7117		
90	1187	-1048	-2106	-3082	-5270	-7136		
105	2384	264	-1510	-3330	-4690	-5525		
120	1016	248	-470	-1251	-1566	-2540		
135	1152	825	768	743	441	-977		
150	3193	2624	1763	743	-316	-1037		
165	2805	2186	1663	1106	-210	-1724		
180	674	553	624	743	-466	-2211		
195	594	0	-823	-1222	-1891	-2918		
210	-216	-132	-497	-1413	-3669	-4878		
225	822	-363	-1094	-1289	-2023	-3883		
240	-968	545	777	228	-1363	-3107		
255	1665	1370	741	400	168	-530		
270	822	1914	1826	1239	168	-351		
285	1266	1436	1211	1001	397	-858		
300	537	1064	777	-182	-2226	-3375		
315	1016	-206	-1492	-2481	-3625	-3863		
330	-957	-1815	-2450	-3015	-2956	-3296		
345	-1504	-1015	-750	-1107	-1390	-1753		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-4730	-9556	214	
15	-2288	-9166	694	
30	1505	-4086	4294	
45	3019	684	10550	
60	5998	3109	10390	
75	6894	1221	6998	
90	1993	-3223	5030	
105	1244	-5177	1990	
120	251	-5079	1830	
135	-4388	-5779	5782	
150	-3493	-4298	5302	
165	-5251	-4054	5606	
180	-7986	-6317	6118	
195	-6570	-6675	2022	
210	-7303	-8873	1270	
225	-9533	-8173	1782	
240	-10314	-9117	1846	
255	-11063	-9752	726	
270	-11698	-10663	1510	
285	-8703	-8726	2774	
300	-4893	-3321	4822	
315	-2728	-1709	8230	
330	-58	-1156	5686	
345	7	-6414	934	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	253	-124	84
15	507	-9	98
30	438	153	105
45	283	94	100
60	240	271	85
75	98	207	49
90	-241	-176	11
105	-227	-154	3
120	-26	118	19
135	-412	-230	-7
150	-723	-382	-46
165	-685	-365	-32
180	-584	-226	-25
195	-738	-251	-45
210	-763	-314	-64
225	-588	-175	-19
240	-276	91	12
255	-589	-225	5
270	-638	-216	-19
285	-528	-201	-1
300	-408	66	27
315	-416	36	22
330	-395	134	24
345	-3	236	54

TABLE 77

FLIGHT 58, PARTIAL-POWER DESCENT

(SEE FIG. 15, t = 26.6 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	4.07	3.22	2.96	1.82	.77	.38	.020	5.00	2.64	2.01	1.85	1.02	.37	-.072	0
15	4.07	3.24	2.97	1.83	.76	.35	.014	5.11	2.72	2.07	1.87	1.04	.36	-.078	15
30	3.26	2.76	2.59	1.50	.62	.31	.008	4.51	2.38	1.82	1.63	.90	.32	-.089	30
45	2.56	2.28	2.19	1.17	.49	.28	.006	3.89	2.05	1.60	1.41	.78	.28	-.085	45
60	2.32	2.05	2.00	1.09	.45	.27	.012	3.67	1.92	1.51	1.35	.72	.27	-.085	60
75	2.35	2.02	1.94	1.10	.46	.28	.020	3.65	1.88	1.46	1.35	.72	.28	-.074	75
90	2.72	2.21	2.06	1.22	.54	.31	.036	3.93	2.03	1.56	1.41	.78	.32	-.052	90
105	3.26	2.48	2.24	1.40	.66	.36	.049	4.38	2.26	1.70	1.55	.90	.36	-.029	105
120	3.89	2.82	2.49	1.67	.81	.40	.063	4.89	2.57	1.91	1.71	1.02	.42	-.011	120
135	4.39	3.13	2.72	1.79	.91	.44	.069	5.29	2.72	2.01	1.78	1.11	.46	.005	135
150	4.40	3.09	2.77	1.80	.93	.44	.071	5.31	2.74	2.00	1.77	1.11	.46	.000	150
165	3.83	2.85	2.61	1.68	.86	.43	.073	5.00	2.56	1.87	1.67	1.06	.42	-.006	165
180	3.36	2.63	2.46	1.57	.79	.42	.069	4.60	2.43	1.85	1.69	1.05	.42	-.009	180
195	3.69	2.82	2.60	1.65	.80	.42	.067	4.96	2.59	1.94	1.76	1.06	.43	-.011	195
210	3.89	2.90	2.67	1.70	.83	.42	.065	5.07	2.66	2.01	1.79	1.08	.44	-.018	210
225	3.34	2.63	2.47	1.49	.69	.37	.043	4.83	2.50	1.88	1.70	1.00	.39	-.036	225
240	2.65	2.23	2.14	1.15	.54	.31	.024	4.29	2.24	1.68	1.52	.88	.32	-.056	240
255	1.93	1.82	1.86	.84	.35	.25	.008	3.35	1.65	1.29	1.18	.63	.22	-.076	255
270	1.25	1.50	1.66	.65	.19	.21	-.010	2.19	1.00	.89	.87	.44	.15	-.107	270
285	2.77	2.33	2.25	1.13	.48	.30	.016	3.36	1.65	1.35	1.26	.70	.25	-.083	285
300	3.42	2.71	2.53	1.49	.67	.33	.020	4.63	2.40	1.82	1.65	.93	.33	-.064	300
315	2.89	2.46	2.37	1.21	.56	.30	-.002	4.23	2.20	1.68	1.55	.84	.29	-.085	315
330	3.01	2.45	2.32	1.20	.51	.28	.008	3.74	1.90	1.51	1.36	.74	.25	-.099	330
345	3.62	2.83	2.63	1.55	.63	.33	.016	4.63	2.33	1.79	1.62	.89	.30	-.080	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	5.05	3.90	2.66	2.17	1.72	1.38	.90	.33	.36	.16	.040	0
15	5.16	4.01	2.82	2.25	1.69	1.43	.96	.35	.37	.16	.037	15
30	4.59	3.48	2.46	1.95	1.60	1.24	.86	.29	.33	.14	.028	30
45	4.07	3.11	2.20	1.73	1.42	1.07	.77	.25	.31	.13	.020	45
60	3.95	2.98	2.12	1.66	1.35	1.04	.74	.25	.29	.13	.022	60
75	3.95	2.94	2.08	1.63	1.34	1.02	.74	.26	.30	.13	.030	75
90	4.11	3.08	2.17	1.72	1.42	1.10	.79	.29	.33	.16	.039	90
105	4.48	3.34	2.34	1.87	1.47	1.25	.86	.35	.38	.19	.057	105
120	4.93	3.69	2.56	1.90	1.52	1.41	.97	.42	.43	.21	.073	120
135	5.22	3.94	2.70	1.93	1.68	1.51	1.00	.46	.45	.23	.082	135
150	5.10	3.87	2.60	1.86	1.64	1.49	.98	.44	.45	.23	.082	150
165	4.64	3.54	2.43	1.79	1.49	1.39	.92	.39	.40	.20	.073	165
180	4.75	3.56	2.47	1.86	1.51	1.40	.94	.42	.42	.21	.076	180
195	5.05	3.80	2.61	1.95	1.60	1.48	.97	.43	.44	.22	.076	195
210	5.10	3.88	2.69	1.97	1.67	1.52	1.00	.44	.45	.23	.078	210
225	4.84	3.70	2.54	1.92	1.57	1.42	.93	.39	.40	.19	.059	225
240	4.45	3.37	2.30	1.81	1.45	1.27	.83	.32	.36	.16	.042	240
255	3.48	2.63	1.81	1.41	1.14	.95	.61	.18	.25	.10	.020	255
270	2.74	1.97	1.36	1.03	.85	.83	.46	.09	.19	.07	.003	270
285	3.86	2.91	2.02	1.60	1.32	1.10	.71	.22	.27	.11	.024	285
300	4.86	3.52	2.50	2.05	1.54	1.35	.86	.31	.33	.14	.032	300
315	4.36	3.36	2.34	1.86	1.55	1.20	.79	.26	.30	.12	.022	315
330	3.83	2.91	2.02	1.59	1.32	.98	.67	.18	.26	.09	.018	330
345	4.40	3.31	2.25	1.76	1.39	1.20	.77	.25	.29	.12	.028	345

TABLE 77 - Continued

FLIGHT 58, PARTIAL-POWER DESCENT

(SEE FIG. 15, t = 26.6 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	4.03	2.19	1.86	1.43	.88	.36	.059	3.29	1.61	1.12	.88	.68	.40	.084	0
15	4.27	2.28	1.95	1.48	.92	.37	.057	3.34	1.65	1.16	.91	.71	.42	.088	15
30	4.09	2.09	1.82	1.38	.85	.34	.059	3.16	1.56	1.11	.89	.69	.41	.085	30
45	3.75	1.92	1.59	1.30	.80	.32	.057	2.99	1.48	1.06	.84	.67	.40	.080	45
60	3.61	1.89	1.54	1.28	.79	.32	.055	2.92	1.44	1.04	.82	.65	.39	.080	60
75	3.58	1.88	1.57	1.26	.80	.32	.059	2.93	1.45	1.03	.83	.66	.39	.081	75
90	3.66	1.92	1.65	1.28	.84	.34	.061	2.97	1.48	1.06	.85	.66	.40	.083	90
105	3.87	2.02	1.76	1.34	.89	.37	.074	3.04	1.52	1.10	.88	.69	.41	.084	105
120	4.12	2.17	1.85	1.42	.96	.41	.083	3.12	1.56	1.13	.90	.71	.43	.087	120
135	4.33	2.26	1.90	1.46	.98	.42	.083	3.15	1.58	1.13	.91	.71	.42	.086	135
150	4.31	2.20	1.86	1.42	.95	.41	.083	3.07	1.53	1.10	.88	.69	.43	.084	150
165	4.09	2.09	1.76	1.35	.90	.39	.076	3.07	1.54	1.10	.88	.69	.42	.085	165
180	4.02	2.10	1.78	1.38	.94	.41	.074	3.22	1.60	1.13	.91	.70	.41	.085	180
195	4.24	2.27	1.89	1.45	.99	.43	.080	3.32	1.67	1.18	.94	.73	.44	.088	195
210	4.46	2.37	1.96	1.50	1.02	.44	.083	3.49	1.75	1.23	.99	.77	.44	.091	210
225	4.50	2.35	1.95	1.49	1.00	.43	.078	3.74	1.89	1.33	1.06	.82	.46	.089	225
240	4.42	2.20	1.82	1.38	.88	.36	.059	3.50	1.74	1.24	.98	.76	.45	.079	240
255	3.72	1.67	1.48	1.14	.68	.29	.043	2.82	1.39	1.01	.80	.63	.38	.067	255
270	3.36	1.67	1.41	1.12	.67	.28	.045	3.49	1.75	1.23	.94	.74	.42	.081	270
285	3.66	1.91	1.65	1.26	.78	.32	.047	4.12	2.03	1.41	1.10	.85	.48	.092	285
300	3.93	2.16	1.80	1.38	.88	.35	.055	3.26	1.59	1.14	.90	.70	.43	.082	300
315	4.07	2.12	1.82	1.36	.85	.34	.047	3.18	1.54	1.11	.87	.68	.40	.079	315
330	3.78	1.88	1.60	1.25	.75	.29	.043	2.99	1.46	1.05	.83	.65	.39	.075	330
345	3.67	1.92	1.65	1.30	.79	.31	.047	3.03	1.49	1.06	.84	.66	.39	.077	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.93	.95	.58	.33	.113	1.18	.60	.37	.17	.040	0
15	1.94	.96	.59	.34	.114	1.19	.60	.37	.17	.040	15
30	1.88	.93	.58	.34	.117	1.17	.59	.36	.16	.036	30
45	1.79	.90	.55	.33	.115	1.10	.56	.35	.16	.038	45
60	1.71	.86	.54	.32	.115	1.06	.54	.33	.15	.042	60
75	1.69	.86	.54	.33	.119	1.03	.53	.33	.15	.043	75
90	1.68	.86	.54	.33	.116	1.02	.51	.32	.15	.042	90
105	1.68	.87	.54	.33	.118	1.00	.50	.31	.15	.040	105
120	1.68	.87	.54	.33	.114	.98	.49	.30	.14	.041	120
135	1.66	.86	.53	.32	.108	.97	.48	.30	.14	.044	135
150	1.67	.86	.53	.32	.108	.72	.50	.36	.17	.059	150
165	1.70	.87	.53	.32	.106	.49	.34	.32	.22	.126	165
180	1.81	.92	.56	.33	.104	.48	.37	.29	.22	.117	180
195	2.04	1.01	.61	.34	.108	.67	.29	.22	.17	.087	195
210	2.16	1.06	.64	.34	.108	1.16	.54	.31	.15	.072	210
225	2.04	1.05	.66	.37	.116	1.21	.59	.36	.15	.054	225
240	1.96	.98	.60	.33	.102	1.06	.53	.33	.14	.037	240
255	1.94	.97	.59	.33	.106	1.11	.54	.33	.15	.040	255
270	1.98	1.01	.62	.35	.112	1.13	.55	.34	.15	.038	270
285	2.10	1.03	.62	.34	.106	1.14	.55	.33	.15	.033	285
300	1.90	.95	.58	.33	.104	1.23	.59	.35	.15	.031	300
315	1.78	.88	.54	.32	.106	1.20	.58	.34	.15	.036	315
330	1.71	.85	.53	.31	.106	1.17	.57	.33	.14	.037	330
345	1.85	.90	.55	.32	.106	1.13	.56	.34	.14	.027	345

TABLE 77 - Continued

FLIGHT 58, PARTIAL-POWER DESCENT

(SEE FIG. 15, t = 26.6 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	5.37	9.19	11.48	14.55	15.66	16.45	17.31
15	5.41	9.30	11.85	15.20	16.23	16.74	17.17
30	5.25	9.08	11.41	14.15	14.48	14.59	14.45
45	5.05	8.73	10.92	13.03	12.97	12.59	11.94
60	4.87	8.47	10.63	12.78	12.47	11.84	10.95
75	4.78	8.46	10.70	12.82	12.48	11.82	10.98
90	4.69	8.45	10.93	13.28	13.20	12.90	12.24
105	4.61	8.49	11.25	14.16	14.44	14.54	14.10
120	4.48	8.45	11.58	15.20	15.94	16.53	16.33
135	4.45	8.34	11.60	15.71	16.91	17.76	18.06
150	4.52	8.30	11.36	15.36	16.51	17.76	18.19
165	4.24	8.40	11.30	14.58	15.20	16.66	16.85
180	4.13	8.79	11.56	14.80	15.57	16.15	15.63
195	3.70	9.61	12.07	15.72	16.35	16.87	16.37
210	5.07	10.00	12.59	16.33	16.76	17.24	16.87
225	5.31	10.05	13.38	16.11	15.63	16.02	14.87
240	4.77	9.30	12.52	14.74	14.10	14.04	12.25
255	4.89	9.26	10.30	11.78	10.71	10.27	9.49
270	5.01	9.62	12.30	11.36	8.15	6.70	7.36
285	4.93	9.73	14.21	12.90	12.07	10.85	12.29
300	5.23	9.09	11.68	14.26	14.77	14.96	14.69
315	5.17	8.56	11.29	14.13	13.62	13.50	12.96
330	4.97	8.34	10.73	12.60	11.73	11.81	12.75
345	4.90	8.73	10.88	12.93	13.23	14.42	15.05

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	7.155		0	2.677		0	.286	
1	-1.112	.386	1	-2.817	-.057	1	-.055	.171
2	.177	.241	2	-.205	.170	2	.000	-.024
3	.041	.345	3	.055	-.045	3	-.002	.011
4	-.213	.309	4	.049	-.071	4	.008	.002
5	-.286	.163	5	.045	.010	5	.002	-.006
6	-.331	.005	6	.010	.002	6	.000	.003
7	-.304	-.154	7	.038	.006	7	-.003	.002
8	-.182	-.318	8	.012	.028	8	.002	.005
9	.000	-.359	9	.012	.004	9	.002	.002
10	.191	-.295	10	.000	.000	10	-.005	.002

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 77 - Continued

FLIGHT 58, PARTIAL-POWER DESCENT

(SEE FIG. 15, t = 26.6 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	4.824		.75	0	14.105		.95	0	14.131	
.25	1	.408	-.155	.75	1	-.952	.232	.95	1	-1.109	1.007
.25	2	-.069	.119	.75	2	.942	.023	.95	2	2.788	-1.064
.25	3	.133	.034	.75	3	.381	-.269	.95	3	.819	-.069
.25	4	-.136	.053	.75	4	-.637	.747	.95	4	-.615	1.138
.25	5	.134	.142	.75	5	.425	.487	.95	5	1.010	.661
.25	6	-.055	-.053	.75	6	.271	.138	.95	6	.442	-.004
.25	7	.052	.124	.75	7	.004	-.029	.95	7	.158	-.355
.25	8	.072	-.077	.75	8	.018	.102	.95	8	-.335	-.046
.25	9	-.068	.023	.75	9	.062	-.046	.95	9	-.046	.243
.25	10	.072	.009	.75	10	-.035	-.061	.95	10	.106	.009
.40	0	8.947		.85	0	14.131					
.40	1	-.093	-.513	.85	1	-1.153	.901				
.40	2	.016	.403	.85	2	1.731	-.209				
.40	3	.090	.010	.85	3	.504	-.310				
.40	4	.070	.323	.85	4	-.799	1.056				
.40	5	.189	-.036	.85	5	.658	.759				
.40	6	-.041	-.050	.85	6	.639	.230				
.40	7	-.012	.028	.85	7	.144	-.358				
.40	8	.020	.005	.85	8	-.169	.023				
.40	9	.009	-.025	.85	9	-.022	.114				
.40	10	.003	.017	.85	10	.097	-.045				
.55	0	11.606		.90	0	14.293					
.55	1	-.354	-.610	.90	1	-1.442	1.125				
.55	2	-.056	.136	.90	2	2.493	-.494				
.55	3	.069	.105	.90	3	.778	-.379				
.55	4	-.074	.594	.90	4	-.914	.988				
.55	5	.468	.094	.90	5	.719	.932				
.55	6	.010	-.343	.90	6	.747	.155				
.55	7	-.370	.081	.90	7	.259	-.465				
.55	8	.078	.302	.90	8	-.282	-.148				
.55	9	.214	-.032	.90	9	-.099	.106				
.55	10	-.002	-.127	.90	10	.009	-.011				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 77 - Concluded

FLIGHT 58, PARTIAL-POWER DESCENT

(SEE FIG. 15, t = 26.6 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-60	-825	-994	-1051	-1725	-2840		
15	556	-248	-805	-1394	-2534	-3487		
30	1240	388	-434	-1576	-3265	-4342		
45	1126	-132	-877	-1499	-2974	-4730		
60	180	-446	-1085	-2005	-3494	-4601		
75	966	-685	-1808	-2616	-3511	-4223		
90	453	-512	-1148	-1938	-3441	-4770		
105	1320	198	-696	-1633	-3098	-4482		
120	1924	693	-90	-1051	-2939	-4551		
135	1570	644	-18	-774	-1813	-2949		
150	932	322	108	-240	-1100	-2084		
165	1399	652	154	-383	-1241	-2004		
180	1434	957	226	-660	-1751	-2631		
195	658	825	54	-803	-2244	-3894		
210	807	281	-542	-1423	-3318	-4860		
225	100	-281	-1229	-2472	-4101	-5417		
240	-140	-842	-1898	-2873	-4101	-5586		
255	-470	-611	-1591	-2759	-4374	-5765		
270	647	-487	-1609	-2654	-4374	-5715		
285	180	-165	-1040	-2339	-4400	-5198		
300	442	-190	-1220	-2053	-2930	-4531		
315	-425	-132	-425	-1127	-2851	-4531		
330	955	41	-741	-1490	-2878	-4044		
345	419	-132	-805	-1604	-2719	-3357		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-1611	-5210	3317	
15	-667	-4721	2965	
30	-700	-4672	4597	
45	782	-2279	5237	
60	1726	-1514	6421	
75	1156	-1221	6805	
90	1156	-2491	5461	
105	-130	-4282	4117	
120	-2018	-5633	3637	
135	-3646	-5551	3205	
150	-4949	-6512	3701	
165	-6088	-6235	3653	
180	-8335	-6463	4357	
195	-10093	-6805	4901	
210	-10093	-6317	4165	
225	-9751	-6772	3973	
240	-9637	-6675	3685	
255	-9572	-6675	3253	
270	-8840	-6724	3205	
285	-8123	-6040	4085	
300	-5893	-5600	4373	
315	-3532	-4917	3973	
330	-3809	-4737	4517	
345	-3337	-4933	4613	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	815	626	135
15	703	570	108
30	465	272	62
45	133	77	34
60	44	41	6
75	-222	-181	-6
90	-242	-167	-22
105	-247	-270	-9
120	-81	-155	13
135	-65	-51	30
150	-254	-111	14
165	-769	-304	-14
180	-903	-445	-9
195	-560	-396	34
210	-200	-96	107
225	-52	178	127
240	-183	-21	109
255	-266	-22	91
270	-244	-98	106
285	128	233	121
300	221	232	143
315	403	460	132
330	279	163	134
345	421	300	128

TABLE 78

FLIGHT 58, PARTIAL-POWER DESCENT

(SEE FIG. 15, t = 37.2 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	3.54	2.52	2.19	1.42	.67	.32	.035	4.41	2.18	1.56	1.42	.84	.32	-.033	0
15	3.46	2.51	2.19	1.43	.67	.32	.036	4.47	2.24	1.62	1.41	.86	.33	-.031	15
30	3.03	2.23	1.98	1.29	.60	.31	.036	4.12	2.09	1.49	1.33	.80	.31	-.027	30
45	2.72	2.06	1.81	1.15	.55	.28	.035	3.87	1.93	1.42	1.24	.75	.29	-.025	45
60	2.62	1.97	1.73	1.09	.54	.28	.036	3.72	1.86	1.36	1.20	.74	.29	-.027	60
75	2.69	2.03	1.75	1.15	.57	.30	.043	3.74	1.91	1.37	1.20	.74	.30	-.018	75
90	3.02	2.17	1.84	1.27	.64	.33	.054	4.07	2.05	1.46	1.27	.80	.33	-.002	90
105	3.42	2.35	1.97	1.39	.73	.36	.063	4.39	2.21	1.57	1.37	.90	.37	.014	105
120	3.65	2.47	2.07	1.43	.78	.37	.071	4.56	2.26	1.60	1.41	.94	.39	.018	120
135	3.81	2.54	2.12	1.46	.81	.40	.079	4.65	2.32	1.64	1.45	.96	.40	.027	135
150	3.75	2.55	2.14	1.48	.82	.41	.087	4.71	2.34	1.65	1.47	.98	.42	.033	150
165	3.42	2.39	2.10	1.41	.78	.40	.083	4.32	2.20	1.58	1.41	.96	.39	.027	165
180	3.13	2.28	1.94	1.35	.71	.37	.069	4.42	2.25	1.58	1.40	.93	.39	.020	180
195	3.09	2.24	1.95	1.33	.69	.35	.067	4.39	2.23	1.58	1.38	.91	.38	.020	195
210	3.16	2.29	2.02	1.32	.71	.36	.069	4.49	2.28	1.63	1.44	.94	.38	.018	210
225	3.13	2.18	1.86	1.20	.66	.32	.063	3.80	1.97	1.45	1.30	.82	.33	-.006	225
240	3.42	2.43	2.05	1.36	.68	.33	.050	4.31	2.18	1.55	1.36	.89	.34	.000	240
255	3.30	2.31	1.95	1.30	.67	.31	.049	4.23	2.13	1.52	1.33	.85	.33	-.002	255
270	2.81	2.10	1.80	1.17	.56	.28	.036	4.18	2.10	1.49	1.30	.81	.32	-.018	270
285	2.67	2.02	1.76	1.09	.53	.27	.032	3.91	1.97	1.39	1.22	.77	.30	-.020	285
300	2.62	1.98	1.75	1.04	.51	.26	.035	3.78	1.88	1.35	1.20	.73	.29	-.022	300
315	2.64	2.04	1.87	1.10	.54	.28	.028	3.89	1.95	1.39	1.26	.76	.29	-.029	315
330	3.46	2.42	2.14	1.37	.68	.33	.040	4.47	2.22	1.55	1.38	.87	.33	-.014	330
345	2.81	2.15	1.91	1.16	.54	.28	.024	3.71	1.84	1.33	1.23	.74	.27	-.042	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.85										
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	4.56	3.36	2.29	1.71	1.35	1.21	.76	.30	.33	.15	.051	0
15	4.56	3.40	2.30	1.69	1.36	1.25	.80	.32	.35	.16	.053	15
30	4.30	3.19	2.16	1.69	1.28	1.19	.77	.31	.33	.15	.057	30
45	4.11	3.01	2.08	1.62	1.21	1.12	.75	.29	.32	.15	.051	45
60	3.94	2.91	2.02	1.56	1.19	1.08	.73	.29	.32	.15	.049	60
75	4.01	2.95	2.02	1.57	1.18	1.11	.73	.30	.34	.16	.055	75
90	4.23	3.11	2.10	1.54	1.26	1.17	.78	.34	.36	.18	.069	90
105	4.52	3.30	2.24	1.60	1.37	1.27	.83	.38	.38	.20	.076	105
120	4.62	3.40	2.29	1.68	1.43	1.31	.85	.39	.40	.20	.080	120
135	4.59	3.40	2.29	1.69	1.43	1.33	.86	.40	.41	.21	.086	135
150	4.65	3.45	2.29	1.70	1.43	1.35	.87	.41	.42	.22	.088	150
165	4.52	3.33	2.22	1.64	1.40	1.32	.85	.40	.40	.20	.084	165
180	4.69	3.41	2.29	1.69	1.43	1.33	.86	.40	.41	.21	.084	180
195	4.65	3.41	2.28	1.69	1.49	1.33	.86	.40	.41	.21	.084	195
210	5.02	3.68	2.46	1.82	1.52	1.40	.89	.41	.41	.21	.084	210
225	4.52	3.33	2.22	1.62	1.35	1.24	.81	.34	.36	.18	.057	225
240	4.75	3.48	2.31	1.70	1.44	1.32	.85	.37	.37	.18	.068	240
255	4.70	3.47	2.37	1.78	1.44	1.31	.83	.34	.36	.17	.057	255
270	4.62	3.42	2.28	1.64	1.40	1.28	.81	.32	.35	.16	.051	270
285	4.15	3.08	2.06	1.56	1.26	1.14	.73	.28	.32	.15	.051	285
300	3.98	2.94	1.95	1.56	1.20	1.07	.67	.25	.29	.13	.040	300
315	4.07	2.97	2.14	1.49	1.23	1.09	.69	.26	.30	.13	.042	315
330	4.34	3.20	2.15	1.56	1.29	1.21	.76	.30	.32	.15	.049	330
345	4.10	2.97	2.00	1.57	1.24	1.06	.66	.24	.28	.12	.034	345

TABLE 78 - Continued

FLIGHT 58, PARTIAL-POWER DESCENT

(SEE FIG. 15, t = 37.2 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	3.70	1.91	1.60	1.21	.76	.32	.045	2.93	1.44	1.02	.80	.62	.38	.072	0
15	3.88	1.97	1.67	1.26	.82	.33	.053	3.03	1.51	1.06	.84	.66	.40	.073	15
30	3.81	1.91	1.62	1.23	.80	.33	.055	3.00	1.49	1.06	.84	.66	.40	.072	30
45	3.66	1.83	1.57	1.19	.79	.31	.050	2.90	1.45	1.03	.82	.65	.39	.069	45
60	3.52	1.75	1.52	1.16	.77	.32	.047	2.79	1.38	.99	.79	.62	.38	.067	60
75	3.50	1.77	1.52	1.16	.78	.32	.050	2.79	1.39	.99	.80	.63	.38	.067	75
90	3.64	1.84	1.56	1.19	.81	.34	.061	2.82	1.41	1.01	.81	.64	.39	.069	90
105	3.81	1.94	1.62	1.24	.86	.36	.067	2.86	1.41	1.03	.82	.64	.39	.071	105
120	3.89	1.98	1.65	1.26	.86	.37	.069	2.91	1.45	1.04	.84	.65	.40	.074	120
135	3.91	1.99	1.66	1.26	.86	.38	.069	2.96	1.47	1.06	.86	.67	.40	.072	135
150	3.95	2.02	1.67	1.28	.87	.39	.071	3.04	1.51	1.08	.87	.68	.42	.076	150
165	3.91	2.00	1.66	1.26	.88	.38	.069	3.15	1.57	1.12	.90	.70	.42	.079	165
180	3.99	2.04	1.69	1.29	.88	.38	.069	3.24	1.58	1.13	.91	.71	.43	.078	180
195	4.21	2.15	1.76	1.33	.92	.39	.071	3.20	1.57	1.12	.90	.69	.42	.076	195
210	4.36	2.22	1.80	1.36	.94	.40	.067	3.22	1.59	1.13	.91	.70	.41	.077	210
225	4.30	2.11	1.72	1.31	.90	.37	.059	3.32	1.63	1.15	.92	.69	.41	.069	225
240	4.22	2.14	1.72	1.31	.88	.37	.061	2.88	1.43	1.03	.82	.64	.39	.061	240
255	4.11	2.02	1.69	1.26	.84	.34	.053	2.77	1.39	.99	.78	.60	.36	.058	255
270	4.31	2.22	1.80	1.35	.89	.36	.055	3.31	1.63	1.14	.90	.68	.40	.066	270
285	4.06	2.01	1.68	1.25	.81	.33	.050	3.14	1.55	1.10	.87	.68	.40	.060	285
300	3.72	1.82	1.53	1.15	.73	.30	.040	2.97	1.47	1.06	.85	.67	.39	.057	300
315	3.55	1.79	1.50	1.14	.73	.30	.045	2.80	1.38	1.00	.81	.64	.38	.057	315
330	3.66	1.85	1.55	1.17	.75	.29	.043	2.68	1.29	.92	.73	.58	.34	.053	330
345	3.56	1.77	1.51	1.14	.70	.28	.040	2.76	1.32	.94	.74	.57	.35	.061	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.71	.86	.53	.31	.106	1.08	.54	.33	.15	.034	0
15	1.74	.89	.54	.32	.112	1.12	.55	.34	.15	.038	15
30	1.73	.88	.54	.32	.110	1.09	.54	.33	.15	.035	30
45	1.67	.85	.52	.31	.108	1.07	.52	.32	.14	.040	45
60	1.63	.83	.51	.31	.108	1.03	.51	.31	.14	.041	60
75	1.58	.82	.51	.31	.110	.98	.49	.30	.14	.038	75
90	1.57	.81	.50	.31	.108	.96	.48	.30	.13	.041	90
105	1.57	.82	.50	.31	.108	.71	.47	.35	.15	.058	105
120	1.60	.83	.51	.31	.104	.46	.34	.30	.21	.083	120
135	1.62	.83	.51	.31	.106	.38	.28	.23	.21	.104	135
150	1.68	.86	.52	.31	.104	.58	.29	.25	.20	.109	150
165	1.74	.88	.53	.30	.100	.39	.30	.24	.18	.095	165
180	1.80	.90	.53	.30	.102	.50	.31	.26	.21	.109	180
195	1.84	.90	.53	.28	.095	.60	.39	.26	.18	.084	195
210	1.71	.86	.52	.30	.095	.81	.38	.23	.13	.044	210
225	1.69	.84	.51	.29	.090	.76	.36	.23	.11	.037	225
240	1.60	.82	.49	.29	.094	.90	.44	.27	.12	.035	240
255	1.55	.79	.48	.28	.089	.98	.48	.29	.12	.036	255
270	1.70	.86	.53	.30	.097	1.07	.52	.32	.14	.033	270
285	1.70	.86	.53	.31	.097	1.06	.53	.32	.14	.027	285
300	1.63	.84	.52	.30	.092	1.08	.53	.32	.14	.027	300
315	1.71	.85	.52	.30	.091	.94	.47	.28	.12	.023	315
330	1.58	.78	.47	.28	.092	.86	.42	.26	.12	.022	330
345	1.65	.83	.51	.30	.102	.99	.50	.30	.14	.031	345

TABLE 78 - Continued

FLIGHT 58, PARTIAL-POWER DESCENT

(SEE FIG. 15, t = 37.2 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	4.82	8.30	10.47	12.73	13.65	13.71	14.08
15	4.98	8.53	10.92	13.40	13.93	14.05	14.01
30	4.86	8.50	10.87	13.09	13.24	13.09	12.62
45	4.75	8.23	10.57	12.65	12.70	12.28	11.54
60	4.60	8.08	10.20	12.30	12.32	11.91	11.17
75	4.43	7.97	10.24	12.37	12.52	12.08	11.56
90	4.37	7.92	10.42	12.89	13.24	13.13	12.64
105	4.26	7.92	10.53	13.54	14.19	14.38	13.95
120	3.93	7.98	10.73	13.76	14.64	14.88	14.70
135	3.53	8.06	10.89	13.88	14.74	15.24	15.25
150	3.56	8.24	11.20	14.07	14.90	15.54	15.44
165	3.40	8.35	11.53	13.95	14.46	14.72	14.64
180	3.89	8.44	11.64	14.14	14.79	14.72	13.58
195	3.88	8.37	11.51	14.75	14.85	14.52	13.31
210	3.73	8.19	11.53	15.14	15.57	14.88	13.62
225	3.47	7.99	11.63	14.47	13.86	12.86	12.75
240	3.96	7.80	10.48	14.42	14.54	14.01	13.73
255	4.29	7.54	10.00	13.75	14.43	13.63	13.19
270	4.68	8.23	11.48	14.65	14.05	13.21	11.69
285	4.67	8.32	11.17	13.54	12.69	12.42	11.19
300	4.71	8.01	10.79	12.24	11.91	11.92	10.96
315	4.12	8.13	10.23	12.14	12.41	12.31	11.40
330	3.80	7.50	9.46	12.36	13.18	14.01	13.86
345	4.46	8.02	9.62	11.87	11.95	11.68	11.75

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	7.427		0	3.499		0	.035	
1	-1.830	.100	1	-2.774	.132	1	.002	.283
2	.027	.054	2	.002	.140	2	.005	-.008
3	.027	-.005	3	.144	-.087	3	.005	.025
4	-.014	-.018	4	.000	-.043	4	.009	.006
5	.000	.045	5	.002	-.040	5	-.005	.011
6	.032	-.009	6	-.002	.040	6	.000	.003
7	.000	.009	7	.032	.020	7	.005	.006
8	.005	-.005	8	.053	.002	8	.008	.000
9	.000	.000	9	.006	.012	9	.008	.000
10	.027	-.014	10	.000	.018	10	.000	-.003

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 78 - Continued

FLIGHT 58, PARTIAL-POWER DESCENT

(SEE FIG. 15, t = 37.2 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	4.214		.75	0	13.420		.95	0	13.026	
.25	1	.532	.021	.75	1	-1.056	-.304	.95	1	-.976	.511
.25	2	-.148	.165	.75	2	.079	.330	.95	2	.762	-.449
.25	3	-.056	.157	.75	3	.275	.237	.95	3	.995	.268
.25	4	.209	.183	.75	4	.097	.317	.95	4	-.017	-.071
.25	5	.019	-.021	.75	5	.028	-.082	.95	5	-.137	.175
.25	6	.076	.019	.75	6	-.217	.022	.95	6	-.138	.242
.25	7	.059	-.065	.75	7	-.023	.151	.95	7	.066	.140
.25	8	-.011	-.008	.75	8	.023	.159	.95	8	-.160	.260
.25	9	-.024	-.042	.75	9	.097	.002	.95	9	.139	.331
.25	10	-.013	-.003	.75	10	-.030	-.032	.95	10	.211	.101
.40	0	8.109		.85	0	13.698					
.40	1	-.006	.058	.85	1	-1.148	.016				
.40	2	.182	.055	.85	2	.338	.127				
.40	3	-.114	.150	.85	3	.523	.204				
.40	4	.070	.167	.85	4	.115	.194				
.40	5	.077	.029	.85	5	-.151	-.080				
.40	6	.003	-.021	.85	6	-.194	.253				
.40	7	-.013	.028	.85	7	.134	.179				
.40	8	.054	.015	.85	8	-.018	.135				
.40	9	.040	-.076	.85	9	.113	.171				
.40	10	-.036	-.067	.85	10	.143	-.022				
.55	0	10.754		.90	0	13.547					
.55	1	-.563	-.095	.90	1	-1.099	.271				
.55	2	.172	.147	.90	2	.553	-.333				
.55	3	-.178	.257	.90	3	.545	.252				
.55	4	.067	.385	.90	4	.059	.184				
.55	5	.184	.103	.90	5	-.206	-.002				
.55	6	-.054	-.106	.90	6	-.226	.292				
.55	7	-.052	.138	.90	7	.096	.157				
.55	8	.162	.012	.90	8	-.116	.286				
.55	9	.019	-.100	.90	9	.130	.280				
.55	10	-.065	.017	.90	10	.198	.022				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 78 - Concluded

FLIGHT 58, PARTIAL-POWER DESCENT

(SEE FIG. 15, t = 37.2 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	143	-710	-1211	-1843	-3125	-4622		
15	1158	140	-741	-1766	-3521	-4821		
30	1774	83	-777	-1452	-2940	-4363		
45	702	-330	-669	-1184	-2324	-3657		
60	1090	-190	-850	-1595	-2526	-3348		
75	1648	25	-741	-1595	-3107	-4273		
90	1352	8	-678	-1547	-3098	-4642		
105	1158	33	-768	-1738	-3266	-4622		
120	1432	-8	-1058	-1824	-2958	-4035		
135	759	231	-443	-1204	-2386	-3547		
150	1477	883	145	-707	-1972	-3209		
165	1853	1436	705	-307	-2060	-3467		
180	1078	1064	597	-335	-1831	-3169		
195	371	454	-118	-946	-2324	-3657		
210	691	50	-805	-1681	-3292	-4811		
225	326	132	-841	-1910	-4005	-6184		
240	257	371	-705	-2272	-4911	-6711		
255	782	-545	-1564	-2243	-3204	-4751		
270	-962	-809	-579	-650	-2333	-4035		
285	1443	718	-181	-1060	-2271	-3249		
300	1682	1196	732	-364	-3002	-4542		
315	998	-41	-606	-984	-2166	-3985		
330	-335	-602	-1401	-2415	-3433	-3865		
345	485	-1229	-2142	-2663	-3424	-4482		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	56	-5389	3472	
15	1146	-5307	2320	
30	1830	-3565	3920	
45	2026	-1840	7024	
60	3442	16	6896	
75	2823	-1368	6784	
90	772	-2784	5312	
105	-221	-5128	3568	
120	-2256	-5779	2528	
135	-5528	-7066	3584	
150	-5854	-7359	2960	
165	-8605	-6919	3296	
180	-12366	-8612	5120	
195	-11177	-8091	2656	
210	-11487	-9296	2624	
225	-11584	-8905	3296	
240	-10282	-7945	2800	
255	-9745	-8124	2560	
270	-9175	-9003	2080	
285	-7791	-8807	2112	
300	-5007	-6382	2768	
315	-3705	-4477	5744	
330	-595	-2865	5600	
345	1293	-3012	4096	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	527	305	97
15	457	204	73
30	337	129	49
45	142	-17	22
60	-93	-101	-6
75	-161	-218	-16
90	-216	-211	-12
105	-156	-104	-12
120	-387	-144	-26
135	-581	-329	-46
150	-633	-367	-41
165	-555	-201	-9
180	-606	-366	6
195	-559	-315	26
210	-228	-159	69
225	-31	-94	106
240	160	198	123
255	145	102	122
270	135	135	103
285	69	-28	104
300	242	155	107
315	226	42	107
330	289	254	91
345	426	273	101

TABLE 79

FLIGHT 59, PARTIAL-POWER DESCENT

(SEE FIG. 16, t = 8.3 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	Δp, lb/sq in., at - r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
6	4.85	3.45	2.72	1.69	.79	.39	.073	5.27	2.63	1.95	1.70	1.20	.46	.016	6
21	6.00	4.12	3.09	1.95	1.00	.48	.086	6.07	3.09	2.31	1.96	1.39	.53	.030	21
36	5.96	4.06	3.06	2.00	1.06	.51	.086	6.64	3.40	2.52	2.11	1.53	.58	.047	36
51	4.38	3.18	2.52	1.60	.80	.41	.069	6.20	3.13	2.26	1.89	1.35	.51	.025	51
66	4.03	3.00	2.43	1.49	.70	.37	.063	4.70	2.37	1.77	1.56	1.10	.37	.014	66
81	3.56	2.74	2.22	1.35	.59	.33	.055	4.71	2.30	1.76	1.50	1.05	.37	-.002	81
96	3.68	2.77	2.20	1.38	.61	.32	.065	4.16	2.08	1.61	1.39	1.00	.33	-.009	96
111	3.86	2.80	2.22	1.34	.61	.32	.060	3.91	1.90	1.44	1.27	.93	.35	-.002	111
126	3.96	2.86	2.21	1.43	.70	.36	.078	4.37	2.15	1.62	1.44	1.03	.40	.016	126
141	7.89	4.76	3.32	2.29	.92	.58	.132	5.59	2.85	2.18	1.82	1.37	.49	.077	141
156	8.62	5.11	3.50	2.45	1.41	.69	.151	8.61	4.15	3.03	2.41	1.80	.68	.101	156
171	6.93	4.22	2.93	2.05	1.24	.59	.119	8.07	3.85	2.74	2.18	1.61	.59	.063	171
186	8.41	4.74	3.21	2.25	1.36	.62	.147	7.68	3.63	2.57	2.07	1.53	.62	.108	186
201	9.62	5.34	3.43	2.38	1.52	.62	.178	7.68	3.58	2.54	2.05	1.55	.64	.118	201
216	7.19	3.90	2.73	1.91	1.22	.54	.136	6.37	3.15	2.22	1.82	1.44	.62	.113	216
231	7.34	4.41	3.11	2.08	1.22	.58	.134	7.09	3.50	2.49	2.05	1.52	.62	.094	231
246	7.38	4.39	3.11	2.12	1.25	.56	.115	7.23	3.63	2.60	2.16	1.59	.63	.090	246
261	5.78	3.74	2.77	1.80	1.01	.48	.107	6.34	3.18	2.25	1.89	1.39	.56	.075	261
276	3.28	2.39	2.06	1.16	.62	.29	.046	4.33	2.11	1.53	1.32	.92	.33	.005	276
291	3.59	2.60	2.06	1.26	.59	.30	.057	3.60	1.67	1.30	1.14	.83	.30	.000	291
306	4.56	3.18	2.50	1.56	.76	.37	.069	5.05	2.52	1.86	1.59	1.15	.43	.019	306
321	6.70	4.36	3.07	2.02	1.09	.48	.096	6.18	3.15	2.31	1.93	1.38	.52	.042	321
336	7.47	4.87	3.55	2.31	1.27	.54	.090	7.61	3.67	2.86	2.33	1.65	.63	.061	336
351	5.94	4.03	2.97	1.94	1.06	.48	.082	7.23	3.63	2.58	2.13	1.54	.56	.049	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
6	5.86	4.26	3.10	2.22	1.93	1.62	1.07	.50	.51	.26	.052	6
21	5.81	4.26	3.07	2.21	1.93	1.66	1.11	.55	.54	.27	.071	21
36	6.53	4.75	3.48	2.54	2.20	1.85	1.24	.62	.58	.30	.092	36
51	5.80	4.15	3.10	2.25	1.91	1.65	1.10	.54	.53	.27	.080	51
66	5.19	3.72	2.74	1.94	1.68	1.45	.96	.46	.47	.23	.067	66
81	5.13	3.73	2.78	1.96	1.72	1.47	.97	.43	.45	.21	.052	81
96	4.34	3.08	2.30	1.59	1.37	1.22	.80	.33	.39	.19	.026	96
111	4.21	2.94	2.17	1.53	1.31	1.17	.75	.32	.37	.19	.002	111
126	4.42	3.16	2.37	1.65	1.42	1.26	.83	.38	.43	.21	.052	126
141	5.39	3.85	2.85	2.04	1.72	1.49	1.00	.50	.50	.27	.020	141
156	6.16	4.39	3.27	2.43	2.04	1.74	1.18	.60	.58	.32	.092	156
171	5.52	3.90	2.94	2.14	1.82	1.56	1.06	.52	.53	.28	.080	171
186	4.59	3.24	2.43	1.78	1.50	1.36	.91	.48	.50	.27	.073	186
201	5.26	3.63	2.70	2.02	1.69	1.51	1.01	.55	.55	.30	.098	201
216	5.99	4.09	3.00	2.25	1.86	1.64	1.14	.58	.56	.29	.101	216
231	6.73	4.61	3.41	2.55	2.12	1.85	1.25	.66	.61	.32	.118	231
246	6.58	4.53	3.35	2.49	2.10	1.83	1.21	.65	.60	.32	.101	246
261	6.92	4.74	3.51	2.61	2.18	1.87	1.24	.64	.60	.32	.103	261
276	3.86	2.69	2.04	1.40	1.22	1.12	.73	.34	.40	.19	.039	276
291	4.18	2.85	2.04	1.39	1.20	1.08	.66	.29	.34	.17	.035	291
306	4.95	3.55	2.59	1.81	1.57	1.38	.90	.42	.44	.21	.054	306
321	7.23	5.01	3.71	2.66	2.25	1.90	1.26	.63	.59	.32	.095	321
336	7.82	5.20	3.94	2.96	2.49	2.11	1.42	.77	.69	.37	.086	336
351	6.96	4.76	3.55	2.64	2.24	1.90	1.28	.64	.60	.31	.054	351

TABLE 79 - Continued

FLIGHT 59, PARTIAL-POWER DESCENT

(SEE FIG. 16, t = 8.3 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	4.85	2.17	1.72	1.33	.84	.35	.044	2.55	1.17	.85	.74	.58	.27	.022	6
21	4.52	2.36	1.81	1.43	.95	.40	.051	2.26	1.05	.76	.66	.52	.28	.040	21
36	4.02	1.94	1.55	1.26	.83	.38	.055	2.43	1.11	.80	.70	.55	.29	.039	36
51	3.86	2.01	1.57	1.28	.84	.36	.046	2.43	1.13	.81	.71	.57	.30	.033	51
66	3.85	2.13	1.65	1.34	.87	.37	.042	2.16	1.00	.73	.65	.53	.27	.034	66
81	3.89	2.10	1.64	1.32	.84	.35	.039	1.98	.92	.67	.60	.48	.26	.026	81
96	3.73	1.93	1.52	1.19	.72	.29	.029	1.73	.79	.59	.55	.44	.24	.027	96
111	3.13	1.51	1.24	1.00	.59	.25	.025	1.91	.89	.64	.58	.46	.26	.033	111
126	3.03	1.68	1.37	1.12	.71	.31	.039	2.09	.97	.71	.64	.50	.27	.041	126
141	3.26	1.75	1.43	1.14	.74	.32	.042	2.14	.98	.73	.65	.52	.28	.040	141
156	3.85	2.23	1.73	1.36	.90	.36	.042	2.18	1.01	.76	.66	.52	.26	.034	156
171	3.96	2.03	1.61	1.26	.84	.34	.036	1.91	.86	.66	.60	.47	.23	.024	171
186	3.57	1.68	1.37	1.06	.68	.27	.020	1.55	.72	.55	.50	.41	.20	.014	186
201	3.06	1.47	1.20	.95	.62	.28	.025	1.74	.80	.60	.53	.43	.22	.025	201
216	3.02	1.70	1.31	1.07	.70	.32	.034	2.04	.94	.69	.61	.48	.26	.029	216
231	3.64	2.28	1.70	1.40	.95	.42	.042	2.05	.95	.71	.64	.50	.27	.030	231
246	3.92	2.09	1.63	1.29	.86	.38	.039	1.76	.80	.61	.56	.45	.26	.025	246
261	4.09	2.46	1.81	1.48	.99	.42	.048	1.98	.92	.69	.60	.49	.27	.035	261
276	3.66	1.58	1.35	1.00	.60	.27	.020	1.94	.87	.67	.61	.49	.27	.031	276
291	3.36	1.83	1.38	1.09	.66	.27	.010	1.46	.64	.49	.44	.35	.18	.013	291
306	3.33	1.92	1.35	1.05	.65	.29	.029	2.11	.95	.69	.59	.47	.26	.029	306
321	3.80	2.43	1.84	1.51	1.04	.45	.077	2.24	1.04	.76	.67	.53	.29	.033	321
336	4.91	3.12	2.28	1.81	1.24	.52	.077	2.67	1.26	.92	.79	.64	.34	.054	336
351	5.37	2.97	2.22	1.75	1.16	.48	.068	3.33	1.58	1.12	.95	.74	.37	.056	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.08	.60	.36	.28	.074	.49	.22	.14	.09	.030	6
21	.90	.51	.32	.27	.073	.45	.21	.13	.09	.033	21
36	.82	.47	.30	.26	.077	.46	.21	.14	.09	.032	36
51	1.03	.57	.35	.28	.081	.44	.20	.13	.09	.030	51
66	.99	.54	.32	.26	.076	.51	.24	.15	.09	.032	66
81	.87	.48	.30	.26	.075	.54	.26	.17	.10	.039	81
96	.82	.46	.28	.25	.070	.55	.26	.17	.10	.037	96
111	.83	.46	.29	.25	.076	.52	.25	.16	.10	.032	111
126	.93	.51	.32	.27	.077	.52	.25	.17	.10	.039	126
141	1.04	.58	.35	.28	.081	.54	.27	.17	.11	.041	141
156	1.04	.58	.34	.27	.072	.69	.33	.21	.12	.050	156
171	1.00	.56	.32	.26	.065	.65	.31	.19	.11	.040	171
186	.80	.46	.26	.23	.056	.61	.28	.17	.10	.040	186
201	.83	.47	.28	.24	.065	.66	.30	.19	.10	.041	201
216	.96	.55	.33	.26	.065	.71	.34	.22	.12	.045	216
231	.99	.57	.34	.26	.063	.58	.29	.19	.11	.041	231
246	.79	.46	.27	.24	.058	.46	.20	.14	.09	.027	246
261	.97	.53	.31	.25	.067	.48	.21	.13	.09	.030	261
276	.60	.38	.24	.22	.054	.45	.20	.13	.08	.023	276
291	.23	.14	.09	.15	.045	.34	.13	.08	.06	.019	291
306	.45	.27	.17	.20	.061	.34	.14	.09	.07	.021	306
321	.73	.41	.25	.23	.063	.35	.16	.10	.07	.021	321
336	1.01	.55	.34	.28	.079	.41	.17	.11	.08	.019	336
351	.97	.54	.34	.28	.075	.45	.20	.13	.08	.021	351

TABLE 79 - Continued

FLIGHT 59, PARTIAL-POWER DESCENT

(SEE FIG. 16, t = 8.3 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	2.32	5.97	8.63	14.59	18.80	17.82	18.10
21	2.20	5.29	7.99	15.46	19.10	20.82	21.73
36	2.27	4.99	8.41	13.55	21.40	22.84	21.99
51	2.13	5.82	8.58	13.53	19.04	20.55	17.17
66	2.39	5.49	7.76	13.95	16.81	15.91	15.89
81	2.63	5.06	7.13	13.67	16.77	15.52	14.20
96	2.68	4.77	6.40	12.34	13.86	14.14	14.37
111	2.49	4.89	6.93	10.16	13.13	13.30	14.50
126	2.60	5.35	7.53	11.32	14.52	14.98	15.35
141	2.77	5.88	7.75	11.83	17.33	19.73	24.94
156	3.28	5.72	7.74	14.25	20.36	27.80	28.65
171	3.06	5.45	6.79	13.49	18.33	25.17	23.97
186	2.77	4.55	5.70	11.30	15.66	24.33	26.89
201	2.99	4.76	6.26	10.20	17.54	24.42	29.63
216	3.39	5.44	7.27	11.26	19.30	21.79	23.03
231	2.88	5.50	7.45	14.65	21.63	23.53	24.68
246	2.17	4.62	6.59	13.88	21.16	24.32	24.63
261	2.22	5.27	7.27	15.61	21.84	21.27	20.68
276	2.09	3.93	7.17	10.92	12.76	13.92	13.05
291	1.48	1.97	5.11	11.28	12.37	11.85	13.61
306	1.61	3.18	7.24	11.42	15.83	16.99	16.88
321	1.69	4.36	8.00	15.85	22.46	20.86	22.95
336	1.88	5.71	9.68	19.43	24.69	25.24	25.95
351	2.07	5.59	11.44	18.92	22.03	23.58	21.64

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	15.826		0	3.758		0	8.464	
1	-.088	.239	1	-.494	.118	1	-.036	.058
2	.064	.143	2	-.534	-.057	2	-.012	.014
3	.058	.041	3	-.163	.073	3	-.024	.000
4	.000	-.061	4	-.065	.114	4	.012	.012
5	.032	-.111	5	.184	.139	5	.027	.028
6	-.026	-.018	6	-.049	.000	6	.009	.000
7	.032	.018	7	-.045	-.008	7	.000	-.005
8	.012	-.020	8	-.008	-.016	8	-.008	-.001
9	-.015	.000	9	.004	.037	9	.001	.012
10	.000	-.003	10	.000	-.024	10	-.007	.015

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^0\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^0\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^0\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^0\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^0\right) + F_n \sin n \left(\psi_{nom} - 6^0\right) \right]$$

TABLE 79 - Continued

FLIGHT 59, PARTIAL-POWER DESCENT

(SEE FIG. 16, t = 8.3 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.419		.75	0	13.452		.95	0	20.603	
.25	1	-.516	.288	.75	1	1.835	-.557	.95	1	-2.847	-1.457
.25	2	.220	.147	.75	2	1.080	-.186	.95	2	5.036	-.075
.25	3	.064	-.078	.75	3	.767	-.491	.95	3	.260	-.297
.25	4	.014	-.049	.75	4	-.572	-2.061	.95	4	-1.961	-1.363
.25	5	.134	.000	.75	5	-.263	.223	.95	5	-1.017	.678
.25	6	-.144	.031	.75	6	-.442	.048	.95	6	-.774	1.546
.25	7	.092	.054	.75	7	-.252	.223	.95	7	-.509	-1.163
.25	8	-.004	-.070	.75	8	-.326	-.047	.95	8	-.334	1.218
.25	9	-.011	-.028	.75	9	-.247	.227	.95	9	-.522	-.351
.25	10	.003	.025	.75	10	.020	.360	.95	10	.132	.111
.40	0	4.982		.85	0	18.196					
.40	1	-.053	.607	.85	1	1.048	-1.259				
.40	2	.565	.236	.85	2	2.309	.702				
.40	3	.523	-.133	.85	3	1.019	-.603				
.40	4	-.288	-.508	.85	4	-2.155	-2.079				
.40	5	-.070	-.186	.85	5	-.834	.598				
.40	6	-.116	.116	.85	6	-.800	.708				
.40	7	.264	.150	.85	7	.178	-.219				
.40	8	.115	-.135	.85	8	-.504	-.350				
.40	9	-.068	.080	.85	9	.012	-.050				
.40	10	.004	.151	.85	10	.450	.228				
.55	0	7.534		.90	0	20.028					
.55	1	1.055	.132	.90	1	-1.601	-1.215				
.55	2	.663	-.200	.90	2	4.548	.619				
.55	3	.582	-.222	.90	3	.218	.176				
.55	4	-.461	-.552	.90	4	-1.786	-2.298				
.55	5	-.044	-.453	.90	5	-1.282	.908				
.55	6	-.268	-.158	.90	6	-.947	.386				
.55	7	.161	-.049	.90	7	-.118	-.934				
.55	8	-.074	-.362	.90	8	-.668	.109				
.55	9	-.240	-.217	.90	9	-.235	-.390				
.55	10	-.208	.113	.90	10	-.078	.642				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 79 - Concluded

FLIGHT 59, PARTIAL-POWER DESCENT

(SEE FIG. 16, t = 8.3 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	1028	421	1410	1275	2212	2015	1715	-1153
21	-237	-561	-199	-232	1666	1816	1574	-2467
36	82	1056	1862	598	-1264	-2492	-4111	-4307
51	4391	2525	1645	35	-1458	-4691	-7432	-5417
66	1142	2096	2251	-13	-1484	-3586	-4299	-3037
81	743	-701	-687	-862	804	185	-2207	-2927
96	-454	-998	208	207	-331	-1815	21	-402
111	2567	1724	1338	-127	-375	-2184	-3101	-3489
126	2601	2145	2793	1447	-1000	-3348	-3849	-3343
141	1267	759	1031	770	434	-1258	-1684	-2694
156	538	41	-18	-633	892	1359	2270	-2351
171	-215	-380	515	665	2194	2155	2296	-2540
186	1723	1312	1989	2115	2089	284	-748	-3314
201	2590	3416	3815	2134	1490	831	1522	-2183
216	2852	1320	1537	1399	3417	4035	3535	-810
231	-1001	-561	1175	2134	3884	2841	2631	-1088
246	903	1460	2378	1065	637	-492	-3185	-5088
261	3639	2896	2902	1247	-1722	-4502	-6286	-4840
276	1906	1246	1718	779	-895	-3766	-5962	-4176
291	-1229	-289	371	-1100	-1634	-1905	533	-540
306	-55	-1353	-1338	-1491	126	-94	-837	-2935
321	-329	833	1971	1371	408	-2910	-4571	-3614
336	3889	4026	4068	2496	496	-2383	-6344	-6336
351	4060	3952	5053	3822	1437	-830	-2223	-3489

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-3079	-3842	1943	11291
21	-2591	-3549	6455	15088
36	-2265	602	6599	12444
51	-2900	-2182	7095	14311
66	-1565	-2409	3479	12224
81	-475	-3582	2167	12444
96	-2396	-4900	3175	13030
111	-2689	-3061	3223	11602
126	-4447	-3077	5783	13515
141	-3031	-1661	5703	13496
156	-882	-1775	3335	12288
171	-2803	-4835	1895	11236
186	-4496	-7375	391	10413
201	-6059	-7538	-297	10477
216	-4431	-5877	135	10577
231	-4756	-3679	3831	12490
246	-4659	-4200	6151	14521
261	-4121	-1677	3975	11932
276	-6124	-5340	5639	13542
291	-3128	-3386	1751	10843
306	-3568	-5079	2551	12719
321	-5473	-5714	2855	12801
336	-8110	-5926	3127	12252
351	-7556	-8303	2743	13085

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	-61	108	57
21	-419	-251	-8
36	-401	-88	7
51	-189	-203	36
66	-22	61	48
81	-84	-47	51
96	-426	-156	-1
111	-808	-561	-22
126	-309	-272	5
141	-319	-120	37
156	56	245	63
171	91	62	68
186	-583	-486	5
201	-414	-325	2
216	-66	-146	62
231	-242	-49	46
246	-481	-395	18
261	-386	-217	21
276	-45	-258	62
291	-326	14	25
306	-665	-471	-4
321	-441	-131	-7
336	58	185	61
351	368	318	107

TABLE 80

FLIGHT 59, PARTIAL-POWER DESCENT

(SEE FIG. 16, t = 12.9 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	2.86	2.31	1.94	1.14	.45	.26	.042	3.80	1.85	1.44	1.28	.89	.32	-.016	6
21	3.72	2.81	2.16	1.38	.59	.29	.060	3.82	1.93	1.46	1.30	.91	.31	-.014	21
36	3.96	2.89	2.17	1.35	.59	.29	.054	3.74	1.84	1.38	1.24	.88	.32	-.016	36
51	2.60	2.06	1.82	.98	.40	.24	.046	3.45	1.67	1.26	1.14	.79	.28	-.016	51
66	3.51	2.65	2.18	1.36	.59	.32	.071	4.32	2.13	1.60	1.42	1.02	.36	.007	66
81	4.44	3.20	2.45	1.58	.77	.39	.082	4.92	2.46	1.87	1.62	1.16	.46	.035	81
96	6.02	3.97	2.80	1.90	1.01	.47	.103	5.64	2.81	2.15	1.81	1.34	.51	.052	96
111	6.64	4.26	2.98	2.15	1.18	.54	.117	7.38	3.73	2.68	2.17	1.61	.57	.080	111
126	7.92	4.79	3.27	2.29	1.27	.62	.128	7.97	3.95	2.80	2.25	1.69	.64	.099	126
141	8.24	4.70	3.22	2.28	1.25	.60	.128	9.11	4.15	2.87	2.27	1.69	.60	.131	141
156	5.71	3.60	2.57	1.79	1.01	.46	.082	6.47	3.18	2.21	1.78	1.31	.47	.025	156
171	3.98	2.74	2.03	1.31	.66	.33	.065	4.34	2.07	1.54	1.33	1.00	.39	.024	171
186	4.44	2.99	2.23	1.41	.71	.33	.067	4.66	2.26	1.67	1.44	1.03	.42	.021	186
201	5.37	3.52	2.55	1.68	.91	.41	.076	5.84	2.92	2.12	1.69	1.29	.48	.042	201
216	4.87	3.32	2.42	1.57	.83	.39	.075	5.93	2.92	2.15	1.77	1.28	.48	.024	216
231	4.95	3.21	2.36	1.50	.88	.37	.071	5.17	2.57	1.86	1.58	1.16	.43	.030	231
246	3.87	2.65	2.04	1.27	.61	.29	.050	4.64	2.26	1.67	1.39	1.03	.36	.014	246
261	3.63	2.58	1.93	1.19	.57	.26	.042	4.39	2.10	1.55	1.32	.95	.34	.012	261
276	3.64	2.58	1.96	1.23	.56	.27	.051	4.23	2.02	1.47	1.27	.93	.30	.007	276
291	3.43	2.58	2.09	1.27	.56	.29	.042	4.34	2.17	1.59	1.40	1.00	.36	.012	291
306	3.47	2.65	2.16	1.34	.64	.34	.065	4.75	2.35	1.76	1.51	1.09	.42	.019	306
321	3.26	2.42	1.99	1.20	.53	.29	.057	4.58	2.25	1.64	1.42	1.05	.36	.007	321
336	3.41	2.57	2.08	1.30	.57	.28	.050	4.63	2.25	1.67	1.45	1.00	.38	.009	336
351	2.93	2.25	1.86	1.14	.46	.25	.048	4.28	2.09	1.56	1.36	.97	.34	-.009	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.85										
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	4.34	3.10	2.33	1.60	1.37	1.21	.79	.33	.39	.19	-.025	6
21	4.23	2.94	2.23	1.54	1.30	1.16	.77	.33	.40	.20	.037	21
36	3.91	2.79	2.15	1.46	1.25	1.13	.74	.31	.38	.19	.032	36
51	4.15	2.91	2.19	1.48	1.29	1.14	.74	.31	.37	.18	.035	51
66	4.36	3.10	2.36	1.62	1.41	1.25	.83	.37	.42	.21	.045	66
81	5.09	3.71	2.76	1.96	1.70	1.47	.99	.48	.49	.26	.073	81
96	5.58	4.07	3.01	2.18	1.85	1.60	1.06	.54	.53	.28	.073	96
111	6.77	4.80	3.54	2.60	2.18	1.86	1.26	.64	.59	.33	.084	111
126	6.50	4.54	3.40	2.52	2.11	1.79	1.22	.63	.60	.33	.086	126
141	6.06	4.31	3.18	2.41	2.02	1.73	1.18	.61	.58	.32	.092	141
156	4.78	3.41	2.54	1.84	1.55	1.35	.89	.43	.44	.23	.058	156
171	4.28	3.03	2.24	1.59	1.37	1.23	.79	.37	.39	.20	.047	171
186	5.07	3.62	2.65	1.87	1.59	1.38	.89	.42	.44	.22	.056	186
201	6.31	4.55	3.31	2.42	2.04	1.73	1.14	.56	.53	.28	.077	201
216	6.37	4.58	3.35	2.43	2.05	1.76	1.15	.56	.52	.28	.073	216
231	5.75	4.11	3.01	2.18	1.85	1.58	1.03	.49	.49	.24	.050	231
246	5.06	3.62	2.65	1.90	1.61	1.40	.91	.42	.44	.21	.039	246
261	4.94	3.52	2.58	1.84	1.56	1.37	.88	.40	.42	.20	.045	261
276	4.94	3.49	2.53	1.83	1.51	1.34	.86	.39	.41	.21	.052	276
291	4.85	3.50	2.58	1.79	1.54	1.35	.88	.40	.42	.22	.045	291
306	5.32	3.85	2.84	2.04	1.74	1.52	1.01	.49	.50	.25	.069	306
321	4.95	3.58	2.63	1.87	1.60	1.44	.92	.45	.49	.24	.058	321
336	5.20	3.74	2.74	2.00	1.71	1.50	.98	.46	.49	.25	.039	336
351	5.14	3.66	2.72	1.90	1.64	1.42	.91	.42	.43	.22	.024	351

TABLE 80 - Continued

FLIGHT 59, PARTIAL-POWER DESCENT

(SEE FIG. 16, t = 12.9 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	3.67	1.87	1.52	1.20	.73	.31	.031	3.24	1.54	1.10	.95	.75	.39	.068	6
21	3.38	1.81	1.47	1.18	.73	.32	.036	3.26	1.55	1.09	.93	.73	.38	.063	21
36	3.38	1.81	1.47	1.17	.72	.30	.029	2.98	1.40	1.00	.88	.72	.36	.059	36
51	3.22	1.69	1.39	1.11	.69	.30	.029	2.68	1.27	.92	.80	.64	.34	.053	51
66	3.31	1.77	1.44	1.15	.74	.31	.036	2.83	1.35	.97	.84	.67	.34	.060	66
81	3.52	2.01	1.62	1.30	.83	.37	.053	3.08	1.46	1.05	.90	.71	.37	.063	81
96	3.72	2.02	1.63	1.31	.85	.38	.055	2.75	1.32	.95	.83	.66	.34	.058	96
111	4.29	2.52	1.95	1.53	1.02	.41	.051	2.71	1.26	.92	.80	.64	.33	.049	111
126	4.50	2.36	1.83	1.45	.94	.38	.042	2.32	1.00	.74	.65	.52	.27	.037	126
141	4.15	2.11	1.66	1.32	.87	.36	.044	1.84	.85	.65	.59	.48	.26	.030	141
156	3.70	1.65	1.38	1.06	.66	.26	.010	2.03	.93	.69	.61	.49	.25	.034	156
171	3.24	1.71	1.37	1.10	.70	.29	.022	2.11	.96	.71	.63	.50	.26	.035	171
186	3.44	1.83	1.45	1.15	.71	.30	.022	1.91	.90	.65	.58	.46	.25	.031	186
201	3.70	2.16	1.69	1.36	.87	.38	.048	2.41	1.13	.81	.71	.55	.29	.041	201
216	4.47	2.75	2.04	1.61	1.05	.43	.044	2.88	1.37	.98	.84	.66	.34	.055	216
231	4.73	2.53	1.92	1.50	.96	.39	.044	3.68	1.73	1.22	1.04	.78	.37	.062	231
246	4.56	2.42	1.81	1.42	.90	.37	.029	3.48	1.64	1.16	.99	.76	.37	.056	246
261	4.50	2.27	1.73	1.36	.82	.33	.020	3.08	1.45	1.03	.88	.69	.34	.048	261
276	3.82	1.80	1.44	1.12	.71	.31	.029	2.96	1.40	1.00	.85	.67	.33	.044	276
291	4.12	2.23	1.71	1.32	.83	.35	.029	2.96	1.39	.99	.83	.65	.33	.045	291
306	4.09	2.31	1.74	1.40	.93	.40	.048	3.28	1.52	1.12	.94	.73	.37	.055	306
321	4.12	2.15	1.65	1.30	.84	.37	.046	3.45	1.59	1.12	.93	.72	.37	.052	321
336	4.22	2.34	1.76	1.38	.90	.38	.042	3.70	1.73	1.20	1.00	.76	.38	.060	336
351	4.12	2.15	1.65	1.30	.83	.35	.036	3.49	1.64	1.15	.98	.76	.37	.056	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.85	.97	.55	.35	.111	.93	.49	.39	.19	.136	6
21	1.81	.98	.58	.38	.110	.90	.47	.34	.24	.122	21
36	1.76	.96	.57	.36	.115	.79	.38	.24	.19	.134	36
51	1.71	.93	.56	.36	.097	.80	.44	.36	.20	.089	51
66	1.64	.89	.53	.36	.097	.76	.34	.20	.19	.103	66
81	1.56	.81	.50	.36	.097	.81	.38	.22	.11	.045	81
96	1.45	.74	.45	.33	.087	.72	.35	.22	.12	.045	96
111	1.36	.69	.41	.31	.081	.77	.35	.22	.12	.042	111
126	1.12	.49	.30	.27	.070	.60	.29	.18	.11	.040	126
141	1.12	.53	.31	.25	.067	.54	.26	.16	.10	.036	141
156	1.13	.56	.33	.27	.069	.62	.30	.19	.11	.047	156
171	1.12	.62	.35	.27	.067	.70	.34	.21	.11	.049	171
186	1.07	.57	.33	.26	.069	.66	.29	.21	.13	.056	186
201	1.14	.63	.37	.28	.071	.64	.29	.20	.13	.050	201
216	1.41	.78	.47	.33	.088	.71	.38	.21	.14	.075	216
231	1.87	.99	.55	.37	.094	.70	.44	.30	.18	.087	231
246	1.92	1.02	.58	.37	.089	.72	.47	.33	.24	.068	246
261	1.40	.78	.47	.32	.075	.60	.48	.34	.21	.113	261
276	1.47	.80	.47	.33	.083	.57	.41	.29	.24	.143	276
291	1.52	.83	.48	.31	.085	.48	.30	.23	.19	.089	291
306	1.56	.84	.49	.33	.083	.61	.41	.27	.21	.101	306
321	1.70	.91	.53	.36	.095	.60	.43	.28	.18	.096	321
336	1.85	.97	.54	.38	.128	.65	.40	.31	.27	.115	336
351	1.75	.93	.52	.36	.113	.70	.36	.28	.21	.109	351

TABLE 80 - Continued

FLIGHT 59, PARTIAL-POWER DESCENT

(SEE FIG. 16, t = 12.9 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	5.35	9.08	11.48	12.35	13.71	12.80	11.67
21	5.33	9.27	11.33	12.05	13.55	12.99	14.18
36	4.40	9.06	10.65	11.89	12.88	12.60	14.45
51	4.83	8.83	9.67	11.35	13.16	11.40	10.62
66	4.00	8.54	10.10	11.87	14.36	14.64	13.98
81	3.53	8.12	10.89	13.37	17.02	17.13	17.00
96	3.44	7.50	9.95	13.69	18.45	19.59	21.19
111	3.47	6.95	9.62	16.08	21.72	24.41	23.45
126	2.88	5.55	7.89	15.31	21.09	26.04	26.40
141	2.62	5.54	6.92	14.07	20.11	27.12	26.21
156	3.02	5.80	7.26	11.21	15.55	20.32	19.95
171	3.27	5.95	7.46	11.28	13.82	14.53	14.47
186	3.27	5.70	6.89	11.85	15.98	15.51	15.71
201	3.17	6.15	8.41	14.05	20.07	19.37	18.86
216	3.66	7.54	10.13	16.88	20.15	19.41	17.55
231	4.33	9.18	12.27	16.05	18.19	17.19	17.39
246	4.76	9.40	11.81	15.18	16.02	15.19	13.86
261	4.59	7.43	10.55	14.25	15.56	14.13	13.06
276	4.55	7.62	10.22	12.12	15.31	13.53	13.16
291	3.57	7.73	10.12	14.02	15.47	14.62	13.29
306	4.24	7.93	11.27	14.92	17.48	16.11	14.19
321	4.10	8.63	11.44	14.05	16.34	15.14	12.73
336	4.83	9.31	12.19	14.82	16.96	15.21	13.29
351	4.37	8.81	11.77	13.84	16.12	14.09	11.57

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	15.006		0	4.227		0	8.702	
1	-.774	2.292	1	-.608	.506	1	.105	-.050
2	-.079	.044	2	.171	.216	2	.000	.022
3	.020	-.076	3	.073	.061	3	.001	.022
4	-.044	.026	4	-.057	-.029	4	-.007	.012
5	.000	.108	5	-.139	-.033	5	-.007	-.005
6	-.018	.032	6	-.024	-.029	6	.007	.003
7	.018	.015	7	-.033	-.045	7	.001	.004
8	.012	.012	8	-.041	-.053	8	.001	-.004
9	.000	-.012	9	-.033	.000	9	.012	.000
10	.006	-.018	10	.000	-.016	10	.001	.000

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o \right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o \right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o \right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o \right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o \right) + F_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 80 - Continued

FLIGHT 59, PARTIAL-POWER DESCENT

(SEE FIG. 16, t = 12.9 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.981		.75	0	13.605		.95	0	16.177	
.25	1	.740	-.419	.75	1	-.510	-.717	.95	1	-3.482	3.199
.25	2	.123	.418	.75	2	-.707	-.155	.95	2	-1.270	-1.907
.25	3	.254	.078	.75	3	.832	-1.462	.95	3	1.784	-.914
.25	4	.041	-.121	.75	4	-.589	.678	.95	4	-.757	1.819
.25	5	-.109	.134	.75	5	.040	-.083	.95	5	.394	-.306
.25	6	.050	-.043	.75	6	.073	-.066	.95	6	-.314	.937
.25	7	.138	.103	.75	7	-.066	-.050	.95	7	-.665	-.161
.25	8	.079	.087	.75	8	-.415	-.179	.95	8	-.091	.156
.25	9	-.009	.069	.75	9	-.134	.235	.95	9	-.444	-.167
.25	10	-.017	.152	.75	10	.232	-.091	.95	10	-.157	.111
.40	0	7.733		.85	0	16.627					
.40	1	1.384	-.531	.85	1	-1.792	.397				
.40	2	-.021	.813	.85	2	-.930	-1.016				
.40	3	.260	-.339	.85	3	.803	-2.034				
.40	4	-.304	-.230	.85	4	-.411	1.228				
.40	5	.066	.363	.85	5	.056	-.710				
.40	6	-.052	-.192	.85	6	-.054	.347				
.40	7	-.103	.079	.85	7	-.028	-.229				
.40	8	.025	.199	.85	8	-.222	-.031				
.40	9	.051	-.026	.85	9	-.303	-.062				
.40	10	-.014	-.045	.85	10	-.034	.090				
.55	0	10.012		.90	0	16.795					
.55	1	1.559	-1.036	.90	1	-3.265	2.377				
.55	2	-.344	.685	.90	2	-1.258	-2.450				
.55	3	.507	-.837	.90	3	1.693	-1.385				
.55	4	-.196	-.189	.90	4	-1.127	1.467				
.55	5	.170	.464	.90	5	.551	-.809				
.55	6	-.080	-.112	.90	6	-.031	.802				
.55	7	-.052	.143	.90	7	-.155	-.325				
.55	8	-.158	.018	.90	8	-.259	.194				
.55	9	-.018	-.147	.90	9	-.398	-.091				
.55	10	-.025	.096	.90	10	.087	-.164				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 80 - Concluded

FLIGHT 59, PARTIAL-POWER DESCENT

(SEE FIG. 16, t = 12.9 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	216	-899	-705	-2229	-4459	-7126	-6496	-3942
21	1584	-627	-2269	-4519	-5269	-6599	-5036	-3511
36	-730	-1832	-2423	-3956	-4054	-5534	-3797	-2650
51	-525	-1914	-2034	-2582	-2030	-3534	-3515	-2657
66	1049	388	136	-1151	-1661	-3465	-2563	-2672
81	1881	2071	1916	489	-473	-2430	-3619	-3745
96	1869	1667	1916	1443	1094	-1137	-2380	-3081
111	900	1394	1663	757	1366	774	-73	-2723
126	695	644	1483	1176	1745	784	-680	-3249
141	935	1378	2124	2025	1419	-211	-230	-2738
156	2371	1931	1980	1167	1419	903	-120	-2759
171	1299	1023	1907	1720	1340	207	1020	-1022
186	855	297	850	881	1463	-579	-2594	-3504
201	444	512	895	-26	-1274	-3365	-4189	-3730
216	1972	809	280	-1027	-1925	-4659	-6757	-4920
231	1049	330	127	-1142	-3025	-6002	-5837	-3847
246	1026	-83	-1049	-2792	-2910	-4321	-3865	-2745
261	137	-1378	-1365	-2201	-2497	-4251	-3504	-2540
276	-365	-800	-316	-1228	-2057	-4390	-4561	-3124
291	2246	883	45	-1447	-2180	-4131	-5042	-3854
306	1163	1097	1510	136	-1476	-3913	-4503	-3044
321	1641	611	479	-436	-130	-2132	-4383	-3789
336	843	446	624	-922	-1362	-2092	-2249	-2489
351	1892	-231	-723	-2029	-2330	-4868	-5026	-3292

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-1608	-33	7109	13139
21	-289	1188	5285	11831
36	-940	342	6165	13249
51	-2991	-423	5637	12389
66	-4750	-3810	4149	12435
81	-6964	-5161	2517	11666
96	-8836	-7066	2789	12554
111	-6475	-5763	1301	11364
126	-6785	-5600	3061	12526
141	-7387	-5193	2933	11666
156	-7078	-6431	1189	11035
171	-7061	-6756	1509	11529
186	-6475	-4363	3973	12654
201	-4033	-2149	5349	13039
216	-3382	-635	6133	13396
231	-3431	-1254	6533	13121
246	-1591	-537	5285	12417
261	-696	-895	5941	13286
276	-1119	-570	6021	12334
291	-1119	-1416	6117	13167
306	-794	-1172	6037	13057
321	-2682	-1172	7397	13661
336	-1217	-684	6357	13002
351	-1852	-309	7109	13524

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	-723	-203	-58
21	-775	-199	-46
36	-520	-94	-30
51	-692	-281	-45
66	-806	-528	-43
81	-363	-206	11
96	-51	-29	47
111	-65	114	55
126	-184	-89	55
141	-300	-20	57
156	-113	-92	76
171	-261	-156	49
186	-457	-273	40
201	-249	66	48
216	-168	31	81
231	-65	148	72
246	-247	98	65
261	-274	89	33
276	-791	-199	-10
291	-622	-230	-19
306	-451	-160	-5
321	-336	-178	13
336	-457	119	-23
351	-768	-355	-50

TABLE 81

FLIGHT 60, PARTIAL-POWER DESCENT

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
0	3.97	2.67	2.37	1.49	.65	.40	.040	4.18	2.14	1.40	1.33	.84	.35	-.011	0
15	6.05	3.89	3.00	2.16	1.09	.58	.093	6.96	3.66	2.58	2.22	1.45	.62	.078	15
30	5.85	3.62	2.91	2.06	1.08	.56	.073	7.05	3.61	2.47	2.14	1.42	.57	.031	30
45	4.75	3.04	2.49	1.76	.86	.47	.053	5.62	2.87	1.94	1.72	1.13	.47	.011	45
60	4.26	2.88	2.33	1.62	.78	.45	.053	4.93	2.57	1.71	1.55	1.03	.44	.016	60
75	4.23	2.81	2.31	1.63	.80	.44	.053	5.10	2.64	1.79	1.60	1.07	.46	.031	75
90	3.97	2.64	2.17	1.51	.73	.42	.048	4.93	2.54	1.72	1.53	1.01	.42	.016	90
105	3.79	2.49	2.11	1.46	.71	.42	.061	4.60	2.35	1.57	1.44	.95	.41	.009	105
120	4.00	2.55	2.16	1.49	.74	.44	.069	4.66	2.42	1.60	1.46	.98	.44	.027	120
135	4.76	2.97	2.44	1.71	.89	.50	.087	5.46	2.80	1.90	1.70	1.15	.51	.047	135
150	5.56	3.45	2.71	1.93	1.05	.57	.111	6.15	3.18	2.12	1.86	1.28	.59	.084	150
165	6.07	3.76	2.81	2.04	1.14	.61	.121	6.62	3.41	2.31	1.99	1.36	.61	.093	165
180	6.49	3.94	2.94	2.14	1.22	.64	.131	7.70	3.90	2.66	2.24	1.52	.67	.109	180
195	7.48	4.38	3.19	2.37	1.39	.72	.156	8.55	4.23	2.89	2.42	1.68	.74	.131	195
210	7.89	4.29	3.14	2.38	1.42	.71	.166	8.47	4.05	2.68	2.33	1.65	.71	.151	210
225	4.04	2.55	2.05	1.43	.79	.47	.095	4.16	2.08	1.35	1.25	.90	.42	.047	225
240	5.55	3.57	2.71	2.01	1.11	.56	.105	4.88	2.75	1.90	1.70	1.14	.52	.067	240
255	4.92	3.15	2.44	1.74	.87	.49	.083	5.48	2.77	1.86	1.60	1.08	.48	.048	255
270	5.88	3.71	2.78	2.00	1.10	.58	.099	6.60	3.41	2.30	1.97	1.33	.58	.078	270
285	5.99	3.72	2.86	2.05	1.13	.58	.097	7.15	3.68	2.46	2.10	1.42	.60	.080	285
300	5.77	3.57	2.82	2.03	1.09	.57	.091	7.13	3.68	2.48	2.13	1.43	.59	.069	300
315	4.56	3.03	2.52	1.76	.89	.48	.049	6.40	3.29	2.21	1.93	1.26	.50	.020	315
330	2.59	2.09	1.88	1.23	.53	.33	.014	4.33	2.29	1.49	1.40	.89	.32	-.033	330
345	2.52	1.89	1.64	.99	.34	.25	.004	2.39	1.22	.83	.81	.49	.19	-.060	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
0	3.52	2.10	1.60	1.14	.78	1.00	.45	.07	.24	.07	-.059	0
15	7.09	5.04	3.55	2.62	2.07	2.12	1.21	.54	.56	.27	.036	15
30	7.56	5.27	3.68	2.74	2.13	2.14	1.23	.53	.56	.25	.011	30
45	5.65	3.94	2.79	2.01	1.57	1.67	.92	.35	.44	.19	-.011	45
60	4.85	3.35	2.42	1.72	1.30	1.49	.83	.30	.41	.18	-.009	60
75	5.36	3.67	2.63	1.87	1.44	1.57	.85	.33	.43	.19	.001	75
90	5.26	3.63	2.61	1.84	1.43	1.55	.83	.31	.40	.17	-.019	90
105	4.65	3.14	2.32	1.64	1.22	1.39	.74	.25	.37	.15	-.027	105
120	4.60	3.10	2.38	1.65	1.26	1.38	.74	.28	.46	.18	-.021	120
135	5.56	3.86	2.78	2.03	1.55	1.67	.92	.40	.47	.23	.013	135
150	5.94	4.13	2.94	2.21	1.70	1.81	1.04	.49	.55	.27	.033	150
165	6.64	4.45	3.21	2.49	1.88	1.98	1.16	.55	.58	.29	.048	165
180	8.60	5.45	3.96	2.98	2.29	2.26	1.34	.65	.64	.33	.066	180
195	9.21	5.64	4.01	3.14	2.41	2.38	1.43	.73	.69	.37	.083	195
210	6.80	4.50	3.11	2.34	1.88	1.89	1.11	.57	.57	.29	.046	210
225	2.94	1.84	1.47	1.12	.80	1.05	.54	.20	.33	.15	-.021	225
240	4.25	2.81	2.15	1.48	1.09	1.32	.70	.26	.38	.18	-.009	240
255	5.40	3.71	2.58	1.91	1.47	1.60	.85	.34	.45	.19	-.003	255
270	6.54	4.51	3.28	2.43	1.84	1.91	1.08	.51	.53	.26	.030	270
285	7.44	4.99	3.61	2.73	2.11	2.11	1.22	.60	.59	.29	.036	285
300	7.76	5.21	3.70	2.80	2.17	2.18	1.25	.57	.59	.27	.023	300
315	6.85	4.79	3.33	2.48	1.93	1.95	1.09	.43	.48	.20	-.017	315
330	4.67	3.28	2.37	1.69	1.25	1.40	.72	.20	.30	.10	-.059	330
345	2.71	1.58	1.32	.94	.61	.82	.30	-.03	.16	.03	-.086	345

TABLE 81 - Continued

FLIGHT 60, PARTIAL-POWER DESCENT

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	2.57	1.05	.92	.76	.45	.14	-.009	1.86	.75	.64	.57	.52	.27	.044	0
15	3.43	2.54	1.93	1.54	1.08	.41	.042	2.29	.93	.77	.65	.55	.28	.041	15
30	4.63	3.11	2.38	1.74	1.24	.44	.042	2.50	1.05	.82	.70	.60	.30	.048	30
45	4.73	2.43	1.97	1.41	.96	.35	.024	2.82	1.21	.92	.79	.66	.33	.054	45
60	3.94	1.95	1.65	1.21	.83	.31	.033	2.80	1.25	.96	.84	.71	.37	.070	60
75	3.71	2.08	1.75	1.30	.89	.34	.033	3.05	1.33	1.00	.86	.72	.35	.057	75
90	4.09	2.22	1.79	1.29	.88	.30	.016	2.77	1.20	.92	.80	.65	.31	.048	90
105	3.79	1.95	1.63	1.17	.80	.27	.014	2.62	1.12	.89	.76	.64	.32	.054	105
120	3.45	1.86	1.58	1.14	.79	.29	.028	2.68	1.18	.92	.80	.68	.35	.066	120
135	3.77	2.13	1.76	1.29	.93	.36	.050	2.82	1.26	.98	.85	.72	.37	.076	135
150	4.03	2.31	1.85	1.37	1.00	.40	.052	3.26	1.45	1.10	.96	.79	.40	.079	150
165	4.55	2.74	2.13	1.57	1.15	.45	.058	3.43	1.48	1.14	.98	.82	.41	.076	165
180	5.28	3.14	2.37	1.76	1.27	.49	.066	2.60	1.07	.87	.78	.65	.33	.072	180
195	5.35	2.96	2.26	1.67	1.25	.51	.075	1.21	.42	.47	.47	.42	.22	.043	195
210	4.31	1.45	1.30	.96	.72	.30	.026	1.42	.53	.51	.47	.44	.23	.034	210
225	3.46	1.65	1.37	1.00	.69	.25	.012	1.98	.80	.68	.61	.52	.27	.041	225
240	3.30	1.81	1.48	1.06	.72	.25	.012	2.12	.85	.72	.63	.53	.27	.033	240
255	3.53	2.00	1.60	1.17	.80	.28	.019	2.09	.84	.72	.63	.53	.27	.034	255
270	4.03	2.40	1.86	1.40	.99	.39	.044	2.39	1.02	.81	.72	.60	.33	.051	270
285	4.73	2.91	2.22	1.64	1.18	.47	.054	3.03	1.34	.99	.89	.73	.39	.065	285
300	5.40	3.16	2.40	1.76	1.26	.48	.050	3.45	1.53	1.15	.97	.79	.40	.065	300
315	5.59	2.97	2.28	1.65	1.15	.39	.026	3.32	1.49	1.11	.94	.77	.38	.056	315
330	4.85	2.25	1.84	1.28	.84	.26	-.005	2.99	1.26	.96	.83	.68	.33	.042	330
345	3.69	1.48	1.24	.93	.54	.16	-.021	2.46	1.01	.80	.68	.59	.30	.043	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.21	.68	.44	.29	.107	.61	.28	.16	.12	.028	0
15	.99	.57	.36	.26	.106	.54	.24	.13	.12	-.015	15
30	.99	.57	.36	.25	.098	.52	.26	.13	.10	.031	30
45	1.18	.64	.39	.26	.102	.50	.24	.12	.07	-.006	45
60	1.14	.65	.42	.29	.113	.50	.24	.12	.09	-.005	60
75	1.22	.68	.45	.30	.118	.53	.27	.14	.10	.003	75
90	1.41	.76	.48	.31	.121	.46	.25	.14	.11	.010	90
105	1.41	.76	.49	.32	.122	.66	.33	.18	.12	.014	105
120	1.44	.78	.50	.32	.124	.57	.30	.16	.12	.010	120
135	1.50	.81	.51	.33	.124	.52	.27	.15	.12	.007	135
150	1.45	.81	.52	.34	.124	.43	.23	.12	.10	.001	150
165	1.21	.71	.46	.32	.118	.27	.17	.10	.10	.010	165
180	.59	.42	.27	.25	.097	.36	.19	.10	.09	.003	180
195	.38	.34	.19	.20	.085	.40	.20	.10	.08	.005	195
210	.61	.38	.24	.21	.087	.36	.19	.09	.08	.001	210
225	.79	.47	.30	.22	.089	.35	.18	.10	.09	.001	225
240	.89	.51	.33	.25	.095	.50	.25	.14	.11	.003	240
255	1.16	.65	.41	.27	.103	.69	.38	.23	.14	.021	255
270	1.20	.66	.43	.29	.108	.71	.50	.28	.17	.026	270
285	1.40	.77	.50	.32	.114	.79	.38	.22	.18	.036	285
300	1.60	.87	.56	.34	.121	.74	.44	.30	.21	.045	300
315	1.80	.95	.59	.35	.115	.72	.38	.24	.24	.068	315
330	1.57	.84	.52	.31	.124	.82	.39	.21	.17	.028	330
345	1.31	.70	.43	.27	.130	.65	.30	.14	.08	.005	345

TABLE 81 - Continued

FLIGHT 60, PARTIAL-POWER DESCENT

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	2.82	6.73	7.02	7.33	9.11	13.46	15.24
15	2.37	5.77	7.91	15.68	21.51	23.62	22.40
30	2.43	5.69	8.70	18.76	22.06	22.86	21.49
45	2.04	6.32	9.72	15.62	16.62	18.20	17.80
60	2.14	6.56	10.26	13.20	14.60	16.41	16.53
75	2.37	6.92	10.52	13.77	15.68	17.06	16.37
90	2.31	7.53	9.50	13.92	15.26	16.17	15.35
105	3.03	7.60	9.23	12.62	13.54	15.10	14.90
120	2.72	7.80	9.77	12.31	14.14	15.66	15.43
135	2.55	8.01	10.37	14.17	16.80	18.36	18.02
150	2.12	8.03	11.63	15.25	18.48	20.78	20.76
165	1.68	7.10	11.95	17.54	20.32	22.17	22.34
180	1.81	4.46	9.28	19.69	24.52	25.23	23.61
195	1.83	3.34	5.18	19.37	25.94	27.72	26.49
210	1.67	4.06	5.64	11.68	20.02	26.83	26.72
225	1.73	4.75	7.24	11.04	9.51	14.06	15.71
240	2.37	5.27	7.49	11.47	12.79	17.93	21.12
255	3.50	6.44	7.45	12.56	15.81	17.79	18.24
270	4.11	6.69	8.74	15.30	19.67	21.84	21.62
285	3.93	7.62	10.79	18.23	22.06	23.30	21.98
300	4.41	8.48	11.87	19.71	22.60	23.28	21.36
315	4.32	9.10	11.45	18.40	19.66	20.49	17.85
330	3.87	8.13	10.02	14.19	13.16	13.87	11.74
345	2.56	6.90	8.46	9.63	6.76	7.57	9.82

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	12.026		0	3.922		0	4.809	
1	-.422	-2.479	1	-2.268	-.367	1	-.244	.401
2	-.023	.091	2	-.284	-.346	2	.010	-.002
3	-.236	-.141	3	.008	-.089	3	-.039	.005
4	-.168	.118	4	-.010	.014	4	.002	.007
5	.186	.168	5	-.099	.456	5	-.039	.027
6	-.009	.014	6	-.049	-.006	6	-.005	.002
7	.027	.018	7	-.073	-.006	7	-.017	-.015
8	.018	-.009	8	-.069	-.089	8	-.015	-.005
9	-.009	-.014	9	.000	-.004	9	-.012	.000
10	-.014	.000	10	-.004	-.018	10	.002	.000

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom}\right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom}\right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom}\right)$$

TABLE 81 - Continued

FLIGHT 60, PARTIAL-POWER DESCENT

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.696		.75	0	14.643		.95	0	18.870	
.25	1	.558	-.587	.75	1	-.482	-.429	.95	1	-2.781	-1.530
.25	2	-.531	-.631	.75	2	.313	-.813	.95	2	1.108	1.602
.25	3	-.063	.080	.75	3	-3.395	1.322	.95	3	-2.207	1.996
.25	4	.014	.128	.75	4	-.132	1.498	.95	4	.429	2.443
.25	5	-.147	-.038	.75	5	-1.305	.858	.95	5	.333	.746
.25	6	-.019	.166	.75	6	-.450	.773	.95	6	-.366	1.402
.25	7	.074	.066	.75	7	-.865	-.410	.95	7	.439	-.043
.25	8	.016	.023	.75	8	-.210	.291	.95	8	-.719	.299
.25	9	-.012	-.053	.75	9	-.187	-.263	.95	9	.589	.320
.25	10	.103	.021	.75	10	-.416	.105	.95	10	-.273	-.790
.40	0	6.637		.85	0	17.110					
.40	1	.743	.300	.85	1	-1.772	-.789				
.40	2	-.739	-1.568	.85	2	.829	-.106				
.40	3	-.029	.213	.85	3	-4.283	2.279				
.40	4	-.328	-.362	.85	4	.655	3.197				
.40	5	.077	.283	.85	5	-.920	.718				
.40	6	-.068	-.060	.85	6	-.907	2.216				
.40	7	.214	.103	.85	7	-.320	-.120				
.40	8	.063	-.078	.85	8	-.716	.339				
.40	9	.079	.098	.85	9	.001	.317				
.40	10	.052	.000	.85	10	-.245	-.262				
.55	0	9.174		.90	0	19.156					
.55	1	.367	.646	.90	1	-2.486	-1.384				
.55	2	-.629	-1.605	.90	2	1.082	.957				
.55	3	-1.122	.687	.90	3	-3.401	1.981				
.55	4	-.515	-.628	.90	4	.327	3.235				
.55	5	.056	.660	.90	5	-.114	.842				
.55	6	.122	-.375	.90	6	-.866	2.053				
.55	7	-.236	.243	.90	7	.230	.225				
.55	8	-.010	-.134	.90	8	-.680	.399				
.55	9	-.067	.034	.90	9	.421	.546				
.55	10	.020	.012	.90	10	-.047	-.551				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 81 - Concluded

FLIGHT 60, PARTIAL-POWER DESCENT

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	4109	2063	298	415	-1572	-1619		
15	-1363	-2376	-3643	-1656	1974	4052		
30	-3700	-2822	-2061	481	2027	2291		
45	4701	3490	1410	1025	-3983	-5490		
60	7985	5363	2441	520	-4599	-7301		
75	677	-429	-1012	214	-1194	-1749		
90	-2207	-4109	-5162	-3010	-1317	1545		
105	871	-1889	-4439	-4021	-2698	-565		
120	2159	1551	99	14	-3904	-6336		
135	4280	3168	1157	510	-3596	-6306		
150	2376	974	-1311	-1837	-2373	-1649		
165	-1945	-2351	-3164	-1245	1086	2440		
180	-657	-784	-868	1311	311	-356		
195	3664	4364	3688	3429	-182	-2953		
210	4907	4307	3300	3820	1358	-107		
225	-1363	157	533	2151	2766	5923		
240	-1546	-2846	-3643	-358	4896	8938		
255	-1831	-198	-36	1378	-1079	-1082		
270	4713	3135	805	176	-5057	-8316		
285	1886	1221	-796	-1493	-5981	-8743		
300	-1922	-3630	-5343	-3869	-2258	-2007		
315	-3210	-4199	-5532	-3840	-2575	-1211		
330	1612	198	-1609	-1522	-2514	-3062		
345	4781	3482	1998	1626	-3006	-5798		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-6726	-2637	7478	
15	2521	2670	5142	
30	-654	-2084	5414	
45	-6270	-6854	1382	
60	-5831	-9866	-2154	
75	-2070	-5812	-1338	
90	-1451	-586	5030	
105	-2395	716	8870	
120	-2672	1709	5430	
135	-11512	-6317	6950	
150	-9038	-7359	-2138	
165	-8028	-11233	-5834	
180	-15566	-14864	-570	
195	-16445	-10289	-2778	
210	-15631	-11249	-1242	
225	-14947	-9263	-3114	
240	-14947	-12584	454	
255	-13108	-6577	-506	
270	-15631	-6659	5510	
285	-10226	-4705	4870	
300	-2477	-195	-266	
315	-8517	-8433	4630	
330	-7214	-6414	-2394	
345	-6938	-7017	-1242	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	1691	274	
15	2210	1005	
30	2626	1335	
45	1613	259	
60	2203	402	
75	2617	1076	
90	1906	702	
105	1183	274	
120	959	-46	
135	1217	-223	
150	1657	421	
165	1779	501	
180	1267	55	
195	681	-170	
210	1260	-51	
225	1662	471	
240	1452	148	
255	606	-10	
270	740	-242	
285	1515	472	
300	2251	1534	
315	2579	1047	
330	1961	1017	
345	1584	242	

TABLE 82

FLIGHT 61, PARTIAL-POWER DESCENT

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	Δp, lb/sq in., at - r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
6	3.12	2.49	2.38	1.20	.28	.13	.000	.33	-.18	.05	.37	.24	.08	-.090	6
21	7.11	5.21	3.96	2.55	1.36	.57	.078	5.03	2.75	2.26	2.13	1.55	.62	.044	21
36	5.88	4.55	3.47	2.21	1.13	.50	.063	8.55	4.42	3.24	2.63	1.81	.63	.030	36
51	5.69	4.11	3.06	1.93	.94	.41	.040	7.08	3.54	2.52	2.09	1.45	.47	-.005	51
66	3.79	3.03	2.44	1.50	.60	.29	.031	4.96	2.37	1.80	1.55	1.05	.36	-.021	66
81	3.88	3.05	2.44	1.49	.64	.34	.061	4.14	2.03	1.52	1.40	1.01	.40	.000	81
96	4.25	3.32	2.59	1.60	.73	.34	.050	4.87	2.43	1.84	1.59	1.13	.41	.005	96
111	3.95	3.07	2.44	1.53	.65	.32	.040	4.83	2.36	1.82	1.54	1.09	.37	-.019	111
126	3.75	2.93	2.33	1.44	.59	.30	.038	4.19	2.02	1.55	1.37	.96	.33	-.024	126
141	3.77	2.85	2.32	1.42	.61	.30	.050	4.21	2.05	1.55	1.39	1.02	.37	.005	141
156	4.56	3.34	2.62	1.65	.79	.40	.084	5.06	2.53	1.93	1.66	1.23	.49	.030	156
171	5.27	3.82	2.88	1.84	.96	.47	.109	5.80	2.92	2.18	1.86	1.35	.57	.063	171
186	6.09	4.02	2.99	1.92	1.05	.51	.105	6.36	3.24	2.32	1.95	1.45	.57	.073	186
201	6.45	4.19	3.09	2.01	1.11	.52	.105	7.27	3.72	2.71	2.25	1.65	.68	.085	201
216	7.50	4.66	3.39	2.29	1.35	.65	.153	8.25	4.16	2.97	2.40	1.80	.75	.134	216
231	5.60	3.48	2.65	1.91	1.19	.56	.124	5.62	2.77	1.97	1.66	1.25	.49	.075	231
246	1.86	1.73	1.58	.83	.39	.23	.055	2.58	1.23	.97	.93	.70	.29	.005	246
261	4.58	3.16	2.46	1.48	.62	.29	.054	3.92	1.87	1.46	1.28	.93	.35	-.005	261
276	5.62	3.84	2.85	1.80	.94	.38	.055	5.97	3.01	2.21	1.82	1.29	.48	.024	276
291	5.46	3.79	2.86	1.81	.94	.41	.055	6.17	3.13	2.29	1.91	1.38	.50	.025	291
306	5.32	3.84	2.93	1.84	.96	.43	.067	6.26	3.17	2.36	1.96	1.39	.52	.033	306
321	5.38	3.88	2.97	1.88	.96	.42	.063	6.23	3.15	2.33	1.96	1.36	.49	.009	321
336	3.67	2.99	2.38	1.45	.65	.29	.025	4.90	2.36	1.77	1.54	.99	.30	-.052	336
351	.42	.87	1.06	.25	-.06	.02	-.029	1.93	.78	.59	.62	.28	.02	-.140	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
6	1.03	.35	.47	.19	.19	.21	.08	-.10	.08	.00	-.049	6
21	5.84	4.65	3.32	2.38	2.10	1.74	1.12	.55	.56	.29	.120	21
36	9.42	7.40	4.79	3.62	3.02	2.51	1.69	.83	.72	.35	.116	36
51	6.88	5.03	3.61	2.63	2.22	1.85	1.19	.53	.52	.24	.044	51
66	4.71	3.47	2.61	1.73	1.54	1.33	.86	.34	.40	.19	.029	66
81	4.34	3.13	2.40	1.65	1.43	1.28	.85	.37	.43	.22	.039	81
96	5.22	3.78	2.85	1.96	1.69	1.46	.97	.43	.47	.23	.048	96
111	5.17	3.74	2.78	1.91	1.65	1.42	.90	.36	.40	.18	.018	111
126	4.36	3.06	2.32	1.56	1.35	1.19	.77	.29	.35	.16	.016	126
141	4.71	3.36	2.49	1.71	1.50	1.31	.86	.38	.43	.23	.024	141
156	5.49	4.00	2.94	2.09	1.77	1.54	1.02	.49	.51	.28	.082	156
171	5.93	4.34	3.13	2.30	1.95	1.70	1.14	.59	.56	.32	.099	171
186	6.72	4.84	3.46	2.56	2.14	1.87	1.26	.65	.62	.32	.110	186
201	8.70	5.65	4.29	3.19	2.65	2.23	1.49	.79	.71	.40	.135	201
216	7.97	5.10	3.87	2.89	2.43	2.11	1.44	.79	.72	.41	.161	216
231	2.89	2.03	1.60	1.13	1.04	1.01	.67	.36	.41	.23	.072	231
246	3.14	1.98	1.50	1.08	.96	.88	.59	.16	.33	.15	.046	246
261	5.33	3.86	2.74	1.93	1.67	1.45	.90	.37	.43	.21	.059	261
276	6.29	4.60	3.29	2.38	2.01	1.72	1.09	.52	.53	.27	.088	276
291	6.73	4.89	3.53	2.58	2.19	1.83	1.20	.60	.58	.30	.110	291
306	7.23	5.25	3.79	2.78	2.37	2.00	1.28	.65	.62	.32	.116	306
321	6.92	5.11	3.63	2.72	2.31	1.92	1.27	.59	.57	.27	.080	321
336	4.98	3.69	2.71	1.90	1.70	1.42	.90	.34	.40	.16	.014	336
351	2.77	1.81	1.45	.90	.82	.73	.42	.06	.17	.04	-.067	351

TABLE 82 - Continued

FLIGHT 61, PARTIAL-POWER DESCENT

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75							r/R = 0.55							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	2.96	.89	.78	.50	.21	.01	-.132	2.19	.86	.61	.62	.56	.13	.116	6
21	1.69	.33	.45	.36	.18	.08	-.084	1.76	.68	.54	.52	.49	.10	.118	21
36	2.96	2.71	1.88	1.69	1.26	.48	-.032	1.49	.55	.44	.46	.43	.09	.090	36
51	4.70	3.19	2.40	1.81	1.13	.42	.032	2.63	1.24	.86	.73	.55	.28	.032	51
66	4.65	2.26	1.79	1.35	.78	.31	.021	2.80	1.30	.92	.80	.62	.33	.049	66
81	3.75	1.71	1.44	1.15	.70	.31	.026	3.08	1.48	1.06	.92	.72	.38	.068	81
96	3.43	1.90	1.56	1.27	.78	.34	.026	3.36	1.55	1.11	.93	.72	.35	.052	96
111	3.86	2.16	1.72	1.35	.80	.29	.013	2.85	1.32	.94	.81	.62	.31	.042	111
126	3.64	1.82	1.49	1.15	.67	.24	.007	2.78	1.29	.93	.80	.62	.33	.054	126
141	3.19	1.66	1.40	1.11	.67	.30	.032	2.92	1.37	.99	.85	.66	.35	.063	141
156	3.53	2.02	1.62	1.30	.82	.37	.052	3.51	1.68	1.19	1.01	.78	.40	.080	156
171	3.81	2.18	1.71	1.37	.90	.41	.049	4.09	1.93	1.38	1.17	.91	.45	.083	171
186	4.27	2.55	1.95	1.59	1.06	.45	.066	2.39	1.01	.86	.78	.62	.35	.048	186
201	4.99	2.92	2.17	1.72	1.14	.47	.075	.77	.32	.31	.33	.27	.17	.002	201
216	4.76	2.30	1.83	1.39	.90	.40	.002	1.21	.43	.39	.42	.37	.12	.087	216
231	3.03	1.06	.92	.71	.50	.22	-.072	2.11	.84	.64	.65	.57	.16	.133	231
246	2.84	1.60	1.23	.93	.63	.22	-.091	2.59	1.07	.79	.76	.65	.17	.125	246
261	3.30	1.87	1.41	1.03	.67	.21	-.098	2.53	1.04	.77	.74	.63	.16	.114	261
276	3.50	1.90	1.43	1.06	.69	.24	-.089	2.44	1.00	.74	.72	.62	.17	.119	276
291	3.73	2.11	1.59	1.22	.83	.31	-.049	2.94	1.27	.93	.88	.74	.23	.147	291
306	4.37	2.61	1.92	1.50	1.03	.40	-.036	3.50	1.54	1.09	1.00	.84	.28	.150	306
321	5.11	3.02	2.19	1.68	1.14	.41	-.051	3.83	1.68	1.19	1.07	.88	.28	.146	321
336	5.29	2.73	2.02	1.47	.95	.28	-.087	3.54	1.51	1.07	.98	.81	.23	.134	336
351	4.31	1.76	1.40	.95	.54	.12	-.132	2.83	1.14	.83	.78	.66	.16	.119	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40					r/R = 0.25					ψ_{nom}, deg
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	.75	.53	.47	.14	-.031	.72	.31	.18	.08	.004	6
21	.62	.43	.42	.13	-.032	.49	.22	.13	.07	.008	21
36	.72	.46	.41	.14	-.018	.55	.25	.15	.08	.017	36
51	.51	.39	.23	.22	.057	.61	.29	.17	.09	.038	51
66	.84	.47	.28	.26	.082	.55	.24	.14	.07	.031	66
81	1.08	.60	.37	.30	.091	.46	.19	.11	.07	.030	81
96	1.34	.73	.44	.32	.099	.39	.18	.12	.09	.038	96
111	1.46	.79	.47	.33	.101	.29	.14	.11	.09	.041	111
126	1.46	.80	.48	.34	.102	.33	.16	.11	.08	.045	126
141	1.27	.72	.44	.34	.092	.37	.17	.12	.09	.046	141
156	1.23	.71	.44	.36	.100	.32	.14	.10	.07	.037	156
171	.77	.49	.33	.31	.088	.24	.11	.08	.07	.039	171
186	.52	.34	.22	.24	.069	.31	.14	.10	.08	.039	186
201	.43	.29	.18	.22	.071	.41	.19	.12	.08	.043	201
216	.46	.31	.30	.13	-.019	.41	.17	.11	.07	.017	216
231	.58	.39	.40	.12	-.042	.42	.17	.11	.07	.013	231
246	.74	.50	.44	.14	-.046	.54	.24	.15	.09	.017	246
261	.76	.53	.46	.14	-.040	.63	.29	.19	.10	.017	261
276	.86	.57	.49	.16	-.032	.77	.36	.22	.12	.024	276
291	.94	.63	.55	.20	-.025	.82	.38	.23	.12	.021	291
306	1.10	.73	.60	.22	-.022	.83	.38	.25	.13	.031	306
321	1.19	.79	.63	.23	-.027	.82	.40	.24	.14	.043	321
336	1.20	.81	.62	.22	-.030	.79	.35	.22	.10	.029	336
351	.96	.69	.55	.17	-.034	.89	.40	.23	.11	.016	351

TABLE 82 - Continued

FLIGHT 61, PARTIAL-POWER DESCENT

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	2.80	4.51	7.00	5.03	2.31	1.28	11.34
21	2.07	3.86	5.87	3.24	20.03	20.71	27.33
36	2.36	4.15	4.96	16.35	29.21	28.10	23.43
51	2.78	3.79	8.75	18.47	21.17	22.24	20.73
66	2.32	4.99	9.70	14.23	15.16	15.79	14.91
81	1.97	6.21	11.04	11.92	14.59	14.37	15.52
96	2.02	7.20	11.25	12.62	16.95	16.52	16.69
111	1.75	7.68	9.62	13.34	16.05	15.92	15.45
126	1.85	7.81	9.66	11.51	13.52	13.78	14.59
141	2.03	7.19	10.27	11.26	15.08	14.41	14.61
156	1.68	7.20	12.21	13.36	17.95	17.80	17.68
171	1.42	5.39	14.09	14.41	19.66	20.27	20.37
186	1.68	3.87	8.97	16.58	21.78	21.78	21.93
201	2.05	3.37	3.50	18.37	26.64	25.14	22.90
216	1.78	3.03	4.48	15.22	25.15	27.97	26.52
231	1.79	3.61	7.24	8.00	11.14	18.83	21.22
246	2.39	4.26	8.48	9.56	10.16	9.46	9.18
261	2.87	4.48	8.16	10.60	16.44	13.27	15.78
276	3.44	4.91	8.06	11.11	19.84	19.76	19.78
291	3.60	5.64	9.98	12.93	21.52	20.66	19.83
306	3.74	6.42	11.65	15.91	23.10	21.06	20.14
321	3.83	6.78	12.39	17.88	22.10	20.61	20.23
336	3.32	6.72	11.19	15.73	15.85	15.06	14.77
351	3.66	5.53	8.78	10.10	7.72	4.25	2.90

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	13.017		0	3.252		0	5.160	
1	.426	-1.685	1	-2.929	-.343	1	-.123	.433
2	-.073	.102	2	-.261	-.432	2	.036	-.080
3	.073	-.289	3	.078	.049	3	-.108	-.015
4	-.184	-.137	4	.114	.253	4	-.032	-.007
5	.015	.312	5	-.469	.237	5	-.063	.014
6	.003	.009	6	.000	-.041	6	.011	-.004
7	-.073	-.012	7	-.082	-.098	7	.000	-.020
8	.006	.023	8	.020	-.078	8	.015	-.015
9	.000	.006	9	-.020	.012	9	-.005	.005
10	.000	-.015	10	.024	.012	10	.014	.018

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o \right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o \right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o \right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o \right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o \right) + F_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 82 - Continued

FLIGHT 61, PARTIAL-POWER DESCENT

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.467		.75	0	12.821		.95	0	17.825	
.25	1	.695	-.621	.75	1	-.871	.226	.95	1	-1.504	-.513
.25	2	-.200	-.295	.75	2	.026	-.583	.95	2	1.215	2.045
.25	3	-.146	.014	.75	3	-3.923	-.743	.95	3	-3.137	1.445
.25	4	-.043	-.031	.75	4	-1.563	.503	.95	4	-.635	4.266
.25	5	-.031	-.212	.75	5	-2.190	-1.006	.95	5	-.232	1.746
.25	6	.014	-.015	.75	6	-.965	-.331	.95	6	-2.232	1.325
.25	7	.047	-.170	.75	7	.515	-1.114	.95	7	.272	2.300
.25	8	.080	-.036	.75	8	-.202	-.380	.95	8	.490	.202
.25	9	.029	-.046	.75	9	.488	-.284	.95	9	-.510	.962
.25	10	-.058	-.043	.75	10	.409	-.417	.95	10	.216	1.054
.40	0	5.358		.85	0	17.630					
.40	1	.102	.755	.85	1	-1.284	-.612				
.40	2	-.833	-1.656	.85	2	.427	.793				
.40	3	.177	-.223	.85	3	-5.149	1.678				
.40	4	-.175	-.204	.85	4	-1.028	4.166				
.40	5	-.018	.178	.85	5	-2.269	.439				
.40	6	-.112	.020	.85	6	-3.242	1.469				
.40	7	-.025	-.030	.85	7	-.044	-.254				
.40	8	-.125	.050	.85	8	-1.333	-.435				
.40	9	.040	-.109	.85	9	-.527	.169				
.40	10	.013	.035	.85	10	-.359	-.542				
.55	0	9.053		.90	0	17.459					
.55	1	-.022	.606	.90	1	-2.283	-.426				
.55	2	-1.029	-2.368	.90	2	.544	2.003				
.55	3	-1.011	.127	.90	3	-4.957	1.243				
.55	4	-.335	-1.727	.90	4	-1.997	4.553				
.55	5	-.008	1.091	.90	5	-1.490	.936				
.55	6	.276	-.601	.90	6	-3.504	.529				
.55	7	.024	.325	.90	7	-.416	1.101				
.55	8	.187	-.166	.90	8	-.532	-.182				
.55	9	.147	.408	.90	9	-.727	.223				
.55	10	-.082	.097	.90	10	-.344	.037				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 82 - Concluded

FLIGHT 61, PARTIAL-POWER DESCENT

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	5347	4612	4213	1799	-1490	-5083	-4901	-3526
21	2019	1411	994	-929	-1218	1414	3133	-2168
36	-2359	-4513	-4439	-2808	6086	6270	1260	-2205
51	-5471	-2013	2387	3068	-21	-2068	-2605	-3635
66	9166	6732	4674	1332	-3312	-6595	-7327	-4329
81	7103	6872	6138	2362	-3022	-7730	-7516	-4906
96	-1493	-1477	-461	-404	2364	2330	-2354	-5139
111	-1812	-3919	-4936	-4945	-2538	-516	8729	5154
126	-854	-916	-1835	-3925	-2740	-3173	-2306	-1504
141	4299	2417	2215	445	-3690	-10088	-15402	-8818
156	3797	4686	4285	502	-3998	-7561	-7981	-5526
171	3159	809	-723	-2475	-646	877	2134	-2723
186	-4856	-2830	-199	798	2074	2499	5554	1299
201	742	809	1356	1857	2364	-715	-4545	-5460
216	4253	5684	6843	4967	-707	-4416	-10565	-9424
231	4846	4719	4529	3249	2302	-506	-596	-2446
246	-1983	-256	1076	1427	3702	6210	8938	8643
261	-3134	-2929	-1266	-166	3693	5225	4038	-102
276	1095	809	922	-929	-4614	-8615	-7348	-5095
291	3227	2558	1392	-2188	-6885	-11292	-15486	-9746
306	628	-1246	-2034	-3314	-4280	-8327	-9681	-5752
321	-4571	-3704	-3074	-3476	-566	-1232	-988	-2438
336	-375	-1518	-1808	-2093	-610	350	2071	-956
351	2623	2970	4050	2591	-822	-4357	-4608	-1460

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-834	-700	4724	13249
21	-2723	407	13860	18401
36	9097	7082	5412	13524
51	3268	-3810	5140	14988
66	-6695	-7538	788	12206
81	-3862	-8824	-2092	11364
96	2422	-1661	1988	11145
111	3806	4868	10596	17120
126	2096	5340	12516	18218
141	2015	4135	7604	13935
156	-7884	-5470	7700	16324
171	-4628	-6040	-2268	10358
186	-4286	-9149	-3740	11099
201	-12149	-13643	2900	16982
216	-12702	-7473	1236	11657
231	-10179	-7228	2276	11685
246	-9349	-6252	1524	12609
261	-7493	-6740	4884	15619
276	-6842	-700	4484	11922
291	-8779	-3337	7236	16946
306	-6858	-3109	5220	15619
321	2405	-1416	-220	10211
336	-5490	-7570	5140	15381
351	-2886	-5519	788	11977

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	-407	-555	68
21	220	192	88
36	1005	1270	191
51	377	437	53
66	-948	-685	-12
81	618	75	63
96	857	765	157
111	-109	196	45
126	-1049	-383	-53
141	-1096	-882	-59
156	-498	-492	-5
171	12	210	68
186	-41	-1	-11
201	-1502	-986	-120
216	-1433	-1071	-99
231	-543	-466	54
246	171	5	114
261	-239	4	59
276	-1136	-354	-32
291	-858	-584	-32
306	-78	157	48
321	779	1006	135
336	718	235	176
351	65	258	94

TABLE 83

FLIGHT 62, PARTIAL-POWER DESCENT

(SEE FIG. 17, t = 6.9 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	6.07	4.00	2.85	1.79	1.14	.46	.084	5.32	2.68	2.00	1.69	1.25	.45	.042	6
21	2.64	2.04	1.77	.93	.41	.23	.038	4.17	1.97	1.40	1.15	.81	.26	-.019	21
36	4.61	3.26	2.59	1.62	.84	.38	.063	4.17	2.03	1.60	1.41	1.04	.39	.030	36
51	6.61	4.29	3.18	2.03	1.08	.49	.092	5.62	2.86	2.13	1.85	1.36	.53	.057	51
66	7.46	4.81	3.48	2.26	1.28	.56	.107	7.62	3.94	2.84	2.33	1.71	.65	.073	66
81	7.00	4.64	3.42	2.22	1.24	.55	.101	7.93	4.09	2.93	2.43	1.73	.67	.063	81
96	6.68	4.47	3.34	2.16	1.19	.55	.105	7.64	3.94	2.81	2.34	1.65	.64	.057	96
111	6.54	4.46	3.36	2.16	1.18	.55	.101	7.60	3.96	2.86	2.36	1.67	.64	.061	111
126	6.20	4.30	3.27	2.11	1.17	.56	.107	7.54	3.92	2.83	2.36	1.67	.64	.071	126
141	5.83	4.24	3.27	2.10	1.13	.55	.103	7.19	3.76	2.76	2.32	1.66	.64	.058	141
156	5.09	3.97	3.11	1.97	1.04	.52	.092	6.80	3.56	2.62	2.23	1.57	.57	.030	156
171	3.69	3.25	2.77	1.71	.77	.43	.076	5.85	3.04	2.31	1.98	1.38	.52	.009	171
186	4.82	4.02	3.21	1.97	.86	.47	.090	4.94	2.65	2.12	1.89	1.32	.49	-.005	186
201	5.93	4.78	3.56	2.26	1.05	.53	.094	6.30	3.39	2.61	2.23	1.59	.60	.030	201
216	4.59	3.49	2.77	1.74	.84	.44	.090	5.15	2.65	2.01	1.77	1.25	.46	.024	216
231	4.92	3.57	2.76	1.75	.87	.43	.084	4.91	2.51	1.95	1.71	1.23	.48	.021	231
246	6.21	4.23	3.10	2.03	1.07	.50	.103	5.96	2.99	2.24	1.94	1.44	.56	.049	246
261	5.83	3.99	2.98	1.90	1.03	.46	.078	6.60	3.26	2.41	1.99	1.43	.55	.040	261
276	6.24	4.21	3.11	2.01	1.07	.48	.080	6.82	3.52	2.57	2.14	1.51	.52	.030	276
291	5.07	3.57	2.77	1.75	.92	.40	.061	6.31	3.17	2.32	1.92	1.37	.48	.014	291
306	4.09	2.99	2.39	1.50	.72	.34	.050	5.44	2.71	2.02	1.70	1.17	.33	-.021	306
321	4.54	3.20	2.36	1.52	.74	.34	.054	4.94	2.46	1.85	1.56	1.11	.36	-.012	321
336	4.43	3.10	2.26	1.48	.75	.33	.054	4.60	2.24	1.70	1.45	1.06	.34	-.012	336
351	5.42	3.22	2.44	1.61	.82	.34	.057	4.54	2.15	1.64	1.39	1.01	.28	-.007	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.85										
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	5.17	3.63	2.67	1.91	1.63	1.43	.93	.44	.44	.23	.057	6
21	4.15	2.98	2.23	1.57	1.37	1.23	.79	.34	.38	.18	.050	21
36	4.93	3.48	2.80	1.78	1.51	1.32	.83	.38	.43	.21	.067	36
51	6.82	4.98	3.50	2.58	2.23	1.89	1.25	.63	.62	.31	.097	51
66	8.55	5.75	4.32	3.21	2.72	2.29	1.56	.81	.73	.39	.150	66
81	9.00	5.77	4.37	3.26	2.77	2.30	1.58	.82	.73	.38	.146	81
96	8.97	5.75	4.38	3.29	2.76	2.31	1.57	.79	.71	.37	.133	96
111	8.56	5.77	4.31	3.22	2.74	2.29	1.55	.79	.72	.36	.090	111
126	8.30	5.71	4.22	3.14	2.66	2.22	1.51	.76	.68	.35	.116	126
141	7.75	5.66	4.06	2.99	2.57	2.15	1.47	.74	.67	.35	.072	141
156	6.32	4.62	3.48	2.52	2.21	1.87	1.28	.62	.60	.31	.082	156
171	5.54	4.10	3.09	2.17	1.91	1.62	1.11	.51	.52	.26	.057	171
186	5.46	4.05	3.05	2.15	1.87	1.58	1.10	.51	.52	.26	.063	186
201	6.13	4.60	3.49	2.52	2.16	1.85	1.26	.60	.60	.31	.077	201
216	5.22	3.83	2.83	2.00	1.73	1.51	1.02	.47	.49	.25	.061	216
231	5.17	3.78	2.79	2.00	1.73	1.50	.99	.46	.50	.25	.059	231
246	6.44	4.75	3.42	2.51	2.14	1.80	1.21	.59	.57	.31	.082	246
261	6.99	5.10	3.67	2.71	2.32	1.95	1.27	.63	.60	.32	.105	261
276	7.28	5.33	3.84	2.84	2.41	2.03	1.35	.65	.62	.33	.103	276
291	6.38	4.67	3.39	2.51	2.14	1.79	1.18	.54	.54	.27	.075	291
306	5.51	4.00	2.96	2.13	1.85	1.58	1.03	.45	.47	.22	.063	306
321	5.20	3.75	2.74	1.95	1.69	1.43	.94	.39	.42	.21	.050	321
336	4.55	3.20	2.37	1.68	1.45	1.28	.84	.37	.42	.19	.039	336
351	4.80	3.40	2.44	1.74	1.48	1.31	.85	.37	.40	.21	.037	351

TABLE 83 - Continued

FLIGHT 62, PARTIAL-POWER DESCENT

(SEE FIG. 17, t = 6.9 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	3.19	1.66	1.25	.92	.62	.20	-.089	1.76	.68	.53	.52	.49	.10	.113	6
21	2.96	1.47	1.15	.84	.55	.16	-.108	1.18	.37	.33	.36	.36	.06	.096	21
36	2.30	.97	.82	.58	.38	.12	-.111	.79	.17	.19	.29	.28	.01	.088	36
51	2.73	1.66	1.27	1.01	.70	.27	-.060	1.02	.27	.25	.31	.32	.03	.102	51
66	3.87	2.71	1.97	1.56	1.10	.42	-.027	1.37	.48	.39	.44	.43	.08	.112	66
81	4.67	2.95	2.16	1.67	1.18	.45	-.034	1.75	.66	.53	.56	.52	.13	.125	81
96	5.28	3.00	2.20	1.71	1.19	.45	-.025	1.14	.36	.36	.41	.41	.09	.114	96
111	5.59	3.03	2.27	1.78	1.23	.48	.013	.67	.18	.24	.29	.30	.09	.077	111
126	5.73	3.06	2.33	1.85	1.24	.52	.069	.48	.19	.23	.26	.22	.17	.013	126
141	5.57	2.87	2.22	1.75	1.15	.47	.056	.37	.10	.18	.22	.19	.15	.014	141
156	4.96	2.31	1.87	1.47	.93	.38	.047	.55	.20	.23	.26	.21	.16	.018	156
171	3.99	1.79	1.54	1.22	.75	.33	.035	.86	.36	.34	.34	.26	.18	.024	171
186	3.25	1.53	1.39	1.14	.72	.33	.037	1.28	.57	.47	.43	.34	.22	.030	186
201	3.07	1.63	1.50	1.14	.72	.33	.039	1.74	.80	.61	.53	.44	.26	.039	201
216	3.07	1.78	1.45	1.19	.74	.33	.035	2.15	1.01	.74	.65	.51	.29	.044	216
231	3.48	2.03	1.64	1.31	.81	.35	.030	2.51	1.17	.86	.75	.59	.30	.059	231
246	3.88	2.32	1.80	1.43	.91	.40	.023	2.82	1.29	.95	.84	.68	.32	.089	246
261	4.35	2.57	1.93	1.47	.98	.38	-.044	3.17	1.40	1.01	.94	.78	.25	.150	261
276	4.86	2.73	2.04	1.56	1.04	.38	-.046	3.29	1.44	1.03	.95	.79	.27	.140	276
291	4.84	2.54	1.90	1.43	.94	.33	-.062	3.22	1.39	1.00	.92	.78	.24	.144	291
306	4.38	2.20	1.66	1.24	.82	.28	-.075	3.05	1.30	.94	.88	.74	.22	.141	306
321	3.70	1.75	1.42	1.04	.65	.23	-.079	2.85	1.23	.90	.82	.70	.23	.122	321
336	3.09	1.57	1.28	.93	.61	.20	-.091	2.72	1.11	.82	.77	.66	.19	.135	336
351	3.00	1.57	1.24	.92	.61	.19	-.091	2.32	.94	.69	.68	.59	.16	.125	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	.55	.38	.38	.10	-.053	.57	.24	.15	.08	.011	6
21	.43	.32	.33	.08	-.060	.48	.20	.12	.07	.010	21
36	.32	.23	.27	.05	-.066	.43	.17	.10	.06	.010	36
51	.26	.18	.26	.05	-.062	.37	.14	.08	.05	.010	51
66	.22	.17	.25	.05	-.064	.34	.13	.07	.04	.007	66
81	.17	.14	.23	.04	-.068	.32	.11	.07	.04	.002	81
96	.14	.09	.20	.02	-.073	.28	.09	.05	.03	.002	96
111	.13	.08	.14	.06	-.034	.23	.08	.04	.04	.010	111
126	.13	.12	.05	.15	.045	.23	.09	.06	.06	.037	126
141	.20	.15	.09	.16	.046	.27	.11	.08	.06	.037	141
156	.33	.22	.13	.18	.051	.34	.15	.10	.08	.045	156
171	.48	.30	.18	.21	.059	.38	.17	.11	.09	.046	171
186	.64	.37	.23	.23	.063	.44	.20	.13	.09	.046	186
201	.83	.46	.29	.26	.067	.49	.23	.16	.11	.053	201
216	.97	.54	.33	.27	.068	.56	.27	.19	.12	.053	216
231	1.07	.60	.38	.28	.062	.59	.28	.19	.11	.046	231
246	1.10	.63	.44	.25	.035	.61	.30	.20	.12	.042	246
261	1.08	.64	.52	.19	-.017	.64	.31	.20	.11	.025	261
276	1.03	.63	.54	.18	-.039	.75	.36	.23	.12	.022	276
291	1.00	.64	.54	.18	-.039	.91	.42	.28	.15	.034	291
306	.99	.66	.54	.18	-.041	.78	.35	.21	.12	.038	306
321	.91	.62	.49	.21	-.005	.77	.34	.19	.12	.031	321
336	.81	.56	.49	.15	-.042	.82	.36	.20	.08	.017	336
351	.69	.47	.44	.13	-.046	.64	.28	.16	.07	.006	351

TABLE 83 - Continued

FLIGHT 62, PARTIAL-POWER DESCENT

(SEE FIG. 17, t = 6.9 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	2.35	3.30	5.87	9.77	16.34	18.24	21.57
21	1.97	2.67	3.88	8.63	13.66	12.48	10.44
36	1.69	1.94	2.57	6.04	15.70	14.67	17.52
51	1.44	1.74	3.28	10.29	21.96	19.84	22.91
66	1.30	1.61	4.76	16.15	27.08	25.91	25.96
81	1.21	1.30	6.18	17.79	27.61	26.68	25.08
96	.97	.95	4.34	18.48	27.42	25.60	24.32
111	.89	1.07	3.05	19.33	26.83	25.74	24.14
126	1.22	1.64	2.82	19.99	26.10	25.66	23.57
141	1.40	1.97	2.33	18.80	24.99	24.98	22.98
156	1.77	2.64	2.79	15.66	21.44	23.37	21.31
171	1.98	3.36	3.76	12.71	18.68	20.41	17.19
186	2.22	4.05	5.07	11.46	18.50	18.50	20.43
201	2.59	4.91	6.56	11.62	21.18	23.03	23.94
216	2.89	5.50	7.85	11.84	17.32	18.11	18.56
231	2.92	5.92	8.93	13.12	17.21	17.65	18.95
246	3.05	6.03	10.01	14.73	20.95	20.88	22.56
261	3.04	5.78	10.74	15.53	22.48	21.83	21.25
276	3.43	5.55	11.02	16.50	23.46	22.76	22.31
291	4.20	5.54	10.63	15.33	20.58	20.64	18.96
306	3.44	5.59	10.07	13.30	17.86	17.23	15.73
321	3.31	5.46	9.54	10.87	16.44	16.16	16.40
336	3.16	4.78	8.85	9.59	14.63	15.09	16.03
351	2.55	4.07	7.64	9.37	14.89	14.33	17.54

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.238		0	3.199		0	6.117	
1	.479	-.426	1	-2.746	.049	1	-.003	.182
2	-.058	.044	2	.432	.024	2	-.022	-.045
3	.023	-.020	3	.069	.175	3	-.005	-.016
4	.053	-.009	4	.029	.078	4	-.004	-.009
5	.026	-.006	5	.057	-.033	5	.000	-.015
6	.000	.003	6	.078	-.008	6	-.003	-.001
7	.018	.000	7	-.033	.024	7	-.001	-.007
8	.009	-.006	8	-.049	.000	8	-.004	.014
9	.000	.006	9	.082	-.024	9	.003	.000
10	-.018	.000	10	.020	-.041	10	-.005	.000

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 83 - Continued

FLIGHT 62, PARTIAL-POWER DESCENT

(SEE FIG. 17, t = 6.9 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.292		.75	0	13.620		.95	0	20.402	
.25	1	.097	-1.238	.75	1	-2.399	1.573	.95	1	-1.790	2.202
.25	2	.018	-.109	.75	2	-3.873	-1.359	.95	2	-2.452	.901
.25	3	-.144	.022	.75	3	.663	-.190	.95	3	-.075	-.538
.25	4	-.012	.060	.75	4	.387	-.393	.95	4	.503	-1.015
.25	5	.109	-.034	.75	5	.856	-.548	.95	5	.128	-2.009
.25	6	-.028	-.039	.75	6	.607	.259	.95	6	.814	.035
.25	7	-.074	.019	.75	7	.139	.272	.95	7	.602	-1.074
.25	8	-.035	.068	.75	8	.039	.322	.95	8	.831	.497
.25	9	.086	.043	.75	9	-.065	.094	.95	9	1.007	-.912
.25	10	.053	-.015	.75	10	-.172	.052	.95	10	.481	-.248
.40	0	3.641		.85	0	20.553					
.40	1	-.348	-2.461	.85	1	-2.037	3.202				
.40	2	.166	.076	.85	2	-4.391	.050				
.40	3	-.072	-.191	.85	3	-.381	-.004				
.40	4	-.145	-.051	.85	4	.628	-.616				
.40	5	.027	.005	.85	5	.229	-1.329				
.40	6	.071	.032	.85	6	.571	.517				
.40	7	.013	.038	.85	7	.451	-.346				
.40	8	-.023	.005	.85	8	.236	.412				
.40	9	.025	-.007	.85	9	.370	-.210				
.40	10	-.024	.012	.85	10	-.192	-.097				
.55	0	6.355		.90	0	20.408					
.55	1	.460	-3.308	.90	1	-2.744	2.764				
.55	2	-1.234	.172	.90	2	-3.516	-.311				
.55	3	-.299	-.818	.90	3	-.313	-.033				
.55	4	.301	-.527	.90	4	.714	-.788				
.55	5	.270	-.160	.90	5	.693	-1.326				
.55	6	.098	.163	.90	6	.568	.546				
.55	7	-.084	.095	.90	7	.672	-.260				
.55	8	-.058	-.081	.90	8	.059	.593				
.55	9	.100	-.041	.90	9	.836	-.368				
.55	10	.031	.075	.90	10	.041	-.055				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 83 - Concluded

FLIGHT 62, PARTIAL-POWER DESCENT

(SEE FIG. 17, t = 6.9 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	977	-215	154	-427	-147	-747	-920	-2467
21	1011	-116	154	-275	989	-150	-1041	-1686
36	1057	363	1157	784	505	-458	-1940	-3752
51	1821	1122	1483	1213	1640	417	-1485	-3103
66	1433	1411	2061	2301	3417	975	-2809	-4497
81	1251	2310	4439	4600	2793	-11	-3400	-4329
96	4751	3671	4402	4180	3162	-210	-4194	-4409
111	2699	2962	4547	4295	3426	328	-4681	-5314
126	1536	957	2631	3389	3417	1721	-3148	-4584
141	1057	1081	1690	1547	2229	1054	-1595	-3146
156	1103	1081	1700	1376	2177	1024	-3222	-4796
171	1513	1155	1944	1719	1244	169	-2735	-3132
186	1581	1394	1727	908	1244	746	-680	-2562
201	761	462	1031	574	1411	1363	-282	-3511
216	-733	-17	1139	1128	663	-279	737	-752
231	567	1287	1112	-189	-472	-2020	-2102	-3059
246	806	1287	1736	422	-1537	-3851	-5214	-4752
261	761	611	696	-132	-1238	-4170	-5941	-4541
276	-528	107	560	-971	-1889	-3593	-3928	-4110
291	464	-693	-280	-895	-1097	-2607	-3431	-3774
306	99	173	497	-332	-1123	-3314	-3028	-3124
321	966	1130	1229	-218	-1326	-2777	-3049	-3387
336	1638	842	750	-65	-639	-2448	-1229	-1840
351	111	239	488	-695	-1088	-1025	-1663	-2146

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	467	-423	7117	15518
21	4732	49	3341	13679
36	1981	-1872	4509	14549
51	694	-2930	4109	14466
66	3592	-3028	1469	13661
81	-38	-5144	3101	14933
96	-2399	-5551	3565	15061
111	1981	-4330	1325	13359
126	776	-2621	3645	14576
141	-2789	-2654	6205	16186
156	-1715	-2768	3037	13734
171	-5020	-4803	2397	13515
186	-8748	-6952	2781	14732
201	-7885	-5242	781	12746
216	-10897	-6349	3245	14594
231	-12183	-6170	4285	15006
246	-7722	-4998	2733	13871
261	-8194	-3549	4573	14658
276	-7771	-4379	5597	16113
291	-3489	-3272	2093	12929
306	-4287	-4737	2653	14146
321	-5752	-4835	4429	15043
336	-738	-2035	3197	13332
351	1020	-521	5245	14475

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	25	-18	63
21	73	101	67
36	-127	-245	40
51	-14	-142	50
66	425	249	89
81	535	271	113
96	387	131	107
111	376	177	87
126	0	-22	64
141	-301	-212	34
156	-426	-238	11
171	-526	-435	-1
186	-593	-448	-7
201	-449	-98	4
216	-575	-306	2
231	-779	-450	-17
246	-447	-199	10
261	-155	104	48
276	122	237	76
291	52	354	65
306	-168	26	47
321	-141	-66	37
336	15	52	45
351	87	48	57

TABLE 84

FLIGHT 62, PARTIAL-POWER DESCENT

(SEE FIG. 17, t = 18.9 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	4.42	3.28	2.61	1.65	.82	.41	.065	6.19	3.13	2.30	1.92	1.35	.50	.019	6
21	4.28	3.16	2.55	1.56	.72	.36	.055	4.88	2.48	1.83	1.63	1.14	.41	-.007	21
36	4.42	3.30	2.64	1.61	.73	.36	.050	5.40	2.75	2.00	1.75	1.18	.42	-.012	36
51	2.87	2.36	2.00	1.12	.49	.27	.036	4.10	2.05	1.51	1.39	.95	.33	-.024	51
66	4.10	2.82	2.28	1.29	.60	.32	.076	2.45	1.21	.94	.96	.72	.29	-.005	66
81	4.10	2.85	2.20	1.36	.67	.34	.075	3.94	1.91	1.46	1.29	.92	.33	.005	81
96	5.85	3.74	2.68	1.76	.93	.44	.109	4.90	2.42	1.79	1.59	1.17	.46	.040	96
111	7.29	4.59	3.28	2.16	1.20	.56	.118	6.82	3.45	2.55	2.10	1.55	.59	.075	111
126	8.83	5.70	3.79	2.60	1.54	.67	.147	7.46	3.81	2.86	2.45	1.77	.71	.091	126
141	6.42	4.78	3.44	2.26	1.22	.59	.107	7.19	3.88	2.75	2.29	1.66	.61	.054	141
156	4.78	4.01	3.20	2.00	.95	.47	.069	5.37	2.92	2.18	1.89	1.33	.49	.005	156
171	3.17	2.62	2.26	1.30	1.31	.33	.060	4.14	2.16	1.58	1.39	.95	.31	-.040	171
186	2.33	2.07	1.88	1.05	.43	.28	.067	3.11	1.45	1.15	1.07	.77	.30	-.016	186
201	3.95	2.93	2.36	1.45	.72	.37	.072	4.71	2.31	1.76	1.53	1.11	.44	.024	201
216	4.76	3.31	2.59	1.60	.80	.40	.076	5.30	2.65	1.93	1.64	1.19	.46	.025	216
231	3.95	2.93	2.35	1.45	.70	.36	.061	5.03	2.49	1.82	1.56	1.13	.40	.009	231
246	3.34	2.58	2.12	1.28	.54	.29	.048	4.14	2.05	1.74	1.35	.98	.34	-.014	246
261	3.97	3.03	2.38	1.45	.64	.33	.054	4.35	2.16	1.64	1.42	1.01	.37	-.021	261
276	4.25	3.14	2.38	1.51	.69	.34	.055	4.66	2.31	1.73	1.52	1.08	.38	-.012	276
291	4.80	3.39	2.47	1.65	.82	.38	.067	4.80	2.38	1.77	1.54	1.11	.42	.007	291
306	7.29	4.71	3.28	2.22	1.25	.55	.101	4.98	2.55	1.97	1.67	1.25	.49	.033	306
321	6.32	4.34	3.13	2.06	1.04	.52	.080	6.16	3.13	2.35	1.96	1.39	.51	.014	321
336	4.42	3.28	2.59	1.59	.76	.39	.067	5.12	2.57	1.89	1.65	1.15	.44	.016	336
351	5.32	3.69	2.82	1.78	.88	.41	.067	5.62	2.81	2.09	1.77	1.28	.47	.014	351

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	6.67	4.89	3.55	2.60	2.25	1.90	1.28	.63	.60	.30	.090	6
21	5.35	3.92	2.91	2.04	1.81	1.54	1.03	.46	.50	.23	.052	21
36	5.52	4.03	3.09	2.08	1.83	1.64	1.07	.47	.48	.21	.046	36
51	4.96	3.58	2.63	1.78	1.56	1.32	.84	.33	.38	.18	.024	51
66	3.34	2.48	1.79	1.19	1.03	.95	.61	.22	.34	.15	.018	66
81	4.80	3.39	2.62	1.87	1.63	1.43	.96	.45	.49	.25	.072	81
96	4.98	3.42	2.49	1.80	1.50	1.30	.85	.38	.42	.22	.048	96
111	6.82	4.75	3.53	2.51	2.20	1.85	1.24	.60	.58	.31	.099	111
126	6.99	5.04	3.72	2.76	2.34	1.99	1.36	.71	.67	.36	.107	126
141	6.31	4.39	3.22	2.30	2.00	1.70	1.17	.56	.56	.30	.077	141
156	3.99	2.51	2.01	1.28	1.15	1.07	.69	.26	.34	.13	.007	156
171	3.19	2.12	1.57	1.14	.96	.89	.54	.20	.31	.14	.018	171
186	4.71	3.39	2.54	1.79	1.55	1.37	.91	.40	.44	.21	.054	186
201	5.26	3.84	2.79	2.00	1.70	1.50	.99	.47	.49	.26	.077	201
216	5.49	3.85	2.94	2.07	1.81	1.55	1.03	.49	.49	.25	.065	216
231	5.22	3.73	2.76	1.96	1.69	1.46	.97	.44	.49	.22	.050	231
246	4.56	3.29	2.49	1.70	1.47	1.30	.84	.36	.43	.21	.033	246
261	4.68	3.36	2.52	1.71	1.49	1.31	.86	.36	.42	.19	.024	261
276	4.82	3.48	2.62	1.77	1.55	1.32	.87	.34	.41	.19	.026	276
291	4.59	3.39	2.49	1.71	1.51	1.32	.86	.37	.44	.22	.035	291
306	5.71	4.17	3.09	2.22	1.87	1.60	1.07	.50	.51	.27	.035	306
321	5.46	4.01	2.89	2.09	1.79	1.57	1.02	.51	.53	.27	.074	321
336	5.71	4.13	2.98	2.12	1.83	1.58	1.02	.49	.48	.25	.026	336
351	5.94	4.34	3.14	2.27	1.95	1.66	1.10	.52	.53	.26	.063	351

TABLE 84 - Continued

FLIGHT 62, PARTIAL-POWER DESCENT

(SEE FIG. 17, t = 18.9 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75							r/R = 0.55							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	4.69	2.79	2.12	1.70	1.12	.48	.066	3.52	1.63	1.17	1.01	.78	.42	.063	6
21	4.55	2.27	1.81	1.41	.89	.37	.037	2.52	1.23	.90	.80	.65	.35	.054	21
36	4.34	2.39	1.85	1.53	.94	.37	.026	2.39	1.12	.83	.74	.59	.34	.049	36
51	3.78	1.76	1.53	1.19	.68	.28	-.006	2.98	1.42	1.01	.87	.68	.36	.057	51
66	3.18	1.55	1.32	1.04	.60	.24	-.025	3.16	1.47	1.05	.92	.74	.34	.093	66
81	3.02	1.61	1.37	1.07	.61	.26	.011	2.63	1.27	.92	.80	.64	.36	.053	81
96	2.95	1.74	1.43	1.19	.74	.32	.035	2.65	1.26	.91	.80	.64	.34	.058	96
111	3.09	1.81	1.50	1.19	.74	.31	.011	2.69	1.25	.91	.80	.65	.31	.082	111
126	3.45	2.11	1.73	1.39	.91	.38	.016	3.02	1.39	.97	.86	.68	.29	.086	126
141	3.84	2.24	1.78	1.38	.89	.35	.004	2.45	1.10	.81	.73	.61	.27	.074	141
156	3.53	1.60	1.37	1.05	.62	.26	.018	1.99	.94	.70	.62	.50	.27	.033	156
171	2.83	1.16	1.02	.79	.43	.17	-.006	1.99	.91	.67	.57	.47	.26	.034	171
186	2.62	1.47	1.21	1.00	.62	.26	.009	2.03	.96	.72	.64	.51	.28	.038	186
201	3.14	1.82	1.45	1.16	.74	.31	.030	2.36	1.12	.82	.71	.56	.30	.045	201
216	3.74	2.25	1.73	1.38	.89	.38	.032	2.73	1.31	.94	.80	.62	.34	.046	216
231	4.27	2.56	1.94	1.54	.98	.40	.035	3.54	1.68	1.21	1.02	.77	.40	.064	231
246	3.96	1.99	1.61	1.25	.76	.31	.023	2.87	1.37	.99	.87	.68	.38	.045	246
261	3.61	1.88	1.53	1.19	.73	.29	.013	2.24	1.04	.77	.67	.54	.31	.036	261
276	3.48	1.81	1.50	1.16	.70	.28	.013	1.99	.89	.66	.59	.47	.25	.014	276
291	3.43	1.79	1.48	1.15	.70	.28	.016	1.73	.78	.58	.52	.42	.25	.018	291
306	3.43	1.83	1.49	1.16	.72	.29	.023	1.09	.60	.48	.44	.37	.22	.013	306
321	3.52	1.98	1.58	1.25	.82	.35	.032	1.73	.76	.57	.49	.40	.24	.019	321
336	3.87	2.06	1.61	1.26	.80	.33	.026	2.10	.98	.73	.64	.51	.27	.025	336
351	3.91	2.20	1.73	1.37	.88	.37	.030	3.13	1.48	1.05	.88	.68	.35	.050	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40					r/R = 0.25					ψ_{nom}, deg
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.76	1.04	.59	.39	.098	.87	.41	.26	.16	.074	6
21	1.42	.84	.50	.35	.092	.66	.40	.29	.15	.071	21
36	1.35	.76	.46	.33	.090	.69	.35	.22	.16	.100	36
51	1.36	.75	.47	.35	.098	.78	.34	.21	.11	.083	51
66	1.39	.77	.48	.32	.061	.66	.31	.22	.13	.046	66
81	1.34	.77	.47	.35	.098	.81	.41	.25	.14	.071	81
96	1.36	.75	.46	.34	.094	.60	.32	.23	.15	.071	96
111	1.27	.72	.47	.31	.068	.64	.34	.20	.13	.065	111
126	1.21	.68	.46	.27	.041	.59	.27	.17	.11	.062	126
141	1.11	.63	.43	.26	.042	.73	.33	.20	.12	.064	141
156	1.01	.56	.33	.28	.073	.71	.35	.20	.12	.069	156
171	.97	.54	.33	.27	.073	.60	.27	.17	.11	.080	171
186	1.16	.63	.38	.29	.081	.75	.34	.22	.12	.076	186
201	1.15	.66	.40	.30	.082	.95	.44	.29	.17	.085	201
216	1.26	.72	.43	.33	.088	.86	.46	.29	.27	.137	216
231	1.55	.86	.51	.36	.096	.77	.46	.32	.17	.172	231
246	1.55	.86	.52	.36	.085	.68	.38	.24	.20	.098	246
261	1.16	.66	.39	.29	.064	.79	.43	.31	.25	.100	261
276	.93	.52	.31	.26	.066	.54	.30	.20	.15	.080	276
291	.68	.40	.24	.23	.057	.54	.28	.21	.17	.089	291
306	.62	.36	.22	.22	.060	.56	.25	.15	.10	.051	306
321	.81	.46	.28	.25	.068	.77	.35	.21	.11	.046	321
336	1.25	.68	.41	.31	.079	.90	.41	.25	.13	.063	336
351	1.64	.86	.51	.35	.096	.92	.46	.29	.14	.055	351

TABLE 84 - Continued

FLIGHT 62, PARTIAL-POWER DESCENT

(SEE FIG. 17, t = 18.9 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	4.25	9.37	12.20	17.86	21.93	20.57	17.55
21	3.87	7.93	9.54	14.96	17.74	16.60	16.51
36	3.82	7.39	8.87	15.29	18.16	17.79	16.95
51	3.56	7.56	10.55	11.82	15.21	13.72	12.02
66	3.29	7.36	11.02	10.15	10.86	9.35	14.84
81	3.95	7.56	9.71	10.50	16.42	13.24	15.13
96	3.48	7.44	9.64	11.67	15.25	16.99	20.08
111	3.34	7.03	9.61	11.77	21.69	23.29	24.93
126	2.92	6.47	10.20	13.85	23.27	26.33	30.43
141	3.37	6.06	8.65	14.10	20.12	24.92	25.04
156	3.41	5.66	7.39	10.90	12.16	19.34	20.60
171	2.99	5.51	7.11	7.92	9.96	13.81	16.28
186	3.55	6.30	7.58	9.77	15.57	10.70	10.98
201	4.64	6.48	8.52	11.79	17.22	16.21	15.73
216	5.30	7.05	9.72	14.27	17.88	17.81	17.69
231	4.78	8.28	12.16	15.88	16.93	16.64	15.55
246	4.13	8.22	10.42	12.98	14.86	14.23	13.25
261	4.94	6.34	8.19	12.17	15.02	14.70	15.37
276	3.27	5.25	6.95	11.74	15.34	15.65	15.96
291	3.37	4.17	6.31	11.69	15.09	16.20	17.65
306	2.67	3.92	5.05	11.89	18.49	17.95	25.22
321	3.39	4.82	6.15	13.01	17.98	20.80	22.73
336	4.02	6.70	7.56	13.25	17.90	17.28	17.16
351	4.35	8.37	10.69	14.22	19.20	18.88	19.35

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.682		0	3.529		0	7.271	
1	-.491	1.910	1	-2.305	.343	1	-.005	.178
2	.000	-.015	2	.167	.685	2	.000	.036
3	.117	.044	3	-.094	.122	3	-.007	.004
4	.009	-.023	4	.033	.012	4	-.008	-.018
5	.000	.020	5	-.110	-.078	5	-.015	-.014
6	.000	.061	6	-.016	.057	6	-.007	-.011
7	-.003	.023	7	.016	-.020	7	-.005	.000
8	-.003	.012	8	-.012	.004	8	-.001	-.001
9	.015	.023	9	-.016	.012	9	-.003	-.007
10	-.009	.012	10	.012	.000	10	-.008	.007

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^0\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^0\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^0\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^0\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^0\right) + F_n \sin n \left(\psi_{nom} - 6^0\right) \right]$$

TABLE 84 - Continued

FLIGHT 62, PARTIAL-POWER DESCENT

(SEE FIG. 17, t = 18.9 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.777		.75	0	12.644		.95	0	18.208	
.25	1	-.094	-.313	.75	1	1.139	-.495	.95	1	-.103	1.393
.25	2	.253	.524	.75	2	.752	.410	.95	2	-1.475	-4.542
.25	3	.311	-.330	.75	3	2.036	-.370	.95	3	1.862	-.739
.25	4	.033	-.081	.75	4	-.630	.969	.95	4	-1.530	2.393
.25	5	.083	-.146	.75	5	.599	-.111	.95	5	.520	.003
.25	6	-.208	.149	.75	6	-.051	.270	.95	6	.319	.394
.25	7	.070	-.093	.75	7	-.135	-.112	.95	7	.876	.075
.25	8	-.072	-.063	.75	8	.588	-.190	.95	8	-.720	-1.137
.25	9	-.013	.054	.75	9	.109	-.161	.95	9	-.165	-.503
.25	10	.217	.016	.75	10	.353	.007	.95	10	-.721	-.113
.40	0	6.717		.85	0	16.844					
.40	1	.409	.606	.85	1	1.046	.301				
.40	2	.513	1.072	.85	2	.223	-1.202				
.40	3	1.007	-.533	.85	3	2.370	-1.408				
.40	4	.162	-.381	.85	4	-.230	2.395				
.40	5	.090	-.024	.85	5	-.252	-.845				
.40	6	.180	-.144	.85	6	.691	.536				
.40	7	-.063	-.088	.85	7	-.289	-.264				
.40	8	.166	.067	.85	8	.447	-.785				
.40	9	.073	-.052	.85	9	.153	-.511				
.40	10	.052	.024	.85	10	.815	.248				
.55	0	8.907		.90	0	17.208					
.55	1	.236	.982	.90	1	-.039	.874				
.55	2	.282	1.463	.90	2	-.072	-3.324				
.55	3	1.383	-.692	.90	3	3.168	-.478				
.55	4	-.117	-.308	.90	4	-1.312	2.263				
.55	5	.443	-.388	.90	5	.266	-.382				
.55	6	.528	-.472	.90	6	-.478	.327				
.55	7	.048	.080	.90	7	.576	-.270				
.55	8	.326	.061	.90	8	.292	-.578				
.55	9	.146	-.074	.90	9	.687	-.598				
.55	10	-.011	.044	.90	10	.208	-.189				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 84 - Concluded

FLIGHT 62, PARTIAL-POWER DESCENT

(SEE FIG. 17, t = 18.9 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	2204	1262	199	-1426	-1187	-3103	-4555	-3854
21	665	-149	-136	-1521	-3775	-6705	-7102	-4555
36	927	-1658	-2215	-3210	-3854	-6755	-7437	-4643
51	-418	-1469	-1817	-3697	-5033	-6367	-3828	-3336
66	1326	-561	-1455	-2781	-3035	-5073	-2892	-1818
81	790	1023	642	-1302	-1663	-2904	-1940	-2161
96	1942	932	886	129	581	-417	-439	-2248
111	1440	1089	1437	1007	2218	1653	1198	-2446
126	1132	1312	2142	1751	2033	2618	2495	-2504
141	2534	1568	1681	1694	2940	1872	429	-2511
156	699	2112	2748	1837	1373	31	-230	-2811
171	1850	1320	1112	-110	-219	-496	-1799	-2102
186	1486	-784	-777	-1541	-1381	-2825	-591	-1139
201	-1592	-1733	-1067	-2418	-2886	-4088	-5047	-4855
216	653	-1617	-1492	-2227	-3942	-6964	-7385	-5220
231	551	58	-63	-1636	-4276	-7332	-6532	-3730
246	631	619	-325	-2256	-2463	-3999	-4932	-4154
261	-373	-710	-344	-596	-527	-1850	-785	-1066
276	-1057	-479	-63	-253	1717	847	-795	-2460
291	38	536	1871	1569	1039	-218	-607	-1986
306	2398	1997	2784	2361	1065	-1342	-1491	-2489
321	881	1675	2613	1980	1919	877	-717	-3022
336	95	-198	859	1264	2456	1971	968	-1803
351	425	-223	63	-110	441	-825	-84	-1526

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	7	1319	7087	14594
21	951	2800	9583	15839
36	2058	3403	8207	14704
51	3784	49	3839	13057
66	430	-1937	2847	12581
81	-3575	-4200	3631	13524
96	-2533	-3451	2095	11776
111	-3201	-3403	3231	12407
126	-4015	-4624	3967	13771
141	-2940	-3891	1775	11685
156	-4926	-4884	3887	13368
171	-5366	-2914	5599	13414
186	-2761	-65	5839	13396
201	-3363	-570	7231	15308
216	-4275	-684	5423	14118
231	-5952	-3647	3839	13688
246	-7433	-4672	2959	12773
261	-6326	-4217	3503	13057
276	-5317	-4054	4015	13606
291	-5854	-3858	4287	13313
306	-6554	-4835	4559	13231
321	-3575	-4412	1823	11849
336	-3673	-4217	3391	13139
351	-3135	-3679	5311	14228

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	-145	-38	20
21	-15	72	44
36	-312	131	-11
51	-588	-229	-52
66	-557	-362	-25
81	-339	-204	-2
96	-485	-291	1
111	-369	-97	11
126	-15	65	45
141	128	188	90
156	-22	51	58
171	-688	-541	26
186	-793	-434	-4
201	-786	-283	0
216	-883	-254	11
231	-666	-63	17
246	-487	-234	50
261	-270	50	74
276	-379	-14	55
291	-528	-186	30
306	-456	-266	14
321	-27	130	34
336	-5	-88	52
351	-242	-1	-2

TABLE 85

FLIGHT 63, PARTIAL-POWER DESCENT

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95							Δp, lb/sq in., at - r/R = 0.90							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	7.44	4.61	3.46	2.31	1.24	.55	.072	8.33	4.23	3.08	2.58	1.60	.62	.030	6
21	6.10	4.11	3.21	2.09	1.09	.51	.073	7.65	3.83	2.82	2.40	1.47	.57	.020	21
36	5.48	3.84	3.08	1.96	.96	.47	.049	6.69	3.39	2.60	2.25	1.32	.50	-.018	36
51	4.00	3.05	2.62	1.61	.62	.34	.006	5.21	2.61	2.09	1.83	.98	.32	-.072	51
66	1.16	1.19	1.42	.60	.03	.14	-.024	2.39	1.11	.96	.94	.35	.10	-.137	66
81	5.08	3.79	3.19	1.82	.76	.40	.032	.14	-.04	.48	.80	.39	.23	-.083	81
96	10.00	7.90	4.99	3.47	1.94	.83	.141	6.92	3.93	3.34	3.10	1.92	.78	.050	96
111	9.40	6.02	4.41	3.00	1.69	.71	.085	11.16	5.83	4.22	3.53	2.14	.75	.050	111
126	7.48	4.82	3.63	2.36	1.23	.55	.064	8.62	4.33	3.13	2.63	1.57	.58	-.002	126
141	5.21	3.60	2.92	1.85	.90	.45	.060	5.78	3.01	2.30	2.04	1.20	.48	.004	141
156	5.67	3.86	3.15	2.04	1.04	.53	.089	5.87	3.06	2.42	2.20	1.29	.55	.029	156
171	6.19	4.11	3.26	2.12	1.11	.54	.080	6.64	3.45	2.62	2.31	1.40	.56	.024	171
186	5.93	3.96	3.13	2.02	1.01	.50	.061	6.37	3.21	2.50	2.20	1.27	.50	-.004	186
201	5.72	3.86	3.07	1.99	1.00	.51	.076	5.71	2.86	2.27	2.06	1.18	.47	.000	201
216	6.12	4.05	3.19	2.06	1.08	.54	.084	5.77	2.93	2.28	2.07	1.24	.53	.026	216
231	6.52	4.20	3.26	2.14	1.13	.54	.085	6.34	3.22	2.43	2.16	1.29	.55	.050	231
246	6.52	4.13	3.13	2.11	1.16	.56	.109	6.54	3.41	2.52	2.22	1.41	.57	.063	246
261	6.83	4.27	3.23	2.18	1.21	.57	.111	7.56	3.83	2.84	2.44	1.53	.62	.069	261
276	7.38	4.53	3.43	2.33	1.34	.65	.135	8.10	4.14	3.04	2.62	1.64	.71	.085	276
291	8.60	5.07	3.65	2.61	1.61	.77	.185	9.47	4.55	3.33	2.80	1.81	.76	.124	291
306	7.92	4.44	3.17	2.24	1.33	.61	.125	6.10	3.03	2.29	1.98	1.26	.52	.069	306
321	5.73	3.52	2.65	1.79	.98	.50	.107	2.14	1.14	1.10	1.21	.74	.38	.018	321
336	6.29	3.97	2.99	2.01	1.10	.52	.089	6.25	3.23	2.44	2.15	1.32	.54	.041	336
351	8.40	5.09	3.70	2.53	1.44	.64	.105	8.13	4.27	3.12	2.66	1.64	.67	.059	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85											ψ_{nom}, deg
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	8.63	6.05	4.31	3.30	2.78	2.28	1.51	.76	.67	.36	.106	6
21	8.06	5.92	4.12	3.13	2.66	2.18	1.44	.70	.62	.33	.094	21
36	7.27	5.46	3.73	2.80	2.43	2.00	1.33	.61	.55	.28	.070	36
51	5.32	4.00	2.79	2.02	1.77	1.46	.95	.38	.37	.18	.016	51
66	2.86	2.03	1.57	1.14	.97	.77	.46	.08	.15	.06	-.040	66
81	.59	.28	.41	.22	.25	.33	.15	-.07	.07	.01	-.054	81
96	4.59	3.43	2.50	1.93	1.70	1.42	1.03	.46	.47	.25	.058	96
111	10.32	8.79	5.27	4.17	3.53	2.87	1.90	.92	.73	.38	.124	111
126	9.37	6.36	4.36	3.28	2.79	2.23	1.46	.67	.58	.30	.064	126
141	5.79	4.42	3.11	2.30	1.99	1.66	1.12	.52	.48	.26	.058	141
156	6.17	4.62	3.23	2.38	2.10	1.77	1.19	.58	.53	.30	.080	156
171	6.77	5.17	3.60	2.71	2.36	1.96	1.35	.66	.59	.31	.074	171
186	6.35	4.79	3.32	2.46	2.14	1.77	1.20	.55	.51	.27	.056	186
201	5.62	4.24	2.99	2.15	1.88	1.58	1.07	.49	.48	.25	.050	201
216	5.62	4.23	2.97	2.17	1.92	1.61	1.09	.53	.51	.29	.080	216
231	6.05	4.57	3.17	2.41	2.06	1.76	1.18	.60	.56	.32	.096	231
246	6.90	4.96	3.54	2.76	2.33	1.98	1.34	.71	.61	.34	.108	246
261	8.30	5.71	3.98	3.09	2.58	2.16	1.46	.75	.65	.37	.122	261
276	8.55	5.88	4.19	3.28	2.73	2.27	1.54	.81	.71	.40	.142	276
291	6.54	4.53	3.23	2.43	2.11	1.81	1.25	.69	.63	.36	.126	291
306	3.09	2.27	1.70	1.24	1.10	.98	.69	.33	.37	.20	.040	306
321	2.99	2.20	1.65	1.30	1.10	.96	.62	.27	.33	.20	.050	321
336	6.55	4.98	3.33	2.56	2.19	1.86	1.22	.61	.55	.32	.094	336
351	8.12	5.82	4.12	3.16	2.67	2.23	1.48	.76	.67	.37	.112	351

TABLE 85 - Continued

FLIGHT 63, PARTIAL-POWER DESCENT

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	5.96	3.53	2.59	2.00	1.41	.61	.125	3.61	1.82	1.22	1.04	.81	.45	.115	6
21	6.49	3.57	2.63	2.01	1.41	.61	.118	4.05	2.04	1.36	1.15	.89	.48	.120	21
36	6.36	3.27	2.46	1.88	1.30	.54	.095	4.02	2.02	1.34	1.14	.88	.45	.111	36
51	5.37	2.44	1.97	1.48	.97	.38	.059	3.50	1.73	1.15	.99	.77	.41	.101	51
66	4.00	1.57	1.30	1.08	.63	.26	.035	2.88	1.42	.94	.83	.65	.36	.096	66
81	2.90	1.14	.94	.82	.45	.19	.024	2.60	1.31	.86	.76	.62	.33	.101	81
96	2.02	.88	.80	.70	.43	.22	.035	2.49	1.23	.81	.72	.59	.32	.094	96
111	3.28	2.32	1.80	1.48	1.00	.43	.082	2.31	1.12	.73	.66	.56	.28	.075	111
126	4.22	2.71	2.11	1.69	1.13	.49	.090	1.86	.92	.64	.55	.46	.25	.068	126
141	4.49	2.40	1.95	1.51	1.01	.44	.077	2.08	1.04	.73	.67	.53	.30	.088	141
156	4.20	2.29	1.93	1.52	1.03	.50	.102	2.81	1.41	.96	.84	.65	.36	.114	156
171	5.12	3.13	2.40	1.84	1.25	.53	.095	2.48	1.21	.84	.73	.59	.31	.087	171
186	5.15	2.59	2.07	1.57	1.05	.44	.079	2.51	1.21	.82	.73	.58	.32	.094	186
201	4.49	2.23	1.82	1.39	.91	.41	.077	2.78	1.37	.93	.80	.63	.35	.106	201
216	4.28	2.29	1.86	1.43	.96	.46	.102	2.95	1.50	1.04	.90	.70	.41	.115	216
231	4.64	2.69	2.06	1.59	1.10	.52	.116	2.92	1.49	1.02	.91	.74	.43	.114	231
246	5.44	3.26	2.41	1.86	1.32	.58	.112	1.06	.53	.43	.41	.39	.28	.068	246
261	5.76	3.18	2.37	1.81	1.28	.57	.106	1.37	.66	.48	.43	.37	.22	.056	261
276	5.19	2.37	1.93	1.49	1.01	.51	.106	1.45	.71	.49	.46	.39	.25	.064	276
291	3.30	.90	.89	.76	.56	.32	.070	1.76	.88	.60	.55	.46	.28	.075	291
306	2.68	1.25	1.00	.84	.53	.28	.059	2.25	1.08	.76	.68	.54	.32	.078	306
321	3.40	1.97	1.59	1.23	.80	.36	.072	2.47	1.20	.82	.73	.58	.32	.078	321
336	4.31	2.61	2.00	1.54	1.06	.47	.090	2.63	1.29	.89	.78	.61	.35	.081	336
351	5.12	3.08	2.31	1.79	1.25	.56	.116	3.03	1.53	1.03	.89	.71	.39	.100	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.41	.77	.47	.29	.086	.83	.39	.24	.14	.031	6
21	1.60	.85	.52	.31	.097	.93	.46	.29	.16	.044	21
36	1.71	.90	.54	.32	.102	1.06	.50	.31	.16	.032	36
51	1.78	.91	.54	.31	.093	1.06	.52	.31	.17	.039	51
66	1.56	.80	.47	.28	.090	.86	.41	.25	.12	.022	66
81	1.21	.64	.38	.24	.084	.69	.32	.19	.11	.024	81
96	1.03	.56	.34	.23	.088	.44	.21	.13	.09	.027	96
111	1.35	.70	.41	.25	.086	.41	.19	.13	.10	.027	111
126	1.40	.72	.40	.24	.080	.60	.29	.18	.12	.030	126
141	1.35	.69	.39	.25	.080	.69	.32	.19	.11	.028	141
156	1.58	.77	.45	.27	.081	.63	.30	.18	.11	.030	156
171	1.54	.77	.44	.26	.080	.58	.27	.17	.12	.039	171
186	1.47	.76	.44	.26	.080	.62	.31	.20	.13	.038	186
201	1.46	.77	.46	.27	.090	.61	.29	.18	.12	.037	201
216	1.07	.62	.37	.25	.080	.45	.21	.13	.10	.024	216
231	.78	.45	.28	.21	.068	.33	.15	.10	.08	.019	231
246	.52	.33	.19	.17	.056	.24	.10	.06	.07	.012	246
261	.69	.39	.23	.18	.056	.30	.13	.08	.08	.016	261
276	.77	.43	.24	.18	.060	.40	.17	.11	.08	.019	276
291	.82	.46	.26	.20	.065	.41	.17	.11	.07	.014	291
306	.88	.49	.29	.20	.068	.42	.18	.11	.08	.012	306
321	.99	.54	.32	.22	.073	.49	.23	.15	.10	.017	321
336	1.17	.63	.38	.25	.080	.58	.28	.18	.13	.025	336
351	1.31	.71	.43	.27	.086	.67	.33	.21	.13	.028	351

TABLE 85 - Continued

FLIGHT 63, PARTIAL-POWER DESCENT

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	3.83	7.27	13.06	22.56	26.58	26.62	25.37
21	4.43	8.10	14.42	23.01	25.16	24.36	22.49
36	4.71	8.48	14.07	21.35	22.74	21.66	20.68
51	4.87	8.47	12.30	16.46	16.36	16.22	15.68
66	3.76	7.53	10.37	11.21	8.30	6.44	5.57
81	3.03	6.09	9.60	8.15	2.25	3.55	19.25
96	2.17	5.50	9.13	7.02	16.23	27.98	38.65
111	2.11	6.61	8.29	15.01	32.26	35.65	32.87
126	2.91	6.64	7.03	17.58	26.35	26.68	25.87
141	3.09	6.53	8.09	16.29	18.86	19.48	19.60
156	2.94	7.34	10.42	16.39	20.14	20.70	21.75
171	2.86	7.21	9.11	19.92	22.38	22.54	22.88
186	3.13	7.02	9.12	17.35	20.22	20.92	21.65
201	3.00	7.21	10.07	15.27	18.19	19.09	21.32
216	2.22	5.90	11.19	15.83	18.56	19.88	22.56
231	1.66	4.49	11.40	17.86	20.08	21.32	23.38
246	1.23	3.29	5.47	20.94	22.56	22.43	23.36
261	1.50	3.84	5.50	20.74	25.30	25.04	24.22
276	1.85	4.12	5.90	17.20	26.73	27.15	26.31
291	1.84	4.44	7.00	9.22	21.33	30.20	30.11
306	1.90	4.73	8.46	9.05	11.23	20.36	25.86
321	2.39	5.21	9.04	13.07	10.68	10.08	20.16
336	2.92	6.05	9.67	16.89	20.96	21.29	22.26
351	3.26	6.77	11.16	19.97	25.66	27.18	28.46

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	15.108		0	4.382		0	6.465	
1	2.508	-1.848	1	.963	-1.179	1	-.506	-.093
2	-.368	.123	2	.159	.245	2	.014	.058
3	-.175	-.076	3	.261	-.139	3	.120	.063
4	-.044	.009	4	.282	.053	4	-.016	-.034
5	.006	-.003	5	-.204	.175	5	-.053	.018
6	-.015	-.012	6	.020	.008	6	.000	.030
7	-.006	-.041	7	.008	.094	7	-.001	.003
8	-.020	.009	8	.041	.016	8	-.016	-.004
9	-.018	.006	9	.024	.008	9	.004	-.007
10	.009	.003	10	-.024	-.024	10	.014	-.018

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 85 - Continued

FLIGHT 63, PARTIAL-POWER DESCENT

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.816		.75	0	16.181		.95	0	23.346	
.25	1	.623	.784	.75	1	.066	-1.000	.95	1	-.575	-1.115
.25	2	.734	.257	.75	2	3.602	1.220	.95	2	-2.035	-2.887
.25	3	-.183	.367	.75	3	3.770	2.227	.95	3	3.068	-1.844
.25	4	-.110	.116	.75	4	.123	-.570	.95	4	4.166	2.457
.25	5	-.064	-.234	.75	5	-1.800	-.186	.95	5	-.389	2.296
.25	6	-.004	.070	.75	6	.334	-.158	.95	6	-2.043	-2.195
.25	7	-.050	.017	.75	7	.279	.918	.95	7	-.277	-2.127
.25	8	.058	-.012	.75	8	-.205	-.337	.95	8	.503	-.727
.25	9	.047	.002	.75	9	.142	-.305	.95	9	.520	.611
.25	10	.004	.078	.75	10	-.014	-.139	.95	10	-.405	.515
.40	0	6.201		.85	0	19.963					
.40	1	.405	1.415	.85	1	-.941	-1.307				
.40	2	1.221	.141	.85	2	1.642	-1.176				
.40	3	-.309	.338	.85	3	6.286	2.350				
.40	4	-.053	.286	.85	4	2.886	2.041				
.40	5	-.115	-.278	.85	5	-2.868	-1.025				
.40	6	-.075	-.084	.85	6	-.844	-3.136				
.40	7	.164	.057	.85	7	.757	.569				
.40	8	-.125	.066	.85	8	-.495	1.043				
.40	9	-.040	-.077	.85	9	-.330	.041				
.40	10	.022	.080	.85	10	.162	-.235				
.55	0	9.578		.90	0	21.533					
.55	1	1.431	1.153	.90	1	-.920	-1.603				
.55	2	2.218	1.114	.90	2	-.407	-2.493				
.55	3	-.095	-.152	.90	3	5.358	1.268				
.55	4	-.366	.666	.90	4	4.139	3.518				
.55	5	.695	.474	.90	5	-1.726	.268				
.55	6	-.572	-.212	.90	6	-1.267	-4.294				
.55	7	.184	.136	.90	7	.475	-1.366				
.55	8	.178	-.029	.90	8	-.311	.959				
.55	9	-.303	-.220	.90	9	-.692	1.206				
.55	10	.143	.317	.90	10	-.223	.195				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^0 \right) + M_n \sin n \left(\psi_{nom} - 6^0 \right) \right]$$

TABLE 85 - Concluded

FLIGHT 63, PARTIAL-POWER DESCENT

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	3693	1675	-353	-3059	-8305	-12788		
21	-889	-1592	-2287	-3346	-5691	-7684		
36	-1437	-2945	-3498	-2954	-1230	-788		
51	23	487	1094	1090	-314	-1087		
66	4742	4142	3724	3094	416	-2112		
81	4184	4249	4430	2598	-2145	-4430		
96	1801	157	-1582	-2754	-1784	1281		
111	-2850	-4628	-5126	-3603	2554	6814		
126	-3067	-2549	-353	2016	2722	1480		
141	6407	5800	4972	3590	-570	-3982		
156	7934	6856	5786	3447	-763	-3355		
171	1254	-17	108	1825	4596	3838		
186	-3671	-3341	-2242	-903	2563	3948		
201	2234	132	-1311	-2296	-2462	-2221		
216	4685	3284	2477	537	-5207	-9713		
231	3032	2797	2359	509	-5234	-9246		
246	1664	-182	-1184	-1581	-2057	-2858		
261	-1003	-2145	-1700	423	3646	3739		
276	-525	1518	3471	4181	4332	4047		
291	6692	6105	5912	5403	3971	3739		
306	3659	5165	6283	5889	4754	5590		
321	-445	347	1745	3380	6154	8087		
336	-889	-974	-488	346	1252	1102		
351	946	1205	154	-1781	-5621	-8718		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-6426	-4900	9269	
21	-273	-5047	-2059	
36	-6638	-13822	-1499	
51	-7745	-12861	-2267	
66	-4294	-6968	1205	
81	-2942	-1465	10677	
96	5100	6170	11077	
111	7900	944	4901	
126	-533	-8482	-1387	
141	-6475	-16915	-6107	
156	-1135	-13789	-6235	
171	4628	-1172	2773	
186	2576	3923	17269	
201	3358	8645	14965	
216	-1087	-2149	9461	
231	-3089	-11103	-1147	
246	623	-13431	-10907	
261	-5678	-14978	-5963	
276	-11685	-11315	69	
291	-11636	-10305	1205	
306	-10236	-8905	-1227	
321	-10741	-11347	2789	
336	-5352	-4461	4741	
351	-4880	-309	8725	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	1004	214	97
21	1432	1063	113
36	1870	650	183
51	1189	458	98
66	658	-250	83
81	1239	267	120
96	1942	1353	225
111	2151	1708	171
126	747	35	23
141	219	-556	-36
156	1447	123	86
171	1948	973	142
186	702	408	-7
201	-133	-263	-75
216	428	-439	-24
231	1281	308	57
246	1649	707	47
261	494	-179	-51
276	-302	-625	-116
291	-220	-846	-61
306	397	-294	9
321	696	-279	17
336	471	123	15
351	615	214	52

TABLE 86

FLIGHT 64, PARTIAL-POWER DESCENT

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	1.30	1.38	1.39	.79	.24	.27	-.004	3.47	1.80	1.13	1.11	.67	.24	-.062	0
15	4.53	3.14	2.73	1.67	.67	.38	.045	2.30	1.18	.73	.76	.54	.25	-.042	15
30	4.65	3.23	2.83	1.92	.95	.53	.073	5.44	2.92	2.08	1.94	1.30	.55	.036	30
45	4.98	3.23	2.75	1.86	.90	.50	.067	5.82	3.08	2.14	1.89	1.22	.49	.014	45
60	4.25	2.96	2.61	1.71	.77	.43	.037	5.53	2.84	1.90	1.67	1.06	.40	-.016	60
75	4.18	2.91	2.47	1.66	.76	.45	.057	4.69	2.46	1.68	1.53	1.00	.43	-.002	75
90	4.18	2.91	2.47	1.69	.79	.45	.051	4.97	2.64	1.77	1.62	1.08	.46	.002	90
105	3.97	2.73	2.41	1.64	.77	.45	.057	5.44	2.82	1.93	1.70	1.10	.46	.011	105
120	4.05	2.73	2.42	1.63	.78	.47	.069	5.26	2.71	1.86	1.62	1.08	.44	.011	120
135	4.22	2.73	2.40	1.64	.82	.48	.077	5.21	2.66	1.80	1.60	1.07	.46	.027	135
150	4.63	2.93	2.48	1.73	.88	.51	.089	5.60	2.89	1.94	1.71	1.15	.49	.044	150
165	5.55	3.56	2.74	1.93	1.06	.59	.117	6.33	3.28	2.18	1.90	1.30	.57	.075	165
180	6.51	4.06	2.96	2.12	1.19	.63	.117	6.71	3.48	2.34	2.02	1.39	.62	.084	180
195	6.25	3.92	2.89	2.09	1.19	.62	.113	6.54	3.44	2.31	2.00	1.39	.61	.089	195
210	6.51	4.02	2.93	2.14	1.23	.65	.143	6.89	3.55	2.39	2.05	1.42	.63	.113	210
225	7.73	4.46	3.24	2.41	1.41	.71	.158	8.44	4.20	2.86	2.44	1.69	.74	.149	225
240	3.35	2.37	1.80	1.47	.93	.53	.103	6.65	3.28	2.12	1.78	1.16	.48	.062	240
255	1.87	1.47	1.31	.74	.25	.28	.053	2.12	1.07	.60	.68	.49	.23	.000	255
270	4.56	2.91	2.32	1.60	.78	.45	.071	4.03	2.08	1.32	1.27	.90	.42	.042	270
285	4.95	3.12	2.58	1.78	.94	.50	.075	5.56	2.90	1.90	1.67	1.15	.50	.051	285
300	4.98	3.21	2.67	1.83	.98	.54	.085	6.12	3.19	2.12	1.84	1.24	.54	.062	300
315	4.69	3.07	2.64	1.78	.93	.50	.073	6.26	3.23	2.15	1.86	1.22	.53	.042	315
330	3.92	2.69	2.40	1.58	.73	.43	.044	5.79	2.97	1.99	1.76	1.11	.43	.005	330
345	2.94	2.26	2.08	1.33	.57	.37	.028	4.78	2.50	1.65	1.50	.93	.34	-.031	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	3.68	2.40	1.88	1.40	1.00	1.14	.54	.09	.25	.08	-.057	0
15	3.22	1.97	1.51	1.10	.72	.95	.37	.01	.20	.05	-.072	15
30	6.57	4.73	3.34	2.46	1.93	2.02	1.15	.48	.53	.25	.024	30
45	6.07	4.29	3.05	2.25	1.75	1.85	1.05	.42	.47	.21	-.005	45
60	5.20	3.55	2.56	1.75	1.35	1.51	.79	.26	.37	.16	-.019	60
75	4.91	3.37	2.48	1.79	1.27	1.46	.76	.26	.37	.16	-.019	75
90	5.21	3.62	2.69	1.82	1.43	1.57	.87	.32	.41	.19	-.013	90
105	5.48	3.73	2.79	1.93	1.51	1.65	.93	.37	.44	.20	-.009	105
120	5.14	3.47	2.56	1.77	1.39	1.55	.87	.33	.41	.20	-.017	120
135	5.15	3.51	2.56	1.79	1.37	1.55	.86	.34	.43	.21	-.005	135
150	5.69	3.93	2.84	2.08	1.58	1.72	.97	.43	.49	.25	.016	150
165	6.36	4.38	3.15	2.37	1.82	1.92	1.11	.52	.56	.30	.036	165
180	6.73	4.51	3.26	2.46	1.89	1.98	1.14	.53	.56	.29	.036	180
195	6.68	4.44	3.26	2.49	1.90	1.98	1.16	.55	.57	.30	.046	195
210	7.56	4.89	3.54	2.71	2.07	2.13	1.25	.62	.61	.32	.062	210
225	8.39	5.08	3.66	2.78	2.11	2.17	1.26	.63	.60	.31	.069	225
240	3.09	1.90	1.53	1.18	.78	1.03	.53	.20	.32	.16	-.010	240
255	3.65	2.26	1.68	1.28	.84	1.08	.52	.13	.26	.10	-.039	255
270	4.91	3.33	2.34	1.68	1.25	1.49	.76	.30	.38	.18	-.009	270
285	5.90	4.08	2.87	2.12	1.59	1.74	.95	.43	.46	.22	.012	285
300	6.65	4.58	3.28	2.41	1.85	1.95	1.10	.51	.52	.25	.024	300
315	6.57	4.65	3.23	2.39	1.85	1.95	1.09	.46	.49	.23	.003	315
330	5.98	4.19	2.96	2.13	1.66	1.77	.96	.36	.43	.18	-.015	330
345	4.66	3.21	2.37	1.78	1.19	1.41	.72	.20	.32	.11	-.053	345

TABLE 86 - Continued

FLIGHT 64, PARTIAL-POWER DESCENT

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.55 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
0	3.68	1.80	1.51	1.13	.72	.23	-.001	2.66	1.14	.88	.75	.65	.32	.057	0
15	2.96	1.44	1.22	.94	.58	.17	.001	2.63	1.14	.88	.74	.65	.33	.060	15
30	3.66	2.56	2.02	1.54	1.07	.40	.033	1.95	.76	.66	.58	.54	.30	.045	30
45	4.39	2.62	2.11	1.54	1.09	.38	.033	3.26	1.42	1.07	.90	.75	.35	.054	45
60	4.21	2.13	1.76	1.26	.83	.28	.022	2.51	1.05	.84	.72	.63	.32	.054	60
75	3.63	1.88	1.61	1.16	.79	.28	.027	2.13	.92	.74	.65	.58	.32	.055	75
90	3.73	2.09	1.76	1.28	.88	.33	.036	2.54	1.10	.88	.76	.65	.32	.049	90
105	4.07	2.20	1.84	1.33	.94	.32	.029	2.56	1.08	.86	.74	.62	.31	.048	105
120	3.95	2.07	1.76	1.27	.90	.30	.019	2.51	1.06	.86	.73	.63	.31	.051	120
135	3.78	2.02	1.72	1.25	.90	.32	.033	2.56	1.10	.87	.75	.65	.32	.061	135
150	4.07	2.28	1.88	1.36	.99	.37	.050	2.46	1.07	.88	.76	.66	.33	.064	150
165	4.39	2.46	1.96	1.46	1.06	.40	.053	2.44	1.07	.88	.77	.66	.34	.063	165
180	4.54	2.54	2.01	1.49	1.08	.42	.055	2.84	1.25	.97	.82	.70	.36	.061	180
195	4.80	2.68	2.08	1.53	1.11	.43	.053	2.72	1.08	.86	.74	.63	.33	.051	195
210	5.18	2.96	2.25	1.68	1.22	.46	.055	1.22	.40	.44	.43	.42	.23	.017	210
225	4.30	1.72	1.48	1.07	.80	.33	.033	1.69	.65	.59	.52	.47	.25	.037	225
240	3.46	1.64	1.35	.98	.69	.26	.013	1.85	.72	.64	.56	.50	.26	.030	240
255	3.22	1.75	1.42	1.01	.70	.23	-.001	2.12	.85	.72	.62	.54	.27	.030	255
270	3.37	1.92	1.54	1.11	.77	.28	.013	2.14	.87	.73	.63	.54	.28	.028	270
285	3.89	2.29	1.80	1.32	.93	.36	.025	2.19	.90	.76	.67	.57	.32	.042	285
300	4.45	2.65	2.05	1.52	1.09	.42	.031	3.00	1.33	1.03	.86	.74	.38	.066	300
315	4.97	2.78	2.16	1.58	1.13	.42	.022	3.13	1.40	1.07	.90	.75	.39	.057	315
330	4.92	2.57	2.07	1.49	1.03	.35	.005	3.37	1.47	1.12	.93	.78	.38	.055	330
345	4.34	2.15	1.78	1.27	.84	.27	-.011	2.78	1.19	.93	.78	.68	.34	.055	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40 x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	r/R = 0.25 x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	ψ_{nom}, deg
0	1.38	.74	.47	.31	.113	.86	.43	.23	.13	.007	0
15	1.68	.87	.55	.33	.115	.95	.46	.24	.13	.000	15
30	1.17	.65	.43	.29	.107	.76	.39	.22	.12	-.003	30
45	1.14	.63	.42	.30	.109	.75	.37	.20	.12	.003	45
60	1.60	.84	.52	.32	.117	.82	.41	.22	.13	.004	60
75	1.33	.72	.46	.31	.111	.83	.42	.22	.12	.002	75
90	1.30	.70	.46	.31	.117	.78	.41	.23	.13	.004	90
105	1.34	.72	.46	.31	.115	.73	.37	.21	.13	.007	105
120	1.30	.70	.45	.31	.113	.83	.41	.22	.13	.009	120
135	1.31	.72	.46	.31	.113	.80	.40	.22	.13	.011	135
150	1.30	.70	.44	.30	.103	.74	.38	.21	.12	.005	150
165	1.32	.74	.46	.31	.109	.69	.35	.19	.12	.009	165
180	1.14	.67	.43	.30	.105	.64	.33	.18	.11	.011	180
195	.97	.56	.37	.28	.098	.60	.31	.17	.11	.002	195
210	.85	.49	.31	.24	.093	.53	.27	.14	.10	.002	210
225	.87	.50	.32	.24	.085	.52	.26	.14	.08	-.007	225
240	.67	.41	.26	.22	.082	.30	.16	.08	.07	-.014	240
255	.78	.47	.30	.23	.085	.34	.16	.08	.07	-.010	255
270	1.01	.59	.37	.26	.093	.51	.26	.15	.11	-.004	270
285	1.21	.68	.44	.29	.107	.78	.38	.21	.13	.003	285
300	1.46	.80	.52	.33	.115	.98	.45	.24	.13	.000	300
315	1.64	.89	.56	.34	.115	.96	.49	.28	.15	.011	315
330	1.71	.90	.57	.35	.111	.92	.47	.26	.15	.010	330
345	1.45	.78	.49	.31	.105	.99	.48	.25	.15	.022	345

TABLE 86 - Continued

FLIGHT 64, PARTIAL-POWER DESCENT

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	3.71	7.39	9.34	11.65	10.34	10.62	7.49
15	3.96	8.51	9.35	9.27	8.10	7.84	16.85
30	3.39	6.63	7.37	15.88	20.16	19.65	19.29
45	3.29	6.57	11.00	16.56	18.33	19.48	18.98
60	3.56	8.16	8.96	13.60	14.73	17.33	16.89
75	3.58	7.28	8.16	12.42	14.21	15.80	16.69
90	3.54	7.17	9.19	13.71	15.61	16.87	16.79
105	3.34	7.26	8.98	14.37	16.45	17.81	16.20
120	3.64	7.12	8.93	13.71	15.29	17.19	16.46
135	3.57	7.18	9.20	13.59	15.40	17.15	16.78
150	3.32	7.00	9.21	15.04	17.32	18.52	17.97
165	3.11	7.26	9.24	16.14	19.62	21.08	21.10
180	2.95	6.67	10.17	16.66	20.27	22.51	23.57
195	2.73	5.80	9.21	17.26	20.41	22.25	23.01
210	2.39	5.07	5.05	18.83	22.33	23.13	23.85
225	2.24	5.12	6.35	12.79	23.18	27.65	26.90
240	1.43	4.26	6.80	11.02	9.58	20.13	15.50
255	1.50	4.79	7.51	10.95	9.88	7.20	8.14
270	2.41	5.77	7.61	12.04	14.08	13.90	16.85
285	3.42	6.77	8.13	14.46	17.31	18.49	18.74
300	3.96	7.96	10.77	16.74	19.78	20.25	19.39
315	4.31	8.61	11.11	17.56	19.38	20.27	18.49
330	4.13	8.74	11.48	16.34	17.35	18.27	15.82
345	4.25	7.64	9.75	13.63	13.19	15.03	12.98

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	10.896		0	3.890		0	4.118	
1	.050	-1.989	1	-1.843	-.591	1	-.214	.175
2	.059	.059	2	-.140	-.103	2	.012	.015
3	.127	-.154	3	.032	-.040	3	.010	-.027
4	-.041	-.077	4	-.016	.040	4	.005	.012
5	-.068	.123	5	-.350	-.032	5	-.012	-.012
6	.000	.018	6	-.051	-.012	6	.000	.005
7	-.032	-.032	7	.075	-.004	7	.017	.012
8	-.009	-.036	8	.083	.051	8	.007	-.010
9	-.014	.005	9	.028	.012	9	.000	.000
10	.009	.027	10	.000	.004	10	.002	.007
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 86 - Continued

FLIGHT 64, PARTIAL-POWER DESCENT

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.238		.75	0	14.342		.95	0	17.695	
.25	1	.639	.414	.75	1	-.659	-.089	.95	1	-2.920	-.258
.25	2	.245	-.603	.75	2	.968	-.693	.95	2	1.171	1.128
.25	3	-.234	-.173	.75	3	-2.051	-.911	.95	3	-2.829	-1.002
.25	4	-.063	.139	.75	4	-1.064	.821	.95	4	-1.848	2.073
.25	5	.153	.004	.75	5	-.621	-.405	.95	5	.274	.860
.25	6	.005	.000	.75	6	-.705	-.575	.95	6	-.938	-1.245
.25	7	-.085	.059	.75	7	.492	-.393	.95	7	-1.627	.849
.25	8	.013	.005	.75	8	-.023	-.502	.95	8	.534	.222
.25	9	-.049	-.015	.75	9	.282	.077	.95	9	-.571	-.609
.25	10	-.073	.015	.75	10	.375	-.331	.95	10	-.875	.279
.40	0	6.864		.85	0	16.344					
.40	1	.956	.620	.85	1	-2.028	-.284				
.40	2	.314	-.931	.85	2	1.069	-.234				
.40	3	-.440	-.169	.85	3	-2.989	-1.382				
.40	4	-.024	-.003	.85	4	-2.056	1.730				
.40	5	.080	.139	.85	5	-.206	.110				
.40	6	.098	.130	.85	6	-1.405	-1.725				
.40	7	-.039	.362	.85	7	-.336	.133				
.40	8	-.053	.199	.85	8	.728	-.952				
.40	9	-.231	.095	.85	9	-.273	-.761				
.40	10	-.133	.035	.85	10	.568	.190				
.55	0	8.870		.90	0	17.851		$l = L_0 + \sum_{n=1}^{10} (L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom})$			
.55	1	.864	.430	.90	1	-2.993	-.518				
.55	2	.473	-1.206	.90	2	.890	.437				
.55	3	-.740	-.077	.90	3	-2.467	-2.142				
.55	4	-.039	-.239	.90	4	-2.926	.956				
.55	5	-.622	-.048	.90	5	-.109	.699				
.55	6	.422	.090	.90	6	-.193	-2.419				
.55	7	.154	-.269	.90	7	-1.315	-.372				
.55	8	.378	.384	.90	8	.704	.095				
.55	9	-.066	.179	.90	9	.443	-1.108				
.55	10	-.216	.557	.90	10	-.108	-.429				

TABLE 86 - Concluded

FLIGHT 64, PARTIAL-POWER DESCENT

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	4016	2013	172	567	-2259	-5262		
15	1588	2269	1763	1702	-2277	-3700		
30	2295	8	-3083	-2820	574	2967		
45	-2356	-4084	-3137	4	434	1136		
60	-190	-198	-1175	-82	-1934	-2993		
75	6296	3869	868	-530	-5330	-6824		
90	2284	594	-814	118	-209	-1292		
105	-1923	-2962	-3860	-1790	-1194	420		
120	-692	-1683	-3390	-2982	-2022	171		
135	3367	231	-1383	-44	-2013	-4337		
150	1223	2219	2224	2246	-1714	-4486		
165	4415	1634	-796	-655	-1150	-516		
180	-669	-1130	-1826	-330	944	1832		
195	-1364	-1526	-2278	-111	478	947		
210	1315	1378	832	1797	-746	-2675		
225	4096	3308	1672	2484	988	-546		
240	437	1394	1266	2389	-77	987		
255	-737	-528	-2332	-1160	3267	6648		
270	-1057	-1708	-1672	1101	-922	-1570		
285	380	1774	1148	901	-4230	-6725		
300	5236	2294	-1175	-2353	-5753	-7232		
315	-1524	-2005	-3209	-2477	-2022	-2396		
330	-2915	-4364	-6030	-3879	-2418	-645		
345	-1421	-1568	-2811	-2105	-3535	-3640		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-6444	-6170	-4200	
15	-11132	-9280	4776	
30	-2553	212	2760	
45	492	-1888	4872	
60	-6671	-2654	5480	
75	-4653	-5470	1400	
90	-1234	-4705	-1160	
105	-4376	-4168	2664	
120	-3969	-4265	3560	
135	-3790	-2149	1640	
150	-11832	-6610	6408	
165	-8430	-5275	744	
180	-7518	-7163	-2728	
195	-14600	-11901	472	
210	-13997	-10794	-3176	
225	-15951	-11298	-2328	
240	-17433	-10338	-1560	
255	-15300	-10826	-1240	
270	-13542	-9084	456	
285	-15218	-5112	3848	
300	-12565	-5910	5960	
315	-3790	-684	-472	
330	-9341	-6431	3768	
345	-8723	-7863	-232	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	2242	756	
15	2118	502	
30	1815	671	
45	2306	1003	
60	1515	340	
75	2150	528	
90	2402	891	
105	2037	659	
120	1620	414	
135	1462	245	
150	1365	-47	
165	1478	298	
180	1771	582	
195	1394	90	
210	955	35	
225	1225	-3	
240	1769	530	
255	1428	72	
270	1088	120	
285	765	-47	
300	1743	306	
315	2142	1310	
330	2162	749	
345	1960	788	

TABLE 87

FLIGHT 65, PARTIAL-POWER DESCENT

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.89	4.25	2.87	1.94	1.08	.58	.099	5.95	3.25	2.09	1.87	1.29	.54	.045	0
15	6.37	4.72	3.05	2.06	1.15	.61	.107	6.27	3.45	2.25	1.97	1.37	.56	.054	15
30	7.54	5.39	3.40	2.35	1.33	.67	.123	6.79	3.75	2.46	2.14	1.46	.59	.054	30
45	8.19	5.72	3.60	2.51	1.44	.70	.125	6.76	3.74	2.46	2.12	1.48	.59	.041	45
60	8.58	5.78	3.73	2.63	1.53	.72	.137	6.00	3.37	2.26	1.99	1.37	.56	.032	60
75	9.27	5.62	3.88	2.78	1.64	.76	.152	4.63	2.77	1.96	1.85	1.31	.56	.025	75
90	9.75	5.89	3.84	2.75	1.56	.67	.131	4.23	2.77	2.11	2.06	1.44	.66	.049	90
105	9.60	5.57	3.81	2.73	1.56	.69	.133	6.87	3.94	2.69	2.44	1.71	.74	.104	105
120	9.63	5.57	3.84	2.78	1.62	.72	.152	8.27	4.61	3.08	2.70	1.85	.77	.106	120
135	9.54	5.54	3.86	2.79	1.64	.74	.156	9.09	4.81	3.23	2.81	1.92	.79	.119	135
150	9.58	5.59	3.85	2.79	1.66	.75	.163	9.50	4.89	3.31	2.85	1.96	.80	.128	150
165	9.50	5.55	3.82	2.76	1.64	.75	.156	9.63	4.93	3.30	2.83	1.97	.79	.131	165
180	9.41	5.63	3.79	2.72	1.62	.76	.158	9.63	4.91	3.28	2.82	1.92	.80	.138	180
195	9.33	5.68	3.76	2.70	1.62	.75	.158	9.43	4.81	3.21	2.76	1.91	.79	.127	195
210	9.39	5.72	3.76	2.70	1.62	.76	.163	9.35	4.78	3.19	2.75	1.90	.79	.127	210
225	9.54	5.69	3.75	2.70	1.64	.76	.166	9.40	4.78	3.20	2.76	1.91	.82	.138	225
240	9.77	5.63	3.78	2.74	1.66	.76	.176	9.49	4.81	3.22	2.78	1.93	.83	.147	240
255	9.99	5.67	3.78	2.77	1.67	.75	.186	9.38	4.78	3.19	2.76	1.92	.82	.142	255
270	10.22	6.02	3.73	2.75	1.67	.72	.182	8.70	4.60	3.12	2.74	1.89	.81	.142	270
285	10.27	5.97	3.71	2.72	1.65	.69	.184	8.14	4.42	3.00	2.66	1.85	.80	.127	285
300	10.29	5.92	3.68	2.70	1.62	.68	.184	7.37	4.13	2.84	2.57	1.79	.80	.140	300
315	10.32	6.13	3.69	2.71	1.64	.69	.182	7.51	4.11	2.80	2.50	1.72	.76	.124	315
330	10.23	6.01	3.84	2.80	1.68	.69	.182	7.33	4.14	2.87	2.57	1.74	.76	.104	330
345	4.66	3.58	2.45	1.63	.85	.51	.071	5.14	2.85	1.76	1.57	1.09	.45	.029	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	6.17	4.16	1.77	2.28	1.74	1.85	1.02	.45	.53	.26	.025	0
15	6.58	4.48	1.99	2.46	1.89	1.97	1.11	.50	.55	.28	.031	15
30	6.92	4.69	2.19	2.63	2.01	2.04	1.18	.52	.58	.29	.033	30
45	6.67	4.54	2.06	2.50	1.93	1.97	1.15	.49	.56	.27	.021	45
60	5.79	3.91	1.70	2.17	1.67	1.77	1.01	.41	.49	.23	.006	60
75	5.09	3.29	1.31	1.84	1.43	1.58	.89	.34	.46	.21	.000	75
90	5.02	3.25	1.27	1.81	1.40	1.57	.88	.35	.46	.22	.002	90
105	5.19	3.47	1.40	1.93	1.50	1.66	.94	.39	.50	.25	.016	105
120	5.09	3.39	1.37	1.93	1.50	1.65	.96	.42	.52	.26	.027	120
135	5.53	3.65	1.54	2.10	1.62	1.72	1.00	.45	.56	.29	.023	135
150	7.41	4.77	2.11	2.53	1.89	1.87	1.04	.37	.49	.23	-.049	150
165	9.72	5.81	2.84	3.10	2.31	2.21	1.15	.43	.55	.27	-.008	165
180	10.54	6.40	3.12	3.39	2.56	2.41	1.35	.62	.67	.36	.072	180
195	10.54	6.04	3.01	3.31	2.51	2.35	1.33	.62	.66	.35	.060	195
210	9.83	5.48	2.61	2.95	2.21	2.10	1.12	.46	.58	.31	.039	210
225	8.07	4.88	2.26	2.69	1.99	1.95	1.07	.40	.52	.24	-.027	225
240	6.21	4.07	1.77	2.35	1.78	1.85	1.07	.48	.56	.29	-.015	240
255	6.02	3.93	1.71	2.26	1.73	1.83	1.07	.50	.58	.30	.033	255
270	5.91	3.90	1.66	2.24	1.72	1.81	1.07	.50	.57	.30	.033	270
285	5.92	3.90	1.66	2.24	1.70	1.79	1.04	.47	.55	.28	.029	285
300	5.63	3.74	1.55	2.13	1.62	1.76	1.01	.46	.54	.27	.025	300
315	5.64	3.72	1.54	2.13	1.62	1.76	1.01	.46	.54	.27	.025	315
330	6.23	4.15	1.85	2.41	1.84	1.91	1.10	.50	.56	.28	.025	330
345	5.45	3.61	1.36	1.99	1.48	1.64	.87	.35	.45	.21	-.002	345

TABLE 87 - Continued

FLIGHT 65, PARTIAL-POWER DESCENT

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	4.02	2.31	1.81	1.34	.97	.38	.058	2.19	.89	.75	.66	.60	.29	.059	0
15	4.33	2.50	1.95	1.45	1.05	.41	.065	2.29	.96	.78	.70	.63	.30	.066	15
30	4.63	2.66	2.05	1.51	1.11	.43	.071	2.46	1.05	.84	.74	.67	.32	.069	30
45	4.71	2.64	2.05	1.50	1.09	.41	.053	2.50	1.06	.86	.75	.67	.33	.070	45
60	4.47	2.43	1.93	1.40	1.02	.37	.037	2.42	1.01	.82	.72	.65	.30	.067	60
75	4.11	2.20	1.78	1.29	.95	.34	.037	2.29	.93	.78	.69	.63	.30	.067	75
90	3.80	2.12	1.71	1.25	.93	.33	.039	2.18	.88	.74	.66	.61	.29	.064	90
105	3.66	2.04	1.69	1.22	.90	.32	.034	2.02	.83	.68	.61	.57	.26	.059	105
120	3.44	1.91	1.59	1.15	.83	.29	.028	1.78	.69	.58	.55	.51	.24	.057	120
135	3.15	1.73	1.47	1.06	.76	.28	.026	1.64	.63	.53	.52	.49	.23	.056	135
150	2.95	1.68	1.42	1.04	.73	.27	.032	1.61	.61	.53	.50	.49	.23	.056	150
165	2.87	1.62	1.38	1.01	.71	.27	.028	1.62	.61	.53	.51	.48	.22	.054	165
180	2.80	1.57	1.35	.98	.70	.26	.026	1.62	.62	.53	.51	.48	.23	.052	180
195	2.70	1.53	1.31	.95	.70	.26	.034	1.62	.63	.54	.51	.48	.23	.051	195
210	2.75	1.57	1.35	.97	.72	.27	.032	1.60	.61	.53	.51	.48	.24	.051	210
225	2.87	1.63	1.37	1.01	.76	.27	.021	1.57	.63	.54	.51	.48	.23	.049	225
240	3.05	1.77	1.45	1.07	.80	.30	.032	1.60	.62	.55	.52	.48	.23	.049	240
255	3.33	1.92	1.57	1.15	.86	.31	.026	1.66	.63	.57	.53	.49	.23	.046	255
270	3.56	2.05	1.64	1.20	.90	.34	.042	1.71	.64	.59	.54	.51	.24	.045	270
285	3.67	2.07	1.65	1.20	.91	.34	.039	1.73	.65	.59	.54	.50	.25	.046	285
300	3.66	2.04	1.63	1.19	.91	.33	.034	1.78	.66	.61	.55	.51	.25	.045	300
315	3.68	2.11	1.66	1.21	.91	.35	.037	1.87	.70	.64	.58	.53	.27	.049	315
330	3.78	2.17	1.69	1.25	.94	.36	.044	1.99	.77	.68	.61	.55	.27	.051	330
345	3.81	2.14	1.69	1.23	.89	.34	.037	2.13	.83	.71	.63	.57	.27	.051	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	.99	.57	.35	.24	.101	.41	.20	.11	.09	-.005	0
15	1.01	.58	.36	.25	.103	.42	.21	.11	.09	-.007	15
30	1.05	.61	.38	.26	.107	.43	.21	.12	.10	-.006	30
45	1.12	.62	.39	.26	.107	.46	.23	.13	.10	.003	45
60	1.12	.62	.39	.26	.109	.49	.24	.13	.10	.005	60
75	1.09	.61	.38	.25	.107	.47	.23	.13	.09	.001	75
90	1.00	.57	.35	.24	.107	.44	.21	.12	.09	-.003	90
105	.91	.53	.32	.23	.101	.41	.20	.10	.08	-.003	105
120	.81	.49	.29	.21	.097	.37	.18	.09	.08	-.001	120
135	.74	.45	.27	.21	.095	.34	.17	.08	.08	-.001	135
150	.71	.44	.27	.21	.093	.33	.17	.08	.08	.001	150
165	.71	.44	.26	.21	.091	.35	.17	.09	.08	.005	165
180	.72	.45	.27	.21	.091	.35	.17	.09	.08	.004	180
195	.72	.44	.27	.21	.087	.34	.17	.09	.08	.004	195
210	.71	.44	.27	.20	.087	.32	.15	.08	.08	.000	210
225	.66	.42	.26	.20	.083	.27	.13	.07	.07	-.005	225
240	.65	.42	.26	.20	.083	.26	.12	.06	.07	-.008	240
255	.65	.42	.25	.20	.085	.25	.11	.05	.06	-.007	255
270	.67	.42	.26	.20	.083	.25	.11	.05	.06	-.012	270
285	.69	.44	.27	.20	.085	.26	.12	.06	.07	-.010	285
300	.73	.45	.28	.21	.089	.28	.13	.07	.07	-.006	300
315	.77	.48	.29	.22	.091	.32	.15	.08	.08	-.011	315
330	.87	.52	.32	.23	.095	.36	.17	.09	.08	-.006	330
345	.96	.55	.34	.24	.099	.40	.19	.10	.09	-.010	345

TABLE 87 - Continued

FLIGHT 65, PARTIAL-POWER DESCENT

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	1.90	5.61	8.09	14.98	16.94	20.32	22.40
15	1.94	5.76	8.54	16.22	18.30	21.53	24.17
30	2.01	5.98	9.09	17.16	19.41	23.20	27.55
45	2.18	6.13	9.22	16.93	18.62	23.14	29.40
60	2.26	6.14	8.82	15.75	16.14	21.17	30.50
75	2.17	6.00	8.46	14.46	14.03	18.65	31.70
90	1.99	5.66	8.14	13.91	13.84	19.77	31.51
105	1.84	5.23	7.50	13.46	14.81	25.87	31.03
120	1.69	4.80	6.62	12.54	14.95	29.14	31.62
135	1.57	4.50	6.26	11.55	16.03	30.68	31.73
150	1.58	4.41	6.14	11.12	18.14	31.40	31.93
165	1.65	4.38	6.10	10.79	22.43	31.53	31.68
180	1.68	4.43	6.15	10.54	25.49	31.37	31.63
195	1.66	4.42	6.14	10.34	25.07	30.84	31.56
210	1.52	4.35	6.14	10.67	22.20	30.68	31.70
225	1.30	4.18	6.09	11.00	19.31	30.94	31.83
240	1.19	4.14	6.18	11.79	17.22	31.25	32.12
255	1.13	4.15	6.31	12.63	17.23	30.98	32.33
270	1.12	4.21	6.46	13.46	16.99	30.00	32.72
285	1.19	4.29	6.53	13.59	16.74	28.86	32.40
300	1.32	4.49	6.63	13.46	16.06	27.53	32.15
315	1.46	4.70	7.02	13.73	16.04	26.95	32.57
330	1.66	5.11	7.33	14.13	17.70	27.00	32.79
345	1.83	5.46	7.67	13.81	14.33	17.32	18.57

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	12.795		0	2.982		0	7.585	
1	1.233	-.248	1	.169	-.124	1	-.030	-.025
2	-.014	.033	2	.157	.112	2	.008	.005
3	.019	.090	3	-.064	.008	3	.002	.022
4	.014	.000	4	-.043	.004	4	-.002	-.002
5	-.005	.005	5	-.029	-.017	5	.015	.018
6	.000	-.019	6	-.010	-.025	6	-.008	.008
7	.000	.029	7	.019	-.010	7	.013	-.005
8	-.010	.000	8	.000	-.006	8	.005	.005
9	.005	.000	9	.000	.012	9	.002	-.015
10	.014	.005	10	.010	.014	10	.012	.000
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 87 - Continued

FLIGHT 65, PARTIAL-POWER DESCENT

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	1.658		.75	0	13.250		.95	0	30.315	
.25	1	.179	.391	.75	1	2.496	.822	.95	1	-2.780	-.696
.25	2	.107	.106	.75	2	-.387	.602	.95	2	-2.502	-.480
.25	3	-.082	-.074	.75	3	-.106	.541	.95	3	-1.836	-.054
.25	4	.021	-.022	.75	4	-.082	.213	.95	4	-1.312	.040
.25	5	.003	-.028	.75	5	-.241	.009	.95	5	-.866	.454
.25	6	.013	-.005	.75	6	-.116	-.054	.95	6	-.648	.763
.25	7	.009	.002	.75	7	.015	.082	.95	7	-.290	.765
.25	8	-.009	.000	.75	8	.013	.064	.95	8	.157	.666
.25	9	.001	.004	.75	9	.033	.035	.95	9	.479	.580
.25	10	-.002	.000	.75	10	.042	.009	.95	10	.599	.475
.40	0	4.937		.85	0	17.833					
.40	1	.678	.661	.85	1	-2.210	-.943				
.40	2	.050	.263	.85	2	2.763	1.338				
.40	3	-.080	-.090	.85	3	-1.476	.405				
.40	4	.045	-.034	.85	4	.319	.744				
.40	5	-.001	-.029	.85	5	-.860	-.163				
.40	6	-.008	-.012	.85	6	-.123	.038				
.40	7	.002	-.016	.85	7	-.096	.239				
.40	8	-.012	-.007	.85	8	.074	.252				
.40	9	-.005	-.003	.85	9	.047	.273				
.40	10	.001	.004	.85	10	.263	.166				
.55	0	7.152		.90	0	26.671					
.55	1	1.145	.811	.90	1	-5.041	-2.958				
.55	2	-.036	.492	.90	2	.067	-.995				
.55	3	-.124	.010	.90	3	-.103	1.548				
.55	4	.034	.012	.90	4	-1.512	.601				
.55	5	-.075	.018	.90	5	-1.129	-.067				
.55	6	-.067	-.031	.90	6	-.106	.163				
.55	7	.022	-.028	.90	7	.029	.674				
.55	8	.028	.011	.90	8	-.025	.643				
.55	9	.005	-.001	.90	9	.208	.355				
.55	10	.014	-.016	.90	10	.519	.271				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 87 - Concluded

FLIGHT 65, PARTIAL-POWER DESCENT

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	309	1576	940	886	-281	-1505		
15	1255	1378	615	390	-1909	-3505		
30	742	388	-687	-745	-2507	-3634		
45	-569	-594	-1383	-1260	-2014	-2241		
60	-113	-206	-868	-621	-1354	-1465		
75	1130	1246	353	333	-466	-699		
90	1209	1898	1510	1545	846	963		
105	1358	1444	1211	1945	2562	3162		
120	719	1370	1356	2079	2526	3510		
135	1517	1370	1031	1621	2148	3192		
150	1244	1254	1121	1650	1409	2008		
165	1130	1089	660	1134	1171	1858		
180	1027	825	253	801	1048	1978		
195	685	710	244	839	1488	2455		
210	674	1089	759	1316	1770	2714		
225	1130	1559	1329	1812	2007	2774		
240	1255	1667	1591	2193	2298	2973		
255	879	1609	1636	2212	2245	3003		
270	981	1353	1157	1917	2086	2704		
285	742	1337	1130	1650	1330	1749		
300	879	1353	796	1134	846	1112		
315	457	1056	633	963	450	575		
330	332	759	217	553	634	1112		
345	104	759	443	781	740	306		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-7075	-8726	3030	
15	-5137	-6740	3558	
30	-3542	-5405	4662	
45	-1865	-5340	3878	
60	-2988	-7163	2742	
75	-3786	-8840	854	
90	-3672	-9866	-170	
105	-2532	-9117	598	
120	-1865	-6528	2502	
135	-1067	-5551	3990	
150	-42	-5258	2918	
165	-660	-7098	1830	
180	-807	-8433	54	
195	-660	-8775	-1242	
210	-2565	-8645	374	
225	-3526	-7928	1638	
240	-3281	-7538	1542	
255	-4551	-8677	1430	
270	-4942	-9410	374	
285	-4877	-9670	-58	
300	-5561	-8889	1046	
315	-5414	-8254	1878	
330	-5202	-7733	1606	
345	-6407	-9003	2278	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	-64	-313	25
15	131	-171	52
30	495	204	99
45	625	359	109
60	469	130	92
75	345	3	85
90	543	120	98
105	568	51	110
120	370	30	78
135	398	-23	81
150	498	107	90
165	538	77	88
180	395	-43	51
195	292	-94	31
210	192	-221	18
225	144	-198	9
240	139	-223	20
255	232	-85	25
270	398	-29	51
285	321	-2	32
300	128	-141	17
315	246	-18	31
330	227	8	42
345	278	-191	53

TABLE 88

FLIGHT 66, PARTIAL-POWER DESCENT

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	4.90	3.39	2.83	1.83	.93	.42	.053	6.06	3.08	2.21	1.91	1.20	.49	.005	0
15	2.38	2.10	1.83	1.03	.33	.17	-.026	3.43	1.83	1.31	1.14	.67	.22	-.089	15
30	1.93	1.64	1.48	.66	.18	.15	-.006	.14	-.07	.11	.16	.13	.08	-.096	30
45	7.23	5.48	4.02	2.81	1.58	.70	.132	6.34	3.46	2.83	2.58	1.57	.69	.061	45
60	7.85	4.68	3.89	2.69	1.50	.64	.091	9.49	4.71	3.49	3.01	1.89	.74	.058	60
75	7.21	4.78	3.36	2.29	1.23	.50	.063	7.96	4.01	2.79	2.31	1.47	.55	.016	75
90	5.15	3.50	2.82	1.83	.91	.40	.047	5.64	2.79	2.01	1.75	1.10	.46	.002	90
105	4.68	3.29	2.63	1.78	.95	.46	.077	5.45	2.80	2.01	1.79	1.14	.53	.033	105
120	5.72	3.74	2.91	2.03	1.12	.49	.083	6.34	3.28	2.36	2.02	1.32	.58	.047	120
135	5.65	3.65	2.82	1.96	1.07	.48	.069	6.53	3.32	2.37	2.00	1.29	.55	.027	135
150	5.63	3.60	2.80	1.95	1.07	.48	.083	6.05	3.03	2.21	1.89	1.25	.54	.031	150
165	5.70	3.66	2.79	1.95	1.08	.50	.095	6.22	3.16	2.26	1.93	1.30	.57	.052	165
180	6.27	4.09	2.95	2.09	1.19	.53	.102	6.66	3.42	2.43	2.07	1.38	.61	.069	180
195	6.56	4.26	3.02	2.14	1.26	.57	.118	7.02	3.55	2.49	2.10	1.41	.64	.092	195
210	6.76	4.27	3.00	2.15	1.29	.57	.122	7.53	3.76	2.64	2.18	1.49	.64	.089	210
225	6.88	4.27	3.01	2.16	1.30	.59	.130	8.15	4.06	2.82	2.34	1.57	.70	.108	225
240	7.76	4.62	3.23	2.40	1.51	.70	.177	9.43	4.33	3.03	2.54	1.74	.78	.157	240
255	7.65	4.28	2.97	2.19	1.35	.62	.150	6.58	3.16	2.16	1.79	1.30	.57	.089	255
270	3.08	2.23	1.71	1.15	.62	.32	.049	2.72	1.36	1.04	.97	.65	.33	.022	270
285	5.26	3.47	2.55	1.79	1.03	.46	.085	6.22	3.19	2.27	1.89	1.25	.55	.052	285
300	6.86	4.35	3.02	2.15	1.25	.53	.091	7.42	3.77	2.61	2.16	1.43	.60	.067	300
315	6.70	4.26	2.99	2.11	1.20	.51	.067	7.55	3.80	2.65	2.18	1.42	.59	.052	315
330	5.66	3.62	2.79	1.95	1.07	.48	.069	7.08	3.59	2.52	2.12	1.37	.57	.042	330
345	5.33	3.58	2.84	1.93	1.03	.46	.069	6.77	3.44	2.46	2.09	1.34	.55	.025	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	6.28	4.60	3.16	2.40	2.00	1.78	1.13	.49	.50	.24	.068	0
15	3.93	2.90	2.08	1.64	1.25	1.12	.69	.21	.28	.10	.002	15
30	1.39	.82	.69	.49	.37	.56	.20	-.06	.11	.02	-.025	30
45	4.11	2.98	2.05	1.76	1.34	1.27	.84	.37	.40	.22	.080	45
60	10.26	9.34	5.00	3.93	3.26	2.81	1.84	.89	.75	.38	.150	60
75	8.40	5.37	3.77	2.92	2.39	2.07	1.32	.60	.55	.27	.068	75
90	5.21	3.87	2.64	2.00	1.65	1.50	.96	.42	.44	.22	.059	90
105	5.09	3.70	2.60	1.97	1.64	1.54	1.00	.48	.48	.27	.084	105
120	6.16	4.52	3.09	2.41	1.98	1.79	1.16	.56	.53	.30	.092	120
135	6.45	4.67	3.19	2.46	2.00	1.79	1.15	.53	.50	.26	.080	135
150	5.59	4.10	2.78	2.15	1.77	1.61	1.04	.48	.49	.25	.068	150
165	5.82	4.27	2.89	2.26	1.85	1.68	1.08	.53	.53	.30	.086	165
180	6.29	4.55	3.15	2.44	2.00	1.80	1.16	.59	.58	.32	.109	180
195	6.79	4.73	3.32	2.61	2.12	1.93	1.26	.65	.62	.34	.126	195
210	7.62	5.00	3.55	2.80	2.28	2.04	1.34	.69	.63	.35	.129	210
225	8.82	5.52	3.90	3.07	2.48	2.19	1.43	.76	.68	.38	.144	225
240	8.88	5.43	3.85	3.03	2.51	2.22	1.46	.79	.71	.40	.160	240
255	3.25	2.34	1.69	1.33	1.08	1.07	.73	.40	.43	.23	.068	255
270	3.76	2.59	1.77	1.43	1.09	1.07	.68	.29	.36	.18	.053	270
285	6.04	4.41	2.98	2.30	1.88	1.73	1.07	.52	.50	.28	.095	285
300	7.20	4.92	3.46	2.68	2.18	1.96	1.23	.61	.59	.32	.111	300
315	7.71	5.20	3.67	2.84	2.30	2.06	1.31	.66	.60	.32	.115	315
330	7.51	5.29	3.65	2.81	2.30	2.05	1.30	.63	.60	.32	.107	330
345	7.18	5.27	3.55	2.73	2.26	2.01	1.27	.59	.58	.29	.088	345

TABLE 88 - Continued

FLIGHT 66, PARTIAL-POWER DESCENT

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.82	2.91	2.25	1.67	1.15	.46	.068	3.70	1.80	1.27	1.03	.81	.45	.082	0
15	4.98	2.22	1.80	1.30	.81	.31	.031	3.22	1.54	1.09	.89	.70	.41	.067	15
30	3.76	1.43	1.17	.96	.54	.21	.019	2.53	1.18	.86	.71	.58	.35	.064	30
45	2.76	1.14	.98	.75	.47	.21	.024	2.23	1.10	.76	.64	.53	.33	.067	45
60	3.62	2.86	2.13	2.02	1.47	.61	.114	2.04	.96	.68	.57	.47	.30	.046	60
75	5.02	3.45	2.60	1.88	1.29	.48	.059	1.89	.88	.67	.58	.48	.30	.043	75
90	5.01	2.42	1.93	1.42	.96	.40	.062	1.65	.81	.67	.57	.49	.34	.065	90
105	4.52	2.34	1.89	1.45	1.01	.44	.080	2.41	1.21	.91	.76	.62	.41	.080	105
120	4.72	2.57	2.08	1.57	1.08	.47	.078	3.01	1.46	1.05	.88	.69	.41	.080	120
135	4.98	2.65	2.08	1.58	1.08	.43	.071	3.11	1.51	1.07	.89	.69	.37	.070	135
150	4.66	2.28	1.85	1.39	.97	.39	.059	2.94	1.42	1.03	.85	.67	.40	.081	150
165	4.41	2.30	1.85	1.41	1.00	.44	.085	2.91	1.42	1.03	.86	.69	.41	.084	165
180	4.57	2.52	1.96	1.51	1.08	.48	.087	3.11	1.53	1.11	.92	.73	.43	.086	180
195	5.15	2.91	2.19	1.68	1.22	.53	.095	2.60	1.28	.98	.83	.68	.43	.079	195
210	5.63	3.02	2.27	1.72	1.24	.53	.087	1.09	.46	.42	.39	.34	.26	.026	210
225	5.62	2.70	2.09	1.57	1.15	.51	.090	1.14	.49	.43	.37	.31	.23	.031	225
240	4.49	1.54	1.46	1.08	.78	.40	.071	1.58	.74	.58	.50	.41	.29	.049	240
255	3.50	1.51	1.23	.99	.67	.33	.052	2.21	1.06	.79	.67	.53	.34	.054	255
270	3.70	2.06	1.62	1.21	.84	.35	.052	2.46	1.17	.87	.72	.57	.34	.049	270
285	4.28	2.42	1.84	1.39	.97	.40	.066	2.48	1.17	.87	.72	.56	.34	.046	285
300	4.75	2.63	2.02	1.52	1.08	.47	.076	2.60	1.26	.93	.77	.60	.37	.061	300
315	5.32	2.98	2.25	1.71	1.22	.52	.093	2.98	1.47	1.06	.87	.68	.42	.075	315
330	5.84	3.16	2.36	1.78	1.27	.53	.087	3.30	1.64	1.16	.95	.74	.45	.078	330
345	6.12	3.18	2.40	1.80	1.28	.53	.085	3.63	1.80	1.26	1.03	.81	.46	.083	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.90	.97	.58	.32	.103	.89	.42	.26	.15	.034	0
15	1.75	.89	.52	.30	.105	.85	.41	.24	.11	.031	15
30	1.41	.70	.42	.25	.097	.71	.33	.19	.09	.021	30
45	1.08	.56	.35	.23	.099	.59	.28	.18	.10	.027	45
60	1.07	.54	.33	.23	.090	.49	.23	.14	.08	.025	60
75	.87	.44	.25	.19	.075	.56	.26	.16	.08	.028	75
90	.68	.41	.27	.23	.093	.73	.34	.20	.09	.028	90
105	.85	.47	.28	.22	.069	.52	.25	.14	.08	.020	105
120	1.13	.59	.36	.24	.096	.47	.23	.14	.09	.030	120
135	1.18	.63	.38	.26	.094	.51	.24	.14	.09	.030	135
150	1.35	.70	.42	.27	.101	.51	.25	.16	.09	.031	150
165	1.39	.74	.44	.28	.097	.49	.24	.16	.10	.031	165
180	1.07	.59	.36	.26	.092	.32	.15	.10	.07	.020	180
195	.60	.37	.23	.20	.073	.27	.12	.08	.06	.023	195
210	.53	.31	.18	.17	.065	.25	.12	.08	.07	.024	210
225	.66	.37	.22	.18	.071	.34	.15	.10	.07	.027	225
240	.79	.43	.25	.20	.071	.37	.16	.10	.06	.021	240
255	.90	.50	.30	.21	.077	.42	.19	.12	.07	.023	255
270	.99	.55	.32	.22	.079	.45	.22	.14	.09	.020	270
285	1.12	.61	.36	.24	.086	.60	.30	.20	.12	.030	285
300	1.18	.64	.39	.24	.088	.78	.39	.25	.14	.035	300
315	1.27	.70	.43	.28	.095	.78	.38	.24	.13	.031	315
330	1.38	.75	.46	.29	.091	.89	.46	.29	.16	.048	330
345	1.64	.86	.53	.32	.107	.84	.44	.29	.15	.038	345

TABLE 88 - Continued

FLIGHT 66, PARTIAL-POWER DESCENT

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	4.11	9.06	13.05	19.01	19.56	19.65	18.85
15	3.68	8.33	11.37	14.52	12.02	10.71	9.72
30	2.98	6.82	9.20	9.94	3.98	.84	7.47
45	2.72	5.63	8.42	8.21	13.75	24.25	29.67
60	2.25	5.46	7.45	19.53	31.41	30.72	28.07
75	2.50	4.42	7.24	20.36	23.59	24.63	24.93
90	3.14	4.42	7.35	16.17	16.48	18.05	18.95
105	2.30	4.75	9.76	16.14	16.82	18.58	18.60
120	2.27	5.83	11.07	17.32	19.73	21.45	21.33
135	2.36	6.22	10.96	17.37	19.86	21.33	20.69
150	2.46	6.83	10.75	15.58	17.78	20.11	20.62
165	2.46	7.08	10.90	15.88	18.67	20.92	20.93
180	1.63	5.86	11.58	17.01	20.26	22.41	22.81
195	1.37	3.86	10.42	19.15	21.70	23.32	23.85
210	1.38	3.23	4.90	19.82	23.26	24.50	24.14
225	1.66	3.81	4.74	18.66	25.61	26.36	24.44
240	1.67	4.31	6.41	13.13	25.94	29.24	27.45
255	1.92	4.88	8.42	11.17	11.90	21.07	25.32
270	2.18	5.23	9.01	13.46	11.79	9.98	12.35
285	3.00	5.85	8.96	15.57	18.89	20.61	19.47
300	3.71	6.14	9.67	17.29	21.97	23.87	23.90
315	3.66	6.74	11.06	19.40	23.18	23.92	23.20
330	4.37	7.19	12.05	20.47	22.95	22.78	20.59
345	4.17	8.31	13.05	20.75	22.21	21.98	20.14

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	12.440		0	3.554		0	5.475	
1	1.975	-3.913	1	.207	-.715	1	-.292	.105
2	-.127	.000	2	.182	-.324	2	.022	-.014
3	.232	.350	3	-.215	-.265	3	.005	-.100
4	.104	-.086	4	-.241	-.154	4	-.006	-.016
5	-.168	-.182	5	.227	-.405	5	.036	-.016
6	.041	-.036	6	-.024	.016	6	-.011	-.C05
7	.054	.027	7	-.065	.055	7	-.020	.009
8	.032	-.027	8	-.083	-.085	8	-.002	-.C03
9	.000	.000	9	-.002	-.C14	9	.003	-.002
10	.000	.005	10	-.051	.C10	10	.008	-.C06

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom}\right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom}\right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom}\right)$$

TABLE 88 - Continued

FLIGHT 66, PARTIAL-POWER DESCENT

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.665		.75	0	16.496		.95	0	21.145	
.25	1	1.035	-.006	.75	1	-.219	-.081	.95	1	-2.136	-.512
.25	2	.232	-.567	.75	2	.983	-1.550	.95	2	-1.288	1.097
.25	3	.061	-.078	.75	3	-.362	-3.326	.95	3	-1.959	-2.488
.25	4	.068	-.082	.75	4	.187	-.514	.95	4	-2.527	-2.857
.25	5	.089	.189	.75	5	1.986	-.673	.95	5	.269	-1.263
.25	6	-.071	-.067	.75	6	.654	.562	.95	6	3.191	-.460
.25	7	-.013	-.069	.75	7	-.404	1.035	.95	7	1.747	-1.259
.25	8	.018	-.021	.75	8	-.334	.113	.95	8	.225	.017
.25	9	.014	.134	.75	9	-.366	-.414	.95	9	.769	1.385
.25	10	-.052	.090	.75	10	-.036	-.360	.95	10	.687	.996
.40	0	5.844		.85	0	19.303					
.40	1	1.223	.149	.85	1	-1.455	-.799				
.40	2	1.090	-.927	.85	2	-.087	-.458				
.40	3	.305	.696	.85	3	-1.370	-4.670				
.40	4	.249	-.264	.85	4	-2.077	-2.605				
.40	5	.078	.158	.85	5	2.760	-.824				
.40	6	.244	-.082	.85	6	3.553	-.308				
.40	7	.007	.143	.85	7	-.196	.900				
.40	8	.026	-.010	.85	8	-.494	1.603				
.40	9	-.013	.022	.85	9	-.031	.186				
.40	10	-.017	-.035	.85	10	-.577	-.770				
.55	0	9.491		.90	0	20.886					
.55	1	.942	.318	.90	1	-2.363	-.942				
.55	2	1.607	-2.079	.90	2	-.950	.138				
.55	3	.229	.550	.90	3	-1.594	-4.040				
.55	4	.843	-.066	.90	4	-2.634	-3.434				
.55	5	-.611	-.505	.90	5	1.620	-1.149				
.55	6	.497	.303	.90	6	4.257	-.643				
.55	7	.018	-.127	.90	7	1.274	-.432				
.55	8	.032	.197	.90	8	-.143	1.213				
.55	9	.075	-.225	.90	9	.484	1.694				
.55	10	-.034	.168	.90	10	.200	.558				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 88 - Concluded

FLIGHT 66, PARTIAL-POWER DESCENT

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	115	99	-389	-602	-738	-1176		
15	3923	3729	3869	3357	115	-2540		
30	6043	5363	4683	2928	-738	-3515		
45	1825	1543	976	-277	-2270	-1933		
60	-1390	-3812	-5243	-3826	2861	7102		
75	-5061	-2277	1275	2728	1611	-1465		
90	9919	5759	3887	2117	-3044	-7107		
105	6419	6650	6310	3462	-4030	-7325		
120	-729	-281	814	2203	2324	465		
135	-683	-1799	-2350	-1670	1954	3620		
150	1392	1683	217	-1766	-1997	-599		
165	4242	3440	3272	2174	-2226	-7345		
180	4344	3787	3046	705	-4945	-8390		
195	2042	215	-1193	-2338	-3070	-2142		
210	-2803	-2838	-1600	371	1444	575		
225	936	1337	1736	2337	3222	1639		
240	5222	6674	6102	4225	1048	-351		
255	3911	4612	4873	4979	4005	3411		
270	-1663	487	1944	3128	5395	7391		
285	320	-602	-226	629	2817	3102		
300	1608	1873	1745	-249	-4998	-8102		
315	3330	1675	-353	-2815	-7673	-11843		
330	-569	-1733	-2585	-3616	-6406	-9146		
345	-1823	-2665	-3724	-3836	-3264	-3097		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-10803	-14994	-170	
15	-5528	-9166	-1914	
30	-2907	-3761	7142	
45	-1458	2849	14966	
60	9189	4396	5974	
75	3149	-7928	1206	
90	-6635	-14619	-4442	
105	-3135	-17338	-4778	
120	3752	-2914	-1034	
135	414	358	15238	
150	3117	5405	13990	
165	2156	651	8198	
180	-7107	-9638	6550	
195	-253	-9687	-6698	
210	642	-14912	-6746	
225	-7889	-11933	-26	
240	-11747	-9052	2726	
255	-9191	-9735	118	
270	-9240	-11315	1174	
285	-7449	-8563	5494	
300	-3737	195	5798	
315	-7872	-3207	11686	
330	-351	-4005	1878	
345	-986	-7098	-2906	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	1074	519	192
15	148	339	102
30	-409	-667	51
45	420	407	140
60	1405	1615	200
75	537	481	75
90	-911	-529	-51
105	247	-185	34
120	1071	861	148
135	107	170	50
150	-555	-126	-42
165	-537	-654	-17
180	-9	-170	18
195	383	290	40
210	-12	-128	-51
225	-1422	-1120	-134
240	-1001	-859	-67
255	-254	-437	64
270	162	-141	77
285	-178	14	37
300	-730	-130	9
315	-418	-343	39
330	-205	227	39
345	589	618	141

TABLE 89

FLIGHT 67, PARTIAL-POWER DESCENT

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.70	3.64	2.87	1.95	1.04	.45	.065	6.19	3.05	2.21	1.86	1.18	.47	-.002	0
15	7.26	4.65	3.41	2.32	1.26	.52	.085	5.78	2.87	2.13	1.87	1.18	.50	-.002	15
30	9.67	5.20	3.90	2.76	1.52	.56	.110	4.96	2.72	2.09	1.89	1.24	.57	.036	30
45	9.25	5.11	4.00	2.86	1.67	.68	.124	9.46	4.69	3.35	2.75	1.74	.65	.065	45
60	9.10	5.16	3.92	2.79	1.64	.69	.136	9.88	4.69	3.37	2.81	1.80	.73	.078	60
75	8.88	5.20	3.83	2.72	1.59	.68	.134	9.50	4.60	3.24	2.76	1.76	.72	.083	75
90	8.57	5.25	3.70	2.64	1.56	.67	.134	9.12	4.48	3.16	2.64	1.71	.72	.083	90
105	8.51	5.22	3.68	2.62	1.54	.66	.130	8.73	4.40	3.10	2.61	1.71	.72	.088	105
120	8.36	5.11	3.59	2.55	1.51	.66	.125	8.63	4.37	3.04	2.55	1.67	.71	.089	120
135	8.34	5.06	3.55	2.53	1.51	.65	.128	8.54	4.27	3.01	2.52	1.65	.71	.092	135
150	8.41	5.07	3.57	2.55	1.53	.67	.140	8.85	4.35	3.04	2.54	1.66	.72	.096	150
165	8.75	5.19	3.65	2.62	1.59	.68	.146	9.61	4.52	3.15	2.62	1.72	.75	.112	165
180	9.14	5.22	3.68	2.66	1.61	.69	.150	10.05	4.59	3.22	2.65	1.76	.75	.119	180
195	9.48	5.23	3.67	2.67	1.64	.71	.160	10.26	4.59	3.23	2.66	1.77	.75	.123	195
210	9.86	5.22	3.72	2.73	1.69	.72	.173	10.42	4.65	3.27	2.70	1.80	.75	.135	210
225	10.31	5.22	3.68	2.76	1.74	.72	.187	10.52	4.63	3.23	2.67	1.78	.74	.136	225
240	10.49	5.25	3.56	2.67	1.71	.68	.195	9.33	4.33	3.04	2.69	1.72	.73	.123	240
255	10.45	5.20	3.57	2.62	1.68	.65	.221	6.96	4.25	3.24	2.74	1.89	.94	.224	255
270	9.51	4.94	3.46	2.50	1.56	.64	.134	7.54	3.70	2.53	2.10	1.38	.54	.036	270
285	7.93	4.62	3.25	2.30	1.40	.60	.121	7.61	3.78	2.64	2.17	1.41	.60	.061	285
300	7.25	4.41	3.12	2.21	1.30	.56	.103	7.48	3.72	2.57	2.12	1.38	.57	.049	300
315	6.54	4.15	3.00	2.10	1.20	.52	.091	7.16	3.59	2.47	2.06	1.33	.54	.036	315
330	6.28	4.04	2.97	2.06	1.15	.50	.083	6.96	3.47	2.43	2.03	1.29	.53	.022	330
345	5.91	3.82	2.89	2.00	1.09	.48	.073	6.61	3.28	2.34	1.96	1.24	.50	.011	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	6.00	4.36	2.97	2.23	1.84	1.65	1.06	.48	.48	.23	.074	0
15	5.29	3.83	2.66	1.95	1.65	1.48	.98	.43	.44	.21	.055	15
30	4.66	3.38	2.35	1.69	1.39	1.27	.85	.37	.41	.20	.053	30
45	4.67	3.43	2.34	1.81	1.49	1.39	.94	.46	.49	.26	.088	45
60	8.17	5.48	3.89	3.00	2.46	2.15	1.40	.68	.63	.33	.115	60
75	9.18	5.94	4.15	3.23	2.66	2.33	1.53	.76	.68	.36	.133	75
90	8.85	5.80	4.04	3.13	2.60	2.28	1.50	.76	.69	.37	.138	90
105	8.97	5.76	4.06	3.17	2.62	2.30	1.53	.79	.71	.38	.148	105
120	8.85	5.69	4.00	3.14	2.59	2.28	1.52	.78	.69	.36	.144	120
135	8.37	5.51	3.89	3.06	2.51	2.23	1.49	.77	.69	.38	.144	135
150	8.71	5.61	3.96	3.12	2.57	2.28	1.52	.80	.71	.39	.152	150
165	9.32	5.87	4.10	3.23	2.63	2.34	1.55	.82	.73	.40	.158	165
180	9.59	5.87	4.13	3.27	2.67	2.35	1.57	.83	.73	.40	.160	180
195	9.18	5.65	3.96	3.13	2.56	2.27	1.51	.80	.71	.38	.144	195
210	8.50	5.39	3.80	2.98	2.46	2.19	1.48	.80	.71	.39	.150	210
225	6.87	4.85	3.35	2.61	2.07	1.93	1.26	.74	.67	.41	.179	225
240	6.02	4.21	2.92	2.27	1.87	1.68	1.14	.58	.56	.30	.084	240
255	4.85	3.49	2.37	1.83	1.50	1.41	.94	.46	.47	.25	.082	255
270	6.40	4.48	3.05	2.38	1.93	1.73	1.13	.56	.53	.29	.096	270
285	6.97	4.78	3.31	2.56	2.08	1.85	1.21	.60	.55	.30	.101	285
300	7.06	4.90	3.37	2.61	2.13	1.89	1.21	.60	.55	.29	.101	300
315	6.94	4.93	3.36	2.58	2.11	1.87	1.20	.59	.55	.28	.094	315
330	6.81	4.90	3.31	2.54	2.09	1.85	1.18	.57	.53	.28	.088	330
345	6.51	4.74	3.18	2.42	2.00	1.77	1.13	.53	.51	.26	.084	345

TABLE 89 - Continued

FLIGHT 67, PARTIAL-POWER DESCENT

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	4.78	2.41	1.95	1.45	.99	.41	.073	2.65	1.28	.94	.75	.59	.35	.069	0
15	4.41	2.20	1.82	1.36	.92	.38	.070	2.50	1.19	.89	.71	.57	.34	.069	15
30	3.92	1.91	1.62	1.20	.80	.32	.056	2.33	1.10	.82	.66	.53	.32	.063	30
45	3.21	1.55	1.28	1.01	.64	.26	.042	2.10	1.03	.74	.59	.48	.29	.058	45
60	2.59	1.30	1.06	.89	.58	.26	.046	1.82	.87	.62	.51	.42	.26	.050	60
75	1.82	.95	.88	.75	.54	.29	.063	1.56	.74	.58	.44	.37	.24	.047	75
90	2.61	1.84	1.56	1.36	1.00	.47	.112	1.43	.65	.57	.40	.35	.24	.044	90
105	4.14	2.95	2.26	1.72	1.20	.49	.091	1.34	.61	.53	.38	.33	.22	.042	105
120	5.05	3.27	2.45	1.86	1.33	.54	.098	1.19	.53	.47	.35	.30	.20	.038	120
135	5.85	3.29	2.46	1.81	1.30	.51	.100	1.11	.48	.44	.34	.28	.20	.040	135
150	6.36	3.27	2.43	1.81	1.30	.51	.091	1.15	.51	.45	.34	.29	.20	.041	150
165	6.33	3.03	2.31	1.72	1.25	.52	.096	1.26	.56	.50	.36	.31	.21	.043	165
180	6.03	2.93	2.25	1.70	1.22	.51	.098	1.32	.61	.50	.38	.32	.21	.041	180
195	5.79	2.63	2.07	1.54	1.10	.47	.079	1.33	.62	.48	.39	.33	.22	.037	195
210	4.77	1.97	1.66	1.25	.89	.39	.067	1.38	.63	.48	.40	.33	.22	.035	210
225	3.72	1.47	1.28	.95	.66	.29	.046	1.45	.70	.53	.43	.35	.23	.040	225
240	3.01	1.49	1.26	.97	.69	.31	.056	1.68	.77	.62	.49	.39	.26	.045	240
255	3.40	1.82	1.54	1.15	.82	.35	.063	1.92	.90	.70	.55	.44	.28	.048	255
270	3.97	2.19	1.76	1.31	.95	.40	.075	2.11	.99	.77	.60	.47	.30	.051	270
285	4.49	2.42	1.90	1.42	1.02	.43	.079	2.28	1.09	.81	.66	.52	.31	.056	285
300	4.85	2.55	2.00	1.49	1.07	.45	.089	2.44	1.17	.87	.70	.55	.33	.059	300
315	5.07	2.63	2.05	1.53	1.08	.46	.087	2.58	1.26	.91	.73	.58	.36	.064	315
330	5.17	2.66	2.08	1.55	1.10	.46	.089	2.74	1.32	.97	.77	.61	.37	.069	330
345	5.07	2.60	2.05	1.53	1.07	.44	.084	2.77	1.35	.98	.77	.62	.36	.071	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.27	.64	.39	.24	.086	.57	.27	.17	.08	.014	0
15	1.24	.63	.39	.24	.090	.59	.28	.17	.09	.020	15
30	1.17	.59	.36	.23	.086	.57	.27	.17	.08	.020	30
45	1.07	.53	.33	.22	.085	.53	.25	.16	.08	.020	45
60	1.00	.50	.31	.21	.082	.51	.24	.15	.07	.020	60
75	.90	.45	.27	.19	.079	.49	.23	.14	.07	.018	75
90	.81	.40	.25	.19	.074	.45	.21	.13	.06	.016	90
105	.71	.39	.22	.17	.071	.38	.18	.11	.05	.015	105
120	.61	.34	.19	.16	.064	.33	.15	.09	.05	.016	120
135	.56	.32	.18	.16	.064	.32	.15	.09	.05	.019	135
150	.57	.33	.18	.16	.064	.31	.15	.09	.05	.019	150
165	.59	.34	.19	.16	.062	.32	.15	.09	.05	.019	165
180	.61	.32	.20	.17	.062	.31	.14	.09	.05	.016	180
195	.61	.32	.20	.16	.058	.29	.13	.09	.05	.015	195
210	.62	.33	.20	.16	.060	.28	.13	.08	.04	.012	210
225	.65	.34	.21	.17	.062	.28	.12	.08	.04	.011	225
240	.70	.37	.22	.17	.064	.28	.12	.09	.05	.010	240
255	.81	.41	.25	.18	.067	.30	.14	.09	.05	.009	255
270	.87	.45	.27	.19	.070	.36	.16	.11	.06	.010	270
285	.96	.49	.30	.20	.073	.40	.19	.12	.07	.012	285
300	1.03	.52	.32	.21	.074	.45	.21	.13	.07	.012	300
315	1.10	.56	.35	.23	.079	.48	.23	.14	.08	.014	315
330	1.17	.60	.37	.24	.085	.50	.24	.15	.08	.012	330
345	1.25	.63	.39	.25	.085	.53	.26	.16	.08	.012	345

TABLE 89 - Continued

FLIGHT 67, PARTIAL-POWER DESCENT

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	2.53	6.28	9.58	16.22	18.46	19.45	20.54
15	2.61	6.23	9.16	15.04	16.60	18.97	25.17
30	2.52	5.85	8.52	13.10	14.62	18.84	29.82
45	2.39	5.39	7.77	10.58	15.68	29.33	30.78
60	2.28	5.07	6.72	9.22	24.58	30.36	30.63
75	2.15	4.62	5.93	7.97	26.83	31.54	30.14
90	1.95	4.25	5.59	13.78	26.33	28.83	29.55
105	1.67	3.85	5.25	18.29	26.71	28.32	29.31
120	1.47	3.42	4.73	20.47	26.32	27.92	28.71
135	1.46	3.26	4.46	20.84	25.58	27.58	28.52
150	1.47	3.30	4.58	21.09	26.26	28.07	28.89
165	1.48	3.38	4.97	20.43	27.28	29.46	29.72
180	1.42	3.43	5.11	19.85	27.61	30.15	30.28
195	1.35	3.40	5.14	18.17	26.50	30.36	30.75
210	1.26	3.44	5.20	14.62	25.57	30.82	31.39
225	1.24	3.57	5.60	11.10	22.19	30.65	31.90
240	1.29	3.82	6.34	10.84	19.22	28.86	31.53
255	1.38	4.22	7.08	12.72	15.77	29.41	31.23
270	1.62	4.52	7.74	14.77	19.64	23.09	29.21
285	1.85	4.91	8.36	16.18	21.08	23.97	26.43
300	2.00	5.21	8.90	17.11	21.30	23.38	24.79
315	2.18	5.59	9.44	17.54	21.12	22.42	23.08
330	2.28	5.95	9.92	17.77	20.73	21.75	22.39
345	2.39	6.28	10.01	17.36	19.90	20.73	21.32

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	13.311		0	3.762		0	7.001	
1	1.017	-.014	1	-2.136	-.510	1	-.210	.268
2	-.054	-.050	2	.186	-.081	2	.036	-.011
3	-.023	.027	3	-.065	-.036	3	-.027	-.035
4	.014	.005	4	-.057	-.016	4	-.008	.019
5	-.064	.009	5	.036	-.065	5	.014	-.011
6	.000	-.032	6	.000	.006	6	.008	.002
7	.009	-.014	7	.010	.010	7	.022	.011
8	-.018	.009	8	-.004	.006	8	.011	.002
9	-.005	.000	9	-.020	.004	9	-.002	.002
10	.005	.000	10	.008	-.006	10	-.003	-.003

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom}\right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom}\right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom}\right)$$

TABLE 89 - Continued

FLIGHT 67, PARTIAL-POWER DESCENT

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	1.843		.75	0	15.626		.95	0	28.169	
.25	1	.610	.160	.75	1	-1.729	.068	.95	1	-3.192	.914
.25	2	.110	.014	.75	2	2.143	-4.224	.95	2	-1.527	2.703
.25	3	-.071	.023	.75	3	.377	.547	.95	3	-.613	.699
.25	4	.033	.000	.75	4	.461	1.124	.95	4	-.562	.038
.25	5	.020	.028	.75	5	-.621	-.360	.95	5	-.666	.027
.25	6	-.009	.010	.75	6	-.118	-.139	.95	6	-.397	-.048
.25	7	-.007	.002	.75	7	.300	-.093	.95	7	-.196	-.003
.25	8	.007	.011	.75	8	-.043	.203	.95	8	-.188	-.146
.25	9	.004	.000	.75	9	-.151	.085	.95	9	-.207	-.067
.25	10	-.005	-.006	.75	10	-.144	-.088	.95	10	-.062	.019
.40	0	4.551		.85	0	22.329					
.40	1	1.466	-.156	.85	1	-3.858	2.250				
.40	2	.243	.034	.85	2	-.175	-1.889				
.40	3	-.008	.007	.85	3	-1.481	-2.262				
.40	4	.091	-.024	.85	4	.708	-.135				
.40	5	-.003	.017	.85	5	1.152	-.139				
.40	6	-.007	-.007	.85	6	.362	-.036				
.40	7	.004	.004	.85	7	-.270	.695				
.40	8	-.016	.008	.85	8	-.254	.295				
.40	9	-.023	.002	.85	9	-.100	-.244				
.40	10	.001	-.010	.85	10	-.162	-.355				
.55	0	6.920		.90	0	26.427					
.55	1	2.380	-1.067	.90	1	-4.387	1.370				
.55	2	.370	-.195	.90	2	-1.643	1.716				
.55	3	-.010	.037	.90	3	-1.311	-1.263				
.55	4	.103	-.022	.90	4	-.590	-1.270				
.55	5	-.130	.002	.90	5	.071	-.493				
.55	6	-.015	-.063	.90	6	.728	-.182				
.55	7	.005	-.020	.90	7	.533	-.109				
.55	8	-.009	.008	.90	8	.010	-.105				
.55	9	-.004	.014	.90	9	.036	.637				
.55	10	-.014	.000	.90	10	.336	.595				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 89 - Concluded

FLIGHT 67, PARTIAL-POWER DESCENT

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	17296	2624	1528	884	-595	-1885		
15	16737	2450	1935	1189	-67	-1179		
30	16783	2426	1844	1380	425	-74		
45	17011	1856	597	340	1613	3289		
60	17091	2904	524	1218	2977	4831		
75	17125	2467	2188	2840	3690	4523		
90	16179	3341	3634	3651	3690	4035		
105	16407	3308	3923	4271	4429	4274		
120	16657	2310	3074	3966	5125	4971		
135	17125	2384	2585	3069	4350	4523		
150	16657	2483	2486	2783	3444	3120		
165	10137	2500	2839	3040	2863	1906		
180	16863	2525	2414	2535	2793	2911		
195	17478	2120	1980	2477	3620	4423		
210	17501	2368	2414	3012	4385	5339		
225	17524	2632	3282	3689	4077	4632		
240	9817	3308	3408	3260	3637	4523		
255	17239	2360	3037	3489	3576	3498		
270	17524	2384	2350	2449	2185	1846		
285	17091	2195	1537	1094	117	-671		
300	17923	2657	1446	674	-1555	-3567		
315	17136	2912	289	-575	-2303	-3994		
330	18071	2838	289	-699	-2408	-3716		
345	17182	3993	316	-70	-851	-2213		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-3307	-7407	2327	
15	-1337	-6235	2839	
30	-247	-4933	4135	
45	3416	-4005	2743	
60	3888	-4965	1719	
75	1853	-7000	999	
90	1284	-8677	-473	
105	1951	-8384	-857	
120	1740	-7000	1431	
135	1740	-5079	3127	
150	-68	-5486	3287	
165	-3356	-8091	1831	
180	-4626	-11022	-2105	
195	-5766	-13122	-4425	
210	-8843	-13203	-3705	
225	-12278	-13480	-1209	
240	-11138	-11933	-1833	
255	-10405	-11510	-233	
270	-10096	-9882	1783	
285	-8256	-7896	2983	
300	-7019	-7407	3719	
315	-4740	-7310	2311	
330	-3470	-7684	1351	
345	-3942	-8124	2055	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	681	165	56
15	656	103	62
30	1005	389	92
45	1070	405	113
60	910	275	81
75	668	-1	60
90	647	-28	79
105	843	139	95
120	677	2	72
135	409	-92	41
150	330	-184	42
165	276	-55	54
180	409	-93	50
195	231	-259	21
210	-88	-416	-16
225	-235	-546	-30
240	-270	-312	-6
255	236	-283	20
270	421	89	28
285	350	-86	41
300	541	143	34
315	494	38	38
330	793	280	50
345	762	171	61

TABLE 90

FLIGHT 68, PARTIAL-POWER DESCENT

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.26	3.49	2.64	1.83	1.01	.45	.063	6.37	3.19	2.23	1.89	1.21	.50	.022	0
15	4.06	2.92	2.31	1.56	.77	.36	.036	5.13	2.58	1.87	1.59	1.00	.40	-.016	15
30	3.15	2.45	1.92	1.19	.46	.23	.002	2.45	1.26	1.00	.87	.53	.21	-.067	30
45	7.77	5.23	3.93	2.63	1.38	.58	.097	4.79	2.35	1.95	1.81	1.07	.49	.016	45
60	8.79	5.05	3.87	2.84	1.66	.71	.130	9.91	4.84	3.52	2.92	1.90	.77	.085	60
75	7.97	4.97	3.43	2.46	1.44	.60	.106	9.00	4.41	3.10	2.58	1.66	.67	.065	75
90	6.63	4.29	2.99	2.10	1.20	.51	.087	7.38	3.66	2.51	2.11	1.37	.57	.041	90
105	6.21	4.00	2.88	2.04	1.16	.53	.099	6.58	3.38	2.36	2.00	1.31	.59	.063	105
120	6.75	4.32	3.03	2.16	1.25	.56	.107	7.08	3.65	2.54	2.15	1.43	.63	.081	120
135	6.84	4.31	3.03	2.16	1.25	.55	.099	7.47	3.77	2.62	2.20	1.45	.62	.072	135
150	6.66	4.22	2.96	2.11	1.24	.55	.111	7.13	3.57	2.49	2.10	1.39	.61	.072	150
165	7.10	4.41	3.07	2.20	1.31	.59	.118	7.30	3.67	2.54	2.14	1.43	.64	.083	165
180	7.51	4.57	3.13	2.27	1.37	.60	.120	7.64	3.84	2.65	2.23	1.49	.68	.099	180
195	7.70	4.55	3.13	2.27	1.38	.61	.130	7.98	3.93	2.71	2.25	1.54	.68	.108	195
210	7.88	4.55	3.13	2.29	1.41	.63	.142	8.27	3.99	2.76	2.30	1.58	.69	.119	210
225	8.23	4.62	3.19	2.37	1.47	.66	.156	9.33	4.24	2.89	2.39	1.64	.73	.136	225
240	9.30	4.77	3.31	2.50	1.59	.71	.187	9.38	4.14	2.87	2.38	1.65	.73	.143	240
255	9.05	4.48	3.03	2.30	1.51	.65	.177	8.69	3.74	2.58	2.13	1.49	.64	.130	255
270	7.31	4.03	2.71	1.99	1.28	.51	.122	4.68	2.53	1.80	1.62	1.09	.49	.031	270
285	6.39	3.95	2.71	1.95	1.17	.51	.099	6.84	3.45	2.35	1.93	1.31	.55	.074	285
300	7.05	4.27	2.94	2.13	1.27	.55	.107	7.50	3.74	2.56	2.13	1.42	.61	.081	300
315	7.09	4.31	2.98	2.16	1.29	.56	.095	7.91	3.91	2.68	2.22	1.47	.62	.072	315
330	6.39	4.09	2.88	2.05	1.19	.52	.089	7.66	3.81	2.60	2.16	1.42	.59	.058	330
345	5.87	3.84	2.78	1.96	1.12	.49	.081	7.16	3.57	2.46	2.07	1.34	.56	.042	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	6.55	4.70	3.21	2.46	2.02	1.80	1.14	.53	.51	.26	.080	0
15	5.33	3.76	2.62	1.94	1.60	1.47	.92	.39	.41	.19	.047	15
30	2.86	2.01	1.54	1.20	.95	.88	.54	.16	.25	.10	.006	30
45	1.82	1.12	.92	.76	.58	.75	.39	.13	.23	.11	.016	45
60	8.14	5.82	3.99	3.09	2.50	2.20	1.40	.67	.62	.33	.111	60
75	9.60	6.04	4.25	3.31	2.70	2.36	1.52	.74	.65	.32	.109	75
90	6.81	4.82	3.36	2.57	2.12	1.89	1.21	.59	.56	.30	.097	90
105	6.22	4.47	3.09	2.42	1.98	1.82	1.18	.60	.56	.31	.107	105
120	6.90	4.95	3.40	2.65	2.17	1.97	1.28	.65	.61	.34	.117	120
135	7.40	4.99	3.53	2.75	2.25	2.01	1.31	.66	.60	.33	.111	135
150	6.96	4.81	3.33	2.59	2.10	1.90	1.22	.61	.58	.31	.103	150
165	7.15	4.86	3.40	2.66	2.16	1.95	1.25	.65	.62	.34	.119	165
180	7.61	4.99	3.58	2.80	2.26	2.02	1.32	.70	.65	.37	.134	180
195	7.95	5.14	3.68	2.91	2.35	2.12	1.39	.75	.66	.37	.144	195
210	8.36	5.29	3.77	2.97	2.44	2.18	1.44	.78	.67	.38	.148	210
225	8.32	5.21	3.74	2.98	2.42	2.19	1.45	.79	.69	.39	.148	225
240	6.85	4.38	3.18	2.53	2.07	1.89	1.26	.69	.62	.35	.128	240
255	2.67	1.99	1.28	1.22	.99	1.07	.75	.42	.46	.26	.084	255
270	4.72	3.34	2.21	1.71	1.35	1.29	.83	.39	.41	.23	.066	270
285	6.60	4.42	3.14	2.44	1.96	1.78	1.13	.57	.53	.29	.100	285
300	7.34	4.84	3.45	2.70	2.19	1.95	1.24	.66	.58	.32	.117	300
315	8.04	5.14	3.70	2.88	2.33	2.07	1.32	.71	.63	.33	.117	315
330	8.07	5.25	3.74	2.90	2.35	2.10	1.33	.68	.62	.32	.111	330
345	7.42	5.07	3.54	2.72	2.23	1.98	1.27	.61	.57	.29	.090	345

TABLE 90 - Continued

FLIGHT 68, PARTIAL-POWER DESCENT

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.77	2.85	2.18	1.63	1.15	.47	.072	3.42	1.67	1.18	.97	.76	.44	.069	0
15	5.18	2.47	1.93	1.43	.97	.39	.055	3.06	1.48	1.06	.87	.69	.41	.062	15
30	4.25	1.86	1.55	1.13	.71	.29	.034	2.61	1.21	.90	.75	.61	.37	.059	30
45	3.26	1.40	1.13	.94	.55	.23	.024	2.28	1.09	.79	.67	.54	.33	.059	45
60	2.48	1.16	.96	.79	.52	.24	.031	2.11	1.01	.71	.60	.49	.30	.046	60
75	3.49	2.82	2.07	1.71	1.20	.47	.074	1.56	.68	.53	.44	.38	.25	.029	75
90	4.51	2.85	2.17	1.63	1.13	.47	.081	.86	.31	.33	.32	.26	.21	.028	90
105	5.07	2.79	2.15	1.63	1.16	.50	.093	1.31	.59	.50	.42	.35	.26	.041	105
120	5.46	3.00	2.30	1.76	1.26	.54	.100	2.14	1.07	.82	.69	.56	.33	.059	120
135	5.95	3.14	2.37	1.77	1.28	.53	.095	2.38	1.12	.83	.68	.55	.33	.059	135
150	5.71	2.80	2.17	1.61	1.18	.49	.088	2.49	1.17	.87	.72	.58	.36	.068	150
165	5.49	2.80	2.16	1.63	1.19	.51	.100	1.89	.88	.70	.60	.51	.33	.056	165
180	5.82	3.18	2.36	1.78	1.30	.56	.111	1.67	.79	.63	.56	.46	.32	.052	180
195	6.40	3.44	2.51	1.89	1.40	.58	.111	1.48	.68	.55	.48	.40	.28	.033	195
210	6.63	3.36	2.46	1.85	1.38	.57	.107	1.47	.64	.53	.47	.38	.26	.028	210
225	6.41	2.72	2.06	1.50	1.08	.45	.064	1.44	.63	.51	.45	.37	.25	.027	225
240	4.49	1.07	1.03	.82	.62	.33	.057	1.61	.71	.58	.50	.40	.28	.034	240
255	3.63	1.45	1.21	.94	.65	.30	.043	2.01	.94	.72	.60	.48	.32	.041	255
270	3.51	1.89	1.50	1.14	.79	.35	.057	2.24	1.06	.79	.66	.52	.33	.039	270
285	4.16	2.40	1.83	1.38	.99	.43	.069	2.36	1.11	.83	.69	.54	.34	.041	285
300	4.77	2.66	2.01	1.52	1.10	.48	.078	2.56	1.24	.91	.76	.59	.36	.051	300
315	5.33	2.94	2.20	1.66	1.21	.52	.095	2.95	1.43	1.03	.86	.67	.41	.065	315
330	5.85	3.12	2.34	1.74	1.27	.54	.097	3.21	1.55	1.12	.91	.71	.43	.069	330
345	6.10	3.10	2.33	1.74	1.25	.52	.090	3.42	1.66	1.19	.97	.76	.44	.069	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.61	.84	.50	.30	.097	.85	.42	.26	.14	.026	0
15	1.57	.82	.48	.29	.096	.77	.37	.22	.12	.037	15
30	1.38	.70	.41	.26	.093	.71	.32	.19	.08	.021	30
45	1.12	.58	.34	.23	.090	.59	.28	.17	.09	.021	45
60	1.02	.53	.32	.22	.086	.52	.24	.15	.08	.020	60
75	.98	.49	.28	.20	.080	.53	.24	.15	.08	.020	75
90	.76	.40	.21	.18	.073	.53	.24	.14	.08	.017	90
105	.59	.36	.19	.19	.078	.43	.19	.11	.06	.015	105
120	.63	.37	.21	.18	.071	.32	.14	.08	.05	.013	120
135	.60	.36	.20	.18	.069	.30	.13	.08	.06	.018	135
150	.63	.37	.21	.19	.073	.33	.15	.09	.06	.020	150
165	.71	.41	.23	.19	.069	.28	.12	.08	.05	.017	165
180	.60	.35	.19	.17	.062	.26	.11	.07	.06	.012	180
195	.52	.31	.18	.17	.062	.26	.11	.07	.05	.014	195
210	.60	.34	.20	.18	.062	.28	.12	.08	.05	.013	210
225	.69	.38	.22	.18	.062	.33	.14	.09	.06	.015	225
240	.76	.42	.24	.19	.067	.37	.15	.10	.06	.014	240
255	.83	.47	.26	.20	.069	.37	.15	.10	.06	.008	255
270	.90	.50	.29	.21	.071	.40	.19	.12	.07	.013	270
285	1.01	.56	.32	.22	.080	.51	.25	.16	.09	.015	285
300	1.12	.61	.36	.24	.083	.68	.33	.20	.12	.026	300
315	1.20	.66	.39	.26	.085	.66	.31	.20	.12	.028	315
330	1.29	.70	.42	.28	.089	.59	.31	.20	.12	.024	330
345	1.45	.78	.47	.29	.095	.66	.34	.22	.12	.031	345

TABLE 90 - Continued

FLIGHT 68, PARTIAL-POWER DESCENT

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	3.90	7.92	12.23	18.80	20.01	20.18	19.43
15	3.48	7.65	11.06	16.33	16.13	16.36	15.78
30	2.93	6.73	9.56	12.58	9.25	8.12	11.85
45	2.61	5.72	8.51	9.63	6.53	16.91	28.03
60	2.33	5.30	7.74	8.41	24.75	31.45	30.35
75	2.34	4.91	5.80	17.23	27.08	27.97	27.35
90	2.31	3.99	3.87	17.87	21.18	23.10	23.27
105	1.85	3.62	5.46	18.47	20.10	21.83	22.37
120	1.42	3.73	8.51	19.96	22.00	23.55	24.01
135	1.38	3.59	8.68	20.58	22.70	24.15	23.99
150	1.52	3.75	9.25	18.97	21.34	23.14	23.59
165	1.31	4.06	7.67	19.01	22.08	23.84	24.83
180	1.24	3.49	6.98	20.81	23.28	24.96	25.76
195	1.23	3.24	6.05	22.27	24.20	25.63	25.98
210	1.28	3.53	5.76	22.11	25.04	26.26	26.39
225	1.52	3.83	5.60	18.47	25.11	28.06	27.28
240	1.63	4.15	6.27	10.74	21.51	28.04	29.33
255	1.62	4.48	7.60	10.85	11.10	25.34	27.60
270	1.87	4.83	8.27	12.74	14.40	16.86	23.37
285	2.40	5.33	8.66	15.64	19.99	21.87	22.08
300	3.16	5.88	9.45	17.44	22.10	23.89	24.01
315	3.10	6.29	10.81	19.25	23.75	24.80	24.23
330	2.99	6.75	11.57	20.41	23.81	23.96	22.64
345	3.24	7.40	12.21	20.36	22.28	22.56	21.33

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	13.779		0	4.076		0	7.068	
1	2.084	-4.531	1	1.207	-.504	1	-.267	.046
2	-.054	-.027	2	.200	-.089	2	.016	-.014
3	.023	.227	3	-.225	-.340	3	.011	-.085
4	.000	-.027	4	-.138	-.257	4	-.022	.005
5	-.082	-.150	5	.178	-.166	5	.024	-.002
6	.009	.014	6	-.045	.002	6	-.017	-.009
7	.023	.059	7	-.091	.000	7	-.011	.000
8	-.005	.009	8	-.002	-.038	8	-.006	.000
9	-.009	.000	9	.006	-.020	9	.000	-.006
10	.000	.023	10	-.036	.004	10	-.017	-.002

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom}\right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom}\right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom}\right)$$

TABLE 90 - Continued

FLIGHT 68, PARTIAL-POWER DESCENT

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.194		.75	0	17.037		.95	0	23.952	
.25	1	1.078	-.048	.75	1	-1.845	.126	.95	1	-2.658	-.610
.25	2	.164	-.100	.75	2	2.619	-2.916	.95	2	-1.918	1.111
.25	3	.025	-.051	.75	3	.356	-2.758	.95	3	-1.446	-1.491
.25	4	.069	.056	.75	4	.589	1.358	.95	4	-1.177	-2.495
.25	5	.125	.195	.75	5	1.001	.011	.95	5	.235	-1.216
.25	6	.065	.018	.75	6	-.709	.410	.95	6	1.816	-.082
.25	7	.071	-.053	.75	7	-.571	.097	.95	7	1.030	.079
.25	8	.047	.010	.75	8	.231	-.600	.95	8	.468	.343
.25	9	.013	-.006	.75	9	.117	-.074	.95	9	.222	.758
.25	10	.013	.032	.75	10	.342	.395	.95	10	-.260	.581
.40	0	5.007		.85	0	20.404					
.40	1	1.895	-.260	.85	1	-2.419	-.009				
.40	2	.577	-.062	.85	2	.650	-2.111				
.40	3	.154	.177	.85	3	-.918	-4.678				
.40	4	.104	-.079	.85	4	-.219	-1.093				
.40	5	.129	.116	.85	5	2.969	.416				
.40	6	.074	.017	.85	6	1.552	.737				
.40	7	-.010	.096	.85	7	-1.312	1.259				
.40	8	-.051	-.065	.85	8	-.784	.787				
.40	9	.034	.004	.85	9	-.186	-.506				
.40	10	-.002	-.004	.85	10	-.276	-.855				
.55	0	8.231		.90	0	23.034					
.55	1	2.076	-.615	.90	1	-2.902	-.707				
.55	2	1.447	-1.275	.90	2	-1.250	-.163				
.55	3	.421	.858	.90	3	-.871	-3.418				
.55	4	-.339	-.261	.90	4	-.860	-2.802				
.55	5	.119	-.460	.90	5	1.613	-.384				
.55	6	.241	.158	.90	6	2.552	.764				
.55	7	.075	.227	.90	7	.402	.600				
.55	8	-.113	-.036	.90	8	-.658	.776				
.55	9	.054	-.122	.90	9	-.550	.781				
.55	10	.031	.088	.90	10	-.004	-.065				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 90 - Concluded

FLIGHT 68, PARTIAL-POWER DESCENT

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	1069	825	398	75	-835	-2428		
15	3030	3317	3453	2937	538	-1742		
30	4865	4406	3869	2928	793	-607		
45	2015	1889	2142	1564	-280	-239		
60	1251	-1097	-2242	-2100	1392	4497		
75	-1393	-1518	-1148	-163	3143	4199		
90	2118	2195	3309	3968	1849	-1980		
105	7635	6320	5442	4073	133	-3115		
120	3269	3878	4836	4760	2967	756		
135	225	553	2387	4187	4780	3711		
150	2460	2195	2450	2146	1110	726		
165	4272	3985	3498	2165	-694	-3672		
180	2574	2937	3652	3090	-870	-5383		
195	2847	1535	741	285	-368	-1881		
210	784	182	-325	-154	1911	2567		
225	-139	726	1844	2937	4507	4557		
240	3588	4133	4583	4416	3970	4199		
255	3942	5049	5596	5122	4331	5044		
270	852	2021	3688	4950	5757	6268		
285	738	1023	1790	2432	2492	2368		
300	2004	2087	1401	-68	-3554	-5324		
315	1696	1089	54	-1613	-5490	-8965		
330	419	-751	-1907	-3140	-5428	-7761		
345	20	-734	-2070	-3101	-3633	-4528		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-8599	-13268	-1227	
15	-6239	-11363	-2539	
30	-5213	-7586	5029	
45	-1078	358	9733	
60	4278	1286	8149	
75	4864	-4103	1221	
90	-817	-12633	-3339	
105	-2657	-15889	-5611	
120	1478	-9556	-2875	
135	2032	-3696	8341	
150	3546	2149	11605	
165	1218	-667	9717	
180	-1664	-8189	3621	
195	1364	-11445	-6523	
210	-524	-14212	-6891	
225	-5539	-12047	-2251	
240	-8616	-9605	21	
255	-11204	-11591	197	
270	-11041	-12324	-603	
285	-8143	-10533	1637	
300	-5832	-4086	5253	
315	-5473	-2393	9381	
330	-1176	-3451	4549	
345	-3276	-8075	389	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	621	355	137
15	152	144	96
30	-8	-210	77
45	411	399	128
60	993	956	178
75	522	499	87
90	-308	-448	-18
105	4	-363	11
120	800	304	110
135	479	283	56
150	-367	-232	-27
165	-242	-436	2
180	246	-58	24
195	254	72	19
210	14	-190	-19
225	-724	-653	-87
240	-966	-777	-63
255	-379	-432	9
270	-169	-286	29
285	-223	-115	27
300	-459	-169	32
315	-213	-87	58
330	72	283	76
345	439	409	122

TABLE 91

FLIGHT 69, PARTIAL-POWER DESCENT

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
6	5.44	3.94	3.02	1.93	.96	.47	.076	6.76	3.44	2.57	2.15	1.53	.57	-.028	6
21	3.73	3.16	2.51	1.62	.69	.35	.038	5.43	2.79	2.13	1.81	1.26	.44	-.019	21
36	.69	1.09	1.22	.45	.01	.10	-.008	2.24	1.05	.85	.84	.50	.14	-.099	36
51	5.34	3.84	2.84	1.79	.76	.40	.065	2.19	.94	.95	1.02	.73	.33	-.042	51
66	8.71	7.39	4.23	2.89	1.74	.75	.130	8.46	4.69	3.49	3.03	2.09	.83	.094	66
81	7.45	4.98	3.82	2.49	1.37	.60	.084	8.95	4.89	3.40	2.84	1.99	.70	.042	81
96	5.74	4.09	3.03	1.91	.92	.40	.046	6.48	3.25	2.34	1.96	1.36	.46	-.007	96
111	4.40	3.33	2.64	1.65	.76	.38	.057	4.86	2.44	1.86	1.62	1.13	.44	-.005	111
126	4.98	3.66	2.83	1.82	.90	.47	.086	5.32	2.74	2.09	1.82	1.27	.53	.033	126
141	5.50	3.90	2.88	1.91	.99	.46	.078	6.24	3.18	2.39	2.01	1.41	.56	.019	141
156	5.19	3.67	2.71	1.81	.92	.47	.076	6.02	3.00	2.25	1.90	1.34	.52	.014	156
171	5.29	3.72	2.68	1.80	.95	.45	.084	5.60	2.78	2.12	1.81	1.29	.50	.024	171
186	5.79	3.96	2.84	1.93	1.06	.52	.107	6.30	3.20	2.36	2.00	1.45	.60	.061	186
201	6.59	4.31	3.13	2.09	1.19	.56	.115	6.75	3.54	2.54	2.13	1.57	.65	.080	201
216	7.10	4.49	3.26	2.17	1.25	.61	.126	7.14	3.66	2.66	2.18	1.61	.68	.101	216
231	6.83	4.24	3.10	2.09	1.23	.58	.121	7.48	3.80	2.66	2.17	1.63	.67	.091	231
246	7.33	4.47	3.26	2.23	1.34	.67	.151	8.46	4.25	3.02	2.44	1.83	.78	.126	246
261	8.76	5.04	3.52	2.50	1.60	.77	.191	9.54	4.36	3.11	2.52	1.92	.82	.162	261
276	5.13	3.13	2.26	1.38	.91	.46	.101	2.97	1.66	1.28	1.22	.98	.47	.063	276
291	3.52	2.56	2.02	1.12	.53	.32	.086	4.34	2.07	1.54	1.35	.95	.40	.030	291
306	7.02	4.43	3.21	2.11	1.20	.55	.097	7.05	3.65	2.62	2.13	1.55	.62	.068	306
321	7.11	4.46	3.27	2.18	1.24	.57	.101	7.67	3.92	2.78	2.29	1.64	.65	.071	321
336	6.69	4.35	3.22	2.11	1.17	.53	.082	7.66	3.96	2.81	2.32	1.65	.65	.063	336
351	6.00	4.17	3.13	2.03	1.09	.51	.092	7.28	3.74	2.70	2.25	1.60	.62	.042	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
6	7.69	5.66	3.98	2.95	2.52	2.07	1.42	.68	.63	.30	.052	6
21	6.42	4.75	3.44	2.47	2.14	1.74	1.19	.51	.51	.23	.035	21
36	3.88	2.82	2.09	1.36	1.23	1.02	.65	.18	.27	.08	-.029	36
51	2.41	1.51	1.28	.76	.75	.62	.44	.09	.24	.08	-.014	51
66	5.35	4.19	3.20	2.19	2.05	1.62	1.21	.62	.63	.33	.103	66
81	10.13	9.12	5.15	3.93	3.32	2.70	1.82	.89	.74	.34	.097	81
96	6.67	4.71	3.40	2.50	2.09	1.72	1.14	.49	.49	.22	.026	96
111	4.91	3.58	2.65	1.81	1.59	1.35	.91	.38	.43	.21	.011	111
126	5.35	3.91	2.88	2.06	1.77	1.53	1.07	.50	.51	.27	.052	126
141	6.47	4.78	3.44	2.51	2.11	1.77	1.21	.57	.54	.29	.065	141
156	6.20	4.53	3.26	2.37	2.01	1.68	1.14	.53	.52	.26	.054	156
171	5.35	3.96	2.89	2.08	1.79	1.50	1.05	.47	.49	.25	.054	171
186	6.00	4.45	3.20	2.38	2.02	1.70	1.19	.60	.58	.32	.092	186
201	6.80	4.98	3.54	2.61	2.19	1.85	1.27	.65	.62	.33	.103	201
216	7.02	5.02	3.63	2.75	2.31	2.00	1.38	.72	.66	.36	.114	216
231	8.33	5.44	4.05	3.08	2.53	2.13	1.46	.76	.68	.36	.125	231
246	8.85	5.76	4.32	3.28	2.71	2.30	1.57	.87	.75	.43	.150	246
261	7.21	4.55	3.33	2.47	2.14	1.84	1.26	.71	.66	.37	.127	261
276	3.15	2.24	1.67	1.26	1.07	1.01	.72	.34	.41	.22	.048	276
291	5.03	3.73	2.65	1.89	1.63	1.43	.97	.45	.47	.24	.065	291
306	7.09	5.14	3.64	2.73	2.27	1.94	1.30	.66	.62	.32	.099	306
321	7.94	5.46	4.01	2.98	2.47	2.09	1.42	.75	.67	.35	.097	321
336	8.39	5.69	4.19	3.14	2.61	2.19	1.48	.77	.69	.35	.110	336
351	8.26	5.88	4.20	3.12	2.66	2.19	1.49	.75	.68	.33	.080	351

TABLE 91 - Continued

FLIGHT 69, PARTIAL-POWER DESCENT

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	6.31	3.29	2.48	1.93	1.29	.53	.088	4.07	1.96	1.37	1.14	.89	.45	.085	6
21	5.90	2.92	2.27	1.74	1.12	.44	.071	3.96	1.89	1.33	1.09	.86	.42	.084	21
36	4.94	2.14	1.73	1.32	.78	.30	.032	3.30	1.55	1.11	.92	.73	.38	.070	36
51	3.79	1.58	1.39	1.09	.62	.25	.030	2.76	1.30	.93	.79	.64	.34	.073	51
66	3.07	1.42	1.32	1.06	.67	.31	.045	2.39	1.14	.81	.69	.56	.30	.064	66
81	4.16	3.35	2.46	2.11	1.44	.58	.099	2.32	1.12	.83	.70	.57	.28	.057	81
96	4.94	2.83	2.20	1.67	1.05	.40	.047	2.72	1.29	.93	.77	.62	.31	.065	96
111	4.33	2.02	1.67	1.29	.81	.35	.056	1.62	.82	.67	.60	.51	.31	.074	111
126	3.92	2.05	1.73	1.38	.89	.40	.073	2.98	1.45	1.07	.90	.72	.38	.088	126
141	4.26	2.47	1.99	1.58	1.04	.44	.069	3.03	1.44	1.05	.89	.70	.35	.071	141
156	4.59	2.42	1.92	1.49	.97	.38	.049	2.90	1.36	.97	.82	.65	.33	.069	156
171	4.16	2.08	1.71	1.34	.88	.37	.052	2.75	1.31	.95	.81	.63	.34	.072	171
186	4.09	2.22	1.79	1.42	.96	.44	.088	2.68	1.29	.95	.82	.65	.36	.078	186
201	4.34	2.45	1.91	1.52	1.05	.48	.094	2.76	1.32	.97	.83	.66	.36	.072	201
216	4.99	3.01	2.21	1.75	1.21	.52	.090	2.39	1.13	.85	.75	.60	.32	.050	216
231	5.64	3.05	2.29	1.79	1.20	.51	.094	1.32	.61	.46	.42	.36	.21	.015	231
246	5.27	2.47	1.94	1.55	1.04	.50	.094	1.51	.71	.54	.47	.40	.23	.036	246
261	3.84	1.31	1.19	.96	.64	.35	.069	1.99	.94	.72	.63	.56	.31	.052	261
276	3.42	1.79	1.44	1.16	.77	.36	.058	2.50	1.19	.87	.75	.59	.32	.048	276
291	3.96	2.30	1.76	1.38	.92	.39	.066	2.71	1.28	.93	.78	.62	.32	.047	291
306	4.48	2.57	1.95	1.54	1.05	.44	.082	2.70	1.27	.93	.78	.61	.32	.050	306
321	4.99	2.81	2.12	1.68	1.16	.51	.097	2.98	1.44	1.04	.86	.69	.38	.070	321
336	5.54	3.16	2.37	1.87	1.28	.55	.094	3.42	1.65	1.19	.99	.79	.41	.081	336
351	6.09	3.35	2.49	1.95	1.33	.56	.092	3.86	1.85	1.32	1.09	.85	.45	.085	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.64	.90	.56	.37	.091	1.05	.53	.34	.17	.054	6
21	1.89	1.00	.60	.39	.094	1.08	.54	.34	.15	.060	21
36	1.79	.94	.57	.36	.095	1.01	.51	.32	.15	.048	36
51	1.45	.76	.46	.32	.083	.77	.36	.22	.10	.037	51
66	1.10	.59	.37	.28	.081	.63	.30	.20	.10	.043	66
81	1.21	.63	.39	.28	.079	.49	.23	.16	.09	.042	81
96	.96	.52	.31	.26	.064	.81	.38	.23	.10	.042	96
111	1.06	.58	.35	.28	.078	.71	.34	.20	.10	.038	111
126	1.16	.61	.38	.29	.073	.63	.31	.19	.09	.039	126
141	1.40	.74	.44	.31	.078	.64	.32	.21	.12	.054	141
156	1.26	.69	.42	.31	.073	.78	.38	.24	.12	.052	156
171	1.26	.70	.43	.31	.078	.77	.38	.24	.13	.054	171
186	1.21	.69	.42	.31	.075	.74	.36	.23	.12	.048	186
201	1.30	.68	.41	.31	.071	.70	.35	.23	.12	.042	201
216	.94	.59	.37	.29	.069	.50	.30	.17	.11	.043	216
231	.95	.56	.32	.27	.059	.49	.23	.16	.10	.041	231
246	.76	.43	.27	.24	.055	.40	.19	.12	.08	.037	246
261	.73	.42	.26	.23	.044	.31	.13	.09	.06	.021	261
276	.85	.47	.30	.25	.057	.32	.14	.10	.07	.022	276
291	.95	.54	.32	.26	.059	.42	.20	.14	.09	.031	291
306	1.09	.62	.38	.28	.071	.61	.31	.21	.13	.043	306
321	1.21	.69	.43	.31	.079	.80	.39	.26	.14	.048	321
336	1.31	.75	.46	.34	.080	.93	.46	.29	.15	.048	336
351	1.61	.87	.54	.36	.090	1.01	.50	.33	.17	.060	351

TABLE 91 - Continued

FLIGHT 69, PARTIAL-POWER DESCENT

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	5.04	8.69	14.01	21.28	24.21	22.92	20.77
21	5.00	9.54	13.47	18.93	20.36	18.46	15.92
36	4.68	8.98	11.41	14.09	11.57	6.91	4.49
51	3.41	7.48	9.82	11.10	7.66	9.02	19.09
66	3.00	6.04	8.59	10.76	19.98	31.28	34.44
81	2.44	6.37	8.46	20.71	31.23	30.41	27.24
96	3.52	5.32	9.50	17.46	20.07	20.73	20.58
111	3.18	5.88	7.29	13.87	15.69	16.70	17.21
126	2.91	6.26	11.00	14.39	17.83	18.96	19.54
141	3.24	7.20	10.73	16.43	20.71	21.35	20.66
156	3.69	6.79	10.06	15.76	19.69	20.24	19.59
171	3.68	6.89	9.85	14.22	17.66	19.12	19.70
186	3.53	6.73	9.96	15.33	20.13	21.90	21.56
201	3.39	6.78	10.13	16.60	22.02	23.74	23.78
216	2.71	5.76	8.92	19.14	23.22	24.76	25.12
231	2.47	5.44	5.13	19.77	25.47	25.16	24.06
246	2.00	4.53	5.85	17.40	27.49	28.57	26.04
261	1.47	4.31	7.89	11.15	22.20	30.34	29.95
276	1.59	4.88	9.01	12.41	11.53	13.10	17.87
291	2.12	5.32	9.50	14.79	16.48	14.48	13.35
306	3.19	6.11	9.49	16.67	22.60	23.96	24.27
321	3.87	6.73	10.74	18.49	24.76	25.56	24.74
336	4.35	7.31	12.22	20.48	25.95	25.65	23.71
351	4.89	8.51	13.47	21.55	25.79	24.55	22.43

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	13.855		0	4.227		0	6.225	
1	2.301	-4.269	1	1.408	-.816	1	-.266	.061
2	.009	.076	2	.180	-.041	2	.049	.008
3	-.018	.362	3	-.049	-.102	3	.034	-.061
4	.143	.073	4	-.094	-.171	4	-.018	.014
5	.038	-.283	5	.384	-.086	5	.042	.012
6	.029	.058	6	-.024	.114	6	-.020	-.016
7	.015	.073	7	-.086	.069	7	-.009	.012
8	.020	.000	8	.008	-.069	8	.012	-.014
9	.009	-.003	9	-.053	.053	9	-.005	-.012
10	.000	-.006	10	.078	.061	10	.003	.027

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^0\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^0\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^0\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^0\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^0\right) + F_n \sin n \left(\psi_{nom} - 6^0\right) \right]$$

TABLE 91 - Continued

FLIGHT 69, PARTIAL-POWER DESCENT

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.306		.75	0	16.365		.95	0	21.503	
.25	1	.686	.456	.75	1	.904	-.675	.95	1	-1.317	-1.209
.25	2	1.028	-.295	.75	2	1.767	-.640	.95	2	-1.412	1.034
.25	3	.093	-.130	.75	3	1.201	-2.671	.95	3	-1.024	-3.513
.25	4	.041	.119	.75	4	.189	-.255	.95	4	-.965	-4.292
.25	5	-.050	.222	.75	5	1.779	1.074	.95	5	1.085	-1.365
.25	6	-.073	-.029	.75	6	-.292	.584	.95	6	2.938	2.203
.25	7	.028	-.106	.75	7	-1.103	-.241	.95	7	2.261	.776
.25	8	.028	.055	.75	8	.168	-.241	.95	8	-.338	.094
.25	9	-.059	-.026	.75	9	.519	-.202	.95	9	-1.298	1.063
.25	10	-.091	-.042	.75	10	.212	.211	.95	10	-.556	.605
.40	0	6.576		.85	0	20.595					
.40	1	.968	.653	.85	1	-.241	-1.758				
.40	2	1.392	-.150	.85	2	.767	-.462				
.40	3	.127	.249	.85	3	1.184	-4.554				
.40	4	-.027	.280	.85	4	-.092	-2.904				
.40	5	.074	.029	.85	5	2.357	1.529				
.40	6	-.058	.118	.85	6	1.683	2.711				
.40	7	-.173	-.031	.85	7	-1.126	-.173				
.40	8	-.018	-.072	.85	8	-1.278	-.318				
.40	9	-.026	-.127	.85	9	-.045	-.147				
.40	10	-.029	.016	.85	10	.735	.089				
.55	0	9.854		.90	0	21.579					
.55	1	1.621	.498	.90	1	-1.229	-1.744				
.55	2	1.769	-1.126	.90	2	-.572	.305				
.55	3	.204	.341	.90	3	.280	-4.541				
.55	4	.611	.347	.90	4	-.310	-4.489				
.55	5	.151	-.586	.90	5	1.838	.218				
.55	6	-.184	.531	.90	6	3.016	3.403				
.55	7	-.043	-.082	.90	7	.770	.555				
.55	8	.010	-.245	.90	8	-1.610	.009				
.55	9	.264	.369	.90	9	-1.396	.608				
.55	10	-.220	.027	.90	10	.303	-.085				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 91 - Concluded

FLIGHT 69, PARTIAL-POWER DESCENT

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	262	-1807	-2359	-2689	-741	-1484	-884	-2285
21	843	1345	1980	1155	165	-1792	-2526	-2635
36	4343	3902	4348	3225	904	-2638	-5837	-3081
51	3807	3473	3517	1661	-1261	-3901	-1192	-621
66	250	-520	-1193	-2422	-715	994	4304	-2716
81	-2714	-4298	-4140	-2394	3914	3880	-1229	-3446
96	-2212	421	3110	2510	-1093	-4538	-6218	-4417
111	10818	6188	3562	554	-3056	-6737	-7589	-4833
126	2245	3135	4312	2539	-891	-3961	-4848	-4066
141	-2053	-2566	-1365	-9	3421	3631	570	-3409
156	-434	-1559	-1672	-2069	-583	596	6297	2416
171	2895	1716	814	-944	-1261	-3852	-4336	-5694
186	2416	2714	3562	2071	-2431	-8080	-12787	-8161
201	3590	1856	1257	-686	-2774	-4936	-5078	-4095
216	-308	-1790	-1745	-2155	121	1024	1710	-1716
231	-2315	-2351	-533	926	3711	2656	-2045	-4278
246	3157	3152	3263	2739	2620	845	-6041	-6139
261	4936	6452	6834	4485	1626	108	183	-3635
276	2542	2789	3734	3884	4794	4526	6098	2095
291	-2258	-619	1428	2186	4028	4546	3467	-664
306	592	149	172	-476	-1067	-3066	-4712	-5548
321	2234	1931	1474	-1249	-6365	-11085	-11851	-6636
336	1675	132	-859	-2957	-5124	-9125	-13321	-8899
351	-1961	-2318	-1998	-2880	-3672	-6001	-6302	-4052

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-5138	-6854	-2392	11007
21	-12562	-12926	1352	14869
36	-8166	-4721	-232	9827
51	-5350	-2654	10360	18117
66	-1557	5438	11544	15363
81	4597	2002	6360	14356
96	267	-7000	664	12142
111	-4389	-9198	-3128	10925
126	-2110	-9540	504	13688
141	4532	3826	4152	10587
156	1341	3240	15240	20514
171	3132	6300	10392	16067
186	250	-570	7304	15464
201	-5024	-6821	3560	14027
216	1943	-5047	-5800	7741
231	-2273	-10240	-1464	13762
246	-8166	-7277	2232	13954
261	-12448	-7586	3704	12087
276	-10967	-7847	600	9928
291	-8834	-8840	2296	15573
306	-8427	-3549	6472	15839
321	-6506	2312	8056	14356
336	-8345	-1628	10168	18172
351	-1736	-2865	264	12719

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	609	707	152
21	731	304	169
36	-331	-34	82
51	3	-279	81
66	594	738	203
81	1487	1622	185
96	-46	7	52
111	-674	-594	-32
126	342	-40	58
141	635	848	110
156	-141	-79	-4
171	-858	-377	-66
186	-440	-536	-27
201	66	-146	39
216	484	535	51
231	-566	-456	-86
246	-1722	-1243	-150
261	-823	-410	-43
276	-243	-305	71
291	88	-21	79
306	-558	-113	27
321	-890	-318	4
336	-209	-109	70
351	101	475	91

TABLE 92

FLIGHT 70, PARTIAL-POWER DESCENT

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95							Δp, lb/sq in., at - r/R = 0.90							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.24	4.54	2.92	2.00	1.13	.60	.101	6.61	3.56	2.32	1.94	1.36	.55	.045	0
15	6.05	4.36	2.91	1.99	1.08	.58	.091	6.31	3.41	2.22	1.90	1.28	.54	.041	15
30	6.84	4.96	3.16	2.15	1.18	.62	.103	6.17	3.39	2.21	1.90	1.30	.53	.033	30
45	7.83	5.53	3.43	2.39	1.34	.68	.115	5.89	3.28	2.17	1.86	1.29	.55	.032	45
60	8.77	5.88	3.75	2.66	1.52	.73	.131	4.84	2.79	1.95	1.75	1.23	.55	.036	60
75	9.40	5.61	3.76	2.64	1.46	.66	.103	4.74	2.83	2.02	1.86	1.32	.60	.072	75
90	8.98	5.79	3.72	2.62	1.51	.70	.123	6.82	3.87	2.60	2.34	1.59	.70	.081	90
105	8.77	5.80	3.72	2.64	1.53	.72	.131	7.93	4.36	2.93	2.55	1.74	.73	.106	105
120	8.77	5.82	3.72	2.65	1.55	.75	.140	8.34	4.61	3.06	2.66	1.81	.76	.113	120
135	8.85	5.88	3.72	2.66	1.57	.76	.147	8.85	4.72	3.16	2.71	1.84	.79	.131	135
150	8.88	5.82	3.69	2.65	1.57	.76	.153	9.04	4.77	3.18	2.69	1.86	.77	.124	150
165	8.90	5.88	3.69	2.65	1.59	.77	.159	9.31	4.80	3.18	2.72	1.87	.79	.142	165
180	9.13	5.82	3.71	2.67	1.61	.78	.163	9.53	4.82	3.19	2.72	1.87	.80	.140	180
195	9.46	5.82	3.72	2.69	1.63	.78	.170	9.74	4.87	3.24	2.72	1.89	.81	.149	195
210	9.80	5.86	3.71	2.70	1.65	.78	.176	9.78	4.83	3.23	2.73	1.90	.80	.155	210
225	10.00	5.76	3.69	2.70	1.64	.78	.176	9.44	4.72	3.15	2.69	1.87	.81	.146	225
240	10.15	5.82	3.67	2.70	1.64	.75	.188	8.31	4.46	3.01	2.60	1.80	.79	.142	240
255	10.27	5.82	3.66	2.69	1.65	.73	.188	6.28	3.81	2.68	2.48	1.75	.86	.178	255
270	10.13	5.78	3.63	2.68	1.65	.76	.180	6.03	3.36	2.18	1.88	1.26	.41	.076	270
285	9.63	5.67	3.53	2.57	1.58	.77	.163	6.82	3.73	2.44	2.11	1.47	.63	.079	285
300	8.30	5.41	3.32	2.37	1.42	.71	.140	7.12	3.86	2.49	2.09	1.47	.61	.079	300
315	7.45	5.00	3.11	2.21	1.29	.67	.123	6.93	3.70	2.43	2.03	1.41	.59	.072	315
330	6.93	4.91	3.04	2.13	1.24	.65	.115	6.80	3.65	2.39	1.99	1.40	.58	.063	330
345	6.53	4.82	2.98	2.05	1.17	.62	.105	6.73	3.61	2.33	1.98	1.37	.58	.057	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85											ψ_{nom}, deg
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	6.72	4.53	2.06	2.48	1.89	1.98	1.11	.49	.54	.26	.027	0
15	6.40	4.34	1.90	2.36	1.80	1.90	1.06	.44	.51	.24	.019	15
30	6.08	4.13	1.90	2.26	1.73	1.81	1.03	.43	.50	.24	.013	30
45	5.64	3.81	1.63	2.10	1.60	1.72	.98	.39	.48	.23	.005	45
60	5.10	3.34	1.33	1.82	1.41	1.58	.88	.33	.44	.20	-.008	60
75	4.76	3.02	1.14	1.66	1.28	1.47	.81	.30	.42	.19	-.012	75
90	4.45	2.88	1.06	1.65	1.23	1.45	.83	.32	.44	.21	.001	90
105	4.60	2.97	1.10	1.73	1.30	1.50	.86	.36	.49	.24	.017	105
120	6.91	4.43	1.90	2.31	1.71	1.74	.95	.33	.46	.20	-.049	120
135	9.73	5.85	2.89	3.16	2.35	2.25	1.24	.52	.61	.31	.032	135
150	10.44	6.18	3.15	3.44	2.62	2.48	1.45	.67	.67	.35	.071	150
165	10.63	6.23	3.25	3.48	2.63	2.54	1.45	.68	.66	.33	.064	165
180	10.50	6.07	3.15	3.44	2.63	2.53	1.47	.69	.67	.35	.064	180
195	10.08	5.72	2.91	3.23	2.46	2.40	1.41	.68	.68	.36	.077	195
210	7.83	4.79	2.23	2.71	1.99	2.01	1.12	.48	.56	.29	.017	210
225	5.94	3.89	1.70	2.28	1.69	1.80	1.05	.47	.54	.28	.002	225
240	5.58	3.64	1.54	2.10	1.57	1.71	1.03	.46	.54	.28	.030	240
255	5.17	3.38	1.32	1.91	1.43	1.63	.93	.41	.50	.25	.021	255
270	5.40	3.55	1.35	2.00	1.48	1.67	.94	.40	.48	.24	.015	270
285	6.12	4.06	1.70	2.28	1.70	1.83	1.03	.46	.51	.25	.019	285
300	6.46	4.25	1.88	2.39	1.80	1.90	1.07	.48	.52	.26	.021	300
315	6.51	4.32	1.89	2.41	1.81	1.91	1.09	.48	.53	.26	.017	315
330	6.60	4.38	1.98	2.44	1.84	1.95	1.10	.49	.53	.26	.023	330
345	6.69	4.49	1.98	2.47	1.87	1.97	1.10	.49	.53	.26	.019	345

TABLE 92 - Continued

FLIGHT 70, PARTIAL-POWER DESCENT

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75							r/R = 0.55							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	4.71	2.62	2.03	1.49	1.09	.41	.066	2.51	1.08	.86	.74	.67	.31	.061	0
15	4.60	2.55	1.99	1.46	1.05	.39	.064	2.48	1.05	.86	.73	.66	.31	.062	15
30	4.40	2.44	1.93	1.41	1.03	.38	.066	2.37	.98	.82	.71	.65	.30	.062	30
45	4.23	2.35	1.88	1.37	.99	.36	.043	2.32	.93	.80	.69	.63	.30	.062	45
60	4.02	2.21	1.78	1.30	.94	.33	.038	2.16	.88	.75	.65	.61	.28	.059	60
75	3.71	2.02	1.65	1.20	.86	.30	.036	1.98	.83	.68	.60	.57	.26	.055	75
90	3.37	1.84	1.53	1.10	.78	.27	.036	1.80	.71	.60	.55	.53	.24	.050	90
105	3.05	1.66	1.41	1.02	.73	.26	.038	1.66	.64	.54	.51	.50	.23	.048	105
120	2.83	1.58	1.36	.99	.70	.26	.034	1.63	.63	.54	.50	.49	.22	.048	120
135	2.76	1.55	1.34	.98	.69	.25	.031	1.61	.60	.53	.50	.49	.22	.048	135
150	2.63	1.46	1.28	.93	.67	.25	.043	1.55	.57	.51	.48	.47	.22	.047	150
165	2.52	1.41	1.23	.90	.65	.25	.043	1.52	.56	.51	.48	.47	.22	.046	165
180	2.53	1.45	1.25	.92	.67	.26	.043	1.55	.58	.53	.49	.47	.22	.047	180
195	2.71	1.56	1.32	.97	.74	.28	.036	1.57	.59	.54	.50	.48	.22	.044	195
210	2.91	1.67	1.38	1.02	.78	.28	.034	1.56	.60	.55	.50	.49	.22	.043	210
225	3.11	1.78	1.46	1.06	.81	.30	.043	1.59	.62	.57	.50	.49	.22	.042	225
240	3.31	1.90	1.54	1.13	.85	.32	.040	1.64	.61	.58	.53	.50	.23	.039	240
255	3.51	2.02	1.61	1.18	.90	.33	.050	1.76	.65	.63	.55	.52	.24	.046	255
270	3.74	2.15	1.70	1.24	.94	.35	.052	1.87	.72	.66	.58	.54	.26	.042	270
285	4.03	2.31	1.80	1.32	1.00	.38	.050	2.02	.80	.70	.62	.57	.27	.045	285
300	4.22	2.38	1.86	1.35	1.01	.38	.052	2.07	.83	.72	.63	.58	.27	.045	300
315	4.31	2.42	1.87	1.38	1.03	.39	.061	2.15	.87	.74	.65	.59	.28	.049	315
330	4.43	2.49	1.93	1.43	1.06	.41	.066	2.29	.95	.79	.68	.62	.30	.053	330
345	4.59	2.58	2.00	1.47	1.08	.41	.066	2.43	1.03	.84	.72	.65	.30	.056	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40					r/R = 0.25					ψ_{nom}, deg
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.14	.63	.39	.26	.101	.49	.24	.13	.10	-.003	0
15	1.15	.63	.39	.26	.101	.50	.24	.13	.10	.002	15
30	1.12	.62	.39	.26	.104	.49	.23	.13	.10	.001	30
45	1.08	.60	.37	.26	.103	.47	.23	.12	.09	.003	45
60	1.03	.57	.36	.25	.104	.45	.22	.12	.09	.001	60
75	.94	.54	.33	.24	.102	.43	.21	.11	.09	.002	75
90	.88	.51	.31	.23	.098	.40	.20	.10	.08	.002	90
105	.81	.47	.29	.22	.094	.37	.18	.09	.08	-.003	105
120	.74	.44	.27	.22	.095	.34	.17	.08	.08	.003	120
135	.70	.43	.26	.21	.090	.32	.16	.08	.08	.001	135
150	.69	.42	.26	.21	.089	.33	.16	.08	.08	.002	150
165	.69	.42	.25	.21	.090	.33	.17	.08	.08	.002	165
180	.69	.42	.26	.21	.089	.33	.17	.09	.08	-.002	180
195	.67	.42	.25	.21	.082	.31	.15	.08	.08	.001	195
210	.63	.40	.25	.20	.084	.27	.13	.07	.07	.001	210
225	.63	.40	.25	.20	.081	.23	.12	.06	.06	-.005	225
240	.64	.41	.25	.20	.082	.23	.11	.05	.06	-.008	240
255	.70	.43	.27	.21	.084	.25	.12	.06	.06	-.006	255
270	.74	.45	.28	.21	.086	.28	.13	.07	.07	-.006	270
285	.82	.49	.30	.22	.088	.31	.15	.08	.07	-.006	285
300	.86	.50	.31	.23	.091	.35	.16	.08	.08	-.012	300
315	.90	.53	.32	.23	.094	.37	.18	.10	.09	-.010	315
330	.97	.56	.35	.25	.096	.40	.19	.11	.09	-.008	330
345	1.06	.59	.37	.26	.098	.44	.21	.12	.09	-.005	345

TABLE 92 - Continued

FLIGHT 70, PARTIAL-POWER DESCENT

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	2.23	6.19	9.13	16.92	18.41	21.86	23.44
15	2.27	6.19	9.02	16.42	17.43	20.93	22.73
30	2.23	6.14	8.69	15.86	16.86	20.82	25.20
45	2.15	5.97	8.48	15.22	15.62	20.42	28.08
60	2.06	5.75	8.03	14.32	13.86	18.48	30.82
75	1.95	5.38	7.42	13.16	12.77	19.34	30.20
90	1.85	5.11	6.74	12.04	12.54	24.80	30.52
105	1.68	4.77	6.27	11.09	13.28	27.65	30.62
120	1.58	4.52	6.16	10.64	16.67	28.93	30.89
135	1.52	4.36	6.03	10.42	23.33	30.01	31.24
150	1.56	4.27	5.90	10.05	25.90	30.13	31.18
165	1.58	4.28	5.85	9.70	26.19	30.56	31.37
180	1.59	4.29	5.93	9.98	26.10	30.85	31.64
195	1.48	4.19	6.03	10.74	25.02	31.26	32.01
210	1.31	4.04	6.02	11.21	19.69	31.27	32.36
225	1.14	4.02	6.13	11.90	16.69	30.60	32.31
240	1.09	4.11	6.27	12.59	16.02	28.86	32.38
255	1.15	4.33	6.61	13.31	14.54	26.35	32.35
270	1.27	4.52	7.00	14.04	14.79	19.99	32.27
285	1.42	4.83	7.45	15.00	16.68	23.48	31.31
300	1.54	5.04	7.63	15.42	17.55	23.82	28.61
315	1.72	5.23	7.90	15.70	17.71	23.00	26.35
330	1.84	5.55	8.43	16.26	18.05	22.63	25.41
345	2.02	5.89	8.86	16.68	18.14	22.32	24.42

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	12.938		0	2.994		0	7.932	
1	1.357	-1.618	1	.419	.070	1	-.072	-.038
2	.010	.043	2	.064	.029	2	-.012	-.010
3	.024	.043	3	-.023	-.004	3	-.020	.005
4	.029	.005	4	.002	-.010	4	-.008	.008
5	.019	-.043	5	.041	.004	5	.018	-.005
6	-.005	.029	6	.002	-.006	6	.000	-.020
7	-.014	-.005	7	-.002	.004	7	.002	.000
8	.000	-.024	8	.000	.000	8	-.025	.008
9	.033	.000	9	.010	-.006	9	.035	.010
10	.019	.000	10	.002	.006	10	.018	-.035

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom}\right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom}\right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom}\right)$$

TABLE 92 - Continued

FLIGHT 70, PARTIAL-POWER DESCENT

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	1.675		.75	0	13.277		.95	0	29.487	
.25	1	.360	.289	.75	1	3.239	-.921	.95	1	-3.652	-.393
.25	2	.168	.023	.75	2	.157	.247	.95	2	-2.006	.553
.25	3	-.055	.011	.75	3	.053	.084	.95	3	-.696	.099
.25	4	.049	.019	.75	4	-.032	.022	.95	4	-.084	-.318
.25	5	.004	.006	.75	5	.135	-.088	.95	5	.160	-.543
.25	6	.002	.008	.75	6	.034	.014	.95	6	.070	-.270
.25	7	.008	.002	.75	7	-.003	-.066	.95	7	.020	-.032
.25	8	.007	.002	.75	8	.000	.034	.95	8	-.007	.075
.25	9	.007	.001	.75	9	.019	.011	.95	9	-.031	.040
.25	10	.002	-.001	.75	10	.015	.017	.95	10	.008	-.122
.40	0	4.957		.85	0	18.076					
.40	1	.974	.317	.85	1	-3.084	-.337				
.40	2	.185	.095	.85	2	4.244	-1.764				
.40	3	-.040	.047	.85	3	-1.157	1.206				
.40	4	.062	.011	.85	4	-.149	-.165				
.40	5	.006	-.010	.85	5	.263	-.101				
.40	6	.023	-.005	.85	6	.065	.351				
.40	7	.004	-.013	.85	7	-.110	-.582				
.40	8	.003	.001	.85	8	.071	.278				
.40	9	-.003	.010	.85	9	.089	-.006				
.40	10	.004	.000	.85	10	-.015	-.069				
.55	0	7.166		.90	0	25.348					
.55	1	1.551	.004	.90	1	-5.440	-.563				
.55	2	.294	.148	.90	2	1.453	-.859				
.55	3	-.014	.085	.90	3	1.119	-.788				
.55	4	.037	-.008	.90	4	-.673	.685				
.55	5	.067	-.075	.90	5	-.387	.616				
.55	6	.030	-.001	.90	6	.263	-.345				
.55	7	-.014	-.001	.90	7	.188	-.701				
.55	8	.002	.011	.90	8	-.157	.001				
.55	9	.011	.015	.90	9	-.036	.504				
.55	10	.004	.019	.90	10	.263	.016				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 92 - Concluded

FLIGHT 70, PARTIAL-POWER DESCENT

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	264	569	-90	-41	-1141	-1975		
15	606	883	90	35	-1220	-2104		
30	857	1023	380	264	-1123	-2124		
45	800	982	289	178	-912	-1567		
60	595	668	90	178	-287	-353		
75	367	611	145	426	241	742		
90	903	809	344	827	1156	1826		
105	1062	1345	1184	1619	1253	1787		
120	1609	1526	1248	1695	1833	2563		
135	914	1213	1284	1953	2273	3289		
150	937	1130	1058	1790	2581	3707		
165	1039	1403	1293	1924	2229	3219		
180	1131	1469	1329	1886	2124	3000		
195	1017	1337	1211	1781	2009	2782		
210	800	1213	1022	1619	1913	2831		
225	777	1213	1094	1676	1930	2742		
240	903	1526	1410	1895	1781	2304		
255	903	1766	1609	2048	1649	1816		
270	743	1700	1546	1867	1200	1369		
285	720	1205	904	1342	1121	1209		
300	173	1031	841	1161	425	45		
315	823	1238	678	617	-499	-1198		
330	720	1130	533	331	-1220	-2263		
345	412	726	81	35	-1088	-2164		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-4789	-7489	2855	
15	-3959	-7912	2407	
30	-3649	-7359	2759	
45	-2868	-6642	3239	
60	-1989	-6007	3223	
75	-1696	-6691	2759	
90	-768	-7391	1255	
105	-442	-7652	887	
120	-686	-7489	1447	
135	-116	-6919	1623	
150	274	-6724	1623	
165	-1223	-7114	1671	
180	-1777	-8124	583	
195	-2917	-8791	-153	
210	-4024	-9687	-73	
225	-3959	-9198	-329	
240	-4610	-9296	663	
255	-6205	-8694	1479	
270	-6710	-9296	1623	
285	-6433	-9247	983	
300	-6547	-9508	1495	
315	-5994	-8384	2071	
330	-5896	-7586	3303	
345	-4919	-7098	3351	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	461	97	97
15	360	31	80
30	394	-6	82
45	546	131	103
60	602	191	104
75	599	157	96
90	438	-37	81
105	346	-142	66
120	390	-122	65
135	438	-55	59
150	381	-126	36
165	203	-215	16
180	144	-234	12
195	163	-227	13
210	122	-243	13
225	75	-232	5
240	-13	-289	3
255	41	-288	15
270	140	-181	27
285	289	-46	44
300	176	-124	39
315	18	-230	36
330	143	-137	58
345	307	1	88

TABLE 93

FLIGHT 71, PARTIAL-POWER DESCENT

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	2.99	2.35	2.02	1.26	.52	.35	.024	3.87	2.02	1.50	1.47	.89	.33	-.050	6
21	3.74	2.81	2.35	1.49	.60	.37	.020	4.15	2.22	1.70	1.60	.97	.34	-.048	21
36	3.50	2.74	2.30	1.47	.62	.37	.026	3.94	2.17	1.72	1.63	.97	.37	-.030	36
51	4.12	3.01	2.49	1.58	.66	.39	.032	4.49	2.40	1.82	1.73	.99	.36	-.044	51
66	4.18	3.13	2.63	1.66	.68	.39	.024	4.58	2.48	1.91	1.83	1.03	.37	-.046	66
81	3.76	2.87	2.32	1.49	.54	.33	.012	4.08	2.22	1.71	1.61	.86	.32	-.072	81
96	2.76	2.30	1.83	1.12	.40	.30	.016	3.28	1.77	1.37	1.37	.74	.27	-.070	96
111	2.44	2.08	1.68	1.08	.41	.31	.028	3.17	1.76	1.35	1.35	.77	.31	-.050	111
126	2.70	2.18	1.70	1.18	.48	.34	.044	3.66	2.02	1.50	1.49	.86	.35	-.026	126
141	2.96	2.30	1.80	1.26	.56	.36	.052	4.01	2.18	1.64	1.56	.91	.37	-.013	141
156	3.31	2.42	1.86	1.33	.61	.38	.062	4.31	2.31	1.69	1.58	.96	.40	.004	156
171	3.83	2.67	2.02	1.47	.75	.44	.080	4.77	2.48	1.89	1.70	1.11	.46	.024	171
186	4.64	3.06	2.31	1.65	.89	.49	.092	5.52	2.82	2.17	1.89	1.23	.52	.048	186
201	5.50	3.58	2.56	1.84	1.04	.52	.102	5.86	3.09	2.29	2.04	1.31	.57	.066	201
216	5.86	3.77	2.72	1.86	1.02	.52	.094	5.77	2.96	2.23	1.92	1.26	.54	.059	216
231	4.91	3.27	2.48	1.69	.93	.50	.092	5.36	2.78	2.09	1.83	1.20	.51	.044	231
246	5.14	3.45	2.60	1.82	1.06	.55	.108	6.23	3.33	2.49	2.19	1.43	.58	.078	246
261	4.43	3.01	2.27	1.42	.59	.34	.038	2.70	1.49	1.13	1.18	.68	.28	.006	261
276	2.28	1.75	1.50	.94	.44	.32	.052	3.19	1.66	1.22	1.21	.77	.32	-.002	276
291	3.49	2.41	1.97	1.29	.62	.37	.048	4.01	2.07	1.53	1.42	.89	.36	.000	291
306	3.70	2.58	2.13	1.36	.63	.38	.046	4.58	2.44	1.80	1.65	1.02	.41	.006	306
321	3.28	2.46	2.06	1.28	.54	.35	.028	4.27	2.23	1.68	1.55	.94	.35	-.013	321
336	2.91	2.27	1.94	1.15	.42	.29	.012	3.11	1.63	1.24	1.25	.74	.25	-.062	336
351	2.04	1.82	1.64	.90	.31	.26	-.006	3.12	1.56	1.19	1.23	.73	.25	-.063	351

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	4.59	3.28	2.46	1.97	1.48	1.33	.80	.32	.37	.19	-.004	6
21	4.67	3.43	2.57	2.05	1.50	1.36	.84	.33	.39	.19	-.002	21
36	4.62	3.32	2.55	1.93	1.57	1.39	.87	.36	.40	.20	-.010	36
51	4.87	3.48	2.62	2.03	1.55	1.37	.84	.33	.39	.20	-.002	51
66	5.01	3.70	2.76	2.10	1.63	1.43	.92	.35	.38	.19	-.010	66
81	4.39	3.22	2.48	1.97	1.54	1.23	.82	.29	.34	.16	-.026	81
96	3.70	2.67	2.10	1.62	1.34	.98	.67	.22	.29	.14	-.040	96
111	3.76	2.68	2.15	1.65	1.35	1.02	.68	.25	.33	.18	-.028	111
126	4.45	3.14	2.44	1.81	1.42	1.23	.81	.34	.39	.21	-.010	126
141	4.62	3.30	2.53	1.77	1.52	1.32	.86	.37	.41	.23	.002	141
156	4.81	3.43	2.61	1.87	1.60	1.39	.90	.40	.43	.25	.022	156
171	5.17	3.70	2.74	2.03	1.72	1.50	.97	.46	.47	.27	.024	171
186	5.62	4.03	2.98	2.25	1.90	1.66	1.08	.54	.53	.31	.050	186
201	5.98	4.33	3.10	2.37	2.00	1.73	1.12	.56	.54	.32	.048	201
216	5.45	3.99	2.91	2.21	1.85	1.64	1.05	.52	.52	.29	.038	216
231	5.63	4.08	2.92	2.21	1.86	1.65	1.05	.51	.50	.28	.038	231
246	6.23	4.53	3.28	2.51	2.13	1.85	1.19	.60	.56	.30	.060	246
261	2.79	1.88	1.50	1.22	.97	.86	.54	.22	.29	.16	-.002	261
276	3.76	2.56	1.98	1.59	1.18	1.10	.66	.28	.34	.18	.002	276
291	4.32	2.99	2.27	1.65	1.31	1.24	.74	.32	.35	.18	.002	291
306	4.62	3.33	2.48	1.81	1.52	1.39	.84	.38	.40	.22	.018	306
321	4.62	3.32	2.50	1.86	1.54	1.38	.85	.35	.38	.20	.006	321
336	3.59	2.56	1.99	1.58	1.31	1.03	.61	.20	.28	.13	-.036	336
351	4.01	2.91	2.21	1.76	1.42	1.15	.68	.23	.29	.13	-.036	351

TABLE 93 - Continued

FLIGHT 71, PARTIAL-POWER DESCENT

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	4.09	2.33	1.79	1.37	.90	.38	.048	3.24	1.54	1.03	.94	.75	.39	.091	6
21	4.09	2.29	1.79	1.38	.90	.39	.055	3.17	1.53	1.04	.96	.76	.41	.093	21
36	3.94	2.24	1.79	1.38	.90	.38	.064	3.10	1.54	1.05	.98	.78	.40	.095	36
51	4.13	2.31	1.80	1.39	.90	.38	.068	3.20	1.53	1.02	.95	.76	.39	.094	51
66	4.26	2.39	1.89	1.46	.93	.39	.066	3.15	1.54	1.02	.95	.76	.39	.096	66
81	3.99	2.17	1.75	1.33	.84	.34	.048	2.89	1.39	.93	.88	.70	.36	.091	81
96	3.48	1.92	1.42	1.19	.76	.31	.050	2.58	1.21	.85	.81	.66	.35	.093	96
111	3.30	1.93	1.42	1.20	.78	.33	.059	2.62	1.24	.86	.82	.68	.35	.096	111
126	3.65	2.13	1.70	1.30	.88	.37	.066	2.72	1.31	.89	.85	.69	.36	.096	126
141	3.89	2.17	1.73	1.33	.91	.38	.070	2.81	1.34	.92	.88	.70	.36	.091	141
156	3.96	2.17	1.72	1.33	.92	.39	.073	2.84	1.37	.94	.89	.70	.36	.091	156
171	4.10	2.28	1.79	1.38	.97	.42	.082	2.89	1.40	.96	.91	.72	.38	.090	171
186	4.39	2.48	1.90	1.47	1.05	.46	.089	2.83	1.37	.94	.90	.72	.38	.090	186
201	4.60	2.53	1.90	1.47	1.05	.47	.084	2.65	1.29	.90	.87	.69	.36	.086	201
216	4.41	2.44	1.84	1.42	1.00	.44	.078	2.63	1.26	.87	.84	.66	.35	.077	216
231	4.45	2.50	1.86	1.44	1.00	.44	.082	2.65	1.27	.87	.84	.66	.35	.077	231
246	4.35	2.26	1.81	1.39	.98	.45	.070	2.58	1.24	.84	.83	.65	.36	.079	246
261	3.25	1.46	1.16	.90	.63	.28	.027	2.74	1.29	.91	.89	.71	.37	.079	261
276	3.12	1.83	1.38	1.08	.72	.32	.043	2.45	1.19	.82	.78	.63	.36	.081	276
291	2.95	1.62	1.26	.99	.67	.31	.032	3.32	1.59	1.07	.98	.76	.39	.084	291
306	3.50	2.11	1.59	1.24	.83	.37	.057	3.31	1.59	1.07	.99	.79	.41	.084	306
321	3.72	2.13	1.66	1.29	.88	.37	.059	3.31	1.60	1.08	.99	.79	.42	.089	321
336	3.59	2.06	1.61	1.26	.82	.34	.034	2.96	1.41	.96	.90	.72	.39	.080	336
351	3.78	2.27	1.71	1.33	.86	.36	.046	3.10	1.49	1.00	.92	.72	.38	.084	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.65	.89	.51	.30	.100	1.23	.58	.34	.18	.039	6
21	1.78	.98	.57	.34	.106	1.23	.59	.35	.20	.043	21
36	1.81	.97	.55	.32	.105	1.23	.58	.34	.19	.043	36
51	1.76	.94	.53	.32	.107	1.12	.54	.32	.18	.043	51
66	1.69	.90	.51	.31	.105	1.06	.51	.30	.18	.043	66
81	1.59	.86	.49	.30	.104	1.04	.50	.30	.18	.045	81
96	1.51	.82	.46	.30	.102	1.00	.49	.29	.17	.042	96
111	1.45	.80	.45	.29	.104	.96	.47	.28	.17	.043	111
126	1.44	.80	.45	.29	.100	.94	.45	.27	.17	.042	126
141	1.42	.80	.44	.29	.098	.93	.44	.27	.16	.042	141
156	1.42	.80	.44	.29	.096	.86	.41	.25	.15	.039	156
171	1.35	.77	.43	.28	.092	.80	.36	.22	.14	.036	171
186	1.28	.74	.40	.27	.087	.69	.31	.19	.13	.030	186
201	1.15	.69	.37	.25	.077	.60	.27	.16	.11	.027	201
216	1.11	.67	.36	.24	.073	.57	.24	.15	.11	.026	216
231	1.10	.66	.36	.24	.069	.52	.25	.15	.11	.030	231
246	1.10	.67	.37	.25	.075	.43	.26	.16	.13	.034	246
261	1.30	.74	.41	.26	.084	.39	.23	.19	.18	.055	261
276	1.42	.78	.43	.26	.084	.49	.31	.26	.24	.054	276
291	1.71	.91	.51	.30	.098	.89	.39	.21	.14	.056	291
306	1.71	.94	.53	.31	.098	1.12	.52	.30	.17	.049	306
321	1.67	.93	.53	.32	.096	1.29	.59	.34	.18	.036	321
336	1.81	.96	.54	.32	.102	1.40	.66	.39	.21	.049	336
351	1.59	.87	.50	.31	.100	1.41	.65	.37	.20	.039	351

TABLE 93 - Continued

FLIGHT 71, PARTIAL-POWER DESCENT

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	5.42	8.15	11.49	14.74	14.26	13.26	12.73
21	5.58	8.93	11.58	14.80	14.81	14.41	14.85
36	5.48	8.79	11.62	14.65	14.97	14.47	14.59
51	5.12	8.58	11.49	14.84	15.08	15.35	15.97
66	4.87	8.26	11.40	15.41	15.74	15.94	16.49
81	4.80	7.90	10.49	14.00	14.03	13.84	14.41
96	4.64	7.59	9.72	12.33	11.74	11.31	11.38
111	4.50	7.38	9.89	12.41	12.17	11.55	10.76
126	4.39	7.34	10.17	13.98	14.14	13.18	11.66
141	4.31	7.27	10.35	14.43	14.88	14.25	12.60
156	4.01	7.27	10.48	14.57	15.63	15.11	13.45
171	3.64	7.01	10.73	15.32	16.77	16.94	15.33
186	3.15	6.66	10.62	16.54	18.55	19.25	17.81
201	2.76	6.08	10.12	16.76	19.38	20.74	20.33
216	2.59	5.91	9.78	16.03	18.11	19.93	20.93
231	2.56	5.85	9.85	16.22	18.10	18.78	18.69
246	2.58	5.98	9.68	15.64	20.44	22.24	20.14
261	2.94	6.69	10.28	10.28	9.36	10.22	15.34
276	3.85	7.01	9.42	11.69	11.85	11.41	10.11
291	3.87	8.25	11.66	10.77	13.28	13.79	13.61
306	4.94	8.42	11.90	13.44	14.85	15.93	14.38
321	5.48	8.36	12.01	13.94	14.78	14.53	13.21
336	6.16	8.73	10.81	13.24	11.22	10.70	11.67
351	6.03	8.03	11.05	14.09	12.38	10.45	9.22

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	12.483		0	4.500		0	2.175	
1	-.096	-1.107	1	-1.563	-.539	1	-.109	.221
2	.905	.345	2	-.171	-.253	2	.009	-.015
3	-.029	-.117	3	-.033	-.065	3	.022	-.012
4	.029	-.134	4	.000	-.094	4	-.007	.012
5	-.058	.023	5	.073	-.045	5	.031	.003
6	-.023	.032	6	.053	-.012	6	-.015	-.019
7	.029	.015	7	-.057	.012	7	.008	.005
8	.018	.015	8	-.020	-.029	8	.001	.005
9	-.018	.006	9	-.012	.033	9	-.007	.003
10	.003	.003	10	-.004	.020	10	-.015	-.005

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 93 - Continued

FLIGHT 71, PARTIAL-POWER DESCENT

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	4.318		.75	0	14.171		.95	0	14.568	
.25	1	1.337	.513	.75	1	-.700	.436	.95	1	-2.065	-1.032
.25	2	.205	-.546	.75	2	1.580	.828	.95	2	1.075	2.919
.25	3	-.033	-.044	.75	3	-.286	-.468	.95	3	-1.018	-.421
.25	4	-.071	-.066	.75	4	-.699	.021	.95	4	-1.098	.365
.25	5	-.065	-.023	.75	5	.222	.137	.95	5	.154	.542
.25	6	-.115	.012	.75	6	.605	.046	.95	6	.924	.597
.25	7	-.048	.036	.75	7	-.194	.079	.95	7	.095	-.210
.25	8	-.004	-.034	.75	8	.169	.131	.95	8	-.506	.392
.25	9	-.062	-.036	.75	9	.115	-.354	.95	9	.325	.550
.25	10	-.069	.029	.75	10	-.369	-.110	.95	10	.266	-.109
.40	0	7.518		.85	0	14.854					
.40	1	1.158	.358	.85	1	-1.848	-.236				
.40	2	.035	-.349	.85	2	1.598	1.386				
.40	3	-.275	.252	.85	3	-.709	-.277				
.40	4	-.073	.088	.85	4	-1.075	.442				
.40	5	-.023	.078	.85	5	.476	.668				
.40	6	-.042	.013	.85	6	1.205	-.044				
.40	7	-.075	.036	.85	7	-.435	-.201				
.40	8	-.085	.057	.85	8	.051	.583				
.40	9	-.035	.115	.85	9	.659	-.506				
.40	10	.058	.058	.85	10	-.497	-.551				
.55	0	10.691		.90	0	14.900					
.55	1	.753	-.014	.90	1	-2.450	-.810				
.55	2	.311	-.185	.90	2	1.470	1.990				
.55	3	-.422	.259	.90	3	-1.119	-.369				
.55	4	-.206	.130	.90	4	-1.289	.618				
.55	5	.064	.148	.90	5	.447	.862				
.55	6	.285	.016	.90	6	1.405	.094				
.55	7	.057	-.029	.90	7	-.315	-.340				
.55	8	-.073	-.029	.90	8	-.131	.687				
.55	9	-.010	.057	.90	9	.710	-.211				
.55	10	.145	-.058	.90	10	-.427	-.558				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 93 - Concluded

FLIGHT 71, PARTIAL-POWER DESCENT

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	-1960	-1139	-1311	-2338	-3634	-3594		
21	1494	-990	-1519	-1107	-1451	-2938		
36	639	1254	1229	-39	-3273	-5097		
51	2794	784	-551	-1518	-2613	-3724		
66	-398	-1328	-1094	-831	-2164	-3405		
81	-113	-1023	-1772	-2252	-2032	-2271		
96	1335	0	-741	-1852	-3466	-5047		
111	2190	198	-759	-1546	-4082	-5773		
126	400	-190	-633	-1661	-3414	-4818		
141	993	-809	-1474	-1966	-2842	-3704		
156	1118	-182	-832	-1279	-2243	-2828		
171	1141	1007	750	-39	-2199	-3694		
186	2817	1592	922	467	-1478	-3405		
201	1608	1403	1202	638	-1522	-2559		
216	1016	800	533	505	-43	-778		
231	389	751	1040	1020	-281	-1196		
246	1734	1576	1094	562	-413	-1375		
261	879	1675	1880	982	-1601	-3933		
276	1734	908	-1184	-2815	-3220	-2311		
291	-2986	-2021	-1582	-1880	-2384	-3624		
306	468	-1510	-2721	-3349	-4276	-5186		
321	1802	297	-1112	-3292	-5666	-6480		
336	35	-784	-759	-1365	-4989	-8261		
351	468	-1394	-2368	-2825	-3150	-3962		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-3705	-6007	3142	
21	-1653	-4754	1830	
36	-3916	-6479	5478	
51	610	-2898	3638	
66	2107	-3435	5158	
81	984	-2735	5382	
96	1358	-3744	4198	
111	1049	-3858	3734	
126	-188	-3989	4774	
141	235	-4054	4086	
156	-1377	-4249	3510	
171	-6130	-6626	4886	
186	-5235	-7717	2022	
201	-6082	-8547	470	
216	-9631	-9605	1990	
231	-9142	-9540	1014	
246	-10640	-9247	1430	
261	-12284	-9394	3046	
276	-9696	-6707	2230	
291	-7058	-7326	3510	
306	-8507	-4656	4230	
321	-6554	-6724	4582	
336	-4095	-4412	2086	
351	-6947	-6268	4838	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	867	336	63
21	938	168	109
36	1221	260	122
51	1398	536	136
66	1606	655	135
81	1028	317	88
96	694	-77	20
111	689	-98	19
126	881	5	27
141	683	-26	2
156	374	-262	-35
171	375	-383	-24
186	604	-166	4
201	837	72	38
216	757	-36	27
231	333	-177	-25
246	135	-347	-24
261	352	-185	6
276	285	-135	30
291	574	-72	25
306	424	-46	49
321	1002	121	105
336	1125	559	124
351	818	46	103

TABLE 94

FLIGHT 72, PARTIAL-POWER DESCENT

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	1.76	1.64	1.43	.68	.20	.24	.000	2.06	1.12	.93	1.03	.59	.22	-.057	6
21	4.30	2.94	2.35	1.57	.78	.42	.046	5.17	2.72	2.04	1.81	1.17	.40	.004	21
36	4.15	2.94	2.33	1.50	.67	.39	.032	4.58	2.39	1.82	1.66	1.01	.40	-.022	36
51	3.61	2.65	2.15	1.42	.64	.38	.044	4.31	2.26	1.75	1.63	.97	.36	-.013	51
66	4.21	2.93	2.28	1.45	.65	.39	.048	4.56	2.39	1.78	1.61	.98	.31	-.015	66
81	4.44	3.10	2.48	1.63	.77	.42	.048	4.83	2.58	1.97	1.82	1.08	.40	-.009	81
96	4.44	3.11	2.40	1.58	.69	.38	.036	4.72	2.48	1.89	1.76	1.03	.38	-.026	96
111	3.60	2.64	2.02	1.37	.55	.34	.036	3.92	2.10	1.60	1.54	.88	.32	-.042	111
126	3.10	2.36	1.78	1.22	.52	.35	.046	3.59	1.93	1.45	1.45	.84	.32	-.024	126
141	3.20	2.36	1.80	1.28	.58	.37	.058	4.06	2.17	1.62	1.51	.94	.33	-.009	141
156	3.54	2.50	1.90	1.36	.65	.40	.068	4.44	2.35	1.76	1.59	1.02	.31	.004	156
171	3.84	2.64	1.98	1.41	.70	.40	.074	4.65	2.37	1.85	1.61	1.05	.41	.015	171
186	4.17	2.81	2.09	1.48	.77	.43	.078	4.78	2.44	1.88	1.66	1.10	.45	.026	186
201	4.68	3.05	2.23	1.59	.88	.47	.092	5.15	2.66	2.02	1.79	1.18	.44	.053	201
216	5.27	3.44	2.44	1.76	1.00	.52	.104	5.59	2.95	2.20	1.94	1.27	.53	.059	216
231	5.36	3.49	2.48	1.72	.96	.49	.098	5.41	2.75	2.07	1.83	1.19	.47	.048	231
246	4.42	2.96	2.21	1.52	.81	.46	.082	4.87	2.50	1.89	1.70	1.10	.46	.030	246
261	4.65	3.11	2.32	1.61	.92	.50	.092	5.64	3.00	2.23	1.97	1.30	.53	.053	261
276	5.26	3.51	2.55	1.64	.77	.41	.056	4.05	2.28	1.67	1.47	.97	.35	.009	276
291	2.12	1.68	1.41	.85	.36	.30	.048	2.79	1.40	1.01	1.07	.66	.26	.004	291
306	3.27	2.28	1.84	1.21	.59	.35	.046	3.75	1.98	1.46	1.36	.87	.33	.002	306
321	3.65	2.53	2.00	1.31	.64	.37	.048	4.42	2.28	1.71	1.56	.99	.38	.006	321
336	3.63	2.59	2.06	1.31	.55	.34	.030	3.84	1.98	1.51	1.42	.90	.31	-.013	336
351	2.58	2.05	1.71	1.02	.41	.30	.018	3.20	1.67	1.25	1.26	.76	.27	-.048	351

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	3.13	2.10	1.65	1.32	1.07	.91	.51	.19	.27	.13	-.030	6
21	5.75	4.19	2.98	2.26	1.88	1.69	1.04	.49	.49	.25	.032	21
36	5.19	3.77	2.71	1.97	1.67	1.49	.92	.38	.42	.21	.010	36
51	4.73	3.38	2.53	1.87	1.55	1.39	.86	.37	.40	.19	.002	51
66	4.63	3.29	2.46	1.78	1.50	1.34	.85	.35	.38	.20	.008	66
81	5.22	3.79	2.80	2.01	1.72	1.52	.95	.41	.45	.23	.006	81
96	5.12	3.71	2.73	1.96	1.69	1.46	.94	.38	.41	.20	-.016	96
111	4.35	3.09	2.39	1.78	1.38	1.22	.79	.30	.36	.18	-.016	111
126	4.00	2.78	2.14	1.72	1.34	1.12	.74	.30	.35	.19	-.014	126
141	4.44	3.16	2.43	1.75	1.43	1.30	.84	.37	.40	.23	.000	141
156	4.88	3.47	2.60	1.89	1.59	1.41	.90	.40	.42	.24	.010	156
171	4.91	3.51	2.61	1.95	1.61	1.42	.92	.42	.44	.25	.018	171
186	4.97	3.56	2.65	1.98	1.64	1.46	.94	.45	.47	.27	.024	186
201	5.37	3.88	2.81	2.16	1.79	1.59	1.02	.52	.51	.30	.050	201
216	5.79	4.19	3.03	2.33	1.93	1.70	1.08	.56	.54	.31	.054	216
231	5.40	3.88	2.85	2.18	1.78	1.61	1.04	.51	.51	.29	.040	231
246	5.29	3.82	2.73	2.09	1.72	1.56	.97	.47	.47	.26	.032	246
261	6.04	4.35	3.11	2.43	2.00	1.79	1.13	.58	.55	.31	.060	261
276	5.07	3.54	2.70	1.99	1.70	1.49	.97	.44	.45	.24	.026	276
291	3.20	1.84	1.42	1.19	.91	.84	.47	.19	.27	.15	-.008	291
306	4.06	2.87	2.17	1.59	1.30	1.22	.74	.32	.36	.19	.004	306
321	5.07	3.62	2.60	1.94	1.62	1.46	.90	.42	.43	.23	.018	321
336	4.50	3.26	2.44	1.78	1.50	1.34	.82	.36	.38	.20	.008	336
351	3.88	2.81	2.17	1.67	1.32	1.17	.71	.27	.34	.17	-.016	351

TABLE 94 - Continued

FLIGHT 72, PARTIAL-POWER DESCENT

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	3.39	1.88	1.42	1.10	.72	.32	.038	3.50	1.68	1.11	1.01	.79	.40	.084	6
21	4.30	2.70	1.98	1.53	1.06	.45	.069	3.24	1.55	1.04	.98	.77	.39	.087	21
36	4.44	2.43	1.85	1.42	.97	.41	.065	3.17	1.53	1.02	.96	.75	.37	.085	36
51	4.01	2.24	1.75	1.36	.93	.40	.065	3.04	1.51	1.02	.97	.76	.39	.088	51
66	4.03	2.26	1.73	1.35	.91	.39	.069	3.03	1.47	.98	.93	.74	.37	.083	66
81	4.32	2.45	1.89	1.46	.96	.42	.079	3.16	1.53	1.01	.95	.74	.38	.088	81
96	4.33	2.35	1.85	1.41	.95	.39	.069	3.04	1.45	.98	.92	.72	.36	.086	96
111	3.83	2.02	1.61	1.24	.83	.34	.061	2.68	1.27	.86	.84	.67	.34	.084	111
126	3.45	1.93	1.54	1.20	.81	.35	.065	2.59	1.23	.86	.83	.67	.34	.089	126
141	3.68	2.11	1.67	1.29	.89	.39	.077	2.66	1.27	.88	.85	.67	.35	.088	141
156	3.98	2.23	1.74	1.35	.95	.41	.079	2.75	1.32	.90	.87	.69	.34	.083	156
171	4.05	2.21	1.73	1.33	.95	.40	.077	2.77	1.33	.90	.87	.69	.35	.083	171
186	4.07	2.26	1.74	1.34	.96	.42	.081	2.76	1.34	.91	.88	.69	.35	.083	186
201	4.28	2.42	1.83	1.42	1.01	.46	.088	2.78	1.35	.93	.89	.71	.36	.084	201
216	4.51	2.54	1.90	1.47	1.06	.48	.095	2.80	1.36	.93	.89	.71	.37	.084	216
231	4.42	2.46	1.83	1.42	1.01	.45	.085	2.66	1.31	.91	.87	.69	.34	.073	231
246	4.42	2.49	1.84	1.41	1.00	.45	.083	2.76	1.35	.93	.90	.71	.34	.070	246
261	4.56	2.61	1.97	1.54	1.11	.51	.091	2.61	1.29	.89	.87	.69	.37	.076	261
276	4.62	2.56	1.91	1.46	1.05	.46	.079	3.17	1.51	1.02	.96	.75	.40	.086	276
291	3.31	1.36	1.06	.83	.54	.28	.049	3.36	1.60	1.08	1.00	.79	.40	.085	291
306	3.46	2.04	1.53	1.18	.81	.36	.051	3.99	1.88	1.26	1.13	.88	.42	.093	306
321	4.14	2.57	1.88	1.45	1.01	.44	.075	3.89	1.79	1.21	1.10	.86	.41	.085	321
336	4.13	2.24	1.71	1.30	.91	.40	.067	3.50	1.68	1.11	1.03	.81	.40	.080	336
351	3.72	1.91	1.51	1.20	.83	.37	.056	3.35	1.61	1.07	.99	.78	.39	.085	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.94	1.06	.60	.34	.107	.92	.45	.26	.21	.085	6
21	1.75	.95	.53	.32	.105	.99	.57	.35	.19	.061	21
36	1.73	.95	.54	.32	.105	1.19	.52	.28	.18	.082	36
51	1.77	.95	.53	.31	.103	1.22	.56	.32	.17	.050	51
66	1.69	.92	.51	.31	.105	1.16	.54	.32	.17	.043	66
81	1.66	.91	.50	.30	.107	1.05	.50	.30	.17	.042	81
96	1.59	.87	.48	.29	.105	1.01	.48	.29	.17	.039	96
111	1.50	.83	.46	.29	.103	1.00	.47	.28	.17	.046	111
126	1.42	.80	.44	.29	.101	.95	.45	.27	.17	.044	126
141	1.39	.79	.43	.28	.098	.91	.43	.26	.17	.046	141
156	1.35	.78	.42	.28	.096	.88	.41	.24	.16	.045	156
171	1.35	.78	.42	.27	.092	.83	.38	.23	.15	.043	171
186	1.31	.76	.41	.27	.088	.76	.35	.21	.14	.038	186
201	1.27	.74	.40	.26	.084	.69	.31	.18	.13	.035	201
216	1.23	.72	.39	.25	.084	.62	.27	.16	.12	.030	216
231	1.23	.72	.39	.25	.080	.59	.27	.16	.11	.029	231
246	1.29	.75	.40	.25	.084	.46	.31	.23	.13	.033	246
261	1.35	.78	.42	.27	.088	.40	.19	.16	.19	.064	261
276	1.52	.85	.46	.28	.093	.44	.24	.16	.17	.078	276
291	1.49	.84	.46	.27	.090	.45	.31	.25	.20	.065	291
306	1.72	.95	.53	.31	.101	.55	.36	.24	.20	.090	306
321	1.99	1.06	.58	.31	.109	.88	.51	.31	.19	.059	321
336	1.94	1.04	.56	.30	.105	.85	.52	.44	.21	.043	336
351	2.18	1.13	.62	.32	.113	1.28	.57	.34	.21	.045	351

TABLE 94 - Continued

FLIGHT 72, PARTIAL-POWER DESCENT

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	4.72	9.50	12.15	11.97	9.71	8.00	7.85
21	5.16	8.61	11.58	16.81	18.20	17.64	16.46
36	5.17	8.62	11.30	15.74	16.13	15.72	15.67
51	5.26	8.57	11.32	14.83	15.02	14.89	14.50
66	5.09	8.31	10.97	14.74	14.59	15.00	15.58
81	4.79	8.16	11.28	15.86	16.63	16.76	16.94
96	4.64	7.86	10.81	15.40	16.07	16.06	16.30
111	4.60	7.53	9.83	13.43	13.66	13.52	13.73
126	4.43	7.28	9.72	12.93	12.75	12.70	12.49
141	4.26	7.14	9.92	14.09	14.39	14.13	13.04
156	4.08	6.98	10.09	14.89	15.54	15.02	14.08
171	3.86	6.94	10.18	14.88	15.86	16.05	14.86
186	3.53	6.76	10.21	15.08	16.25	16.72	15.89
201	3.15	6.57	10.38	16.11	17.63	17.90	17.54
216	2.83	6.37	10.44	16.87	18.90	19.78	19.55
231	2.75	6.33	10.00	16.19	17.74	18.49	19.43
246	2.99	6.56	10.25	16.14	16.89	17.05	16.76
261	2.92	6.89	10.08	17.43	19.59	20.03	17.99
276	2.95	7.53	11.40	16.76	16.50	14.54	18.17
291	3.55	7.39	11.89	9.78	9.13	9.72	9.31
306	3.88	8.43	13.54	13.02	12.99	13.06	12.86
321	4.74	9.33	13.13	16.12	15.88	15.14	14.04
336	5.24	9.04	12.22	14.73	14.43	13.21	13.65
351	5.66	9.97	11.79	13.17	12.57	11.08	10.72

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	13.987		0	4.627		0	2.076	
1	.914	-1.034	1	-1.293	-.632	1	-.146	.198
2	-.064	.266	2	.069	-.143	2	.004	-.014
3	-.044	-.058	3	.049	-.033	3	.019	.012
4	-.018	-.009	4	.004	.024	4	.001	-.005
5	-.020	-.026	5	.033	.041	5	.009	.030
6	-.003	-.009	6	-.053	.012	6	.000	.004
7	-.009	-.012	7	-.008	.000	7	.000	.007
8	-.020	-.006	8	-.024	.024	8	-.008	.001
9	-.012	.000	9	.000	-.012	9	.003	.003
10	-.003	-.009	10	.004	.012	10	-.001	.000

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 94 - Continued

FLIGHT 72, PARTIAL-POWER DESCENT

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	4.177		.75	0	14.874		.95	0	14.892	
.25	1	.918	.742	.75	1	-.560	-.241	.95	1	-1.783	-.423
.25	2	.235	-.263	.75	2	.122	1.263	.95	2	-.559	2.462
.25	3	-.030	-.082	.75	3	.058	-.148	.95	3	-.355	-.499
.25	4	-.098	-.135	.75	4	-.235	-.518	.95	4	-.362	-.214
.25	5	-.116	-.041	.75	5	-.702	.393	.95	5	-.713	.481
.25	6	-.022	-.053	.75	6	-.875	1.178	.95	6	-1.333	1.122
.25	7	-.060	-.039	.75	7	.260	.485	.95	7	-.072	.856
.25	8	-.070	.024	.75	8	.182	-.236	.95	8	.010	-.285
.25	9	-.029	.002	.75	9	-.357	-.213	.95	9	-.848	-.236
.25	10	-.049	-.040	.75	10	-.523	.119	.95	10	-.789	.374
.40	0	7.777		.85	0	15.293					
.40	1	1.353	.174	.85	1	-1.365	-.326				
.40	2	.244	-.333	.85	2	.153	1.855				
.40	3	-.042	-.149	.85	3	-.020	-.215				
.40	4	.043	-.148	.85	4	-.332	-.485				
.40	5	-.024	-.059	.85	5	-.940	.670				
.40	6	.036	-.003	.85	6	-1.200	1.528				
.40	7	.100	-.045	.85	7	.238	.514				
.40	8	.099	-.122	.85	8	-.099	-.386				
.40	9	.015	-.128	.85	9	-.729	-.011				
.40	10	-.062	-.061	.85	10	-.605	.296				
.55	0	11.019		.90	0	15.091					
.55	1	1.130	-.515	.90	1	-1.946	-.269				
.55	2	.056	-.348	.90	2	-.053	2.236				
.55	3	-.510	-.143	.90	3	-.325	-.340				
.55	4	-.046	.132	.90	4	-.563	-.300				
.55	5	.192	.180	.90	5	-.903	.869				
.55	6	.048	.112	.90	6	-.982	1.487				
.55	7	.079	-.062	.90	7	.156	.457				
.55	8	.099	-.081	.90	8	-.346	-.441				
.55	9	.076	-.027	.90	9	-.848	.287				
.55	10	-.066	.027	.90	10	-.434	.279				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o\right) + M_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 94 - Concluded

FLIGHT 72, PARTIAL-POWER DESCENT

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	1053	-182	-1907	-2721	-4095	-5313		
21	-2219	-1906	-2115	-2616	-3066	-3114		
36	232	-1691	-2359	-2072	-1737	-1910		
51	1224	1106	1148	141	-3162	-5383		
66	4074	1774	615	-660	-3277	-5233		
81	654	-355	-280	-718	-2458	-3711		
96	-281	-1889	-2278	-2044	-1200	-1273		
111	563	-520	-1094	-1843	-2326	-3303		
126	2626	1048	-181	-1395	-3831	-5691		
141	1692	767	0	-1023	-3690	-5970		
156	859	-611	-1293	-1853	-3101	-4000		
171	244	-833	-1365	-1653	-1939	-2149		
186	1042	404	253	-193	-1904	-3014		
201	2923	1947	1374	646	-1702	-3602		
216	2239	2087	1772	914	-1798	-3572		
231	1008	825	452	398	-294	-1303		
246	-235	157	217	122	-514	-1094		
261	962	866	172	-403	-1077	-2258		
276	939	1436	1040	84	-2441	-4895		
291	1350	1262	814	-1328	-4764	-7392		
306	1407	-1097	-3101	-4429	-5098	-4228		
321	-4373	-2657	-2359	-3150	-3946	-4825		
336	905	-833	-2811	-3799	-4078	-5970		
351	1783	1559	-72	-2588	-6885	-9044		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-4264	-4689	4283	
21	-3108	-5763	4971	
36	-1349	-4249	2699	
51	-2880	-6414	4123	
66	-96	-4347	3579	
81	2834	-2605	4619	
96	1874	-2084	6747	
111	2444	-2328	4763	
126	865	-4396	4283	
141	-226	-4200	4027	
156	18	-4265	3883	
171	-2050	-4656	3979	
186	-5696	-6479	4171	
201	-6380	-8531	2283	
216	-7682	-8889	891	
231	-10906	-9687	2507	
246	-10190	-9198	1979	
261	-11655	-8954	2795	
276	-12452	-9296	3627	
291	-10645	-7228	3355	
306	-8366	-5372	4715	
321	-6364	-4949	5403	
336	-6754	-4558	5163	
351	-6592	-5779	4667	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	941	163	103
21	1045	332	63
36	892	183	95
51	1104	126	90
66	1207	221	123
81	1666	693	154
96	1243	431	106
111	590	-3	16
126	618	-293	15
141	895	35	35
156	838	19	29
171	533	-144	-4
186	315	-330	-35
201	361	-410	-12
216	804	71	36
231	750	-37	44
246	253	-213	-18
261	-66	-387	-54
276	135	-311	-39
291	286	-206	17
306	488	84	25
321	443	40	25
336	361	-5	39
351	697	2	74

TABLE 95

FLIGHT 73, PARTIAL-POWER DESCENT

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95							Δp, lb/sq in., at - r/R = 0.90							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.22	4.59	2.93	2.02	1.12	.58	.089	6.88	3.70	2.40	2.05	1.42	.58	.047	0
15	5.76	4.22	2.88	1.95	1.04	.55	.079	6.43	3.50	2.26	1.95	1.35	.54	.036	15
30	6.07	4.48	3.00	2.02	1.07	.57	.085	6.02	3.32	2.18	1.92	1.30	.52	.027	30
45	7.55	5.54	3.48	2.38	1.31	.64	.107	5.86	3.32	2.21	1.95	1.34	.55	.022	45
60	9.03	5.70	3.87	2.72	1.46	.64	.101	5.18	3.05	2.18	2.01	1.38	.60	.049	60
75	8.82	5.68	3.91	2.76	1.57	.74	.129	8.72	4.63	3.10	2.66	1.74	.68	.068	75
90	8.72	5.79	3.77	2.66	1.51	.74	.125	8.53	4.70	3.12	2.72	1.81	.75	.092	90
105	8.06	5.70	3.56	2.53	1.43	.72	.121	8.15	4.43	2.91	2.52	1.71	.73	.092	105
120	7.78	5.51	3.45	2.46	1.38	.71	.127	7.88	4.28	2.81	2.41	1.66	.71	.097	120
135	7.76	5.44	3.42	2.44	1.39	.70	.125	7.81	4.27	2.82	2.45	1.68	.73	.111	135
150	7.65	5.38	3.34	2.37	1.35	.68	.117	7.91	4.23	2.77	2.40	1.64	.71	.104	150
165	7.56	5.30	3.29	2.34	1.36	.69	.125	7.90	4.23	2.78	2.38	1.64	.71	.101	165
180	7.68	5.36	3.34	2.37	1.38	.72	.131	8.01	4.27	2.79	2.38	1.67	.73	.106	180
195	7.94	5.44	3.36	2.41	1.42	.72	.135	8.25	4.34	2.84	2.42	1.69	.75	.127	195
210	8.16	5.47	3.40	2.45	1.45	.74	.145	8.67	4.47	2.91	2.47	1.74	.76	.138	210
225	8.39	5.50	3.43	2.48	1.49	.76	.153	9.31	4.55	2.97	2.53	1.78	.78	.147	225
240	8.67	5.56	3.42	2.50	1.51	.76	.159	9.02	4.48	2.93	2.51	1.77	.78	.140	240
255	9.22	5.58	3.47	2.56	1.58	.78	.170	9.18	4.47	2.96	2.52	1.79	.78	.149	255
270	9.80	5.58	3.50	2.60	1.62	.77	.182	9.00	4.38	2.90	2.50	1.76	.78	.149	270
285	9.91	5.51	3.43	2.54	1.57	.70	.180	6.24	3.70	2.50	2.22	1.59	.72	.165	285
300	7.78	5.06	3.11	2.23	1.34	.68	.119	7.22	3.80	2.47	2.09	1.48	.65	.086	300
315	7.01	4.85	2.99	2.10	1.23	.63	.109	7.15	3.77	2.43	2.08	1.45	.62	.079	315
330	6.71	4.84	2.99	2.07	1.19	.61	.099	7.15	3.79	2.46	2.09	1.46	.60	.076	330
345	6.43	4.69	2.96	2.05	1.16	.60	.091	7.07	3.78	2.43	2.09	1.44	.60	.063	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85											ψ_{nom}, deg
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	7.22	4.89	2.40	2.72	2.07	2.12	1.20	.54	.58	.28	.029	0
15	6.76	4.64	2.14	2.52	1.93	2.00	1.13	.48	.54	.26	.021	15
30	6.11	4.17	1.84	2.27	1.74	1.84	1.04	.42	.49	.23	.010	30
45	4.87	3.26	1.29	1.78	1.37	1.54	.86	.32	.41	.20	-.010	45
60	3.51	2.13	.57	1.25	.88	1.16	.63	.20	.35	.15	-.031	60
75	4.69	3.11	1.09	1.74	1.26	1.46	.81	.32	.44	.21	-.004	75
90	8.66	5.60	2.77	3.09	2.34	2.32	1.34	.59	.61	.29	.040	90
105	9.82	5.99	3.04	3.33	2.52	2.47	1.42	.64	.63	.30	.050	105
120	8.87	5.56	2.82	3.15	2.43	2.42	1.44	.68	.67	.35	.064	120
135	8.66	5.45	2.76	3.11	2.39	2.41	1.43	.70	.68	.35	.067	135
150	8.41	5.29	2.69	3.04	2.34	2.36	1.42	.68	.68	.35	.064	150
165	8.44	5.34	2.68	3.04	2.33	2.35	1.40	.70	.68	.35	.070	165
180	8.49	5.34	2.68	3.05	2.33	2.35	1.40	.68	.71	.37	.077	180
195	8.67	5.36	2.72	3.11	2.39	2.41	1.45	.73	.71	.39	.089	195
210	9.21	5.56	2.85	3.25	2.49	2.50	1.51	.76	.75	.39	.095	210
225	9.66	5.64	2.89	3.27	2.50	2.49	1.51	.76	.74	.39	.098	225
240	8.13	5.00	2.43	2.91	2.20	2.27	1.36	.68	.68	.35	.070	240
255	7.25	4.63	2.20	2.68	2.01	2.14	1.28	.67	.66	.35	.062	255
270	4.59	2.93	1.09	1.77	1.33	1.54	.88	.44	.54	.29	.038	270
285	4.99	3.22	1.20	1.84	1.36	1.57	.87	.39	.48	.24	.019	285
300	6.64	4.37	1.94	2.47	1.85	1.97	1.13	.52	.56	.28	.033	300
315	6.93	4.55	2.11	2.57	1.93	2.03	1.14	.54	.56	.28	.031	315
330	7.16	4.75	2.25	2.67	2.01	2.09	1.18	.56	.58	.29	.036	330
345	7.30	4.84	2.31	2.72	2.05	2.12	1.20	.55	.59	.29	.031	345

TABLE 95 - Continued

FLIGHT 73, PARTIAL-POWER DESCENT

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.22	2.92	2.22	1.64	1.18	.46	.070	2.90	1.29	1.01	.85	.75	.36	.072	0
15	5.13	2.81	2.16	1.58	1.13	.42	.059	2.83	1.25	.98	.83	.75	.36	.070	15
30	4.75	2.56	1.99	1.46	1.05	.38	.051	2.59	1.11	.90	.77	.70	.33	.068	30
45	4.14	2.16	1.75	1.25	.90	.31	.031	2.28	.93	.78	.68	.63	.30	.063	45
60	3.36	1.67	1.41	.98	.69	.22	.013	2.01	.83	.67	.60	.57	.28	.057	60
75	2.57	1.31	1.13	.79	.54	.16	.001	1.74	.67	.56	.51	.51	.23	.048	75
90	1.61	.82	.78	.58	.43	.15	.010	1.39	.47	.50	.41	.43	.21	.039	90
105	1.38	.89	.88	.76	.58	.26	.047	1.08	.30	.40	.36	.38	.18	.036	105
120	2.12	1.45	1.46	1.17	.89	.37	.065	1.07	.29	.40	.37	.37	.19	.039	120
135	3.30	2.38	1.93	1.48	1.11	.47	.096	1.08	.30	.40	.38	.38	.18	.042	135
150	4.17	2.86	2.23	1.68	1.24	.48	.077	.97	.25	.38	.36	.37	.18	.039	150
165	4.99	3.08	2.34	1.73	1.28	.48	.065	.93	.22	.36	.36	.36	.19	.038	165
180	5.33	3.08	2.32	1.71	1.27	.49	.079	.95	.26	.38	.37	.36	.18	.041	180
195	5.37	2.97	2.26	1.69	1.27	.50	.088	.97	.26	.39	.35	.37	.19	.038	195
210	4.76	2.42	1.98	1.51	1.16	.50	.093	1.01	.27	.39	.33	.37	.18	.033	210
225	4.56	2.54	1.96	1.43	1.05	.39	.059	1.06	.31	.41	.34	.37	.19	.032	225
240	3.53	1.52	1.33	.96	.74	.28	.027	1.10	.32	.44	.35	.37	.18	.030	240
255	2.70	1.33	1.15	.85	.66	.26	.043	1.23	.40	.44	.39	.40	.22	.036	255
270	2.48	1.44	1.20	.87	.67	.25	.033	1.53	.54	.53	.48	.47	.23	.042	270
285	3.04	1.91	1.53	1.12	.82	.32	.040	1.86	.68	.65	.57	.54	.26	.045	285
300	3.74	2.32	1.80	1.33	1.00	.38	.051	2.08	.83	.73	.63	.58	.28	.048	300
315	4.30	2.54	1.95	1.44	1.06	.42	.056	2.25	.94	.79	.68	.62	.30	.054	315
330	4.69	2.69	2.07	1.52	1.11	.43	.063	2.46	1.06	.86	.74	.67	.32	.062	330
345	5.00	2.84	2.17	1.60	1.15	.46	.072	2.70	1.20	.95	.81	.72	.35	.068	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.25	.71	.45	.29	.108	.56	.28	.16	.11	.003	0
15	1.31	.72	.45	.29	.108	.59	.29	.16	.11	-.003	15
30	1.31	.70	.43	.28	.108	.63	.31	.17	.11	.004	30
45	1.17	.64	.39	.26	.103	.56	.28	.15	.11	.000	45
60	1.03	.57	.36	.24	.102	.51	.24	.13	.09	.001	60
75	.90	.51	.31	.22	.100	.43	.21	.11	.08	.002	75
90	.78	.46	.28	.21	.096	.38	.18	.09	.08	-.005	90
105	.66	.40	.25	.20	.093	.36	.17	.08	.07	-.006	105
120	.58	.38	.23	.20	.092	.33	.16	.07	.08	-.005	120
135	.54	.36	.21	.19	.089	.28	.14	.06	.06	-.005	135
150	.46	.33	.19	.18	.082	.27	.13	.07	.06	-.003	150
165	.44	.33	.18	.18	.082	.28	.14	.07	.07	.004	165
180	.45	.33	.19	.18	.084	.28	.14	.07	.07	.004	180
195	.45	.34	.19	.18	.079	.26	.13	.07	.07	.003	195
210	.43	.33	.19	.18	.080	.23	.12	.06	.06	.000	210
225	.46	.34	.20	.18	.078	.21	.10	.05	.06	-.006	225
240	.50	.35	.21	.18	.078	.22	.11	.06	.06	-.004	240
255	.55	.37	.23	.19	.082	.25	.12	.06	.07	-.009	255
270	.67	.42	.26	.20	.085	.29	.14	.07	.08	-.003	270
285	.78	.47	.29	.22	.091	.34	.16	.09	.08	-.006	285
300	.91	.53	.33	.23	.094	.40	.20	.11	.09	-.004	300
315	1.02	.58	.35	.24	.096	.46	.22	.13	.10	-.005	315
330	1.09	.61	.38	.26	.101	.50	.24	.14	.10	.001	330
345	1.16	.66	.41	.27	.105	.52	.25	.14	.11	.000	345

TABLE 95 - Continued

FLIGHT 73, PARTIAL-POWER DESCENT

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	2.63	6.90	10.57	18.60	20.09	22.78	23.35
15	2.66	7.02	10.37	17.88	18.63	21.50	21.93
30	2.81	6.87	9.56	16.46	16.81	20.48	22.94
45	2.54	6.29	8.44	14.03	13.32	20.68	27.66
60	2.25	5.72	7.55	10.89	9.31	20.36	30.18
75	1.93	5.12	6.40	8.39	12.75	28.50	31.11
90	1.68	4.62	5.35	6.05	22.83	29.25	30.67
105	1.58	4.12	4.35	7.46	24.81	27.69	29.31
120	1.47	3.89	4.35	11.56	24.00	26.84	28.47
135	1.28	3.70	4.39	15.90	23.76	27.03	28.30
150	1.25	3.34	4.14	18.18	23.31	26.70	27.68
165	1.37	3.27	4.07	19.35	23.21	26.67	27.54
180	1.38	3.34	4.16	19.59	23.44	27.00	28.01
195	1.31	3.35	4.25	19.49	23.98	27.65	28.52
210	1.13	3.28	4.22	17.41	25.20	28.50	29.03
225	1.03	3.39	4.37	16.29	25.58	29.50	29.56
240	1.10	3.49	4.42	11.19	22.29	29.06	29.99
255	1.19	3.75	5.00	9.67	20.63	29.29	30.91
270	1.38	4.22	5.89	9.74	13.73	28.89	31.53
285	1.59	4.72	6.94	12.30	13.81	24.38	30.83
300	1.87	5.24	7.71	14.88	18.31	24.05	26.89
315	2.15	5.67	8.35	16.26	18.96	23.60	25.15
330	2.29	6.07	9.14	17.23	19.74	23.60	24.59
345	2.41	6.47	10.03	18.18	20.08	23.33	23.92

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	12.314		0	2.990		0	6.672	
1	1.985	-2.551	1	1.066	-.487	1	-.158	-.045
2	.105	-.005	2	.099	.138	2	.002	.022
3	-.033	.086	3	.056	-.070	3	.020	.010
4	.010	.062	4	.078	-.029	4	.012	-.018
5	.071	-.014	5	.052	.099	5	-.002	-.008
6	.024	.010	6	.029	.029	6	.005	.000
7	.000	.000	7	.023	-.002	7	.002	-.012
8	.014	.014	8	.033	.025	8	.008	.002
9	.010	-.010	9	.035	.004	9	.012	-.005
10	.024	.010	10	.000	.002	10	.000	.005

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 95 - Continued

FLIGHT 73, PARTIAL-POWER DESCENT

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	1.761		.75	0	14.457		.95	0	27.835	
.25	1	.714	.208	.75	1	-.353	-1.226	.95	1	-2.192	-.166
.25	2	.217	.048	.75	2	5.407	-.657	.95	2	-2.836	.676
.25	3	-.067	.041	.75	3	-.596	.487	.95	3	-.677	-.201
.25	4	.002	.045	.75	4	-.921	.314	.95	4	.420	-.578
.25	5	-.056	.000	.75	5	.518	-.059	.95	5	.432	-.665
.25	6	.014	.000	.75	6	.137	-.001	.95	6	.038	-.242
.25	7	.001	.007	.75	7	-.156	.033	.95	7	.000	-.016
.25	8	-.003	-.011	.75	8	.100	-.092	.95	8	.191	.160
.25	9	.020	-.015	.75	9	-.073	-.128	.95	9	.133	.155
.25	10	.007	-.013	.75	10	.057	.196	.95	10	.087	.025
.40	0	4.743		.85	0	19.940					
.40	1	1.783	.259	.85	1	-4.015	-.205				
.40	2	.340	.112	.85	2	2.050	-1.412				
.40	3	.000	.076	.85	3	2.896	-1.914				
.40	4	-.001	.092	.85	4	-.172	1.027				
.40	5	.010	.007	.85	5	-.893	1.413				
.40	6	.014	.029	.85	6	-.348	-.175				
.40	7	-.029	-.007	.85	7	.504	-.755				
.40	8	.022	-.005	.85	8	.274	-.371				
.40	9	-.004	-.002	.85	9	-.342	.407				
.40	10	-.004	-.007	.85	10	.042	.283				
.55	0	6.417		.90	0	25.723					
.55	1	3.081	-.134	.90	1	-3.206	-.777				
.55	2	.850	.062	.90	2	-1.511	-.036				
.55	3	-.003	.160	.90	3	1.012	-1.071				
.55	4	.047	.074	.90	4	.985	-.464				
.55	5	.167	-.034	.90	5	.159	.397				
.55	6	.039	.046	.90	6	-.611	.442				
.55	7	-.049	-.005	.90	7	-.214	-.106				
.55	8	.023	-.013	.90	8	.368	-.484				
.55	9	-.010	.013	.90	9	.201	-.191				
.55	10	-.018	.003	.90	10	.034	.366				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 95 - Concluded

FLIGHT 73, PARTIAL-POWER DESCENT

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-468	-421	-1501	-1549	-2992	-4497		
15	-559	116	-570	-634	-2024	-2915		
30	1037	1147	452	416	-888	-1552		
45	1253	1658	1374	1494	-26	-706		
60	1037	1271	777	1112	599	1105		
75	239	380	-425	34	1215	3762		
90	-593	-388	-479	921	2913	5244		
105	467	924	1003	2066	3045	4110		
120	2667	2624	2188	2419	2394	3075		
135	1652	2112	2396	3221	3072	2816		
150	695	1015	1546	2887	3723	3841		
165	934	1180	1257	2152	2860	2966		
180	1310	1576	1654	2419	2183	1573		
195	1345	1757	1898	2505	1769	727		
210	1721	1419	1121	1723	1611	1652		
225	649	668	470	1398	2684	4259		
240	-183	611	994	2162	3591	5224		
255	1333	1914	1700	2371	3617	5314		
270	786	2599	2811	3240	3001	3881		
285	626	1898	1862	2610	2860	3344		
300	45	998	868	1494	1268	1652		
315	-160	503	235	540	-765	-1930		
330	91	602	-271	-758	-3264	-5014		
345	102	124	-1193	-1902	-4109	-5631		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-6095	-8303	2227	
15	-6892	-10305	1107	
30	-6062	-10208	147	
45	-5443	-8449	2131	
60	-2855	-5926	3811	
75	-673	-4298	3539	
90	466	-6496	2771	
105	1378	-7652	-717	
120	792	-10159	-1069	
135	922	-7782	19	
150	2143	-6219	2867	
165	2713	-3582	4403	
180	1020	-4721	4723	
195	-804	-7814	2083	
210	-624	-9312	-2349	
225	-2415	-11363	-2845	
240	-4548	-10826	-1933	
255	-5932	-10110	-493	
270	-9741	-10387	1171	
285	-10230	-11054	707	
300	-8439	-10305	355	
315	-8439	-8628	3219	
330	-7820	-6414	4963	
345	-5883	-6496	4179	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	569	259	119
15	462	113	108
30	453	97	98
45	482	51	115
60	743	313	135
75	745	329	130
90	538	16	75
105	173	-272	40
120	426	-273	49
135	688	1	64
150	542	-93	39
165	188	-211	7
180	202	-285	9
195	281	-246	19
210	254	-185	15
225	163	-329	-2
240	-237	-530	-37
255	-538	-759	-54
270	-265	-576	-9
285	58	-296	37
300	283	-35	48
315	-66	-256	49
330	11	-104	60
345	304	73	100

TABLE 96

FLIGHT 74, PARTIAL-POWER DESCENT

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	Δp, lb/sq in., at - r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
6	3.99	2.95	2.73	1.62	.62	.28	.017	5.46	2.68	2.06	1.78	1.11	.37	-.063	6
21	3.01	2.35	2.37	1.26	.43	.23	.008	4.34	2.10	1.67	1.50	.91	.27	-.096	21
36	1.44	1.36	1.71	.64	.09	.10	-.025	2.96	1.26	1.13	1.06	.58	.14	-.140	36
51	4.63	3.23	3.03	1.62	.63	.30	.051	2.03	.74	.82	.92	.58	.22	-.105	51
66	5.79	4.61	3.78	2.42	1.17	.52	.067	7.17	3.92	3.12	2.61	1.72	.46	-.021	66
81	5.41	4.38	3.57	2.20	1.02	.43	.055	6.95	3.58	2.69	2.28	1.49	.52	-.033	81
96	4.47	3.56	3.03	1.85	.75	.31	.019	5.57	2.72	2.13	1.82	1.16	.35	-.068	96
111	3.77	3.06	2.77	1.65	.69	.35	.057	4.99	2.51	1.94	1.69	1.12	.38	-.056	111
126	3.71	3.14	2.79	1.67	.74	.37	.059	5.48	2.73	2.12	1.82	1.19	.43	-.030	126
141	3.69	2.95	2.68	1.60	.73	.35	.055	5.62	2.80	2.16	1.81	1.19	.42	-.035	141
156	3.46	2.73	2.51	1.47	.65	.34	.059	5.31	2.62	1.98	1.66	1.13	.38	-.030	156
171	3.56	2.76	2.49	1.48	.69	.34	.065	4.98	2.45	1.89	1.60	1.08	.40	-.011	171
186	3.75	3.02	2.65	1.62	.82	.40	.092	5.62	2.80	2.12	1.75	1.21	.46	.016	186
201	4.44	3.48	2.90	1.83	.97	.44	.103	6.55	3.27	2.42	1.99	1.40	.53	.035	201
216	5.29	3.93	3.16	2.00	1.08	.49	.107	6.95	3.46	2.54	2.08	1.46	.58	.044	216
231	5.43	3.99	3.21	2.03	1.11	.48	.092	6.52	3.27	2.45	2.00	1.42	.56	.056	231
246	5.82	3.79	3.13	2.00	1.11	.52	.116	6.68	3.34	2.44	2.04	1.44	.60	.074	246
261	6.49	4.25	3.40	2.22	1.30	.59	.145	7.51	3.89	2.81	2.29	1.61	.68	.093	261
276	3.23	2.12	1.98	1.15	.65	.30	.065	3.12	1.48	1.14	1.09	.73	.32	.011	276
291	4.10	2.56	2.39	1.34	.62	.32	.071	4.36	2.05	1.57	1.38	.93	.37	.005	291
306	5.20	3.39	2.88	1.74	.88	.38	.074	5.63	2.76	2.09	1.73	1.18	.45	.011	306
321	5.37	3.51	2.98	1.83	.94	.41	.067	6.23	3.13	2.28	1.91	1.28	.49	.016	321
336	5.02	3.42	2.98	1.80	.89	.39	.057	6.21	3.08	2.25	1.93	1.31	.45	-.005	336
351	4.49	3.31	2.90	1.77	.78	.35	.042	5.93	2.97	2.21	1.89	1.22	.41	-.033	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
6	6.02	4.62	3.33	2.26	2.13	1.62	1.16	.49	.45	.20	.065	6
21	5.08	3.88	2.81	1.86	1.81	1.35	.97	.37	.35	.15	.034	21
36	4.02	2.94	2.19	1.37	1.39	1.02	.75	.22	.26	.10	-.001	36
51	3.50	2.46	1.89	1.10	1.37	.85	.66	.18	.24	.08	-.005	51
66	7.06	5.69	4.11	3.00	2.65	2.12	1.53	.72	.59	.27	.072	66
81	6.60	5.10	3.69	2.64	2.39	1.87	1.36	.62	.54	.25	.060	81
96	5.50	4.20	3.02	2.01	1.85	1.42	1.00	.39	.38	.17	.008	96
111	5.14	3.92	2.89	1.95	1.77	1.37	1.00	.41	.40	.19	.029	111
126	5.59	4.29	3.08	2.11	1.93	1.51	1.10	.48	.46	.24	.055	126
141	5.86	4.45	3.23	2.25	1.99	1.55	1.11	.49	.46	.23	.004	141
156	5.30	3.96	2.89	1.98	1.79	1.40	1.03	.43	.43	.21	.034	156
171	5.14	3.86	2.78	1.93	1.74	1.38	.99	.44	.43	.23	.049	171
186	5.99	4.45	3.17	2.26	1.99	1.60	1.16	.56	.53	.28	.085	186
201	6.38	4.82	3.39	2.43	2.15	1.70	1.26	.64	.56	.31	.093	201
216	6.57	4.98	3.54	2.56	2.25	1.79	1.29	.66	.57	.32	.106	216
231	6.32	4.80	3.38	2.44	2.15	1.73	1.24	.63	.55	.29	.085	231
246	6.81	5.09	3.58	2.64	2.32	1.88	1.35	.73	.61	.34	.123	246
261	5.63	3.82	2.88	2.18	1.94	1.57	1.12	.62	.55	.33	.130	261
276	4.02	2.83	2.02	1.37	1.31	1.09	.79	.37	.36	.19	.075	276
291	5.27	3.87	2.69	1.88	1.73	1.40	1.00	.48	.44	.22	.100	291
306	6.05	4.52	3.17	2.30	2.07	1.64	1.16	.57	.49	.26	.117	306
321	6.58	5.04	3.51	2.54	2.29	1.81	1.28	.65	.56	.28	.108	321
336	6.66	5.06	3.56	2.56	2.33	1.85	1.29	.65	.56	.27	.090	336
351	6.41	4.90	3.47	2.45	2.26	1.75	1.25	.58	.51	.24	.068	351

TABLE 96 - Continued

FLIGHT 74, PARTIAL-POWER DESCENT

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	4.78	2.41	1.93	1.47	.95	.33	-.065	4.45	2.06	1.40	1.18	.95	.34	.183	6
21	4.33	2.12	1.75	1.33	.82	.27	-.076	3.97	1.83	1.27	1.08	.89	.32	.181	21
36	3.75	1.77	1.53	1.15	.68	.21	-.067	3.67	1.66	1.17	.99	.82	.30	.174	36
51	3.47	1.74	1.55	1.19	.67	.23	-.017	3.38	1.59	1.12	.93	.74	.33	.128	51
66	3.23	1.61	1.60	1.34	.86	.40	.089	3.41	1.75	1.21	.94	.72	.41	.085	66
81	4.50	2.74	2.28	1.80	1.12	.44	.072	3.09	1.49	1.06	.85	.65	.39	.074	81
96	4.31	2.00	1.77	1.37	.78	.31	.058	2.95	1.44	1.04	.83	.65	.38	.071	96
111	3.84	1.80	1.64	1.30	.75	.33	.072	2.65	1.31	.95	.76	.60	.37	.073	111
126	4.00	2.02	1.81	1.43	.89	.36	.077	3.02	1.50	1.09	.88	.67	.40	.080	126
141	4.26	2.15	1.88	1.49	.94	.37	.064	3.17	1.51	1.06	.85	.63	.36	.067	141
156	4.04	1.94	1.74	1.36	.85	.32	.058	3.03	1.47	1.05	.83	.63	.37	.073	156
171	3.77	1.86	1.64	1.31	.82	.34	.070	3.11	1.51	1.08	.86	.66	.38	.077	171
186	4.09	2.13	1.82	1.46	.96	.40	.089	3.05	1.48	1.06	.85	.65	.39	.077	186
201	4.50	2.34	1.92	1.54	1.00	.43	.094	2.93	1.45	1.04	.84	.64	.37	.065	201
216	4.55	2.32	1.91	1.53	1.00	.44	.089	2.75	1.35	.98	.80	.62	.38	.056	216
231	4.56	2.32	1.89	1.50	.96	.42	.084	2.50	1.20	.87	.69	.53	.32	.047	231
246	4.82	2.53	1.97	1.57	1.02	.43	.096	1.82	.87	.66	.55	.42	.29	.040	246
261	3.40	1.22	1.14	.89	.59	.25	-.027	2.15	.94	.71	.61	.51	.20	.100	261
276	2.94	1.45	1.20	.92	.62	.24	-.048	2.51	1.07	.79	.71	.60	.19	.130	276
291	3.38	1.76	1.42	1.08	.72	.25	-.055	3.06	1.35	.97	.83	.69	.22	.146	291
306	3.70	1.91	1.52	1.16	.78	.29	-.055	2.83	1.23	.90	.79	.65	.21	.138	306
321	4.14	2.20	1.73	1.34	.91	.35	-.043	3.66	1.69	1.18	.99	.81	.29	.170	321
336	4.46	2.34	1.84	1.43	.96	.36	-.043	4.07	1.86	1.30	1.10	.89	.34	.177	336
351	4.67	2.40	1.90	1.46	.97	.36	-.055	3.98	1.81	1.28	1.09	.88	.32	.171	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.68	.90	.73	.28	-.017	1.11	.56	.35	.16	.039	6
21	1.54	.81	.68	.25	-.020	1.30	.64	.38	.15	.042	21
36	1.82	1.02	.81	.30	-.004	1.13	.57	.35	.14	.035	36
51	1.47	.82	.67	.31	.021	.91	.46	.29	.13	.040	51
66	1.53	.78	.50	.36	.096	.93	.47	.30	.13	.053	66
81	1.51	.76	.53	.39	.114	.72	.36	.23	.11	.048	81
96	1.40	.71	.45	.33	.081	.96	.49	.31	.14	.061	96
111	1.35	.69	.46	.35	.100	.97	.49	.30	.12	.054	111
126	1.40	.73	.47	.34	.086	.87	.43	.27	.13	.061	126
141	1.46	.73	.46	.33	.088	.84	.43	.28	.13	.066	141
156	1.47	.73	.46	.34	.086	.81	.42	.27	.13	.063	156
171	1.42	.72	.46	.34	.092	.78	.40	.26	.12	.060	171
186	1.32	.67	.44	.33	.082	.71	.37	.24	.11	.054	186
201	1.21	.63	.40	.31	.078	.64	.33	.23	.11	.049	201
216	1.26	.64	.41	.31	.072	.57	.30	.21	.10	.047	216
231	1.25	.63	.40	.31	.072	.64	.33	.22	.11	.049	231
246	1.11	.53	.38	.28	.072	.71	.36	.23	.10	.043	246
261	.96	.47	.40	.19	-.004	.64	.31	.20	.08	.021	261
276	.90	.38	.41	.12	-.056	.49	.23	.15	.07	.007	276
291	1.04	.49	.47	.14	-.046	.42	.20	.14	.07	.013	291
306	1.33	.67	.59	.20	-.025	.97	.44	.27	.11	.026	306
321	1.63	.90	.72	.26	-.014	1.07	.52	.31	.13	.038	321
336	1.75	.97	.77	.29	-.006	1.10	.54	.34	.14	.035	336
351	1.83	1.02	.80	.31	-.009	1.21	.61	.38	.17	.045	351

TABLE 96 - Continued

FLIGHT 74, PARTIAL-POWER DESCENT

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	5.06	8.45	14.46	15.11	19.47	17.16	15.39
21	5.59	7.67	13.19	13.28	16.19	13.52	12.15
36	5.01	9.33	12.19	11.24	12.42	8.38	6.40
51	4.23	8.04	11.54	11.24	11.07	7.02	16.87
66	4.32	8.03	12.09	13.03	24.37	24.80	24.24
81	3.39	8.31	10.86	17.79	22.08	22.86	22.18
96	4.55	7.35	10.60	13.73	17.01	17.51	17.71
111	4.39	7.42	9.83	12.92	16.67	16.48	16.16
126	4.07	7.51	11.05	14.34	18.30	18.09	16.58
141	4.10	7.49	10.69	14.98	18.68	18.28	15.97
156	3.96	7.56	10.59	13.68	17.09	17.04	14.91
171	3.79	7.52	10.94	13.26	16.65	16.38	15.11
186	3.50	7.07	10.83	15.08	19.51	18.61	16.79
201	3.20	6.56	10.52	16.18	20.96	21.58	19.16
216	2.98	6.64	10.07	16.17	21.68	22.86	21.52
231	3.21	6.57	8.80	15.89	20.74	21.92	21.75
246	3.35	5.98	6.94	16.82	22.56	22.49	21.95
261	2.86	4.88	7.38	9.57	18.90	25.58	24.72
276	2.15	4.10	8.33	9.61	13.12	10.85	12.76
291	2.00	4.88	9.96	11.13	16.88	14.23	14.66
306	4.02	6.53	9.32	12.20	19.62	18.34	18.78
321	4.61	8.26	12.10	14.07	21.63	20.27	19.58
336	4.84	8.94	13.51	15.00	21.80	19.95	18.90
351	5.52	9.33	13.16	15.28	20.90	18.92	17.60

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	11.917		0	3.798		0	4.581	
1	1.434	-2.415	1	.098	-.743	1	-.174	.055
2	.053	.000	2	.257	-.110	2	.003	.005
3	.023	.128	3	-.016	-.106	3	.004	-.024
4	.070	.047	4	.000	-.037	4	-.001	-.019
5	-.023	-.146	5	.184	-.102	5	.008	-.001
6	.000	-.020	6	.045	.004	6	.005	.001
7	-.032	.012	7	-.008	.012	7	.003	-.001
8	-.006	.023	8	.037	-.073	8	-.001	-.004
9	.000	-.012	9	-.004	.004	9	-.001	.001
10	-.044	-.018	10	.041	.000	10	.003	.007

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o \right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o \right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o \right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o \right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o \right) + F_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 96 - Continued

FLIGHT 74, PARTIAL-POWER DESCENT

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.945		.75	0	13.816		.95	0	17.577	
.25	1	.760	.601	.75	1	-.765	.443	.95	1	-1.258	-1.165
.25	2	.592	-.222	.75	2	1.035	.164	.95	2	-1.673	1.225
.25	3	.316	-.206	.75	3	.394	-1.964	.95	3	-.444	-3.004
.25	4	-.147	-.055	.75	4	-.350	-.505	.95	4	-1.025	-2.469
.25	5	-.192	.261	.75	5	.841	.242	.95	5	.525	-.678
.25	6	.070	.051	.75	6	.596	.512	.95	6	1.795	.968
.25	7	.110	-.088	.75	7	-.812	-.163	.95	7	1.222	.102
.25	8	-.019	.001	.75	8	-.101	.158	.95	8	-.474	-.054
.25	9	-.210	.000	.75	9	.600	-.237	.95	9	-.537	1.006
.25	10	-.196	-.044	.75	10	.083	-.131	.95	10	.304	.510
.40	0	7.268		.85	0	18.679					
.40	1	.841	1.051	.85	1	-.565	-.921				
.40	2	.928	-.205	.85	2	.256	-.110				
.40	3	.014	-.512	.85	3	-.100	-2.939				
.40	4	-.448	-.290	.85	4	-.607	-1.562				
.40	5	-.130	.138	.85	5	1.112	-.211				
.40	6	-.029	-.049	.85	6	1.727	1.293				
.40	7	-.136	-.076	.85	7	-.202	.374				
.40	8	-.101	-.217	.85	8	-1.025	.431				
.40	9	.038	-.191	.85	9	-.430	.037				
.40	10	.120	-.128	.85	10	.231	-.721				
.55	0	10.790		.90	0	18.046					
.55	1	1.524	1.008	.90	1	-2.159	-1.282				
.55	2	1.526	-.513	.90	2	-.660	.299				
.55	3	-.153	-.348	.90	3	.394	-3.596				
.55	4	.094	.048	.90	4	-.380	-2.494				
.55	5	.233	-.310	.90	5	1.063	-.186				
.55	6	-.050	.042	.90	6	1.910	2.263				
.55	7	-.070	.372	.90	7	.581	.450				
.55	8	.130	.121	.90	8	-1.594	-.096				
.55	9	.187	.163	.90	9	-1.063	.412				
.55	10	.115	-.055	.90	10	.603	-.439				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o\right) + M_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 96 - Concluded

FLIGHT 74, PARTIAL-POWER DESCENT

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	-1029	-1469	-1799	-3337	-2294	-3732	-4137	-3453
21	567	396	1211	-561	-3015	-5224	-4283	-2402
36	3747	1543	1284	584	-604	-3981	-6841	-4329
51	441	1510	2378	450	-2135	-4269	-1705	-1321
66	1547	-883	-1474	-2068	-1405	517	1015	-3190
81	-1816	-2129	-1727	-838	980	-1095	-1736	-2672
96	-1257	1460	2043	78	-1651	-3523	-5669	-4490
111	7122	3036	1148	-599	-2118	-4876	-5042	-2825
126	-197	363	1935	899	-534	-2896	-3949	-3614
141	-72	-1790	-1003	-780	813	855	-1627	-4263
156	419	-454	-81	-1219	-2294	-3095	1344	540
171	2357	1568	570	-1391	-1546	-3742	-6653	-5475
186	1034	1304	2025	756	-2232	-6100	-8002	-5351
201	2129	932	416	-1048	-1405	-3503	-4451	-4190
216	647	-239	-181	-1238	-780	-1195	-727	-3270
231	-243	-825	488	908	1596	-309	-1438	-2832
246	1992	1856	2197	1404	1235	-239	-3044	-4811
261	2231	3185	3734	2597	1543	-11	-2170	-5227
276	1342	1576	2170	2301	2766	845	2625	1913
291	-1052	990	1293	69	1886	1860	570	-1716
306	829	-404	597	345	-587	-2966	-5178	-4497
321	1285	520	316	-1400	-3931	-7234	-8039	-5409
336	966	74	-1474	-3805	-5013	-6428	-7500	-6256
351	-1816	-2426	-2441	-3099	-3156	-5533	-5167	-3322

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-5443	-3451	3325	13441
21	-8292	-7896	3597	15839
36	-4629	-3679	397	11685
51	-4417	-3712	6045	15820
66	-3864	961	7821	15226
81	1150	-521	5293	14311
96	-201	-3810	2733	14009
111	-3148	-4835	2877	14027
126	776	-3891	2829	13341
141	1818	488	4813	13579
156	-771	-830	8813	17632
171	890	1498	5485	14247
186	-3213	-2361	7069	15500
201	-4955	-3647	4573	14658
216	-1308	-4851	-787	12654
231	-5524	-7521	525	13469
246	-7885	-7749	1757	14393
261	-8683	-5779	1965	12417
276	-11060	-6040	3677	13203
291	-10474	-7277	4381	16214
306	-8243	-3712	3181	13441
321	-8569	-2295	5165	14741
336	-8129	-2035	6717	16818
351	-3164	-1416	3597	13789

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	281	606	134
21	375	304	127
36	99	317	124
51	491	420	127
66	328	602	166
81	669	890	103
96	39	171	80
111	132	-43	72
126	568	387	100
141	437	581	87
156	-293	-104	11
171	-562	-184	-23
186	-305	-299	-11
201	-248	-79	27
216	266	326	50
231	-328	-101	-9
246	-909	-630	-58
261	-635	-387	-17
276	-319	-212	53
291	-98	20	59
306	-593	-132	18
321	-687	-146	15
336	14	127	97
351	310	673	130

TABLE 97

FLIGHT 75, PARTIAL-POWER DESCENT

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	7.52	5.00	2.97	2.23	1.24	.62	.099	8.54	4.10	2.91	2.52	1.67	.63	.074	0
15	5.57	4.18	2.78	1.91	.95	.49	.069	6.66	3.50	2.58	2.26	1.42	.53	.023	15
30	4.33	3.87	2.57	1.71	.75	.43	.041	5.13	2.93	2.23	2.04	1.21	.43	-.025	30
45	3.64	3.64	2.48	1.64	.61	.40	.010	4.33	2.58	2.07	1.86	1.09	.37	-.063	45
60	3.08	3.52	2.46	1.62	.49	.37	-.010	3.81	2.32	1.96	1.70	1.01	.32	-.105	60
75	2.71	3.39	2.38	1.47	.35	.33	-.018	3.37	2.06	1.79	1.68	.91	.28	-.130	75
90	3.06	3.92	2.80	1.70	.50	.39	-.002	3.08	1.97	1.72	1.67	.89	.29	-.141	90
105	3.41	3.90	3.05	1.76	.60	.41	.006	3.56	2.40	2.10	2.02	1.14	.40	-.092	105
120	2.79	3.13	2.46	1.49	.50	.40	.026	4.08	2.65	2.10	1.96	1.12	.40	-.085	120
135	2.48	2.70	2.12	1.29	.42	.38	.014	3.40	2.18	1.73	1.70	.96	.37	-.076	135
150	2.52	2.70	1.85	1.28	.45	.39	.033	3.35	2.10	1.62	1.61	.96	.37	-.049	150
165	3.04	2.84	1.83	1.38	.57	.44	.065	3.74	2.27	1.74	1.67	1.04	.43	-.002	165
180	3.68	3.11	2.06	1.51	.71	.47	.079	4.51	2.58	1.93	1.77	1.14	.48	.059	180
195	4.07	3.25	2.10	1.55	.79	.50	.091	4.96	2.65	2.01	1.78	1.19	.51	.081	195
210	4.45	3.36	2.06	1.57	.84	.53	.105	5.19	2.82	2.07	1.79	1.23	.53	.099	210
225	4.88	3.51	2.08	1.62	.91	.54	.115	5.53	2.98	2.13	1.83	1.27	.55	.110	225
240	5.14	3.59	2.09	1.64	.95	.55	.124	5.85	3.10	2.19	1.85	1.32	.56	.121	240
255	5.61	3.75	2.17	1.72	1.02	.56	.133	6.71	3.25	2.28	1.93	1.40	.59	.124	255
270	6.42	4.07	2.37	1.89	1.14	.61	.150	8.18	3.54	2.44	2.08	1.50	.63	.141	270
285	6.28	3.83	2.14	1.76	1.10	.56	.125	6.01	2.80	1.93	1.67	1.19	.47	.081	285
300	5.24	3.57	2.02	1.57	.89	.48	.097	5.37	2.80	1.95	1.70	1.19	.50	.092	300
315	6.28	4.06	2.35	1.83	1.04	.51	.119	6.16	3.16	2.20	1.92	1.33	.57	.108	315
330	7.65	4.69	2.80	2.15	1.24	.57	.144	7.77	3.74	2.61	2.29	1.57	.65	.119	330
345	8.44	5.12	3.07	2.35	1.37	.60	.137	9.09	4.24	2.99	2.58	1.75	.68	.125	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	9.45	5.52	4.30	3.32	2.65	2.41	1.43	.79	.67	.37	.056	0
15	7.94	5.16	3.89	2.91	2.33	2.13	1.24	.61	.59	.30	.020	15
30	6.10	4.40	3.28	2.42	2.02	1.82	1.05	.46	.47	.23	-.023	30
45	5.25	3.90	3.06	2.50	1.79	1.72	.95	.34	.41	.19	-.050	45
60	4.81	3.51	2.90	2.33	1.88	1.55	.85	.26	.35	.15	-.077	60
75	4.16	3.01	2.62	2.11	1.64	1.30	.73	.15	.29	.11	-.101	75
90	3.92	2.86	2.53	2.01	1.56	1.47	.72	.14	.28	.11	-.108	90
105	4.19	3.15	2.78	2.21	1.75	1.47	.84	.26	.37	.17	-.089	105
120	5.53	4.15	3.42	2.48	1.95	1.72	1.00	.33	.42	.21	-.059	120
135	4.84	3.54	3.03	2.18	1.81	1.48	.93	.32	.43	.23	-.044	135
150	4.63	3.32	2.83	2.07	1.65	1.38	.90	.32	.45	.25	-.040	150
165	4.90	3.47	2.90	2.18	1.76	1.51	.96	.39	.52	.30	-.017	165
180	5.53	3.86	3.11	2.37	1.90	1.70	1.04	.47	.57	.35	-.003	180
195	5.84	4.01	3.14	2.45	1.95	1.75	1.07	.51	.60	.36	.009	195
210	6.01	4.04	3.15	2.46	1.94	1.77	1.08	.54	.61	.37	.024	210
225	6.33	4.15	3.24	2.54	1.99	1.84	1.11	.58	.61	.38	.040	225
240	6.69	4.29	3.29	2.60	2.03	1.89	1.13	.61	.62	.38	.045	240
255	7.29	4.48	3.44	2.73	2.12	1.99	1.18	.66	.64	.40	.061	255
270	7.71	4.48	3.44	2.72	2.12	1.99	1.17	.65	.62	.37	.079	270
285	5.18	3.26	2.62	2.04	1.54	1.53	.86	.48	.49	.28	.003	285
300	5.61	3.55	2.77	2.19	1.67	1.65	.93	.53	.52	.30	.040	300
315	6.21	3.97	3.08	2.41	1.87	1.81	1.04	.60	.56	.33	.046	315
330	7.96	4.91	3.78	2.95	2.33	2.19	1.28	.75	.66	.39	.077	330
345	9.45	5.49	4.30	3.37	2.64	2.47	1.48	.84	.71	.41	.084	345

TABLE 97 - Continued

FLIGHT 75, PARTIAL-POWER DESCENT

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75							Δp, lb/sq in., at - r/R = 0.55							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.80	3.61	2.48	1.93	1.38	.57	.062	3.05	1.40	.96	.99	.80	.40	.077	0
15	6.39	3.28	2.27	1.79	1.23	.50	.047	2.91	1.33	.92	.96	.77	.39	.075	15
30	5.71	2.95	2.12	1.67	1.10	.45	.041	2.89	1.30	.91	.95	.78	.39	.090	30
45	5.05	2.82	2.08	1.65	1.03	.41	.036	2.86	1.36	.90	.93	.77	.39	.100	45
60	4.46	2.60	1.95	1.59	.95	.37	-.002	2.71	1.32	.84	.89	.75	.38	.102	60
75	3.90	2.30	1.67	1.44	.81	.32	.010	2.55	1.21	.77	.83	.71	.36	.101	75
90	3.53	2.24	1.64	1.39	.75	.29	.026	2.51	1.22	.84	.82	.71	.37	.107	90
105	3.90	2.76	1.90	1.60	.94	.38	.045	2.82	1.43	.86	.93	.79	.40	.123	105
120	4.08	2.83	1.99	1.63	1.02	.41	.062	3.08	1.54	1.03	1.04	.87	.44	.127	120
135	4.23	2.85	2.04	1.64	1.06	.44	.086	3.65	1.78	1.23	1.19	.97	.46	.122	135
150	5.01	3.07	2.35	1.78	1.14	.46	.083	3.44	1.69	1.17	1.15	.95	.47	.135	150
165	5.27	3.04	2.30	1.77	1.20	.49	.105	3.29	1.62	1.14	1.13	.94	.45	.111	165
180	5.50	3.17	2.29	1.75	1.23	.51	.103	3.33	1.57	1.10	1.10	.90	.43	.093	180
195	5.59	3.13	2.21	1.69	1.20	.51	.093	2.90	1.35	.95	.98	.80	.39	.076	195
210	5.59	3.10	2.14	1.64	1.17	.51	.093	2.51	1.14	.82	.88	.72	.35	.064	210
225	5.69	3.13	2.13	1.62	1.18	.50	.093	2.26	.97	.70	.78	.64	.29	.045	225
240	5.59	3.21	2.14	1.63	1.19	.53	.093	1.98	.79	.58	.69	.56	.27	.028	240
255	5.18	3.13	2.03	1.53	1.17	.51	.100	1.69	.65	.48	.61	.49	.23	.019	255
270	4.49	1.99	1.35	.97	.65	.30	.050	1.52	.55	.42	.56	.46	.22	.011	270
285	4.04	2.32	1.53	1.17	.84	.38	.031	1.34	.47	.38	.52	.43	.20	.009	285
300	4.04	2.30	1.53	1.17	.85	.37	.041	1.21	.45	.35	.50	.40	.20	.002	300
315	4.40	2.61	1.74	1.34	.95	.41	.052	1.45	.59	.44	.57	.47	.24	.024	315
330	5.17	3.23	2.15	1.68	1.20	.53	.067	2.04	.90	.64	.73	.59	.30	.052	330
345	6.12	3.65	2.48	1.92	1.41	.60	.081	2.77	1.24	.87	.90	.73	.39	.071	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40					Δp, lb/sq in., at - r/R = 0.25					ψ_{nom}, deg
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.02	.62	.33	.28	.088	.44	.16	.07	.10	.009	0
15	.95	.58	.30	.27	.088	.61	.26	.15	.15	.027	15
30	1.30	.72	.38	.30	.094	.63	.26	.14	.14	.022	30
45	1.39	.75	.41	.31	.106	.73	.31	.17	.15	.026	45
60	1.42	.76	.42	.32	.108	.77	.33	.17	.14	.029	60
75	1.43	.79	.43	.32	.111	.85	.36	.20	.15	.034	75
90	1.44	.84	.43	.32	.117	.94	.42	.23	.17	.039	90
105	1.48	.88	.48	.37	.127	1.06	.49	.28	.19	.046	105
120	1.96	1.04	.60	.41	.140	.99	.52	.32	.22	.060	120
135	2.02	1.10	.63	.42	.140	1.49	.69	.40	.23	.058	135
150	1.97	1.07	.62	.43	.133	1.45	.68	.40	.23	.062	150
165	2.14	1.16	.63	.41	.119	1.24	.61	.37	.23	.057	165
180	1.79	1.05	.58	.39	.111	1.19	.55	.33	.21	.053	180
195	1.55	.91	.48	.34	.096	.85	.40	.25	.18	.040	195
210	1.16	.72	.37	.28	.075	.63	.27	.15	.12	.023	210
225	.85	.56	.26	.22	.059	.39	.20	.06	.09	.010	225
240	.60	.45	.18	.18	.047	.21	.15	.02	.06	-.008	240
255	.44	.36	.13	.16	.042	.18	.07	.02	.06	-.005	255
270	.34	.31	.09	.14	.041	.18	.02	.02	.06	-.005	270
285	.29	.30	.10	.15	.047	.14	.00	-.01	.07	-.004	285
300	.17	.23	.06	.14	.043	.16	.02	-.01	.08	-.003	300
315	.24	.25	.07	.13	.051	.15	.02	.00	.08	.002	315
330	.49	.37	.16	.20	.067	.08	-.01	-.01	.08	.005	330
345	.73	.53	.26	.25	.079	.15	.03	.01	.08	.006	345

TABLE 97 - Continued

FLIGHT 75, PARTIAL-POWER DESCENT

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	1.83	5.84	11.28	22.54	26.62	26.84	25.71
15	2.91	5.50	10.82	20.46	23.15	22.40	20.92
30	2.84	6.80	10.83	18.48	18.93	18.51	18.08
45	3.29	7.18	10.89	17.30	16.86	16.24	16.35
60	3.38	7.36	10.50	15.69	15.57	14.58	15.07
75	3.70	7.45	9.84	13.70	13.39	13.01	13.67
90	4.21	7.61	10.00	13.01	13.01	12.54	16.27
105	4.82	8.23	11.08	15.64	14.78	15.80	17.41
120	5.12	9.96	12.22	16.51	17.95	16.46	14.58
135	6.60	10.39	13.77	17.14	16.46	13.96	12.74
150	6.50	10.21	13.39	18.84	15.74	13.73	12.63
165	5.88	10.51	12.94	19.38	16.91	15.19	14.02
180	5.49	9.42	12.54	19.93	18.58	17.30	15.97
195	4.16	8.08	11.00	19.61	19.26	18.26	16.95
210	2.78	6.34	9.67	19.35	19.52	19.06	17.74
225	1.71	4.77	8.36	19.46	20.17	19.89	18.66
240	1.02	3.58	7.22	19.67	20.72	20.64	19.20
255	.78	2.84	6.17	18.90	21.87	22.06	20.28
270	.71	2.40	5.60	12.42	22.08	24.46	22.40
285	.61	2.37	5.11	13.98	16.06	18.80	21.09
300	.72	1.81	4.79	13.97	17.33	18.60	18.40
315	.73	2.00	5.85	15.68	19.16	21.02	21.22
330	.52	3.37	7.88	19.37	23.76	25.11	25.01
345	.81	4.74	10.33	22.39	27.16	28.25	27.22

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	12.408		0	3.629		0	5.046	
1	1.789	-4.944	1	.113	-.624	1	-.225	-.038
2	.091	.159	2	-.051	-.093	2	.002	.011
3	.000	.077	3	.034	-.122	3	.020	.017
4	.023	-.009	4	.006	-.002	4	.008	.006
5	-.064	-.045	5	.014	-.034	5	-.005	-.009
6	-.014	-.045	6	.020	-.006	6	.000	.000
7	-.018	.000	7	-.004	-.028	7	-.016	.000
8	.000	.005	8	.008	.006	8	.009	.003
9	-.009	.018	9	-.004	-.018	9	-.003	.000
10	.000	.018	10	-.002	-.004	10	-.002	.003
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 97 - Continued

FLIGHT 75, PARTIAL-POWER DESCENT

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.963		.75	0	17.642		.95	0	18.399	
.25	1	-1.607	2.126	.75	1	-.130	-.485	.95	1	3.399	-3.249
.25	2	.578	-.423	.75	2	3.261	.707	.95	2	.991	-.281
.25	3	-.179	.456	.75	3	1.606	-.125	.95	3	1.658	-1.066
.25	4	.024	.098	.75	4	-.049	-.719	.95	4	1.401	-.140
.25	5	.050	.078	.75	5	-.287	-.114	.95	5	-.347	-.768
.25	6	-.002	.146	.75	6	.572	-.222	.95	6	-.267	-.748
.25	7	.025	-.033	.75	7	.225	-.304	.95	7	.110	.111
.25	8	.108	.092	.75	8	-.457	.041	.95	8	.266	.310
.25	9	-.092	.033	.75	9	-.083	.206	.95	9	.018	-.082
.25	10	.022	-.012	.75	10	.429	.057	.95	10	.029	-.203
.40	0	6.199		.85	0	18.960					
.40	1	-1.993	3.148	.85	1	1.913	-2.717				
.40	2	1.176	-.210	.85	2	2.578	.230				
.40	3	.000	.382	.85	3	2.443	-.115				
.40	4	.090	-.071	.85	4	.765	-.586				
.40	5	.052	-.277	.85	5	-.346	-1.155				
.40	6	.103	-.129	.85	6	.310	.113				
.40	7	-.092	-.033	.85	7	.132	.420				
.40	8	.003	-.124	.85	8	.158	-.291				
.40	9	.131	.034	.85	9	-.142	-.193				
.40	10	.032	-.028	.85	10	-.363	.235				
.55	0	9.669		.90	0	18.862					
.55	1	-1.184	2.861	.90	1	2.870	-3.876				
.55	2	1.909	-.103	.90	2	1.891	-.080				
.55	3	.530	.380	.90	3	2.291	-.447				
.55	4	.079	-.198	.90	4	1.129	-.338				
.55	5	.108	-.341	.90	5	-.467	-1.246				
.55	6	.097	-.107	.90	6	.084	-.290				
.55	7	-.036	-.084	.90	7	.166	.551				
.55	8	.115	.016	.90	8	.168	-.133				
.55	9	-.047	.003	.90	9	-.048	-.446				
.55	10	.047	-.094	.90	10	-.191	.081				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 97 - Concluded

FLIGHT 75, PARTIAL-POWER DESCENT

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	277	553	570	-219	-1686	-3828		
15	2033	1238	985	353	-1783	-3997		
30	1851	1840	1808	830	-1132	-2942		
45	1452	1031	1275	859	-533	-1997		
60	1075	512	434	-267	-1396	-2465		
75	1429	272	-588	-1698	-3050	-4057		
90	711	-503	-1157	-2251	-4335	-6285		
105	517	-1073	-2088	-3530	-4916	-6027		
120	802	-1658	-2793	-3539	-4264	-5559		
135	-167	-1304	-1329	-2060	-3754	-5688		
150	1486	-50	-696	-1946	-3860	-5848		
165	1965	206	-515	-1831	-3763	-6086		
180	688	-487	-913	-1650	-2839	-5410		
195	494	-454	-768	-1583	-3208	-5569		
210	2033	578	-217	-1402	-3147	-5698		
225	1714	1460	1419	391	-1712	-4823		
240	1839	1799	2224	1946	444	-2037		
255	2421	2269	2613	2462	1896	1177		
270	1075	2294	3191	3377	3436	3485		
285	471	1972	3272	3893	4043	4132		
300	1155	2252	3074	3282	3356	3137		
315	688	2327	3444	3148	919	-982		
330	1714	2038	2043	1145	-1149	-3191		
345	688	1031	777	-86	-1994	-4096		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-6128	-9784	505	
15	-6242	-11445	-935	
30	-4566	-9556	-423	
45	-3605	-6007	3929	
60	-1456	-3256	6793	
75	1507	-1368	5465	
90	1898	-4021	4937	
105	3412	-3923	2041	
120	3200	-4396	2233	
135	1360	-3793	4713	
150	2500	-2214	5673	
165	2158	-391	6921	
180	839	-928	8297	
195	205	-2361	6409	
210	-1472	-5438	3657	
225	-5038	-8498	2233	
240	-5966	-10908	-55	
255	-6926	-10631	-2039	
270	-12168	-12487	185	
285	-12852	-12975	-743	
300	-10866	-12259	-1175	
315	-10850	-10582	2281	
330	-8131	-7733	3033	
345	-5933	-8254	2505	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	654	635	153
15	415	394	117
30	433	398	121
45	590	490	145
60	687	611	148
75	517	606	129
90	429	427	90
105	338	399	81
120	386	370	45
135	24	-12	7
150	-324	-286	-27
165	-432	-382	-27
180	-390	-370	-23
195	-504	-391	-45
210	-395	-490	-22
225	-120	-317	6
240	-201	-419	1
255	-480	-548	-6
270	-328	-413	12
285	-243	-235	34
300	-700	-596	19
315	-626	-471	18
330	-193	-84	95
345	613	608	155

TABLE 98

FLIGHT 76, PARTIAL-POWER DESCENT

(SEE FIG. 18, t = 1.2 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
0	10.00	5.58	3.22	2.45	1.59	.72	.329	9.94	5.27	3.47	2.78	1.91	.86	.412	0
15	9.26	5.72	3.43	2.19	1.07	.36	.190	10.49	4.47	2.82	2.19	1.33	.52	.320	15
30	8.60	5.57	4.01	2.81	1.54	.65	.075	10.14	5.03	3.63	3.02	1.95	.65	.072	30
45	7.63	7.57	4.28	2.73	1.36	.61	.028	8.63	5.96	3.66	3.04	1.84	.62	-.009	45
60	4.16	4.32	3.52	1.93	.68	.39	-.048	5.75	3.35	2.62	2.19	1.22	.33	-.144	60
75	1.83	3.20	2.77	1.26	.19	.22	-.080	2.83	1.66	1.45	1.51	.65	.10	-.238	75
90	.52	2.11	1.99	.75	-.08	.17	-.066	1.22	.51	.73	1.21	.36	.05	-.266	90
105	-.17	1.45	1.40	.38	-.18	.13	-.066	1.37	.49	.59	.61	.24	-.01	-.279	105
120	-.26	1.09	1.09	.34	-.17	.18	-.034	.72	.04	.29	.43	.19	.10	-.221	120
135	.64	1.92	1.75	.88	.04	.28	-.026	1.89	1.05	1.01	.93	.53	.22	-.176	135
150	2.49	3.23	2.30	1.42	.58	.51	.073	3.75	2.30	1.87	1.67	1.03	.51	-.041	150
165	3.61	3.71	2.79	1.89	.82	.52	.065	5.42	3.36	2.39	1.94	1.23	.51	.016	165
180	4.28	3.90	2.84	1.90	.97	.61	.115	5.96	3.51	2.40	2.00	1.36	.60	.059	180
195	5.16	4.19	2.86	1.98	1.15	.69	.147	6.73	3.80	2.60	2.12	1.48	.67	.126	195
210	5.80	4.25	2.77	1.98	1.21	.66	.139	7.35	3.95	2.65	2.12	1.52	.64	.092	210
225	4.89	3.59	2.23	1.60	.98	.55	.109	6.43	3.40	2.18	1.69	1.26	.52	.090	225
240	4.63	3.37	2.09	1.53	.97	.58	.137	5.75	3.01	1.92	1.50	1.16	.54	.144	240
255	5.80	3.88	2.39	1.81	1.18	.66	.181	6.66	3.41	2.18	1.76	1.36	.61	.176	255
270	7.08	4.08	2.43	1.89	1.34	.67	.184	3.47	3.82	2.73	2.31	1.53	.62	.203	270
285	4.87	3.37	1.83	1.27	.91	.47	.153	2.76	2.26	1.19	.89	.80	.39	.322	285
300	5.03	3.53	2.06	1.51	.94	.43	.129	4.26	2.06	.99	.77	.77	.38	.149	300
315	5.94	3.84	2.21	1.51	.81	.54	.317	5.05	2.84	1.80	1.42	1.05	.43	.207	315
330	6.42	4.49	3.41	2.62	1.80	.91	.318	5.45	4.81	3.38	2.84	1.98	1.08	.432	330
345	7.07	3.52	1.97	1.56	1.33	.63	.313	5.97	3.50	2.09	1.67	1.51	.66	.424	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
0	8.83	6.77	3.00	3.86	3.22	3.26	1.94	1.04	.92	.51	.323	0
15	11.17	7.20	3.28	3.64	2.82	2.69	1.51	.71	.69	.45	.234	15
30	11.03	9.48	3.81	4.12	3.22	3.08	1.84	.88	.70	.30	.104	30
45	10.31	8.66	3.51	4.06	3.20	3.04	1.77	.79	.66	.25	.026	45
60	6.97	5.56	2.45	2.86	2.26	2.19	1.19	.38	.37	.07	-.090	60
75	3.64	2.35	.79	1.39	1.07	1.25	.57	.01	.12	-.10	-.170	75
90	2.11	.98	-.21	.73	.42	.65	.22	-.20	.00	-.12	-.191	90
105	2.59	1.41	.17	.66	.58	.66	.22	-.26	-.03	-.13	-.183	105
120	1.88	.68	-.30	.26	.27	.44	.13	-.26	.00	-.08	-.170	120
135	3.06	1.74	.46	1.01	.89	.94	.47	-.04	.17	.02	-.108	135
150	4.97	3.50	1.63	2.14	1.70	1.64	.99	.30	.51	.25	-.013	150
165	6.79	4.87	2.55	2.84	2.23	2.08	1.26	.45	.58	.31	-.009	165
180	7.30	5.05	2.50	2.94	2.29	2.18	1.33	.54	.69	.39	.030	180
195	8.26	5.36	2.64	3.06	2.38	2.33	1.42	.64	.76	.44	.068	195
210	9.21	5.42	2.67	3.13	2.37	2.32	1.42	.67	.73	.41	.069	210
225	7.39	4.48	2.01	2.56	1.91	1.97	1.15	.53	.59	.31	.042	225
240	6.37	3.93	1.61	2.27	1.65	1.82	1.04	.53	.58	.32	.055	240
255	6.41	4.25	1.80	2.51	1.82	2.01	1.13	.61	.60	.34	.090	255
270	3.82	3.02	1.60	2.61	2.18	2.33	1.61	.86	.68	.44	.135	270
285	3.09	1.61	-.06	.91	.49	.84	.36	.26	.54	.39	.261	285
300	4.33	2.59	.65	1.41	.86	1.13	.55	.32	.37	.23	.073	300
315	5.06	3.15	.97	1.72	1.16	1.40	.55	.31	.36	.25	.143	315
330	4.79	4.33	2.84	3.65	2.85	2.96	1.67	.87	.72	.44	.251	330
345	4.59	4.00	2.33	2.87	2.20	2.17	1.40	.87	.89	.63	.375	345

TABLE 98 - Continued

FLIGHT 76, PARTIAL-POWER DESCENT

(SEE FIG. 18, t = 1.2 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.40	4.07	2.75	2.07	1.60	.68	.174	2.89	1.22	.97	.86	.74	.40	.108	0
15	6.47	3.88	2.80	2.08	1.55	.55	.107	3.65	1.67	1.22	1.00	.83	.42	.093	15
30	7.62	4.34	3.13	2.39	1.75	.68	.072	4.34	2.06	1.47	1.23	1.01	.50	.127	30
45	8.08	4.46	3.31	2.44	1.68	.62	.058	4.41	2.07	1.45	1.21	1.01	.48	.128	45
60	7.28	3.50	2.74	2.00	1.26	.42	.014	3.33	1.49	1.09	.94	.81	.42	.113	60
75	5.51	1.80	1.73	1.23	.67	.15	-.095	1.59	.59	.54	.46	.45	.23	.076	75
90	3.90	.87	1.14	.83	.40	.06	-.048	1.41	.46	.52	.48	.41	.23	.088	90
105	3.04	1.01	1.18	.88	.43	.07	-.030	1.48	.51	.58	.43	.47	.25	.100	105
120	2.83	1.61	1.50	1.06	.52	.13	.009	2.45	1.21	.95	.78	.70	.35	.129	120
135	3.18	2.24	1.87	1.39	.79	.28	.041	3.21	1.64	1.17	1.00	.88	.42	.157	135
150	4.10	3.21	2.58	1.94	1.31	.53	.153	4.55	2.26	1.66	1.38	1.17	.55	.205	150
165	5.04	3.62	2.92	2.13	1.48	.56	.118	5.08	2.66	2.02	1.58	1.37	.64	.186	165
180	5.49	3.66	2.84	2.08	1.52	.60	.144	7.32	3.19	2.21	1.77	1.45	.64	.168	180
195	5.83	3.65	2.78	2.03	1.51	.63	.162	5.28	2.69	1.96	1.61	1.34	.61	.170	195
210	6.09	3.58	2.62	1.91	1.44	.56	.123	3.84	2.40	1.72	1.40	1.11	.45	.172	210
225	6.01	2.97	2.17	1.55	1.20	.43	.086	2.66	1.50	1.23	1.00	.73	.32	.158	225
240	5.30	2.50	1.83	1.33	1.10	.41	.090	1.31	1.20	1.14	.82	.58	.28	.158	240
255	4.62	2.49	1.81	1.35	1.05	.41	.102	.61	.38	.71	.81	.77	.24	.145	255
270	4.19	1.95	1.97	1.81	1.53	.69	.033	.10	.03	.28	.32	.46	.36	.021	270
285	3.27	1.02	.78	.52	.52	.36	.164	.12	-.06	.23	.28	.26	.15	.422	285
300	2.32	1.10	.96	.74	.62	.37	.167	.23	-.18	.18	.26	.34	.16	.003	300
315	2.32	1.46	.97	.74	.60	.24	.077	.27	-.09	.15	.20	.20	.15	.025	315
330	3.12	2.82	2.01	1.51	1.20	.45	.114	1.48	.57	.56	.51	.46	.23	.063	330
345	4.32	3.52	2.28	1.64	1.26	.47	.097	2.44	1.02	.80	.69	.55	.23	.078	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	.80	.50	.33	.29	.131	.26	.14	.06	.07	.008	0
15	1.28	.69	.45	.32	.118	.15	.09	.04	.07	-.008	15
30	1.65	.80	.54	.35	.137	.73	.37	.20	.13	.010	30
45	2.04	.95	.61	.35	.145	1.16	.58	.32	.15	.013	45
60	1.73	.82	.52	.32	.137	.69	.31	.15	.10	.000	60
75	.91	.45	.30	.22	.129	.39	.18	.06	.05	-.005	75
90	1.02	.56	.35	.25	.120	.74	.38	.18	.09	.016	90
105	.85	.50	.31	.26	.139	.50	.28	.15	.10	.020	105
120	1.18	.67	.48	.36	.164	.93	.50	.26	.15	.037	120
135	2.52	1.32	.88	.53	.209	1.38	.76	.46	.26	.064	135
150	3.07	1.61	1.04	.59	.199	2.22	1.19	.68	.36	.078	150
165	2.97	1.62	1.03	.58	.195	2.28	1.21	.71	.39	.092	165
180	2.79	1.50	.95	.54	.185	2.00	1.04	.64	.32	.078	180
195	2.36	1.30	.83	.50	.162	1.38	.81	.46	.25	.061	195
210	1.56	1.18	1.05	.61	.165	.74	.64	.18	.14	.026	210
225	-.03	.23	.25	.41	.291	.12	.40	.07	.04	.010	225
240	.04	.15	.16	.34	.486	.01	.19	-.06	-.02	-.031	240
255	.09	.10	.03	.19	.512	-.01	.08	-.07	-.05	-.075	255
270	-.04	.13	.10	.18	.154	.06	-.07	-.16	-.10	-.141	270
285	-.05	.10	.09	.19	.096	.00	-.03	-.08	-.10	-.146	285
300	.01	.13	.10	.16	.147	.01	-.01	-.05	-.05	-.087	300
315	.10	.17	.13	.21	.126	.01	.00	-.02	.01	-.024	315
330	.21	.25	.20	.22	.108	.01	.04	.02	.05	-.012	330
345	.62	.40	.26	.23	.090	.04	.05	.01	.04	-.012	345

TABLE 98 - Continued

FLIGHT 76, PARTIAL-POWER DESCENT

(SEE FIG. 18, t = 1.2 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	1.33	5.51	10.72	24.32	29.84	33.53	31.31
15	.90	7.17	12.69	23.85	27.89	27.42	26.84
30	3.28	8.49	15.37	27.17	30.09	31.58	30.14
45	4.92	9.70	15.29	27.33	28.39	30.99	31.48
60	2.73	8.42	12.00	21.70	18.72	19.22	19.20
75	1.41	5.08	6.08	12.40	8.05	9.26	11.82
90	3.06	5.77	5.65	7.63	2.35	4.02	6.87
105	2.47	5.38	6.13	7.50	3.34	2.72	3.83
120	4.31	7.44	9.95	9.49	1.50	1.69	3.27
135	6.88	13.37	12.65	13.20	6.88	7.19	7.59
150	10.43	15.59	17.24	20.02	15.35	15.66	15.24
165	10.92	15.37	19.93	22.46	20.27	20.09	18.56
180	9.44	14.33	22.82	23.11	21.67	21.82	20.57
195	6.92	12.52	19.67	23.44	23.60	24.11	22.81
210	3.82	12.46	16.15	22.51	24.16	24.67	23.23
225	1.35	4.70	11.07	19.08	19.29	20.77	19.23
240	-.08	4.61	8.76	16.89	17.19	19.28	18.76
255	-.66	3.40	6.92	16.28	18.38	22.16	22.16
270	-1.67	2.14	4.34	18.71	19.21	22.28	24.05
285	-1.48	1.86	3.64	9.44	8.49	13.21	17.59
300	-.76	2.04	2.41	9.68	10.08	12.96	18.19
315	-.08	2.59	2.00	9.07	11.88	17.56	20.27
330	.39	3.16	5.96	16.78	23.75	31.11	29.32
345	.39	4.26	8.11	19.27	21.87	23.25	22.63

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.532		0	3.345		0	8.188	
1	4.284	-8.397	1	-.849	-.704	1	-.612	.045
2	.205	.305	2	-.392	-.935	2	-.062	-.068
3	-.133	.209	3	.116	-.326	3	.125	-.038
4	.129	-.124	4	-.006	-.093	4	-.008	.000
5	-.214	-.290	5	-.047	-.054	5	-.055	-.008
6	-.238	.014	6	-.019	-.008	6	-.028	.000
7	-.086	.076	7	-.014	.010	7	.005	.000
8	-.038	.062	8	-.004	-.019	8	-.008	.000
9	.014	.000	9	-.004	.002	9	-.015	-.005
10	-.005	-.033	10	-.004	-.004	10	-.008	.000

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 98 - Continued

FLIGHT 76, PARTIAL-POWER DESCENT

(SEE FIG. 18, t = 1.2 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.925		.75	0	17.555		.95	0	19.373	
.25	1	-3.105	2.561	.75	1	.388	.079	.95	1	5.244	-4.740
.25	2	2.526	-.533	.75	2	6.086	5.064	.95	2	5.907	4.606
.25	3	-1.152	.929	.75	3	-.610	2.866	.95	3	-1.579	2.227
.25	4	-.212	-.440	.75	4	.024	-.917	.95	4	-.109	-.852
.25	5	-.315	.094	.75	5	-.253	-1.491	.95	5	-.999	-1.183
.25	6	-.195	-.267	.75	6	-.636	-.571	.95	6	-1.462	-.152
.25	7	.301	-.348	.75	7	.665	.362	.95	7	1.040	.189
.25	8	.227	-.032	.75	8	.251	.025	.95	8	.799	.258
.25	9	.178	.133	.75	9	-.023	-.298	.95	9	.808	.559
.25	10	.014	.133	.75	10	-.178	.403	.95	10	.794	.954
.40	0	7.306		.85	0	17.176					
.40	1	-3.690	2.793	.85	1	3.330	-2.963				
.40	2	3.413	.340	.85	2	8.402	6.258				
.40	3	-1.124	1.366	.85	3	-.341	2.511				
.40	4	-.517	-.182	.85	4	.182	-1.041				
.40	5	.219	-.364	.85	5	-1.053	-1.358				
.40	6	-.439	.236	.85	6	-1.326	-.413				
.40	7	.545	-.344	.85	7	1.189	.640				
.40	8	-.044	.012	.85	8	.263	.284				
.40	9	-.082	.561	.85	9	.018	.113				
.40	10	.006	-.491	.85	10	.411	.559				
.55	0	10.648		.90	0	19.023					
.55	1	-4.022	2.440	.90	1	4.738	-4.583				
.55	2	5.579	2.498	.90	2	7.928	5.642				
.55	3	-1.184	1.831	.90	3	-.650	2.189				
.55	4	.016	.074	.90	4	-.154	-1.565				
.55	5	-.612	-.682	.90	5	-1.438	-1.544				
.55	6	.163	-.347	.90	6	-1.736	-.276				
.55	7	-.022	-.221	.90	7	1.098	.577				
.55	8	-.081	.087	.90	8	.747	.511				
.55	9	-.116	.299	.90	9	.732	.568				
.55	10	.148	.084	.90	10	1.068	.832				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 98 - Concluded

FLIGHT 76, PARTIAL-POWER DESCENT

(SEE FIG. 18, t = 1.2 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	1037	1460	985	34	-2807	-5074		
15	4822	3275	1483	1389	-1240	-4626		
30	2507	3597	4176	3650	-237	-3522		
45	2701	2318	2450	2896	1584	150		
60	2120	1213	768	1150	273	-626		
75	1003	1081	-642	-1196	-2860	-3591		
90	-365	-8	-2070	-3267	-4866	-6169		
105	-844	-2005	-3815	-4297	-6168	-7591		
120	-1232	-2896	-4402	-5127	-6881	-8387		
135	-331	-1856	-4023	-5566	-7823	-8716		
150	330	-2706	-4068	-4259	-6230	-9422		
165	-2064	-2582	-2486	-2780	-6740	-10079		
180	239	-908	-2974	-4555	-7427	-8835		
195	706	-743	-2658	-4202	-6925	-9442		
210	-160	-198	-1971	-3152	-4972	-7124		
225	1253	693	-786	-1502	-3766	-5422		
240	2439	1477	777	740	-792	-2109		
255	-696	1889	2459	3049	2632	2150		
270	421	2797	3272	4613	4356	3881		
285	2952	4290	4240	4556	3591	3264		
300	1310	3935	3987	3240	2552	3125		
315	296	50	-217	874	2940	3722		
330	-1768	-908	-750	-52	-272	-358		
345	1573	990	-371	-796	-1909	-4228		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-1341	-14440	-8125	
15	-3571	-19064	-10477	
30	-4190	-14164	-2045	
45	3999	-293	9251	
60	7890	5486	17347	
75	11179	8466	13587	
90	5171	-1205	6915	
105	2127	-8580	-2269	
120	1231	-10533	-4333	
135	-738	-6252	3123	
150	613	3630	13235	
165	2794	6463	16995	
180	2078	4396	14755	
195	-397	-114	10259	
210	-738	-6105	4691	
225	-5655	-11396	515	
240	-9692	-16215	-1405	
255	-11141	-16394	-5693	
270	-15081	-19683	-4365	
285	-10441	-11266	-973	
300	-7625	-5128	6467	
315	-4239	-4868	7011	
330	-185	-3891	3411	
345	-6974	-9540	5427	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	422	-19	159
15	1623	1322	133
30	2351	1262	400
45	3314	2708	352
60	1868	1033	280
75	1228	979	145
90	862	163	128
105	492	392	18
120	233	-164	11
135	-1229	-834	-154
150	-252	-393	-40
165	-746	-817	-18
180	-1224	-714	-188
195	-761	-1007	-47
210	281	735	46
225	-2019	-660	-308
240	-3430	-2748	-393
255	-1090	-1301	-87
270	639	-825	118
285	-4908	-5448	-320
300	-3580	-2463	-568
315	-990	-1541	-47
330	2764	1852	373
345	-1963	-2412	-6

TABLE 99

FLIGHT 76, PARTIAL-POWER DESCENT

(SEE FIG. 18, t = 14.5 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	9.67	5.39	3.19	2.22	1.20	.49	.282	10.48	4.62	3.06	2.44	1.61	.60	.275	0
15	8.88	5.81	3.68	2.62	1.56	.68	.123	10.14	4.87	3.37	2.80	1.90	.71	.165	15
30	8.80	6.65	4.05	2.87	1.59	.69	.089	10.07	5.54	3.72	3.13	2.00	.70	.097	30
45	7.19	6.44	4.12	2.53	1.21	.54	.012	8.11	4.88	3.35	2.79	1.71	.55	-.029	45
60	4.08	4.12	3.32	1.84	.62	.36	-.036	5.22	3.16	2.37	2.04	1.13	.34	-.135	60
75	2.58	3.61	2.98	1.44	.31	.28	-.058	3.30	1.92	1.67	1.51	.78	.20	-.187	75
90	2.11	3.38	2.88	1.33	.20	.24	-.071	2.53	1.45	1.44	1.33	.67	.14	-.236	90
105	1.02	2.48	2.18	.91	-.01	.21	-.061	1.69	.85	.95	.96	.45	.11	-.254	105
120	.61	1.94	1.71	.82	.01	.26	-.028	1.86	1.01	1.01	.97	.50	.20	-.192	120
135	1.57	2.65	2.39	1.31	.32	.36	-.008	2.87	1.76	1.54	1.37	.78	.30	-.155	135
150	2.29	3.12	2.21	1.38	.51	.42	.036	3.84	2.41	1.85	1.62	.95	.39	-.090	150
165	2.89	3.17	2.34	1.61	.67	.48	.061	4.53	2.74	2.01	1.72	1.07	.45	.011	165
180	3.72	3.50	2.60	1.75	.88	.58	.105	5.38	3.12	2.15	1.86	1.23	.56	.072	180
195	4.81	3.99	2.72	1.89	1.09	.63	.123	6.40	3.59	2.43	1.98	1.39	.62	.086	195
210	5.00	3.85	2.53	1.79	1.07	.61	.121	6.38	3.47	2.33	1.87	1.35	.57	.101	210
225	4.70	3.50	2.22	1.61	.98	.56	.111	5.91	3.15	2.04	1.64	1.22	.53	.099	225
240	4.84	3.51	2.18	1.63	1.04	.61	.149	6.26	3.24	2.11	1.70	1.30	.60	.153	240
255	5.86	3.90	2.40	1.82	1.21	.65	.169	7.25	3.52	2.24	1.81	1.36	.61	.171	255
270	6.29	3.98	2.36	1.81	1.22	.61	.149	4.92	3.67	2.39	1.89	1.31	.53	.189	270
285	5.48	3.64	2.08	1.54	.99	.46	.105	2.55	2.31	1.77	1.54	1.26	.49	.167	285
300	5.08	3.53	2.06	1.54	.99	.48	.119	3.89	2.44	1.54	1.35	.94	.45	.196	300
315	5.91	3.97	2.34	1.76	1.14	.51	.151	5.81	3.12	1.99	1.64	1.20	.58	.171	315
330	7.52	5.05	3.24	2.50	1.63	.78	.264	6.67	4.74	3.18	2.48	1.83	.79	.302	330
345	7.52	4.21	2.40	1.70	1.22	.61	.343	6.44	4.10	2.46	1.93	1.62	.71	.387	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	10.75	6.37	3.15	3.53	2.65	2.65	1.56	.79	.70	.38	.185	0
15	11.02	7.50	3.56	3.85	2.96	2.93	1.78	.94	.80	.41	.183	15
30	11.07	9.59	3.85	4.18	3.31	3.12	1.89	.90	.74	.31	.112	30
45	9.91	8.19	3.51	3.76	2.94	2.79	1.60	.69	.59	.21	-.003	45
60	5.90	4.43	1.94	2.57	1.87	1.88	1.06	.32	.33	.09	-.090	60
75	4.01	2.87	.99	1.53	1.24	1.34	.63	.06	.17	-.01	-.133	75
90	3.36	2.12	.64	1.49	1.01	1.08	.48	-.08	.10	-.07	-.168	90
105	2.47	1.29	.14	.70	.65	.75	.32	-.19	.05	-.09	-.176	105
120	3.31	1.97	.66	1.16	.99	1.03	.48	-.06	.15	.00	-.137	120
135	3.94	2.60	1.13	1.65	1.37	1.36	.75	.12	.31	.11	-.067	135
150	4.99	3.48	1.69	2.15	1.71	1.62	.94	.25	.43	.19	-.038	150
165	5.65	3.96	1.89	2.36	1.85	1.76	1.06	.35	.52	.28	-.017	165
180	6.41	4.40	2.15	2.64	2.03	1.97	1.20	.46	.64	.37	.017	180
195	7.50	5.00	2.45	2.89	2.24	2.18	1.33	.57	.71	.41	.046	195
210	7.44	4.76	2.24	2.77	2.08	2.09	1.27	.57	.68	.38	.050	210
225	6.73	4.21	1.87	2.48	1.83	1.90	1.11	.53	.61	.33	.045	225
240	6.77	4.19	1.83	2.48	1.84	1.94	1.14	.59	.64	.36	.073	240
255	6.77	4.36	1.94	2.61	1.91	2.04	1.17	.63	.62	.34	.092	255
270	5.31	3.13	1.74	2.74	2.10	2.17	1.21	.61	.55	.33	.131	270
285	3.84	2.05	.08	1.14	.78	1.15	.68	.60	.64	.40	.281	285
300	4.31	2.53	.60	1.35	.84	1.18	.53	.26	.34	.24	.094	300
315	5.55	3.53	1.28	2.01	1.46	1.69	.88	.46	.41	.22	.090	315
330	6.35	5.44	2.89	3.34	2.50	2.48	1.45	.85	.72	.41	.158	330
345	5.76	4.44	2.80	3.39	2.58	2.54	1.51	.81	.75	.46	.209	345

TABLE 99 - Continued

FLIGHT 76, PARTIAL-POWER DESCENT

(SEE FIG. 18, t = 14.5 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.91	3.45	2.50	1.88	1.45	.57	.081	2.28	.93	.78	.70	.61	.32	.057	0
15	6.88	3.89	2.85	2.20	1.69	.72	.111	2.98	1.30	1.02	.88	.76	.41	.097	15
30	7.84	4.45	3.23	2.44	1.80	.68	.092	4.12	1.93	1.39	1.17	.97	.48	.118	30
45	8.05	4.14	3.07	2.25	1.57	.53	.034	3.98	1.83	1.31	1.12	.94	.42	.110	45
60	6.84	2.77	2.28	1.66	1.05	.32	.000	2.69	1.12	.88	.76	.69	.33	.102	60
75	5.33	1.91	1.75	1.28	.73	.19	-.072	1.89	.71	.64	.51	.53	.30	.096	75
90	3.97	1.49	1.49	1.09	.56	.11	-.035	1.52	.54	.56	.53	.44	.23	.088	90
105	2.78	1.13	1.26	.91	.43	.07	-.026	1.59	.58	.59	.49	.46	.24	.105	105
120	2.12	1.26	1.28	.94	.48	.15	.014	2.49	1.18	.96	.73	.67	.35	.140	120
135	3.11	2.52	2.13	1.65	1.02	.37	.081	3.52	1.79	1.23	1.07	.94	.46	.163	135
150	4.16	3.11	2.49	1.85	1.22	.46	.111	4.28	2.11	1.55	1.29	1.10	.52	.179	150
165	4.87	3.09	2.55	1.87	1.29	.49	.109	4.28	2.17	1.60	1.34	1.17	.55	.157	165
180	5.28	3.16	2.55	1.88	1.39	.54	.143	6.19	2.86	1.98	1.58	1.31	.56	.149	180
195	5.73	3.40	2.60	1.90	1.41	.56	.141	4.73	2.45	1.77	1.46	1.24	.54	.145	195
210	5.90	3.25	2.42	1.77	1.32	.51	.120	3.92	1.89	1.43	1.19	1.01	.42	.104	210
225	5.68	2.86	2.11	1.53	1.16	.45	.106	2.92	1.31	1.06	.91	.76	.30	.083	225
240	5.04	2.68	1.96	1.44	1.13	.46	.111	2.09	.89	.88	.74	.59	.25	.079	240
255	4.72	2.62	1.93	1.41	1.12	.41	.111	1.02	.74	.93	.76	.42	.20	.080	255
270	4.21	2.23	2.05	1.62	1.35	.44	.069	.09	.04	.37	.48	.61	.27	.003	270
285	3.19	1.27	1.16	.85	.77	.43	.247	.00	-.20	.11	.20	.24	.24	.074	285
300	2.32	1.06	.78	.58	.52	.26	.071	.09	-.28	.00	.06	.09	.08	.025	300
315	2.51	1.65	1.15	.88	.72	.24	.097	.53	.01	.19	.23	.23	.12	.007	315
330	3.40	2.66	1.90	1.43	1.15	.46	.095	1.49	.44	.48	.46	.41	.20	.027	330
345	4.61	3.19	2.28	1.66	1.30	.46	.079	2.22	.84	.71	.62	.53	.25	.034	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	.54	.35	.24	.23	.102	.12	.06	.02	.06	.004	0
15	.82	.48	.33	.28	.115	.03	.03	.00	.05	-.005	15
30	1.42	.71	.48	.32	.133	.56	.28	.15	.11	.018	30
45	1.79	.85	.55	.33	.135	.71	.34	.17	.11	.003	45
60	1.44	.69	.44	.28	.127	.58	.26	.12	.09	.003	60
75	.88	.45	.31	.23	.119	.29	.14	.04	.04	-.001	75
90	.75	.45	.29	.22	.117	.30	.16	.06	.06	.005	90
105	.92	.52	.34	.27	.141	.57	.31	.17	.10	.025	105
120	1.66	.87	.59	.41	.175	1.12	.59	.32	.18	.048	120
135	2.58	1.32	.87	.53	.206	1.58	.82	.48	.25	.070	135
150	2.90	1.49	.96	.56	.192	2.09	1.09	.65	.30	.078	150
165	2.65	1.47	.93	.54	.181	2.11	1.09	.65	.32	.078	165
180	2.47	1.36	.86	.51	.171	1.86	.95	.58	.30	.073	180
195	2.04	1.12	.69	.43	.143	1.23	.66	.40	.22	.055	195
210	1.46	.86	.56	.38	.123	.62	.45	.17	.11	.031	210
225	.57	.70	.67	.50	.078	.15	.29	-.01	.04	.002	225
240	.03	.20	.27	.41	.173	.02	.01	-.05	-.01	-.035	240
255	-.04	.19	.20	.36	.183	.03	-.07	-.10	-.07	-.125	255
270	-.04	.15	.17	.19	.074	-.01	-.06	-.10	-.11	-.227	270
285	-.07	.10	.06	.14	.092	.01	-.04	-.09	-.12	-.162	285
300	.16	.25	.18	.19	.105	.01	-.03	-.08	-.05	-.076	300
315	.07	.17	.12	.18	.090	-.01	-.01	-.04	.01	-.021	315
330	.22	.24	.17	.20	.092	.02	.03	.01	.03	-.015	330
345	.53	.36	.25	.23	.095	.03	.03	.01	.06	.000	345

TABLE 99 - Continued

FLIGHT 76, PARTIAL-POWER DESCENT

(SEE FIG. 18, t = 14.5 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	.71	4.03	8.49	21.96	27.24	29.33	27.85
15	.38	5.39	11.06	25.66	29.87	31.33	30.54
30	2.64	7.54	14.59	27.92	30.73	32.91	32.33
45	3.00	8.69	13.78	25.48	26.51	27.66	28.36
60	2.32	7.20	9.71	18.27	15.81	17.94	18.20
75	1.10	5.08	7.33	12.97	9.51	11.42	14.15
90	1.32	4.71	6.04	10.04	7.03	8.92	12.64
105	2.74	5.69	6.30	7.65	4.16	5.58	8.56
120	5.21	9.30	9.91	8.10	7.33	6.91	7.28
135	7.35	13.38	13.64	15.45	11.19	11.31	11.90
150	9.64	14.65	16.14	18.89	14.76	14.76	13.95
165	9.77	13.93	16.65	19.89	16.80	17.02	15.74
180	8.74	12.98	20.17	21.02	19.31	19.81	18.65
195	6.01	10.72	17.82	21.95	21.86	22.52	21.39
210	3.11	8.47	14.26	20.85	20.87	21.83	20.86
225	.92	7.71	10.41	18.66	18.45	19.82	19.02
240	-.33	4.38	8.08	17.67	18.84	21.16	19.73
255	-1.24	3.75	6.32	16.96	19.19	22.84	22.25
270	-1.93	2.20	4.55	17.21	18.11	21.05	22.36
285	-1.66	1.41	2.42	12.00	11.50	16.01	18.99
300	-.86	2.81	.56	7.98	9.89	15.44	18.69
315	-.22	2.20	2.29	10.30	14.43	20.10	21.23
330	.25	2.86	5.22	16.38	23.03	28.84	29.08
345	.46	4.05	7.39	19.11	23.16	25.60	24.20

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.066		0	3.067		0	8.102	
1	3.803	-8.102	1	-.568	-.403	1	-.482	.125
2	.033	.195	2	-.281	-.558	2	-.050	.030
3	.219	.129	3	.118	-.301	3	.110	-.062
4	.038	-.319	4	.037	.058	4	.018	-.048
5	-.395	-.271	5	-.126	-.002	5	-.042	.008
6	-.286	.109	6	-.068	.008	6	-.028	.005
7	-.200	.152	7	-.017	.000	7	.000	.002
8	-.043	.119	8	.004	.004	8	.002	.022
9	-.019	-.024	9	.010	.014	9	-.005	.025
10	.000	-.019	10	.010	.000	10	.008	.005
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 99 - Continued

FLIGHT 76, PARTIAL-POWER DESCENT

(SEE FIG. 18, t = 14.5 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.476		.75	0	17.181		.95	0	19.914	
.25	1	-3.094	2.462	.75	1	.770	-.016	.95	1	5.665	-3.372
.25	2	2.358	-.948	.75	2	5.317	4.727	.95	2	4.321	3.651
.25	3	-.820	.860	.75	3	.090	2.857	.95	3	-.256	1.637
.25	4	-.369	-.318	.75	4	.037	-.580	.95	4	-.096	.097
.25	5	-.264	-.113	.75	5	-.237	-.773	.95	5	-1.275	-.373
.25	6	.063	-.154	.75	6	-1.357	.043	.95	6	-1.734	.549
.25	7	.066	-.142	.75	7	-.224	-.274	.95	7	-.208	-.316
.25	8	.011	-.060	.75	8	.333	.339	.95	8	.337	.356
.25	9	.052	-.085	.75	9	-.015	.066	.95	9	.143	.628
.25	10	.094	-.009	.75	10	-.027	-.087	.95	10	.291	.461
.40	0	6.797		.85	0	17.482					
.40	1	-3.704	2.601	.85	1	3.722	-2.311				
.40	2	2.562	-.084	.85	2	6.764	4.900				
.40	3	-.562	1.350	.85	3	1.020	2.440				
.40	4	-.973	-.331	.85	4	-.125	-.353				
.40	5	.056	-.240	.85	5	-1.210	-.973				
.40	6	.023	-.080	.85	6	-1.343	.456				
.40	7	-.017	-.219	.85	7	-.122	-.064				
.40	8	.189	-.189	.85	8	.300	.170				
.40	9	-.317	-.042	.85	9	.381	.327				
.40	10	-.059	.209	.85	10	-.068	.391				
.55	0	9.713		.90	0	19.588					
.55	1	-3.881	2.702	.90	1	5.189	-3.794				
.55	2	4.626	2.164	.90	2	6.066	4.348				
.55	3	-.635	1.541	.90	3	.454	2.004				
.55	4	-.206	.006	.90	4	-.291	-.509				
.55	5	-.637	-.759	.90	5	-1.487	-.684				
.55	6	-.323	.126	.90	6	-1.477	.655				
.55	7	-.424	-.362	.90	7	-.116	-.108				
.55	8	.207	-.018	.90	8	.163	.301				
.55	9	-.025	-.087	.90	9	.247	.485				
.55	10	.216	.027	.90	10	.204	.323				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 99 - Concluded

FLIGHT 76, PARTIAL-POWER DESCENT

(SEE FIG. 18, t = 14.5 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	2291	3490	3119	1971	-2904	-6358		
15	3237	2780	1844	2314	-589	-3930		
30	706	1559	2332	3001	564	-1154		
45	1801	1955	1582	2152	2297	1543		
60	2462	2723	2350	2371	-8	-2278		
75	2895	2318	606	-414	-2455	-3830		
90	-240	-545	-1763	-2503	-4206	-5213		
105	-1220	-2797	-4231	-4202	-4708	-5402		
120	-1346	-2384	-4176	-5175	-6327	-6139		
135	136	-1922	-3842	-4297	-5667	-7084		
150	-58	-1518	-2540	-2885	-5491	-8905		
165	-251	-1130	-2296	-3353	-6723	-9382		
180	-514	-2054	-3498	-4259	-6688	-8268		
195	-1163	-1898	-3209	-4087	-6256	-7890		
210	592	99	-1799	-3467	-5966	-7800		
225	2165	2071	398	-1082	-4532	-7004		
240	1607	2104	1519	1284	-888	-2497		
255	102	2079	2269	2972	2491	2180		
270	854	2912	3146	4260	4506	4617		
285	1801	4265	4710	4957	4242	3652		
300	1766	3622	3535	3822	3300	2995		
315	-502	677	560	1179	2456	3115		
330	-1517	-883	-1193	-109	1197	1642		
345	444	578	127	359	-1047	-3323		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-4434	-12959	-3037	
15	-5688	-14766	-3213	
30	-3050	-12031	-1709	
45	-397	-6072	4627	
60	3608	-81	9891	
75	6832	2702	10403	
90	6099	228	8435	
105	5546	-2719	3171	
120	1932	-5438	2579	
135	1443	-4835	3315	
150	2192	-1416	5843	
165	841	1205	11779	
180	2127	3793	13331	
195	3315	3256	12179	
210	-1748	-1970	10755	
225	-4271	-8482	3907	
240	-7104	-13936	-2269	
255	-12330	-18429	-5405	
270	-15000	-19389	-5469	
285	-11613	-12926	-1341	
300	-7625	-5975	5267	
315	-5020	-4542	8035	
330	-445	-3484	4227	
345	-5785	-9117	4035	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	-1416	-876	-185
15	1446	591	211
30	3523	2660	441
45	2244	1442	301
60	1349	797	168
75	1537	812	201
90	1117	776	127
105	218	245	13
120	-168	-493	-41
135	170	-80	-11
150	49	-250	-7
165	-733	-793	-107
180	-1077	-1094	-116
195	-344	-329	-38
210	42	-385	-15
225	-1609	-1289	-197
240	-1186	-1377	-150
255	328	-569	82
270	505	-931	115
285	-3469	-4082	-224
300	-2675	-2186	-387
315	-239	-877	45
330	2228	1422	342
345	-437	-908	118

TABLE 100

FLIGHT 77, TRIM LEVEL FLIGHT WITH FORWARD CENTER OF GRAVITY (V = 15 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.64	4.45	3.20	2.18	1.09	.52	.075	6.77	3.54	2.44	2.04	1.32	.53	.027	0
15	7.07	4.56	3.31	2.20	1.15	.54	.093	6.15	3.26	2.22	1.94	1.24	.52	.016	15
30	9.23	5.70	3.99	2.77	1.52	.67	.122	5.97	3.23	2.29	1.99	1.36	.56	.025	30
45	10.28	5.84	4.23	2.95	1.62	.67	.126	4.67	2.72	2.10	2.01	1.37	.56	-.029	45
60	10.07	5.78	4.03	2.78	1.54	.64	.116	7.14	3.89	2.75	2.46	1.62	.71	.083	60
75	9.90	5.82	4.09	2.86	1.60	.69	.133	8.49	4.50	3.12	2.69	1.78	.78	.101	75
90	9.80	5.82	4.08	2.86	1.61	.71	.141	8.93	4.71	3.29	2.80	1.84	.82	.116	90
105	9.97	5.83	4.10	2.89	1.65	.72	.145	9.38	4.84	3.34	2.88	1.87	.84	.128	105
120	9.97	5.87	4.12	2.91	1.67	.74	.152	9.90	5.06	3.47	2.94	1.94	.84	.124	120
135	9.90	5.84	4.11	2.89	1.66	.74	.152	10.15	5.06	3.42	2.91	1.90	.79	.112	135
150	9.88	5.76	4.03	2.84	1.64	.73	.152	9.85	4.95	3.37	2.83	1.87	.79	.110	150
165	9.76	5.79	4.06	2.87	1.66	.75	.157	10.19	5.01	3.45	2.88	1.91	.80	.114	165
180	10.09	5.83	4.10	2.91	1.70	.76	.161	10.62	5.18	3.53	2.97	1.96	.82	.137	180
195	10.11	5.79	4.08	2.89	1.69	.75	.165	10.71	5.15	3.54	2.96	1.96	.82	.137	195
210	10.05	5.67	3.96	2.82	1.67	.75	.159	10.55	5.06	3.43	2.89	1.93	.82	.143	210
225	10.40	5.70	3.98	2.84	1.69	.76	.170	10.47	4.97	3.40	2.85	1.91	.82	.146	225
240	10.94	5.77	4.07	2.93	1.76	.78	.191	10.15	4.86	3.34	2.84	1.91	.84	.139	240
255	11.02	5.76	4.07	2.89	1.73	.72	.185	8.69	4.54	3.18	2.78	1.86	.83	.137	255
270	11.17	5.72	4.06	2.92	1.72	.69	.187	6.51	3.84	2.79	2.47	1.73	.81	.181	270
285	11.25	5.76	4.07	2.91	1.70	.67	.183	4.89	2.87	2.21	2.07	1.33	.45	.036	285
300	10.48	5.71	3.95	2.81	1.66	.72	.148	6.47	3.48	2.43	2.09	1.39	.59	.029	300
315	9.81	5.47	3.83	2.70	1.58	.69	.143	6.44	3.39	2.37	2.05	1.40	.59	.060	315
330	8.59	4.96	3.57	2.42	1.26	.57	.093	5.95	3.09	2.15	1.87	1.25	.54	.051	330
345	5.25	3.46	2.64	1.77	.89	.44	.075	5.59	2.90	1.96	1.70	1.10	.46	.022	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	6.21	4.35	1.83	2.32	1.87	1.75	1.13	.50	.46	.23	.042	0
15	5.92	4.20	1.68	2.19	1.76	1.68	1.07	.46	.44	.22	.036	15
30	5.66	3.90	1.55	2.09	1.69	1.60	1.04	.43	.43	.20	.024	30
45	5.04	3.48	1.25	1.85	1.49	1.45	.94	.39	.40	.20	.024	45
60	4.85	3.33	1.17	1.80	1.46	1.44	.95	.40	.43	.21	.034	60
75	4.67	3.19	1.11	1.78	1.45	1.43	.96	.43	.46	.24	.051	75
90	5.30	3.80	1.34	1.98	1.61	1.55	1.03	.49	.49	.26	.042	90
105	7.32	4.95	2.00	2.43	1.88	1.68	1.04	.35	.41	.17	-.044	105
120	9.45	5.66	2.48	2.81	2.18	2.05	1.29	.62	.59	.34	.125	120
135	7.04	4.73	2.07	2.59	2.09	2.04	1.34	.72	.65	.39	.154	135
150	8.32	5.47	2.49	2.87	2.30	2.17	1.42	.74	.63	.36	.106	150
165	7.77	5.14	2.26	2.74	2.17	2.15	1.38	.77	.69	.42	.181	165
180	9.22	5.78	2.63	3.11	2.36	2.24	1.48	.85	.73	.47	.204	180
195	11.53	6.71	3.35	3.62	2.84	2.49	1.61	.79	.67	.37	.137	195
210	10.25	6.06	2.80	3.15	2.45	2.21	1.41	.69	.63	.34	.104	210
225	5.14	3.44	1.20	1.88	1.50	1.48	1.01	.45	.42	.19	-.057	225
240	5.18	3.58	1.30	1.97	1.59	1.55	1.04	.51	.51	.28	.065	240
255	5.72	3.96	1.57	2.17	1.75	1.67	1.11	.53	.50	.26	.057	255
270	5.12	3.52	1.24	1.90	1.53	1.50	.99	.44	.44	.22	.036	270
285	5.21	3.60	1.29	1.92	1.53	1.51	.97	.41	.41	.20	.030	285
300	5.60	3.88	1.47	2.08	1.66	1.60	1.04	.47	.45	.23	.036	300
315	5.81	4.02	1.57	2.14	1.72	1.65	1.08	.49	.46	.23	.034	315
330	5.66	3.99	1.48	2.08	1.67	1.62	1.02	.45	.43	.21	.030	330
345	5.47	3.83	1.39	1.98	1.59	1.55	.96	.41	.39	.19	.024	345

TABLE 100 - Continued

FLIGHT 77, TRIM LEVEL FLIGHT WITH FORWARD CENTER OF GRAVITY (V = 15 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	4.50	2.28	1.92	1.42	1.02	.39	.088	2.61	1.27	.93	.71	.60	.30	.090	0
15	4.45	2.24	1.89	1.42	.99	.39	.088	2.35	1.12	.85	.65	.56	.29	.084	15
30	4.39	2.18	1.85	1.38	.97	.36	.071	2.16	1.03	.78	.59	.52	.27	.080	30
45	4.12	2.00	1.73	1.29	.91	.33	.074	2.32	1.09	.82	.62	.53	.26	.078	45
60	3.84	1.85	1.62	1.22	.85	.30	.065	2.15	1.00	.78	.58	.51	.25	.075	60
75	3.49	1.67	1.52	1.13	.78	.29	.074	1.96	.91	.70	.53	.47	.23	.073	75
90	3.26	1.55	1.44	1.08	.72	.28	.065	1.86	.85	.65	.49	.44	.23	.072	90
105	3.04	1.42	1.35	1.01	.68	.26	.067	1.77	.80	.62	.48	.42	.21	.069	105
120	2.73	1.26	1.22	.91	.61	.23	.053	1.64	.73	.60	.43	.39	.20	.066	120
135	2.67	1.30	1.26	.92	.63	.24	.057	1.53	.67	.60	.40	.38	.19	.064	135
150	2.73	1.31	1.28	.96	.67	.25	.060	1.47	.64	.58	.39	.37	.19	.066	150
165	2.81	1.37	1.30	.98	.67	.26	.074	1.60	.72	.60	.43	.39	.20	.069	165
180	3.08	1.54	1.40	1.06	.77	.28	.062	1.69	.77	.61	.46	.41	.21	.072	180
195	3.07	1.46	1.38	1.03	.74	.28	.067	1.71	.79	.62	.47	.42	.21	.068	195
210	2.85	1.36	1.28	.96	.69	.25	.062	1.61	.72	.58	.44	.39	.20	.066	210
225	2.77	1.37	1.27	.95	.69	.25	.062	1.61	.72	.58	.44	.39	.20	.068	225
240	3.11	1.59	1.42	1.08	.78	.29	.069	1.71	.79	.63	.47	.42	.21	.069	240
255	3.48	1.78	1.58	1.17	.84	.32	.067	1.79	.84	.66	.49	.43	.22	.066	255
270	3.72	1.86	1.60	1.20	.84	.31	.069	1.83	.84	.67	.49	.43	.22	.065	270
285	3.84	1.94	1.66	1.24	.88	.33	.081	1.90	.88	.69	.51	.44	.23	.066	285
300	4.00	2.04	1.73	1.29	.93	.36	.078	2.03	.96	.75	.56	.48	.24	.071	300
315	4.24	2.16	1.80	1.36	.97	.37	.078	2.21	1.05	.80	.60	.51	.28	.075	315
330	4.42	2.26	1.86	1.40	.96	.38	.088	2.30	1.11	.83	.62	.53	.28	.077	330
345	4.48	2.34	1.88	1.41	.97	.36	.078	2.58	1.24	.92	.69	.58	.29	.083	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.23	.59	.40	.25	.092	.45	.23	.14	.06	.001	0
15	1.25	.61	.42	.26	.096	.47	.25	.14	.06	-.004	15
30	1.28	.62	.42	.26	.093	.45	.24	.14	.06	-.002	30
45	1.16	.56	.38	.25	.091	.48	.25	.15	.06	.001	45
60	1.07	.52	.35	.23	.085	.48	.24	.14	.06	.003	60
75	1.03	.50	.34	.22	.087	.44	.22	.13	.05	-.004	75
90	.94	.45	.31	.21	.082	.38	.20	.11	.04	-.003	90
105	.85	.41	.28	.20	.082	.33	.17	.10	.03	.001	105
120	.81	.40	.27	.20	.076	.28	.16	.09	.03	-.006	120
135	.76	.37	.26	.20	.075	.28	.15	.09	.04	.001	135
150	.71	.35	.25	.19	.070	.29	.16	.09	.03	.001	150
165	.73	.36	.26	.20	.075	.28	.16	.09	.04	.001	165
180	.76	.38	.27	.20	.075	.27	.15	.09	.04	.001	180
195	.78	.38	.27	.20	.073	.27	.15	.09	.04	-.002	195
210	.74	.37	.26	.19	.072	.25	.14	.08	.03	-.006	210
225	.71	.35	.25	.19	.069	.21	.12	.07	.03	-.004	225
240	.71	.35	.25	.19	.070	.18	.10	.06	.02	-.010	240
255	.73	.37	.26	.19	.067	.19	.11	.06	.03	-.008	255
270	.76	.38	.26	.19	.070	.22	.12	.07	.03	-.010	270
285	.79	.39	.27	.19	.073	.21	.12	.07	.03	-.013	285
300	.81	.41	.29	.21	.076	.23	.13	.07	.03	-.012	300
315	.89	.44	.31	.21	.077	.28	.15	.09	.03	-.007	315
330	.96	.47	.33	.22	.080	.32	.17	.10	.04	-.010	330
345	1.13	.55	.37	.24	.085	.38	.20	.12	.04	-.010	345

TABLE 100 - Continued

FLIGHT 77, TRIM LEVEL FLIGHT WITH FORWARD CENTER OF GRAVITY (V = 15 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	1.97	6.24	9.35	15.85	17.24	21.88	23.45
15	2.05	6.42	8.60	15.57	16.30	20.33	24.42
30	2.00	6.48	7.92	15.11	15.54	20.96	30.92
45	2.08	5.96	8.18	14.09	13.84	18.94	32.69
60	2.05	5.53	7.70	13.10	13.77	25.53	31.62
75	1.83	5.33	7.11	12.13	13.80	28.98	32.19
90	1.58	4.94	6.70	11.36	15.22	30.40	32.29
105	1.38	4.57	6.34	10.61	17.31	31.25	32.70
120	1.20	4.38	5.91	9.50	22.61	32.35	32.99
135	1.23	4.22	5.63	9.71	20.79	31.99	32.85
150	1.25	4.03	5.48	10.04	22.66	31.39	32.43
165	1.25	4.13	5.89	10.30	22.17	32.05	32.65
180	1.22	4.24	6.19	11.29	24.71	33.17	33.23
195	1.23	4.27	6.24	11.05	28.05	33.20	33.07
210	1.08	4.12	5.92	10.23	24.63	32.70	32.55
225	.92	3.98	5.91	10.18	13.97	32.35	33.01
240	.76	3.98	6.31	11.53	15.30	31.95	34.15
255	.81	4.07	6.55	12.72	16.50	30.00	33.71
270	.91	4.18	6.59	13.03	14.41	26.29	33.58
285	.92	4.28	6.87	13.55	14.26	19.00	33.52
300	.99	4.51	7.38	14.27	15.52	22.18	32.67
315	1.18	4.82	8.04	14.98	16.12	22.07	31.17
330	1.41	5.13	8.29	15.39	15.39	20.06	27.12
345	1.61	5.77	9.11	15.46	14.57	18.15	18.97

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	12.452		0	2.841		0	7.215	
1	1.104	1.347	1	-2.131	-.122	1	-.118	.120
2	-.052	-.029	2	.244	-.081	2	-.005	.018
3	.024	-.048	3	-.041	.035	3	-.008	-.032
4	.019	-.038	4	-.041	.029	4	.008	.018
5	-.071	.019	5	-.043	-.085	5	-.025	-.012
6	.000	.014	6	.004	.012	6	.012	-.012
7	.000	.000	7	.027	-.035	7	-.010	.012
8	-.010	.005	8	.004	.004	8	.020	.018
9	.000	.000	9	.006	.017	9	-.018	-.010
10	.005	.014	10	-.006	.010	10	.000	.005

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom}\right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom}\right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom}\right)$$

TABLE 100 - Continued

FLIGHT 77, TRIM LEVEL FLIGHT WITH FORWARD CENTER OF GRAVITY (V = 15 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	1.370		.75	0	12.542		.95	0	31.165	
.25	1	.358	.396	.75	1	2.753	-.768	.95	1	-3.363	-.114
.25	2	.174	.156	.75	2	.571	.085	.95	2	-2.777	.663
.25	3	-.056	.019	.75	3	-.258	.191	.95	3	-1.733	.928
.25	4	.036	-.008	.75	4	.307	-.057	.95	4	-1.149	.723
.25	5	.033	-.022	.75	5	-.237	.025	.95	5	-.853	.480
.25	6	-.004	.014	.75	6	.030	.164	.95	6	-.065	.321
.25	7	.025	.018	.75	7	.049	-.120	.95	7	-.014	.069
.25	8	.017	.020	.75	8	.017	.081	.95	8	.369	.172
.25	9	.001	.004	.75	9	-.039	-.011	.95	9	.580	.100
.25	10	.003	.005	.75	10	.085	-.027	.95	10	.544	.081
.40	0	4.815		.85	0	17.695					
.40	1	.965	.436	.85	1	-4.128	.599				
.40	2	.338	.280	.85	2	2.873	-.995				
.40	3	.040	.062	.85	3	-.423	-.218				
.40	4	.081	.076	.85	4	.470	1.448				
.40	5	-.004	.005	.85	5	-.399	-1.003				
.40	6	.000	.036	.85	6	.109	1.288				
.40	7	-.021	-.021	.85	7	.796	-.186				
.40	8	.008	-.043	.85	8	-.658	-.166				
.40	9	.013	-.021	.85	9	.616	.222				
.40	10	.001	-.018	.85	10	.099	.007				
.55	0	7.008		.90	0	26.965					
.55	1	1.479	-.055	.90	1	-7.112	1.317				
.55	2	.414	.103	.90	2	-.821	.644				
.55	3	.013	-.136	.90	3	1.020	-1.183				
.55	4	.163	-.091	.90	4	.360	-.444				
.55	5	-.032	-.081	.90	5	-.238	.586				
.55	6	.162	-.010	.90	6	.438	1.235				
.55	7	.102	-.041	.90	7	.303	.477				
.55	8	.065	.004	.90	8	.170	-.336				
.55	9	.037	.016	.90	9	-.138	-.429				
.55	10	-.014	-.010	.90	10	-.028	-.101				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 100 - Concluded

FLIGHT 77, TRIM LEVEL FLIGHT WITH FORWARD CENTER OF GRAVITY (V = 15 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-99	998	597	401	-1809	-3310		
15	1383	734	-443	-629	-1915	-3151		
30	-190	33	-1031	-1059	-1756	-1828		
45	-589	-866	-1501	-849	-93	490		
60	665	248	-425	105	532	1376		
75	1896	1922	1618	1842	1456	1774		
90	2079	2310	2368	2891	2573	2699		
105	1987	1634	1383	2185	3180	4610		
120	722	809	741	1660	3092	5247		
135	1030	611	506	1584	2960	4391		
150	1292	1543	1257	1632	1535	2222		
165	1737	1642	994	1231	1007	1565		
180	437	693	398	1116	1588	2411		
195	-315	371	235	1040	2371	3575		
210	642	899	768	1708	2644	3804		
225	916	2186	2251	2643	2212	2749		
240	996	2145	2007	2481	2591	3386		
255	-213	1172	1266	2185	2837	3834		
270	-293	743	723	1613	2177	2908		
285	163	1238	895	868	400	739		
300	528	1048	479	601	-120	-495		
315	-555	503	398	659	-436	-1221		
330	-53	470	-208	-143	-876	-1161		
345	209	553	-217	-114	-824	-1460		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-2807	-5633	3289	
15	-2596	-5063	5033	
30	-675	-4737	4569	
45	1084	-5014	2137	
60	-137	-8026	1369	
75	-398	-7831	-231	
90	-1358	-8645	1465	
105	1084	-6349	1225	
120	1784	-4933	2617	
135	286	-5779	3753	
150	-398	-5910	1193	
165	-2677	-9068	457	
180	-4272	-9312	-999	
195	-4745	-10484	-1543	
210	-5461	-10582	-1415	
225	-8880	-10533	377	
240	-9482	-11070	729	
255	-7822	-9980	-1095	
270	-8717	-11266	1017	
285	-7073	-9117	425	
300	-6747	-8547	2025	
315	-6291	-8026	3161	
330	-3768	-7114	1657	
345	-3882	-8107	3193	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	308	235	31
15	218	-31	66
30	594	445	61
45	486	259	60
60	562	67	60
75	345	-11	71
90	498	-66	88
105	522	1	100
120	452	-1	87
135	319	-23	68
150	200	-102	68
165	186	-100	65
180	189	-51	76
195	181	-37	59
210	-287	-391	34
225	-348	-375	14
240	-72	-213	32
255	57	-25	47
270	74	-96	29
285	-55	-93	12
300	37	-56	23
315	282	4	54
330	405	229	60
345	182	-146	45

TABLE 101

FLIGHT 78, TRIM LEVEL FLIGHT WITH FORWARD CENTER OF GRAVITY (V = 72 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	7.42	4.67	3.28	2.28	1.25	.57	.107	8.29	4.19	2.90	2.41	1.57	.63	.059	0
15	5.72	3.99	3.03	1.94	.96	.46	.060	6.86	3.58	2.47	2.09	1.31	.50	.013	15
30	4.39	3.40	2.87	1.66	.71	.37	.024	5.53	2.93	2.11	1.83	1.09	.41	-.038	30
45	3.65	3.10	2.73	1.52	.58	.34	.010	4.84	2.58	1.90	1.66	.95	.33	-.070	45
60	3.36	3.07	2.73	1.48	.49	.31	-.008	4.48	2.38	1.87	1.55	.89	.29	-.105	60
75	2.87	2.80	2.58	1.28	.37	.26	-.024	4.03	2.11	1.55	1.51	.76	.24	-.141	75
90	1.79	2.22	2.30	1.27	.31	.26	-.022	3.67	1.93	1.42	1.38	.70	.22	-.157	90
105	4.56	3.92	3.30	2.01	.72	.36	-.006	3.31	2.04	1.63	1.64	.94	.36	-.101	105
120	3.13	2.89	2.66	1.62	.55	.35	.012	5.26	2.98	2.11	1.88	1.06	.40	-.103	120
135	2.64	2.38	2.29	1.36	.45	.32	.006	4.26	2.32	1.68	1.53	.88	.33	-.097	135
150	2.35	2.10	2.03	1.20	.43	.30	.014	3.83	2.04	1.49	1.32	.79	.33	-.070	150
165	2.60	2.20	2.03	1.23	.50	.34	.042	4.07	2.23	1.57	1.36	.83	.36	-.038	165
180	3.13	2.49	2.14	1.33	.62	.38	.060	4.61	2.41	1.70	1.48	.94	.40	-.005	180
195	3.53	2.66	2.19	1.40	.71	.40	.072	5.02	2.62	1.80	1.48	.99	.43	.047	195
210	3.84	2.78	2.21	1.46	.77	.42	.080	5.26	2.74	1.87	1.51	1.04	.46	.063	210
225	4.19	2.83	2.17	1.49	.83	.44	.089	5.56	2.90	1.93	1.56	1.08	.48	.081	225
240	4.51	2.98	2.23	1.55	.88	.44	.097	5.92	3.05	2.05	1.64	1.13	.50	.094	240
255	4.99	3.23	2.35	1.66	.97	.49	.111	6.43	3.30	2.18	1.77	1.23	.54	.101	255
270	5.80	3.54	2.57	1.83	1.10	.53	.126	6.99	3.65	2.43	1.97	1.35	.58	.121	270
285	6.13	3.70	2.62	1.86	1.13	.51	.108	5.61	2.83	1.86	1.54	1.08	.46	.067	285
300	4.39	2.83	2.06	1.42	.80	.38	.072	5.31	2.70	1.74	1.44	.99	.44	.070	300
315	5.13	3.29	2.36	1.66	.92	.44	.084	5.88	3.00	1.98	1.66	1.11	.50	.076	315
330	6.28	3.94	2.79	1.97	1.10	.52	.108	7.10	3.63	2.42	2.01	1.35	.58	.094	330
345	7.33	4.58	3.17	2.24	1.26	.58	.121	8.03	4.10	2.77	2.30	1.52	.64	.094	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	8.40	5.65	2.66	3.08	2.43	2.27	1.45	.73	.61	.30	.090	0
15	7.19	4.97	2.21	2.68	2.16	2.00	1.30	.61	.51	.23	.051	15
30	5.99	4.16	1.67	2.20	1.81	1.68	1.06	.45	.40	.16	.014	30
45	5.42	3.83	1.47	2.02	1.65	1.57	.97	.36	.34	.11	-.013	45
60	4.97	3.45	1.25	2.01	1.51	1.45	.86	.25	.28	.07	-.036	60
75	4.41	2.95	.98	1.49	1.25	1.26	.78	.18	.22	.03	-.067	75
90	4.22	2.80	.94	1.43	1.21	1.16	.70	.13	.19	.03	-.073	90
105	4.39	2.94	1.03	1.59	1.29	1.25	.77	.20	.25	.07	-.059	105
120	4.81	3.44	1.32	1.86	1.52	1.45	.92	.32	.34	.14	-.032	120
135	5.26	3.71	1.58	2.01	1.65	1.49	.96	.30	.35	.14	-.021	135
150	4.70	3.21	1.19	1.76	1.44	1.29	.86	.27	.35	.16	-.003	150
165	4.78	3.31	1.20	1.82	1.48	1.34	.89	.32	.38	.18	-.001	165
180	5.25	3.59	1.37	2.00	1.61	1.48	.98	.41	.45	.23	.022	180
195	5.54	3.81	1.47	2.11	1.68	1.56	1.03	.46	.47	.25	.033	195
210	5.60	3.81	1.46	2.12	1.68	1.58	1.03	.47	.48	.26	.045	210
225	5.82	3.95	1.51	2.19	1.72	1.64	1.07	.52	.51	.27	.059	225
240	6.21	4.14	1.65	2.31	1.80	1.72	1.10	.57	.53	.29	.072	240
255	6.80	4.55	1.87	2.54	1.96	1.88	1.21	.68	.58	.30	.086	255
270	6.82	4.49	1.85	2.52	1.92	1.86	1.19	.64	.55	.29	.086	270
285	5.05	3.31	1.07	1.83	1.39	1.43	.88	.47	.42	.20	.041	285
300	5.10	3.38	1.09	1.83	1.40	1.44	.88	.47	.40	.20	.045	300
315	5.63	3.75	1.34	2.06	1.59	1.60	.97	.54	.45	.23	.065	315
330	6.92	4.66	1.93	2.57	2.00	1.93	1.22	.69	.54	.28	.084	330
345	8.17	5.47	2.52	3.04	2.38	2.24	1.43	.76	.63	.31	.101	345

TABLE 101 - Continued

FLIGHT 78, TRIM LEVEL FLIGHT WITH FORWARD CENTER OF GRAVITY (V = 72 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.99	3.10	2.39	1.80	1.35	.53	.100	3.07	1.52	1.10	.85	.70	.37	.100	0
15	5.93	2.86	2.25	1.70	1.22	.48	.081	3.02	1.48	1.08	.82	.69	.37	.100	15
30	5.43	2.53	2.07	1.56	1.10	.41	.072	3.01	1.49	1.08	.82	.69	.37	.107	30
45	4.88	2.34	2.01	1.51	1.02	.37	.062	2.97	1.46	1.06	.79	.68	.37	.116	45
60	4.46	2.16	1.92	1.45	.94	.33	.023	2.83	1.40	1.00	.75	.65	.35	.120	60
75	3.90	1.86	1.75	1.31	.82	.27	.044	2.60	1.27	.92	.67	.61	.33	.117	75
90	3.46	1.64	1.63	1.23	.71	.24	.053	2.54	1.27	.96	.65	.60	.32	.123	90
105	3.57	1.80	1.78	1.32	.81	.29	.070	2.80	1.41	1.04	.74	.65	.34	.132	105
120	3.98	2.04	1.93	1.44	.91	.34	.076	3.24	1.64	1.14	.88	.75	.39	.141	120
135	4.16	2.16	1.96	1.45	.95	.35	.093	3.34	1.72	1.23	.94	.80	.40	.139	135
150	4.20	2.30	2.05	1.52	1.02	.37	.107	3.33	1.72	1.25	.96	.82	.40	.148	150
165	4.91	2.59	2.17	1.60	1.15	.42	.135	3.27	1.65	1.22	.93	.79	.39	.138	165
180	5.08	2.59	2.16	1.60	1.16	.44	.132	3.04	1.57	1.16	.89	.76	.36	.107	180
195	5.13	2.58	2.12	1.58	1.15	.44	.121	2.76	1.40	1.05	.80	.68	.33	.092	195
210	5.08	2.54	2.04	1.53	1.12	.44	.121	2.44	1.22	.93	.71	.60	.29	.078	210
225	5.08	2.55	2.04	1.52	1.14	.46	.121	2.16	1.06	.83	.63	.53	.26	.063	225
240	5.26	2.71	2.11	1.56	1.18	.49	.125	1.90	.91	.73	.55	.46	.23	.047	240
255	5.16	2.59	2.01	1.48	1.14	.45	.121	1.72	.80	.67	.49	.42	.21	.041	255
270	4.51	1.76	1.44	1.08	.82	.34	.079	1.57	.70	.60	.44	.38	.18	.031	270
285	3.90	1.83	1.47	1.09	.83	.34	.074	1.39	.59	.53	.38	.33	.17	.023	285
300	3.61	1.76	1.42	1.06	.81	.32	.070	1.39	.59	.52	.37	.32	.16	.025	300
315	3.74	1.94	1.55	1.18	.87	.36	.079	1.60	.71	.59	.43	.36	.20	.040	315
330	4.44	2.48	1.93	1.47	1.12	.46	.100	2.12	.97	.77	.57	.47	.25	.065	330
345	5.31	3.01	2.31	1.75	1.35	.53	.107	2.72	1.30	.97	.73	.60	.33	.084	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.15	.57	.39	.26	.094	-.04	.03	.03	.03	-.013	0
15	1.22	.57	.40	.26	.095	.31	.18	.11	.05	.008	15
30	1.35	.62	.44	.28	.102	.50	.27	.16	.08	.008	30
45	1.43	.65	.46	.28	.110	.53	.28	.17	.08	.011	45
60	1.48	.66	.46	.28	.111	.62	.33	.18	.08	.015	60
75	1.46	.66	.46	.28	.108	.67	.35	.20	.08	.017	75
90	1.46	.68	.47	.29	.114	.72	.37	.20	.09	.020	90
105	1.57	.75	.51	.32	.125	.82	.44	.26	.11	.029	105
120	1.87	.90	.60	.38	.135	.98	.51	.31	.13	.033	120
135	2.01	.97	.64	.38	.137	1.21	.64	.39	.16	.042	135
150	1.98	.97	.65	.38	.129	1.27	.64	.38	.16	.040	150
165	1.79	.91	.61	.37	.123	1.10	.60	.37	.16	.037	165
180	1.85	.92	.59	.34	.103	.93	.50	.31	.14	.031	180
195	1.48	.76	.50	.31	.095	.72	.39	.24	.11	.023	195
210	1.22	.63	.41	.26	.078	.46	.24	.15	.06	.008	210
225	.96	.49	.32	.21	.062	.23	.12	.07	.02	-.010	225
240	.72	.36	.24	.17	.050	.10	.06	.03	.00	-.015	240
255	.53	.28	.19	.15	.045	.03	.02	.00	-.01	-.018	255
270	.40	.22	.15	.13	.039	.01	.01	-.01	-.01	-.021	270
285	.33	.18	.13	.13	.041	-.01	.01	.00	-.01	-.021	285
300	.34	.18	.14	.13	.044	.00	.01	.00	-.01	-.020	300
315	.39	.21	.16	.15	.055	.01	.03	.02	.01	-.014	315
330	.56	.28	.22	.18	.070	-.03	.02	.02	.02	-.010	330
345	.83	.40	.29	.22	.080	-.06	.01	.01	.01	-.019	345

TABLE 101 - Continued

FLIGHT 78, TRIM LEVEL FLIGHT WITH FORWARD CENTER OF GRAVITY (V = 72 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	.20	6.08	11.08	20.83	23.16	26.24	25.42
15	1.53	6.26	10.91	19.42	19.86	21.85	20.96
30	2.29	6.81	10.94	17.44	16.07	17.93	17.33
45	2.42	7.14	10.82	16.19	14.37	15.53	15.44
60	2.74	7.26	10.33	14.83	12.72	14.32	14.65
75	2.93	7.20	9.60	13.00	10.71	12.35	12.84
90	3.12	7.32	9.50	11.72	9.97	11.19	10.67
105	3.76	7.98	10.39	12.90	10.96	13.33	18.87
120	4.46	9.40	11.88	14.46	13.25	17.42	14.69
135	5.51	9.95	12.41	15.07	14.33	14.03	12.43
150	5.59	9.88	12.59	15.84	12.70	12.70	11.29
165	5.18	9.27	12.17	17.78	13.16	13.68	12.12
180	4.40	9.05	11.46	17.98	14.73	15.30	13.83
195	3.41	7.64	10.27	17.90	15.54	16.51	14.91
210	2.03	6.34	9.05	17.57	15.72	17.35	15.72
225	.91	4.99	7.97	17.73	16.34	18.24	16.33
240	.30	3.84	6.94	18.54	17.22	19.23	17.12
255	.00	3.02	6.28	17.73	18.98	20.80	18.66
270	-.15	2.47	5.61	13.27	18.65	22.85	20.81
285	-.14	2.20	4.92	13.00	13.38	17.87	21.29
300	-.08	2.27	4.83	12.39	13.39	16.85	15.83
315	.11	2.61	5.68	13.42	15.17	18.90	18.29
330	.10	3.51	7.47	16.86	19.07	22.81	21.96
345	-.08	4.67	9.66	20.12	22.77	25.71	25.21

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	11.324		0	2.751		0	5.445	
1	1.866	-3.589	1	-.465	-.661	1	-.182	-.008
2	-.043	.014	2	-.050	-.109	2	-.005	.010
3	.000	.062	3	.087	-.118	3	.015	.030
4	.043	-.048	4	.031	.017	4	.012	.010
5	.014	-.071	5	-.014	-.076	5	.002	.000
6	.000	.000	6	-.004	.004	6	.012	.015
7	-.010	.019	7	-.006	-.017	7	.000	.000
8	.014	-.014	8	.010	.008	8	-.012	-.002
9	.029	-.005	9	-.004	-.014	9	-.005	-.002
10	.019	.005	10	-.006	-.006	10	-.008	.008
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 101 - Continued

FLIGHT 78, TRIM LEVEL FLIGHT WITH FORWARD CENTER OF GRAVITY (V = 72 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.105		.75	0	16.082		.95	0	16.944	
.25	1	-1.640	2.045	.75	1	.084	-.696	.95	1	3.556	-2.696
.25	2	.495	-.422	.75	2	2.805	1.267	.95	2	.925	-.260
.25	3	-.307	.411	.75	3	1.409	.277	.95	3	2.111	-.236
.25	4	-.150	.036	.75	4	.280	-.695	.95	4	1.365	.414
.25	5	-.063	.021	.75	5	-.170	-.236	.95	5	-.130	-1.309
.25	6	-.080	.120	.75	6	.528	-.099	.95	6	.313	-.931
.25	7	-.058	.003	.75	7	.035	-.117	.95	7	.179	.615
.25	8	-.040	.040	.75	8	-.307	-.085	.95	8	-.291	.625
.25	9	-.041	-.003	.75	9	.033	.210	.95	9	.041	-.417
.25	10	-.007	-.030	.75	10	.122	-.007	.95	10	.705	-.410
.40	0	6.130		.85	0	15.508					
.40	1	-1.650	2.881	.85	1	1.934	-2.449				
.40	2	1.139	-.096	.85	2	2.312	.541				
.40	3	.110	.328	.85	3	2.299	.373				
.40	4	-.026	.019	.85	4	.741	-.662				
.40	5	.072	-.157	.85	5	-.069	-1.131				
.40	6	.131	.036	.85	6	.191	.301				
.40	7	-.023	-.015	.85	7	.140	.148				
.40	8	.068	-.029	.85	8	.330	-.186				
.40	9	.015	-.005	.85	9	-.165	-.070				
.40	10	.066	.023	.85	10	-.186	.062				
.55	0	9.281		.90	0	17.624					
.55	1	-.844	2.709	.90	1	2.897	-3.319				
.55	2	1.724	.091	.90	2	1.716	.040				
.55	3	.517	.491	.90	3	2.494	.102				
.55	4	.072	-.134	.90	4	.885	-.179				
.55	5	.064	-.259	.90	5	-.156	-1.428				
.55	6	.114	-.064	.90	6	.377	.007				
.55	7	.033	.015	.90	7	-.020	.683				
.55	8	.034	-.041	.90	8	.161	-.252				
.55	9	.028	-.026	.90	9	.241	-.254				
.55	10	.018	.018	.90	10	-.220	.176				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 101 - Concluded

FLIGHT 78, TRIM LEVEL FLIGHT WITH FORWARD CENTER OF GRAVITY (V = 72 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-730	314	-687	-1006	-2912	-4915		
15	991	1097	45	-510	-2780	-4865		
30	1117	1526	633	130	-2288	-4019		
45	547	759	181	196	-1003	-2338		
60	-137	165	-443	-433	-1337	-2149		
75	535	0	-1275	-1578	-2745	-3641		
90	387	-330	-1799	-2370	-4400	-5810		
105	-160	-1122	-2685	-3410	-5438	-6736		
120	-172	-1889	-3743	-4106	-4804	-5432		
135	-1038	-1741	-2766	-2828	-3968	-5144		
150	433	-305	-1446	-1960	-3995	-5681		
165	1424	231	-1112	-1883	-3977	-5870		
180	-58	-462	-1401	-1769	-3379	-5203		
195	-331	-1023	-2034	-2017	-3018	-4855		
210	535	-33	-1455	-1902	-3432	-5213		
225	786	1015	-72	-538	-2666	-4945		
240	820	1568	1049	950	-1073	-3174		
255	1071	1799	1293	1465	590	-99		
270	11	1691	1844	2419	2209	2339		
285	-137	1790	2260	3135	3160	3175		
300	592	2310	2387	2858	2491	2408		
315	125	1988	2251	2476	775	-746		
330	45	1238	669	540	-1214	-2915		
345	-434	404	-633	-929	-2648	-4179		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-5394	-8075	2211	
15	-6404	-10924	1155	
30	-5134	-10012	195	
45	-3636	-6919	3539	
60	-2676	-4103	7251	
75	369	-1270	7075	
90	1199	-2719	6515	
105	2436	-3630	3555	
120	3104	-4542	2755	
135	2045	-4200	4355	
150	1801	-2637	6227	
165	1834	-1058	8259	
180	1590	-163	8803	
195	727	-1872	7939	
210	-722	-4200	5091	
225	-3408	-7684	2995	
240	-5394	-9784	1635	
255	-5590	-9866	195	
270	-9318	-10924	1763	
285	-11272	-11543	1571	
300	-10751	-11673	1075	
315	-10197	-10338	2995	
330	-7983	-7407	4099	
345	-5590	-7505	4179	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	646	494	136
15	563	280	117
30	528	315	114
45	658	339	134
60	734	489	136
75	657	477	127
90	587	308	95
105	582	380	87
120	582	192	74
135	254	-48	26
150	-114	-395	-9
165	-257	-505	-13
180	-268	-415	-12
195	-303	-467	-25
210	-366	-535	-21
225	-169	-513	-2
240	-129	-523	4
255	-175	-473	15
270	-34	-410	41
285	-146	-383	42
300	-545	-672	16
315	-559	-594	13
330	-192	-263	68
345	454	262	123

TABLE 102

FLIGHT 79, TRIM LEVEL FLIGHT WITH FORWARD CENTER OF GRAVITY (V = 107 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	10.41	5.51	3.78	2.67	1.57	.64	.155	11.28	4.93	3.35	2.76	1.85	.71	.166	0
15	8.77	5.50	3.80	2.63	1.44	.63	.090	10.36	4.82	3.32	2.79	1.79	.70	.092	15
30	7.37	5.16	3.82	2.45	1.22	.55	.068	8.77	4.51	3.18	2.69	1.66	.61	.027	30
45	5.67	4.66	3.67	2.16	.92	.46	.028	7.13	3.90	2.84	2.42	1.39	.48	-.047	45
60	4.18	3.99	3.51	1.90	.64	.36	-.028	5.65	3.16	2.43	2.12	1.13	.35	-.121	60
75	3.19	3.67	3.30	1.64	.40	.27	-.052	4.42	2.44	2.07	1.76	.88	.24	-.184	75
90	2.57	3.26	3.06	1.52	.27	.24	-.056	3.67	1.96	1.77	1.61	.72	.18	-.229	90
105	2.34	3.00	2.95	1.58	.28	.25	-.048	3.25	1.75	1.61	1.55	.73	.21	-.224	105
120	1.58	2.16	2.33	1.29	.17	.23	-.030	3.21	1.70	1.46	1.41	.67	.22	-.202	120
135	1.72	2.14	2.24	1.16	.25	.27	-.024	3.13	1.65	1.45	1.33	.69	.27	-.175	135
150	2.16	2.38	2.26	1.26	.39	.33	.020	3.61	1.96	1.60	1.39	.79	.32	-.112	150
165	3.04	2.80	2.47	1.47	.60	.41	.054	4.42	2.47	1.90	1.60	.98	.43	.000	165
180	4.08	3.35	2.73	1.74	.86	.50	.093	5.61	3.09	2.28	1.89	1.20	.54	.060	180
195	4.72	3.39	2.70	1.81	.97	.52	.108	6.39	3.39	2.35	1.96	1.27	.55	.065	195
210	4.76	3.23	2.51	1.73	.96	.51	.111	6.32	3.28	2.25	1.83	1.25	.54	.086	210
225	4.84	3.17	2.40	1.66	.97	.50	.115	6.26	3.19	2.14	1.73	1.20	.54	.110	225
240	5.15	3.26	2.37	1.70	1.02	.52	.134	6.41	3.30	2.15	1.74	1.24	.56	.126	240
255	5.53	3.37	2.42	1.75	1.08	.53	.139	6.19	3.33	2.20	1.76	1.24	.55	.137	255
270	5.82	3.53	2.46	1.79	1.12	.53	.137	6.37	3.35	2.17	1.75	1.24	.54	.141	270
285	6.06	3.68	2.51	1.83	1.16	.52	.134	6.53	3.37	2.15	1.76	1.25	.55	.143	285
300	6.20	3.65	2.53	1.85	1.15	.49	.134	6.39	3.26	2.08	1.69	1.19	.50	.148	300
315	6.58	3.90	2.64	1.90	1.14	.47	.130	6.32	3.31	2.14	1.75	1.23	.53	.124	315
330	8.56	4.58	3.11	2.25	1.35	.59	.151	7.96	3.98	2.61	2.14	1.52	.65	.153	330
345	9.99	5.06	3.45	2.48	1.48	.62	.152	10.46	4.48	3.01	2.47	1.70	.69	.153	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.85										
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	11.25	6.70	3.26	3.63	2.86	2.68	1.75	.94	.73	.38	.172	0
15	10.85	6.52	3.30	3.60	2.87	2.64	1.72	.89	.69	.34	.120	15
30	9.32	6.34	3.10	3.39	2.74	2.48	1.60	.77	.61	.27	.076	30
45	7.53	5.57	2.52	2.89	2.39	2.15	1.37	.59	.47	.17	.014	45
60	5.89	4.25	1.87	2.29	1.95	1.81	1.13	.40	.34	.08	-.044	60
75	4.68	3.32	1.28	1.74	1.53	1.44	.85	.19	.19	-.01	-.096	75
90	4.00	2.70	.97	1.40	1.23	1.19	.68	.05	.12	-.05	-.116	90
105	3.77	2.53	.91	1.37	1.29	1.13	.67	.05	.15	-.02	-.118	105
120	4.17	2.97	1.14	1.56	1.32	1.21	.73	.08	.19	.01	-.099	120
135	4.10	2.80	1.06	1.57	1.33	1.18	.78	.12	.24	.07	-.054	135
150	4.52	3.09	1.19	1.73	1.49	1.28	.86	.20	.32	.13	-.027	150
165	5.41	3.82	1.60	2.15	1.79	1.60	1.05	.38	.47	.27	.006	165
180	6.50	4.62	2.03	2.57	2.08	1.86	1.25	.52	.59	.33	.043	180
195	6.92	4.84	2.15	2.68	2.14	1.95	1.30	.56	.62	.35	.062	195
210	6.68	4.59	1.94	2.52	1.99	1.87	1.22	.56	.59	.33	.066	210
225	6.52	4.40	1.78	2.43	1.88	1.83	1.18	.58	.58	.33	.076	225
240	6.55	4.42	1.76	2.44	1.89	1.82	1.20	.61	.57	.32	.091	240
255	6.38	4.32	1.70	2.39	1.82	1.80	1.13	.60	.53	.29	.093	255
270	6.26	4.32	1.60	2.31	1.78	1.76	1.09	.59	.49	.26	.089	270
285	6.10	4.20	1.52	2.25	1.72	1.73	1.05	.57	.46	.25	.097	285
300	5.70	3.81	1.33	2.05	1.53	1.58	.94	.51	.40	.21	.091	300
315	6.10	4.14	1.52	2.23	1.70	1.72	1.04	.60	.45	.23	.089	315
330	7.45	5.09	2.15	2.78	2.11	2.07	1.29	.72	.55	.29	.111	330
345	9.44	5.87	2.69	3.21	2.47	2.36	1.51	.81	.64	.33	.126	345

TABLE 102 - Continued

FLIGHT 79, TRIM LEVEL FLIGHT WITH FORWARD CENTER OF GRAVITY (V = 107 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75							r/R = 0.55							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.25	3.36	2.56	1.96	1.47	.60	.113	2.66	1.28	.94	.73	.60	.35	.093	0
15	7.01	3.51	2.69	2.05	1.51	.61	.101	2.98	1.47	1.06	.81	.67	.38	.114	15
30	7.05	3.49	2.72	2.05	1.47	.56	.085	3.38	1.67	1.19	.91	.74	.42	.129	30
45	6.61	3.15	2.54	1.92	1.32	.48	.066	3.23	1.61	1.14	.87	.74	.40	.139	45
60	5.65	2.51	2.21	1.65	1.07	.36	.042	2.79	1.37	.99	.75	.65	.37	.138	60
75	4.60	1.97	1.89	1.43	.84	.25	-.023	2.29	1.10	.82	.58	.54	.32	.139	75
90	3.64	1.58	1.68	1.26	.69	.19	.033	2.22	1.07	.84	.56	.53	.30	.140	90
105	3.25	1.61	1.75	1.29	.70	.21	.040	2.58	1.33	1.02	.65	.60	.34	.157	105
120	3.35	1.73	1.84	1.36	.76	.25	.059	3.22	1.70	1.28	.89	.76	.41	.174	120
135	4.10	2.40	2.23	1.64	1.01	.36	.105	3.69	1.98	1.32	1.07	.89	.47	.185	135
150	4.56	2.49	2.27	1.68	1.09	.41	.136	4.03	2.12	1.50	1.16	.97	.49	.201	150
165	5.07	2.81	2.41	1.80	1.22	.49	.140	3.91	2.07	1.51	1.15	1.00	.51	.170	165
180	5.56	3.11	2.54	1.89	1.37	.54	.166	4.73	2.63	1.84	1.42	1.18	.53	.171	180
195	5.90	3.10	2.48	1.83	1.33	.52	.154	5.02	2.56	1.79	1.38	1.13	.52	.161	195
210	5.83	2.87	2.27	1.68	1.23	.49	.147	3.91	2.00	1.44	1.11	.92	.42	.126	210
225	5.42	2.67	2.09	1.54	1.15	.46	.129	3.00	1.49	1.13	.87	.70	.32	.097	225
240	5.06	2.54	1.96	1.44	1.10	.44	.117	2.25	1.08	.91	.66	.54	.25	.075	240
255	4.69	2.36	1.80	1.33	1.01	.39	.105	1.26	.68	.71	.51	.39	.19	.062	255
270	4.40	2.14	1.63	1.21	.90	.34	.096	.44	.35	.48	.38	.32	.15	.039	270
285	4.10	1.95	1.49	1.09	.84	.31	.099	.35	.04	.20	.12	.14	.09	.020	285
300	3.75	1.62	1.27	.93	.70	.24	.075	.51	.11	.22	.13	.11	.08	.004	300
315	3.60	1.84	1.43	1.08	.83	.31	.068	.79	.26	.32	.22	.20	.11	.021	315
330	4.19	2.29	1.76	1.34	1.01	.41	.087	1.25	.51	.47	.34	.29	.17	.037	330
345	4.98	2.73	2.10	1.58	1.21	.48	.087	1.88	.85	.68	.50	.42	.25	.065	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40					r/R = 0.25					ψ_{nom}, deg
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	.36	.23	.19	.20	.074	.17	.10	.06	.04	.009	0
15	.79	.38	.27	.22	.090	.08	.07	.02	.02	-.011	15
30	1.15	.50	.38	.25	.108	.40	.21	.12	.04	.001	30
45	1.38	.59	.44	.27	.116	.50	.27	.15	.06	-.003	45
60	1.37	.58	.44	.26	.118	.45	.24	.12	.04	.009	60
75	1.20	.54	.38	.25	.114	.39	.22	.10	.03	.002	75
90	1.13	.50	.38	.26	.118	.44	.26	.14	.05	.009	90
105	1.46	.67	.49	.32	.140	.75	.42	.24	.10	.030	105
120	1.90	.91	.65	.39	.163	1.14	.61	.35	.15	.048	120
135	2.42	1.18	.81	.47	.181	1.45	.76	.45	.19	.061	135
150	2.63	1.30	.87	.50	.175	1.71	.89	.55	.22	.072	150
165	2.61	1.33	.87	.50	.167	1.88	1.02	.63	.27	.075	165
180	2.44	1.24	.81	.47	.151	1.66	.88	.56	.25	.068	180
195	1.98	1.02	.66	.39	.120	1.10	.59	.37	.16	.042	195
210	1.37	.70	.46	.29	.089	.50	.32	.16	.05	.016	210
225	.82	.44	.32	.21	.063	.16	.13	.02	-.02	-.012	225
240	.34	.30	.24	.19	.045	.03	-.01	-.04	-.05	-.037	240
255	-.01	.09	.13	.19	.063	-.03	-.04	-.07	-.09	-.101	255
270	-.01	.00	-.01	.09	.053	-.03	-.04	-.07	-.11	-.202	270
285	-.01	.03	.05	.11	.046	-.03	-.04	-.06	-.12	-.167	285
300	.00	.03	.05	.12	.079	-.03	-.02	-.05	-.14	-.107	300
315	-.01	.04	.07	.10	.047	-.02	.00	-.04	-.08	-.039	315
330	.13	.10	.11	.15	.059	-.06	-.04	.00	-.02	-.022	330
345	.35	.20	.17	.18	.070	-.05	.00	.00	.01	-.013	345

TABLE 102 - Continued

FLIGHT 79, TRIM LEVEL FLIGHT WITH FORWARD CENTER OF GRAVITY (V = 107 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	.91	3.07	9.69	22.58	28.80	32.00	31.30
15	.40	4.52	10.92	23.69	28.10	30.65	29.36
30	1.67	5.95	12.18	23.27	25.40	27.72	26.56
45	2.15	6.82	11.79	21.12	20.87	23.15	22.62
60	1.85	6.76	10.44	17.35	16.27	18.46	18.50
75	1.57	6.11	8.72	13.71	11.80	14.21	15.50
90	1.94	5.97	8.51	11.43	9.29	11.50	13.49
105	3.47	7.63	9.90	11.47	9.16	10.85	12.95
120	5.22	9.85	12.39	12.37	10.37	10.34	9.84
135	6.59	12.24	14.09	16.12	10.82	10.60	10.21
150	7.81	13.18	15.27	17.29	12.40	12.44	11.89
165	8.90	13.17	15.23	19.26	15.78	15.92	14.85
180	7.88	12.26	17.97	21.18	19.16	19.88	18.31
195	5.20	10.01	17.70	21.00	20.19	21.30	19.42
210	2.32	7.07	14.09	19.71	19.06	20.82	18.84
225	.36	4.68	10.75	18.29	18.39	20.35	18.61
240	-.56	3.18	8.20	17.31	18.46	20.89	19.31
255	-1.26	1.91	5.71	15.84	17.72	20.87	20.07
270	-1.77	.65	3.73	14.36	17.03	20.96	20.73
285	-1.64	1.06	1.70	13.24	16.44	21.15	21.24
300	-1.44	1.16	1.72	11.23	14.78	20.29	21.17
315	-.80	1.04	2.82	12.53	16.31	20.63	21.83
330	-.35	1.86	4.48	15.39	20.42	25.37	26.49
345	-.09	2.83	6.78	18.26	24.55	29.50	29.37

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.023		0	3.159		0	8.072	
1	3.227	-6.769	1	-.882	-.122	1	-.345	-.015
2	-.081	.133	2	-.126	-.328	2	.008	-.010
3	-.024	.129	3	.095	-.186	3	.082	-.030
4	-.005	-.038	4	.047	.004	4	.030	-.020
5	-.105	.000	5	-.025	-.004	5	-.032	-.012
6	-.010	.010	6	-.012	.012	6	-.030	-.025
7	-.033	.038	7	-.017	.017	7	-.015	-.015
8	-.019	-.029	8	.006	.019	8	.018	-.025
9	.000	-.005	9	.006	.021	9	-.005	-.025
10	.000	.010	10	.002	.008	10	-.055	-.018
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 102 - Continued

FLIGHT 79, TRIM LEVEL FLIGHT WITH FORWARD CENTER OF GRAVITY (V = 107 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.095		.75	0	16.999		.95	0	19.685	
.25	1	-2.882	2.546	.75	1	.275	.212	.95	1	6.102	-3.349
.25	2	1.870	-.900	.75	2	4.240	2.939	.95	2	3.582	2.010
.25	3	-.573	.637	.75	3	.373	1.524	.95	3	.507	.069
.25	4	.056	-.193	.75	4	.230	.113	.95	4	1.303	.246
.25	5	-.273	-.065	.75	5	.003	-.267	.95	5	-.184	-.212
.25	6	.188	-.119	.75	6	.048	.104	.95	6	.035	-.272
.25	7	.028	.001	.75	7	-.100	-.064	.95	7	.005	-.183
.25	8	.060	-.052	.75	8	.203	.222	.95	8	-.051	.213
.25	9	.122	.004	.75	9	.044	.126	.95	9	-.095	.008
.25	10	.098	-.040	.75	10	.204	-.143	.95	10	.229	.014
.40	0	5.957		.85	0	17.564					
.40	1	-3.736	3.511	.85	1	3.774	-2.449				
.40	2	2.021	-.461	.85	2	4.946	3.036				
.40	3	-.599	.844	.85	3	1.052	1.056				
.40	4	-.309	-.127	.85	4	.932	.442				
.40	5	-.080	-.180	.85	5	-.141	-.415				
.40	6	.132	-.031	.85	6	.353	-.021				
.40	7	-.082	-.147	.85	7	-.140	.062				
.40	8	-.115	.009	.85	8	.019	.142				
.40	9	-.081	.030	.85	9	.186	.044				
.40	10	.024	-.015	.85	10	.110	-.025				
.55	0	9.782		.90	0	19.994					
.55	1	-3.897	3.363	.90	1	5.434	-3.817				
.55	2	3.614	1.659	.90	2	4.487	2.826				
.55	3	.023	.504	.90	3	.764	.609				
.55	4	-.051	.418	.90	4	1.138	.393				
.55	5	-.268	-.513	.90	5	-.075	-.426				
.55	6	.180	.316	.90	6	.254	-.222				
.55	7	.020	-.184	.90	7	-.140	-.135				
.55	8	.137	.130	.90	8	-.111	.104				
.55	9	.002	-.178	.90	9	.003	.037				
.55	10	.063	.065	.90	10	.114	.020				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 102 - Concluded

FLIGHT 79, TRIM LEVEL FLIGHT WITH FORWARD CENTER OF GRAVITY (V = 107 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	2200	2409	1591	1389	-1258	-3552		
15	1299	2500	2522	2486	-79	-2795		
30	1744	2591	2323	2295	652	-875		
45	1641	2104	2025	2209	757	-447		
60	1413	1526	1022	1084	-167	-1353		
75	1447	1023	-90	-710	-2904	-4069		
90	1151	-66	-1835	-2637	-4690	-5920		
105	-240	-1650	-3272	-3782	-5588	-6795		
120	-730	-2211	-3960	-4421	-5728	-6676		
135	-479	-1889	-3598	-4221	-5799	-7243		
150	68	-1411	-2902	-3467	-5588	-8168		
165	-69	-1551	-2576	-3104	-5860	-8676		
180	-696	-1774	-2739	-3248	-6256	-8268		
195	-160	-1213	-2604	-3400	-6204	-7880		
210	444	182	-1284	-2542	-5596	-7571		
225	1310	1535	407	-634	-3317	-5472		
240	1459	2376	1898	1561	-589	-2189		
255	1105	2888	2875	3325	2429	1772		
270	512	2912	3598	4747	4532	4329		
285	957	3325	3833	4957	5025	4906		
300	923	3176	3498	4194	3960	3980		
315	159	1922	2133	2810	2473	2438		
330	-400	644	452	1208	1136	697		
345	-445	635	579	826	-818	-2009		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-6241	-13691	-2621	
15	-5785	-15254	-3821	
30	-4515	-11054	-925	
45	-1438	-6121	6291	
60	2794	928	9571	
75	5008	602	10211	
90	5888	-1026	5635	
105	4178	-3891	2899	
120	2045	-5584	2947	
135	3006	-2865	4035	
150	2534	-928	8259	
165	2290	2263	11555	
180	3397	2605	11923	
195	2241	505	10227	
210	-624	-3500	7619	
225	-3962	-7814	3875	
240	-5753	-11722	531	
255	-10360	-14196	-1021	
270	-12574	-15775	-1069	
285	-10816	-13398	-941	
300	-9481	-10354	2115	
315	-6892	-7407	3875	
330	-4597	-6642	4035	
345	-4239	-8889	1315	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	334	207	83
15	1310	850	191
30	1285	972	208
45	1262	812	188
60	1259	943	189
75	1287	862	173
90	939	713	123
105	704	467	84
120	384	44	47
135	47	-80	-13
150	-561	-613	-67
165	-909	-856	-88
180	-561	-603	-50
195	-387	-448	-33
210	-472	-652	-52
225	-566	-845	-51
240	-132	-643	8
255	235	-564	66
270	221	-718	65
285	10	-751	51
300	-14	-526	64
315	225	-222	106
330	228	13	97
345	91	65	70

TABLE 103

FLIGHT 80, TRIM LEVEL FLIGHT WITH REARWARD CENTER OF GRAVITY (V ≈ 10 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95							Δp, lb/sq in., at - r/R = 0.90							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.08	4.06	2.95	2.02	1.03	.50	.080	6.44	3.34	2.25	1.94	1.25	.51	.022	0
15	6.04	4.03	2.97	2.03	1.00	.50	.080	6.12	3.19	2.15	1.88	1.20	.48	.006	15
30	7.21	4.74	3.35	2.28	1.16	.54	.093	5.86	3.10	2.10	1.86	1.20	.49	.016	30
45	9.02	5.61	3.91	2.72	1.47	.65	.115	4.94	2.71	1.96	1.81	1.20	.54	.029	45
60	9.66	5.70	3.94	2.70	1.41	.59	.084	5.47	3.00	2.18	1.99	1.29	.60	.049	60
75	9.43	5.84	3.98	2.78	1.49	.64	.108	6.98	3.80	2.71	2.37	1.55	.66	.054	75
90	9.28	5.72	3.94	2.76	1.50	.67	.112	7.90	4.24	2.93	2.57	1.68	.71	.078	90
105	9.10	5.67	3.92	2.75	1.50	.67	.125	8.22	4.41	3.03	2.65	1.73	.76	.099	105
120	9.07	5.63	3.87	2.73	1.51	.68	.126	8.73	4.61	3.16	2.73	1.79	.78	.110	120
135	9.00	5.47	3.80	2.68	1.51	.68	.130	8.86	4.63	3.18	2.74	1.79	.76	.110	135
150	9.02	5.46	3.78	2.68	1.52	.69	.137	8.93	4.65	3.18	2.75	1.80	.77	.124	150
165	9.20	5.50	3.82	2.71	1.55	.70	.143	9.11	4.72	3.21	2.74	1.84	.79	.121	165
180	9.37	5.53	3.84	2.74	1.59	.72	.152	9.20	4.75	3.26	2.78	1.84	.80	.130	180
195	9.62	5.55	3.84	2.74	1.60	.71	.151	9.05	4.69	3.18	2.74	1.83	.79	.126	195
210	9.86	5.58	3.84	2.74	1.60	.70	.148	8.44	4.43	3.04	2.63	1.76	.77	.126	210
225	10.14	5.55	3.82	2.71	1.59	.69	.148	7.49	4.00	2.78	2.45	1.65	.74	.112	225
240	10.40	5.57	3.82	2.72	1.58	.68	.148	5.79	3.26	2.37	2.19	1.53	.74	.128	240
255	10.36	5.51	3.84	2.77	1.65	.73	.157	5.21	2.83	2.07	1.87	1.26	.53	-.005	255
270	9.20	5.23	3.64	2.59	1.50	.69	.134	6.45	3.39	2.33	2.01	1.35	.58	.072	270
285	7.78	4.70	3.31	2.34	1.31	.61	.115	6.64	3.48	2.33	2.01	1.34	.56	.063	285
300	7.16	4.47	3.15	2.20	1.21	.56	.104	6.71	3.49	2.33	2.02	1.31	.55	.051	300
315	6.97	4.41	3.14	2.18	1.18	.56	.098	6.65	3.49	2.34	2.02	1.32	.56	.051	315
330	6.43	4.18	3.00	2.09	1.10	.52	.090	6.57	3.45	2.33	1.99	1.29	.54	.045	330
345	6.16	4.07	2.95	2.03	1.05	.51	.078	6.65	3.46	2.31	1.99	1.28	.53	.033	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85											ψ_{nom}, deg
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	6.27	4.37	1.82	2.33	1.87	1.76	1.11	.49	.46	.23	.041	0
15	5.98	4.13	1.68	2.21	1.77	1.68	1.07	.45	.44	.22	.032	15
30	5.63	3.90	1.56	2.08	1.67	1.60	1.02	.42	.42	.20	.026	30
45	5.12	3.51	1.26	1.85	1.52	1.46	.95	.38	.39	.19	.018	45
60	4.67	3.18	1.08	1.72	1.40	1.36	.88	.34	.37	.17	.020	60
75	4.25	2.84	.85	1.56	1.27	1.30	.84	.34	.38	.18	.026	75
90	4.14	2.82	.84	1.56	1.28	1.29	.86	.36	.41	.21	.034	90
105	5.43	3.70	1.29	1.95	1.55	1.46	.96	.39	.43	.22	.011	105
120	7.50	5.16	2.21	2.67	2.08	1.83	1.12	.45	.46	.23	.010	120
135	9.09	5.92	2.77	3.13	2.46	2.17	1.37	.62	.57	.30	.065	135
150	10.15	6.19	2.87	3.22	2.48	2.21	1.43	.73	.63	.36	.135	150
165	10.25	6.22	2.89	3.28	2.58	2.26	1.44	.68	.60	.33	.106	165
180	8.71	5.64	2.61	3.01	2.36	2.10	1.35	.63	.59	.32	.067	180
195	6.92	4.70	1.96	2.52	2.00	1.84	1.18	.56	.51	.27	.047	195
210	5.07	3.48	1.24	1.93	1.54	1.49	.99	.47	.47	.25	.036	210
225	4.79	3.27	1.08	1.77	1.43	1.42	.93	.43	.43	.24	.051	225
240	4.67	3.20	1.00	1.74	1.38	1.40	.91	.41	.41	.22	.039	240
255	4.91	3.30	1.07	1.78	1.41	1.42	.91	.40	.40	.21	.034	255
270	5.56	3.84	1.42	2.07	1.63	1.60	1.02	.48	.44	.22	.039	270
285	5.91	4.08	1.59	2.19	1.74	1.68	1.07	.49	.45	.23	.041	285
300	6.13	4.24	1.70	2.29	1.81	1.73	1.09	.50	.46	.23	.039	300
315	6.30	4.35	1.79	2.35	1.86	1.77	1.13	.52	.48	.24	.044	315
330	6.39	4.44	1.85	2.38	1.93	1.80	1.14	.52	.48	.24	.042	330
345	6.49	4.52	1.90	2.42	1.93	1.82	1.14	.52	.47	.23	.034	345

TABLE 103 - Continued

FLIGHT 80, TRIM LEVEL FLIGHT WITH REARWARD CENTER OF GRAVITY (V ≈ 10 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	4.79	2.39	1.98	1.48	1.01	.39	.090	2.66	1.30	.95	.71	.61	.31	.093	0
15	4.58	2.28	1.91	1.43	.99	.38	.081	2.64	1.30	.94	.72	.61	.31	.093	15
30	4.43	2.19	1.88	1.40	.96	.36	.078	2.53	1.23	.91	.68	.59	.30	.091	30
45	4.27	2.09	1.81	1.35	.94	.33	.069	2.36	1.15	.85	.65	.56	.28	.089	45
60	3.97	1.87	1.67	1.24	.87	.30	.067	2.12	1.01	.76	.58	.51	.26	.082	60
75	3.52	1.61	1.49	1.11	.76	.26	.049	1.93	.90	.67	.51	.46	.24	.078	75
90	3.17	1.49	1.41	1.04	.72	.24	.057	1.79	.82	.63	.47	.43	.23	.074	90
105	3.06	1.47	1.39	1.03	.73	.25	.053	1.74	.78	.63	.46	.42	.23	.075	105
120	3.06	1.48	1.37	1.01	.72	.25	.057	1.72	.77	.65	.46	.42	.22	.074	120
135	2.96	1.42	1.33	.99	.70	.25	.065	1.66	.75	.61	.45	.41	.21	.073	135
150	2.88	1.42	1.30	.99	.70	.25	.062	1.61	.73	.60	.43	.40	.20	.074	150
165	2.93	1.43	1.33	1.00	.71	.25	.062	1.68	.77	.62	.46	.42	.21	.073	165
180	3.12	1.51	1.39	1.05	.75	.28	.069	1.72	.80	.63	.48	.42	.21	.073	180
195	3.23	1.56	1.42	1.06	.77	.28	.067	1.69	.76	.62	.47	.41	.22	.073	195
210	3.29	1.58	1.40	1.07	.75	.27	.057	1.68	.77	.62	.47	.41	.21	.070	210
225	3.29	1.61	1.44	1.08	.77	.29	.065	1.71	.78	.63	.47	.42	.22	.070	225
240	3.45	1.73	1.51	1.14	.81	.30	.074	1.79	.83	.66	.49	.43	.23	.071	240
255	3.75	1.88	1.61	1.21	.86	.33	.074	1.90	.89	.71	.53	.45	.24	.074	255
270	4.03	2.05	1.71	1.28	.90	.35	.074	2.01	.94	.74	.55	.47	.24	.073	270
285	4.24	2.16	1.78	1.34	.93	.37	.078	2.11	.99	.76	.58	.49	.26	.074	285
300	4.39	2.23	1.84	1.38	.98	.39	.088	2.18	1.04	.79	.61	.51	.28	.077	300
315	4.55	2.34	1.92	1.44	1.01	.40	.090	2.33	1.11	.85	.64	.54	.29	.084	315
330	4.74	2.42	1.97	1.48	1.03	.41	.090	2.51	1.22	.91	.68	.58	.30	.088	330
345	4.85	2.46	2.03	1.51	1.07	.41	.092	2.64	1.29	.94	.71	.60	.30	.088	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.23	.60	.40	.25	.092	.45	.24	.14	.06	-.003	0
15	1.23	.60	.40	.25	.092	.45	.24	.14	.05	-.001	15
30	1.20	.58	.40	.25	.094	.45	.23	.14	.05	-.003	30
45	1.12	.55	.37	.24	.092	.44	.23	.14	.05	-.001	45
60	1.05	.51	.35	.23	.092	.42	.22	.13	.05	.003	60
75	1.00	.48	.33	.22	.091	.40	.21	.12	.04	-.001	75
90	.90	.44	.30	.21	.087	.36	.19	.11	.04	-.003	90
105	.85	.42	.29	.21	.088	.33	.18	.10	.04	-.002	105
120	.83	.41	.28	.20	.083	.31	.17	.09	.04	-.001	120
135	.78	.39	.27	.20	.079	.31	.17	.09	.03	-.002	135
150	.75	.37	.26	.19	.077	.29	.16	.09	.04	-.001	150
165	.76	.38	.26	.20	.078	.30	.17	.10	.04	.004	165
180	.78	.39	.27	.20	.079	.31	.17	.10	.05	.004	180
195	.79	.40	.27	.20	.076	.29	.16	.09	.04	.001	195
210	.75	.38	.26	.19	.072	.25	.14	.08	.03	-.003	210
225	.72	.36	.25	.19	.071	.22	.12	.07	.03	-.004	225
240	.74	.37	.27	.19	.074	.21	.12	.07	.03	-.009	240
255	.78	.39	.27	.19	.073	.23	.12	.08	.03	-.007	255
270	.85	.42	.29	.20	.073	.26	.13	.09	.03	-.006	270
285	.91	.45	.31	.21	.081	.30	.16	.09	.04	-.009	285
300	.96	.47	.33	.22	.080	.32	.17	.10	.04	-.004	300
315	1.01	.50	.35	.23	.084	.36	.20	.12	.05	-.004	315
330	1.09	.55	.37	.24	.088	.39	.21	.13	.05	-.004	330
345	1.18	.58	.39	.25	.089	.44	.23	.14	.06	-.001	345

TABLE 103 - Continued

FLIGHT 80, TRIM LEVEL FLIGHT WITH REARWARD CENTER OF GRAVITY (V ≈ 10 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	1.97	6.26	9.51	16.31	17.17	20.67	21.78
15	1.96	6.28	9.50	15.66	16.33	19.71	21.64
30	1.94	6.15	9.15	15.21	15.41	19.42	24.97
45	1.91	5.83	8.60	14.55	13.92	18.30	30.24
60	1.85	5.51	7.74	13.34	12.80	20.19	30.21
75	1.68	5.25	7.04	11.70	11.88	24.59	30.94
90	1.52	4.86	6.55	10.88	12.09	27.11	30.79
105	1.39	4.69	6.41	10.84	14.46	28.25	30.67
120	1.33	4.54	6.36	10.81	18.87	29.48	30.59
135	1.31	4.33	6.14	10.49	23.17	29.50	30.21
150	1.30	4.20	5.97	10.37	24.92	29.73	30.28
165	1.37	4.24	6.20	10.55	24.94	30.23	30.73
180	1.43	4.33	6.37	11.20	22.50	30.54	31.20
195	1.28	4.36	6.25	11.46	18.62	30.11	31.39
210	1.12	4.18	6.24	11.41	14.54	28.67	31.55
225	.98	4.03	6.33	11.66	13.55	26.32	31.58
240	.91	4.17	6.60	12.35	13.05	23.01	31.72
255	.98	4.31	6.98	13.25	13.30	18.87	32.18
270	1.13	4.55	7.28	14.13	15.30	21.83	29.74
285	1.27	4.84	7.65	14.80	16.20	21.91	26.24
300	1.43	5.08	7.98	15.37	16.77	21.77	24.54
315	1.60	5.37	8.49	16.00	17.34	21.83	24.16
330	1.76	5.75	9.08	16.47	17.62	21.48	22.69
345	1.95	6.08	9.42	16.85	17.70	21.36	21.99

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	12.457		0	2.926		0	7.738	
1	1.361	-2.851	1	1.493	.458	1	-.038	-.038
2	.119	.014	2	.085	.138	2	.008	.010
3	.052	.033	3	-.047	.019	3	-.028	.000
4	.067	-.005	4	.008	.023	4	.015	.012
5	-.024	-.010	5	-.004	-.008	5	.000	-.018
6	.014	.005	6	.029	.008	6	-.005	.000
7	.005	.029	7	.008	.025	7	-.008	.000
8	.033	.000	8	.002	.004	8	.012	.000
9	.019	.005	9	.019	.004	9	.005	-.005
10	.000	.019	10	.019	.008	10	.005	.012
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 103 - Continued

FLIGHT 80, TRIM LEVEL FLIGHT WITH REARWARD CENTER OF GRAVITY (V ≈ 10 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	1.473		.75	0	13.151		.95	0	28.418	
.25	1	.366	.214	.75	1	2.764	-1.266	.95	1	-4.169	.969
.25	2	.176	-.005	.75	2	.557	-.115	.95	2	-1.976	1.639
.25	3	-.073	-.008	.75	3	-.055	.127	.95	3	-.472	.027
.25	4	.032	-.006	.75	4	-.024	.049	.95	4	-.255	-.660
.25	5	-.003	-.025	.75	5	-.134	-.243	.95	5	-.496	-.488
.25	6	.012	-.007	.75	6	.075	-.057	.95	6	.001	-.077
.25	7	-.005	.000	.75	7	.018	-.024	.95	7	.343	-.092
.25	8	.006	-.006	.75	8	.000	.011	.95	8	.295	-.192
.25	9	-.009	-.001	.75	9	-.018	-.033	.95	9	.163	.034
.25	10	-.001	-.005	.75	10	-.010	-.012	.95	10	.086	.146
.40	0	4.965		.85	0	16.768					
.40	1	.986	.210	.85	1	-2.087	.424				
.40	2	.274	.061	.85	2	3.052	-3.249				
.40	3	-.006	.012	.85	3	-.506	1.792				
.40	4	.055	.043	.85	4	-.100	-.361				
.40	5	-.014	-.038	.85	5	.062	-.096				
.40	6	.016	.017	.85	6	.107	-.010				
.40	7	-.016	-.007	.85	7	-.219	.025				
.40	8	-.021	-.002	.85	8	.112	.042				
.40	9	.013	-.006	.85	9	.012	-.105				
.40	10	.005	-.004	.85	10	-.089	-.020				
.55	0	7.410		.90	0	24.369					
.55	1	1.631	-.204	.90	1	-5.013	1.669				
.55	2	.482	.053	.90	2	.954	-1.718				
.55	3	.064	.110	.90	3	-.117	-1.344				
.55	4	.027	.037	.90	4	.404	.713				
.55	5	-.085	-.052	.90	5	.460	.204				
.55	6	.024	-.019	.90	6	-.215	-.148				
.55	7	-.029	.016	.90	7	-.456	.113				
.55	8	.001	-.012	.90	8	.142	-.001				
.55	9	-.001	.021	.90	9	.229	-.297				
.55	10	.006	.005	.90	10	-.171	-.106				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 103 - Concluded

FLIGHT 80, TRIM LEVEL FLIGHT WITH REARWARD CENTER OF GRAVITY (V ≈ 10 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	736	982	27	-151	-1771	-2947		
15	884	1114	334	144	-1534	-2868		
30	554	693	-45	30	-1103	-1972		
45	166	281	-497	-314	-856	-868		
60	-51	223	-380	-104	-319	-32		
75	360	512	-72	411	525	913		
90	519	1048	777	1089	833	1431		
105	964	1048	660	1318	1881	2864		
120	75	932	1094	1938	2373	3371		
135	827	1147	931	1728	2461	3451		
150	622	1378	1257	1776	1696	2426		
165	565	949	732	1346	1696	2316		
180	132	578	353	965	1203	2028		
195	428	569	72	602	1168	2107		
210	189	776	579	1117	992	1550		
225	702	1147	796	1261	1124	1560		
240	668	1287	994	1346	1177	1650		
255	428	1155	931	1451	1247	1431		
270	451	1122	660	1089	1045	1232		
285	360	1097	768	1041	235	-201		
300	884	1048	470	545	-654	-1634		
315	565	726	18	-75	-1516	-2460		
330	143	165	-588	-562	-1622	-2450		
345	189	132	-669	-543	-1622	-2609		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-4465	-6935	3341	
15	-4530	-7635	3245	
30	-3049	-6740	2701	
45	-2365	-6121	3149	
60	-2707	-6252	3613	
75	-2218	-6398	2381	
90	-2544	-7928	1645	
105	-1990	-8075	493	
120	-1079	-8400	973	
135	-1144	-6642	1981	
150	-835	-6219	3117	
165	-883	-5861	3053	
180	-981	-6935	1789	
195	-1632	-8075	333	
210	-2870	-8824	413	
225	-3521	-8580	909	
240	-3863	-7814	1869	
255	-4432	-8026	2973	
270	-4514	-7212	2509	
285	-4693	-8026	2845	
300	-4644	-7293	3005	
315	-3456	-6838	3197	
330	-3374	-6252	3789	
345	-3358	-6365	4253	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	253	91	105
15	327	72	104
30	386	175	111
45	436	203	116
60	506	266	118
75	365	120	105
90	262	-67	82
105	236	-183	73
120	379	-94	54
135	232	-168	29
150	141	-198	9
165	128	-195	13
180	231	-94	19
195	151	-113	20
210	16	-202	-1
225	-158	-297	-11
240	-78	-282	2
255	66	-120	20
270	148	-58	36
285	122	-34	33
300	-67	-184	39
315	31	-85	66
330	219	67	99
345	356	125	112

TABLE 104

FLIGHT 81, TRIM LEVEL FLIGHT WITH REARWARD CENTER OF GRAVITY (V = 73 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	8.14	4.97	3.42	2.44	1.36	.64	.122	9.16	4.52	3.12	2.58	1.67	.69	.087	0
15	6.57	4.41	3.26	2.15	1.12	.53	.078	7.93	4.03	2.77	2.36	1.46	.58	.036	15
30	5.00	3.78	3.06	1.83	.84	.43	.038	6.33	3.33	2.34	2.05	1.20	.47	-.016	30
45	4.18	3.44	2.94	1.69	.70	.39	.026	5.39	2.90	2.11	1.87	1.06	.40	-.060	45
60	3.75	3.38	2.89	1.62	.59	.36	.004	5.01	2.69	2.03	1.76	.98	.36	-.087	60
75	3.23	3.15	2.74	1.52	.46	.31	-.014	4.44	2.36	1.80	1.68	.87	.29	-.130	75
90	1.91	2.35	2.34	1.30	.28	.25	-.032	4.04	2.11	1.51	1.54	.75	.24	-.159	90
105	5.74	4.85	3.74	2.24	.86	.42	.002	3.97	2.13	1.65	1.68	.94	.37	-.128	105
120	3.98	3.70	3.15	1.92	.75	.42	.020	6.40	3.62	2.56	2.27	1.25	.44	-.101	120
135	3.09	2.90	2.64	1.53	.55	.36	.018	4.97	2.87	2.01	1.82	1.03	.39	-.097	135
150	2.55	2.43	2.21	1.28	.46	.34	.016	4.22	2.29	1.65	1.50	.85	.35	-.083	150
165	2.59	2.24	2.11	1.25	.49	.36	.036	4.13	2.20	1.57	1.42	.85	.36	-.043	165
180	3.28	2.62	2.26	1.42	.65	.41	.068	4.72	2.52	1.81	1.55	.96	.44	-.005	180
195	3.83	2.86	2.38	1.53	.78	.45	.086	5.41	2.88	1.96	1.66	1.07	.48	.059	195
210	4.23	2.98	2.38	1.58	.85	.46	.094	5.62	2.94	1.98	1.65	1.09	.48	.072	210
225	4.47	3.03	2.32	1.63	.89	.48	.102	5.82	3.03	2.05	1.69	1.13	.51	.099	225
240	4.95	3.26	2.40	1.70	.97	.50	.112	6.33	3.26	2.15	1.79	1.21	.56	.112	240
255	5.24	3.38	2.44	1.76	1.02	.52	.118	6.81	3.44	2.26	1.87	1.28	.58	.110	255
270	5.95	3.71	2.65	1.90	1.14	.56	.134	7.55	3.73	2.46	2.02	1.39	.63	.121	270
285	6.63	4.05	2.82	2.04	1.24	.58	.137	7.14	3.58	2.34	1.91	1.34	.58	.103	285
300	4.83	3.09	2.22	1.52	.86	.42	.076	5.53	2.75	1.77	1.51	1.02	.47	.072	300
315	5.40	3.44	2.45	1.71	.96	.47	.098	5.96	3.03	1.96	1.69	1.15	.53	.094	315
330	6.57	4.08	2.88	2.04	1.16	.55	.112	7.12	3.62	2.40	2.03	1.36	.62	.108	330
345	7.79	4.69	3.27	2.34	1.33	.62	.130	8.51	4.26	2.82	2.40	1.59	.69	.110	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.85										
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	9.81	6.12	2.97	3.32	2.64	2.43	1.57	.82	.67	.32	.113	0
15	7.85	5.48	2.58	2.95	2.36	2.17	1.44	.68	.56	.25	.074	15
30	6.55	4.64	1.99	2.47	2.01	1.86	1.21	.52	.45	.19	.030	30
45	5.81	4.20	1.69	2.18	1.81	1.68	1.07	.42	.38	.13	-.001	45
60	5.39	3.86	1.52	2.00	1.71	1.59	1.00	.34	.31	.09	-.026	60
75	4.76	3.33	1.21	1.86	1.50	1.37	.88	.22	.24	.05	-.058	75
90	4.47	3.06	1.20	1.65	1.33	1.24	.88	.15	.20	.03	-.073	90
105	4.63	3.19	1.21	1.68	1.40	1.31	.83	.21	.26	.07	-.055	105
120	4.57	3.28	1.42	1.91	1.61	1.55	1.02	.35	.37	.14	-.036	120
135	6.32	4.56	2.12	2.44	1.99	1.75	1.12	.36	.37	.14	-.019	135
150	5.02	3.53	1.38	1.90	1.55	1.43	.95	.29	.36	.16	-.003	150
165	4.91	3.42	1.29	1.87	1.52	1.36	.92	.31	.39	.19	-.005	165
180	5.40	3.75	1.49	2.07	1.68	1.51	1.02	.40	.45	.23	.026	180
195	5.88	4.17	1.72	2.28	1.81	1.66	1.12	.48	.50	.27	.037	195
210	5.98	4.14	1.70	2.28	1.81	1.68	1.12	.50	.50	.27	.047	210
225	6.11	4.22	1.69	2.32	1.84	1.71	1.13	.54	.52	.28	.062	225
240	6.61	4.51	1.87	2.49	1.93	1.82	1.20	.60	.55	.30	.080	240
255	7.10	4.78	2.03	2.65	2.05	1.93	1.26	.66	.58	.32	.093	255
270	7.43	5.07	2.20	2.79	2.16	2.05	1.33	.72	.60	.31	.103	270
285	5.28	3.49	1.16	1.93	1.45	1.48	.97	.49	.42	.21	.037	285
300	5.26	3.50	1.17	1.91	1.45	1.46	.91	.49	.41	.20	.049	300
315	5.71	3.81	1.38	2.07	1.58	1.59	.99	.54	.44	.22	.068	315
330	7.00	4.81	1.98	2.59	2.00	1.94	1.24	.69	.52	.28	.093	330
345	8.62	5.73	2.66	3.14	2.46	2.30	1.48	.79	.62	.32	.105	345

TABLE 104 - Continued

FLIGHT 81, TRIM LEVEL FLIGHT WITH REARWARD CENTER OF GRAVITY (V = 73 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75							Δp, lb/sq in., at - r/R = 0.55							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.10	3.31	2.55	1.91	1.44	.56	.103	3.20	1.57	1.13	.87	.72	.40	.105	0
15	6.35	3.12	2.45	1.84	1.32	.49	.086	3.14	1.54	1.12	.85	.71	.39	.107	15
30	6.00	2.79	2.26	1.69	1.19	.43	.070	3.09	1.50	1.10	.83	.70	.39	.114	30
45	5.44	2.55	2.16	1.63	1.09	.40	.068	3.11	1.53	1.11	.83	.70	.39	.123	45
60	4.98	2.43	2.10	1.58	1.03	.36	.012	3.02	1.50	1.07	.81	.69	.37	.126	60
75	4.51	2.17	1.95	1.45	.90	.30	.026	2.73	1.35	.96	.72	.64	.35	.127	75
90	3.94	1.83	1.78	1.33	.79	.25	.044	2.62	1.27	.93	.67	.62	.34	.130	90
105	3.75	1.86	1.81	1.36	.81	.29	.066	2.86	1.45	1.00	.76	.66	.35	.141	105
120	4.25	2.26	2.10	1.58	.99	.36	.082	3.33	1.72	1.21	.90	.77	.41	.150	120
135	4.42	2.27	2.13	1.60	1.04	.37	.089	3.35	1.72	1.24	.95	.82	.42	.150	135
150	4.42	2.26	2.04	1.54	1.03	.40	.112	3.55	1.81	1.31	1.00	.85	.43	.151	150
165	5.03	2.72	2.29	1.67	1.15	.41	.131	3.47	1.78	1.28	.98	.83	.44	.156	165
180	5.32	2.72	2.31	1.69	1.22	.46	.129	3.30	1.70	1.24	.95	.81	.42	.125	180
195	5.55	2.83	2.31	1.71	1.24	.47	.131	3.09	1.59	1.17	.91	.76	.37	.105	195
210	5.56	2.77	2.22	1.65	1.20	.46	.131	2.72	1.38	1.04	.78	.66	.33	.089	210
225	5.47	2.73	2.17	1.61	1.19	.48	.135	2.43	1.21	.92	.70	.59	.30	.075	225
240	5.55	2.87	2.23	1.66	1.25	.51	.129	2.18	1.06	.85	.63	.52	.25	.059	240
255	5.73	3.04	2.30	1.69	1.27	.52	.133	1.91	.90	.73	.55	.46	.24	.047	255
270	5.34	2.19	1.69	1.21	.90	.34	.060	1.72	.78	.66	.50	.41	.21	.036	270
285	4.60	1.95	1.56	1.15	.87	.34	.075	1.53	.65	.56	.41	.36	.20	.028	285
300	4.05	1.88	1.51	1.13	.83	.32	.072	1.47	.63	.55	.40	.35	.17	.032	300
315	3.86	1.91	1.55	1.17	.89	.36	.075	1.63	.73	.60	.44	.37	.21	.042	315
330	4.34	2.37	1.87	1.43	1.11	.45	.095	2.15	1.00	.78	.58	.48	.26	.066	330
345	5.10	2.91	2.26	1.72	1.32	.54	.109	2.77	1.34	.98	.75	.61	.32	.087	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40					Δp, lb/sq in., at - r/R = 0.25					ψ_{nom}, deg
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.06	.52	.36	.25	.090	-.05	.01	.02	.02	-.018	0
15	1.27	.59	.40	.26	.096	.05	.04	.03	.03	-.012	15
30	1.31	.61	.42	.27	.104	.47	.24	.14	.06	.001	30
45	1.39	.64	.45	.28	.114	.41	.22	.13	.06	.003	45
60	1.49	.68	.48	.29	.116	.54	.28	.16	.07	.008	60
75	1.47	.66	.47	.28	.110	.59	.31	.18	.07	.012	75
90	1.43	.66	.46	.28	.116	.62	.32	.19	.07	.013	90
105	1.50	.70	.49	.31	.127	.69	.38	.22	.09	.019	105
120	1.78	.85	.59	.35	.139	.87	.45	.28	.12	.027	120
135	2.07	.99	.66	.40	.147	1.02	.55	.34	.14	.034	135
150	2.05	1.00	.66	.39	.143	1.26	.64	.39	.16	.038	150
165	1.95	.97	.65	.39	.131	1.24	.64	.40	.16	.037	165
180	1.96	.98	.64	.37	.120	1.06	.58	.36	.16	.034	180
195	1.76	.90	.59	.35	.112	.85	.46	.29	.12	.025	195
210	1.47	.76	.49	.30	.098	.58	.31	.19	.08	.009	210
225	1.18	.60	.40	.25	.080	.33	.18	.09	.03	-.009	225
240	.91	.47	.31	.21	.066	.16	.09	.04	.00	-.018	240
255	.68	.36	.24	.17	.051	.06	.03	.01	-.01	-.022	255
270	.51	.28	.19	.15	.047	.02	.01	.00	-.02	-.025	270
285	.39	.23	.15	.13	.047	.01	.01	.00	-.01	-.025	285
300	.39	.20	.15	.14	.047	.00	.01	.01	-.01	-.025	300
315	.41	.22	.17	.15	.059	.02	.03	.01	.00	-.019	315
330	.53	.28	.21	.18	.072	.02	.03	.02	.02	-.013	330
345	.76	.38	.28	.22	.084	-.05	.01	.01	.01	-.015	345

TABLE 104 - Continued

FLIGHT 81, TRIM LEVEL FLIGHT WITH REARWARD CENTER OF GRAVITY (V = 73 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	.05	5.67	11.56	21.97	25.75	28.48	27.43
15	.37	6.39	11.38	20.90	22.07	24.86	23.55
30	2.02	6.64	11.20	18.99	18.09	20.24	19.49
45	1.86	6.99	11.31	17.57	15.82	17.53	17.42
60	2.36	7.40	11.02	16.31	14.40	16.23	16.31
75	2.58	7.23	10.10	14.64	12.17	14.09	14.55
90	2.68	7.18	9.75	12.87	11.39	12.22	10.83
105	3.17	7.66	10.59	13.16	11.85	13.97	22.55
120	3.97	9.00	12.33	15.69	13.86	20.91	18.38
135	4.71	10.25	12.69	16.17	17.11	16.76	14.72
150	5.57	10.21	13.21	16.13	13.78	13.93	12.46
165	5.57	9.87	13.09	18.16	13.54	13.80	12.40
180	5.01	9.76	12.50	18.89	15.27	15.99	14.62
195	4.00	8.94	11.55	19.41	16.86	18.09	16.36
210	2.65	7.56	10.09	18.96	16.94	18.44	17.15
225	1.29	6.12	8.98	18.82	17.29	19.25	17.59
240	.52	4.82	7.97	19.55	18.53	20.66	18.82
255	.03	3.76	7.01	20.15	19.77	21.82	19.56
270	-.11	3.02	6.22	15.09	20.88	23.81	21.60
285	-.12	2.51	5.44	13.93	14.16	22.53	23.33
300	-.08	2.46	5.16	13.15	13.87	17.41	17.24
315	.09	2.74	5.84	13.53	15.22	19.34	19.26
330	.20	3.38	7.66	16.40	19.19	23.08	22.93
345	-.05	4.44	9.79	19.70	23.56	26.92	26.39

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	11.572		0	2.885		0	5.925	
1	2.685	-6.059	1	2.106	.128	1	-.092	-.102
2	.048	.086	2	-.014	-.012	2	-.008	.005
3	.071	.043	3	.122	-.039	3	.022	-.002
4	.071	-.033	4	.054	.070	4	-.002	-.022
5	-.019	-.029	5	.031	-.033	5	.000	-.012
6	.005	.033	6	.023	.050	6	-.018	.012
7	.010	.024	7	.021	.014	7	-.010	-.002
8	-.014	.024	8	.002	.017	8	.000	.002
9	.005	.000	9	.023	.012	9	-.005	.025
10	.033	.014	10	.008	.000	10	.015	.012
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 104 - Continued

FLIGHT 81, TRIM LEVEL FLIGHT WITH REARWARD CENTER OF GRAVITY (V = 73 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.013		.75	0	17.089		.95	0	18.537	
.25	1	-1.936	1.674	.75	1	-.049	-.669	.95	1	3.712	-2.225
.25	2	.667	-.356	.75	2	2.493	1.878	.95	2	.761	-.303
.25	3	-.492	.242	.75	3	1.426	.613	.95	3	2.612	-.117
.25	4	-.095	-.059	.75	4	.430	-.495	.95	4	1.119	1.056
.25	5	-.094	-.016	.75	5	-.093	-.366	.95	5	-.151	-1.532
.25	6	-.098	.004	.75	6	.593	.287	.95	6	.694	-.972
.25	7	-.053	-.026	.75	7	.081	-.076	.95	7	.134	.744
.25	8	-.066	-.046	.75	8	-.225	-.263	.95	8	-.605	.806
.25	9	.033	-.083	.75	9	.052	.283	.95	9	.131	-.555
.25	10	.056	-.051	.75	10	.140	.082	.95	10	.948	-.413
.40	0	6.417		.85	0	16.723					
.40	1	-2.134	2.500	.85	1	2.089	-2.144				
.40	2	1.220	.185	.85	2	2.340	.914				
.40	3	.009	.302	.85	3	2.623	.760				
.40	4	-.065	.004	.85	4	.875	-.523				
.40	5	.138	-.141	.85	5	.329	-1.296				
.40	6	.092	.144	.85	6	.117	.583				
.40	7	-.031	-.011	.85	7	.127	.044				
.40	8	.049	.025	.85	8	.615	-.069				
.40	9	-.031	.009	.85	9	-.190	-.111				
.40	10	-.003	-.013	.85	10	-.271	-.135				
.55	0	9.851		.90	0	19.181					
.55	1	-1.162	2.581	.90	1	3.170	-3.041				
.55	2	1.825	.332	.90	2	1.536	.143				
.55	3	.447	.499	.90	3	2.775	.684				
.55	4	.113	-.152	.90	4	.851	.427				
.55	5	.098	-.277	.90	5	.366	-1.814				
.55	6	.202	-.053	.90	6	.664	.080				
.55	7	.044	.052	.90	7	-.526	.595				
.55	8	.004	.004	.90	8	-.009	-.018				
.55	9	.082	-.022	.90	9	.629	-.022				
.55	10	-.004	.057	.90	10	-.090	.107				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 104 - Concluded

FLIGHT 81, TRIM LEVEL FLIGHT WITH REARWARD CENTER OF GRAVITY (V = 73 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-656	355	-624	-836	-2979	-4895		
15	290	1155	-81	-569	-2900	-4955		
30	1237	1642	759	261	-2249	-4378		
45	518	1320	633	499	-1079	-2438		
60	-245	545	-54	70	-656	-1423		
75	108	190	-669	-626	-1941	-2905		
90	507	190	-1347	-1981	-3842	-4955		
105	-382	-784	-2170	-2668	-5179	-6965		
120	-724	-1642	-3589	-4080	-4959	-5582		
135	-1283	-1906	-3254	-3240	-3991	-4945		
150	-542	-941	-1745	-1847	-3824	-5681		
165	1088	355	-1031	-1876	-4132	-5811		
180	154	-421	-1320	-1800	-3525	-5423		
195	-610	-1411	-2359	-2181	-2795	-4547		
210	-200	-644	-1844	-2286	-3631	-5273		
225	1601	759	-868	-1437	-3155	-5373		
240	1088	1493	841	576	-1703	-4259		
255	1271	1749	1148	1291	391	-657		
270	906	1667	1573	2112	1896	1990		
285	701	1848	1998	2865	3163	3463		
300	598	2285	2676	3285	2741	2766		
315	1123	2318	2296	2789	1667	478		
330	74	1889	1672	1406	-894	-2398		
345	325	627	-588	-645	-2091	-3592		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-6457	-9068	1309	
15	-9713	-12389	429	
30	-10315	-12731	-611	
45	-8378	-9784	1117	
60	-8085	-7098	6205	
75	-3982	-3940	6141	
90	-1117	-2833	5725	
105	-2582	-4347	6365	
120	430	-4689	2717	
135	2579	-5503	1677	
150	723	-4917	4717	
165	1976	-1677	7213	
180	3279	1205	9613	
195	2742	895	10733	
210	3393	-1254	7373	
225	2025	-4591	3853	
240	-1573	-8010	2941	
255	-3331	-8694	1437	
270	-4829	-9621	1197	
285	-6815	-10012	1341	
300	-8394	-10777	1997	
315	-9159	-9117	3405	
330	-8833	-7652	5229	
345	-7319	-7359	4733	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	588	550	154
15	509	307	136
30	372	309	126
45	543	378	151
60	698	450	163
75	673	577	146
90	450	341	123
105	531	435	99
120	768	521	77
135	546	246	24
150	-3	-241	-24
165	-324	-500	-39
180	-313	-457	-33
195	-214	-383	-30
210	-247	-446	-42
225	-96	-536	-16
240	135	-432	-2
255	-5	-456	16
270	173	-294	29
285	-77	-394	31
300	-478	-723	30
315	-535	-613	41
330	-135	-268	89
345	444	245	145

TABLE 105

FLIGHT 82, TRIM LEVEL FLIGHT WITH REARWARD CENTER OF GRAVITY (V = 103 KNOTS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	10.61	5.59	3.78	2.71	1.60	.66	.169	11.35	4.97	3.40	2.81	1.87	.74	.181	0
15	9.29	5.67	3.83	2.68	1.49	.65	.096	10.82	4.96	3.38	2.84	1.85	.73	.108	15
30	7.54	5.25	3.85	2.44	1.23	.57	.074	8.83	4.54	3.18	2.69	1.66	.64	.045	30
45	5.86	4.72	3.70	2.20	.95	.48	.026	7.29	3.93	2.87	2.46	1.44	.51	-.032	45
60	4.62	4.34	3.66	1.98	.72	.39	-.016	5.94	3.38	2.54	2.25	1.22	.41	-.101	60
75	3.76	4.14	3.61	1.84	.54	.31	-.044	4.97	2.84	2.29	2.07	1.05	.31	-.164	75
90	3.17	3.81	3.35	1.72	.39	.27	-.056	4.25	2.39	2.10	1.85	.88	.22	-.215	90
105	2.85	3.63	3.26	1.74	.37	.26	-.044	3.65	2.05	1.89	1.72	.84	.25	-.220	105
120	2.16	2.76	2.78	1.46	.32	.28	-.022	3.79	2.17	1.81	1.71	.84	.29	-.195	120
135	2.07	2.62	2.51	1.31	.33	.30	-.026	3.65	2.02	1.68	1.53	.80	.29	-.170	135
150	2.05	2.50	2.26	1.24	.37	.32	.010	3.56	1.96	1.63	1.40	.78	.31	-.130	150
165	2.57	2.54	2.33	1.35	.52	.38	.046	4.08	2.26	1.74	1.50	.89	.40	-.016	165
180	3.73	3.06	2.62	1.65	.78	.48	.086	5.22	2.88	2.15	1.79	1.13	.52	.060	180
195	4.36	3.28	2.64	1.73	.92	.52	.100	6.05	3.24	2.24	1.88	1.24	.55	.070	195
210	4.72	3.33	2.54	1.72	.96	.52	.107	6.21	3.24	2.23	1.82	1.23	.55	.085	210
225	4.91	3.27	2.40	1.67	.96	.52	.114	6.23	3.21	2.15	1.75	1.21	.55	.108	225
240	5.11	3.33	2.36	1.70	1.00	.53	.129	6.42	3.26	2.17	1.75	1.24	.56	.126	240
255	5.46	3.33	2.38	1.74	1.06	.53	.134	6.39	3.35	2.18	1.76	1.27	.55	.146	255
270	5.71	3.44	2.42	1.77	1.10	.52	.133	6.09	3.37	2.15	1.76	1.26	.55	.141	270
285	6.04	3.74	2.51	1.85	1.16	.53	.134	6.37	3.41	2.17	1.76	1.27	.56	.143	285
300	6.37	3.80	2.60	1.92	1.21	.52	.134	8.53	3.40	2.18	1.77	1.27	.55	.148	300
315	6.52	3.88	2.66	1.94	1.17	.50	.133	6.12	3.44	2.18	1.83	1.29	.58	.137	315
330	9.36	4.78	3.21	2.33	1.44	.64	.165	8.70	4.14	2.75	2.29	1.60	.68	.164	330
345	10.46	5.19	3.49	2.48	1.50	.62	.173	11.30	4.63	3.12	2.55	1.76	.71	.195	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.85										
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	11.38	6.70	3.35	3.71	2.92	2.71	1.76	.95	.74	.39	.167	0
15	10.81	6.54	3.29	3.61	2.88	2.64	1.72	.88	.70	.34	.126	15
30	9.38	6.19	3.03	3.35	2.70	2.43	1.58	.77	.60	.27	.076	30
45	7.46	5.41	2.57	2.93	2.41	2.16	1.39	.60	.48	.18	.020	45
60	6.17	4.51	2.02	2.47	2.04	1.91	1.17	.44	.36	.10	-.029	60
75	5.27	3.84	1.61	2.09	1.82	1.64	1.00	.28	.26	.03	-.077	75
90	4.48	3.11	1.26	1.82	1.54	1.35	.79	.13	.16	-.02	-.116	90
105	4.16	2.88	1.16	1.56	1.44	1.26	.75	.10	.17	.00	-.102	105
120	4.83	3.43	1.54	1.95	1.66	1.46	.88	.17	.24	.06	-.083	120
135	4.58	3.20	1.34	1.83	1.53	1.36	.88	.17	.28	.08	-.046	135
150	4.56	3.14	1.21	1.76	1.51	1.28	.84	.19	.31	.12	-.037	150
165	5.10	3.56	1.40	1.98	1.65	1.46	.97	.32	.42	.23	-.006	165
180	6.09	4.31	1.85	2.41	1.97	1.76	1.17	.47	.55	.32	.030	180
195	6.68	4.67	2.07	2.59	2.08	1.89	1.26	.54	.61	.34	.049	195
210	6.68	4.57	1.93	2.52	2.00	1.86	1.22	.56	.59	.34	.066	210
225	6.57	4.43	1.82	2.46	1.91	1.83	1.19	.59	.59	.34	.082	225
240	6.61	4.43	1.78	2.46	1.90	1.83	1.19	.61	.58	.32	.091	240
255	6.55	4.42	1.73	2.43	1.85	1.81	1.16	.62	.55	.29	.093	255
270	6.35	4.26	1.61	2.34	1.78	1.77	1.10	.60	.50	.26	.089	270
285	6.28	4.21	1.58	2.31	1.73	1.74	1.08	.59	.48	.25	.093	285
300	5.93	3.92	1.38	2.13	1.61	1.64	1.00	.56	.43	.23	.093	300
315	6.38	4.29	1.61	2.33	1.76	1.77	1.09	.61	.47	.24	.091	315
330	7.80	5.34	2.34	2.93	2.26	2.17	1.39	.79	.59	.31	.126	330
345	10.38	6.12	2.88	3.39	2.64	2.48	1.60	.87	.68	.35	.149	345

TABLE 105 - Continued

FLIGHT 82, TRIM LEVEL FLIGHT WITH REARWARD CENTER OF GRAVITY (V = 103 KNOTS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.55 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
0	6.12	3.34	2.54	1.93	1.44	.59	.101	2.51	1.20	.91	.69	.59	.34	.095	0
15	6.90	3.49	2.70	2.05	1.49	.59	.091	2.93	1.45	1.05	.81	.67	.38	.113	15
30	6.95	3.41	2.69	2.01	1.42	.55	.071	3.20	1.58	1.13	.87	.73	.41	.127	30
45	6.59	3.17	2.56	1.92	1.31	.48	.052	3.18	1.58	1.12	.86	.72	.39	.140	45
60	5.81	2.66	2.32	1.73	1.11	.39	.036	2.95	1.46	1.04	.79	.69	.37	.142	60
75	4.93	2.23	2.08	1.55	.94	.31	-.027	2.51	1.23	.89	.65	.59	.34	.142	75
90	4.11	1.87	1.86	1.38	.77	.22	.010	2.39	1.17	.88	.62	.57	.33	.143	90
105	3.57	1.74	1.84	1.37	.74	.23	.038	2.73	1.42	.99	.72	.64	.37	.164	105
120	3.79	1.97	2.03	1.52	.88	.30	.066	3.54	1.87	1.28	.97	.84	.43	.184	120
135	4.37	2.47	2.33	1.72	1.06	.37	.089	3.97	2.13	1.47	1.13	.97	.49	.192	135
150	4.80	2.51	2.31	1.69	1.07	.38	.124	4.13	2.17	1.53	1.19	.99	.50	.204	150
165	4.95	2.60	2.31	1.71	1.13	.43	.129	4.12	2.19	1.55	1.18	1.02	.52	.179	165
180	5.36	2.95	2.46	1.82	1.29	.51	.145	4.24	2.41	1.75	1.35	1.15	.54	.170	180
195	5.74	3.07	2.46	1.81	1.29	.51	.142	5.20	2.66	1.84	1.43	1.16	.54	.173	195
210	5.76	2.89	2.29	1.68	1.22	.48	.136	4.07	2.10	1.51	1.16	.96	.45	.134	210
225	5.50	2.71	2.12	1.55	1.15	.47	.133	3.23	1.61	1.20	.92	.75	.35	.101	225
240	5.18	2.60	2.00	1.46	1.10	.44	.110	2.40	1.17	.95	.71	.58	.28	.084	240
255	4.90	2.41	1.84	1.34	1.02	.39	.101	1.30	.88	.85	.58	.43	.22	.083	255
270	4.63	2.21	1.69	1.23	.93	.35	.093	.34	.31	.47	.39	.40	.19	.061	270
285	4.30	1.99	1.55	1.13	.87	.32	.099	.46	.04	.16	.08	.11	.08	.058	285
300	3.97	1.71	1.34	.98	.74	.26	.059	.58	.16	.24	.14	.13	.09	.024	300
315	3.76	1.90	1.49	1.11	.86	.33	.063	.90	.32	.35	.24	.22	.13	.028	315
330	4.40	2.43	1.88	1.42	1.07	.43	.087	1.49	.63	.55	.39	.34	.20	.049	330
345	5.24	2.95	2.25	1.68	1.27	.51	.093	2.16	1.00	.78	.58	.49	.28	.074	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40 x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	r/R = 0.25 x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	ψ_{nom}, deg
0	.42	.25	.19	.19	.077	-.02	.02	.01	.02	.000	0
15	.56	.30	.22	.20	.090	.10	.07	.04	.02	.000	15
30	.97	.42	.33	.23	.106	-.02	.03	.02	.02	.000	30
45	1.29	.54	.41	.26	.116	.43	.22	.13	.06	.005	45
60	1.38	.58	.44	.27	.124	.42	.22	.11	.05	.006	60
75	1.29	.59	.42	.26	.118	.41	.22	.12	.04	.005	75
90	1.27	.56	.42	.27	.120	.48	.27	.14	.05	.010	90
105	1.53	.72	.51	.32	.147	.78	.43	.25	.10	.035	105
120	2.01	.95	.68	.40	.163	1.16	.64	.37	.16	.048	120
135	2.54	1.22	.84	.48	.184	1.51	.80	.47	.20	.064	135
150	2.77	1.35	.90	.51	.179	1.79	.92	.56	.23	.071	150
165	2.71	1.37	.91	.51	.171	2.01	1.07	.66	.28	.080	165
180	2.61	1.32	.86	.49	.161	1.82	.95	.60	.27	.073	180
195	2.19	1.12	.73	.42	.135	1.25	.67	.43	.18	.055	195
210	1.54	.79	.51	.32	.104	.55	.39	.19	.07	.024	210
225	.95	.50	.34	.23	.067	.28	.19	.02	-.01	-.008	225
240	.59	.39	.36	.18	.024	.01	-.02	-.05	-.04	-.031	240
255	.12	.16	.20	.22	.059	.00	-.04	-.07	-.08	-.090	255
270	.10	.17	.16	.14	.090	-.02	-.04	-.07	-.10	-.213	270
285	.14	.15	.13	.18	.045	-.02	-.03	-.05	-.11	-.186	285
300	.06	.05	.03	.12	.061	-.02	-.02	-.05	-.14	-.109	300
315	.08	.08	.09	.13	.051	-.02	-.01	-.03	-.10	-.042	315
330	.21	.15	.13	.16	.068	-.07	-.03	-.02	-.03	-.022	330
345	.43	.23	.20	.19	.071	-.03	-.01	.00	.01	-.013	345

TABLE 105 - Continued

FLIGHT 82, TRIM LEVEL FLIGHT WITH REARWARD CENTER OF GRAVITY (V = 103 KNOTS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	.14	3.19	9.34	22.20	29.22	32.53	31.84
15	.54	3.70	10.83	23.39	28.16	31.70	30.36
30	.22	5.21	11.70	22.77	25.14	28.00	27.01
45	1.88	6.43	11.65	21.08	21.05	23.76	23.06
60	1.74	6.80	10.93	18.20	17.16	19.92	20.01
75	1.72	6.53	9.50	15.26	14.17	16.71	17.84
90	2.10	6.50	9.18	12.82	11.17	13.94	15.75
105	3.61	7.97	10.51	12.29	10.53	12.67	15.11
120	5.39	10.26	13.34	14.08	12.88	13.13	12.61
135	6.88	12.70	15.14	16.76	12.52	12.45	11.99
150	8.08	13.68	15.59	17.32	12.27	12.31	11.79
165	9.38	13.60	15.79	18.05	14.41	14.57	13.38
180	8.56	13.02	17.08	20.15	17.92	18.72	17.09
195	5.95	10.98	18.36	20.56	19.52	20.54	18.65
210	2.76	7.89	14.81	19.59	19.04	20.62	19.03
225	.75	5.15	11.58	18.52	18.62	20.47	18.89
240	-.51	4.02	8.88	17.51	18.55	20.91	19.31
255	-1.07	2.64	6.63	16.14	18.09	21.17	19.87
270	-1.72	2.15	4.18	14.87	17.19	20.87	20.35
285	-1.57	2.14	1.68	13.70	16.86	21.21	21.37
300	-1.46	1.20	2.03	11.80	15.56	22.74	21.98
315	-.89	1.50	3.30	12.98	16.99	21.29	22.04
330	-.47	2.24	5.38	16.33	21.75	26.92	28.12
345	-.03	3.16	7.79	19.42	26.35	30.99	30.11

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.056		0	3.308		0	8.228	
1	3.594	-8.787	1	1.435	.080	1	-.228	-.122
2	-.062	.105	2	-.083	-.349	2	.038	.010
3	.010	.086	3	.062	-.149	3	.035	.008
4	.019	-.067	4	.058	.039	4	.002	-.035
5	-.119	.005	5	-.014	-.041	5	.000	-.022
6	.038	.033	6	.025	.017	6	.000	.008
7	.014	.043	7	.000	.008	7	.008	.015
8	.010	.019	8	.021	-.004	8	-.005	.008
9	.043	.005	9	.008	.019	9	-.005	-.020
10	.014	.000	10	-.008	-.017	10	-.022	.000

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 105 - Continued

FLIGHT 82, TRIM LEVEL FLIGHT WITH REARWARD CENTER OF GRAVITY (V = 103 KNOTS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.165		.75	0	17.325		.95	0	20.314	
.25	1	-3.329	2.477	.75	1	.540	.438	.95	1	6.620	-2.481
.25	2	1.868	-.987	.75	2	3.556	2.654	.95	2	2.893	1.726
.25	3	-.659	.472	.75	3	.593	1.112	.95	3	.978	-.467
.25	4	.153	-.246	.75	4	.109	-.004	.95	4	1.038	.411
.25	5	-.215	-.119	.75	5	.152	-.516	.95	5	.011	-.341
.25	6	.241	-.074	.75	6	.020	.168	.95	6	.066	-.099
.25	7	.028	.058	.75	7	-.256	-.094	.95	7	-.222	-.131
.25	8	.048	.035	.75	8	.097	.157	.95	8	-.189	.209
.25	9	.025	.109	.75	9	.014	.076	.95	9	-.199	.157
.25	10	-.030	.071	.75	10	.087	-.020	.95	10	.249	.157
.40	0	6.360		.85	0	18.131					
.40	1	-4.152	3.167	.85	1	4.235	-1.954				
.40	2	1.788	-.594	.85	2	4.228	2.597				
.40	3	-.641	.716	.85	3	1.497	.508				
.40	4	-.100	-.240	.85	4	.765	.357				
.40	5	-.017	-.399	.85	5	.102	-.715				
.40	6	.066	-.033	.85	6	.394	.136				
.40	7	-.107	-.145	.85	7	-.361	-.018				
.40	8	-.031	.074	.85	8	-.046	-.061				
.40	9	.048	-.019	.85	9	.170	.070				
.40	10	.034	-.095	.85	10	.074	.080				
.55	0	10.216		.90	0	20.755					
.55	1	-4.062	3.331	.90	1	6.119	-3.129				
.55	2	3.364	1.518	.90	2	3.716	2.354				
.55	3	.257	.217	.90	3	1.101	.104				
.55	4	-.221	.200	.90	4	.882	.513				
.55	5	-.190	-.663	.90	5	.131	-.490				
.55	6	.063	.396	.90	6	.440	.016				
.55	7	.051	-.160	.90	7	-.287	-.264				
.55	8	-.037	.039	.90	8	-.252	-.127				
.55	9	-.002	-.134	.90	9	-.238	.154				
.55	10	-.164	.078	.90	10	-.046	.283				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 105 - Concluded

FLIGHT 82, TRIM LEVEL FLIGHT WITH REARWARD CENTER OF GRAVITY (V = 103 KNOTS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	863	1782	1148	997	-1058	-2960		
15	1137	2442	2206	2122	-469	-2930		
30	1182	3135	3046	2943	552	-1706		
45	1730	2607	2450	2666	1239	-224		
60	795	1708	1446	1598	394	-442		
75	875	767	-172	-282	-1762	-2731		
90	464	50	-1410	-1942	-4385	-5915		
105	42	-1130	-2974	-3668	-5793	-7358		
120	-870	-2120	-3960	-4613	-6215	-7328		
135	-1246	-2376	-4005	-4460	-5766	-7388		
150	-414	-1823	-3462	-4021	-6074	-8293		
165	-26	-1733	-3046	-3802	-6206	-8771		
180	-1041	-2277	-3101	-3525	-6259	-8313		
195	-368	-1733	-3028	-3745	-6259	-7845		
210	943	-107	-1781	-3230	-6074	-7786		
225	1935	1353	127	-1102	-3953	-6154		
240	2015	2335	1591	997	-1111	-3029		
255	1935	2789	2531	2819	1916	1368		
270	1433	2879	3137	4240	4266	4125		
285	761	3201	3824	5032	5049	4572		
300	1137	3110	3345	4221	4204	4115		
315	464	2153	2332	2876	2171	2174		
330	122	858	452	1264	1547	1209		
345	-1120	866	1003	1321	-310	-1806		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-9255	-14147	-1936	
15	-10769	-17029	-4416	
30	-10297	-14717	-3632	
45	-8832	-10729	3632	
60	-3671	-2719	7472	
75	-138	-961	9344	
90	1278	-1775	7296	
105	2238	-3972	3360	
120	2190	-5486	2592	
135	2890	-3500	3600	
150	3508	-602	7920	
165	5429	3321	10816	
180	6194	4868	13504	
195	5918	3875	12640	
210	4566	-179	9152	
225	1229	-5438	5232	
240	-3134	-9817	2000	
255	-6667	-13545	-1120	
270	-7985	-14310	-2224	
285	-11502	-13122	704	
300	-10216	-10452	2304	
315	-7009	-7652	2272	
330	-7578	-8791	4352	
345	-6618	-9394	384	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	296	250	115
15	938	770	170
30	966	793	196
45	940	668	181
60	1062	888	189
75	1150	933	189
90	913	842	142
105	707	632	103
120	741	431	61
135	371	234	6
150	-303	-386	-64
165	-913	-852	-99
180	-720	-694	-83
195	-498	-532	-57
210	-358	-610	-58
225	-393	-804	-49
240	-47	-581	-1
255	232	-559	40
270	148	-762	38
285	19	-834	32
300	-81	-531	64
315	172	-285	122
330	316	19	131
345	62	197	79

TABLE 106

FLIGHT 83, COLLECTIVE PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 19, t = 1.7 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95							Δp, lb/sq in., at - r/R = 0.90							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	4.57	3.55	2.89	1.68	.78	.37	.042	5.96	3.00	2.21	1.92	1.29	.43	-.007	6
21	3.57	3.03	2.65	1.49	.56	.30	.025	4.71	2.43	1.77	1.67	1.08	.36	-.057	21
36	2.91	2.72	2.55	1.29	.40	.25	.008	3.92	2.07	1.58	1.50	.93	.29	-.103	36
51	2.56	2.72	2.61	1.33	.33	.24	-.006	3.68	1.89	1.56	1.54	.88	.28	-.136	51
66	2.42	2.71	2.61	1.30	.29	.22	-.015	3.40	1.63	1.46	1.45	.86	.23	-.171	66
81	2.40	2.85	2.73	1.47	.40	.25	-.014	3.23	1.66	1.56	1.51	.87	.26	-.169	81
96	3.15	3.61	3.05	1.73	.53	.27	-.004	3.54	1.92	1.72	1.61	.99	.29	-.150	96
111	1.68	2.65	2.58	1.40	.39	.28	.015	4.11	2.25	1.88	1.65	.97	.27	-.145	111
126	1.49	2.19	2.19	1.14	.31	.25	.006	3.34	1.78	1.57	1.40	.83	.29	-.126	126
141	1.78	2.04	1.85	1.03	.33	.26	.017	3.25	1.66	1.40	1.24	.79	.30	-.098	141
156	2.07	2.08	1.77	1.05	.39	.29	.046	3.48	1.76	1.50	1.23	.83	.30	-.061	156
171	2.63	2.35	1.87	1.19	.55	.35	.063	4.00	2.07	1.70	1.37	.97	.35	-.033	171
186	3.20	2.59	2.00	1.30	.65	.38	.072	4.61	2.37	1.82	1.47	1.06	.38	.014	186
201	3.60	2.74	2.06	1.37	.76	.15	-.093	5.03	2.50	1.94	1.53	1.11	.41	.057	201
216	4.04	2.81	2.13	1.44	.82	.42	.099	5.38	2.62	1.99	1.58	1.21	.46	.077	216
231	4.43	2.94	2.15	1.49	.88	.44	.101	5.77	2.93	2.11	1.65	1.23	.46	.080	231
246	4.88	3.14	2.26	1.58	.97	.47	.112	6.26	3.13	2.21	1.75	1.34	.46	.096	246
261	5.63	3.45	2.49	1.74	1.09	.51	.126	7.28	3.50	2.42	1.89	1.48	.48	.124	261
276	6.53	3.82	2.69	1.80	1.21	.54	.128	6.31	2.97	2.09	1.63	1.27	.49	.080	276
291	4.45	2.62	1.97	1.28	.75	.35	.080	5.04	2.47	1.74	1.40	1.06	.48	.063	291
306	4.88	3.11	2.29	1.52	.90	.42	.093	5.51	2.73	1.93	1.56	1.19	.49	.071	306
321	5.82	3.64	2.62	1.78	1.06	.48	.103	6.58	3.30	2.29	1.90	1.39	.54	.084	321
336	6.81	4.24	3.01	2.05	1.21	.56	.124	7.64	3.79	2.69	2.20	1.61	.56	.096	336
351	6.75	4.38	3.27	2.10	1.17	.53	.101	7.87	3.86	2.71	2.28	1.62	.53	.058	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85											ψ_{nom}, deg
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	6.35	4.63	3.34	2.44	2.11	1.77	1.17	.53	.48	.21	.043	6
21	5.30	3.92	2.90	2.05	1.81	1.49	.98	.39	.39	.15	.012	21
36	4.73	3.48	2.66	1.84	1.64	1.32	.87	.30	.31	.11	-.018	36
51	4.40	3.31	2.60	1.87	1.58	1.22	.83	.23	.27	.07	-.041	51
66	4.02	2.98	2.42	1.71	1.45	1.07	.74	.17	.22	.04	-.069	66
81	3.95	2.98	2.43	1.54	1.51	1.09	.75	.16	.24	.05	-.073	81
96	4.14	3.11	2.57	1.71	1.55	1.22	.86	.23	.28	.09	-.060	96
111	4.43	3.37	2.71	1.85	1.59	1.25	.89	.26	.34	.13	-.043	111
126	4.57	3.46	2.80	1.90	1.66	1.28	.90	.26	.33	.12	-.033	126
141	4.15	2.98	2.45	1.64	1.48	1.15	.84	.26	.33	.15	-.011	141
156	4.34	3.20	2.49	1.76	1.53	1.18	.87	.31	.38	.19	.006	156
171	4.86	3.53	2.67	1.93	1.69	1.31	.96	.40	.44	.25	.030	171
186	5.31	3.82	2.86	2.10	1.82	1.46	1.04	.48	.49	.29	.046	186
201	5.60	3.98	2.95	2.19	1.88	1.54	1.09	.53	.50	.31	.063	201
216	5.91	4.13	3.04	2.27	1.93	1.61	1.13	.58	.53	.32	.072	216
231	6.33	4.35	3.19	2.41	2.00	1.72	1.18	.63	.57	.33	.089	231
246	6.93	4.61	3.39	2.58	2.14	1.85	1.25	.69	.60	.35	.102	246
261	7.72	5.00	3.66	2.79	2.31	1.98	1.32	.73	.60	.35	.119	261
276	4.95	3.41	2.49	1.85	1.53	1.39	.91	.49	.47	.25	.063	276
291	5.18	3.54	2.57	1.90	1.58	1.43	.93	.49	.44	.23	.070	291
306	5.52	3.79	2.77	2.07	1.71	1.52	1.00	.54	.48	.26	.087	306
321	6.69	4.52	3.32	2.52	2.09	1.82	1.20	.65	.57	.30	.091	321
336	8.03	5.33	3.93	2.95	2.47	2.11	1.43	.77	.64	.34	.111	336
351	8.32	5.48	4.08	3.04	2.56	2.17	1.45	.74	.62	.31	.081	351

TABLE 106 - Continued

FLIGHT 83, COLLECTIVE PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 19, t = 1.7 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	5.31	2.66	2.00	1.60	1.04	.41	.024	2.87	1.36	.98	.83	.65	.35	.057	6
21	4.82	2.42	1.87	1.49	.93	.36	.018	2.90	1.38	.99	.83	.65	.36	.066	21
36	4.28	2.17	1.82	1.42	.85	.33	.018	2.91	1.39	.98	.81	.64	.36	.075	36
51	3.84	2.05	1.78	1.40	.79	.30	-.033	2.84	1.36	.95	.79	.64	.36	.079	51
66	3.44	1.89	1.68	1.31	.71	.25	-.008	2.75	1.30	.91	.77	.62	.35	.082	66
81	3.15	1.76	1.62	1.27	.66	.24	.005	2.69	1.32	.92	.75	.61	.34	.086	81
96	3.12	1.79	1.71	1.32	.69	.28	.024	2.93	1.45	1.02	.85	.68	.37	.097	96
111	3.53	2.12	1.93	1.50	.83	.33	.039	3.12	1.56	1.12	.94	.74	.41	.103	111
126	3.79	2.16	1.95	1.50	.88	.32	.051	3.30	1.61	1.19	1.00	.80	.43	.103	126
141	3.67	1.99	1.87	1.48	.91	.35	.070	3.55	1.74	1.27	1.07	.83	.42	.102	141
156	4.30	2.40	2.03	1.56	.99	.39	.086	3.64	1.75	1.26	1.04	.82	.42	.106	156
171	4.54	2.44	2.03	1.58	1.04	.42	.082	3.36	1.67	1.25	1.03	.81	.41	.086	171
186	4.74	2.53	2.05	1.58	1.07	.45	.086	3.46	1.63	1.17	.97	.76	.39	.063	186
201	4.90	2.58	2.01	1.56	1.05	.44	.084	3.00	1.43	1.05	.88	.68	.34	.048	201
216	5.02	2.61	1.99	1.55	1.08	.46	.092	2.69	1.25	.93	.78	.60	.31	.031	216
231	5.24	2.76	2.01	1.58	1.11	.48	.094	2.31	1.06	.80	.69	.53	.26	.015	231
246	5.42	2.93	2.07	1.60	1.11	.46	.080	2.01	.92	.69	.59	.46	.23	.002	246
261	4.83	1.76	1.39	1.08	.75	.35	.056	1.79	.80	.62	.53	.42	.23	-.003	261
276	4.14	1.93	1.44	1.12	.78	.35	.041	1.47	.66	.53	.47	.37	.21	-.008	276
291	3.77	1.83	1.37	1.06	.73	.32	.039	1.38	.62	.49	.43	.34	.19	-.012	291
306	3.58	1.89	1.43	1.14	.78	.35	.039	1.60	.72	.55	.48	.38	.21	.001	306
321	4.12	2.36	1.72	1.40	.98	.43	.051	2.16	1.01	.74	.64	.49	.28	.026	321
336	4.83	2.82	2.05	1.66	1.15	.50	.063	2.63	1.24	.90	.76	.59	.33	.044	336
351	5.50	3.06	2.24	1.79	1.23	.50	.056	3.13	1.49	1.06	.90	.69	.37	.059	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.15	.61	.39	.30	.082	.43	.18	.11	.07	.020	6
21	1.14	.59	.39	.31	.084	.80	.38	.24	.11	.035	21
36	1.27	.63	.41	.31	.091	.62	.30	.19	.10	.031	36
51	1.38	.69	.44	.33	.098	.75	.36	.22	.11	.040	51
66	1.41	.73	.46	.33	.100	.82	.40	.24	.12	.040	66
81	1.45	.74	.48	.35	.109	.82	.39	.24	.11	.044	81
96	1.49	.76	.49	.36	.113	1.08	.54	.33	.15	.057	96
111	1.67	.90	.58	.42	.124	1.14	.56	.36	.16	.062	111
126	1.91	1.01	.63	.45	.134	1.21	.62	.41	.19	.075	126
141	1.95	1.04	.65	.44	.129	1.38	.71	.45	.19	.067	141
156	1.86	1.04	.64	.44	.114	1.28	.68	.42	.19	.068	156
171	1.92	1.03	.62	.41	.106	1.17	.61	.39	.18	.067	171
186	1.66	.93	.56	.39	.100	1.03	.51	.32	.15	.054	186
201	1.37	.77	.47	.34	.082	.72	.34	.22	.10	.036	201
216	1.09	.63	.37	.28	.064	.45	.20	.12	.06	.014	216
231	.78	.46	.27	.23	.044	.25	.09	.06	.03	.005	231
246	.61	.35	.21	.19	.034	.16	.04	.03	.02	.003	246
261	.57	.33	.19	.18	.036	.11	.02	.01	.01	-.004	261
276	.26	.17	.10	.15	.029	.09	.02	.01	.02	-.003	276
291	.32	.19	.12	.16	.035	.10	.02	.02	.02	.001	291
306	.38	.21	.14	.17	.040	.14	.04	.03	.04	.009	306
321	.48	.27	.18	.19	.049	.11	.04	.04	.04	.010	321
336	.69	.39	.25	.24	.064	.06	.02	.03	.04	.010	336
351	.99	.54	.34	.28	.075	.00	.00	.03	.04	.009	351

TABLE 106 - Continued

FLIGHT 83, COLLECTIVE PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 19, t = 1.7 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	1.86	6.32	10.14	17.15	19.93	19.43	18.00
21	3.58	6.33	10.27	15.54	16.71	15.68	14.90
36	2.89	6.78	10.29	14.25	14.75	13.20	12.89
51	3.40	7.26	10.11	13.16	13.85	12.47	12.37
66	3.69	7.48	9.78	11.99	12.37	11.29	11.97
81	3.70	7.76	9.73	11.33	12.55	11.55	12.96
96	4.94	8.01	10.72	11.85	13.65	13.04	15.74
111	5.25	9.23	11.66	13.87	14.61	13.99	12.17
126	5.85	10.17	12.30	14.24	14.96	11.91	10.21
141	6.43	10.32	12.84	14.14	13.73	11.34	9.86
156	6.07	10.05	12.87	15.99	14.44	12.07	10.50
171	5.64	9.89	12.37	16.57	16.13	14.00	12.43
186	4.77	8.92	11.88	17.08	17.58	15.75	13.95
201	3.29	7.51	10.47	17.12	18.30	16.94	13.14
216	1.89	6.05	9.27	17.42	19.10	18.13	15.99
231	.96	4.50	7.95	18.05	20.24	19.12	16.88
246	.55	3.59	6.90	18.35	21.66	20.38	18.15
261	.30	3.35	6.21	13.13	23.22	22.64	20.22
276	.29	2.04	5.34	13.01	15.84	19.79	22.27
291	.42	2.30	4.94	12.17	16.18	16.74	15.05
306	.65	2.63	5.64	12.54	17.44	18.32	17.57
321	.64	3.18	7.68	15.34	20.93	21.57	20.50
336	.48	4.32	9.30	18.07	24.66	24.70	23.70
351	.41	5.66	10.91	19.53	25.07	24.77	23.90

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	12.679		0	3.627		0	4.467	
1	.461	-4.158	1	.037	-.506	1	-.127	.042
2	-.055	-.032	2	-.016	-.033	2	.000	.028
3	.012	-.023	3	-.033	-.106	3	-.009	-.004
4	-.032	-.055	4	.024	-.037	4	.007	-.005
5	-.058	-.029	5	-.016	-.024	5	.004	-.016
6	-.015	-.003	6	.012	-.004	6	.005	.008
7	-.015	.006	7	-.012	.004	7	.014	-.003
8	.003	-.012	8	.016	.016	8	.004	.003
9	-.006	.000	9	-.033	-.012	9	.003	-.007
10	.000	.012	10	.004	.020	10	-.007	-.001

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o \right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o \right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o \right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o \right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o \right) + F_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 106 - Continued

FLIGHT 83, COLLECTIVE PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 19, t = 1.7 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.831		.75	0	15.079		.95	0	15.638	
.25	1	-1.285	2.531	.75	1	-.590	-1.118	.95	1	2.449	-4.118
.25	2	.377	-.554	.75	2	2.457	.019	.95	2	-.002	-.405
.25	3	-.080	.486	.75	3	1.183	-.962	.95	3	.915	-1.682
.25	4	.058	.215	.75	4	-.283	-.565	.95	4	1.020	-1.581
.25	5	-.023	.197	.75	5	-.287	.012	.95	5	-.769	-.353
.25	6	.069	.155	.75	6	.063	-.562	.95	6	-.936	-.101
.25	7	.027	.077	.75	7	-.217	-.029	.95	7	.086	.140
.25	8	.079	.142	.75	8	-.105	.294	.95	8	.557	-.476
.25	9	-.062	.163	.75	9	.172	-.280	.95	9	-.438	-.053
.25	10	-.092	.030	.75	10	-.177	-.149	.95	10	-.575	.026
.40	0	6.402		.85	0	17.411					
.40	1	-1.476	3.153	.85	1	.780	-3.651				
.40	2	1.057	-.469	.85	2	1.635	-.358				
.40	3	.175	.135	.85	3	1.685	-1.730				
.40	4	.041	-.079	.85	4	-.004	-1.302				
.40	5	-.069	-.151	.85	5	-1.134	-.252				
.40	6	.155	-.034	.85	6	.124	-.053				
.40	7	.054	-.035	.85	7	.111	-.371				
.40	8	-.084	-.106	.85	8	-.443	-.309				
.40	9	.000	.054	.85	9	-.160	.332				
.40	10	.085	.003	.85	10	.242	.163				
.55	0	9.566		.90	0	16.618					
.55	1	-.865	2.611	.90	1	1.548	-4.779				
.55	2	1.621	-.617	.90	2	.921	-.512				
.55	3	.438	-.164	.90	3	1.371	-1.788				
.55	4	-.034	-.234	.90	4	.554	-1.191				
.55	5	-.235	-.158	.90	5	-1.039	-.448				
.55	6	-.095	-.062	.90	6	-.321	-.114				
.55	7	-.002	-.059	.90	7	.318	-.097				
.55	8	.017	-.037	.90	8	-.055	-.198				
.55	9	-.098	-.032	.90	9	-.312	.013				
.55	10	-.036	-.059	.90	10	-.014	.068				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 106 - Concluded

FLIGHT 83, COLLECTIVE PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 19, t = 1.7 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	1771	1394	967	-651	-1786	-4092	-5941	-4906
21	1600	1271	1645	494	-1408	-4012	-4210	-2927
36	1099	759	1031	236	-97	-1863	-3222	-2891
51	426	586	850	-212	-765	-2211	-1564	-1774
66	1429	239	-63	-1004	-1452	-3346	-3148	-2424
81	608	91	-118	-1681	-2869	-5037	-4901	-3424
96	905	-751	-1157	-2463	-3634	-5604	-4906	-3468
111	312	-1370	-1808	-2950	-3221	-5177	-4440	-3212
126	-53	-1040	-1220	-2521	-3168	-5137	-5314	-3468
141	1099	-363	-606	-1891	-3185	-5983	-6093	-3183
156	1349	91	-344	-1977	-3194	-5883	-6119	-3402
171	734	-388	-560	-2034	-2825	-5256	-5748	-3570
186	654	-743	-777	-1738	-2411	-5147	-5314	-3343
201	1213	190	-118	-1538	-2367	-4958	-5659	-4000
216	1908	1271	1148	-155	-1742	-4759	-6182	-4219
231	2090	1898	2251	1219	0	-2828	-5988	-4417
246	1908	2170	2739	2039	1470	-182	-3865	-3869
261	1976	2228	2830	2421	2737	1848	429	-3278
276	1235	2203	3399	3203	3318	2196	2573	-336
291	1555	2384	3309	2850	3089	2326	497	-2570
306	1555	2038	3037	2745	2156	-948	-2824	-3292
321	1087	2186	2341	895	-510	-2570	-4257	-4511
336	1235	899	669	-479	-1179	-3595	-5539	-5198
351	-30	553	841	-307	-1821	-4619	-6030	-5095

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-7528	-6333	2757	14677
21	-6226	-5861	2277	13688
36	-4582	-3940	3653	14411
51	-4728	-2800	6181	15738
66	-2188	-1107	5029	14366
81	-2254	-1661	5029	14814
96	-2514	-2865	4597	14988
111	26	-2247	2661	13487
126	-72	-2458	4261	15015
141	-1098	-537	6357	15244
156	514	863	7349	15765
171	-7	2019	8229	15848
186	-1098	440	8085	16333
201	-1228	-1530	5045	14850
216	-3735	-4330	3701	14924
231	-6633	-6431	3461	15134
246	-5851	-6854	1445	14338
261	-7528	-6593	1829	13935
276	-10149	-7896	3205	14631
291	-9905	-7342	2165	14091
306	-10345	-7066	3445	14759
321	-9417	-5731	4101	15043
336	-6551	-4982	3157	14631
351	-5737	-5568	2821	14338

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	234	235	128
21	183	354	117
36	295	354	138
51	506	494	151
66	483	622	148
81	415	497	126
96	166	313	89
111	159	320	48
126	8	59	14
141	-257	-125	-13
156	-474	-365	-29
171	-612	-404	-45
186	-537	-432	-37
201	-497	-392	-36
216	-326	-418	-12
231	-269	-393	1
246	-272	-358	0
261	-300	-340	18
276	-264	-286	32
291	-648	-520	39
306	-733	-541	34
321	-420	-206	68
336	52	156	123
351	364	495	142

TABLE 107

FLIGHT 83, COLLECTIVE PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 19, t = 5.0 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	9.34	5.37	3.85	2.65	1.63	.72	.174	11.11	5.01	3.52	2.86	2.05	.81	.188	6
21	9.38	5.31	4.08	2.75	1.63	.66	.111	11.22	5.07	3.62	2.90	2.09	.67	.115	21
36	8.02	5.23	3.98	2.55	1.46	.57	.065	9.77	4.47	3.50	2.89	2.01	.66	.025	36
51	5.02	4.12	3.35	1.99	.95	.39	.006	7.08	3.83	2.68	2.32	1.59	.49	-.049	51
66	3.34	3.16	2.84	1.65	.57	.32	.011	4.90	2.67	2.09	1.83	1.15	.35	-.096	66
81	4.02	3.57	3.16	1.88	.80	.44	.040	4.13	2.37	2.08	1.99	1.18	.46	-.091	81
96	7.20	5.88	4.31	2.67	1.32	.59	.082	6.66	3.68	2.99	2.57	1.67	.59	-.014	96
111	6.98	6.66	4.42	2.79	1.45	.61	.092	7.72	4.38	3.46	2.92	1.94	.71	.014	111
126	6.42	5.28	4.02	2.57	1.37	.59	.096	8.39	6.65	3.63	3.06	1.98	.69	-.002	126
141	5.33	4.30	3.25	2.12	1.12	.53	.086	7.44	4.05	3.14	2.53	1.71	.65	.016	141
156	5.64	4.30	3.11	2.10	1.16	.57	.101	7.42	4.07	3.09	2.47	1.72	.68	.054	156
171	6.75	4.71	3.38	2.33	1.32	.66	.139	8.05	4.35	3.24	2.57	1.84	.76	.110	171
186	7.61	4.88	3.49	2.48	1.52	.72	.158	9.34	4.79	3.55	2.78	2.03	.83	.140	186
201	7.63	4.73	3.30	2.36	1.46	.69	.158	9.92	4.67	3.33	2.61	1.95	.79	.153	201
216	7.40	4.34	3.09	2.19	1.40	.66	.143	9.77	4.41	3.14	2.46	1.80	.74	.139	216
231	7.69	4.41	3.09	2.22	1.43	.69	.164	9.86	4.27	3.13	2.41	1.80	.76	.166	231
246	8.44	4.46	3.13	2.27	1.50	.68	.174	10.56	4.43	3.08	2.38	1.76	.75	.183	246
261	9.15	4.47	3.08	2.22	1.49	.65	.164	9.15	4.41	3.20	2.40	1.70	.70	.208	261
276	9.29	5.08	3.18	2.34	1.55	.69	.204	6.71	3.82	3.17	2.44	1.70	.90	.377	276
291	5.99	3.61	2.75	1.97	1.37	.59	.305	6.85	3.22	2.21	1.71	1.28	.49	.248	291
306	8.78	4.28	2.84	1.98	1.50	.68	.218	6.58	4.41	3.08	2.35	1.98	.93	.225	306
321	9.91	4.80	3.07	2.25	1.58	.61	.197	8.70	4.45	3.16	2.46	1.80	.79	.288	321
336	10.52	5.13	3.45	2.36	1.36	.36	.221	10.91	4.40	2.91	2.17	1.45	.49	.303	336
351	10.32	5.14	3.57	2.54	1.58	.59	.147	11.31	4.73	3.29	2.49	1.82	.58	.159	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.85										
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	11.06	7.45	5.06	3.90	3.25	2.70	1.86	1.01	.73	.39	.247	6
21	11.60	9.68	5.23	4.12	3.46	2.88	1.96	1.07	.85	.41	.179	21
36	10.77	9.73	5.14	4.04	3.38	2.75	1.86	.93	.74	.35	.124	36
51	9.31	7.46	4.75	3.48	2.99	2.37	1.57	.73	.62	.25	.059	51
66	6.43	5.02	3.66	2.60	2.25	1.80	1.22	.48	.47	.18	.006	66
81	5.07	4.09	3.12	1.93	1.96	1.51	1.06	.42	.41	.14	-.011	81
96	5.36	4.30	3.32	2.36	2.17	1.73	1.27	.58	.54	.26	.051	96
111	7.10	5.64	4.28	3.12	2.71	2.19	1.55	.73	.69	.35	.072	111
126	9.63	8.55	5.26	4.12	3.51	2.76	1.92	.91	.80	.40	.102	126
141	9.51	8.23	5.14	3.89	3.28	2.57	1.79	.86	.74	.40	.096	141
156	9.32	7.13	4.94	3.73	3.15	2.50	1.79	.90	.81	.43	.121	156
171	9.57	7.07	4.96	3.80	3.21	2.57	1.83	.97	.88	.49	.162	171
186	10.38	9.49	5.24	4.07	3.44	2.77	2.00	1.08	.93	.52	.189	186
201	10.80	8.26	5.01	3.89	3.28	2.66	1.87	1.02	.87	.49	.181	201
216	10.88	6.39	4.72	3.65	3.06	2.50	1.73	.95	.81	.45	.181	216
231	10.45	6.17	4.57	3.53	2.95	2.48	1.71	.98	.82	.47	.205	231
246	9.61	6.48	4.72	3.61	2.87	2.38	1.64	.94	.75	.46	.239	246
261	3.21	2.99	2.99	2.85	2.81	2.95	2.38	1.23	.79	.47	.254	261
276	3.17	2.68	2.44	2.03	2.07	2.11	1.74	1.04	.93	.53	.383	276
291	6.94	4.63	3.32	2.63	2.13	1.86	1.25	.75	.64	1.06	.139	291
306	5.92	4.75	3.86	3.17	2.79	2.36	1.59	.90	.74	.47	.280	306
321	5.68	5.42	4.80	3.73	3.46	2.93	2.16	1.24	.94	.54	.299	321
336	9.29	5.53	3.89	2.90	2.35	2.02	1.20	.61	.55	.44	.201	336
351	10.35	7.31	4.75	3.68	3.07	2.50	1.70	.92	.63	.40	.245	351

TABLE 107 - Continued

FLIGHT 83, COLLECTIVE PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 19, t = 5.0 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	6.93	3.74	2.63	2.14	1.51	.55	.132	4.62	2.20	1.56	1.30	.97	.48	.111	6
21	7.89	4.13	2.99	2.38	1.67	.69	.108	5.24	2.50	1.73	1.43	1.08	.52	.096	21
36	8.31	4.27	3.07	2.47	1.66	.65	.054	4.68	2.14	1.49	1.23	.93	.49	.082	36
51	8.11	3.82	2.85	2.23	1.48	.56	.051	5.11	2.31	1.61	1.34	1.02	.50	.094	51
66	7.33	3.29	2.55	2.04	1.27	.49	.018	4.24	2.26	1.61	1.32	1.04	.48	.114	66
81	6.16	2.73	2.25	1.87	1.19	.42	.011	2.67	1.26	.96	.79	.70	.40	.092	81
96	5.53	2.81	2.26	1.86	1.17	.45	.067	3.41	1.61	1.17	.98	.78	.42	.091	96
111	5.22	3.00	2.48	2.03	1.33	.57	.096	4.67	2.32	1.63	1.33	1.03	.51	.117	111
126	6.13	3.58	2.86	2.26	1.50	.60	.096	4.95	2.46	1.72	1.43	1.10	.56	.135	126
141	6.54	3.91	3.01	2.38	1.61	.65	.120	5.59	2.70	1.88	1.53	1.18	.60	.146	141
156	7.19	4.20	3.19	2.49	1.72	.69	.146	5.65	2.70	1.23	1.57	1.20	.59	.150	156
171	7.78	4.37	3.26	2.54	1.78	.74	.192	5.54	2.64	1.85	1.53	1.17	.60	.155	171
186	8.19	4.54	3.35	2.59	1.83	.73	.173	5.31	2.49	1.77	1.46	1.12	.55	.122	186
201	8.42	4.42	3.11	2.38	1.69	.64	.170	4.60	2.23	1.59	1.31	1.00	.49	.085	201
216	8.56	4.47	2.83	2.13	1.54	.58	.192	3.97	1.92	1.38	1.15	.88	.43	.066	216
231	7.78	4.28	3.12	2.45	1.47	.57	.192	3.50	1.72	1.26	1.04	.80	.38	.061	231
246	6.32	2.34	2.51	2.01	1.54	.89	.492	3.11	1.53	1.12	.93	.72	.36	.047	246
261	4.92	1.91	1.98	1.43	1.27	.85	.265	2.87	1.36	.99	.83	.62	.30	.032	261
276	4.06	2.05	1.71	1.07	.78	.35	.142	2.86	1.32	1.02	.85	.61	.31	.044	276
291	4.33	2.69	1.94	1.55	1.16	.53	.099	1.36	1.07	.92	.80	.56	.40	.060	291
306	5.02	2.79	2.25	1.63	1.10	.43	.129	1.29	1.18	.99	.82	.64	.25	.051	306
321	5.48	3.61	2.45	2.03	1.46	.61	.192	2.40	1.45	1.15	.94	.71	.33	.095	321
336	5.63	2.63	1.97	1.39	1.00	.50	.158	3.80	1.96	1.41	1.16	.83	.44	.155	336
351	6.30	3.61	2.45	1.96	1.37	.50	.178	4.10	1.99	1.41	1.17	.90	.46	.076	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.55	.82	.47	.41	.126	.39	.20	.15	.11	.041	6
21	1.80	1.01	.65	.44	.124	.71	.39	.28	.15	.054	21
36	1.97	1.04	.66	.44	.113	1.14	.57	.35	.16	.049	36
51	1.97	1.06	.65	.41	.102	.75	.36	.24	.12	.036	51
66	1.76	.90	.60	.43	.130	1.05	.49	.29	.13	.044	66
81	1.63	.86	.54	.38	.102	.88	.44	.28	.13	.052	81
96	2.02	1.00	.64	.41	.128	.97	.50	.33	.18	.067	96
111	1.93	1.02	.65	.45	.131	1.28	.65	.42	.20	.067	111
126	2.67	1.37	.84	.51	.148	1.41	.73	.47	.23	.079	126
141	2.50	1.35	.83	.54	.151	1.71	.88	.54	.24	.085	141
156	2.60	1.38	.87	.56	.162	1.67	.85	.53	.23	.089	156
171	2.67	1.44	.91	.58	.164	1.64	.83	.53	.24	.089	171
186	2.71	1.45	.88	.53	.135	1.47	.73	.47	.21	.082	186
201	2.33	1.25	.74	.46	.124	1.13	.57	.37	.17	.062	201
216	1.89	1.03	.60	.38	.109	.70	.55	.26	.13	.062	216
231	1.40	.87	.49	.32	.100	.30	.32	.41	.04	.038	231
246	.93	.85	.58	.31	.106	.17	.15	.19	.19	.020	246
261	.65	.72	.57	.33	.064	.17	.08	.07	.12	.047	261
276	.44	.50	.38	.32	.116	.13	.05	.05	.08	.160	276
291	.42	.26	.16	.20	.092	.18	.11	.12	.09	.099	291
306	.60	.35	.21	.23	.070	.20	.14	.12	.06	.031	306
321	.78	.44	.26	.23	.080	.20	.17	.14	.06	.036	321
336	.99	.53	.31	.31	.086	.38	.18	.12	.07	.029	336
351	1.26	.66	.40	.34	.109	.22	.12	.11	.08	.035	351

TABLE 107 - Continued

FLIGHT 83, COLLECTIVE PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 19, t = 5.0 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	2.30	8.47	15.63	23.68	32.29	33.59	31.11
21	3.90	10.01	17.34	26.79	34.06	33.05	30.93
36	5.17	10.31	15.27	27.06	32.06	30.39	28.32
51	3.52	10.10	16.50	24.67	27.76	23.48	20.51
66	4.51	9.48	15.77	21.68	20.61	16.76	15.39
81	4.12	8.64	10.35	18.87	17.41	16.59	18.55
96	4.89	10.12	12.17	18.85	19.94	24.53	28.80
111	6.08	10.25	16.34	20.56	25.39	28.76	30.52
126	6.80	13.20	17.50	23.44	31.98	32.60	27.24
141	7.91	13.06	19.05	25.19	30.52	26.32	22.51
156	7.75	13.55	18.33	27.03	30.33	26.53	22.93
171	7.70	14.06	18.96	28.50	31.36	28.70	25.99
186	6.85	13.60	17.87	29.18	33.69	31.88	28.21
201	5.38	11.67	15.79	27.76	32.61	31.30	27.32
216	3.95	9.57	13.70	26.60	31.00	29.62	25.76
231	2.89	7.75	12.28	26.11	30.44	29.66	26.46
246	2.40	7.24	11.03	24.34	29.36	30.15	27.35
261	1.54	6.49	9.71	19.68	25.50	28.89	27.56
276	1.51	5.22	9.75	13.78	22.18	28.03	29.23
291	1.80	3.21	8.52	17.62	21.89	21.38	23.23
306	1.45	3.90	8.17	18.13	25.33	29.10	26.89
321	1.55	4.60	10.46	22.51	30.82	29.71	28.77
336	1.86	5.70	13.86	17.94	24.34	27.91	28.20
351	1.55	6.94	14.25	22.14	29.84	30.67	30.07

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	15.809		0	5.953		0	7.127	
1	1.927	-5.618	1	-.078	-1.020	1	-.644	.103
2	.108	-.061	2	-.277	.098	2	-.003	.009
3	-.178	-.091	3	.237	-.110	3	.136	-.065
4	-.126	.085	4	.094	-.135	4	.001	-.009
5	-.088	.301	5	-.061	-.053	5	-.027	.022
6	.070	.076	6	.110	-.008	6	-.012	-.009
7	.006	.032	7	-.016	-.065	7	.007	-.051
8	-.006	.029	8	-.016	-.016	8	-.008	-.020
9	.018	.038	9	-.029	.000	9	-.022	.023
10	-.044	.000	10	.008	-.004	10	-.009	.000

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 107 - Continued

FLIGHT 83, COLLECTIVE PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 19, t = 5.0 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	4.058		.75	0	23.004		.95	0	26.326	
.25	1	-1.839	2.162	.75	1	-2.327	1.372	.95	1	.580	-1.854
.25	2	.738	-.477	.75	2	4.199	1.382	.95	2	1.497	-1.195
.25	3	-.123	.593	.75	3	.237	.639	.95	3	2.664	-.834
.25	4	-.103	.224	.75	4	-1.260	.563	.95	4	2.095	1.744
.25	5	-.140	.152	.75	5	-.384	1.035	.95	5	-2.003	1.333
.25	6	-.070	.071	.75	6	.766	.098	.95	6	-.588	-.095
.25	7	-.214	.072	.75	7	.050	-.222	.95	7	.328	-.044
.25	8	-.128	.100	.75	8	-.007	-.051	.95	8	.622	-.326
.25	9	-.098	-.029	.75	9	.175	-.109	.95	9	-.127	-.455
.25	10	.019	-.214	.75	10	.092	-.513	.95	10	-.589	.024
.40	0	9.047		.85	0	27.946					
.40	1	-2.406	3.094	.85	1	-1.509	-.525				
.40	2	1.797	.132	.85	2	5.144	-.140				
.40	3	.291	.724	.85	3	1.987	1.044				
.40	4	.088	.001	.85	4	-1.244	1.847				
.40	5	-.431	-.065	.85	5	-1.196	.574				
.40	6	.118	.178	.85	6	1.118	.354				
.40	7	.015	.066	.85	7	.391	.058				
.40	8	.067	-.143	.85	8	.508	-.425				
.40	9	.030	.139	.85	9	.348	-.504				
.40	10	-.235	.097	.85	10	-.298	-.293				
.55	0	14.108		.90	0	27.900					
.55	1	-1.254	3.039	.90	1	-.695	-1.996				
.55	2	2.873	-.415	.90	2	3.347	-.893				
.55	3	.690	.928	.90	3	3.093	-.045				
.55	4	-.337	.026	.90	4	.584	2.166				
.55	5	-.558	-.630	.90	5	-2.057	.836				
.55	6	.241	-.346	.90	6	.591	.268				
.55	7	.220	.495	.90	7	.623	.043				
.55	8	.104	.656	.90	8	.501	-.774				
.55	9	-.300	.325	.90	9	.009	-.528				
.55	10	-.219	-.113	.90	10	-.709	.437				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o\right) + M_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 107 - Concluded

FLIGHT 83, COLLECTIVE PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 19, t = 5.0 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	715	809	90	-1531	-2132	-3975	-7573	-7446
21	4158	1048	841	43	-2211	-6621	-7223	-6147
36	3554	3548	3399	1083	-1217	-4751	-8745	-8074
51	4067	2896	3263	2075	-601	-3477	-5680	-4511
66	3554	1576	2106	1159	271	-1955	-2652	-2570
81	2493	776	118	-1512	-882	-3517	-2620	-3453
96	225	1089	-199	-2323	-2440	-5179	-3813	-3380
111	2129	33	-1483	-2772	-2422	-5268	-6564	-6125
126	1844	-479	-199	-711	-2554	-6582	-7212	-7315
141	3428	223	208	-635	-2299	-4970	-8556	-8067
156	2767	833	1329	-119	-2950	-5557	-7149	-5541
171	3474	751	172	-1121	-1586	-5169	-8661	-6001
186	1080	1089	814	-1016	-2299	-5975	-8718	-5585
201	2459	1304	353	-1093	-1709	-5467	-9273	-5409
216	2448	1493	1139	-530	-1569	-5288	-7610	-5139
231	2334	1213	1871	720	279	-2273	-6302	-5716
246	2699	1452	2133	1712	1775	45	-2741	-5088
261	2163	2657	3743	2876	2427	1985	947	-3723
276	2379	2896	3905	3448	3324	3120	3253	-2219
291	578	3003	4565	4393	4028	2025	1574	496
306	1661	3193	4014	3725	4055	2085	-6276	-6577
321	2117	3077	4674	4278	-213	-3368	-4456	-3701
336	4215	2351	2929	930	-1841	-4144	-5392	-5329
351	1912	825	606	-1207	-1586	-3626	-5627	-5052

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-1815	-7896	-992	13149
21	-3167	-7342	880	13396
36	-366	-4103	2432	13551
51	1066	293	9136	15866
66	4257	3516	11744	15976
81	8034	5177	9248	15555
96	3671	1595	7504	14301
111	2987	-2084	3216	12279
126	2027	-5047	624	12234
141	627	-4428	2384	13386
156	-8	-993	7376	14850
171	1213	3826	11632	16809
186	2320	6040	13280	17623
201	-2239	2637	12288	18035
216	-3362	-3126	6272	15134
231	-4990	-7342	-1984	10696
246	-10623	-13496	-1696	12947
261	-14481	-11315	-2912	9608
276	-16484	-11884	1312	12883
291	-14090	-10322	2448	14054
306	-12804	-9410	3568	13716
321	-9418	-6512	4672	14850
336	-10134	-4021	6176	14411
351	-5527	-5861	4352	14631

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	307	302	85
21	2396	1950	373
36	2262	1803	333
51	892	702	187
66	325	315	74
81	-253	-300	76
96	192	447	38
111	381	183	145
126	1152	1348	121
141	240	43	43
156	-286	-45	63
171	-535	-736	9
186	357	537	36
201	17	-184	62
216	-1041	-835	-97
231	-1728	-1258	-182
246	-1994	-1823	-121
261	-2297	-1076	-259
276	-3730	-2618	-315
291	-1955	-1201	-205
306	-749	-727	24
321	261	351	113
336	-1666	-1344	43
351	-347	401	-54

TABLE 108

FLIGHT 84, COLLECTIVE PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 20, t = 3.3 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	8.77	5.05	3.47	2.48	1.48	.58	.106	10.00	4.43	3.09	2.59	1.67	.67	.083	0
15	7.37	4.70	3.33	2.26	1.26	.50	.071	8.08	4.06	2.92	2.41	1.49	.59	.031	15
30	5.57	3.82	3.30	1.96	.93	.40	.036	6.44	3.45	2.51	2.16	1.25	.47	-.036	30
45	4.18	3.33	3.10	1.76	.71	.34	-.004	5.18	2.87	2.20	1.94	1.05	.38	-.089	45
60	3.55	3.22	3.10	1.73	.62	.30	-.024	4.48	2.54	2.07	1.82	.95	.31	-.125	60
75	3.08	3.43	3.07	1.54	.50	.27	-.040	3.91	2.19	1.85	1.69	.83	.25	-.166	75
90	2.55	2.98	2.96	1.20	.43	.26	-.035	3.44	2.00	1.73	1.58	.71	.23	-.190	90
105	3.20	3.42	3.24	1.66	.55	.30	-.020	4.04	2.41	2.06	1.80	.90	.29	-.170	105
120	2.38	2.63	2.73	1.56	.48	.30	.002	3.86	2.36	1.98	1.77	.89	.33	-.135	120
135	2.40	2.48	2.47	1.50	.51	.33	.002	3.86	2.28	1.79	1.69	.89	.35	-.111	135
150	2.63	2.59	2.25	1.47	.60	.37	.031	4.19	2.39	1.80	1.67	.89	.39	-.064	150
165	3.31	2.76	2.24	1.58	.77	.42	.067	4.91	2.73	2.00	1.74	1.03	.46	-.005	165
180	3.99	3.08	2.55	1.70	.92	.48	.087	5.64	2.96	2.18	1.78	1.16	.51	.047	180
195	4.49	3.24	2.55	1.72	.99	.50	.097	6.02	3.05	2.23	1.79	1.20	.54	.064	195
210	4.76	3.26	2.47	1.70	1.04	.51	.106	6.18	3.16	2.21	1.76	1.19	.54	.085	210
225	5.01	3.28	2.36	1.70	1.07	.52	.116	6.30	3.20	2.21	1.75	1.20	.55	.096	225
240	5.35	3.30	2.36	1.72	1.10	.51	.121	6.66	3.24	2.22	1.77	1.23	.56	.103	240
255	5.70	3.40	2.38	1.76	1.17	.53	.134	7.19	3.36	2.29	1.81	1.27	.57	.116	255
270	6.27	3.62	2.49	1.85	1.24	.54	.140	8.06	3.45	2.35	1.88	1.32	.58	.119	270
285	6.76	3.75	2.57	1.90	1.28	.55	.132	7.33	3.27	2.22	1.77	1.24	.53	.103	285
300	6.10	3.52	2.41	1.74	1.13	.45	.095	6.73	3.09	2.09	1.69	1.15	.51	.088	300
315	6.49	3.80	2.62	1.91	1.23	.50	.125	7.64	3.42	2.32	1.88	1.27	.58	.100	315
330	7.74	4.36	3.00	2.18	1.39	.59	.140	9.17	3.99	2.71	2.25	1.50	.65	.111	330
345	9.11	4.86	3.36	2.42	1.52	.61	.136	10.26	4.47	3.09	2.57	1.69	.69	.123	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.85										
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	9.94	5.94	4.24	3.34	2.74	2.40	1.55	.85	.67	.34	.137	0
15	8.71	5.75	3.89	3.02	2.51	2.19	1.39	.74	.56	.28	.105	15
30	6.71	5.02	3.31	2.58	2.20	1.90	1.20	.61	.48	.20	.069	30
45	5.60	4.28	3.03	2.52	1.90	1.67	1.04	.43	.37	.13	.028	45
60	4.94	3.80	2.75	2.28	1.93	1.49	.91	.27	.31	.08	-.011	60
75	4.22	3.27	2.40	1.99	1.62	1.24	.78	.15	.22	.04	-.038	75
90	3.74	2.86	2.20	1.77	1.46	1.36	.68	.09	.19	.04	-.048	90
105	3.70	2.82	2.25	1.85	1.50	1.42	.74	.16	.24	.08	-.048	105
120	5.14	3.93	3.02	2.27	1.99	1.34	.97	.29	.33	.14	.010	120
135	4.84	3.61	2.79	2.05	1.78	1.35	.97	.32	.39	.18	.030	135
150	5.09	3.82	2.86	2.14	1.82	1.40	1.01	.38	.44	.23	.041	150
165	5.71	4.18	3.05	2.36	1.96	1.62	1.12	.47	.51	.29	.064	165
180	6.28	4.55	3.22	2.52	2.10	1.76	1.20	.54	.58	.34	.082	180
195	6.56	4.62	3.24	2.56	2.11	1.80	1.21	.57	.60	.35	.094	195
210	6.59	4.51	3.18	2.52	2.04	1.78	1.18	.58	.58	.35	.105	210
225	6.69	4.47	3.14	2.52	2.03	1.80	1.18	.61	.58	.34	.119	225
240	6.87	4.50	3.14	2.51	2.02	1.79	1.17	.64	.58	.33	.123	240
255	7.16	4.55	3.14	2.55	2.04	1.83	1.18	.66	.57	.33	.134	255
270	6.50	4.54	3.12	2.53	2.03	1.84	1.18	.66	.55	.31	.140	270
285	6.24	3.98	2.75	2.19	1.73	1.61	1.00	.55	.47	.24	.105	285
300	6.14	4.00	2.73	2.19	1.72	1.61	1.00	.57	.46	.26	.111	300
315	6.82	4.46	3.03	2.45	1.95	1.80	1.13	.65	.52	.29	.129	315
330	8.27	5.28	3.63	2.91	2.35	2.13	1.34	.77	.60	.34	.152	330
345	9.97	5.98	4.20	3.37	2.75	2.42	1.57	.87	.71	.38	.173	345

TABLE 108 - Continued

FLIGHT 84, COLLECTIVE PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 20, t = 3.3 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.65	3.42	2.53	1.91	1.42	.58	.077	2.92	1.40	1.00	.83	.65	.41	.065	0
15	6.62	3.23	2.42	1.85	1.32	.53	.058	3.00	1.43	1.03	.85	.66	.42	.076	15
30	6.13	2.92	2.26	1.75	1.20	.47	.047	3.07	1.45	1.04	.86	.67	.42	.086	30
45	5.40	2.63	2.12	1.64	1.07	.42	.039	2.95	1.48	1.00	.82	.66	.42	.095	45
60	4.69	2.34	1.98	1.57	.96	.36	-.010	2.67	1.29	.88	.72	.60	.41	.099	60
75	3.96	1.96	1.81	1.41	.79	.29	.004	2.40	1.16	.88	.63	.54	.36	.096	75
90	3.35	1.72	1.53	1.32	.68	.26	.028	2.32	1.15	.87	.61	.54	.37	.102	90
105	3.38	1.94	1.60	1.40	.79	.28	.042	2.67	1.36	.95	.74	.62	.39	.118	105
120	3.65	2.14	1.78	1.52	.95	.35	.064	3.23	1.70	1.15	.92	.75	.45	.133	120
135	4.24	2.82	2.24	1.76	1.15	.44	.103	3.71	1.87	1.33	1.07	.85	.50	.137	135
150	4.98	2.98	2.45	1.83	1.27	.49	.130	3.78	1.86	1.36	1.10	.88	.51	.140	150
165	5.33	2.90	2.44	1.81	1.29	.53	.125	3.76	1.88	1.34	1.09	.88	.51	.113	165
180	5.66	3.05	2.43	1.81	1.33	.55	.125	3.42	1.70	1.22	1.01	.81	.46	.096	180
195	5.83	3.00	2.33	1.73	1.28	.53	.122	2.84	1.40	1.05	.88	.72	.43	.051	195
210	5.76	2.87	2.18	1.63	1.21	.52	.113	2.47	1.22	.92	.80	.62	.26	.041	210
225	5.63	2.76	2.06	1.55	1.16	.50	.103	2.21	.99	.75	.64	.49	.23	.019	225
240	5.37	2.69	1.99	1.49	1.12	.48	.101	1.79	.76	.59	.50	.39	.20	-.017	240
255	4.85	2.62	1.92	1.43	1.09	.47	.091	1.47	.57	.48	.41	.32	.20	-.009	255
270	4.54	2.29	1.69	1.23	.94	.39	.073	1.26	.48	.43	.37	.28	.20	-.013	270
285	4.14	1.96	1.48	1.09	.82	.35	.044	1.15	.46	.41	.36	.27	.19	-.013	285
300	4.01	2.04	1.52	1.14	.85	.37	.054	1.20	.48	.43	.37	.29	.21	-.006	300
315	4.31	2.24	1.66	1.27	.95	.41	.061	1.43	.58	.49	.43	.33	.24	.010	315
330	4.94	2.72	1.99	1.53	1.15	.50	.075	1.84	.83	.64	.54	.42	.29	.031	330
345	5.87	3.29	2.41	1.84	1.39	.59	.089	2.50	1.18	.87	.72	.56	.37	.057	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	.65	.37	.22	.21	.087	.04	.01	.01	.02	-.005	0
15	1.16	.55	.35	.26	.099	.33	.13	.08	.06	.011	15
30	1.24	.58	.37	.26	.106	.45	.20	.13	.08	.012	30
45	1.31	.62	.39	.26	.111	.54	.25	.14	.08	.015	45
60	1.30	.62	.39	.26	.113	.57	.26	.15	.08	.021	60
75	1.22	.60	.38	.26	.115	.63	.29	.17	.09	.023	75
90	1.25	.62	.40	.28	.125	.70	.34	.21	.10	.036	90
105	1.52	.77	.50	.34	.138	.91	.45	.26	.13	.046	105
120	1.86	.93	.60	.39	.149	1.20	.59	.36	.17	.061	120
135	2.13	1.07	.68	.42	.155	1.39	.70	.43	.19	.064	135
150	2.32	1.18	.74	.43	.145	1.49	.73	.45	.20	.067	150
165	2.17	1.14	.70	.42	.135	1.35	.70	.44	.21	.058	165
180	1.90	.99	.60	.37	.117	1.24	.64	.41	.19	.061	180
195	1.49	.78	.46	.30	.089	.83	.42	.28	.13	.039	195
210	1.06	.57	.33	.23	.067	.43	.21	.13	.06	.017	210
225	.69	.38	.21	.17	.045	.17	.09	.02	.01	-.001	225
240	.44	.26	.13	.13	.037	.13	.03	-.01	.00	-.010	240
255	.26	.18	.08	.11	.034	.06	-.01	-.02	-.01	-.019	255
270	.18	.14	.06	.11	.034	.05	-.02	-.02	-.02	-.034	270
285	.18	.13	.06	.11	.039	.05	-.01	-.01	-.01	-.030	285
300	.18	.14	.07	.12	.047	.05	.00	.00	.01	-.016	300
315	.27	.18	.11	.14	.055	.04	.01	.01	.02	-.009	315
330	.43	.26	.16	.18	.069	-.01	-.05	-.02	.02	-.001	330
345	.57	.32	.21	.20	.079	-.01	.00	.00	.01	-.002	345

TABLE 108 - Continued

FLIGHT 84, COLLECTIVE PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 20, t = 3.3 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	.20	4.01	10.60	22.47	27.70	28.86	28.16
15	1.46	5.91	10.88	21.31	24.65	25.38	24.99
30	2.03	6.21	11.07	19.48	20.57	20.92	20.50
45	2.32	6.51	10.88	17.51	17.52	17.28	17.18
60	2.45	6.47	9.98	15.54	15.66	15.27	15.97
75	2.74	6.29	9.07	13.21	13.07	13.14	15.12
90	3.16	6.59	9.03	11.55	11.77	11.66	13.44
105	4.11	8.01	10.23	12.59	12.42	14.29	15.89
120	5.48	9.57	12.32	14.35	16.57	14.25	13.33
135	6.32	10.70	13.84	17.79	16.15	14.04	13.00
150	6.69	11.46	14.12	19.65	16.96	14.82	13.60
165	6.36	10.89	13.97	20.05	18.86	17.15	15.42
180	5.94	9.48	12.74	20.72	20.51	19.17	17.70
195	3.92	7.45	10.92	20.33	20.94	19.98	18.72
210	1.91	5.42	8.89	19.45	20.64	20.24	19.03
225	.52	3.64	7.39	18.69	20.69	20.49	19.26
240	.16	2.47	5.83	18.02	20.77	21.00	19.65
255	-.14	1.76	4.92	17.21	21.06	21.94	20.47
270	-.26	1.49	4.38	15.10	20.44	23.03	21.76
285	-.12	1.50	4.17	13.27	18.04	21.43	22.55
300	.07	1.66	4.44	13.62	17.88	20.02	20.25
315	.22	2.14	5.23	14.95	20.07	22.40	22.04
330	-.06	3.01	6.82	17.90	23.90	26.29	25.45
345	.03	3.68	9.21	21.50	28.09	29.39	28.35

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	13.711		0	3.511		0	6.603	
1	2.025	-6.342	1	.154	-.310	1	-.225	-.014
2	.000	.132	2	-.132	-.192	2	.011	.003
3	.000	.145	3	.087	-.174	3	.031	.003
4	.041	-.041	4	.022	-.006	4	.000	-.009
5	.000	-.018	5	.028	-.032	5	.000	-.016
6	-.014	.000	6	.014	-.002	6	-.005	-.003
7	-.009	.014	7	.000	-.004	7	.003	.003
8	-.014	-.005	8	.008	-.002	8	.000	-.002
9	-.009	-.014	9	.010	-.010	9	-.003	-.008
10	.000	.009	10	-.004	.004	10	-.003	-.003
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 108 - Continued

FLIGHT 84, COLLECTIVE PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 20, t = 3.3 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.313		.75	0	17.343		.95	0	19.242	
.25	1	-2.075	2.248	.75	1	-.225	-.636	.95	1	3.950	-3.656
.25	2	.744	-.814	.75	2	3.944	.987	.95	2	2.251	.177
.25	3	-.404	.561	.75	3	.989	.791	.95	3	1.245	-.511
.25	4	-.044	.044	.75	4	.135	-.627	.95	4	1.369	.089
.25	5	-.174	.016	.75	5	.159	-.332	.95	5	.155	-.502
.25	6	.069	.108	.75	6	.132	.100	.95	6	.107	-.360
.25	7	-.085	-.016	.75	7	.115	-.142	.95	7	-.064	.220
.25	8	-.009	.009	.75	8	.001	-.019	.95	8	-.175	.313
.25	9	-.032	-.013	.75	9	-.162	-.099	.95	9	-.042	-.169
.25	10	-.004	-.002	.75	10	.058	-.021	.95	10	.307	-.185
.40	0	5.680		.85	0	19.372					
.40	1	-2.253	3.354	.85	1	1.971	-3.109				
.40	2	1.446	-.706	.85	2	3.815	.430				
.40	3	-.193	.703	.85	3	1.774	.197				
.40	4	-.150	-.022	.85	4	.673	-.481				
.40	5	-.079	-.028	.85	5	-.011	-.872				
.40	6	-.043	.001	.85	6	.400	.027				
.40	7	-.054	.072	.85	7	-.100	.231				
.40	8	-.110	.058	.85	8	-.016	-.246				
.40	9	-.066	.011	.85	9	.058	-.079				
.40	10	-.052	.035	.85	10	-.218	.095				
.55	0	9.205		.90	0	19.685					
.55	1	-1.431	3.287	.90	1	3.374	-4.340				
.55	2	2.371	-.281	.90	2	3.124	.183				
.55	3	.261	.792	.90	3	1.638	-.095				
.55	4	-.053	-.073	.90	4	1.121	-.180				
.55	5	.079	-.198	.90	5	-.126	-.779				
.55	6	.134	-.083	.90	6	.134	-.264				
.55	7	-.008	-.027	.90	7	-.012	.354				
.55	8	.057	-.067	.90	8	-.069	.102				
.55	9	.002	-.013	.90	9	-.028	-.196				
.55	10	-.024	-.003	.90	10	.077	-.113				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 108 - Concluded

FLIGHT 84, COLLECTIVE PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 20, t = 3.3 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	1024	1650	1727	1086	-1322	-3401		
15	2518	2599	2323	1715	-389	-2774		
30	3224	3333	3345	2488	-161	-2246		
45	2632	2558	2594	2078	605	-853		
60	1640	1361	1229	904	271	-1132		
75	1674	800	81	-784	-1789	-2973		
90	1674	281	-877	-2053	-3531	-5162		
105	1093	-371	-1537	-2797	-4869	-6505		
120	933	-1007	-2161	-3093	-4235	-5410		
135	10	-776	-1166	-2082	-3681	-5132		
150	1697	206	-714	-1710	-3047	-5132		
165	1891	784	145	-1013	-3302	-6177		
180	1799	388	-190	-956	-2783	-5868		
195	1252	404	18	-765	-3170	-5789		
210	2153	1196	389	-593	-3021	-5102		
225	2324	2129	1880	1086	-1868	-4445		
240	2757	2929	3110	2774	271	-2226		
255	2780	3350	3752	3728	2638	1266		
270	1777	3209	4104	4663	4292	3853		
285	1457	3036	4032	4720	5058	4868		
300	1731	3185	3923	3986	3685	3445		
315	1913	2698	3209	3223	2471	958		
330	967	2360	2640	2011	218	-1978		
345	1845	1832	1229	427	-935	-2714		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-5187	-10810	-477	
15	-6587	-12047	-1277	
30	-5269	-10859	259	
45	-2192	-5079	4051	
60	-1687	-2100	8995	
75	2090	-814	7235	
90	3539	-2621	4115	
105	1960	-5307	3011	
120	3067	-4298	2019	
135	2171	-3614	4819	
150	1667	-1693	7219	
165	2236	-244	7955	
180	1178	-716	8467	
195	6	-2523	7267	
210	-775	-5307	4643	
225	-3771	-8466	2899	
240	-6164	-11103	1411	
255	-7466	-11543	-957	
270	-10853	-12975	-285	
285	-12204	-12829	115	
300	-9615	-11412	67	
315	-9078	-9556	2611	
330	-7108	-7342	3283	
345	-5415	-8677	1891	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	710	720	150
15	667	598	155
30	608	514	133
45	613	545	147
60	783	670	157
75	660	742	133
90	529	594	97
105	318	341	61
120	171	251	19
135	-170	-98	-17
150	-473	-387	-37
165	-510	-451	-36
180	-451	-389	-31
195	-468	-469	-38
210	-413	-510	-34
225	-130	-443	4
240	-102	-429	14
255	-16	-329	38
270	7	-288	61
285	-98	-224	63
300	-511	-494	46
315	-466	-377	33
330	-256	-61	71
345	357	393	121

TABLE 109

FLIGHT 84, COLLECTIVE PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 20, t = 4.4 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	10.07	4.99	3.62	2.62	1.58	.57	.125	10.93	4.75	3.31	2.67	1.70	.33	.170	0
15	9.89	5.24	3.91	2.90	1.74	.66	.132	11.00	5.19	3.62	3.10	1.97	.77	.132	15
30	8.66	5.85	3.94	2.82	1.56	.59	.075	10.41	5.23	3.68	3.12	1.90	.68	.036	30
45	6.98	4.20	4.04	2.49	1.18	.47	.018	8.08	4.22	3.31	2.75	1.60	.57	-.033	45
60	4.87	4.02	3.57	2.09	.87	.37	-.014	6.26	3.59	2.74	2.31	1.25	.42	-.092	60
75	3.57	3.75	3.27	1.79	.63	.32	-.032	4.80	2.75	2.24	1.94	1.03	.35	-.143	75
90	3.41	3.40	3.25	1.48	.57	.33	-.006	3.99	2.31	1.95	1.79	.86	.37	-.146	90
105	5.12	4.73	4.24	2.64	1.05	.47	.018	5.23	3.30	2.79	2.42	1.33	.48	-.119	105
120	4.53	4.24	3.81	2.36	.98	.46	.039	6.32	4.04	3.01	2.63	1.45	.54	-.072	120
135	3.78	3.36	3.09	1.92	.81	.40	.022	5.55	3.27	2.47	2.27	1.21	.47	-.078	135
150	3.48	3.01	2.55	1.72	.81	.43	.049	5.26	3.03	2.27	2.03	1.15	.49	-.029	150
165	4.57	3.53	2.91	2.03	1.11	.60	.132	6.17	3.43	2.55	2.20	1.36	.63	.088	165
180	6.70	4.67	3.54	2.47	1.49	.71	.158	8.26	4.51	3.29	2.63	1.76	.74	.125	180
195	7.25	4.60	3.33	2.37	1.48	.70	.154	9.20	4.56	3.24	2.57	1.73	.72	.116	195
210	6.92	4.23	3.00	2.15	1.33	.61	.142	9.02	4.21	2.94	2.26	1.56	.65	.110	210
225	6.56	3.96	2.81	2.05	1.36	.66	.164	8.71	3.95	2.71	2.16	1.53	.69	.143	225
240	7.49	4.14	2.92	2.18	1.47	.69	.192	10.00	4.12	2.82	2.24	1.58	.70	.183	240
255	8.35	4.05	2.75	2.03	1.35	.56	.144	7.48	4.27	2.43	1.99	1.43	.59	.185	255
270	7.21	3.83	2.62	1.95	1.34	.59	.162	6.82	3.16	2.04	1.56	1.10	.59	.230	270
285	5.47	4.84	3.31	2.36	1.81	.67	.245	4.11	3.78	3.00	2.52	1.67	.70	.248	285
300	5.17	2.38	1.63	1.43	1.12	.85	.415	2.95	2.46	2.10	1.92	1.49	.81	.584	300
315	5.94	2.29	1.85	1.60	1.46	.77	.622	4.41	2.58	1.76	1.55	1.20	.74	.416	315
330	7.54	3.59	1.69	1.10	.85	.61	.366	8.35	3.13	1.99	1.55	1.19	.72	.396	330
345	9.89	5.05	3.21	2.36	1.44	.49	.249	9.86	4.77	3.23	2.44	1.59	.58	.313	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	11.22	8.02	4.65	3.74	3.01	2.61	1.68	.85	.67	.35	.212	0
15	11.38	9.46	5.06	4.04	3.33	2.89	1.87	1.01	.78	.38	.202	15
30	10.62	9.67	4.75	3.94	3.30	2.81	1.83	.97	.70	.33	.148	30
45	8.78	7.08	4.37	3.37	2.83	2.35	1.51	.75	.58	.25	.078	45
60	6.56	5.23	3.61	2.93	2.21	1.96	1.21	.48	.42	.16	.033	60
75	5.12	4.06	2.97	2.45	1.99	1.47	.96	.27	.30	.09	-.015	75
90	4.62	3.57	2.65	2.20	1.76	1.51	.86	.22	.28	.10	-.007	90
105	5.23	4.09	3.15	2.62	2.15	1.58	1.11	.39	.40	.19	.006	105
120	7.67	6.62	4.69	3.42	2.87	2.32	1.48	.58	.55	.26	.051	120
135	6.71	5.25	3.87	2.89	2.41	1.92	1.32	.53	.52	.26	.064	135
150	6.52	4.93	3.59	2.73	2.28	1.81	1.27	.54	.56	.29	.069	150
165	7.76	5.73	4.02	3.16	2.61	2.17	1.49	.73	.75	.43	.121	165
180	9.91	7.45	4.73	3.81	3.13	2.62	1.78	.90	.86	.50	.166	180
195	10.29	6.54	4.52	3.60	2.98	2.52	1.72	.87	.79	.47	.160	195
210	9.91	5.75	4.07	3.27	2.66	2.27	1.52	.77	.70	.40	.148	210
225	9.15	5.44	3.85	3.10	2.51	2.22	1.46	.79	.71	.43	.160	225
240	8.50	5.76	3.98	3.22	2.56	2.23	1.46	.81	.71	.43	.214	240
255	3.55	2.90	2.78	2.54	2.40	2.27	1.73	.90	.74	.46	.269	255
270	2.78	2.29	2.08	1.96	1.64	1.74	1.07	.39	.38	.31	.269	270
285	2.37	2.06	1.86	1.83	1.73	1.86	1.42	1.01	.80	.45	.290	285
300	2.59	2.29	2.03	1.97	1.80	2.05	1.57	1.07	.82	.57	.315	300
315	3.14	2.89	2.51	2.45	2.20	2.29	1.66	1.01	.73	.55	.344	315
330	7.98	5.04	3.23	2.48	1.87	1.72	1.17	.58	.55	.50	.362	330
345	5.82	5.56	4.75	3.67	2.87	2.50	1.48	.88	.74	.57	.418	345

TABLE 109 - Continued

FLIGHT 84, COLLECTIVE PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 20, t = 4.4 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	7.29	3.82	2.78	2.11	1.60	.66	.120	3.55	1.68	1.20	.98	.76	.48	.088	0
15	8.22	4.18	3.05	2.33	1.74	.73	.108	4.20	2.06	1.43	1.17	.91	.54	.108	15
30	8.59	4.33	3.18	2.42	1.71	.69	.085	4.52	2.22	1.53	1.25	.96	.56	.112	30
45	8.29	3.87	2.92	2.18	1.51	.58	.061	4.20	2.04	1.42	1.16	.90	.53	.118	45
60	7.41	3.25	2.57	1.94	1.27	.49	.021	3.47	1.74	1.19	.97	.77	.47	.112	60
75	6.28	2.67	2.22	1.73	1.04	.38	.028	2.92	1.45	.98	.81	.67	.41	.111	75
90	5.09	2.11	1.87	1.51	.86	.35	.047	2.84	1.44	1.02	.77	.65	.43	.114	90
105	4.58	2.49	2.00	1.73	1.05	.43	.077	3.46	1.81	1.22	.97	.79	.50	.141	105
120	4.75	2.88	2.28	1.87	1.25	.48	.094	4.20	2.15	1.51	1.19	.95	.55	.154	120
135	5.10	3.26	2.69	2.06	1.39	.56	.122	4.68	2.38	1.65	1.32	1.05	.59	.158	135
150	6.17	3.76	2.98	2.21	1.56	.63	.155	4.56	2.34	1.63	1.33	1.05	.58	.157	150
165	6.61	3.75	2.95	2.22	1.63	.73	.177	4.56	2.34	1.64	1.34	1.07	.61	.148	165
180	7.29	4.30	3.27	2.45	1.82	.78	.191	4.26	2.13	1.50	1.24	1.00	.56	.121	180
195	7.80	4.21	3.10	2.28	1.70	.69	.177	3.42	1.69	1.27	1.04	.80	.36	.082	195
210	8.09	3.80	2.77	2.02	1.48	.57	.153	1.59	.62	.71	.76	.90	.72	.352	210
225	8.00	3.38	2.47	1.83	1.38	.58	.153	.80	.64	.71	.49	.22	.34	.169	225
240	7.13	3.88	2.51	1.99	1.57	.52	.174	1.65	.72	.59	.59	.63	.57	.122	240
255	5.68	1.63	1.89	1.48	1.30	.87	.518	1.19	.43	.33	.26	.25	.32	.127	255
270	3.93	1.64	1.39	.92	.72	.11	.158	1.20	.45	.40	.35	.26	.17	.055	270
285	2.90	1.75	1.29	.86	.73	.50	.194	1.31	.59	.50	.43	.32	.22	.004	285
300	2.54	2.30	1.91	1.39	1.09	.47	.279	1.54	.70	.58	.49	.37	.27	.025	300
315	3.06	2.16	1.62	1.28	1.21	.68	.217	1.75	.81	.62	.52	.39	.24	.018	315
330	3.95	2.33	1.77	1.40	1.25	.48	.217	2.32	1.00	.74	.63	.47	.30	.040	330
345	4.85	3.10	2.14	1.63	1.40	.72	.170	2.88	1.48	1.06	.88	.69	.42	.076	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	.78	.42	.28	.24	.098	.15	.08	.06	.05	.011	0
15	1.45	.77	.49	.33	.123	.30	.14	.10	.06	.016	15
30	1.85	.88	.55	.34	.126	.80	.39	.25	.13	.034	30
45	1.92	.91	.56	.34	.125	.84	.39	.23	.12	.033	45
60	1.67	.79	.49	.30	.119	.77	.37	.21	.11	.033	60
75	1.41	.69	.44	.29	.117	.72	.34	.20	.10	.032	75
90	1.50	.74	.48	.32	.137	.86	.41	.25	.13	.047	90
105	1.93	.96	.63	.40	.156	1.18	.59	.35	.18	.054	105
120	2.40	1.20	.76	.44	.168	1.56	.78	.47	.22	.068	120
135	2.54	1.29	.81	.46	.166	1.67	.83	.51	.23	.072	135
150	2.67	1.39	.87	.49	.166	1.59	.82	.51	.24	.079	150
165	2.65	1.38	.87	.50	.159	1.60	.82	.52	.25	.079	165
180	2.43	1.26	.77	.44	.138	1.48	.77	.50	.23	.075	180
195	1.96	1.01	.59	.35	.106	.97	.54	.35	.15	.047	195
210	1.36	.72	.41	.26	.083	.44	.46	.12	.07	.035	210
225	.86	.47	.26	.19	.064	.29	.13	.07	.02	.016	225
240	.52	.29	.14	.13	.038	.11	.05	.04	-.01	-.003	240
255	.29	.19	.08	.10	.033	.06	.02	-.02	-.02	-.013	255
270	.19	.14	.06	.10	.038	.06	-.01	-.03	-.01	-.030	270
285	.20	.16	.09	.12	.047	.05	-.02	-.02	.00	-.025	285
300	.26	.19	.11	.14	.058	.04	.00	.00	.00	-.026	300
315	.35	.23	.14	.15	.060	.06	.01	.01	.02	-.014	315
330	.45	.28	.17	.18	.067	.00	-.02	-.01	.01	-.010	330
345	.63	.40	.26	.24	.089	.02	.01	.01	.04	.017	345

TABLE 109 - Continued

FLIGHT 84, COLLECTIVE PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 20, t = 4.4 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	.95	4.75	12.64	25.13	30.39	28.83	29.65
15	1.51	7.77	14.95	27.60	32.94	33.43	31.50
30	3.78	8.89	15.92	27.90	31.06	32.05	30.25
45	3.65	9.10	14.89	25.24	26.32	26.39	24.58
60	3.39	8.00	12.73	21.66	20.50	20.93	20.19
75	3.16	7.16	10.86	18.06	16.28	16.48	17.08
90	3.93	7.79	10.86	15.09	14.79	14.37	16.23
105	5.41	9.89	13.16	16.80	18.05	20.47	23.88
120	7.07	11.87	15.61	18.91	25.58	23.59	21.75
135	7.54	12.53	17.12	21.35	22.22	19.79	17.82
150	7.48	13.29	16.86	24.39	21.51	18.87	16.52
165	7.60	13.24	17.08	25.51	25.66	22.42	20.95
180	7.13	11.92	15.71	28.34	30.97	28.80	27.16
195	4.78	9.44	12.18	27.26	30.04	29.23	27.04
210	2.45	6.72	11.67	24.82	27.36	27.00	24.63
225	1.12	4.47	5.96	23.37	26.16	26.29	24.10
240	.34	2.76	9.04	23.93	26.10	28.00	25.89
255	-.10	1.77	5.07	20.85	22.05	24.57	24.78
270	-.21	1.49	4.23	11.19	14.92	20.78	23.62
285	-.12	1.77	5.02	12.66	18.04	24.23	27.27
300	-.04	2.14	6.00	15.70	19.39	21.17	20.03
315	.19	2.53	6.27	16.82	21.09	19.69	22.34
330	-.05	3.09	7.80	16.98	22.11	23.38	20.83
345	.39	4.32	11.01	21.00	26.78	29.27	28.36

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	16.267		0	4.809		0	8.593	
1	2.002	-6.529	1	-1.569	-1.262	1	-.655	-.154
2	-.014	.000	2	-.427	-.138	2	-.053	-.217
3	-.458	.059	3	.132	-.006	3	.050	-.165
4	-.163	.272	4	.182	.099	4	-.044	-.116
5	.005	.272	5	.004	.148	5	-.060	-.063
6	.295	-.132	6	.034	.067	6	-.064	-.055
7	.068	-.209	7	.024	-.002	7	-.069	-.061
8	-.127	-.145	8	.045	.043	8	-.077	-.049
9	.009	-.059	9	.043	.063	9	-.071	-.031
10	-.064	-.136	10	.067	.020	10	-.052	-.009

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 109 - Continued

FLIGHT 84, COLLECTIVE PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 20, t = 4.4 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.973		.75	0	21.273		.95	0	23.602	
.25	1	-2.309	2.821	.75	1	-1.450	1.420	.95	1	1.772	-2.042
.25	2	.912	-.736	.75	2	5.227	3.224	.95	2	2.667	2.284
.25	3	-.376	.691	.75	3	.508	1.133	.95	3	1.484	.967
.25	4	-.133	.189	.75	4	-.775	-.052	.95	4	1.517	2.294
.25	5	-.364	-.095	.75	5	-.674	.738	.95	5	-1.203	-.512
.25	6	.122	-.082	.75	6	1.109	.613	.95	6	1.051	-.716
.25	7	-.112	-.056	.75	7	.307	-.652	.95	7	-.432	.036
.25	8	.065	-.114	.75	8	-.456	-.106	.95	8	-.415	.381
.25	9	.021	-.096	.75	9	-.130	.035	.95	9	.168	-.481
.25	10	.056	-.086	.75	10	.462	.000	.95	10	.525	-.868
.40	0	6.945		.85	0	23.762					
.40	1	-2.593	4.227	.85	1	-.087	-.189				
.40	2	1.939	-.542	.85	2	6.033	2.482				
.40	3	-.370	.999	.85	3	1.569	.790				
.40	4	-.281	.351	.85	4	-.551	1.550				
.40	5	-.338	-.027	.85	5	-1.170	.017				
.40	6	.013	-.133	.85	6	1.764	.299				
.40	7	-.074	.053	.85	7	-.529	-.133				
.40	8	-.123	-.008	.85	8	-.406	-.351				
.40	9	-.076	-.013	.85	9	.301	.251				
.40	10	-.106	.036	.85	10	.116	.112				
.55	0	11.359		.90	0	24.168					
.55	1	-1.278	4.543	.90	1	1.092	-1.846				
.55	2	2.997	-.122	.90	2	4.255	2.918				
.55	3	.296	1.422	.90	3	1.698	1.133				
.55	4	-.328	.292	.90	4	.264	1.968				
.55	5	-.302	-.005	.90	5	-1.193	-.657				
.55	6	.366	-.054	.90	6	1.239	-.489				
.55	7	-.008	-.300	.90	7	-.975	-.304				
.55	8	-.398	-.107	.90	8	-1.049	.143				
.55	9	.181	.308	.90	9	-.112	-.026				
.55	10	-.050	-.568	.90	10	.126	-.109				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 109 - Concluded

FLIGHT 84, COLLECTIVE PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 20, t = 4.4 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	2247	2087	2170	1278	-1750	-4311		
15	2555	1683	1248	1163	265	-1893		
30	4390	3251	3146	2346	-351	-2649		
45	5222	4274	4140	3262	722	-2002		
60	4356	3218	3417	2823	335	-2450		
75	3467	1716	796	-220	-1284	-2181		
90	1460	-479	-1293	-2061	-2657	-3475		
105	1027	-1048	-1907	-2815	-4390	-5873		
120	2794	-297	-2088	-3407	-4945	-6589		
135	1540	140	-506	-1737	-4505	-6977		
150	2555	413	-669	-1680	-3202	-5923		
165	2247	454	-362	-1556	-3053	-6022		
180	2178	281	-163	-573	-1935	-5604		
195	2657	1526	1537	906	-2472	-6500		
210	4379	3407	2667	1068	-2718	-5634		
225	3626	2756	2667	2193	168	-2689		
240	1312	1749	3173	4111	3494	1679		
255	2463	3605	4068	4225	4524	4027		
270	3033	4595	5297	4941	4577	4933		
285	1608	3416	4520	5036	5765	6435		
300	1449	2393	3960	4912	4876	4386		
315	3113	3688	3715	2938	1963	814		
330	2646	3548	3996	2737	-1258	-4848		
345	4504	2129	1446	142	-2349	-5296		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-1393	-10094	2022	
15	1342	-8580	-1290	
30	1147	-10028	886	
45	3638	-4526	3622	
60	6487	505	8950	
75	6324	1954	11590	
90	8570	2654	7270	
105	4338	-2735	5734	
120	2726	-5796	1606	
135	3768	-5942	-218	
150	642	-4737	6214	
165	2612	1091	9958	
180	2759	3516	13318	
195	-888	-928	11654	
210	-2305	-6072	2086	
225	-5251	-13740	-4938	
240	-8833	-18331	-8138	
255	-11275	-16215	-7914	
270	-13001	-14766	-218	
285	-10493	-9394	598	
300	-8068	-9459	5254	
315	-5430	-2882	10022	
330	121	-391	9302	
345	1293	-6479	7078	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	193	70	62
15	2155	1880	291
30	2239	1630	305
45	1400	946	223
60	1130	778	177
75	667	621	93
90	-4	190	51
105	526	547	98
120	923	834	132
135	179	251	33
150	-1249	-745	-161
165	-1177	-1121	-80
180	211	203	34
195	82	-142	53
210	-1919	-1578	-154
225	-2339	-2026	-281
240	-1137	-1758	-48
255	-2429	-2325	-210
270	-4577	-3359	-449
285	-2197	-2309	-155
300	-611	-1124	107
315	-2124	-2507	-50
330	-2809	-2208	-389
345	-1471	-1664	-75

TABLE 110

FLIGHT 84, COLLECTIVE PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 20, t = 5.5 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	9.60	4.60	2.87	2.07	1.37	.58	.304	7.86	4.63	3.20	2.41	1.58	.74	.407	0
15	9.89	4.86	3.21	2.12	1.07	.28	.221	10.51	3.98	2.46	1.78	1.02	.60	.389	15
30	9.79	5.03	3.79	2.77	1.62	.58	.103	11.02	5.00	3.52	2.95	1.85	.64	.078	30
45	8.24	4.48	3.87	2.68	1.49	.56	.063	9.98	4.56	3.56	2.98	1.80	.64	.029	45
60	5.63	3.91	3.43	2.02	.93	.35	-.024	7.53	3.97	2.87	2.35	1.34	.42	-.076	60
75	2.63	2.40	2.36	1.32	.40	.22	-.035	4.19	2.24	1.71	1.53	.79	.22	-.141	75
90	2.06	2.20	2.14	.90	.30	.22	-.026	2.97	1.52	1.32	1.23	.61	.18	-.132	90
105	3.16	2.94	2.69	1.43	.52	.26	-.022	2.79	1.61	1.43	1.32	.68	.23	-.147	105
120	2.10	2.18	2.23	1.21	.42	.26	.006	3.86	2.16	1.74	1.54	.78	.30	-.111	120
135	2.52	2.24	2.14	1.38	.53	.33	.024	3.84	2.21	1.76	1.58	.83	.37	-.064	135
150	3.51	2.82	2.40	1.63	.78	.42	.045	4.99	2.81	2.06	1.88	1.08	.47	-.018	150
165	4.75	3.53	2.89	1.94	1.06	.55	.109	6.37	3.39	2.56	2.15	1.36	.63	.063	165
180	6.17	4.25	3.16	2.21	1.34	.66	.144	7.75	4.18	2.96	2.39	1.59	.72	.110	180
195	7.13	4.44	3.20	2.31	1.46	.70	.160	8.98	4.48	3.14	2.48	1.68	.74	.135	195
210	6.41	3.91	2.76	2.01	1.28	.60	.128	8.91	4.06	2.82	2.17	1.52	.62	.119	210
225	5.98	3.59	2.54	1.88	1.24	.60	.150	7.93	3.66	2.53	1.98	1.38	.62	.135	225
240	6.99	3.81	2.69	2.03	1.36	.64	.180	9.42	3.81	2.64	2.08	1.48	.68	.166	240
255	7.68	3.72	2.55	1.93	1.32	.57	.158	6.75	4.20	2.85	1.96	1.38	.59	.190	255
270	6.52	3.49	2.36	1.79	1.22	.54	.152	4.36	3.05	2.35	1.65	1.29	.78	.320	270
285	6.41	3.54	2.22	1.66	1.24	.60	.227	4.41	1.77	1.37	1.31	1.15	.76	.409	285
300	2.30	2.91	2.38	1.94	1.47	.42	.450	3.39	2.03	1.66	1.49	1.25	.98	.474	300
315	2.87	3.09	2.47	1.81	1.39	.92	.405	3.75	2.15	1.91	1.74	1.39	.87	.512	315
330	5.24	3.02	2.10	1.76	1.45	.67	.253	5.21	2.53	1.96	1.75	1.45	.95	.498	330
345	6.21	2.62	1.43	1.27	1.10	.75	.433	6.57	2.88	1.96	1.56	1.19	.67	.273	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.85										
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	4.31	4.04	3.63	3.40	3.15	2.74	1.94	1.16	.98	.70	.487	0
15	6.62	5.97	3.94	3.17	2.58	2.18	1.25	.60	.60	.42	.433	15
30	10.62	9.06	4.86	3.89	3.19	2.76	1.77	.90	.65	.28	.168	30
45	10.46	9.38	4.75	3.85	3.20	2.73	1.75	.92	.67	.32	.134	45
60	7.98	6.02	3.86	2.91	2.51	2.10	1.29	.61	.47	.17	.035	60
75	4.37	3.29	2.39	1.94	1.60	1.25	.75	.18	.23	.04	-.027	75
90	3.26	2.36	1.72	1.37	1.10	.97	.56	.07	.17	.02	-.056	90
105	3.33	2.39	1.84	1.41	1.15	1.12	.58	.08	.19	.04	-.040	105
120	4.56	3.19	2.34	1.77	1.45	1.13	.71	.20	.26	.10	-.009	120
135	5.03	3.75	2.82	2.03	1.79	1.40	.98	.38	.41	.21	.038	135
150	6.26	4.57	3.35	2.55	2.07	1.73	1.20	.52	.54	.29	.069	150
165	7.56	5.50	3.90	3.03	2.51	2.07	1.43	.69	.68	.39	.115	165
180	9.31	6.13	4.34	3.45	2.86	2.40	1.64	.83	.79	.47	.156	180
195	10.11	6.23	4.46	3.55	2.92	2.49	1.69	.85	.80	.47	.162	195
210	9.56	5.59	3.95	3.13	2.57	2.19	1.45	.73	.68	.39	.140	210
225	8.21	5.07	3.57	2.83	2.30	2.03	1.33	.71	.66	.39	.144	225
240	8.05	5.30	3.69	3.00	2.41	2.13	1.38	.77	.69	.41	.175	240
255	2.53	2.21	2.35	2.42	2.45	2.48	1.88	.98	.80	.52	.284	255
270	2.18	1.64	1.33	1.25	1.04	1.29	1.05	.73	.65	.58	.437	270
285	2.06	1.85	1.73	1.73	1.53	1.78	1.17	.50	.34	.32	.253	285
300	2.59	2.31	2.07	1.95	1.74	1.78	.92	.49	.40	.25	.247	300
315	2.65	2.29	2.02	1.88	1.63	1.80	1.41	.83	.65	.57	.410	315
330	3.87	3.44	2.73	2.27	1.90	1.94	1.53	.72	.50	.35	.311	330
345	5.70	4.01	2.68	2.16	1.58	1.48	1.03	.70	.92	.67	.352	345

TABLE 110 - Continued

FLIGHT 84, COLLECTIVE PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 20, t = 5.5 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	4.88	4.03	2.69	2.09	1.62	.75	.298	3.44	1.72	1.23	.99	.77	.46	.095	0
15	5.79	3.32	2.66	2.01	1.54	.60	.194	3.99	1.91	1.32	1.08	.82	.48	.081	15
30	7.17	4.15	2.93	2.27	1.67	.63	.103	4.74	2.26	1.54	1.25	.95	.53	.093	30
45	8.28	4.26	3.12	2.38	1.72	.67	.077	4.85	2.39	1.61	1.32	.99	.55	.107	45
60	8.16	3.75	2.79	2.06	1.39	.50	-.052	3.77	1.80	1.25	1.03	.79	.45	.090	60
75	6.72	2.40	1.99	1.47	.91	.32	-.010	2.37	1.10	.78	.63	.52	.35	.076	75
90	4.90	1.47	1.39	1.11	.60	.22	.018	1.90	.89	.71	.48	.43	.31	.073	90
105	3.60	1.34	1.19	1.01	.55	.21	.033	1.71	.79	.64	.54	.41	.30	.076	105
120	2.96	1.56	1.23	1.06	.65	.26	.047	2.14	1.04	.79	.58	.49	.34	.094	120
135	2.87	1.85	1.47	1.32	.92	.41	.097	3.42	1.77	1.23	.98	.80	.47	.138	135
150	4.72	3.56	2.76	2.10	1.50	.64	.163	4.03	2.04	1.44	1.16	.93	.53	.157	150
165	5.68	3.71	2.89	2.18	1.61	.70	.172	4.19	2.14	1.50	1.22	.98	.54	.124	165
180	6.54	3.98	3.02	2.28	1.72	.74	.184	4.06	2.08	1.49	1.21	.98	.56	.132	180
195	7.24	4.09	3.03	2.26	1.71	.70	.182	3.35	1.87	1.53	1.30	1.44	.89	.197	195
210	7.65	3.69	2.69	1.96	1.46	.55	.144	1.12	1.49	.93	1.01	.95	.82	.293	210
225	7.53	3.17	2.33	1.71	1.32	.54	.137	.56	.43	.56	.56	.50	.42	.252	225
240	6.51	3.30	2.26	1.68	1.28	.56	.201	.60	.59	.56	.55	.51	.39	.141	240
255	5.11	2.04	1.99	1.36	1.11	.89	.423	.73	.45	.52	.46	.38	.37	.048	255
270	3.53	.97	1.01	.83	.86	.42	.207	.80	.18	.23	.23	.19	.10	.088	270
285	2.13	1.05	.99	.88	.77	.48	.238	.97	.36	.34	.29	.21	.19	.030	285
300	1.75	1.80	1.32	1.01	.84	.40	.106	1.17	.50	.45	.38	.29	.20	.012	300
315	2.37	1.68	1.23	.95	.82	.47	.217	1.51	.67	.53	.46	.34	.23	.032	315
330	2.77	2.01	1.94	1.47	1.25	.54	.272	1.70	.80	.61	.51	.38	.24	.040	330
345	3.56	2.38	2.14	1.50	1.13	.77	.423	2.31	1.12	.81	.68	.52	.31	.056	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	.75	.47	.30	.25	.095	.08	.05	.06	.06	.017	0
15	1.19	.64	.39	.28	.105	.34	.16	.10	.06	.015	15
30	1.70	.89	.55	.34	.122	.63	.30	.20	.11	.029	30
45	2.05	1.02	.61	.35	.124	.87	.40	.22	.10	.019	45
60	1.77	.82	.49	.30	.108	.77	.35	.20	.08	.019	60
75	1.12	.54	.33	.23	.102	.50	.23	.12	.06	.014	75
90	.80	.40	.26	.21	.095	.39	.17	.10	.05	.019	90
105	.97	.50	.31	.24	.115	.52	.26	.16	.08	.029	105
120	1.20	.66	.40	.30	.131	.82	.41	.25	.13	.040	120
135	1.72	.85	.56	.37	.151	1.07	.55	.34	.16	.054	135
150	2.40	1.22	.78	.45	.160	1.36	.69	.42	.20	.068	150
165	2.58	1.35	.84	.48	.163	1.53	.80	.51	.23	.074	165
180	2.52	1.31	.80	.46	.151	1.77	.87	.56	.26	.075	180
195	2.08	1.08	.63	.36	.115	1.11	.67	.38	.18	.056	195
210	1.47	.76	.43	.27	.089	.73	.45	.19	.11	.036	210
225	.91	.50	.28	.21	.069	.29	.24	.06	.03	.019	225
240	.59	.34	.19	.17	.053	.11	.13	.03	.01	-.015	240
255	.27	.16	.05	.11	.049	.07	.05	-.04	-.03	-.020	255
270	.14	.10	.03	.10	.030	.07	.00	-.04	-.02	-.020	270
285	.11	.11	.04	.10	.043	.05	-.03	-.04	-.03	-.047	285
300	.17	.14	.07	.12	.051	.05	.00	-.01	.00	-.034	300
315	.25	.18	.10	.13	.053	.06	.01	.01	.01	-.021	315
330	.36	.24	.14	.15	.065	.07	.01	.02	.03	-.009	330
345	.64	.37	.22	.20	.075	.02	-.01	.01	.02	-.005	345

TABLE 110 - Continued

FLIGHT 84, COLLECTIVE PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 20, t = 5.5 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	.80	4.89	12.60	24.68	27.86	28.76	27.35
15	1.58	6.42	13.66	22.84	24.13	25.59	25.46
30	2.96	8.68	15.87	25.79	30.65	31.63	29.95
45	3.52	9.72	16.54	27.40	30.32	30.00	27.47
60	3.08	8.16	13.02	23.77	22.94	22.94	20.40
75	1.99	5.62	8.65	16.60	13.14	12.82	11.70
90	1.64	4.45	7.24	11.50	9.48	9.44	10.13
105	2.40	5.38	6.82	9.88	10.10	10.11	13.99
120	3.79	6.72	8.23	10.43	13.00	13.05	11.18
135	5.03	8.98	12.99	13.20	16.57	13.87	12.41
150	6.32	12.03	14.99	22.58	20.34	17.71	15.84
165	7.28	12.89	15.50	24.45	24.56	22.41	20.44
180	8.12	12.41	15.49	26.34	28.56	26.65	24.66
195	5.57	10.02	18.37	26.72	29.67	28.73	26.45
210	3.42	7.09	13.47	23.99	26.39	26.22	23.14
225	1.35	4.78	7.02	21.99	23.93	24.01	21.92
240	.51	3.39	6.73	21.50	24.59	26.28	23.98
255	-.20	1.72	5.62	20.19	21.84	24.33	23.51
270	-.19	1.19	2.79	11.75	14.34	21.36	21.48
285	-.44	1.24	3.67	10.96	13.86	17.80	21.87
300	-.06	1.63	4.53	11.62	14.46	19.75	19.04
315	.12	2.02	5.52	12.41	17.85	20.66	21.95
330	.33	2.64	6.20	16.47	19.45	22.88	21.44
345	.14	3.86	8.38	19.21	20.62	21.02	20.14

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.514		0	3.317		0	11.232	
1	4.812	-9.661	1	.480	-.383	1	-.636	.154
2	-.005	.245	2	-.417	-.715	2	.006	.049
3	-.549	.100	3	.298	-.186	3	.108	-.008
4	-.123	.082	4	.040	.004	4	-.005	.005
5	-.268	.191	5	-.006	.091	5	-.017	.053
6	.186	.218	6	.038	.030	6	.036	.009
7	.145	-.141	7	.004	-.014	7	.006	-.027
8	.050	-.027	8	.006	.051	8	-.009	.000
9	.005	-.032	9	-.012	.018	9	-.013	-.003
10	.000	.014	10	-.002	.040	10	.005	-.003

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 110 - Continued

FLIGHT 84, COLLECTIVE PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 20, t = 5.5 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.473		.75	0	19.021		.95	0	20.659	
.25	1	-2.190	1.753	.75	1	-.808	.346	.95	1	2.051	-3.561
.25	2	1.664	-.035	.75	2	5.754	5.227	.95	2	3.907	3.994
.25	3	-.970	.651	.75	3	-1.168	1.268	.95	3	-.864	1.963
.25	4	-.090	-.040	.75	4	-.463	-1.635	.95	4	-.007	.917
.25	5	-.335	-.134	.75	5	-.553	-.146	.95	5	-1.587	-.496
.25	6	.148	-.030	.75	6	.425	-.144	.95	6	.383	-.519
.25	7	-.074	-.019	.75	7	.710	-.494	.95	7	.510	-.379
.25	8	.121	-.039	.75	8	-.511	.406	.95	8	-.020	.676
.25	9	.003	.002	.75	9	.096	.371	.95	9	.400	.012
.25	10	.085	-.004	.75	10	.310	.531	.95	10	.640	-.356
.40	0	6.077		.85	0	20.740					
.40	1	-2.364	2.940	.85	1	-.220	-1.222				
.40	2	2.777	.603	.85	2	6.604	5.175				
.40	3	-1.220	1.218	.85	3	-.728	1.860				
.40	4	-.387	-.214	.85	4	-1.198	-.495				
.40	5	-.216	-.059	.85	5	-1.262	-.827				
.40	6	.088	-.211	.85	6	.693	-.169				
.40	7	.063	-.087	.85	7	.515	-.846				
.40	8	.017	.090	.85	8	.236	.056				
.40	9	.014	-.038	.85	9	.303	.276				
.40	10	.011	.045	.85	10	.219	-.073				
.55	0	10.138		.90	0	21.547					
.55	1	-1.358	3.072	.90	1	1.276	-3.122				
.55	2	4.393	2.029	.90	2	5.030	5.072				
.55	3	-1.231	1.405	.90	3	-.813	2.037				
.55	4	-.505	.335	.90	4	-.731	.138				
.55	5	-.009	-.463	.90	5	-1.561	-.824				
.55	6	-.022	.393	.90	6	.657	-.112				
.55	7	.541	-.683	.90	7	.750	-.458				
.55	8	-.119	.293	.90	8	.025	-.160				
.55	9	.388	.158	.90	9	.213	-.322				
.55	10	-.139	-.255	.90	10	-.015	-.217				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 110 - Concluded

FLIGHT 84, COLLECTIVE PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 20, t = 5.5 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	2906	1337	-9	-1641	-3736	-5190		
15	957	619	570	190	-1624	-3906		
30	6144	3713	2830	2118	-463	-3747		
45	4924	5932	5478	3997	769	-2672		
60	4548	4604	4791	4340	2336	-1021		
75	4958	2739	2106	1488	391	-842		
90	1595	437	-362	-1317	-1431	-1299		
105	398	-1130	-1455	-1889	-3376	-4513		
120	2735	-380	-1573	-2862	-6051	-7846		
135	1972	-99	-1356	-3091	-5338	-6652		
150	-194	-883	-1058	-1794	-2856	-5120		
165	2074	-99	-922	-1317	-2249	-5677		
180	2302	1337	759	-287	-2936	-6812		
195	2177	1947	1790	725	-2839	-6503		
210	3055	2327	1745	334	-2672	-5777		
225	2131	1766	1022	105	-410	-2623		
240	-46	1295	2070	2604	2177	-26		
255	1835	3044	4059	4731	3840	1905		
270	3682	5297	6111	5781	4703	4303		
285	2211	4059	5659	5905	6595	7725		
300	809	2120	3842	5638	6841	7387		
315	1151	3317	4131	4121	3075	2303		
330	2861	4117	4375	3005	-1616	-4513		
345	4195	2434	2179	1068	-3244	-7807		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-29	-11363	106	
15	736	-12633	-7526	
30	-4783	-15206	-598	
45	69	-4786	3242	
60	3780	651	13610	
75	8990	5519	13850	
90	10602	3451	8202	
105	2413	-5975	4730	
120	3536	-7049	-3814	
135	2641	-7847	-22	
150	1127	-928	7610	
165	2266	2442	12314	
180	638	1726	11690	
195	-2308	-3109	7418	
210	-3432	-8417	-70	
225	-4929	-12519	-4310	
240	-7957	-14652	-3958	
255	-13021	-14912	-4102	
270	-12565	-15694	-3974	
285	-12483	-15059	-2614	
300	-10660	-12877	-1382	
315	-10318	-7538	8858	
330	-3432	1465	11882	
345	-338	-2523	8490	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	-188	-552	-5
15	771	457	148
30	2254	1957	285
45	2511	2145	345
60	1618	871	270
75	439	458	84
90	324	310	81
105	376	189	62
120	-154	191	-24
135	-402	-460	-50
150	-866	-468	-88
165	-1044	-791	-99
180	-778	-714	-36
195	22	-299	38
210	-1153	-1251	-138
225	-3068	-2586	-331
240	-1833	-1721	-204
255	-2278	-2872	-136
270	-4367	-3861	-487
285	-3482	-3460	-361
300	-1313	-1844	-67
315	-1736	-2349	-53
330	-3030	-2881	-290
345	-4163	-3934	-300

TABLE 111

FLIGHT 85, CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 21, t = 0.3 SECOND)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	5.20	4.01	3.16	1.92	.98	.44	.057	7.34	3.68	2.61	2.21	1.54	.51	.021	6
21	3.84	3.52	2.95	1.71	.71	.35	.032	5.81	3.04	2.21	1.96	1.31	.46	-.025	21
36	3.07	3.20	2.83	1.52	.55	.30	.008	4.75	2.54	1.90	1.76	1.12	.36	-.068	36
51	2.50	3.13	2.84	1.53	.45	.27	-.010	4.32	2.29	1.83	1.72	1.05	.29	-.107	51
66	1.97	2.97	2.79	1.31	.36	.24	-.010	3.87	2.00	1.72	1.64	.97	.25	-.153	66
81	1.94	2.74	2.76	1.42	.33	.23	-.021	3.60	1.87	1.67	1.58	.93	.22	-.176	81
96	3.64	4.56	3.63	2.11	.65	.32	-.006	3.78	2.09	1.86	1.76	1.09	.28	-.157	96
111	3.07	3.39	3.01	1.75	.61	.35	.025	5.41	2.98	2.45	2.11	1.29	.34	-.120	111
126	2.51	2.75	2.49	1.41	.49	.30	.021	4.46	2.51	2.12	1.82	1.15	.36	-.094	126
141	2.18	2.40	2.07	1.21	.41	.29	.019	3.87	2.08	1.77	1.50	.96	.34	-.098	141
156	2.10	2.35	1.92	1.17	.45	.30	.035	3.79	2.01	1.67	1.39	.93	.35	-.057	156
171	2.67	2.64	2.06	1.29	.59	.38	.063	4.23	2.20	1.76	1.46	1.01	.39	-.025	171
186	3.39	2.87	2.15	1.42	.72	.41	.078	4.87	2.54	1.96	1.59	1.13	.43	.016	186
201	3.80	2.97	2.19	1.46	.80	.42	.086	5.25	2.60	2.03	1.61	1.20	.49	.061	201
216	4.19	3.03	2.22	1.50	.85	.43	.096	5.50	2.74	2.09	1.63	1.20	.51	.075	216
231	4.60	3.16	2.28	1.56	.93	.44	.097	5.89	2.97	2.15	1.68	1.27	.53	.080	231
246	5.07	3.36	2.39	1.47	1.02	.48	.111	6.40	3.21	2.28	1.80	1.36	.57	.106	246
261	5.76	3.76	2.64	1.85	1.14	.52	.124	7.52	3.62	2.54	1.97	1.53	.61	.122	261
276	3.96	3.84	2.69	1.94	1.28	.58	.133	7.88	3.40	2.41	1.88	1.45	.56	.103	276
291	3.88	2.72	2.05	1.46	.76	.35	.072	5.10	2.48	1.76	1.42	1.11	.47	.071	291
306	4.52	3.31	2.39	1.60	.90	.42	.092	5.48	2.73	1.92	1.55	1.19	.49	.073	306
321	5.59	3.93	2.79	1.89	1.10	.49	.107	6.61	3.30	2.31	1.92	1.44	.59	.089	321
336	6.80	4.57	3.21	2.21	1.29	.58	.122	7.95	3.95	2.78	2.29	1.69	.65	.101	336
351	7.32	4.67	3.48	2.28	1.31	.57	.109	8.56	4.25	2.97	2.48	1.77	.61	.077	351

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	8.27	5.61	4.09	3.06	2.58	2.14	1.42	.69	.63	.29	.083	6
21	6.46	4.79	3.45	2.51	2.17	1.79	1.17	.51	.48	.21	.036	21
36	5.60	4.21	3.15	2.20	1.96	1.60	1.06	.41	.42	.16	.014	36
51	4.99	3.91	3.04	2.15	1.90	1.49	.99	.34	.36	.12	-.022	51
66	4.64	3.55	2.86	2.04	1.74	1.32	.89	.25	.31	.08	-.041	66
81	4.48	3.33	2.70	1.78	1.68	1.23	.82	.19	.27	.06	-.054	81
96	4.44	3.41	2.77	1.87	1.70	1.30	.90	.25	.33	.11	-.045	96
111	4.84	3.71	3.10	2.16	1.92	1.51	1.07	.37	.43	.17	-.027	111
126	6.09	4.76	3.70	2.59	2.20	1.69	1.15	.40	.44	.19	-.007	126
141	5.06	3.80	3.04	2.14	1.84	1.43	1.01	.35	.42	.20	.010	141
156	4.86	3.60	2.87	2.01	1.76	1.36	.97	.37	.46	.22	.021	156
171	5.16	3.79	2.95	2.10	1.86	1.44	1.05	.45	.52	.27	.046	171
186	5.66	4.12	3.10	2.29	2.00	1.58	1.14	.53	.57	.31	.063	186
201	6.01	4.31	3.18	2.35	2.02	1.65	1.17	.56	.59	.33	.076	201
216	6.15	4.35	3.21	2.38	2.04	1.69	1.18	.60	.59	.34	.096	216
231	6.53	4.52	3.35	2.53	2.12	1.79	1.24	.66	.62	.36	.104	231
246	7.16	4.84	3.56	2.73	2.26	1.93	1.31	.73	.66	.38	.117	246
261	8.43	5.38	3.93	3.01	2.50	2.10	1.43	.79	.69	.39	.142	261
276	5.24	3.53	2.58	1.92	1.63	1.45	.96	.54	.51	.28	.072	276
291	5.41	3.64	2.70	2.00	1.66	1.50	.97	.52	.48	.26	.081	291
306	5.59	3.80	2.82	2.10	1.75	1.56	1.01	.55	.51	.28	.098	306
321	6.86	4.62	3.41	2.60	2.16	1.89	1.26	.69	.61	.33	.119	321
336	8.33	5.53	4.05	3.10	2.57	2.20	1.48	.82	.71	.37	.132	336
351	9.57	5.99	4.49	3.37	2.82	2.38	1.60	.85	.73	.37	.126	351

TABLE 111 - Continued

FLIGHT 85, CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 21, t = 0.3 SECOND)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	6.11	3.12	2.31	1.81	1.20	.48	.039	3.21	1.54	1.08	.92	.71	.38	.059	6
21	5.66	2.72	2.10	1.68	1.07	.42	.024	3.13	1.49	1.06	.90	.69	.38	.072	21
36	5.09	2.53	2.05	1.62	.99	.38	.014	3.21	1.56	1.08	.91	.71	.39	.078	36
51	4.57	2.41	2.02	1.58	.94	.34	-.031	3.14	1.53	1.06	.89	.71	.39	.088	51
66	4.10	2.21	1.89	1.48	.82	.29	-.014	2.99	1.44	1.02	.85	.67	.37	.087	66
81	3.62	2.01	1.78	1.39	.71	.25	.005	2.83	1.39	.95	.80	.65	.35	.089	81
96	3.41	1.93	1.76	1.36	.71	.28	.014	2.88	1.44	1.00	.84	.66	.36	.095	96
111	3.78	2.40	2.14	1.67	.95	.37	.031	3.39	1.67	1.19	.99	.78	.42	.111	111
126	4.14	2.43	2.18	1.71	1.00	.38	.058	3.61	1.77	1.27	1.08	.85	.44	.110	126
141	4.27	2.33	2.07	1.63	1.01	.39	.072	3.90	1.89	1.37	1.14	.88	.44	.104	141
156	4.78	2.71	2.23	1.71	1.09	.41	.082	3.77	1.85	1.31	1.09	.85	.44	.111	156
171	5.00	2.68	2.20	1.69	1.12	.45	.095	3.47	1.71	1.25	1.05	.83	.42	.099	171
186	5.20	2.79	2.20	1.69	1.15	.46	.091	3.44	1.67	1.21	1.00	.77	.38	.066	186
201	5.33	2.77	2.14	1.64	1.11	.46	.089	3.10	1.47	1.07	.90	.69	.35	.050	201
216	5.29	2.75	2.08	1.60	1.10	.47	.089	2.73	1.29	.95	.80	.61	.31	.034	216
231	5.50	2.88	2.11	1.65	1.13	.50	.091	2.44	1.12	.83	.72	.55	.28	.014	231
246	5.73	3.09	2.20	1.68	1.16	.48	.086	2.14	.98	.73	.63	.47	.25	.003	246
261	5.25	1.89	1.51	1.15	.80	.37	.060	1.91	.86	.65	.57	.44	.22	.000	261
276	4.46	2.01	1.50	1.18	.80	.34	.033	1.62	.74	.57	.50	.38	.20	-.009	276
291	3.97	1.91	1.43	1.11	.76	.32	.031	1.46	.66	.51	.45	.34	.19	-.014	291
306	3.75	1.92	1.45	1.15	.78	.34	.033	1.60	.75	.56	.49	.38	.21	-.001	306
321	4.18	2.39	1.74	1.42	.98	.43	.053	2.10	1.00	.73	.63	.48	.27	.025	321
336	4.97	2.95	2.16	1.73	1.21	.53	.065	2.70	1.28	.92	.79	.61	.34	.045	336
351	5.79	3.31	2.41	1.91	1.33	.55	.058	3.24	1.55	1.10	.94	.72	.39	.064	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.21	.64	.40	.31	.084	.23	.10	.07	.06	.027	6
21	1.32	.69	.43	.33	.090	.74	.37	.24	.13	.044	21
36	1.38	.70	.45	.33	.098	.68	.33	.21	.12	.035	36
51	1.49	.75	.48	.34	.104	.77	.37	.23	.12	.043	51
66	1.51	.78	.49	.35	.104	.85	.41	.25	.12	.047	66
81	1.51	.78	.50	.35	.108	.89	.42	.26	.13	.048	81
96	1.53	.79	.51	.37	.116	1.05	.53	.32	.15	.058	96
111	1.61	.88	.57	.42	.128	1.16	.57	.36	.17	.064	111
126	2.07	1.09	.68	.46	.139	1.20	.61	.39	.19	.071	126
141	1.98	1.08	.67	.46	.131	1.50	.75	.46	.20	.067	141
156	1.91	1.06	.66	.45	.118	1.31	.69	.44	.20	.067	156
171	1.87	1.04	.64	.43	.113	1.18	.61	.39	.19	.069	171
186	1.76	.95	.57	.39	.099	.98	.50	.33	.16	.055	186
201	1.39	.79	.48	.35	.086	.75	.36	.23	.11	.038	201
216	1.13	.65	.39	.29	.064	.46	.20	.13	.06	.020	216
231	.86	.50	.30	.24	.048	.26	.10	.06	.04	.009	231
246	.68	.39	.23	.20	.037	.17	.05	.03	.02	.008	246
261	.59	.36	.20	.19	.036	.12	.02	.02	.02	.001	261
276	.28	.19	.11	.16	.029	.11	.02	.01	.02	.003	276
291	.35	.21	.13	.16	.033	.11	.03	.02	.03	.005	291
306	.42	.24	.15	.18	.042	.14	.04	.03	.04	.009	306
321	.51	.29	.18	.20	.050	.14	.05	.04	.05	.015	321
336	.74	.42	.27	.25	.068	.09	.03	.04	.05	.015	336
351	1.02	.59	.37	.30	.080	.09	.03	.04	.05	.012	351

TABLE 111 - Continued

FLIGHT 85, CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 21, t = 0.3 SECOND)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	1.25	6.62	11.18	19.87	25.05	23.46	20.69
21	3.59	7.08	11.01	17.79	20.25	19.55	17.15
36	3.20	7.32	11.30	16.52	18.02	16.22	14.97
51	3.55	7.79	11.20	15.35	16.58	14.70	13.90
66	3.84	7.94	10.66	13.88	15.05	13.12	12.58
81	4.01	7.99	10.21	12.55	14.10	12.23	12.12
96	4.85	8.22	10.52	12.38	14.85	14.02	19.11
111	5.34	9.09	12.33	15.41	17.23	18.52	16.13
126	5.72	10.85	13.15	16.12	19.83	16.33	13.28
141	6.76	10.58	13.77	16.01	17.00	13.82	11.50
156	6.24	10.34	13.42	17.54	16.61	13.56	11.37
171	5.68	10.01	12.71	18.00	17.83	14.94	13.48
186	4.73	9.14	12.03	18.42	19.29	16.99	15.19
201	3.42	7.65	10.72	18.23	19.95	18.19	16.04
216	1.99	6.27	9.48	18.07	20.30	18.80	16.76
231	1.04	4.89	8.33	18.76	21.32	19.85	17.66
246	.61	3.89	7.27	19.34	22.85	21.40	18.91
261	.38	3.49	6.53	14.12	25.39	24.10	21.22
276	.37	2.20	5.66	13.46	16.78	23.20	21.02
291	.47	2.44	5.10	12.59	17.06	17.01	15.01
306	.65	2.78	5.69	12.72	17.90	18.32	17.74
321	.80	3.31	7.49	15.47	21.83	22.15	21.25
336	.78	4.57	9.54	18.93	25.88	26.10	24.98
351	.82	6.00	11.38	20.94	28.32	27.29	25.86

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	12.982		0	3.570		0	5.273	
1	.917	-4.094	1	.212	-.502	1	-.216	.058
2	.026	.070	2	-.053	-.020	2	.032	.000
3	.085	.038	3	.020	-.090	3	.034	-.024
4	.000	-.055	4	.069	-.008	4	-.012	.018
5	-.055	-.009	5	-.045	-.049	5	.001	.022
6	.009	.018	6	.012	-.008	6	.003	-.011
7	-.003	.018	7	.012	.004	7	-.004	-.016
8	.003	.000	8	.004	-.016	8	.004	.000
9	-.003	.003	9	.008	-.008	9	.005	.000
10	.023	.012	10	.000	-.004	10	-.005	.000

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 111 - Continued

FLIGHT 85, CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 21, t = 0.3 SECOND)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.921		.75	0	16.353		.95	0	16.997	
.25	1	-1.279	2.542	.75	1	-.387	-.504	.95	1	2.453	-3.261
.25	2	.360	-.555	.75	2	2.878	.223	.95	2	.458	-.565
.25	3	-.136	.477	.75	3	1.498	-.598	.95	3	1.658	-2.115
.25	4	-.051	.143	.75	4	-.268	-.567	.95	4	1.243	-.971
.25	5	-.057	.142	.75	5	-.304	-.140	.95	5	-1.357	-.304
.25	6	-.052	.172	.75	6	.287	-.573	.95	6	-.819	-.230
.25	7	-.062	.037	.75	7	-.170	-.012	.95	7	.413	-.261
.25	8	-.001	.132	.75	8	-.138	.337	.95	8	.542	-.234
.25	9	-.137	.113	.75	9	.220	-.288	.95	9	-.429	.133
.25	10	-.118	-.014	.75	10	-.054	-.140	.95	10	-.703	.036
.40	0	6.685		.85	0	19.552					
.40	1	-1.390	3.232	.85	1	1.206	-2.743				
.40	2	1.130	-.381	.85	2	2.183	-.398				
.40	3	.239	.210	.85	3	2.596	-1.311				
.40	4	-.042	-.053	.85	4	.090	-1.120				
.40	5	-.051	-.170	.85	5	-1.124	-.715				
.40	6	.191	-.008	.85	6	.628	.014				
.40	7	-.022	.007	.85	7	.263	-.278				
.40	8	-.093	-.123	.85	8	-.464	-.492				
.40	9	.010	.078	.85	9	-.016	.294				
.40	10	.015	.070	.85	10	.368	.179				
.55	0	10.028		.90	0	18.494					
.55	1	-.750	2.878	.90	1	1.998	-4.000				
.55	2	1.717	-.493	.90	2	1.083	-.616				
.55	3	.617	.061	.90	3	2.472	-1.327				
.55	4	-.137	-.213	.90	4	.928	-.707				
.55	5	-.198	-.314	.90	5	-1.411	-.969				
.55	6	.007	-.111	.90	6	-.190	-.190				
.55	7	.015	-.033	.90	7	.527	.338				
.55	8	-.006	-.028	.90	8	.029	-.056				
.55	9	-.081	-.079	.90	9	-.346	-.335				
.55	10	.035	-.049	.90	10	-.087	.071				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 111 - Concluded

FLIGHT 85, CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 21, t = 0.3 SECOND)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	1562	1353	913	-588	-1877	-4512	-6830	-5694
21	2189	1634	1844	585	-1252	-4263	-5303	-3898
36	1448	1485	1654	585	-3	-2024	-3671	-3044
51	855	809	1157	232	-284	-1786	-1595	-2015
66	1243	429	497	-407	-1085	-2940	-3107	-2424
81	1026	421	226	-1284	-2836	-5109	-5178	-3526
96	1391	-330	-669	-2048	-4007	-6184	-5115	-3409
111	411	-998	-1700	-3326	-3100	-4900	-4482	-3825
126	-216	-1411	-1636	-2563	-2731	-4711	-5539	-3825
141	969	-413	-353	-1494	-2792	-5666	-6396	-3358
156	1972	908	479	-1466	-2898	-5736	-6564	-3847
171	1528	132	63	-1284	-2185	-4850	-6082	-3913
186	570	-701	-606	-1504	-1895	-4602	-5073	-3380
201	810	-91	-344	-1676	-2167	-4641	-5314	-3942
216	2086	974	660	-531	-1727	-4900	-6585	-4263
231	1972	1972	2161	977	-135	-3308	-6893	-4906
246	2132	2170	2594	1797	1951	-313	-4158	-4446
261	2018	2129	2685	2322	2831	2035	340	-3256
276	1072	2162	3363	3142	3456	2622	2976	-898
291	1437	2483	3544	3266	3042	2692	1004	-1883
306	1813	2426	3435	3228	1977	-582	-2756	-3270
321	946	2558	3046	1434	-372	-2393	-4367	-4533
336	1642	957	660	-302	-1243	-3557	-5633	-5373
351	-205	363	633	-445	-1754	-4721	-6339	-5497

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-7708	-6642	2366	14420
21	-6894	-6740	1726	13798
36	-5153	-4689	2830	13853
51	-5153	-3077	6302	15647
66	-2515	-863	5886	14649
81	-1685	-700	5454	14649
96	-2759	-2409	5502	15189
111	366	-1888	2462	13094
126	1066	-2702	3246	14475
141	-871	-1319	5646	15033
156	155	244	7038	15674
171	366	2540	8494	15582
186	-610	1481	9246	16763
201	-627	-391	6254	15271
216	-2271	-3240	3790	14539
231	-6455	-6284	3342	14988
246	-6064	-7228	1406	14384
261	-6797	-6593	926	13249
276	-10395	-8254	3134	14475
291	-10834	-7473	2206	13826
306	-10606	-7131	3086	14549
321	-10655	-5910	4526	15354
336	-7367	-4689	3550	14677
351	-5690	-5470	2606	14256

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	366	377	144
21	269	404	115
36	351	404	142
51	580	524	156
66	565	672	155
81	442	543	130
96	272	416	88
111	370	450	84
126	381	342	42
141	-134	-58	5
156	-336	-307	-21
171	-553	-365	-37
186	-502	-383	-30
201	-479	-329	-37
216	-398	-447	-17
231	-255	-370	-4
246	-223	-349	4
261	-253	-290	23
276	-181	-249	32
291	-576	-414	37
306	-843	-644	21
321	-506	-290	52
336	32	143	119
351	517	643	147

TABLE 112

FLIGHT 85, CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 21, t = 2.7 SECONDS)

(a) Differential pressures

$\psi_{nom'}$ deg	Δp, lb/sq in., at -													$\psi_{nom'}$ deg
	r/R = 0.95							r/R = 0.90						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	7.97	5.26	3.96	2.58	1.49	.60	.072	9.74	4.60	3.51	2.92	2.06	.77	.077	6
21	5.93	4.76	3.75	2.18	1.01	.43	.035	7.52	4.12	2.96	2.58	1.71	.57	-.021	21
36	3.74	3.59	3.15	1.73	.63	.33	.006	5.71	3.16	2.35	2.09	1.32	.39	-.087	36
51	3.06	3.23	3.04	1.60	.45	.31	.006	4.28	2.35	1.96	1.88	1.14	.34	-.110	51
66	3.51	3.49	3.35	1.83	.62	.40	.040	4.03	2.20	1.94	1.86	1.14	.37	-.120	66
81	7.15	7.01	4.51	2.94	1.41	.60	.061	6.25	3.79	3.10	2.92	1.93	.67	-.033	81
96	7.37	7.47	5.01	2.79	1.42	.58	.075	7.41	5.34	3.53	3.12	2.04	.69	-.016	96
111	7.17	7.46	6.68	2.49	1.45	.65	.080	8.40	6.68	5.25	2.92	2.18	.75	-.021	111
126	6.84	6.92	4.37	2.83	1.49	.66	.099	8.50	7.12	5.39	2.86	2.12	.80	.030	126
141	6.59	6.18	4.18	2.73	1.47	.65	.118	8.33	6.66	3.46	3.19	2.12	.77	.035	141
156	6.08	4.89	3.53	2.35	1.26	.54	.088	8.10	5.05	3.59	2.85	1.95	.73	.019	156
171	5.43	4.22	3.08	2.04	1.11	.53	.088	7.52	4.06	3.13	2.44	1.71	.64	.028	171
186	5.17	3.82	2.78	1.88	1.02	.49	.092	6.99	3.57	2.77	2.20	1.53	.60	.035	186
201	5.26	3.73	2.73	1.84	1.04	.52	.105	6.77	3.46	2.61	2.06	1.49	.63	.075	201
216	5.95	3.93	2.87	1.98	1.16	.60	.118	7.20	3.71	2.73	2.16	1.61	.68	.094	216
231	6.72	4.16	2.96	2.09	1.28	.60	.137	8.13	4.08	2.90	2.32	1.70	.72	.124	231
246	7.58	4.48	3.20	2.25	1.42	.65	.149	9.68	4.47	3.13	2.47	1.88	.77	.145	246
261	9.20	5.05	3.49	2.47	1.56	.71	.164	10.90	4.89	3.34	2.59	1.92	.73	.169	261
276	9.08	4.79	3.35	2.35	1.48	.58	.132	8.50	3.99	2.83	2.29	1.77	.75	.131	276
291	5.75	3.09	2.34	1.58	.98	.38	.075	6.87	3.31	2.11	1.63	1.22	.49	.082	291
306	5.79	3.67	2.68	1.74	1.01	.51	.099	6.13	3.06	2.19	1.79	1.36	.57	.085	306
321	7.13	4.34	3.16	2.09	1.23	.56	.103	7.18	3.61	2.65	2.12	1.57	.63	.091	321
336	9.12	5.53	4.05	2.74	1.68	.74	.164	9.43	4.72	3.45	2.87	2.09	.91	.164	336
351	8.88	5.24	4.13	2.81	1.67	.68	.122	11.31	5.90	3.80	3.11	2.19	.79	.124	351

$\psi_{nom'}$ deg	Δp, lb/sq in., at -										$\psi_{nom'}$ deg
	r/R = 0.85										
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	10.27	8.82	5.10	3.90	3.32	2.72	1.86	.92	.83	.41	.132	6
21	9.48	7.93	4.98	3.77	3.26	2.60	1.76	.84	.68	.30	.089	21
36	6.57	5.11	3.87	2.72	2.44	1.93	1.29	.54	.49	.21	.018	36
51	5.30	4.18	3.32	2.38	2.11	1.67	1.15	.44	.43	.17	-.005	51
66	5.00	4.01	3.31	2.32	2.13	1.64	1.23	.39	.42	.15	-.030	66
81	6.59	5.61	4.21	3.09	2.77	2.26	1.65	.73	.65	.31	.059	81
96	8.16	7.03	5.23	3.86	3.40	2.64	1.81	.82	.74	.35	.055	96
111	8.75	7.52	5.74	4.21	3.65	2.86	2.01	.97	.86	.42	.085	111
126	10.22	9.34	8.55	5.41	3.54	3.00	2.12	1.00	.85	.43	.108	126
141	10.34	9.40	8.46	3.98	3.66	2.97	2.12	1.03	.88	.45	.127	141
156	10.09	8.92	5.13	4.17	3.53	2.72	1.94	.93	.82	.42	.108	156
171	9.50	7.09	4.96	3.67	3.08	2.44	1.71	.83	.77	.42	.093	171
186	8.62	5.93	4.39	3.30	2.77	2.19	1.58	.77	.72	.38	.093	186
201	8.03	5.65	4.10	3.11	2.63	2.14	1.49	.77	.74	.40	.113	201
216	8.52	5.72	4.22	3.20	2.70	2.22	1.57	.83	.77	.43	.127	216
231	9.73	6.06	4.54	3.48	2.88	2.39	1.68	.93	.80	.46	.170	231
246	10.83	6.91	4.81	3.73	3.12	2.60	1.77	.98	.81	.46	.192	246
261	10.16	6.35	4.52	3.39	2.86	2.41	1.59	.84	.68	.39	.200	261
276	8.39	5.44	4.01	3.11	2.58	2.18	1.51	.87	.77	.43	.153	276
291	6.86	4.37	3.12	2.30	1.94	1.66	1.11	.60	.55	.28	.098	291
306	6.17	4.24	3.05	2.30	1.94	1.68	1.12	.61	.55	.30	.104	306
321	7.56	5.04	3.74	2.86	2.38	2.08	1.40	.77	.66	.35	.121	321
336	10.09	6.80	4.91	3.85	3.18	2.59	1.84	1.05	.89	.50	.119	336
351	11.63	10.53	5.49	4.23	3.60	2.99	2.01	1.09	.85	.44	.194	351

TABLE 112 - Continued

FLIGHT 85, CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 21, t = 2.7 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	8.22	4.17	3.06	2.40	1.66	.66	.079	5.27	2.42	1.82	1.49	1.14	.57	.121	6
21	8.19	4.01	2.94	2.32	1.56	.60	.055	4.84	2.31	1.55	1.27	.96	.50	.080	21
36	7.59	3.52	2.68	1.92	1.38	.53	.036	3.93	1.85	1.33	1.12	.86	.45	.092	36
51	6.58	3.04	2.46	1.99	1.26	.48	-.004	4.35	2.16	1.54	1.25	.98	.50	.114	51
66	5.80	3.09	2.49	2.07	1.27	.47	.003	4.22	2.12	1.49	1.22	.98	.51	.133	66
81	5.38	2.98	2.44	1.96	1.24	.51	.063	3.58	1.76	1.27	1.06	.86	.49	.133	81
96	5.65	3.40	2.75	2.14	1.38	.58	.091	4.18	2.05	1.46	1.21	.95	.49	.120	96
111	6.32	4.11	3.18	2.17	1.60	.64	.110	5.21	2.57	1.81	1.50	1.14	.58	.137	111
126	6.76	4.07	3.27	2.07	1.72	.72	.138	5.57	2.75	1.91	1.58	1.22	.62	.160	126
141	7.44	4.58	3.55	2.19	1.90	.76	.148	6.23	2.99	2.08	1.71	1.31	.64	.165	141
156	7.95	4.53	3.50	2.63	1.82	.69	.141	6.09	2.88	2.00	1.64	1.26	.62	.156	156
171	8.15	4.23	3.19	2.40	1.66	.65	.138	5.37	2.54	1.79	1.47	1.14	.54	.133	171
186	8.00	3.82	2.87	2.17	1.51	.59	.117	4.89	2.30	1.63	1.34	1.04	.52	.108	186
201	7.48	3.57	2.68	2.04	1.41	.60	.122	4.48	2.10	1.49	1.24	.96	.48	.094	201
216	7.29	3.61	2.67	2.03	1.45	.63	.141	4.13	1.98	1.42	1.17	.90	.46	.081	216
231	7.64	3.80	2.71	2.08	1.48	.63	.127	3.86	1.89	1.35	1.14	.86	.41	.069	231
246	7.68	3.41	2.53	1.65	1.41	.59	.108	3.68	1.76	1.26	1.05	.79	.39	.061	246
261	6.98	3.01	2.23	1.73	1.23	.56	.086	3.63	1.73	1.24	1.04	.79	.39	.054	261
276	6.93	3.39	2.39	1.30	1.29	.52	.093	2.76	1.32	.96	.82	.63	.31	.030	276
291	6.30	2.50	1.87	1.44	1.01	.44	.050	3.24	1.52	1.05	.87	.63	.32	.031	291
306	5.87	2.18	1.69	1.29	.86	.36	.046	3.10	1.43	1.04	.89	.68	.35	.041	306
321	6.24	3.66	2.51	2.02	1.36	.55	.082	2.94	1.41	1.04	.88	.69	.39	.061	321
336	6.51	3.77	2.70	2.18	1.60	.72	.131	4.74	2.32	1.62	1.34	1.01	.50	.117	336
351	7.41	4.13	2.55	2.21	1.64	.67	.112	5.59	2.68	1.89	1.57	1.22	.61	.140	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	2.52	1.36	.84	.52	.136	.90	.47	.31	.16	.055	6
21	1.85	1.00	.60	.40	.092	.80	.60	.36	.15	.064	21
36	1.74	.91	.58	.40	.114	1.06	.53	.34	.16	.048	36
51	1.93	1.00	.62	.41	.111	.98	.49	.32	.17	.055	51
66	2.17	1.13	.73	.48	.131	1.31	.65	.41	.19	.076	66
81	1.94	1.03	.64	.43	.122	1.24	.62	.39	.19	.067	81
96	2.34	1.22	.77	.50	.140	1.42	.71	.45	.22	.081	96
111	2.39	1.31	.83	.56	.157	1.60	.81	.50	.23	.073	111
126	2.84	1.50	.92	.57	.161	1.77	.94	.59	.27	.104	126
141	2.87	1.55	.95	.59	.159	1.97	1.00	.62	.27	.096	141
156	2.83	1.51	.93	.57	.148	1.88	.95	.57	.25	.090	156
171	2.65	1.43	.86	.54	.141	1.68	.84	.52	.24	.088	171
186	2.32	1.25	.75	.47	.117	1.38	.69	.44	.21	.079	186
201	2.04	1.11	.67	.43	.111	1.05	.54	.35	.16	.079	201
216	1.82	1.00	.58	.38	.102	.64	.58	.25	.13	.057	216
231	1.58	.86	.50	.33	.088	.48	.50	.26	.09	.061	231
246	1.36	.74	.43	.30	.090	.26	.17	.29	.04	.018	246
261	1.10	.59	.34	.27	.084	.17	.09	.12	.14	.018	261
276	.94	.49	.28	.29	.082	.16	.08	.08	.13	.040	276
291	.88	.48	.26	.25	.082	.22	.13	.10	.06	.075	291
306	.86	.42	.24	.20	.082	.23	.14	.12	.07	.032	306
321	.99	.53	.30	.26	.092	.35	.18	.14	.07	.039	321
336	1.37	.74	.44	.32	.097	.53	.26	.19	.11	.053	336
351	2.06	1.10	.67	.43	.139	1.18	.60	.37	.19	.066	351

TABLE 112 - Continued

FLIGHT 85, CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 21, t = 2.7 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	4.48	12.93	18.00	26.95	31.99	31.52	28.64
21	4.73	9.50	15.83	25.68	29.84	25.65	23.23
36	4.96	9.20	13.60	22.94	21.76	19.36	16.99
51	4.75	9.87	15.44	20.51	18.57	15.60	15.04
66	6.10	11.31	15.35	20.08	18.49	15.31	17.52
81	5.82	10.18	13.49	19.79	25.15	26.01	31.02
96	6.73	12.03	14.95	22.06	29.80	30.19	32.39
111	7.37	12.92	18.22	25.22	32.85	35.65	34.72
126	8.53	14.35	19.50	26.50	38.04	36.72	31.17
141	9.06	14.74	21.06	29.01	38.39	33.46	29.62
156	8.53	14.34	20.31	28.92	32.36	30.22	24.91
171	7.72	13.47	18.06	27.25	29.76	26.31	22.19
186	6.48	11.75	16.51	25.11	27.06	23.75	20.45
201	5.07	10.48	15.15	23.73	25.89	23.29	20.55
216	3.84	9.33	14.28	24.01	27.01	24.93	22.53
231	3.29	8.09	13.35	24.68	29.38	27.06	24.01
246	2.10	7.10	12.53	23.11	31.47	30.11	26.30
261	1.75	5.88	12.33	20.87	28.84	31.93	29.64
276	1.61	5.34	9.62	21.25	26.37	27.50	27.87
291	1.58	4.91	10.46	17.48	20.07	20.52	18.27
306	1.56	4.44	10.58	15.45	19.53	20.84	20.52
321	1.95	5.41	10.72	22.17	23.97	24.27	24.36
336	2.84	7.28	16.26	24.77	31.58	32.50	31.77
351	5.60	10.64	19.27	25.57	34.95	35.65	30.84

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	12.705		0	5.149		0	4.564	
1	.602	-5.288	1	2.199	-1.032	1	-.270	-.109
2	-.018	-.012	2	.322	.004	2	.003	.073
3	.216	.222	3	.012	-.135	3	.072	-.003
4	.047	-.137	4	.171	-.004	4	-.016	.007
5	.085	-.096	5	-.033	-.057	5	-.005	.008
6	.006	-.012	6	-.029	-.024	6	.015	-.018
7	.000	-.009	7	-.106	-.004	7	-.003	-.004
8	.018	-.012	8	-.065	-.004	8	.000	.012
9	-.009	.012	9	-.029	.008	9	-.005	.026
10	-.006	-.015	10	-.024	.004	10	.012	.004

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 112 - Continued

FLIGHT 85, CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 21, t = 2.7 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	4.852		.75	0	23.462		.95	0	25.188	
.25	1	-1.187	2.839	.75	1	-1.626	1.548	.95	1	-.282	1.083
.25	2	.773	-.775	.75	2	2.736	-1.123	.95	2	-2.119	-3.116
.25	3	.371	.168	.75	3	2.510	.167	.95	3	4.695	-3.031
.25	4	.070	-.203	.75	4	-.090	-.674	.95	4	2.140	-1.893
.25	5	.179	-.230	.75	5	-.112	-.104	.95	5	-.354	-.152
.25	6	.062	-.160	.75	6	-.561	.045	.95	6	-.987	1.112
.25	7	-.103	-.068	.75	7	.000	.662	.95	7	-.092	.397
.25	8	-.059	-.106	.75	8	.505	.477	.95	8	.107	-.550
.25	9	-.210	-.112	.75	9	.142	-.211	.95	9	-.093	-.211
.25	10	-.180	-.129	.75	10	.012	-.329	.95	10	.314	.497
.40	0	9.812		.85	0	28.046					
.40	1	-1.489	3.549	.85	1	-2.444	1.417				
.40	2	1.469	-.677	.85	2	1.433	-3.175				
.40	3	1.012	.057	.85	3	6.031	-1.055				
.40	4	.355	-.365	.85	4	.705	-1.271				
.40	5	.444	-.412	.85	5	-.107	-.416				
.40	6	.363	-.308	.85	6	-.191	.542				
.40	7	.315	-.067	.85	7	-.823	.184				
.40	8	.208	.024	.85	8	.145	-.179				
.40	9	.135	.018	.85	9	.037	.262				
.40	10	-.003	-.177	.85	10	-.520	.112				
.55	0	15.201		.90	0	27.014					
.55	1	-.946	2.871	.90	1	-1.598	.432				
.55	2	2.094	-1.419	.90	2	-.266	-3.931				
.55	3	1.618	.012	.90	3	6.351	-1.966				
.55	4	-.106	-.720	.90	4	1.672	-1.522				
.55	5	.208	-.845	.90	5	-.619	-.410				
.55	6	.287	-.518	.90	6	-.537	.317				
.55	7	.214	-.320	.90	7	-.167	-.048				
.55	8	-.246	.218	.90	8	-.345	-.614				
.55	9	-.355	.340	.90	9	.059	-.210				
.55	10	.102	.153	.90	10	.198	.483				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 112 - Concluded

FLIGHT 85, CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 21, t = 2.7 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	1734	883	-253	-2776	-4255	-7649	-8666	-6205
21	1449	206	1076	-429	-2575	-5669	-8729	-5862
36	1894	536	913	-28	-533	-4007	-6501	-3066
51	776	1609	2414	220	-823	-1798	-1940	-3015
66	3843	536	570	182	197	-2843	-3452	-2957
81	-204	949	1546	-286	-1791	-4475	-3556	-4928
96	2042	462	-1211	-2156	-1589	-3152	-4576	-6614
111	320	-404	-425	-1278	-1756	-4992	-3452	-5183
126	1244	-50	-217	-925	-1140	-3510	-7714	-8884
141	2350	759	850	477	-2099	-5540	-7730	-6869
156	2885	1502	1067	-286	-1818	-5271	-8593	-6716
171	2042	825	54	-1278	-2073	-5092	-7934	-6037
186	742	-594	-705	-1545	-2698	-5709	-6276	-3964
201	1780	-239	-1347	-2947	-3155	-5480	-6951	-5387
216	1609	272	344	-1087	-3411	-6664	-7641	-5139
231	3011	1427	805	-467	-1510	-4634	-9330	-7110
246	2760	2401	2414	1088	-322	-2525	-5298	-5563
261	3170	2459	2631	2071	2274	1077	-481	-3270
276	1700	2376	3553	3387	3744	2858	1799	-555
291	2236	2962	3851	3358	4096	3306	-37	-1862
306	2703	3251	4999	4007	48	-933	-1789	-3234
321	3775	2450	1844	802	-304	-3808	-6673	-5241
336	-1561	718	1944	-229	-3868	-6375	-7678	-6183
351	3524	-330	-1410	-2833	-4000	-7052	-9147	-7358

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-8716	-5991	3124	16763
21	-8537	-7700	740	14979
36	-9742	-4200	1812	13762
51	-10002	-6431	6500	16863
66	-6599	-733	5380	14622
81	-4385	-2084	7108	17266
96	-3881	-326	5428	14850
111	-2416	-1661	3588	15582
126	173	-1156	948	14786
141	320	554	3060	15143
156	1182	-212	7796	16708
171	2078	5633	12116	17897
186	3966	5991	14196	20569
201	4390	6219	11428	17971
216	1801	358	8724	17440
231	-2171	-4233	4276	16214
246	-2106	-5861	-1228	14951
261	-9139	-7733	-204	12947
276	-8960	-6691	1444	17111
291	-9709	-5307	1876	12709
306	-11793	-7473	8772	19380
321	-9742	-961	8020	16607
336	-6486	-2409	7748	16790
351	-7251	-2491	6404	18035

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	1762	1359	331
21	1154	1311	224
36	-190	75	102
51	-82	66	72
66	-239	112	140
81	228	520	121
96	215	578	135
111	746	1002	113
126	1137	1164	152
141	1452	1100	178
156	994	849	153
171	184	198	59
186	-403	-180	-35
201	-916	-581	-72
216	-385	-333	-43
231	110	-82	29
246	318	224	26
261	-105	79	28
276	182	206	52
291	-458	-118	85
306	-652	-496	34
321	-1121	-532	16
336	-246	39	59
351	516	743	168

TABLE 113

FLIGHT 86, CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 22, t = 3.4 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95							Δp, lb/sq in., at - r/R = 0.90							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	8.73	4.95	3.40	2.43	1.45	.56	.099	9.95	4.38	3.10	2.56	1.66	.66	.080	0
15	7.41	4.72	3.31	2.25	1.27	.49	.069	8.02	4.03	2.89	2.39	1.48	.58	.029	15
30	5.61	3.76	3.18	1.94	.93	.41	.043	6.44	3.42	2.49	2.14	1.24	.47	-.029	30
45	4.22	3.31	3.09	1.75	.71	.35	.004	5.21	2.89	2.22	1.94	1.06	.38	-.085	45
60	3.60	3.22	3.11	1.74	.66	.31	-.018	4.56	2.59	2.12	1.85	.97	.32	-.116	60
75	3.16	3.41	3.11	1.61	.51	.27	-.039	4.00	2.26	1.90	1.75	.86	.25	-.168	75
90	2.64	3.05	3.00	1.23	.43	.27	-.031	3.54	2.07	1.76	1.65	.74	.24	-.183	90
105	2.97	3.28	3.20	1.55	.50	.28	-.026	4.05	2.40	2.03	1.80	.88	.29	-.170	105
120	2.09	2.45	2.62	1.43	.42	.28	-.006	3.57	2.11	1.85	1.65	.81	.31	-.141	120
135	2.01	2.20	2.29	1.36	.44	.30	-.006	3.54	2.03	1.59	1.51	.79	.32	-.114	135
150	2.26	2.33	2.06	1.34	.54	.35	.036	3.88	2.21	1.67	1.52	.83	.37	-.061	150
165	2.93	2.54	2.11	1.48	.73	.41	.063	4.72	2.61	1.89	1.63	1.00	.45	.018	165
180	3.73	2.91	2.43	1.61	.88	.46	.085	5.45	2.87	2.12	1.72	1.11	.51	.045	180
195	4.16	3.09	2.44	1.65	.96	.49	.095	5.83	2.93	2.15	1.72	1.15	.53	.067	195
210	4.50	3.10	2.35	1.63	1.00	.50	.107	5.96	3.02	2.13	1.69	1.16	.53	.076	210
225	4.76	3.10	2.26	1.62	1.04	.50	.113	6.15	3.08	2.13	1.69	1.17	.53	.099	225
240	5.04	3.14	2.25	1.62	1.06	.49	.116	6.44	3.12	2.15	1.69	1.19	.54	.100	240
255	5.29	3.20	2.25	1.66	1.11	.50	.128	6.78	3.18	2.16	1.72	1.21	.56	.119	255
270	5.80	3.37	2.35	1.75	1.17	.52	.132	7.27	3.29	2.23	1.78	1.24	.56	.116	270
285	6.36	3.58	2.46	1.83	1.24	.52	.117	6.57	3.19	2.15	1.72	1.21	.53	.111	285
300	5.99	3.40	2.31	1.68	1.10	.43	.093	6.41	2.99	2.01	1.61	1.11	.50	.085	300
315	6.20	3.62	2.49	1.85	1.21	.48	.128	7.63	3.37	2.29	1.85	1.26	.56	.100	315
330	7.37	4.16	2.86	2.12	1.37	.58	.134	9.15	3.94	2.68	2.21	1.48	.64	.111	330
345	8.84	4.68	3.26	2.37	1.50	.60	.134	10.17	4.45	3.10	2.53	1.67	.69	.130	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85											ψ_{nom}, deg
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	9.86	5.85	4.17	3.30	2.72	2.39	1.55	.84	.65	.34	.150	0
15	8.67	5.73	3.93	3.02	2.49	2.19	1.39	.75	.56	.28	.111	15
30	6.75	4.95	3.31	2.56	2.19	1.89	1.20	.61	.49	.20	.066	30
45	5.56	4.27	3.01	2.51	1.91	1.65	1.02	.42	.37	.14	.037	45
60	4.98	3.81	2.78	2.28	1.91	1.48	.91	.28	.30	.09	-.003	60
75	4.28	3.29	2.46	2.02	1.66	1.26	.80	.16	.23	.05	-.034	75
90	3.88	3.00	2.31	1.86	1.51	1.40	.72	.11	.19	.04	-.038	90
105	3.81	2.87	2.29	1.86	1.53	1.45	.76	.17	.23	.08	-.042	105
120	4.67	3.58	2.82	2.09	1.84	1.29	.91	.26	.31	.12	-.005	120
135	4.41	3.29	2.54	1.84	1.56	1.18	.88	.26	.34	.16	.020	135
150	4.77	3.51	2.64	1.97	1.68	1.27	.93	.34	.42	.22	.038	150
165	5.45	4.02	2.95	2.25	1.88	1.56	1.07	.45	.51	.29	.063	165
180	6.09	4.38	3.10	2.43	2.02	1.71	1.16	.52	.56	.34	.086	180
195	6.29	4.44	3.12	2.45	2.03	1.74	1.17	.55	.58	.34	.098	195
210	6.37	4.33	3.05	2.41	1.97	1.72	1.14	.56	.57	.34	.107	210
225	6.44	4.32	3.01	2.41	1.93	1.73	1.13	.58	.56	.34	.115	225
240	6.57	4.30	3.00	2.40	1.91	1.72	1.12	.61	.57	.33	.125	240
255	6.78	4.33	2.99	2.40	1.93	1.74	1.12	.63	.55	.31	.129	255
270	6.13	4.34	2.99	2.40	1.93	1.76	1.12	.63	.54	.30	.129	270
285	5.86	3.94	2.63	2.11	1.68	1.55	.97	.54	.46	.23	.111	285
300	5.90	3.86	2.64	2.09	1.65	1.55	.95	.55	.46	.25	.115	300
315	6.75	4.38	2.99	2.39	1.91	1.76	1.10	.64	.51	.28	.138	315
330	8.15	5.19	3.54	2.83	2.29	2.06	1.31	.75	.60	.34	.154	330
345	9.74	5.87	4.12	3.30	2.69	2.39	1.54	.85	.70	.38	.173	345

TABLE 113 - Continued

FLIGHT 86, CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 22, t = 3.4 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.46	3.32	2.47	1.88	1.37	.58	.078	2.80	1.34	.96	.79	.62	.40	.064	0
15	6.50	3.19	2.40	1.82	1.31	.53	.059	2.96	1.39	1.00	.83	.63	.41	.071	15
30	6.03	2.90	2.24	1.72	1.19	.46	.037	2.99	1.45	1.02	.85	.66	.42	.082	30
45	5.33	2.57	2.08	1.62	1.06	.41	.040	2.89	1.45	.97	.81	.64	.42	.093	45
60	4.64	2.33	1.96	1.56	.96	.36	-.007	2.65	1.30	.88	.72	.59	.39	.099	60
75	3.92	1.98	1.81	1.42	.81	.29	.009	2.39	1.18	.90	.63	.54	.37	.095	75
90	3.38	1.78	1.57	1.35	.70	.26	.028	2.48	1.24	.94	.65	.56	.38	.103	90
105	3.41	1.97	1.61	1.42	.79	.29	.040	2.85	1.47	1.00	.78	.64	.42	.117	105
120	3.63	2.13	1.76	1.51	.94	.34	.059	3.46	1.83	1.23	.97	.78	.46	.131	120
135	4.27	2.78	2.22	1.73	1.10	.41	.092	3.71	1.86	1.32	1.07	.85	.50	.138	135
150	4.75	2.84	2.31	1.72	1.18	.46	.123	3.80	1.89	1.36	1.10	.87	.50	.135	150
165	5.07	2.74	2.33	1.74	1.22	.51	.109	3.64	1.83	1.32	1.07	.85	.48	.110	165
180	5.41	2.91	2.33	1.74	1.27	.53	.118	3.20	1.61	1.19	.98	.80	.48	.103	180
195	5.58	2.86	2.23	1.66	1.23	.52	.113	2.64	1.47	1.12	.95	.79	.44	.086	195
210	5.48	2.73	2.09	1.56	1.16	.49	.109	2.46	1.54	1.22	1.00	.76	.40	.069	210
225	5.37	2.63	1.98	1.47	1.10	.47	.097	1.78	.94	.86	.80	.61	.34	.056	225
240	5.06	2.53	1.89	1.40	1.06	.44	.087	1.33	.54	.50	.45	.37	.21	.022	240
255	4.55	2.44	1.81	1.34	1.02	.44	.087	1.23	.45	.40	.34	.24	.15	-.016	255
270	4.28	2.24	1.65	1.22	.92	.38	.078	1.02	.37	.36	.31	.23	.15	-.018	270
285	3.92	1.82	1.36	1.01	.74	.31	.040	.95	.35	.35	.30	.22	.17	-.022	285
300	3.75	1.90	1.42	1.07	.79	.35	.049	1.09	.42	.39	.34	.25	.19	-.013	300
315	4.03	2.13	1.60	1.21	.91	.39	.057	1.37	.58	.48	.41	.30	.23	.004	315
330	4.68	2.58	1.91	1.46	1.10	.47	.071	1.84	.84	.64	.54	.41	.28	.026	330
345	5.58	3.12	2.29	1.75	1.31	.56	.087	2.53	1.18	.86	.71	.53	.36	.050	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	.61	.36	.21	.20	.089	.15	.08	.06	.05	.015	0
15	1.01	.47	.31	.24	.099	.23	.09	.06	.05	.013	15
30	1.20	.55	.35	.25	.101	.49	.22	.14	.08	.018	30
45	1.29	.61	.38	.26	.111	.55	.25	.15	.08	.020	45
60	1.33	.63	.39	.27	.115	.59	.28	.16	.08	.023	60
75	1.25	.62	.39	.26	.115	.65	.31	.18	.09	.028	75
90	1.33	.65	.42	.29	.125	.75	.37	.22	.11	.037	90
105	1.61	.78	.51	.34	.140	1.00	.50	.29	.14	.046	105
120	1.93	.96	.62	.40	.151	1.28	.63	.39	.18	.065	120
135	2.22	1.10	.70	.43	.156	1.46	.73	.44	.20	.065	135
150	2.26	1.21	.75	.44	.151	1.55	.76	.47	.21	.065	150
165	2.20	1.15	.71	.42	.140	1.48	.77	.48	.22	.064	165
180	1.93	1.01	.61	.37	.119	1.31	.67	.42	.20	.058	180
195	1.51	.79	.47	.30	.092	.83	.42	.27	.12	.039	195
210	1.08	.57	.32	.23	.069	.41	.21	.12	.05	.017	210
225	.66	.37	.20	.16	.046	.17	.13	.02	.01	.004	225
240	.40	.24	.11	.12	.036	.10	.00	-.01	-.01	-.015	240
255	.23	.15	.06	.10	.032	.06	-.03	-.03	-.03	-.033	255
270	.14	.12	.05	.10	.036	.05	-.02	-.03	-.03	-.055	270
285	.14	.11	.05	.10	.038	.05	-.01	-.02	-.02	-.053	285
300	.13	.11	.06	.12	.046	.05	-.01	-.01	-.01	-.033	300
315	.22	.15	.09	.14	.054	.06	.02	.01	.02	-.014	315
330	.39	.24	.14	.17	.066	-.02	-.06	-.02	.02	-.002	330
345	.48	.28	.18	.19	.077	.02	.00	.00	.03	.002	345

TABLE 113 - Continued

FLIGHT 86, CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 22, t = 3.4 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	.93	3.87	10.19	21.88	27.45	28.60	27.74
15	1.09	5.30	10.56	21.04	24.66	25.12	25.00
30	2.17	6.00	10.89	19.19	20.60	20.84	20.32
45	2.38	6.44	10.71	17.23	17.43	17.42	17.26
60	2.56	6.61	9.84	15.47	15.71	15.61	16.21
75	2.85	6.41	9.16	13.31	13.39	13.49	15.31
90	3.36	6.90	9.54	11.82	12.32	12.11	13.74
105	4.47	8.30	10.84	12.71	12.65	14.16	15.13
120	5.86	9.85	12.95	14.17	15.31	13.05	12.30
135	6.60	11.02	13.81	17.36	14.48	12.52	11.57
150	6.98	14.44	14.06	18.54	15.76	13.74	12.35
165	6.94	13.65	13.56	19.03	18.21	16.53	14.37
180	6.13	9.64	12.48	19.81	19.83	18.58	16.84
195	3.86	7.60	11.43	19.44	20.20	19.33	17.87
210	1.80	5.46	11.20	18.57	19.98	19.54	18.25
225	.64	3.48	8.40	17.82	19.86	19.90	18.49
240	.01	2.29	5.14	16.92	19.93	20.26	18.73
255	-.32	1.54	3.81	16.11	20.03	20.86	19.29
270	-.42	1.29	3.45	14.71	19.49	21.62	20.42
285	-.30	1.30	3.45	12.16	17.31	20.58	21.53
300	-.12	1.45	3.98	12.68	17.29	19.30	19.63
315	.20	1.95	5.01	14.22	19.74	22.17	21.17
330	-.11	2.76	6.69	17.03	23.48	26.03	24.56
345	.23	3.30	9.03	20.39	27.61	29.22	27.60

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	13.543		0	3.457		0	6.412	
1	1.857	-6.106	1	-.180	-.413	1	-.232	.027
2	.050	.177	2	-.124	-.207	2	.011	.011
3	.041	.159	3	.065	-.160	3	.033	.000
4	.032	.045	4	.014	.008	4	-.003	.008
5	-.018	.027	5	.018	-.010	5	.000	-.003
6	.005	.000	6	.014	.020	6	.009	.011
7	-.005	-.009	7	.008	.006	7	.006	-.005
8	-.032	.005	8	.004	.012	8	.000	-.006
9	-.023	-.009	9	.008	.000	9	-.008	.002
10	-.005	-.027	10	-.002	.000	10	.006	.005
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 113 - Continued

FLIGHT 86, CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 22, t = 3.4 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.408		.75	0	16.733		.95	0	18.569	
.25	1	-2.133	2.444	.75	1	-.068	-.176	.95	1	4.322	-3.295
.25	2	.840	-.914	.75	2	3.699	1.081	.95	2	2.206	.541
.25	3	-.336	.551	.75	3	1.009	.715	.95	3	1.072	-.674
.25	4	.001	-.022	.75	4	.201	-.495	.95	4	1.427	.116
.25	5	-.151	.020	.75	5	.128	-.334	.95	5	.218	-.346
.25	6	.131	-.006	.75	6	.089	.179	.95	6	.151	-.347
.25	7	-.032	.000	.75	7	.101	-.025	.95	7	-.063	.191
.25	8	.069	-.060	.75	8	.123	-.012	.95	8	-.165	.310
.25	9	.042	-.063	.75	9	-.174	-.120	.95	9	-.057	-.098
.25	10	.059	-.039	.75	10	.002	-.034	.95	10	.246	-.136
.40	0	5.868		.85	0	18.863					
.40	1	-2.880	3.732	.85	1	2.383	-2.810				
.40	2	1.683	-1.080	.85	2	3.742	.676				
.40	3	-.402	1.034	.85	3	1.588	-.071				
.40	4	-.160	-.415	.85	4	.882	-.443				
.40	5	.068	.254	.85	5	-.088	-.634				
.40	6	-.262	-.220	.85	6	.324	-.048				
.40	7	.236	.136	.85	7	-.033	.258				
.40	8	-.294	.066	.85	8	-.039	-.196				
.40	9	.119	-.066	.85	9	.055	-.083				
.40	10	-.091	.097	.85	10	-.198	.044				
.55	0	9.174		.90	0	19.190					
.55	1	-1.784	3.546	.90	1	3.771	-4.011				
.55	2	2.512	-.101	.90	2	3.140	.447				
.55	3	.350	.199	.90	3	1.423	-.432				
.55	4	-.310	.290	.90	4	1.197	-.275				
.55	5	.286	-.269	.90	5	-.180	-.601				
.55	6	-.104	-.184	.90	6	.127	-.360				
.55	7	.083	.100	.90	7	.020	.325				
.55	8	.024	-.186	.90	8	-.076	.145				
.55	9	-.020	.040	.90	9	-.021	-.185				
.55	10	.012	-.011	.90	10	.094	-.148				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 113 - Concluded

FLIGHT 86, CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 22, t = 3.4 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	1392	1873	2034	1354	-1293	-3435		
15	2361	2731	2685	2117	-70	-2480		
30	3125	3341	3453	2699	177	-1933		
45	2760	2483	2414	1974	670	-619		
60	1460	1337	1293	877	203	-1166		
75	1859	726	-90	-917	-1944	-3405		
90	1734	165	-1112	-2367	-3977	-5634		
105	1038	-602	-1844	-3168	-5112	-6798		
120	833	-1229	-2396	-3292	-4584	-5903		
135	263	-751	-1419	-2567	-4232	-5704		
150	1700	33	-1049	-2100	-3625	-5733		
165	1665	231	-316	-1279	-3739	-6738		
180	1586	132	-461	-1336	-3458	-6231		
195	1335	454	-81	-1050	-3845	-6191		
210	2258	1295	425	-554	-3519	-5445		
225	2292	2343	2106	1192	-2217	-4480		
240	2965	2962	3101	2823	-17	-2201		
255	2384	3350	3842	4016	2518	1112		
270	1631	3234	4149	4779	4489	3968		
285	1540	3135	4104	4807	5043	4714		
300	1779	3168	3761	3806	3618	3361		
315	1586	2393	2866	3014	2676	1371		
330	503	2096	2585	2088	441	-1853		
345	2121	1947	1229	295	-958	-2659		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-5414	-11315	-1274	
15	-6570	-12584	-1754	
30	-5414	-10729	486	
45	-2028	-4526	4310	
60	-1263	-2100	9238	
75	2498	-586	7030	
90	3703	-2816	4166	
105	1879	-5112	3254	
120	2986	-4298	2214	
135	2254	-3370	4934	
150	1635	-863	7766	
165	2205	163	8854	
180	1521	-293	8662	
195	-58	-2768	7318	
210	-1556	-5405	4838	
225	-4209	-8710	2854	
240	-6163	-11119	1110	
255	-8800	-11754	-282	
270	-11893	-13105	214	
285	-11486	-12682	-426	
300	-9858	-11363	-170	
315	-9191	-9752	2678	
330	-7140	-7293	3046	
345	-6098	-9149	1974	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	692	729	149
15	717	599	157
30	575	497	133
45	614	560	146
60	841	724	158
75	660	777	132
90	598	610	98
105	338	345	72
120	165	217	15
135	-296	-199	-30
150	-573	-464	-49
165	-570	-489	-42
180	-506	-422	-39
195	-472	-487	-42
210	-397	-578	-30
225	-130	-469	4
240	-132	-533	18
255	-27	-389	37
270	16	-357	65
285	-68	-230	70
300	-478	-499	50
315	-406	-353	41
330	-258	-10	71
345	282	285	117

TABLE 114

FLIGHT 86, CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 22, t = 5.4 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	10.64	5.94	3.44	2.42	1.53	.48	.316	10.26	5.36	3.54	2.74	1.82	.70	.423	0
15	9.66	4.93	3.60	2.56	1.45	.42	.087	10.73	4.67	3.31	2.75	1.62	.49	.052	15
30	8.54	6.40	4.18	3.00	1.69	.69	.124	10.08	5.94	3.83	3.36	2.04	.79	.064	30
45	7.27	6.38	4.22	2.71	1.42	.51	.014	8.33	6.16	3.54	3.12	1.78	.67	-.036	45
60	5.22	4.21	3.81	2.28	.93	.40	-.028	6.57	3.92	2.94	2.55	1.37	.42	-.103	60
75	3.13	3.02	3.00	1.69	.60	.34	-.002	4.24	2.38	1.99	1.81	.93	.35	-.125	75
90	4.11	4.24	3.61	2.12	.78	.38	-.004	4.94	2.84	2.36	2.09	1.10	.38	-.121	90
105	4.20	4.32	3.89	2.33	.84	.42	.012	5.39	3.16	2.64	2.38	1.20	.45	-.116	105
120	3.94	3.90	3.71	2.23	.89	.43	.035	5.83	3.58	2.83	2.46	1.33	.49	-.099	120
135	4.14	3.66	3.43	2.18	.98	.50	.045	5.96	3.62	2.77	2.46	1.39	.54	-.064	135
150	4.11	3.42	2.93	1.95	.92	.45	.049	6.06	3.52	2.59	2.28	1.28	.53	-.022	150
165	4.73	3.74	3.15	2.12	1.17	.59	.125	6.57	3.62	2.77	2.33	1.45	.65	.092	165
180	5.85	4.18	3.27	2.21	1.29	.62	.125	7.72	4.13	2.96	2.36	1.55	.68	.072	180
195	6.41	4.22	3.24	2.24	1.39	.67	.150	8.21	4.27	3.06	2.41	1.59	.71	.103	195
210	6.53	4.06	2.96	2.09	1.33	.61	.132	8.35	4.10	2.87	2.24	1.53	.67	.119	210
225	6.51	3.94	2.82	2.06	1.33	.60	.148	8.79	3.98	2.79	2.17	1.49	.66	.123	225
240	6.57	3.88	2.76	2.03	1.33	.61	.164	9.13	3.91	2.71	2.12	1.47	.65	.147	240
255	7.22	3.95	2.76	2.02	1.34	.57	.140	10.05	3.88	2.65	2.08	1.45	.60	.146	255
270	7.96	4.09	2.87	2.15	1.46	.65	.182	9.17	3.89	2.65	2.10	1.46	.65	.205	270
285	7.35	4.63	3.23	2.46	1.87	.92	.306	5.63	3.77	2.47	1.96	1.52	.84	.288	285
300	7.08	4.05	2.79	2.15	1.44	.65	.174	8.57	3.77	2.65	2.13	1.47	.65	.193	300
315	7.71	3.84	2.44	1.91	1.30	.69	.330	5.84	3.30	2.00	1.52	1.35	.53	.351	315
330	9.75	4.86	3.24	2.40	1.45	.46	.251	10.26	4.26	2.95	2.34	1.51	.63	.268	330
345	10.45	5.79	3.56	2.55	1.55	.57	.237	10.01	4.29	2.64	2.05	1.51	.73	.568	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.85										
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	11.17	7.66	4.60	3.48	2.50	1.96	1.37	.88	.84	.58	.478	0
15	10.84	8.81	4.70	3.76	3.08	2.66	1.68	.88	.61	.28	.160	15
30	10.66	10.07	5.53	4.14	3.57	3.04	1.99	1.04	.79	.38	.175	30
45	9.55	8.59	5.56	3.81	3.36	2.82	1.82	.91	.71	.33	.117	45
60	7.30	5.84	3.85	3.05	2.61	2.20	1.37	.60	.48	.20	.069	60
75	4.74	3.72	2.70	2.26	1.82	1.48	.97	.31	.35	.12	.009	75
90	5.42	4.37	3.15	2.66	2.16	1.61	1.07	.33	.36	.14	.016	90
105	5.86	4.76	3.48	2.92	2.35	1.73	1.19	.41	.43	.20	.030	105
120	7.11	5.98	4.28	3.20	2.59	2.12	1.38	.55	.52	.27	.045	120
135	7.46	6.15	4.38	3.34	2.79	2.22	1.52	.64	.61	.31	.094	135
150	7.51	5.77	4.16	3.19	2.68	2.15	1.47	.64	.64	.34	.084	150
165	8.43	6.23	4.28	3.42	2.82	2.34	1.62	.78	.77	.44	.136	165
180	9.51	6.28	4.43	3.53	2.91	2.42	1.65	.82	.81	.46	.144	180
195	9.83	6.24	4.41	3.54	2.91	2.47	1.67	.85	.77	.46	.164	195
210	9.61	5.81	4.12	3.30	2.67	2.29	1.54	.80	.75	.43	.160	210
225	9.30	5.55	3.86	3.12	2.55	2.21	1.47	.80	.72	.41	.168	225
240	9.24	5.51	3.78	3.07	2.46	2.17	1.43	.81	.70	.40	.191	240
255	5.37	4.76	3.98	3.04	2.45	2.22	1.49	.76	.61	.36	.210	255
270	2.66	2.32	2.06	2.25	2.00	2.03	1.57	1.04	.93	.63	.367	270
285	5.27	3.47	2.34	1.91	1.48	1.40	.91	.69	.62	.37	.362	285
300	6.35	5.52	4.24	3.19	2.51	2.28	1.48	.85	.69	.41	.210	300
315	5.71	3.84	2.57	2.05	1.83	1.66	1.71	.78	.76	.62	.439	315
330	7.99	6.09	4.46	3.54	2.64	2.29	1.35	.84	.69	.58	.344	330
345	8.63	6.34	3.92	3.22	2.68	2.56	1.89	1.26	1.03	.67	.575	345

TABLE 114 - Continued

FLIGHT 86, CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 22, t = 5.4 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.95	3.95	2.89	2.07	1.59	.67	.215	4.21	1.96	1.56	1.35	1.14	.66	.244	0
15	7.91	3.89	2.87	2.16	1.58	.62	.07?	4.55	2.19	1.48	1.18	.88	.47	.08?	15
30	8.50	4.76	3.46	2.63	2.02	.74	.111	4.40	2.20	1.55	1.29	.99	.56	.114	30
45	8.27	4.39	3.25	2.54	1.69	.69	.090	5.41	2.59	1.78	1.44	1.10	.58	.109	45
60	7.71	3.50	2.85	2.10	1.42	.54	.040	3.86	1.96	1.34	1.05	.83	.51	.120	60
75	6.40	2.49	2.17	1.67	1.04	.42	.033	3.29	1.68	1.19	.99	.80	.49	.106	75
90	5.41	2.41	2.09	1.65	1.01	.39	.064	3.40	1.77	1.21	.98	.78	.45	.109	90
105	5.08	2.72	2.29	1.80	1.07	.44	.080	3.79	1.94	1.32	1.06	.84	.48	.143	105
120	4.98	2.95	2.42	1.94	1.28	.52	.099	4.74	2.46	1.68	1.32	1.02	.58	.166	120
135	5.82	3.83	3.07	2.34	1.61	.66	.137	5.28	2.74	1.89	1.51	1.18	.67	.175	135
150	6.72	4.15	3.21	2.37	1.69	.67	.159	5.29	2.71	1.88	1.51	1.18	.65	.179	150
165	7.23	4.10	3.18	2.36	1.73	.73	.168	5.69	2.88	1.99	1.59	1.25	.70	.172	165
180	7.75	4.22	3.18	2.36	1.75	.73	.163	5.87	2.83	1.99	1.60	1.27	.69	.166	180
195	8.06	4.14	3.07	2.29	1.71	.70	.163	4.72	2.55	1.81	1.47	1.14	.57	.149	195
210	8.27	3.85	2.84	2.07	1.55	.61	.147	4.03	1.99	1.48	1.06	1.00	.54	.271	210
225	8.21	3.59	2.58	1.89	1.42	.57	.163	2.92	1.31	1.07	.74	.84	.70	.327	225
240	7.17	3.73	2.74	1.91	1.62	.57	.173	1.29	.44	.55	.64	.53	.47	.275	240
255	5.59	2.22	2.38	1.75	1.51	.81	.312	1.10	.45	.57	.55	.46	.33	.229	255
270	4.37	1.92	1.49	1.20	1.09	.67	.213	.80	.72	.60	.55	.47	.36	.082	270
285	3.82	2.08	1.46	1.12	.82	.35	.097	1.30	.55	.64	.51	.44	.32	.079	285
300	4.24	2.66	1.94	1.48	1.13	.54	.130	.92	.50	.42	.48	.53	.46	.131	300
315	4.52	2.97	2.25	1.50	1.19	.78	.436	1.90	1.00	.90	.80	.64	.37	.183	315
330	4.63	2.56	1.68	1.35	1.10	.54	.134	2.27	1.18	.97	.91	.76	.42	.098	330
345	5.74	3.97	2.76	2.19	1.81	.75	.159	3.32	1.88	1.43	1.15	.81	.46	.132	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.47	.79	.40	.33	.130	.56	.25	.16	.09	.024	0
15	1.96	.99	.63	.37	.130	.91	.41	.26	.13	.028	15
30	1.99	1.03	.65	.39	.140	1.05	.49	.31	.15	.036	30
45	2.37	1.14	.70	.39	.133	1.01	.50	.30	.15	.030	45
60	1.77	.86	.54	.36	.129	.91	.44	.26	.13	.030	60
75	1.85	.92	.60	.36	.131	1.02	.49	.30	.13	.036	75
90	1.77	.91	.60	.38	.145	.98	.51	.32	.16	.050	90
105	2.10	1.06	.68	.41	.149	1.41	.71	.44	.21	.062	105
120	2.46	1.27	.82	.49	.158	1.59	.81	.50	.23	.071	120
135	2.95	1.50	.94	.53	.197	1.80	.92	.56	.26	.083	135
150	3.21	1.65	1.02	.56	.188	2.02	1.03	.66	.30	.090	150
165	3.11	1.62	1.00	.55	.183	2.13	1.07	.67	.31	.093	165
180	2.91	1.51	.93	.51	.170	1.81	.98	.58	.27	.103	180
195	2.38	1.24	.74	.41	.145	1.13	1.35	.39	.18	.113	195
210	1.80	1.00	.59	.33	.134	.42	.51	.79	.06	.068	210
225	1.32	.98	.54	.23	.147	.14	.11	.24	.07	.006	225
240	.57	.73	.65	.16	.061	.09	.05	.13	.05	.000	240
255	.35	.37	.35	.24	.101	.07	.02	.10	.07	-.016	255
270	.30	.40	.15	.26	.138	.07	.02	.06	.05	-.015	270
285	.24	.30	.21	.21	.106	.06	.03	.04	.04	-.014	285
300	.45	.18	.10	.19	.098	.09	.03	.04	.05	.007	300
315	.84	.27	.20	.23	.125	.10	.05	.04	.05	.011	315
330	.72	.52	.23	.32	.130	.09	.04	.03	.04	.010	330
345	1.51	.78	.51	.34	.131	.36	.19	.15	.10	.028	345

TABLE 114 - Continued

FLIGHT 86, CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 22, t = 5.4 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	2.53	7.57	17.08	25.50	29.92	32.81	30.95
15	3.95	9.73	14.89	25.37	29.83	28.80	27.79
30	4.64	10.10	15.96	30.36	33.84	34.32	32.54
45	4.57	11.03	18.08	27.94	31.41	30.93	29.11
60	4.03	8.81	14.02	23.54	23.09	22.39	21.44
75	4.44	9.26	12.71	18.05	15.79	14.86	15.47
90	4.67	9.32	12.58	16.92	17.87	17.46	19.80
105	6.50	10.56	13.87	18.02	19.83	19.54	20.98
120	7.38	12.51	17.16	19.77	23.62	21.43	20.20
135	8.31	14.53	19.38	24.71	25.45	22.17	20.29
150	9.48	15.61	19.24	26.43	24.94	21.39	18.67
165	9.78	15.24	20.47	27.19	27.52	23.82	21.86
180	8.64	14.21	20.51	27.74	29.01	26.04	24.06
195	6.93	11.52	17.88	27.38	29.15	27.16	25.19
210	4.98	9.15	15.61	25.54	27.58	26.29	23.99
225	1.73	7.62	13.66	24.11	26.44	26.11	23.56
240	.99	5.75	8.03	24.47	26.00	26.05	23.58
255	.84	4.22	6.71	22.15	23.28	26.23	23.83
270	.57	3.71	6.62	16.70	20.53	26.14	25.80
285	.50	3.22	6.41	13.34	17.65	24.64	30.08
300	.66	2.86	6.99	17.57	24.84	25.56	24.87
315	.72	4.30	9.34	21.15	22.70	21.12	24.74
330	.56	5.24	10.42	17.15	26.50	28.28	27.98
345	2.12	8.07	13.39	25.57	31.02	29.11	31.15

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	10.696		0	3.619		0	7.046	
1	2.456	-8.086	1	1.045	-.719	1	-.543	.042
2	.023	.136	2	-.221	-.498	2	.008	.052
3	-.295	.118	3	.065	-.239	3	.089	.020
4	-.095	.218	4	.045	-.099	4	-.008	-.008
5	.059	.159	5	-.045	-.053	5	-.014	.014
6	.068	.000	6	.014	-.087	6	.006	-.005
7	.045	-.091	7	-.012	-.087	7	.003	-.017
8	-.027	-.086	8	.028	-.063	8	-.009	.005
9	-.064	-.114	9	.012	-.030	9	-.013	.024
10	-.045	.000	10	-.020	-.038	10	.006	-.016

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 114 - Continued

FLIGHT 86, CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 22, t = 5.4 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	4.166		.75	0	22.803		.95	0	24.373	
.25	1	-2.533	2.905	.75	1	-.881	1.305	.95	1	3.417	-2.278
.25	2	1.507	-.544	.75	2	4.990	2.438	.95	2	2.535	.951
.25	3	-.427	.690	.75	3	.519	1.314	.95	3	.507	.908
.25	4	.108	.208	.75	4	-.994	-.557	.95	4	.130	1.290
.25	5	-.172	-.050	.75	5	-.321	.077	.95	5	-1.263	-.851
.25	6	-.020	-.017	.75	6	.886	.069	.95	6	-.385	-1.150
.25	7	.123	-.020	.75	7	1.001	-1.257	.95	7	.011	-.701
.25	8	-.136	-.154	.75	8	.201	-1.013	.95	8	.690	-.215
.25	9	.062	-.062	.75	9	-.468	-.872	.95	9	.172	-.211
.25	10	.048	-.075	.75	10	-.395	-.840	.95	10	-.552	-.565
.40	0	8.929		.85	0	25.237					
.40	1	-2.670	3.867	.85	1	.804	-.724				
.40	2	2.351	-.295	.85	2	5.405	1.286				
.40	3	-.119	.866	.85	3	1.152	1.093				
.40	4	-.208	-.246	.85	4	-1.122	.764				
.40	5	-.185	-.173	.85	5	-1.077	-.358				
.40	6	-.117	-.205	.85	6	.624	-.417				
.40	7	-.148	-.242	.85	7	.197	-.895				
.40	8	.096	-.124	.85	8	-.023	-.727				
.40	9	-.056	-.163	.85	9	-.559	-.088				
.40	10	-.061	-.091	.85	10	-.761	.006				
.55	0	13.827		.90	0	25.117					
.55	1	-2.228	4.180	.90	1	2.321	-2.411				
.55	2	4.094	.392	.90	2	3.575	1.889				
.55	3	-.140	.674	.90	3	.967	1.832				
.55	4	-.473	.253	.90	4	-.556	1.124				
.55	5	.094	-.436	.90	5	-1.358	-.947				
.55	6	.151	-.449	.90	6	.062	-.847				
.55	7	-.178	-.141	.90	7	.406	-.713				
.55	8	.590	-.368	.90	8	.500	-.510				
.55	9	.244	-.095	.90	9	-.179	-.239				
.55	10	.198	-.028	.90	10	-.659	.020				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 114 - Concluded

FLIGHT 86, CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 22, t = 5.4 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-3235	198	2007	1137	-1557	-4453		
15	4973	2483	-154	-1543	-2129	-3647		
30	4277	3168	3110	1843	-3026	-6562		
45	3069	2764	2459	2292	934	-2513		
60	3468	3201	2486	832	-1275	-3786		
75	3890	1378	-325	-704	-1662	-2632		
90	-66	-668	-362	-980	-1926	-3359		
105	2442	-685	-1591	-2535	-4250	-6105		
120	2431	-91	-1681	-3518	-5182	-6463		
135	-55	-512	-823	-2364	-4522	-7538		
150	2146	-611	-2025	-2927	-4082	-7299		
165	812	-281	-886	-2860	-5869	-8413		
180	1598	-825	-1763	-2497	-4373	-7418		
195	800	206	27	-1276	-5200	-8602		
210	3137	1584	27	-1744	-3933	-6204		
225	1986	2079	1573	603	-1821	-4244		
240	2305	2211	1808	1405	1910	-443		
255	1678	3003	3616	3332	3037	2781		
270	2955	3556	4231	3999	4146	4572		
285	1724	2896	4511	4963	4911	4771		
300	1439	2879	4231	4028	3618	3865		
315	3548	2500	3200	3942	3230	-413		
330	686	4472	4131	1424	-2921	-3936		
345	4813	1056	-1166	-1486	-87	-2035		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-255	-9882	-1926	
15	-8346	-13105	1194	
30	-2843	-10956	-118	
45	2855	-2670	1802	
60	-1052	-3663	14026	
75	7804	4493	8602	
90	8537	2019	7578	
105	-157	-4786	8650	
120	5118	-3109	-838	
135	3034	-6821	1514	
150	-1150	-3940	7210	
165	2969	3158	9514	
180	413	4868	15930	
195	-1899	1807	14922	
210	-1834	-2865	5802	
225	-3657	-11152	-2550	
240	-9143	-16752	-6598	
255	-11651	-19389	-7686	
270	-13832	-16964	-5158	
285	-14776	-15108	362	
300	-9518	-10631	1914	
315	-7955	-4917	7018	
330	-8085	-4282	8602	
345	-6734	-9312	3018	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	1199	1822	99
15	944	464	288
30	2633	2580	307
45	1670	1309	345
60	855	820	117
75	12	-25	127
90	304	802	38
105	261	167	70
120	380	561	69
135	802	618	50
150	-813	-599	-44
165	-449	21	-45
180	-803	-707	14
195	-300	257	-60
210	-760	-1159	-63
225	-1405	-1664	-251
240	-1885	-2126	-197
255	-3727	-3121	-352
270	-3067	-2322	-368
285	-2440	-2577	-168
300	-878	-247	-47
315	-2828	-3535	45
330	-1048	295	-296
345	-1991	-2630	45

TABLE 115

FLIGHT 87, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 23, t = 1.3 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	6.00	4.27	3.30	2.00	1.04	.47	.069	7.58	3.72	2.64	2.22	1.57	.55	.024	6
21	4.77	3.82	3.12	1.79	.79	.39	.031	6.20	3.22	2.30	2.03	1.36	.46	-.025	21
36	3.97	3.47	3.01	1.64	.61	.34	.014	5.05	2.72	2.01	1.86	1.18	.34	-.073	36
51	3.37	3.35	2.98	1.60	.47	.29	-.014	4.48	2.42	1.92	1.80	1.09	.26	-.120	51
66	2.98	3.20	2.93	1.53	.38	.25	-.015	3.99	2.09	1.79	1.70	1.01	.23	-.159	66
81	2.12	2.73	2.66	1.32	.27	.20	-.031	3.67	1.89	1.69	1.60	.91	.20	-.181	81
96	3.39	4.27	3.47	1.97	.64	.31	-.010	3.51	1.92	1.82	1.70	1.05	.28	-.162	96
111	2.39	3.13	2.83	1.58	.48	.31	.019	4.82	2.66	2.19	1.92	1.14	.33	-.140	111
126	1.96	2.51	2.41	1.24	.37	.27	.008	3.80	2.06	1.79	1.57	.96	.31	-.117	126
141	1.87	2.23	1.98	1.09	.33	.27	.008	3.46	1.79	1.57	1.33	.86	.31	-.101	141
156	2.27	2.28	1.88	1.10	.42	.31	.046	3.57	1.87	1.58	1.33	.88	.35	-.061	156
171	2.75	2.54	1.99	1.23	.56	.36	.061	4.19	2.18	1.77	1.44	1.01	.39	-.021	171
186	3.12	2.83	2.14	1.37	.72	.41	.080	4.85	2.52	1.95	1.58	1.13	.44	.035	186
201	3.47	2.94	2.17	1.42	.79	.43	.086	5.23	2.57	2.01	1.60	1.18	.48	.063	201
216	3.94	3.00	2.18	1.47	.85	.45	.096	5.54	2.77	2.06	1.63	1.21	.49	.080	216
231	4.32	3.13	2.24	1.52	.91	.46	.103	5.86	2.97	2.15	1.68	1.26	.53	.091	231
246	4.81	3.25	2.30	1.60	.96	.48	.111	6.27	3.14	2.24	1.75	1.34	.56	.103	246
261	5.59	3.55	2.50	1.74	1.10	.53	.124	7.20	3.44	2.44	1.88	1.47	.60	.120	261
276	6.49	3.88	2.71	1.89	1.22	.56	.130	7.88	3.42	2.38	1.85	1.45	.58	.112	276
291	4.42	2.94	2.10	1.41	.83	.39	.076	5.37	2.64	1.85	1.48	1.12	.48	.073	291
306	5.19	3.32	2.37	1.59	.95	.44	.096	5.81	2.87	2.01	1.62	1.25	.48	.080	306
321	6.43	3.93	2.77	1.89	1.14	.51	.109	6.84	3.42	2.39	1.95	1.46	.57	.091	321
336	7.41	4.53	3.18	2.18	1.30	.60	.130	8.13	4.01	2.81	2.28	1.71	.63	.094	336
351	7.72	4.72	3.40	2.24	1.28	.58	.112	8.60	4.18	2.96	2.44	1.75	.63	.080	351

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	8.17	5.60	4.09	3.03	2.58	2.15	1.42	.70	.62	.29	.076	6
21	6.79	4.98	3.58	2.62	2.31	1.90	1.24	.55	.52	.22	.048	21
36	5.83	4.39	3.30	2.30	2.06	1.68	1.10	.44	.44	.17	.016	36
51	5.30	4.06	3.13	2.23	1.95	1.55	1.02	.35	.37	.13	-.015	51
66	4.74	3.60	2.87	2.08	1.80	1.34	.90	.25	.31	.08	-.045	66
81	4.44	3.38	2.74	1.78	1.71	1.24	.83	.19	.26	.06	-.071	81
96	4.25	3.24	2.69	1.82	1.65	1.27	.88	.23	.31	.10	-.045	96
111	4.37	3.33	2.84	1.99	1.77	1.42	1.01	.33	.40	.16	-.027	111
126	5.22	4.03	3.19	2.24	1.94	1.47	1.03	.32	.38	.17	-.015	126
141	4.55	3.33	2.70	1.89	1.65	1.27	.92	.29	.40	.18	.008	141
156	4.70	3.41	2.71	1.89	1.68	1.28	.94	.35	.44	.22	.012	156
171	5.11	3.70	2.87	2.08	1.83	1.43	1.05	.45	.51	.28	.044	171
186	5.60	4.10	3.13	2.26	1.96	1.58	1.12	.53	.56	.32	.070	186
201	5.86	4.24	3.15	2.33	1.98	1.65	1.15	.57	.58	.33	.076	201
216	6.14	4.35	3.21	2.39	2.03	1.68	1.18	.60	.61	.35	.089	216
231	6.56	4.46	3.28	2.50	2.11	1.79	1.22	.66	.62	.35	.111	231
246	7.00	4.72	3.45	2.64	2.18	1.89	1.27	.71	.64	.37	.119	246
261	7.77	5.06	3.73	2.83	2.35	2.03	1.36	.77	.67	.38	.136	261
276	5.72	3.80	2.78	2.07	1.74	1.54	1.00	.57	.51	.27	.076	276
291	5.54	3.73	2.75	2.07	1.70	1.54	.99	.54	.50	.27	.098	291
306	5.92	3.95	2.95	2.21	1.82	1.64	1.07	.59	.54	.29	.108	306
321	7.11	4.80	3.53	2.68	2.22	1.94	1.29	.71	.63	.34	.124	321
336	8.62	5.62	4.17	3.16	2.63	2.27	1.52	.83	.72	.38	.134	336
351	9.51	5.93	4.41	3.32	2.78	2.35	1.59	.84	.72	.36	.117	351

TABLE 115 - Continued

FLIGHT 87, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 23, t = 1.3 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	6.12	3.11	2.31	1.83	1.23	.49	.033	3.37	1.60	1.14	.96	.74	.39	.068	6
21	5.72	2.81	2.17	1.73	1.12	.44	.041	3.23	1.53	1.10	.93	.72	.38	.072	21
36	5.18	2.61	2.10	1.66	1.02	.40	.024	3.26	1.57	1.10	.92	.72	.39	.081	36
51	4.66	2.45	2.06	1.62	.96	.35	-.014	3.14	1.52	1.07	.88	.70	.38	.085	51
66	4.12	2.24	1.93	1.50	.84	.30	-.009	2.96	1.42	1.00	.84	.67	.36	.087	66
81	3.59	2.00	1.78	1.38	.71	.26	.012	2.83	1.38	.96	.80	.65	.35	.089	81
96	3.40	1.97	1.82	1.41	.74	.28	.022	3.01	1.49	1.05	.87	.69	.37	.098	96
111	3.80	2.26	2.03	1.57	.87	.34	.046	3.45	1.70	1.20	1.01	.79	.42	.108	111
126	4.08	2.36	2.10	1.61	.93	.35	.055	3.56	1.76	1.28	1.08	.84	.44	.108	126
141	4.04	2.30	2.06	1.61	.97	.37	.070	3.78	1.83	1.34	1.13	.88	.45	.117	141
156	4.63	2.55	2.15	1.66	1.06	.42	.101	3.72	1.78	1.29	1.09	.84	.44	.110	156
171	4.79	2.57	2.13	1.65	1.10	.45	.101	3.58	1.77	1.28	1.08	.84	.42	.080	171
186	5.00	2.69	2.14	1.65	1.13	.45	.095	3.41	1.62	1.18	.99	.76	.39	.065	186
201	5.13	2.68	2.09	1.62	1.10	.46	.084	2.96	1.40	1.03	.87	.67	.34	.046	201
216	5.15	2.69	2.04	1.57	1.10	.46	.093	2.62	1.22	.90	.78	.60	.30	.026	216
231	5.30	2.76	2.02	1.59	1.12	.48	.089	2.31	1.04	.79	.67	.51	.26	.008	231
246	5.41	2.90	2.09	1.63	1.14	.50	.086	1.96	.86	.67	.58	.44	.23	-.003	246
261	4.90	2.02	1.56	1.18	.88	.33	.027	1.73	.77	.60	.52	.40	.20	-.009	261
276	4.29	1.94	1.44	1.13	.79	.35	.036	1.55	.69	.54	.48	.37	.20	-.014	276
291	3.89	1.94	1.42	1.12	.77	.33	.031	1.40	.63	.49	.44	.35	.19	-.012	291
306	3.80	2.02	1.48	1.19	.82	.36	.036	1.53	.68	.53	.47	.36	.21	-.004	306
321	4.28	2.47	1.79	1.44	1.03	.45	.060	1.96	.91	.68	.60	.46	.26	.021	321
336	5.09	3.03	2.20	1.77	1.25	.53	.060	2.61	1.23	.90	.76	.59	.32	.046	336
351	5.90	3.25	2.38	1.90	1.30	.55	.063	3.16	1.49	1.07	.90	.69	.38	.057	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.14	.59	.38	.30	.084	.50	.24	.15	.09	.029	6
21	1.28	.65	.42	.32	.090	.52	.25	.17	.10	.032	21
36	1.40	.70	.45	.33	.098	.67	.32	.20	.11	.039	36
51	1.49	.75	.48	.34	.106	.76	.37	.23	.11	.043	51
66	1.47	.76	.48	.34	.100	.83	.40	.24	.12	.046	66
81	1.49	.76	.49	.36	.115	.92	.44	.27	.13	.055	81
96	1.56	.81	.52	.39	.122	1.04	.52	.32	.15	.060	96
111	1.88	.99	.62	.44	.134	1.22	.60	.38	.17	.067	111
126	2.01	1.07	.67	.46	.141	1.50	.76	.47	.21	.076	126
141	2.06	1.09	.67	.47	.128	1.51	.74	.46	.20	.079	141
156	1.95	1.07	.66	.45	.126	1.34	.71	.44	.20	.076	156
171	1.89	1.04	.64	.43	.112	1.20	.62	.40	.18	.071	171
186	1.63	.92	.55	.38	.095	.98	.49	.32	.16	.060	186
201	1.32	.74	.45	.33	.076	.66	.32	.21	.11	.039	201
216	1.00	.57	.34	.26	.056	.44	.20	.11	.05	.020	216
231	.72	.42	.24	.21	.039	.25	.12	.04	.03	.006	231
246	.53	.31	.18	.18	.030	.15	.11	.03	.01	.001	246
261	.40	.25	.14	.16	.029	.10	.04	.03	.02	.004	261
276	.31	.21	.12	.15	.030	.10	.02	.02	.02	.004	276
291	.29	.17	.11	.15	.031	.11	.02	.02	.03	.008	291
306	.31	.19	.12	.17	.038	.11	.02	.02	.03	.011	306
321	.44	.26	.17	.20	.051	.06	.02	.02	.04	.015	321
336	.74	.41	.26	.25	.066	.04	.01	.02	.03	.012	336
351	1.00	.54	.34	.28	.077	.20	.07	.06	.06	.020	351

TABLE 115 - Continued

FLIGHT 87, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 23, t = 1.3 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	2.38	6.25	11.68	20.01	24.89	24.04	22.27
21	2.55	6.86	11.31	18.41	21.40	20.44	18.98
36	3.10	7.34	11.46	16.99	18.83	16.97	16.71
51	3.49	7.78	11.15	15.75	17.22	15.08	15.23
66	3.74	7.73	10.53	14.10	15.27	13.43	14.11
81	4.17	7.97	10.19	12.55	14.07	12.21	11.62
96	4.79	8.48	10.93	12.71	14.35	13.34	18.14
111	5.58	10.00	12.46	14.64	15.88	16.62	14.25
126	6.92	10.67	13.08	15.38	17.26	13.62	11.68
141	6.81	10.80	13.63	15.52	15.39	12.25	10.41
156	6.37	10.47	13.22	17.12	15.86	12.85	11.30
171	5.78	10.03	12.89	17.50	17.53	14.88	13.05
186	4.72	8.77	11.86	17.95	19.16	17.04	14.88
201	3.16	7.19	10.33	17.82	19.68	17.92	15.71
216	1.83	5.53	9.06	17.76	20.31	18.74	16.51
231	.94	4.09	7.83	18.14	21.21	19.83	17.42
246	.61	3.14	6.66	18.69	22.23	21.00	18.36
261	.45	2.58	5.88	14.06	24.02	23.16	20.48
276	.37	2.29	5.40	13.20	17.79	23.32	22.56
291	.47	2.11	4.99	12.65	17.53	17.66	16.21
306	.52	2.38	5.42	13.18	18.82	19.06	18.53
321	.50	3.08	7.04	16.02	22.52	22.53	22.08
336	.37	4.52	9.22	19.33	26.55	26.23	25.47
351	1.10	5.70	11.00	20.83	27.96	27.24	26.04

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	13.400		0	3.725		0	5.458	
1	.540	-4.514	1	.220	-.755	1	-.288	.076
2	-.029	.093	2	-.135	-.061	2	-.012	.039
3	.064	.053	3	.008	-.086	3	.004	-.022
4	.000	-.012	4	.020	-.065	4	.004	-.020
5	-.047	.023	5	-.049	-.049	5	.009	-.020
6	.032	.026	6	.016	.004	6	-.001	.000
7	-.006	.026	7	-.016	.008	7	.015	.007
8	-.009	.006	8	.020	-.012	8	.009	.008
9	.006	-.003	9	.020	-.004	9	.000	.000
10	.018	.000	10	.000	-.008	10	-.007	.004

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 115 - Continued

FLIGHT 87, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 23, t = 1.3 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.946		.75	0	16.263		.95	0	17.167	
.25	1	-1.351	2.680	.75	1	.121	-.528	.95	1	3.479	-3.649
.25	2	.294	-.703	.75	2	2.905	.262	.95	2	.817	-.196
.25	3	.070	.479	.75	3	1.285	-.567	.95	3	1.206	-1.549
.25	4	.035	.110	.75	4	-.302	-.531	.95	4	1.212	-.854
.25	5	.005	-.022	.75	5	-.300	-.033	.95	5	-1.075	-.349
.25	6	.170	.022	.75	6	.185	-.427	.95	6	-.906	-.243
.25	7	.015	.012	.75	7	-.131	-.047	.95	7	.452	-.050
.25	8	.054	-.072	.75	8	-.102	.327	.95	8	.707	-.016
.25	9	.085	.005	.75	9	.189	-.152	.95	9	-.406	.043
.25	10	.018	.005	.75	10	-.077	-.102	.95	10	-.800	-.009
.40	0	6.490		.85	0	19.405					
.40	1	-1.330	3.594	.85	1	1.902	-3.185				
.40	2	1.033	-.613	.85	2	2.414	-.079				
.40	3	.206	.257	.85	3	1.948	-1.211				
.40	4	.032	-.004	.85	4	.111	-.995				
.40	5	-.129	-.154	.85	5	-1.003	-.476				
.40	6	.026	-.102	.85	6	.328	-.021				
.40	7	-.001	.027	.85	7	.179	-.117				
.40	8	-.048	-.014	.85	8	-.339	-.317				
.40	9	-.013	-.005	.85	9	-.093	.242				
.40	10	.005	.008	.85	10	.235	.188				
.55	0	9.883		.90	0	18.311					
.55	1	-.623	3.153	.90	1	2.642	-4.465				
.55	2	1.770	-.526	.90	2	1.471	-.216				
.55	3	.627	.132	.90	3	1.895	-1.190				
.55	4	.036	-.107	.90	4	1.013	-.719				
.55	5	-.138	-.202	.90	5	-1.145	-.690				
.55	6	-.005	-.162	.90	6	-.272	-.234				
.55	7	.024	.005	.90	7	.458	.360				
.55	8	.056	-.019	.90	8	.119	.020				
.55	9	-.026	-.012	.90	9	-.374	-.327				
.55	10	.037	-.060	.90	10	-.093	.017				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o\right) + M_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 115 - Concluded

FLIGHT 87, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 23, t = 1.3 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	1345	1361	1510	80	-1340	-3825	-6302	-5519
21	2189	1782	1826	624	-909	-3616	-4717	-3752
36	1585	1559	1880	757	-135	-2253	-3588	-3322
51	935	792	1193	290	-258	-1995	-2688	-2745
66	1174	347	298	-760	-1402	-3199	-3070	-2526
81	981	17	-380	-1857	-2924	-4920	-5157	-3504
96	582	-809	-1139	-2515	-3910	-6373	-5439	-3621
111	490	-1155	-2133	-3488	-3769	-5447	-4880	-3687
126	34	-1444	-1627	-2649	-3188	-5348	-5627	-3453
141	582	-677	-560	-1847	-3100	-5805	-6344	-3482
156	1767	215	-235	-2000	-3320	-5855	-6015	-3526
171	1106	-297	-434	-1771	-2783	-5527	-5868	-3635
186	639	-718	-723	-1695	-2247	-5129	-5748	-3854
201	1049	190	-81	-1504	-2555	-5238	-5455	-3811
216	2269	1180	886	-388	-1710	-4890	-6302	-4285
231	1836	1898	2350	1377	-143	-3258	-6198	-4563
246	2132	2153	2721	2083	1581	-154	-4100	-4110
261	2086	2261	2965	2694	2840	2125	152	-3124
276	1140	2277	3471	3342	3632	2941	2390	-1372
291	1311	2409	3508	3238	3315	2602	1318	-1840
306	1482	2269	3191	2780	2277	194	-2411	-3409
321	889	2129	2712	1406	-82	-2353	-4655	-4840
336	1311	1130	1003	-82	-1015	-3577	-5716	-5417
351	319	751	1040	-82	-1560	-4313	-6234	-5636

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-7871	-7228	2046	14082
21	-7432	-7049	2158	14000
36	-4941	-4770	3054	13908
51	-3915	-2491	5854	15116
66	-2548	-798	6670	15033
81	-545	-472	5246	14164
96	-399	-2002	4750	14658
111	1229	-1726	3150	13688
126	1864	-1465	3918	14283
141	513	-81	6622	15409
156	1539	1579	7774	16040
171	1929	2947	8350	15894
186	464	1628	8606	16626
201	-562	-781	6286	15619
216	-2076	-3386	3726	14823
231	-5706	-6170	3054	15198
246	-6390	-7521	1710	14905
261	-7171	-6968	830	13679
276	-10623	-8254	2734	14713
291	-11551	-7945	2510	14567
306	-10492	-7049	2910	14338
321	-9923	-6186	3838	15253
336	-7692	-5519	3150	14649
351	-6178	-6382	1998	14054

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	378	435	144
21	327	418	130
36	460	464	148
51	637	610	165
66	628	706	156
81	472	592	131
96	413	495	98
111	368	432	71
126	180	212	22
141	-239	-164	-12
156	-485	-395	-31
171	-570	-369	-39
186	-503	-389	-33
201	-484	-434	-32
216	-327	-426	-12
231	-236	-371	2
246	-281	-444	6
261	-270	-291	16
276	-295	-326	36
291	-591	-471	44
306	-714	-521	35
321	-411	-226	65
336	38	165	118
351	456	561	142

TABLE 116

FLIGHT 87, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 23, t = 3.7 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	6.24	4.51	3.47	2.09	1.09	.51	.078	8.20	4.11	2.91	2.43	1.69	.59	.028	6
21	4.75	3.99	3.27	1.88	.81	.40	.025	6.63	3.44	2.45	2.16	1.43	.46	-.040	21
36	3.80	3.66	3.18	1.73	.64	.35	.008	5.39	2.91	2.18	1.99	1.25	.38	-.085	36
51	2.53	3.56	3.17	1.70	.50	.32	-.014	4.85	2.60	2.06	1.94	1.15	.32	-.131	51
66	2.86	3.53	3.21	1.75	.47	.30	-.010	4.38	2.34	2.03	1.85	1.09	.26	-.164	66
81	3.10	3.76	3.43	1.94	.60	.33	-.015	3.80	2.06	1.87	1.82	1.05	.27	-.178	81
96	4.11	4.54	3.77	2.22	.78	.35	.008	4.36	2.58	2.25	2.09	1.29	.39	-.143	96
111	2.93	3.43	3.08	1.74	.61	.36	.023	5.48	3.04	2.58	2.17	1.31	.41	-.145	111
126	2.81	3.07	2.71	1.52	.57	.36	.025	4.62	2.62	2.21	1.90	1.14	.38	-.107	126
141	2.75	2.86	2.34	1.41	.56	.37	.032	4.50	2.42	2.02	1.69	1.10	.37	-.087	141
156	3.00	2.86	2.23	1.39	.62	.38	.048	4.71	2.54	2.03	1.68	1.12	.41	-.049	156
171	3.17	3.01	2.32	1.49	.74	.43	.076	5.09	2.69	2.12	1.71	1.17	.42	-.014	171
186	3.99	3.15	2.34	1.53	.81	.45	.086	5.52	2.80	2.21	1.73	1.22	.49	.054	186
201	4.46	3.25	2.41	1.59	.94	.50	.097	5.93	2.94	2.24	1.80	1.29	.51	.073	201
216	4.66	3.33	2.40	1.64	.98	.49	.107	6.13	3.14	2.25	1.80	1.33	.57	.096	216
231	4.97	3.52	2.46	1.71	1.05	.51	.111	6.55	3.33	2.38	1.88	1.38	.58	.107	231
246	5.38	3.66	2.58	1.81	1.11	.55	.126	7.12	3.55	2.45	1.94	1.49	.61	.115	246
261	5.77	3.91	2.76	1.96	1.24	.57	.137	8.77	3.86	2.67	2.07	1.60	.63	.129	261
276	5.81	4.05	2.78	2.05	1.35	.63	.149	8.84	3.53	2.41	1.84	1.44	.52	.101	276
291	4.95	3.20	2.26	1.48	.89	.44	.088	5.61	2.80	2.00	1.55	1.20	.49	.073	291
306	6.14	3.87	2.72	1.85	1.10	.46	.107	6.50	3.20	2.25	1.77	1.36	.57	.089	306
321	7.13	4.54	3.14	2.16	1.29	.57	.126	7.98	3.88	2.69	2.16	1.61	.66	.096	321
336	7.84	5.12	3.51	2.46	1.48	.67	.141	9.70	4.45	3.13	2.52	1.89	.75	.107	336
351	7.56	5.13	3.70	2.44	1.45	.63	.115	10.12	4.65	3.27	2.69	1.95	.73	.082	351

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	9.04	5.98	4.40	3.25	2.78	2.28	1.52	.75	.65	.32	.083	6
21	7.00	5.23	3.80	2.77	2.42	1.96	1.29	.56	.52	.22	.042	21
36	6.08	4.69	3.52	2.50	2.24	1.79	1.17	.47	.48	.18	.027	36
51	5.67	4.39	3.43	2.42	2.12	1.68	1.12	.40	.41	.15	-.024	51
66	5.18	4.12	3.27	2.32	2.04	1.54	1.04	.32	.37	.10	-.040	66
81	4.84	3.73	3.08	2.07	1.92	1.40	.95	.25	.33	.09	-.058	81
96	5.00	3.99	3.30	2.29	2.05	1.59	1.11	.37	.43	.16	-.033	96
111	5.37	4.30	3.44	2.49	2.17	1.72	1.20	.44	.46	.21	-.007	111
126	6.12	4.91	3.87	2.75	2.36	1.81	1.25	.47	.49	.22	.003	126
141	5.73	4.35	3.45	2.49	2.13	1.67	1.19	.45	.53	.25	.029	141
156	5.89	4.50	3.48	2.49	2.18	1.69	1.23	.52	.58	.30	.046	156
171	6.14	4.52	3.44	2.51	2.17	1.73	1.24	.56	.61	.33	.057	171
186	6.56	4.69	3.49	2.61	2.24	1.78	1.29	.23	.63	.35	.083	186
201	6.65	4.76	3.48	2.62	2.22	1.82	1.29	.65	.63	.36	.104	201
216	6.88	4.83	3.57	2.66	2.24	1.88	1.29	.69	.68	.39	.108	216
231	7.55	5.04	3.71	2.82	2.35	1.99	1.36	.76	.68	.39	.132	231
246	8.14	5.29	3.88	2.96	2.47	2.11	1.43	.81	.73	.40	.134	246
261	9.12	5.88	4.14	3.14	2.61	2.22	1.48	.85	.73	.41	.170	261
276	4.95	3.46	2.66	1.93	1.59	1.37	.86	.44	.36	.23	.132	276
291	6.08	4.12	3.04	2.26	1.88	1.67	1.10	.60	.56	.31	.098	291
306	6.73	4.45	3.26	2.46	2.04	1.81	1.20	.67	.62	.32	.134	306
321	8.27	5.44	3.96	3.02	2.52	2.15	1.45	.81	.72	.38	.147	321
336	9.84	6.06	4.58	3.50	2.92	2.51	1.68	.94	.80	.43	.159	336
351	10.48	6.41	4.89	3.71	3.12	2.63	1.75	.95	.81	.41	.140	351

TABLE 116 - Continued

FLIGHT 87, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 23, t = 3.7 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	6.82	3.33	2.48	2.01	1.33	.52	.048	3.86	1.79	1.29	1.07	.81	.44	.071	6
21	6.35	2.95	2.30	1.86	1.20	.47	.031	3.60	1.72	1.21	1.02	.79	.41	.080	21
36	5.75	2.69	2.22	1.77	1.09	.42	.017	3.61	1.74	1.23	1.00	.79	.43	.096	36
51	5.15	2.60	2.20	1.74	1.03	.39	-.021	3.51	1.71	1.20	.99	.79	.42	.098	51
66	4.61	2.43	2.14	1.65	.95	.35	.022	3.36	1.63	1.14	.95	.76	.40	.101	66
81	4.13	2.28	2.06	1.60	.89	.32	.014	3.27	1.59	1.11	.92	.73	.41	.099	81
96	3.58	1.91	1.92	1.52	.91	.37	.055	3.51	1.83	1.30	1.08	.84	.43	.114	96
111	4.13	2.49	2.26	1.77	1.01	.41	.055	3.72	1.89	1.35	1.14	.88	.47	.114	111
126	4.52	2.65	2.39	1.84	1.12	.44	.074	4.08	2.06	1.47	1.24	.98	.51	.130	126
141	4.81	2.80	2.44	1.92	1.21	.48	.095	4.44	2.16	1.54	1.28	.99	.49	.126	141
156	5.48	3.05	2.57	1.97	1.29	.50	.117	4.34	2.11	1.51	1.26	.98	.50	.132	156
171	5.73	3.00	2.48	1.89	1.28	.53	.112	4.33	2.07	1.47	1.21	.93	.46	.090	171
186	5.80	2.96	2.39	1.85	1.25	.51	.110	3.91	1.82	1.32	1.10	.86	.43	.072	186
201	5.77	2.89	2.27	1.77	1.24	.50	.095	3.40	1.61	1.17	.98	.76	.39	.054	201
216	5.76	2.86	2.23	1.72	1.20	.52	.110	3.10	1.41	1.04	.88	.67	.34	.036	216
231	5.96	2.99	2.26	1.74	1.23	.54	.110	2.62	1.24	.91	.78	.60	.31	.025	231
246	6.09	3.17	2.32	1.81	1.28	.55	.106	2.20	1.05	.78	.67	.51	.26	.006	246
261	5.68	2.02	1.74	1.22	.84	.32	.050	1.99	.94	.70	.60	.46	.23	.002	261
276	4.76	1.98	1.53	1.18	.84	.38	.033	1.87	.88	.68	.59	.45	.25	.003	276
291	4.38	2.05	1.56	1.22	.85	.37	.036	1.43	.63	.50	.45	.35	.18	-.026	291
306	4.18	2.09	1.59	1.29	.91	.41	.063	1.82	.81	.61	.54	.42	.22	.010	306
321	4.75	2.63	2.00	1.61	1.16	.51	.070	2.31	1.08	.79	.68	.53	.29	.032	321
336	5.53	3.15	2.36	1.90	1.37	.59	.084	3.23	1.52	1.09	.91	.71	.38	.061	336
351	6.51	3.53	2.62	2.09	1.47	.61	.076	3.72	1.75	1.25	1.06	.82	.44	.072	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.11	.60	.39	.31	.086	.95	.43	.26	.14	.041	6
21	1.70	.85	.53	.36	.102	.81	.40	.24	.14	.043	21
36	1.56	.78	.50	.36	.110	.85	.46	.29	.15	.039	36
51	1.70	.87	.56	.38	.117	.98	.47	.29	.15	.048	51
66	1.63	.85	.53	.37	.110	.92	.45	.27	.14	.050	66
81	1.84	.96	.61	.42	.124	1.16	.62	.40	.19	.071	81
96	1.66	.87	.55	.41	.126	1.19	.61	.37	.17	.064	96
111	2.22	1.17	.73	.49	.143	1.30	.66	.43	.20	.093	111
126	2.21	1.18	.74	.51	.157	1.66	.85	.51	.22	.081	126
141	2.30	1.26	.78	.51	.144	1.56	.84	.53	.24	.085	141
156	2.34	1.28	.77	.50	.135	1.51	.77	.48	.21	.071	156
171	2.16	1.17	.70	.46	.124	1.42	.71	.45	.20	.081	171
186	1.87	1.02	.61	.42	.111	1.11	.55	.36	.18	.069	186
201	1.51	.82	.49	.34	.084	.79	.38	.25	.12	.044	201
216	1.17	.66	.39	.29	.068	.48	.29	.14	.08	.043	216
231	.87	.50	.29	.24	.046	.26	.20	.15	.01	.020	231
246	.64	.38	.22	.20	.036	.14	.07	.13	.02	.001	246
261	.54	.32	.18	.19	.039	.10	.02	.06	.04	.006	261
276	.70	.38	.23	.18	.039	.08	.01	.00	.05	.012	276
291	.33	.19	.11	.16	.040	.12	.02	.03	.05	.018	291
306	.45	.25	.16	.18	.044	.16	.06	.04	.05	.055	306
321	.55	.33	.21	.22	.057	.18	.07	.06	.06	.015	321
336	.91	.52	.33	.29	.078	.21	.09	.08	.07	.022	336
351	1.09	.63	.40	.31	.080	.31	.14	.10	.07	.023	351

TABLE 116 - Continued

FLIGHT 87, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 23, t - 3.7 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	5.69	6.31	13.10	26.70	26.87	26.19	23.52
21	5.15	8.60	12.45	24.33	22.23	21.50	19.60
36	5.58	8.17	12.67	22.30	20.12	18.19	17.33
51	6.06	8.88	12.45	20.73	18.71	16.38	15.51
66	5.73	8.56	11.92	19.22	17.39	14.94	15.57
81	7.61	9.65	11.71	17.80	16.09	13.78	17.10
96	7.48	8.98	13.13	16.76	17.96	17.20	20.34
111	8.38	11.55	13.81	19.54	19.26	19.29	16.25
126	10.30	11.81	15.13	21.11	21.07	16.80	14.89
141	10.11	12.20	15.54	22.46	19.90	15.91	14.02
156	9.45	12.15	15.42	24.42	20.60	16.62	14.35
171	8.91	11.16	14.73	24.64	20.99	17.63	15.66
186	7.16	9.80	13.37	24.36	21.83	18.97	16.90
201	4.96	7.91	11.78	23.86	21.98	19.96	18.22
216	3.21	6.38	10.45	23.69	22.61	20.95	18.67
231	1.85	4.84	9.14	24.44	23.86	21.98	19.58
246	1.12	3.74	7.71	25.23	25.23	23.38	20.80
261	.81	3.32	6.91	18.95	26.84	25.96	22.36
276	.59	3.81	6.76	17.51	15.61	23.78	23.41
291	.88	2.34	4.95	17.13	19.37	18.66	17.71
306	1.21	2.95	6.27	17.46	21.20	21.30	21.28
321	1.30	3.71	8.20	21.26	25.58	25.55	25.01
336	1.64	5.53	11.18	24.99	29.63	29.92	28.25
351	1.58	6.40	12.90	27.81	31.11	30.80	27.85

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	13.420		0	4.202		0	5.436	
1	.823	-5.133	1	.718	-.583	1	-.242	.009
2	-.041	.053	2	-.094	.094	2	.030	-.004
3	.076	.105	3	-.078	-.041	3	.042	-.031
4	-.041	-.067	4	.053	-.061	4	-.014	-.004
5	-.070	.026	5	.012	.004	5	-.004	.004
6	-.003	.026	6	.012	.037	6	.005	.005
7	.000	.012	7	-.008	-.106	7	.003	.000
8	.020	.026	8	.008	.012	8	-.003	.004
9	-.018	.006	9	-.016	.004	9	-.003	.005
10	.026	-.009	10	.004	-.016	10	.003	-.005

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^0\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^0\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^0\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^0\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^0\right) + F_n \sin n \left(\psi_{nom} - 6^0\right) \right]$$

TABLE 116 - Continued

FLIGHT 87, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 23, t = 3.7 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	4.865		.75	0	21.945		.95	0	19.340	
.25	1	-1.561	4.067	.75	1	-.341	-.419	.95	1	2.924	-3.391
.25	2	.672	-.846	.75	2	3.879	.124	.95	2	.545	-.797
.25	3	.142	.642	.75	3	1.713	-.482	.95	3	1.071	-2.142
.25	4	.135	.203	.75	4	-.477	-.985	.95	4	.988	-1.299
.25	5	.145	.155	.75	5	-.068	-.018	.95	5	-.727	-.179
.25	6	.272	.190	.75	6	.368	-.468	.95	6	-.781	.311
.25	7	.023	.137	.75	7	-.230	-.067	.95	7	.115	-.075
.25	8	.165	-.137	.75	8	-.169	.360	.95	8	.445	-.315
.25	9	.359	.094	.75	9	.285	-.281	.95	9	-.160	-.114
.25	10	.250	.159	.75	10	-.049	-.230	.95	10	-.596	.126
.40	0	7.448		.85	0	21.918					
.40	1	-1.459	3.875	.85	1	1.206	-2.586				
.40	2	1.011	-.668	.85	2	2.662	-.909				
.40	3	.239	.414	.85	3	2.269	-1.736				
.40	4	.009	-.057	.85	4	-.481	-1.448				
.40	5	-.168	-.170	.85	5	-1.036	-.100				
.40	6	-.154	.019	.85	6	.588	-.057				
.40	7	-.051	.242	.85	7	.292	-.680				
.40	8	-.132	.038	.85	8	-.629	-.312				
.40	9	-.146	-.126	.85	9	-.144	.576				
.40	10	-.029	.138	.85	10	.532	.124				
.55	0	11.319		.90	0	20.651					
.55	1	-.781	3.523	.90	1	2.344	-4.230				
.55	2	1.956	-.706	.90	2	1.615	-.992				
.55	3	.772	-.023	.90	3	2.311	-1.693				
.55	4	.023	-.358	.90	4	.754	-1.183				
.55	5	-.184	-.273	.90	5	-1.276	-.571				
.55	6	-.176	-.116	.90	6	-.423	-.174				
.55	7	.045	.012	.90	7	.628	-.004				
.55	8	.141	-.110	.90	8	.092	-.083				
.55	9	-.045	-.038	.90	9	-.453	-.113				
.55	10	-.135	.053	.90	10	-.147	.043				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o\right) + M_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 116 - Concluded

FLIGHT 87, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 23, t = 3.7 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	1064	990	1076	-498	-1821	-4022	-5852	-5731
21	2626	1609	1329	370	-906	-3525	-4346	-3256
36	985	1601	1944	752	308	-2182	-4247	-3789
51	1270	701	1266	580	-396	-1893	-3002	-3132
66	2079	371	226	-718	-1848	-3943	-3033	-2650
81	722	371	-235	-1939	-3036	-5187	-5627	-4387
96	608	-1106	-1229	-2416	-4347	-5813	-5685	-4468
111	403	-1287	-2350	-3580	-3194	-5535	-5042	-3256
126	-178	-924	-1121	-2826	-3335	-5177	-6527	-4373
141	1349	-693	-316	-1357	-2825	-6062	-7693	-3942
156	1999	429	63	-1738	-3159	-6440	-6857	-3986
171	1053	-165	-181	-1595	-3009	-5594	-6286	-4709
186	1167	-990	-1184	-1891	-2367	-5714	-6098	-3774
201	574	355	-27	-1862	-2851	-5923	-6051	-4307
216	2957	949	515	-679	-1909	-5386	-7207	-4898
231	2261	1873	2242	1229	194	-3405	-6370	-4511
246	2182	2310	2848	2135	1866	37	-4440	-5139
261	2535	2170	2965	3051	3115	2097	0	-3635
276	1600	2533	3526	3137	3687	3152	3823	511
291	1589	2591	3489	3013	3397	3261	1898	-1526
306	1429	1691	3381	3451	2543	-351	-4085	-4344
321	848	2747	3327	1438	-1065	-3555	-5047	-5198
336	2991	1535	931	-298	-1795	-4022	-6255	-6081
351	-133	322	1076	-31	-1276	-4550	-7228	-6461

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-7984	-8352	1573	14219
21	-8684	-7880	1061	13332
36	-6063	-5405	2325	14173
51	-5493	-2800	6229	15445
66	-2237	49	6645	14933
81	-1977	-260	6693	15198
96	-1212	-2035	4677	14274
111	465	-2491	2373	13057
126	1019	-3451	3029	14622
141	286	-309	5461	14878
156	856	1140	8693	16982
171	1865	4347	10005	16333
186	1670	3500	10165	17202
201	563	98	7589	16388
216	-300	-2556	3813	14658
231	-4403	-6659	3013	15656
246	-6258	-7733	1589	15061
261	-6519	-7424	421	13569
276	-9124	-7945	2117	13844
291	-11533	-7570	3509	15601
306	-10133	-5617	3893	14164
321	-9596	-5356	4389	15729
336	-9368	-6349	4245	15738
351	-5819	-6284	805	12975

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	626	561	174
21	337	530	128
36	480	496	154
51	628	651	160
66	634	780	167
81	569	687	140
96	276	484	98
111	207	331	55
126	322	298	28
141	-103	-41	19
156	-149	-214	2
171	-460	-252	-22
186	-606	-437	-39
201	-423	-428	-38
216	-324	-405	-11
231	-44	-256	10
246	-158	-301	24
261	-244	-307	18
276	-454	-349	16
291	-470	-478	33
306	-683	-434	35
321	-323	-168	73
336	164	197	128
351	697	855	167

TABLE 117

FLIGHT 87, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 23, t = 7.0 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	8.61	5.06	4.10	2.60	1.49	.65	.086	10.17	4.65	3.65	3.07	2.18	.84	.080	6
21	7.95	5.37	4.26	2.68	1.37	.58	.059	9.51	5.29	3.59	3.00	2.02	.70	.024	21
36	6.70	5.37	4.24	2.52	1.17	.49	.021	7.84	4.11	3.37	2.84	1.85	.61	-.030	36
51	5.07	4.80	3.96	2.30	.92	.49	.035	6.66	3.77	3.05	2.69	1.72	.56	-.066	51
66	4.34	4.45	3.96	2.33	.85	.47	.023	6.34	3.86	3.06	2.76	1.70	.54	-.098	66
81	7.20	7.10	5.51	3.06	1.64	.76	.139	6.72	4.80	4.34	2.98	2.19	.87	.028	81
96	8.94	8.91	7.57	3.13	1.43	.69	.101	8.57	6.92	6.97	3.06	2.36	.97	.033	96
111	8.67	8.78	7.62	3.66	1.42	.76	.136	10.06	8.53	8.27	4.98	2.23	.85	.085	111
126	8.26	8.40	7.28	2.90	1.63	.75	.128	10.12	8.40	8.05	4.40	2.15	.86	.052	126
141	7.68	7.75	3.86	2.96	1.64	.74	.132	9.63	8.09	5.83	2.86	2.24	.88	.073	141
156	7.25	6.07	4.17	2.80	1.56	.73	.133	9.15	7.47	3.63	3.20	2.17	.84	.091	156
171	7.17	5.34	3.73	2.54	1.45	.72	.132	9.04	5.29	3.74	2.99	2.08	.81	.101	171
186	7.41	5.11	3.65	2.52	1.50	.74	.151	9.21	4.70	3.65	2.87	2.04	.83	.150	186
201	7.84	5.09	3.57	2.43	1.52	.74	.166	9.97	4.83	3.58	2.77	1.99	.83	.167	201
216	8.21	5.01	3.50	2.49	1.60	.77	.174	10.19	4.85	3.56	2.78	2.02	.87	.178	216
231	8.71	4.99	3.45	2.46	1.58	.71	.162	10.90	4.91	3.46	2.68	1.96	.79	.188	231
246	8.57	4.77	3.31	2.35	1.51	.69	.155	10.81	4.75	3.30	2.53	1.92	.73	.183	246
261	9.74	5.06	3.49	2.53	1.66	.76	.193	10.35	5.09	3.38	2.52	1.86	.72	.244	261
276	10.19	5.77	3.70	2.46	1.58	.67	.286	9.79	4.23	2.97	2.35	1.81	.70	.277	276
291	9.90	6.17	3.82	3.12	2.03	1.00	.269	9.15	5.39	3.85	2.82	2.25	1.07	.333	291
306	9.82	5.57	3.62	2.68	1.95	.78	.216	9.26	5.45	3.92	3.04	2.16	.98	.319	306
321	10.66	5.49	3.54	2.57	1.64	.60	.170	10.69	5.31	3.65	2.85	2.05	.75	.284	321
336	11.05	6.34	3.75	2.73	1.70	.61	.151	11.49	5.47	3.62	2.78	1.96	.64	.307	336
351	11.01	6.65	4.20	2.99	1.72	.67	.164	12.17	6.37	4.08	3.07	2.15	.64	.230	351

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	11.49	10.49	5.40	4.24	3.61	2.98	2.02	1.05	.83	.39	.162	6
21	9.87	8.55	5.11	3.88	3.31	2.68	1.80	.91	.76	.36	.102	21
36	9.13	7.83	5.10	3.82	3.28	2.65	1.78	.84	.72	.32	.083	36
51	8.01	7.05	4.97	3.71	3.26	2.55	1.70	.77	.67	.29	.053	51
66	7.98	6.90	5.61	3.85	3.42	2.63	1.78	.77	.68	.30	.033	66
81	8.13	7.24	6.07	4.72	3.74	2.71	1.93	.91	.77	.34	.070	81
96	9.90	9.03	8.17	6.63	3.86	3.06	2.22	1.05	.87	.42	.121	96
111	10.51	9.62	8.62	7.13	4.81	3.51	2.55	1.32	1.15	.62	.174	111
126	11.27	10.80	10.13	7.75	5.54	3.62	2.28	1.15	.95	.48	.183	126
141	10.96	10.39	9.52	5.30	3.70	3.07	2.25	1.13	.96	.50	.142	141
156	10.82	10.09	7.27	4.12	3.78	3.06	2.19	1.11	.96	.51	.168	156
171	10.72	9.86	5.28	4.20	3.64	2.90	2.08	1.07	.93	.52	.153	171
186	10.76	9.96	5.39	4.15	3.59	2.88	2.06	1.10	.96	.54	.177	186
201	10.93	9.32	5.19	3.95	3.36	2.75	1.94	1.03	.91	.50	.196	201
216	11.33	8.07	5.28	3.92	3.38	2.79	1.94	1.09	.93	.52	.217	216
231	10.28	7.78	5.44	4.02	3.39	2.79	1.87	1.03	.86	.51	.241	231
246	9.07	5.27	3.88	3.44	3.40	2.95	2.09	1.01	.77	.46	.241	246
261	8.43	5.13	3.44	2.51	2.05	1.79	1.10	.76	.67	.71	.409	261
276	9.51	6.54	4.81	3.69	3.08	2.59	1.82	1.09	.89	.50	.200	276
291	8.52	6.35	4.75	3.51	2.97	2.48	1.75	.86	.81	.64	.358	291
306	8.09	5.69	4.37	3.48	3.04	2.87	2.27	1.11	1.01	.59	.369	306
321	9.54	7.89	6.15	4.74	3.96	3.32	2.32	1.38	.79	.53	.298	321
336	11.54	8.62	5.71	4.20	3.40	2.65	1.70	.92	.79	.60	.444	336
351	11.99	10.24	5.79	4.28	3.60	2.94	1.95	.96	.70	.40	.280	351

TABLE 117 - Continued

FLIGHT 87, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 23, t = 7.0 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	8.47	4.14	2.96	2.07	1.60	.57	.067	5.19	2.51	1.77	1.47	1.14	.59	.123	6
21	8.25	3.80	2.86	2.32	1.59	.70	.101	5.32	2.46	1.73	1.42	1.06	.54	.090	21
36	8.24	4.19	3.13	2.36	1.55	.60	.044	5.07	2.45	1.72	1.39	1.06	.57	.130	36
51	7.77	3.96	3.10	2.35	1.53	.60	.041	4.45	2.12	1.53	1.30	1.00	.55	.118	51
66	7.35	4.04	3.17	2.33	1.50	.61	.050	5.64	2.77	1.92	1.60	1.22	.60	.136	66
81	6.76	3.52	2.97	2.28	1.63	.72	.134	5.59	2.82	1.97	1.60	1.25	.60	.143	81
96	7.07	4.17	3.32	2.60	1.75	.77	.131	5.09	2.60	1.83	1.52	1.22	.66	.177	96
111	7.60	5.34	3.61	2.96	2.02	.81	.153	6.32	3.09	2.17	1.74	1.38	.69	.169	111
126	7.86	4.56	3.78	2.97	2.10	.89	.177	7.12	3.44	2.38	1.88	1.49	.72	.187	126
141	8.49	6.28	3.91	3.02	2.15	.79	.163	7.60	3.49	2.41	1.90	1.50	.70	.176	141
156	8.82	5.64	3.79	2.88	2.04	.76	.165	7.08	3.23	2.26	1.80	1.41	.68	.173	156
171	9.10	4.83	3.59	2.70	1.92	.72	.170	6.69	3.01	2.10	1.69	1.32	.61	.145	171
186	9.26	4.72	3.43	2.58	1.85	.71	.172	5.62	2.72	1.91	1.56	1.20	.58	.124	186
201	9.31	4.46	3.17	2.38	1.70	.65	.172	5.08	2.50	1.75	1.44	1.11	.52	.105	201
216	9.15	4.84	3.06	2.26	1.70	.64	.208	4.71	2.31	1.66	1.35	1.02	.49	.105	216
231	8.12	3.64	3.35	2.46	1.81	.91	.324	4.25	2.05	1.46	1.21	.92	.42	.078	231
246	6.96	2.67	2.30	1.81	1.10	.48	.170	3.76	1.76	1.27	1.06	.78	.37	.081	246
261	6.33	2.88	2.04	1.62	1.16	.48	.063	3.58	1.65	1.20	1.00	.75	.36	.077	261
276	6.13	3.43	2.42	1.95	1.47	.66	.157	2.71	1.14	.84	.83	.72	.41	.110	276
291	6.69	3.53	2.64	2.01	1.39	.56	.196	3.31	1.59	1.15	.96	.71	.38	.064	291
306	7.10	4.36	3.08	2.27	1.64	.77	.435	3.63	1.77	1.32	1.12	.84	.42	.105	306
321	7.20	3.68	2.58	1.99	1.48	.75	.287	4.41	2.14	1.58	1.33	.98	.47	.140	321
336	7.44	3.84	2.87	2.15	1.54	.83	.277	3.93	3.29	2.55	1.83	1.45	.56	.145	336
351	8.08	3.59	2.26	1.60	1.10	.65	.339	5.45	2.52	1.75	1.49	1.11	.59	.156	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	2.15	1.22	.78	.52	.133	1.03	.49	.31	.16	.057	6
21	2.14	1.14	.70	.46	.112	1.57	.77	.47	.21	.076	21
36	2.33	1.24	.78	.49	.134	1.19	.62	.40	.21	.061	36
51	2.23	1.21	.78	.52	.144	1.31	.67	.43	.21	.066	51
66	2.59	1.38	.86	.54	.140	1.42	.73	.46	.21	.069	66
81	2.52	1.35	.88	.58	.162	1.53	.79	.49	.24	.083	81
96	2.72	1.45	.92	.59	.154	1.81	.93	.57	.26	.092	96
111	3.16	1.74	1.09	.68	.189	1.96	1.03	.65	.30	.099	111
126	3.28	1.81	1.11	.67	.182	2.24	1.15	.72	.33	.108	126
141	3.24	1.79	1.10	.66	.177	2.26	1.18	.73	.32	.102	141
156	3.19	1.74	1.06	.63	.150	2.06	1.07	.66	.30	.110	156
171	2.93	1.61	.97	.58	.146	1.76	.92	.58	.27	.110	171
186	2.61	1.44	.86	.51	.137	1.35	.82	.48	.21	.102	186
201	2.25	1.25	.73	.44	.140	.92	1.09	.48	.17	.118	201
216	1.71	1.21	.68	.36	.140	.34	.35	.64	.10	.041	216
231	1.10	1.05	.86	.40	.122	.20	.19	.20	.23	.050	231
246	.75	.62	.52	.58	.227	.17	.07	.08	.14	.062	246
261	.60	.59	.41	.19	.156	.11	.05	.04	.06	.204	261
276	.84	.45	.24	.25	.073	.15	.07	.05	.07	.201	276
291	1.11	.47	.31	.27	.070	.21	.18	.07	.07	.069	291
306	.79	.65	.51	.23	.122	.22	.19	.12	.08	.046	306
321	1.03	.71	.52	.29	.143	.46	.29	.19	.10	.052	321
336	1.38	.79	.52	.35	.106	.64	.32	.22	.12	.055	336
351	1.91	1.07	.69	.44	.183	1.08	.53	.33	.16	.060	351

TABLE 117 - Continued

FLIGHT 87, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 23, t = 7.0 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	4.76	11.86	18.11	25.94	34.51	33.00	29.34
21	7.04	10.99	17.40	26.14	30.99	31.72	28.68
36	5.85	12.03	17.43	26.24	30.03	27.33	26.29
51	6.28	12.01	15.90	25.43	28.34	24.62	23.03
66	6.69	13.32	19.46	25.28	29.68	24.25	21.66
81	7.28	13.52	19.62	25.22	32.05	31.60	34.56
96	8.44	14.16	19.09	27.67	38.29	40.49	39.87
111	9.38	16.68	21.96	31.52	43.75	45.97	40.41
126	10.50	16.98	24.00	31.67	45.37	44.82	39.24
141	10.52	16.70	24.31	34.22	41.31	40.40	33.36
156	9.66	16.11	22.88	32.81	38.15	36.14	30.75
171	8.45	14.88	21.26	30.89	34.48	32.68	28.54
186	6.93	13.22	19.08	30.31	34.81	31.92	28.62
201	6.49	11.45	17.37	28.63	33.62	32.41	28.85
216	4.15	9.87	16.25	28.85	34.27	32.94	29.42
231	2.88	9.43	14.32	29.31	33.22	32.68	29.23
246	1.72	8.36	12.49	19.92	30.63	31.62	28.20
261	1.52	5.13	11.94	19.15	23.60	31.77	30.82
276	1.70	4.68	10.27	22.87	31.11	29.37	31.91
291	1.54	5.54	11.44	23.04	29.96	35.70	36.13
306	1.75	6.03	13.13	28.07	32.38	35.28	33.01
321	2.69	6.95	15.50	25.14	36.12	33.84	31.15
336	3.29	7.90	20.53	26.69	34.11	33.77	33.16
351	5.00	10.63	18.31	23.31	34.79	36.68	34.75

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.507		0	6.557		0	4.818	
1	.835	-4.830	1	.265	-1.461	1	-.360	-.032
2	-.172	-.461	2	.061	.339	2	.063	.000
3	-.409	-.035	3	-.122	-.220	3	.093	.008
4	-.199	.292	4	.110	-.082	4	-.012	-.026
5	.175	.061	5	-.192	-.008	5	-.015	-.027
6	.041	-.093	6	-.065	.037	6	-.005	-.001
7	-.032	.006	7	-.155	.069	7	-.004	.016
8	.020	.032	8	-.090	.024	8	-.005	-.004
9	.018	-.018	9	.000	-.029	9	-.011	-.012
10	-.067	.003	10	.004	-.012	10	-.016	-.007

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 117 - Continued

FLIGHT 87, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 23, t = 7.0 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	5.604		.75	0	27.012		.95	0	31.290	
.25	1	-1.214	3.730	.75	1	-2.548	2.780	.95	1	-.544	.683
.25	2	.747	-.913	.75	2	1.603	-2.153	.95	2	-2.779	-3.934
.25	3	.347	.207	.75	3	-.199	-.359	.95	3	2.007	-2.208
.25	4	.085	.222	.75	4	-1.093	1.508	.95	4	1.956	1.414
.25	5	.029	-.138	.75	5	.691	.319	.95	5	.163	.350
.25	6	-.061	.168	.75	6	-.328	-.416	.95	6	-.944	-.390
.25	7	-.033	.048	.75	7	-.014	.517	.95	7	-1.001	-.560
.25	8	-.080	.095	.75	8	.598	.045	.95	8	-.478	-.634
.25	9	-.078	-.015	.75	9	-.825	-.143	.95	9	.241	.043
.25	10	-.300	.068	.75	10	.153	.582	.95	10	.268	.482
.40	0	11.184		.85	0	33.982					
.40	1	-1.660	4.752	.85	1	-2.097	3.204				
.40	2	1.081	-.709	.85	2	.257	-4.103				
.40	3	.693	-.127	.85	3	1.909	-2.082				
.40	4	-.171	-.020	.85	4	-.496	1.652				
.40	5	.175	.073	.85	5	.106	-.055				
.40	6	.417	-.369	.85	6	.117	-.571				
.40	7	-.026	-.076	.85	7	-.122	.504				
.40	8	-.058	.094	.85	8	.732	.282				
.40	9	.079	-.275	.85	9	.366	-.851				
.40	10	.060	-.212	.85	10	-.395	-.436				
.55	0	17.585		.90	0	33.791					
.55	1	-1.051	4.310	.90	1	-2.011	1.572				
.55	2	1.662	-2.152	.90	2	-1.488	-4.837				
.55	3	.666	-.725	.90	3	3.172	-2.156				
.55	4	-.577	-.543	.90	4	.786	1.995				
.55	5	-.022	-.385	.90	5	.053	.563				
.55	6	-.015	.246	.90	6	.071	-.549				
.55	7	-.293	.426	.90	7	-.131	-.705				
.55	8	-.511	.115	.90	8	-.502	-.109				
.55	9	-.176	.156	.90	9	-.174	.237				
.55	10	.310	-.001	.90	10	.180	.052				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o\right) + M_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 117 - Concluded

FLIGHT 87, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 23, t = 7.0 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	4394	1048	-1257	-3413	-4410	-5722	-6198	-6490
21	1020	-198	416	-160	-2597	-5822	-6741	-6293
36	-394	330	1537	1128	210	-3205	-8943	-8943
51	4907	2582	1645	746	-1145	-4867	-3462	-2037
66	2456	2970	2269	117	-1075	-2827	-5873	-5439
81	1704	-338	316	-150	-133	-4886	-7479	-6570
96	2171	-215	-1220	-2278	-2721	-2100	-2788	-4052
111	1259	223	-1266	-3365	-1603	-578	-4916	-7884
126	1339	-767	777	928	-477	-6011	-10167	-6942
141	3493	1947	2233	69	-1805	-4807	-11281	-8921
156	5477	1832	2215	50	-2791	-6817	-7835	-6030
171	2616	-363	-90	-627	-1172	-4568	-8833	-5606
186	-348	-347	-208	-2278	-2069	-4319	-7620	-5957
201	3744	355	-597	-2421	-3310	-6399	-6757	-4263
216	3436	1460	1248	-809	-2967	-6488	-10340	-7169
231	3117	1559	2640	1071	-1066	-4130	-6977	-8052
246	4063	2021	2305	1281	16	-1374	-1522	-4000
261	1783	2376	2775	1548	2031	3034	4362	-1621
276	233	1931	3589	4400	5358	3581	1522	-1796
291	2160	3952	5532	5354	4830	1581	-3807	-7045
306	5044	5503	6455	4973	773	-3135	-4310	-5636
321	4645	3152	2956	1872	-441	-3633	-5601	-4986
336	256	-74	850	40	-802	-3613	-6490	-7380
351	1453	-347	-1401	-2907	-3873	-5155	-3373	-4628

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-8705	-6854	4148	16845
21	-6573	-7538	1124	13734
36	-3870	-5519	1204	13881
51	-9031	-5633	7604	18199
66	-3219	-651	6596	15107
81	-533	1954	8420	15491
96	-842	-1986	8708	18758
111	3114	391	2308	11822
126	1698	-4884	3412	14878
141	-2600	-4624	4628	17083
156	1633	440	5316	16680
171	2007	5307	12308	20029
186	1779	6919	16484	21731
201	1274	6675	13140	19224
216	1160	-1302	7972	18968
231	-3675	-6772	212	12554
246	-7403	-12764	-3820	12847
261	-10984	-14326	-3724	12737
276	-13557	-12666	-1756	13423
291	-16113	-15319	2612	17705
306	-12173	-7521	4548	15061
321	-6963	244	8868	17239
336	-3235	651	12372	20350
351	-695	667	4452	15043

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	1464	1538	251
21	1106	1052	216
36	600	848	134
51	194	81	159
66	918	919	173
81	664	780	156
96	790	784	126
111	1894	1871	221
126	2544	1983	256
141	1719	1509	225
156	1282	1133	149
171	20	197	53
186	49	366	11
201	-481	-192	-13
216	-144	-180	-19
231	-887	-545	-22
246	-2661	-1273	-250
261	-2491	-1236	-304
276	-2326	-1293	-189
291	-592	-453	1
306	-29	-229	111
321	-674	-180	33
336	-1542	-1385	-18
351	-2521	-830	-276

TABLE 118

FLIGHT 87, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 23, t = 7.5 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	11.17	6.87	4.00	2.81	1.71	.52	.170	11.89	6.26	3.92	3.00	2.16	.69	.181	6
21	10.53	8.23	4.59	3.03	1.86	.78	.136	11.71	7.69	4.01	3.33	2.43	.88	.120	21
36	9.61	9.55	4.83	2.64	1.67	.66	.055	11.41	8.99	4.40	3.33	2.37	.80	.068	36
51	7.54	7.46	4.32	2.35	1.16	.43	-.042	9.24	7.86	3.89	3.02	2.05	.63	-.073	51
66	5.32	4.50	3.48	2.05	.82	.37	.019	7.29	4.94	2.91	2.34	1.40	.38	-.082	66
81	4.81	4.07	3.25	1.90	.73	.43	.044	5.48	2.92	2.28	2.02	1.32	.48	-.057	81
96	5.69	4.76	3.77	2.36	1.05	.49	.055	5.69	3.08	2.54	2.26	1.53	.55	-.047	96
111	6.51	6.41	4.34	2.71	1.24	.53	.044	6.82	3.90	3.32	2.85	1.86	.61	-.058	111
126	5.05	4.66	3.58	2.10	.85	.39	.029	6.59	3.92	2.96	2.43	1.50	.48	-.061	126
141	4.37	3.82	3.11	1.89	.96	.52	.090	5.89	3.30	2.59	2.24	1.50	.59	-.007	141
156	5.08	4.19	3.16	2.07	1.11	.59	.111	6.84	3.94	3.02	2.46	1.71	.69	.057	156
171	6.61	4.93	3.52	2.43	1.39	.70	.133	7.98	4.52	3.48	2.80	2.02	.79	.101	171
186	7.29	5.07	3.59	2.50	1.51	.79	.182	8.94	4.78	3.62	2.83	2.06	.89	.185	186
201	8.66	5.51	3.92	2.81	1.78	.83	.193	10.35	5.02	3.92	3.10	2.26	.92	.206	201
216	9.10	5.31	3.73	2.66	1.70	.78	.176	11.19	5.42	3.76	2.88	2.12	.82	.176	216
231	8.75	4.99	3.41	2.40	1.51	.70	.162	11.06	4.89	3.46	2.61	1.94	.75	.178	231
246	9.61	5.20	3.71	2.73	1.89	.92	.264	10.87	5.22	3.63	2.87	2.25	.98	.314	246
261	9.82	5.89	3.90	2.65	1.95	.98	.387	5.00	4.83	3.85	3.26	2.68	1.27	.682	261
276	8.52	4.90	2.94	1.87	1.41	.87	.372	7.49	3.63	2.21	1.38	1.13	.86	.553	276
291	9.04	4.82	3.48	2.60	1.77	.78	.279	9.31	5.03	3.58	2.77	2.02	.78	.274	291
306	9.88	5.82	4.49	3.52	2.86	1.06	.329	10.00	4.83	3.59	3.17	2.58	1.31	.408	306
321	9.90	4.85	3.00	2.09	1.34	.70	.290	7.46	4.63	2.97	2.15	1.87	.98	.483	321
336	10.74	5.29	3.55	2.47	1.42	.35	.179	10.54	4.25	2.81	2.14	1.53	.41	.208	336
351	11.01	6.19	3.87	2.75	1.84	.80	.252	11.80	6.02	4.10	3.23	2.44	.96	.284	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.85										
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	12.08	10.73	6.54	4.54	3.81	2.89	2.14	1.18	.95	.50	.243	6
21	12.11	11.33	8.36	5.27	4.07	3.37	2.31	1.14	.92	.49	.247	21
36	11.86	11.04	10.38	6.18	4.74	3.59	2.37	1.16	.91	.38	.168	36
51	9.47	8.60	6.49	4.26	3.50	2.92	2.08	.96	.74	.31	.078	51
66	6.40	4.84	3.53	2.55	2.30	1.77	1.18	.49	.47	.18	-.001	66
81	6.07	4.76	3.61	2.51	2.28	1.80	1.24	.52	.51	.22	.040	81
96	6.82	5.33	4.10	2.86	2.54	1.97	1.35	.57	.55	.26	.051	96
111	7.72	6.37	4.71	3.40	2.91	2.28	1.55	.65	.61	.27	.038	111
126	7.13	5.64	4.26	3.05	2.74	2.06	1.39	.58	.56	.27	.029	126
141	7.90	6.10	4.66	3.40	2.85	2.30	1.60	.76	.70	.37	.104	141
156	9.29	7.16	5.11	3.85	3.22	2.55	1.81	.90	.83	.45	.132	156
171	10.29	9.19	5.42	4.21	3.54	2.85	2.04	1.07	.94	.53	.168	171
186	10.63	9.78	5.40	4.21	3.56	2.90	2.07	1.12	1.00	.56	.185	186
201	11.73	10.28	6.05	4.32	3.70	3.03	2.15	1.17	.97	.55	.235	201
216	7.66	6.79	4.85	4.13	3.43	2.83	1.97	1.06	.89	.51	.262	216
231	10.45	7.55	4.91	3.69	3.06	2.53	1.67	.90	.75	.44	.247	231
246	7.05	6.52	4.78	4.28	3.94	3.46	2.28	1.21	.98	.60	.316	246
261	6.56	3.96	3.21	2.49	2.19	2.12	1.72	1.42	1.42	1.05	.671	261
276	8.46	6.60	5.13	3.52	2.83	2.33	1.49	.96	.95	.58	.294	276
291	8.62	5.37	3.97	2.99	2.53	2.14	1.38	.69	.60	.43	.298	291
306	8.96	7.73	5.36	4.06	3.54	2.88	2.22	1.29	1.19	.81	.572	306
321	7.85	6.79	4.46	3.61	3.20	2.64	2.40	1.32	1.14	.68	.472	321
336	11.24	7.63	4.78	3.52	2.86	2.34	1.42	.71	.58	.35	.235	336
351	11.79	9.96	5.70	4.43	3.72	3.11	2.15	1.23	.99	.53	.232	351

TABLE 118 - Continued

FLIGHT 87, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 23, t = 7.5 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	8.18	4.33	3.09	2.38	1.60	.50	.227	5.16	2.54	1.78	1.52	1.15	.53	.115	6
21	8.59	5.30	3.38	2.49	1.71	.67	.251	5.61	2.80	2.02	1.65	1.27	.63	.134	21
36	9.25	6.33	4.01	3.20	2.40	.98	.184	6.78	3.01	2.06	1.66	1.26	.56	.114	36
51	8.98	4.21	3.26	2.57	1.79	.66	.022	6.49	3.04	2.08	1.69	1.27	.56	.121	51
66	8.34	3.55	2.75	2.05	1.30	.45	.001	4.40	2.15	1.50	1.23	.95	.48	.104	66
81	6.98	2.65	2.19	1.74	1.08	.43	.048	3.28	1.60	1.15	.96	.77	.42	.099	81
96	6.12	2.78	2.26	1.79	1.12	.45	.063	3.60	1.76	1.28	1.06	.84	.44	.099	96
111	5.75	3.19	2.64	2.02	1.23	.47	.058	4.24	2.01	1.41	1.17	.88	.44	.101	111
126	5.48	2.96	2.49	1.93	1.18	.47	.074	4.20	2.06	1.46	1.21	.93	.49	.124	126
141	5.55	3.31	2.70	2.18	1.45	.62	.131	5.02	2.45	1.73	1.42	1.09	.57	.145	141
156	6.46	4.18	3.19	2.50	1.71	.71	.160	5.57	2.70	1.87	1.56	1.20	.58	.156	156
171	7.20	4.64	3.49	2.66	1.90	.76	.187	5.76	2.72	1.91	1.57	1.21	.59	.150	171
186	7.77	4.62	3.39	2.57	1.88	.77	.200	5.80	2.74	1.94	1.60	1.22	.59	.130	186
201	8.22	5.33	3.59	2.55	1.90	.76	.265	5.25	2.63	1.87	1.54	1.17	.56	.124	201
216	7.38	3.35	3.63	2.60	2.25	1.12	.456	4.81	2.31	1.64	1.37	1.01	.46	.085	216
231	5.69	1.31	1.38	.99	.94	1.00	.613	3.92	1.87	1.35	1.11	.83	.40	.072	231
246	4.63	1.72	1.37	1.07	.84	.46	.432	3.74	1.81	1.31	1.09	.83	.41	.085	246
261	5.40	3.79	2.61	2.10	1.49	.61	.170	3.81	1.73	1.45	1.26	.90	.40	.094	261
276	5.40	3.69	2.98	2.26	1.72	.72	.275	2.90	1.16	.95	.90	.72	.41	.127	276
291	5.15	2.64	1.85	1.31	.91	.42	.191	3.43	1.64	1.15	.92	.66	.37	.127	291
306	6.04	4.33	3.30	2.93	2.21	.96	.339	4.40	2.06	1.53	1.27	.96	.43	.120	306
321	6.03	3.64	2.87	2.33	1.89	.96	.454	3.92	1.86	1.34	1.10	.81	.39	.127	321
336	5.83	2.56	3.22	1.17	.68	.27	.065	5.18	2.69	1.85	1.49	1.11	.49	.148	336
351	6.81	3.95	1.51	1.99	1.63	.67	.115	5.21	2.56	1.84	1.51	1.20	.64	.179	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.71	.88	.51	.34	.146	1.00	.55	.38	.20	.081	6
21	2.49	1.24	.69	.42	.174	1.41	.74	.48	.24	.087	21
36	2.39	1.28	.80	.51	.126	1.45	.74	.46	.22	.064	36
51	2.75	1.42	.83	.46	.108	1.35	.67	.41	.18	.061	51
66	2.05	1.09	.66	.43	.133	1.16	.59	.37	.18	.064	66
81	1.63	.84	.52	.37	.104	1.08	.52	.31	.14	.055	81
96	2.02	1.07	.66	.44	.135	1.19	.60	.38	.18	.071	96
111	2.03	1.05	.64	.44	.132	1.45	.71	.43	.20	.071	111
126	2.35	1.23	.75	.49	.142	1.47	.73	.45	.21	.079	126
141	2.32	1.24	.78	.52	.154	1.53	.81	.50	.24	.088	141
156	2.50	1.37	.86	.56	.158	1.72	.89	.56	.26	.110	156
171	2.70	1.47	.91	.57	.150	1.65	.84	.54	.26	.099	171
186	2.71	1.48	.90	.54	.138	1.49	.77	.49	.24	.099	186
201	2.37	1.31	.77	.46	.143	.90	.67	.36	.16	.081	201
216	1.87	1.06	.67	.36	.122	.73	.57	.30	.10	.066	216
231	1.10	1.00	.66	.34	.099	.31	.29	.34	.03	.026	231
246	.85	.57	.42	.48	.135	.24	.12	.21	.12	.020	246
261	.76	.51	.30	.37	.110	.17	.10	.10	.13	.031	261
276	.51	.51	.43	.34	.124	.18	.10	.08	.11	.070	276
291	.87	.74	.45	.33	.115	.17	.11	.07	.06	.101	291
306	.94	.87	.52	.27	.142	.23	.19	.16	.10	.069	306
321	1.07	.66	.43	.35	.116	.34	.30	.23	.09	.048	321
336	1.23	.76	.54	.36	.108	.72	.36	.24	.14	.066	336
351	1.56	.81	.43	.37	.171	.97	.49	.33	.19	.078	351

TABLE 118 - Continued

FLIGHT 87, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 23, t - 7.5 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	5.38	8.63	17.83	26.57	38.04	36.13	33.95
21	6.98	11.68	19.95	29.99	41.60	40.08	38.10
36	6.75	12.35	20.66	37.08	45.10	41.30	37.67
51	6.08	12.95	20.58	28.17	33.76	34.80	29.11
66	5.48	10.56	15.19	22.83	20.31	24.11	20.91
81	4.77	8.48	12.03	18.96	20.78	19.36	19.70
96	5.63	10.48	13.07	18.95	23.07	21.35	23.71
111	6.53	10.44	14.25	20.36	26.18	26.14	28.40
126	6.77	11.94	14.91	19.48	23.96	23.24	21.38
141	7.37	12.26	17.58	22.43	27.11	22.07	20.26
156	8.23	13.33	19.07	26.63	30.90	25.85	22.44
171	7.92	14.01	19.39	29.28	34.20	30.11	26.93
186	7.22	13.79	19.49	29.53	34.95	32.27	28.77
201	5.13	12.04	18.41	31.28	37.19	35.19	32.21
216	4.04	9.78	16.01	31.93	31.20	34.77	31.28
231	2.47	8.22	13.21	19.17	30.72	32.41	28.88
246	2.09	7.16	13.04	15.09	33.52	35.93	33.24
261	1.69	5.72	13.49	23.00	29.44	36.04	35.46
276	1.65	5.71	10.67	25.27	29.78	24.73	28.86
291	1.45	6.64	11.59	16.77	25.49	32.41	30.79
306	2.08	6.94	14.95	30.63	36.53	38.18	40.19
321	2.60	6.84	13.24	28.03	33.87	30.51	28.59
336	3.72	7.70	17.90	16.83	28.88	26.80	28.79
351	4.99	8.22	18.94	23.29	36.99	38.98	34.98

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	16.019		0	5.749		0	6.716	
1	2.175	-9.286	1	2.379	-1.550	1	-.737	.068
2	-.295	.041	2	-.359	-.889	2	.026	-.070
3	-.467	.190	3	.000	-.392	3	.086	-.082
4	-.128	.175	4	.012	-.290	4	-.031	.005
5	-.137	.292	5	-.118	.016	5	-.024	-.012
6	.029	.292	6	-.061	-.090	6	-.012	.000
7	.149	.018	7	-.078	-.037	7	-.019	.012
8	.035	-.213	8	-.082	-.004	8	-.007	-.024
9	-.181	-.140	9	-.175	.008	9	-.026	-.026
10	-.158	.041	10	-.065	.037	10	.000	.014

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 118 - Continued

FLIGHT 87, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 23, t = 7.5 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	4.875		.75	0	24.647		.95	0	29.358	
.25	1	-.537	2.469	.75	1	.313	.116	.95	1	2.959	-4.660
.25	2	1.470	-.390	.75	2	4.515	1.268	.95	2	2.321	1.687
.25	3	.077	.565	.75	3	-2.659	2.276	.95	3	.998	.896
.25	4	.126	.060	.75	4	-.105	3.004	.95	4	1.150	2.711
.25	5	-.193	.116	.75	5	-.754	.511	.95	5	-1.498	1.732
.25	6	-.082	-.073	.75	6	-1.046	1.387	.95	6	.474	-.397
.25	7	.038	.017	.75	7	2.507	-.175	.95	7	1.061	-1.909
.25	8	-.076	.044	.75	8	.117	-2.446	.95	8	-1.591	-.918
.25	9	-.168	.022	.75	9	-.981	-1.268	.95	9	-1.214	.033
.25	10	-.056	-.039	.75	10	-.498	-.661	.95	10	-.258	.199
.40	0	9.828		.85	0	31.399					
.40	1	-1.276	2.589	.85	1	2.045	-2.582				
.40	2	1.852	.111	.85	2	6.054	1.258				
.40	3	-.557	.816	.85	3	.708	2.232				
.40	4	-.245	.479	.85	4	.094	2.327				
.40	5	-.452	.113	.85	5	-1.801	2.142				
.40	6	-.028	-.288	.85	6	-.135	.220				
.40	7	-.101	-.153	.85	7	.548	-1.787				
.40	8	.031	.152	.85	8	.015	-1.019				
.40	9	-.035	.246	.85	9	-.086	-1.540				
.40	10	-.268	.119	.85	10	-.885	-.163				
.55	0	16.061		.90	0	30.948					
.55	1	.382	1.424	.90	1	2.513	-4.270				
.55	2	3.608	.095	.90	2	4.359	2.936				
.55	3	-.192	1.021	.90	3	.848	1.509				
.55	4	-.448	.122	.90	4	-.104	2.464				
.55	5	-.784	-.214	.90	5	-1.267	1.424				
.55	6	-.164	-.272	.90	6	1.254	-.965				
.55	7	.189	-.794	.90	7	1.091	-2.341				
.55	8	-.351	-.072	.90	8	-1.665	-1.117				
.55	9	-.449	.453	.90	9	-.725	.014				
.55	10	-.048	.375	.90	10	-.031	-.244				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^0 \right) + M_n \sin n \left(\psi_{nom} - 6^0 \right) \right]$$

TABLE 118 - Concluded

FLIGHT 87, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 23, t = 7.5 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	2502	58	-118	-751	-2430	-5125	-10063	-8205
21	518	-165	1537	-103	-3451	-5891	-7364	-7147
36	4816	908	-136	-446	-617	-4449	-6547	-4709
51	1669	3333	4059	1519	-952	-2857	-7882	-8344
66	6138	1939	2567	2101	729	-3683	-3651	-3468
81	2616	1947	1437	-274	-846	-1911	-439	-920
96	803	-800	-425	-1562	-107	-668	-1930	-4511
111	1054	-1815	-1492	-1410	-1401	-4090	-3363	-3066
126	1327	776	-99	-2554	-3997	-5523	-7427	-6658
141	3037	-41	136	-1104	-4049	-7941	-9822	-6899
156	1008	-338	-524	-1829	-3249	-6857	-9158	-5636
171	518	-314	-796	-2793	-2703	-4459	-7829	-6723
186	1795	-495	-316	-1009	-1832	-5653	-7777	-4796
201	2456	2112	1609	-427	-1893	-3354	-9393	-7234
216	3972	2500	2757	1099	-1401	-5046	-8310	-6833
231	3026	2054	2495	1538	-72	-2299	-3828	-4811
246	1829	1469	1627	603	1486	2228	999	-4351
261	1042	932	2305	2778	3079	1959	1778	-1781
276	963	3869	5532	4372	1697	-777	-3447	-2862
291	5602	5206	4393	2435	2049	19	-6877	-9490
306	1863	2442	4475	4333	-151	-4459	-194	-3292
321	1099	1667	9	-666	843	1571	-4629	-5088
336	256	1634	3978	2006	-4181	-5802	-2997	-3358
351	5226	3077	1121	-1162	-3759	-4498	-8039	-7410

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-1868	-9052	2164	16013
21	1681	-2751	-828	10504
36	1356	-3598	6644	16653
51	3049	2621	10036	15756
66	8226	6577	12132	17111
81	5263	4965	14132	18620
96	7054	3923	6452	14366
111	3244	-3175	2532	13881
126	-858	-7163	660	13487
141	1535	-4005	1540	12471
156	2284	3875	9556	16635
171	1893	6300	15156	22097
186	4075	7310	12676	18785
201	-77	1026	10436	18346
216	-5400	-5210	4340	15198
231	-5596	-9052	-2364	11447
246	-7224	-11461	-2060	12499
261	-11847	-10435	1236	14603
276	-15364	-9149	5860	17861
291	-8298	-3891	3636	13844
306	-8331	-6952	7300	17330
321	-8754	-4054	5684	14274
336	-12759	-6968	2708	13981
351	-8803	-8042	3348	13030

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	1214	1670	95
21	2731	2298	508
36	4121	3746	523
51	2203	1856	408
66	-343	-250	74
81	-316	-266	36
96	714	700	216
111	1331	1589	185
126	-463	-437	13
141	-141	209	-85
156	-878	-676	26
171	-333	381	-102
186	-862	-938	31
201	640	771	49
216	-154	-653	104
231	-3661	-2996	-328
246	-1942	-585	-353
261	-2923	-3133	-46
276	-3655	-2966	-356
291	-3421	-1942	-361
306	-196	-228	23
321	-2230	-1955	103
336	-2364	-939	-204
351	-3104	-1927	-191

TABLE 119

FLIGHT 88, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 24, t = 1.2 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95							Δp, lb/sq in., at - r/R = 0.90							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	5.61	3.93	3.09	1.83	.96	.44	.063	7.17	3.55	2.51	2.11	1.49	.53	.019	6
21	4.50	3.52	2.90	1.68	.76	.36	.031	5.71	2.95	2.12	1.88	1.29	.42	-.028	21
36	3.74	3.24	2.81	1.52	.59	.32	.011	4.79	2.53	1.86	1.70	1.12	.34	-.066	36
51	3.17	3.11	2.77	1.51	.45	.29	-.006	4.43	2.32	1.79	1.73	1.06	.32	-.099	51
66	2.82	2.95	2.67	1.28	.36	.25	-.014	3.95	1.98	1.64	1.57	.94	.24	-.143	66
81	2.16	2.60	2.46	1.28	.28	.21	-.021	3.54	1.82	1.59	1.50	.89	.21	-.162	81
96	3.74	3.76	3.10	1.82	.62	.31	.000	3.47	1.89	1.67	1.59	.99	.31	-.143	96
111	2.55	2.72	2.54	1.41	.45	.29	.021	4.58	2.52	2.03	1.76	1.13	.33	-.124	111
126	2.24	2.32	2.20	1.17	.38	.28	.017	3.71	2.01	1.67	1.50	.95	.31	-.103	126
141	2.08	2.11	1.84	1.04	.35	.27	.021	3.40	1.74	1.48	1.28	.85	.30	-.085	141
156	2.43	2.24	1.81	1.08	.43	.31	.048	3.58	1.85	1.52	1.29	.87	.33	-.049	156
171	3.06	2.54	1.97	1.23	.58	.37	.067	4.15	2.16	1.72	1.42	1.02	.38	-.016	171
186	3.58	2.73	2.07	1.32	.70	.40	.078	4.74	2.42	1.90	1.51	1.10	.44	.040	186
201	3.99	2.81	2.08	1.38	.79	.42	.092	5.10	2.48	1.93	1.54	1.16	.48	.066	201
216	4.40	2.88	2.10	1.42	.84	.43	.088	5.22	2.62	1.95	1.52	1.16	.47	.080	216
231	4.74	3.00	2.14	1.47	.91	.43	.099	5.61	2.80	2.02	1.57	1.21	.50	.087	231
246	5.16	3.12	2.21	1.54	.97	.46	.103	6.01	2.99	2.11	1.64	1.27	.54	.096	246
261	5.92	3.45	2.42	1.68	1.09	.51	.122	6.94	3.28	2.28	1.76	1.39	.58	.120	261
276	6.58	3.73	2.59	1.85	1.24	.54	.130	7.46	3.24	2.27	1.76	1.36	.57	.110	276
291	4.67	2.84	2.02	1.35	.82	.38	.076	5.09	2.49	1.73	1.37	1.07	.44	.071	291
306	5.49	3.28	2.31	1.56	.95	.40	.094	5.49	2.71	1.87	1.52	1.17	.48	.077	306
321	6.60	3.87	2.70	1.85	1.14	.46	.109	6.58	3.24	2.26	1.84	1.40	.57	.094	321
336	7.69	4.45	3.09	2.13	1.31	.58	.124	7.96	3.88	2.69	2.18	1.64	.65	.099	336
351	7.61	4.56	3.21	2.18	1.31	.56	.109	8.39	4.03	2.86	2.33	1.70	.64	.075	351

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85											ψ_{nom}, deg
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	7.96	5.39	3.89	2.93	2.53	2.11	1.40	.68	.62	.30	.114	6
21	6.42	4.68	3.38	2.50	2.20	1.80	1.19	.52	.50	.22	.069	21
36	5.64	4.20	3.12	2.23	1.99	1.62	1.07	.43	.44	.17	.040	36
51	5.29	3.86	3.00	2.12	1.84	1.47	.97	.34	.37	.13	-.005	51
66	4.56	3.43	2.70	1.96	1.65	1.26	.85	.23	.29	.09	-.033	66
81	4.30	3.19	2.57	1.69	1.57	1.16	.78	.18	.27	.07	-.057	81
96	4.31	3.18	2.58	1.69	1.56	1.23	.84	.23	.32	.11	-.044	96
111	4.68	3.47	2.74	1.87	1.67	1.34	.94	.31	.39	.16	-.022	111
126	4.85	3.65	2.93	2.03	1.77	1.39	.96	.31	.38	.16	-.003	126
141	4.52	3.24	2.57	1.80	1.57	1.25	.88	.29	.40	.19	.010	141
156	4.63	3.36	2.60	1.84	1.62	1.26	.91	.34	.43	.22	.016	156
171	5.11	3.71	2.86	2.03	1.78	1.42	1.01	.43	.49	.28	.046	171
186	5.55	4.04	3.03	2.21	1.90	1.56	1.10	.51	.55	.31	.067	186
201	5.81	4.12	3.05	2.27	1.91	1.60	1.11	.55	.56	.33	.080	201
216	6.12	4.24	3.09	2.34	2.00	1.67	1.15	.60	.59	.34	.114	216
231	6.44	4.34	3.15	2.43	2.03	1.74	1.18	.64	.59	.34	.132	231
246	6.92	4.61	3.35	2.59	2.14	1.84	1.23	.69	.64	.36	.142	246
261	7.72	4.90	3.57	2.77	2.28	1.97	1.31	.76	.65	.37	.157	261
276	5.75	3.53	2.62	1.95	1.63	1.46	.96	.53	.50	.27	.093	276
291	5.54	3.64	2.67	2.03	1.69	1.52	.97	.53	.50	.27	.114	291
306	5.88	3.92	2.86	2.17	1.80	1.62	1.04	.58	.53	.28	.127	306
321	7.15	4.79	3.48	2.66	2.21	1.93	1.27	.70	.62	.33	.149	321
336	8.84	5.65	4.15	3.16	2.64	2.26	1.51	.83	.71	.37	.123	336
351	9.36	5.81	4.32	3.27	2.72	2.32	1.55	.82	.71	.36	.134	351

TABLE 119 - Continued

FLIGHT 88, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 24, t = 1.2 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	5.74	2.91	2.07	1.59	1.11	.39	-.074	3.37	1.44	1.03	.95	.78	.24	.146	6
21	5.33	2.57	1.89	1.47	.98	.35	-.084	3.29	1.42	1.01	.94	.78	.23	.155	21
36	4.74	2.36	1.82	1.39	.88	.29	-.086	3.29	1.43	1.02	.92	.77	.24	.164	36
51	4.54	2.42	1.96	1.56	.92	.35	-.028	3.06	1.46	1.03	.85	.68	.37	.071	51
66	4.02	2.20	1.84	1.43	.80	.29	-.014	2.86	1.34	.95	.80	.63	.33	.077	66
81	3.48	1.93	1.69	1.32	.68	.24	.017	2.72	1.31	.90	.76	.62	.34	.078	81
96	3.28	1.85	1.69	1.32	.68	.27	.017	2.90	1.41	.98	.83	.65	.35	.088	96
111	3.61	2.12	1.92	1.49	.83	.33	.038	3.22	1.57	1.12	.93	.73	.40	.097	111
126	3.84	2.21	1.98	1.54	.89	.33	.050	3.34	1.66	1.20	1.02	.80	.41	.101	126
141	3.83	2.14	1.93	1.53	.92	.37	.069	3.64	1.75	1.29	1.09	.84	.43	.103	141
156	4.46	2.51	2.09	1.60	1.04	.40	.088	3.60	1.71	1.25	1.04	.82	.42	.102	156
171	4.68	2.53	2.07	1.60	1.07	.43	.091	3.47	1.71	1.25	1.04	.81	.39	.071	171
186	4.89	2.63	2.08	1.60	1.08	.44	.072	3.32	1.56	1.14	.95	.73	.37	.057	186
201	4.97	2.63	2.01	1.56	1.06	.43	.067	2.93	1.36	1.00	.86	.66	.30	.049	201
216	4.69	2.43	1.76	1.32	.96	.36	-.031	2.72	1.12	.84	.80	.66	.15	.114	216
231	4.81	2.51	1.77	1.33	.99	.37	-.026	2.43	.96	.72	.70	.59	.11	.094	231
246	4.89	2.64	1.84	1.35	1.01	.40	-.026	2.10	.78	.60	.60	.52	.09	.083	246
261	4.40	1.90	1.41	.98	.73	.23	-.081	1.86	.69	.54	.55	.48	.08	.079	261
276	3.84	1.69	1.19	.88	.67	.25	-.079	1.72	.62	.49	.51	.45	.05	.074	276
291	3.48	1.72	1.22	.89	.67	.26	-.071	1.51	.52	.44	.47	.41	.06	.072	291
306	3.34	1.75	1.23	.92	.70	.26	-.079	1.62	.59	.47	.50	.43	.06	.080	306
321	3.77	2.15	1.51	1.16	.90	.35	-.052	2.03	.80	.60	.61	.52	.12	.104	321
336	4.56	2.73	1.91	1.49	1.12	.43	-.050	2.66	1.12	.82	.78	.65	.18	.128	336
351	5.42	3.02	2.14	1.66	1.21	.44	-.048	3.20	1.38	.99	.92	.76	.23	.141	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.05	.51	.47	.16	-.035	.70	.30	.16	.08	.003	6
21	1.18	.58	.53	.18	-.025	.53	.24	.15	.09	.016	21
36	1.27	.63	.56	.20	-.015	.64	.29	.17	.09	.007	36
51	1.39	.72	.46	.34	.106	.73	.35	.21	.11	.047	51
66	1.41	.73	.46	.33	.100	.79	.38	.22	.11	.046	66
81	1.42	.73	.47	.34	.108	.88	.42	.25	.13	.053	81
96	1.48	.77	.49	.37	.118	.98	.49	.29	.14	.058	96
111	1.80	.96	.60	.43	.132	1.12	.55	.34	.16	.065	111
126	1.91	1.02	.63	.44	.138	1.44	.73	.45	.20	.077	126
141	1.98	1.05	.66	.45	.126	1.44	.71	.44	.20	.077	141
156	1.87	1.03	.65	.44	.120	1.28	.68	.42	.20	.077	156
171	1.83	1.02	.62	.42	.108	1.17	.60	.39	.18	.073	171
186	1.60	.90	.54	.38	.094	.96	.49	.31	.16	.057	186
201	1.34	.72	.45	.30	.057	.65	.32	.21	.11	.040	201
216	1.10	.50	.46	.13	-.064	.42	.18	.10	.04	-.005	216
231	.84	.36	.36	.08	-.077	.31	.12	.04	.01	-.015	231
246	.70	.26	.30	.05	-.082	.12	.07	.01	.00	-.021	246
261	.61	.20	.26	.03	-.083	.13	.03	.01	.00	-.022	261
276	.53	.17	.24	.02	-.083	.08	.01	.01	.00	-.021	276
291	.48	.13	.22	.01	-.082	.10	.00	.01	.01	-.018	291
306	.52	.14	.24	.03	-.080	.10	.00	.00	.02	-.015	306
321	.65	.21	.29	.06	-.062	.07	.00	.00	.03	-.010	321
336	.86	.34	.37	.11	-.047	.05	-.01	.00	.01	-.010	336
351	1.08	.48	.45	.15	-.040	.18	.05	.04	.04	-.004	351

TABLE 119 - Continued

FLIGHT 88, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 24, t = 1.2 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	2.69	5.07	10.89	17.67	24.44	22.86	20.69
21	2.37	5.78	10.75	15.86	20.50	18.86	17.76
36	2.69	6.24	10.84	14.34	18.31	16.00	15.72
51	3.36	7.49	10.74	15.25	16.70	14.99	14.35
66	3.55	7.48	9.93	13.64	14.39	12.89	13.08
81	3.97	7.60	9.71	12.04	13.47	11.81	11.31
96	4.53	8.06	10.31	11.96	14.04	13.01	17.03
111	5.16	9.68	11.64	13.88	15.54	15.94	13.10
126	6.64	10.19	12.30	14.53	16.15	13.30	11.44
141	6.52	10.45	13.06	14.73	14.94	11.96	10.33
156	6.16	10.11	12.73	16.59	15.46	12.66	11.27
171	5.66	9.77	12.35	17.03	17.23	14.77	13.38
186	4.62	8.57	11.42	17.36	18.72	16.58	14.84
201	3.13	7.00	9.96	17.17	19.13	17.52	15.74
216	1.52	4.78	8.63	15.08	19.98	17.80	16.40
231	.85	3.41	7.45	15.49	20.58	18.81	17.22
246	.30	2.62	6.36	16.06	21.91	19.98	18.14
261	.23	2.13	5.71	11.81	23.43	22.09	20.25
276	.11	1.86	5.17	10.66	17.22	22.16	22.21
291	.20	1.59	4.69	10.56	17.40	16.62	16.01
306	.21	1.83	5.01	10.59	18.55	18.10	18.37
321	.22	2.60	6.60	13.29	22.43	21.67	21.67
336	.13	3.80	8.77	16.62	26.56	25.62	25.27
351	.75	4.91	10.46	18.42	27.48	26.55	25.43

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	13.479		0	3.725		0	5.581	
1	.876	4.576	1	.200	-.694	1	-.219	.053
2	-.006	.040	2	-.147	-.033	2	-.004	.036
3	.067	.050	3	.000	-.135	3	.008	-.008
4	.012	-.018	4	.020	-.045	4	.005	-.004
5	-.055	-.003	5	-.041	-.053	5	.009	-.020
6	.003	.000	6	.029	-.012	6	.008	-.009
7	.000	.003	7	.033	.000	7	.009	-.005
8	.020	.006	8	.008	-.004	8	-.003	-.008
9	.018	.000	9	.049	-.008	9	-.003	.000
10	.012	.009	10	-.020	.004	10	.008	.000

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 119 - Continued

FLIGHT 88, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 24, t = 1.2 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.731		.75	0	14.609		.95	0	16.708	
.25	1	-1.352	2.675	.75	1	-.448	.484	.95	1	3.030	-3.917
.25	2	.384	-.664	.75	2	2.817	.159	.95	2	.848	-.373
.25	3	.066	.482	.75	3	.841	-.470	.95	3	1.017	-1.522
.25	4	.093	.085	.75	4	-.121	-.737	.95	4	1.071	-.981
.25	5	.061	-.028	.75	5	-.337	-.246	.95	5	-1.077	-.404
.25	6	.238	.039	.75	6	.382	-.477	.95	6	-.945	-.203
.25	7	.055	.033	.75	7	-.041	-.177	.95	7	.286	-.048
.25	8	.131	-.047	.75	8	-.059	.472	.95	8	.583	-.141
.25	9	.142	.018	.75	9	.270	-.125	.95	9	-.353	.061
.25	10	.044	.069	.75	10	-.099	.043	.95	10	-.831	.063
.40	0	5.958		.85	0	18.940					
.40	1	-1.555	3.668	.85	1	1.919	-3.326				
.40	2	.892	-.670	.85	2	2.425	-.208				
.40	3	.019	.250	.85	3	1.853	-1.297				
.40	4	.028	-.097	.85	4	.100	-1.037				
.40	5	-.206	-.229	.85	5	-1.030	-.382				
.40	6	.077	-.107	.85	6	.215	-.087				
.40	7	.032	-.004	.85	7	.196	-.218				
.40	8	-.020	.044	.85	8	-.306	-.269				
.40	9	-.019	-.013	.85	9	-.046	.303				
.40	10	-.039	.026	.85	10	.333	.100				
.55	0	9.393		.90	0	17.606					
.55	1	-.663	2.982	.90	1	2.429	-4.141				
.55	2	1.727	-.467	.90	2	1.492	-.353				
.55	3	.563	.173	.90	3	1.707	-1.235				
.55	4	.024	-.159	.90	4	.923	-.884				
.55	5	-.146	-.221	.90	5	-1.216	-.799				
.55	6	-.046	-.129	.90	6	-.295	-.314				
.55	7	.002	-.024	.90	7	.458	.241				
.55	8	.060	-.012	.90	8	.150	-.023				
.55	9	-.031	.001	.90	9	-.279	-.300				
.55	10	.026	-.027	.90	10	-.129	.081				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o\right) + M_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 119 - Concluded

FLIGHT 88, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 24, t = 1.2 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	1594	1304	1510	93	-1137	-3759	-5978	-5176
21	2176	1815	1980	771	-724	-3251	-4623	-3767
36	1685	1568	1862	771	121	-1988	-3321	-3161
51	956	899	1329	437	-425	-1988	-2442	-2526
66	1423	437	334	-727	-1621	-3371	-3258	-2540
81	1184	91	-253	-1671	-3029	-5221	-5089	-3343
96	694	-693	-1076	-2463	-4024	-6147	-5246	-3679
111	614	-1147	-2133	-3379	-3461	-5231	-4780	-3526
126	101	-1328	-1582	-2587	-3170	-5192	-5434	-3278
141	682	-479	-488	-1786	-3029	-5490	-6318	-3453
156	1754	248	-118	-1786	-3153	-5729	-5999	-3402
171	1138	-215	-389	-1671	-2545	-5221	-5873	-3621
186	602	-644	-606	-1528	-2229	-5062	-5612	-3657
201	1195	256	9	-1404	-2413	-5162	-5460	-3745
216	2153	1287	976	-403	-1613	-4804	-6271	-4212
231	1811	1939	2414	1439	112	-3082	-6046	-4395
246	2130	2252	2820	2154	1740	-67	-4053	-3964
261	2005	2384	3119	2765	3016	2291	-16	-3037
276	1275	2277	3544	3528	3861	3087	2306	-1394
291	1264	2516	3706	3375	3298	2629	1569	-1796
306	1560	2327	3300	2965	2198	142	-2552	-3482
321	819	2129	2893	1696	-55	-2455	-4571	-4584
336	1446	1312	1085	-21	-1014	-3401	-5711	-5358
351	363	833	1193	65	-1445	-4276	-6203	-5460

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-7499	-7131	2211	13441
21	-6815	-7228	1587	13030
36	-4699	-5242	2691	13341
51	-4162	-2719	5971	14732
66	-2420	-830	6579	14256
81	-759	-602	5363	13569
96	-515	-2247	4627	14009
111	1309	-1840	2739	12883
126	1325	-1677	3939	13853
141	185	-374	6355	14677
156	1211	1188	7331	14988
171	1032	2328	8131	15253
186	-157	798	8035	15866
201	-580	-1042	5555	14603
216	-2696	-3696	3923	14420
231	-5936	-6138	3443	14741
246	-5822	-7163	1539	14036
261	-7238	-7066	1187	13515
276	-10901	-8482	2515	14054
291	-11471	-8580	1763	13487
306	-11129	-8010	2643	13844
321	-10104	-6561	3651	14420
336	-7190	-5405	2995	14118
351	-6262	-5926	2659	13679

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	361	360	134
21	310	380	119
36	434	425	143
51	569	545	153
66	561	624	146
81	429	513	121
96	341	416	88
111	262	307	69
126	126	132	19
141	-246	-195	-9
156	-479	-415	-31
171	-568	-391	-38
186	-500	-402	-36
201	-481	-435	-33
216	-321	-424	-12
231	-243	-392	0
246	-291	-443	0
261	-295	-330	13
276	-239	-310	31
291	-571	-442	32
306	-775	-577	20
321	-443	-259	52
336	47	137	115
351	439	519	138

TABLE 120

FLIGHT 88, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 24, t = 4.1 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	8.16	5.44	3.85	2.47	1.42	.64	.084	9.84	4.80	3.50	2.89	2.05	.82	.096	6
21	7.95	5.43	4.20	2.69	1.49	.64	.096	9.30	4.56	3.42	2.97	1.98	.72	.042	21
36	7.32	5.33	4.23	2.62	1.38	.54	.032	8.19	4.27	3.43	2.92	1.94	.66	-.007	36
51	5.86	5.10	4.09	2.42	1.10	.50	.040	7.41	4.16	3.27	2.77	1.82	.58	-.066	51
66	4.11	4.33	3.61	2.04	.72	.41	.008	6.08	3.31	2.84	2.50	1.52	.47	-.096	66
81	6.54	5.64	4.42	2.72	1.41	.67	.112	5.99	3.79	2.99	2.73	1.82	.72	-.024	81
96	7.90	7.89	4.55	2.85	1.51	.67	.096	7.51	5.53	3.61	3.22	2.15	.81	.007	96
111	7.79	8.05	6.69	2.50	1.59	.73	.118	9.07	7.50	5.62	2.95	2.25	.84	.042	111
126	7.12	7.31	3.98	2.92	1.52	.66	.103	8.87	7.58	4.17	2.95	2.07	.75	-.005	126
141	6.09	5.03	3.77	2.37	1.22	.59	.099	7.96	5.49	3.49	2.88	1.89	.71	.025	141
156	5.70	4.54	3.29	2.22	1.23	.64	.128	7.58	4.27	3.26	2.64	1.87	.74	.077	156
171	6.46	4.76	3.40	2.33	1.36	.70	.149	8.24	4.55	3.40	2.71	1.91	.77	.117	171
186	7.31	4.89	3.48	2.45	1.52	.76	.164	8.82	4.69	3.50	2.77	2.03	.79	.148	186
201	7.67	4.82	3.43	2.41	1.51	.73	.164	9.57	4.63	3.38	2.60	1.89	.78	.148	201
216	7.95	4.76	3.36	2.39	1.57	.74	.174	10.02	4.65	3.35	2.58	1.94	.80	.162	216
231	8.28	4.70	3.28	2.32	1.54	.68	.158	10.50	4.57	3.24	2.52	1.84	.75	.155	231
246	8.20	4.57	3.17	2.28	1.52	.69	.162	10.36	4.45	3.14	2.42	1.82	.72	.155	246
261	9.43	4.83	3.34	2.41	1.65	.76	.203	10.51	4.74	3.20	2.43	1.84	.73	.206	261
276	8.63	5.32	3.74	2.64	1.89	.90	.332	9.55	4.03	3.06	2.47	2.05	.75	.361	276
291	9.52	5.90	3.75	2.74	2.04	.84	.271	8.00	5.09	3.49	2.54	1.95	.95	.369	291
306	8.47	5.09	3.28	2.35	1.60	.69	.193	9.70	4.81	3.37	2.68	2.04	.84	.255	306
321	10.19	5.00	3.43	2.41	1.61	.62	.189	10.39	4.67	3.17	2.49	1.79	.68	.192	321
336	10.99	6.19	3.70	2.77	1.82	.72	.178	11.18	5.44	3.62	2.72	2.05	.81	.340	336
351	11.08	5.61	3.80	2.65	1.65	.54	.158	11.55	5.60	3.53	2.65	1.83	.55	.159	351

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	9.05	9.86	5.13	4.03	3.38	2.80	1.87	.98	.80	.38	.179	6
21	9.97	7.84	4.94	3.78	3.24	2.64	1.79	.93	.80	.39	.149	21
36	9.84	8.60	5.19	3.95	3.41	2.71	1.83	.90	.76	.36	.142	36
51	9.29	8.07	5.09	3.94	3.39	2.66	1.80	.82	.72	.30	.082	51
66	7.85	6.72	4.83	3.47	3.06	2.33	1.58	.67	.60	.27	.027	66
81	7.03	5.97	4.58	3.30	2.92	2.34	1.63	.73	.65	.29	.054	81
96	8.79	7.76	5.42	4.03	3.54	2.79	1.92	.89	.80	.37	.091	96
111	9.78	8.77	7.16	4.56	3.90	3.16	2.22	1.11	.97	.49	.112	111
126	10.48	9.67	8.79	4.45	3.50	2.93	2.08	.99	.83	.42	.091	126
141	9.91	8.66	5.09	4.04	3.47	2.71	1.91	.92	.82	.43	.066	141
156	9.81	7.98	5.26	3.92	3.33	2.66	1.87	.95	.87	.48	.136	156
171	10.33	8.86	5.28	4.00	3.43	2.76	1.96	1.03	.93	.52	.159	171
186	10.52	9.56	5.24	4.02	3.48	2.79	1.99	1.06	.91	.53	.189	186
201	10.74	7.62	5.00	3.85	3.29	2.68	1.88	1.03	.91	.51	.202	201
216	11.13	7.61	5.02	3.86	3.28	2.71	1.89	1.05	.90	.52	.238	216
231	10.29	7.49	5.05	3.76	3.15	2.63	1.76	.97	.82	.49	.249	231
246	6.36	5.15	5.05	4.26	3.55	2.74	1.64	.81	.72	.40	.234	246
261	7.15	4.68	3.50	2.72	2.37	2.18	1.60	.81	.79	.61	.394	261
276	9.30	6.63	4.74	3.70	3.01	2.54	1.74	1.05	.86	.49	.245	276
291	8.92	5.65	4.10	3.29	2.85	2.34	1.54	.89	.81	.52	.429	291
306	7.60	6.22	5.32	4.08	3.61	2.95	1.97	1.09	.85	.49	.356	306
321	10.64	7.93	5.53	4.23	3.31	2.72	1.72	.87	.75	.54	.356	321
336	10.93	8.29	5.39	4.08	3.38	2.67	1.71	1.00	.90	.59	.311	336
351	11.35	8.86	5.04	3.92	3.20	2.63	1.63	.78	.58	.26	.223	351

TABLE 120 - Continued

FLIGHT 88, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 24, t = 4.1 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	8.24	3.89	2.72	2.10	1.48	.48	-.031	5.27	2.38	1.68	1.48	1.17	.41	.199	6
21	7.92	3.38	2.48	1.97	1.42	.58	-.007	5.22	2.33	1.64	1.45	1.13	.40	.183	21
36	8.01	4.04	2.94	2.26	1.54	.56	-.045	5.21	2.42	1.68	1.45	1.16	.43	.211	36
51	7.73	3.97	2.98	2.21	1.52	.54	-.065	4.99	2.20	1.57	1.39	1.11	.40	.202	51
66	7.49	3.70	2.96	2.16	1.37	.52	.026	5.38	2.59	1.79	1.48	1.11	.54	.108	66
81	6.49	2.83	2.47	1.90	1.26	.58	.086	4.78	2.40	1.66	1.37	1.07	.51	.117	81
96	6.16	3.41	2.81	2.25	1.50	.65	.121	4.24	2.17	1.57	1.32	1.07	.58	.155	96
111	6.86	4.37	3.37	2.63	1.74	.71	.119	5.51	2.70	1.88	1.57	1.20	.59	.146	111
126	7.18	4.25	3.34	2.64	1.80	.74	.160	6.28	3.02	2.08	1.71	1.32	.63	.157	126
141	7.68	4.48	3.44	2.59	1.82	.70	.138	6.26	2.99	2.05	1.69	1.29	.63	.153	141
156	7.98	4.48	3.40	2.58	1.82	.74	.172	6.02	2.87	2.01	1.66	1.27	.61	.161	156
171	8.26	4.51	3.38	2.57	1.84	.76	.174	6.09	2.82	1.97	1.63	1.25	.61	.134	171
186	8.43	4.40	3.23	2.41	1.75	.65	.091	5.68	2.58	1.82	1.57	1.24	.44	.190	186
201	8.54	4.13	2.90	2.16	1.60	.57	.076	5.02	2.34	1.66	1.47	1.17	.39	.205	201
216	8.50	4.53	2.81	2.08	1.59	.57	.102	4.70	2.16	1.54	1.37	1.08	.33	.172	216
231	7.49	3.69	2.96	1.91	1.70	.80	.279	4.14	1.83	1.32	1.18	.93	.26	.149	231
246	6.28	2.22	1.74	1.11	.80	.53	.260	3.64	1.59	1.14	1.03	.81	.21	.140	246
261	5.36	2.41	1.48	1.10	.81	.35	.057	3.51	1.53	1.10	.99	.79	.21	.133	261
276	5.24	3.27	2.21	1.73	1.32	.57	.045	3.00	1.23	.91	.83	.65	.24	.190	276
291	5.21	2.46	2.22	1.52	1.27	.55	.205	3.03	1.29	.93	.85	.67	.28	.202	291
306	5.19	3.30	2.04	1.80	1.68	.73	.072	3.55	1.55	1.15	1.04	.83	.29	.165	306
321	5.78	3.30	2.25	1.69	1.28	.44	.048	4.41	1.96	1.40	1.25	.97	.30	.227	321
336	6.50	4.25	3.05	2.41	1.91	.74	.209	5.37	2.99	1.99	1.64	1.25	.40	.270	336
351	7.03	2.66	1.85	1.22	.99	.52	.110	4.73	2.24	1.64	1.52	1.26	.50	.224	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.94	1.01	.75	.27	.015	.82	.42	.27	.14	.032	6
21	2.03	1.04	.80	.34	.003	1.51	.69	.40	.18	.034	21
36	2.19	1.16	.88	.35	.015	1.19	.61	.39	.18	.038	36
51	2.23	1.16	.88	.38	.022	1.25	.61	.38	.18	.035	51
66	2.42	1.25	.77	.49	.138	1.25	.64	.40	.19	.065	66
81	2.31	1.20	.77	.51	.154	1.33	.68	.42	.20	.074	81
96	2.34	1.27	.81	.54	.157	1.62	.80	.49	.23	.073	96
111	2.86	1.54	.96	.60	.168	1.72	.91	.56	.26	.089	111
126	3.01	1.62	.99	.61	.172	1.97	1.02	.63	.28	.095	126
141	2.94	1.60	.98	.60	.167	2.10	1.06	.65	.28	.101	141
156	2.93	1.58	.97	.60	.148	1.91	.98	.61	.27	.100	156
171	2.86	1.55	.95	.57	.146	1.75	.90	.57	.27	.099	171
186	2.71	1.38	.94	.41	.045	1.44	.74	.47	.20	.075	186
201	2.43	1.17	.84	.31	.020	1.00	.86	.31	.16	.072	201
216	2.11	1.02	.75	.23	.014	.41	.44	.58	.04	.031	216
231	2.05	.93	.86	.21	-.003	.22	.15	.22	.19	.011	231
246	1.43	.58	.64	.32	.015	.13	.06	.04	.13	.030	246
261	1.23	.50	.58	.17	.030	.12	.03	.02	.04	.143	261
276	.90	.21	.34	.15	-.017	.13	.01	.01	.12	.197	276
291	.99	.37	.38	.13	-.005	.16	.09	.05	.09	.072	291
306	1.11	.42	.43	.12	-.029	.19	.16	.07	.04	.005	306
321	1.32	.54	.51	.20	-.037	.42	.24	.16	.08	.025	321
336	1.63	.76	.61	.26	-.005	.68	.31	.19	.11	.029	336
351	2.17	1.16	.97	.31	-.005	.79	.40	.26	.11	.020	351

TABLE 120 - Continued

FLIGHT 88, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 24, t = 4.1 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	3.95	9.21	17.23	23.90	31.39	32.11	28.73
21	6.26	9.91	16.84	23.02	31.06	30.43	29.49
36	5.57	10.77	17.34	24.97	31.53	28.54	27.80
51	5.57	11.07	16.32	24.44	30.35	26.49	24.97
66	5.86	12.19	17.97	23.53	26.68	21.89	19.86
81	6.26	12.09	16.71	20.96	26.15	25.45	29.05
96	7.35	12.57	16.39	23.54	31.63	31.80	33.60
111	8.17	14.82	19.08	27.48	37.47	38.68	37.07
126	9.18	15.37	21.08	28.01	38.16	35.49	31.58
141	9.57	15.08	20.89	28.57	31.85	30.29	25.66
156	8.89	14.95	20.34	29.04	32.16	28.20	24.39
171	8.31	14.54	20.08	29.46	33.49	29.71	26.27
186	6.72	12.69	18.47	27.90	33.73	31.11	28.19
201	5.38	10.84	16.89	26.01	32.90	30.72	28.08
216	3.87	9.25	15.42	26.41	33.33	31.38	28.39
231	2.54	9.22	13.16	26.85	31.67	30.77	27.89
246	1.36	7.54	11.38	17.17	28.42	30.08	27.48
261	1.06	5.85	11.06	14.75	25.74	30.97	30.01
276	1.67	3.87	9.84	20.14	30.45	30.54	32.79
291	1.35	4.35	10.33	19.20	28.65	32.21	34.33
306	1.10	4.70	11.92	22.21	32.18	32.37	28.89
321	2.20	5.89	14.34	19.76	32.68	30.31	29.92
336	3.07	7.66	19.10	27.49	33.41	34.78	33.98
351	3.61	10.75	17.53	18.61	30.65	32.32	31.66

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	14.784		0	6.153		0	5.040	
1	1.223	-5.729	1	.514	-1.248	1	-.524	.035
2	-.105	-.222	2	-.012	.208	2	.028	.016
3	-.409	-.131	3	-.061	-.192	3	.084	.004
4	-.053	.169	4	.065	-.082	4	.011	-.027
5	.003	-.026	5	-.147	.131	5	.003	-.023
6	-.111	-.152	6	.000	.029	6	-.018	.027
7	-.134	.050	7	-.086	.135	7	-.015	.001
8	.029	.020	8	-.020	.029	8	.003	-.007
9	-.032	.006	9	.004	.033	9	.003	-.003
10	-.015	-.023	10	.029	.012	10	-.014	-.012

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 120 - Continued

FLIGHT 88, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 24, t = 4.1 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	4.952		.75	0	23.892		.95	0	29.170	
.25	1	-1.277	3.396	.75	1	-2.346	2.878	.95	1	.812	-1.078
.25	2	.785	-.810	.75	2	2.447	-1.229	.95	2	-1.588	-1.860
.25	3	.195	.385	.75	3	-.412	-.287	.95	3	1.443	-1.678
.25	4	.046	.178	.75	4	-1.149	1.177	.95	4	2.224	1.656
.25	5	-.041	-.026	.75	5	.103	-.022	.95	5	-1.265	.142
.25	6	-.188	.098	.75	6	-.739	-1.080	.95	6	-1.350	-.832
.25	7	-.126	.216	.75	7	-.291	1.158	.95	7	-.803	.141
.25	8	-.008	.100	.75	8	.495	.546	.95	8	-.201	.074
.25	9	-.057	.079	.75	9	-.347	.261	.95	9	.364	.154
.25	10	-.186	-.005	.75	10	.324	.888	.95	10	.572	.349
.40	0	10.216		.85	0	31.489					
.40	1	-1.862	4.255	.85	1	-1.144	.915				
.40	2	1.217	-.509	.85	2	1.190	-1.960				
.40	3	.616	-.157	.85	3	.697	-.964				
.40	4	-.214	-.401	.85	4	-.353	2.065				
.40	5	-.134	-.072	.85	5	-1.226	.071				
.40	6	.219	-.425	.85	6	-.162	-.991				
.40	7	-.115	-.047	.85	7	.272	.742				
.40	8	-.265	-.076	.85	8	.231	-.033				
.40	9	-.191	-.176	.85	9	.200	-.260				
.40	10	-.069	-.087	.85	10	-.267	.342				
.55	0	16.237		.90	0	30.693					
.55	1	-.637	3.598	.90	1	-.441	-.893				
.55	2	2.222	-1.455	.90	2	-.097	-2.286				
.55	3	.341	-.413	.90	3	2.119	-1.371				
.55	4	-.483	-.380	.90	4	.965	1.908				
.55	5	-.366	-.519	.90	5	-1.323	.120				
.55	6	-.033	.020	.90	6	-.184	-1.001				
.55	7	-.154	.399	.90	7	.008	-.039				
.55	8	-.408	.057	.90	8	-.266	.054				
.55	9	-.117	.153	.90	9	-.069	.409				
.55	10	.177	.037	.90	10	.501	.450				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 120 - Concluded

FLIGHT 88, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 24, t = 4.1 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	4721	726	-1455	-3417	-3586	-4082	-5235	-6767
21	412	116	1401	733	-2591	-6132	-6658	-6183
36	1221	1510	1898	1191	410	-3535	-10847	-9935
51	4652	3333	2450	1229	-1201	-5396	-4058	-1664
66	2863	2624	1754	103	-321	-2461	-6569	-4906
81	685	-330	678	647	-699	-3873	-5110	-5563
96	3125	-751	-1799	-2740	-2829	-4520	-1705	-3387
111	811	-107	-1483	-3150	-1368	-3237	-6449	-7512
126	697	-520	524	-30	-1676	-6033	-10915	-6957
141	4687	1510	1157	-1175	-2512	-5565	-10324	-7534
156	2635	1023	1645	-1032	-3867	-6530	-7385	-4876
171	2350	-1700	-1112	-1404	-1227	-4401	-8745	-6059
186	309	-371	190	-2024	-3471	-6729	-7306	-5373
201	4048	1427	27	-2110	-3498	-6530	-9247	-6745
216	2806	1617	1826	504	-2142	-6809	-9770	-6680
231	2498	2129	1826	886	-374	-2759	-6857	-6972
246	3239	1980	2052	1267	709	37	0	-3249
261	1597	2005	2784	2145	2962	3072	3546	-2701
276	446	2756	4457	4730	4273	2435	533	-1847
291	3113	4241	5813	5141	4053	674	-4969	-7621
306	4242	4991	5713	4368	621	-3127	-3834	-4322
321	2920	2747	2721	1200	-523	-2709	-3520	-4409
336	343	-347	280	-335	-347	-2620	-6015	-6877
351	845	644	750	-860	-4457	-6978	-4623	-4906

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-7552	-6040	3980	15848
21	-6689	-8352	2380	13716
36	-2538	-5031	620	12087
51	-6575	-6203	7772	18565
66	-568	228	6892	14393
81	3112	2198	9132	14622
96	2721	1009	9084	16653
111	5928	1319	3612	13569
126	377	-3907	4668	15162
141	-910	-3500	3532	14933
156	3681	-700	4428	16662
171	2021	5568	11644	18163
186	1695	6414	15932	20414
201	946	5731	12204	18163
216	67	-3321	6924	18456
231	-5126	-4363	-4	12087
246	-7975	-13708	-3300	13112
261	-11019	-14229	-3748	11804
276	-16587	-14652	76	14036
291	-16473	-14440	3196	15162
306	-7389	-4933	3036	14036
321	-9294	-1514	12796	19965
336	-2782	1644	10860	16461
351	-1105	-1156	2412	13066

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	381	400	158
21	794	780	161
36	1023	990	241
51	1120	808	235
66	757	744	172
81	119	232	66
96	310	212	110
111	1540	1630	209
126	1613	1249	205
141	577	360	50
156	-45	-159	4
171	-386	-115	0
186	-24	173	21
201	-450	-158	2
216	-102	-157	-1
231	-1154	-905	-33
246	-2478	-1190	-264
261	-3138	-1821	-281
276	-1640	-695	-173
291	-1467	-1496	10
306	-625	23	11
321	-1095	-768	52
336	-336	-149	107
351	-2142	-1022	-188

TABLE 121

FLIGHT 88, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 24, t = 5.2 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	10.33	5.52	3.86	2.74	1.63	.71	.164	11.02	4.85	3.62	2.91	2.11	.81	.139	6
21	9.50	5.52	4.28	2.94	1.79	.79	.174	11.07	5.34	3.81	3.22	2.34	.92	.159	21
36	9.33	8.89	4.03	2.91	1.71	.69	.078	11.07	8.35	3.81	3.32	2.36	.79	.091	36
51	7.59	6.32	4.09	2.68	1.38	.53	.040	9.43	7.81	3.58	3.06	2.07	.67	-.019	51
66	4.29	3.91	3.33	1.94	.77	.35	.000	7.05	3.99	2.87	2.44	1.54	.47	-.087	66
81	3.85	3.67	3.17	1.96	.86	.45	.025	4.35	2.52	2.15	1.99	1.29	.45	-.057	81
96	5.90	4.68	3.68	2.28	1.03	.53	.071	5.61	2.98	2.39	2.17	1.45	.54	-.030	96
111	6.39	5.43	4.03	2.51	1.22	.55	.075	6.87	3.81	3.10	2.65	1.78	.65	-.005	111
126	5.33	4.62	3.52	2.22	1.10	.51	.075	7.37	4.03	3.13	2.59	1.73	.63	-.005	126
141	4.63	3.83	3.00	1.91	.96	.47	.086	6.72	3.71	2.80	2.20	1.60	.58	-.009	141
156	4.98	3.90	2.89	1.96	1.03	.54	.105	6.76	3.68	2.87	2.30	1.63	.66	.054	156
171	6.35	4.60	3.29	2.29	1.34	.70	.149	7.85	4.30	3.26	2.62	1.90	.79	.120	171
186	7.59	5.10	3.57	2.53	1.56	.76	.170	9.37	4.83	3.63	2.85	2.09	.84	.155	186
201	8.00	5.01	3.46	2.49	1.56	.73	.162	10.24	4.83	3.55	2.76	2.03	.83	.172	201
216	8.18	4.85	3.36	2.42	1.54	.75	.161	10.44	4.71	3.40	2.62	1.96	.81	.167	216
231	8.08	4.54	3.19	2.28	1.50	.69	.157	10.37	4.51	3.22	2.50	1.85	.75	.157	231
246	9.25	4.80	3.32	2.41	1.64	.76	.187	10.63	4.73	3.27	2.50	1.94	.79	.218	246
261	10.01	4.83	3.33	2.37	1.68	.73	.206	8.86	4.47	3.51	2.70	2.03	.90	.345	261
276	6.77	4.88	3.62	2.35	1.62	.81	.302	4.62	3.64	2.39	2.04	1.76	1.13	.763	276
291	4.71	3.04	2.20	1.58	1.21	.84	.510	7.12	3.35	2.42	1.95	1.54	.70	.126	291
306	9.37	4.51	3.11	2.22	1.49	.67	.151	8.78	3.85	2.60	2.00	1.54	.64	.235	306
321	10.01	4.94	3.13	.32	1.86	.77	.239	8.30	4.98	3.29	2.48	1.96	.91	.298	321
336	10.46	5.04	3.14	2.16	1.32	.42	.256	8.21	4.74	3.07	2.41	1.57	.65	.317	336
351	10.59	5.11	3.44	2.46	1.44	.41	.161	10.93	4.65	3.20	2.41	1.71	.49	.222	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.85										
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
6	11.31	8.88	5.13	4.04	3.39	2.86	1.97	1.10	.91	.47	.225	6
21	11.35	10.29	5.35	4.27	3.64	3.05	2.10	1.16	.97	.50	.228	21
36	11.67	10.95	7.60	4.44	3.80	3.21	2.19	1.12	.87	.41	.194	36
51	10.39	9.72	5.29	4.04	3.55	2.84	1.89	.91	.71	.29	.066	51
66	8.14	6.53	4.54	3.36	2.85	2.26	1.50	.62	.54	.22	.016	66
81	4.69	3.64	2.90	2.09	1.87	1.54	1.08	.43	.41	.17	.003	81
96	5.33	4.09	3.18	2.26	2.00	1.63	1.17	.53	.54	.25	.038	96
111	6.58	5.21	3.97	2.92	2.54	2.07	1.47	.67	.65	.30	.012	111
126	8.31	6.60	4.78	3.47	2.93	2.32	1.60	.73	.67	.33	.076	126
141	8.33	6.40	4.67	3.44	2.91	2.31	1.58	.73	.66	.35	.066	141
156	8.65	6.41	4.70	3.53	2.99	2.41	1.69	.84	.78	.43	.123	156
171	9.96	7.87	5.20	3.97	3.32	2.71	1.91	1.04	.92	.52	.183	171
186	10.65	9.97	5.36	4.16	3.55	2.84	2.04	1.09	.95	.54	.187	186
201	11.06	9.61	5.17	4.01	3.39	2.74	1.92	1.05	.89	.50	.192	201
216	11.21	7.47	5.01	3.86	3.26	2.64	1.86	1.00	.85	.48	.194	216
231	10.48	7.30	4.88	3.72	3.15	2.58	1.79	.99	.82	.48	.249	231
246	6.55	5.48	5.33	4.47	3.47	2.88	1.83	.99	.83	.49	.292	246
261	3.20	2.81	2.58	2.37	2.66	2.83	2.44	1.53	1.18	.68	.499	261
276	5.09	3.42	2.58	1.89	1.61	1.49	1.07	.82	1.16	1.11	.935	276
291	8.20	5.61	4.01	3.19	2.67	2.30	1.58	.93	.77	.43	.179	291
306	8.89	5.58	4.02	3.29	2.56	2.18	1.44	.86	.71	.40	.213	306
321	7.50	6.57	4.75	3.72	3.11	2.51	1.65	1.00	.89	.55	.313	321
336	8.07	5.33	4.14	3.46	3.13	2.62	1.54	.86	.81	.55	.288	336
351	10.84	7.17	4.67	3.52	2.81	2.29	1.38	.68	.61	.41	.392	351

TABLE 121 - Continued

FLIGHT 88, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 24, t = 5.2 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
6	6.45	3.53	2.45	2.01	1.44	.54	.010	4.83	2.24	1.56	1.37	1.09	.40	.175	6
21	7.06	4.10	2.94	1.98	1.69	.66	.095	4.92	2.30	1.63	1.38	1.06	.53	.111	21
36	8.08	5.01	3.53	2.75	1.95	.73	.115	7.02	3.11	2.15	1.69	1.32	.58	.168	36
51	8.81	4.61	3.39	2.59	1.76	.66	.038	5.97	3.05	2.09	1.62	1.30	.61	.136	51
66	8.09	3.64	2.81	2.14	1.39	.54	.045	3.70	1.69	1.23	1.05	.80	.39	.067	66
81	6.78	2.83	2.34	1.91	1.21	.45	.043	3.32	1.54	1.10	.94	.71	.36	.059	81
96	5.83	2.64	2.16	1.75	1.11	.44	.064	3.71	1.78	1.28	1.05	.78	.40	.075	96
111	5.20	2.75	2.32	1.89	1.21	.51	.086	3.37	1.88	1.31	1.10	.87	.46	.125	111
126	5.51	3.02	2.51	1.96	1.27	.53	.105	3.86	1.89	1.37	1.16	.90	.46	.103	126
141	5.54	3.25	2.59	2.06	1.38	.57	.121	4.34	2.12	1.52	1.27	.99	.49	.117	141
156	6.20	3.78	2.92	2.29	1.58	.65	.150	5.44	2.59	1.79	1.47	1.11	.56	.130	156
171	7.00	4.47	3.30	2.57	1.82	.75	.179	5.17	2.45	1.72	1.44	1.12	.55	.148	171
186	7.66	4.75	3.39	2.61	1.86	.71	.179	5.14	2.36	1.88	1.39	1.06	.52	.113	186
201	8.15	4.81	3.15	2.35	1.70	.64	.183	4.46	2.15	1.53	1.29	.99	.48	.087	201
216	8.24	4.89	3.10	2.19	1.56	.59	.205	4.02	1.96	1.41	1.19	.90	.44	.067	216
231	6.83	3.25	3.10	2.01	1.96	.75	.267	3.66	1.65	1.21	1.09	.86	.29	.118	231
246	5.40	2.38	2.06	1.46	1.58	.98	.336	3.41	2.56	1.12	1.02	.83	.23	.134	246
261	4.50	1.86	1.20	1.51	.95	.90	.355	3.57	1.61	1.24	1.09	.84	.24	.132	261
276	4.64	2.75	1.87	1.12	1.08	.36	-.050	1.92	1.32	1.24	1.29	.97	.11	.107	276
291	5.04	3.05	2.34	1.91	1.45	.68	.093	2.54	1.04	.76	.70	.57	.12	.196	291
306	4.77	2.51	1.66	1.25	.93	.28	.067	3.07	1.57	1.10	1.02	.83	.24	.177	306
321	5.21	3.28	2.39	1.84	1.44	.59	.102	2.86	1.20	.86	.80	.68	.28	.168	321
336	5.91	3.10	2.10	1.62	1.37	.66	.138	4.03	1.77	1.27	1.13	.90	.27	.163	336
351	6.90	3.43	2.31	1.79	1.21	.47	.134	4.46	2.14	1.54	1.29	.96	.45	.113	351

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
6	1.46	.66	.49	.20	.009	.77	.40	.24	.13	.042	6
21	2.06	1.16	.75	.45	.140	.74	.37	.25	.15	.047	21
36	2.17	1.19	.73	.46	.119	1.20	.60	.39	.21	.069	36
51	2.82	1.48	.88	.50	.142	1.15	.56	.34	.14	.034	51
66	1.40	.82	.52	.35	.090	.69	.35	.23	.12	.051	66
81	1.81	.93	.56	.36	.080	1.06	.50	.30	.12	.042	81
96	1.32	.67	.48	.38	.117	.64	.32	.21	.12	.049	96
111	1.80	.94	.58	.39	.110	1.21	.59	.38	.20	.077	111
126	1.98	1.07	.68	.47	.136	1.25	.63	.39	.18	.060	126
141	2.18	1.20	.74	.48	.136	1.28	.68	.44	.21	.081	141
156	2.03	1.15	.73	.50	.132	1.47	.76	.47	.21	.079	156
171	2.18	1.23	.77	.52	.155	1.47	.74	.46	.22	.081	171
186	2.21	1.23	.76	.50	.126	1.27	.65	.41	.20	.070	186
201	2.08	1.17	.70	.44	.118	1.01	.50	.32	.16	.060	201
216	1.84	1.00	.58	.36	.106	.69	.33	.22	.11	.032	216
231	1.55	.77	.55	.23	.013	.45	.21	.13	.06	-.003	231
246	1.24	.59	.48	.17	-.023	.31	.13	.06	.04	-.012	246
261	1.02	.48	.44	.15	-.017	.25	.12	.03	.03	-.013	261
276	.93	.39	.38	.10	-.061	.20	.07	.07	.02	-.004	276
291	.87	.39	.38	.09	-.051	.16	.06	.05	.04	-.008	291
306	1.22	.56	.48	.16	-.025	.18	.07	.06	.05	.002	306
321	1.78	.94	.73	.18	-.011	.26	.16	.10	.06	.005	321
336	.91	.42	.43	.17	.007	.54	.27	.15	.08	.014	336
351	1.25	.61	.34	.27	.055	.47	.22	.15	.10	.040	351

TABLE 121 - Continued

FLIGHT 88, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 24, t = 5.2 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
6	3.69	6.45	16.08	22.01	34.11	33.55	32.07
21	3.78	11.14	16.71	25.69	35.72	36.14	33.15
36	5.84	11.26	21.59	30.33	38.95	39.42	36.08
51	4.96	13.68	20.63	28.71	31.97	34.98	29.18
66	3.42	7.92	12.46	23.87	25.54	23.55	18.77
81	4.51	8.92	11.23	19.98	16.77	17.52	18.85
96	3.23	7.64	12.68	18.30	19.04	20.61	23.83
111	5.73	9.27	13.41	19.15	23.59	25.75	26.54
126	5.77	10.69	13.94	20.40	27.43	26.12	23.19
141	6.34	11.55	15.36	21.59	27.08	23.77	20.04
156	6.88	11.26	18.17	24.59	28.78	24.67	20.97
171	6.87	11.98	17.73	28.27	32.76	28.91	25.74
186	6.07	11.79	17.29	29.19	34.52	32.45	29.01
201	4.75	10.89	15.41	28.20	33.52	32.68	28.80
216	3.23	9.26	14.00	27.56	32.77	32.01	28.56
231	1.88	7.20	12.22	26.65	31.67	30.60	27.28
246	1.12	5.63	12.70	22.76	30.39	31.90	29.70
261	.81	4.89	11.78	17.77	27.84	32.07	30.31
276	.78	3.88	10.02	15.85	23.54	27.67	29.01
291	.74	3.81	7.99	21.24	26.74	23.80	22.04
306	.97	5.53	11.28	14.87	26.36	26.02	27.88
321	1.40	8.11	9.82	21.19	29.35	31.52	29.70
336	2.38	4.75	12.88	21.21	28.13	28.16	27.75
351	2.42	6.05	15.24	21.17	28.92	29.46	28.59

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	16.142		0	5.659		0	7.281	
1	2.283	-6.529	1	.453	-1.053	1	-.736	-.023
2	.053	-.064	2	-.298	-.286	2	-.032	-.062
3	-.298	-.044	3	.110	.000	3	.148	-.051
4	-.161	.009	4	.277	.016	4	.032	-.034
5	-.266	.190	5	.020	-.065	5	-.057	-.046
6	-.038	.073	6	.004	.012	6	-.059	-.016
7	.015	.105	7	.020	.078	7	.009	-.018
8	-.026	-.050	8	-.012	.004	8	.012	-.011
9	-.012	-.044	9	.033	.069	9	-.018	-.003
10	-.047	-.064	10	.041	.045	10	-.054	-.003

$$\theta_s = A_0 + \sum_{n=1}^{10} \left[A_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + B_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left[a_{n,s} \cos n \left(\psi_{nom} - 6^o\right) + b_{n,s} \sin n \left(\psi_{nom} - 6^o\right) \right]$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left[E_n \cos n \left(\psi_{nom} - 6^o\right) + F_n \sin n \left(\psi_{nom} - 6^o\right) \right]$$

TABLE 121 - Continued

FLIGHT 88, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 24, t = 5.2 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.647		.75	0	22.939		.95	0	26.960	
.25	1	-1.012	2.259	.75	1	-1.408	1.194	.95	1	1.943	-2.514
.25	2	1.207	-.326	.75	2	4.146	2.817	.95	2	2.601	1.863
.25	3	-.124	.555	.75	3	-1.148	.716	.95	3	1.459	.535
.25	4	-.068	.174	.75	4	-1.238	.563	.95	4	.690	1.847
.25	5	-.277	-.017	.75	5	-.696	.209	.95	5	-2.846	1.154
.25	6	-.108	-.085	.75	6	-.393	-.898	.95	6	-.465	.123
.25	7	-.054	.006	.75	7	-.779	.245	.95	7	.773	-.297
.25	8	-.105	-.117	.75	8	-.002	.459	.95	8	.556	-.828
.25	9	.144	-.223	.75	9	.688	.099	.95	9	.090	-.452
.25	10	.339	.017	.75	10	.511	-.569	.95	10	-.073	-.060
.40	0	8.480		.85	0	28.979					
.40	1	-1.198	2.686	.85	1	-.033	-1.495				
.40	2	1.793	.432	.85	2	5.557	1.901				
.40	3	-.635	.787	.85	3	.677	2.022				
.40	4	-.871	.755	.85	4	-1.259	1.874				
.40	5	-.655	.248	.85	5	-1.504	.479				
.40	6	-.003	.292	.85	6	.596	-.446				
.40	7	.177	-.012	.85	7	.144	.113				
.40	8	.306	-.282	.85	8	-.069	.044				
.40	9	.222	-.006	.85	9	.241	.134				
.40	10	-.108	.166	.85	10	.362	-.546				
.55	0	14.192		.90	0	28.889					
.55	1	-.109	2.229	.90	1	1.207	-2.170				
.55	2	3.059	.994	.90	2	4.195	2.875				
.55	3	.254	1.611	.90	3	1.289	1.631				
.55	4	-.478	.154	.90	4	-.779	1.856				
.55	5	-1.063	.171	.90	5	-3.004	.332				
.55	6	-.466	-.576	.90	6	.087	.016				
.55	7	.287	-.996	.90	7	.910	-.008				
.55	8	.070	-.508	.90	8	.504	-.352				
.55	9	.029	-.092	.90	9	.302	-.201				
.55	10	.076	.347	.90	10	.146	-.287				

$$l = L_0 + \sum_{n=1}^{10} \left[L_n \cos n \left(\psi_{nom} - 6^o \right) + M_n \sin n \left(\psi_{nom} - 6^o \right) \right]$$

TABLE 121 - Concluded

FLIGHT 88, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 24, t = 5.2 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
6	6573	2673	814	-1625	-3833	-5466	-7244	-8176
21	303	1007	2649	1819	-876	-5386	-7610	-5928
36	3529	1922	1031	521	1218	-1476	-5941	-7045
51	3313	4018	4068	1304	-1035	-3167	-3290	-3854
66	6470	2698	2450	1695	875	-3167	-5387	-5417
81	1375	1510	3480	312	-1941	-4719	-4336	-4876
96	3518	-1213	-633	-2913	-2821	-2958	-2395	-2811
111	1876	-3053	-1926	-1749	-3349	-4859	-2673	-2971
126	-1088	-446	45	-1596	-2557	-4729	-7573	-9198
141	3905	2417	425	-423	-2821	-6580	-8640	-5263
156	3404	3119	1654	-146	-1677	-5963	-7463	-4511
171	1409	990	633	-394	514	-1884	-8441	-7132
186	1762	-569	606	693	-551	-3894	-5408	-5154
201	2537	1642	805	-833	-1800	-6759	-7202	-7191
216	2948	2046	2830	1552	-1906	-5316	-9299	-6972
231	2959	2162	2179	1075	74	-2948	-7155	-6658
246	1671	2549	2179	312	497	-401	-1647	-3292
261	1226	2533	2341	1247	2433	2226	1077	-2540
276	1147	2112	4167	4109	3348	922	1051	-1095
291	3005	3663	5288	4223	2855	1818	-2421	-6920
306	3894	3482	4674	4328	2186	-1307	-2374	-3745
321	1101	3589	3191	1046	5777	7	-2066	-5271
336	1717	-190	298	894	417	-2540	-3572	-4752
351	998	1155	2043	588	-3305	-6869	-4508	-3811

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
6	-8313	-10582	2113	15958
21	494	-2458	-2511	11657
36	-2013	-3289	6481	14741
51	-2664	-1319	12161	17971
66	9937	5226	6945	12947
81	3506	3109	12113	15985
96	4043	537	8897	16928
111	7853	1644	177	9672
126	-710	-6610	4017	15546
141	-1476	-3842	2017	11950
156	5232	-3061	2753	13707
171	-385	3630	11457	15326
186	1878	3337	14209	20212
201	2725	5519	8705	16095
216	-2176	-3484	7713	19654
231	-6555	-3240	1361	12545
246	-5887	-9980	-2431	10550
261	-11846	-13512	-495	11438
276	-14923	-10061	3585	16918
291	-12530	-6919	1921	13057
306	-10869	-6121	5249	13368
321	-10592	-6089	7681	17806
336	-2257	-2100	4065	12801
351	-7190	-5079	6049	14631

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
6	-1048	-640	-89
21	1373	1332	249
36	3352	2755	505
51	2635	2123	368
66	551	339	186
81	410	137	49
96	-462	-241	52
111	267	886	61
126	474	206	110
141	-146	68	23
156	-604	-466	-55
171	-403	-320	-3
186	453	288	25
201	-121	238	52
216	-159	-315	-18
231	-1683	-1535	-118
246	-1402	-1463	-148
261	-1991	-1754	-134
276	-2333	-2231	-192
291	-2126	-1796	-222
306	-952	-762	-85
321	229	36	183
336	-397	-242	89
351	-1322	-222	-96

TABLE 122

FLIGHT 89, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 25, t = 3.3 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	8.75	4.95	3.41	2.45	1.50	.60	.109	10.07	4.42	3.11	2.57	1.68	.65	.094	0
15	7.56	4.80	3.33	2.29	1.31	.53	.081	8.20	4.06	2.91	2.43	1.52	.56	.041	15
30	5.84	3.88	3.22	2.02	1.01	.43	.050	6.71	3.54	2.59	2.22	1.29	.48	-.022	30
45	4.61	3.51	3.22	1.85	.79	.37	.008	5.50	3.07	2.34	2.05	1.13	.41	-.072	45
60	3.83	3.41	3.24	1.83	.71	.33	-.014	4.84	2.76	2.24	1.94	1.04	.35	-.111	60
75	3.36	3.59	3.26	1.75	.59	.30	-.031	4.22	2.40	2.04	1.83	.94	.28	-.161	75
90	2.73	3.18	3.13	1.30	.48	.28	-.026	3.73	2.17	1.88	1.70	.80	.26	-.179	90
105	3.24	3.54	3.33	1.71	.55	.29	-.022	3.90	2.32	2.01	1.82	.89	.30	-.166	105
120	2.11	2.51	2.69	1.44	.43	.29	-.004	3.55	2.14	1.86	1.67	.82	.30	-.146	120
135	1.97	2.17	2.32	1.36	.44	.30	-.006	3.44	1.97	1.61	1.51	.78	.31	-.125	135
150	2.13	2.27	2.03	1.30	.52	.33	.028	3.64	2.04	1.57	1.41	.78	.36	-.076	150
165	2.77	2.43	2.03	1.43	.69	.40	.065	4.36	2.42	1.76	1.56	.94	.42	-.002	165
180	3.50	2.79	2.32	1.55	.86	.46	.083	5.11	2.75	2.00	1.66	1.07	.49	.042	180
195	3.99	2.98	2.39	1.61	.93	.48	.093	5.55	2.80	2.09	1.66	1.13	.51	.063	195
210	4.29	2.99	2.30	1.60	.96	.48	.103	5.71	2.90	2.07	1.63	1.13	.52	.069	210
225	4.57	3.01	2.21	1.59	1.01	.49	.113	5.88	2.96	2.07	1.63	1.15	.53	.089	225
240	4.84	3.05	2.21	1.60	1.05	.48	.116	6.18	3.03	2.09	1.65	1.16	.53	.099	240
255	5.13	3.14	2.22	1.63	1.09	.49	.125	6.44	3.12	2.12	1.67	1.19	.54	.111	255
270	5.64	3.33	2.31	1.71	1.16	.51	.130	7.07	3.23	2.18	1.73	1.24	.56	.114	270
285	6.27	3.53	2.44	1.82	1.24	.52	.134	6.86	3.26	2.19	1.75	1.26	.56	.119	285
300	5.87	3.33	2.29	1.66	1.08	.44	.095	6.26	2.92	1.93	1.58	1.09	.49	.083	300
315	6.13	3.57	2.47	1.83	1.20	.48	.132	7.24	3.26	2.21	1.81	1.25	.56	.105	315
330	7.38	4.17	2.87	2.11	1.37	.57	.140	8.88	3.81	2.59	2.14	1.45	.63	.114	330
345	8.89	4.73	3.27	2.37	1.53	.62	.144	10.13	4.39	3.09	2.52	1.68	.70	.139	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	9.99	5.93	4.22	3.33	2.74	2.39	1.55	.85	.68	.35	.158	0
15	8.84	5.81	3.95	3.07	2.52	2.21	1.42	.77	.60	.29	.123	15
30	7.03	5.18	3.44	2.68	2.29	1.97	1.25	.64	.52	.22	.080	30
45	5.93	4.58	3.19	2.60	1.97	1.75	1.10	.50	.42	.16	.047	45
60	5.29	4.12	2.97	2.47	2.07	1.61	.99	.32	.34	.12	.012	60
75	4.60	3.64	2.66	2.21	1.83	1.35	.86	.20	.27	.07	-.021	75
90	4.09	3.18	2.43	1.99	1.64	1.42	.76	.13	.21	.05	-.034	90
105	3.90	3.07	2.43	1.97	1.62	1.52	.79	.17	.25	.08	-.042	105
120	4.71	3.69	2.84	2.15	1.89	1.46	.91	.24	.31	.13	-.007	120
135	4.34	3.25	2.53	1.83	1.61	1.24	.87	.25	.35	.15	.024	135
150	4.52	3.33	2.51	1.89	1.62	1.19	.89	.30	.40	.21	.036	150
165	5.13	3.79	2.75	2.13	1.78	1.45	1.01	.41	.47	.27	.065	165
180	5.82	4.25	3.00	2.32	1.95	1.64	1.11	.49	.55	.32	.086	180
195	6.07	4.34	3.04	2.41	1.99	1.68	1.13	.52	.57	.33	.094	195
210	6.19	4.25	2.96	2.38	1.92	1.67	1.12	.54	.56	.34	.106	210
225	6.23	4.25	2.95	2.35	1.91	1.68	1.11	.57	.56	.33	.115	225
240	6.40	4.25	2.96	2.36	1.88	1.68	1.09	.59	.56	.31	.121	240
255	6.56	4.26	2.92	2.36	1.88	1.70	1.10	.61	.55	.31	.131	255
270	6.30	4.33	2.96	2.40	1.91	1.74	1.11	.63	.54	.30	.136	270
285	5.83	3.90	2.68	2.14	1.71	1.57	.98	.55	.45	.25	.121	285
300	5.73	3.79	2.57	2.06	1.63	1.52	.94	.54	.45	.25	.111	300
315	6.59	4.37	2.93	2.35	1.89	1.74	1.09	.64	.50	.29	.137	315
330	8.04	5.08	3.49	2.83	2.28	2.06	1.31	.76	.60	.34	.158	330
345	9.79	5.97	4.15	3.33	2.70	2.39	1.54	.86	.71	.38	.185	345

TABLE 122 - Continued

FLIGHT 89, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 25, t = 3.3 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.32	3.35	2.48	1.89	1.40	.58	.082	2.82	1.35	.98	.81	.63	.41	.067	0
15	6.55	3.22	2.41	1.84	1.32	.54	.056	2.96	1.41	1.01	.84	.66	.42	.075	15
30	6.14	3.00	2.30	1.77	1.21	.47	.044	3.05	1.45	1.04	.87	.67	.43	.087	30
45	5.53	2.72	2.18	1.70	1.11	.43	.035	3.05	1.53	1.04	.86	.68	.44	.101	45
60	4.93	2.52	2.08	1.65	1.02	.38	-.006	2.86	1.44	.96	.79	.65	.42	.104	60
75	4.26	2.21	1.95	1.53	.88	.32	.011	2.60	1.29	.92	.71	.60	.40	.104	75
90	3.66	1.92	1.71	1.43	.76	.28	.023	2.59	1.30	.98	.70	.59	.38	.108	90
105	3.56	2.06	1.67	1.46	.81	.29	.039	2.79	1.45	1.00	.79	.65	.42	.121	105
120	3.69	2.12	1.78	1.53	.93	.34	.061	3.31	1.75	1.19	.95	.76	.46	.139	120
135	4.11	2.69	2.13	1.70	1.07	.40	.085	3.71	1.89	1.33	1.08	.86	.50	.140	135
150	4.66	2.83	2.29	1.70	1.14	.43	.118	3.75	1.88	1.36	1.10	.88	.51	.143	150
165	4.93	2.76	2.28	1.69	1.18	.48	.106	3.76	1.89	1.35	1.10	.88	.50	.116	165
180	5.25	2.79	2.29	1.71	1.24	.51	.113	3.45	1.73	1.25	1.03	.83	.47	.107	180
195	5.45	2.83	2.21	1.65	1.21	.50	.111	2.86	1.48	1.14	.97	.79	.44	.090	195
210	5.36	2.70	2.08	1.55	1.15	.48	.103	2.74	1.46	1.15	.98	.74	.40	.073	210
225	5.24	2.60	1.97	1.46	1.09	.46	.094	1.85	1.19	1.15	.92	.68	.34	.053	225
240	5.06	2.52	1.88	1.40	1.05	.44	.085	1.13	.67	.67	.59	.42	.28	.031	240
255	4.60	2.45	1.81	1.34	1.02	.43	.077	1.18	.43	.35	.31	.22	.17	-.005	255
270	4.33	2.32	1.71	1.26	.95	.40	.075	1.04	.39	.35	.31	.22	.15	-.027	270
285	3.99	1.81	1.36	1.00	.74	.30	.035	.99	.38	.35	.31	.24	.17	-.015	285
300	3.77	1.90	1.42	1.06	.79	.35	.044	1.04	.42	.38	.34	.25	.20	-.008	300
315	4.04	2.13	1.59	1.20	.91	.38	.052	1.27	.54	.45	.40	.31	.24	.005	315
330	4.63	2.54	1.89	1.45	1.09	.46	.066	1.68	.76	.59	.51	.39	.28	.025	330
345	5.55	3.14	2.29	1.76	1.32	.56	.082	2.33	1.12	.81	.68	.53	.36	.053	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	.64	.34	.22	.21	.083	.10	.04	.03	.04	.012	0
15	.98	.47	.30	.23	.096	.12	.05	.04	.04	.004	15
30	1.23	.58	.37	.26	.101	.47	.21	.12	.07	.022	30
45	1.34	.63	.40	.27	.111	.56	.26	.15	.09	.021	45
60	1.41	.66	.42	.28	.115	.61	.29	.17	.09	.030	60
75	1.36	.66	.41	.28	.113	.70	.33	.19	.10	.034	75
90	1.39	.69	.44	.29	.125	.78	.38	.22	.11	.040	90
105	1.64	.80	.52	.34	.138	.99	.50	.29	.14	.050	105
120	1.93	.96	.62	.40	.151	1.28	.63	.39	.19	.065	120
135	2.21	1.10	.70	.42	.157	1.48	.74	.45	.20	.070	135
150	2.40	1.22	.76	.44	.149	1.59	.79	.48	.22	.074	150
165	2.25	1.18	.72	.43	.136	1.48	.78	.49	.23	.071	165
180	2.02	1.06	.64	.39	.126	1.41	.71	.45	.21	.068	180
195	1.61	.84	.51	.32	.098	.93	.46	.29	.14	.045	195
210	1.16	.62	.36	.25	.072	.49	.24	.14	.07	.019	210
225	.77	.42	.23	.18	.055	.23	.14	.03	.02	.008	225
240	.45	.27	.13	.13	.035	.14	.03	-.01	.00	-.007	240
255	.28	.17	.08	.10	.031	.07	-.01	-.02	-.02	-.016	255
270	.17	.13	.05	.10	.032	.06	-.02	-.03	-.02	-.049	270
285	.15	.12	.05	.10	.038	.05	-.01	-.02	-.01	-.052	285
300	1.47	.13	.07	.11	.047	.05	-.01	-.01	.00	-.033	300
315	.23	.17	.09	.14	.053	.07	.02	.01	.02	-.012	315
330	.40	.24	.15	.16	.065	.01	-.01	.00	.03	.006	330
345	.59	.33	.21	.20	.075	.01	-.01	.00	.03	.010	345

TABLE 122 - Continued

FLIGHT 89, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 25, t = 3.3 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	.66	3.92	10.39	21.99	27.85	28.86	28.07
15	.66	5.17	10.78	21.22	25.19	25.43	25.65
30	2.06	6.18	11.09	19.68	21.55	21.61	21.20
45	2.51	6.67	11.32	18.09	18.67	18.53	18.46
60	2.72	6.92	10.71	16.50	17.00	16.69	17.21
75	3.06	6.83	9.91	14.53	14.67	14.49	16.44
90	3.50	7.16	9.91	12.76	13.08	12.92	14.47
105	4.51	8.38	10.82	13.12	13.27	14.06	16.22
120	5.91	9.89	12.59	14.23	15.55	13.07	12.57
135	6.70	11.02	13.92	16.77	14.53	12.33	11.55
150	7.17	11.80	14.09	18.13	14.99	12.85	11.95
165	7.05	11.25	13.99	18.55	17.08	15.35	13.81
180	6.60	10.11	13.00	19.24	19.10	17.72	16.20
195	4.33	8.08	11.67	19.09	19.66	18.59	17.34
210	2.16	5.94	11.14	20.53	19.43	18.92	17.64
225	.86	4.03	9.48	17.54	19.50	19.27	17.98
240	.20	2.54	6.13	16.84	19.56	19.71	18.29
255	-.13	1.74	3.76	16.10	19.60	20.31	18.93
270	-.33	1.36	3.49	15.12	19.53	21.30	20.05
285	-.23	1.37	3.59	12.13	17.49	21.29	21.39
300	-.06	3.69	3.97	12.68	16.90	18.83	19.40
315	.22	1.99	4.92	14.17	19.44	21.55	21.01
330	.19	2.78	6.35	16.80	23.30	25.34	24.54
345	.22	3.68	8.71	20.43	27.75	29.19	27.96

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	13.325		0	3.568		0	6.068	
1	2.070	-5.416	1	-.448	-.595	1	-.257	.008
2	.036	.177	2	-.113	-.207	2	.027	.017
3	-.036	.118	3	.073	-.109	3	.038	.016
4	.023	-.009	4	.022	.034	4	-.003	-.003
5	.005	-.023	5	.008	.006	5	-.008	-.005
6	.023	.005	6	.012	.026	6	.002	.008
7	-.004	.027	7	-.004	.002	7	.000	.005
8	.004	.032	8	.018	.006	8	.000	-.005
9	-.009	.000	9	.012	.002	9	-.011	-.006
10	.009	.018	10	.014	.006	10	.005	.000
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 122 - Continued

FLIGHT 89, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 25, t = 3.3 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.522		.75	0	16.926		.95	0	18.680	
.25	1	-2.313	2.403	.75	1	.140	.057	.95	1	4.845	-2.684
.25	2	.821	-.884	.75	2	3.422	1.515	.95	2	1.990	.704
.25	3	-.452	.452	.75	3	.893	.471	.95	3	1.090	-.710
.25	4	-.025	-.080	.75	4	.205	-.375	.95	4	1.438	.166
.25	5	-.195	-.060	.75	5	.309	-.442	.95	5	.178	-.377
.25	6	.106	-.008	.75	6	-.128	.169	.95	6	.157	-.408
.25	7	-.061	-.046	.75	7	.306	.087	.95	7	-.052	.165
.25	8	.068	-.051	.75	8	.033	-.209	.95	8	-.206	.337
.25	9	.035	-.056	.75	9	-.121	-.003	.95	9	-.070	-.135
.25	10	.094	-.010	.75	10	.043	-.175	.95	10	.290	-.145
.40	0	5.936		.85	0	18.944					
.40	1	-2.486	3.395	.85	1	2.959	-2.264				
.40	2	1.324	-.785	.85	2	3.402	.987				
.40	3	-.492	.537	.85	3	1.586	-.080				
.40	4	-.232	.085	.85	4	.886	-.354				
.40	5	.039	.055	.85	5	-.024	-.786				
.40	6	.154	-.047	.85	6	.340	-.056				
.40	7	.045	-.156	.85	7	-.126	.240				
.40	8	-.157	-.158	.85	8	.016	-.150				
.40	9	-.237	-.040	.85	9	.073	-.124				
.40	10	-.100	.164	.85	10	-.157	.006				
.55	0	9.404		.90	0	19.092					
.55	1	-1.890	3.619	.90	1	4.333	-3.528				
.55	2	2.450	.271	.90	2	2.793	.776				
.55	3	.241	.216	.90	3	1.336	-.351				
.55	4	-.357	.145	.90	4	1.247	-.153				
.55	5	.379	-.095	.90	5	.006	-.731				
.55	6	.059	-.246	.90	6	.161	-.415				
.55	7	-.026	.099	.90	7	-.115	.216				
.55	8	.147	-.075	.90	8	-.033	.158				
.55	9	-.002	.003	.90	9	.065	-.113				
.55	10	.012	-.027	.90	10	.134	-.212				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 122 - Concluded

FLIGHT 89, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 25, t = 3.3 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	1369	1840	1871	1134	-1346	-3405		
15	2019	2566	2477	1926	-395	-2659		
30	3216	3284	3173	2432	142	-2042		
45	2600	2607	2658	2232	502	-1067		
60	1688	1535	1383	934	344	-1047		
75	1791	833	163	-659	-1865	-3336		
90	1939	248	-1040	-2243	-3845	-5375		
105	1061	-503	-1645	-2987	-5156	-6918		
120	1152	-1246	-2522	-3445	-4751	-6122		
135	161	-949	-1663	-2748	-4470	-5883		
150	1472	-248	-1329	-2338	-3862	-5913		
165	1700	116	-606	-1670	-3950	-6748		
180	1449	-25	-642	-1565	-3730	-6420		
195	1141	206	-334	-1279	-3898	-6191		
210	1905	1073	280	-802	-3695	-5644		
225	2292	2120	1690	743	-2419	-4579		
240	2612	2838	2947	2508	-457	-2659		
255	2338	3209	3616	3624	2271	664		
270	1574	3077	3923	4473	4242	3530		
285	1449	2978	3896	4578	4823	4545		
300	1620	3110	3752	3796	3415	3271		
315	1814	2492	2802	2985	2711	1530		
330	320	2195	2802	2365	485	-1753		
345	2178	2071	1257	285	-879	-2619		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-5805	-10615	118	
15	-6212	-11836	-1562	
30	-6033	-11363	358	
45	-2467	-5747	3158	
60	-1832	-2686	8134	
75	1505	-1302	7670	
90	3931	-1840	4406	
105	2238	-4786	3830	
120	2856	-3956	2582	
135	2547	-3403	4678	
150	1619	-1351	7174	
165	2140	98	8438	
180	1603	49	8614	
195	-400	-2084	7990	
210	-1735	-4982	5414	
225	-4421	-8384	2870	
240	-6733	-11152	1126	
255	-8621	-11933	-410	
270	-11486	-12829	70	
285	-12040	-12470	22	
300	-10379	-11836	-42	
315	-9484	-10126	1990	
330	-7514	-7733	3094	
345	-6505	-8482	2438	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	595	651	141
15	700	655	152
30	662	525	135
45	641	571	150
60	833	733	162
75	801	807	147
90	681	718	121
105	508	507	87
120	190	252	37
135	-79	-32	-16
150	-495	-421	-41
165	-569	-465	-48
180	-519	-405	-39
195	-474	-455	-38
210	-455	-547	-41
225	-246	-524	-8
240	-128	-468	8
255	-217	-567	21
270	-109	-381	35
285	-75	-301	58
300	-316	-399	58
315	-453	-442	42
330	-271	-81	60
345	137	207	105

TABLE 123

FLIGHT 89, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 25, t = 6.0 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	10.17	4.98	3.49	2.53	1.41	.41	.223	10.93	4.48	2.68	1.91	1.27	.55	.418	0
15	8.93	4.95	3.75	2.57	1.34	.30	.196	10.82	4.58	3.07	2.34	1.32	.65	.304	15
30	8.62	7.54	4.11	3.06	1.72	.71	.116	10.27	5.59	3.86	3.33	2.03	.85	.074	30
45	7.91	7.62	3.52	2.77	1.44	.53	.008	9.40	7.69	3.38	3.17	1.83	.65	-.016	45
60	5.92	5.72	4.15	2.66	1.27	.50	.000	7.68	6.32	3.24	2.90	1.64	.58	-.072	60
75	3.51	3.70	3.40	2.00	.78	.36	-.008	5.24	3.34	2.44	2.14	1.15	.38	-.123	75
90	4.47	4.44	3.81	2.27	.90	.40	.002	5.52	3.11	2.68	2.34	1.25	.41	-.110	90
105	4.61	4.57	4.06	2.49	.88	.45	.016	5.42	3.22	2.71	2.53	1.30	.49	-.103	105
120	4.43	4.29	4.01	2.51	.98	.44	.031	6.59	4.80	3.19	2.75	1.51	.53	-.089	120
135	4.75	4.14	3.88	2.49	1.15	.56	.081	6.57	4.15	3.13	2.78	1.61	.64	-.033	135
150	4.87	3.99	3.53	2.26	1.12	.53	.067	7.00	3.77	3.14	2.64	1.53	.59	-.005	150
165	5.82	4.47	3.69	2.48	1.40	.69	.154	7.53	4.14	3.25	2.75	1.70	.74	.105	165
180	6.73	4.84	3.59	2.50	1.46	.69	.142	8.60	4.67	3.41	2.72	1.77	.74	.111	180
195	7.45	4.86	3.57	2.53	1.58	.76	.174	9.47	4.79	3.49	2.77	1.86	.80	.136	195
210	7.25	4.40	3.16	2.24	1.41	.64	.136	9.86	4.49	3.17	2.44	1.64	.68	.110	210
225	6.80	4.11	2.90	2.13	1.38	.64	.160	9.08	4.16	2.89	2.28	1.56	.69	.135	225
240	7.70	4.30	3.06	2.30	1.55	.73	.205	9.88	4.23	2.98	2.35	1.65	.75	.199	240
255	8.96	4.33	2.98	2.21	1.46	.60	.168	7.89	4.67	3.55	2.68	1.67	.63	.177	255
270	8.78	4.21	2.91	2.18	1.48	.67	.196	6.47	2.92	2.13	1.72	1.40	.79	.326	270
285	5.96	4.32	3.00	2.31	1.97	.90	.387	3.33	3.10	2.67	2.25	1.73	1.14	.503	285
300	7.01	4.03	2.69	1.78	1.25	.71	.482	8.09	3.64	2.57	2.08	1.44	.61	.295	300
315	5.13	3.30	2.25	1.98	1.57	.90	.673	4.91	3.72	2.48	1.85	1.50	.83	.492	315
330	8.45	4.90	3.09	2.04	1.23	.58	.288	9.15	3.84	2.54	1.94	1.16	.74	.420	330
345	9.29	4.76	2.97	1.89	1.29	.61	.314	8.74	3.79	2.54	2.11	1.68	.81	.501	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	8.90	6.73	4.47	3.55	2.70	2.29	1.35	.89	.89	.70	.447	0
15	11.09	9.02	4.81	3.83	3.16	2.72	1.73	.90	.65	.29	.154	15
30	10.86	10.00	5.81	4.31	3.62	3.15	2.07	1.13	.91	.46	.220	30
45	10.09	9.53	6.60	4.00	3.40	2.93	1.87	.96	.72	.33	.106	45
60	9.00	7.96	5.49	3.53	3.06	2.59	1.62	.77	.62	.25	.065	60
75	5.55	4.62	3.14	2.65	2.20	1.69	1.07	.37	.39	.13	.004	75
90	5.35	4.28	3.17	2.71	2.20	1.73	1.17	.42	.43	.17	.018	90
105	5.90	4.82	3.53	2.98	2.36	1.84	1.26	.49	.48	.23	.053	105
120	7.58	6.69	4.69	3.47	2.88	2.35	1.51	.61	.56	.26	.069	120
135	8.21	7.22	4.97	3.75	3.13	2.53	1.70	.75	.70	.38	.098	135
150	8.86	7.45	4.71	3.73	3.10	2.46	1.68	.75	.71	.38	.105	150
165	9.49	7.88	4.87	3.92	3.30	2.69	1.86	.94	.89	.51	.173	165
180	10.16	9.12	4.88	3.96	3.29	2.74	1.87	.94	.88	.51	.173	180
195	10.65	9.49	4.88	3.95	3.31	2.77	1.89	.97	.89	.50	.208	195
210	10.65	6.65	4.41	3.52	2.86	2.43	1.61	.82	.73	.45	.166	210
225	9.99	5.79	4.13	3.29	2.68	2.33	1.54	.82	.75	.44	.183	225
240	9.21	6.26	4.32	3.43	2.74	2.38	1.58	.89	.76	.46	.249	240
255	3.64	3.21	3.02	2.81	2.65	2.50	1.98	1.19	.84	.63	.410	255
270	2.49	2.00	1.82	1.83	1.61	1.74	1.33	.88	.93	.54	.379	270
285	3.39	2.42	1.81	1.60	1.46	1.63	1.24	.86	.89	.78	.531	285
300	6.05	5.00	4.04	3.26	2.54	2.28	1.30	.75	.62	.44	.274	300
315	3.10	2.50	2.08	1.96	1.64	1.57	1.13	.77	1.02	.89	.668	315
330	7.88	6.13	4.33	3.33	2.58	2.19	1.33	.70	.71	.51	.297	330
345	4.72	4.39	3.86	3.47	2.93	2.50	1.87	1.23	1.28	1.03	.781	345

TABLE 123 - Continued

FLIGHT 89, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 25, t = 6.0 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.51	3.79	3.23	2.16	1.78	.92	.312	4.10	2.10	1.47	1.20	.91	.48	.152	0
15	7.61	3.92	2.79	2.14	1.53	.55	.070	4.77	2.23	1.52	1.22	.92	.44	.079	15
30	8.37	5.28	3.54	2.77	1.99	.89	.160	5.15	2.57	1.77	1.44	1.11	.64	.137	30
45	8.47	4.42	3.36	2.55	1.83	.75	.082	6.10	3.12	2.13	1.67	1.31	.67	.148	45
60	8.44	4.35	3.35	2.45	1.66	.60	.025	4.78	2.33	1.61	1.28	1.01	.56	.121	60
75	7.36	3.07	2.52	1.87	1.14	.44	.021	4.31	2.18	1.51	1.23	.96	.53	.118	75
90	6.21	2.62	2.25	1.77	1.10	.43	.052	3.71	1.95	1.37	1.12	.89	.50	.130	90
105	5.64	3.03	2.48	1.92	1.20	.49	.094	3.44	1.86	1.31	1.09	.87	.51	.132	105
120	5.29	3.06	2.62	2.00	1.32	.55	.108	4.23	2.25	1.59	1.28	1.02	.60	.157	120
135	6.21	4.08	3.27	2.44	1.78	.73	.147	5.65	2.92	1.98	1.58	1.26	.68	.186	135
150	7.14	4.48	3.57	2.58	1.88	.74	.165	5.68	2.91	1.99	1.60	1.26	.68	.190	150
165	7.77	4.67	3.59	2.63	2.00	.82	.199	6.11	3.09	2.11	1.68	1.33	.71	.181	165
180	8.23	4.79	3.53	2.57	1.94	.78	.189	6.53	3.06	2.13	1.71	1.37	.73	.175	180
195	8.42	4.94	3.35	2.41	1.87	.73	.203	4.95	2.70	1.93	1.55	1.20	.62	.166	195
210	8.39	4.39	2.87	2.05	1.54	.59	.174	4.38	2.25	1.59	1.29	.99	.59	.186	210
225	8.27	3.64	2.63	1.91	1.45	.56	.241	2.64	1.10	1.09	1.06	.91	.65	.347	225
240	7.29	3.71	2.89	2.20	1.74	.67	.207	2.54	1.19	.88	.78	.64	.55	.169	240
255	5.76	1.68	1.79	1.28	1.19	.92	.383	2.24	1.10	.84	.71	.56	.35	.130	255
270	4.33	1.48	1.29	1.12	1.04	.86	.390	1.79	.79	.67	.59	.48	.35	.085	270
285	3.67	2.08	1.39	1.07	.84	.43	.222	.74	.75	.81	.67	.49	.36	.138	285
300	4.24	2.93	2.12	1.61	1.31	.60	.184	.57	.47	.53	.56	.53	.47	.151	300
315	4.55	2.92	2.53	1.92	1.59	.73	.374	1.06	.98	1.00	.98	.89	.80	.175	315
330	4.62	2.30	1.88	1.52	1.33	.80	.232	1.67	1.12	1.03	.92	.82	.61	.274	330
345	5.58	4.27	2.84	2.28	1.85	.73	.253	2.11	1.81	1.61	1.25	.93	.42	.160	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	2.25	1.12	.67	.40	.153	.50	.23	.13	.08	.022	0
15	1.54	.82	.52	.34	.122	.85	.43	.26	.14	.035	15
30	1.93	1.02	.65	.39	.143	1.02	.50	.32	.15	.032	30
45	2.67	1.33	.82	.43	.145	1.13	.56	.34	.17	.039	45
60	2.31	1.12	.68	.38	.131	1.10	.53	.31	.15	.041	60
75	2.31	1.12	.70	.37	.130	1.25	.60	.36	.17	.052	75
90	1.83	.94	.61	.38	.143	1.05	.53	.33	.16	.056	90
105	2.30	1.13	.71	.41	.142	1.20	.63	.40	.20	.057	105
120	2.37	1.24	.82	.49	.189	1.63	.82	.51	.24	.070	120
135	2.98	1.52	.96	.54	.186	1.83	.95	.59	.28	.090	135
150	3.35	1.75	1.08	.59	.197	2.08	1.06	.67	.32	.106	150
165	3.30	1.74	1.07	.57	.183	2.19	1.09	.69	.32	.098	165
180	3.12	1.66	1.02	.55	.181	1.97	1.02	.65	.30	.103	180
195	2.65	1.40	.84	.44	.153	1.20	1.37	.65	.19	.125	195
210	1.96	1.07	.63	.33	.145	.35	.41	.89	.11	.036	210
225	1.17	1.05	.44	.28	.161	.17	.18	.25	.17	.030	225
240	.70	.92	.53	.17	.097	.12	.08	.11	.10	.015	240
255	.33	.41	.56	.15	.061	.06	.02	.10	.08	.022	255
270	.23	.28	.24	.41	.061	.04	.00	.04	.05	-.016	270
285	.25	.28	.18	.26	.199	.07	.01	.03	.04	-.007	285
300	.56	.31	.15	.20	.117	.09	.04	.04	.06	.021	300
315	.72	.31	.20	.23	.111	.12	.06	.06	.06	.015	315
330	.85	.39	.28	.30	.145	.17	.07	.06	.05	.019	330
345	1.42	.74	.51	.31	.166	.20	.13	.11	.10	.033	345

TABLE 123 - Continued

FLIGHT 89, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 25, t = 6.0 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	2.24	10.83	14.87	27.83	28.71	27.65	28.39
15	4.01	8.19	15.18	24.51	30.67	28.87	26.88
30	4.63	10.00	18.34	32.06	35.54	34.31	34.27
45	5.14	12.54	21.31	29.06	33.43	33.69	30.52
60	4.85	10.80	16.57	27.23	28.99	28.98	26.51
75	5.51	10.80	15.49	20.54	18.24	18.67	18.10
90	4.94	9.50	14.16	18.60	18.70	19.54	21.20
105	5.84	11.09	13.73	19.96	20.60	20.45	22.22
120	7.50	12.43	16.45	20.77	25.79	25.24	22.05
135	8.65	14.67	20.45	26.66	28.60	25.39	23.29
150	9.83	16.45	20.54	28.89	28.63	24.68	22.20
165	10.09	16.15	21.62	30.60	31.55	27.52	26.05
180	9.36	15.38	22.19	30.51	32.04	29.49	27.22
195	8.14	12.80	18.96	29.98	32.72	31.13	28.67
210	5.25	9.72	16.47	26.33	29.29	28.84	25.78
225	2.53	7.42	13.45	24.61	28.04	27.21	24.60
240	1.38	5.96	10.93	26.04	28.21	28.89	27.08
255	1.09	4.34	9.00	20.15	24.76	28.38	26.75
270	.46	4.31	7.49	17.22	18.55	22.88	26.84
285	.43	3.78	7.25	14.06	18.91	25.62	28.73
300	.79	3.59	7.03	19.37	23.58	24.91	25.21
315	.89	4.16	12.10	22.71	20.09	24.55	25.18
330	.99	5.33	11.80	19.74	26.00	26.03	26.65
345	1.65	7.84	13.03	26.41	30.37	28.20	27.30

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	13.738		0	5.399		0	5.845	
1	2.978	-7.210	1	-.410	-.759	1	-.512	-.193
2	.023	-.009	2	-.253	-.245	2	-.011	-.107
3	-.545	.059	3	.119	-.049	3	.052	-.039
4	-.159	.145	4	.063	.077	4	-.017	-.061
5	-.059	.218	5	.055	-.006	5	-.033	-.035
6	.168	.036	6	.075	-.018	6	-.020	-.028
7	.109	-.163	7	.087	-.081	7	-.020	-.030
8	-.009	-.150	8	.075	-.014	8	-.036	-.024
9	-.086	-.213	9	.051	.026	9	-.047	-.019
10	-.059	-.100	10	.022	-.024	10	-.022	-.009

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 123 - Continued

FLIGHT 89, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 25, t = 6.0 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	4.423		.75	0	24.326		.95	0	25.903	
.25	1	-2.748	2.945	.75	1	-1.345	1.894	.95	1	1.510	-1.618
.25	2	1.570	-.341	.75	2	5.097	2.183	.95	2	1.910	1.657
.25	3	-.702	.596	.75	3	-.478	1.174	.95	3	-.483	1.760
.25	4	.045	.087	.75	4	-1.332	-.905	.95	4	-.205	.952
.25	5	-.093	-.071	.75	5	-.666	.086	.95	5	-1.373	-.842
.25	6	.003	.217	.75	6	.742	-.013	.95	6	-.040	-.879
.25	7	.002	-.035	.75	7	.697	-1.010	.95	7	-.083	-.776
.25	8	-.147	-.074	.75	8	.323	-.421	.95	8	.002	.248
.25	9	.057	-.027	.75	9	.067	-1.076	.95	9	.247	.145
.25	10	-.021	.092	.75	10	-.210	-1.121	.95	10	.020	-.872
.40	0	9.502		.85	0	26.749					
.40	1	-2.705	4.005	.85	1	-.696	1.009				
.40	2	2.477	-.114	.85	2	5.583	2.573				
.40	3	-.439	.844	.85	3	.320	1.780				
.40	4	.132	-.438	.85	4	-1.771	.026				
.40	5	.207	-.407	.85	5	-1.144	-.826				
.40	6	.308	-.321	.85	6	.886	-.652				
.40	7	.265	-.246	.85	7	-.053	-1.160				
.40	8	.349	-.033	.85	8	-.730	-.316				
.40	9	.348	-.190	.85	9	-.637	.326				
.40	10	.317	.076	.85	10	-.594	-.029				
.55	0	14.933		.90	0	26.713					
.55	1	-2.287	4.187	.90	1	.437	-.906				
.55	2	3.642	.778	.90	2	3.101	2.587				
.55	3	-.996	.802	.90	3	-.291	1.756				
.55	4	-.878	-.402	.90	4	-1.484	.580				
.55	5	-.508	-.378	.90	5	-1.388	-1.125				
.55	6	-.063	.065	.90	6	.741	-.474				
.55	7	-.034	-.199	.90	7	.075	-.852				
.55	8	.820	-.180	.90	8	-.412	-.103				
.55	9	.405	.147	.90	9	.024	.514				
.55	10	.275	-.158	.90	10	-.161	-.322				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 123 - Concluded

FLIGHT 89, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 25, t = 6.0 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-2680	-223	1220	1193	-1366	-5981		
15	3761	3284	1419	-1363	-3786	-4508		
30	6680	3275	2170	1441	-3109	-8180		
45	1595	2145	2902	2252	1855	-1424		
60	4628	2096	2341	1642	-1648	-2280		
75	5779	2112	1618	354	-1727	-3663		
90	1903	1122	154	-810	-1982	-3145		
105	718	83	-1121	-1888	-4235	-6737		
120	3682	-66	-3526	-4922	-4367	-5682		
135	-1312	-759	-777	-2117	-4869	-7324		
150	3511	-850	-2079	-2146	-3566	-7424		
165	2051	825	325	-1735	-6118	-9394		
180	3123	50	-1049	-2003	-3813	-6677		
195	1231	-66	-9	-905	-3945	-7225		
210	2177	1328	127	-1678	-2889	-4230		
225	3134	1774	967	-37	-865	-2628		
240	1755	1906	2459	2424	1758	188		
255	3157	3383	3381	2815	2814	2924		
270	2678	3820	4321	4160	3421	3044		
285	1504	2978	3345	3826	4706	5472		
300	250	2162	3715	4332	3615	4725		
315	3169	3317	2965	2949	2638	29		
330	2416	5016	4267	650	-3065	-4270		
345	4354	743	-696	-1106	7	-2051		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	3181	-8482	-4184	
15	-6864	-12877	1128	
30	-5855	-10224	2968	
45	5167	-2247	1800	
60	1667	-4282	12344	
75	5313	1954	9848	
90	10002	2849	6200	
105	446	-4933	9688	
120	4988	-1758	904	
135	3799	-6170	2488	
150	-2322	-4689	7448	
165	283	391	8776	
180	1553	2393	11128	
195	-1378	1970	13192	
210	-971	-2002	6856	
225	-4178	-9784	-936	
240	-11276	-17387	-5240	
255	-11813	-19552	-10568	
270	-14402	-18087	-6216	
285	-15004	-14180	1000	
300	-8736	-9068	3544	
315	-7255	-2523	7912	
330	-4308	-3761	9160	
345	-580	-8221	2888	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	1175	1135	35
15	539	6	168
30	2801	1932	319
45	2958	2169	438
60	2322	1882	205
75	319	-319	180
90	501	1073	10
105	256	-297	103
120	166	611	16
135	955	616	47
150	-454	-362	-16
165	220	170	8
180	-372	-226	65
195	33	362	-35
210	-1872	-1709	-84
225	-3205	-2213	-428
240	-2344	-2843	-157
255	-3073	-2522	-390
270	-5728	-4648	-531
285	-3904	-3067	-390
300	-2135	-1759	-166
315	-3154	-4170	31
330	-2567	-1068	-576
345	-2740	-3990	-81

TABLE 124

FLIGHT 89, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 25, t = 7.1 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
0	9.29	4.44	2.61	1.65	.84	.43	.249	8.75	3.60	2.29	1.79	1.44	.72	.387	0
15	8.68	4.78	3.23	2.22	1.30	.37	.091	8.69	3.84	2.64	2.05	1.13	.29	.322	15
30	9.82	6.18	3.92	3.01	1.79	.70	.142	11.22	6.01	3.83	3.18	2.05	.73	.143	30
45	9.60	8.74	3.58	2.95	1.73	.62	.075	10.93	8.25	3.79	3.32	2.05	.70	.058	45
60	7.15	4.94	3.70	2.33	1.12	.37	-.045	8.73	6.07	3.16	2.66	1.52	.41	-.085	60
75	2.18	2.25	2.25	1.21	.38	.19	-.040	3.55	1.94	1.46	1.34	.68	.14	-.152	75
90	1.01	1.41	1.58	.66	.04	.15	-.031	1.77	.68	.66	.75	.31	.06	-.161	90
105	1.81	2.02	2.09	.84	.25	.24	-.016	2.67	1.30	1.19	1.15	.53	.17	-.150	105
120	1.41	1.87	1.99	.88	.21	.21	-.010	2.84	1.48	1.24	1.17	.52	.16	-.150	120
135	2.81	2.54	2.47	1.62	.69	.41	.053	4.06	2.34	1.97	1.69	.99	.42	-.061	135
150	3.12	2.68	2.47	1.59	.66	.37	.018	4.75	2.72	2.01	1.81	1.01	.37	-.063	150
165	4.45	3.43	2.87	2.07	1.14	.64	.146	6.15	3.47	2.65	2.36	1.51	.67	.072	165
180	6.59	4.66	3.51	2.48	1.46	.71	.158	8.35	4.60	3.34	2.69	1.83	.75	.136	180
195	7.80	5.03	3.65	2.64	1.67	.79	.188	9.86	4.84	3.61	2.86	1.98	.83	.150	195
210	7.68	4.55	3.24	2.31	1.44	.65	.154	10.35	4.56	3.22	2.51	1.73	.68	.127	210
225	6.87	4.07	2.89	2.11	1.36	.63	.156	9.39	4.18	2.92	2.27	1.61	.67	.143	225
240	7.17	4.17	2.96	2.21	1.51	.73	.217	9.71	4.18	2.91	2.34	1.70	.74	.205	240
255	9.01	4.28	2.92	2.19	1.46	.61	.176	6.93	4.38	3.15	2.78	1.72	.63	.188	255
270	8.45	4.11	2.87	2.20	1.53	.75	.231	4.57	2.84	2.56	2.55	2.22	.80	.340	270
285	4.94	3.59	2.60	1.94	1.49	.85	.419	4.15	2.68	2.24	2.01	1.76	.95	.498	285
300	4.10	2.38	1.79	1.15	.99	.64	.421	4.58	2.31	1.62	1.40	1.28	.74	.288	300
315	4.98	4.21	3.09	2.39	1.86	.89	.344	5.31	4.42	3.26	2.77	2.04	1.30	.418	315
330	6.49	3.24	2.02	1.31	.72	.51	.215	5.79	2.34	1.28	.98	.67	.25	.103	330
345	8.74	5.13	3.30	2.50	1.70	.61	.269	6.98	5.19	3.94	3.32	2.25	.94	.340	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
0	6.47	4.43	2.96	2.52	2.06	2.04	1.55	1.14	1.11	.70	.660	0
15	9.37	5.91	4.10	3.26	2.57	2.25	1.36	.67	.58	.45	.311	15
30	11.46	9.35	5.98	4.34	3.51	3.02	1.96	1.07	.78	.37	.233	30
45	11.29	10.53	6.73	4.44	3.55	3.03	1.95	.96	.68	.31	.179	45
60	9.53	8.39	4.47	3.46	2.90	2.41	1.50	.62	.47	.15	.033	60
75	3.79	2.87	2.08	1.71	1.37	1.14	.67	.13	.19	.02	-.048	75
90	1.95	1.23	.91	.69	.57	.47	.23	-.10	.05	-.03	-.054	90
105	3.03	2.20	1.63	1.28	1.05	1.00	.51	.04	.15	.03	-.038	105
120	2.88	2.08	1.57	1.19	.99	1.00	.50	.06	.18	.05	-.034	120
135	5.13	3.93	2.95	2.27	1.94	1.49	1.05	.41	.45	.22	.051	135
150	5.88	4.47	3.32	2.48	1.97	1.63	1.14	.46	.49	.26	.078	150
165	7.75	5.86	4.20	3.29	2.78	2.32	1.61	.81	.79	.45	.154	165
180	9.82	8.13	4.78	3.83	3.20	2.68	1.82	.94	.87	.49	.177	180
195	10.81	9.75	4.95	4.03	3.34	2.81	1.92	1.00	.90	.51	.218	195
210	10.94	7.17	4.50	3.59	2.92	2.47	1.62	.82	.74	.40	.177	210
225	10.16	5.76	4.03	3.26	2.63	2.26	1.51	.80	.72	.40	.177	225
240	9.18	6.09	4.16	3.32	2.66	2.34	1.55	.88	.77	.45	.226	240
255	3.20	2.82	2.86	2.78	2.50	2.60	1.95	1.20	.89	.64	.416	255
270	2.40	1.99	1.75	1.71	1.59	1.80	1.35	.88	.88	.57	.412	270
285	1.67	1.45	1.32	1.20	1.06	1.27	1.01	.69	.64	.59	.430	285
300	5.64	3.82	2.61	2.14	1.59	1.51	.92	.53	.49	.35	.297	300
315	2.31	2.28	2.26	2.29	2.15	2.13	1.87	1.55	1.73	1.12	.441	315
330	6.34	4.09	2.57	2.00	1.38	1.24	.66	.39	.30	.12	.076	330
345	5.26	5.18	4.77	4.29	3.65	3.21	2.13	1.15	.95	.56	.348	345

TABLE 124 - Continued

FLIGHT 89, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 25, t = 7.1 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.70	3.85	2.98	2.30	1.90	.87	.346	2.93	1.86	1.16	.93	.78	.40	.170	0
15	7.01	3.80	2.66	1.99	1.47	.56	.147	3.63	1.68	1.17	.96	.67	.39	.106	15
30	8.09	4.57	3.24	2.48	1.83	.76	.120	5.57	2.71	1.86	1.53	1.19	.66	.160	30
45	8.75	4.85	3.46	2.52	1.82	.61	.085	4.87	2.34	1.61	1.34	1.02	.56	.102	45
60	8.50	3.87	2.94	2.13	1.38	.46	.004	4.54	2.13	1.37	1.17	.84	.44	.066	60
75	6.67	1.81	1.62	1.23	.75	.22	-.058	2.29	1.18	.78	.62	.50	.32	.081	75
90	4.76	.85	.93	.70	.35	.11	-.031	1.09	.43	.42	.38	.25	.22	.054	90
105	3.85	1.38	1.26	.99	.54	.21	.028	1.69	.76	.62	.48	.40	.27	.060	105
120	3.08	1.44	1.19	.99	.53	.22	.025	1.78	.86	.70	.55	.45	.34	.097	120
135	3.92	2.74	2.02	1.69	1.11	.46	.085	4.10	2.12	1.43	1.12	.88	.50	.137	135
150	5.21	3.40	2.71	2.00	1.36	.53	.116	3.88	1.99	1.42	1.15	.93	.52	.135	150
165	6.18	4.21	3.22	2.41	1.73	.78	.186	4.38	2.34	1.64	1.33	1.06	.60	.169	165
180	7.14	4.51	3.40	2.55	1.90	.80	.196	5.36	2.65	1.85	1.51	1.19	.65	.155	180
195	7.71	5.07	3.35	2.48	1.86	.75	.210	4.80	2.51	1.52	1.46	1.16	.64	.127	195
210	7.00	4.72	3.23	2.23	1.64	.58	.186	3.97	2.13	1.52	1.27	1.06	.61	.122	210
225	5.76	4.20	2.95	1.95	1.41	.54	.194	2.78	1.22	.83	.60	.50	.47	.329	225
240	4.54	2.61	2.84	2.42	2.01	.67	.234	2.37	1.19	.84	.65	.41	.40	.260	240
255	3.33	2.26	2.01	1.53	1.50	.93	.274	2.11	1.03	.77	.65	.47	.37	.142	255
270	2.29	1.47	1.41	1.13	1.06	.55	.312	1.91	.93	.72	.60	.47	.27	.045	270
285	1.55	.87	.68	.45	.37	.54	.360	1.76	.77	.61	.52	.39	.23	.018	285
300	2.76	2.53	1.75	1.34	.97	.42	.116	1.36	.79	.73	.62	.42	.30	.076	300
315	3.50	2.60	2.33	1.87	1.76	1.05	.291	.81	.79	.86	.86	.74	.54	.189	315
330	3.97	2.47	1.64	1.20	.73	.23	.103	1.54	.60	.49	.44	.32	.57	.202	330
345	5.06	3.65	2.50	1.87	1.38	.60	.132	1.78	1.26	1.09	.99	.79	.43	.200	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.93	.96	.58	.35	.125	.27	.12	.08	.06	.016	0
15	1.65	.87	.52	.34	.119	.61	.21	.13	.08	.017	15
30	2.11	1.07	.67	.39	.137	.47	.24	.18	.12	.027	30
45	1.73	1.09	.70	.40	.138	1.10	.52	.29	.12	.027	45
60	1.76	.98	.55	.29	.087	.82	.37	.21	.09	.019	60
75	.60	.32	.19	.18	.085	.17	.05	.02	.00	.002	75
90	.69	.35	.21	.19	.087	.47	.19	.10	.05	.009	90
105	.44	.25	.18	.19	.099	.34	.17	.10	.06	.025	105
120	1.28	.67	.42	.30	.128	.65	.35	.23	.15	.061	120
135	1.68	.85	.56	.37	.135	1.14	.56	.34	.15	.054	135
150	2.08	1.10	.73	.46	.170	1.34	.68	.43	.21	.071	150
165	2.88	1.45	.88	.48	.158	1.47	.78	.50	.24	.071	165
180	2.89	1.50	.92	.52	.177	1.72	.88	.57	.28	.085	180
195	2.54	1.31	.78	.44	.135	1.32	.96	.45	.21	.079	195
210	1.89	.99	.59	.33	.115	.55	.75	.79	.09	.092	210
225	1.24	.66	.38	.24	.089	.20	.25	.46	.03	.006	225
240	.88	.49	.27	.19	.069	.16	.14	.25	.03	.008	240
255	.63	.38	.21	.17	.058	.07	.05	.11	.02	-.002	255
270	.28	.43	.33	.14	.049	.05	.01	.04	.01	-.037	270
285	.11	.18	.17	.26	.059	.05	.02	.02	.00	-.015	285
300	.19	.23	.16	.23	.123	.06	.02	.03	.03	.003	300
315	.63	.38	.18	.24	.147	.09	.03	.03	.04	.008	315
330	.98	.38	.20	.31	.098	.12	.05	.05	.05	.017	330
345	1.08	.66	.39	.32	.165	.07	.03	.04	.04	.015	345

TABLE 124 - Continued

FLIGHT 89, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 25, t = 7.1 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	1.33	9.36	12.27	27.37	26.47	25.68	23.44
15	2.35	8.42	11.95	23.75	26.22	23.00	25.41
30	2.60	10.45	19.46	28.92	34.92	35.07	33.24
45	4.50	9.96	16.66	29.10	35.13	37.48	35.15
60	3.27	8.52	14.30	24.02	26.30	27.73	24.13
75	.43	3.54	8.43	13.85	11.35	10.64	10.69
90	1.77	3.91	4.45	8.03	4.62	4.45	6.06
105	1.63	3.27	6.44	10.12	8.95	8.29	9.54
120	3.55	6.95	7.46	9.55	8.78	8.67	8.66
135	5.08	8.79	14.70	17.03	17.57	15.41	14.72
150	6.35	11.14	14.65	21.33	19.36	16.36	14.63
165	7.13	13.68	16.94	26.96	26.95	23.40	21.09
180	8.24	14.19	19.12	29.12	31.29	29.43	26.93
195	6.89	12.15	17.82	29.86	33.21	32.35	29.86
210	5.86	9.19	16.06	26.75	29.82	29.76	26.69
225	2.61	6.23	10.58	23.64	27.59	27.59	24.44
240	1.60	4.58	9.34	23.67	27.71	28.75	26.20
255	.69	3.61	8.48	20.36	24.32	27.05	26.68
270	.18	3.35	7.28	14.00	18.32	25.48	27.15
285	.11	2.85	6.13	8.92	13.74	23.95	24.45
300	.43	3.03	6.81	14.71	17.66	18.97	17.68
315	.58	4.20	9.52	23.23	26.46	31.63	27.53
330	.83	5.14	7.76	13.36	14.89	13.77	18.69
345	.58	6.76	10.89	21.70	31.09	33.66	29.53

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	12.494		0	3.236		0	9.852	
1	4.690	-9.897	1	1.110	-.198	1	-.725	.013
2	.259	.540	2	-.437	-.557	2	-.031	-.041
3	-.518	.281	3	.255	-.146	3	.116	-.093
4	-.141	.272	4	.081	-.028	4	-.003	-.064
5	-.186	.005	5	-.040	.122	5	-.030	.002
6	.095	.104	6	.124	-.010	6	.027	-.003
7	.204	-.095	7	.071	-.069	7	.017	-.016
8	.150	-.068	8	.010	.119	8	-.035	-.016
9	.118	-.222	9	.047	.047	9	-.036	-.013
10	.000	-.136	10	.028	.014	10	.014	-.020

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 124 - Continued

FLIGHT 89, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 25, t = 7.1 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	2.859		.75	0	20.321		.95	0	22.229	
.25	1	-2.323	1.167	.75	1	-.813	-.848	.95	1	2.486	-5.355
.25	2	1.897	.320	.75	2	7.116	5.240	.95	2	4.724	5.399
.25	3	-.937	.463	.75	3	-1.509	1.687	.95	3	-1.806	2.849
.25	4	-.248	.138	.75	4	-1.503	-.927	.95	4	-.928	.375
.25	5	-.162	-.264	.75	5	-1.174	-.133	.95	5	-2.006	-2.513
.25	6	-.001	.044	.75	6	1.042	.133	.95	6	-.075	-.996
.25	7	.095	-.150	.75	7	1.712	-.799	.95	7	.161	-.845
.25	8	.237	-.027	.75	8	.762	-.706	.95	8	.547	.095
.25	9	.055	.355	.75	9	.261	-1.020	.95	9	.090	-.483
.25	10	-.147	.058	.75	10	.025	-1.166	.95	10	-.065	-1.446
.40	0	7.207		.85	0	22.540					
.40	1	-1.758	1.630	.85	1	.519	-2.999				
.40	2	3.742	.734	.85	2	8.119	6.605				
.40	3	-.940	1.162	.85	3	-1.261	2.330				
.40	4	-.043	-.025	.85	4	-1.866	-.694				
.40	5	-.246	-.359	.85	5	-1.505	-1.433				
.40	6	.276	-.121	.85	6	1.314	-.598				
.40	7	.209	.016	.85	7	1.297	-1.375				
.40	8	.312	-.061	.85	8	.635	-1.123				
.40	9	.337	.224	.85	9	-.408	-1.617				
.40	10	-.147	.154	.85	10	-.592	-1.860				
.55	0	11.654		.90	0	23.127					
.55	1	-1.463	1.330	.90	1	1.518	-5.487				
.55	2	4.610	2.413	.90	2	5.449	6.525				
.55	3	-1.713	1.773	.90	3	-2.369	3.069				
.55	4	-1.035	.112	.90	4	-1.766	-.118				
.55	5	-.573	-.751	.90	5	-1.630	-2.609				
.55	6	-.188	.074	.90	6	.727	-1.337				
.55	7	.253	-.500	.90	7	.847	-1.284				
.55	8	.384	-.154	.90	8	.724	-.720				
.55	9	-.335	-.014	.90	9	-.189	-1.518				
.55	10	.130	-.678	.90	10	-.713	-2.368				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 124 - Concluded

FLIGHT 89, COMBINED COLLECTIVE AND CYCLIC PULL-UP FROM LEVEL FLIGHT

(SEE FIG. 25, t = 7.1 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-1886	-206	2034	1947	-1323	-4131		
15	3837	2665	2043	612	-566	-3037		
30	7952	4843	3426	1852	-2959	-5783		
45	3871	3894	3770	3626	1159	-2350		
60	3415	2723	2721	3054	2259	-1743		
75	4190	2186	1248	-590	-2370	-3315		
90	2172	825	-1248	-1954	-707	-1176		
105	-3037	-2071	-9	-170	-2801	-4420		
120	5319	-578	-2938	-3385	-4112	-5236		
135	622	1238	1175	-1687	-7043	-7813		
150	1317	-924	-1040	-838	-1367	-5116		
165	941	437	-524	-1678	-3399	-6370		
180	2959	1295	-1157	-2746	-3153	-5186		
195	1135	272	1003	1041	-2299	-7564		
210	3746	2038	1419	-218	-3839	-6410		
225	4179	2417	1040	-1144	-2493	-3096		
240	-575	-512	1772	2892	2488	1093		
255	2070	2533	3200	3140	3491	3371		
270	4509	6130	6030	4151	1546	2486		
285	2606	3655	5144	6240	6474	4834		
300	177	2739	4647	4867	4248	3719		
315	4179	3449	1211	-46	2400	3172		
330	-963	2211	4972	4008	-1455	-6798		
345	6949	2186	-1781	-3252	-2634	-3644		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-395	-12047	-3731	
15	-6174	-12715	-19	
30	224	-8270	3309	
45	7940	2589	5069	
60	2731	-33	16557	
75	9666	5454	8541	
90	7745	440	4125	
105	-1274	-10175	5021	
120	6768	-3354	-4883	
135	3252	-5584	5037	
150	12	1319	12045	
165	7599	3907	10413	
180	2112	3321	10781	
195	-2528	-5389	11373	
210	1005	-2865	-1235	
225	-5035	-11168	-355	
240	-7770	-12275	-2035	
255	-10147	-13431	-5603	
270	-16301	-18282	-883	
285	-11840	-13301	-1123	
300	-7640	-9556	3389	
315	-6874	-3126	10349	
330	-3423	0	9581	
345	-4091	-7456	2765	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	-827	637	-359
15	-1401	-2023	55
30	3608	3173	416
45	4498	3998	564
60	1489	1093	288
75	-20	405	19
90	-140	-230	36
105	740	443	35
120	-1012	-616	-45
135	778	682	-13
150	-1999	-1517	-140
165	-567	-318	-119
180	-806	-756	21
195	744	382	48
210	-1422	-1683	3
225	-2815	-2413	-412
240	-2104	-2504	-177
255	-3933	-3135	-365
270	-3218	-2917	-379
285	-5024	-4833	-289
300	-1486	-764	-289
315	-2266	-3227	44
330	-1825	-1684	-530
345	-2868	-2990	-71

TABLE 125

FLIGHT 90, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 26, t = 1.8 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.99	4.03	2.75	1.87	1.02	.48	.073	6.47	3.19	2.24	1.84	1.24	.48	.029	0
15	3.88	2.97	2.11	1.34	.62	.33	.028	4.22	2.10	1.46	1.24	.83	.31	-.025	15
30	2.43	2.17	1.75	1.01	.44	.29	.022	3.49	1.70	1.19	1.05	.70	.23	-.048	30
45	2.19	2.08	1.75	.99	.41	.30	.018	3.09	1.50	1.11	.98	.62	.23	-.064	45
60	2.39	2.19	1.91	1.12	.44	.31	.024	3.24	1.65	1.16	1.09	.71	.26	-.071	60
75	3.22	2.68	2.26	1.34	.53	.34	.027	3.94	1.97	1.35	1.22	.78	.29	-.075	75
90	3.79	3.23	2.64	1.57	.67	.39	.024	4.62	2.44	1.74	1.56	.99	.36	-.071	90
105	3.67	3.32	2.66	1.56	.64	.37	.024	4.66	2.52	1.79	1.63	.98	.36	-.079	105
120	2.91	2.81	2.11	1.40	.52	.34	.027	4.15	2.22	1.57	1.44	.88	.33	-.077	120
135	2.33	2.32	1.78	1.17	.42	.31	.014	3.45	1.81	1.26	1.22	.70	.27	-.077	135
150	1.84	1.99	1.62	.97	.35	.28	.016	3.05	1.52	1.04	1.05	.63	.26	-.071	150
165	1.70	1.87	1.49	.90	.36	.29	.035	2.98	1.50	1.05	.87	.62	.26	-.040	165
180	2.03	2.03	1.54	.96	.45	.34	.055	3.33	1.70	1.16	1.03	.71	.29	-.015	180
195	2.41	2.18	1.55	1.03	.53	.35	.067	3.73	1.88	1.29	1.12	.76	.33	.014	195
210	2.86	2.40	1.62	1.12	.65	.40	.083	4.18	2.10	1.43	1.19	.85	.38	.040	210
225	3.47	2.63	1.77	1.25	.75	.43	.097	4.71	2.32	1.58	1.31	.96	.42	.062	225
240	3.93	2.83	1.89	1.36	.85	.45	.112	5.19	2.58	1.74	1.40	1.03	.46	.071	240
255	4.42	3.07	2.02	1.47	.93	.48	.118	5.66	2.81	1.89	1.51	1.11	.48	.075	255
270	4.99	3.37	2.18	1.57	.99	.49	.112	6.03	2.93	1.96	1.58	1.15	.49	.077	270
285	5.16	3.42	2.22	1.58	.96	.48	.095	5.24	2.52	1.69	1.39	1.04	.44	.062	285
300	4.60	3.20	2.10	1.50	.91	.47	.105	5.06	2.51	1.68	1.41	1.03	.44	.055	300
315	4.74	3.32	2.20	1.56	.95	.49	.101	5.43	2.71	1.84	1.53	1.10	.47	.060	315
330	4.89	3.41	2.28	1.61	.99	.51	.108	5.89	2.95	1.98	1.67	1.17	.50	.073	330
345	5.70	3.88	2.58	1.84	1.10	.54	.110	7.06	3.47	2.36	1.92	1.34	.56	.066	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	7.13	4.62	3.37	2.51	2.04	1.93	1.22	.58	.51	.25	.055	0
15	4.92	3.40	2.41	1.72	1.42	1.41	.86	.35	.36	.14	.004	15
30	3.80	2.54	1.86	1.42	1.03	1.07	.61	.20	.24	.08	-.021	30
45	3.49	2.34	1.71	1.31	.97	1.03	.57	.15	.22	.07	-.029	45
60	3.55	2.36	1.78	1.36	1.00	1.07	.60	.15	.23	.08	-.031	60
75	4.13	2.83	2.06	1.58	1.13	1.16	.67	.17	.25	.09	-.027	75
90	4.80	3.43	2.51	1.98	1.47	1.41	.83	.26	.31	.14	-.019	90
105	5.05	3.68	2.76	2.11	1.52	1.48	.92	.30	.34	.15	-.017	105
120	4.60	3.30	2.45	1.77	1.40	1.32	.82	.25	.30	.13	-.035	120
135	3.96	2.68	2.11	1.38	1.19	1.11	.70	.19	.26	.11	-.031	135
150	3.59	2.29	1.83	1.22	.97	.99	.60	.15	.26	.12	-.023	150
165	3.48	2.28	1.77	1.24	.98	.96	.61	.17	.28	.13	-.023	165
180	3.83	2.50	1.92	1.34	1.09	1.06	.67	.23	.32	.17	-.005	180
195	4.02	2.65	2.02	1.44	1.15	1.13	.71	.28	.34	.18	.000	195
210	4.38	2.89	2.12	1.60	1.27	1.24	.78	.33	.37	.21	.014	210
225	4.83	3.21	2.35	1.79	1.41	1.37	.85	.40	.42	.23	.033	225
240	5.36	3.49	2.51	1.95	1.53	1.50	.93	.45	.44	.24	.041	240
255	5.81	3.72	2.69	2.07	1.62	1.58	.98	.50	.45	.24	.045	255
270	5.69	3.60	2.63	1.99	1.58	1.56	.95	.49	.43	.22	.043	270
285	4.80	3.10	2.26	1.70	1.32	1.35	.82	.42	.39	.20	.033	285
300	4.66	3.00	2.20	1.67	1.32	1.37	.83	.42	.38	.19	.036	300
315	5.21	3.36	2.48	1.90	1.49	1.50	.93	.46	.42	.21	.038	315
330	5.81	3.79	2.73	2.12	1.68	1.65	1.02	.52	.46	.24	.053	330
345	7.18	4.68	3.37	2.58	2.07	1.93	1.22	.63	.53	.27	.065	345

TABLE 125 - Continued

FLIGHT 90, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 26, t = 1.8 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.36	3.34	2.44	1.84	1.36	.52	.101	3.30	1.47	1.13	.98	.76	.37	.083	0
15	5.99	2.55	1.97	1.44	1.01	.38	.060	3.27	1.49	1.10	.94	.72	.33	.073	15
30	4.76	1.87	1.51	1.16	.76	.28	.046	2.28	.97	.78	.67	.54	.27	.066	30
45	3.85	1.75	1.46	1.14	.72	.26	.032	2.46	1.08	.83	.70	.56	.29	.077	45
60	3.42	1.77	1.51	1.20	.76	.27	.015	2.68	1.23	.92	.77	.61	.30	.088	60
75	3.58	1.95	1.61	1.28	.79	.29	.039	3.09	1.42	1.05	.88	.69	.34	.099	75
90	4.10	2.33	1.94	1.49	.95	.36	.075	3.57	1.70	1.23	1.01	.79	.38	.119	90
105	4.56	2.54	2.13	1.59	1.03	.39	.073	3.70	1.79	1.29	1.07	.85	.41	.122	105
120	4.49	2.41	2.04	1.51	1.01	.35	.077	3.65	1.75	1.27	1.06	.85	.39	.123	120
135	4.11	2.34	1.84	1.39	.92	.32	.065	3.53	1.68	1.23	1.03	.81	.38	.123	135
150	3.85	2.24	1.75	1.31	.86	.31	.082	3.43	1.63	1.21	1.00	.79	.38	.116	150
165	3.88	2.24	1.71	1.29	.87	.33	.094	3.46	1.65	1.22	1.02	.80	.38	.120	165
180	4.03	2.12	1.75	1.32	.92	.35	.099	3.46	1.65	1.23	1.03	.80	.38	.100	180
195	4.20	2.17	1.77	1.33	.95	.37	.101	3.41	1.57	1.18	.99	.77	.36	.090	195
210	4.40	2.28	1.79	1.34	.97	.39	.099	3.34	1.47	1.12	.94	.73	.34	.080	210
225	4.62	2.43	1.85	1.38	1.01	.42	.106	2.70	1.33	1.02	.87	.68	.30	.069	225
240	4.79	2.52	1.90	1.41	1.05	.43	.103	2.48	1.15	.90	.78	.60	.27	.054	240
255	4.89	2.47	1.85	1.38	1.02	.41	.079	2.14	.99	.80	.69	.52	.22	.046	255
270	4.57	2.21	1.66	1.24	.92	.38	.068	1.90	.86	.71	.61	.46	.19	.029	270
285	4.15	2.05	1.55	1.16	.86	.36	.063	2.03	.76	.65	.56	.43	.19	.027	285
300	3.92	1.97	1.52	1.16	.85	.36	.068	1.92	.74	.64	.55	.42	.18	.025	300
315	4.11	2.24	1.69	1.29	.95	.39	.073	2.25	.89	.71	.62	.47	.21	.034	315
330	4.71	2.67	1.96	1.49	1.12	.45	.091	2.78	1.15	.88	.75	.55	.25	.052	330
345	5.63	3.13	2.29	1.73	1.29	.50	.085	3.46	1.58	1.16	.96	.71	.33	.074	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.96	.90	.55	.27	.130	.60	.27	.14	.10	.008	0
15	1.57	.78	.51	.29	.108	.65	.34	.20	.13	.027	15
30	1.18	.58	.39	.25	.106	.79	.39	.22	.11	.019	30
45	1.30	.63	.44	.27	.119	.68	.36	.21	.13	.026	45
60	1.61	.76	.52	.31	.130	.83	.42	.25	.14	.032	60
75	1.92	.91	.61	.35	.138	1.02	.52	.30	.16	.033	75
90	2.15	1.01	.68	.38	.147	1.16	.59	.34	.17	.039	90
105	2.29	1.08	.72	.40	.152	1.30	.66	.39	.20	.047	105
120	2.31	1.11	.74	.41	.156	1.42	.73	.44	.22	.056	120
135	2.24	1.12	.74	.41	.157	1.45	.76	.46	.23	.058	135
150	2.16	1.12	.73	.40	.151	1.47	.76	.46	.23	.055	150
165	2.16	1.09	.72	.40	.145	1.43	.74	.45	.22	.056	165
180	2.07	1.05	.68	.38	.137	1.29	.66	.41	.21	.059	180
195	1.88	.96	.62	.35	.128	.96	.57	.34	.18	.058	195
210	1.64	.84	.54	.31	.121	.85	.60	.26	.15	.061	210
225	1.34	.70	.45	.25	.111	.24	.33	.41	.07	.050	225
240	1.05	.59	.39	.22	.107	.11	.14	.21	.13	.016	240
255	.61	.68	.46	.21	.097	.07	.08	.07	.15	.022	255
270	.28	.32	.31	.36	.154	.05	.04	.03	.09	.025	270
285	.23	.23	.19	.20	.114	.05	.04	.02	.05	.083	285
300	.50	.35	.20	.14	.099	.08	.07	.03	.05	.047	300
315	.68	.36	.24	.17	.092	.15	.13	.05	.07	.020	315
330	.90	.47	.30	.20	.096	.25	.22	.08	.08	.015	330
345	1.28	.64	.41	.26	.112	.26	.15	.10	.09	.012	345

TABLE 125 - Continued

FLIGHT 90, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 26, t = 1.8 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	2.52	8.75	11.45	21.50	20.94	20.26	21.15
15	3.16	7.79	11.02	17.13	14.60	13.16	14.61
30	3.46	6.16	8.00	13.08	10.68	10.65	10.90
45	3.30	6.78	8.61	11.86	9.91	9.57	10.50
60	3.92	8.06	9.43	11.88	10.30	10.50	11.31
75	4.66	9.39	10.76	12.73	11.64	12.16	13.69
90	5.26	10.37	12.43	15.25	14.29	15.19	16.25
105	5.96	11.02	13.10	16.59	15.39	15.33	16.08
120	6.59	11.22	12.91	15.95	13.79	13.65	13.44
135	6.81	11.14	12.46	14.71	11.77	11.09	11.20
150	6.85	10.94	12.22	14.00	10.47	9.72	9.65
165	6.68	10.80	12.31	14.17	10.42	9.64	9.34
180	6.11	10.33	12.24	14.44	11.57	10.95	10.52
195	4.98	9.37	11.75	14.88	12.26	12.22	11.46
210	4.42	8.27	11.15	15.41	13.36	13.70	12.93
225	3.02	6.85	9.89	16.19	14.81	15.35	14.53
240	1.99	5.77	8.79	16.70	16.10	16.86	15.90
255	1.44	5.38	7.59	16.33	17.06	18.15	17.27
270	.88	4.80	6.64	14.82	16.66	18.92	18.64
285	.83	3.01	6.34	13.77	14.28	16.61	18.63
300	.84	3.27	6.17	13.48	14.14	16.42	17.56
315	1.12	3.88	7.06	14.80	15.75	17.67	18.19
330	1.59	4.81	8.70	17.27	17.47	19.06	18.88
345	1.56	6.56	11.36	20.01	21.15	22.16	21.18

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	8.213		0	3.702				
1	.903	-2.175	1	-.632	-1.347			
2	-.018	-.005	2	.265	.128			
3	.218	-.045	3	-.144	.055			
4	.045	-.050	4	-.053	-.004			
5	.005	.014	5	-.057	-.063			
6	.009	.005	6	.012	-.008			
7	.000	.018	7	-.008	-.014			
8	.000	.005	8	.022	.014			
9	-.018	.005	9	.008	.000			
10	.000	.000	10	.004	.006			

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom}\right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom}\right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom}\right)$$

TABLE 125 - Continued

FLIGHT 90, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 26, t = 1.8 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.664		.75	0	15.290		.95	0	14.742	
.25	1	-1.826	2.193	.75	1	.616	-.769	.95	1	2.744	-2.626
.25	2	.585	-.316	.75	2	1.050	-.527	.95	2	-1.167	-1.317
.25	3	.042	.049	.75	3	2.300	-.930	.95	3	1.695	-1.539
.25	4	.026	.113	.75	4	1.032	-.202	.95	4	1.498	-.117
.25	5	.007	.085	.75	5	.123	-.074	.95	5	.412	-.222
.25	6	-.040	.070	.75	6	.342	-.167	.95	6	.219	-.320
.25	7	-.025	.104	.75	7	.309	-.018	.95	7	.282	-.142
.25	8	-.038	-.026	.75	8	.157	.077	.95	8	.380	.016
.25	9	-.005	.061	.75	9	.091	.077	.95	9	.155	-.061
.25	10	.081	-.018	.75	10	.074	-.004	.95	10	.141	-.091
.40	0	7.697		.85	0	14.116					
.40	1	-1.949	2.820	.85	1	1.721	-2.096				
.40	2	.815	-.236	.85	2	.037	-.862				
.40	3	.665	-.255	.85	3	2.445	-1.373				
.40	4	.666	-.116	.85	4	1.371	-.440				
.40	5	.211	-.058	.85	5	.052	-.401				
.40	6	.171	.163	.85	6	.326	-.241				
.40	7	.242	.157	.85	7	.431	-.088				
.40	8	.166	-.020	.85	8	.344	-.098				
.40	9	.016	.000	.85	9	.026	-.155				
.40	10	-.010	.050	.85	10	.029	-.079				
.55	0	10.099		.90	0	14.541					
.55	1	-1.407	2.076	.90	1	2.109	-3.049				
.55	2	1.124	-.358	.90	2	-.787	-1.170				
.55	3	.951	-.782	.90	3	2.099	-1.705				
.55	4	.680	-.053	.90	4	1.339	-.470				
.55	5	.229	-.046	.90	5	.036	-.529				
.55	6	.155	-.081	.90	6	.117	-.350				
.55	7	.093	.023	.90	7	.308	-.193				
.55	8	-.002	.079	.90	8	.333	-.221				
.55	9	-.062	.122	.90	9	.052	-.260				
.55	10	-.123	.022	.90	10	-.054	-.138				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 125 - Concluded

FLIGHT 90, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 26, t = 1.8 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	93	479	-398	-1055	-2979	-5828		
15	59	611	-27	-1466	-3630	-5938		
30	-397	-998	-1672	-2324	-3471	-4863		
45	-3600	-2384	-2694	-2858	-2407	-2405		
60	-1970	-1502	-2287	-2858	-2917	-3739		
75	960	-264	-1609	-2420	-4272	-6157		
90	-408	-512	-1121	-2219	-4404	-6127		
105	-1024	-1823	-2495	-3183	-3727	-5092		
120	-796	-2533	-3435	-3917	-4202	-5132		
135	-1229	-2244	-3209	-4060	-4818	-5987		
150	-864	-1832	-2983	-4242	-5751	-7938		
165	-249	-2211	-3761	-4929	-6481	-8485		
180	-1856	-2888	-4086	-5091	-6067	-7341		
195	-1514	-2516	-3598	-4509	-5311	-6793		
210	333	-924	-2016	-3126	-4985	-6744		
225	538	619	63	-1008	-3515	-5480		
240	424	974	1040	547	-1236	-3211		
255	777	1089	1094	1148	471	-654		
270	-44	1238	1573	1673	1527	938		
285	-203	1353	1953	1931	1351	351		
300	150	1353	1618	1425	313	-923		
315	-773	677	994	681	-479	-2187		
330	-921	99	-27	-416	-1421	-3311		
345	-796	107	-407	-1055	-2618	-4505		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-11744	-10712	2714	
15	-10800	-9784	2682	
30	-7870	-8433	2522	
45	-6063	-7977	3242	
60	-5265	-7310	2682	
75	-5802	-7977	3018	
90	-4532	-7212	2954	
105	-2335	-6561	3626	
120	-88	-4542	3946	
135	10	-3061	6138	
150	742	-2035	7082	
165	2289	-635	6986	
180	1621	-928	7978	
195	1214	-1270	6938	
210	-886	-3696	6314	
225	-4793	-6431	5194	
240	-7007	-9784	3162	
255	-7821	-12194	362	
270	-9742	-12780	122	
285	-11940	-13073	1450	
300	-12298	-11608	1530	
315	-12298	-11347	2538	
330	-11386	-10924	2522	
345	-10344	-10615	2026	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	898	283	179
15	565	109	146
30	30	-336	66
45	137	-222	62
60	414	-42	103
75	608	66	129
90	910	326	150
105	853	269	130
120	481	53	81
135	282	-180	37
150	4	-424	-8
165	-279	-629	-31
180	-324	-620	-39
195	-344	-611	-46
210	-295	-744	-34
225	-127	-569	-8
240	-30	-467	6
255	-61	-401	8
270	-403	-337	-8
285	-724	-750	-23
300	-462	-604	5
315	-167	-389	40
330	-13	-379	82
345	578	234	132

TABLE 126

FLIGHT 90, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 26, t = 7.9 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95							Δp, lb/sq in., at - r/R = 0.90							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	7.15	4.88	3.48	2.33	1.29	.62	.087	8.58	4.29	3.06	2.47	1.67	.69	.055	0
15	4.97	3.79	2.88	1.81	.82	.44	.041	6.49	3.24	2.22	1.82	1.21	.46	-.015	15
30	3.51	2.86	2.32	1.43	.62	.36	.028	4.68	2.38	1.69	1.45	.93	.33	-.037	30
45	3.18	2.67	2.27	1.36	.59	.37	.031	4.31	2.19	1.54	1.34	.87	.35	-.046	45
60	3.31	2.79	2.38	1.47	.66	.40	.042	4.49	2.36	1.65	1.47	.96	.40	-.037	60
75	4.58	3.58	2.88	1.74	.82	.45	.059	5.43	2.86	2.02	1.76	1.12	.44	-.029	75
90	5.54	4.35	3.54	2.18	1.10	.55	.069	6.56	3.58	2.62	2.22	1.42	.57	-.014	90
105	6.58	5.33	4.01	2.49	1.27	.59	.073	7.39	4.09	3.01	2.57	1.61	.63	-.011	105
120	6.23	5.12	3.73	2.42	1.20	.56	.067	7.53	4.16	3.04	2.56	1.58	.61	-.025	120
135	5.21	4.35	3.15	2.12	1.01	.51	.061	6.64	3.44	2.59	2.18	1.36	.51	-.035	135
150	4.16	3.53	2.61	1.76	.81	.43	.055	5.52	2.97	2.10	1.84	1.12	.45	-.037	150
165	3.55	3.01	2.30	1.51	.72	.42	.055	4.90	2.60	1.85	1.67	1.05	.43	-.022	165
180	3.49	2.89	2.21	1.44	.71	.42	.067	4.91	2.58	1.77	1.61	1.00	.42	-.005	180
195	3.71	2.96	2.12	1.48	.77	.45	.073	5.21	2.62	1.90	1.57	1.05	.46	.015	195
210	4.04	3.07	2.17	1.53	.84	.46	.085	5.48	2.73	1.98	1.61	1.13	.48	.040	210
225	4.62	3.34	2.30	1.63	.97	.51	.114	6.05	3.08	2.12	1.75	1.23	.54	.064	225
240	5.32	3.86	2.52	1.82	1.11	.58	.124	6.87	3.49	2.39	1.92	1.35	.61	.084	240
255	6.15	4.07	2.76	2.00	1.24	.62	.142	7.69	3.76	2.65	2.10	1.49	.64	.099	255
270	6.80	4.35	2.93	2.11	1.29	.61	.126	7.46	3.70	2.57	2.07	1.46	.62	.088	270
285	6.19	4.03	2.69	1.92	1.13	.57	.114	6.55	3.27	2.25	1.83	1.28	.58	.077	285
300	5.42	3.83	2.60	1.85	1.10	.57	.114	6.36	3.16	2.18	1.81	1.25	.57	.075	300
315	5.74	3.95	2.73	1.94	1.15	.58	.128	6.74	3.42	2.39	1.99	1.39	.60	.075	315
330	6.33	4.32	2.95	2.11	1.25	.64	.124	7.95	3.98	2.73	2.23	1.53	.65	.097	330
345	7.39	4.84	3.30	2.34	1.38	.64	.118	8.63	4.31	3.03	2.45	1.68	.69	.093	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85											ψ_{nom}, deg
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	10.15	6.42	4.59	3.49	2.84	2.54	1.64	.84	.72	.38	.131	0
15	6.27	4.57	3.21	2.39	1.98	1.88	1.20	.55	.51	.25	.049	15
30	5.36	3.78	2.68	1.84	1.60	1.54	.92	.38	.40	.17	.020	30
45	4.86	3.46	2.51	1.96	1.44	1.44	.86	.31	.36	.15	.010	45
60	5.09	3.60	2.67	2.05	1.58	1.55	.94	.34	.39	.17	.018	60
75	6.14	4.40	3.12	2.19	1.84	1.71	1.06	.40	.42	.19	.026	75
90	7.12	5.37	3.79	2.74	2.35	2.10	1.30	.53	.54	.27	.045	90
105	8.11	6.08	4.31	3.16	2.65	2.33	1.48	.64	.61	.31	.051	105
120	8.23	6.11	4.31	3.19	2.65	2.35	1.52	.64	.62	.31	.051	120
135	7.21	5.24	3.82	2.77	2.34	2.04	1.35	.55	.54	.27	.036	135
150	6.10	4.34	3.31	2.41	1.98	1.73	1.16	.46	.49	.24	.033	150
165	5.71	4.00	3.00	2.14	1.81	1.60	1.05	.41	.46	.24	.041	165
180	5.75	4.03	2.97	2.18	1.78	1.63	1.06	.45	.48	.27	.043	180
195	6.04	4.20	3.02	2.26	1.83	1.68	1.10	.49	.52	.28	.046	195
210	6.29	4.29	3.10	2.35	1.92	1.74	1.14	.52	.54	.29	.061	210
225	6.89	4.59	3.34	2.48	2.02	1.86	1.22	.59	.57	.33	.079	225
240	7.66	4.98	3.61	2.74	2.25	2.04	1.33	.70	.63	.35	.096	240
255	8.07	5.32	3.75	2.84	2.31	2.12	1.37	.73	.65	.35	.096	255
270	7.25	4.66	3.41	2.61	2.11	1.97	1.28	.67	.61	.33	.090	270
285	6.40	4.25	3.21	2.34	1.90	1.79	1.14	.63	.54	.29	.076	285
300	6.59	4.34	3.23	2.40	1.93	1.83	1.18	.62	.56	.30	.086	300
315	7.42	4.83	3.55	2.70	2.17	2.02	1.30	.70	.62	.33	.098	315
330	9.23	5.85	4.11	3.14	2.57	2.31	1.62	.78	.68	.36	.117	330
345	10.09	6.38	4.48	3.41	2.79	2.50	1.60	.86	.71	.37	.120	345

TABLE 126 - Continued

FLIGHT 90, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 26, t = 7.9 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75							Δp, lb/sq in., at - r/R = 0.55							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	7.90	4.32	3.11	2.34	1.69	.66	.108	5.27	2.52	1.76	1.43	1.10	.47	.131	0
15	7.94	3.69	2.77	2.03	1.41	.54	.079	5.02	2.22	1.60	1.36	1.05	.51	.113	15
30	6.71	2.60	2.09	1.55	1.06	.40	.039	3.49	1.66	1.23	1.01	.82	.43	.110	30
45	5.80	2.44	1.98	1.50	1.00	.37	.042	3.48	1.65	1.21	1.01	.80	.40	.108	45
60	5.10	2.40	2.00	1.51	1.02	.40	.068	3.60	1.73	1.27	1.06	.83	.43	.120	60
75	4.91	2.59	2.13	1.65	1.11	.43	.077	4.06	1.97	1.41	1.15	.92	.46	.133	75
90	5.36	3.09	2.48	1.90	1.29	.53	.122	4.60	2.26	1.61	1.32	1.02	.51	.151	90
105	5.96	3.52	2.80	2.12	1.45	.59	.134	4.95	2.45	1.74	1.41	1.12	.57	.154	105
120	6.50	3.65	2.90	2.17	1.52	.58	.113	4.99	2.46	1.79	1.42	1.13	.54	.157	120
135	6.52	3.34	2.70	2.01	1.41	.53	.116	4.81	2.35	1.67	1.37	1.09	.52	.148	135
150	6.12	3.05	2.50	1.85	1.30	.49	.113	4.47	2.18	1.57	1.29	1.02	.49	.144	150
165	5.65	2.82	2.32	1.74	1.22	.47	.110	4.28	2.09	1.51	1.26	.99	.46	.135	165
180	5.53	2.85	2.29	1.71	1.22	.48	.122	4.26	2.06	1.51	1.24	.98	.48	.150	180
195	5.62	2.90	2.28	1.73	1.23	.49	.116	4.28	1.98	1.46	1.21	.96	.46	.128	195
210	5.71	2.93	2.26	1.70	1.25	.49	.127	4.22	1.90	1.40	1.15	.92	.44	.120	210
225	5.86	3.01	2.29	1.73	1.29	.52	.127	3.58	1.81	1.35	1.12	.89	.42	.110	225
240	6.11	3.12	2.36	1.77	1.34	.56	.130	3.50	1.75	1.29	1.08	.85	.42	.103	240
255	6.31	3.13	2.34	1.75	1.33	.57	.106	3.27	1.59	1.20	1.01	.79	.38	.087	255
270	6.21	3.01	2.25	1.69	1.25	.51	.099	2.98	1.45	1.10	.92	.72	.36	.073	270
285	5.88	2.78	2.09	1.57	1.15	.46	.096	2.89	1.35	1.03	.87	.68	.33	.066	285
300	5.41	2.67	2.05	1.54	1.14	.47	.101	3.04	1.37	1.05	.88	.68	.32	.067	300
315	5.57	2.95	2.08	1.69	1.28	.54	.106	3.28	1.61	1.19	1.02	.74	.35	.084	315
330	6.25	3.49	2.27	1.96	1.49	.61	.116	3.92	1.95	1.41	1.16	.89	.41	.113	330
345	7.03	3.94	2.87	2.17	1.65	.65	.132	4.52	2.17	1.56	1.27	.96	.39	.161	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40					Δp, lb/sq in., at - r/R = 0.25					ψ_{nom}, deg
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	2.45	1.15	.74	.38	.165	1.06	.81	.55	.24	.040	0
15	2.20	1.09	.70	.35	.159	1.66	.78	.45	.23	.057	15
30	1.74	.89	.60	.34	.121	1.31	.67	.39	.17	.050	30
45	1.85	.93	.62	.36	.139	.99	.53	.33	.18	.030	45
60	2.13	1.05	.70	.39	.157	1.21	.63	.38	.20	.043	60
75	2.39	1.20	.80	.44	.165	1.42	.73	.44	.22	.051	75
90	2.65	1.34	.88	.47	.167	1.58	.80	.48	.24	.054	90
105	2.75	1.38	.91	.48	.177	1.67	.85	.51	.25	.057	105
120	2.79	1.40	.92	.48	.174	1.71	.88	.53	.26	.063	120
135	2.76	1.37	.90	.47	.174	1.74	.88	.53	.26	.059	135
150	2.63	1.32	.86	.45	.165	1.67	.85	.52	.25	.058	150
165	2.50	1.25	.82	.44	.155	1.57	.80	.48	.24	.059	165
180	2.37	1.19	.78	.42	.151	1.38	.71	.44	.21	.059	180
195	2.22	1.11	.72	.39	.143	1.14	.62	.39	.19	.068	195
210	2.01	1.02	.66	.35	.137	.93	.77	.31	.17	.079	210
225	1.80	.92	.59	.32	.134	.29	.41	.49	.14	.062	225
240	1.56	.80	.52	.29	.135	.17	.18	.19	.23	.047	240
255	1.00	.93	.67	.30	.133	.15	.12	.11	.19	.085	255
270	.56	.55	.52	.32	.182	.13	.11	.08	.07	.183	270
285	.76	.61	.31	.18	.132	.17	.16	.10	.08	.047	285
300	.95	.45	.38	.22	.078	.22	.22	.16	.07	.023	300
315	1.16	.56	.43	.21	.119	.26	.24	.18	.12	.038	315
330	1.46	.71	.50	.27	.123	.45	.43	.33	.19	.033	330
345	1.99	.94	.71	.30	.147	.61	.58	.59	.13	.023	345

TABLE 126 - Continued

FLIGHT 90, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 26, t = 7.9 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	6.60	11.41	17.34	27.11	29.10	27.49	26.16
15	7.22	10.54	16.48	23.93	19.91	19.93	19.22
30	5.85	8.92	12.63	18.17	16.09	14.70	14.73
45	4.83	9.41	12.38	16.79	14.78	13.81	14.06
60	5.71	10.63	12.98	16.57	15.90	15.06	15.00
75	6.61	11.93	14.40	17.49	18.31	17.89	18.69
90	7.23	13.08	16.29	20.44	22.42	22.60	23.22
105	7.66	13.50	17.66	22.95	25.46	25.59	26.88
120	7.92	13.65	17.64	23.79	25.73	25.59	25.52
135	7.95	13.42	16.93	22.37	22.62	21.79	21.76
150	7.68	12.82	15.81	20.74	19.47	18.26	17.81
165	7.21	12.27	15.18	19.37	17.96	16.61	15.71
180	6.46	11.66	15.26	19.33	18.10	16.23	15.36
195	5.65	10.84	14.81	19.53	18.84	17.12	15.87
210	5.17	9.90	14.27	19.72	19.56	18.03	16.73
225	3.99	8.94	13.36	20.24	21.07	19.97	18.58
240	2.72	7.92	12.93	21.13	23.14	22.45	21.10
255	2.26	7.82	11.87	21.17	24.03	24.60	23.16
270	1.75	6.25	10.92	20.16	22.09	23.98	24.41
285	1.57	4.90	10.23	18.69	19.90	21.28	22.25
300	1.78	5.26	10.39	18.19	20.36	20.71	21.14
315	2.33	6.04	11.60	19.68	22.67	22.39	22.07
330	3.87	7.38	13.80	22.50	26.93	25.47	24.04
345	4.92	9.67	15.12	25.41	28.58	27.68	26.54

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	8.631		0	4.698				
1	1.062	-2.756	1	.946	-1.249			
2	-.141	-.141	2	.239	.273			
3	.191	-.068	3	-.146	-.030			
4	.054	-.032	4	-.071	.022			
5	-.054	-.036	5	-.036	-.117			
6	.009	-.005	6	.032	-.032			
7	-.018	.000	7	.008	-.034			
8	.000	.000	8	-.004	-.022			
9	-.009	.000	9	-.004	-.014			
10	.000	-.005	10	.004	-.002			
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 126 - Continued

FLIGHT 90, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 26, t = 7.9 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	5.205		.75	0	20.644		.95	0	20.417	
.25	1	-.722	2.607	.75	1	.547	-.074	.95	1	1.465	-.999
.25	2	1.024	-.236	.75	2	1.122	-1.291	.95	2	-1.887	-3.047
.25	3	.617	-.089	.75	3	2.942	-.474	.95	3	3.394	-1.320
.25	4	.346	.133	.75	4	.985	.044	.95	4	1.567	.022
.25	5	.231	.141	.75	5	.158	-.266	.95	5	-.020	-.632
.25	6	-.030	.153	.75	6	.366	.060	.95	6	.279	-.271
.25	7	-.021	.171	.75	7	.262	.115	.95	7	.337	.004
.25	8	-.064	.026	.75	8	.120	.196	.95	8	.286	-.003
.25	9	-.067	.076	.75	9	.050	.124	.95	9	.153	-.148
.25	10	.027	.022	.75	10	-.025	.099	.95	10	.082	-.021
.40	0	9.923		.85	0	21.375					
.40	1	-1.459	3.092	.85	1	1.009	-1.156				
.40	2	.750	-.185	.85	2	-.080	-2.520				
.40	3	.955	-.348	.85	3	3.689	-1.864				
.40	4	.590	-.212	.85	4	1.124	-.611				
.40	5	.189	-.051	.85	5	-.185	-.691				
.40	6	.180	.158	.85	6	.479	-.113				
.40	7	.223	.041	.85	7	.391	-.105				
.40	8	.102	-.062	.85	8	.230	-.078				
.40	9	-.049	.047	.85	9	.245	.012				
.40	10	.005	.065	.85	10	.270	.046				
.55	0	14.179		.90	0	20.800					
.55	1	-.737	2.085	.90	1	1.258	-1.505				
.55	2	1.094	-.607	.90	2	-1.123	-2.780				
.55	3	1.530	-.645	.90	3	3.755	-1.507				
.55	4	.681	.146	.90	4	1.464	-.366				
.55	5	.150	.033	.90	5	-.114	-.692				
.55	6	.236	.181	.90	6	.374	-.101				
.55	7	.125	.161	.90	7	.406	.055				
.55	8	.082	.231	.90	8	.231	-.045				
.55	9	.017	.186	.90	9	.165	.021				
.55	10	.020	.090	.90	10	.035	.077				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 126 - Concluded

FLIGHT 90, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 26, t = 7.9 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-652	-355	-823	-1681	-3795	-6654		
15	-184	-41	-434	-1853	-4895	-7570		
30	-481	-891	-1600	-2921	-4728	-6445		
45	-2726	-2500	-2667	-2959	-3443	-4475		
60	-2145	-2178	-2703	-3131	-2985	-3560		
75	55	-586	-1528	-2444	-3593	-5132		
90	488	-173	-1049	-1967	-3751	-5779		
105	-458	-883	-1410	-2196	-3241	-5211		
120	-526	-1749	-2459	-2854	-3117	-4505		
135	-458	-1741	-2468	-3122	-3566	-4784		
150	-218	-1229	-1926	-3064	-4473	-6525		
165	488	-1196	-2296	-3560	-5212	-7530		
180	-412	-1832	-2866	-4209	-5520	-7420		
195	-914	-2203	-3218	-4171	-4992	-6485		
210	-298	-1419	-2359	-3293	-4596	-6376		
225	1093	215	-786	-1920	-3830	-5878		
240	1161	1056	642	-164	-2176	-4396		
255	967	1163	1040	828	-345	-2008		
270	682	1279	1501	1181	790	-37		
285	295	1444	2016	1706	895	112		
300	454	1403	1889	1696	579	-1142		
315	340	1262	1437	675	-891	-2764		
330	-173	322	72	-737	-2422	-4495		
345	-652	-380	-660	-1357	-3205	-5848		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-12204	-10484	3123	
15	-13523	-11298	2931	
30	-11341	-9214	1667	
45	-10071	-8970	3363	
60	-8264	-7798	3555	
75	-5952	-7456	3315	
90	-6001	-6903	4131	
105	-4015	-6528	4115	
120	-645	-5258	3875	
135	983	-3614	5315	
150	1553	-2051	7379	
165	2334	16	8851	
180	3034	1221	9411	
195	2953	163	8803	
210	1129	-1954	7027	
225	-1361	-5503	5219	
240	-4927	-8319	3699	
255	-7711	-10826	1955	
270	-8557	-12861	723	
285	-10299	-12047	723	
300	-13588	-12340	3379	
315	-12578	-9898	3747	
330	-11032	-10045	4883	
345	-12627	-10142	4787	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	775	741	168
15	931	414	210
30	425	42	123
45	40	-258	74
60	96	-145	82
75	584	117	130
90	999	446	188
105	1244	628	187
120	1242	628	156
135	912	310	100
150	433	-78	35
165	22	-472	-2
180	-102	-390	-16
195	-83	-384	-23
210	-222	-501	-38
225	-207	-506	-28
240	-73	-315	0
255	45	0	16
270	-200	-65	10
285	-717	-622	-13
300	-600	-629	5
315	-404	-313	45
330	-9	0	92
345	447	572	149

TABLE 127

FLIGHT 91, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 27, t = 5.0 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95							Δp, lb/sq in., at - r/R = 0.90							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.19	4.11	2.74	1.90	1.06	.49	.079	6.54	3.29	2.35	1.91	1.31	.53	.037	0
15	4.10	3.09	2.17	1.34	.57	.32	.022	4.20	2.10	1.54	1.21	.82	.30	-.025	15
30	2.35	2.13	1.70	.97	.42	.28	.018	3.38	1.62	1.19	1.02	.65	.23	-.057	30
45	2.09	2.03	1.70	.96	.38	.28	.014	3.01	1.46	1.10	.98	.60	.23	-.071	45
60	2.19	2.12	1.84	1.07	.42	.31	.022	3.12	1.58	1.16	1.08	.70	.26	-.071	60
75	3.04	2.60	2.18	1.28	.51	.34	.028	3.92	1.96	1.37	1.24	.78	.30	-.071	75
90	3.74	3.23	2.65	1.58	.70	.41	.024	4.66	2.49	1.81	1.60	1.00	.39	-.057	90
105	3.94	3.46	2.77	1.63	.67	.39	.028	4.87	2.63	1.90	1.70	1.02	.39	-.073	105
120	3.33	3.08	2.27	1.47	.57	.36	.031	4.40	2.41	1.69	1.55	.93	.36	-.073	120
135	2.58	2.53	1.91	1.25	.44	.32	.022	3.69	1.95	1.37	1.31	.76	.30	-.068	135
150	2.13	2.16	1.72	1.05	.38	.31	.020	3.23	1.66	1.16	1.14	.68	.28	-.066	150
165	1.87	2.01	1.59	.96	.40	.32	.039	3.17	1.62	1.14	1.05	.67	.30	-.035	165
180	2.11	2.08	1.58	.98	.47	.34	.055	3.43	1.76	1.23	1.09	.71	.32	-.011	180
195	2.44	2.23	1.60	1.06	.54	.37	.073	3.81	1.93	1.32	1.17	.79	.35	.020	195
210	2.90	2.44	1.65	1.13	.66	.40	.087	4.23	2.12	1.48	1.24	.89	.40	.046	210
225	3.43	2.71	1.78	1.25	.76	.43	.101	4.76	2.38	1.63	1.34	.98	.44	.062	225
240	3.90	2.86	1.91	1.36	.85	.46	.108	5.19	2.63	1.77	1.43	1.06	.47	.071	240
255	4.37	3.08	2.03	1.47	.93	.48	.116	5.73	2.83	1.93	1.53	1.12	.49	.084	255
270	4.89	3.33	2.18	1.58	1.00	.49	.124	6.10	2.99	1.99	1.61	1.18	.50	.082	270
285	5.28	3.50	2.26	1.61	.96	.48	.095	5.17	2.57	1.73	1.42	1.02	.46	.066	285
300	4.55	3.20	2.09	1.49	.91	.46	.100	5.02	2.51	1.69	1.40	1.02	.45	.064	300
315	4.57	3.24	2.16	1.53	.92	.48	.100	5.29	2.67	1.82	1.52	1.09	.47	.062	315
330	4.63	3.34	2.23	1.58	.97	.50	.108	5.84	2.94	1.99	1.67	1.18	.51	.075	330
345	5.46	3.96	2.51	1.79	1.08	.53	.110	6.86	3.41	2.36	1.92	1.34	.55	.068	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85											ψ_{nom}, deg
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	6.84	4.48	3.29	2.40	1.97	1.86	1.18	.57	.52	.26	.057	0
15	4.63	3.20	2.32	1.62	1.36	1.36	.83	.35	.35	.15	.012	15
30	3.77	2.56	1.88	1.43	1.04	1.09	.60	.20	.25	.09	-.017	30
45	3.56	2.34	1.78	1.31	.96	1.04	.56	.15	.23	.08	-.027	45
60	3.66	2.39	1.83	1.39	1.02	1.09	.60	.16	.25	.09	-.021	60
75	4.26	2.89	2.13	1.63	1.18	1.21	.68	.19	.27	.10	-.021	75
90	4.98	3.58	2.64	2.07	1.54	1.47	.87	.28	.35	.15	-.009	90
105	5.33	3.86	2.90	2.21	1.62	1.55	.96	.33	.37	.17	-.009	105
120	4.91	3.50	2.68	1.90	1.48	1.42	.88	.28	.34	.15	-.023	120
135	4.28	2.93	2.31	1.54	1.31	1.23	.77	.23	.31	.14	-.021	135
150	3.91	2.57	2.04	1.39	1.09	1.10	.68	.19	.29	.13	-.019	150
165	3.85	2.53	2.00	1.37	1.09	1.06	.67	.21	.32	.15	-.011	165
180	4.08	2.67	2.07	1.46	1.17	1.14	.72	.25	.35	.18	.000	180
195	4.36	2.88	2.19	1.56	1.25	1.22	.78	.31	.39	.21	.014	195
210	4.71	3.13	2.32	1.75	1.37	1.32	.84	.38	.42	.23	.028	210
225	5.17	3.42	2.54	1.89	1.51	1.46	.91	.44	.46	.26	.051	225
240	5.64	3.68	2.72	2.06	1.62	1.57	.98	.48	.48	.27	.063	240
255	6.09	3.92	2.84	2.17	1.71	1.65	1.03	.53	.49	.27	.059	255
270	5.82	3.75	2.77	2.06	1.63	1.59	.99	.51	.47	.25	.057	270
285	5.06	3.20	2.44	1.78	1.40	1.41	.86	.45	.42	.22	.047	285
300	4.79	3.13	2.32	1.72	1.36	1.40	.86	.43	.42	.22	.047	300
315	5.29	3.47	2.58	1.94	1.54	1.54	.95	.47	.45	.23	.051	315
330	5.98	3.86	2.85	2.17	1.72	1.68	1.04	.53	.49	.25	.069	330
345	7.29	4.72	3.43	2.61	2.09	1.96	1.23	.64	.55	.29	.077	345

TABLE 127 - Continued

FLIGHT 91, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 27, t = 5.0 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.26	3.33	2.47	1.83	1.33	.51	.086	3.21	1.45	1.11	.96	.76	.38	.079	0
15	5.76	2.55	1.97	1.45	1.00	.37	.051	3.19	1.46	1.09	.91	.70	.36	.076	15
30	4.62	1.84	1.50	1.14	.75	.27	.029	2.29	.97	.78	.67	.53	.31	.067	30
45	3.75	1.72	1.44	1.12	.73	.26	.027	2.44	1.06	.83	.70	.56	.31	.081	45
60	3.37	1.76	1.50	1.19	.76	.28	.015	2.69	1.22	.92	.79	.62	.34	.093	60
75	3.59	1.94	1.64	1.28	.81	.30	.041	3.12	1.43	1.07	.90	.71	.37	.105	75
90	4.13	2.36	1.97	1.52	.96	.37	.079	3.58	1.72	1.24	1.02	.81	.43	.122	90
105	4.63	2.59	2.17	1.63	1.05	.39	.075	3.77	1.82	1.32	1.09	.86	.43	.128	105
120	4.58	2.47	2.08	1.55	1.04	.37	.077	3.75	1.82	1.31	1.08	.86	.44	.128	120
135	4.27	2.41	1.92	1.44	.97	.34	.077	3.61	1.73	1.27	1.06	.84	.43	.128	135
150	4.07	2.35	1.83	1.36	.91	.33	.084	3.51	1.68	1.25	1.03	.82	.44	.124	150
165	4.05	2.34	1.78	1.34	.93	.35	.096	3.54	1.70	1.26	1.05	.83	.42	.125	165
180	4.20	2.15	1.79	1.35	.95	.36	.100	3.51	1.68	1.25	1.04	.82	.41	.107	180
195	4.33	2.25	1.81	1.35	.97	.39	.098	3.49	1.60	1.20	1.00	.79	.40	.096	195
210	4.55	2.38	1.83	1.38	1.01	.41	.103	3.43	1.50	1.14	.96	.76	.38	.085	210
225	4.76	2.49	1.88	1.42	1.05	.43	.103	2.76	1.35	1.05	.89	.69	.34	.071	225
240	4.97	2.58	1.92	1.44	1.07	.44	.106	2.52	1.20	.95	.80	.61	.30	.060	240
255	4.97	2.50	1.87	1.40	1.04	.42	.086	2.20	1.01	.83	.71	.54	.25	.047	255
270	4.61	2.23	1.69	1.25	.94	.39	.072	1.96	.89	.74	.63	.48	.23	.034	270
285	4.23	2.08	1.58	1.18	.88	.37	.069	2.09	.80	.68	.58	.44	.20	.031	285
300	3.95	1.97	1.52	1.15	.86	.36	.063	1.94	.76	.65	.57	.44	.21	.030	300
315	4.12	2.24	1.69	1.29	.96	.39	.075	2.27	.90	.74	.63	.47	.24	.040	315
330	4.68	2.65	1.97	1.48	1.12	.45	.096	2.73	1.13	.88	.75	.56	.29	.051	330
345	5.60	3.13	2.30	1.73	1.29	.51	.091	3.58	1.64	1.20	1.00	.74	.37	.082	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.99	.93	.57	.29	.150	.64	.32	.19	.12	.015	0
15	1.69	.86	.56	.32	.126	.69	.34	.19	.12	.026	15
30	1.18	.60	.40	.26	.109	.75	.38	.22	.12	.025	30
45	1.27	.62	.43	.27	.121	.68	.36	.21	.13	.021	45
60	1.60	.77	.52	.31	.130	.84	.43	.25	.15	.032	60
75	1.89	.91	.61	.35	.143	1.00	.51	.30	.16	.033	75
90	2.16	1.02	.68	.38	.154	1.16	.59	.35	.18	.039	90
105	2.31	1.10	.73	.40	.156	1.30	.67	.39	.20	.045	105
120	2.32	1.13	.75	.41	.156	1.41	.73	.43	.22	.054	120
135	2.26	1.14	.76	.41	.163	1.46	.76	.46	.23	.057	135
150	2.19	1.13	.75	.41	.158	1.48	.77	.46	.23	.056	150
165	2.19	1.11	.73	.41	.150	1.44	.74	.45	.23	.056	165
180	2.11	1.07	.70	.39	.141	1.29	.66	.41	.21	.056	180
195	1.92	.98	.63	.36	.133	1.02	.57	.35	.18	.057	195
210	1.67	.86	.56	.31	.123	.87	.58	.26	.15	.060	210
225	1.39	.73	.46	.26	.119	.25	.40	.43	.07	.056	225
240	1.11	.59	.39	.23	.114	.12	.15	.21	.15	.019	240
255	.67	.68	.43	.22	.103	.07	.08	.07	.14	.020	255
270	.35	.37	.34	.35	.156	.06	.05	.03	.09	.039	270
285	.25	.23	.19	.19	.131	.06	.04	.02	.05	.093	285
300	.40	.38	.24	.16	.127	.09	.06	.03	.06	.050	300
315	.69	.38	.24	.19	.082	.16	.14	.07	.07	.019	315
330	.90	.48	.30	.20	.109	.26	.20	.11	.08	.013	330
345	1.29	.66	.43	.28	.112	.28	.17	.11	.10	.013	345

TABLE 127 - Continued

FLIGHT 91, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 27, t = 5.0 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	3.00	9.07	11.41	21.23	20.41	21.15	21.61
15	3.15	8.53	11.01	16.89	14.04	13.12	14.76
30	3.45	6.27	8.22	12.77	10.78	10.27	10.53
45	3.30	6.69	8.71	11.77	10.10	9.38	10.09
60	3.97	8.05	9.70	11.84	10.58	10.28	10.85
75	4.61	9.35	11.08	12.87	12.08	12.30	13.26
90	5.32	10.43	12.81	15.44	15.11	15.62	16.44
105	6.01	11.14	13.46	16.89	16.31	16.18	16.90
120	6.56	11.36	13.47	16.37	14.97	14.66	14.70
135	6.85	11.33	13.02	15.36	13.10	12.07	12.05
150	6.92	11.12	12.83	14.75	11.67	10.58	10.56
165	6.73	10.98	12.80	14.82	11.68	10.55	10.11
180	6.12	10.52	12.62	14.82	12.47	11.40	10.82
195	5.12	9.63	12.20	15.32	13.46	12.65	11.76
210	4.40	8.44	11.67	15.94	14.56	14.18	13.17
225	3.24	7.12	10.28	16.63	16.04	15.77	14.71
240	2.15	5.98	9.21	17.10	17.23	17.15	15.97
255	1.39	5.43	7.94	16.60	18.09	18.44	17.28
270	.96	4.99	7.04	15.07	17.41	19.27	18.59
285	.88	3.09	6.62	14.08	15.22	16.74	18.89
300	.88	3.58	6.44	13.52	14.78	16.45	17.45
315	1.22	4.02	7.33	14.88	16.30	17.44	17.77
330	1.66	4.93	8.90	17.26	18.12	19.09	18.36
345	1.73	6.80	11.93	20.08	21.54	21.90	20.86

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	8.426		0	3.809				
1	.763	-1.721	1	-.986	-1.345			
2	-.023	.000	2	.267	.150			
3	.168	-.041	3	-.136	.053			
4	.041	-.027	4	-.055	.006			
5	.000	.005	5	-.055	-.038			
6	.032	.018	6	.024	.000			
7	-.009	.018	7	-.030	-.028			
8	.018	.005	8	.032	.014			
9	.009	.014	9	-.014	-.004			
10	.009	.000	10	.014	-.008			
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 127 - Continued

FLIGHT 91, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 27, t = 5.0 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.734		.75	0	15.511		.95	0	14.896	
.25	1	-1.801	2.157	.75	1	.242	-.792	.95	1	2.300	-2.443
.25	2	.634	-.320	.75	2	1.021	-.636	.95	2	-1.119	-1.585
.25	3	.092	.019	.75	3	2.313	-.924	.95	3	1.961	-1.403
.25	4	.050	.093	.75	4	.993	-.256	.95	4	1.580	.066
.25	5	.052	.090	.75	5	.181	-.091	.95	5	.496	-.190
.25	6	-.002	.038	.75	6	.305	-.195	.95	6	.314	-.391
.25	7	.004	.090	.75	7	.308	-.026	.95	7	.359	-.098
.25	8	.017	.008	.75	8	.136	.085	.95	8	.364	.052
.25	9	.032	.027	.75	9	.108	.084	.95	9	.232	-.022
.25	10	.078	-.024	.75	10	.059	-.022	.95	10	.156	-.061
.40	0	7.869		.85	0	14.835					
.40	1	-1.933	2.768	.85	1	1.094	-2.219				
.40	2	.923	-.251	.85	2	-.142	-1.028				
.40	3	.745	-.236	.85	3	2.428	-1.457				
.40	4	.706	-.044	.85	4	1.228	-.498				
.40	5	.254	.011	.85	5	-.001	-.467				
.40	6	.197	.206	.85	6	.232	-.318				
.40	7	.235	.192	.85	7	.369	-.162				
.40	8	.152	.017	.85	8	.280	-.134				
.40	9	-.034	-.001	.85	9	.037	-.135				
.40	10	-.078	.073	.85	10	-.001	-.105				
.55	0	10.445		.90	0	14.860					
.55	1	-1.581	2.083	.90	1	1.702	-2.913				
.55	2	1.102	-.426	.90	2	-.772	-1.375				
.55	3	.969	-.805	.90	3	2.321	-1.670				
.55	4	.653	-.093	.90	4	1.449	-.435				
.55	5	.245	-.094	.90	5	.135	-.524				
.55	6	.116	-.102	.90	6	.175	-.376				
.55	7	.074	-.012	.90	7	.402	-.131				
.55	8	-.044	.028	.90	8	.402	-.213				
.55	9	-.082	.078	.90	9	.150	-.208				
.55	10	-.174	-.016	.90	10	.013	-.091				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 127 - Concluded

FLIGHT 91, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 27, t = 5.0 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-82	322	-515	-1165	-3167	-5741		
15	-60	454	-443	-1871	-3395	-5990		
30	-561	-990	-1700	-2462	-3897	-4856		
45	-3354	-2294	-2387	-2701	-2744	-2657		
60	-1644	-1625	-2088	-2548	-2753	-3861		
75	864	-305	-1428	-2271	-4029	-5592		
90	-481	-545	-1166	-2186	-4143	-5791		
105	-766	-1757	-2405	-2968	-3378	-5144		
120	-595	-2236	-3191	-3817	-4073	-5045		
135	-1108	-1972	-3001	-4017	-4654	-5811		
150	-755	-1799	-2920	-4103	-5419	-7761		
165	-310	-2129	-3688	-4847	-6370	-8149		
180	-1656	-2673	-3833	-4943	-6150	-7304		
195	-1222	-2401	-3417	-4246	-5323	-6926		
210	157	-883	-1889	3035	-4979	-6617		
225	419	512	45	-1050	-3668	-5483		
240	465	891	931	505	-1283	-3304		
255	704	1172	1130	1039	283	-717		
270	-174	1312	1609	1564	1383	845		
285	-231	1304	1880	1888	1515	368		
300	66	1328	1564	1344	371	-766		
315	-755	710	1067	667	-386	-2090		
330	-789	-41	-63	-430	-1336	-3324		
345	-766	74	-353	-1136	-2595	-4408		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-11302	-9931	3141	
15	-9804	-9068	2549	
30	-7232	-8628	2325	
45	-5767	-7880	2885	
60	-5783	-7586	3029	
75	-5506	-7586	2805	
90	-4366	-7603	3045	
105	-1973	-6284	3077	
120	-3	-4640	4021	
135	45	-3061	6245	
150	1169	-1661	6997	
165	1771	-570	7333	
180	1218	-1123	7717	
195	566	-1937	6405	
210	-1957	-4282	5717	
225	-5636	-7147	4869	
240	-7541	-9996	2709	
255	-7981	-11884	325	
270	-10781	-12780	725	
285	-12132	-13073	1189	
300	-12474	-12047	1141	
315	-12604	-11836	2277	
330	-11432	-10761	2277	
345	-10830	-10419	2597	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	940	312	179
15	717	201	154
30	89	-349	72
45	145	-196	62
60	434	-28	102
75	599	130	130
90	982	395	153
105	878	352	132
120	566	90	90
135	357	-148	45
150	67	-343	1
165	-189	-576	-19
180	-262	-579	-35
195	-279	-580	-44
210	-268	-682	-25
225	-36	-508	-2
240	-8	-444	9
255	-69	-374	8
270	-351	-316	-3
285	-654	-666	-14
300	-398	-598	10
315	-110	-364	38
330	-23	-318	76
345	569	211	131

TABLE 128

FLIGHT 91, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 27, t = 10.3 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95							Δp, lb/sq in., at - r/R = 0.90							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	9.77	5.53	3.69	2.61	1.48	.60	.108	10.52	4.69	3.26	2.60	1.77	.60	.114	0
15	7.40	4.84	3.32	2.24	1.17	.56	.079	7.87	3.83	2.73	2.22	1.52	.63	.051	15
30	5.15	3.76	2.78	1.83	.97	.50	.067	6.48	3.19	2.36	1.94	1.30	.52	.033	30
45	5.44	4.03	2.96	1.90	.97	.50	.053	6.59	3.37	2.40	1.98	1.33	.52	.005	45
60	5.02	3.77	2.92	1.89	.97	.52	.071	6.32	3.25	2.33	1.98	1.31	.54	.014	60
75	5.64	4.13	3.19	2.11	1.13	.56	.083	6.92	3.63	2.62	2.23	1.49	.59	.026	75
90	6.50	4.78	3.59	2.33	1.23	.61	.091	7.72	4.13	2.97	2.49	1.65	.67	.031	90
105	7.40	5.53	4.04	2.66	1.45	.67	.104	8.33	4.59	3.36	2.80	1.83	.73	.045	105
120	7.49	5.53	3.92	2.62	1.37	.63	.087	8.52	4.65	3.36	2.78	1.81	.67	.017	120
135	6.34	4.85	3.44	2.32	1.15	.55	.083	7.68	4.02	2.91	2.42	1.55	.61	.009	135
150	5.11	4.03	2.86	1.98	1.01	.54	.087	6.71	3.33	2.56	2.14	1.38	.53	.017	150
165	4.75	3.65	2.62	1.83	.95	.52	.091	6.44	3.16	2.39	2.05	1.35	.55	.045	165
180	4.79	3.60	2.55	1.82	.98	.54	.104	6.55	3.32	2.40	1.94	1.35	.57	.048	180
195	4.99	3.64	2.54	1.81	1.03	.56	.110	6.72	3.44	2.42	1.96	1.35	.58	.066	195
210	5.26	3.71	2.57	1.82	1.05	.55	.110	6.93	3.48	2.44	1.95	1.37	.60	.077	210
225	5.62	3.81	2.61	1.88	1.14	.59	.132	7.41	3.68	2.54	2.04	1.44	.66	.106	225
240	6.27	4.12	2.78	2.04	1.31	.66	.168	8.80	4.05	2.82	2.23	1.62	.71	.126	240
255	7.27	4.64	3.00	2.22	1.43	.69	.160	9.83	4.25	2.95	2.32	1.68	.70	.139	255
270	8.10	4.69	3.09	2.30	1.43	.66	.152	9.10	4.02	2.75	2.22	1.58	.65	.126	270
285	7.74	4.58	3.04	2.21	1.39	.67	.148	8.20	3.86	2.62	2.18	1.55	.70	.130	285
300	7.29	4.52	2.99	2.20	1.34	.67	.148	8.52	4.02	2.77	2.26	1.62	.72	.126	300
315	7.80	4.85	3.24	2.41	1.52	.73	.159	9.48	4.32	3.04	2.46	1.76	.75	.153	315
330	8.58	5.05	3.36	2.47	1.55	.72	.159	10.30	4.57	3.18	2.58	1.82	.77	.168	330
345	9.53	5.48	3.58	2.66	1.60	.64	.203	11.07	4.83	3.35	2.63	1.80	.62	.210	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85											ψ_{nom}, deg
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	10.96	6.80	4.67	3.61	2.90	2.55	1.59	.71	.54	.29	.209	0
15	7.94	5.14	3.80	2.82	2.33	2.14	1.41	.70	.64	.32	.082	15
30	7.23	5.08	3.57	2.65	2.18	1.97	1.25	.60	.56	.28	.077	30
45	7.07	5.05	3.55	2.61	2.16	1.98	1.26	.57	.54	.27	.057	45
60	7.00	5.03	3.55	2.61	2.16	2.00	1.28	.56	.55	.28	.059	60
75	7.67	5.59	3.90	2.91	2.41	2.17	1.39	.63	.60	.30	.073	75
90	8.70	6.36	4.36	3.24	2.66	2.38	1.50	.68	.65	.33	.082	90
105	9.44	6.76	4.69	3.55	2.91	2.56	1.68	.77	.71	.40	.088	105
120	9.66	6.72	4.77	3.54	2.89	2.55	1.66	.76	.71	.37	.082	120
135	8.69	6.09	4.31	3.22	2.65	2.31	1.52	.68	.64	.33	.067	135
150	7.65	5.51	3.95	2.92	2.41	2.08	1.40	.62	.62	.33	.069	150
165	7.46	5.19	3.76	2.83	2.30	2.03	1.36	.61	.62	.33	.073	165
180	7.55	5.16	3.78	2.82	2.28	2.04	1.37	.63	.64	.36	.082	180
195	7.65	5.14	3.78	2.87	2.28	2.06	1.38	.66	.64	.36	.085	195
210	8.00	5.22	3.80	2.88	2.31	2.09	1.38	.68	.66	.36	.094	210
225	8.70	5.44	3.92	3.02	2.41	2.18	1.42	.73	.68	.39	.115	225
240	9.63	5.72	4.15	3.21	2.57	2.34	1.52	.83	.73	.41	.139	240
255	9.72	5.62	4.08	3.17	2.53	2.30	1.50	.79	.67	.39	.162	255
270	8.53	5.22	3.76	2.91	2.34	2.14	1.40	.75	.65	.37	.108	270
285	8.02	5.09	3.70	2.85	2.29	2.12	1.40	.76	.67	.37	.121	285
300	8.63	5.36	3.90	3.02	2.43	2.26	1.51	.79	.70	.39	.127	300
315	9.66	5.82	4.21	3.31	2.66	2.45	1.60	.87	.76	.42	.146	315
330	10.76	7.02	4.64	3.65	2.94	2.62	1.66	.88	.75	.40	.202	330
345	11.19	7.23	4.71	3.65	2.94	2.61	1.64	.83	.69	.39	.199	345

TABLE 128 - Continued

FLIGHT 91, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 27, t = 10.3 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	7.64	3.28	2.81	1.95	1.58	.79	.354	4.24	1.82	1.34	1.22	1.11	.64	.237	0
15	7.42	3.49	2.49	1.92	1.33	.47	.084	4.93	2.39	1.69	1.39	1.07	.41	.124	15
30	6.70	3.08	2.36	1.80	1.28	.53	.091	4.02	1.92	1.40	1.14	.93	.47	.120	30
45	6.26	3.19	2.45	1.85	1.31	.51	.069	4.11	1.99	1.43	1.17	.94	.47	.118	45
60	5.89	3.07	2.40	1.84	1.29	.53	.094	4.24	2.07	1.49	1.21	.96	.50	.131	60
75	5.92	3.28	2.55	1.95	1.37	.56	.096	4.44	2.20	1.58	1.30	1.04	.53	.136	75
90	6.39	3.64	2.79	2.13	1.49	.60	.136	4.88	2.40	1.69	1.37	1.09	.54	.149	90
105	6.91	3.91	3.02	2.27	1.60	.64	.127	5.11	2.54	1.79	1.46	1.16	.58	.161	105
120	7.21	3.89	3.01	2.26	1.63	.63	.134	5.20	2.56	1.81	1.48	1.18	.57	.157	120
135	6.97	3.62	2.85	2.13	1.53	.59	.127	5.00	2.46	1.75	1.43	1.15	.54	.158	135
150	6.69	3.49	2.74	2.07	1.49	.57	.134	4.85	2.39	1.70	1.40	1.12	.57	.151	150
165	6.65	3.48	2.70	2.02	1.47	.57	.141	4.79	2.30	1.67	1.36	1.09	.53	.154	165
180	6.73	3.47	2.66	1.99	1.44	.58	.153	4.78	2.24	1.62	1.34	1.06	.52	.141	180
195	6.76	3.49	2.63	1.97	1.44	.57	.155	4.59	2.12	1.54	1.29	1.01	.48	.129	195
210	6.84	3.49	2.59	1.94	1.44	.57	.143	3.90	1.99	1.47	1.21	.95	.47	.118	210
225	7.07	3.53	2.58	1.93	1.47	.60	.155	3.78	1.87	1.39	1.15	.91	.43	.115	225
240	7.31	3.54	2.60	1.94	1.48	.60	.153	3.59	1.74	1.30	1.09	.85	.39	.105	240
255	7.26	3.37	2.47	1.85	1.39	.56	.117	3.33	1.59	1.19	1.00	.77	.35	.096	255
270	6.90	3.19	2.35	1.76	1.32	.54	.117	2.95	1.37	1.04	.87	.68	.31	.087	270
285	6.49	3.02	2.27	1.71	1.29	.53	.120	2.69	1.20	.91	.73	.52	.34	.167	285
300	6.28	3.19	2.38	1.81	1.37	.58	.131	2.83	1.33	1.00	.81	.60	.37	.154	300
315	6.82	3.57	2.62	1.98	1.52	.63	.143	3.37	1.61	1.21	1.01	.75	.33	.139	315
330	7.60	3.99	2.82	2.10	1.57	.61	.181	3.85	1.84	1.34	1.08	.81	.41	.210	330
345	8.04	3.46	2.60	1.92	1.51	.52	.317	4.27	1.95	1.44	1.21	.99	.51	.204	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	2.00	.84	.56	.20	.114	1.15	.72	.26	.17	.045	0
15	2.22	1.03	.63	.33	.152	1.61	.85	.61	.28	.050	15
30	1.83	.91	.59	.32	.117	1.26	.65	.39	.20	.053	30
45	1.98	1.02	.69	.39	.147	1.15	.59	.35	.19	.037	45
60	2.25	1.13	.75	.41	.154	1.21	.63	.38	.20	.039	60
75	2.42	1.24	.82	.44	.165	1.36	.70	.43	.22	.045	75
90	2.64	1.32	.86	.46	.174	1.50	.77	.46	.23	.044	90
105	2.79	1.40	.92	.48	.180	1.66	.85	.51	.25	.057	105
120	2.87	1.44	.94	.49	.176	1.73	.89	.54	.26	.055	120
135	2.82	1.42	.92	.49	.174	1.73	.89	.54	.26	.060	135
150	2.72	1.36	.90	.47	.169	1.69	.87	.52	.25	.061	150
165	2.63	1.33	.87	.46	.159	1.59	.81	.49	.24	.054	165
180	2.50	1.26	.82	.43	.160	1.44	.74	.45	.23	.062	180
195	2.29	1.16	.74	.39	.151	.94	.81	.39	.19	.075	195
210	2.03	1.04	.66	.35	.153	.55	.68	.63	.16	.071	210
225	1.72	.91	.60	.32	.150	.23	.30	.49	.14	.020	225
240	.91	1.11	.83	.31	.163	.12	.16	.12	.28	.049	240
255	.48	.49	.44	.57	.138	.10	.09	.08	.15	.083	255
270	.44	.42	.30	.22	.143	.10	.08	.05	.10	.132	270
285	.61	.57	.44	.24	.125	.13	.13	.08	.12	.061	285
300	.76	.80	.41	.24	.135	.18	.22	.06	.09	.030	300
315	.87	.63	.34	.28	.181	.25	.31	.27	.12	.045	315
330	1.27	.90	.52	.34	.260	.40	.39	.35	.12	.016	330
345	1.76	1.04	.51	.40	.248	.54	.66	.60	.11	.025	345

TABLE 128 - Continued

FLIGHT 91, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 27, t = 10.3 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	5.18	8.27	16.28	26.02	29.02	29.86	30.01
15	8.04	10.10	16.35	22.15	24.06	24.92	25.25
30	5.91	8.95	14.33	21.04	21.94	20.92	20.10
45	5.38	10.21	14.56	20.91	21.67	21.30	20.92
60	5.75	11.23	15.16	20.55	21.77	20.95	20.33
75	6.38	12.14	16.13	21.58	23.84	23.38	22.64
90	6.87	12.95	17.18	23.62	26.36	26.33	25.45
105	7.64	13.66	18.25	25.34	28.81	29.11	29.09
120	7.94	13.99	18.37	25.57	28.90	28.81	28.43
135	8.01	13.75	17.73	24.15	26.18	25.26	24.59
150	7.79	13.31	17.45	23.37	23.99	21.96	21.06
165	7.33	12.90	16.90	23.17	23.26	21.36	19.58
180	6.76	12.26	16.51	23.13	23.48	21.71	19.68
195	5.66	11.15	15.66	23.11	23.64	22.16	20.12
210	5.48	10.06	14.54	23.02	24.11	22.58	20.50
225	3.52	8.88	13.74	23.55	25.33	24.06	21.61
240	2.72	8.74	12.84	23.79	27.33	27.00	23.92
255	1.77	7.02	11.74	22.65	26.85	28.44	26.31
270	1.54	4.29	10.31	21.54	24.57	26.65	26.96
285	1.67	5.40	9.46	20.75	24.20	25.72	26.33
300	1.52	5.93	10.32	21.59	25.76	26.80	25.67
315	2.74	5.99	11.81	23.80	28.04	29.14	27.92
330	3.34	8.40	13.58	25.43	30.28	30.71	29.06
345	4.90	9.70	15.34	24.42	30.30	31.09	30.63

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	10.982		0	5.822				
1	1.457	-3.410	1	.915	-1.758			
2	.000	-.136	2	.192	.192			
3	-.027	-.091	3	-.057	-.012			
4	-.091	-.132	4	-.012	.000			
5	-.159	-.036	5	-.087	-.032			
6	-.009	-.050	6	-.010	-.036			
7	-.036	.000	7	-.016	-.008			
8	-.014	-.014	8	-.018	-.016			
9	-.014	-.014	9	-.012	.004			
10	-.009	-.009	10	-.010	-.002			

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 128 - Continued

FLIGHT 91, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 27, t = 10.3 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	5.159		.75	0	23.093		.95	0	24.423	
.25	1	-.798	2.705	.75	1	-.328	.160	.95	1	2.464	-.974
.25	2	1.097	-.193	.75	2	.572	-1.011	.95	2	-1.179	-2.700
.25	3	.430	.043	.75	3	1.369	-.982	.95	3	2.566	-1.107
.25	4	.180	.280	.75	4	.109	-.171	.95	4	1.042	.143
.25	5	.108	.161	.75	5	-.338	-.017	.95	5	-.277	-.675
.25	6	-.088	.180	.75	6	.220	-.058	.95	6	.409	-.110
.25	7	-.075	.230	.75	7	.209	.081	.95	7	.372	.157
.25	8	-.160	.098	.75	8	.245	.104	.95	8	.221	.095
.25	9	-.127	.117	.75	9	.315	.037	.95	9	.213	.042
.25	10	-.124	-.088	.75	10	.207	.080	.95	10	.090	.093
.40	0	9.970		.85	0	25.570					
.40	1	-1.788	3.299	.85	1	.727	-.719				
.40	2	.714	-.297	.85	2	-.188	-1.937				
.40	3	.445	-.532	.85	3	2.181	-1.663				
.40	4	-.027	-.304	.85	4	.221	-.447				
.40	5	-.096	.044	.85	5	-.544	-.202				
.40	6	.205	-.050	.85	6	.417	-.079				
.40	7	-.165	-.192	.85	7	.149	-.145				
.40	8	-.397	.095	.85	8	.011	-.064				
.40	9	-.183	.277	.85	9	.191	.045				
.40	10	-.097	.085	.85	10	.163	.051				
.55	0	14.773		.90	0	25.426					
.55	1	-1.018	2.980	.90	1	1.745	-1.429				
.55	2	1.200	-.312	.90	2	-.940	-2.317				
.55	3	.967	-.513	.90	3	2.519	-1.543				
.55	4	.337	-.134	.90	4	.669	-.280				
.55	5	-.035	.047	.90	5	-.646	-.375				
.55	6	.174	.098	.90	6	.499	.054				
.55	7	.109	.093	.90	7	.309	-.036				
.55	8	-.009	.078	.90	8	.112	-.060				
.55	9	-.051	.021	.90	9	.183	.138				
.55	10	-.050	.098	.90	10	.089	.112				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 128 - Concluded

FLIGHT 91, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 27, t = 10.3 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	686	248	-127	-1062	-3763	-6532		
15	-135	-388	-750	-1854	-3957	-5248		
30	-2016	-1592	-1392	-1730	-3376	-4790		
45	-842	-1031	-1808	-2169	-2892	-4482		
60	-89	297	-624	-2016	-3411	-4950		
75	732	8	-551	-1377	-3482	-6074		
90	686	-751	-1374	-1940	-2998	-4761		
105	-249	-1139	-1681	-2588	-3332	-4522		
120	412	-1452	-2052	-2350	-2857	-4691		
135	549	-751	-1302	-2140	-3552	-5785		
150	903	-421	-1501	-2846	-4195	-6442		
165	36	-1378	-2269	-3285	-4476	-6860		
180	-317	-1856	-2830	-3619	-4582	-6402		
195	162	-1122	-2197	-3514	-4767	-6671		
210	1176	-355	-1220	-2302	-4599	-7099		
225	1359	561	-9	-948	-3376	-5736		
240	1131	1130	904	321	-1669	-3437		
255	1302	1510	1401	1256	346	-810		
270	595	2054	2947	2716	1429	324		
285	583	2327	3191	3403	2001	662		
300	504	2096	2902	3002	2370	314		
315	629	1510	1781	1686	777	-990		
330	-557	726	1211	856	-393	-2701		
345	105	413	506	-22	-1783	-4920		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-11659	-11608	1895	
15	-11236	-13871	-57	
30	-9103	-10680	-473	
45	-8680	-9263	3719	
60	-6401	-6626	5303	
75	-4268	-4917	4855	
90	-800	-6772	4759	
105	2895	-4298	2455	
120	584	-4835	5767	
135	1219	-2865	6151	
150	2961	-2100	6951	
165	2537	-879	8327	
180	2847	537	8935	
195	1593	-928	8951	
210	-849	-3370	7319	
225	-3942	-7407	4583	
240	-6905	-11689	1975	
255	-10096	-15596	-1465	
270	-12847	-16654	-2841	
285	-17194	-17924	-905	
300	-15729	-15499	-281	
315	-13580	-12438	2359	
330	-13531	-10956	6663	
345	-11936	-8954	4823	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	142	-171	80
15	661	508	90
30	773	49	178
45	465	135	103
60	372	-93	99
75	633	95	139
90	1060	441	144
105	1386	788	185
120	1334	562	168
135	709	198	81
150	450	-113	29
165	133	-352	13
180	-113	-365	-14
195	14	-381	-9
210	-137	-466	-26
225	-355	-479	-49
240	-296	-328	-30
255	-364	111	-32
270	-1042	-405	-95
285	-1154	-830	-125
300	-891	-741	-54
315	-158	5	20
330	-275	-173	65
345	-451	9	53

TABLE 129

FLIGHT 92, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 28, t = 3.4 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	6.32	4.21	2.84	1.98	1.12	.53	.091	7.85	3.76	2.65	2.17	1.46	.56	.046	0
15	3.83	3.03	2.25	1.30	.55	.30	.014	3.84	1.83	1.34	1.21	.78	.29	-.037	15
30	2.62	2.43	1.97	1.05	.44	.29	.012	3.20	1.54	1.18	1.14	.66	.24	-.062	30
45	2.20	2.19	1.93	.99	.37	.28	.002	3.07	1.48	1.17	1.11	.64	.22	-.093	45
60	2.38	2.35	2.15	1.19	.37	.27	-.012	3.37	1.63	1.35	1.20	.70	.23	-.104	60
75	2.83	2.71	2.46	1.36	.45	.32	-.008	3.75	1.91	1.57	1.34	.79	.26	-.121	75
90	3.15	3.22	2.80	1.38	.52	.34	-.012	4.17	2.26	1.79	1.60	.90	.30	-.125	90
105	2.74	3.12	2.69	1.25	.40	.30	-.016	3.84	2.17	1.70	1.54	.83	.29	-.150	105
120	1.83	2.32	2.14	1.13	.25	.25	-.010	2.85	1.48	1.29	1.20	.60	.22	-.148	120
135	1.21	1.73	1.65	.85	.16	.23	-.020	2.17	1.07	.93	.78	.38	.19	-.144	135
150	.88	1.54	1.40	.70	.15	.23	-.002	2.06	.94	.71	.51	.40	.18	-.114	150
165	1.04	1.49	1.34	.69	.23	.25	.020	2.32	1.14	.82	.60	.42	.23	-.071	165
180	1.61	1.83	1.46	.85	.38	.31	.045	3.01	1.53	1.10	.83	.63	.29	.015	180
195	2.26	2.10	1.59	1.00	.52	.35	.061	3.66	1.83	1.29	1.09	.75	.34	.033	195
210	2.78	2.31	1.69	1.11	.62	.39	.079	4.17	2.04	1.45	1.17	.85	.38	.053	210
225	3.23	2.50	1.72	1.19	.72	.42	.097	4.61	2.28	1.60	1.27	.93	.43	.077	225
240	3.74	2.74	1.85	1.30	.81	.44	.101	5.04	2.52	1.70	1.32	.99	.45	.088	240
255	4.15	2.91	1.94	1.39	.88	.45	.105	5.41	2.63	1.79	1.40	1.05	.47	.086	255
270	4.53	3.11	2.03	1.46	.92	.47	.105	5.81	2.77	1.86	1.46	1.08	.47	.084	270
285	5.14	3.52	2.20	1.58	1.00	.47	.101	5.67	2.71	1.82	1.49	1.10	.48	.077	285
300	4.31	3.00	1.99	1.39	.83	.42	.097	4.88	2.37	1.60	1.30	.96	.43	.068	300
315	4.88	3.34	2.22	1.60	.96	.47	.104	5.58	2.74	1.89	1.54	1.12	.50	.073	315
330	5.13	3.52	2.36	1.68	1.04	.52	.122	6.75	3.26	2.25	1.81	1.27	.56	.086	330
345	6.29	4.16	2.79	2.00	1.20	.57	.122	7.97	3.80	2.62	2.12	1.45	.60	.077	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	8.26	5.23	3.75	2.77	2.15	2.08	1.35	.65	.55	.27	-.021	0
15	4.16	2.84	2.06	1.46	1.19	1.20	.80	.29	.29	.11	-.078	15
30	3.73	2.48	1.83	1.38	1.03	1.05	.63	.20	.23	.07	-.060	30
45	3.56	2.37	1.77	1.33	.98	1.02	.60	.16	.20	.05	-.078	45
60	3.75	2.58	1.94	1.45	1.10	1.12	.62	.14	.21	.05	-.066	60
75	4.10	2.80	2.12	1.62	1.20	1.16	.65	.12	.21	.05	-.077	75
90	4.61	3.31	2.55	1.96	1.48	1.36	.78	.18	.27	.09	-.060	90
105	4.71	3.41	2.71	2.05	1.61	1.39	.87	.20	.27	.09	-.073	105
120	3.76	2.56	2.14	1.41	1.27	1.06	.66	.11	.20	.06	-.077	120
135	2.99	1.84	1.57	.95	.82	.79	.49	.02	.17	.04	-.083	135
150	2.76	1.68	1.42	.85	.73	.69	.44	.02	.18	.06	-.083	150
165	2.95	1.82	1.47	.94	.82	.77	.50	.08	.24	.12	-.083	165
180	3.53	2.31	1.79	1.24	1.02	.98	.63	.19	.31	.18	-.081	180
195	4.11	2.77	2.07	1.49	1.20	1.18	.76	.28	.38	.22	-.054	195
210	4.49	2.99	2.22	1.63	1.31	1.27	.81	.34	.41	.23	-.085	210
225	4.85	3.26	2.35	1.78	1.41	1.37	.88	.41	.44	.26	-.081	225
240	5.23	3.45	2.50	1.90	1.50	1.47	.93	.45	.46	.26	-.081	240
255	5.58	3.59	2.60	1.98	1.56	1.51	.95	.49	.45	.25	-.075	255
270	5.81	3.70	2.67	2.03	1.58	1.54	.95	.49	.45	.24	-.077	270
285	5.12	3.24	2.35	1.78	1.40	1.40	.87	.46	.41	.22	-.034	285
300	4.77	3.05	2.23	1.66	1.28	1.33	.80	.42	.38	.20	-.035	300
315	5.42	3.57	2.60	1.96	1.56	1.55	.96	.51	.44	.23	-.054	315
330	6.61	4.35	3.11	2.38	1.88	1.81	1.12	.61	.51	.26	-.027	330
345	8.26	5.23	3.74	2.84	2.28	2.12	1.34	.71	.57	.29	-.081	345

TABLE 129 - Continued

FLIGHT 92, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 28, t = 3.4 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	5.85	2.90	2.24	1.69	1.22	.48	.079	3.89	1.76	1.26	1.03	.80	.34	.083	0
15	5.17	2.22	1.76	1.33	.88	.31	.038	2.39	1.04	.83	.72	.58	.33	.071	15
30	4.22	1.73	1.43	1.12	.73	.25	.019	2.14	.98	.74	.62	.49	.28	.072	30
45	3.51	1.66	1.47	1.16	.73	.25	.028	2.42	1.12	.81	.67	.54	.31	.090	45
60	3.34	1.80	1.57	1.25	.76	.26	-.003	2.68	1.26	.90	.74	.60	.35	.100	60
75	3.64	1.96	1.65	1.36	.80	.28	.031	3.25	1.56	1.09	.88	.70	.39	.119	75
90	4.05	2.31	1.85	1.60	.94	.35	.067	3.70	1.83	1.29	1.05	.83	.43	.139	90
105	4.51	2.56	2.05	1.70	1.01	.36	.067	3.94	1.93	1.38	1.12	.90	.46	.147	105
120	4.34	2.52	1.85	1.56	.98	.32	.059	3.87	1.90	1.37	1.11	.89	.46	.146	120
135	3.83	2.19	1.66	1.35	.85	.27	.071	3.79	1.84	1.35	1.09	.89	.46	.145	135
150	3.51	2.01	1.53	1.24	.79	.27	.079	3.79	1.84	1.35	1.10	.89	.44	.151	150
165	3.49	2.04	1.52	1.23	.80	.30	.083	3.84	1.88	1.37	1.11	.89	.44	.131	165
180	3.76	2.24	1.73	1.28	.87	.34	.093	3.87	1.88	1.39	1.13	.90	.45	.121	180
195	4.09	2.13	1.78	1.32	.96	.36	.100	3.89	1.76	1.31	1.08	.85	.43	.105	195
210	4.30	2.24	1.76	1.32	.96	.38	.102	3.13	1.57	1.19	.98	.77	.43	.088	210
225	4.47	2.31	1.79	1.32	.98	.39	.107	2.83	1.39	1.05	.88	.68	.30	.075	225
240	4.51	2.36	1.79	1.32	.99	.39	.093	2.35	1.09	.87	.73	.56	.25	.059	240
255	4.45	2.35	1.74	1.30	.96	.38	.081	1.89	.84	.72	.59	.45	.20	.049	255
270	4.33	2.24	1.67	1.24	.92	.35	.067	1.53	.66	.59	.50	.38	.18	.033	270
285	4.04	1.91	1.45	1.09	.81	.33	.053	1.44	.48	.46	.36	.26	.17	.039	285
300	3.74	1.83	1.42	1.07	.79	.33	.055	1.39	.49	.45	.38	.26	.12	.053	300
315	4.09	2.17	1.64	1.24	.94	.36	.065	1.88	.72	.61	.51	.37	.19	.047	315
330	4.61	2.43	1.86	1.41	1.05	.43	.065	2.43	1.01	.80	.65	.49	.22	.046	330
345	5.30	2.97	2.18	1.65	1.24	.50	.086	3.24	1.39	1.04	.85	.63	.28	.062	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	1.62	.78	.52	.30	.115	.32	.17	.10	.08	.012	0
15	.89	.52	.38	.25	.109	.68	.33	.17	.08	.002	15
30	.91	.44	.32	.22	.100	.56	.27	.15	.08	.013	30
45	1.24	.58	.42	.27	.121	.57	.31	.18	.10	.017	45
60	1.58	.73	.52	.31	.133	.78	.40	.23	.13	.027	60
75	1.92	.89	.63	.35	.146	.98	.50	.29	.15	.032	75
90	2.26	1.05	.73	.41	.167	1.27	.65	.37	.18	.043	90
105	2.48	1.17	.80	.44	.171	1.49	.77	.45	.22	.052	105
120	2.64	1.25	.84	.46	.177	1.70	.87	.52	.25	.063	120
135	2.67	1.28	.85	.46	.180	1.76	.93	.56	.26	.067	135
150	2.48	1.27	.84	.46	.167	1.83	.95	.57	.27	.074	150
165	2.50	1.26	.83	.46	.169	1.79	.92	.56	.27	.067	165
180	2.37	1.19	.78	.43	.156	1.53	.79	.49	.24	.070	180
195	2.07	1.04	.68	.38	.139	.91	.92	.35	.21	.067	195
210	1.66	.86	.55	.31	.131	.52	.87	.27	.12	.090	210
225	1.09	.74	.42	.25	.117	.13	.19	.41	.07	.038	225
240	.75	.75	.47	.18	.118	.05	.08	.14	.09	.001	240
255	.36	.41	.53	.19	.075	.02	.04	.08	.06	.003	255
270	.19	.23	.20	.33	.095	.02	.02	.04	.06	.010	270
285	.23	.25	.13	.15	.131	.01	.02	.02	.04	.020	285
300	.27	.21	.14	.15	.085	.02	.02	.01	.04	.016	300
315	.50	.29	.20	.18	.112	.04	.03	.02	.04	-.002	315
330	.79	.41	.30	.22	.131	.12	.06	.05	.05	-.002	330
345	1.07	.57	.40	.26	.109	.20	.13	.08	.07	.006	345

TABLE 129 - Continued

FLIGHT 92, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 28, t = 3.4 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	1.67	7.94	12.47	19.40	22.91	24.04	22.51
15	2.76	5.55	8.77	14.90	12.26	12.01	14.34
30	2.40	5.03	7.77	12.04	10.48	10.12	11.70
45	2.75	6.53	8.65	11.53	9.88	9.65	10.65
60	3.58	7.97	9.65	11.81	10.64	10.56	11.35
75	4.50	9.49	11.45	12.83	11.37	12.04	13.23
90	5.71	11.06	13.28	14.98	13.68	13.92	14.93
105	6.82	12.08	14.22	16.27	14.40	12.98	13.63
120	7.79	12.73	14.08	15.40	11.18	9.39	10.31
135	8.19	12.91	13.85	13.54	8.27	6.66	7.77
150	8.46	12.50	13.77	12.61	7.59	6.06	6.82
165	8.30	12.50	13.83	12.82	8.45	7.18	7.28
180	7.27	11.77	13.91	14.14	10.60	10.11	9.33
195	5.75	10.26	13.29	14.73	12.69	12.19	11.22
210	4.23	8.44	11.92	15.13	13.59	13.69	12.66
225	2.55	6.41	10.17	15.52	14.67	15.22	13.93
240	1.25	5.65	8.35	15.63	15.60	16.38	15.30
255	.71	4.55	6.68	15.29	16.14	17.30	16.31
270	.61	3.66	5.52	14.55	16.43	17.99	17.29
285	.43	2.58	4.52	12.96	14.84	17.86	18.84
300	.36	2.46	4.24	12.54	13.82	15.60	16.30
315	.43	3.51	5.97	14.36	16.07	18.14	18.39
330	.78	4.77	7.66	16.25	19.27	21.23	19.61
345	1.25	6.02	10.10	19.23	22.99	24.38	22.95

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	8.249		0	3.313				
1	.581	-2.679	1	-1.073	-1.339			
2	-.018	.086	2	.213	-.053			
3	.182	-.018	3	-.172	.010			
4	.018	-.023	4	-.073	-.020			
5	-.014	.005	5	-.034	-.032			
6	.009	.014	6	.012	.000			
7	.009	.018	7	-.012	.018			
8	.041	.009	8	.008	.020			
9	.009	.014	9	.010	.002			
10	.005	.000	10	.024	-.006			
$\theta_s = A_0 + \sum_{n=1}^{10} (A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom})$			$\beta_s = a_0 + \sum_{n=1}^{10} (a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom})$			$\zeta = E_0 + \sum_{n=1}^{10} (E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom})$		

TABLE 129 - Continued

FLIGHT 92, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 28, t = 3.4 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	3.687		.75	0	14.519		.95	0	14.026	
.25	1	-2.676	2.750	.75	1	.418	-.665	.95	1	4.028	-3.244
.25	2	.743	-.834	.75	2	.673	-.375	.95	2	-.584	-.595
.25	3	-.034	.172	.75	3	1.909	-1.297	.95	3	1.479	-2.020
.25	4	.182	.125	.75	4	.992	-.180	.95	4	1.683	-.278
.25	5	.026	.041	.75	5	-.014	-.376	.95	5	.473	-.422
.25	6	-.023	.020	.75	6	.280	-.223	.95	6	.173	-.500
.25	7	-.013	.113	.75	7	.255	-.024	.95	7	.186	-.318
.25	8	-.042	.021	.75	8	.235	-.009	.95	8	.322	.028
.25	9	-.049	.045	.75	9	.081	-.104	.95	9	.379	-.121
.25	10	-.065	.024	.75	10	.049	-.061	.95	10	.315	-.302
.40	0	7.765		.85	0	13.659					
.40	1	-3.000	3.468	.85	1	2.769	-2.879				
.40	2	.901	-.817	.85	2	.245	-.436				
.40	3	.498	-.441	.85	3	2.127	-2.321				
.40	4	.568	-.312	.85	4	1.684	-.634				
.40	5	.093	-.220	.85	5	.088	-.873				
.40	6	.255	.014	.85	6	.309	-.702				
.40	7	.215	.004	.85	7	.532	-.279				
.40	8	.209	.010	.85	8	.405	-.052				
.40	9	.188	.071	.85	9	.311	-.313				
.40	10	.088	-.041	.85	10	.296	-.214				
.55	0	10.170		.90	0	13.945					
.55	1	-2.540	3.055	.90	1	3.725	-4.185				
.55	2	1.490	-.335	.90	2	-.167	-.473				
.55	3	.950	-1.008	.90	3	1.806	-2.654				
.55	4	.769	-.194	.90	4	1.904	-.813				
.55	5	.243	-.200	.90	5	.328	-.865				
.55	6	.232	-.124	.90	6	.257	-.745				
.55	7	.287	-.052	.90	7	.352	-.359				
.55	8	.307	.012	.90	8	.521	-.031				
.55	9	.234	-.042	.90	9	.452	-.209				
.55	10	.174	-.038	.90	10	.472	-.254				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 129 - Concluded

FLIGHT 92, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 28, t = 3.4 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-899	1007	1266	-22	-2399	-4651		
15	1142	792	588	35	-2619	-4880		
30	-557	-248	-814	-1463	-2267	-2870		
45	-3543	-2087	-1582	-1463	-1255	-2512		
60	-944	-1370	-2504	-2941	-2267	-3129		
75	-408	0	-1501	-3371	-4978	-6124		
90	-545	-1246	-2396	-3199	-4960	-7268		
105	-1469	-2302	-3227	-3991	-5119	-6731		
120	-1195	-2797	-4267	-5317	-5752	-6571		
135	-1822	-3374	-4186	-4945	-6016	-7716		
150	-1537	-3160	-4348	-5527	-6905	-8691		
165	-1434	-3168	-4782	-6395	-7503	-8989		
180	-2084	-3671	-4954	-5937	-7134	-8512		
195	-1845	-2607	-3842	-5059	-6175	-7477		
210	-123	-726	-1871	-3323	-5611	-7338		
225	697	693	81	-833	-3684	-5437		
240	333	1279	1519	1123	-1106	-2661		
255	868	1444	1736	1733	1261	324		
270	162	1485	2233	2363	2124	1508		
285	-169	1436	2197	2248	2247	1269		
300	-283	1262	1618	1418	769	-711		
315	-602	206	108	159	-41	-1019		
330	-2141	-25	280	-156	-956	-2741		
345	390	413	-551	-1224	-1915	-3378		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-11659	-13024	1655	
15	-10829	-10777	1175	
30	-8647	-9459	2743	
45	-5700	-7163	3271	
60	-5505	-6821	3719	
75	-5456	-7945	3127	
90	-4105	-7017	1735	
105	-3047	-7489	3255	
120	-800	-3793	3495	
135	-589	-2768	7239	
150	388	-244	7991	
165	2065	456	8071	
180	1544	440	8407	
195	-19	-912	7655	
210	-2151	-3907	6583	
225	-5766	-7489	4871	
240	-8582	-11608	2631	
255	-8517	-13252	-713	
270	-11203	-13838	215	
285	-12961	-13105	1735	
300	-11610	-11559	599	
315	-12115	-12080	1943	
330	-11024	-11396	1303	
345	-10519	-11266	615	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	1023	457	184
15	472	-9	149
30	235	-103	72
45	476	28	115
60	663	179	141
75	919	446	151
90	1138	528	171
105	1033	464	129
120	597	203	58
135	153	-248	1
150	-308	-440	-44
165	-587	-805	-72
180	-603	-668	-71
195	-317	-638	-47
210	-358	-704	-47
225	-194	-644	-20
240	-43	-559	7
255	28	-303	9
270	-442	-504	13
285	-587	-684	9
300	-448	-657	30
315	-71	-435	75
330	309	-96	124
345	650	283	158

TABLE 130

FLIGHT 92, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 28, t = 7.7 SECONDS)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95							Δp, lb/sq in., at - r/R = 0.90							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	9.84	5.54	3.81	2.64	1.50	.58	.118	10.90	4.68	3.24	2.43	1.50	.37	.306	0
15	8.77	5.54	3.76	2.56	1.40	.60	.075	10.12	4.63	3.34	2.63	1.74	.63	.037	15
30	6.90	4.94	3.52	2.31	1.31	.61	.079	8.16	4.25	3.06	2.53	1.66	.65	.046	30
45	6.43	4.80	3.62	2.16	.96	.39	-.010	7.31	3.83	2.81	2.23	1.38	.45	-.057	45
60	4.27	3.47	2.92	1.64	.67	.37	.006	5.36	2.77	2.12	1.72	1.02	.35	-.060	60
75	3.60	3.23	2.84	1.64	.63	.38	.016	4.75	2.57	2.01	1.65	1.04	.38	-.053	75
90	4.51	4.28	3.50	2.25	.98	.54	.041	6.23	3.52	2.74	2.35	1.46	.55	-.068	90
105	5.92	5.31	4.22	2.59	1.12	.53	.035	7.08	3.83	3.12	2.69	1.60	.57	-.075	105
120	5.29	5.01	3.90	2.36	.92	.44	.027	6.51	3.65	2.79	2.35	1.39	.51	-.093	120
135	3.99	4.61	2.94	1.85	.70	.40	.024	5.34	3.02	2.23	1.94	1.13	.42	-.093	135
150	3.21	3.12	2.57	1.53	.67	.43	.041	4.94	2.80	2.02	1.84	1.13	.49	-.040	150
165	3.72	3.38	2.68	1.71	.86	.49	.083	5.79	3.17	2.31	1.96	1.26	.52	.006	165
180	4.31	3.60	2.73	1.81	.95	.52	.100	6.42	3.26	2.42	2.01	1.34	.56	.068	180
195	4.78	3.70	2.64	1.85	1.04	.55	.119	6.73	3.49	2.48	2.01	1.37	.59	.094	195
210	5.22	3.77	2.69	1.91	1.16	.61	.136	7.32	3.76	2.66	2.12	1.48	.64	.119	210
225	5.97	4.13	2.83	2.04	1.31	.64	.152	8.19	4.01	2.78	2.20	1.56	.69	.130	225
240	6.71	4.26	2.90	2.07	1.27	.58	.134	8.93	4.03	2.75	2.13	1.52	.61	.119	240
255	6.18	4.01	2.62	1.84	1.14	.53	.119	7.77	3.56	2.42	1.91	1.34	.57	.104	255
270	6.27	4.01	2.71	2.00	1.33	.66	.176	8.96	3.93	2.71	2.18	1.58	.70	.152	270
285	8.04	4.82	3.20	2.44	1.63	.74	.213	10.37	4.36	3.07	2.39	1.76	.74	.225	285
300	9.82	5.05	3.34	2.44	1.51	.59	.184	10.46	4.32	2.95	2.23	1.55	.58	.221	300
315	8.53	4.77	3.14	2.25	1.41	.62	.148	9.51	4.08	2.80	2.23	1.59	.57	.134	315
330	8.63	5.16	3.34	2.46	1.54	.66	.180	10.37	4.54	3.13	2.51	1.74	.68	.196	330
345	9.89	5.50	3.65	2.69	1.67	.67	.199	11.16	5.09	3.48	2.69	1.76	.53	.313	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85											ψ_{nom}, deg
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	11.56	8.22	5.06	3.85	3.12	2.74	1.74	.84	.67	.40	.198	0
15	9.89	6.68	4.31	3.25	2.67	2.41	1.58	.78	.62	.29	.018	15
30	9.53	6.13	4.38	3.30	2.72	2.43	1.53	.79	.66	.34	.104	30
45	7.93	5.67	3.93	2.89	2.40	2.14	1.32	.56	.47	.19	.022	45
60	5.99	4.39	3.11	2.30	1.85	1.70	1.02	.36	.37	.14	-.019	60
75	5.41	4.03	2.96	2.33	1.76	1.62	.98	.32	.36	.14	-.085	75
90	6.92	5.38	3.93	3.02	2.42	2.16	1.34	.52	.53	.25	.034	90
105	7.84	6.22	4.52	3.22	2.74	2.36	1.52	.61	.57	.26	-.056	105
120	7.43	5.81	4.30	3.03	2.54	2.19	1.42	.55	.52	.24	-.077	120
135	6.29	4.71	3.62	2.53	2.09	1.83	1.21	.44	.47	.22	-.073	135
150	6.13	4.55	3.46	2.49	2.04	1.81	1.20	.49	.54	.28	-.077	150
165	6.92	5.02	3.71	2.76	2.28	1.97	1.33	.57	.61	.32	-.075	165
180	7.46	5.34	3.86	2.93	2.38	2.07	1.40	.65	.65	.36	-.070	180
195	7.84	5.36	3.87	2.94	2.39	2.12	1.43	.68	.67	.39	-.060	195
210	8.73	5.61	4.03	3.12	2.53	2.25	1.50	.77	.73	.42	-.064	210
225	9.57	5.84	4.19	3.25	2.60	2.33	1.55	.81	.74	.43	.133	225
240	9.64	5.56	3.98	3.09	2.46	2.21	1.43	.74	.61	.34	.123	240
255	8.16	5.06	3.54	2.73	2.16	2.01	1.28	.66	.57	.31	.098	255
270	8.55	5.21	3.74	2.90	2.30	2.15	1.41	.78	.66	.37	-.078	270
285	9.45	5.79	4.06	3.22	2.57	2.39	1.58	.90	.75	.43	-.062	285
300	5.42	5.13	4.77	4.02	2.94	2.52	1.60	.82	.63	.35	.088	300
315	8.77	5.29	3.56	2.66	2.02	1.89	1.24	.59	.55	.36	.260	315
330	10.50	6.42	4.36	3.37	2.66	2.32	1.39	.93	.91	.55	-.029	330
345	11.20	7.89	5.09	3.97	3.17	2.76	1.75	.86	.65	.42	.217	345

TABLE 130 - Continued

FLIGHT 92, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 28, t = 7.7 SECONDS)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75							r/R = 0.55							ψ_{nom}, deg
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	8.21	4.31	2.93	2.01	1.24	.55	.356	4.56	2.22	1.59	1.30	1.00	.56	.215	0
15	8.25	3.95	2.61	2.21	1.60	.64	.098	4.72	2.15	1.57	1.30	1.03	.50	.118	15
30	7.66	3.66	2.75	2.11	1.50	.60	.095	4.33	2.10	1.51	1.23	.97	.48	.125	30
45	7.30	3.60	2.71	2.06	1.38	.50	.062	4.35	2.09	1.49	1.20	.95	.47	.121	45
60	6.62	2.94	2.33	1.76	1.14	.40	.019	3.96	1.90	1.37	1.11	.88	.43	.127	60
75	5.69	2.71	2.24	1.72	1.10	.44	.057	4.26	2.12	1.51	1.21	.96	.50	.152	75
90	5.52	3.21	2.62	2.04	1.37	.54	.109	5.03	2.54	1.79	1.43	1.14	.57	.174	90
105	6.12	3.70	2.97	2.25	1.49	.57	.100	5.51	2.79	1.96	1.56	1.24	.61	.182	105
120	6.40	3.64	3.00	2.23	1.51	.55	.104	5.51	2.76	1.96	1.56	1.24	.60	.183	120
135	6.21	3.33	2.77	2.06	1.40	.51	.143	5.36	2.68	1.90	1.52	1.22	.60	.188	135
150	6.05	3.18	2.69	2.02	1.41	.56	.148	5.32	2.67	1.91	1.53	1.23	.63	.190	150
165	6.35	3.54	2.80	2.10	1.50	.61	.150	5.57	2.76	1.96	1.58	1.26	.61	.185	165
180	6.71	3.74	2.86	2.14	1.55	.61	.138	5.98	2.74	1.96	1.58	1.25	.61	.166	180
195	7.03	3.77	2.82	2.11	1.56	.64	.166	4.84	2.63	1.88	1.53	1.21	.59	.160	195
210	7.26	3.84	2.83	2.12	1.58	.66	.191	4.56	2.33	1.72	1.41	1.11	.52	.146	210
225	7.63	3.85	2.77	2.06	1.55	.62	.195	3.92	1.90	1.47	1.24	.99	.46	.165	225
240	7.70	3.88	2.65	1.86	1.26	.52	.200	2.64	1.63	1.31	1.11	.89	.42	.187	240
255	6.54	2.37	2.36	1.70	1.19	.47	.133	.94	.84	1.00	.86	.77	.39	.157	255
270	5.74	2.66	1.90	1.46	1.09	.38	.152	.89	.77	.78	.70	.72	.32	.050	270
285	5.50	3.18	2.31	1.76	1.37	.58	.129	.83	.63	.77	.76	.67	.35	.118	285
300	5.83	3.90	2.72	2.09	1.47	.53	.166	.95	.72	.84	.79	.71	.34	.092	300
315	5.24	2.73	2.53	1.96	1.49	.50	.193	1.55	1.32	1.17	.81	.59	.24	.099	315
330	5.69	3.51	2.60	1.89	1.39	.50	.150	2.30	1.97	1.23	.91	.62	.41	.115	330
345	6.70	3.94	2.83	2.18	1.49	.70	.205	2.41	2.37	1.95	1.36	.87	.46	.197	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40					r/R = 0.25					ψ_{nom}, deg
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	2.38	1.20	.79	.43	.200	.98	.46	.21	.09	.024	0
15	2.59	1.26	.82	.45	.186	1.00	.51	.27	.17	.036	15
30	1.96	.99	.65	.37	.143	1.56	.74	.42	.20	.038	30
45	2.13	1.02	.69	.38	.140	1.14	.58	.34	.18	.038	45
60	2.21	1.03	.69	.38	.149	1.13	.56	.33	.17	.035	60
75	2.61	1.21	.82	.46	.175	1.37	.71	.42	.21	.045	75
90	2.96	1.44	.97	.53	.188	1.70	.86	.52	.26	.056	90
105	3.12	1.56	1.04	.55	.196	1.94	1.00	.60	.29	.063	105
120	3.09	1.61	1.06	.55	.200	2.05	1.06	.61	.33	.074	120
135	3.08	1.59	1.06	.56	.208	2.13	1.08	.66	.32	.072	135
150	3.16	1.62	1.07	.57	.198	2.13	1.10	.68	.32	.081	150
165	3.17	1.62	1.07	.57	.195	2.09	1.08	.67	.32	.085	165
180	3.03	1.55	1.01	.53	.188	1.60	1.08	.61	.29	.094	180
195	2.62	1.37	.89	.45	.190	1.01	1.29	1.00	.16	.132	195
210	1.91	1.54	.95	.39	.208	.35	.42	1.03	.27	.067	210
225	.95	1.05	1.27	.31	.122	.15	.21	.23	.31	.043	225
240	.59	.62	.57	.61	.216	.08	.13	.12	.27	.097	240
255	.25	.29	.24	.30	.303	.06	.03	.03	.08	.289	255
270	.39	.40	.40	.33	.182	.03	.04	.05	.27	.090	270
285	.60	.70	.38	.32	.169	.09	.07	.07	.17	.070	285
300	.60	.70	.55	.32	.172	.11	.07	.05	.12	.046	300
315	.76	.63	.49	.36	.186	.13	.11	.07	.08	.048	315
330	.86	.78	.50	.33	.314	.29	.29	.09	.10	.021	330
345	1.41	.96	.66	.36	.259	.47	.26	.18	.13	.029	345

TABLE 130 - Continued

FLIGHT 92, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 28, t = 7.7 SECONDS)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	3.72	11.96	16.57	25.57	31.55	28.48	30.24
15	4.59	12.61	15.96	25.62	27.08	29.42	28.95
30	6.56	9.92	15.22	24.41	27.36	26.93	26.08
45	5.22	10.37	15.01	22.87	22.94	22.75	22.94
60	5.05	10.60	13.84	19.27	17.68	16.86	17.20
75	6.34	12.58	15.32	18.34	16.45	16.20	16.21
90	7.79	14.48	18.10	21.26	22.69	22.35	21.75
105	8.89	15.41	19.64	23.51	25.25	24.73	25.79
120	9.53	15.51	19.60	23.67	23.54	22.23	23.13
135	9.78	15.53	19.18	22.19	19.98	18.15	19.01
150	9.92	15.77	19.36	22.11	19.88	17.74	15.81
165	9.82	15.74	19.79	23.57	22.04	20.09	17.98
180	8.60	14.93	19.93	24.35	23.36	21.61	19.33
195	8.85	13.09	18.53	24.82	23.91	22.52	20.26
210	6.84	12.13	16.84	25.37	25.60	24.37	21.58
225	3.37	10.14	14.70	25.23	27.45	26.18	23.63
240	2.68	8.40	12.63	23.51	25.86	26.01	23.90
255	1.78	4.60	9.07	19.35	22.82	23.08	21.88
270	2.21	5.31	7.61	17.62	24.01	26.72	23.73
285	1.74	6.03	7.61	20.91	26.72	29.98	28.66
300	1.33	6.64	7.95	23.08	25.30	28.12	29.10
315	1.29	6.83	8.69	20.73	23.30	26.73	27.15
330	1.96	7.55	11.39	21.67	28.31	29.91	28.89
345	2.70	9.30	14.67	25.10	31.42	31.48	31.39

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	10.174		0	5.301				
1	1.081	-4.999	1	.413	-1.934			
2	.059	.018	2	.022	.016			
3	-.127	-.182	3	-.093	-.028			
4	-.245	.232	4	.006	-.040			
5	.045	.291	5	.016	-.016			
6	.073	-.073	6	.004	-.034			
7	-.041	-.114	7	-.004	-.004			
8	-.132	-.032	8	.002	.000			
9	-.018	-.027	9	-.004	-.010			
10	-.136	.018	10	.000	.000			

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom}\right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom}\right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom}\right)$$

TABLE 130 - Continued

FLIGHT 92, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 28, t = 7.7 SECONDS)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	5.439		.75	0	22.672		.95	0	23.524	
.25	1	-2.607	3.160	.75	1	-.315	.077	.95	1	4.303	-2.746
.25	2	.992	-.390	.75	2	2.314	.370	.95	2	.735	-1.243
.25	3	-.047	.263	.75	3	1.079	-.536	.95	3	1.998	-.845
.25	4	.256	.584	.75	4	-.263	1.334	.95	4	.420	2.187
.25	5	-.119	-.104	.75	5	-.015	.573	.95	5	-.577	.348
.25	6	-.364	.074	.75	6	.584	-.844	.95	6	.423	-1.412
.25	7	.007	-.150	.75	7	.016	-.517	.95	7	-.202	-.435
.25	8	-.194	-.090	.75	8	-.195	-.106	.95	8	-.053	.153
.25	9	.205	-.087	.75	9	-.072	.157	.95	9	-.060	.255
.25	10	-.047	-.158	.75	10	-.140	.077	.95	10	-.136	-.064
.40	0	11.059		.85	0	24.353					
.40	1	-2.364	3.866	.85	1	1.985	-2.332				
.40	2	1.643	-.621	.85	2	2.004	-.077				
.40	3	.481	-.410	.85	3	2.317	-.811				
.40	4	.434	.491	.85	4	.752	1.468				
.40	5	.464	.543	.85	5	-.375	.122				
.40	6	.240	-.145	.85	6	-.047	-1.857				
.40	7	-.011	.112	.85	7	-.268	-.537				
.40	8	.135	.220	.85	8	.056	.011				
.40	9	.135	.117	.85	9	.119	.081				
.40	10	-.106	.016	.85	10	.097	-.002				
.55	0	14.884		.90	0	24.276					
.55	1	-2.750	4.230	.90	1	3.241	-3.630				
.55	2	2.513	.052	.90	2	1.011	-.567				
.55	3	1.076	-.637	.90	3	1.714	-.693				
.55	4	.543	.382	.90	4	.667	1.945				
.55	5	-.055	.174	.90	5	-.667	.405				
.55	6	.166	-.388	.90	6	-.393	-1.592				
.55	7	.009	-.246	.90	7	-.586	-.236				
.55	8	.091	.036	.90	8	-.157	.336				
.55	9	.103	.055	.90	9	-.027	.180				
.55	10	.017	.020	.90	10	-.362	-.013				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 130 - Concluded

FLIGHT 92, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 28, t = 7.7 SECONDS)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	-385	33	-407	-1715	-2014	-3160		
15	1929	-58	-1410	-1601	-2560	-4413		
30	-1172	-99	434	-818	-3722	-6284		
45	436	-1056	-1365	-1629	-2428	-5159		
60	-1297	-512	-949	-2182	-3704	-5179		
75	253	-1007	-2359	-3394	-3563	-4403		
90	-704	-1518	-2097	-2621	-3774	-5488		
105	105	-1328	-2604	-3566	-4540	-5995		
120	48	-1625	-2558	-3642	-4795	-7358		
135	-226	-2137	-3155	-4272	-6027	-8373		
150	-978	-2747	-4140	-5483	-6098	-8234		
165	-1206	-3341	-4610	-5617	-6934	-9080		
180	-693	-2516	-3996	-5340	-6652	-8821		
195	14	-1304	-2088	-3747	-6951	-9955		
210	1427	-371	-1618	-2593	-5376	-7906		
225	721	503	72	-790	-3422	-5518		
240	1519	1295	832	336	-686	-1826		
255	1085	1881	2640	2235	159	403		
270	-55	1304	2170	2683	2658	3208		
285	-1525	1007	2387	3141	3776	3328		
300	1006	1931	2152	2406	3310	2174		
315	994	2690	2983	2263	1030	-1140		
330	812	1328	1347	994	-325	-2652		
345	-533	-619	-506	50	-422	-2403		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-9209	-12959	-1334	
15	-9355	-12243	778	
30	-7174	-7831	2922	
45	-5187	-5682	5562	
60	-5318	-6528	6698	
75	-108	-4689	2858	
90	885	-5877	3706	
105	-222	-4917	4954	
120	1097	-2523	5530	
135	1504	-2084	7978	
150	2692	1026	8874	
165	4255	2458	10202	
180	2480	2491	11114	
195	-320	-570	10250	
210	-2404	-4493	7802	
225	-5578	-10338	3530	
240	-9502	-15010	-2854	
255	-11374	-19536	-8198	
270	-15704	-20659	-7558	
285	-18863	-20138	-4598	
300	-15818	-15824	-2070	
315	-12481	-10956	1962	
330	-13051	-10224	5338	
345	-8736	-10566	1354	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	386	283	63
15	1384	773	239
30	2107	1251	339
45	836	349	213
60	381	292	14
75	464	-186	145
90	1550	922	197
105	1536	982	214
120	1117	609	112
135	32	-257	-20
150	-265	-475	-47
165	-229	-417	-13
180	-260	-299	-46
195	-636	-844	-60
210	-723	-440	-108
225	-896	-364	-83
240	-2760	-1563	-247
255	-4537	-2817	-506
270	-2719	-1971	-327
285	-992	-909	-79
300	-1478	-1517	-17
315	-1730	-1251	-128
330	-1646	-1280	-74
345	201	146	76

TABLE 131

FLIGHT 93, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 29)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at -													ψ_{nom}, deg
	r/R = 0.95							r/R = 0.90						
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	8.19	4.88	4.30	2.92	1.61	.75	.123	10.34	5.43	3.77	3.18	2.04	.79	.101	0
15	6.29	4.16	3.77	2.40	1.19	.58	.040	8.83	5.21	3.30	2.79	1.71	.63	.009	15
30	4.42	3.37	3.22	1.89	.76	.41	-.021	6.35	3.44	2.51	2.13	1.22	.40	-.073	30
45	2.26	2.37	2.44	1.29	.35	.28	-.041	4.20	2.21	1.71	1.47	.81	.23	-.128	45
60	1.68	1.93	2.29	1.19	.32	.32	-.004	3.17	1.66	1.40	1.35	.72	.26	-.133	60
75	3.53	3.23	3.22	1.80	.63	.42	.021	4.20	2.32	1.96	1.78	1.02	.36	-.106	75
90	4.76	4.75	4.23	2.44	.94	.51	.028	5.62	3.15	2.66	2.39	1.35	.47	-.093	90
105	5.58	5.95	5.73	2.21	1.10	.54	.016	6.57	4.66	3.37	2.94	1.66	.61	-.089	105
120	5.21	5.67	5.65	2.12	1.06	.55	.025	7.08	5.59	5.39	2.61	1.68	.58	-.113	120
135	4.38	4.53	4.08	2.43	.96	.51	.032	6.59	4.96	2.95	2.72	1.53	.53	-.101	135
150	3.45	3.28	3.35	1.90	.73	.43	.014	5.63	3.43	2.52	2.22	1.24	.42	-.111	150
165	2.59	2.38	2.45	1.47	.56	.40	.025	4.66	2.65	1.92	1.76	.97	.35	-.086	165
180	2.37	2.07	2.15	1.35	.56	.41	.045	4.25	2.30	1.66	1.53	.91	.37	-.048	180
195	2.63	2.11	2.09	1.35	.62	.42	.059	4.43	2.38	1.66	1.50	.93	.39	-.017	195
210	3.29	2.37	2.29	1.49	.74	.48	.077	4.91	2.61	1.80	1.61	1.02	.45	.020	210
225	4.19	2.72	2.60	1.72	.92	.55	.104	5.79	2.93	2.09	1.78	1.19	.54	.067	225
240	5.25	3.24	2.73	1.95	1.11	.61	.130	6.90	3.61	2.45	2.03	1.39	.62	.100	240
255	6.36	3.91	3.03	2.18	1.31	.69	.154	8.13	4.12	2.79	2.31	1.57	.69	.122	255
270	7.74	4.50	3.35	2.45	1.47	.72	.162	9.56	4.46	3.00	2.49	1.69	.71	.128	270
285	7.26	4.30	3.18	2.34	1.37	.69	.128	8.27	3.99	2.70	2.27	1.53	.68	.106	285
300	6.15	3.84	3.00	2.12	1.20	.63	.112	7.20	3.61	2.48	2.09	1.38	.61	.078	300
315	5.96	3.57	3.01	2.11	1.18	.63	.103	6.95	3.54	2.46	2.07	1.36	.61	.069	315
330	6.34	3.85	3.29	2.29	1.27	.68	.115	7.55	3.94	2.78	2.34	1.53	.68	.080	330
345	8.15	5.11	4.03	2.78	1.58	.76	.150	9.56	4.80	3.43	2.87	1.86	.80	.111	345

ψ_{nom}, deg	Δp, lb/sq in., at -											ψ_{nom}, deg
	r/R = 0.85											
	x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	
0	11.30	10.16	5.21	4.21	3.43	3.19	1.98	.98	.87	.42	.137	0
15	9.44	7.21	4.42	3.39	2.76	2.61	1.58	.72	.66	.29	.025	15
30	6.72	5.00	3.54	2.50	2.06	2.03	1.13	.41	.44	.15	-.029	30
45	4.60	3.25	2.45	1.91	1.49	1.46	.73	.15	.26	.05	-.071	45
60	4.28	2.93	2.23	1.72	1.37	1.37	.70	.11	.26	.05	-.079	60
75	5.24	3.73	2.91	2.28	1.82	1.74	.96	.26	.37	.12	-.058	75
90	6.49	4.97	3.80	3.14	2.33	2.14	1.21	.37	.45	.17	-.034	90
105	7.42	6.28	4.72	3.61	2.75	2.61	1.54	.54	.58	.24	-.017	105
120	8.48	7.24	6.08	4.05	3.09	2.77	1.69	.63	.63	.27	-.012	120
135	7.99	6.79	5.02	3.45	2.86	2.53	1.52	.55	.57	.25	-.022	135
150	6.72	5.17	3.91	2.87	2.22	2.05	1.25	.41	.49	.21	-.028	150
165	5.55	3.93	3.06	2.21	1.70	1.59	.99	.29	.44	.18	-.038	165
180	5.37	3.68	2.84	2.11	1.60	1.54	.94	.30	.44	.21	-.032	180
195	5.58	3.79	2.86	2.06	1.61	1.59	.96	.34	.47	.23	-.009	195
210	6.11	4.14	3.05	2.25	1.77	1.77	1.05	.42	.52	.27	.015	210
225	7.06	4.80	3.41	2.61	2.03	2.00	1.21	.55	.60	.32	.043	225
240	8.67	5.50	3.89	3.00	2.33	2.26	1.37	.65	.67	.36	.068	240
255	9.95	6.08	4.23	3.39	2.59	2.51	1.52	.77	.73	.39	.086	255
270	9.89	5.79	4.08	3.18	2.49	2.45	1.50	.79	.72	.38	.086	270
285	8.87	5.40	3.82	2.95	2.29	2.29	1.37	.70	.66	.34	.070	285
300	7.35	4.90	3.50	2.65	2.06	2.11	1.24	.61	.59	.30	.048	300
315	7.48	5.14	3.53	2.67	2.12	2.14	1.25	.60	.58	.30	.046	315
330	9.37	5.94	4.13	3.23	2.52	2.47	1.46	.73	.68	.35	.072	330
345	10.94	9.21	5.02	4.05	3.19	2.98	1.84	.93	.84	.43	.117	345

TABLE 131 - Continued

FLIGHT 93, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 29)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at -														ψ_{nom}, deg
	r/R = 0.75							r/R = 0.55							
	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	
0	7.89	4.85	3.56	2.60	1.98	.75	.113	6.40	2.93	2.08	1.65	1.33	.67	.139	0
15	8.09	4.30	3.26	2.32	1.72	.64	.062	5.50	2.50	1.79	1.45	1.19	.62	.142	15
30	7.43	3.31	2.64	1.90	1.31	.45	.010	4.32	1.97	1.43	1.15	.95	.51	.093	30
45	6.36	2.63	2.21	1.61	1.03	.33	-.022	3.71	1.70	1.24	1.01	.83	.45	.093	45
60	5.28	2.17	1.89	1.49	.91	.32	-.006	3.52	1.63	1.19	.97	.82	.46	.112	60
75	4.73	2.39	2.02	1.63	1.04	.38	.020	3.92	1.89	1.36	1.10	.92	.50	.125	75
90	4.90	2.98	2.47	1.90	1.22	.44	.062	4.55	1.04	1.57	1.27	1.05	.55	.145	90
105	5.56	3.64	3.01	2.21	1.43	.55	.083	5.15	2.54	1.79	1.42	1.18	.61	.166	105
120	6.14	4.05	3.34	2.41	1.64	.60	.088	5.56	2.77	1.93	1.54	1.26	.64	.170	120
135	6.47	3.95	3.29	2.36	1.65	.57	.085	5.75	2.82	1.97	1.58	1.28	.63	.166	135
150	6.44	3.61	3.05	2.17	1.50	.50	.085	5.45	2.62	1.84	1.48	1.21	.60	.150	150
165	5.98	3.18	2.63	1.87	1.31	.43	.083	5.05	2.43	1.74	1.40	1.14	.56	.153	165
180	5.50	2.92	2.42	1.74	1.23	.42	.095	4.82	2.32	1.68	1.35	1.10	.54	.139	180
195	5.40	2.80	2.35	1.70	1.21	.43	.095	4.60	2.18	1.59	1.29	1.05	.51	.112	195
210	5.46	2.93	2.36	1.70	1.23	.48	.093	4.48	2.05	1.51	1.22	1.00	.50	.101	210
225	5.72	3.16	2.47	1.80	1.33	.53	.111	4.41	1.96	1.46	1.18	.96	.48	.093	225
240	6.06	3.42	2.62	1.91	1.43	.58	.111	3.76	1.87	1.39	1.14	.92	.44	.081	240
255	6.48	3.53	2.68	1.95	1.48	.61	.097	3.65	1.74	1.30	1.07	.85	.41	.067	255
270	6.74	3.41	2.57	1.87	1.42	.56	.083	3.46	1.63	1.23	1.01	.81	.39	.055	270
285	6.59	3.27	2.46	1.80	1.34	.51	.071	3.22	1.47	1.13	.92	.74	.36	.044	285
300	6.04	2.87	2.23	1.63	1.20	.46	.048	3.29	1.34	1.05	.86	.69	.34	.035	300
315	5.68	2.89	2.26	1.67	1.23	.47	.045	3.38	1.41	1.08	.88	.72	.37	.047	315
330	5.93	3.36	2.55	1.90	1.41	.57	.081	4.10	1.74	1.29	1.05	.84	.44	.071	330
345	6.89	4.30	3.15	2.34	1.76	.72	.102	4.78	2.40	1.70	1.35	1.08	.55	.114	345

ψ_{nom}, deg	Δp, lb/sq in., at -										ψ_{nom}, deg
	r/R = 0.40					r/R = 0.25					
	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	
0	2.56	1.27	.78	.43	.202	.77	.42	.25	.16	.022	0
15	3.01	1.47	.91	.45	.161	1.37	.71	.40	.18	.018	15
30	2.24	1.17	.75	.45	.149	1.50	.71	.39	.17	.018	30
45	1.92	.92	.62	.38	.137	1.00	.52	.30	.15	.015	45
60	1.99	.96	.65	.40	.147	1.06	.54	.32	.17	.024	60
75	2.35	1.12	.76	.45	.163	1.35	.67	.39	.19	.030	75
90	2.72	1.31	.86	.49	.178	1.58	.80	.47	.22	.038	90
105	2.98	1.44	.94	.55	.190	1.84	.90	.53	.25	.045	105
120	3.07	1.57	1.02	.58	.192	1.86	.98	.58	.27	.053	120
135	3.14	1.62	1.05	.59	.198	2.00	1.04	.62	.29	.060	135
150	3.09	1.60	1.03	.57	.190	2.04	1.04	.62	.28	.054	150
165	2.95	1.52	.98	.55	.180	1.96	.99	.59	.27	.056	165
180	2.78	1.44	.92	.52	.169	1.77	.89	.53	.25	.056	180
195	2.55	1.33	.85	.49	.163	1.47	.75	.45	.22	.053	195
210	2.31	1.20	.77	.44	.151	.98	.76	.35	.18	.051	210
225	2.05	1.07	.68	.40	.143	.65	.81	.38	.11	.066	225
240	1.78	.93	.59	.35	.137	.23	.27	.52	.10	.022	240
255	1.61	.82	.55	.32	.135	.11	.14	.15	.20	.013	255
270	.89	.85	.62	.35	.121	.10	.09	.06	.14	.016	270
285	.59	.68	.60	.38	.134	.11	.08	.04	.06	.121	285
300	.81	.73	.48	.27	.130	.14	.14	.05	.07	.035	300
315	1.04	.58	.33	.27	.099	.22	.19	.12	.07	.011	315
330	1.29	.66	.42	.34	.129	.38	.36	.27	.08	.009	330
345	1.78	.89	.58	.36	.151	.71	.38	.23	.15	.018	345

TABLE 131 - Continued

FLIGHT 93, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 29)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	3.87	12.35	21.21	30.11	34.04	33.73	30.37
15	6.01	13.87	18.73	27.23	27.45	29.12	24.30
30	6.09	11.47	14.84	21.69	19.99	20.23	18.18
45	4.53	9.62	12.95	17.49	13.33	12.96	11.60
60	4.85	10.03	12.71	15.15	12.47	10.79	10.54
75	5.96	11.66	14.28	16.18	16.47	15.14	17.04
90	7.05	13.23	14.79	19.02	20.91	20.43	23.36
105	8.04	14.55	18.50	22.73	25.63	26.35	28.07
120	8.54	15.37	19.81	25.28	29.64	30.28	27.22
135	9.11	15.76	20.11	25.16	26.42	25.13	22.64
150	9.14	15.46	18.90	23.32	21.40	19.82	17.68
165	8.79	14.77	17.70	20.57	17.18	15.65	13.62
180	7.96	13.91	16.99	19.23	16.42	14.43	12.66
195	6.78	12.87	16.06	18.88	17.00	14.97	13.13
210	5.37	11.69	15.33	19.43	18.64	16.62	15.10
225	4.65	10.42	14.83	20.83	21.42	19.41	17.93
240	3.37	9.15	13.74	22.31	24.81	23.02	20.80
255	2.17	8.30	12.88	23.16	27.62	26.36	24.23
270	1.41	7.59	12.16	22.44	27.12	28.80	27.41
285	1.26	6.98	11.15	21.33	24.83	25.89	25.88
300	1.16	6.28	10.56	19.16	21.89	23.19	23.06
315	1.58	5.76	11.03	19.14	22.16	22.79	22.47
330	2.69	7.15	13.30	21.77	26.44	25.38	24.28
345	3.52	9.11	17.01	26.99	32.34	31.10	30.23

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	8.145		0	4.433		0	-.480	
1	.817	-3.400	1	.992	-1.454	1	-.118	.605
2	-.059	-.032	2	.294	.411	2	-.755	.044
3	.195	.250	3	-.117	-.053	3	.000	-.696
4	.200	-.014	4	-.006	.063	4	.763	.007
5	.086	.014	5	-.022	-.004	5	.002	.753
6	.000	.014	6	-.002	-.006	6	-.753	.010
7	-.036	.027	7	.004	.000	7	-.010	-.777
8	-.041	.014	8	.020	.008	8	.733	-.010
9	-.014	-.027	9	.018	.002	9	.000	.745
10	-.036	-.014	10	.008	.014	10	-.736	.000

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 131 - Continued

FLIGHT 93, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 29)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	5.162		.75	0	21.606		.95	0	20.908	
.25	1	-2.002	2.793	.75	1	.861	-.451	.95	1	3.225	-1.806
.25	2	1.059	-.289	.75	2	1.579	-1.546	.95	2	-1.916	-4.088
.25	3	.421	.207	.75	3	3.929	1.202	.95	3	5.252	-.344
.25	4	.090	.199	.75	4	1.056	.453	.95	4	2.414	1.193
.25	5	-.094	.284	.75	5	.498	-.175	.95	5	.404	-.227
.25	6	-.167	.068	.75	6	.297	-.017	.95	6	-.113	-.293
.25	7	-.254	.023	.75	7	.108	-.071	.95	7	-.051	-.140
.25	8	-.142	.040	.75	8	.068	.019	.95	8	.148	-.288
.25	9	-.120	-.048	.75	9	.099	-.002	.95	9	.105	-.434
.25	10	-.049	-.021	.75	10	.095	.034	.95	10	.094	-.101
.40	0	11.140		.85	0	22.733					
.40	1	-2.190	3.093	.85	1	2.168	-2.162				
.40	2	1.319	-.208	.85	2	.062	-3.322				
.40	3	1.165	.495	.85	3	6.084	.316				
.40	4	.691	.538	.85	4	1.816	.458				
.40	5	.340	.317	.85	5	.487	-.716				
.40	6	.040	.231	.85	6	.397	.200				
.40	7	-.053	.142	.85	7	-.148	-.036				
.40	8	-.059	.103	.85	8	-.007	-.270				
.40	9	-.057	.088	.85	9	.202	-.104				
.40	10	.001	.069	.85	10	.148	.064				
.55	0	15.399		.90	0	22.149					
.55	1	-1.131	2.226	.90	1	3.078	-2.287				
.55	2	2.085	-.809	.90	2	-.517	-3.875				
.55	3	2.321	.313	.90	3	6.169	.850				
.55	4	.813	.321	.90	4	2.060	1.398				
.55	5	.571	-.126	.90	5	.357	-.501				
.55	6	.475	.079	.90	6	.348	.177				
.55	7	.154	.197	.90	7	-.074	.313				
.55	8	.110	.048	.90	8	.059	-.235				
.55	9	.096	-.100	.90	9	.267	-.220				
.55	10	.254	.050	.90	10	-.098	.167				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 131 - Concluded

FLIGHT 93, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 29)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	1233	-124	-2432	-1495	-3836	-5562		
15	2168	371	-1754	-1696	-4654	-6448		
30	2202	-124	-1989	-1543	-4320	-5731		
45	-876	-1064	-2350	-1486	-2806	-3572		
60	-511	-982	-2974	-2297	-2384	-1831		
75	880	-701	-2703	-2030	-2780	-2667		
90	880	-569	-1935	-1276	-3000	-3632		
105	1472	-677	-2314	-1658	-3449	-4358		
120	902	-866	-2884	-2402	-3554	-4110		
135	332	-1576	-3345	-2373	-3088	-3911		
150	720	-1361	-2956	-2344	-4355	-5811		
165	2077	-1015	-3372	-3432	-5816	-6716		
180	857	-1741	-3878	-3814	-5895	-7015		
195	-477	-2368	-4402	-4100	-5270	-6189		
210	572	-1724	-3996	-3871	-5191	-5841		
225	1951	-404	-2350	-2163	-4267	-5473		
240	2715	825	-660	-122	-2041	-3532		
255	3011	1848	588	1548	-272	-1314		
270	2783	2162	913	2006	1418	1333		
285	1849	1757	1229	2712	2210	2408		
300	1997	1708	1257	2559	1532	1582		
315	2270	1807	1012	1968	-272	-896		
330	1689	1147	-36	546	-1979	-3204		
345	503	165	-1275	-837	-3053	-4299		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-16216	-9670	-274	
15	-17176	-8987	-1458	
30	-17030	-8417	-514	
45	-16867	-7456	1950	
60	-15239	-5763	2382	
75	-12585	-5372	1390	
90	-10680	-5503	766	
105	-11625	-5470	2046	
120	-9932	-5600	1758	
135	-6627	-4542	510	
150	-6138	-3500	2574	
165	-4494	358	5118	
180	-4038	3940	8574	
195	-4103	3516	10238	
210	-4006	2230	6990	
225	-6301	-3354	3262	
240	-10225	-8319	-18	
255	-12764	-10973	-3410	
270	-15581	-12894	-3266	
285	-15581	-12129	-1970	
300	-16851	-7863	830	
315	-18072	-6756	5294	
330	-17681	-5258	5198	
345	-16004	-6870	2430	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	3922	2270	
15	4602	2791	
30	3260	1761	
45	1734	727	
60	1679	519	
75	2506	1134	
90	3150	1732	
105	3546	1993	
120	3776	2187	
135	3623	1904	
150	3083	1441	
165	2126	749	
180	1667	543	
195	1333	195	
210	1315	242	
225	1736	309	
240	2025	556	
255	2076	763	
270	2162	977	
285	1984	975	
300	1578	547	
315	1440	458	
330	1346	324	
345	2250	1216	

TABLE 132

FLIGHT 94, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 30)

(a) Differential pressures

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.95 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.90 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
0	7.42	6.25	4.20	2.89	1.53	.72	.081	10.51	7.41	3.76	3.34	2.12	.77	.084	0
15	5.95	4.26	3.96	2.46	1.17	.58	.029	8.34	5.18	3.39	2.86	1.75	.63	-.006	15
30	3.50	3.40	3.32	1.85	.67	.38	-.051	6.02	3.30	2.48	2.19	1.23	.38	-.104	30
45	1.20	2.09	2.40	1.12	.13	.21	-.095	3.08	1.80	1.35	1.34	.64	.15	-.193	45
60	1.29	2.07	2.51	1.06	.09	.24	-.043	2.42	1.24	1.14	1.20	.55	.15	-.188	60
75	2.91	3.43	3.82	1.80	.33	.32	-.028	3.67	1.82	1.89	1.68	.82	.25	-.179	75
90	4.20	4.78	4.87	3.76	.47	.39	-.032	4.93	2.91	3.51	2.70	1.28	.40	-.177	90
105	4.36	5.06	5.23	4.67	.76	.32	-.043	5.96	4.32	4.90	4.99	1.16	.47	-.186	105
120	3.75	4.58	4.94	4.41	.36	.37	-.021	5.93	4.49	5.06	5.11	.88	.45	-.179	120
135	3.19	3.83	4.36	2.50	.67	.42	-.012	5.36	3.98	4.13	2.41	1.31	.46	-.179	135
150	2.47	3.05	3.19	1.73	.57	.37	-.010	4.69	2.99	2.32	2.15	1.15	.38	-.155	150
165	1.90	2.18	2.30	1.36	.43	.35	.012	3.96	2.23	1.74	1.55	.88	.32	-.122	165
180	1.90	1.93	2.07	1.24	.43	.36	.040	3.76	2.03	1.46	1.21	.78	.31	-.078	180
195	2.38	2.04	2.10	1.31	.54	.41	.057	4.10	2.19	1.55	1.37	.85	.36	-.011	195
210	3.21	2.45	2.30	1.48	.73	.47	.083	4.84	2.57	1.78	1.59	.98	.46	.053	210
225	4.28	2.91	2.63	1.74	.94	.56	.112	6.01	3.07	2.17	1.83	1.21	.57	.104	225
240	5.33	3.34	2.78	1.94	1.12	.61	.122	7.09	3.66	2.51	2.03	1.38	.63	.101	240
255	6.33	3.84	2.96	2.14	1.27	.66	.150	8.22	4.07	2.78	2.26	1.54	.69	.131	255
270	7.63	4.35	3.27	2.39	1.43	.70	.158	9.90	4.44	3.01	2.46	1.71	.72	.137	270
285	7.52	4.38	3.26	2.41	1.42	.69	.128	8.61	3.99	2.72	2.30	1.59	.68	.109	285
300	6.35	4.02	3.06	2.18	1.26	.64	.122	7.54	3.74	2.55	2.18	1.47	.66	.100	300
315	6.49	4.11	3.23	2.20	1.23	.64	.108	7.52	3.78	2.64	2.21	1.43	.65	.082	315
330	7.40	4.79	3.60	2.52	1.41	.71	.124	8.47	4.34	3.09	2.60	1.68	.74	.101	330
345	8.67	5.10	4.18	2.95	1.66	.79	.154	10.33	5.01	3.76	3.17	2.03	.85	.131	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.85 x/c = 0.017	x/c = 0.040	x/c = 0.090	x/c = 0.130	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.500	x/c = 0.625	x/c = 0.769	x/c = 0.915	ψ_{nom}, deg
0	11.89	10.89	7.51	4.57	3.69	3.42	2.14	1.06	.90	.42	.162	0
15	10.20	8.54	4.58	3.70	3.00	2.78	1.70	.76	.69	.28	.022	15
30	6.97	5.16	3.78	2.75	2.13	2.12	1.18	.42	.43	.12	-.066	30
45	4.14	2.97	2.25	1.75	1.34	1.32	.62	.03	.16	-.02	-.125	45
60	3.44	2.16	1.86	1.42	1.13	1.15	.50	-.03	.15	-.03	-.127	60
75	4.67	3.28	2.51	2.04	1.58	1.46	.72	.07	.20	.02	-.109	75
90	5.84	4.45	3.64	3.33	2.58	2.11	1.11	.24	.36	.10	-.084	90
105	6.74	5.55	4.96	4.42	3.91	2.56	1.52	.46	.50	.18	-.068	105
120	7.43	6.40	5.70	5.26	4.79	2.25	1.53	.49	.52	.18	-.068	120
135	7.07	5.98	5.47	4.34	3.27	2.34	1.46	.43	.50	.18	-.052	135
150	6.20	4.79	3.91	2.81	2.24	1.91	1.16	.31	.43	.16	-.058	150
165	5.18	3.62	2.97	2.14	1.69	1.46	.92	.21	.37	.14	-.066	165
180	4.85	3.33	2.59	1.84	1.46	1.40	.84	.21	.39	.18	-.052	180
195	5.14	3.45	2.68	1.93	1.50	1.50	.89	.29	.46	.23	-.021	195
210	5.81	4.02	2.96	2.17	1.70	1.73	1.01	.41	.52	.28	.005	210
225	6.85	4.69	3.44	2.62	2.02	2.00	1.21	.55	.61	.34	.056	225
240	8.39	5.33	3.82	2.93	2.26	2.23	1.35	.66	.67	.37	.072	240
255	9.74	5.84	4.17	3.27	2.51	2.46	1.47	.75	.72	.39	.089	255
270	10.42	6.05	4.30	3.37	2.62	2.55	1.54	.80	.72	.37	.092	270
285	8.83	5.27	3.72	2.87	2.21	2.23	1.33	.70	.65	.33	.064	285
300	8.01	5.15	3.68	2.81	2.19	2.22	1.31	.68	.62	.31	.060	300
315	7.84	5.12	3.63	2.78	2.17	2.20	1.29	.64	.61	.30	.060	315
330	9.89	6.29	4.39	3.38	2.66	2.57	1.56	.80	.72	.37	.089	330
345	11.19	9.68	5.10	4.20	3.31	3.08	1.90	.98	.84	.43	.127	345

TABLE 132 - Continued

FLIGHT 94, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 30)

(a) Differential pressures - Concluded

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.75 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	r/R = 0.55 x/c = 0.017	x/c = 0.090	x/c = 0.168	x/c = 0.233	x/c = 0.335	x/c = 0.625	x/c = 0.915	ψ_{nom}, deg
0	8.25	5.39	3.76	2.69	2.09	.80	.150	5.46	2.82	2.05	1.59	1.27	.62	.138	0
15	8.40	4.37	3.33	2.35	1.70	.59	.032	5.63	2.53	1.79	1.44	1.16	.57	.113	15
30	7.72	3.41	2.70	1.96	1.33	.45	.016	3.98	1.81	1.32	1.08	.88	.48	.092	30
45	6.36	2.37	2.04	1.51	.87	.24	-.045	3.45	1.54	1.14	.93	.78	.42	.098	45
60	5.15	1.80	1.69	1.38	.76	.23	-.067	3.10	1.42	1.05	.86	.73	.42	.111	60
75	4.49	2.09	1.84	1.53	.86	.28	-.012	3.66	1.79	1.27	1.05	.87	.47	.134	75
90	4.54	2.79	2.29	1.89	1.12	.40	.058	4.50	2.24	1.54	1.24	1.03	.54	.158	90
105	5.22	3.68	2.93	2.31	1.46	.52	.066	5.13	2.60	1.81	1.45	1.21	.63	.184	105
120	5.77	4.31	3.42	2.48	1.61	.57	.082	5.78	2.94	2.05	1.62	1.34	.68	.195	120
135	6.16	4.30	3.48	2.45	1.67	.55	.084	6.02	2.99	2.09	1.66	1.37	.67	.190	135
150	6.24	3.91	3.20	2.23	1.52	.47	.084	5.87	2.87	2.02	1.60	1.31	.64	.182	150
165	5.79	3.49	2.69	1.89	1.26	.39	.088	5.56	2.71	1.92	1.53	1.24	.60	.166	165
180	5.27	3.07	2.35	1.67	1.16	.38	.086	5.27	2.54	1.82	1.48	1.19	.59	.138	180
195	5.08	2.75	2.30	1.65	1.18	.41	.088	5.05	2.38	1.72	1.40	1.14	.56	.129	195
210	5.25	2.85	2.34	1.68	1.23	.46	.096	4.96	2.22	1.63	1.32	1.07	.52	.112	210
225	5.57	3.19	2.47	1.80	1.33	.53	.108	4.15	2.07	1.53	1.25	1.00	.50	.095	225
240	5.98	3.47	2.61	1.90	1.43	.57	.108	3.93	1.88	1.41	1.15	.92	.43	.078	240
255	6.52	3.62	2.70	1.95	1.48	.60	.110	3.50	1.62	1.24	1.02	.81	.38	.067	255
270	6.95	3.47	2.59	1.87	1.43	.55	.077	3.14	1.41	1.10	.90	.71	.34	.051	270
285	6.67	3.11	2.36	1.71	1.29	.49	.068	2.76	1.22	.96	.79	.62	.32	.045	285
300	6.27	2.99	2.30	1.67	1.24	.47	.049	2.83	1.12	.90	.72	.56	.29	.058	300
315	5.85	2.89	2.26	1.66	1.21	.47	.056	2.99	1.21	.96	.79	.63	.31	.043	315
330	6.19	3.57	2.66	1.98	1.49	.58	.082	3.61	1.53	1.15	.96	.76	.38	.058	330
345	7.25	4.42	3.24	2.41	1.83	.73	.114	4.75	2.13	1.54	1.23	1.00	.52	.096	345

ψ_{nom}, deg	Δp, lb/sq in., at - r/R = 0.40 x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	r/R = 0.25 x/c = 0.042	x/c = 0.158	x/c = 0.300	x/c = 0.600	x/c = 0.910	ψ_{nom}, deg
0	3.02	1.43	.91	.47	.204	.43	.23	.13	.10	.001	0
15	2.37	1.24	.81	.49	.165	1.22	.58	.34	.18	.035	15
30	2.21	1.09	.69	.40	.142	1.34	.63	.34	.16	.014	30
45	1.72	.83	.56	.36	.141	.97	.47	.27	.14	.014	45
60	1.91	.90	.61	.39	.148	1.06	.53	.31	.16	.031	60
75	2.26	1.09	.76	.45	.167	1.30	.66	.38	.19	.041	75
90	2.74	1.30	.87	.51	.186	1.66	.84	.48	.23	.045	90
105	3.09	1.50	.99	.58	.200	1.98	.99	.58	.28	.059	105
120	3.33	1.68	1.10	.63	.211	2.21	1.12	.67	.32	.066	120
135	3.44	1.82	1.18	.66	.222	2.28	1.21	.73	.34	.078	135
150	3.42	1.80	1.16	.65	.209	2.37	1.24	.74	.34	.082	150
165	3.26	1.71	1.10	.62	.191	2.31	1.20	.72	.34	.087	165
180	3.07	1.62	1.04	.58	.184	2.06	1.06	.65	.31	.073	180
195	2.79	1.46	.93	.54	.178	1.48	.98	.52	.26	.077	195
210	2.43	1.29	.82	.47	.166	1.19	1.22	.34	.21	.089	210
225	2.03	1.10	.69	.40	.160	.35	.54	.71	.10	.068	225
240	1.42	1.11	.61	.34	.155	.15	.19	.35	.17	.038	240
255	.82	.95	.82	.29	.132	.06	.08	.07	.14	.004	255
270	.64	.64	.51	.44	.117	.05	.05	.04	.10	.008	270
285	.61	.49	.28	.33	.173	.07	.04	.01	.06	.075	285
300	.55	.32	.16	.20	.122	.09	.06	.03	.05	.063	300
315	.86	.45	.31	.22	.124	.20	.10	.06	.07	.011	315
330	1.21	.62	.40	.29	.115	.28	.17	.10	.08	.008	330
345	1.72	.87	.57	.37	.173	.36	.21	.13	.10	.006	345

TABLE 132 - Continued

FLIGHT 94, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 30)

(b) Section aerodynamic loading

ψ_{nom}, deg	Section aerodynamic loading, l, lb/in., at -						
	r/R = 0.25	r/R = 0.40	r/R = 0.55	r/R = 0.75	r/R = 0.85	r/R = 0.90	r/R = 0.95
0	2.14	14.07	19.83	32.22	38.85	36.72	30.91
15	5.35	12.33	18.36	27.23	29.18	28.97	24.38
30	5.42	10.80	13.76	22.27	20.63	19.65	17.05
45	4.17	8.82	12.04	15.74	11.35	9.76	8.96
60	4.80	9.63	11.34	13.04	9.42	7.89	9.29
75	5.83	11.50	13.52	14.04	13.10	12.40	15.91
90	7.32	13.42	16.23	17.68	19.56	20.08	22.35
105	8.80	15.23	18.87	22.38	26.28	26.17	24.56
120	10.02	16.63	20.97	25.24	28.88	25.62	21.88
135	10.62	17.53	21.37	25.68	26.05	22.88	19.64
150	10.88	17.31	20.55	23.74	20.25	17.56	15.39
165	10.64	16.44	19.39	20.60	16.03	13.64	11.77
180	9.55	15.52	18.44	18.63	14.75	12.38	11.22
195	7.70	14.12	17.55	18.22	15.87	13.82	12.50
210	6.75	12.44	16.60	19.00	17.99	16.51	15.12
225	4.84	10.57	15.20	20.72	21.37	20.27	18.44
240	2.97	8.92	13.84	22.21	24.33	23.37	21.03
255	1.32	8.04	12.15	23.30	27.04	26.27	23.74
270	.93	6.94	10.75	22.66	28.14	29.18	26.71
285	.86	5.35	9.46	20.74	24.26	26.40	26.50
300	.87	3.64	8.93	19.83	23.32	24.43	23.91
315	1.12	5.00	9.61	19.24	22.99	24.38	24.20
330	1.61	6.56	11.75	22.78	27.99	28.09	27.55
345	2.04	9.06	15.78	27.93	33.10	33.54	31.39

(c) Harmonic analysis of blade root motions

Pitch motion			Flap motion			Lag motion		
n	$A_{n,s}$, deg	$B_{n,s}$, deg	n	$a_{n,s}$, deg	$b_{n,s}$, deg	n	E_n, deg	F_n, deg
0	7.691		0	4.129		0	-1.095	
1	.708	-4.563	1	1.142	-1.316	1	-.091	-.162
2	-.027	-.123	2	.298	.371	2	-.030	.000
3	.182	.209	3	-.182	-.053	3	.000	.025
4	.195	-.027	4	-.036	.057	4	.010	-.020
5	.045	.041	5	-.059	-.008	5	-.010	.005
6	-.005	.036	6	.006	-.018	6	.007	-.007
7	-.036	.009	7	.006	-.022	7	.002	-.007
8	.005	.014	8	.012	.022	8	-.005	-.007
9	-.027	.023	9	.008	.004	9	.010	.000
10	-.068	.023	10	.000	.002	10	.000	-.010

$$\theta_s = A_0 + \sum_{n=1}^{10} \left(A_{n,s} \cos n\psi_{nom} + B_{n,s} \sin n\psi_{nom} \right)$$

$$\beta_s = a_0 + \sum_{n=1}^{10} \left(a_{n,s} \cos n\psi_{nom} + b_{n,s} \sin n\psi_{nom} \right)$$

$$\zeta = E_0 + \sum_{n=1}^{10} \left(E_n \cos n\psi_{nom} + F_n \sin n\psi_{nom} \right)$$

TABLE 132 - Continued

FLIGHT 94, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 30)

(d) Harmonic analysis of section aerodynamic loading

r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.	r/R	n	L_n, lb/in.	M_n, lb/in.
.25	0	5.273		.75	0	21.463		.95	0	20.182	
.25	1	-3.241	3.314	.75	1	1.098	-1.002	.95	1	4.372	-3.563
.25	2	1.180	-.565	.75	2	2.162	-2.161	.95	2	-1.390	-4.000
.25	3	.150	.284	.75	3	4.625	1.401	.95	3	4.943	-1.196
.25	4	-.100	.411	.75	4	1.081	.525	.95	4	2.478	.710
.25	5	-.071	.321	.75	5	.506	-.082	.95	5	.714	.198
.25	6	-.214	.049	.75	6	.254	-.034	.95	6	-.494	-.104
.25	7	-.245	.190	.75	7	.210	-.147	.95	7	-.276	-.211
.25	8	-.187	.005	.75	8	.107	-.134	.95	8	.120	.031
.25	9	-.165	.025	.75	9	.070	-.134	.95	9	-.042	-.219
.25	10	-.107	-.067	.75	10	.212	.014	.95	10	.151	-.213
.40	0	11.245		.85	0	22.530					
.40	1	-3.245	3.737	.85	1	3.235	-3.053				
.40	2	1.967	-.434	.85	2	.782	-3.988				
.40	3	1.581	.397	.85	3	7.217	.360				
.40	4	.924	.222	.85	4	2.130	1.095				
.40	5	.388	.034	.85	5	.547	-.403				
.40	6	.078	.255	.85	6	.415	.154				
.40	7	.134	.171	.85	7	.265	.103				
.40	8	.239	.064	.85	8	.350	-.181				
.40	9	.224	-.039	.85	9	.214	-.220				
.40	10	.261	-.096	.85	10	.278	.063				
.55	0	15.262		.90	0	21.666					
.55	1	-2.608	2.863	.90	1	4.317	-4.043				
.55	2	2.490	-.872	.90	2	-.084	-4.240				
.55	3	2.515	.172	.90	3	6.817	-.016				
.55	4	.890	.445	.90	4	2.509	1.358				
.55	5	.521	.099	.90	5	.535	-.015				
.55	6	.310	.152	.90	6	-.053	-.088				
.55	7	.177	.066	.90	7	.159	.057				
.55	8	.171	.044	.90	8	.289	.014				
.55	9	.137	.092	.90	9	.017	-.299				
.55	10	.025	.087	.90	10	.100	-.157				

$$l = L_0 + \sum_{n=1}^{10} \left(L_n \cos n\psi_{nom} + M_n \sin n\psi_{nom} \right)$$

TABLE 132 - Concluded

FLIGHT 94, PULL-OUT STARTING FROM AUTOROTATION

(SEE FIG. 30)

(e) Flapwise bending moment

ψ_{nom}, deg	Flapwise bending moment, in-lb, at -							
	r/R = 0.150	r/R = 0.275	r/R = 0.375	r/R = 0.450	r/R = 0.575	r/R = 0.650	r/R = 0.800	r/R = 0.925
0	1061	569	-1555	-1210	-3132	-4817		
15	3136	644	-1781	-1525	-4232	-5513		
30	1232	413	-1528	-1133	-3449	-5205		
45	-580	-800	-2387	-1343	-1742	-2349		
60	-67	-1155	-2432	-1448	-2948	-2399		
75	1221	-908	-2911	-2192	-3062	-2638		
90	58	-875	-2757	-1868	-3176	-3802		
105	879	-932	-3101	-2240	-3713	-4946		
120	1187	-1097	-3390	-3032	-4206	-4707		
135	218	-2145	-3381	-2316	-4347	-6041		
150	343	-1947	-3851	-3270	-5315	-6588		
165	879	-1757	-4421	-4472	-6872	-7663		
180	491	-2508	-5062	-5073	-6547	-7513		
195	-615	-2780	-4737	-4616	-6327	-7185		
210	788	-1832	-3878	-3814	-5676	-6797		
225	1996	124	-2170	-2383	-4065	-5404		
240	2657	1097	-443	326	-1645	-3494		
255	3524	1922	868	2005	537	-449		
270	3079	2368	1627	2835	1840	1869		
285	2121	1914	1736	3341	2790	2835		
300	1711	1889	1338	2663	2068	2198		
315	2213	1559	732	1881	256	-469		
330	1529	1262	72	593	-1619	-2678		
345	1073	404	-1103	-94	-2446	-4319		

(f) Chordwise bending moment

ψ_{nom}, deg	Chordwise bending moment, in-lb, at -			
	r/R = 0.150	r/R = 0.375	r/R = 0.575	r/R = 0.825
0	-15624	-10240	-1503	
15	-16145	-11982	-4431	
30	-16194	-10289	-4735	
45	-17301	-9214	1169	
60	-16796	-4298	3713	
75	-12596	-3451	3329	
90	-10528	-3810	2097	
105	-10333	-4803	1169	
120	-10170	-5877	1105	
135	-7728	-4900	193	
150	-6426	-2800	1937	
165	-5026	472	5857	
180	-4000	5779	8865	
195	-3512	5193	11425	
210	-4619	3940	9393	
225	-5107	-1693	4337	
240	-9666	-8580	17	
255	-12742	-13008	-4143	
270	-16275	-14343	-5023	
285	-16715	-13887	-3295	
300	-15087	-8791	-1455	
315	-17659	-5356	5153	
330	-18066	-4103	7553	
345	-15738	-5275	3265	

(g) Blade torsional moment and pitch-horn load

ψ_{nom}, deg	Torsional moment, in-lb, at -		Pitch-horn load, lb
	r/R = 0.15	r/R = 0.50	
0	4443	2784	
15	5209	3065	
30	3723	2301	
45	2050	647	
60	1850	797	
75	2746	1396	
90	3571	2126	
105	4032	2465	
120	4134	2432	
135	3924	2251	
150	3286	1655	
165	2284	866	
180	1299	389	
195	1080	48	
210	999	21	
225	1789	380	
240	2110	651	
255	2075	757	
270	1969	992	
285	1809	807	
300	1734	635	
315	1796	609	
330	1791	561	
345	2560	1369	

Figure 1.- Test helicopter. L-61-4196

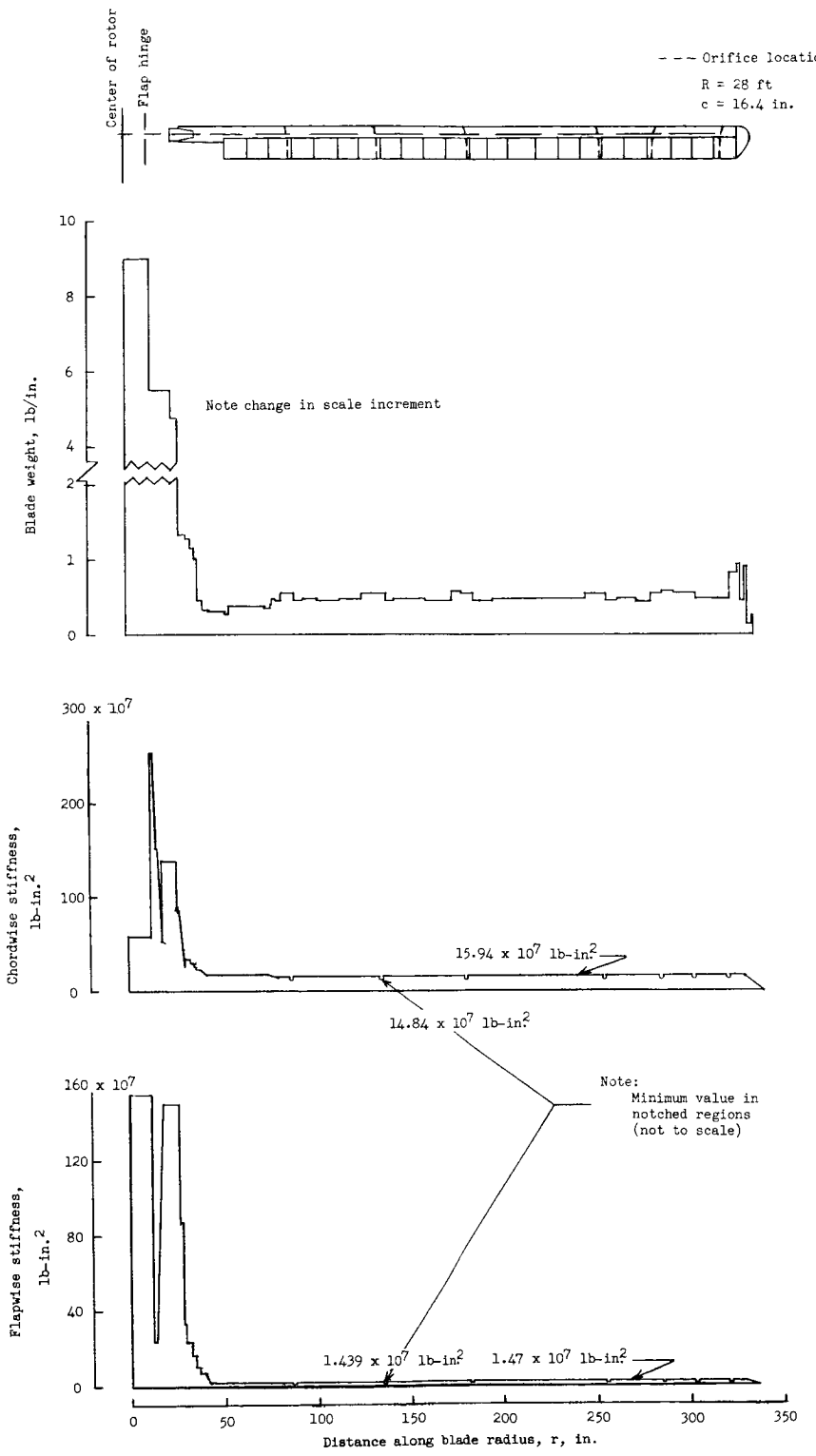

Figure 2.- Weight and stiffness distributions.

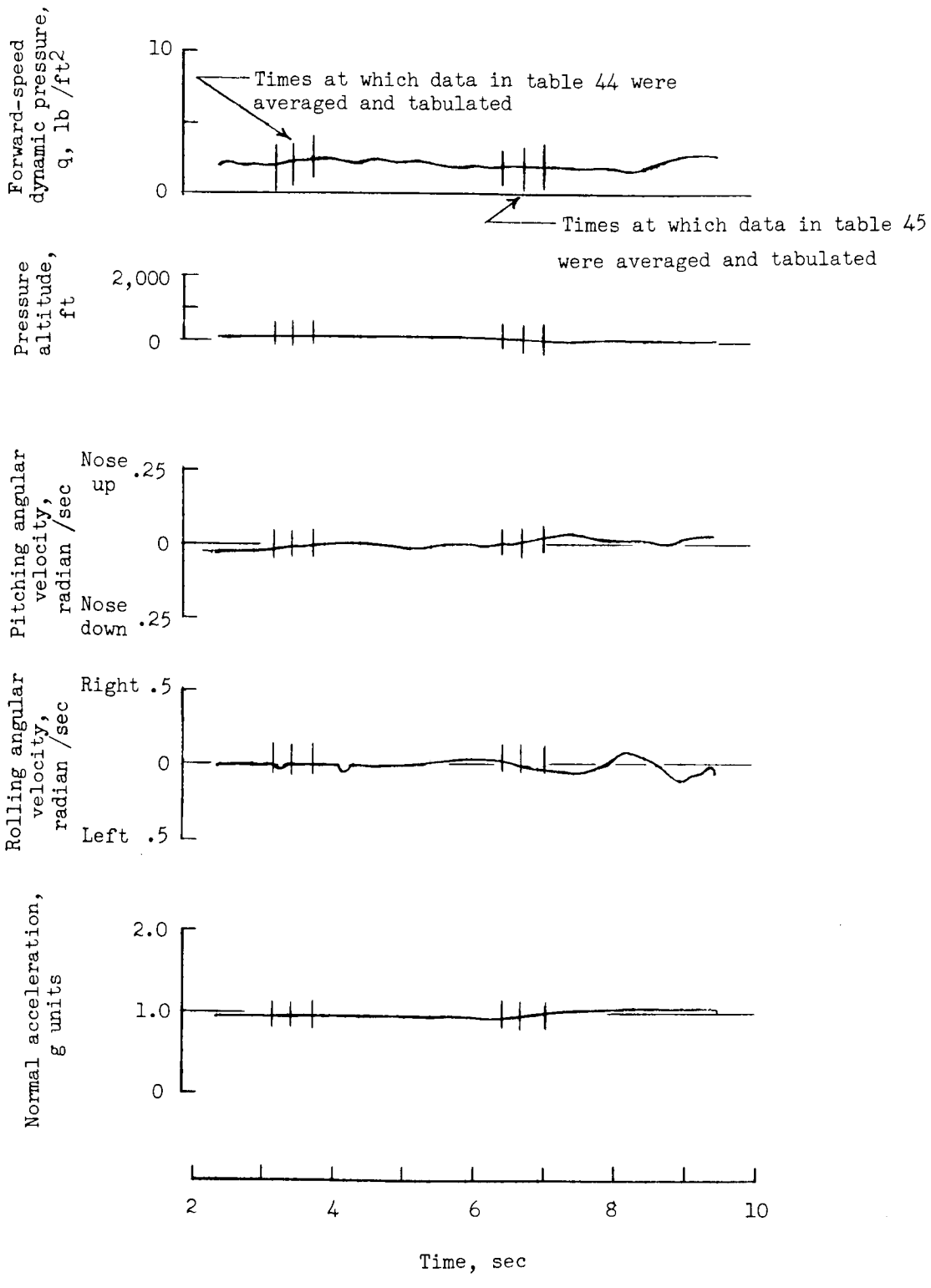

Figure 3.- Flight 41 time history, landing approach and flare.

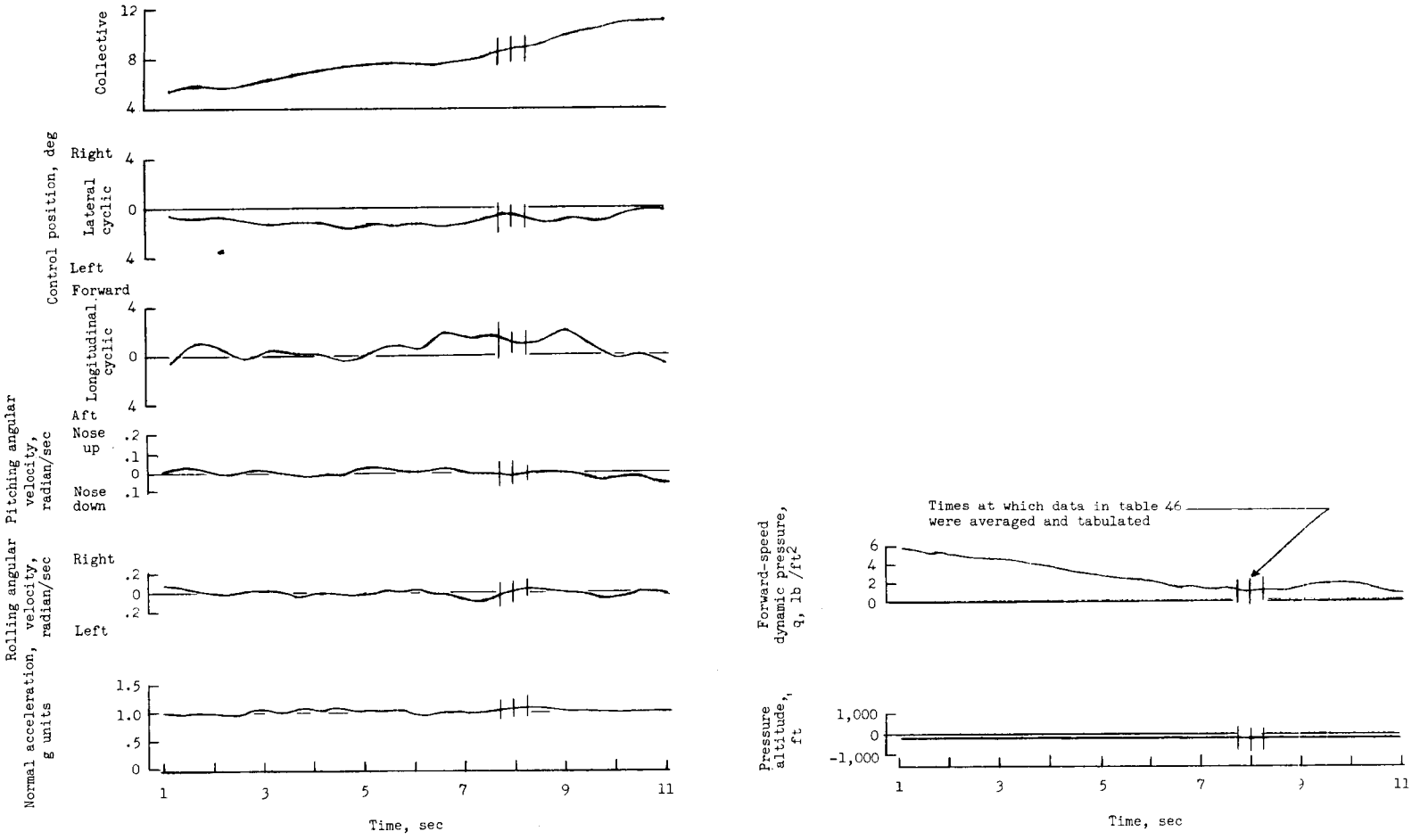

Figure 4.- Flight 42 time history, landing approach and flare.

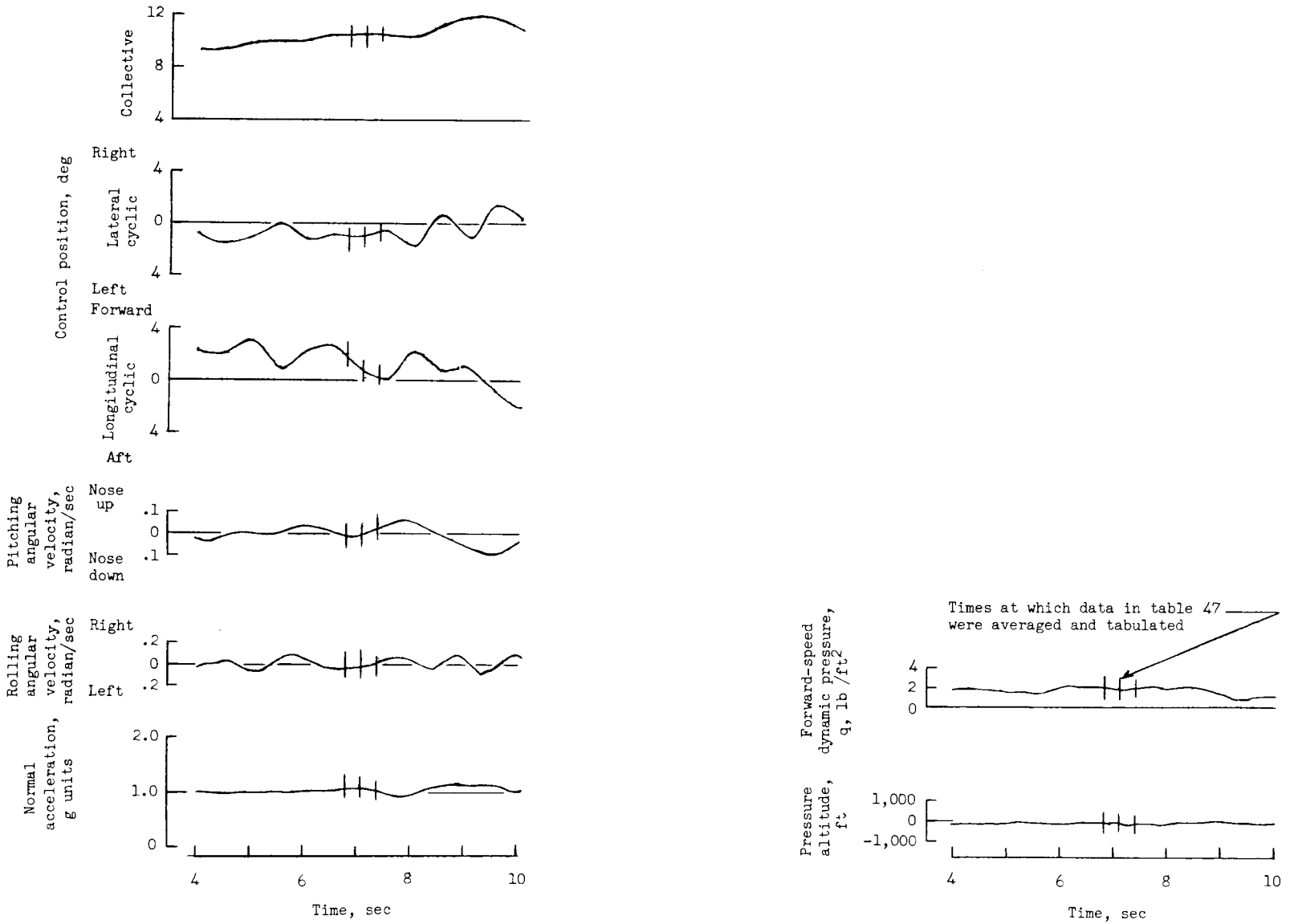

Figure 5.- Flight 43 time history, landing approach and flare.

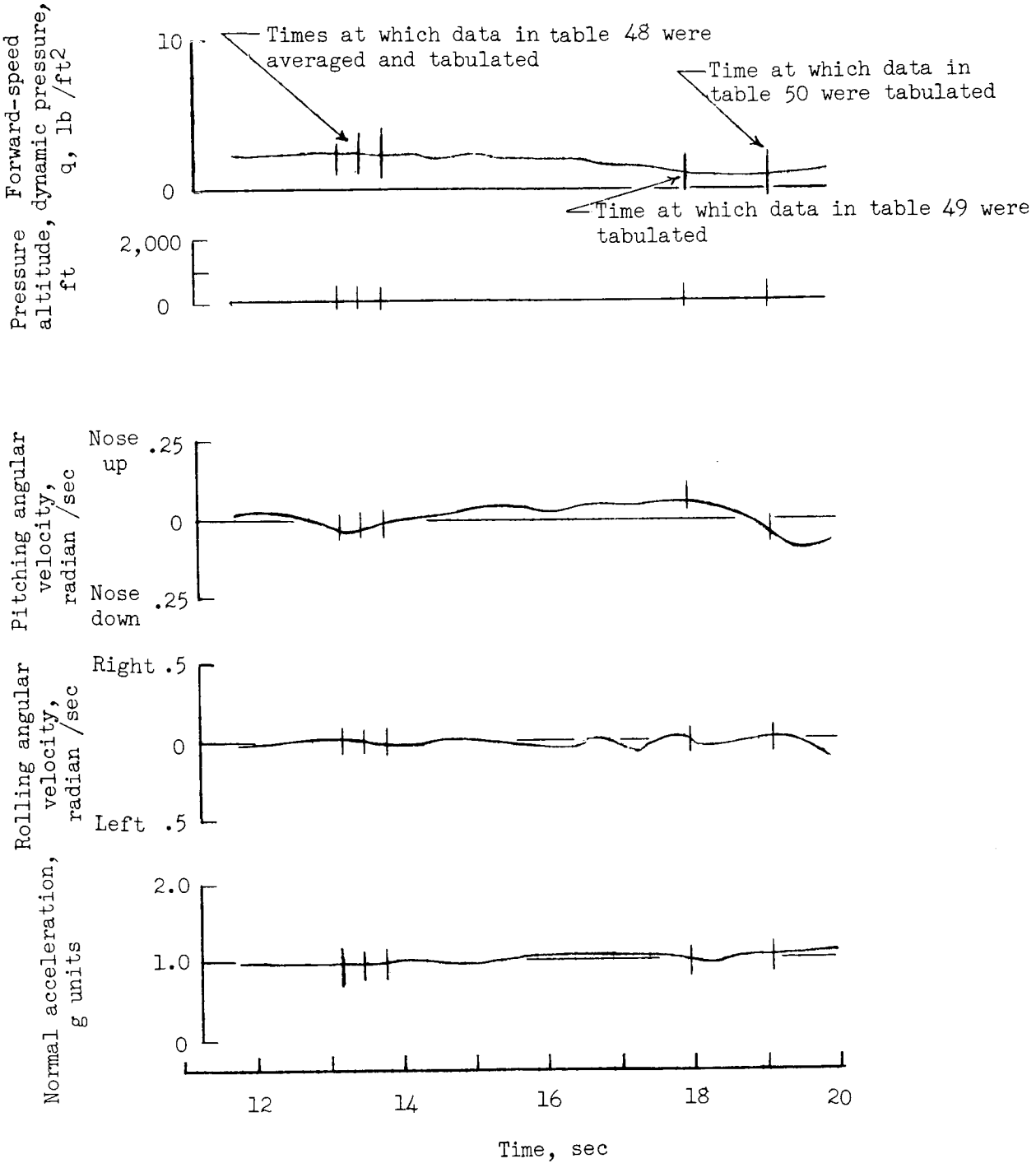

Figure 6.- Flight 44 time history, landing approach and flare.

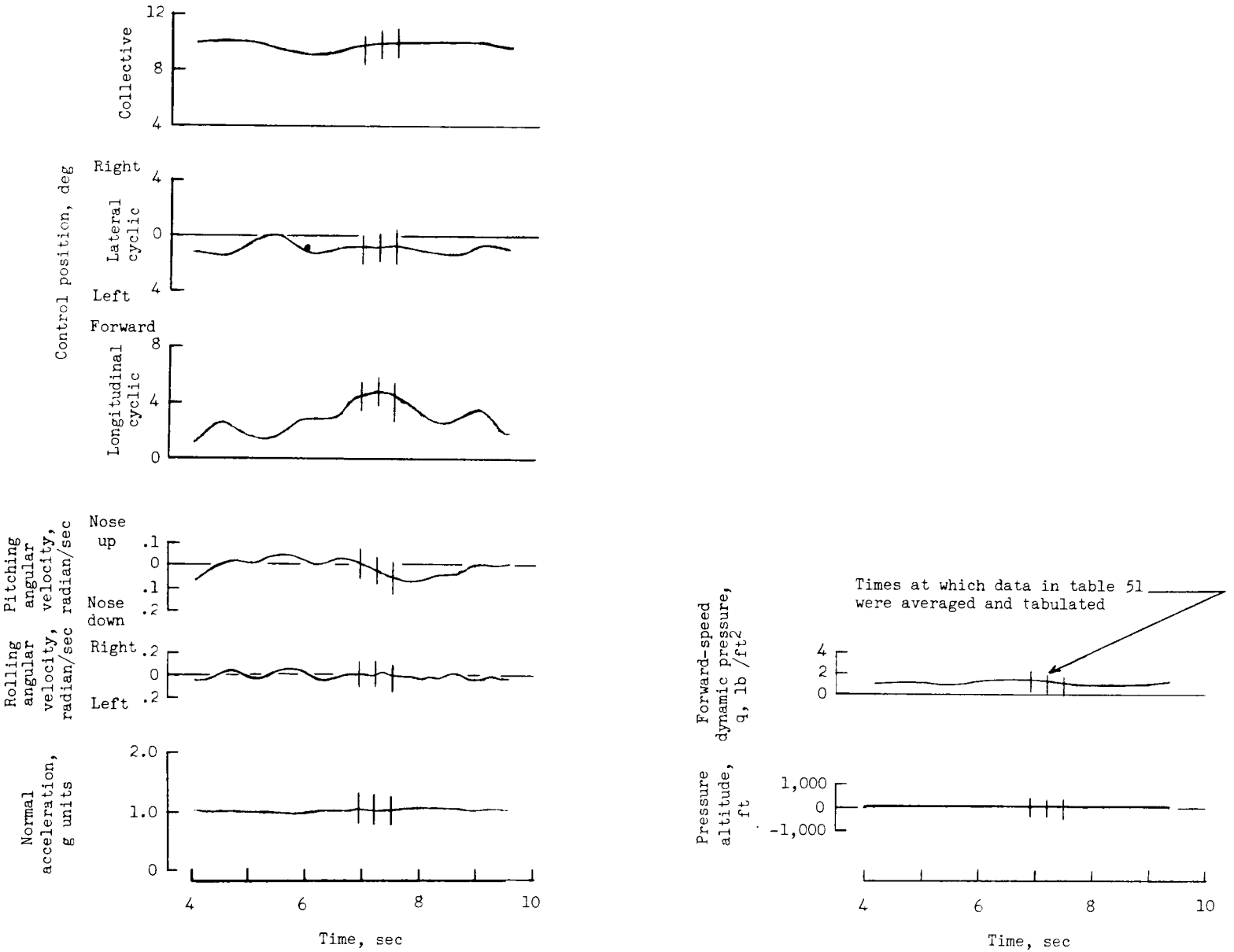

Figure 7.- Flight 45 time history, landing approach and flare.

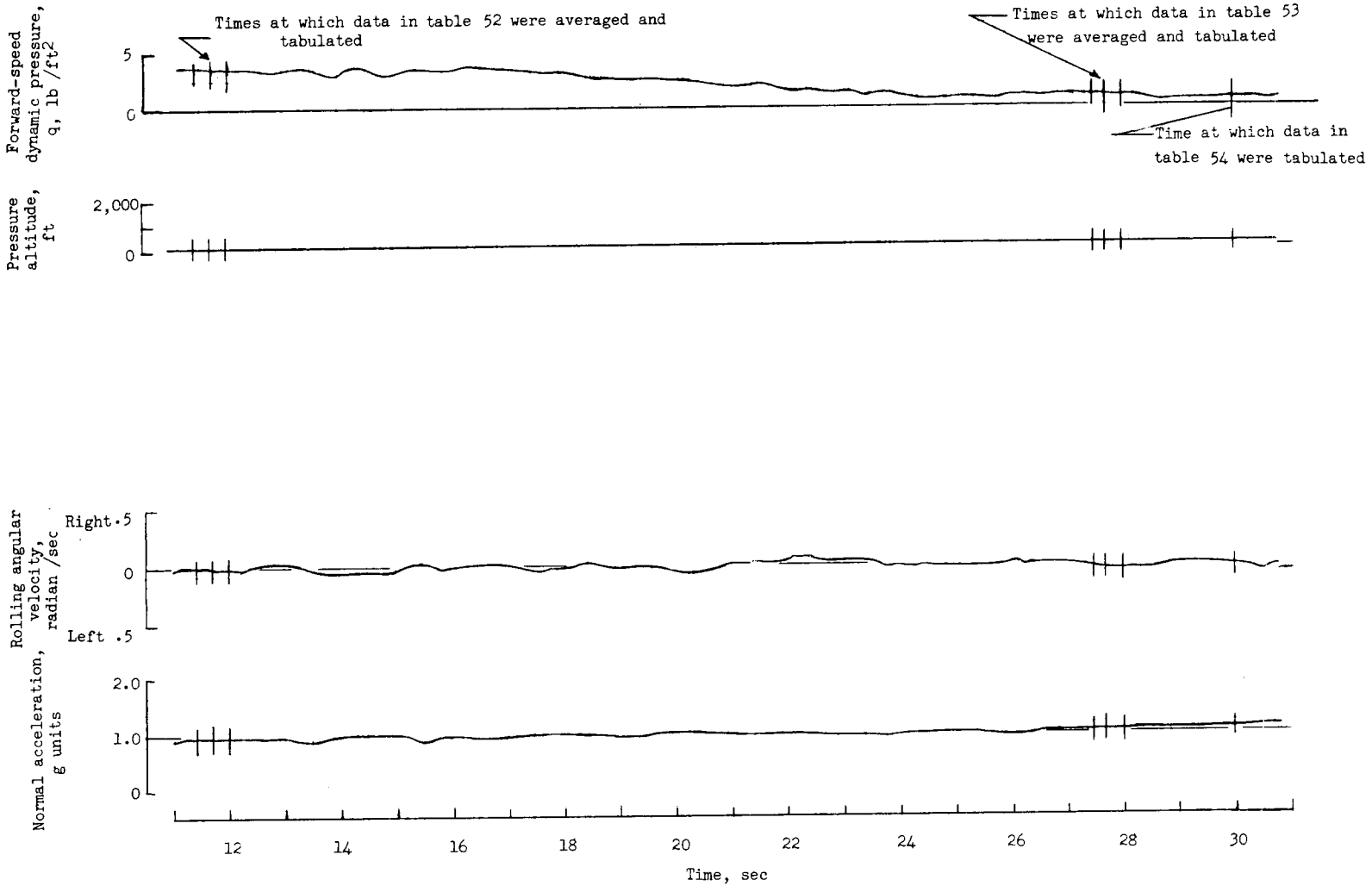

Figure 8.- Flight 46 time history, landing approach and flare.

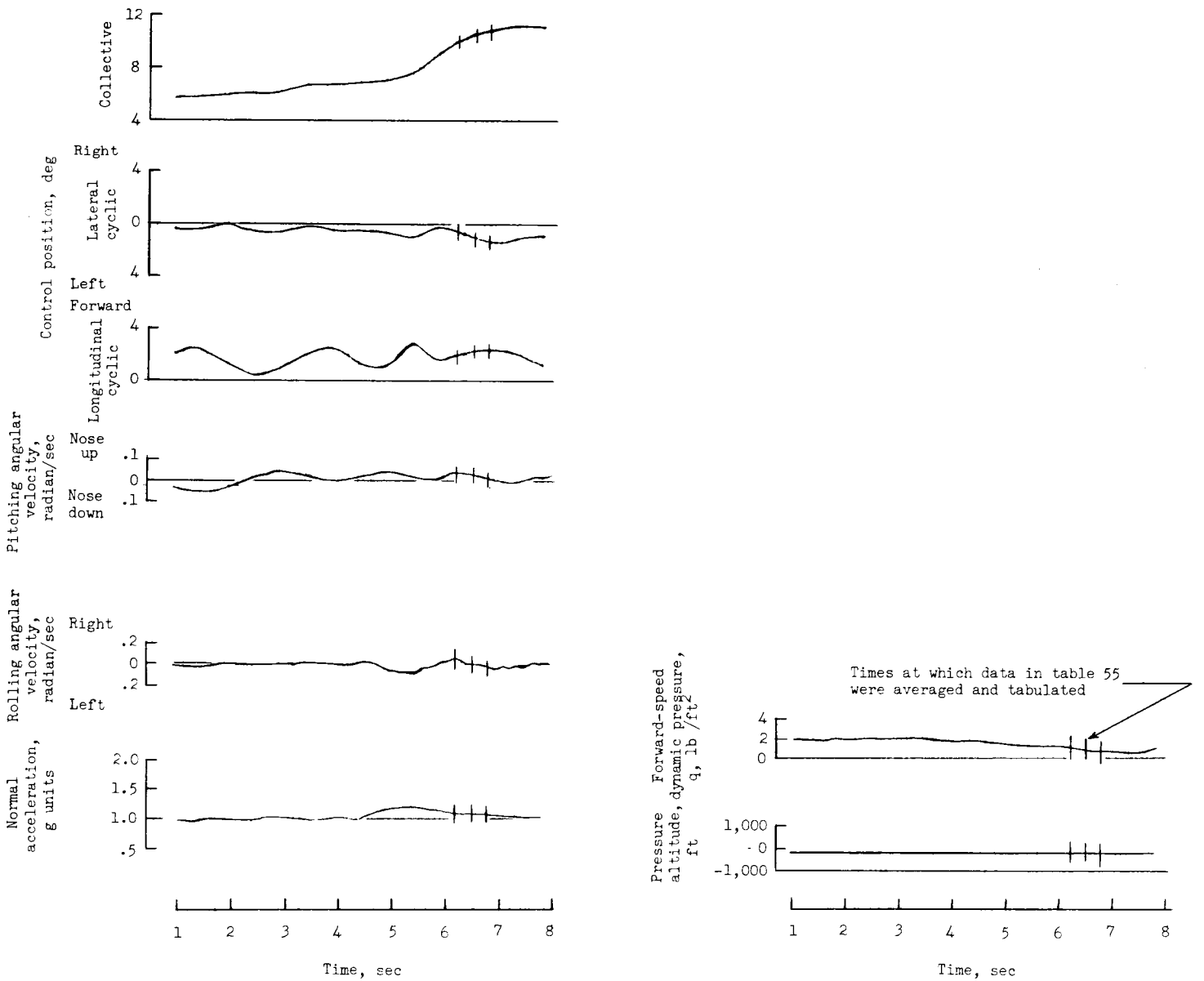

Figure 9.- Flight 47 time history, landing approach and flare.

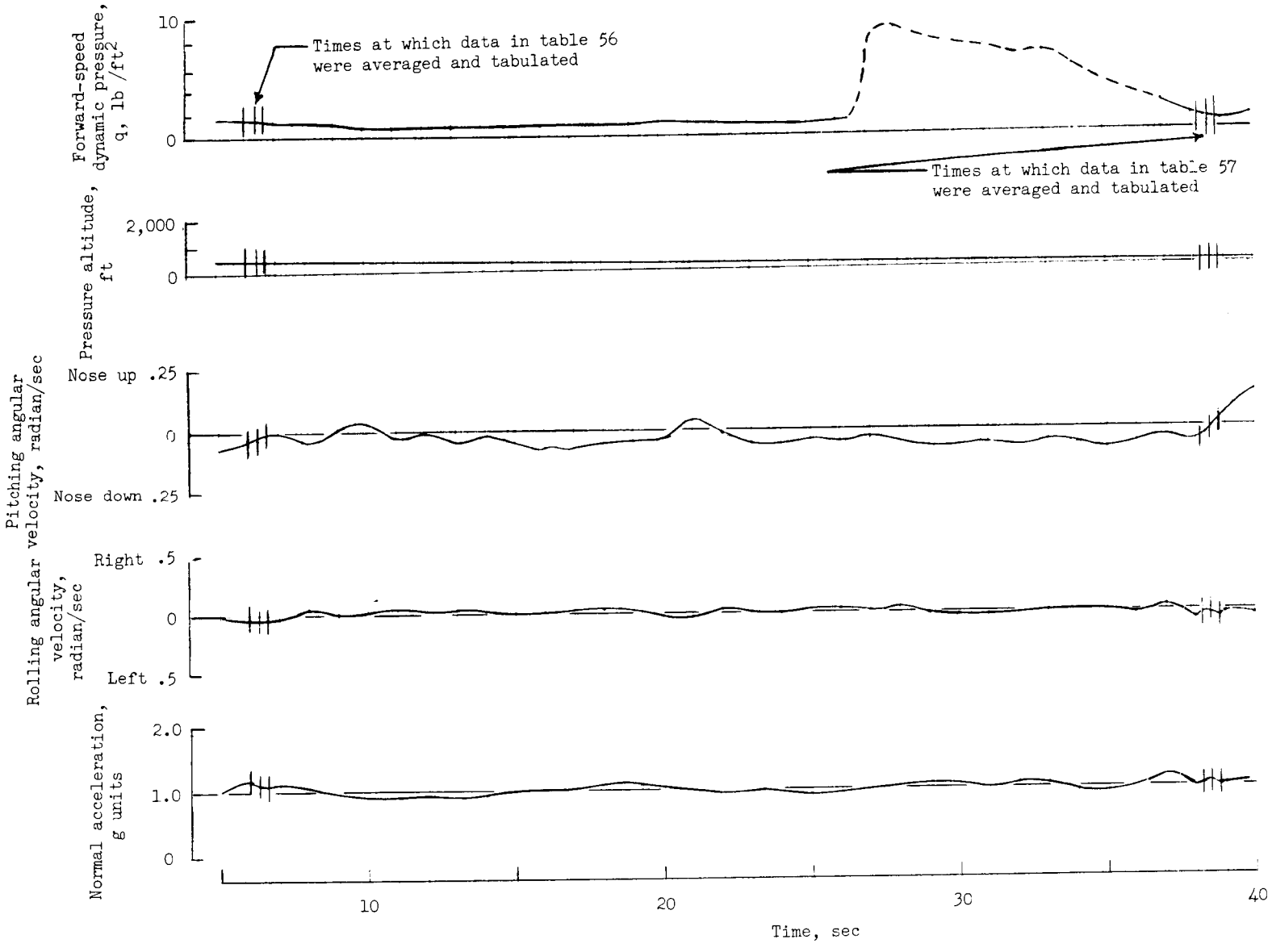

Figure 10.- Flight 48 time history, landing approach and flare.

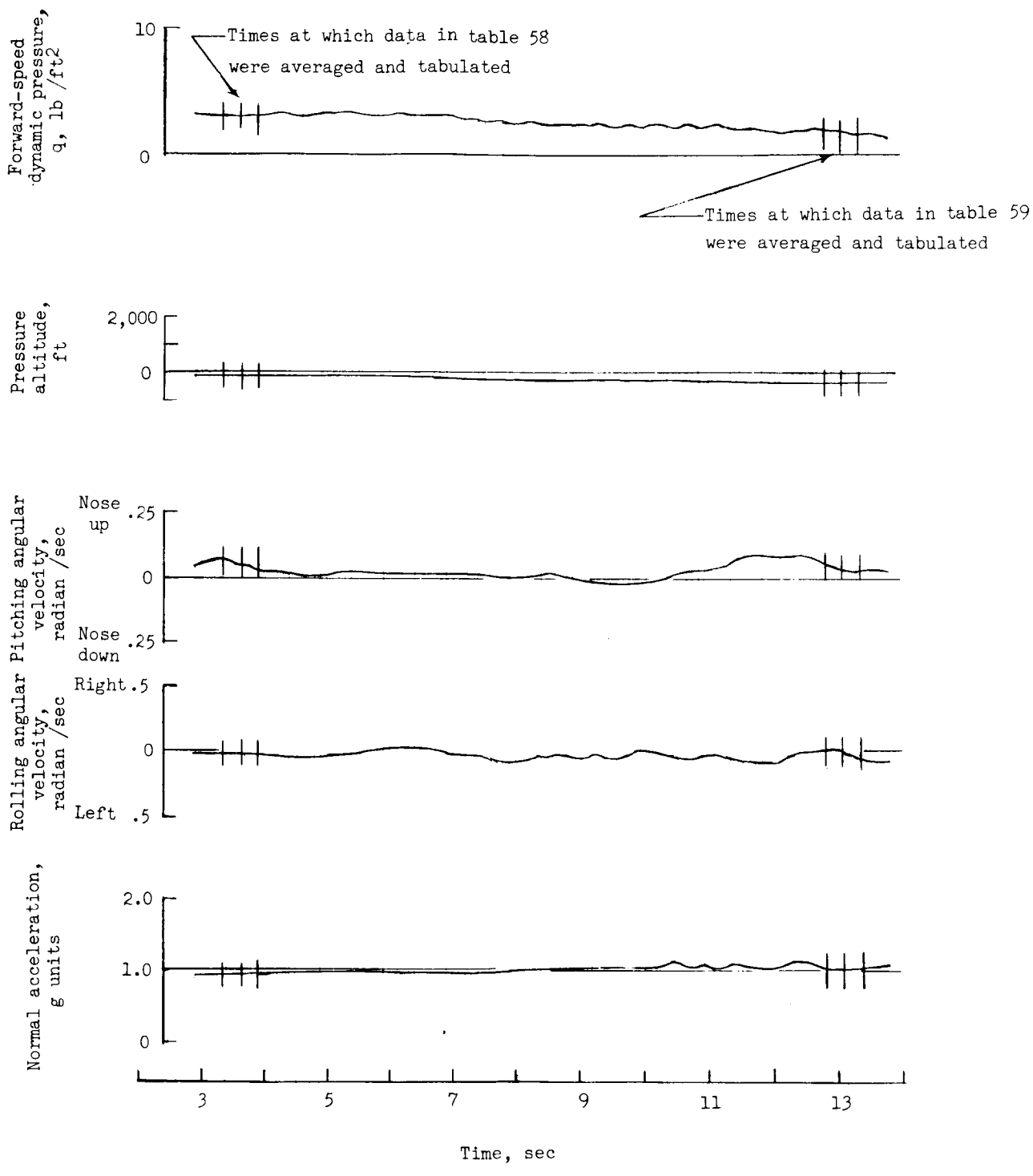

Figure 11.- Flight 49 time history, landing approach and flare.

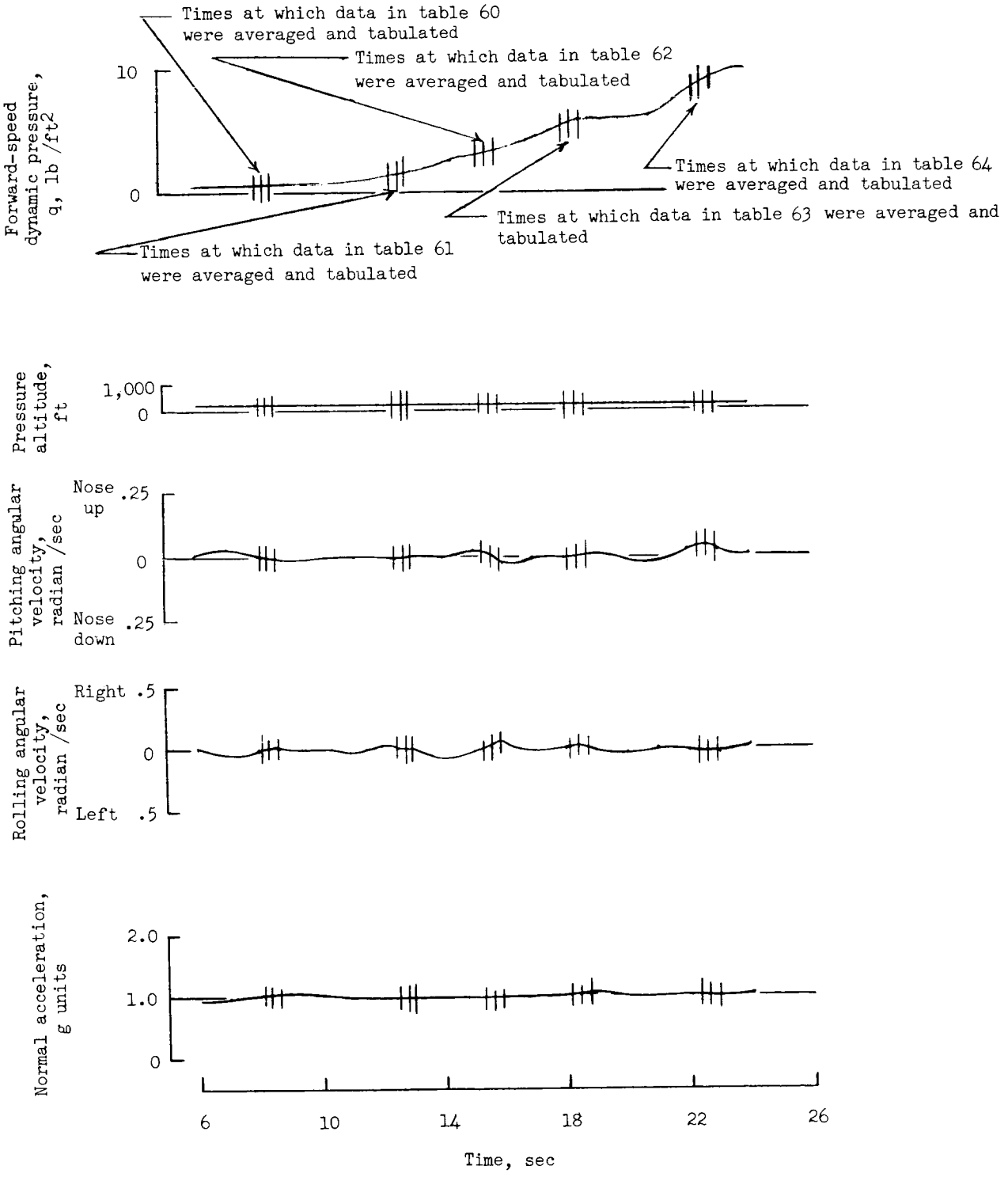

Figure 12.- Flight 50 time history, level accelerating flight out of ground effect.

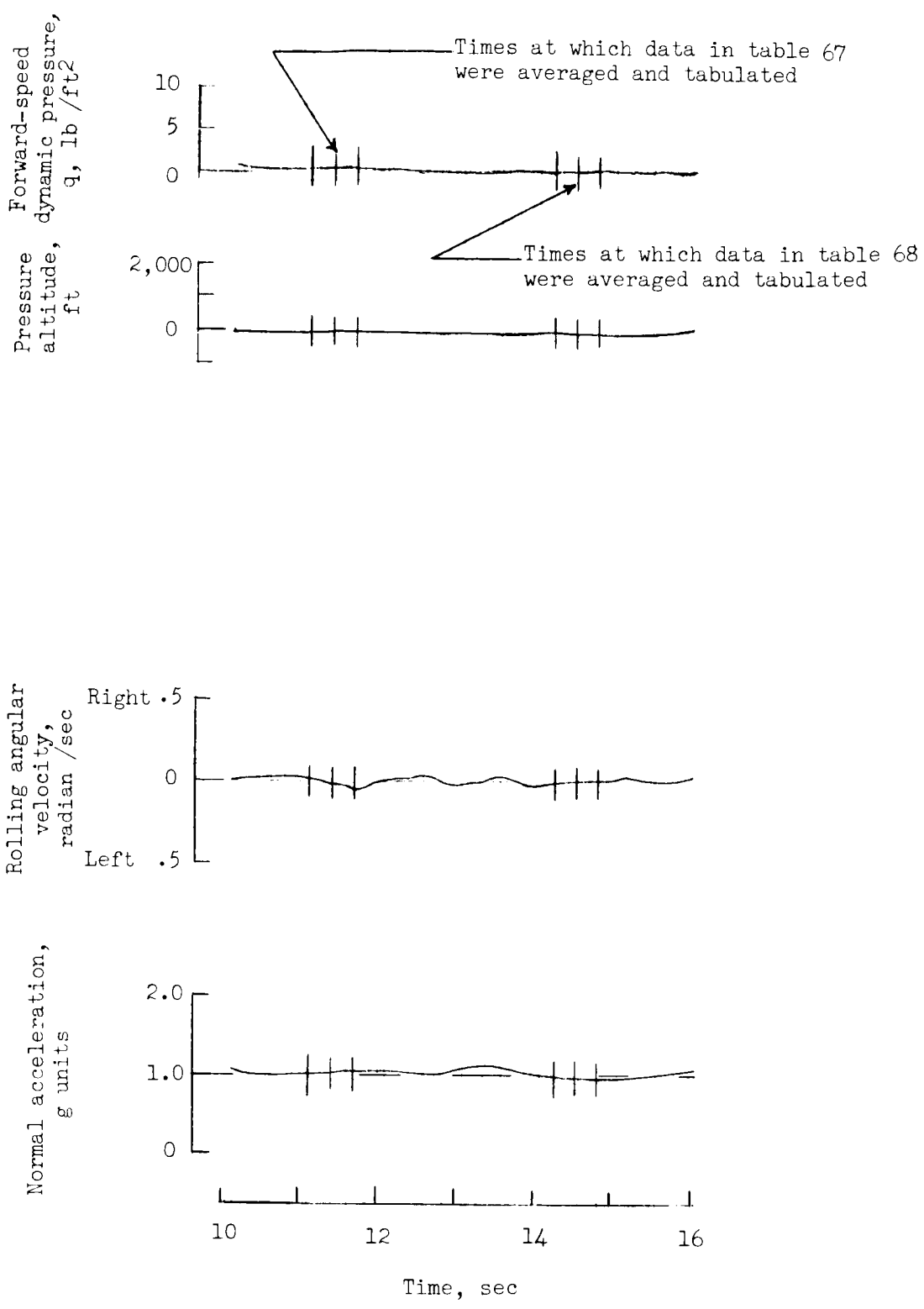

Figure 13.- Flight 53 time history, level decelerating flight.

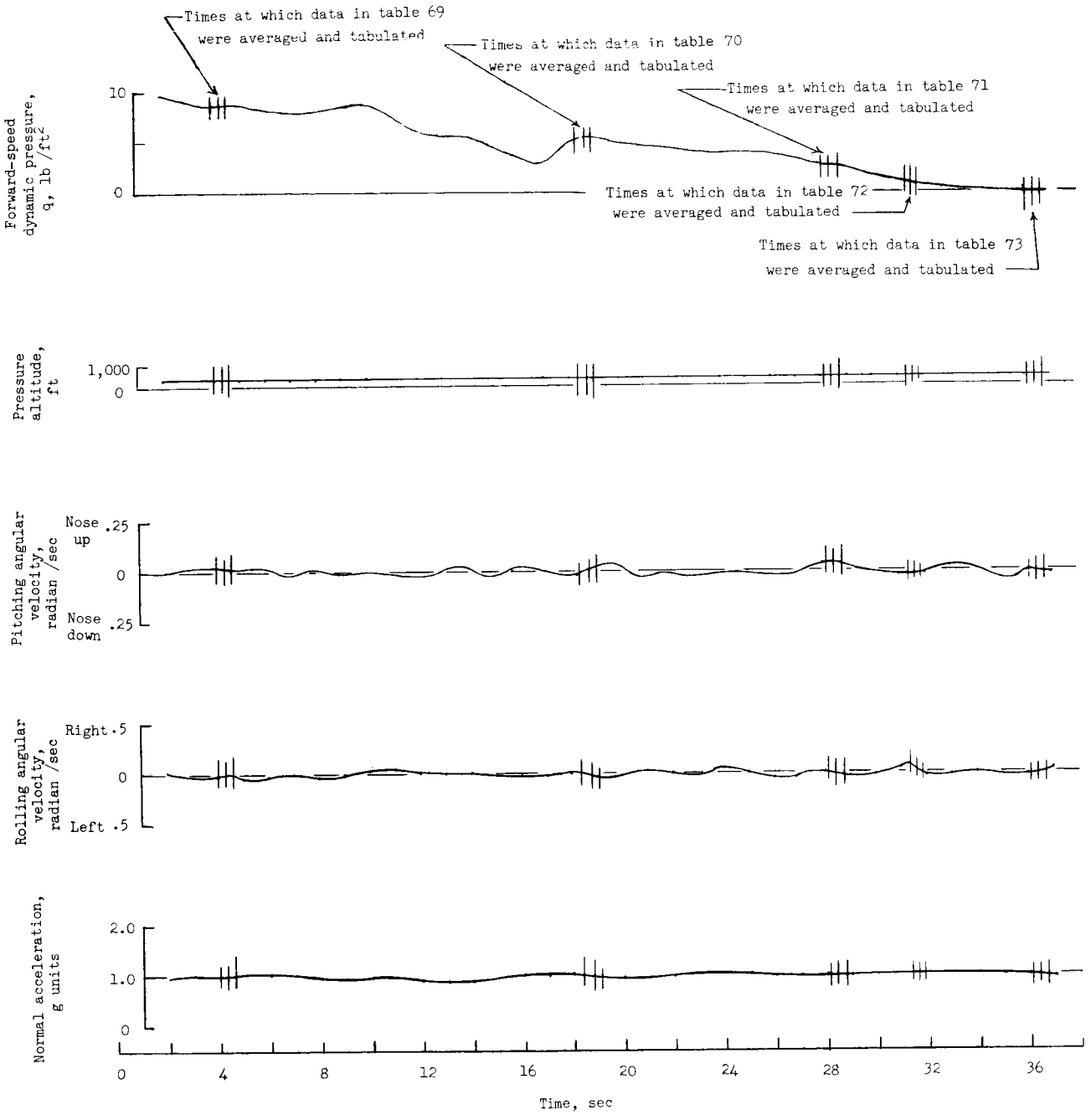

Figure 14.- Flight 54 time history, level decelerating flight.

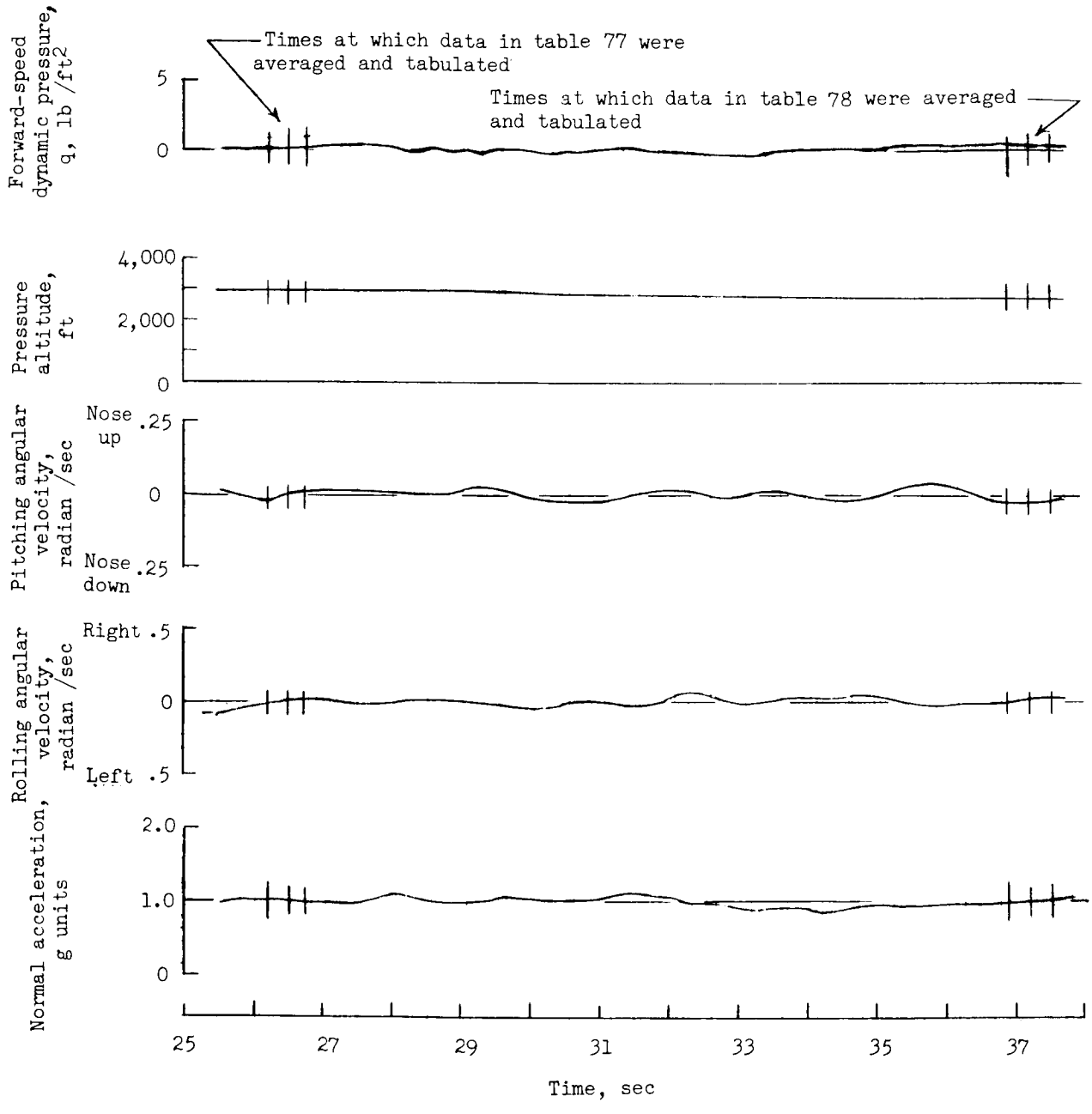

Figure 15.- Flight 58 time history, partial-power descent.

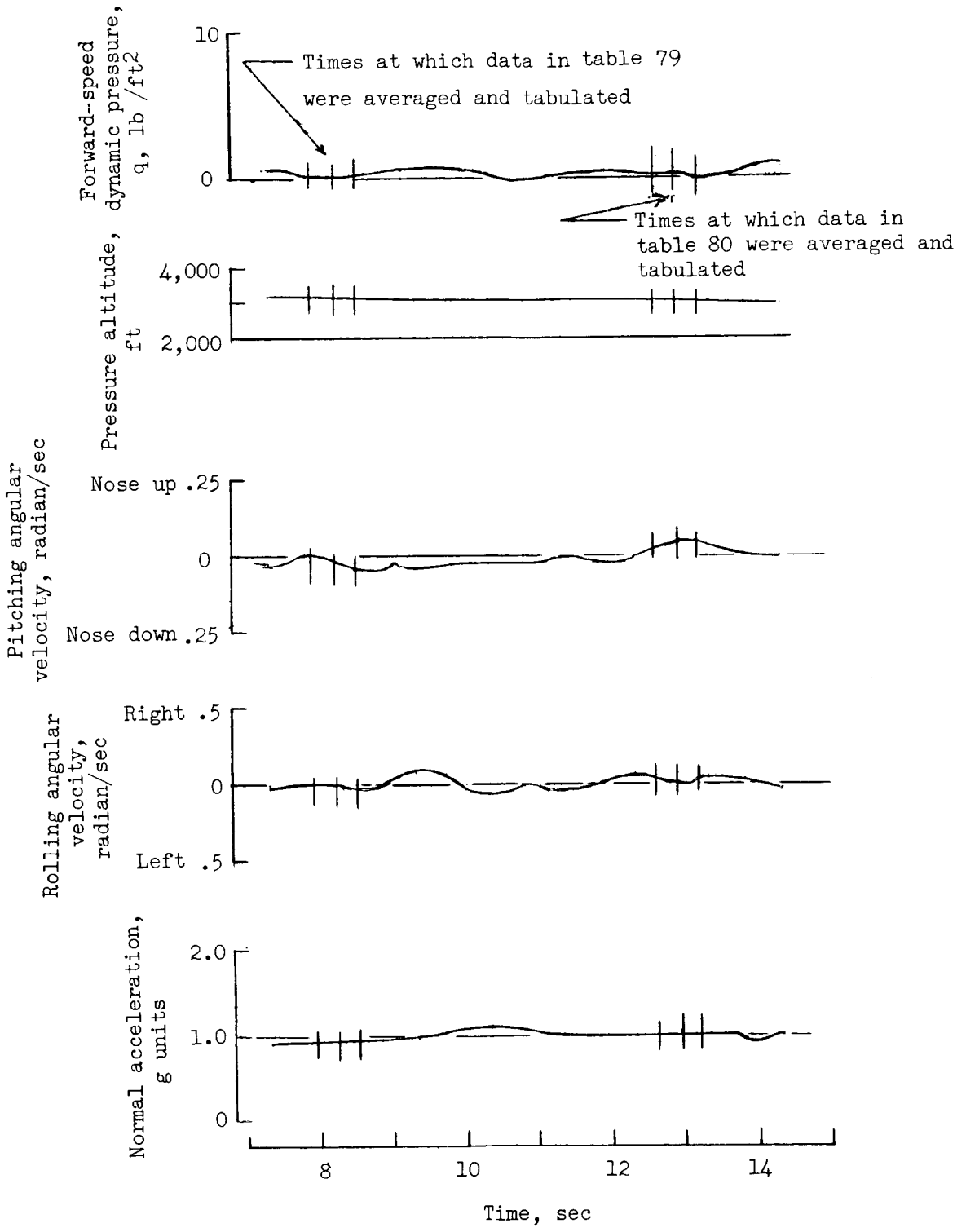

Figure 16.- Flight 59 time history, partial-power descent.

C-8.

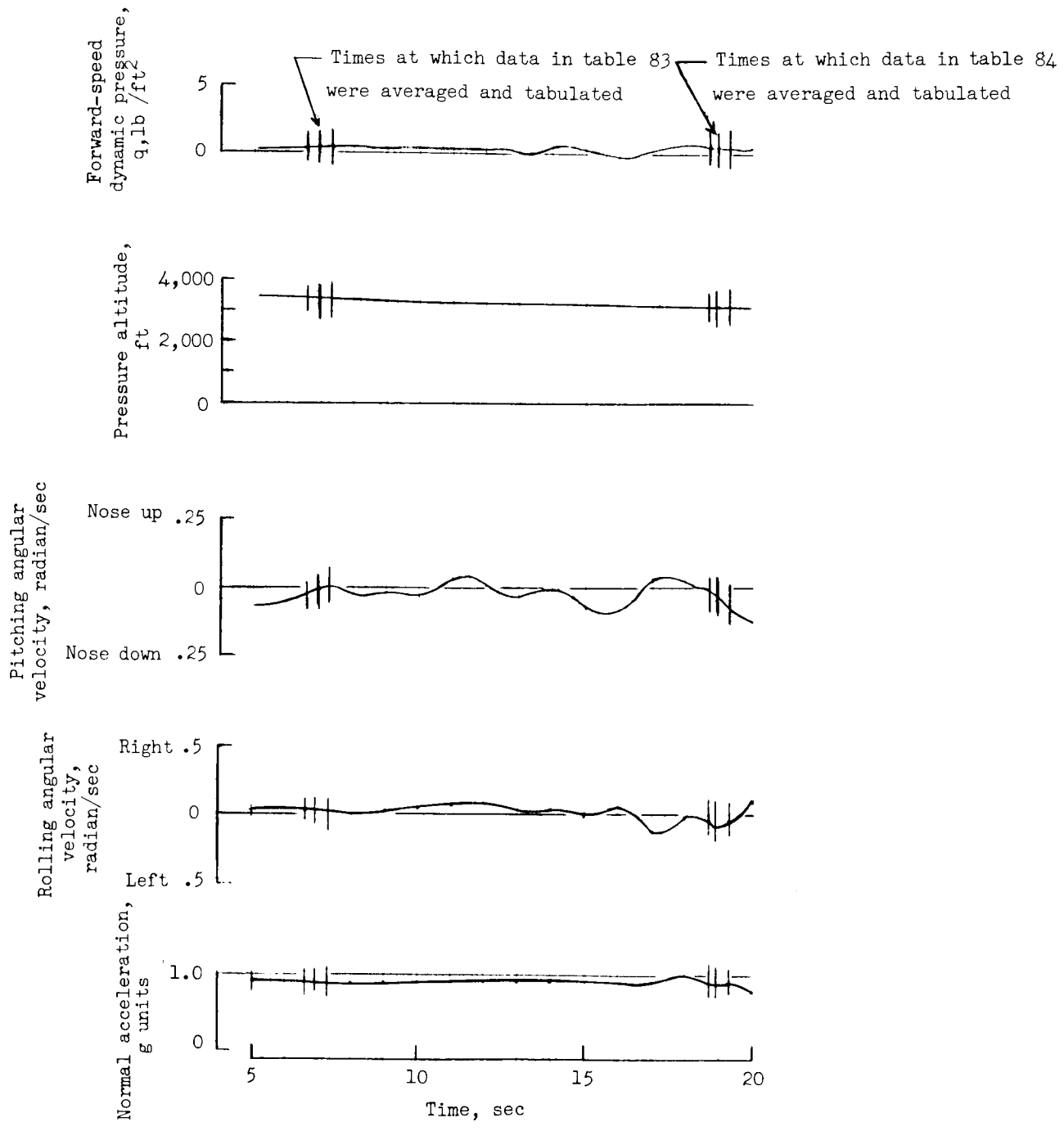

Figure 17.- Flight 62 time history, partial-power descent.

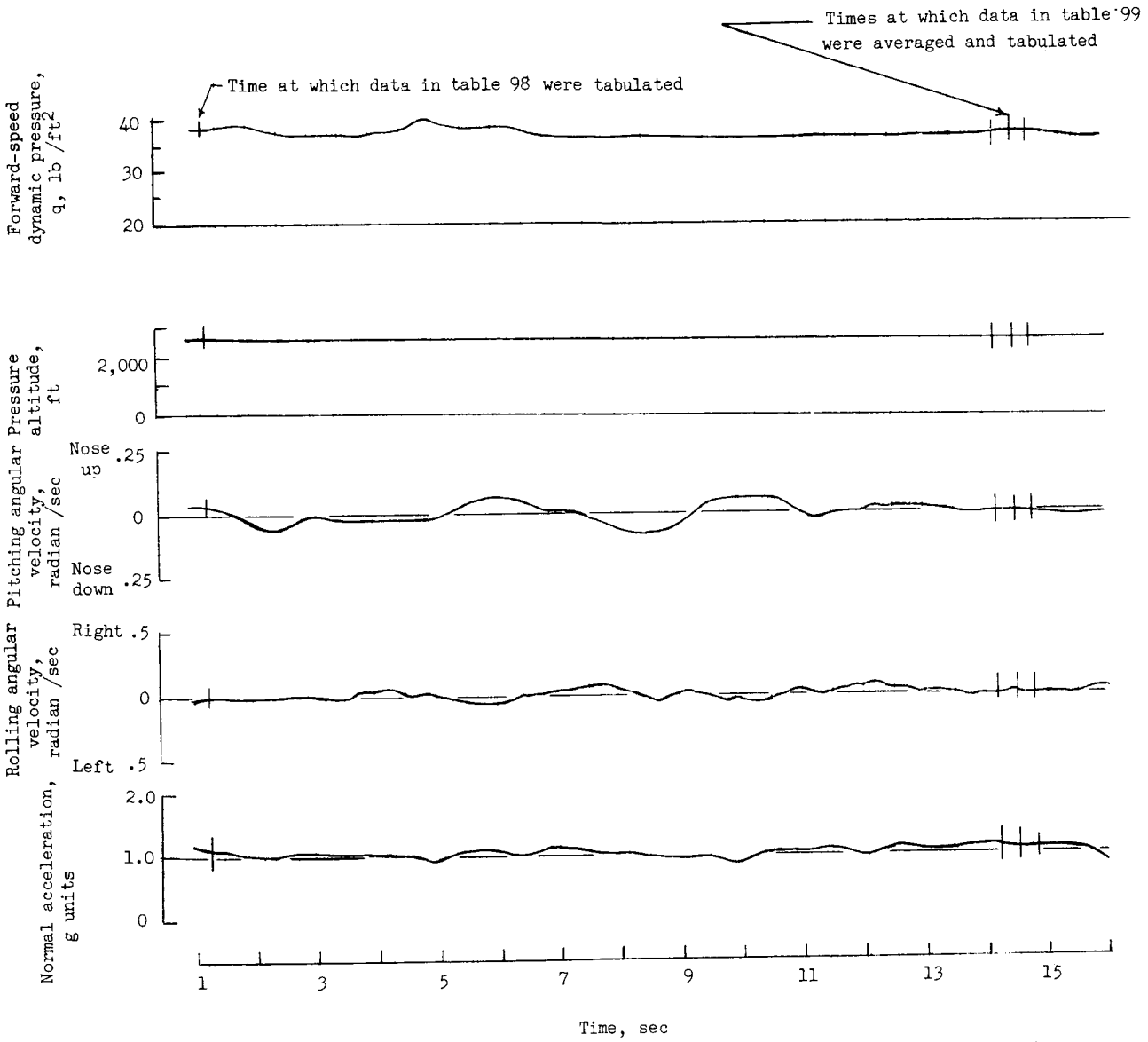

Figure 18.- Flight 76 time history, partial-power descent.

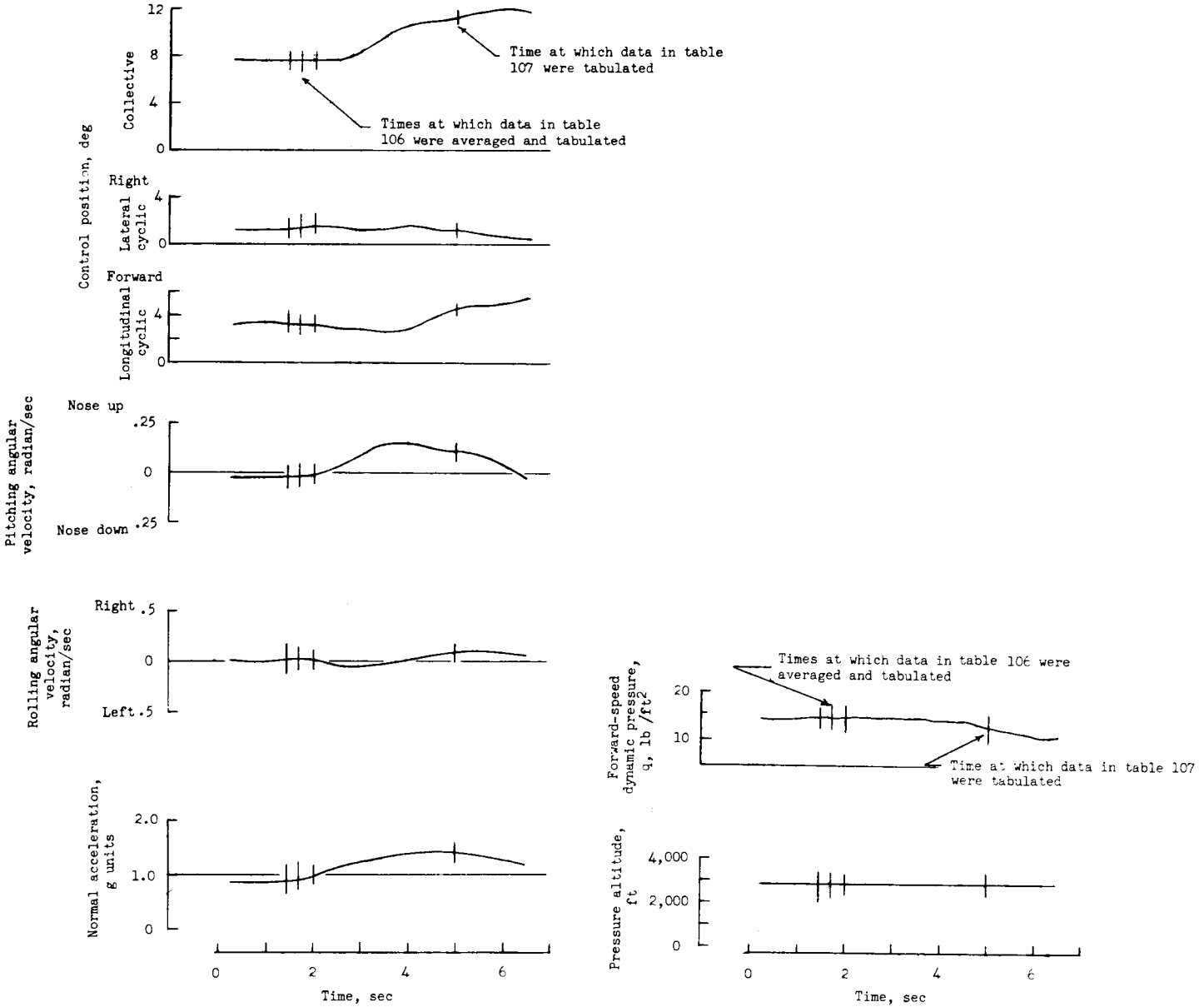

Figure 19.- Flight 83 time history, collective pull-up from level flight.

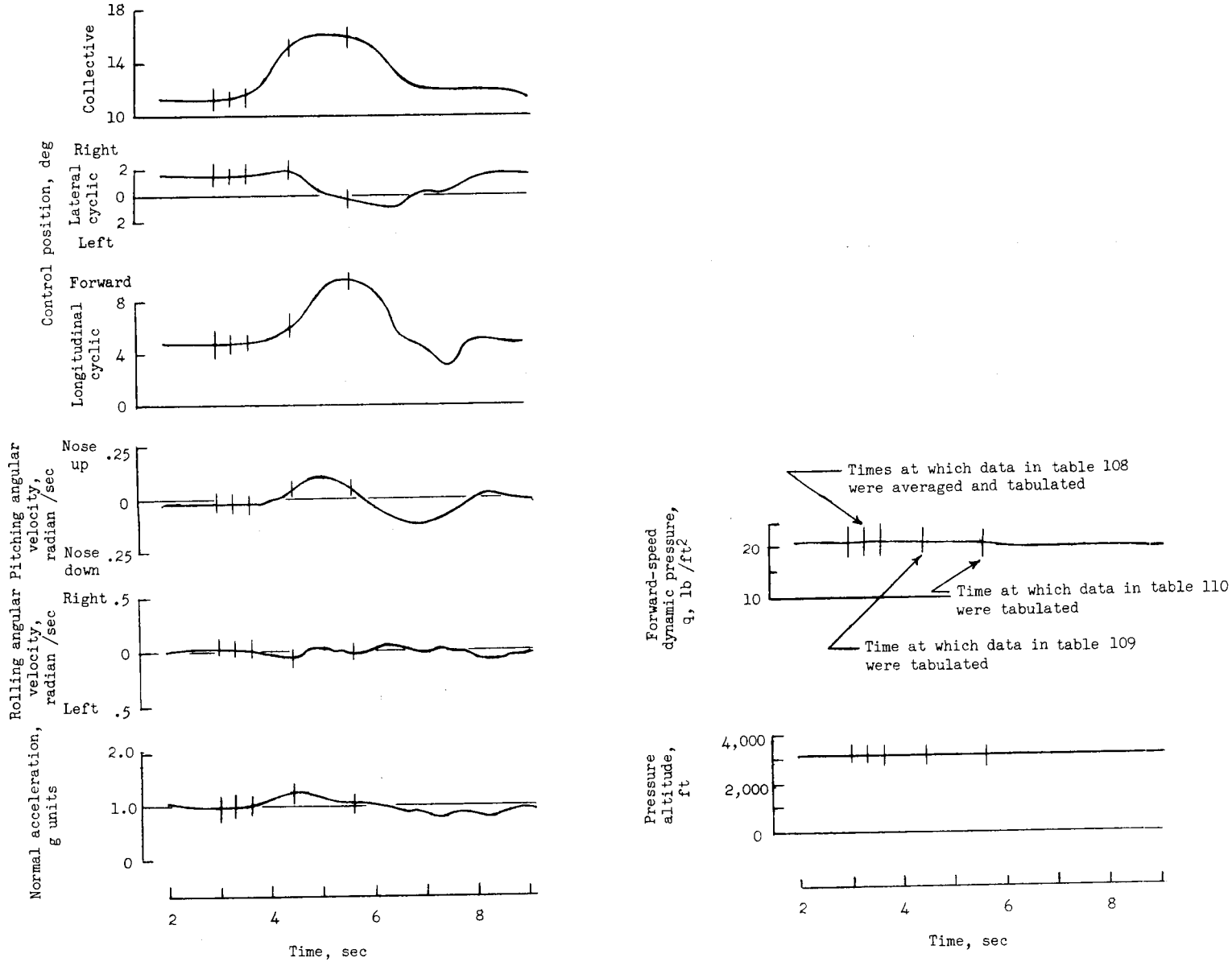

Figure 20.- Flight 84 time history, collective pull-up from level flight.

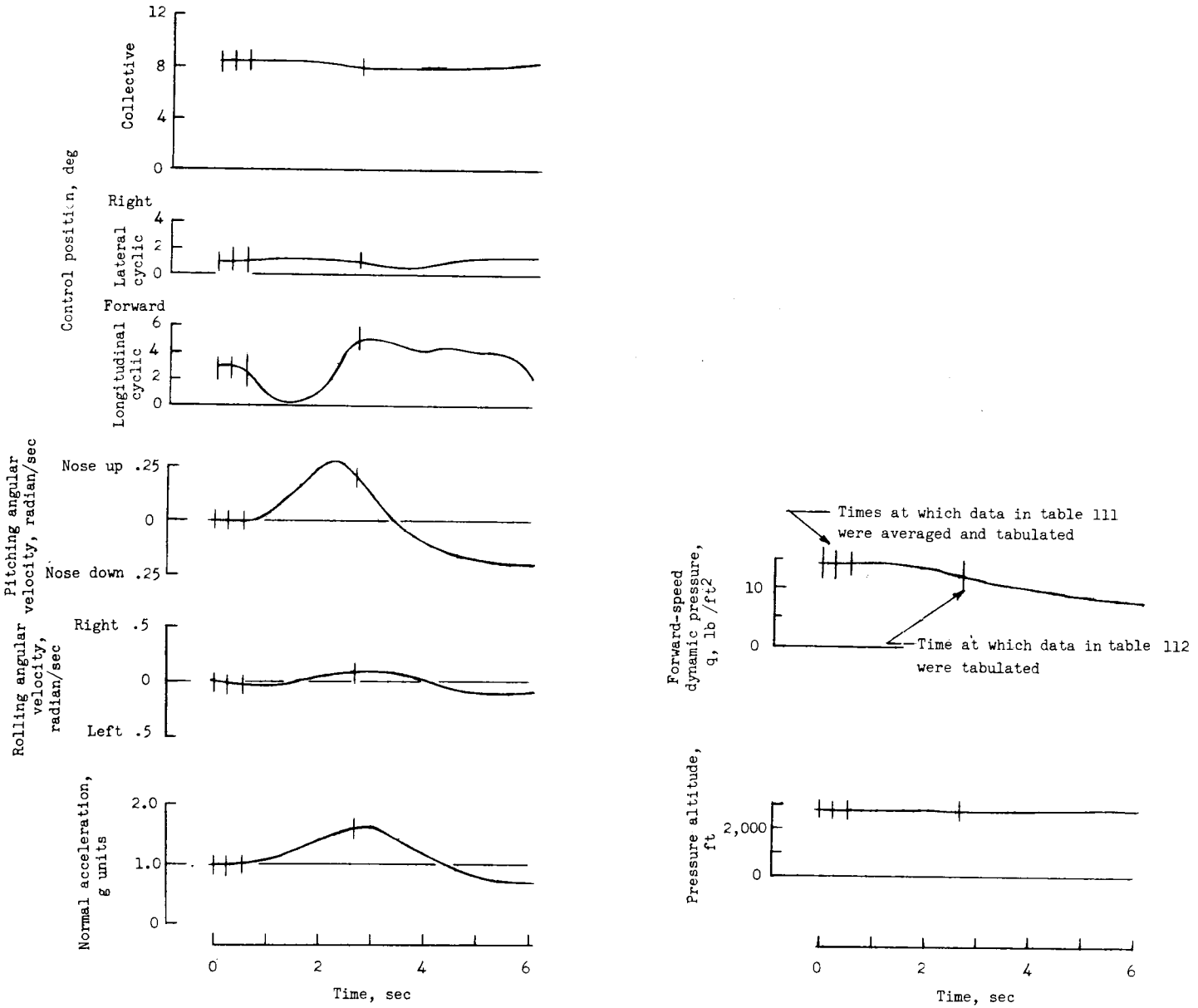

Figure 21.- Flight 85 time history, cyclic pull-up from level flight.

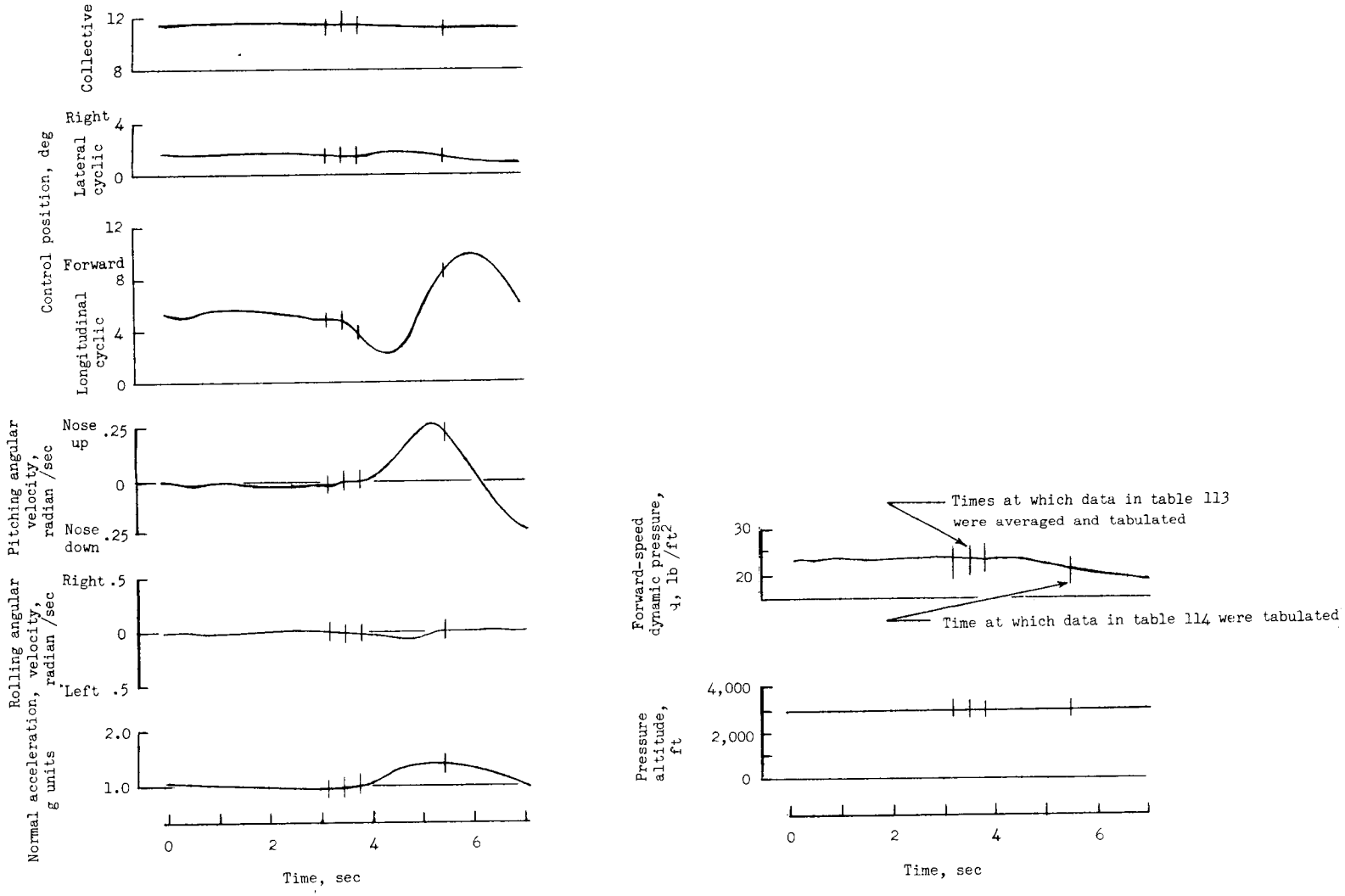

Figure 22.- Flight 86 time history, cyclic pull-up from level flight.

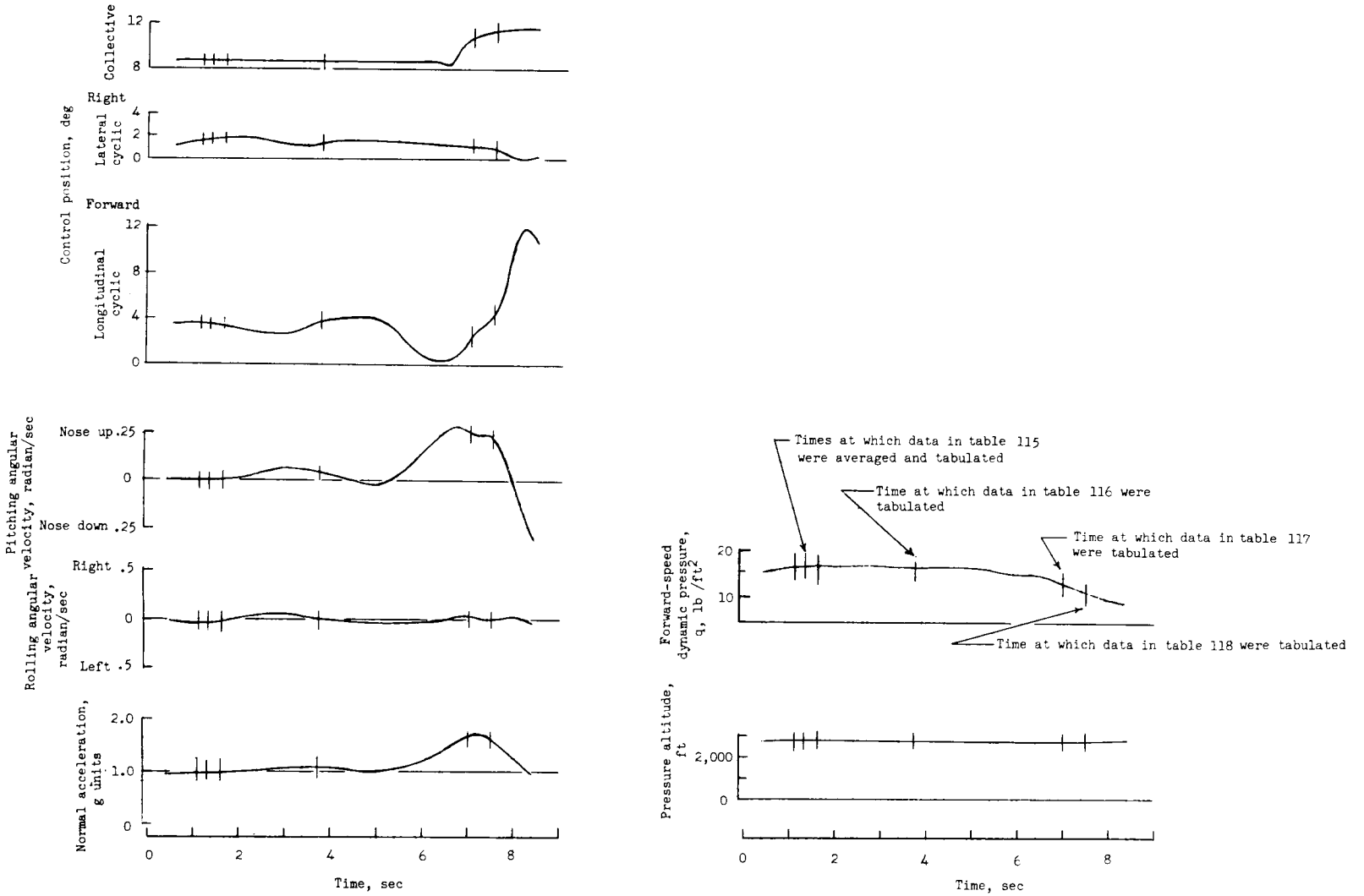

Figure 23.- Flight 87 time history, combined collective and cyclic pull-up from level flight.

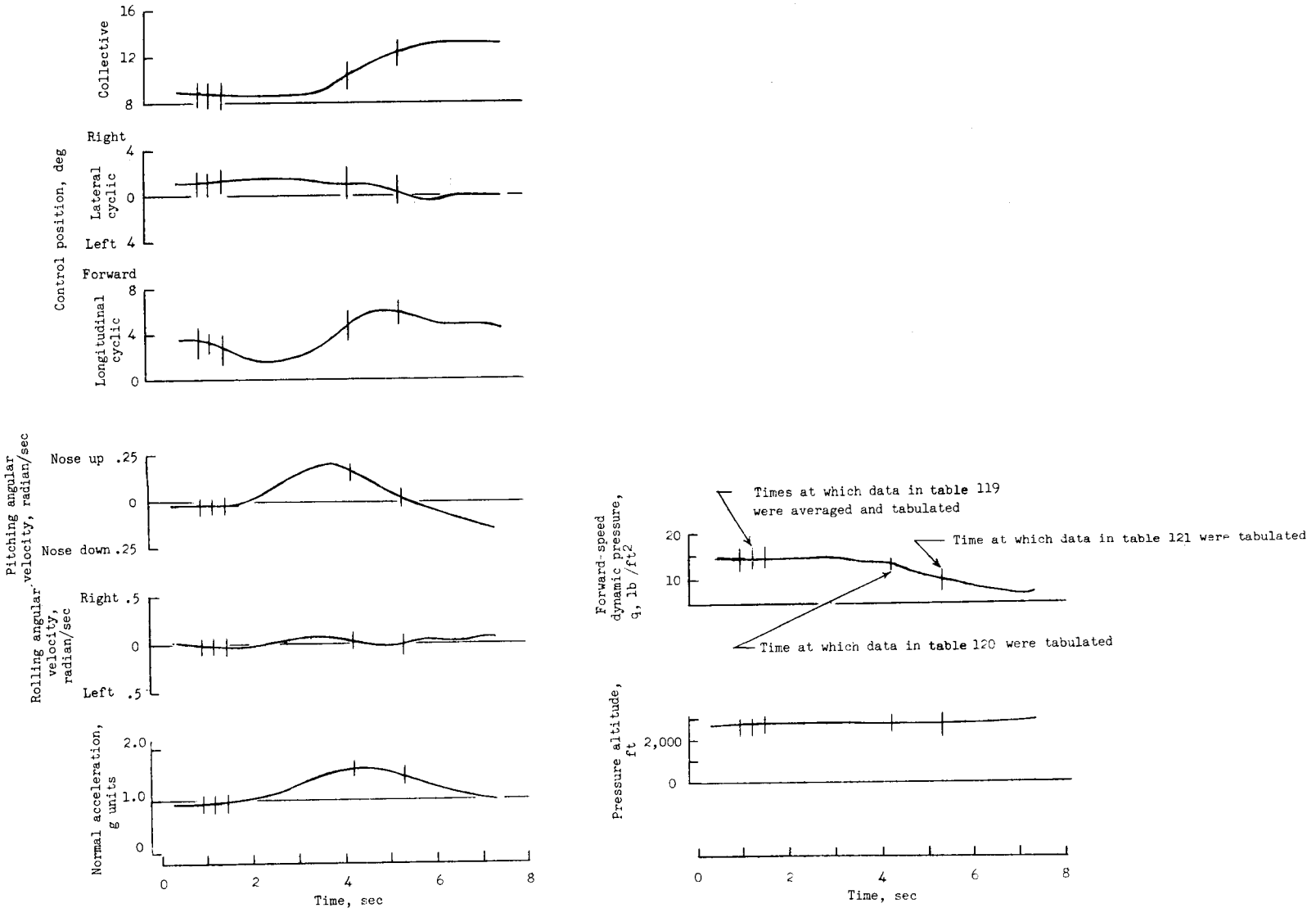

Figure 24.- Flight 88 time history, combined collective and cyclic pull-up from level flight.

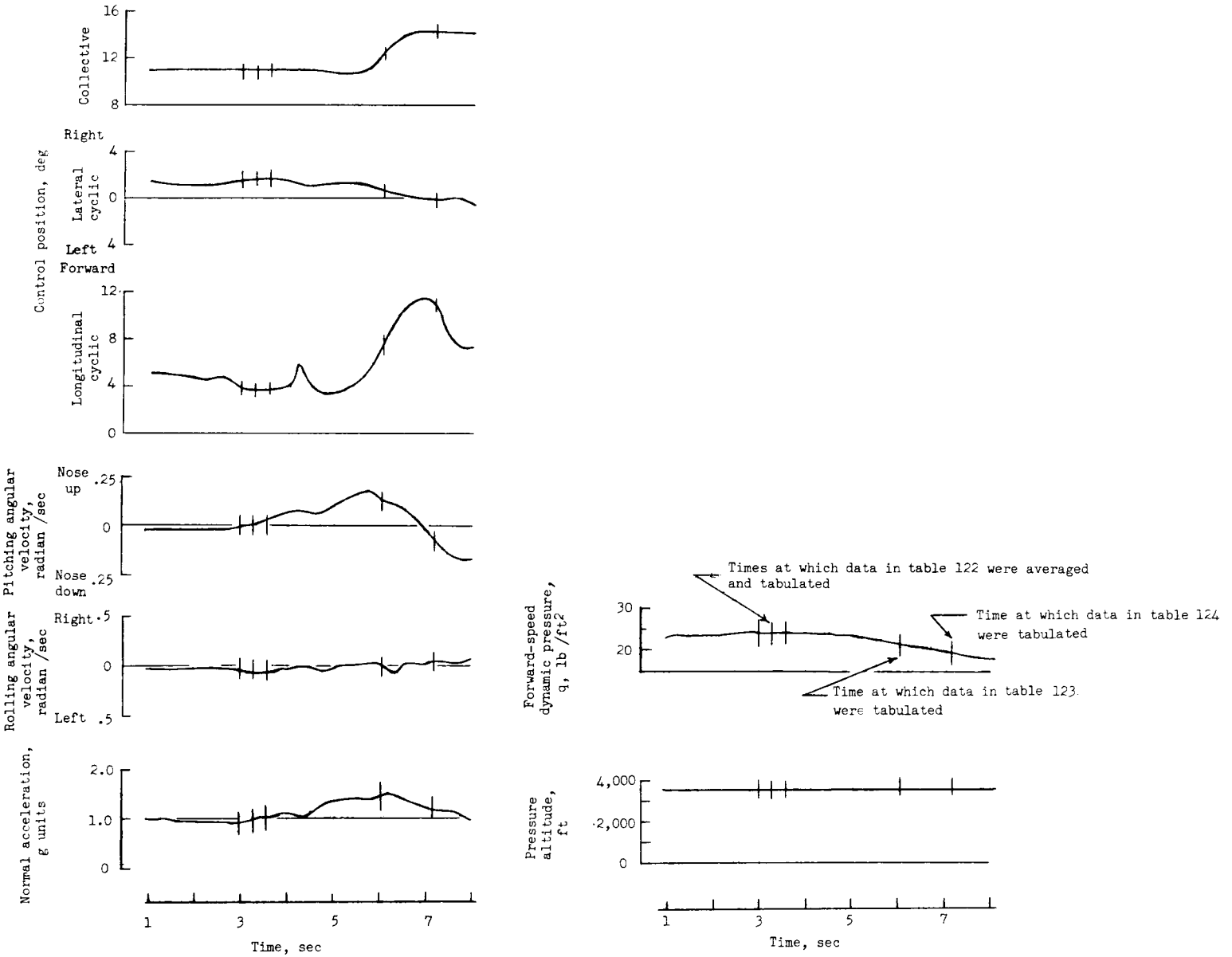

Figure 25.- Flight 89 time history, combined collective and cyclic pull-up from level flight.

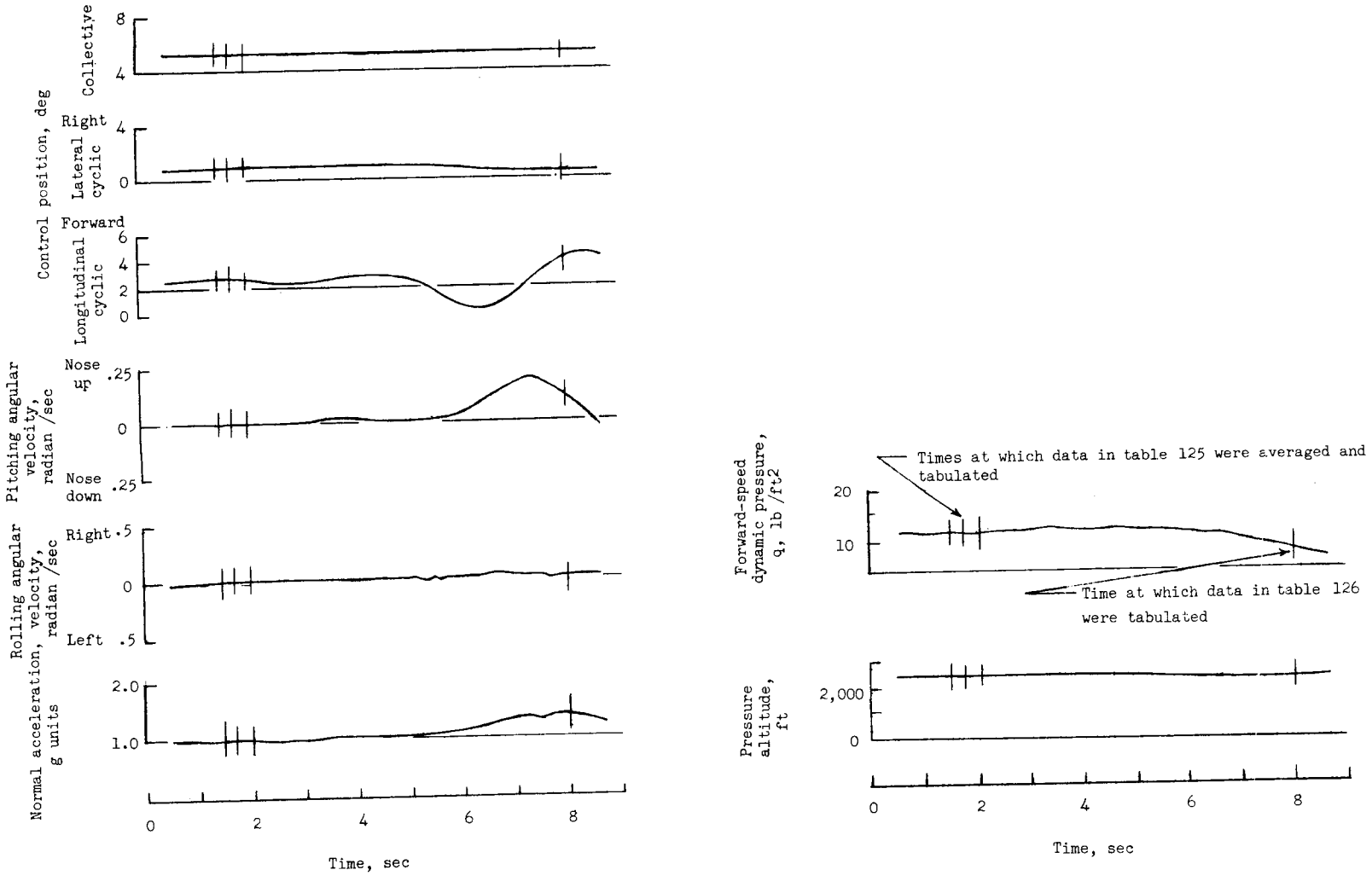

Figure 26.- Flight 90 time history, pull-out starting from autorotation.

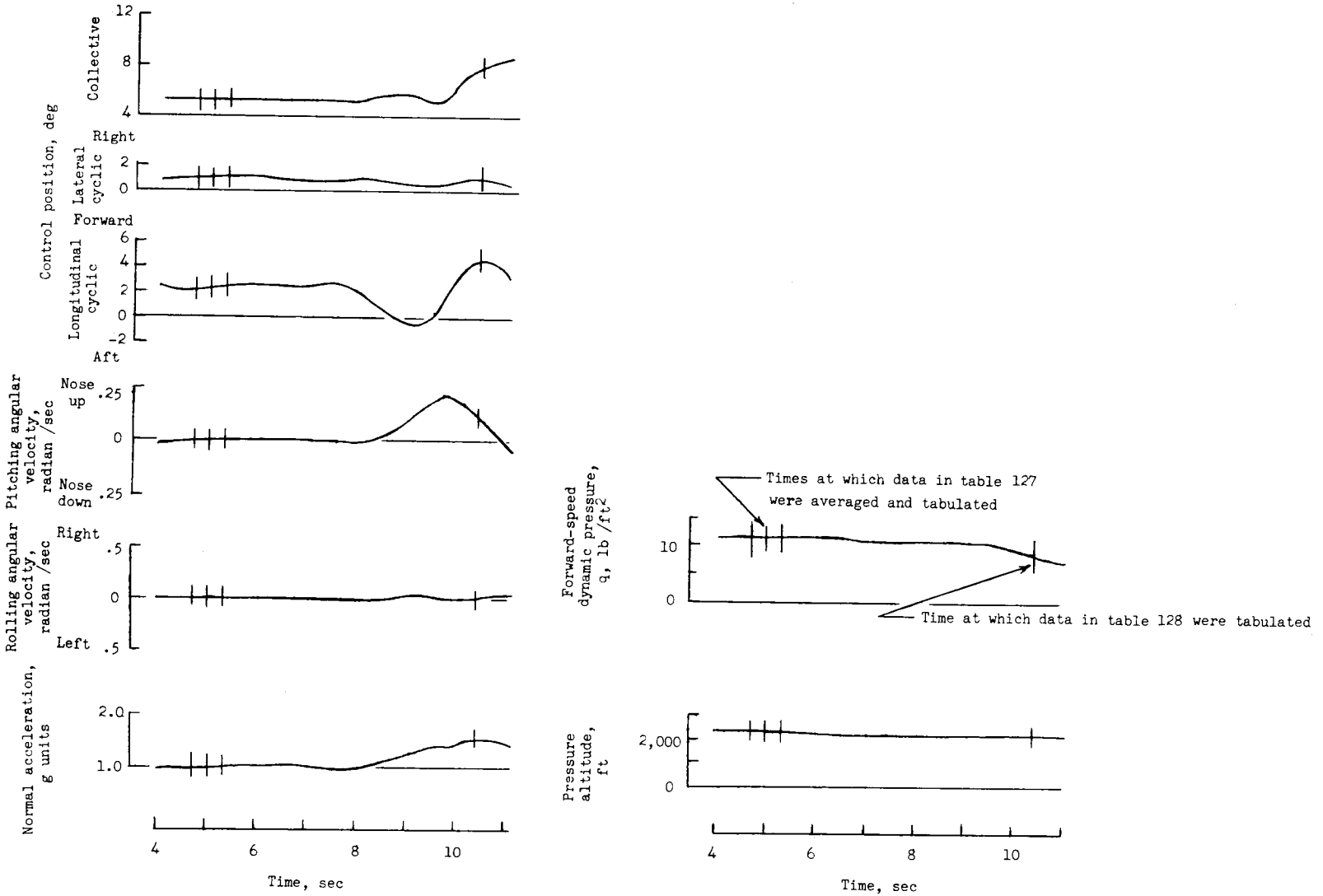

Figure 27.- Flight 91 time history, pull-out starting from autorotation.

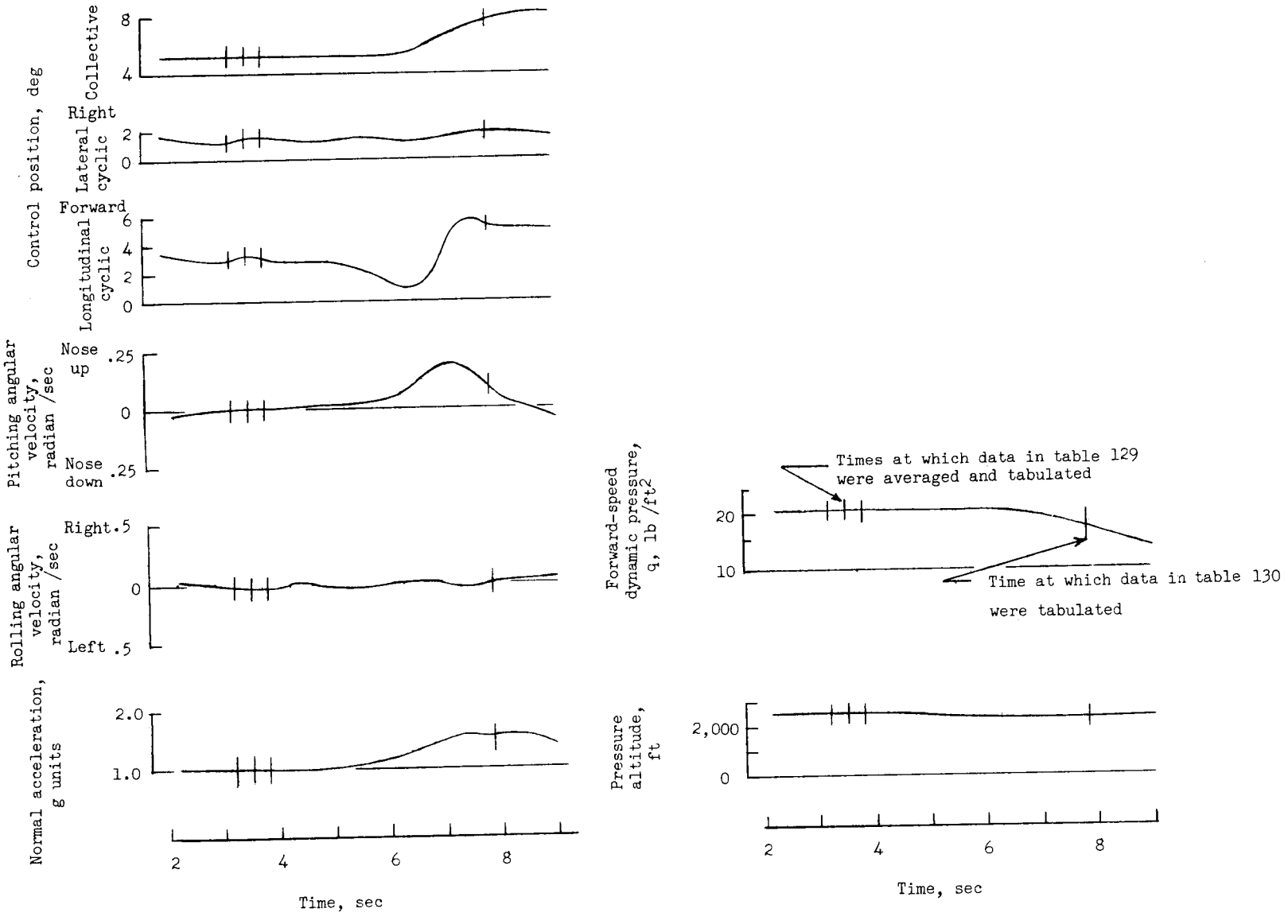

Figure 28.- Flight 92 time history, pull-out starting from autorotation.

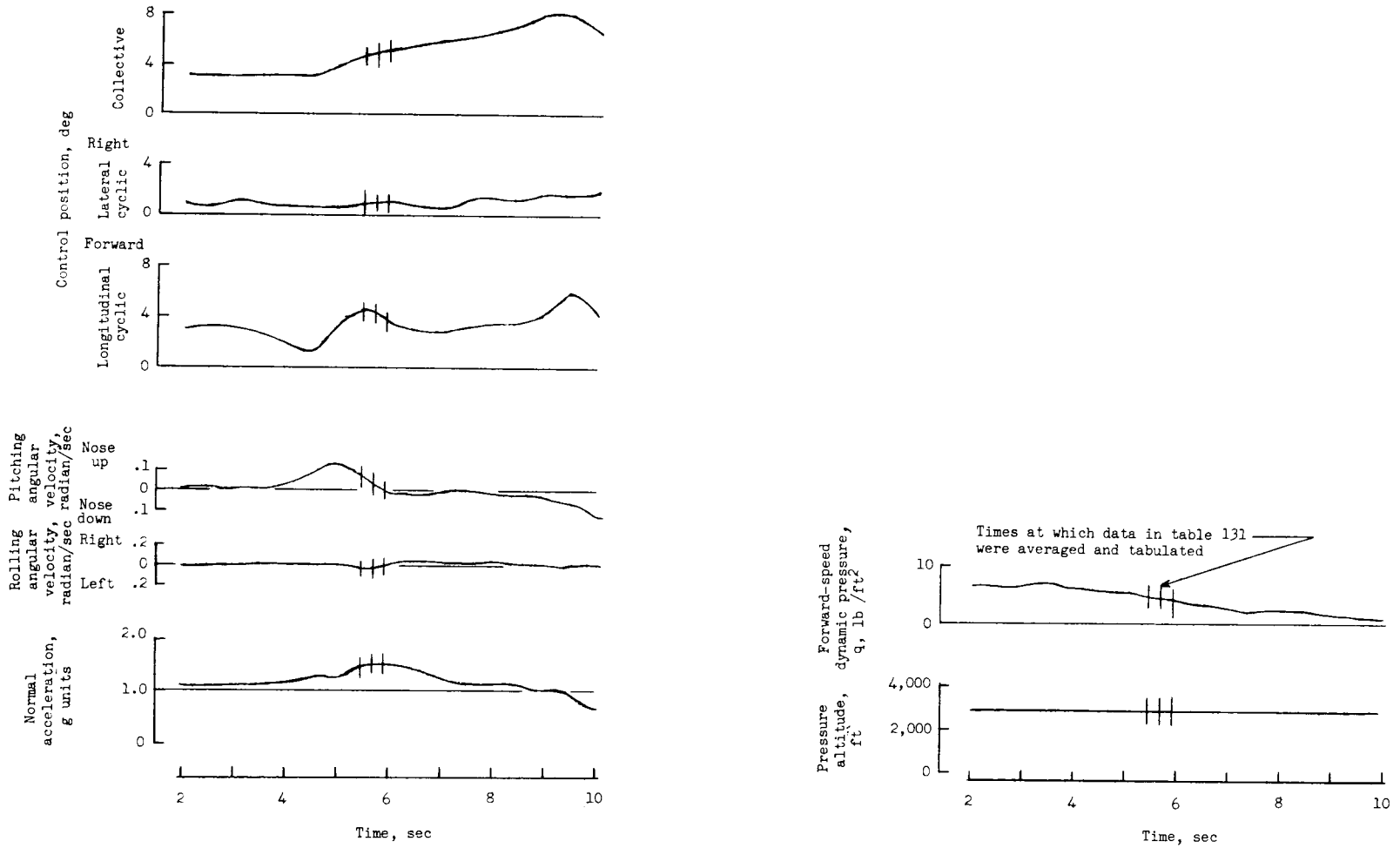

Figure 29.- Flight 93 time history, pull-out starting from autorotation.

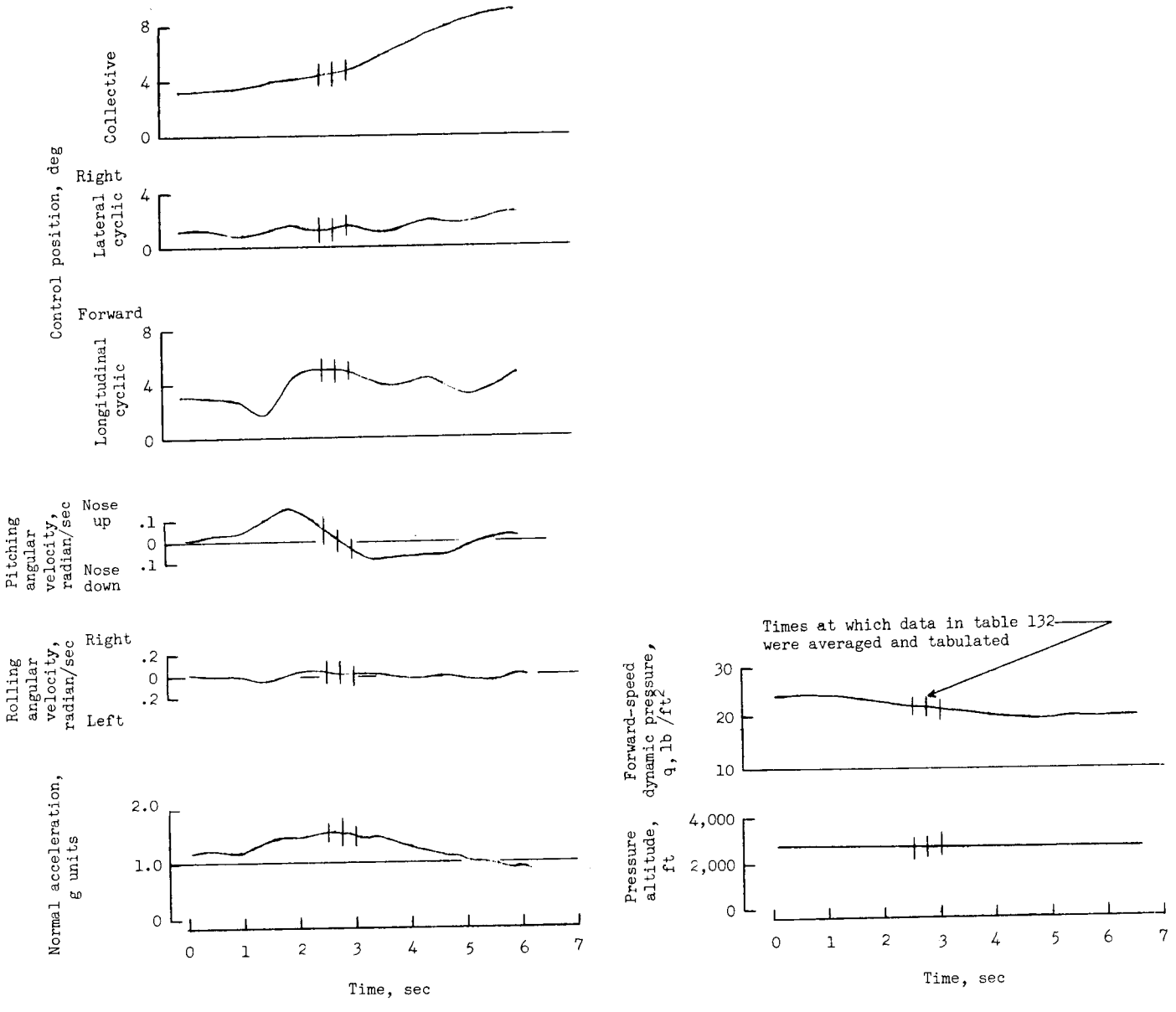

Figure 30.- Flight 94 time history, pull-out starting from autorotation.