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Louis L. Steers
Dryden Flight Research Center
Edwards, California

National Aeronautics
and Space Administration

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FLIGHT-MEASURED AFTERBODY PRESSURE COEFFICIENTS FROM AN AIRPLANE HAVING TWIN SIDE-BY-SIDE JET ENGINES FOR MACH NUMBERS FROM 0.6 TO 1.6

Louis L. Steers
Dryden Flight Research Center

INTRODUCTION

Flight-measured performance has often differed significantly from that predicted from wind-tunnel tests of small-scale models (refs. 1 to 7). Many of the differences can be attributed to the general limitations of wind-tunnel testing, such as the difficulty in matching flight Reynolds numbers and the effects of tunnel wall reflections. Additional discrepancies are found in the wind-tunnel testing of afterbodies because of sting support requirements that change the geometry of the model afterbody, improper simulation of flow interference effects from adjacent stabilizing or control surfaces, and improper simulation of the effects of airframe-exhaust interactions, which are especially applicable to configurations with two side-by-side exhausts.

To help achieve a better understanding of the effects of scale, Reynolds number, jet exhaust, and wind-tunnel supports on the determination of full-scale flight afterbody performance based on wind-tunnel testing, afterbody pressures were obtained in the wind tunnel and in flight for the YF-17 aircraft, which has twin side-by-side jet engines. First, wind-tunnel tests were conducted on a 0.1-scale model to obtain comprehensive pressure data over the afterbody and nozzle regions, as described in Wind Tunnel Results From a Nozzle Afterbody Test of a 0.1-Scale Fighter Aircraft in the Mach Number Regime of 0.6 to 1.6, by Ernest J. Lucas (AEDC-TR-78-25, Arnold Engineering Dev. Center, Arnold AFS, Tenn., June 1978). For these tests, the model was supported alternately by a sting and by the wingtips so that the sting support effects could be defined. Exhaust flow effects were also simulated using unheated air. Later, similar tests were made using a 0.2-scale model, as described in Wind Tunnel Results From a Nozzle Afterbody Test of a 0.2-Scale Fighter Aircraft in the Mach Number Regime of 0.6 to 1.5, by Ernest J. Lucas (AEDC-TR-79-10, Arnold Engineering Dev. Center, Arnold AFS, Tenn., May 1979).

Following the 0.1-scale model tests, similar data were obtained on the full-scale YF-17 aircraft. The 3-month flight program was conducted by the U.S. Air Force, the U.S. Navy, the manufacturers of the airframe and engines, and the NASA Dryden Flight Research Center. Afterbody pressures were measured over the left boattail of the YF-17 fuselage and over the external surfaces of the left engine and exhaust nozzle. The data were obtained from 10 flights at Mach numbers ranging from 0.60 to 1.60 and altitudes from 2300 meters (7500 feet) to 15,200 meters (50,000 feet). The Reynolds number based on fuselage length ranged from approximately 0.60×10^8 to 2.60×10^8.

This report presents the results of the flight program.

SYMBOLS

Physical quantities in this report are given in the International System of Units (SI) and parenthetically in U.S. Customary Units. The measurements were taken in Customary Units. Factors relating the two systems are presented in reference 8.

AE L left nozzle exit area, cm^2 (in^2)

AE R right nozzle exit area, cm^2 (in^2)

ALPHA angle of attack, deg

AN CG normal acceleration at the center of gravity, g

BCL bottom centerline of vehicle

BETA angle of sideslip, deg

CP pressure coefficient, $\frac{PL - (PS\ 2)}{Q}$

DA L deflection of left aileron, deg

DEL P fuselage reference static pressure minus nose-boom reference static pressure, N/m^2 (lb/in^2)

DH L deflection of left horizontal tail, deg

DR L deflection of left rudder, deg

DSB speed brake deflection, deg

H pressure altitude, m (ft)

L reference fuselage length, cm (in.)

M	Mach number
NPR	nozzle pressure ratio (calculated from manufacturer-supplied engine performance tables)
PHI	circumferential location measured clockwise from vertical (fig. 4), deg
PL	local pressure, N/m^2 (lb/in^2)
PS 1	free-stream static pressure, N/m^2 (lb/ft^2)
PS 2	static reference pressure, N/m^2 (lb/ft^2)
Q	dynamic pressure, N/m^2 (lb/ft^2)
R	Reynolds number based on fuselage length of 1804.87 cm (710.58 in.)
RN	unit Reynolds number, per m (per ft)
TCL	top centerline of vehicle
W	gross weight, kg (lb)
X	fuselage station, cm (in.)

DESCRIPTION OF YF-17 AIRPLANE AND TEST CONFIGURATION

The YF-17 airplane (fig. 1) is a lightweight fighter prototype with twin canted vertical tails located forward of the horizontal tail. The airplane incorporates an all-movable horizontal stabilizer, programed leading and trailing edge flaps, and conventional ailerons. A three-view drawing of the YF-17 airplane is shown in figure 2, and complete descriptions of the airplane and its physical characteristics are included in references 9 and 10.

The propulsion system consists of two side-by-side YJ101-GE-100 low-bypass-ratio turbojet engines with afterburners. The engines are installed in twin ducts having fixed geometry inlets and variable area exhaust nozzles. The iris-type exhaust nozzles have a plate and leaf arrangement that provides the proper nozzle area for nonafterburning and afterburning engine operation.

Boattail pressure coefficients were obtained for the left fuselage afterbody and nozzle (fig. 3, shaded area). There were 39 flush orifices distributed over the fuselage afterbody and 32 orifices on the outer surface of the nozzle. The locations of these orifices are shown in figure 4. All orifices were positioned on the airplane to match the selected orifice locations on the 0.1-scale wind-tunnel model as closely as structurally practical.

The orifice rows along the fuselage at several circumferential locations were located as far forward as was practical in order to define the upstream flow conditions. All pressure orifices were flush with the local surface, and the orifice edges were sharp and free of burrs.

There are several features of the full-scale airplane that complicate the problem of flow simulation on small-scale models. The features having the most significance are: the flush, screen-covered, engine bay purge exhausts, which are 11.43 centimeters (4.5 inches) by 27.94 centimeters (11 inches) and are located on the top and bottom centerlines of each engine bay (fig. 5); the compressor face bleed opening on the upper fuselage surface (fig. 5); and the oil drain and oil overflow protuberances on the lower fuselage surface. Table 1 lists the protuberances that existed on the full-scale vehicle near the pressure orifices. These protuberances were not simulated on the 0.1-scale and 0.2-scale models.

INSTRUMENTATION

Two 48-port multiplexing valves (Scanivalves), each having a differential pressure transducer, were installed in the engine bay and used to measure the pressures for the afterbody orifices. Static orifices on the airplane's nose boom were used as the reference pressure source for these transducers. The pressure source was monitored by a digital precision absolute pressure transducer contained in an environmentally controlled compartment. The pressure measurements for each Scanivalve were made in such a way that for at least one Scanivalve port, both sides of the transducer were exposed to the reference pressure. This procedure provided in-flight zero readings, which substantially reduced the uncertainty of the differential pressure measurements.

The total and static pressure measurements obtained from the nose boom, as described in references 11 and 12, were also used to calculate the free-stream Mach number.

The aircraft angle of attack measurements were taken from vanes located on the cheeks of the fuselage. The angles were calibrated through the digital air data computer (DADC). The angle of sideslip was obtained from a vane on the nose boom.

The positons of all the control surfaces (ailerons, horizontal stabilizers, speed brake, leading and trailing edge flaps, and rudder) were recorded with an onboard 10-bit pulse code modulation (PCM) system. Other parameters, such as nozzle exit area and gross weight, were also recorded on the PCM system, as were the values from the two Scanivalves which measured all the surface pressures.

DATA UNCERTAINTY

The pressure coefficients in this study are based on the equation

$$CP = \frac{PL - (PS\ 2)}{Q}$$

The estimated uncertainty values for the pressure coefficients were determined by the procedures given in references 13 and 14. In the following table, these uncertainty values are compared with the scatter observed in the experimental values.

M	H, m (ft)	Estimated ΔCP	ΔCP observed at $AN\ CG$ = 1g	ΔCP observed at $AN\ CG > 1$g
0.60	7,800 (25,700)	±0.024	±0.005	------
0.60	12,200 (40,000)	±0.048	±0.009	±0.020
0.90	8,400 (27,400)	±0.014	±0.008	±0.009
0.90	15,200 (50,000)	±0.035	±0.011	------
1.20	7,600 (25,000)	±0.006	±0.002	------

The calculations of the estimated uncertainties in the pressure coefficients accounted for the uncertainty in the static pressure position error and the pressure transducer uncertainty, including the effects of an estimated -6.6° C (20° F) uncertainty in the transducer environment temperature. As can be seen from the preceding table, the observed scatter bands are significantly smaller than the estimated band of uncertainty, which indicates good repeatability of the measurements.

Each pressure coefficient data point included in this study was based on the average of several Scanivalve cycles. This procedure reduces the scatter and is a factor in the observed scatter's being small as compared with the estimated uncertainty. Sufficient steady-state conditions were maintained during the data runs to minimize the effects of lag on the data.

Based on the averaging procedure, the application of in-flight zero corrections, and the careful avoidance of transient flight conditions, the estimated average uncertainty of the pressure coefficients based on the flight data is ±0.01 for 1g flight conditions and ±0.02 for the elevated g cases.

The manufacturer calibrated the pitot-static system using a combination of tower flyby, pacer, and radar tracking runs. According to the manufacturer's YF-17 Test Report (NOR 74-282, Northrop Corp., Jan. 1975), the maximum uncertainty in Mach number after correcting for position error occurs at a Mach number of 0.975 and is ±0.035.

With the YF-17 aircraft, angle of attack can be obtained by two methods. One method, the use of the nose-boom-mounted flight test vane, was not used in this study because of problems encountered in the measurements. The second method is to use the aircraft's angle of attack system. For this study, the measurements were corrected through the use of the DADC. The angle of attack accuracy was considered to be approximately ±0.2° for the range of angles of attack used for the present study (manufacturer's YF-17 Test Report, NOR 74-282).

FLIGHT CONDITIONS

For the subject tests, the Mach numbers ranged from 0.60 to 1.60 at altitudes from 2300 meters (7500 feet) to 15,200 meters (50,000 feet). Unit Reynolds number varied from 3.54×10^6 per meter (1.08×10^6 per foot) to 16.14×10^6 per meter (4.92×10^6 per foot), and the effective Reynolds number based on fuselage length varied from 0.57×10^8 to 2.58×10^8.

Each test condition was stabilized and remained constant for approximately 1 minute prior to data acquisition. The automatic flap schedule, a mode for automatically setting flaps without pilot input, was kept in the inactive mode in order to limit the configuration variables.

The flight conditions flown to obtain the pressure coefficient data for the present study are listed in table 2. The combination of speed and altitude forms a matrix of constant Mach numbers and constant unit Reynolds numbers. This matrix of test conditions was flown to correspond to the conditions tested for the 0.1-scale and 0.2-scale wind-tunnel models.

PRESENTATION OF THE DATA

The afterbody pressure coefficients derived from the pressure measurements for the flight conditions in table 2 are listed in table 3 in a form convenient for comparisor with wind-tunnel data. The flight conditions, such as Mach number, dynamic pressu and control surface positions, are also identified in the table. Selected data from this table are presented in the next section for a general discussion of parameter effects on the pressure coefficient.

RESULTS AND DISCUSSION

A typical time history for three pressure orifices located at $X/L = 0.99$ is presente in figure 6. The figure shows that the maximum deviations of the pressure coefficient data from the average values (solid lines) are well within the uncertainty bands (dashed lines). This result validates the steadiness of the flight data runs and helps to verify the quoted accuracy.

Flight pressure coefficients obtained from four representative circumferential locations at three Mach number conditions are shown in figure 7. At all three Mach numbers presented, the flow over the afterbody tends to expand as the boattail angle increases, then recompresses over the nozzle because of the high pressure region at the nozzle exit. However, because the orifice row at *PHI* = 0° is in the positive pressure field of the vertical tail from $X/L = 0.84$ to $X/L = 0.94$, the general trend does not hold. In this region the flow is in compression, but after passing the vertical tail trailing edge the flow follows the same trend as the flow at the other orifice rows.

The data presented in figure 8 show the effect of angle of attack for the three representative Mach numbers. The data indicate that for small angles of attack (below approximately 5°) the influence of the aircraft's attitude on the flow over the afterbody region is minimal throughout the Mach number range of this study, although the influence of the vertical tail is again evident for the flow at *PHI* = 0°.

The effects of variations in *NPR* are shown in figure 9. For the nonafterburning operating condition ($AE\ L = 1484\ cm^2$ ($230\ in^2$)) shown in figures 9(a) and 9(b), the pressure coefficient is more positive than for the afterburning operating condition shown in figure 9(c). Generally speaking, the increased *NPR* appears to affect only the nozzle region.

Reynolds number variations within each Mach number presented in figure 10 show that the pressure coefficients fall within their repeatability bands. No direct Reynolds number effect is indicated by this figure.

The afterbody pressure data presented in figures 7 to 10 show the effects of some flight dependent parameters for a few of the test conditions given in table 2. The data from the present study (table 3), along with the data from the wind-tunnel tests of the 0.1-scale and 0.2-scale models, add to the data bank for evaluating nozzle afterbody wind-tunnel test techniques.

Dryden Flight Research Center
National Aeronautics and Space Administration
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TABLE 1.—LOCATION OF SURFACE PRESSURE ORIFICES RELATIVE TO POTENTIAL INTERFERENCE SOURCES AND PROTUBERANCES

Orifice location relative to aircraft		Orifice location relative to interference source protuberance
X/L	*PHI*, deg	
0.84	0	25 cm (10 in.) aft of bleed door
0.90	↓	18 cm (7 in.) aft of access plate
0.94	↓	8 cm (3 in.) ahead of bay purge bleed
0.83	180	13 cm (5 in.) ahead of oil drain
0.88	↓	18 cm (7 in.) aft of two oil drains
0.93	↓	15 cm (6 in.) ahead of access panel
0.86	225	Halfway between two sets of four screws each
0.88	↓	5 cm (2 in.) aft of and 3 cm (1 in.) above discontinuity
0.96	↓	Behind horizontal stabilizer
0.88	↓	Behind horizontal stabilizer
0.91	315	15 cm (6 in.) aft of trailing edge of rudder
0.93	*	15 cm (6 in.) aft of gap
0.96	*	In valley between engines

*Located at top centerline of vehicle (TCL).

TABLE 2.—FLIGHT TEST CONDITIONS

AN CG, g	*M*	*H*, m (ft)	*ALPHA*, deg
1	0.620	2,460 (8,070)	1.1
	0.610	2,470 (8,090)	2.1
	0.610	7,590 (24,900)	3.4*
	0.610	7,620 (25,000)	3.6
	0.600	10,120 (33,200)	6.0
	0.640	12,300 (40,400)	6.4
	0.640	12,300 (40,400)	6.5
	0.640	12,300 (40,400)	6.5*
	0.640	12,130 (39,800)	7.0
	0.610	12,150 (39,900)	8.0
	0.600	12,090 (39,700)	8.8
	0.820	3,000 (9,700)	1.1
	0.810	6,000 (19,800)	1.5
	0.900	3,200 (10,500)	0.9
	0.910	5,530 (18,100)	0.9
	0.900	8,530 (28,000)	1.4
	0.900	8,390 (27,500)	1.4*
	0.930	12,780 (41,900)	2.6
	0.900	12,860 (42,100)	2.7*
	0.910	15,260 (50,100)	3.6
	0.890	15,190 (49,800)	4.0
	1.190	7,510 (24,600)	0.7
	1.180	7,910 (25,900)	0.8
	1.170	9,280 (30,500)	1.5
	1.170	12,000 (39,300)	2.1
	1.250	15,210 (49,900)	2.9
	1.590	10,990 (36,100)	0.8
	1.470	12,160 (39,900)	1.3*
	1.580	12,750 (41,800)	1.4

*Flight test points that correlate most closely with wind-tunnel conditions.

TABLE 2.—Concluded

AN CG, g	*M*	*H*, m (ft)	*ALPHA*, deg
1.2	0.900	14,840 (48,700)	4.0
↓	0.960	14,980 (49,100)	4.4
	0.960	15,160 (49,700)	4.5
	1.240	14,910 (48,900)	0
	1.240	15,140 (49,700)	3.1*
1.3	0.890	15,150 (49,700)	5.8*
2	0.600	3,030 (10,000)	2.4
↓	0.620	2,970 (9,700)	3.1*
	0.630	5,400 (17,700)	4.2
	0.600	5,240 (17,200)	5.4
	0.620	7,630 (25,000)	6.5*
	0.910	4,070 (13,400)	1.4*
	0.930	8,230 (27,000)	2.4
	0.880	8,340 (27,800)	2.6*
	0.870	8,510 (27,900)	2.6
	0.950	12,870 (42,200)	4.8
	1.200	7,860 (25,800)	2.1*
	1.180	8,160 (26,800)	2.1
	1.190	12,230 (40,100)	3.0*
	1.180	12,520 (41,100)	3.9*
4	0.628	2,380 (7,800)	4.9
↓	0.621	2,460 (8,100)	5.7
	0.590	2,640 (8,700)	6.2*
	0.920	3,210 (10,500)	2.1
	0.920	3,940 (12,900)	2.5*
	0.880	7,690 (25,200)	4.5*
	1.150	6,940 (22,800)	3.0*

*Flight test points that correlate most closely with wind-tunnel conditions.

TABLE 3.—AFTERBODY AND NOZZLE PRESSURE COEFFICIENTS. L = 1804.87 CM (710.58 IN.)

[Q, lb/ft^2; *ALPHA*, deg; *BETA*, deg; *RN*, per ft; *AN CG*, g; W, lb; *DA L*, deg; *DH L*, deg; *DR L*, deg; *DSB*, deg; *AE L*, in^2; *AE R*, in^2; *PS* 1, lb/ft^2; *PS* 2, lb/ft^2; H, ft; *DEL P*, lb/in^2; *PHI*, deg; X, in.; *CP* = 0.000 indicates pressure not available]

M = .618 | AN CG = .96 | AE L = 204

Q = 418.9 | W = 20160 | AE R = 204

ALPHA = 1.09 | DA L = 1.06 | PS 1 = 1580.4

BETA = -.56 | DH L = -.50 | PS 2 = 1580.5

NPR = 2.00 | DR L = -.17 | H = 8074

RN (10^{-6}) = 3.57 | DSB = -.37 | DEL P = -.06

PHI	X	CP	PHI	X	CP	PHI	X	CP
0.0	596.00	-.186	157.5	693.00	-.104	247.5	685.00	-.142
0.0	620.00	-.135	157.5	700.00	.009	252.5	685.00	-.130
0.0	637.00	-.078	180.0	590.15	-.050	282.0	685.00	-.123
0.0	665.00	-.041	180.0	625.35	-.045	292.5	685.00	-.105
0.0	675.00	-.160	180.0	661.60	-.041	315.0	644.35	-.046
0.0	685.00	-.183	180.0	685.00	-.145	315.0	658.00	-.087
0.0	687.00	-.187	180.0	687.30	-.163	315.0	670.25	-.092
0.0	693.00	-.202	180.0	693.00	-.134	315.0	685.00	-.135
0.0	700.00	.000	181.0	694.00	-.107	320.0	687.30	-.164
0.0	706.00	.109	180.0	700.00	.008	315.0	693.00	-.116
22.5	693.00	-.147	180.0	706.00	.104	315.0	695.00	-.048
22.5	700.00	.022	202.5	693.00	-.153	315.0	700.00	.026
45.0	693.00	-.033	215.0	685.00	-.138	315.0	702.00	.090
45.0	700.00	.019	215.0	687.30	-.170	315.0	706.00	.121
45.0	706.00	.028	225.0	520.00	-.052	TCL	658.70	-.028
50.0	685.00	-.131	225.0	571.00	-.044	TCL	685.00	-.084
50.0	687.30	-.163	225.0	611.00	-.012	BCL	586.00	-.073
77.0	685.00	.047	225.0	624.50	-.041	BCL	646.00	-.071
90.0	693.00	.059	225.0	643.00	-.067	BCL	671.00	-.041
90.0	706.00	.025	225.0	667.00	-.057			
135.0	685.00	-.065	225.0	693.00	-.151			
135.0	687.30	-.065	225.0	695.00	-.067			
135.0	693.00	-.008	225.0	700.00	.025			
135.0	695.00	.026	225.0	702.00	.072			
135.0	700.00	.035	225.0	706.00	.120			
135.0	702.00	.042						
135.0	706.00	.046						

TABLE 3.—Continued

M = .607 | AN CG = .93 | AE L = 204

C = 403.5 | W = 20189 | AE R = 204

ALPHA = 2.12 | DA L = 1.04 | PS 1 = 1579.0

BETA = -.61 | DH L = -.54 | PS 2 = 1579.0

$RN\ (10^{-6}) = 3.57$ | DR L = -.14 | H = 8089

NRR = 1.98 | DSR = -.32 | DEL P = -.06

PHI	X	CP
0.0	596.00	-.185
0.0	620.00	-.133
0.0	637.00	-.075
0.0	665.00	-.040
0.0	675.00	-.158
0.0	685.00	-.181
0.0	687.00	-.186
0.0	693.00	-.202
0.0	700.00	.002
0.0	706.00	.108
22.5	693.00	-.150
22.5	700.00	.019
45.0	693.00	-.034
45.0	700.00	.017
45.0	706.00	.028
50.0	685.00	-.129
50.0	687.30	-.166
77.0	685.00	.051
90.0	693.00	.060
90.0	706.00	.020
135.0	685.00	-.067
135.0	687.30	-.069
135.0	693.00	-.013
135.0	695.00	.026
135.0	700.00	.035
135.0	702.00	.040
135.0	706.00	.046
157.5	693.00	-.105
157.5	700.00	.007
180.0	590.15	-.048
180.0	625.35	-.043
180.0	661.60	-.038
180.0	685.00	-.143
180.0	687.30	-.160
180.0	693.00	-.133
181.0	694.00	-.107
180.0	700.00	.007
180.0	706.00	.104
202.5	693.00	-.153
215.0	685.00	-.135
215.0	687.30	-.167
225.0	520.00	-.049
225.0	571.00	-.042
225.0	611.00	-.009
225.0	624.50	-.039
225.0	643.00	-.065
225.0	667.00	-.054
225.0	693.00	-.153
225.0	695.00	-.067
225.0	700.00	.025
225.0	702.00	.072
225.0	706.00	.123
247.5	685.00	-.140
252.5	685.00	-.128
282.0	685.00	-.121
292.5	685.00	-.103
315.0	644.35	-.043
315.0	658.00	-.085
315.0	670.25	-.089
315.0	685.00	-.132
320.0	687.30	-.162
315.0	693.00	-.116
315.0	695.00	-.048
315.0	700.00	.026
315.0	702.00	.089
315.0	706.00	.120
TCL	658.70	-.027
TCL	685.00	-.082
BCL	586.00	-.070
BCL	646.00	-.069
BCL	671.00	-.041

TABLE 3.—Continued

M = .613	AN CG = .91	AE L = 204
Q = 207.2	W = 20575	AE R = 204
ALPHA = 3.38	DA L = 14.16	PS 1 = 794.7
BETA = -.62	DH L = -.17	PS 2 = 791.9
NFR = 1.99	DP L = -.01	H = 24914
RN (10^{-6}) = 2.08	DSB = -.30	DEL P = -.00

PHI	X	CP
0.0	596.00	-.211
0.0	620.00	-.150
0.0	637.00	-.087
0.0	665.00	-.039
0.0	675.00	-.157
0.0	685.00	-.177
0.0	687.00	-.185
0.0	693.00	-.187
0.0	700.00	.012
0.0	706.00	.109
22.5	693.00	-.143
22.5	700.00	.021
45.0	693.00	-.028
45.0	700.00	.013
45.0	706.00	.028
50.0	685.00	-.119
50.0	687.30	-.152
77.0	685.00	.045
90.0	693.00	.057
90.0	706.00	.024
135.0	685.00	-.076
135.0	687.30	-.077
135.0	693.00	-.014
135.0	695.00	.024
135.0	700.00	.031
135.0	702.00	.043
135.0	706.00	.050
157.5	693.00	-.109
157.5	700.00	.014
180.0	590.15	-.045
180.0	625.35	-.043
180.0	661.60	-.037
180.0	685.00	-.147
180.0	687.30	-.143
180.0	693.00	-.131
181.0	694.00	-.110
180.0	700.00	.019
180.0	706.00	.108
202.5	693.00	-.149
215.0	685.00	-.135
215.0	687.30	-.167
225.0	520.00	-.030
225.0	571.00	-.034
225.0	611.00	-.005
225.0	624.50	-.036
225.0	643.00	-.062
225.0	667.00	-.052
225.0	693.00	-.141
225.0	695.00	-.059
225.0	700.00	.037
225.0	702.00	.085
225.0	706.00	.105
247.5	685.00	-.140
252.5	685.00	-.128
282.0	685.00	-.128
292.5	685.00	-.102
315.0	644.35	-.048
315.0	658.00	-.085
315.0	670.25	-.089
315.0	685.00	-.126
320.0	687.30	-.153
315.0	693.00	-.099
315.0	695.00	-.032
315.0	700.00	.044
315.0	702.00	.096
315.0	706.00	.121
TCL	658.70	-.012
TCL	685.00	-.080
BCL	586.00	-.065
BCL	646.00	-.072
BCL	671.00	-.042

TABLE 3.—Continued

M = .605	AN CG = .94	AE L = 204
Q = 201.3	W = 21 866	AE R = 204
ALPHA = 3.61	DA L = 4.53	PS 1 = 791.2
BETA = -.24	DH L = -1.10	PS 2 = 788.0
NPR = 1.84	DR L = .08	H = 25008
$RN\ (10^{-6}) = 2.06$	DSB = -3.19	DEL P = -.00

PHI	X	CP
0.0	596.00	-.207
0.0	620.00	-.161
0.0	637.00	-.098
0.0	665.00	-.046
0.0	675.00	-.166
0.0	685.00	-.186
0.0	687.00	-.194
0.0	693.00	-.189
0.0	700.00	.012
0.0	706.00	.109
22.5	693.00	-.143
22.5	700.00	.020
45.0	693.00	-.033
45.0	700.00	.013
45.0	706.00	.029
50.0	685.00	-.130
50.0	687.30	-.161
77.0	685.00	.036
90.0	693.00	.056
90.0	706.00	.021
135.0	685.00	-.082
135.0	687.30	-.083
135.0	693.00	-.015
135.0	695.00	.022
135.0	700.00	.029
135.0	702.00	.039
135.0	706.00	.047
157.5	693.00	-.105
157.5	700.00	.016
180.0	590.15	-.058
180.0	625.35	-.050
180.0	661.60	-.044
180.0	685.00	-.155
180.0	687.30	-.173
180.0	693.00	-.131
181.0	694.00	-.111
180.0	700.00	.019
180.0	706.00	.106
202.5	693.00	-.148
215.0	685.00	-.142
215.0	687.30	-.173
225.0	520.00	-.036
225.0	571.00	-.044
225.0	611.00	-.012
225.0	624.50	-.042
225.0	643.00	-.069
225.0	667.00	-.060
225.0	693.00	-.142
225.0	695.00	-.060
225.0	700.00	.039
225.0	702.00	.084
225.0	706.00	.101
247.5	685.00	-.147
252.5	685.00	-.137
282.0	685.00	-.139
292.5	685.00	-.112
315.0	644.35	-.054
315.0	658.00	-.092
315.0	670.25	-.096
315.0	685.00	-.133
320.0	687.30	-.159
315.0	693.00	-.110
315.0	695.00	-.031
315.0	700.00	.045
315.0	702.00	.090
315.0	706.00	.120
TCL	658.70	-.020
TCL	685.00	-.089
BCL	586.00	-.072
BCL	646.00	-.078
BCL	671.00	-.051

TABLE 3.—Continued

M = .652

Q = 114.8

ALPHA = 6.37

BETA = -.79

NPR = 3.76

RN (10^{-6}) = 1.23

AN CG = .96

W = 20781

DA L = 16.87

DH L = -1.45

DR L = .04

DSB = -.28

AE L = 205

AE R = 205

PS 1 = 388.4

PS 2 = 384.8

H = 40365

DEL P = .03

PHI	X	CP
0.0	596.00	-.221
0.0	620.00	-.176
0.0	637.00	-.115
0.0	665.00	-.045
0.0	675.00	-.169
0.0	685.00	-.166
0.0	687.00	-.167
0.0	693.00	-.145
0.0	700.00	.032
0.0	706.00	.110
22.5	693.00	-.131
22.5	700.00	.015
45.0	693.00	-.039
45.0	700.00	.078
45.0	706.00	.031
50.0	685.00	-.124
50.0	687.30	-.153
77.0	685.00	.016
90.0	693.00	.038
90.0	706.00	-.110
135.0	685.00	-.099
135.0	687.30	-.099
135.0	693.00	-.032
135.0	695.00	-.110
135.0	700.00	.027
135.0	702.00	.043
135.0	706.00	.054
157.5	693.00	-.122
157.5	700.00	.015
180.0	590.15	-.047
180.0	625.35	-.045
180.0	661.60	-.043
180.0	685.00	-.158
180.0	687.30	-.247
180.0	693.00	-.124
181.0	694.00	-.095
180.0	700.00	.036
180.0	706.00	.106
202.5	693.00	-.136
215.0	685.00	-.140
215.0	687.30	-.164
225.0	520.00	-.007
225.0	571.00	-.032
225.0	611.00	.076
225.0	624.50	-.032
225.0	643.00	-.067
225.0	667.00	-.056
225.0	693.00	-.106
225.0	695.00	-.018
225.0	700.00	.056
225.0	702.00	.102
225.0	706.00	.115
247.5	685.00	-.148
252.5	685.00	-.133
282.0	685.00	-.131
292.5	685.00	-.099
315.0	644.35	-.067
315.0	658.00	-.099
315.0	670.25	-.095
315.0	685.00	-.121
320.0	687.30	-.142
315.0	693.00	-.072
315.0	695.00	-.009
315.0	700.00	.058
315.0	702.00	.106
315.0	706.00	.133
TCL	658.70	-.027
TCL	685.00	-.095
BCL	586.00	-.067
BCL	646.00	-.081
BCL	671.00	-.056

TABLE 3.—Continued

M = .604 AN CG = 1.03 AE L = 204

Q = 138.4 W = 22595 AE R = 205

ALPHA = 5.98 OA L = 3.85 PS 1 = 546.5

BETA = -.71 DH L = -1.31 PS 2 = 542.3

NPR = 2.69 DR L = -.02 H = 33197

$RN\ (10^{-6}) = 1.52$ DSB = -3.29 DEL P = .02

PHI	X	CP
0.0	596.00	-.218
0.0	620.00	-.169
0.0	637.00	-.110
0.0	665.00	-.045
0.0	675.00	-.173
0.0	685.00	-.174
0.0	687.00	-.178
0.0	693.00	-.156
0.0	700.00	.025
0.0	706.00	.101
22.5	693.00	-.132
22.5	700.00	.018
45.0	693.00	-.034
45.0	700.00	.008
45.0	706.00	.025
50.0	685.00	-.126
50.0	687.30	-.153
77.0	685.00	.023
90.0	693.00	.048
90.0	706.00	.014
135.0	685.00	-.100
135.0	687.30	-.103
135.0	693.00	-.026
135.0	695.00	.018
135.0	700.00	.027
135.0	702.00	.040
135.0	706.00	.045
157.5	693.00	-.121
157.5	700.00	.012
180.0	590.15	-.044
180.0	625.35	-.039
180.0	661.60	-.034
180.0	685.00	-.160
180.0	687.30	-.178
180.0	693.00	-.131
181.0	694.00	-.107
180.0	700.00	.030
180.0	706.00	.101
202.5	693.00	-.143
215.0	685.00	-.142
215.0	687.30	-.172
225.0	520.00	-.006
225.0	571.00	-.027
225.0	611.00	-.001
225.0	624.50	-.025
225.0	643.00	-.055
225.0	667.00	-.052
225.0	693.00	-.131
225.0	695.00	-.044
225.0	700.00	.048
225.0	702.00	.097
225.0	706.00	.109
247.5	685.00	-.148
252.5	685.00	-.137
282.0	685.00	-.137
292.5	685.00	-.105
315.0	644.35	-.062
315.0	658.00	-.099
315.0	670.25	-.098
315.0	685.00	-.130
320.0	687.30	-.148
315.0	693.00	-.084
315.0	695.00	-.022
315.0	700.00	.052
315.0	702.00	.103
315.0	706.00	.119
TCL	658.70	-.030
TCL	685.00	-.097
BCL	586.00	.011
BCL	646.00	-.074
BCL	671.00	-.055

TABLE 3.—Continued

M = .640

Q = 110.3

ALPHA = 6.48

BETA = -.81

NPR = 3.65

$RN\ (10^{-6}) = 1.20$

AN CG = .91

W = 20798

DA L = 16.98

DH L = -1.70

DR L = -.02

DSR = -.28

AE L = 205

AE R = 205

PS 1 = 388.5

PS 2 = 385.2

M = 40351

DEL P = .03

PHI	X	CP
0.0	596.00	-.213
0.0	620.00	-.170
0.0	637.00	-.112
0.0	665.00	-.048
0.0	675.00	-.170
0.0	685.00	-.164
0.0	687.00	-.168
0.0	693.00	-.143
0.0	700.00	.027
0.0	706.00	.102
22.5	693.00	-.132
22.5	700.00	.012
45.0	693.00	-.040
45.0	700.00	.005
45.0	706.00	.023
50.0	685.00	-.127
50.0	687.30	-.151
77.0	685.00	.016
90.0	693.00	.036
90.0	706.00	.008
135.0	685.00	-.102
135.0	687.30	-.100
135.0	693.00	-.038
135.0	695.00	.005
135.0	700.00	.025
135.0	702.00	.042
135.0	706.00	.053
157.5	693.00	-.126
157.5	700.00	.008
180.0	590.15	-.048
180.0	625.35	-.048
180.0	661.60	-.040
180.0	685.00	-.157
180.0	687.30	-.243
180.0	693.00	-.126
181.0	694.00	-.098
180.0	700.00	.033
180.0	706.00	.103
202.5	693.00	-.137
215.0	685.00	-.140
215.0	687.30	-.164
225.0	520.00	-.003
225.0	571.00	-.033
225.0	611.00	-.003
225.0	624.50	-.031
225.0	643.00	-.061
225.0	667.00	-.055
225.0	693.00	-.109
225.0	695.00	-.020
225.0	700.00	.055
225.0	702.00	.100
225.0	706.00	.109
247.5	685.00	-.149
252.5	685.00	-.136
282.0	685.00	-.130
292.5	685.00	-.102
315.0	644.35	-.067
315.0	658.00	-.099
315.0	670.25	-.095
315.0	685.00	-.121
320.0	687.30	-.138
315.0	693.00	-.077
315.0	695.00	-.014
315.0	700.00	.057
315.0	702.00	.103
315.0	706.00	.128
TCL	658.70	-.025
TCL	685.00	-.093
BCL	586.00	-.065
BCL	646.00	-.082
BCL	671.00	-.059

TABLE 3.—Continued

M = .636 AN CG = .95 AE L = 205

Q = 111.9 W = 22601 AE R = 205

ALPHA = 6.96 DA L = 4.45 PS 1 = 399.1

BETA = -.18 DH L = -1.44 PS 2 = 395.3

NPR = 3.24×10^{-6} DR L = .70 H = 39793

RN = 1.22×10^{-6} DSB = -3.11 DEL P = .04

PHI	X	CP
0.0	596.00	-.223
0.0	620.00	-.179
0.0	637.00	-.112
0.0	665.00	-.045
0.0	675.00	-.173
0.0	685.00	-.162
0.0	687.00	-.166
0.0	693.00	-.136
0.0	700.00	.030
0.0	706.00	.100
22.5	693.00	-.119
22.5	700.00	.019
45.0	693.00	-.025
45.0	700.00	.013
45.0	706.00	.027
50.0	685.00	-.118
50.0	687.30	-.138
77.0	685.00	.024
90.0	693.00	.044
90.0	706.00	.014
135.0	685.00	-.094
135.0	687.30	-.094
135.0	693.00	-.030
135.0	695.00	.015
135.0	700.00	.033
135.0	702.00	.047
135.0	706.00	.057
157.5	693.00	-.122
157.5	700.00	.013
180.0	690.15	-.040
180.0	625.35	-.035
180.0	661.60	-.026
180.0	685.00	-.149
180.0	687.30	-.166
180.0	693.00	-.122
181.0	694.00	-.095
180.0	700.00	.036
180.0	706.00	.102
202.5	693.00	-.129
215.0	685.00	-.132
215.0	687.30	-.156
225.0	520.00	.002
225.0	571.00	-.024
225.0	611.00	.010
225.0	624.50	-.013
225.0	643.00	-.047
225.0	667.00	-.045
225.0	693.00	-.113
225.0	695.00	-.026
225.0	700.00	.055
225.0	702.00	.100
225.0	706.00	.113
247.5	685.00	-.138
252.5	685.00	-.129
282.0	685.00	-.128
292.5	685.00	-.099
315.0	644.35	-.063
315.0	658.00	-.098
315.0	670.25	-.094
315.0	685.00	-.114
320.0	687.30	-.134
315.0	693.00	-.071
315.0	695.00	-.011
315.0	700.00	.057
315.0	702.00	.103
315.0	706.00	.121
TCL	658.70	-.019
TCL	685.00	-.091
BCL	586.00	-.055
BCL	646.00	-.072
BCL	671.00	-.054

TABLE 3.—Continued

M = .605	AN CG = .93	AE L = 205
Q = 100.9	W = 22746	AE R = 203
ALPHA = 8.00	DA L = 4.00	PS 1 = 397.3
BETA = -.57	DH L = -1.67	PS 2 = 393.5
NPR = 2.95	DR L = .41	H = 39868
$RN\ (10^{-6}) = 1.16$	DSB = -3.11	DEL P = .03

PHI	X	CP
0.0	596.00	-.229
0.0	620.00	-.179
0.0	637.00	-.116
0.0	665.00	-.046
0.0	675.00	-.174
0.0	685.00	-.166
0.0	687.00	-.172
0.0	693.00	-.138
0.0	700.00	.025
0.0	706.00	.095
22.5	693.00	-.120
22.5	700.00	.015
45.0	693.00	-.028
45.0	700.00	.011
45.0	706.00	.021
50.0	695.00	-.118
50.0	687.30	-.144
77.0	685.00	.017
90.0	693.00	.039
90.0	706.00	.011
135.0	685.00	-.105
135.0	687.30	-.107
135.0	693.00	-.036
135.0	695.00	.017
135.0	700.00	.029
135.0	702.00	.039
135.0	706.00	.045

PHI	X	CP
157.5	693.00	-.126
157.5	700.00	.007
180.0	690.15	-.048
180.0	625.35	-.036
180.0	661.60	-.030
180.0	685.00	-.156
180.0	687.30	-.174
180.0	693.00	-.130
181.0	694.00	-.102
180.0	700.00	.027
180.0	706.00	.091
202.5	693.00	-.138
215.0	685.00	-.140
215.0	687.30	-.164
225.0	520.00	.006
225.0	571.00	-.024
225.0	611.00	.008
225.0	624.50	-.014
225.0	643.00	-.046
225.0	667.00	-.046
225.0	693.00	-.116
225.0	695.00	-.028
225.0	700.00	.051
225.0	702.00	.091
225.0	706.00	.103

PHI	X	CP
247.5	685.00	-.144
252.5	685.00	-.138
282.0	685.00	-.136
292.5	685.00	-.105
315.0	644.35	-.067
315.0	658.00	-.097
315.0	670.25	-.093
315.0	685.00	-.122
320.0	687.30	-.138
315.0	693.00	-.072
315.0	695.00	-.016
315.0	700.00	.051
315.0	702.00	.101
315.0	706.00	.115
TCL	658.70	-.022
TCL	685.00	-.093
BCL	586.00	-.055
BCL	646.00	-.075
BCL	671.00	-.057

TABLE 3.—Continued

M = .592	AN CG = .97	AE L = 205
Q = 97.5	W = 22731	AE R = 207
ALPHA = 8.80	DA L = 4.14	PS 1 = 400.8
BETA = -.48	DH L = -1.87	PS 2 = 396.7
NPR = 3.27	DR L = .53	H = 39677
$RN\ (10^{-6}) = 1.14$	DSB = -3.11	DEL P = .03

PHI	X	CP
0.0	596.00	-.226
0.0	620.00	-.175
0.0	637.00	-.111
0.0	665.00	-.041
0.0	675.00	-.168
0.0	685.00	-.157
0.0	687.00	-.163
0.0	693.00	-.132
0.0	700.00	.031
0.0	706.00	.099
22.5	693.00	-.111
22.5	700.00	.019
45.0	693.00	-.024
45.0	700.00	.010
45.0	706.00	.025
50.0	685.00	-.113
50.0	687.30	-.130
77.0	685.00	.019
90.0	693.00	.041
90.0	706.00	.016
135.0	685.00	-.108
135.0	687.30	-.107
135.0	693.00	-.042
135.0	695.00	.012
135.0	700.00	.030
135.0	702.00	.044
135.0	706.00	.055
157.5	693.00	-.134
157.5	700.00	.003
180.0	590.15	-.040
180.0	625.35	-.029
180.0	661.60	-.027
180.0	685.00	-.153
180.0	687.30	-.173
180.0	693.00	-.135
181.0	694.00	-.102
180.0	700.00	.027
180.0	706.00	.101
202.5	693.00	-.135
215.0	685.00	-.129
215.0	687.30	-.154
225.0	520.00	.018
225.0	571.00	-.016
225.0	611.00	.017
225.0	624.50	-.003
225.0	643.00	-.037
225.0	667.00	-.037
225.0	693.00	-.105
225.0	695.00	-.021
225.0	700.00	.057
225.0	702.00	.097
225.0	706.00	.108
247.5	685.00	-.141
252.5	685.00	-.129
282.0	685.00	-.131
292.5	685.00	-.100
315.0	644.35	-.062
315.0	658.00	-.093
315.0	670.25	-.091
315.0	685.00	-.114
320.0	687.30	-.132
315.0	693.00	-.069
315.0	695.00	-.015
315.0	700.00	.056
315.0	702.00	.104
315.0	706.00	.124
TCL	658.70	-.022
TCL	685.00	-.092
BCL	586.00	-.049
BCL	646.00	-.068
BCL	671.00	-.052

TABLE 3.—Continued

M = .823

Q = 698.8

ALPHA = 1.03

BETA = -.30

NPR = 3.05

RN (10^{-6}) = 4.57

AN CG = 1.03

W = 23665

DA L = .77

DH L = -.73

DR L = .35

DSB = -.28

AE L = 205

AE R = 206

PS 1 = 1496.0

PS 2 = 1495.5

H = 9666

DEL P = -.14

PHI	X	CP
0.0	596.00	-.240
0.0	620.00	-.179
0.0	637.00	-.095
0.0	665.00	-.049
0.0	675.00	-.184
0.0	685.00	-.192
0.0	687.00	-.187
0.0	693.00	-.197
0.0	700.00	.016
0.0	706.00	.124
22.5	693.00	-.131
22.5	700.00	.034
45.0	693.00	-.017
45.0	700.00	.022
45.0	706.00	.031
50.0	685.00	-.132
50.0	687.30	-.156
77.0	685.00	.049
90.0	693.00	.065
90.0	706.00	.026
135.0	685.00	-.049
135.0	687.30	-.046
135.0	693.00	.010
135.0	695.00	.030
135.0	700.00	.032
135.0	702.00	.036
135.0	706.00	.041

PHI	X	CP
157.5	693.00	-.082
157.5	700.00	.021
180.0	590.15	-.068
180.0	625.35	-.059
180.0	661.60	-.058
180.0	685.00	-.148
180.0	687.30	-.157
180.0	693.00	-.120
181.0	694.00	-.088
180.0	700.00	.024
180.0	706.00	.117
202.5	693.00	-.145
215.0	685.00	-.153
215.0	687.30	-.178
225.0	520.00	-.086
225.0	571.00	-.058
225.0	611.00	-.018
225.0	624.50	-.051
225.0	643.00	-.093
225.0	667.00	-.082
225.0	693.00	-.149
225.0	695.00	-.058
225.0	700.00	.036
225.0	702.00	.097
225.0	706.00	.136

PHI	X	CP
247.5	685.00	-.155
252.5	685.00	-.141
282.0	685.00	-.125
292.5	685.00	-.111
315.0	644.35	-.052
315.0	658.00	-.105
315.0	670.25	-.113
315.0	685.00	-.146
320.0	687.30	-.168
315.0	693.00	-.107
315.0	695.00	-.034
315.0	700.00	.039
315.0	702.00	.108
315.0	706.00	.126
TCL	658.70	-.018
TCL	685.00	-.092
BCL	586.00	-.085
BCL	646.00	-.087
BCL	671.00	-.047

TABLE 3.—Continued

M = .809 AN CG = .97 AE L = 205

Q = 450.5 W = 23242 AE R = 205

ALPHA = 1.46 DA L = .64 PS 1 = 996.2

BETA = -.31 DH L = -.61 PS 2 = 994.0

NPR = 2.55 DR L = .66 H = 19762

$RN\ (10^{-6}) = 3.24$ DSB = -.32 DEL P = -.06

PHI	X	CP	PHI	X	CP	PHI	X	CP
0.0	596.00	-.241	157.5	693.00	-.088	247.5	685.00	-.159
0.0	620.00	-.189	157.5	700.00	.018	252.5	685.00	-.146
0.0	637.00	-.109	180.0	590.15	-.071	282.0	685.00	-.132
0.0	665.00	-.052	180.0	625.35	-.063	292.5	685.00	-.115
0.0	675.00	-.187	180.0	661.60	-.060	315.0	644.35	-.058
0.0	685.00	-.196	180.0	685.00	-.155	315.0	658.00	-.109
0.0	687.00	-.196	180.0	687.30	-.167	315.0	670.25	-.116
0.0	693.00	-.191	180.0	693.00	-.122	315.0	685.00	-.148
0.0	700.00	.017	181.0	694.00	-.091	320.0	687.30	-.172
0.0	706.00	.108	180.0	700.00	.022	315.0	693.00	-.103
22.5	693.00	-.125	180.0	706.00	.100	315.0	695.00	-.030
22.5	700.00	.023	202.5	693.00	-.148	315.0	700.00	.042
45.0	693.00	-.021	215.0	685.00	-.156	315.0	702.00	.095
45.0	700.00	.013	215.0	687.30	-.186	315.0	706.00	.112
45.0	706.00	.024	225.0	520.00	-.080	TCL	658.70	-.013
50.0	685.00	-.125	225.0	571.00	-.058	TCL	685.00	-.094
50.0	687.30	-.149	225.0	611.00	-.024	BCL	586.00	-.088
77.0	685.00	.040	225.0	624.50	-.054	BCL	646.00	-.090
90.0	693.00	.058	225.0	643.00	-.096	BCL	671.00	-.052
90.0	706.00	.016	225.0	667.00	-.084			
135.0	685.00	-.056	225.0	693.00	-.149			
135.0	687.30	-.055	225.0	695.00	-.058			
135.0	693.00	.004	225.0	700.00	.035			
135.0	695.00	.020	225.0	702.00	.086			
135.0	700.00	.025	225.0	706.00	.117			
135.0	702.00	.031						
135.0	706.00	.035						

TABLE 3.—Continued

M = .900 AN CG = .96 AE L = 205

Q = 809.5 W = 23486 AE R = 205

ALPHA = .85 DA L = .93 PS 1 = 1454.9

BETA = -.35 DH L = -.92 PS 2 = 1455.5

NPR = 3.06 DR L = -.96 H = 10495

$RN\ (10^{-6}) = 4.84$ DSB = -.26 DEL P = -.17

PHI	X	CP	PHI	X	CP	PHI	X	CP
0.0	596.00	-.300	157.5	693.00	-.054	247.5	685.00	-.165
0.0	620.00	-.270	157.5	700.00	.040	252.5	685.00	-.147
0.0	637.00	-.082	180.0	590.15	-.068	282.0	685.00	-.123
0.0	665.00	-.039	180.0	625.35	-.055	292.5	685.00	-.112
0.0	675.00	-.188	180.0	661.60	-.061	315.0	644.35	-.037
0.0	685.00	-.195	180.0	685.00	-.139	315.0	658.00	-.099
0.0	687.00	-.183	180.0	687.30	-.142	315.0	670.25	-.114
0.0	693.00	-.194	180.0	693.00	-.100	315.0	685.00	-.148
0.0	700.00	.031	181.0	694.00	-.065	320.0	687.30	-.167
0.0	706.00	.135	180.0	700.00	.045	315.0	693.00	-.102
22.5	693.00	-.112	180.0	706.00	.126	315.0	695.00	-.020
22.5	700.00	.052	202.5	693.00	-.136	315.0	700.00	.058
45.0	693.00	-.002	215.0	685.00	-.160	315.0	702.00	.120
45.0	700.00	.036	215.0	687.30	-.186	315.0	706.00	.144
45.0	706.00	.040	225.0	520.00	-.102	TCL	658.70	.003
50.0	685.00	-.123	225.0	571.00	-.055	TCL	685.00	-.078
50.0	687.30	-.144	225.0	611.00	-.007	BCL	586.00	-.082
77.0	685.00	.065	225.0	624.50	-.044	BCL	646.00	-.087
90.0	693.00	.080	225.0	643.00	-.100	BCL	671.00	-.041
90.0	706.00	.034	225.0	667.00	-.094			
135.0	685.00	-.024	225.0	693.00	-.145			
135.0	687.30	-.017	225.0	695.00	-.037			
135.0	693.00	.041	225.0	700.00	.060			
135.0	695.00	.045	225.0	702.00	.122			
135.0	700.00	.044	225.0	706.00	.156			
135.0	702.00	.044						
135.0	706.00	.043						

TABLE 3.—Continued

M = .908	AN CG = .35	AE L = 205
Q = 606.7	W = 20335	AE R = 205
ALPHA = .94	DA L = 15.35	PS 1 = 1071.5
BETA = -.40	DH L = -.88	PS 2 = 1071.1
NFR = 3.32	DR L = -.15	H = 18138
RN (10^{-6}) = 3.81	DSB = -.32	DEL P = -.10

PHI	X	CP
0.0	596.00	-.300
0.0	620.00	-.310
0.0	637.00	-.077
0.0	665.00	-.038
0.0	675.00	-.175
0.0	685.00	-.192
0.0	687.00	-.183
0.0	693.00	-.185
0.0	700.00	.045
0.0	706.00	.142
22.5	693.00	-.099
22.5	700.00	.057
45.0	693.00	.007
45.0	700.00	.041
45.0	706.00	.041
50.0	685.00	-.114
50.0	687.30	-.134
77.0	685.00	.068
90.0	693.00	.083
90.0	706.00	.037
135.0	685.00	-.014
135.0	687.30	-.009
135.0	693.00	.051
135.0	695.00	.050
135.0	700.00	.048
135.0	702.00	.046
135.0	706.00	.044
157.5	693.00	-.050
157.5	700.00	.046
180.0	590.15	-.066
180.0	625.35	-.055
180.0	661.60	-.062
180.0	685.00	-.138
180.0	687.30	-.419
180.0	693.00	-.094
181.0	694.00	-.060
180.0	700.00	.053
180.0	706.00	.134
202.5	693.00	-.133
215.0	685.00	-.164
215.0	687.30	-.186
225.0	520.00	-.104
225.0	571.00	-.059
225.0	611.00	-.002
225.0	624.50	-.042
225.0	643.00	-.098
225.0	667.00	-.094
225.0	693.00	-.134
225.0	695.00	-.023
225.0	700.00	.074
225.0	702.00	.132
225.0	706.00	.161
247.5	685.00	-.164
252.5	685.00	-.145
282.0	685.00	-.117
292.5	685.00	-.107
315.0	644.35	-.034
315.0	658.00	-.096
315.0	670.25	-.111
315.0	685.00	-.144
320.0	687.30	-.165
315.0	693.00	-.093
315.0	695.00	-.009
315.0	700.00	.071
315.0	702.00	.128
315.0	706.00	.151
TCL	658.70	.011
TCL	685.00	-.072
BCL	586.00	-.081
BCL	646.00	-.085
BCL	671.00	-.034

TABLE 3.—Continued

M = .902 AN CG = .93 AE L = 205

Q = 391.9 W = 22885 AE R = 205

ALPHA = 1.43 DA L = .61 PS 1 = 701.1

BETA = -.57 DH L = -.94 PS 2 = 698.3

NPR = 3.14 DR L = .12 H = 27997

$RN\ (10^{-6}) = 2.59$ DSB = -.29 DEL P = -.03

PHI	X	CP
0.0	596.00	-.297
0.0	620.00	-.336
0.0	637.00	-.106
0.0	665.00	-.042
0.0	675.00	-.183
0.0	685.00	-.195
0.0	687.00	-.190
0.0	693.00	-.173
0.0	700.00	.042
0.0	706.00	.121
22.5	693.00	-.096
22.5	700.00	.039
45.0	693.00	-.001
45.0	700.00	.026
45.0	706.00	.030
50.0	685.00	-.112
50.0	687.30	-.132
77.0	685.00	.051
90.0	693.00	.068
90.0	706.00	.026
135.0	685.00	-.026
135.0	687.30	-.022
135.0	693.00	.039
135.0	695.00	.038
135.0	700.00	.036
135.0	702.00	.034
135.0	706.00	.032
157.5	693.00	-.051
157.5	700.00	.033
180.0	590.15	-.075
180.0	625.35	-.064
180.0	661.60	-.069
180.0	685.00	-.144
180.0	687.30	-.142
180.0	693.00	-.089
181.0	694.00	-.059
180.0	700.00	.045
180.0	706.00	.106
202.5	693.00	-.130
215.0	685.00	-.164
215.0	687.30	-.194
225.0	520.00	-.100
225.0	571.00	-.058
225.0	611.00	-.017
225.0	624.50	-.053
225.0	643.00	-.111
225.0	667.00	-.102
225.0	693.00	-.127
225.0	695.00	-.023
225.0	700.00	.064
225.0	702.00	.115
225.0	706.00	.138
247.5	685.00	-.168
252.5	685.00	-.151
282.0	685.00	-.122
292.5	685.00	-.113
315.0	644.35	-.045
315.0	658.00	-.103
315.0	670.25	-.117
315.0	685.00	-.146
320.0	687.30	-.162
315.0	693.00	-.083
315.0	695.00	-.008
315.0	700.00	.060
315.0	702.00	.106
315.0	706.00	.131
TCL	658.70	.002
TCL	685.00	-.080
BCL	586.00	-.088
BCL	646.00	-.095
BCL	671.00	-.045

TABLE 3.—Continued

M = .901	AN CG = .97	AE L = 205
Q = 399.4	W = 21611	AE R = 205
ALPHA = 1.38	DA L = 3.93	PS 1 = 716.0
BETA = -.47	DH L = -.88	PS 2 = 713.2
NPR = 3.42	DR L = -.22	H = 27525
$RN\ (10^{-6}) = 2.81$	DSB = -3.20	DEL P = -.03

PHI	X	CP
0.0	596.00	-.315
0.0	620.00	-.302
0.0	637.00	-.085
0.0	665.00	-.038
0.0	675.00	-.174
0.0	685.00	-.192
0.0	687.00	-.188
0.0	693.00	-.174
0.0	700.00	.048
0.0	706.00	.136
22.5	693.00	-.099
22.5	700.00	.047
45.0	693.00	-.001
45.0	700.00	.030
45.0	706.00	.036
50.0	685.00	-.112
50.0	687.30	-.135
77.0	685.00	.054
90.0	693.00	.073
90.0	706.00	.029
135.0	685.00	-.018
135.0	687.30	-.012
135.0	693.00	.046
135.0	695.00	.042
135.0	700.00	.041
135.0	702.00	.039
135.0	706.00	.038
157.5	693.00	-.048
157.5	700.00	.041
180.0	590.15	-.069
180.0	625.35	-.059
180.0	661.60	-.062
180.0	685.00	-.137
180.0	687.30	-.140
180.0	693.00	-.085
181.0	694.00	-.055
180.0	700.00	.055
180.0	706.00	.120
202.5	693.00	-.128
215.0	685.00	-.157
215.0	687.30	-.185
225.0	520.00	-.099
225.0	571.00	-.059
225.0	611.00	-.008
225.0	624.50	-.046
225.0	643.00	-.101
225.0	667.00	-.095
225.0	693.00	-.123
225.0	695.00	-.017
225.0	700.00	.073
225.0	702.00	.128
225.0	706.00	.152
247.5	685.00	-.160
252.5	685.00	-.142
282.0	685.00	-.113
292.5	685.00	-.105
315.0	644.35	-.038
315.0	658.00	-.099
315.0	670.25	-.112
315.0	685.00	-.141
320.0	687.30	-.160
315.0	693.00	-.077
315.0	695.00	.003
315.0	700.00	.075
315.0	702.00	.121
315.0	706.00	.144
TCL	658.70	.007
TCL	685.00	-.073
BCL	586.00	-.082
BCL	646.00	-.088
BCL	671.00	-.037

TABLE 3.—Continued

M = .925 AN CG = .94 AE L = 205

Q = 213.7 W = 22498 AE R = 181

ALPHA = 2.58 DA L = 16.28 PS 1 = 364.6

BETA = -.59 DH L = -1.75 PS 2 = 361.4

NPR = 4.15 DR L = .10 H = 41921

$RN\ (10^{-6}) = 1.60$ DSB = -.30 DEL P = .02

PHI	X	CP
0.0	596.00	-.250
0.0	620.00	-.380
0.0	637.00	-.152
0.0	665.00	-.037
0.0	675.00	-.160
0.0	685.00	-.176
0.0	687.00	-.173
0.0	693.00	-.127
0.0	700.00	.054
0.0	706.00	.118
22.5	693.00	-.077
22.5	700.00	.036
45.0	693.00	-.071
45.0	700.00	.023
45.0	706.00	.028
50.0	685.00	-.096
50.0	687.30	-.115
77.0	685.00	.035
90.0	693.00	.057
90.0	706.00	.022
135.0	685.00	-.030
135.0	687.30	-.025
135.0	693.00	.034
135.0	695.00	.029
135.0	700.00	.029
135.0	702.00	.028
135.0	706.00	.026
157.5	693.00	-.042
157.5	700.00	.033
180.0	590.15	-.080
180.0	625.35	-.077
180.0	661.60	-.087
180.0	685.00	-.148
180.0	687.30	0.000
180.0	693.00	-.067
181.0	694.00	-.044
180.0	700.00	.048
180.0	706.00	.103
202.5	693.00	-.102
215.0	685.00	-.120
215.0	687.30	-.191
225.0	520.00	-.132
225.0	571.00	-.055
225.0	611.00	-.025
225.0	624.50	-.066
225.0	643.00	-.133
225.0	667.00	-.122
225.0	693.00	-.082
225.0	695.00	.013
225.0	700.00	.072
225.0	702.00	.111
225.0	706.00	.124
247.5	685.00	-.160
252.5	685.00	-.139
282.0	685.00	-.122
292.5	685.00	-.110
315.0	644.35	-.055
315.0	658.00	-.094
315.0	670.25	-.105
315.0	685.00	-.131
320.0	687.30	-.144
315.0	693.00	-.065
315.0	695.00	-.003
315.0	700.00	.059
315.0	702.00	.109
315.0	706.00	.131
TCL	658.70	.005
TCL	685.00	-.072
BCL	586.00	-.091
BCL	646.00	-.114
BCL	671.00	-.052

TABLE 3.—Continued

M = .900

Q = 199.8

ALPHA = 2.73

BETA = -.73

NPR = 3.79×10^{-6}

RN (10^{-6}) = 1.53

AN CG = .98

W = 22317

DA L = 4.36

DH L = -1.34

DR L = .03

DSB = -3.12

AE L = 205

AE R = 206

PS 1 = 359.0

PS 2 = 355.9

H = 42205

DEL P = .03

PHI	X	CP
0.0	596.00	-.321
0.0	620.00	-.346
0.0	637.00	-.095
0.0	665.00	-.029
0.0	675.00	-.157
0.0	685.00	-.171
0.0	687.00	-.171
0.0	693.00	-.137
0.0	700.00	.058
0.0	706.00	.127
22.5	693.00	-.076
22.5	700.00	.042
45.0	693.00	.012
45.0	700.00	.032
45.0	706.00	.034
50.0	685.00	-.089
50.0	687.30	-.111
77.0	685.00	.050
90.0	693.00	.067
90.0	706.00	.029
135.0	685.00	-.027
135.0	687.30	-.022
135.0	693.00	.041
135.0	695.00	.040
135.0	700.00	.038
135.0	702.00	.040
135.0	706.00	.040
157.5	693.00	-.047
157.5	700.00	.042
180.0	590.15	-.070
180.0	625.35	-.062
180.0	661.60	-.064
180.0	685.00	-.141
180.0	687.30	-.143
180.0	693.00	-.075
181.0	694.00	-.046
180.0	700.00	.058
180.0	706.00	.113
202.5	693.00	-.112
215.0	685.00	-.155
215.0	687.30	-.181
225.0	520.00	-.073
225.0	571.00	-.047
225.0	611.00	-.009
225.0	624.50	-.051
225.0	643.00	-.108
225.0	667.00	-.098
225.0	693.00	-.095
225.0	695.00	.005
225.0	700.00	.075
225.0	702.00	.123
225.0	706.00	.142
247.5	685.00	-.155
252.5	685.00	-.137
282.0	685.00	-.111
292.5	685.00	-.099
315.0	644.35	-.034
315.0	658.00	-.088
315.0	670.25	-.100
315.0	685.00	-.124
320.0	687.30	-.136
315.0	693.00	-.053
315.0	695.00	.015
315.0	700.00	.074
315.0	702.00	.117
315.0	706.00	.135
TCL	658.70	.019
TCL	685.00	-.064
BCL	586.00	-.077
BCL	646.00	-.091
BCL	671.00	-.042

TABLE 3.—Continued

M = .906

Q = 138.6

ALPHA = 3.55

BETA = -.64

NPR = 5.67

RN (10^{-6}) = 1.09

AN CG = .92

W = 21806

DA L = 3.68

DH L = -2.11

DR L = -.34

DSB = -3.14

AE L = 227

AE R = 225

PS 1 = 246.0

PS 2 = 242.7

H = 50080

DEL P = .04

PHI	X	CP
0.0	596.00	-.316
0.0	620.00	-.335
0.0	637.00	-.093
0.0	665.00	-.019
0.0	675.00	-.130
0.0	685.00	-.140
0.0	687.00	-.136
0.0	693.00	-.111
0.0	700.00	.072
0.0	706.00	.148
22.5	693.00	-.076
22.5	700.00	.052
45.0	693.00	.012
45.0	700.00	.036
45.0	706.00	.046
50.0	685.00	-.078
50.0	687.30	-.097
77.0	685.00	.047
90.0	693.00	.065
90.0	706.00	.033
135.0	685.00	-.019
135.0	687.30	-.018
135.0	693.00	.040
135.0	695.00	.043
135.0	700.00	.041
135.0	702.00	.047
135.0	706.00	.056
157.5	693.00	-.036
157.5	700.00	.055
180.0	590.15	-.052
180.0	625.35	-.060
180.0	661.60	-.063
180.0	685.00	-.131
180.0	687.30	-.127
180.0	693.00	-.056
181.0	694.00	-.027
180.0	700.00	.076
180.0	706.00	.134
202.5	693.00	-.082
215.0	685.00	-.133
215.0	687.30	-.145
225.0	520.00	-.066
225.0	571.00	-.037
225.0	611.00	-.007
225.0	624.50	-.052
225.0	643.00	-.112
225.0	667.00	-.097
225.0	693.00	-.056
225.0	695.00	.035
225.0	700.00	.098
225.0	702.00	.137
225.0	706.00	.154
247.5	685.00	-.125
252.5	685.00	-.100
282.0	685.00	-.085
292.5	685.00	-.073
315.0	644.35	-.029
315.0	658.00	-.073
315.0	670.25	-.080
315.0	685.00	-.092
320.0	687.30	-.100
315.0	693.00	-.025
315.0	695.00	.033
315.0	700.00	.089
315.0	702.00	.133
315.0	706.00	.156
TCL	658.70	.017
TCL	685.00	-.055
BCL	586.00	-.073
BCL	646.00	-.099
BCL	671.00	-.037

TABLE 3.—Continued

M = .887 AN CG = .94 AE L = 204

Q = 134.7 W = 22095 AE F = 204

ALPHA = 3.96 DA L = 4.44 PS 1 = 248.7

BETA = -.93 DH L = -1.56 PS 2 = 245.9

NPR = 3.77 DR L = -.05 H = 49825

RN (10^{-6}) = 1.08 DSB = -3.12 DEL P = .03

PHI	X	CP
0.0	596.00	-.341
0.0	620.00	-.272
0.0	637.00	-.090
0.0	665.00	-.029
0.0	675.00	-.160
0.0	685.00	-.163
0.0	687.00	-.164
0.0	693.00	-.121
0.0	700.00	.057
0.0	706.00	.121
22.5	693.00	-.070
22.5	700.00	.041
45.0	693.00	.012
45.0	700.00	.031
45.0	706.00	.034
50.0	685.00	-.090
50.0	687.30	-.109
77.0	685.00	.042
90.0	693.00	.063
90.0	706.00	.032
135.0	685.00	-.029
135.0	687.30	-.026
135.0	693.00	.042
135.0	695.00	.041
135.0	700.00	.039
135.0	702.00	.038
135.0	706.00	.035
157.5	693.00	-.045
157.5	700.00	.042
180.0	590.15	-.063
180.0	625.35	-.058
180.0	661.60	-.061
180.0	685.00	-.143
180.0	687.30	-.148
180.0	693.00	-.077
181.0	694.00	-.051
180.0	700.00	.052
180.0	706.00	.112
202.5	693.00	-.111
215.0	685.00	-.152
215.0	687.30	-.176
225.0	520.00	-.048
225.0	571.00	-.038
225.0	611.00	-.009
225.0	624.50	-.053
225.0	643.00	-.107
225.0	667.00	-.092
225.0	693.00	-.092
225.0	695.00	.003
225.0	700.00	.067
225.0	702.00	.115
225.0	706.00	.134
247.5	685.00	-.153
252.5	685.00	-.138
282.0	685.00	-.114
292.5	685.00	-.098
315.0	644.35	-.038
315.0	658.00	-.089
315.0	670.25	-.099
315.0	685.00	-.118
320.0	687.30	-.131
315.0	693.00	-.049
315.0	695.00	.015
315.0	700.00	.070
315.0	702.00	.111
315.0	706.00	.132
TCL	658.70	.016
TCL	685.00	-.066
BCL	586.00	-.072
BCL	646.00	-.090
BCL	671.00	-.042

TABLE 3.—Continued

M = 1.185

Q = 783.8

ALPHA = .68

BETA = -.34

NPR = 5.92

$RN\ (10^{-6}) = 4.07$

AN CG = .89

W = 20584

DA L = 4.07

DH L = .22

DR L = -.21

DSB = -3.20

AE L = 355

AE R = 349

PS 1 = 798.1

PS 2 = 794.3

H = 24642

DEL P = .01

PHI	X	CP
0.0	596.00	-.088
0.0	620.00	-.165
0.0	637.00	-.203
0.0	665.00	-.109
0.0	675.00	-.184
0.0	685.00	-.229
0.0	687.00	-.237
0.0	693.00	-.301
0.0	700.00	-.379
0.0	706.00	-.041
22.5	693.00	-.216
22.5	700.00	-.406
45.0	693.00	-.311
45.0	700.00	-.151
45.0	706.00	-.051
50.0	685.00	-.220
50.0	687.30	-.298
77.0	685.00	-.114
90.0	693.00	-.078
90.0	706.00	-.104
135.0	685.00	-.174
135.0	687.30	-.117
135.0	693.00	-.183
135.0	695.00	-.278
135.0	700.00	-.255
135.0	702.00	-.056
135.0	706.00	.005

PHI	X	CP
157.5	693.00	-.137
157.5	700.00	-.391
180.0	590.15	-.319
180.0	625.35	-.133
180.0	661.60	-.065
180.0	685.00	-.163
180.0	687.30	-.166
180.0	693.00	-.122
181.0	694.00	-.160
180.0	700.00	-.303
180.0	706.00	-.026
202.5	693.00	-.119
215.0	685.00	-.155
215.0	687.30	-.202
225.0	520.00	-.003
225.0	571.00	-.041
225.0	611.00	-.128
225.0	624.50	-.071
225.0	643.00	-.074
225.0	667.00	-.123
225.0	693.00	-.141
225.0	695.00	-.240
225.0	700.00	-.320
225.0	702.00	-.085
225.0	706.00	.002

PHI	X	CP
247.5	685.00	-.182
252.5	685.00	-.182
282.0	685.00	-.252
292.5	685.00	-.252
315.0	644.35	-.087
315.0	658.00	-.167
315.0	670.25	-.133
315.0	685.00	-.248
320.0	687.30	-.264
315.0	693.00	-.212
315.0	695.00	-.317
315.0	700.00	-.303
315.0	702.00	-.072
315.0	706.00	-.015
TCL	658.70	-.259
TCL	685.00	-.216
BCL	586.00	-.346
BCL	646.00	-.083
BCL	671.00	-.047

TABLE 3.—Continued

M = 1.181	AN CG = .92	AE L = 296
Q = 736.3	W = 21483	AE R = 327
ALPHA = .84	DA L = 9.05	PS 1 = 754.1
BETA = -.28	DH L = .00	PS 2 = 750.8
NPR = 6.26	DR L = -.76	H = 25940
$RN\ (10^{-6}) = 3.90$	DSB = -.28	DEL P = .01

PHI	X	CP
0.0	596.00	-.089
0.0	620.00	-.171
0.0	637.00	-.207
0.0	665.00	-.107
0.0	675.00	-.189
0.0	685.00	-.231
0.0	687.00	-.244
0.0	693.00	-.390
0.0	700.00	-.159
0.0	706.00	-.055
22.5	693.00	-.363
22.5	700.00	-.160
45.0	693.00	-.357
45.0	700.00	-.147
45.0	706.00	-.090
50.0	685.00	-.221
50.0	687.30	-.295
77.0	685.00	-.117
90.0	693.00	-.083
90.0	706.00	-.123
135.0	685.00	-.181
135.0	687.30	-.149
135.0	693.00	-.264
135.0	695.00	-.282
135.0	700.00	-.144
135.0	702.00	-.060
135.0	706.00	-.027
157.5	693.00	-.231
157.5	700.00	-.334
180.0	590.15	-.154
180.0	625.35	-.130
180.0	661.60	-.066
180.0	685.00	-.167
180.0	687.30	-.205
180.0	693.00	-.223
181.0	694.00	-.254
180.0	700.00	-.327
180.0	706.00	-.044
202.5	693.00	-.214
215.0	685.00	-.156
215.0	687.30	-.209
225.0	520.00	-.004
225.0	571.00	-.041
225.0	611.00	-.129
225.0	624.50	-.068
225.0	643.00	-.074
225.0	667.00	-.122
225.0	693.00	-.253
225.0	695.00	-.330
225.0	700.00	-.288
225.0	702.00	-.064
225.0	706.00	-.032
247.5	685.00	-.183
252.5	685.00	-.184
282.0	685.00	-.272
292.5	685.00	-.261
315.0	644.35	-.099
315.0	658.00	-.172
315.0	670.25	-.135
315.0	685.00	-.247
320.0	687.30	-.272
315.0	693.00	-.320
315.0	695.00	-.375
315.0	700.00	-.161
315.0	702.00	-.085
315.0	706.00	-.045
TCL	658.70	-.249
TCL	685.00	-.216
BCL	586.00	-.212
BCL	646.00	-.081
BCL	671.00	-.049

TABLE 3.—Continued

M = 1.166

Q = 585.1

ALPHA = 1.50

BETA = -.36

NPR = 6.66

RN (10^{-6}) = 3.26

AN CG = .96

W = 22679

DA L = 13.91

DH L = -.61

DR L = -.72

DSR = -.28

AE L = 275

AE R = 268

PS 1 = 615.8

PS 2 = 612.2

H = 30458

DEL P = -.00

PHI	X	CP
0.0	596.00	-.107
0.0	620.00	-.191
0.0	637.00	-.232
0.0	665.00	-.073
0.0	675.00	-.184
0.0	685.00	-.244
0.0	687.00	-.263
0.0	693.00	-.433
0.0	700.00	-.130
0.0	706.00	-.056
22.5	693.00	-.406
22.5	700.00	-.140
45.0	693.00	-.307
45.0	700.00	-.151
45.0	706.00	-.102
50.0	685.00	-.237
50.0	687.30	-.307
77.0	685.00	-.106
90.0	693.00	-.080
90.0	706.00	-.122
135.0	685.00	-.188
135.0	687.30	-.157
135.0	693.00	-.279
135.0	695.00	-.226
135.0	700.00	-.123
135.0	702.00	-.073
135.0	706.00	-.047
157.5	693.00	-.265
157.5	700.00	-.211
180.0	590.15	-.195
180.0	625.35	-.127
180.0	661.60	-.066
180.0	685.00	-.177
180.0	687.30	-.215
180.0	693.00	-.259
181.0	694.00	-.290
180.0	700.00	-.203
180.0	706.00	-.044
202.5	693.00	-.252
215.0	685.00	-.167
215.0	687.30	-.221
225.0	520.00	-.011
225.0	571.00	-.060
225.0	611.00	-.123
225.0	624.50	-.052
225.0	643.00	-.071
225.0	667.00	-.121
225.0	693.00	-.307
225.0	695.00	-.381
225.0	700.00	-.153
225.0	702.00	-.066
225.0	706.00	-.041
247.5	685.00	-.197
252.5	685.00	-.201
282.0	685.00	-.288
292.5	685.00	-.265
315.0	644.35	-.112
315.0	658.00	-.174
315.0	670.25	-.138
315.0	685.00	-.254
320.0	687.30	-.279
315.0	693.00	-.363
315.0	695.00	-.358
315.0	700.00	-.127
315.0	702.00	-.088
315.0	706.00	-.060
TCL	658.70	-.225
TCL	685.00	-.201
BCL	586.00	-.189
BCL	646.00	-.081
BCL	671.00	-.056

TABLE 3.—Continued

M = 1.168 AN CG = .88 AE L = 218

Q = 385.9 W = 21248 AE R = 240

ALPHA = 2.07 DA L = 16.96 PS 1 = 404.4

BETA = -.58 DH L = -1.25 PS 2 = 401.5

NPR = 7.54 DR L = -.25 H = 39347

$RN\ (10^{-6}) = 2.32$ DSB = -.32 DEL P = .03

PHI	X	CP
0.0	596.00	-.116
0.0	620.00	-.201
0.0	637.00	-.234
0.0	665.00	-.081
0.0	675.00	-.190
0.0	685.00	-.237
0.0	687.00	-.256
0.0	693.00	-.406
0.0	700.00	-.122
0.0	706.00	-.073
22.5	693.00	-.459
22.5	700.00	-.133
45.0	693.00	-.228
45.0	700.00	-.143
45.0	706.00	-.103
50.0	685.00	-.224
50.0	687.30	-.291
77.0	685.00	-.095
90.0	693.00	-.072
90.0	706.00	-.116
135.0	685.00	-.185
135.0	687.30	-.168
135.0	693.00	-.254
135.0	695.00	-.159
135.0	700.00	-.119
135.0	702.00	-.097
135.0	706.00	-.079
157.5	693.00	-.347
157.5	700.00	-.136
180.0	590.15	-.147
180.0	625.35	-.124
180.0	661.60	-.073
180.0	685.00	-.180
180.0	687.30	-.237
180.0	693.00	-.346
181.0	694.00	-.381
180.0	700.00	-.147
180.0	706.00	-.049
202.5	693.00	-.342
215.0	685.00	-.170
215.0	687.30	-.223
225.0	520.00	-.002
225.0	571.00	-.062
225.0	611.00	-.108
225.0	624.50	-.050
225.0	643.00	-.070
225.0	667.00	-.122
225.0	693.00	-.419
225.0	695.00	-.204
225.0	700.00	-.127
225.0	702.00	-.094
225.0	706.00	-.084
247.5	685.00	-.208
252.5	685.00	-.214
282.0	685.00	-.295
292.5	685.00	-.265
315.0	644.35	-.105
315.0	658.00	-.168
315.0	670.25	-.137
315.0	685.00	-.244
320.0	687.30	-.276
315.0	693.00	-.369
315.0	695.00	-.176
315.0	700.00	-.136
315.0	702.00	-.117
315.0	706.00	-.097
TCL	658.70	-.195
TCL	685.00	-.201
BCL	586.00	-.160
BCL	646.00	-.085
BCL	671.00	-.058

TABLE 3.—Continued

M = 1.250

Q = 266.3

ALPHA = 2.85

BETA = -.54

NPR = 8.08

RN (10^{-6}) = 1.54

AN CG = .95

W = 21094

DA L = 3.95

DH L = -2.78

DR L = -.09

DSB = -3.17

AE L = 292

AE R = 292

PS 1 = 243.6

PS 2 = 240.5

H = 49891

DEL P = .07

PHI	X	CP
0.0	596.00	-.085
0.0	620.00	-.180
0.0	637.00	-.220
0.0	665.00	-.105
0.0	675.00	-.221
0.0	685.00	-.185
0.0	687.00	-.193
0.0	693.00	-.307
0.0	700.00	-.074
0.0	706.00	-.030
22.5	693.00	-.334
22.5	700.00	-.065
45.0	693.00	-.201
45.0	700.00	-.091
45.0	706.00	-.044
50.0	685.00	-.184
50.0	687.30	-.243
77.0	685.00	-.070
90.0	693.00	-.045
90.0	706.00	-.070
135.0	685.00	-.151
135.0	687.30	-.142
135.0	693.00	-.191
135.0	695.00	-.157
135.0	700.00	-.078
135.0	702.00	-.036
135.0	706.00	-.016
157.5	693.00	-.219
157.5	700.00	-.136
180.0	590.15	-.094
180.0	625.35	-.103
180.0	661.60	-.085
180.0	685.00	-.158
180.0	687.30	-.216
180.0	693.00	-.229
181.0	694.00	-.259
180.0	700.00	-.114
180.0	706.00	-.017
202.5	693.00	-.231
215.0	685.00	-.155
215.0	687.30	-.198
225.0	520.00	.062
225.0	571.00	-.005
225.0	611.00	-.081
225.0	624.50	-.063
225.0	643.00	-.056
225.0	667.00	-.118
225.0	693.00	-.286
225.0	695.00	-.292
225.0	700.00	-.090
225.0	702.00	-.044
225.0	706.00	-.023
247.5	685.00	-.201
252.5	685.00	-.212
282.0	685.00	-.279
292.5	685.00	-.239
315.0	644.35	-.084
315.0	658.00	-.153
315.0	670.25	-.134
315.0	685.00	-.200
320.0	687.30	-.227
315.0	693.00	-.271
315.0	695.00	-.224
315.0	700.00	-.071
315.0	702.00	-.024
315.0	706.00	-.006
TCL	658.70	-.126
TCL	685.00	-.266
BCL	586.00	-.135
BCL	646.00	-.116
BCL	671.00	-.054

TABLE 3.—Continued

M = 1.472 AN CG = .91 AE L = 300

Q = 597.0 W = 21754 AE R = 298

ALPHA = 1.25 DA L = 3.26 PS 1 = 393.9

BETA = -.62 DH L = .10 PS 2 = 390.0

NPR = 8.92 DR L = .99 H = 39902

$RN\ (10^{-6}) = 2.82$ DSB = -3.06 DEL P = .10

PHI	X	CP
0.0	596.00	-.032
0.0	620.00	-.089
0.0	637.00	-.123
0.0	665.00	-.090
0.0	675.00	-.206
0.0	685.00	-.206
0.0	687.00	-.218
0.0	693.00	-.247
0.0	700.00	-.087
0.0	706.00	-.032
22.5	693.00	-.211
22.5	700.00	-.091
45.0	693.00	-.252
45.0	700.00	-.076
45.0	706.00	-.041
50.0	685.00	-.111
50.0	687.30	-.170
77.0	685.00	-.054
90.0	693.00	-.034
90.0	706.00	-.061
135.0	685.00	-.094
135.0	687.30	-.100
135.0	693.00	-.161
135.0	695.00	-.190
135.0	700.00	-.092
135.0	702.00	-.019
135.0	706.00	.003
157.5	693.00	-.130
157.5	700.00	-.286
180.0	590.15	-.087
180.0	625.35	-.079
180.0	661.60	-.074
180.0	685.00	-.108
180.0	687.30	-.198
180.0	693.00	-.142
181.0	694.00	-.170
180.0	700.00	-.251
180.0	706.00	-.008
202.5	693.00	-.154
215.0	685.00	-.130
215.0	687.30	-.155
225.0	520.00	-.009
225.0	571.00	-.075
225.0	611.00	-.080
225.0	624.50	-.070
225.0	643.00	-.033
225.0	667.00	-.098
225.0	693.00	-.200
225.0	695.00	-.250
225.0	700.00	-.106
225.0	702.00	-.029
225.0	706.00	-.009
247.5	685.00	-.163
252.5	685.00	-.170
282.0	685.00	-.219
292.5	685.00	-.202
315.0	644.35	-.055
315.0	658.00	-.095
315.0	670.25	-.106
315.0	685.00	-.179
320.0	687.30	-.215
315.0	693.00	-.228
315.0	695.00	-.254
315.0	700.00	-.090
315.0	702.00	-.055
315.0	706.00	-.031
TCL	658.70	-.156
TCL	685.00	-.158
BCL	586.00	-.073
BCL	646.00	-.119
BCL	671.00	-.018

TABLE 3.—Continued

M = 1.580 AN CG = .88 AE L = 322

Q = 626.8 W = 22061 AE R = 352

ALPHA = 1.38 DA L = 4.35 PS 1 = 359.0

BETA = -.62 DH L = .31 PS 2 = 355.1

NPR = 9.45 DR L = 1.26 H = 41828

$RN\ (10^{-6}) = 2.77$ DSB = -3.05 DEL P = .11

PHI	X	CP	PHI	X	CP	PHI	X	CP
0.0	596.00	-.022	157.5	693.00	-.090	247.5	685.00	-.128
0.0	620.00	-.084	157.5	700.00	-.232	252.5	685.00	-.147
0.0	637.00	-.108	180.0	590.15	-.078	282.0	685.00	-.187
0.0	665.00	-.081	180.0	625.35	-.088	292.5	685.00	-.174
0.0	675.00	-.174	180.0	661.60	-.072	315.0	644.35	-.050
0.0	685.00	-.177	180.0	685.00	-.107	315.0	658.00	-.081
0.0	687.00	-.191	180.0	687.30	-.180	315.0	670.25	-.082
0.0	693.00	-.235	180.0	693.00	-.102	315.0	685.00	-.148
0.0	700.00	-.079	181.0	694.00	-.125	320.0	687.30	-.183
0.0	706.00	-.017	180.0	700.00	-.203	315.0	693.00	-.161
22.5	693.00	-.184	180.0	706.00	.013	315.0	695.00	-.219
22.5	700.00	-.060	202.5	693.00	-.118	315.0	700.00	-.077
45.0	693.00	-.172	215.0	685.00	-.108	315.0	702.00	-.037
45.0	700.00	-.032	215.0	687.30	-.131	315.0	706.00	-.015
45.0	706.00	-.020	225.0	520.00	-.026	TCL	658.70	-.080
50.0	685.00	-.105	225.0	571.00	-.033	TCL	685.00	-.128
50.0	687.30	-.147	225.0	611.00	-.096	BCL	586.00	-.102
77.0	685.00	-.019	225.0	624.50	-.072	BCL	646.00	-.144
90.0	693.00	-.005	225.0	643.00	-.036	BCL	671.00	-.014
90.0	706.00	-.021	225.0	667.00	-.079			
135.0	685.00	-.072	225.0	693.00	-.160			
135.0	687.30	-.082	225.0	695.00	-.211			
135.0	693.00	-.101	225.0	700.00	-.137			
135.0	695.00	-.133	225.0	702.00	-.024			
135.0	700.00	-.073	225.0	706.00	.001			
135.0	702.00	.005						
135.0	706.00	.033						

TABLE 3.—Continued

M = 1.593 AN CG = .99 AE L = 360

Q = 841.0 W = 21130 AE R = 372

ALPHA = .81 DA L = 1.17 PS 1 = 473.7

BETA = -.57 DH L = 1.03 PS 2 = 469.7

NPR = 8.75 DR L = 1.13 M = 36063

$RN\ (10^{-6}) = 3.59$ DSB = -3.08 DEL P = .10

PHI	X	CP
0.0	596.00	-.016
0.0	620.00	-.070
0.0	637.00	-.101
0.0	665.00	-.081
0.0	675.00	-.179
0.0	685.00	-.177
0.0	687.00	-.191
0.0	693.00	-.196
0.0	700.00	-.098
0.0	706.00	-.001
22.5	693.00	-.136
22.5	700.00	-.164
45.0	693.00	-.146
45.0	700.00	-.016
45.0	706.00	.012
50.0	685.00	-.103
50.0	687.30	-.140
77.0	685.00	-.003
90.0	693.00	.013
90.0	706.00	.004
135.0	685.00	-.065
135.0	687.30	-.060
135.0	693.00	-.050
135.0	695.00	-.104
135.0	700.00	-.101
135.0	702.00	.024
135.0	706.00	.056
157.5	693.00	-.046
157.5	700.00	-.189
180.0	590.15	-.083
180.0	625.35	-.091
180.0	661.60	-.067
180.0	685.00	-.103
180.0	687.30	-.174
180.0	693.00	-.052
181.0	694.00	-.077
180.0	700.00	-.162
180.0	706.00	.039
202.5	693.00	-.069
215.0	685.00	-.108
215.0	687.30	-.128
225.0	520.00	-.030
225.0	571.00	-.029
225.0	611.00	-.108
225.0	624.50	-.075
225.0	643.00	-.032
225.0	667.00	-.077
225.0	693.00	-.101
225.0	695.00	-.158
225.0	700.00	-.218
225.0	702.00	-.020
225.0	706.00	.033
247.5	685.00	-.136
252.5	685.00	-.143
282.0	685.00	-.184
292.5	685.00	-.171
315.0	644.35	-.047
315.0	658.00	-.080
315.0	670.25	-.086
315.0	685.00	-.148
320.0	687.30	-.183
315.0	693.00	-.130
315.0	695.00	-.178
315.0	700.00	-.121
315.0	702.00	-.020
315.0	706.00	.005
TCL	658.70	-.058
TCL	685.00	-.117
BCL	586.00	-.109
BCL	646.00	-.142
BCL	671.00	-.009

TABLE 3.—Continued

M = .901

Q = 146.6

ALPHA = 3.98

BETA = -1.01

NPR = 5.67

$RN\ (10^{-6}) = 1.15$

AN CG = 1.17

W = 20054

DA L = 15.53

DH L = -2.09

DR L = -.60

DSB = -.26

AE L = 228

AE R = 225

PS 1 = 262.8

PS 2 = 259.7

H = 48702

DEL P = .02

PHI	X	CP
0.0	596.00	-.324
0.0	620.00	-.330
0.0	637.00	-.099
0.0	665.00	-.023
0.0	675.00	-.136
0.0	685.00	-.142
0.0	687.00	-.140
0.0	693.00	-.113
0.0	700.00	.073
0.0	706.00	.151
22.5	693.00	-.070
22.5	700.00	.054
45.0	693.00	.013
45.0	700.00	.038
45.0	706.00	.047
50.0	685.00	-.079
50.0	687.30	-.098
77.0	685.00	.046
90.0	693.00	.067
90.0	706.00	.033
135.0	685.00	-.021
135.0	687.30	-.016
135.0	693.00	.045
135.0	695.00	.045
135.0	700.00	.044
135.0	702.00	.045
135.0	706.00	.048
157.5	693.00	-.038
157.5	700.00	.052
180.0	590.15	-.056
180.0	625.35	-.059
180.0	661.60	-.065
180.0	685.00	-.133
180.0	687.30	-.130
180.0	693.00	-.060
181.0	694.00	-.030
180.0	700.00	.073
180.0	706.00	.135
202.5	693.00	-.084
215.0	685.00	-.135
215.0	687.30	-.145
225.0	520.00	-.064
225.0	571.00	-.036
225.0	611.00	-.006
225.0	624.50	-.052
225.0	643.00	-.115
225.0	667.00	-.097
225.0	693.00	-.063
225.0	695.00	.031
225.0	700.00	.099
225.0	702.00	.140
225.0	706.00	.157
247.5	685.00	-.129
252.5	685.00	-.104
282.0	685.00	-.087
292.5	685.00	-.075
315.0	644.35	-.032
315.0	658.00	-.077
315.0	670.25	-.081
315.0	685.00	-.094
320.0	687.30	-.099
315.0	693.00	-.028
315.0	695.00	.031
315.0	700.00	.089
315.0	702.00	.134
315.0	706.00	.159
TCL	658.70	.016
TCL	685.00	-.055
BCL	586.00	-.073
BCL	646.00	-.096
BCL	571.00	-.039

TABLE 3.—Continued

M = .963	AN CG = 1.24	AE L = 168
Q = 164.0	W = 21539	AE R = 224
ALPHA = 4.37	DA L = 16.53	PS 1 = 258.8
BETA = -.70	DH L = -3.86	PS 2 = 256.9
NPR = 6.11	DF L = .05	H = 49140
$RN(10^{-6}) = 1.22$	DSB = -.32	DEL P = .04

PHI	X	CP
0.0	596.00	-.323
0.0	620.00	-.363
0.0	637.00	-.074
0.0	665.00	.026
0.0	675.00	-.049
0.0	685.00	-.091
0.0	687.00	-.089
0.0	693.00	-.070
0.0	700.00	.106
0.0	706.00	.172
22.5	693.00	-.037
22.5	700.00	.076
45.0	693.00	.033
45.0	700.00	.058
45.0	706.00	.064
50.0	685.00	-.036
50.0	687.30	-.050
77.0	685.00	.063
90.0	693.00	.081
90.0	706.00	.057
135.0	685.00	.032
135.0	687.30	.037
135.0	693.00	.068
135.0	695.00	.061
135.0	700.00	.058
135.0	702.00	.053
135.0	706.00	.050
157.5	693.00	.022
157.5	700.00	.063
180.0	590.15	-.040
180.0	625.35	-.035
180.0	661.60	-.070
180.0	685.00	-.103
180.0	687.30	-.040
180.0	693.00	-.005
181.0	694.00	.020
180.0	700.00	.089
180.0	706.00	.135
202.5	693.00	-.025
215.0	685.00	-.124
215.0	687.30	-.118
225.0	520.00	-.114
225.0	571.00	-.089
225.0	611.00	.025
225.0	624.50	-.026
225.0	643.00	-.116
225.0	667.00	-.109
225.0	693.00	-.008
225.0	695.00	.066
225.0	700.00	.113
225.0	702.00	.145
225.0	706.00	.162
247.5	685.00	-.110
252.5	685.00	-.080
282.0	685.00	-.054
292.5	685.00	-.036
315.0	644.35	.013
315.0	658.00	-.011
315.0	670.25	-.019
315.0	685.00	-.041
320.0	687.30	-.047
315.0	693.00	.009
315.0	695.00	.054
315.0	700.00	.114
315.0	702.00	.159
315.0	706.00	.181
TCL	658.70	.033
TCL	685.00	-.001
BCL	586.00	-.062
BCL	646.00	-.094
BCL	671.00	-.004

TABLE 3.—Continued

M = .955

Q = 156.7

ALPHA = 4.47

BETA = -.74

NPR = 6.07

RN (10^{-6}) = 1.19

AN CG = 1.19

W = 21556

DA L = 12.26

DH L = -3.62

DP L = .02

DSB = -.30

AE L = 224

AE R = 223

PS 1 = 251.3

PS 2 = 248.8

H = 49727

DEL P = .04

PHI	X	CP
0.0	596.00	-.283
0.0	620.00	-.347
0.0	637.00	-.076
0.0	665.00	.013
0.0	675.00	-.067
0.0	685.00	-.105
0.0	687.00	-.103
0.0	693.00	-.082
0.0	700.00	.099
0.0	706.00	.164
22.5	693.00	-.047
22.5	700.00	.067
45.0	693.00	.024
45.0	700.00	.049
45.0	706.00	.054
50.0	685.00	-.047
50.0	687.30	-.061
77.0	685.00	.053
90.0	693.00	.071
90.0	706.00	.048
135.0	685.00	.018
135.0	687.30	.026
135.0	693.00	.059
135.0	695.00	.051
135.0	700.00	.051
135.0	702.00	.049
135.0	706.00	.040
157.5	693.00	.009
157.5	700.00	.057
180.0	690.15	-.045
180.0	625.35	-.048
180.0	661.60	-.081
180.0	685.00	-.116
180.0	687.30	-.037
180.0	693.00	-.014
181.0	694.00	.012
180.0	700.00	.082
180.0	706.00	.129
202.5	693.00	-.037
215.0	685.00	-.132
215.0	687.30	-.125
225.0	520.00	-.127
225.0	571.00	-.048
225.0	611.00	.018
225.0	624.50	-.037
225.0	643.00	-.125
225.0	667.00	-.119
225.0	693.00	-.019
225.0	695.00	.055
225.0	700.00	.104
225.0	702.00	.136
225.0	706.00	.154
247.5	685.00	-.116
252.5	685.00	-.084
282.0	685.00	-.063
292.5	685.00	-.047
315.0	644.35	.003
315.0	658.00	-.028
315.0	670.25	-.037
315.0	685.00	-.057
320.0	687.30	-.064
315.0	693.00	-.001
315.0	695.00	.046
315.0	700.00	.106
315.0	702.00	.150
315.0	706.00	.172
TCL	658.70	.028
TCL	685.00	-.014
BCL	586.00	-.062
BCL	646.00	-.105
BCL	671.00	-.018

TABLE 3.—Continued

M = 1.243 AN CG = 1.20 AE L = 305

Q = 276.1 W = 21886 AE R = 337

ALPHA = 3.05 DA L = 16.94 PS 1 = 255.5

BETA = -.40 DH L = -3.78 PS 2 = 253.0

NPR = 7.94 DR L = .02 H = 48902

$RN\ (10^{-6}) = 1.59$ DSB = -.33 DEL P = .06

PHI	X	CP	PHI	X	CP	PHI	X	CP
0.0	596.00	-.090	157.5	693.00	-.191	247.5	685.00	-.213
0.0	620.00	-.207	157.5	700.00	-.155	252.5	685.00	-.231
0.0	637.00	-.246	180.0	590.15	-.096	282.0	685.00	-.302
0.0	665.00	-.113	180.0	625.35	-.110	292.5	685.00	-.245
0.0	675.00	-.219	180.0	661.60	-.104	315.0	644.35	-.100
0.0	685.00	-.190	180.0	685.00	-.167	315.0	658.00	-.166
0.0	687.00	-.194	180.0	687.30	0.000	315.0	670.25	-.144
0.0	693.00	-.258	180.0	693.00	-.210	315.0	685.00	-.213
0.0	700.00	-.063	181.0	694.00	-.242	320.0	687.30	-.240
0.0	706.00	-.024	180.0	700.00	-.133	315.0	693.00	-.255
22.5	693.00	-.279	180.0	706.00	.008	315.0	695.00	-.173
22.5	700.00	-.035	202.5	693.00	-.219	315.0	700.00	-.047
45.0	693.00	-.146	215.0	685.00	-.121	315.0	702.00	-.005
45.0	700.00	-.058	215.0	687.30	-.208	315.0	706.00	.007
45.0	706.00	-.023	225.0	520.00	.058	TCL	658.70	-.087
50.0	685.00	-.164	225.0	571.00	-.024	TCL	685.00	-.279
50.0	687.30	-.214	225.0	611.00	-.084	BCL	586.00	-.117
77.0	685.00	-.029	225.0	624.50	-.062	BCL	646.00	-.132
90.0	693.00	-.010	225.0	643.00	-.062	BCL	671.00	-.062
90.0	706.00	-.051	225.0	667.00	-.125			
135.0	685.00	-.137	225.0	693.00	-.278			
135.0	687.30	-.122	225.0	695.00	-.253			
135.0	693.00	-.136	225.0	700.00	-.087			
135.0	695.00	-.115	225.0	702.00	-.050			
135.0	700.00	-.057	225.0	706.00	-.017			
135.0	702.00	-.015						
135.0	706.00	.005						

TABLE 3.—Continued

M = 1.242

Q = 265.7

ALPHA = 3.07

BETA = -.40

NPR = $7.90(10^{-6})$

RN = 1.55

AN CG = 1.10

W = 21719

DA L = 17.00

DH L = -3.66

DR L = .04

DSR = -.32

AE L = 302

AE R = 330

PS 1 = 246.4

PS 2 = 243.6

H = 49661

DEL P = .05

PHI	X	CP
0.0	596.00	-.094
0.0	620.00	-.203
0.0	637.00	-.239
0.0	665.00	-.112
0.0	675.00	-.219
0.0	685.00	-.188
0.0	687.00	-.195
0.0	693.00	-.267
0.0	700.00	-.067
0.0	706.00	-.025
22.5	693.00	-.289
22.5	700.00	-.040
45.0	693.00	-.150
45.0	700.00	-.063
45.0	706.00	-.028
50.0	685.00	-.164
50.0	687.30	-.211
77.0	685.00	-.032
90.0	693.00	-.015
90.0	706.00	-.053
135.0	685.00	-.138
135.0	687.30	-.127
135.0	693.00	-.145
135.0	695.00	-.119
135.0	700.00	-.060
135.0	702.00	-.019
135.0	706.00	.002

PHI	X	CP
157.5	693.00	-.197
157.5	700.00	-.149
180.0	590.15	-.094
180.0	625.35	-.108
180.0	661.60	-.100
180.0	685.00	-.161
180.0	687.30	0.000
180.0	693.00	-.215
181.0	694.00	-.248
180.0	700.00	-.127
180.0	706.00	.005
202.5	693.00	-.224
215.0	685.00	-.111
215.0	687.30	-.206
225.0	520.00	.061
225.0	571.00	-.020
225.0	611.00	-.083
225.0	624.50	-.061
225.0	643.00	-.060
225.0	667.00	-.125
225.0	693.00	-.280
225.0	695.00	-.267
225.0	700.00	-.080
225.0	702.00	-.048
225.0	706.00	-.018

PHI	X	CP
247.5	685.00	-.209
252.5	685.00	-.223
282.0	685.00	-.300
292.5	685.00	-.243
315.0	644.35	-.094
315.0	658.00	-.164
315.0	670.25	-.142
315.0	685.00	-.206
320.0	687.30	-.238
315.0	693.00	-.261
315.0	695.00	-.186
315.0	700.00	-.047
315.0	702.00	-.007
315.0	706.00	.005
TCL	658.70	-.089
TCL	685.00	-.276
BCL	586.00	-.120
BCL	646.00	-.128
BCL	671.00	-.061

TABLE 3.—Continued

M = .893 | AN CG = 1.32 | AE L = 235

Q = 137.1 | W = 22018 | AE R = 241

ALPHA = 5.84 | DA L = 4.30 | PS 1 = 250.1

BETA = .63 | DH L = -2.22 | PS 2 = 247.1

*NPR = 5.63 | DR L = 1.93 | H = 49716

RN (10^{-6}) = 1.09 | DSB = -3.14 | DEL P = .04

PHI	X	CP
0.0	596.00	-.328
0.0	620.00	-.296
0.0	637.00	-.094
0.0	665.00	-.020
0.0	675.00	-.129
0.0	685.00	-.134
0.0	687.00	-.129
0.0	693.00	-.101
0.0	700.00	.071
0.0	706.00	.144
22.5	693.00	-.073
22.5	700.00	.050
45.0	693.00	.004
45.0	700.00	.033
45.0	706.00	.050
50.0	685.00	-.079
50.0	687.30	-.091
77.0	685.00	.044
90.0	693.00	.064
90.0	706.00	.038
135.0	685.00	-.040
135.0	687.30	-.037
135.0	693.00	.010
135.0	695.00	.035
135.0	700.00	.043
135.0	702.00	.059
135.0	706.00	.078
157.5	693.00	-.057
157.5	700.00	.054
180.0	590.15	-.058
180.0	625.35	-.054
180.0	661.60	-.055
180.0	685.00	-.126
180.0	687.30	-.119
180.0	693.00	-.053
181.0	694.00	-.022
180.0	700.00	.071
180.0	706.00	.126
202.5	693.00	-.067
215.0	685.00	-.121
215.0	687.30	-.127
225.0	520.00	-.044
225.0	571.00	-.037
225.0	611.00	.006
225.0	624.50	-.035
225.0	643.00	-.094
225.0	667.00	-.085
225.0	693.00	-.045
225.0	695.00	.038
225.0	700.00	.086
225.0	702.00	.118
225.0	706.00	.139
247.5	685.00	-.129
252.5	685.00	-.118
282.0	685.00	-.094
292.5	685.00	-.074
315.0	644.35	-.027
315.0	658.00	-.074
315.0	670.25	-.081
315.0	685.00	-.091
320.0	687.30	-.097
315.0	693.00	-.027
315.0	695.00	.030
315.0	700.00	.092
315.0	702.00	.132
315.0	706.00	.154
TCL	658.70	.010
TCL	685.00	-.058
BCL	586.00	-.069
BCL	646.00	-.100
BCL	671.00	-.046

TABLE 3.—Continued

M = .599	AN CG = 1.93	AE L = 205
Q = 366.6	W = 20278	AE R = 205
ALPHA = 2.38	DA L = 12.88	PS 1 = 1469.3
BETA = -.46	DH L = -1.09	PS 2 = 1411.0
NPR = 1.86	DR L = -.12	M = 9954
RN (10^{-6}) = 3.23	DSB = -.40	DEL P = -.08

PHI	X	CP
0.0	596.00	-.215
0.0	620.00	-.164
0.0	637.00	-.101
0.0	665.00	-.049
0.0	675.00	-.175
0.0	685.00	-.194
0.0	687.00	-.201
0.0	693.00	-.211
0.0	700.00	.004
0.0	706.00	.112
22.5	693.00	-.163
22.5	700.00	.018
45.0	693.00	-.046
45.0	700.00	.010
45.0	706.00	.023
50.0	685.00	-.144
50.0	687.30	-.182
77.0	685.00	.039
90.0	693.00	.054
90.0	706.00	.013
135.0	685.00	-.092
135.0	687.30	-.091
135.0	693.00	-.030
135.0	695.00	.019
135.0	700.00	.030
135.0	702.00	.041
135.0	706.00	.051
157.5	693.00	-.122
157.5	700.00	-.000
180.0	590.15	-.050
180.0	625.35	-.049
180.0	661.60	-.047
180.0	685.00	-.159
180.0	687.30	-.174
180.0	693.00	-.145
181.0	694.00	-.119
180.0	700.00	.001
180.0	706.00	.100
202.5	693.00	-.159
215.0	685.00	-.145
215.0	687.30	-.174
225.0	520.00	-.036
225.0	571.00	-.042
225.0	611.00	-.014
225.0	624.50	-.042
225.0	643.00	-.068
225.0	667.00	-.060
225.0	693.00	-.155
225.0	695.00	-.072
225.0	700.00	.025
225.0	702.00	.066
225.0	706.00	.111
247.5	685.00	-.150
252.5	685.00	-.139
282.0	685.00	-.141
292.5	685.00	-.113
315.0	644.35	-.052
315.0	658.00	-.094
315.0	670.25	-.097
315.0	685.00	-.135
320.0	687.30	-.161
315.0	693.00	-.109
315.0	695.00	-.042
315.0	700.00	.034
315.0	702.00	.089
315.0	706.00	.121
TCL	658.70	-.031
TCL	685.00	-.096
BCL	586.00	-.073
BCL	646.00	-.081
BCL	671.00	-.055

TABLE 3.—Continued

M = .624 AN CG = 1.91 AE L = 204

Q = 401.3 W = 20294 AE R = 205

ALPHA = 3.10 OA L = 11.85 PS 1 = 1482.5

BETA = -.35 OH L = -1.01 PS 2 = 1481.1

NPR = 1.86 OR L = -.07 H = 9740

$RN\ (10^{-6}) = 3.38$ DSB = -.41 DEL P = -.10

PHI	X	CP	PHI	X	CP	PHI	X	CP
0.0	596.00	-.216	157.5	693.00	-.120	247.5	685.00	-.151
0.0	620.00	-.165	157.5	700.00	.001	252.5	685.00	-.139
0.0	637.00	-.101	180.0	590.15	-.054	282.0	685.00	-.139
0.0	665.00	-.050	180.0	625.35	-.052	292.5	685.00	-.113
0.0	675.00	-.178	180.0	661.60	-.050	315.0	644.35	-.052
0.0	685.00	-.197	180.0	685.00	-.161	315.0	658.00	-.095
0.0	687.00	-.203	180.0	687.30	-.177	315.0	670.25	-.098
0.0	693.00	-.209	180.0	693.00	-.145	315.0	685.00	-.139
0.0	700.00	.005	181.0	694.00	-.117	320.0	687.30	-.166
0.0	706.00	.113	180.0	700.00	.004	315.0	693.00	-.111
22.5	693.00	-.164	180.0	706.00	.102	315.0	695.00	-.041
22.5	700.00	.021	202.5	693.00	-.157	315.0	700.00	.036
45.0	693.00	-.045	215.0	685.00	-.146	315.0	702.00	.091
45.0	700.00	.015	215.0	687.30	-.176	315.0	706.00	.122
45.0	706.00	.026	225.0	520.00	-.045	TCL	658.70	-.027
50.0	685.00	-.142	225.0	571.00	-.046	TCL	685.00	-.095
50.0	687.30	-.177	225.0	611.00	-.016	BCL	586.00	-.076
77.0	685.00	.043	225.0	624.50	-.046	BCL	646.00	-.082
90.0	693.00	.057	225.0	643.00	-.073	BCL	671.00	-.054
90.0	706.00	.019	225.0	667.00	-.063			
135.0	685.00	-.087	225.0	693.00	-.154			
135.0	687.30	-.088	225.0	695.00	-.068			
135.0	693.00	-.021	225.0	700.00	.027			
135.0	695.00	.022	225.0	702.00	.069			
135.0	700.00	.030	225.0	706.00	.113			
135.0	702.00	.043						
135.0	706.00	.050						

TABLE 3.—Continued

M = .629

Q = 296.1

ALPHA = 4.13

BETA = -.73

NPR = 2.03

RN (10^{-6}) = 2.70

AN CG = 1.73

W = 22427

DA L = 4.13

DH L = -1.38

DR L = -.44

DSB = -3.21

AE L = 204

AE R = 204

PS 1 = 1079.0

PS 2 = 1076.1

H = 17701

DEL P = -.03

PHI	X	CP
0.0	596.00	-.216
0.0	620.00	-.164
0.0	637.00	-.098
0.0	665.00	-.049
0.0	675.00	-.172
0.0	685.00	-.193
0.0	687.00	-.202
0.0	693.00	-.199
0.0	700.00	.010
0.0	706.00	.109
22.5	693.00	-.154
22.5	700.00	.018
45.0	693.00	-.041
45.0	700.00	.013
45.0	706.00	.027
50.0	685.00	-.140
50.0	687.30	-.175
77.0	685.00	.033
90.0	693.00	.056
90.0	706.00	.022
135.0	685.00	-.087
135.0	687.30	-.085
135.0	693.00	-.009
135.0	695.00	.025
135.0	700.00	.029
135.0	702.00	.039
135.0	706.00	.040

PHI	X	CP
157.5	693.00	-.111
157.5	700.00	.008
180.0	590.15	-.051
180.0	625.35	-.051
180.0	661.60	-.048
180.0	685.00	-.161
180.0	687.30	-.177
180.0	693.00	-.141
181.0	694.00	-.114
180.0	700.00	.010
180.0	706.00	.103
202.5	693.00	-.155
215.0	685.00	-.149
215.0	687.30	-.178
225.0	520.00	-.033
225.0	571.00	-.042
225.0	611.00	-.014
225.0	624.50	-.045
225.0	643.00	-.072
225.0	667.00	-.063
225.0	693.00	-.150
225.0	695.00	-.068
225.0	700.00	.031
225.0	702.00	.077
225.0	706.00	.107

PHI	X	CP
247.5	685.00	-.156
252.5	685.00	-.145
282.0	685.00	-.147
292.5	685.00	-.115
315.0	644.35	-.055
315.0	658.00	-.095
315.0	670.25	-.097
315.0	685.00	-.138
320.0	687.30	-.164
315.0	693.00	-.106
315.0	695.00	-.039
315.0	700.00	.037
315.0	702.00	.093
315.0	706.00	.122
TCL	658.70	-.029
TCL	685.00	-.097
BCL	586.00	.010
BCL	646.00	-.079
BCL	671.00	-.054

TABLE 3.—Continued

M = .603 | AN CG = 2.14 | AE L = 204

Q = 278.6 | W = 22398 | AE R = 204

ALPHA = 5.44 | DA L = 3.59 | PS 1 = 1101.5

BETA = -.80 | DH L = -1.63 | PS 2 = 1100.1

NPR = 2.02 | DR L = -.40 | H = 17190

RN (10^{-6}) = 2.62 | DSB = -3.27 | DEL P = -.02

PHI	X	CP
0.0	596.00	-.216
0.0	620.00	-.162
0.0	637.00	-.099
0.0	665.00	-.045
0.0	675.00	-.169
0.0	685.00	-.180
0.0	687.00	-.189
0.0	693.00	-.182
0.0	700.00	.014
0.0	706.00	.103
22.5	693.00	-.143
22.5	700.00	.020
45.0	693.00	-.039
45.0	700.00	.013
45.0	706.00	.027
50.0	685.00	-.134
50.0	687.30	-.163
77.0	685.00	.034
90.0	693.00	.052
90.0	706.00	.021
135.0	685.00	-.096
135.0	687.30	-.093
135.0	693.00	-.019
135.0	695.00	.023
135.0	700.00	.028
135.0	702.00	.038
135.0	706.00	.045
157.5	693.00	-.122
157.5	700.00	.004
180.0	590.15	-.040
180.0	625.35	-.038
180.0	661.60	-.038
180.0	685.00	-.158
180.0	687.30	-.175
180.0	693.00	-.143
181.0	694.00	-.116
180.0	700.00	.009
180.0	706.00	.100
202.5	693.00	-.154
215.0	685.00	-.140
215.0	687.30	-.168
225.0	520.00	-.008
225.0	571.00	-.030
225.0	611.00	-.002
225.0	624.50	-.029
225.0	643.00	-.059
225.0	667.00	-.054
225.0	693.00	-.143
225.0	695.00	-.062
225.0	700.00	.034
225.0	702.00	.079
225.0	706.00	.099
247.5	685.00	-.148
252.5	685.00	-.141
282.0	685.00	-.149
292.5	685.00	-.110
315.0	644.35	-.052
315.0	658.00	-.091
315.0	670.25	-.093
315.0	685.00	-.130
320.0	687.30	-.153
315.0	693.00	-.100
315.0	695.00	-.036
315.0	700.00	.038
315.0	702.00	.092
315.0	706.00	.121
TCL	658.70	-.031
TCL	685.00	-.096
BCL	586.00	.016
BCL	646.00	-.073
BCL	671.00	-.053

TABLE 3.—Continued

M = .615	AN CG = 1.71	AE L = 205
Q = 207.6	W = 23704	AE R = 206
ALPHA = 6.49	DA L = 1.24	PS 1 = 790.6
BETA = -.61	DH L = -2.07	PS 2 = 786.9
NPR = 2.52	DR L = -.15	H = 25035
$RN\ (10^{-6}) = 2.09$	DSB = -.37	DEL P = -.01

PHI	X	CP	PHI	X	CP	PHI	X	CP
0.0	596.00	-.225	157.5	693.00	-.134	247.5	685.00	-.153
0.0	620.00	-.172	157.5	700.00	-.000	252.5	685.00	-.144
0.0	637.00	-.108	180.0	590.15	-.046	282.0	685.00	-.149
0.0	665.00	-.042	180.0	625.35	-.045	292.5	685.00	-.107
0.0	675.00	-.171	180.0	661.60	-.037	315.0	644.35	-.053
0.0	685.00	-.172	180.0	685.00	-.162	315.0	658.00	-.092
0.0	687.00	-.177	180.0	687.30	-.293	315.0	670.25	-.091
0.0	693.00	-.167	180.0	693.00	-.141	315.0	685.00	-.122
0.0	700.00	.018	181.0	694.00	-.114	320.0	687.30	-.142
0.0	706.00	.100	180.0	700.00	.019	315.0	693.00	-.090
22.5	693.00	-.138	180.0	706.00	.099	315.0	695.00	-.031
22.5	700.00	.015	202.5	693.00	-.150	315.0	700.00	.040
45.0	693.00	-.041	215.0	685.00	-.143	315.0	702.00	.095
45.0	700.00	.007	215.0	687.30	-.167	315.0	706.00	.120
45.0	706.00	.024	225.0	520.00	.001	TCL	658.70	-.033
50.0	685.00	-.129	225.0	571.00	-.024	TCL	685.00	-.095
50.0	687.30	-.155	225.0	611.00	-.001	BCL	586.00	-.059
77.0	685.00	.030	225.0	624.50	-.028	BCL	646.00	-.079
90.0	693.00	.049	225.0	643.00	-.061	BCL	671.00	-.055
90.0	706.00	.011	225.0	667.00	-.055			
135.0	685.00	-.104	225.0	693.00	-.130			
135.0	687.30	-.106	225.0	695.00	-.041			
135.0	693.00	-.038	225.0	700.00	.049			
135.0	695.00	.009	225.0	702.00	.091			
135.0	700.00	.024	225.0	706.00	.091			
135.0	702.00	.037						
135.0	706.00	.049						

TABLE 3.—Continued

M = .914

Q = 746.2

ALPHA = 1.36

BETA = -.59

NPR = 3.71

RN (10^{-6}) = 4.52

AN CG = 1.88

W = 23065

DA L = .91

DH L = -1.49

DR L = -.21

DSR = -.25

AE L = 205

AE R = 205

PS 1 = 1301.4

PS 2 = 1301.0

H = 13350

DEL P = -.14

PHI	X	CP
0.0	596.00	-.288
0.0	620.00	-.341
0.0	637.00	-.097
0.0	665.00	-.031
0.0	675.00	-.183
0.0	685.00	-.193
0.0	687.00	-.181
0.0	693.00	-.184
0.0	700.00	.044
0.0	706.00	.144
22.5	693.00	-.114
22.5	700.00	.052
45.0	693.00	-.010
45.0	700.00	.033
45.0	706.00	.037
50.0	685.00	-.126
50.0	687.30	-.151
77.0	685.00	.060
90.0	693.00	.075
90.0	706.00	.029
135.0	685.00	-.008
135.0	687.30	-.006
135.0	693.00	.048
135.0	695.00	.044
135.0	700.00	.042
135.0	702.00	.039
135.0	706.00	.035
157.5	693.00	-.047
157.5	700.00	.040
180.0	590.15	-.065
180.0	625.35	-.058
180.0	661.60	-.067
180.0	685.00	-.146
180.0	687.30	-.032
180.0	693.00	-.096
181.0	694.00	-.057
180.0	700.00	.053
180.0	706.00	.132
202.5	693.00	-.132
215.0	685.00	-.169
215.0	687.30	-.193
225.0	520.00	-.106
225.0	571.00	-.051
225.0	611.00	-.008
225.0	624.50	-.048
225.0	643.00	-.109
225.0	667.00	-.104
225.0	693.00	-.128
225.0	695.00	-.014
225.0	700.00	.081
225.0	702.00	.137
225.0	706.00	.156
247.5	685.00	-.173
252.5	685.00	-.150
282.0	685.00	-.126
292.5	685.00	-.111
315.0	644.35	-.032
315.0	658.00	-.091
315.0	670.25	-.107
315.0	685.00	-.143
320.0	687.30	-.159
315.0	693.00	-.096
315.0	695.00	-.014
315.0	700.00	.066
315.0	702.00	.124
315.0	706.00	.149
TCL	658.70	.005
TCL	685.00	-.071
BCL	586.00	-.083
BCL	646.00	-.094
BCL	671.00	-.032

TABLE 3.—Continued

M = .932 AN CG = 1.99 AE L = 205

Q = 437.7 W = 22344 AE R = 205

ALPHA = 2.44 DA L = .91 PS 1 = 734.9

BETA = -.61 DH L = -2.21 PS 2 = 733.1

NPR = 4.28 DR L = -.31 H = 26994

$RN\ (10^{-6}) = 2.98$ DSB = -.25 DEL P = -.03

PHI	X	CP
0.0	596.00	-.267
0.0	620.00	-.354
0.0	637.00	-.130
0.0	665.00	-.019
0.0	675.00	-.145
0.0	685.00	-.168
0.0	687.00	-.161
0.0	693.00	-.143
0.0	700.00	.067
0.0	706.00	.147
22.5	693.00	-.084
22.5	700.00	.057
45.0	693.00	.009
45.0	700.00	.038
45.0	706.00	.041
50.0	685.00	-.095
50.0	687.30	-.119
77.0	685.00	.059
90.0	693.00	.075
90.0	706.00	.037
135.0	685.00	-.006
135.0	687.30	.001
135.0	693.00	.052
135.0	695.00	.047
135.0	700.00	.045
135.0	702.00	.040
135.0	706.00	.035
157.5	693.00	-.032
157.5	700.00	.045
180.0	590.15	-.058
180.0	625.35	-.060
180.0	661.60	-.077
180.0	685.00	-.140
180.0	687.30	-.024
180.0	693.00	-.068
181.0	694.00	-.037
180.0	700.00	.064
180.0	706.00	.126
202.5	693.00	-.105
215.0	685.00	-.161
215.0	687.30	-.180
225.0	520.00	-.142
225.0	571.00	-.037
225.0	611.00	-.003
225.0	624.50	-.049
225.0	643.00	-.118
225.0	667.00	-.108
225.0	693.00	-.092
225.0	695.00	.012
225.0	700.00	.089
225.0	702.00	.134
225.0	706.00	.150
247.5	685.00	-.153
252.5	685.00	-.126
282.0	685.00	-.112
292.5	685.00	-.097
315.0	644.35	-.029
315.0	658.00	-.074
315.0	670.25	-.087
315.0	685.00	-.120
320.0	687.30	-.133
315.0	693.00	-.068
315.0	695.00	.001
315.0	700.00	.071
315.0	702.00	.129
315.0	706.00	.156
TCL	658.70	.020
TCL	685.00	-.055
BCL	586.00	-.075
BCL	646.00	-.104
BCL	671.00	-.038

TABLE 3.—Continued

M = .880
Q = 383.2
ALPHA = 2.57
BETA = -1.03
NPR = 3.37
RN (10^{-6}) = 2.58
AN CG = 1.97
W = 21178
DA L = 2.17
DH L = -1.48
DR L = -1.08
DSB = -3.20
AE L = 205
AE R = 205
PS 1 = 720.1
PS 2 = 717.2
H = 27366
DEL P = -.04

PHI	X	CP
0.0	596.00	-.355
0.0	620.00	-.211
0.0	637.00	-.081
0.0	665.00	-.038
0.0	675.00	-.177
0.0	685.00	-.193
0.0	687.00	-.193
0.0	693.00	-.174
0.0	700.00	.050
0.0	706.00	.135
22.5	693.00	-.103
22.5	700.00	.048
45.0	693.00	-.002
45.0	700.00	.031
45.0	706.00	.031
50.0	685.00	-.113
50.0	687.30	-.140
77.0	685.00	.049
90.0	693.00	.071
90.0	706.00	.030
135.0	685.00	-.037
135.0	687.30	-.030
135.0	693.00	.043
135.0	695.00	.045
135.0	700.00	.043
135.0	702.00	.041
135.0	706.00	.038
157.5	693.00	-.064
157.5	700.00	.036
180.0	590.15	-.066
180.0	625.35	-.064
180.0	661.60	-.067
180.0	685.00	-.150
180.0	687.30	-.153
180.0	693.00	-.101
181.0	694.00	-.070
180.0	700.00	.046
180.0	706.00	.119
202.5	693.00	-.141
215.0	685.00	-.168
215.0	687.30	-.196
225.0	520.00	-.069
225.0	571.00	-.052
225.0	611.00	-.018
225.0	624.50	-.063
225.0	643.00	-.112
225.0	667.00	-.100
225.0	693.00	-.140
225.0	695.00	-.032
225.0	700.00	.067
225.0	702.00	.126
225.0	706.00	.150
247.5	685.00	-.174
252.5	685.00	-.158
282.0	685.00	-.132
292.5	685.00	-.114
315.0	644.35	-.041
315.0	658.00	-.102
315.0	670.25	-.112
315.0	685.00	-.145
320.0	687.30	-.164
315.0	693.00	-.084
315.0	695.00	-.002
315.0	700.00	.074
315.0	702.00	.124
315.0	706.00	.147
TCL	658.70	.007
TCL	685.00	-.078
BCL	586.00	-.082
BCL	646.00	-.094
BCL	671.00	-.049

TABLE 3.—Continued

M = .866	AN CG = 1.86	AE L = 205
Q = 362.4	W = 21144	AE R = 204
ALPHA = 2.63	DA L = 2.35	PS 1 = 702.0
BETA = -.68	DH L = -1.32	PS 2 = 698.7
NPR = 3.40	DR L = -.54	H = 27919
$RN\ (10^{-6}) = 2.80$	DSB = -3.22	DEL P = -.03

PHI	X	CP
0.0	596.00	-.346
0.0	620.00	-.205
0.0	637.00	-.092
0.0	665.00	-.041
0.0	675.00	-.180
0.0	685.00	-.193
0.0	687.00	-.194
0.0	693.00	-.177
0.0	700.00	.045
0.0	706.00	.133
22.5	693.00	-.108
22.5	700.00	.044
45.0	693.00	-.010
45.0	700.00	.026
45.0	706.00	.026
50.0	685.00	-.114
50.0	687.30	-.139
77.0	685.00	.048
90.0	693.00	.067
90.0	706.00	.026
135.0	685.00	-.041
135.0	687.30	-.036
135.0	693.00	.033
135.0	695.00	.040
135.0	700.00	.039
135.0	702.00	.037
135.0	706.00	.037
157.5	693.00	-.073
157.5	700.00	.033
180.0	590.15	-.065
180.0	625.35	-.061
180.0	661.60	-.064
180.0	685.00	-.154
180.0	687.30	-.159
180.0	693.00	-.109
181.0	694.00	-.077
180.0	700.00	.045
180.0	706.00	.120
202.5	693.00	-.141
215.0	685.00	-.162
215.0	687.30	-.189
225.0	520.00	-.070
225.0	571.00	-.053
225.0	611.00	-.015
225.0	624.50	-.055
225.0	643.00	-.101
225.0	667.00	-.091
225.0	693.00	-.140
225.0	695.00	-.038
225.0	700.00	.060
225.0	702.00	.123
225.0	706.00	.147
247.5	685.00	-.166
252.5	685.00	-.151
282.0	685.00	-.127
292.5	685.00	-.110
315.0	644.35	-.046
315.0	658.00	-.103
315.0	670.25	-.112
315.0	685.00	-.143
320.0	687.30	-.163
315.0	693.00	-.081
315.0	695.00	-.000
315.0	700.00	.074
315.0	702.00	.121
315.0	706.00	.144
TCL	658.70	.007
TCL	685.00	-.082
BCL	586.00	-.081
BCL	646.00	-.091
BCL	671.00	-.049

TABLE 3.—Continued

M = .954 AN CG = 2.06 AE L = 220

Q = 224.5 W = 20251 AE R = 220

ALPHA = 4.75 DA L = .90 PS 1 = 360.9

BETA = -.77 DH L = -3.64 PS 2 = 359.2

NPR = 5.99 DR L = -.48 H = 42197

$RN\ (10^{-6}) = 1.62$ OSB = -.23 DEL P = .03

PHI	X	CP
0.0	596.00	-.261
0.0	620.00	-.335
0.0	637.00	-.086
0.0	665.00	.012
0.0	675.00	-.082
0.0	685.00	-.113
0.0	687.00	-.110
0.0	693.00	-.089
0.0	700.00	.091
0.0	706.00	.162
22.5	693.00	-.057
22.5	700.00	.068
45.0	693.00	.021
45.0	700.00	.049
45.0	706.00	.053
50.0	685.00	-.057
50.0	687.30	-.075
77.0	685.00	.059
90.0	693.00	.075
90.0	706.00	.050
135.0	685.00	.013
135.0	687.30	.021
135.0	693.00	.061
135.0	695.00	.053
135.0	700.00	.050
135.0	702.00	.046
135.0	706.00	.045
157.5	693.00	.000
157.5	700.00	.060
180.0	590.15	-.039
180.0	625.35	-.043
180.0	661.60	-.074
180.0	685.00	-.118
180.0	687.30	-.153
180.0	693.00	-.025
181.0	694.00	.004
180.0	700.00	.084
180.0	706.00	.133
202.5	693.00	-.050
215.0	685.00	-.131
215.0	687.30	-.127
225.0	520.00	-.125
225.0	571.00	-.030
225.0	611.00	.024
225.0	624.50	-.030
225.0	643.00	-.115
225.0	667.00	-.109
225.0	693.00	-.026
225.0	695.00	.054
225.0	700.00	.106
225.0	702.00	.140
225.0	706.00	.154
247.5	685.00	-.107
252.5	685.00	-.083
282.0	685.00	-.061
292.5	685.00	-.051
315.0	644.35	.006
315.0	658.00	-.027
315.0	670.25	-.039
315.0	685.00	-.060
320.0	687.30	-.069
315.0	693.00	-.012
315.0	695.00	.037
315.0	700.00	.103
315.0	702.00	.151
315.0	706.00	.178
TCL	658.70	.026
TCL	685.00	-.016
BCL	586.00	-.059
BCL	646.00	-.103
BCL	671.00	-.021

TABLE 3.—Continued

M = 1.200

Q = 764.6

ALPHA = 2.10

BETA = -.44

NPR = 6.35

RN (10^{-6}) = 3.77

AN CG = 2.12

W = 21079

DA L = 8.18

DH L = -1.79

DR L = -1.01

DSB = -.28

AE L = 296

AE R = 309

PS 1 = 759.2

PS 2 = 759.9

H = 25790

DEL P = .01

PHI	X	CP
0.0	596.00	-.080
0.0	620.00	-.185
0.0	637.00	-.226
0.0	665.00	-.109
0.0	675.00	-.173
0.0	685.00	-.204
0.0	687.00	-.219
0.0	693.00	-.372
0.0	700.00	-.154
0.0	706.00	-.049
22.5	693.00	-.341
22.5	700.00	-.160
45.0	693.00	-.351
45.0	700.00	-.142
45.0	706.00	-.090
50.0	685.00	-.193
50.0	687.30	-.267
77.0	685.00	-.109
90.0	693.00	-.078
90.0	706.00	-.120
135.0	685.00	-.179
135.0	687.30	-.155
135.0	693.00	-.249
135.0	695.00	-.265
135.0	700.00	-.146
135.0	702.00	-.072
135.0	706.00	-.043
157.5	693.00	-.219
157.5	700.00	-.404
180.0	590.15	-.129
180.0	625.35	-.119
180.0	661.60	-.079
180.0	685.00	-.168
180.0	687.30	-.202
180.0	693.00	-.215
181.0	694.00	-.241
180.0	700.00	-.354
180.0	706.00	-.065
202.5	693.00	-.209
215.0	685.00	-.159
215.0	687.30	-.206
225.0	520.00	.022
225.0	571.00	-.035
225.0	611.00	-.105
225.0	624.50	-.061
225.0	643.00	-.065
225.0	667.00	-.123
225.0	693.00	-.258
225.0	695.00	-.333
225.0	700.00	-.286
225.0	702.00	-.082
225.0	706.00	-.047
247.5	685.00	-.203
252.5	685.00	-.211
282.0	685.00	-.271
292.5	685.00	-.245
315.0	644.35	-.092
315.0	658.00	-.164
315.0	670.25	-.137
315.0	685.00	-.229
320.0	687.30	-.252
315.0	693.00	-.310
315.0	695.00	-.354
315.0	700.00	-.145
315.0	702.00	-.061
315.0	706.00	-.035
TCL	658.70	-.241
TCL	685.00	-.243
BCL	586.00	-.171
BCL	646.00	-.099
BCL	571.00	-.052

TABLE 3.—Continued

M = 1.178	AN CG = 1.92	AE L = 297
Q = 704.8	W = 21192	AE R = 314
ALPHA = 2.11	DA L = 7.81	PS 1 = 726.4
BETA = -.46	DH L = -1.87	PS 2 = 723.8
NPR = 6.34	DR L = -.96	H = 26786
$RN\ (10^{-6}) = 3.95$	DSR = -.29	DEL P = -.02

PHI	X	CP
0.0	596.00	-.100
0.0	620.00	-.203
0.0	637.00	-.242
0.0	665.00	-.104
0.0	675.00	-.181
0.0	685.00	-.224
0.0	697.00	-.241
0.0	693.00	-.398
0.0	700.00	-.146
0.0	706.00	-.048
22.5	693.00	-.367
22.5	700.00	-.154
45.0	693.00	-.350
45.0	700.00	-.150
45.0	706.00	-.092
50.0	685.00	-.213
50.0	687.30	-.287
77.0	685.00	-.111
90.0	693.00	-.080
90.0	706.00	-.122
135.0	685.00	-.189
135.0	687.30	-.162
135.0	693.00	-.258
135.0	695.00	-.266
135.0	700.00	-.145
135.0	702.00	-.074
135.0	706.00	-.045
157.5	693.00	-.234
157.5	700.00	-.391
180.0	590.15	-.142
180.0	625.35	-.127
180.0	661.60	-.084
180.0	685.00	-.179
180.0	687.30	-.210
180.0	693.00	-.230
181.0	694.00	-.257
180.0	700.00	-.340
180.0	706.00	-.060
202.5	693.00	-.225
215.0	685.00	-.170
215.0	687.30	-.221
225.0	520.00	.007
225.0	571.00	-.050
225.0	611.00	-.113
225.0	624.50	-.060
225.0	643.00	-.075
225.0	667.00	-.129
225.0	693.00	-.276
225.0	695.00	-.352
225.0	700.00	-.264
225.0	702.00	-.074
225.0	706.00	-.041
247.5	685.00	-.213
252.5	685.00	-.219
282.0	685.00	-.283
292.5	685.00	-.256
315.0	644.35	-.102
315.0	658.00	-.170
315.0	670.25	-.137
315.0	685.00	-.239
320.0	687.30	-.263
315.0	693.00	-.322
315.0	695.00	-.369
315.0	700.00	-.131
315.0	702.00	-.060
315.0	706.00	-.035
TCL	658.70	-.237
TCL	685.00	-.229
BCL	586.00	-.170
BCL	646.00	-.097
BCL	671.00	-.060

TABLE 3.—Continued

M = 1.191 AN CG = 1.61 AE L = 329

Q = 386.8 W = 21185 AE R = 331

ALPHA = 3.00 DA L = 4.63 PS 1 = 389.6

BETA = -.38 DH L = -3.77 PS 2 = 385.3

NPR = 7.36 DP L = -.34 H = 40124

$RN\ (10^{-6}) = 2.24$ DSR = -3.17 DEL P = .01

PHI	X	CP
0.0	596.00	-.115
0.0	620.00	-.227
0.0	637.00	-.267
0.0	665.00	-.089
0.0	675.00	-.182
0.0	685.00	-.209
0.0	687.00	-.220
0.0	693.00	-.310
0.0	700.00	-.070
0.0	706.00	-.019
22.5	693.00	-.292
22.5	700.00	-.042
45.0	693.00	-.212
45.0	700.00	-.079
45.0	706.00	-.019
50.0	685.00	-.185
50.0	687.30	-.245
77.0	685.00	-.045
90.0	693.00	-.022
90.0	706.00	-.060
135.0	685.00	-.158
135.0	687.30	-.127
135.0	693.00	-.152
135.0	695.00	-.159
135.0	700.00	-.082
135.0	702.00	-.020
135.0	706.00	.012

PHI	X	CP
157.5	693.00	-.178
157.5	700.00	-.266
180.0	590.15	0.000
180.0	625.35	-.110
180.0	661.60	-.103
180.0	685.00	-.184
180.0	687.30	-.227
180.0	693.00	-.192
181.0	694.00	-.224
180.0	700.00	-.219
180.0	706.00	.011
202.5	693.00	-.201
215.0	685.00	-.181
215.0	687.30	-.223
225.0	520.00	.033
225.0	571.00	-.052
225.0	611.00	-.087
225.0	624.50	-.060
225.0	643.00	-.068
225.0	667.00	-.134
225.0	693.00	-.264
225.0	695.00	-.352
225.0	700.00	-.086
225.0	702.00	-.016
225.0	706.00	.007

PHI	X	CP
247.5	685.00	-.233
252.5	685.00	-.251
282.0	685.00	-.288
292.5	685.00	-.247
315.0	644.35	-.101
315.0	658.00	-.162
315.0	670.25	-.134
315.0	685.00	-.221
320.0	687.30	-.253
315.0	693.00	-.249
315.0	695.00	-.206
315.0	700.00	-.049
315.0	702.00	.008
315.0	706.00	.025
TCL	658.70	-.120
TCL	685.00	-.256
BCL	586.00	0.000
BCL	646.00	-.110
BCL	671.00	-.062

TABLE 3.—Continued

M = 1.183 AN CG = 2.06 AE L = 308

Q = 364.2 W = 22996 AE R = 313

ALPHA = 3.92 DA L = .62 PS 1 = 371.9

BETA = -.42 DH L = -5.19 PS 2 = 368.6

NPR = 7.42 DR L = -.39 H = 41091

$RN\ (10^{-6}) = 2.12$ DSB = -.29 DEL P = -.02

PHI	X	CP
0.0	596.00	-.147
0.0	620.00	-.251
0.0	637.00	-.302
0.0	665.00	-.043
0.0	675.00	-.198
0.0	685.00	-.211
0.0	687.00	-.218
0.0	693.00	-.247
0.0	700.00	-.070
0.0	706.00	-.040
22.5	693.00	-.319
22.5	700.00	-.040
45.0	693.00	-.187
45.0	700.00	-.075
45.0	706.00	-.032
50.0	685.00	-.181
50.0	687.30	-.244
77.0	685.00	-.043
90.0	693.00	-.024
90.0	706.00	-.070
135.0	685.00	-.160
135.0	687.30	-.142
135.0	693.00	-.167
135.0	695.00	-.151
135.0	700.00	-.082
135.0	702.00	-.035
135.0	706.00	-.009
157.5	693.00	-.206
157.5	700.00	-.244
180.0	590.15	-.087
180.0	625.35	-.121
180.0	661.60	-.109
180.0	685.00	-.185
180.0	687.30	-.222
180.0	693.00	-.219
181.0	694.00	-.250
180.0	700.00	-.249
180.0	706.00	-.004
202.5	693.00	-.226
215.0	685.00	-.194
215.0	687.30	-.236
225.0	520.00	.055
225.0	571.00	-.049
225.0	611.00	-.078
225.0	624.50	-.049
225.0	643.00	-.071
225.0	667.00	-.136
225.0	693.00	-.294
225.0	695.00	-.307
225.0	700.00	-.103
225.0	702.00	-.060
225.0	706.00	-.027
247.5	685.00	-.247
252.5	685.00	-.268
282.0	685.00	-.295
292.5	685.00	-.261
315.0	644.35	-.107
315.0	658.00	-.178
315.0	670.25	-.126
315.0	685.00	-.225
320.0	687.30	-.262
315.0	693.00	-.269
315.0	695.00	-.166
315.0	700.00	-.046
315.0	702.00	-.014
315.0	706.00	.001
TCL	658.70	-.115
TCL	685.00	-.190
BCL	586.00	-.090
BCL	646.00	-.136
BCL	671.00	-.063

TABLE 3.—Continued

M = .628

Q = 437.3

ALPHA = 4.94

BETA = -4.90

NPR = 2.67

RN (10^{-6}) = 3.61

AN CG = 3.44

W = 21934

DA L = -.79

DH L = -2.78

DR L = -5.97

DSB = -3.17

AE L = 207

AE R = 258

PS 1 = 1597.1

PS 2 = 1596.4

H = 7806

DEL P = -.03

PHI	X	CP
0.0	596.00	-.230
0.0	620.00	-.131
0.0	637.00	-.081
0.0	665.00	-.039
0.0	675.00	-.168
0.0	685.00	-.161
0.0	687.00	-.163
0.0	693.00	-.125
0.0	700.00	.036
0.0	706.00	.082
22.5	693.00	-.137
22.5	700.00	.030
45.0	693.00	-.064
45.0	700.00	.017
45.0	706.00	.041
50.0	685.00	-.126
50.0	687.30	-.168
77.0	685.00	.031
90.0	693.00	.052
90.0	706.00	.015
135.0	685.00	-.119
135.0	687.30	-.112
135.0	693.00	-.051
135.0	695.00	.008
135.0	700.00	.032
135.0	702.00	.045
135.0	706.00	.059
157.5	693.00	-.142
157.5	700.00	-.022
180.0	590.15	-.049
180.0	625.35	-.056
180.0	661.60	-.055
180.0	685.00	-.179
180.0	687.30	-.189
180.0	693.00	-.175
181.0	694.00	-.150
180.0	700.00	-.025
180.0	706.00	.098
202.5	693.00	-.205
215.0	685.00	-.179
215.0	687.30	-.209
225.0	520.00	.009
225.0	571.00	-.024
225.0	611.00	-.040
225.0	624.50	-.087
225.0	643.00	-.102
225.0	667.00	-.078
225.0	693.00	-.209
225.0	695.00	-.121
225.0	700.00	-.006
225.0	702.00	.083
225.0	706.00	.105
247.5	685.00	-.186
252.5	685.00	-.175
282.0	685.00	-.168
292.5	685.00	-.123
315.0	644.35	-.062
315.0	658.00	-.103
315.0	670.25	-.110
315.0	685.00	-.148
320.0	687.30	-.165
315.0	693.00	-.128
315.0	695.00	-.063
315.0	700.00	.018
315.0	702.00	.090
315.0	706.00	.126
TCL	658.70	-.035
TCL	685.00	-.090
BCL	586.00	.014
BCL	646.00	-.080
BCL	671.00	-.066

TABLE 3.—Continued

M = .590	AN CG = 3.94	AE L = 226
Q = 373.2	W = 20122	AE R = 236
ALPHA = 6.24	DA L = 1.02	PS 1 = 1544.4
BETA = -.60	DH L = -2.42	PS 2 = 1542.8
NPR = 3.38×10^{-6}	DR L = -.01	H = 8657
RN = 3.30×10^{-6}	DSB = -.35	DEL P = -.07

PHI	X	CP
0.0	596.00	-.242
0.0	620.00	-.181
0.0	637.00	-.118
0.0	665.00	-.052
0.0	675.00	-.180
0.0	685.00	-.185
0.0	687.00	-.188
0.0	693.00	-.197
0.0	700.00	.003
0.0	706.00	.116
22.5	693.00	-.164
22.5	700.00	.003
45.0	693.00	-.069
45.0	700.00	.008
45.0	706.00	.023
50.0	685.00	-.155
50.0	687.30	-.186
77.0	685.00	.022
90.0	693.00	.044
90.0	706.00	-.003
135.0	685.00	-.118
135.0	687.30	-.110
135.0	693.00	-.073
135.0	695.00	-.011
135.0	700.00	.024
135.0	702.00	.048
135.0	706.00	.067
157.5	693.00	-.159
157.5	700.00	-.055
180.0	590.15	-.035
180.0	625.35	-.043
180.0	661.60	-.043
180.0	685.00	-.159
180.0	687.30	-.143
180.0	693.00	-.164
181.0	694.00	-.139
180.0	700.00	-.032
180.0	706.00	.111
202.5	693.00	-.165
215.0	685.00	-.139
215.0	687.30	-.159
225.0	520.00	.003
225.0	571.00	-.029
225.0	611.00	-.001
225.0	624.50	-.029
225.0	643.00	-.060
225.0	667.00	-.056
225.0	693.00	-.150
225.0	695.00	-.078
225.0	700.00	.021
225.0	702.00	.100
225.0	706.00	.113
247.5	685.00	-.149
252.5	685.00	-.138
282.0	685.00	-.143
292.5	685.00	-.102
315.0	644.35	-.057
315.0	658.00	-.099
315.0	670.25	-.096
315.0	685.00	-.124
320.0	687.30	-.142
315.0	693.00	-.102
315.0	695.00	-.045
315.0	700.00	.026
315.0	702.00	.103
315.0	706.00	.130
TCL	658.70	-.067
TCL	685.00	-.111
BCL	586.00	-.064
BCL	646.00	-.086
BCL	671.00	-.065

TABLE 3.—Continued

M = .621

Q = 423.2

ALPHA = 5.68

BETA = -.55

NPR = 2.86

RN (10^{-6}) = 3.57

AN CG = 4.12

W = 20049

DA L = 1.36

DH L = -1.98

DR L = .17

DSB = -.46

AE L = 207

AE R = 211

PS 1 = 1581.4

PS 2 = 1582.0

H = 8060

DEL P = -.07

PHI	X	CP
0.0	596.00	-.234
0.0	620.00	-.176
0.0	637.00	-.111
0.0	665.00	-.047
0.0	675.00	-.179
0.0	685.00	-.180
0.0	687.00	-.182
0.0	693.00	-.196
0.0	700.00	.006
0.0	706.00	.114
22.5	693.00	-.159
22.5	700.00	.012
45.0	693.00	-.056
45.0	700.00	.012
45.0	706.00	.023
50.0	685.00	-.147
50.0	687.30	-.174
77.0	685.00	.029
90.0	693.00	.047
90.0	706.00	.005
135.0	685.00	-.110
135.0	687.30	-.103
135.0	693.00	-.059
135.0	695.00	.002
135.0	700.00	.029
135.0	702.00	.043
135.0	706.00	.058
157.5	693.00	-.150
157.5	700.00	-.037
180.0	590.15	-.037
180.0	625.35	-.042
180.0	661.60	-.040
180.0	685.00	-.160
180.0	687.30	-.128
180.0	693.00	-.162
181.0	694.00	-.133
180.0	700.00	-.019
180.0	706.00	.109
202.5	693.00	-.167
215.0	685.00	-.142
215.0	687.30	-.164
225.0	520.00	-.001
225.0	571.00	-.031
225.0	611.00	.000
225.0	624.50	-.027
225.0	643.00	-.059
225.0	667.00	-.054
225.0	693.00	-.152
225.0	695.00	-.072
225.0	700.00	.031
225.0	702.00	.101
225.0	706.00	.107
247.5	685.00	-.153
252.5	685.00	-.142
282.0	685.00	-.146
292.5	685.00	-.108
315.0	644.35	-.055
315.0	658.00	-.096
315.0	670.25	-.097
315.0	685.00	-.129
320.0	687.30	-.147
315.0	693.00	-.103
315.0	695.00	-.040
315.0	700.00	.035
315.0	702.00	.101
315.0	706.00	.128
TCL	658.70	-.045
TCL	685.00	-.106
BCL	586.00	-.063
BCL	646.00	-.083
BCL	671.00	-.060

TABLE 3.—Continued

M = .920
Q = 844.0
ALPHA = 2.10
BETA = -2.51
NPR = 4.10
RN (10^{-6}) = 4.92
AN CG = 4.13
W = 21047
DA L = .43
DH L = -3.06
DR L = -2.79
DSB = -3.17
AE L = 235
AE R = 244
PS 1 = 1454.0
PS 2 = 1454.0
H = 10547
DEL P = -.16

PHI	X	CP
0.0	596.00	-.303
0.0	620.00	-.309
0.0	637.00	-.084
0.0	665.00	-.023
0.0	675.00	-.167
0.0	685.00	-.179
0.0	687.00	-.168
0.0	693.00	-.171
0.0	700.00	.046
0.0	706.00	.149
22.5	693.00	-.121
22.5	700.00	.057
45.0	693.00	-.013
45.0	700.00	.044
45.0	706.00	.041
50.0	685.00	-.122
50.0	687.30	-.154
77.0	685.00	.063
90.0	693.00	.082
90.0	706.00	.032
135.0	685.00	-.011
135.0	687.30	.002
135.0	693.00	.061
135.0	695.00	.064
135.0	700.00	.059
135.0	702.00	.050
135.0	706.00	.040
157.5	693.00	-.044
157.5	700.00	.036
180.0	590.15	-.065
180.0	625.35	-.072
180.0	661.60	-.087
180.0	685.00	-.137
180.0	687.30	-.121
180.0	693.00	-.093
181.0	694.00	-.071
180.0	700.00	.032
180.0	706.00	.125
202.5	693.00	-.141
215.0	685.00	-.172
215.0	687.30	-.174
225.0	520.00	-.081
225.0	571.00	-.038
225.0	611.00	-.028
225.0	624.50	-.093
225.0	643.00	-.146
225.0	667.00	-.119
225.0	693.00	-.142
225.0	695.00	-.045
225.0	700.00	.051
225.0	702.00	.123
225.0	706.00	.144
247.5	685.00	-.172
252.5	685.00	-.142
282.0	685.00	-.122
292.5	685.00	-.096
315.0	644.35	-.036
315.0	658.00	-.095
315.0	670.25	-.103
315.0	685.00	-.132
320.0	687.30	-.141
315.0	693.00	-.102
315.0	695.00	-.035
315.0	700.00	.040
315.0	702.00	.122
315.0	706.00	.158
TCL	658.70	-.002
TCL	685.00	-.061
BCL	586.00	.039
BCL	646.00	-.104
BCL	671.00	-.050

TABLE 3.—Continued

M = .924	AN CG = 3.91	AE L = 233
Q = 775.6	W = 22888	AE R = 238
ALPHA = 2.45	DA L = 1.44	PS 1 = 1324.4
BETA = -.61	DH L = -2.78	PS 2 = 1326.4
NPR = 4.21	DR L = .02	H = 12935
$RN\ (10^{-6}) = 4.62$	DSB = -.28	DEL P = -.13

PHI	X	CP
0.0	596.00	-.285
0.0	620.00	-.343
0.0	637.00	-.097
0.0	665.00	-.018
0.0	675.00	-.152
0.0	685.00	-.166
0.0	687.00	-.154
0.0	693.00	-.175
0.0	700.00	.039
0.0	706.00	.152
22.5	693.00	-.114
22.5	700.00	.051
45.0	693.00	-.014
45.0	700.00	.037
45.0	706.00	.038
50.0	685.00	-.113
50.0	687.30	-.139
77.0	685.00	.062
90.0	693.00	.077
90.0	706.00	.021
135.0	685.00	-.009
135.0	687.30	.000
135.0	693.00	.044
135.0	695.00	.047
135.0	700.00	.044
135.0	702.00	.040
135.0	706.00	.037
157.5	693.00	-.051
157.5	700.00	.032
180.0	590.15	-.052
180.0	625.35	-.059
180.0	661.60	-.075
180.0	685.00	-.138
180.0	687.30	.053
180.0	693.00	-.099
181.0	694.00	-.070
180.0	700.00	.036
180.0	706.00	.137
202.5	693.00	-.128
215.0	685.00	-.156
215.0	687.30	-.166
225.0	520.00	-.099
225.0	571.00	-.036
225.0	611.00	-.002
225.0	624.50	-.051
225.0	643.00	-.115
225.0	667.00	-.107
225.0	693.00	-.132
225.0	695.00	-.039
225.0	700.00	.056
225.0	702.00	.132
225.0	706.00	.158
247.5	685.00	-.160
252.5	685.00	-.135
282.0	685.00	-.113
292.5	685.00	-.091
315.0	644.35	-.020
315.0	658.00	-.073
315.0	670.25	-.086
315.0	685.00	-.115
320.0	687.30	-.125
315.0	693.00	-.081
315.0	695.00	-.014
315.0	700.00	.058
315.0	702.00	.131
315.0	706.00	.157
TCL	658.70	.010
TCL	685.00	-.058
BCL	586.00	-.075
BCL	646.00	-.105
BCL	671.00	-.039

TABLE 3.—Continued

M = .877 AN CG = 3.89 AE L = 224

Q = 418.2 W = 22113 AE R = 225

ALPHA = 4.52 DA L = 7.40 PS 1 = 791.0

BETA = -.78 DH L = -2.61 PS 2 = 789.2

NPR = 5.17 DR L = -.28 H = 25234

$RN\ (10^{-6}) = 2.96$ DSB = -.23 DEL P = -.04

PHI	X	CP
0.0	596.00	-.365
0.0	620.00	-.224
0.0	637.00	-.087
0.0	665.00	-.027
0.0	675.00	-.158
0.0	685.00	-.164
0.0	687.00	-.158
0.0	693.00	-.158
0.0	700.00	.053
0.0	706.00	.160
22.5	693.00	-.110
22.5	700.00	.051
45.0	693.00	-.014
45.0	700.00	.034
45.0	706.00	.042
50.0	685.00	-.113
50.0	687.30	-.134
77.0	685.00	.050
90.0	693.00	.070
90.0	706.00	.027
135.0	685.00	-.048
135.0	687.30	-.035
135.0	693.00	.026
135.0	695.00	.045
135.0	700.00	.042
135.0	702.00	.044
135.0	706.00	.050

PHI	X	CP
157.5	693.00	-.078
157.5	700.00	.034
180.0	590.15	-.049
180.0	625.35	-.060
180.0	661.60	-.065
180.0	685.00	-.154
180.0	687.30	-.094
180.0	693.00	-.109
181.0	694.00	-.075
180.0	700.00	.056
180.0	706.00	.143
202.5	693.00	-.133
215.0	685.00	-.157
215.0	687.30	-.171
225.0	520.00	-.032
225.0	571.00	-.034
225.0	611.00	-.003
225.0	624.50	-.051
225.0	643.00	-.110
225.0	667.00	-.097
225.0	693.00	-.125
225.0	695.00	-.025
225.0	700.00	.076
225.0	702.00	.144
225.0	706.00	.166

PHI	X	CP
247.5	685.00	-.162
252.5	685.00	-.144
282.0	685.00	-.120
292.5	685.00	-.094
315.0	644.35	-.026
315.0	658.00	-.084
315.0	670.25	-.093
315.0	685.00	-.114
320.0	687.30	-.121
315.0	693.00	-.058
315.0	695.00	.010
315.0	700.00	.081
315.0	702.00	.133
315.0	706.00	.165
TCL	658.70	.001
TCL	685.00	-.073
BCL	586.00	-.072
BCL	646.00	-.102
BCL	671.00	-.054

TABLE 3.—Concluded

M = 1.150 AN CG = 3.96 AE L = 334

Q = 801.1 W = 20791 AE R = 339

ALPHA = 2.98 DA L = 1.39 PS 1 = 866.3

BETA = -.57 DH L = -4.62 PS 2 = 866.6

NPR = 5.78 DP L = -.91 H = 22757

$RN\ (10^{-6}) = 4.20$ DSB = -.28 DEL P = -.13

PHI	X	CP	PHI	X	CP	PHI	X	CP
0.0	596.00	-.151	157.5	693.00	-.172	247.5	685.00	-.258
0.0	620.00	-.256	157.5	700.00	-.396	252.5	685.00	-.276
0.0	637.00	-.294	180.0	590.15	-.111	282.0	685.00	-.300
0.0	665.00	-.025	180.0	625.35	-.128	292.5	685.00	-.260
0.0	675.00	-.182	180.0	661.60	-.108	315.0	644.35	-.108
0.0	685.00	-.241	180.0	685.00	-.203	315.0	658.00	-.177
0.0	687.00	-.247	180.0	687.30	-.239	315.0	670.25	-.140
0.0	693.00	-.368	180.0	693.00	-.163	315.0	685.00	-.242
0.0	700.00	-.116	181.0	694.00	-.202	320.0	687.30	-.271
0.0	706.00	-.056	180.0	700.00	-.369	315.0	693.00	-.273
22.5	693.00	-.334	180.0	706.00	-.053	315.0	695.00	-.340
22.5	700.00	-.112	202.5	693.00	-.174	315.0	700.00	-.125
45.0	693.00	-.321	215.0	685.00	-.203	315.0	702.00	-.018
45.0	700.00	-.133	215.0	687.30	-.237	315.0	706.00	-.017
45.0	706.00	-.071	225.0	520.00	.021	TCL	658.70	-.213
50.0	685.00	-.225	225.0	571.00	-.061	TCL	685.00	-.124
50.0	687.30	-.301	225.0	611.00	-.086	BCL	586.00	-.128
77.0	685.00	-.093	225.0	624.50	-.046	BCL	646.00	-.108
90.0	693.00	-.066	225.0	643.00	-.086	BCL	671.00	-.071
90.0	706.00	-.115	225.0	667.00	-.140			
135.0	685.00	-.200	225.0	693.00	-.240			
135.0	687.30	-.163	225.0	695.00	-.333			
135.0	693.00	-.192	225.0	700.00	-.381			
135.0	695.00	-.267	225.0	702.00	-.109			
135.0	700.00	-.209	225.0	706.00	-.055			
135.0	702.00	-.081						
135.0	706.00	-.034						

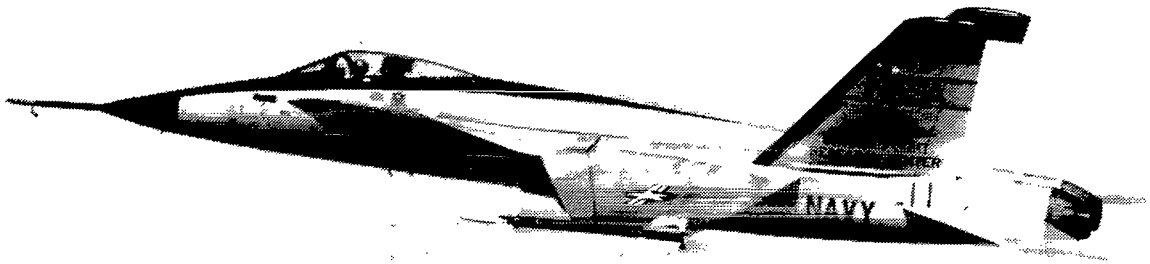


Figure 1. YF-17 aircraft.

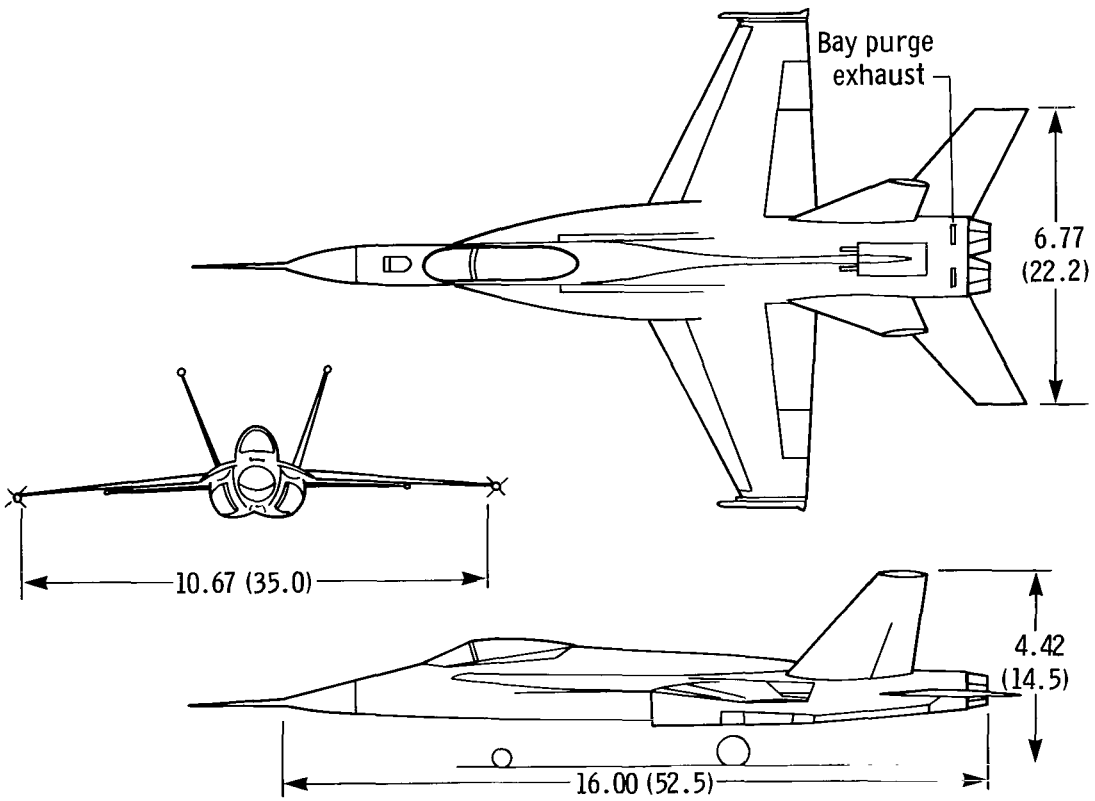


Figure 2. Three-view drawing of YF-17 airplane. Dimensions are in meters (feet).

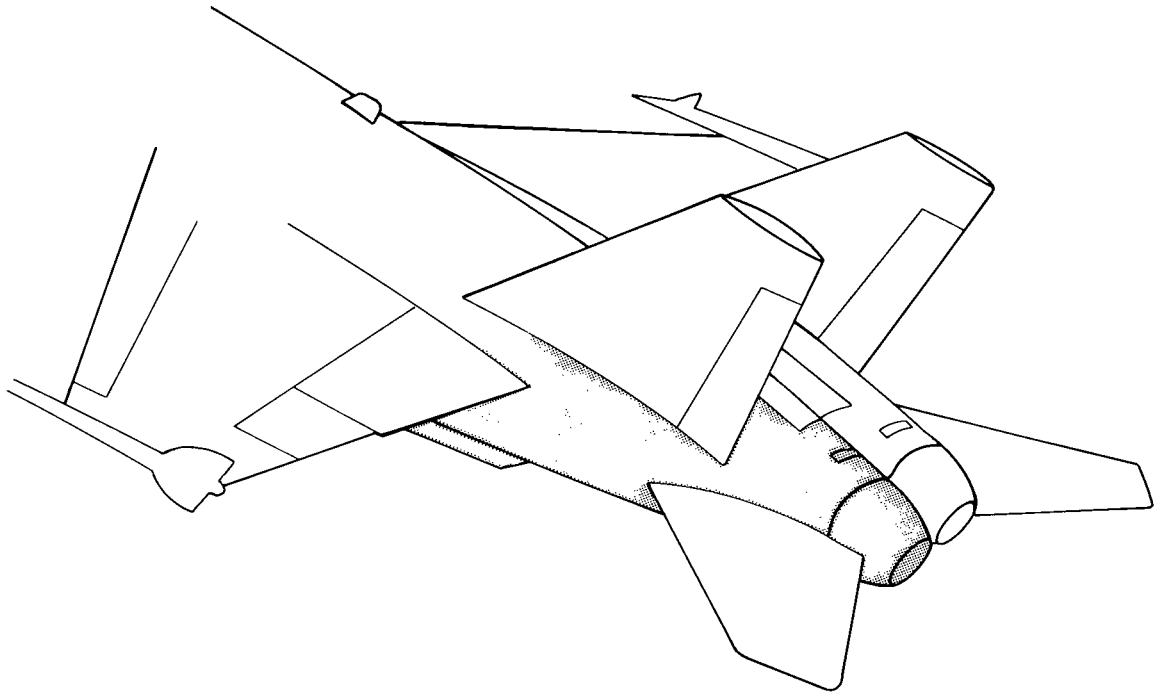
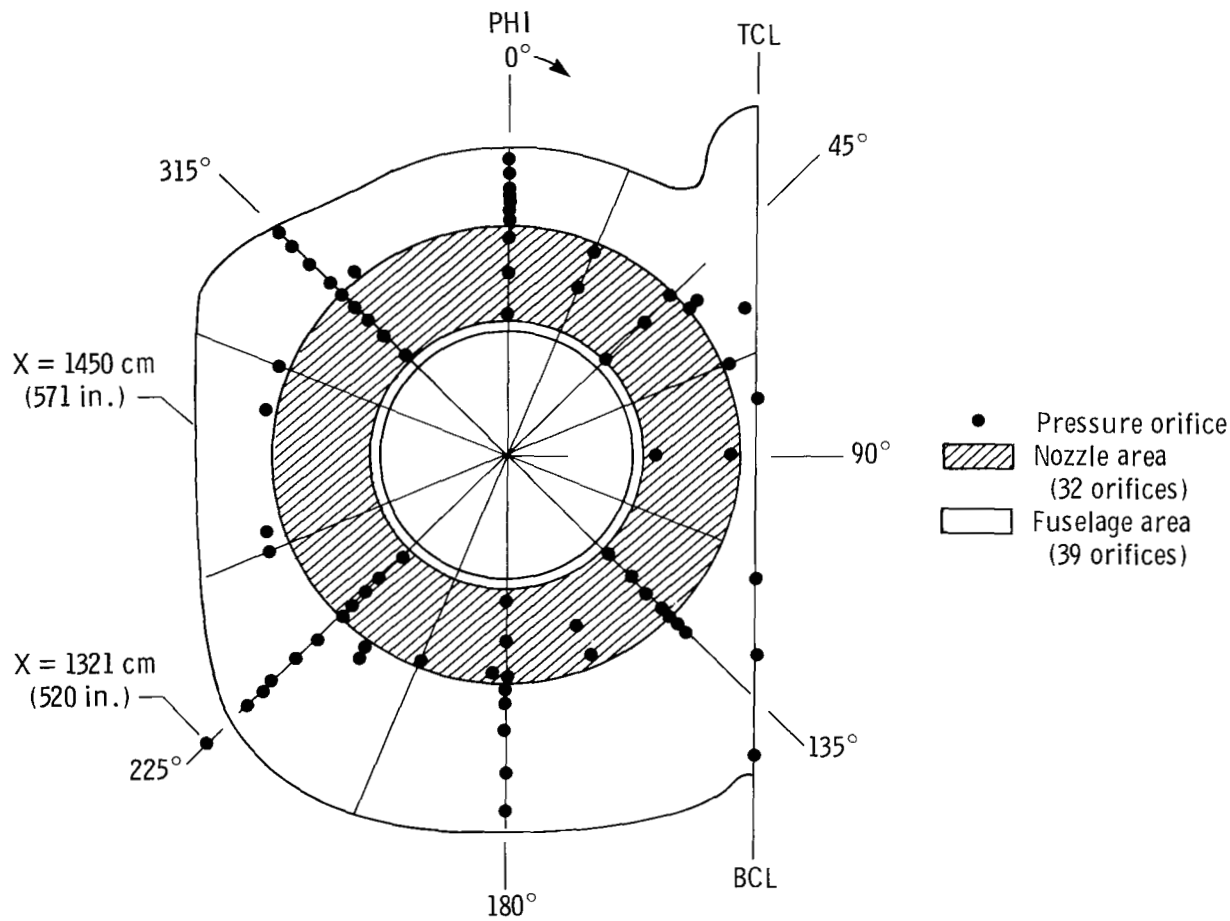
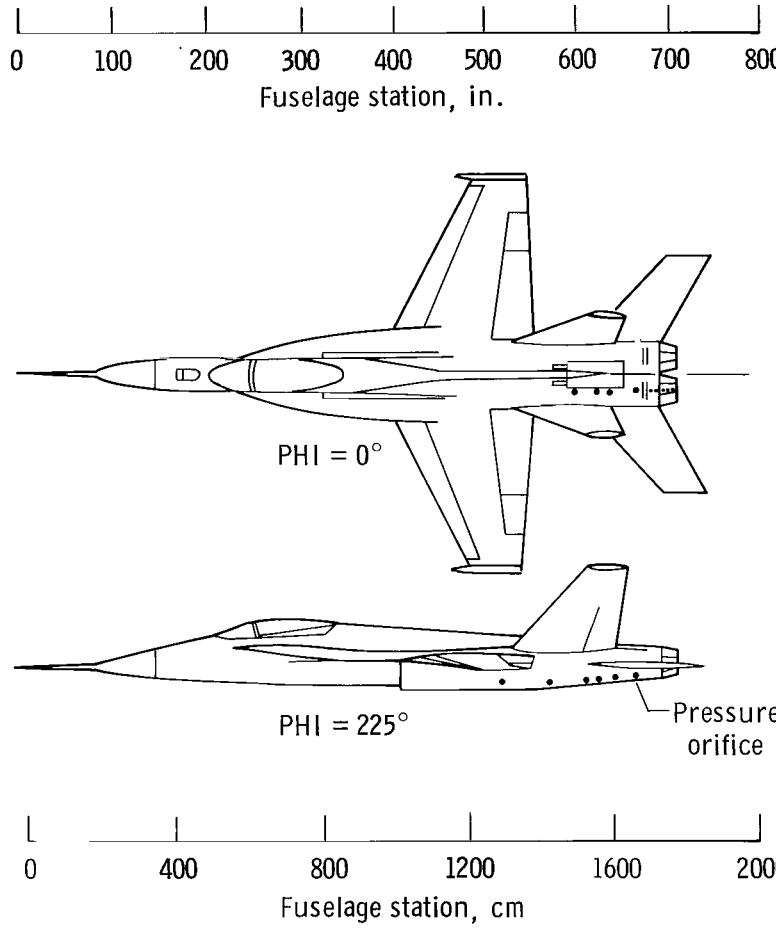


Figure 3. Rear view of instrumented region (shaded area) on left fuselage and nozzle.



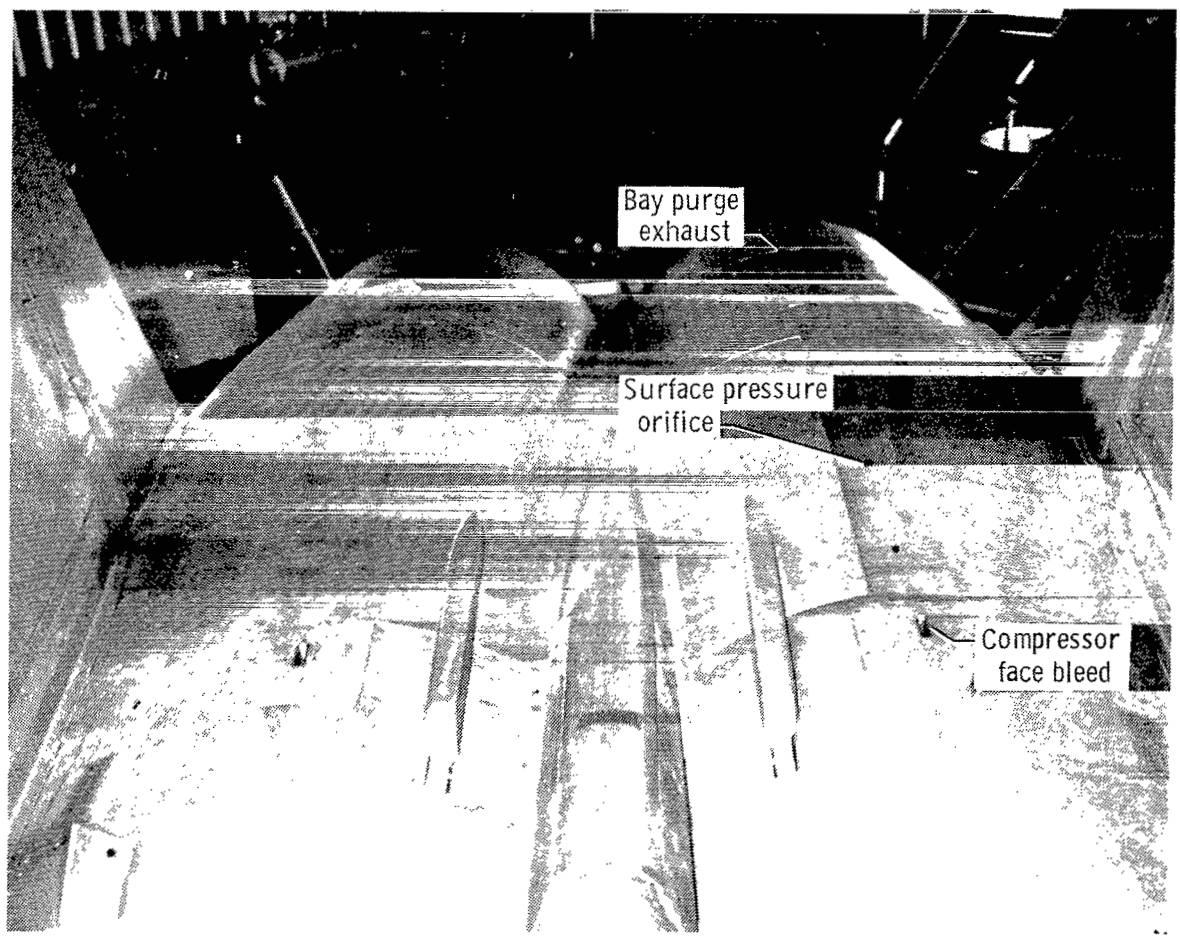
(a) Aft view looking forward.

Figure 4. Locations of flush pressure orifices.



(b) Orifice locations for PHI = 0° and 225°. L = 1804.87 cm (710.58 in.).

Figure 4. Concluded.



E 30543

Figure 5. Bay purge exhaust, compressor face bleed, and surface pressure orifices at PHI = 0°.

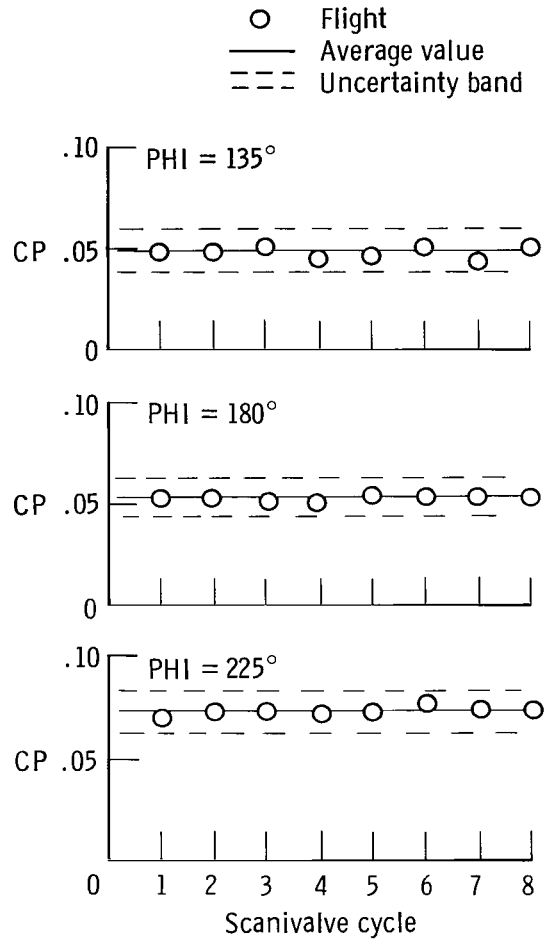
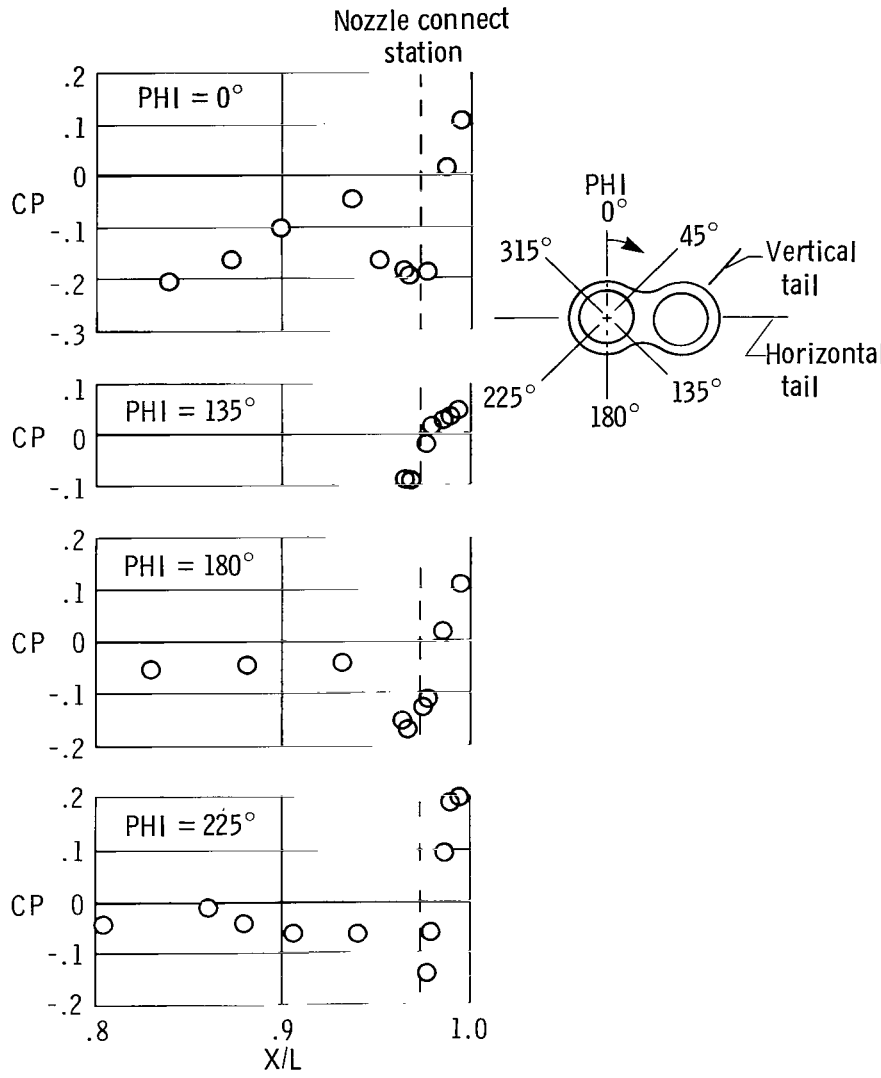
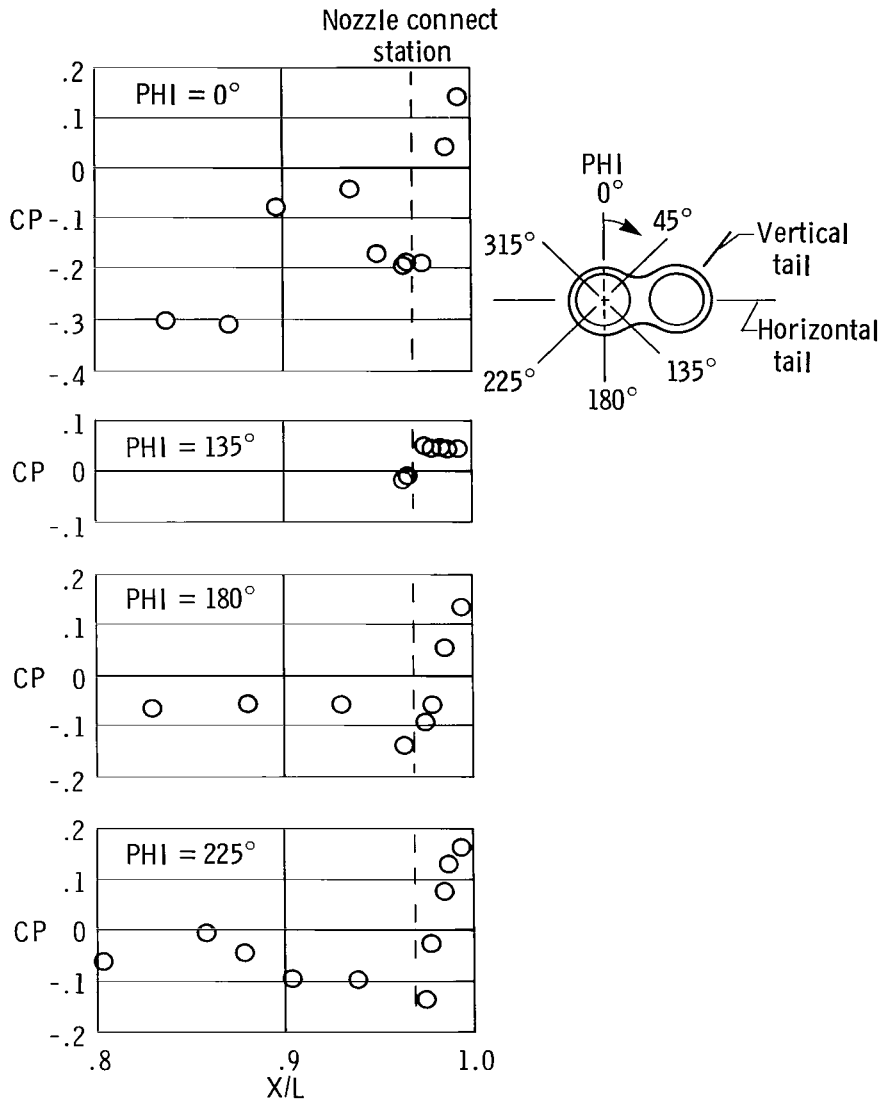


Figure 6. Typical stability of pressure at X/L = 0.99 for three circumferential locations.
M = 0.908, R = 2.25 X 10^8, AN CG = 0.95g.



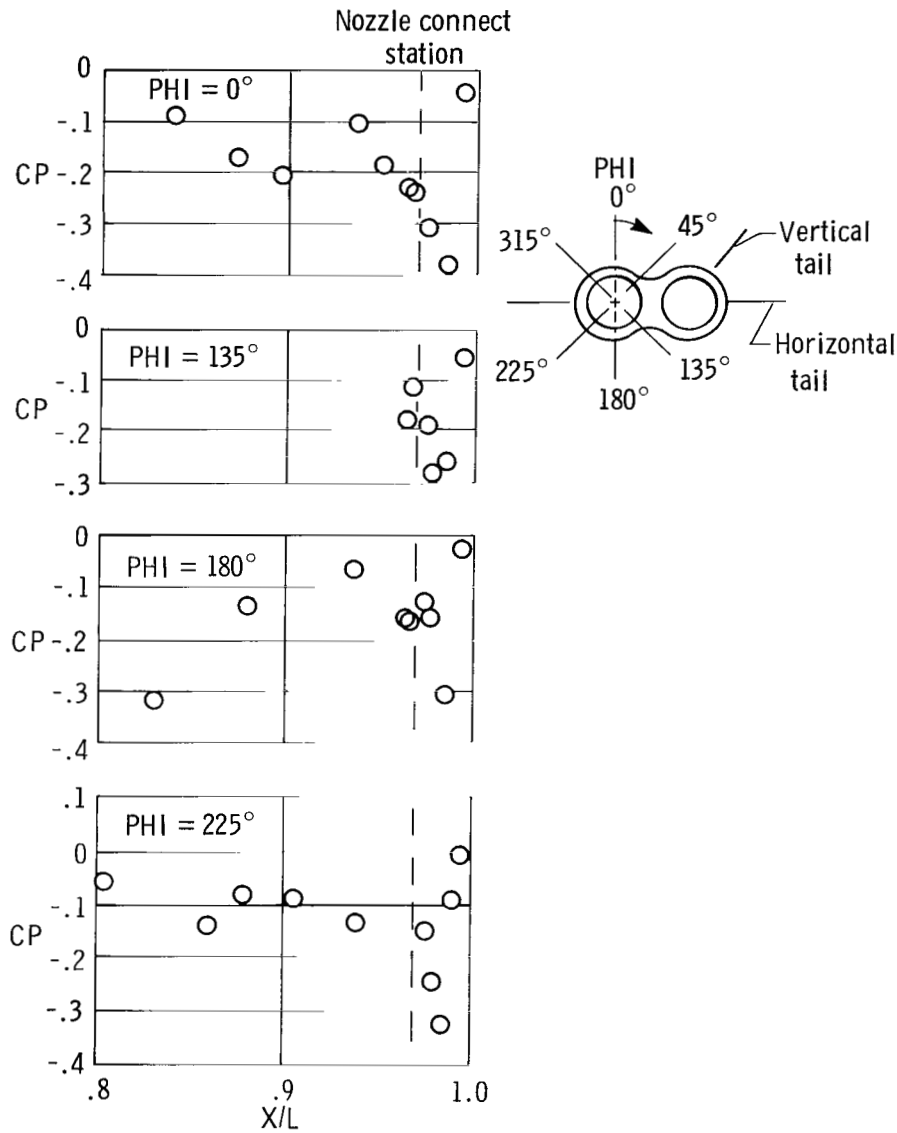
(a) M = 0.610, ALPHA = 3.60°, R = 1.22 X 10^8, NPR = 1.84, and DH L = -1.10°.

Figure 7. Representative pressure coefficients for four radial locations.



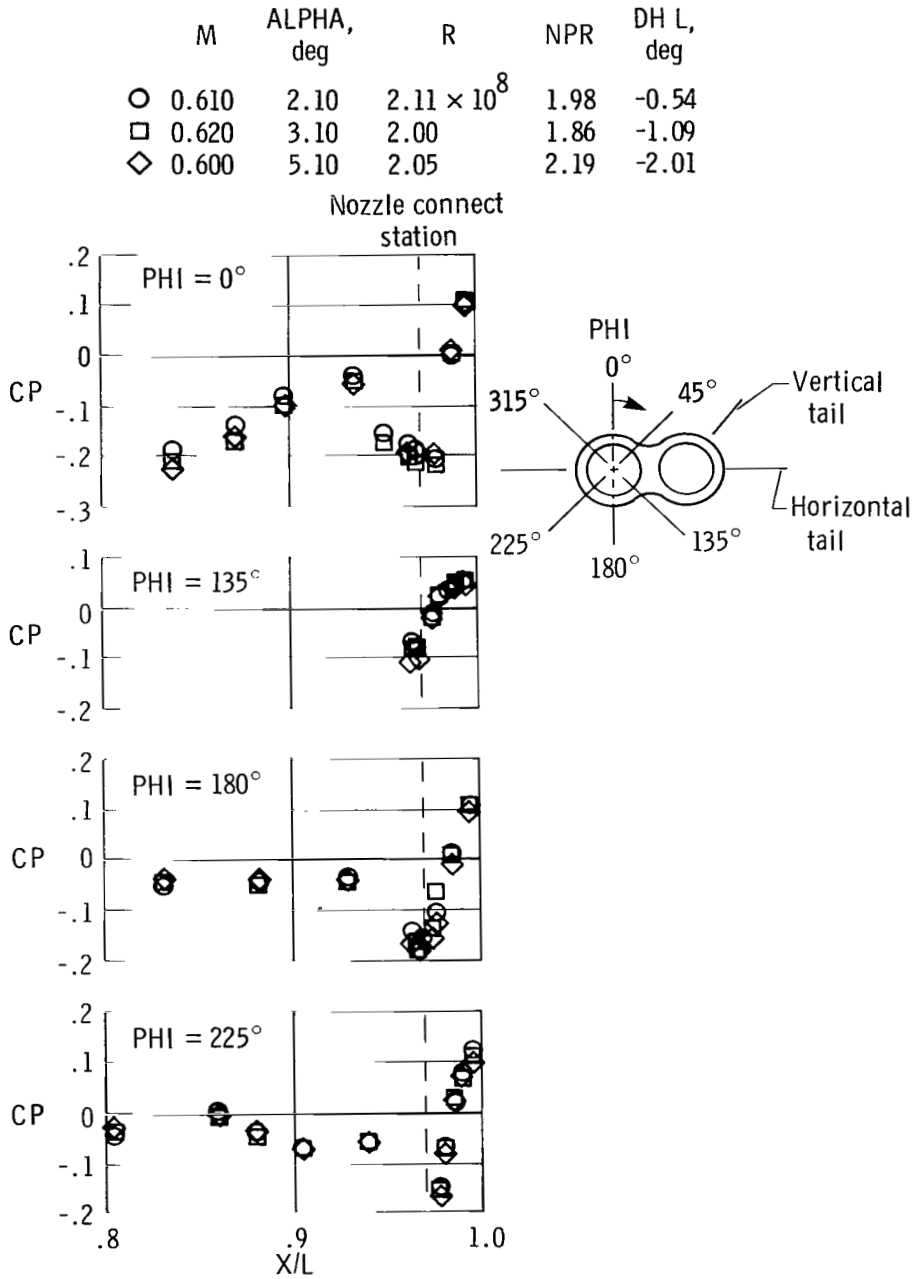
(b) M = 0.910, ALPHA = 0.90°, R = 2.26 × 10^8, NPR = 3.32, and DH L = -0.88°.

Figure 7. Continued.



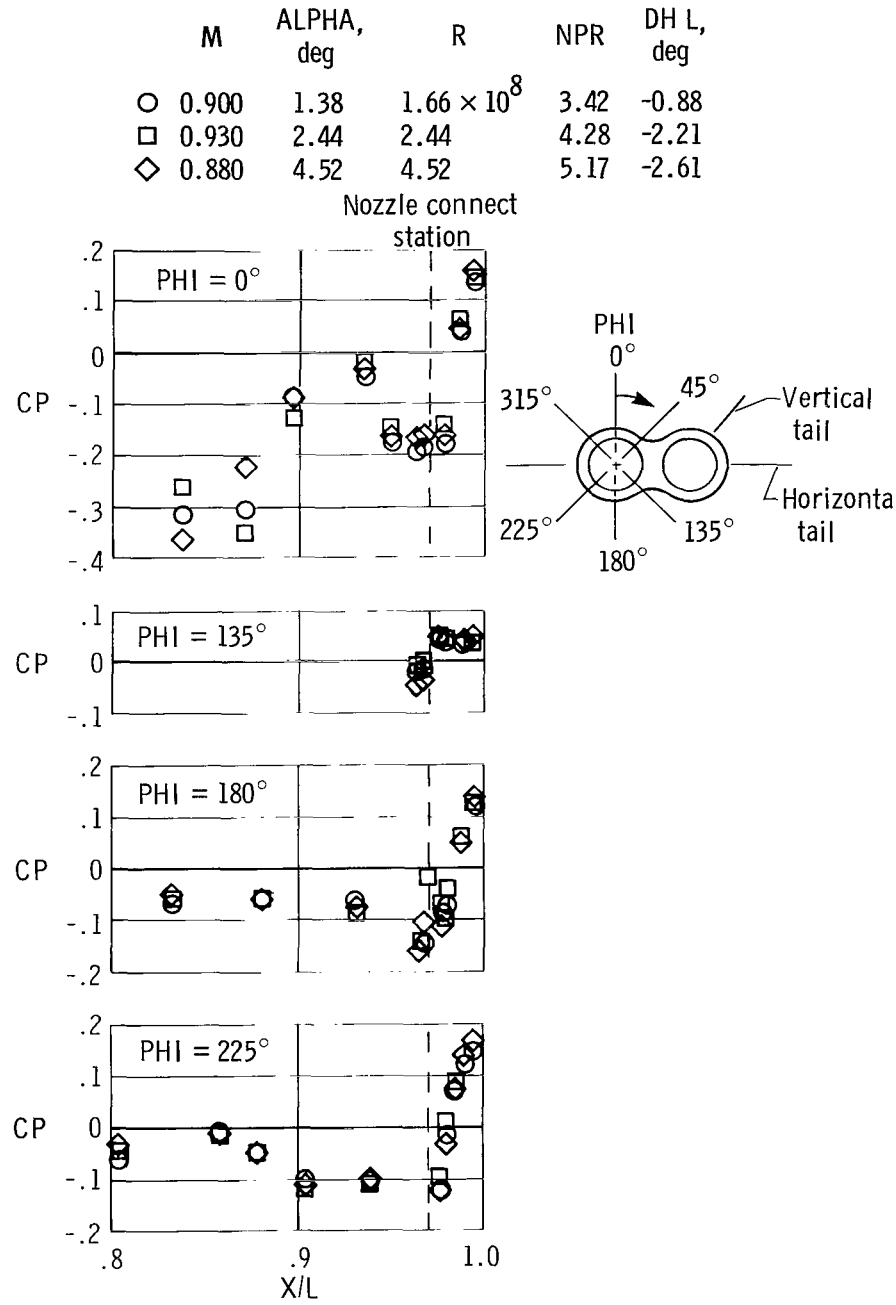
(c) M = 1.190, ALPHA = 0.70°, R = 2.41 × 10^8, NPR = 5.92, and DH L = 0.22°.

Figure 7. Concluded.



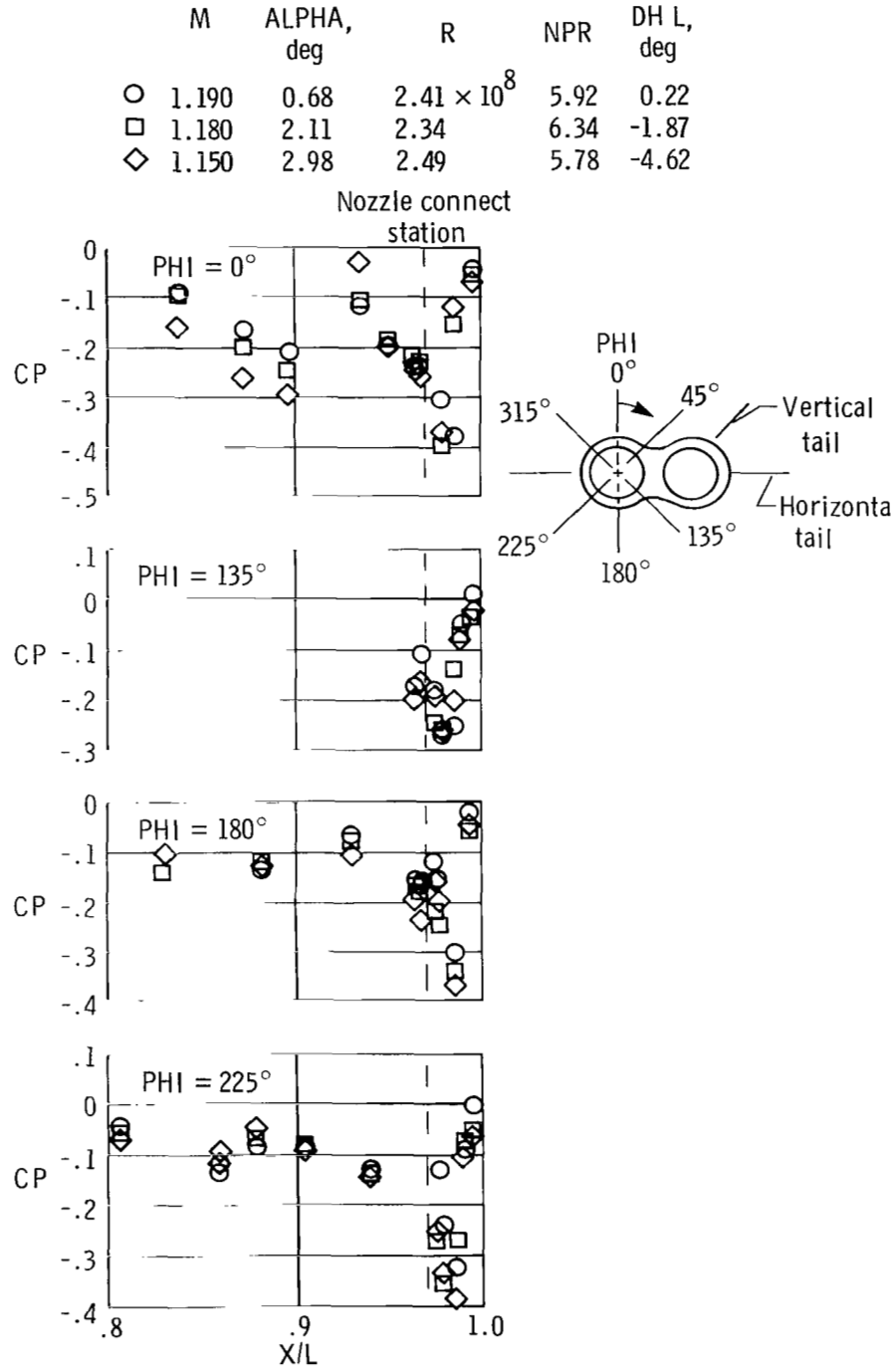
(a) $M \approx 0.60$.

Figure 8. Effect of angle of attack on pressure coefficients for four radial locations.



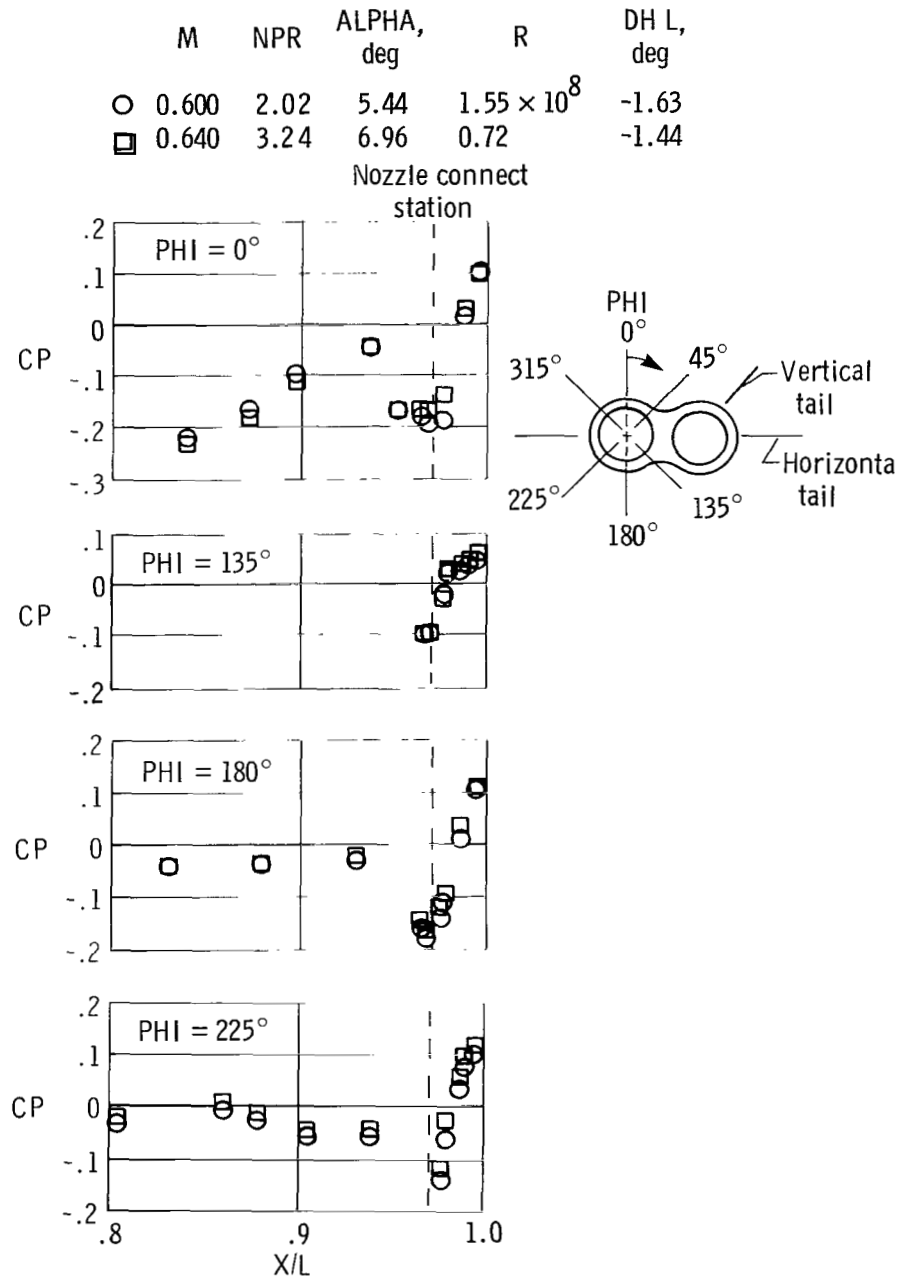
(b) $M \approx 0.90$.

Figure 8. Continued.



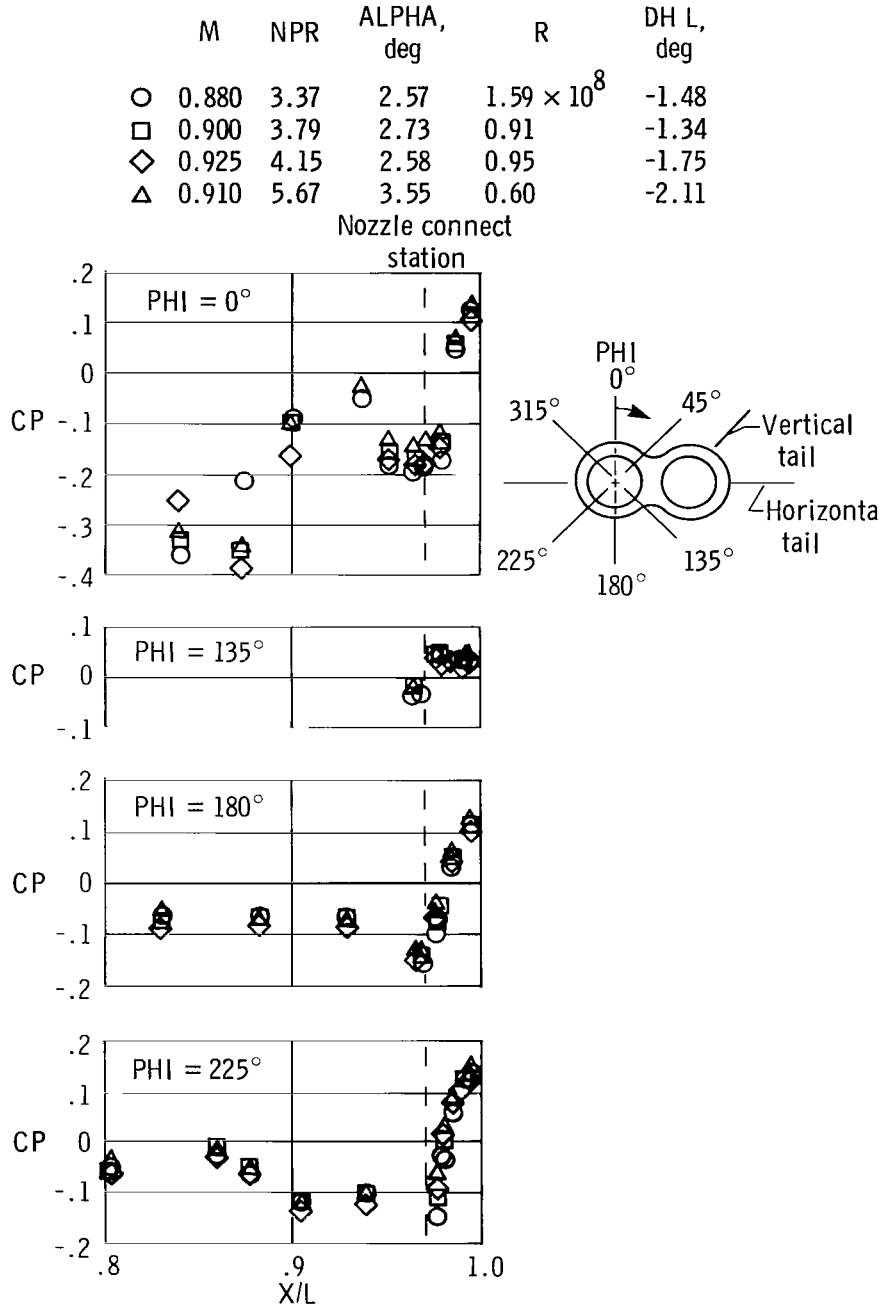
(c) $M \approx 1.2$.

Figure 8. Concluded.



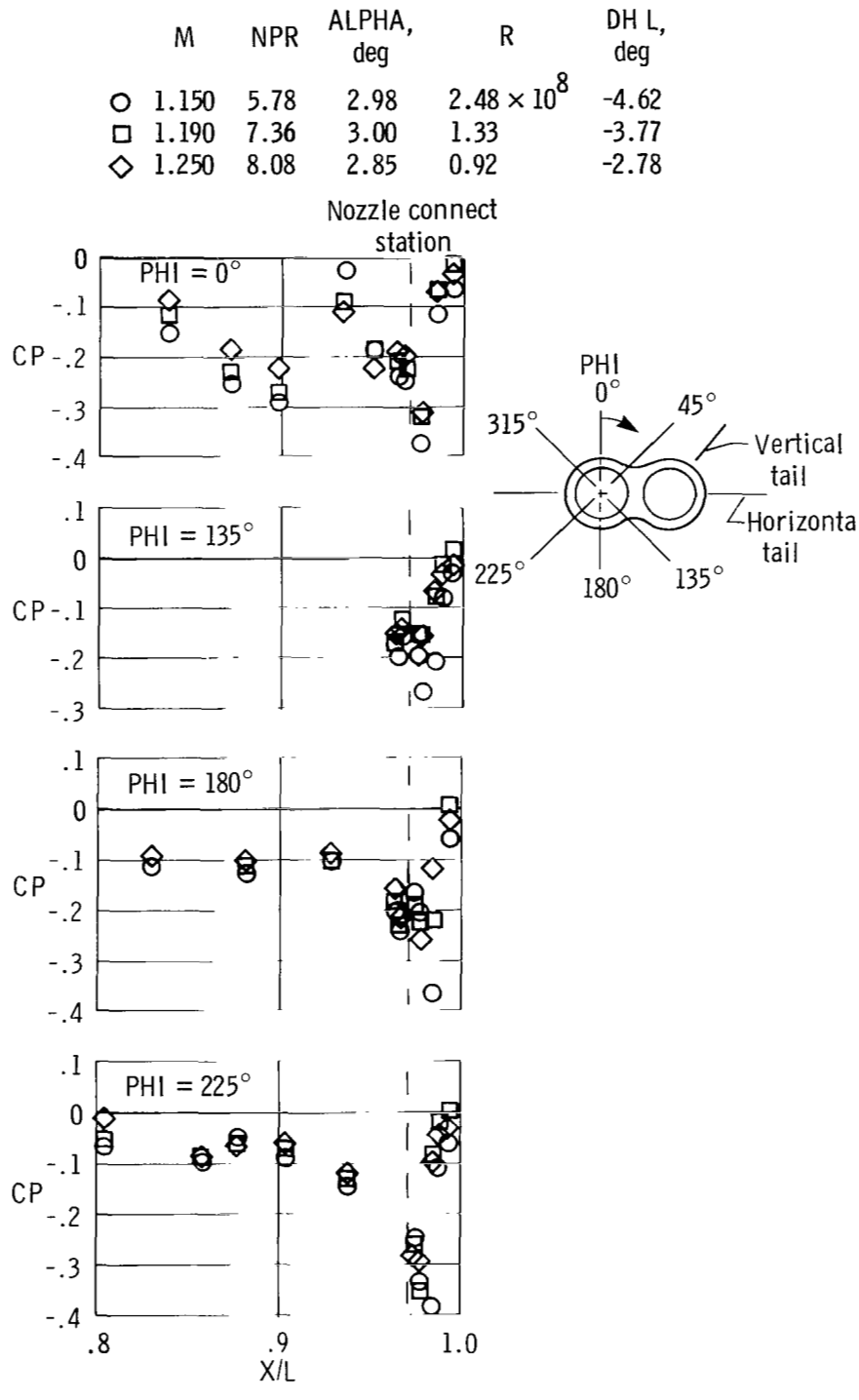
(a) $M \approx 0.60$, nonafterburning condition.

Figure 9. Effect of nozzle pressure ratio on pressure coefficients for four radial locations.



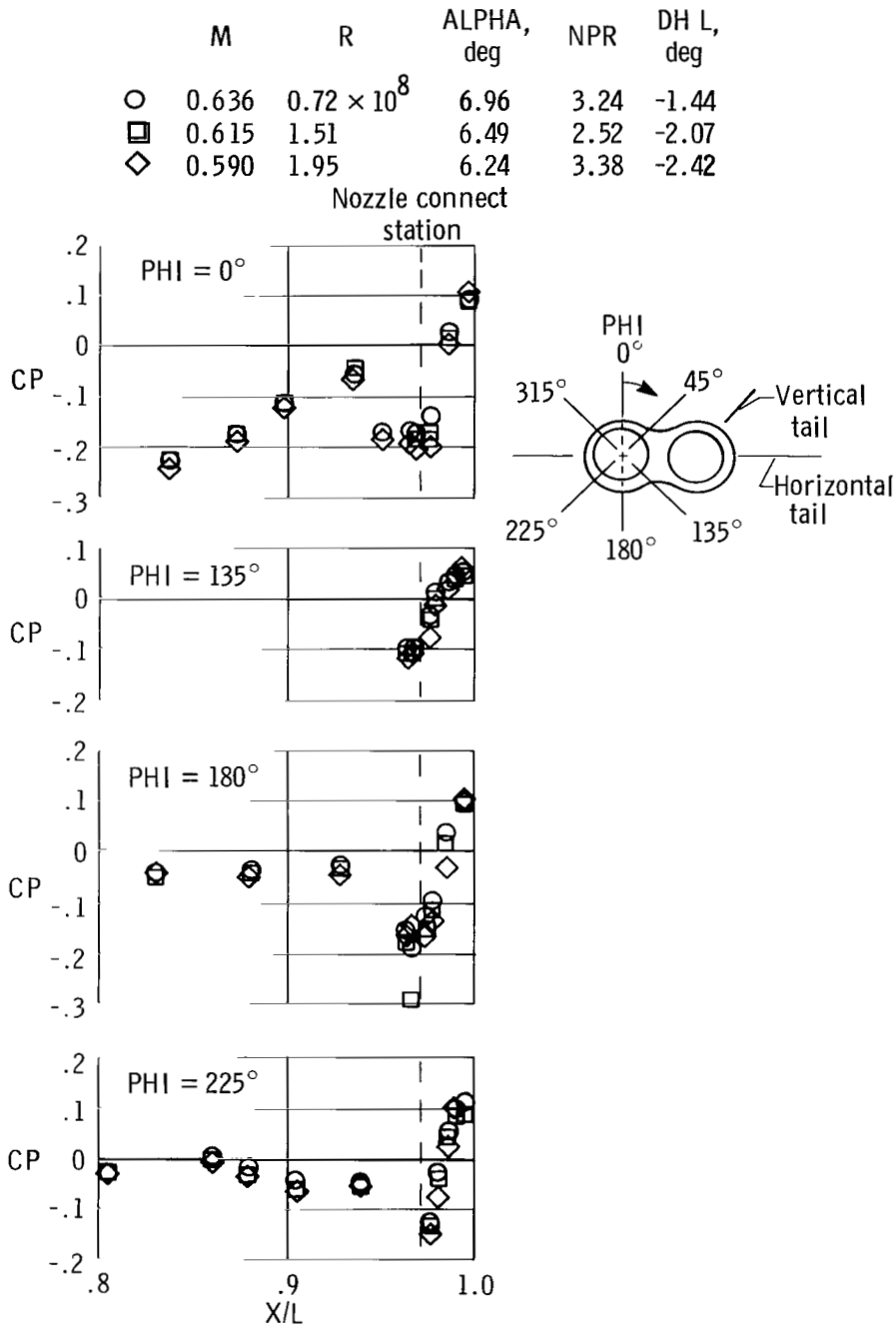
(b) M = 0.90, nonafterburning condition.

Figure 9. Continued.



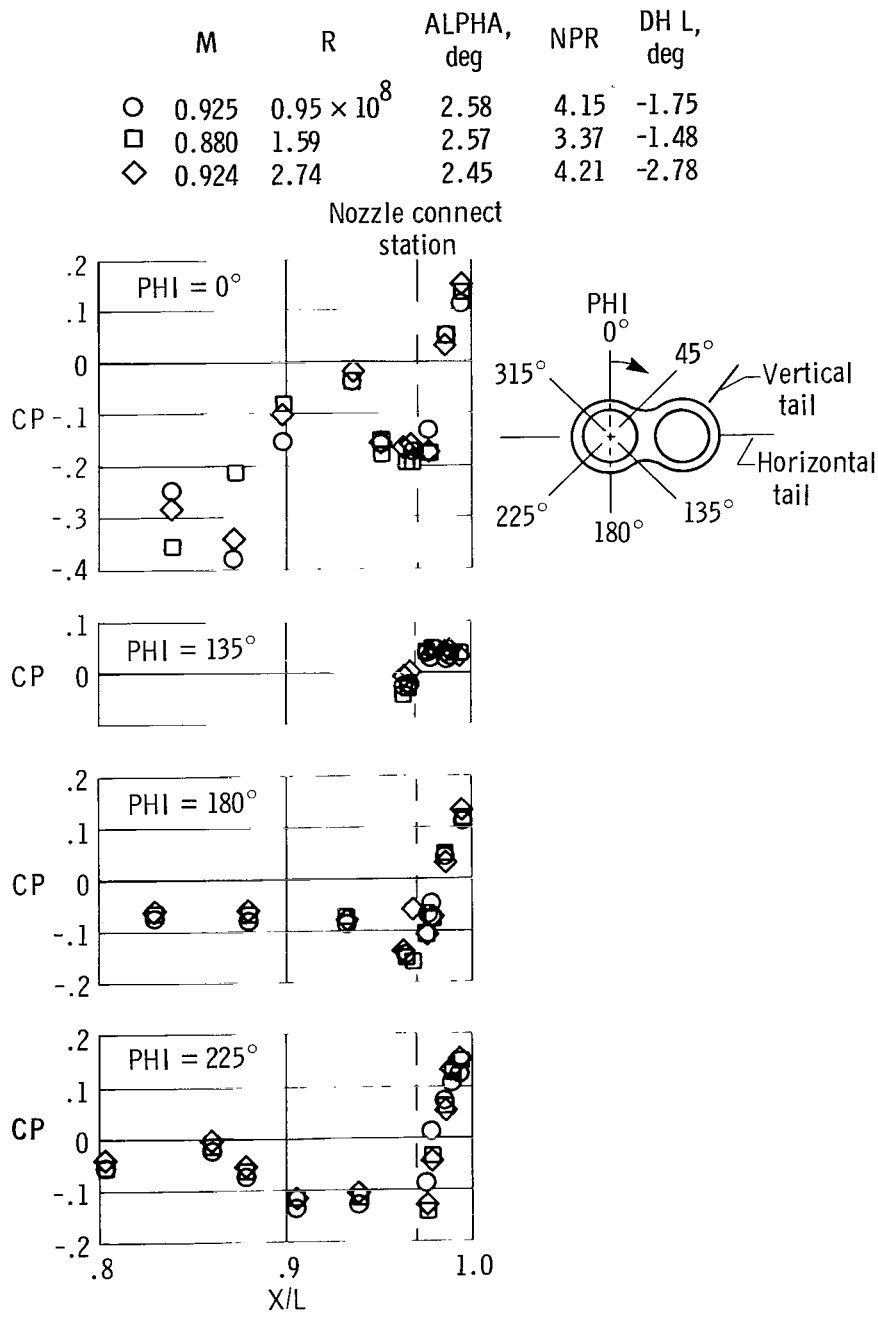
(c) M = 1.20, afterburning condition.

Figure 9. Concluded.



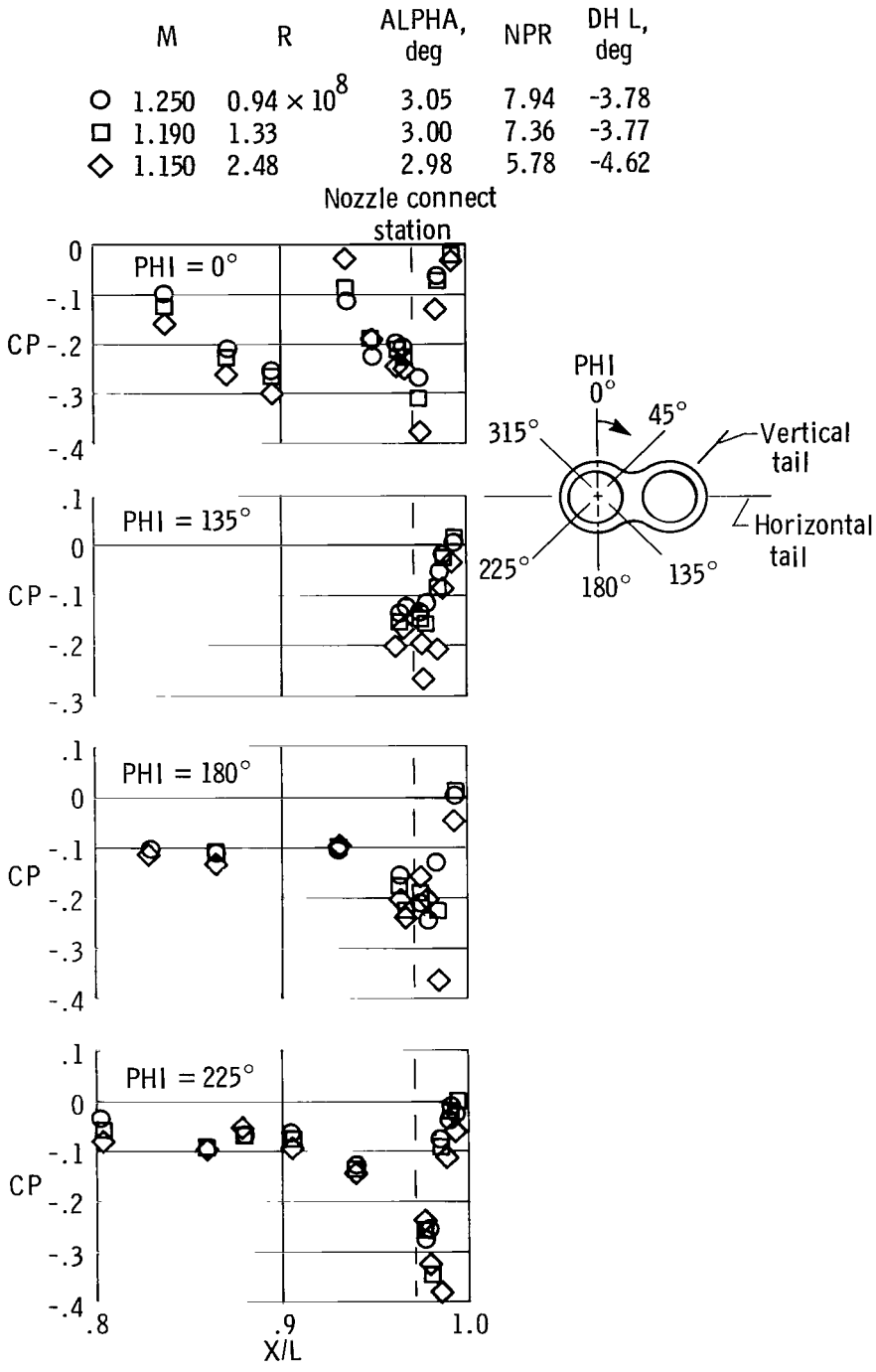
(a) $M \approx 0.60$.

Figure 10. Effect of Reynolds number on pressure coefficients for four radial locations.



(b) $M \approx 0.90$.

Figure 10. Continued.



(c) $M \approx 1.20$.

Figure 10. Concluded.

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4. Title and Subtitle

FLIGHT-MEASURED AFTERBODY PRESSURE COEFFICIENTS FROM AN AIRPLANE HAVING TWIN SIDE-BY-SIDE JET ENGINES FOR MACH NUMBERS FROM 0.6 TO 1.6

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16. Abstract

Afterbody pressure distribution data were obtained in flight from an airplane having twin side-by-side jet exhausts. The data were obtained in level flight at Mach numbers from 0.60 to 1.60 and at elevated load factors for Mach numbers of 0.60, 0.90, and 1.20. The test altitude varied from 2300 meters (7500 feet) to 15,200 meters (50,000 feet) over a speed range that provided a matrix of constant Mach number and constant unit Reynolds number test conditions.

The results of the full-scale flight afterbody pressure distribution program are presented in this report in the form of plotted pressure distributions and tabulated pressure coefficients with Mach number, angle of attack, engine nozzle pressure ratio, and unit Reynolds number as controlled parameters. Wind-tunnel tests for 0.1-scale and 0.2-scale models of the full-scale aircraft have been completed but are reported separately.

17. Key Words (Suggested by Author(s))	18. Distribution Statement
Afterbody pressure Propulsion-airframe interaction YF-17 airplane	Unclassified—Unlimited STAR Category: 02

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