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THE STATIC STABILITY CHARACTERISTICS OF SEVERAL PRELIMINARY MODELS OF THE X-15 RESEARCH AIRPLANE AT MACH NUMBERS OF 2.98 AND 4.01

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
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THE STATIC STABILITY CHARACTERISTICS OF SEVERAL PRELIMINARY MODELS OF THE X-15 RESEARCH AIRPLANE AT MACH NUMBERS OF 2.98 AND 4.01*

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SUMMARY

An investigation has been conducted in the Langley high Mach number jet to determine the static stability characteristics of several preliminary models of the X-15 research airplane. For each model, tests of the complete airplane and various combinations of its components were made at Mach numbers of 2.98 and 4.01 and Reynolds numbers from 2×10^6 to 4×10^6 based on wing mean aerodynamic chord. Six-component data were obtained through angles of attack from -4° to 24° at angles of sideslip from -5° to 1°. The results indicate that in general the stability characteristics of configuration 3 were satisfactory and that shortening the leading edges of the side fairings and changing the section of the horizontal tail from a modified NACA 66-005 to a wedge section resulted in appreciable longitudinal stability increases. Similarly, increasing the amount and proportion of the ventral tail area and using a wedge section on the upper and lower vertical tail improved the yawing-moment characteristics throughout the angle-of-attack range.

INTRODUCTION

A program for the design and construction of a high-speed research airplane for exploration in the hypersonic speed range at high altitudes has been underway for the past several years. This airplane, designated the X-15, has evolved through numerous design studies and wind-tunnel test programs to its present form. This report presents, with only a minimum analysis, the static stability results obtained in the Langley

*Title, Unclassified.

high Mach number jet at Mach numbers 3 and 4 for several of the variations in the evolution of the airplane.

SYMBOLS

The results of the tests are presented as standard coefficients of forces and moments. The data are referred to the body axis (fig. 1) with the exception of lift and drag which are referred to the stability axis. The reference center of gravity is at 25 percent of the wing mean aerodynamic chord.

b	wing span
C_A	axial-force coefficient, $-F_X/qS$
C_D	drag coefficient, $C_N \sin \alpha + C_A \cos \alpha$
C_L	lift coefficient, $C_N \cos \alpha - C_A \sin \alpha$
C_l	rolling-moment coefficient, M_X/qSb
C_{l_β}	rolling-moment-curve slope per deg, $\left(\frac{\partial C_l}{\partial \beta}\right)_{\beta=0^\circ}$
C_m	pitching-moment coefficient, $M_Y/qS\bar{c}$
C_N	normal-force coefficient, $-F_Z/qS$
C_n	yawing-moment coefficient, M_Z/qSb
C_{n_β}	yawing-moment-curve slope per deg, $\left(\frac{\partial C_N}{\partial \beta}\right)_{\beta=0^\circ}$
C_Y	side-force coefficient, F_Y/qS
C_{Y_β}	side-force-curve slope per deg, $\left(\frac{\partial C_Y}{\partial \beta}\right)_{\beta=0^\circ}$
$\frac{\partial C_m}{\partial C_N}$, $\frac{\partial C_m}{\partial C_L}$	longitudinal stability parameter

$\bar{c}$	wing mean aerodynamic chord (based on total wing area including area submerged in fuselage)
M	Mach number
M_X	moment about X-axis
M_Y	moment about Y-axis
M_Z	moment about Z-axis
q	dynamic pressure
S	total wing area including area submerged in fuselage
F_X	force along X-axis
F_Y	force along Y-axis
F_Z	force along Z-axis
α	angle of attack, deg
β	angle of sideslip, deg
δ_b	drag brake angle to vertical-tail center line, deg
δ_h	horizontal-tail deflection, deg
δ_v	vertical-tail deflection, deg

Subscripts:

B	model base
b	dive brake on vertical tails
h	horizontal tail
L	left horizontal-tail panel
l	lower vertical tail
R	right horizontal-tail panel

[redacted]

u upper vertical tail

v vertical tail

APPARATUS

Tests of three X-15 configurations were conducted in the Langley high Mach number jet. The settling-chamber pressure was held constant by a pressure-regulating valve, and the corresponding air temperature was continuously recorded during each run.

A sting-mounted strain-gage balance which measured internally normal force, side force, pitching moment, and yawing moment and externally rolling moment and axial force was used to obtain the data. A wind shield over the external part of the balance extended to the base of the model and eliminated wind tare loads. Base pressures were measured simultaneously with the force measurements. During the tests of configuration 3, a failure occurred in the rolling moment and axial-force components, such that the majority of the data for this configuration consists only of the four internal components.

MODELS

Three 0.02-scale configurations of the X-15 were tested. The geometric characteristics of each configuration are given in table I. Figure 2 illustrates the basic differences of each configuration. Detailed three-view drawings of configurations 1, 2, and 3 are presented, respectively, in figures 3, 4, and 5. In changing from configuration 1 to configuration 2 the following changes in model geometry were made. The wing was moved aft and the horizontal tail was moved forward; the leading-edge radii of the wing, tails, and fuselage were increased; the nose of the fuselage was made blunter and the diameter of the cylindrical portion was increased; the trailing edge of the side fairings was enlarged; and the landing skids were moved from under the wing to a position under the horizontal tail. In changing from configuration 2 to configuration 3 the changes in model geometry were fewer and consisted of moving the leading edge of the side fairings back along the fuselage, changing the distribution of vertical-tail area above and below the fuselage, and reducing the dive brake area. It should be noted that two different vertical tails were tested on configuration 3, and two different horizontal tails were tested on configuration 2. Detailed drawings of the vertical tails for all the configurations are shown in figure 6 and the detail drawings of wings and horizontal tails are shown in figure 7.

[redacted]

Since the X-15 program has been coordinated by North American Aviation, Incorporated, the various models described above have been tested in other research facilities under the North American designations listed in the appendix.

TESTS

The tests were conducted at Mach numbers of 2.98 and 4.01. The Reynolds number for each configuration is as shown in the following table:

Configuration	Mach number	Temperature range, °F	Settling chamber pressure, lb/sq in. abs	Average Reynolds number based on wing $\bar{c}$
1	2.98	70 to 50	75.0	2.6×10^6
	4.01	70 to 50	194.0	4.0
2	2.98	90 to 60	73.0	2.4
	4.01	100 to 80	193.5	3.7
3	2.98	37 to 7	75.0	2.9

The tests were run at humidities below 5×10^{-6} pounds of water vapor per pound of dry air. This is believed to be low enough to eliminate water-condensation effects. The test section static temperature and pressure did not reach the point where liquefaction of air would take place.

Three configurations with various components were tested. Data were obtained for angles of attack from -4° to 24° and angles of sideslip of -5° to 1°.

PRECISION OF DATA

The probable average uncertainties in the test data due to the accuracy limitations of the balances, recording equipment, and the ability of the system to repeat data points are listed in the following table:

C_A	±0.001
C_D	±0.001
C_L	±0.006

C_l	±0.0002
C_m	±0.002
C_N	±0.006
C_n	±0.0003
C_Y	±0.001
α, deg	±0.1
β, deg	±0.1

RESULTS

Representative plots of the aerodynamic characteristics of the configurations are presented in figures 8 to 18. Tabulated values are presented in tables II to VI. Figure 19 illustrates the axial-force coefficient due to base pressure for some of the configurations. Since it was so close to zero no correction for base pressure has been made to the data presented in the figures and tables. Figures 20 to 23 contain some of the more important slope parameters.

Configuration comparison.- In comparing configuration 2 with configuration 1 (figs. 8, 11, and 20) the effects of shortening the moment arm between the center of gravity and the horizontal tail, lengthening the moment arm between the center of gravity and the nose, and decreasing the nose fineness ratio are apparent in the somewhat lower longitudinal stability of configuration 2. In addition, the blunter body (both nose radius and body diameter) and blunter wing and tail leading edge of configuration 2 contributed to a higher drag configuration. Elimination of the leading edge of the side fairings of configuration 3 (figs. 15 and 20) had the very desirable effect of improving the longitudinal stability to the point that configuration 3 was more stable than configuration 1.

Little or no interference is apparent between the various tail components (figs. 9, 12, and 17) at the higher angles. The negative increment in pitch when the vertical tails are added has been observed previously (ref. 3) and is due to the differential drag of the upper and lower tails.

Effect of horizontal-tail section.- The majority of the data were obtained with a modified NACA 66-005 section horizontal tail. However, some tests were made using a wedge-section horizontal tail as suggested in reference 2 to see how much improvement in stability could be obtained using this approach. It can be seen (figs. 14 and 20) that an increase in stability of approximately 5 percent of $\bar{c}$ at 2.98 and approximately 10 percent of $\bar{c}$ at 4.01 was realized with little effect on the other forces and moments.

Dive brakes.- The effect on the longitudinal and lateral stability characteristics of opening the dive brakes can be seen in figures 10, 13, 21, and 23. The variation in pitching moment (figs. 10 and 13) can be explained by an examination of the geometry of the upper tail as compared to the lower tail.

At zero angle of attack the larger drag of the upper tail brakes (due to larger frontal area and aspect ratio) plus the longer moment arm for the drag to act through combine to give a net positive pitching moment as the drag brake angle increases. As the angle of attack increases the effects of the wing flow field (ref. 1) reduce this effect until at the higher angles of attack the effect of the lower fin is predominant and with an increase in dive brake angle there is a negative increase in pitching moment. With increasing dive brake angle the increased effectiveness of the vertical tail in lateral and directional stability predicted by reference 2 is apparent (fig. 23).

Effect of distribution of vertical-tail area.- In comparing vertical tails 3a and 3b, it is necessary to make allowances for the fact that tail 3b has only 70 percent of the area of tail 3a (this difference in area is primarily in the lower-vertical tail; lower-vertical tail 3b has only 62 percent of the area of lower-vertical tail 3a) and that the dive brakes on tail 3b are set at 15° whereas those on 3a are set at 5°. These differences tend to compensate each other with the net result being the differences evident on figure 18. For vertical tail 3a the area distribution is 55 percent upper and 45 percent lower, while for vertical tail 3b, the area distribution is 60 percent upper and 40 percent lower. The advantage of increasing lower-vertical tail area is apparent when the practically constant level of yawing moment with increasing C_N (or angle of attack) for vertical tail 3a is compared with the decrease in yawing moment with increasing angle of attack for vertical tail 3b (fig. 18).

The limited roll data available for vertical tail 3a (fig. 15) indicate that the nearly symmetrical distribution of vertical-tail area coupled with the wing flow field effects at the higher angles of attack result in low values of roll due to sideslip throughout the angle-of-attack range.

CONCLUDING REMARKS

An investigation has been conducted in the Langley high Mach number jet on several preliminary models of the X-15 research airplane at Mach numbers of 2.98 and 4.01. The results indicate that in general the stability characteristics of configuration 3 were satisfactory and that

shortening the leading edges of the side fairings and changing the section of the horizontal tail from a modified NACA 66-005 to a wedge section resulted in appreciable longitudinal stability increases. Similarly, increasing the amount and proportion of the ventral-tail area and using a wedge section on the upper and lower vertical tail improved the yawing-moment characteristics throughout the angle-of-attack range.

Langley Research Center,
National Aeronautics and Space Administration,
Langley Field, Va., August 12, 1959.

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APPENDIX

NORTH AMERICAN DESIGNATIONS FOR CONFIGURATIONS

The various models described in this report have been tested in other research facilities. For the purpose of facilitating comparisons of the configuration identities used herein with the identifications used by North American Aviation, Inc., the following information is pertinent:

	North American designation
Configuration 1	$BWXHV_UV_L$
Configuration 2a	$B_2W_2X_3H_3V_{U_2}V_L$
Configuration 2b	$B_2W_2X_3H_2V_{U_2}V_L$
Configuration 3a	$B_2W_2X_4H_3V_{U_5}V_{L_7}$
Configuration 3b	$B_2W_2X_4H_3V_{U_8}V_{L_9}$

These letter designations are associated with the airplane components as follows:

B	Body without side fairings
W	Wing
X	Side fairings
H	Horizontal tail
V_U	Upper vertical tail
V_L	Lower vertical tail

For the first configuration, no number subscripts were used, but all further changes in any component were identified by use of a new subscript number. Thus, for example, X_4 is the side fairing after four changes.

REFERENCES

1. Ulmann, Edward F., and Ridyard, Herbert W.: Flow Field Effects on Static Stability and Control at High Supersonic Mach Numbers. NACA RM L55L19a, 1956.

2. McLellan, Charles H.: A Method for Increasing the Effectiveness of Stabilizing Surfaces at High Supersonic Mach Numbers. NACA RM L54F21, 1954.

3. Dunning, Robert W.: Aerodynamic Characteristics at a Mach Number of 4.06 of a Typical Supersonic Airplane Model Using Body and Vertical-Tail Wedges to Improve Directional Stability. NACA RM L57I10, 1957.

4. Smith, Fred M., Ulmann, Edward F., and Dunning, Robert W.: Longitudinal and Lateral Aerodynamic Characteristics at Combined Angles of Attack and Sideslip of a Generalized Missile Model Having a Rectangular Wing at a Mach Number of 4.08. NACA RM L58E26, 1958.

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TABLE I

GEOMETRIC CHARACTERISTICS OF X-15 CONFIGURATIONS

Wing:	
Area (including area submerged in fuselage), sq in.	11.52
Span, in.	5.366
Mean aerodynamic chord, in.	2.465
Equivalent tip chord, in.	0.716
Fuselage mold line with side fairings	2.639
Airfoil section:	
Configuration 1	Modified NACA 66-005
Leading-edge radius:	
At root	0.004
At tip	0.001
Configurations 2a, 2b, 3a, and 3b	Modified NACA 66-005
Leading-edge radius:	
At root	0.014
At tip	0.008
Taper ratio	0.20
Aspect ratio	2.5
Sweep of leading edge, deg	36.75
Sweep of c/4 line, deg	25.64
Incidence at fuselage center line, deg	0
Dihedral, deg	0
Geometric twist, deg	0
Horizontal tail:	
Area (including area submerged in fuselage), sq in.	6.643
Span, in.:	
Configuration 1	4.090
Configurations 2a, 2b, 3a, and 3b	4.339
Mean aerodynamic chord	1.69
Fairing mold line	1.658
Equivalent tip chord	0.506
Airfoil section:	
Configuration 1	Modified NACA 66-005
Leading-edge radius:	
At root	0.003
At tip	0.001
Configurations 2a, 3a, and 3b	Modified NACA 66-005
Leading-edge radius:	
At root	0.010
At tip	0.005
Configuration 2b	10° wedge
Leading-edge radius:	
At root	0.010
At tip	0.005
Taper ratio	0.206
Aspect ratio	3.038
Sweep of leading edge, deg	50.58
Sweep of c/4 line, deg	45.00
Dihedral, deg	-15.00
Vertical tail (upper):	
Area (exposed), sq in.:	
Configuration 1	2.175
Configurations 2a and 2b	2.154
Configuration 3a	2.342
Configuration 3b	1.777

TABLE I.- Concluded

GEOMETRIC CHARACTERISTICS OF X-15 CONFIGURATIONS

Span (exposed), in.:	
Configuration 1	1.654
Configurations 2a and 2b	1.654
Configuration 3a	1.10
Configuration 3b	1.11
Taper ratio (exposed):	
Configuration 1	0.288
Configurations 2a and 2b	0.273
Configuration 3a	0.738
Configuration 3b	0.435
Aspect ratio (exposed):	
Configuration 1	1.256
Configurations 2a and 2b	1.269
Configuration 3a	0.517
Configuration 3b	0.694
Sweep of leading edge, deg:	
Configuration 1	32.67
Configurations 2a and 2b	32.67
Configuration 3a	30.20
Configuration 3b	46.33
Airfoil section:	
Configuration 1	10° double wedge (modified)
Configurations 2a and 2b	10° wedge
Configuration 3a	10° wedge
Configuration 3b	10° wedge
Vertical tail (lower):	
Area (exposed), sq in.:	
Configuration 1	0.778
Configurations 2a and 2b	0.778
Configuration 3a	1.920
Configuration 3b	1.185
Taper ratio (exposed):	
Configuration 1	0.613
Configurations 2a and 2b	0.613
Configuration 3a	0.781
Configuration 3b	0.811
Aspect ratio (exposed):	
Configuration 1	0.296
Configurations 2a and 2b	0.296
Configuration 3a	0.403
Configuration 3b	0.274
Airfoil section:	
Configuration 1	14° double wedge (modified)
Configurations 2a and 2b	14° double wedge (modified)
Configuration 3a	10° wedge
Configuration 3b	10° wedge
Fuselage:	
Length, in.	11.76
Maximum diameter (without fairings), in.:	
Configuration 1	1.06
Configurations 2a, 2b, 3a, and 3b	1.12
Fineness ratio (without fairings):	
Configuration 1	11.08
Configurations 2a, 2b, 3a, and 3b	10.5
Distance from nose to moment reference (0.25$\bar{c}$), in.:	
Configuration 1	6.866
Configurations 2a, 2b, 3a, and 3b	6.856

TABLE II

CONFIGURATION 1

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β, deg	α, deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	-4.4	-4.3	0	0	.0	.0	2.98	.0	-4	-.149	.0434	-.152	.0329	.037	.0007	.0000	-.0002
	-4.4	-4.3	0	0	.0	.0	2.98	.0	-2	-.068	.0366	-.069	.0342	.018	.0009	.0000	-.0001
	-4.4	-4.3	0	0	.0	.0	2.98	.0	-1	-.029	.0355	-.029	.0350	.008	.0020	-.0001	.0000
	-4.4	-4.3	0	0	.0	.0	2.98	.0	0	.016	.0352	.016	.0352	-.003	.0010	-.0001	-.0001
	-4.4	-4.3	0	0	.0	.0	2.98	.0	1	.049	.0361	.049	.0352	-.014	.0006	.0000	-.0001
	-4.4	-4.3	0	0	.0	.0	2.98	.0	2	.095	.0393	.096	.0360	-.026	.0007	.0000	-.0000
	-4.4	-4.3	0	0	.0	.0	2.98	.0	4	.179	.0483	.182	.0357	-.054	.0009	.0000	-.0001
	-4.4	-4.3	0	0	.0	.0	2.98	.0	6	.260	.0632	.265	.0357	-.078	-.0004	.0002	-.0002
	-4.4	-4.3	0	0	.0	.0	2.98	.0	8	.341	.0839	.349	.0396	-.098	.0008	.0000	-.0002
	-4.4	-4.3	0	0	.0	.0	2.98	.0	10	.418	.1099	.431	.0355	-.114	-.0001	.0001	-.0003
	-4.4	-4.3	0	0	.0	.0	2.98	.0	12	.509	.1449	.528	.0357	-.133	.0001	.0000	-.0003
	-4.4	-4.3	0	0	.0	.0	2.98	.0	14	.591	.1845	.618	.0358	-.154	.0003	.0000	-.0002
	-4.4	-4.3	0	0	.0	.0	2.98	.0	18	.765	.2876	.817	.0369	-.197	.0033	-.0004	.0009
	-4.4	-4.3	0	0	.0	.0	4.01	.0	-4	-.122	.0380	-.124	.0294	.016	-.0011	.0004	.0002
	-4.4	-4.3	0	0	.0	.0	4.01	.0	-2	-.057	.0328	-.059	.0308	.003	-.0015	.0004	.0002
	-4.4	-4.3	0	0	.0	.0	4.01	.0	-1	-.027	.0314	-.027	.0309	-.000	-.0014	.0004	.0002
	-4.4	-4.3	0	0	.0	.0	4.01	.0	0	.003	.0310	.003	.0310	-.008	-.0019	.0004	.0002
	-4.4	-4.3	0	0	.0	.0	4.01	.0	1	.036	.0313	.037	.0307	-.016	-.0004	.0003	.0004
	-4.4	-4.3	0	0	.0	.0	4.01	.0	2	.070	.0336	.071	.0311	-.027	-.0003	.0003	.0003
	-4.4	-4.3	0	0	.0	.0	4.01	.0	4	.128	.0404	.131	.0313	-.041	-.0002	.0002	.0003
	-4.4	-4.3	0	0	.0	.0	4.01	.2	6	.204	.0531	.208	.0315	-.053	-.0020	.0004	.0002
	-4.4	-4.3	0	0	.0	.0	4.01	.2	8	.264	.0699	.271	.0324	-.064	-.0018	.0003	.0001
	-4.4	-4.3	0	0	.0	.0	4.01	.2	10	.341	.0942	.352	.0335	-.079	-.0017	.0003	-.0001
	-4.4	-4.3	0	0	.0	.0	4.01	.2	12	.413	.1232	.430	.0346	-.092	-.0020	.0002	-.0001
	-4.4	-4.3	0	0	.0	.0	4.01	.2	14	.490	.1594	.514	.0361	-.111	-.0023	.0004	-.0003
	-4.4	-4.3	0	0	.0	.0	4.01	.2	18	.643	.2488	.690	.0373	-.153	-.0024	.0002	-.0004
	-4.4	-4.3	0	0	.0	.0	4.01	.0	22	.830	.3763	.911	.0377	-.214	.0025	-.0002	.0001
	-4.4	45.0	0	0	.0	.0	2.98	.4	-4	-.127	.0893	-.134	.0802	-.011	-.0040	.0007	-.0005
	-4.4	45.0	0	0	.0	.0	2.98	.4	-2	-.037	.0858	-.040	.0844	-.037	-.0043	.0008	-.0002
	-4.4	45.0	0	0	.0	.0	2.98	.4	-1	-.001	.0854	-.003	.0854	-.047	-.0043	.0008	-.0002
	-4.4	45.0	0	0	.0	.0	2.98	.4	0	.036	.0861	.036	.0861	-.057	-.0046	.0008	-.0003
	-4.4	45.0	0	0	.0	.0	2.98	.4	1	.079	.0901	.080	.0887	-.072	-.0051	.0009	-.0003
	-4.4	45.0	0	0	.0	.0	2.98	.4	2	.121	.0933	.124	.0890	-.089	-.0045	.0008	-.0002
	-4.4	45.0	0	0	.0	.0	2.98	.4	4	.209	.1094	.211	.0949	-.118	-.0038	.0007	-.0003
	-4.4	45.0	0	0	.0	.0	2.98	.4	6	.285	.1286	.297	.0981	-.146	-.0035	.0007	-.0004
	-4.4	45.0	0	0	.0	.0	2.98	.4	8	.372	.1550	.390	.1017	-.172	-.0039	.0007	-.0005
	-4.4	45.0	0	0	.0	.0	2.98	.4	10	.456	.1861	.484	.1040	-.195	-.0036	.0007	-.0007
	-4.4	45.0	0	0	.0	.0	2.98	.4	12	.552	.2289	.588	.1090	-.225	-.0039	.0007	-.0007
	-4.4	45.0	0	0	.0	.0	2.98	.4	14	.645	.2761	.693	.1117	-.251	-.0042	.0007	-.0009
	-4.4	45.0	0	0	.0	.0	2.98	.4	18	.823	.3910	.904	.1174	-.320	-.0035	.0007	-.0009
	-4.4	45.0	0	0	.0	.0	4.01	.0	-4	-.097	.0804	-.102	.0734	-.026	-.0003	.0004	.0002
	-4.4	45.0	0	0	.0	.0	4.01	.0	-2	-.028	.0801	-.031	.0791	-.043	-.0006	.0005	.0001
	-4.4	45.0	0	0	.0	.0	4.01	.0	-1	-.001	.0840	-.003	.0840	-.049	-.0011	.0005	.0001
	-4.4	45.0	0	0	.0	.0	4.01	.0	0	.034	.0848	.034	.0848	-.060	-.0005	.0004	.0001
	-4.4	45.0	0	0	.0	.0	4.01	.0	1	.063	.0881	.065	.0870	-.068	.0000	.0003	.0001
	-4.4	45.0	0	0	.0	.0	4.01	.0	2	.096	.0932	.099	.0897	-.080	.0001	.0003	.0001
	-4.4	45.0	0	0	.0	.0	4.01	.0	4	.151	.1049	.158	.0940	-.094	.0002	.0003	.0000
	-4.4	45.0	0	0	.0	.0	4.01	.0	6	.218	.1222	.229	.0987	-.111	.0008	.0002	.0000
	-4.4	45.0	0	0	.0	.0	4.01	.0	8	.280	.1443	.298	.1038	-.127	.0009	.0002	-.0001
	-4.4	45.0	0	0	.0	.0	4.01	.0	10	.348	.1748	.372	.1097	-.143	.0011	.0001	-.0001
	-4.4	45.0	0	0	.0	.0	4.01	.0	12	.428	.2107	.463	.1170	-.166	.0027	-.0001	-.0001
	-4.4	45.0	0	0	.0	.0	4.01	.0	14	.495	.2505	.541	.1232	-.187	.0019	.0000	-.0003
	-4.4	45.0	0	0	.0	.0	4.01	.0	18	.660	.3576	.738	.1360	-.252	.0039	-.0003	-.0001
	-4.4	45.0	0	0	.0	.0	4.01	.0	22	.827	.4923	.952	.1464	-.324	.0060	-.0006	-.0005
	45.0	-4.3	0	0	.0	.0	2.98	.5	-4	-.167	.1547	-.177	.1406	.134	-.0083	.0008	-.0012
	45.0	-4.3	0	0	.0	.0	2.98	.5	-2	-.084	.1417	-.089	.1386	.108	-.0086	.0009	-.0008
	45.0	-4.3	0	0	.0	.0	2.98	.5	-1	-.044	.1387	-.046	.1379	.097	-.0091	.0009	-.0009
	45.0	-4.3	0	0	.0	.0	2.98	.5	0	-.009	.1379	-.009	.1379	.085	-.0106	.0011	-.0011
	45.0	-4.3	0	0	.0	.0	2.98	.5	1	.031	.1385	.034	.1379	.071	-.0126	.0015	-.0012
	45.0	-4.3	0	0	.0	.0	2.98	.5	2	.066	.1377	.070	.1353	.056	-.0093	.0010	-.0008
	45.0	-4.3	0	0	.0	.0	2.98	.5	4	.147	.1457	.157	.1350	.029	-.0097	.0011	-.0009
	45.0	-4.3	0	0	.0	.0	2.98	.5	6	.227	.1562	.242	.1315	.004	-.0099	.0011	-.0008
	45.0	-4.3	0	0	.0	.0	2.98	.5	8	.308	.1771	.329	.1325	-.017	-.0109	.0014	-.0004
	45.0	-4.3	0	0	.0	.0	2.98	.5	10	.397	.1973	.425	.1254	-.036	-.0113	.0013	-.0013
	45.0	-4.3	0	0	.0	.0	2.98	.5	12	.474	.2253	.511	.1217	-.050	-.0096	.0009	-.0005
	45.0	-4.3	0	0	.0	.0	2.98	.5	14	.554	.2558	.599	.1141	-.075	-.0068	.0004	-.0017
	45.0	-4.3	0	0	.0	.0	2.98	.5	18	.714	.3289	.781	.0920	-.126	-.0082	.0005	-.0018
	45.0	-4.3	0	0	.0	.0	4.01	.0	-4	-.138	.1490	-.148	.1390	.104	-.0014	.0001	.0001
	45.0	-4.3	0	0	.0	.0	4.01	.0	-2	-.075	.1344	-.080	.1317	.083	-.0002	-.0003	.0003
	45.0	-4.3	0	0	.0	.0	4.01	.0	-1	-.050	.1316	-.052	.1307	.077	-.0004	-.0003	.0003
	45.0	-4.3	0	0	.0	.0	4.01	.0	0	-.012	.1284	-.012	.1284	.067	.0026	-.0007	.0005
	45.0	-4.3	0	0	.0	.0	4.01	.0	1	.016	.1277	.018	.1274	.059	.0022	-.0006	.0005
	45.0	-4.3	0	0	.0	.0	4.01	.0	2	.045	.1266	.049	.1249	.050	-.0005	.0000	.0001
	45.0	-4.3	0	0	.0	.0	4.01	.0	4	.102	.1316	.111	.1241	.034	-.0004	-.0001	.0001
	45.0	-4.3	0	0	.0	.0	4.01	.0	6	.169	.1420	.182	.1235	.020	.0006	-.0003	.0004
	45.0	-4.3	0	0	.0	.0	4.01	.0	8	.228	.1604	.248	.1270	.013	.0015	-.0005	.0003
	45.0	-4.3	0	0	.0	.0	4.01	.0	10	.290	.1797	.317	.1266	.005	-.0003	-.0002	.0004
	45.0	-4.3	0	0	.0	.0	4.01	.0	12	.373	.2005	.407	.1184	-.015	.0003	-.0003	.0002
	45.0	-4.3	0	0	.0	.0	4.01	.0	14	.443	.2175	.482	.1038	-.040	-.0075	.0009	-.0015
	45.0	-4.3	0	0	.0	.0	4.01	.0	18	.609	.2808	.666	.0786	-.104	.0004	-.0001	-.0011
	45.0	-4.3	0	0	.0	.0	4.01	.0	22	.787	.3722	.869	.0502	-.174	-.0021	.0003	-.0021

[redacted]

TABLE II. - Continued

CONFIGURATION 1

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β, deg	α, deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	45.0	45.0	0	0	.0	.0	2.98	.1	-4	-.137	.2016	-.151	.1915	.084	.0029	-.0006	.0000
	45.0	45.0	0	0	.0	.0	2.98	.1	-2	-.060	.1933	-.067	.1911	.058	.0020	-.0004	-.0001
	45.0	45.0	0	0	.0	.0	2.98	.1	-1	-.027	.1901	-.030	.1896	.044	.0000	-.0001	-.0002
	45.0	45.0	0	0	.0	.0	2.98	.1	0	.016	.1906	.016	.1906	.030	-.0004	.0000	-.0001
	45.0	45.0	0	0	.0	.0	2.98	.1	1	.053	.1928	.057	.1919	.017	-.0014	.0002	-.0001
	45.0	45.0	0	0	.0	.0	2.98	.1	2	.093	.1970	.100	.1936	.002	.0013	-.0002	-.0002
	45.0	45.0	0	0	.0	.0	2.98	.1	4	.173	.2066	.187	.1940	-.028	.0020	-.0003	-.0002
	45.0	45.0	0	0	.0	.0	2.98	.1	6	.251	.2217	.273	.1942	-.057	.0027	-.0004	-.0002
	45.0	45.0	0	0	.0	.0	2.98	.1	8	.335	.2429	.366	.1938	-.085	.0044	-.0006	-.0002
	45.0	45.0	0	0	.0	.0	2.98	.1	10	.415	.2692	.456	.1929	-.108	.0041	-.0006	-.0005
	45.0	45.0	0	0	.0	.0	2.98	.1	12	.495	.3023	.548	.1926	-.128	.0037	-.0006	-.0003
	45.0	45.0	0	0	.0	.0	2.98	.1	14	.578	.3362	.642	.1862	-.160	.0040	-.0005	-.0003
	45.0	45.0	0	0	.0	.0	2.98	.1	18	.763	.4283	.858	.1715	-.245	.0008	.0000	.0000
	45.0	45.0	0	0	.0	.0	4.01	-.2	-4	-.117	.1948	-.131	.1861	.059	.0123	-.0016	.0016
	45.0	45.0	0	0	.0	.0	4.01	-.2	-2	-.053	.1888	-.059	.1868	.041	.0110	-.0014	.0014
	45.0	45.0	0	0	.0	.0	4.01	-.2	-1	-.028	.1854	-.031	.1849	.030	.0130	-.0017	.0013
	45.0	45.0	0	0	.0	.0	4.01	-.2	0	.008	.1830	.008	.1830	.016	.0093	-.0011	.0010
	45.0	45.0	0	0	.0	.0	4.01	-.2	1	.043	.1841	.046	.1833	.003	.0098	-.0012	.0008
	45.0	45.0	0	0	.0	.0	4.01	-.2	2	.064	.1860	.071	.1836	-.002	.0099	-.0012	.0008
	45.0	45.0	0	0	.0	.0	4.01	-.2	4	.126	.1954	.139	.1861	-.021	.0123	-.0016	.0009
	45.0	45.0	0	0	.0	.0	4.01	-.2	6	.187	.2094	.208	.1887	-.038	.0129	-.0017	.0011
	45.0	45.0	0	0	.0	.0	4.01	-.2	8	.250	.2299	.280	.1928	-.052	.0134	-.0019	.0013
	45.0	45.0	0	0	.0	.0	4.01	-.2	10	.312	.2593	.352	.2012	-.060	.0110	-.0014	.0008
	45.0	45.0	0	0	.0	.0	4.01	-.2	12	.391	.2887	.442	.2010	-.084	.0083	-.0012	.0003
Lower vertical tail off	-4.4	-	0	0	.0	.0	2.98	.4	-4	-.158	.0417	-.161	.0305	.044	-.0028	.0004	-.0004
	-4.4	-	0	0	.0	.0	2.98	.4	-2	-.074	.0346	-.075	.0320	.024	-.0027	.0003	-.0002
	-4.4	-	0	0	.0	.0	2.98	.4	-1	-.039	.0333	-.040	.0326	.012	-.0037	.0005	-.0002
	-4.4	-	0	0	.0	.0	2.98	.4	0	.003	.0336	.003	.0336	.000	-.0036	.0004	-.0003
	-4.4	-	0	0	.0	.0	2.98	.4	1	.059	.0351	.060	.0341	-.014	-.0035	.0004	-.0002
	-4.4	-	0	0	.0	.0	2.98	.4	2	.089	.0373	.090	.0342	-.024	-.0024	.0003	-.0002
	-4.4	-	0	0	.0	.0	2.98	.4	4	.167	.0462	.170	.0344	-.049	-.0022	.0003	-.0002
	-4.4	-	0	0	.0	.0	2.98	.4	6	.252	.0607	.257	.0340	-.075	-.0020	.0003	-.0002
	-4.4	-	0	0	.0	.0	2.98	.4	8	.334	.0813	.342	.0339	-.095	-.0018	.0002	-.0004
	-4.4	-	0	0	.0	.0	2.98	.4	10	.422	.1092	.435	.0341	-.114	-.0032	.0003	-.0005
	-4.4	-	0	0	.0	.0	2.98	.4	12	.514	.1446	.533	.0343	-.134	-.0029	.0003	-.0005
	-4.4	-	0	0	.0	.0	2.98	.4	14	.590	.1824	.617	.0341	-.152	-.0027	.0002	-.0006
	-4.4	-	0	0	.0	.0	2.98	.4	18	.762	.2840	.813	.0344	-.196	-.0028	.0002	-.0011
	-4.4	-	0	0	.0	.0	4.01	.0	-4	-.121	.0368	-.123	.0282	.022	-.0002	.0002	.0003
	-4.4	-	0	0	.0	.0	4.01	.0	-2	-.054	.0308	-.055	.0289	.010	-.0006	.0002	.0004
	-4.4	-	0	0	.0	.0	4.01	.0	-1	-.030	.0299	-.031	.0294	.004	-.0005	.0002	.0004
	-4.4	-	0	0	.0	.0	4.01	.0	0	.000	.0293	.000	.0293	-.001	-.0005	.0002	.0005
	-4.4	-	0	0	.0	.0	4.01	.0	1	.033	.0300	.033	.0294	-.008	-.0004	.0002	.0004
	-4.4	-	0	0	.0	.0	4.01	.0	2	.067	.0325	.068	.0302	-.019	.0001	.0002	.0004
	-4.4	-	0	0	.0	.0	4.01	.0	4	.125	.0387	.127	.0299	-.033	.0002	.0001	.0004
	-4.4	-	0	0	.0	.0	4.01	.0	6	.188	.0505	.193	.0305	-.045	-.0001	.0001	.0003
	-4.4	-	0	0	.0	.0	4.01	.0	8	.260	.0679	.267	.0309	-.060	.0000	.0001	.0001
	-4.4	-	0	0	.0	.0	4.01	.0	10	.323	.0893	.333	.0318	-.072	.0006	.0000	.0003
	-4.4	-	0	0	.0	.0	4.01	.0	12	.408	.1202	.424	.0326	-.087	.0008	.0000	.0003
	-4.4	-	0	0	.0	.0	4.01	.0	14	.478	.1529	.500	.0328	-.104	.0009	-.0001	.0001
	-4.4	-	0	0	.0	.0	4.01	.0	18	.624	.2383	.667	.0336	-.145	.0009	-.0001	.0000
Upper vertical tail off	-	-4.3	0	0	.0	.0	2.98	.5	-4	-.167	.0382	-.169	.0264	.035	-.0013	.0002	.0000
	-	-4.3	0	0	.0	.0	2.98	.5	-2	-.080	.0312	-.081	.0284	.014	-.0022	.0003	.0001
	-	-4.3	0	0	.0	.0	2.98	.5	-1	-.030	.0294	-.030	.0289	.000	-.0016	.0002	.0000
	-	-4.3	0	0	.0	.0	2.98	.5	0	.003	.0294	.003	.0294	-.008	-.0015	.0002	.0001
	-	-4.3	0	0	.0	.0	2.98	.5	1	.047	.0304	.047	.0296	-.020	-.0014	.0002	.0000
	-	-4.3	0	0	.0	.0	2.98	.5	2	.087	.0332	.088	.0302	-.035	-.0013	.0002	.0000
	-	-4.3	0	0	.0	.0	2.98	.5	4	.178	.0437	.180	.0312	-.063	-.0011	.0002	.0000
	-	-4.3	0	0	.0	.0	2.98	.5	6	.254	.0581	.259	.0312	-.086	-.0009	.0002	.0000
	-	-4.3	0	0	.0	.0	2.98	.5	8	.339	.0796	.347	.0315	-.107	-.0013	.0002	-.0003
	-	-4.3	0	0	.0	.0	2.98	.5	10	.437	.1100	.450	.0323	-.127	-.0016	.0002	-.0004
	-	-4.3	0	0	.0	.0	2.98	.5	12	.526	.1460	.545	.0333	-.146	-.0019	.0002	-.0004
	-	-4.3	0	0	.0	.0	2.98	.5	14	.616	.1896	.644	.0348	-.167	-.0022	.0002	-.0005
	-	-4.3	0	0	.0	.0	4.01	.0	-4	-.118	.0312	-.120	.0228	.012	-.0006	.0003	.0004
	-	-4.3	0	0	.0	.0	4.01	.0	-2	-.051	.0262	-.052	.0244	.000	-.0005	.0003	.0005
	-	-4.3	0	0	.0	.0	4.01	.0	-1	-.024	.0258	-.024	.0254	-.005	-.0005	.0002	.0005
	-	-4.3	0	0	.0	.0	4.01	.0	0	.009	.0255	.009	.0255	-.013	-.0004	.0002	.0005
	-	-4.3	0	0	.0	.0	4.01	.0	1	.046	.0274	.046	.0266	-.021	.0001	.0002	.0004
	-	-4.3	0	0	.0	.0	4.01	.0	2	.079	.0294	.080	.0266	-.030	-.0003	.0002	.0004
	-	-4.3	0	0	.0	.0	4.01	.0	4	.137	.0369	.139	.0272	-.044	.0003	.0001	.0004
	-	-4.3	0	0	.0	.0	4.01	.0	6	.203	.0498	.208	.0282	-.061	.0005	.0001	.0003
	-	-4.3	0	0	.0	.0	4.01	.0	8	.273	.0678	.279	.0291	-.070	.0006	.0000	.0002
	-	-4.3	0	0	.0	.0	4.01	.0	10	.340	.0906	.351	.0300	-.080	.0007	.0000	.0002
	-	-4.3	0	0	.0	.0	4.01	.0	12	.422	.1226	.439	.0320	-.097	.0013	-.0001	.0002
	-	-4.3	0	0	.0	.0	4.01	.0	14	.493	.1574	.516	.0333	-.114	.0015	-.0001	.0001
	-	-4.3	0	0	.0	.0	4.01	.0	18	.653	.2491	.698	.0349	-.157	.0024	-.0002	.0001
	-	-4.3	0	0	.0	.0	4.01	.0	22	.826	.3721	.905	.0354	-.212	.0035	-.0004	.0001
Upper and lower vertical tails off	-	-	0	0	.0	.0	2.98	.4	-4	-.137	.0347	-.139	.0250	.033	-.0002	.0001	-.0001
	-	-	0	0	.0	.0	2.98	.4	-2	-.058	.0286	-.059	.0266	.015	-.0001	.0000	-.0001
	-	-	0	0	.0	.0	2.98	.4	-1	-.022	.0274	-.022	.0270	.005	-.0005	.0001	.0000
	-	-	0	0	.0	.0	2.98	.4	0	.016	.0274	.016	.0274	-.005	-.0005	.0001	.0000
	-	-	0	0	.0	.0	2.98	.4	1	.055	.0282	.055	.0272	-.016	-.0004	.0001	.0000
	-	-	0	0	.0	.0	2.98	.4	2	.090	.0309	.091	.0277	-.029	-.0003	.0001	.0000
	-	-	0	0	.0	.0	2.98	.4	4	.174	.0403	.176	.0280	-.055	-.0001	.0001	.0000
	-	-	0	0	.0	.0	2.98	.4	6	.255	.0551	.259	.0281	-.079	.0001	.0001	.0001
	-	-	0	0	.0	.0	2.98	.4	8	.333	.0750	.340	.0279	-.100	.0003	.0000	-.0002
	-	-	0	0	.0	.0	2.98	.4	10	.426	.1040	.437	.0284	-.120	.0000	.0001	-.0003
	-	-	0	0	.0	.0	2.98	.4	12	.506	.1379	.523	.0297	-.138	-.0003	.0001	-.0002
	-	-	0	0	.0	.0	2.98	.4	14	.589	.1780	.615	.0301	-.158	-.0006	.0001	-.0002
	-	-	0	0	.0	.0	2.98	.4	18	.757	.2796	.806	.0319	-.199	-.0017	.0001	-.0005

TABLE II - Continued

CONFIGURATION 1

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β, deg	α, deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Upper and lower vertical tails off	-	-	0	0	.0	.0	4.01	.0	-4	-.122	.0307	-.124	.0221	.016	.0008	.0002	.0003
	-	-	0	0	.0	.0	4.01	.0	-2	-.052	.0250	-.053	.0232	.000	.0004	.0002	.0004
	-	-	0	0	.0	.0	4.01	.0	-1	-.024	.0246	-.024	.0242	-.004	.0005	.0002	.0004
	-	-	0	0	.0	.0	4.01	.0	0	.006	.0247	.006	.0247	-.011	.0005	.0001	.0004
	-	-	0	0	.0	.0	4.01	.0	1	.040	.0255	.040	.0248	-.021	.0006	.0001	.0003
	-	-	0	0	.0	.0	4.01	.0	2	.073	.0279	.074	.0253	-.029	.0007	.0001	.0003
	-	-	0	0	.0	.0	4.01	.0	4	.134	.0351	.137	.0256	-.045	.0013	.0001	.0003
	-	-	0	0	.0	.0	4.01	.0	6	.201	.0476	.205	.0262	-.057	.0014	.0000	.0003
	-	-	0	0	.0	.0	4.01	.0	8	.267	.0647	.274	.0269	-.072	.0020	-.0001	.0002
	-	-	0	0	.0	.0	4.01	.0	10	.332	.0870	.342	.0280	-.079	.0016	-.0001	.0002
	-	-	0	0	.0	.0	4.01	.1	12	.414	.1177	.429	.0290	-.100	.0023	-.0002	.0002
	-	-	0	0	.0	.0	4.01	.1	14	.482	.1515	.505	.0302	-.109	.0015	-.0001	.0001
	-	-	0	0	.0	.0	4.01	.2	18	.645	.2441	.688	.0329	-.153	.0010	-.0001	.0000
	-	-	0	0	.0	.0	4.01	.2	22	.818	.3653	.895	.0320	-.208	.0006	-.0001	-.0003
Horizontal tail off	-4.4	-4.3	0	0	.0	.0	2.98	.5	-4	-.126	.0409	-.128	.0320	.003	-.0053	.0007	-.0009
	-4.4	-4.3	0	0	.0	.0	2.98	.5	-2	-.059	.0351	-.060	.0330	.002	-.0052	.0007	-.0008
	-4.4	-4.3	0	0	.0	.0	2.98	.5	-1	-.016	.0332	-.016	.0329	.004	-.0047	.0005	-.0007
	-4.4	-4.3	0	0	.0	.0	2.98	.5	0	.013	.0334	.013	.0334	.001	-.0052	.0006	-.0007
	-4.4	-4.3	0	0	.0	.0	2.98	.5	1	.047	.0343	.047	.0335	.003	-.0057	.0006	-.0007
	-4.4	-4.3	0	0	.0	.0	2.98	.5	2	.083	.0369	.084	.0340	.002	-.0052	.0005	-.0007
	-4.4	-4.3	0	0	.0	.0	2.98	.5	4	.149	.0452	.152	.0346	-.001	-.0051	.0005	-.0005
	-4.4	-4.3	0	0	.0	.0	2.98	.5	6	.215	.0584	.220	.0356	-.003	-.0051	.0004	-.0007
	-4.4	-4.3	0	0	.0	.0	2.98	.5	8	.287	.0760	.294	.0353	-.002	-.0050	.0003	-.0007
	-4.4	-4.3	0	0	.0	.0	2.98	.5	10	.360	.0999	.372	.0357	-.000	-.0045	.0001	-.0006
	-4.4	-4.3	0	0	.0	.0	2.98	.5	12	.446	.1313	.464	.0355	-.002	-.0049	.0000	-.0005
	-4.4	-4.3	0	0	.0	.0	2.98	.5	14	.520	.1671	.545	.0362	-.003	-.0048	.0000	-.0007
	-4.4	-4.3	0	0	.0	.0	2.98	.5	18	.655	.2507	.701	.0357	-.002	-.0057	-.0001	-.0006
	-4.4	-4.3	0	0	.0	.0	4.01	.0	-4	-.109	.0330	-.111	.0253	-.009	.0005	.0002	.0000
	-4.4	-4.3	0	0	.0	.0	4.01	.0	-2	-.051	.0275	-.052	.0257	-.007	.0000	.0002	.0000
	-4.4	-4.3	0	0	.0	.0	4.01	.0	-1	-.024	.0267	-.024	.0263	-.005	.0000	.0002	.0000
	-4.4	-4.3	0	0	.0	.0	4.01	.0	0	.006	.0269	.006	.0269	-.005	.0000	.0001	.0001
	-4.4	-4.3	0	0	.0	.0	4.01	.0	1	.030	.0279	.031	.0274	-.003	.0000	.0001	.0001
	-4.4	-4.3	0	0	.0	.0	4.01	.0	2	.054	.0292	.055	.0273	-.000	.0000	.0001	.0002
	-4.4	-4.3	0	0	.0	.0	4.01	.0	4	.106	.0355	.108	.0280	.001	.0005	-.0001	.0002
	-4.4	-4.3	0	0	.0	.0	4.01	.0	6	.160	.0455	.164	.0285	.004	.0005	-.0001	.0002
	-4.4	-4.3	0	0	.0	.0	4.01	.0	8	.217	.0601	.223	.0293	.006	.0010	-.0003	.0003
	-4.4	-4.3	0	0	.0	.0	4.01	.0	10	.279	.0796	.289	.0298	.006	.0011	-.0003	.0002
	-4.4	-4.3	0	0	.0	.0	4.01	.0	12	.352	.1066	.367	.0310	.008	.0021	-.0005	.0002
	-4.4	-4.3	0	0	.0	.0	4.01	.0	14	.412	.1356	.432	.0319	.011	.0016	-.0006	.0002
	-4.4	-4.3	0	0	.0	.0	4.01	.0	18	.550	.2129	.589	.0324	.006	.0027	-.0009	.0003
	-4.4	-4.3	0	0	.0	.0	4.01	.0	22	.6 4	.3167	.762	.0336	.003	.0038	-.0011	.0002
Vertical and horizontal tails off	-	-	0	0	.0	.0	2.98	.4	-4	-.100	.0296	-.102	.0225	-.001	-.0000	.0001	-.0001
	-	-	0	0	.0	.0	2.98	.4	-2	-.042	.0249	-.042	.0234	-.005	.0000	.0000	-.0001
	-	-	0	0	.0	.0	2.98	.4	-1	-.016	.0238	-.016	.0235	-.003	.0000	.0000	.0000
	-	-	0	0	.0	.0	2.98	.4	0	.019	.0237	.019	.0237	-.003	.0000	-.0001	.0000
	-	-	0	0	.0	.0	2.98	.4	1	.055	.0251	.056	.0241	-.004	.0000	-.0001	.0000
	-	-	0	0	.0	.0	2.98	.4	2	.091	.0275	.092	.0243	-.005	.0001	-.0001	.0000
	-	-	0	0	.0	.0	2.98	.4	4	.153	.0370	.155	.0262	-.006	.0001	-.0001	.0000
	-	-	0	0	.0	.0	2.98	.4	6	.221	.0499	.225	.0265	-.008	.0007	-.0002	.0001
	-	-	0	0	.0	.0	2.98	.4	8	.288	.0678	.294	.0270	-.006	.0002	-.0003	.0000
	-	-	0	0	.0	.0	2.98	.4	10	.357	.0904	.367	.0269	-.007	.0003	-.0004	.0000
	-	-	0	0	.0	.0	2.98	.4	12	.443	.1222	.458	.0274	-.008	.0004	-.0005	.0000
	-	-	0	0	.0	.0	2.98	.4	14	.510	.1569	.533	.0284	-.008	.0004	-.0009	.0001
	-	-	0	0	.0	.0	2.98	.4	18	.646	.2406	.689	.0290	-.009	-.0004	-.0006	.0001
	-	-	0	0	.0	.0	4.01	.0	-4	-.103	.0275	-.105	.0202	-.014	.0000	.0003	.0001
	-	-	0	0	.0	.0	4.01	.0	-2	-.048	.0221	-.049	.0204	-.012	.0000	.0002	.0001
	-	-	0	0	.0	.0	4.01	.0	-1	-.021	.0214	-.021	.0210	-.010	.0000	.0002	.0003
	-	-	0	0	.0	.0	4.01	.0	0	.006	.0211	.006	.0211	-.008	.0000	.0002	.0003
	-	-	0	0	.0	.0	4.01	.0	1	.033	.0222	.034	.0216	-.006	.0000	.0001	.0003
	-	-	0	0	.0	.0	4.01	.0	2	.061	.0242	.062	.0221	-.006	.0005	.0001	.0002
	-	-	0	0	.0	.0	4.01	.0	4	.109	.0303	.111	.0225	-.002	.0005	.0000	.0003
	-	-	0	0	.0	.0	4.01	.0	6	.164	.0412	.168	.0238	.000	.0006	-.0001	.0004
	-	-	0	0	.0	.0	4.01	.0	8	.221	.0554	.227	.0240	.002	.0011	-.0002	.0003
	-	-	0	0	.0	.0	4.01	.0	10	.275	.0734	.283	.0245	.005	.0011	-.0004	.0003
	-	-	0	0	.0	.0	4.01	.0	12	.348	.1004	.362	.0257	.007	.0021	-.0006	.0003
	-	-	0	0	.0	.0	4.01	.0	14	.414	.1311	.433	.0269	.008	.0017	-.0005	.0002
	-	-	0	0	.0	.0	4.01	.1	18	.549	.2088	.586	.0289	.006	.0013	-.0007	.0002
	-	-	0	0	.0	.0	4.01	.1	22	.692	.3116	.758	.0296	.003	.0010	-.0007	.0001
Wing and horizontal and vertical tails off	-	-	0	0	.0	.0	2.98	.4	-4	-.047	.0191	-.049	.0158	-.034	-.0004	.0002	-.0001
	-	-	0	0	.0	.0	2.98	.4	-2	-.022	.0172	-.022	.0164	-.017	-.0004	.0002	-.0001
	-	-	0	0	.0	.0	2.98	.4	-1	-.016	.0164	-.016	.0161	-.008	-.0005	.0001	-.0001
	-	-	0	0	.0	.0	2.98	.4	0	-.003	.0160	-.003	.0160	.000	-.0005	.0001	-.0001
	-	-	0	0	.0	.0	2.98	.4	1	.003	.0164	.003	.0163	.011	-.0006	.0001	-.0001
	-	-	0	0	.0	.0	2.98	.4	2	.015	.0176	.016	.0170	.020	-.0006	.0000	-.0001
	-	-	0	0	.0	.0	2.98	.4	4	.041	.0218	.042	.0188	.034	-.0002	-.0001	-.0001
	-	-	0	0	.0	.0	2.98	.4	6	.079	.0283	.081	.0198	.043	.0003	-.0002	-.0001
	-	-	0	0	.0	.0	2.98	.4	8	.120	.0375	.124	.0204	.051	.0003	-.0003	-.0002
	-	-	0	0	.0	.0	2.98	.4	10	.160	.0494	.164	.0207	.059	.0003	-.0004	-.0002
	-	-	0	0	.0	.0	2.98	.4	12	.217	.0679	.227	.0211	.068	-.0002	-.0004	-.0001
	-	-	0	0	.0	.0	2.98	.4	14	.260	.0872	.273	.0217	.077	-.0007	-.0004	-.0001
	-	-	0	0	.0	.0	2.98	.4	18	.355	.1409	.382	.0240	.101	-.0018	-.0005	-.0003

[redacted]

TABLE II.- Concluded

CONFIGURATION 1

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β, deg	α, deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Wing and horizontal and vertical tails off	-	-	0	0	.0	.0	.4.01	.0	-4	-.048	.0166	-.049	.0132	-.035	.0016	.0002	-.0001
	-	-	0	0	.0	.0	.4.01	.0	-2	-.021	.0146	-.021	.0139	-.022	.0010	.0001	.0000
	-	-	0	0	.0	.0	.4.01	.0	-1	-.009	.0138	-.009	.0136	-.013	.0005	.0001	-.0001
	-	-	0	0	.0	.0	.4.01	.0	0	.003	.0139	.003	.0139	-.002	.0005	.0001	.0000
	-	-	0	0	.0	.0	.4.01	.0	1	.012	.0143	.012	.0141	.004	.0005	.0001	.0000
	-	-	0	0	.0	.0	.4.01	.0	2	.024	.0158	.024	.0150	.010	.0009	.0000	.0000
	-	-	0	0	.0	.0	.4.01	.0	4	.045	.0189	.046	.0157	.022	.0009	-.0001	.0000
	-	-	0	0	.0	.0	.4.01	.0	6	.081	.0250	.083	.0164	.029	.0013	-.0002	-.0001
	-	-	0	0	.0	.0	.4.01	.0	8	.117	.0335	.121	.0168	.037	.0018	-.0003	-.0001
	-	-	0	0	.0	.0	.4.01	.0	10	.152	.0447	.158	.0174	.044	.0018	-.0004	-.0001
	-	-	0	0	.0	.0	.4.01	.0	12	.191	.0598	.199	.0188	.054	.0018	-.0005	-.0001
	-	-	0	0	.0	.0	.4.01	.0	14	.231	.0780	.243	.0197	.064	.0008	-.0004	-.0001
	-	-	0	0	.0	.0	.4.01	.1	18	.311	.1237	.334	.0214	.082	.0002	-.0006	-.0002
	-	-	0	0	.0	.0	.4.01	.1	22	.396	.1832	.436	.0214	.114	.0016	-.0009	-.0003

L-574

[redacted]

TABLE III

CONFIGURATION 2 WITH HORIZONTAL TAIL 2a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β, deg	α, deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	5.0	7.5	0	0	.0	.0	2.98	-5.0	-4	-.159	.0555	-.162	.0443	.019	.0920	-.0168	.0043
	5.0	7.5	0	0	.0	.0	2.98	-5.0	-2	-.076	.0488	-.078	.0461	.007	.0905	-.0154	.0051
	5.0	7.5	0	0	.0	.0	2.98	-5.0	0	-.003	.0469	-.003	.0469	-.006	.0891	-.0134	.0055
	5.0	7.5	0	0	.0	.0	2.98	-5.0	2	.072	.0506	.074	.0481	-.026	.0898	-.0114	.0056
	5.0	7.5	0	0	.0	.0	2.98	-5.0	4	.151	.0586	.155	.0479	-.042	.0904	-.0095	.0058
	5.0	7.5	0	0	.0	.0	2.98	-5.0	8	.317	.0924	.327	.0473	-.072	.0908	-.0055	.0070
	5.0	7.5	0	0	.0	.0	2.98	-5.0	12	.492	.1543	.513	.0485	-.104	.0906	-.0024	.0092
	5.0	7.5	0	0	.0	.0	2.98	-5.0	16	.663	.2400	.703	.0478	-.134	.0901	.0002	.0111
	5.0	7.5	0	0	.0	.0	2.98	-5.0	20	.849	.3558	.919	.0439	-.177	.0928	.0023	.0124
	5.0	7.5	0	0	.0	.0	2.98	-3.0	-4	-.152	.0515	-.155	.0408	.013	.0555	-.0106	.0027
	5.0	7.5	0	0	.0	.0	2.98	-3.0	-2	-.070	.0456	-.072	.0431	.002	.0543	-.0098	.0031
	5.0	7.5	0	0	.0	.0	2.98	-3.0	0	.007	.0450	.007	.0450	-.010	.0528	-.0082	.0033
	5.0	7.5	0	0	.0	.0	2.98	-3.0	2	.089	.0489	.091	.0458	-.029	.0525	-.0067	.0036
	5.0	7.5	0	0	.0	.0	2.98	-3.0	4	.168	.0579	.171	.0461	-.046	.0516	-.0049	.0038
	5.0	7.5	0	0	.0	.0	2.98	-3.0	8	.336	.0940	.346	.0463	-.080	.0509	-.0024	.0044
	5.0	7.5	0	0	.0	.0	2.98	-3.0	12	.500	.1556	.522	.0481	-.110	.0525	.0000	.0055
	5.0	7.5	0	0	.0	.0	2.98	-3.0	16	.673	.2429	.714	.0479	-.139	.0481	.0025	.0064
	5.0	7.5	0	0	.0	.0	2.98	-3.0	20	.857	.3585	.928	.0435	-.178	.0498	.0029	.0076
	5.0	7.5	0	0	.0	.0	2.98	.0	-4	-.152	.0499	-.155	.0392	.011	.0030	-.0005	-.0005
	5.0	7.5	0	0	.0	.0	2.98	.0	-2	-.073	.0458	-.074	.0432	.001	.0036	-.0004	-.0004
	5.0	7.5	0	0	.0	.0	2.98	.0	0	.003	.0448	.003	.0448	-.013	.0027	-.0001	-.0002
	5.0	7.5	0	0	.0	.0	2.98	.0	2	.082	.0542	.084	.0465	-.030	.0018	.0000	-.0004
	5.0	7.5	0	0	.0	.0	2.98	.0	4	.164	.0583	.168	.0467	-.048	.0019	-.0002	-.0003
	5.0	7.5	0	0	.0	.0	2.98	.0	8	.332	.0952	.342	.0480	-.082	.0018	-.0002	-.0004
	5.0	7.5	0	0	.0	.0	2.98	.0	12	.506	.1568	.527	.0482	-.112	.0011	-.0004	-.0005
	5.0	7.5	0	0	.0	.0	2.98	.0	16	.676	.2430	.717	.0472	-.141	.0009	-.0007	-.0001
	5.0	7.5	0	0	.0	.0	2.98	.0	20	.861	.3646	.934	.0478	-.178	.0014	-.0009	-.0003
	5.0	7.5	0	0	.0	.0	2.98	1.0	-4	-.146	.0482	-.149	.0379	.013	-.0114	.0027	-.0012
	5.0	7.5	0	0	.0	.0	2.98	1.0	-2	-.068	.0444	-.069	.0420	.001	-.0123	.0026	-.0012
	5.0	7.5	0	0	.0	.0	2.98	1.0	0	.010	.0439	.010	.0439	-.014	-.0116	.0022	-.0013
	5.0	7.5	0	0	.0	.0	2.98	1.0	2	.088	.0481	.090	.0450	-.031	-.0115	.0014	-.0012
	5.0	7.5	0	0	.0	.0	2.98	1.0	4	.171	.0581	.174	.0461	-.051	-.0114	.0008	-.0014
	5.0	7.5	0	0	.0	.0	2.98	1.0	8	.339	.0953	.349	.0472	-.086	-.0121	.0000	-.0015
	5.0	7.5	0	0	.0	.0	2.98	1.0	12	.511	.1581	.533	.0482	-.113	-.0112	-.0007	-.0020
	5.0	7.5	0	0	.0	.0	2.98	1.0	16	.683	.2456	.724	.0478	-.143	-.0109	-.0015	-.0023
	5.0	7.5	0	0	.0	.0	2.98	1.0	20	.857	.3611	.929	.0461	-.174	-.0165	.0011	-.0030
	5.0	7.5	0	0	.0	.0	4.01	-5.0	-4	-.138	.0501	-.141	.0403	.000	.0792	-.0066	.0018
	5.0	7.5	0	0	.0	.0	4.01	-5.0	-2	-.070	.0436	-.071	.0412	-.002	.0802	-.0059	.0026
	5.0	7.5	0	0	.0	.0	4.01	-5.0	0	-.000	.0425	-.000	.0425	-.012	.0815	-.0057	.0033
	5.0	7.5	0	0	.0	.0	4.01	-5.0	2	.071	.0450	.072	.0425	-.022	.0832	-.0054	.0039
	5.0	7.5	0	0	.0	.0	4.01	-5.0	4	.144	.0525	.148	.0423	-.032	.0849	-.0049	.0048
	5.0	7.5	0	0	.0	.0	4.01	-5.0	8	.280	.0832	.289	.0434	-.051	.0865	-.0032	.0071
	5.0	7.5	0	0	.0	.0	4.01	-5.0	12	.429	.1391	.449	.0468	-.074	.0886	-.0012	.0085
	5.0	7.5	0	0	.0	.0	4.01	-5.0	16	.590	.2197	.628	.0483	-.108	.0897	.0010	.0090
	5.0	7.5	0	0	.0	.0	4.01	-5.0	20	.774	.3352	.842	.0500	-.153	.0982	.0019	.0099
	5.0	7.5	0	0	.0	.0	4.01	-3.0	-4	-.119	.0453	-.122	.0368	.000	.0439	-.0035	.0006
	5.0	7.5	0	0	.0	.0	4.01	-3.0	-2	-.058	.0399	-.059	.0379	-.004	.0441	-.0035	.0012
	5.0	7.5	0	0	.0	.0	4.01	-3.0	0	.007	.0387	.007	.0387	-.013	.0447	-.0031	.0015
	5.0	7.5	0	0	.0	.0	4.01	-3.0	2	.070	.0415	.071	.0391	-.024	.0440	-.0033	.0021
	5.0	7.5	0	0	.0	.0	4.01	-3.0	4	.136	.0495	.139	.0399	-.036	.0474	-.0033	.0027
	5.0	7.5	0	0	.0	.0	4.01	-3.0	8	.280	.0816	.288	.0418	-.055	.0502	-.0021	.0043
	5.0	7.5	0	0	.0	.0	4.01	-3.0	12	.429	.1368	.448	.0445	-.077	.0497	-.0001	.0046
	5.0	7.5	0	0	.0	.0	4.01	-3.0	16	.599	.2224	.637	.0486	-.112	.0513	.0016	.0049
	5.0	7.5	0	0	.0	.0	4.01	-3.0	20	.782	.3380	.850	.0500	-.161	.0542	.0015	.0052
	5.0	7.5	0	0	.0	.0	4.01	.0	-4	-.118	.0424	-.120	.0341	.001	-.0024	.0008	-.0004
	5.0	7.5	0	0	.0	.0	4.01	.0	-2	-.068	.0398	-.069	.0374	-.007	-.0023	.0014	-.0004
	5.0	7.5	0	0	.0	.0	4.01	.0	0	.000	.0387	.000	.0387	-.016	-.0022	.0015	-.0007
	5.0	7.5	0	0	.0	.0	4.01	.0	2	.061	.0409	.063	.0387	-.026	-.0021	.0013	-.0007
	5.0	7.5	0	0	.0	.0	4.01	.0	4	.138	.0489	.141	.0392	-.037	-.0024	.0006	-.0009
	5.0	7.5	0	0	.0	.0	4.01	.0	8	.283	.0812	.291	.0410	-.053	-.0036	.0000	-.0009
	5.0	7.5	0	0	.0	.0	4.01	.0	12	.440	.1384	.460	.0438	-.075	-.0038	.0004	-.0011
	5.0	7.5	0	0	.0	.0	4.01	.0	16	.614	.2273	.653	.0492	-.111	-.0027	.0007	-.0015
	5.0	7.5	0	0	.0	.0	4.01	.0	20	.800	.3454	.870	.0508	-.163	.0004	.0003	-.0017
	5.0	7.5	0	0	.0	.0	4.01	1.0	-4	-.113	.0423	-.116	.0343	.002	-.0139	.0006	-.0010
	5.0	7.5	0	0	.0	.0	4.01	1.0	-2	-.049	.0398	-.050	.0381	-.004	-.0157	.0008	-.0011
	5.0	7.5	0	0	.0	.0	4.01	1.0	0	.015	.0395	.015	.0395	-.014	-.0160	.0010	-.0013
	5.0	7.5	0	0	.0	.0	4.01	1.0	2	.077	.0420	.079	.0393	-.023	-.0159	.0016	-.0015
	5.0	7.5	0	0	.0	.0	4.01	1.0	4	.148	.0501	.151	.0396	-.033	-.0159	.0015	-.0017
	5.0	7.5	0	0	.0	.0	4.01	1.0	8	.290	.0831	.299	.0419	-.053	-.0165	.0009	-.0025
	5.0	7.5	0	0	.0	.0	4.01	1.0	12	.449	.1426	.469	.0461	-.078	-.0168	.0015	-.0030
	5.0	7.5	0	0	.0	.0	4.01	1.0	16	.615	.2276	.654	.0492	-.111	-.0170	.0006	-.0035
	5.0	7.5	0	0	.0	.0	4.01	1.0	20	.805	.3472	.875	.0509	-.164	-.0146	-.0022	-.0038

[redacted]

TABLE III. - Continued

CONFIGURATION 2 WITH HORIZONTAL TAIL 2a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β, deg	α, deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	20.0	20.0	0	0	.0	.0	2.98	-5.0	-4	-.155	.0871	-.160	.0761	.029	.1117	-.0312	.0075
	20.0	20.0	0	0	.0	.0	2.98	-5.0	-2	-.077	.0797	-.080	.0770	.017	.1103	-.0293	.0080
	20.0	20.0	0	0	.0	.0	2.98	-5.0	0	-.003	.0777	-.003	.0777	.000	.1088	-.0270	.0083
	20.0	20.0	0	0	.0	.0	2.98	-5.0	2	.076	.0799	.079	.0772	-.018	.1086	-.0246	.0083
	20.0	20.0	0	0	.0	.0	2.98	-5.0	4	.159	.0882	.165	.0769	-.038	.1088	-.0222	.0084
	20.0	20.0	0	0	.0	.0	2.98	-5.0	8	.316	.1192	.330	.0739	-.070	.1092	-.0184	.0089
	20.0	20.0	0	0	.0	.0	2.98	-5.0	12	.486	.1787	.512	.0737	-.106	.1085	-.0149	.0108
	20.0	20.0	0	0	.0	.0	2.98	-5.0	16	.659	.2642	.706	.0722	-.139	.1049	-.0100	.0120
	20.0	20.0	0	0	.0	.0	2.98	-5.0	20	.842	.3757	.919	.0650	-.185	.1054	-.0054	.0123
	20.0	20.0	0	0	.0	.0	2.98	-3.0	-4	-.156	.0846	-.162	.0735	.027	.0689	-.0199	.0039
	20.0	20.0	0	0	.0	.0	2.98	-3.0	-2	-.074	.0767	-.077	.0741	.014	.0666	-.0182	.0041
	20.0	20.0	0	0	.0	.0	2.98	-3.0	0	.001	.0748	.001	.0748	-.002	.0652	-.0166	.0043
	20.0	20.0	0	0	.0	.0	2.98	-3.0	2	.083	.0785	.086	.0756	-.022	.0643	-.0152	.0044
	20.0	20.0	0	0	.0	.0	2.98	-3.0	4	.159	.0863	.165	.0750	-.040	.0637	-.0134	.0046
	20.0	20.0	0	0	.0	.0	2.98	-3.0	8	.326	.1204	.339	.0738	-.076	.0619	-.0101	.0051
	20.0	20.0	0	0	.0	.0	2.98	-3.0	12	.497	.1811	.524	.0736	-.109	.0622	-.0076	.0059
	20.0	20.0	0	0	.0	.0	2.98	-3.0	16	.669	.2656	.716	.0709	-.144	.0574	-.0031	.0062
	20.0	20.0	0	0	.0	.0	2.98	-3.0	20	.850	.3799	.928	.0662	-.186	.0577	-.0018	.0074
	20.0	20.0	0	0	.0	.0	2.98	.0	-4	-.146	.0770	-.151	.0666	.022	.0065	-.0019	-.0003
	20.0	20.0	0	0	.0	.0	2.98	.0	-2	-.071	.0727	-.074	.0702	.012	.0051	-.0018	-.0003
	20.0	20.0	0	0	.0	.0	2.98	.0	0	.010	.0694	.010	.0718	-.005	.0047	-.0014	-.0003
	20.0	20.0	0	0	.0	.0	2.98	.0	2	.087	.0763	.090	.0732	-.024	.0038	-.0010	-.0005
	20.0	20.0	0	0	.0	.0	2.98	.0	4	.166	.0860	.172	.0742	-.044	.0030	-.0009	-.0005
	20.0	20.0	0	0	.0	.0	2.98	.0	8	.336	.1229	.350	.0749	-.082	.0028	-.0019	-.0006
	20.0	20.0	0	0	.0	.0	2.98	.0	12	.507	.1834	.534	.0738	-.113	.0031	-.0013	-.0007
	20.0	20.0	0	0	.0	.0	2.98	.0	16	.678	.2683	.725	.0710	-.148	.0025	-.0013	-.0007
	20.0	20.0	0	0	.0	.0	2.98	.0	20	.854	.3843	.934	.0688	-.186	.0029	-.0017	-.0005
	20.0	20.0	0	0	.0	.0	2.98	1.0	-4	-.150	.0797	-.155	.0690	.024	-.0131	.0037	-.0020
	20.0	20.0	0	0	.0	.0	2.98	1.0	-2	-.071	.0753	-.074	.0728	.013	-.0146	.0037	-.0018
	20.0	20.0	0	0	.0	.0	2.98	1.0	0	.003	.0736	.003	.0736	-.003	-.0145	.0035	-.0020
	20.0	20.0	0	0	.0	.0	2.98	1.0	2	.082	.0774	.085	.0745	-.022	-.0143	.0030	-.0021
	20.0	20.0	0	0	.0	.0	2.98	1.0	4	.164	.0873	.169	.0757	-.043	-.0141	.0026	-.0021
	20.0	20.0	0	0	.0	.0	2.98	1.0	8	.332	.1229	.346	.0755	-.081	-.0148	.0017	-.0024
	20.0	20.0	0	0	.0	.0	2.98	1.0	12	.503	.1826	.530	.0739	-.114	-.0134	.0005	-.0024
	20.0	20.0	0	0	.0	.0	2.98	1.0	16	.674	.2661	.721	.0698	-.148	-.0141	-.0008	-.0030
	20.0	20.0	0	0	.0	.0	2.98	1.0	20	.855	.3848	.935	.0691	-.186	-.0126	-.0012	-.0031
	20.0	20.0	0	0	.0	.0	4.01	-5.0	-4	-.140	.0730	-.145	.0630	.013	.1032	-.0215	.0047
	20.0	20.0	0	0	.0	.0	4.01	-5.0	-2	-.074	.0663	-.076	.0637	.005	.1051	-.0212	.0058
	20.0	20.0	0	0	.0	.0	4.01	-5.0	0	-.010	.0639	-.010	.0639	-.004	.1070	-.0212	.0064
	20.0	20.0	0	0	.0	.0	4.01	-5.0	2	.056	.0663	.059	.0643	-.016	.1081	-.0210	.0069
	20.0	20.0	0	0	.0	.0	4.01	-5.0	4	.117	.0721	.122	.0637	-.027	.1104	-.0211	.0073
	20.0	20.0	0	0	.0	.0	4.01	-5.0	8	.256	.1014	.267	.0648	-.051	.1137	-.0191	.0094
	20.0	20.0	0	0	.0	.0	4.01	-5.0	12	.399	.1523	.422	.0660	-.073	.1121	-.0154	.0101
	20.0	20.0	0	0	.0	.0	4.01	-5.0	16	.561	.2300	.603	.0663	-.109	.1092	-.0097	.0094
	20.0	20.0	0	0	.0	.0	4.01	-5.0	20	.733	.3390	.805	.0677	-.157	.1162	-.0082	.0099
	20.0	20.0	0	0	.0	.0	4.01	-3.0	-4	-.133	.0725	-.138	.0630	.010	.0634	-.0139	.0031
	20.0	20.0	0	0	.0	.0	4.01	-3.0	-2	-.061	.0665	-.063	.0644	.004	.0636	-.0139	.0035
	20.0	20.0	0	0	.0	.0	4.01	-3.0	0	.000	.0645	.000	.0645	-.003	.0636	-.0140	.0039
	20.0	20.0	0	0	.0	.0	4.01	-3.0	2	.065	.0670	.067	.0647	-.015	.0648	-.0143	.0043
	20.0	20.0	0	0	.0	.0	4.01	-3.0	4	.129	.0733	.134	.0641	-.028	.0670	-.0145	.0046
	20.0	20.0	0	0	.0	.0	4.01	-3.0	8	.258	.1023	.270	.0653	-.048	.0675	-.0129	.0059
	20.0	20.0	0	0	.0	.0	4.01	-3.0	12	.407	.1555	.430	.0675	-.074	.0664	-.0101	.0061
	20.0	20.0	0	0	.0	.0	4.01	-3.0	16	.565	.2326	.607	.0679	-.110	.0631	-.0051	.0056
	20.0	20.0	0	0	.0	.0	4.01	-3.0	20	.748	.3439	.821	.0671	-.161	.0667	-.0042	.0056
	20.0	20.0	0	0	.0	.0	4.01	.0	-4	-.137	.0710	-.141	.0612	.009	.0043	-.0006	.0001
	20.0	20.0	0	0	.0	.0	4.01	.0	-2	-.069	.0656	-.071	.0632	.000	.0040	.0000	.0001
	20.0	20.0	0	0	.0	.0	4.01	.0	-2	-.064	.0640	-.066	.0617	.001	.0037	.0001	.0003
	20.0	20.0	0	0	.0	.0	4.01	.0	0	-.000	.0629	-.000	.0629	-.009	.0038	.0008	.0001
	20.0	20.0	0	0	.0	.0	4.01	.0	2	.069	.0671	.072	.0647	-.013	.0029	.0005	-.0003
	20.0	20.0	0	0	.0	.0	4.01	.0	2	.064	.0662	.066	.0640	-.019	.0039	.0007	-.0003
	20.0	20.0	0	0	.0	.0	4.01	.0	4	.140	.0746	.145	.0646	-.028	.0026	.0001	-.0006
	20.0	20.0	0	0	.0	.0	4.01	.0	8	.260	.1038	.272	.0666	-.049	.0004	-.0003	-.0007
	20.0	20.0	0	0	.0	.0	4.01	.0	12	.409	.1575	.433	.0689	-.076	.0012	.0000	-.0008
	20.0	20.0	0	0	.0	.0	4.01	.0	16	.587	.2399	.630	.0687	-.110	.0020	.0007	-.0010
	20.0	20.0	0	0	.0	.0	4.01	.0	20	.762	.3491	.836	.0671	-.163	.0044	.0000	-.0015
	20.0	20.0	0	0	.0	.0	4.01	1.0	-4	-.124	.0671	-.129	.0582	.012	-.0148	.0025	-.0014
	20.0	20.0	0	0	.0	.0	4.01	1.0	-2	-.060	.0636	-.062	.0615	.003	-.0171	.0035	-.0016
	20.0	20.0	0	0	.0	.0	4.01	1.0	0	.006	.0626	.006	.0626	-.006	-.0170	.0036	-.0017
	20.0	20.0	0	0	.0	.0	4.01	1.0	2	.064	.0655	.067	.0632	-.016	-.0170	.0039	-.0020
	20.0	20.0	0	0	.0	.0	4.01	1.0	4	.132	.0723	.136	.0629	-.028	-.0178	.0039	-.0021
	20.0	20.0	0	0	.0	.0	4.01	1.0	8	.270	.1032	.282	.0646	-.049	-.0176	.0029	-.0026
	20.0	20.0	0	0	.0	.0	4.01	1.0	12	.421	.1587	.445	.0676	-.074	-.0173	.0039	-.0031
	20.0	20.0	0	0	.0	.0	4.01	1.0	16	.583	.2373	.626	.0672	-.111	-.0160	.0026	-.0035
	20.0	20.0	0	0	.0	.0	4.01	1.0	20	.763	.3516	.837	.0693	-.166	-.0123	.0007	-.0037

TABLE III - Continued

CONFIGURATION 2 WITH HORIZONTAL TAIL 2a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$ deg	$\delta_{h,R}$ deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β, deg	α, deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	30.0	30.0	0	0	.0	.0	2.98	-5.0	-4	-.170	.1302	-.178	.1180	.042	.1273	-.0418	.0088
	30.0	30.0	0	0	.0	.0	2.98	-5.0	-2	-.088	.1218	-.093	.1186	.029	.1253	-.0393	.0096
	30.0	30.0	0	0	.0	.0	2.98	-5.0	0	-.021	.1189	-.021	.1189	.012	.1223	-.0365	.0098
	30.0	30.0	0	0	.0	.0	2.98	-5.0	2	.063	.1209	.067	.1186	-.006	.1215	-.0339	.0100
	30.0	30.0	0	0	.0	.0	2.98	-5.0	4	.143	.1283	.152	.1180	-.028	.1227	-.0325	.0099
	30.0	30.0	0	0	.0	.0	2.98	-5.0	8	.302	.1585	.322	.1148	-.062	.1240	-.0293	.0106
	30.0	30.0	0	0	.0	.0	2.98	-5.0	12	.470	.2156	.505	.1130	-.098	.1244	-.0264	.0122
	30.0	30.0	0	0	.0	.0	2.98	-5.0	16	.642	.2974	.699	.1087	-.135	.1186	-.0207	.0132
	30.0	30.0	0	0	.0	.0	2.98	-5.0	20	.826	.3997	.913	.0931	-.193	.1075	-.0074	.0111
	30.0	30.0	0	0	.0	.0	2.98	-3.0	-4	-.145	.1282	-.153	.1178	.044	.0778	-.0264	.0047
	30.0	30.0	0	0	.0	.0	2.98	-3.0	-2	-.069	.1208	-.073	.1183	.030	.0751	-.0245	.0050
	30.0	30.0	0	0	.0	.0	2.98	-3.0	0	.007	.1186	.007	.1186	.013	.0726	-.0225	.0052
	30.0	30.0	0	0	.0	.0	2.98	-3.0	2	.084	.1221	.088	.1191	-.007	.0717	-.0210	.0053
	30.0	30.0	0	0	.0	.0	2.98	-3.0	4	.161	.1298	.169	.1183	-.027	.0714	-.0194	.0056
	30.0	30.0	0	0	.0	.0	2.98	-3.0	8	.322	.1619	.341	.1154	-.067	.0707	-.0162	.0059
	30.0	30.0	0	0	.0	.0	2.98	-3.0	12	.492	.2217	.527	.1146	-.102	.0689	-.0140	.0064
	30.0	30.0	0	0	.0	.0	2.98	-3.0	16	.652	.2979	.709	.1064	-.139	.0647	-.0077	.0062
	30.0	30.0	0	0	.0	.0	2.98	-3.0	20	.833	.4055	.922	.0959	-.186	.0588	-.0035	.0065
	30.0	30.0	0	0	.0	.0	2.98	.0	-4	-.138	.1218	-.146	.1118	.039	.0069	-.0024	-.0008
	30.0	30.0	0	0	.0	.0	2.98	.0	-2	-.062	.1176	-.066	.1153	.028	.0049	-.0019	-.0008
	30.0	30.0	0	0	.0	.0	2.98	.0	0	.013	.1166	.013	.1166	.011	.0045	-.0016	-.0008
	30.0	30.0	0	0	.0	.0	2.98	.0	2	.092	.1218	.096	.1185	-.009	.0047	-.0016	-.0009
	30.0	30.0	0	0	.0	.0	2.98	.0	4	.171	.1310	.180	.1187	-.032	.0028	-.0007	-.0010
	30.0	30.0	0	0	.0	.0	2.98	.0	8	.334	.1663	.353	.1182	-.070	.0031	-.0010	-.0011
	30.0	30.0	0	0	.0	.0	2.98	.0	12	.507	.2260	.543	.1156	-.106	.0024	-.0010	-.0014
	30.0	30.0	0	0	.0	.0	2.98	.0	16	.676	.3065	.734	.1082	-.145	.0028	-.0013	-.0013
	30.0	30.0	0	0	.0	.0	2.98	.0	20	.846	.4182	.938	.1036	-.181	.0160	-.0093	.0004
	30.0	30.0	0	0	.0	.0	2.98	1.0	-4	-.143	.1250	-.151	.1147	.040	-.0167	.0053	-.0027
	30.0	30.0	0	0	.0	.0	2.98	1.0	-2	-.062	.1195	-.066	.1172	.027	-.0176	.0055	-.0027
	30.0	30.0	0	0	.0	.0	2.98	1.0	0	.010	.1182	.010	.1182	.012	-.0180	.0054	-.0028
	30.0	30.0	0	0	.0	.0	2.98	1.0	2	.086	.1218	.091	.1187	-.008	-.0183	.0044	-.0027
	30.0	30.0	0	0	.0	.0	2.98	1.0	4	.169	.1315	.178	.1194	-.029	-.0162	.0042	-.0029
	30.0	30.0	0	0	.0	.0	2.98	1.0	8	.333	.1668	.353	.1187	-.070	-.0169	.0033	-.0030
	30.0	30.0	0	0	.0	.0	2.98	1.0	12	.503	.2301	.540	.1204	-.106	-.0161	.0021	-.0031
	30.0	30.0	0	0	.0	.0	2.98	1.0	16	.670	.3062	.728	.1095	-.140	-.0217	.0051	-.0043
	30.0	30.0	0	0	.0	.0	2.98	1.0	20	.849	.4140	.939	.0985	-.180	-.0244	.0054	-.0047
	30.0	30.0	0	0	.0	.0	4.01	-5.0	-4	-.132	.1157	-.140	.1061	.029	.1189	-.0328	.0074
	30.0	30.0	0	0	.0	.0	4.01	-5.0	-2	-.064	.1091	-.067	.1068	.021	.1204	-.0328	.0086
	30.0	30.0	0	0	.0	.0	4.01	-5.0	0	-.001	.1067	-.001	.1067	.009	.1215	-.0326	.0092
	30.0	30.0	0	0	.0	.0	4.01	-5.0	2	.064	.1086	.068	.1063	-.003	.1248	-.0333	.0097
	30.0	30.0	0	0	.0	.0	4.01	-5.0	4	.129	.1141	.137	.1048	-.018	.1287	-.0343	.0105
	30.0	30.0	0	0	.0	.0	4.01	-5.0	8	.257	.1430	.275	.1057	-.046	.1317	-.0332	.0121
	30.0	30.0	0	0	.0	.0	4.01	-5.0	12	.395	.1905	.426	.1041	-.076	.1285	-.0282	.0121
	30.0	30.0	0	0	.0	.0	4.01	-5.0	16	.554	.2642	.605	.1012	-.118	.1222	-.0206	.0107
	30.0	30.0	0	0	.0	.0	4.01	-5.0	20	.731	.3710	.813	.0985	-.171	.1248	-.0153	.0102
	30.0	30.0	0	0	.0	.0	4.01	-3.0	-4	-.124	.1128	-.132	.1038	.027	.0717	-.0208	.0044
	30.0	30.0	0	0	.0	.0	4.01	-3.0	-2	-.059	.1074	-.062	.1052	.018	.0722	-.0207	.0050
	30.0	30.0	0	0	.0	.0	4.01	-3.0	0	.003	.1063	.003	.1063	.005	.0732	-.0210	.0053
	30.0	30.0	0	0	.0	.0	4.01	-3.0	2	.063	.1080	.067	.1057	-.007	.0751	-.0219	.0058
	30.0	30.0	0	0	.0	.0	4.01	-3.0	4	.128	.1152	.136	.1059	-.021	.0780	-.0226	.0063
	30.0	30.0	0	0	.0	.0	4.01	-3.0	8	.257	.1442	.274	.1070	-.045	.0805	-.0223	.0071
	30.0	30.0	0	0	.0	.0	4.01	-3.0	12	.405	.1963	.437	.1077	-.073	.0789	-.0179	.0072
	30.0	30.0	0	0	.0	.0	4.01	-3.0	16	.564	.2701	.617	.1039	-.117	.0708	-.0102	.0057
	30.0	30.0	0	0	.0	.0	4.01	-3.0	20	.741	.3779	.825	.1015	-.175	.0714	-.0076	.0051
	30.0	30.0	0	0	.0	.0	4.01	.0	-4	-.121	.1141	-.129	.1053	.027	.0031	-.0004	.0001
	30.0	30.0	0	0	.0	.0	4.01	.0	-2	-.056	.1088	-.060	.1067	.018	.0031	-.0003	.0002
	30.0	30.0	0	0	.0	.0	4.01	.0	0	.003	.1110	.003	.1110	.008	.0039	.0005	.0000
	30.0	30.0	0	0	.0	.0	4.01	.0	2	.064	.1140	.068	.1116	-.004	.0029	.0008	-.0006
	30.0	30.0	0	0	.0	.0	4.01	.0	4	.130	.1216	.138	.1122	-.016	.0029	.0002	-.0008
	30.0	30.0	0	0	.0	.0	4.01	.0	8	.264	.1516	.283	.1133	-.040	.0008	-.0002	-.0009
	30.0	30.0	0	0	.0	.0	4.01	.0	12	.410	.2036	.443	.1139	-.070	-.0004	.0001	-.0011
	30.0	30.0	0	0	.0	.0	4.01	.0	16	.569	.2756	.623	.1079	-.115	.0000	.0010	-.0012
	30.0	30.0	0	0	.0	.0	4.01	.0	20	.754	.3836	.840	.1025	-.178	.0049	.0004	-.0014
	30.0	30.0	0	0	.0	.0	4.01	1.0	-4	-.121	.1152	-.128	.1065	.027	-.0167	.0045	-.0019
	30.0	30.0	0	0	.0	.0	4.01	1.0	-2	-.055	.1104	-.059	.1084	.017	-.0198	.0060	-.0021
	30.0	30.0	0	0	.0	.0	4.01	1.0	0	.006	.1097	.006	.1097	.006	-.0194	.0061	-.0022
	30.0	30.0	0	0	.0	.0	4.01	1.0	2	.066	.1132	.070	.1108	-.006	-.0197	.0065	-.0024
	30.0	30.0	0	0	.0	.0	4.01	1.0	4	.131	.1210	.139	.1115	-.019	-.0197	.0063	-.0025
	30.0	30.0	0	0	.0	.0	4.01	1.0	8	.265	.1506	.284	.1121	-.040	-.0195	.0050	-.0029
	30.0	30.0	0	0	.0	.0	4.01	1.0	12	.418	.2041	.451	.1127	-.073	-.0198	.0062	-.0034
	30.0	30.0	0	0	.0	.0	4.01	1.0	16	.578	.2782	.633	.1079	-.120	-.0175	.0039	-.0034
	30.0	30.0	0	0	.0	.0	4.01	1.0	20	.758	.3863	.844	.1036	-.179	-.0127	.0011	-.0032

[redacted]

TABLE III.- Continued

CONFIGURATION 2 WITH HORIZONTAL TAIL 2a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β, deg	α, deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	30.0	45.0	0	0	.0	.0	2.98	.0	-4	-.133	.1478	-.143	.1381	.007	.0062	-.0020	-.0005
	30.0	45.0	0	0	.0	.0	2.98	.0	-2	-.058	.1462	-.064	.1440	-.008	.0048	-.0017	-.0006
	30.0	45.0	0	0	.0	.0	2.98	.0	0	.016	.1458	.016	.1458	-.025	.0044	-.0014	-.0006
	30.0	45.0	0	0	.0	.0	2.98	.0	2	.095	.1522	.100	.1488	-.046	.0040	-.0012	-.0007
	30.0	45.0	0	0	.0	.0	2.98	.0	4	.173	.1640	.184	.1515	-.067	.0031	-.0011	-.0007
	30.0	45.0	0	0	.0	.0	2.98	.0	8	.340	.2033	.365	.1539	-.109	.0029	-.0010	-.0008
	30.0	45.0	0	0	.0	.0	2.98	.0	12	.510	.2668	.555	.1548	-.146	.0027	-.0012	-.0009
	30.0	45.0	0	0	.0	.0	2.98	.0	16	.682	.3525	.753	.1506	-.191	.0026	-.0017	-.0009
	30.0	45.0	0	0	.0	.0	4.01	.0	-4	-.110	.1373	-.120	.1293	.001	.0038	-.0006	.0003
	30.0	45.0	0	0	.0	.0	4.01	.0	-2	-.049	.1374	-.054	.1356	-.010	.0039	-.0001	.0003
	30.0	45.0	0	0	.0	.0	4.01	.0	0	.014	.1386	.014	.1386	-.025	.0049	.0002	-.0001
	30.0	45.0	0	0	.0	.0	4.01	.0	2	.076	.1452	.081	.1424	-.036	.0040	.0002	-.0005
	30.0	45.0	0	0	.0	.0	4.01	.0	4	.139	.1558	.150	.1457	-.050	.0032	-.0001	-.0008
	30.0	45.0	0	0	.0	.0	4.01	.0	8	.273	.1921	.297	.1521	-.077	.0015	-.0003	-.0008
	30.0	45.0	0	0	.0	.0	4.01	.0	12	.421	.2532	.464	.1602	-.111	.0008	.0002	-.0010
	30.0	45.0	0	0	.0	.0	4.01	.0	16	.575	.3327	.645	.1611	-.164	.0018	.0011	-.0013
	30.0	45.0	0	0	.0	.0	4.01	.0	20	.759	.4522	.868	.1651	-.249	.0045	.0001	-.0018
Upper vertical tail off	-	7.5	0	0	.0	.0	2.98	-5.0	-4	-.158	.0432	-.161	.0321	.000	.0408	.0132	-.0054
	-	7.5	0	0	.0	.0	2.98	-5.0	-2	-.082	.0367	-.083	.0338	-.008	.0413	.0131	-.0048
	-	7.5	0	0	.0	.0	2.98	-5.0	0	-.006	.0358	-.006	.0358	-.021	.0430	.0132	-.0042
	-	7.5	0	0	.0	.0	2.98	-5.0	2	.077	.0393	.078	.0366	-.041	.0459	.0136	-.0032
	-	7.5	0	0	.0	.0	2.98	-5.0	4	.152	.0488	.155	.0380	-.055	.0512	.0133	-.0027
	-	7.5	0	0	.0	.0	2.98	-5.0	8	.318	.0844	.327	.0393	-.087	.0591	.0122	-.0005
	-	7.5	0	0	.0	.0	2.98	-5.0	12	.491	.1518	.512	.0462	-.117	.0640	.0121	.0033
	-	7.5	0	0	.0	.0	2.98	-5.0	16	.659	.2360	.699	.0451	-.146	.0706	.0105	.0061
	-	7.5	0	0	.0	.0	2.98	-5.0	20	.840	.3502	.909	.0417	-.185	.0789	.0092	.0090
	-	7.5	0	0	.0	.0	2.98	-3.0	-4	-.156	.0407	-.159	.0297	.001	.0226	.0082	-.0036
	-	7.5	0	0	.0	.0	2.98	-3.0	-2	-.074	.0355	-.075	.0329	-.008	.0231	.0081	-.0031
	-	7.5	0	0	.0	.0	2.98	-3.0	0	.008	.0351	.008	.0351	-.021	.0238	.0081	-.0025
	-	7.5	0	0	.0	.0	2.98	-3.0	2	.087	.0398	.089	.0367	-.039	.0266	.0083	-.0020
	-	7.5	0	0	.0	.0	2.98	-3.0	4	.169	.0499	.172	.0380	-.056	.0292	.0082	-.0016
	-	7.5	0	0	.0	.0	2.98	-3.0	8	.335	.0869	.344	.0394	-.089	.0342	.0072	.0001
	-	7.5	0	0	.0	.0	2.98	-3.0	12	.506	.1500	.526	.0413	-.118	.0380	.0074	.0017
	-	7.5	0	0	.0	.0	2.98	-3.0	16	.681	.2393	.721	.0422	-.146	.0410	.0065	.0039
	-	7.5	0	0	.0	.0	2.98	-3.0	20	.865	.3573	.935	.0399	-.181	.0466	.0047	.0058
	-	7.5	0	0	.0	.0	2.98	.0	-4	-.134	.0364	-.136	.0269	-.001	.0020	.0010	-.0007
	-	7.5	0	0	.0	.0	2.98	.0	-2	-.058	.0336	-.060	.0315	-.008	.0016	.0006	-.0007
	-	7.5	0	0	.0	.0	2.98	.0	0	.019	.0329	.019	.0329	-.024	.0017	.0007	-.0006
	-	7.5	0	0	.0	.0	2.98	.0	2	.098	.0380	.099	.0346	-.041	.0008	.0003	-.0005
	-	7.5	0	0	.0	.0	2.98	.0	4	.183	.0492	.186	.0363	-.059	.0015	.0000	-.0005
	-	7.5	0	0	.0	.0	2.98	.0	8	.348	.0874	.357	.0380	-.094	.0008	-.0003	-.0006
	-	7.5	0	0	.0	.0	2.98	.0	12	.522	.1522	.542	.0404	-.121	.0012	-.0004	-.0006
	-	7.5	0	0	.0	.0	2.98	.0	16	.687	.2418	.727	.0428	-.147	.0010	-.0006	-.0007
	-	7.5	0	0	.0	.0	2.98	.0	20	.865	.3639	.937	.0460	-.181	.0004	-.0009	-.0004
	-	7.5	0	0	.0	.0	4.01	-5.0	-4	-.118	.0386	-.120	.0302	-.003	.0463	.0150	-.0050
	-	7.5	0	0	.0	.0	4.01	-5.0	-2	-.050	.0344	-.051	.0326	-.009	.0482	.0152	-.0040
	-	7.5	0	0	.0	.0	4.01	-5.0	0	.009	.0332	.009	.0332	-.016	.0500	.0147	-.0032
	-	7.5	0	0	.0	.0	4.01	-5.0	2	.068	.0369	.069	.0345	-.025	.0533	.0138	-.0025
	-	7.5	0	0	.0	.0	4.01	-5.0	4	.129	.0438	.132	.0347	-.035	.0580	.0133	-.0017
	-	7.5	0	0	.0	.0	4.01	-5.0	8	.263	.0747	.271	.0373	-.053	.0653	.0113	.0012
	-	7.5	0	0	.0	.0	4.01	-5.0	12	.407	.1287	.425	.0412	-.074	.0716	.0108	.0035
	-	7.5	0	0	.0	.0	4.01	-5.0	16	.562	.2075	.597	.0446	-.101	.0821	.0086	.0058
	-	7.5	0	0	.0	.0	4.01	-5.0	20	.731	.3407	.804	.0699	-.144	.0927	.0071	.0077
	-	7.5	0	0	.0	.0	4.01	-3.0	-4	-.127	.0392	-.130	.0302	-.019	.0271	.0096	-.0031
	-	7.5	0	0	.0	.0	4.01	-3.0	-2	-.060	.0344	-.061	.0323	-.010	.0276	.0089	-.0023
	-	7.5	0	0	.0	.0	4.01	-3.0	0	.004	.0335	.004	.0335	-.016	.0288	.0085	-.0022
	-	7.5	0	0	.0	.0	4.01	-3.0	2	.068	.0361	.069	.0337	-.024	.0315	.0077	-.0013
	-	7.5	0	0	.0	.0	4.01	-3.0	4	.130	.0435	.133	.0343	-.036	.0342	.0070	-.0011
	-	7.5	0	0	.0	.0	4.01	-3.0	8	.262	.0738	.269	.0366	-.053	.0403	.0060	.0010
	-	7.5	0	0	.0	.0	4.01	-3.0	12	.411	.1288	.429	.0404	-.073	.0454	.0055	.0022
	-	7.5	0	0	.0	.0	4.01	-3.0	16	.569	.2098	.605	.0447	-.102	.0500	.0051	.0038
	-	7.5	0	0	.0	.0	4.01	-3.0	20	.745	.3223	.810	.0480	-.148	.0558	.0041	.0047
	-	7.5	0	0	.0	.0	4.01	.0	-4	-.120	.0345	-.122	.0260	-.001	.0013	.0006	-.0001
	-	7.5	0	0	.0	.0	4.01	.0	-2	-.055	.0321	-.057	.0301	-.007	.0014	.0010	-.0001
	-	7.5	0	0	.0	.0	4.01	.0	0	.008	.0315	.008	.0315	-.017	.0020	.0014	-.0001
	-	7.5	0	0	.0	.0	4.01	.0	2	.071	.0349	.072	.0324	-.025	.0020	.0011	-.0003
	-	7.5	0	0	.0	.0	4.01	.0	4	.139	.0425	.141	.0327	-.038	.0022	.0002	-.0006
	-	7.5	0	0	.0	.0	4.01	.0	8	.275	.0743	.283	.0352	-.054	.0010	-.0006	-.0004
	-	7.5	0	0	.0	.0	4.01	.0	12	.425	.1306	.443	.0393	-.076	.0008	-.0003	-.0004
	-	7.5	0	0	.0	.0	4.01	.0	16	.586	.2148	.622	.0449	-.107	.0025	.0005	-.0009
	-	7.5	0	0	.0	.0	4.01	.0	20	.764	.3307	.831	.0494	-.153	.0044	.0001	-.0012

TABLE III. - Continued

CONFIGURATION 2 WITH HORIZONTAL TAIL 2a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β, deg	α, deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Upper vertical tail off	-	20.0	0	0	.0	.0	2.98	-5.0	-4	-.151	.0524	-.155	.0417	-.000	.0466	.0096	-.0057
	-	20.0	0	0	.0	.0	2.98	-5.0	-2	-.072	.0470	-.073	.0445	-.012	.0473	.0100	-.0047
	-	20.0	0	0	.0	.0	2.98	-5.0	0	.000	.0461	.000	.0461	-.027	.0493	.0101	-.0041
	-	20.0	0	0	.0	.0	2.98	-5.0	2	.083	.0504	.084	.0475	-.045	.0520	.0101	-.0035
	-	20.0	0	0	.0	.0	2.98	-5.0	4	.161	.0607	.165	.0493	-.061	.0573	.0095	-.0029
	-	20.0	0	0	.0	.0	2.98	-5.0	8	.323	.0965	.334	.0506	-.091	.0664	.0083	-.0006
	-	20.0	0	0	.0	.0	2.98	-5.0	12	.493	.1603	.515	.0542	-.121	.0714	.0081	.0027
	-	20.0	0	0	.0	.0	2.98	-5.0	16	.658	.2496	.702	.0583	-.152	.0781	.0061	.0060
	-	20.0	0	0	.0	.0	2.98	-5.0	20	.841	.3696	.916	.0596	-.190	.0884	.0042	.0084
	-	20.0	0	0	.0	.0	2.98	-3.0	-4	-.145	.0489	-.148	.0386	-.002	.0277	.0055	-.0035
	-	20.0	0	0	.0	.0	2.98	-3.0	-2	-.063	.0436	-.065	.0414	-.012	.0282	.0054	-.0028
	-	20.0	0	0	.0	.0	2.98	-3.0	0	.015	.0438	.015	.0438	-.029	.0289	.0058	-.0024
	-	20.0	0	0	.0	.0	2.98	-3.0	2	.093	.0485	.095	.0452	-.046	.0310	.0057	-.0020
	-	20.0	0	0	.0	.0	2.98	-3.0	4	.171	.0596	.175	.0475	-.063	.0327	.0058	-.0014
	-	20.0	0	0	.0	.0	2.98	-3.0	8	.339	.0976	.349	.0495	-.098	.0388	.0047	-.0002
	-	20.0	0	0	.0	.0	2.98	-3.0	12	.507	.1631	.530	.0539	-.125	.0422	.0048	.0015
	-	20.0	0	0	.0	.0	2.98	-3.0	16	.674	.2536	.718	.0578	-.156	.0431	.0041	.0037
	-	20.0	0	0	.0	.0	2.98	-3.0	20	.848	.3735	.925	.0607	-.190	.0509	.0020	.0056
	-	20.0	0	0	.0	.0	2.98	.0	-4	-.129	.0480	-.132	.0389	-.001	.0015	.0002	-.0010
	-	20.0	0	0	.0	.0	2.98	.0	-2	-.052	.0449	-.054	.0431	-.013	.0011	.0002	-.0008
	-	20.0	0	0	.0	.0	2.98	.0	0	.023	.0448	.023	.0448	-.030	.0012	.0001	-.0007
	-	20.0	0	0	.0	.0	2.98	.0	2	.103	.0501	.104	.0465	-.047	.0014	.0001	-.0008
	-	20.0	0	0	.0	.0	2.98	.0	4	.181	.0608	.185	.0480	-.064	.0015	-.0001	-.0006
	-	20.0	0	0	.0	.0	2.98	.0	8	.350	.1000	.361	.0502	-.098	.0008	-.0002	-.0007
	-	20.0	0	0	.0	.0	2.98	.0	12	.523	.1657	.546	.0532	-.127	.0012	-.0005	-.0007
	-	20.0	0	0	.0	.0	2.98	.0	16	.688	.2568	.732	.0572	-.156	.0005	-.0007	-.0007
	-	20.0	0	0	.0	.0	2.98	.0	20	.863	.3800	.941	.0618	-.191	.0020	-.0010	-.0003
	-	20.0	0	0	.0	.0	2.98	1.0	-4	-.134	.0471	-.137	.0376	-.003	-.0041	-.0014	.0004
	-	20.0	0	0	.0	.0	2.98	1.0	-2	-.051	.0442	-.053	.0424	-.015	-.0056	-.0015	.0006
	-	20.0	0	0	.0	.0	2.98	1.0	0	.023	.0441	.023	.0441	-.031	-.0059	-.0018	.0005
	-	20.0	0	0	.0	.0	2.98	1.0	2	.102	.0493	.104	.0457	-.048	-.0058	-.0018	.0002
	-	20.0	0	0	.0	.0	2.98	1.0	4	.181	.0603	.184	.0476	-.065	-.0072	-.0021	-.0001
	-	20.0	0	0	.0	.0	2.98	1.0	8	.352	.1000	.362	.0500	-.103	-.0094	-.0020	-.0006
	-	20.0	0	0	.0	.0	2.98	1.0	12	.522	.1660	.545	.0539	-.128	-.0091	-.0022	-.0011
	-	20.0	0	0	.0	.0	2.98	1.0	16	.692	.2589	.737	.0580	-.158	-.0103	-.0026	-.0014
	-	20.0	0	0	.0	.0	2.98	1.0	20	.870	.3830	.949	.0621	-.194	-.0109	-.0025	-.0022
	-	20.0	0	0	.0	.0	4.01	-5.0	-4	-.129	.0428	-.132	.0337	-.014	.0521	.0106	-.0056
	-	20.0	0	0	.0	.0	4.01	-5.0	-2	-.062	.0393	-.063	.0371	-.019	.0541	.0105	-.0045
	-	20.0	0	0	.0	.0	4.01	-5.0	0	-.003	.0389	-.003	.0389	-.028	.0563	.0097	-.0039
	-	20.0	0	0	.0	.0	4.01	-5.0	2	.058	.0430	.060	.0410	-.036	.0612	.0084	-.0033
	-	20.0	0	0	.0	.0	4.01	-5.0	4	.129	.0513	.132	.0422	-.049	.0664	.0069	-.0026
	-	20.0	0	0	.0	.0	4.01	-5.0	8	.261	.0827	.270	.0455	-.067	.0776	.0045	-.0003
	-	20.0	0	0	.0	.0	4.01	-5.0	12	.408	.1393	.428	.0514	-.086	.0808	.0039	.0022
	-	20.0	0	0	.0	.0	4.01	-5.0	16	.566	.2210	.605	.0563	-.115	.0916	.0016	.0047
	-	20.0	0	0	.0	.0	4.01	-5.0	20	.739	.3358	.810	.0624	-.158	.1025	-.0002	.0067
	-	20.0	0	0	.0	.0	4.01	-3.0	-4	-.122	.0418	-.125	.0331	-.010	.0291	.0065	-.0038
	-	20.0	0	0	.0	.0	4.01	-3.0	-2	-.057	.0381	-.059	.0361	-.017	.0306	.0058	-.0030
	-	20.0	0	0	.0	.0	4.01	-3.0	0	.007	.0385	.007	.0385	-.025	.0320	.0053	-.0025
	-	20.0	0	0	.0	.0	4.01	-3.0	2	.072	.0421	.073	.0396	-.036	.0349	.0042	-.0022
	-	20.0	0	0	.0	.0	4.01	-3.0	4	.139	.0506	.142	.0408	-.049	.0382	.0032	-.0017
	-	20.0	0	0	.0	.0	4.01	-3.0	8	.272	.0827	.281	.0440	-.068	.0449	.0019	.0000
	-	20.0	0	0	.0	.0	4.01	-3.0	12	.419	.1400	.438	.0498	-.086	.0499	.0016	.0009
	-	20.0	0	0	.0	.0	4.01	-3.0	16	.576	.2239	.616	.0563	-.119	.0554	.0004	.0026
	-	20.0	0	0	.0	.0	4.01	-3.0	20	.750	.3394	.821	.0622	-.162	.0617	-.0012	.0036
	-	20.0	0	0	.0	.0	4.01	.0	-4	-.121	.0402	-.123	.0316	-.011	.0009	.0005	-.0002
	-	20.0	0	0	.0	.0	4.01	.0	-2	-.056	.0368	-.057	.0348	-.018	.0010	.0009	-.0002
	-	20.0	0	0	.0	.0	4.01	.0	0	.006	.0393	.006	.0393	-.027	.0016	.0012	-.0002
	-	20.0	0	0	.0	.0	4.01	.0	2	.066	.0437	.067	.0414	-.037	.0022	.0007	-.0003
	-	20.0	0	0	.0	.0	4.01	.0	4	.139	.0522	.143	.0423	-.048	.0023	.0000	-.0005
	-	20.0	0	0	.0	.0	4.01	.0	8	.269	.0846	.279	.0463	-.065	.0010	-.0004	-.0006
	-	20.0	0	0	.0	.0	4.01	.0	12	.421	.1430	.441	.0524	-.088	.0008	-.0006	-.0007
	-	20.0	0	0	.0	.0	4.01	.0	16	.579	.2284	.620	.0599	-.119	.0012	.0001	-.0010
	-	20.0	0	0	.0	.0	4.01	.0	20	.759	.3467	.832	.0661	-.168	.0049	-.0009	-.0013
	-	20.0	0	0	.0	.0	4.01	1.0	-4	-.120	.0400	-.122	.0315	-.010	-.0060	-.0029	.0004
	-	20.0	0	0	.0	.0	4.01	1.0	-2	-.055	.0374	-.056	.0355	-.018	-.0072	-.0024	.0005
	-	20.0	0	0	.0	.0	4.01	1.0	0	.009	.0380	.009	.0380	-.027	-.0076	-.0020	.0004
	-	20.0	0	0	.0	.0	4.01	1.0	2	.071	.0419	.072	.0394	-.039	-.0075	-.0016	.0003
	-	20.0	0	0	.0	.0	4.01	1.0	4	.141	.0506	.144	.0406	-.050	-.0083	-.0009	.0000
	-	20.0	0	0	.0	.0	4.01	1.0	8	.275	.0836	.283	.0445	-.067	-.0114	-.0005	-.0007
	-	20.0	0	0	.0	.0	4.01	1.0	12	.426	.1428	.446	.0510	-.089	-.0116	.0000	-.0014
	-	20.0	0	0	.0	.0	4.01	1.0	16	.584	.2288	.624	.0588	-.120	-.0127	.0002	-.0021
	-	20.0	0	0	.0	.0	4.01	1.0	20	.763	.3478	.836	.0658	-.170	-.0098	-.0003	-.0025

TABLE III. - Continued

CONFIGURATION 2 WITH HORIZONTAL TAIL 2a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β, deg	α, deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Upper vertical tail off	-	30.0	0	0	.0	.0	2.98	-5.0	-4	-.142	.0628	-.146	.0527	-.015	.0515	.0064	-.0066
	-	30.0	0	0	.0	.0	2.98	-5.0	-2	-.062	.0585	-.064	.0563	-.026	.0519	.0072	-.0057
	-	30.0	0	0	.0	.0	2.98	-5.0	0	.010	.0584	.010	.0584	-.042	.0524	.0074	-.0049
	-	30.0	0	0	.0	.0	2.98	-5.0	2	.093	.0641	.095	.0608	-.061	.0563	.0075	-.0043
	-	30.0	0	0	.0	.0	2.98	-5.0	4	.173	.0756	.178	.0633	-.078	.0614	.0069	-.0039
	-	30.0	0	0	.0	.0	2.98	-5.0	8	.330	.1128	.343	.0657	-.107	.0701	.0050	-.0017
	-	30.0	0	0	.0	.0	2.98	-5.0	12	.503	.1799	.529	.0713	-.141	.0756	.0047	.0016
	-	30.0	0	0	.0	.0	2.98	-5.0	16	.670	.2732	.720	.0777	-.174	.0822	.0030	.0047
	-	30.0	0	0	.0	.0	2.98	-5.0	20	.850	.3950	.933	.0804	-.212	.0915	.0009	.0070
	-	30.0	0	0	.0	.0	2.98	-3.0	-4	-.132	.0613	-.136	.0519	-.014	.0311	.0032	-.0045
	-	30.0	0	0	.0	.0	2.98	-3.0	-2	-.053	.0575	-.056	.0556	-.025	.0307	.0036	-.0038
	-	30.0	0	0	.0	.0	2.98	-3.0	0	.028	.0584	.028	.0584	-.043	.0313	.0038	-.0032
	-	30.0	0	0	.0	.0	2.98	-3.0	2	.104	.0647	.106	.0611	-.061	.0330	.0038	-.0028
	-	30.0	0	0	.0	.0	2.98	-3.0	4	.182	.0761	.187	.0632	-.080	.0358	.0040	-.0023
	-	30.0	0	0	.0	.0	2.98	-3.0	8	.347	.1165	.360	.0671	-.113	.0408	.0027	-.0010
	-	30.0	0	0	.0	.0	2.98	-3.0	12	.517	.1839	.544	.0723	-.143	.0436	.0027	.0008
	-	30.0	0	0	.0	.0	2.98	-3.0	16	.682	.2758	.732	.0769	-.175	.0472	.0021	.0028
	-	30.0	0	0	.0	.0	2.98	-3.0	20	.857	.3998	.942	.0824	-.212	.0525	-.0001	.0046
	-	30.0	0	0	.0	.0	2.98	.0	-4	-.131	.0601	-.135	.0508	-.016	.0027	-.0005	-.0009
	-	30.0	0	0	.0	.0	2.98	.0	-2	-.052	.0578	-.054	.0560	-.027	.0028	-.0006	-.0008
	-	30.0	0	0	.0	.0	2.98	.0	0	.026	.0583	.026	.0583	-.043	.0029	-.0006	-.0008
	-	30.0	0	0	.0	.0	2.98	.0	2	.101	.0646	.104	.0610	-.061	.0025	-.0007	-.0007
	-	30.0	0	0	.0	.0	2.98	.0	4	.183	.0767	.188	.0637	-.080	.0027	-.0009	-.0007
	-	30.0	0	0	.0	.0	2.98	.0	8	.345	.1169	.358	.0677	-.115	.0020	-.0009	-.0007
	-	30.0	0	0	.0	.0	2.98	.0	12	.519	.1842	.546	.0722	-.147	.0013	-.0010	-.0007
	-	30.0	0	0	.0	.0	2.98	.0	16	.687	.2777	.737	.0774	-.177	.0016	-.0013	-.0009
	-	30.0	0	0	.0	.0	2.98	.0	20	.865	.4054	.951	.0851	-.216	.0026	-.0017	-.0005
	-	30.0	0	0	.0	.0	2.98	1.0	-4	-.132	.0579	-.136	.0485	-.019	-.0035	-.0019	.0000
	-	30.0	0	0	.0	.0	2.98	1.0	-2	-.054	.0551	-.056	.0532	-.031	-.0049	-.0018	.0002
	-	30.0	0	0	.0	.0	2.98	1.0	0	.030	.0565	.030	.0565	-.046	-.0058	-.0019	.0000
	-	30.0	0	0	.0	.0	2.98	1.0	2	.105	.0632	.107	.0595	-.063	-.0062	-.0020	-.0002
	-	30.0	0	0	.0	.0	2.98	1.0	4	.186	.0757	.191	.0625	-.082	-.0066	-.0020	-.0004
	-	30.0	0	0	.0	.0	2.98	1.0	8	.353	.1169	.365	.0667	-.120	-.0093	-.0022	-.0008
	-	30.0	0	0	.0	.0	2.98	1.0	12	.523	.1848	.550	.0720	-.148	-.0095	-.0023	-.0014
	-	30.0	0	0	.0	.0	2.98	1.0	16	.691	.2795	.741	.0782	-.181	-.0102	-.0025	-.0019
	-	30.0	0	0	.0	.0	2.98	1.0	20	.863	.4041	.949	.0845	-.217	-.0107	-.0025	-.0025
	-	30.0	0	0	.0	.0	4.01	-5.0	-4	-.120	.0526	-.123	.0441	-.024	.0553	.0080	-.0062
	-	30.0	0	0	.0	.0	4.01	-5.0	-2	-.055	.0505	-.057	.0486	-.030	.0575	.0076	-.0052
	-	30.0	0	0	.0	.0	4.01	-5.0	0	.005	.0519	.005	.0519	-.038	.0603	.0068	-.0045
	-	30.0	0	0	.0	.0	4.01	-5.0	2	.067	.0569	.069	.0546	-.049	.0654	.0045	-.0039
	-	30.0	0	0	.0	.0	4.01	-5.0	4	.133	.0659	.137	.0564	-.061	.0713	.0022	-.0034
	-	30.0	0	0	.0	.0	4.01	-5.0	8	.270	.1029	.282	.0642	-.081	.0812	-.0010	-.0005
	-	30.0	0	0	.0	.0	4.01	-5.0	12	.411	.1617	.436	.0726	-.104	.0893	-.0033	.0018
	-	30.0	0	0	.0	.0	4.01	-5.0	16	.565	.2461	.611	.0806	-.136	.0996	-.0059	.0040
	-	30.0	0	0	.0	.0	4.01	-5.0	20	.742	.3655	.822	.0896	-.184	.1110	-.0068	.0059
	-	30.0	0	0	.0	.0	4.01	-3.0	-4	-.118	.0524	-.121	.0440	-.022	.0319	.0048	-.0040
	-	30.0	0	0	.0	.0	4.01	-3.0	-2	-.051	.0499	-.052	.0481	-.028	.0333	.0042	-.0032
	-	30.0	0	0	.0	.0	4.01	-3.0	0	.013	.0523	.013	.0523	-.037	.0348	.0032	-.0028
	-	30.0	0	0	.0	.0	4.01	-3.0	2	.077	.0574	.079	.0547	-.048	.0381	.0016	-.0024
	-	30.0	0	0	.0	.0	4.01	-3.0	4	.144	.0672	.148	.0569	-.062	.0416	.0003	-.0021
	-	30.0	0	0	.0	.0	4.01	-3.0	8	.275	.1022	.287	.0628	-.083	.0491	-.0019	-.0004
	-	30.0	0	0	.0	.0	4.01	-3.0	12	.419	.1625	.443	.0717	-.103	.0549	-.0023	.0008
	-	30.0	0	0	.0	.0	4.01	-3.0	16	.574	.2492	.620	.0813	-.138	.0604	-.0035	.0021
	-	30.0	0	0	.0	.0	4.01	-3.0	20	.750	.3697	.831	.0909	-.189	.0667	-.0052	.0031
	-	30.0	0	0	.0	.0	4.01	.0	-4	-.114	.0507	-.117	.0426	-.021	.0015	-.0001	-.0004
	-	30.0	0	0	.0	.0	4.01	.0	-2	-.049	.0493	-.051	.0476	-.028	.0020	.0005	-.0003
	-	30.0	0	0	.0	.0	4.01	.0	0	.014	.0505	.014	.0505	-.038	.0026	.0008	-.0005
	-	30.0	0	0	.0	.0	4.01	.0	2	.073	.0591	.075	.0565	-.051	.0018	.0001	-.0006
	-	30.0	0	0	.0	.0	4.01	.0	4	.140	.0688	.145	.0588	-.062	.0019	-.0007	-.0008
	-	30.0	0	0	.0	.0	4.01	.0	8	.275	.1042	.287	.0648	-.082	.0002	-.0009	-.0008
	-	30.0	0	0	.0	.0	4.01	.0	12	.422	.1641	.447	.0727	-.105	.0004	-.0011	-.0010
	-	30.0	0	0	.0	.0	4.01	.0	16	.577	.2526	.624	.0836	-.138	-.0002	-.0005	-.0012
	-	30.0	0	0	.0	.0	4.01	.0	20	.757	.3761	.840	.0942	-.191	.0050	-.0014	-.0014
	-	30.0	0	0	.0	.0	4.01	1.0	-4	-.116	.0519	-.119	.0437	-.020	-.0068	-.0037	.0005
	-	30.0	0	0	.0	.0	4.01	1.0	-2	-.052	.0511	-.054	.0493	-.029	-.0091	-.0024	.0005
	-	30.0	0	0	.0	.0	4.01	1.0	0	.012	.0527	.012	.0527	-.039	-.0089	-.0021	.0004
	-	30.0	0	0	.0	.0	4.01	1.0	2	.076	.0581	.078	.0556	-.051	-.0088	-.0018	.0002
	-	30.0	0	0	.0	.0	4.01	1.0	4	.143	.0677	.147	.0575	-.063	-.0101	-.0010	-.0001
	-	30.0	0	0	.0	.0	4.01	1.0	8	.278	.1034	.290	.0636	-.082	-.0132	-.0005	-.0008
	-	30.0	0	0	.0	.0	4.01	1.0	12	.425	.1651	.450	.0731	-.105	-.0129	.0001	-.0014
	-	30.0	0	0	.0	.0	4.01	1.0	16	.583	.2535	.631	.0828	-.141	-.0140	.0001	-.0014
	-	30.0	0	0	.0	.0	4.01	1.0	20	.761	.3771	.844	.0939	-.192	-.0112	-.0009	-.0030

TABLE III. - Continued

CONFIGURATION 2 WITH HORIZONTAL TAIL 2a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β, deg	α, deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Upper vertical tail off	-	45.0	0	0	.0	.0	4.01	-5.0	-4	-.112	.0714	-.117	.0634	-.042	.0542	.0088	-.0056
	-	45.0	0	0	.0	.0	4.01	-5.0	-2	-.048	.0727	-.051	.0710	-.050	.0570	.0083	-.0048
	-	45.0	0	0	.0	.0	4.01	-5.0	0	.014	.0773	.014	.0773	-.061	.0603	.0068	-.0042
	-	45.0	0	0	.0	.0	4.01	-5.0	2	.078	.0860	.081	.0832	-.075	.0666	.0040	-.0035
	-	45.0	0	0	.0	.0	4.01	-5.0	4	.143	.0975	.149	.0873	-.089	.0738	.0007	-.0031
	-	45.0	0	0	.0	.0	4.01	-5.0	8	.274	.1417	.291	.1021	-.115	.0845	-.0028	.0000
	-	45.0	0	0	.0	.0	4.01	-5.0	12	.423	.2054	.457	.1128	-.145	.0925	-.0045	.0021
	-	45.0	0	0	.0	.0	4.01	-5.0	16	.568	.3098	.632	.1410	-.184	.1044	-.0082	.0044
	-	45.0	0	0	.0	.0	4.01	-5.0	20	.750	.4280	.851	.1456	-.241	.1158	-.0099	.0067
	-	45.0	0	0	.0	.0	4.01	-3.0	-4	-.111	.0764	-.116	.0684	-.047	.0318	.0065	-.0033
	-	45.0	0	0	.0	.0	4.01	-3.0	-2	-.044	.0770	-.047	.0755	-.055	.0331	.0054	-.0028
	-	45.0	0	0	.0	.0	4.01	-3.0	0	.022	.0817	.022	.0817	-.067	.0357	.0041	-.0023
	-	45.0	0	0	.0	.0	4.01	-3.0	2	.082	.0890	.085	.0860	-.079	.0390	.0024	-.0018
	-	45.0	0	0	.0	.0	4.01	-3.0	4	.148	.1009	.154	.0904	-.094	.0442	.0002	-.0015
	-	45.0	0	0	.0	.0	4.01	-3.0	8	.282	.1422	.299	.1015	-.120	.0527	-.0031	.0001
	-	45.0	0	0	.0	.0	4.01	-3.0	12	.424	.2104	.458	.1176	-.147	.0587	-.0042	.0008
	-	45.0	0	0	.0	.0	4.01	-3.0	16	.575	.3049	.637	.1344	-.188	.0642	-.0058	.0024
	-	45.0	0	0	.0	.0	4.01	-3.0	20	.749	.4330	.852	.1506	-.246	.0700	-.0075	.0035
	-	45.0	0	0	.0	.0	4.01	.0	-4	-.106	.0767	-.111	.0691	-.047	.0022	.0007	-.0008
	-	45.0	0	0	.0	.0	4.01	.0	-2	-.039	.0784	-.042	.0770	-.058	.0023	.0010	-.0003
	-	45.0	0	0	.0	.0	4.01	.0	0	.015	.0848	.015	.0848	-.068	.0030	.0008	-.0006
	-	45.0	0	0	.0	.0	4.01	.0	2	.081	.0925	.084	.0896	-.080	.0031	.0002	-.0007
	-	45.0	0	0	.0	.0	4.01	.0	4	.147	.1046	.154	.0940	-.094	.0031	-.0007	-.0007
	-	45.0	0	0	.0	.0	4.01	.0	8	.283	.1462	.300	.1054	-.116	.0019	-.0010	-.0007
	-	45.0	0	0	.0	.0	4.01	.0	12	.427	.2131	.462	.1195	-.145	.0012	-.0009	-.0010
	-	45.0	0	0	.0	.0	4.01	.0	16	.577	.3081	.640	.1369	-.187	.0007	-.0002	-.0013
	-	45.0	0	0	.0	.0	4.01	.0	20	.760	.4412	.865	.1545	-.248	.0059	-.0014	-.0015
	-	45.0	0	0	.0	.0	4.01	1.0	-4	-.102	.0766	-.107	.0692	-.047	-.0047	-.0034	.0004
	-	45.0	0	0	.0	.0	4.01	1.0	-2	-.038	.0783	-.041	.0769	-.056	-.0074	-.0024	.0004
	-	45.0	0	0	.0	.0	4.01	1.0	0	.024	.0826	.024	.0826	-.068	-.0073	-.0022	.0003
	-	45.0	0	0	.0	.0	4.01	1.0	2	.087	.0916	.090	.0884	-.080	-.0085	-.0013	-.0001
	-	45.0	0	0	.0	.0	4.01	1.0	4	.152	.1040	.159	.0930	-.094	-.0098	-.0006	-.0003
	-	45.0	0	0	.0	.0	4.01	1.0	8	.286	.1450	.304	.1037	-.116	-.0128	.0003	-.0010
	-	45.0	0	0	.0	.0	4.01	1.0	12	.433	.2147	.468	.1200	-.145	-.0135	.0016	-.0015
	-	45.0	0	0	.0	.0	4.01	1.0	16	.589	.3106	.652	.1361	-.187	-.0169	.0015	-.0024
	-	45.0	0	0	.0	.0	4.01	1.0	20	.766	.4443	.872	.1553	-.250	-.0108	-.0002	-.0031
Upper and lower vertical tails off	-	-	0	0	.0	.0	2.98	-5.0	-4	-.168	.0425	-.170	.0307	.010	.0334	.0190	-.0044
	-	-	0	0	.0	.0	2.98	-5.0	-2	-.089	.0354	-.090	.0323	.001	.0331	.0202	-.0034
	-	-	0	0	.0	.0	2.98	-5.0	0	-.016	.0336	-.016	.0336	-.011	.0327	.0210	-.0028
	-	-	0	0	.0	.0	2.98	-5.0	2	.063	.0371	.065	.0349	-.030	.0339	.0210	-.0020
	-	-	0	0	.0	.0	2.98	-5.0	4	.142	.0459	.145	.0358	-.044	.0366	.0229	-.0012
	-	-	0	0	.0	.0	2.98	-5.0	8	.300	.0784	.308	.0358	-.072	.0421	.0240	.0009
	-	-	0	0	.0	.0	2.98	-5.0	12	.469	.1379	.487	.0374	-.098	.0446	.0254	.0046
	-	-	0	0	.0	.0	2.98	-5.0	16	.639	.2251	.676	.0401	-.131	.0502	.0249	.0080
	-	-	0	0	.0	.0	2.98	-5.0	20	.814	.3346	.879	.0359	-.159	.0563	.0247	.0106
	-	-	0	0	.0	.0	2.98	-3.0	-4	-.160	.0405	-.162	.0292	.011	.0189	.0115	-.0030
	-	-	0	0	.0	.0	2.98	-3.0	-2	-.077	.0343	-.078	.0316	.003	.0180	.0122	-.0023
	-	-	0	0	.0	.0	2.98	-3.0	0	.001	.0335	.001	.0335	-.011	.0176	.0130	-.0017
	-	-	0	0	.0	.0	2.98	-3.0	2	.081	.0375	.082	.0347	-.026	.0188	.0136	-.0012
	-	-	0	0	.0	.0	2.98	-3.0	4	.156	.0470	.159	.0360	-.041	.0205	.0144	-.0007
	-	-	0	0	.0	.0	2.98	-3.0	8	.321	.0817	.330	.0361	-.073	.0238	.0145	.0008
	-	-	0	0	.0	.0	2.98	-3.0	12	.498	.1437	.517	.0370	-.099	.0262	.0155	.0029
	-	-	0	0	.0	.0	2.98	-3.0	16	.667	.2298	.704	.0369	-.122	.0276	.0149	.0050
	-	-	0	0	.0	.0	2.98	-3.0	20	.850	.3500	.918	.0380	-.152	.0322	.0140	.0070
	-	-	0	0	.0	.0	2.98	.0	-4	-.130	.0344	-.132	.0252	.017	.0014	.0009	-.0007
	-	-	0	0	.0	.0	2.98	.0	-2	-.052	.0308	-.053	.0290	.006	.0010	.0007	-.0006
	-	-	0	0	.0	.0	2.98	.0	0	.023	.0303	.023	.0303	-.006	.0011	.0007	-.0005
	-	-	0	0	.0	.0	2.98	.0	2	.105	.0350	.106	.0313	-.024	.0007	.0005	-.0005
	-	-	0	0	.0	.0	2.98	.0	4	.186	.0461	.189	.0330	-.041	.0009	.0005	-.0006
	-	-	0	0	.0	.0	2.98	.0	8	.355	.0840	.363	.0337	-.072	.0002	.0002	-.0006
	-	-	0	0	.0	.0	2.98	.0	12	.530	.1486	.549	.0352	-.098	.0010	-.0002	-.0006
	-	-	0	0	.0	.0	2.98	.0	16	.689	.2355	.727	.0363	-.120	.0004	-.0004	-.0006
	-	-	0	0	.0	.0	2.98	.0	20	.862	.3544	.931	.0380	-.153	.0013	-.0004	.0000
	-	-	0	0	.0	.0	4.01	-5.0	-4	-.144	.0373	-.146	.0271	-.003	.0386	.0200	-.0040
	-	-	0	0	.0	.0	4.01	-5.0	-2	-.077	.0311	-.078	.0284	-.006	.0393	.0210	-.0028
	-	-	0	0	.0	.0	4.01	-5.0	0	-.015	.0296	-.015	.0296	-.011	.0393	.0216	-.0021
	-	-	0	0	.0	.0	4.01	-5.0	2	.050	.0329	.051	.0312	-.019	.0413	.0221	-.0010
	-	-	0	0	.0	.0	4.01	-5.0	4	.118	.0398	.120	.0315	-.027	.0437	.0220	-.0001
	-	-	0	0	.0	.0	4.01	-5.0	8	.252	.0685	.259	.0327	-.041	.0491	.0223	.0030
	-	-	0	0	.0	.0	4.01	-5.0	12	.400	.1218	.416	.0357	-.057	.0530	.0232	.0055
	-	-	0	0	.0	.0	4.01	-5.0	16	.556	.1995	.590	.0383	-.081	.0600	.0231	.0081
	-	-	0	0	.0	.0	4.01	-5.0	20	.731	.3083	.793	.0394	-.116	.0674	.0232	.0101
	-	-	0	0	.0	.0	4.01	-3.0	-4	-.134	.0379	-.136	.0284	-.001	.0221	.0125	-.0028
	-	-	0	0	.0	.0	4.01	-3.0	-2	-.065	.0320	-.066	.0297	-.004	.0214	.0130	-.0017
	-	-	0	0	.0	.0	4.01	-3.0	0	-.001	.0302	-.001	.0302	-.010	.0218	.0130	-.0011
	-	-	0	0	.0	.0	4.01	-3.0	2	.055	.0324	.056	.0305	-.017	.0226	.0130	-.0006
	-	-	0	0	.0	.0	4.01	-3.0	4	.123	.0399	.126	.0312	-.028	.0246	.0136	.0002
	-	-	0	0	.0	.0	4.01	-3.0	8	.258	.0690	.265	.0323	-.044	.0284	.0133	.0019
	-	-	0	0	.0	.0	4.01	-3.0	12	.402	.1218	.419	.0354	-.061	.0323	.0135	.0035
	-	-	0	0	.0	.0	4.01	-3.0	16	.559	.2001	.593	.0380	-.086	.0358	.0137	.0050
	-	-	0	0	.0	.0	4.01	-3.0	20	.737	.3097	.798	.0389	-.126	.0400	.0138	.0061
	-	-	0	0	.0	.0	4.01	.0	-4	-.127	.0330	-.129	.0241	.002	.0008	.0009	-.0001
	-	-	0	0	.0	.0	4.01	.0	-2	-.062	.0296	-.063	.0274	-.001	.0009	.0012	-.0001
	-	-	0	0	.0	.0	4.01	.0	0	-.000	.0286	-.000	.0286	-.009	.0014	.0018	-.0002
	-	-	0	0	.0	.0	4.01	.0	2	.064	.0315	.066	.0292	-.016	.0015	.0015	-.0003
	-	-	0	0	.0	.0	4.01	.0	4	.135	.0395	.138	.0299	-.029	.0016	.0006	-.0004
	-	-	0	0	.0	.0	4.01	.0	8	.267	.0691	.274	.0312	-.044	.0005	-.0003	-.0004
	-	-	0	0	.0	.0	4.01	.0	12	.420	.1247	.437	.0346	-.060	.0007	.0000	-.0005
	-	-	0	0	.0	.0	4.01	.0	16	.577	.2050	.611	.0378	-.088	.0020	.0009	-.0009
	-	-	0	0	.0	.0	4.01	.0	20	.751	.3161	.814	.0401	-.129	.0029	.0007	-.0010

TABLE III.- Continued

CONFIGURATION 2 WITH HORIZONTAL TAIL 2a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β, deg	α, deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Horizontal tail off	5.0	7.5	0	0	.0	.0	2.98	.0	-4	-.123	.0425	-.126	.0338	-.014	.0031	.0002	-.0005
	5.0	7.5	0	0	.0	.0	2.98	.0	-2	-.055	.0395	-.057	.0376	-.011	.0021	.0004	-.0005
	5.0	7.5	0	0	.0	.0	2.98	.0	0	.006	.0390	.006	.0390	-.006	.0026	.0002	-.0002
	5.0	7.5	0	0	.0	.0	2.98	.0	2	.075	.0439	.076	.0413	-.002	.0021	.0002	-.0002
	5.0	7.5	0	0	.0	.0	2.98	.0	4	.140	.0528	.143	.0429	.000	.0016	.0003	-.0006
	5.0	7.5	0	0	.0	.0	2.98	.0	8	.282	.0833	.291	.0432	.008	.0007	.0003	-.0005
	5.0	7.5	0	0	.0	.0	2.98	.0	12	.432	.1379	.452	.0449	.012	.0007	.0001	-.0005
	5.0	7.5	0	0	.0	.0	2.98	.0	16	.580	.2108	.611	.0426	.018	.0003	.0001	-.0005
	5.0	7.5	0	0	.0	.0	2.98	.0	20	.735	.3173	.800	.0465	.020	-.0001	-.0002	-.0006
	5.0	7.5	0	0	.0	.0	4.01	.0	-4	-.117	.0403	-.120	.0320	-.024	-.0013	.0005	-.0004
	5.0	7.5	0	0	.0	.0	4.01	.0	-2	-.058	.0364	-.060	.0343	-.016	-.0013	.0013	-.0004
	5.0	7.5	0	0	.0	.0	4.01	.0	0	-.006	.0360	-.006	.0360	-.008	-.0004	.0016	-.0006
	5.0	7.5	0	0	.0	.0	4.01	.0	2	.046	.0381	.048	.0365	-.000	-.0013	.0014	-.0008
	5.0	7.5	0	0	.0	.0	4.01	.0	4	.102	.0440	.105	.0367	.005	-.0023	.0010	-.0009
	5.0	7.5	0	0	.0	.0	4.01	.0	8	.230	.0711	.238	.0383	.016	-.0027	.0001	-.0012
	5.0	7.5	0	0	.0	.0	4.01	.0	12	.363	.1198	.380	.0415	.024	-.0031	.0007	-.0014
	5.0	7.5	0	0	.0	.0	4.01	.0	16	.507	.1925	.540	.0451	.027	-.0021	.0010	-.0016
	5.0	7.5	0	0	.0	.0	4.01	.0	20	.665	.2931	.725	.0479	.024	-.0006	.0008	-.0023
	20.0	20.0	0	0	.0	.0	2.98	.0	-4	-.125	.0733	-.130	.0643	-.000	.0061	-.0013	.0002
	20.0	20.0	0	0	.0	.0	2.98	.0	-2	-.057	.0695	-.060	.0675	.001	.0046	-.0013	.0002
	20.0	20.0	0	0	.0	.0	2.98	.0	0	.006	.0689	.006	.0689	.003	.0046	-.0011	.0000
	20.0	20.0	0	0	.0	.0	2.98	.0	2	.071	.0729	.073	.0704	.006	.0036	-.0009	-.0003
	20.0	20.0	0	0	.0	.0	2.98	.0	4	.135	.0811	.140	.0715	.007	.0026	-.0006	-.0004
	20.0	20.0	0	0	.0	.0	2.98	.0	8	.275	.1110	.288	.0716	.013	.0021	-.0007	-.0005
	20.0	20.0	0	0	.0	.0	2.98	.0	12	.425	.1628	.450	.0707	.016	.0026	-.0008	-.0005
	20.0	20.0	0	0	.0	.0	2.98	.0	16	.572	.2349	.615	.0679	.017	.0022	-.0008	-.0003
	20.0	20.0	0	0	.0	.0	2.98	.0	20	.729	.3353	.800	.0656	.015	.0023	-.0010	-.0002
	20.0	20.0	0	0	.0	.0	4.01	-5.0	-4	-.119	.0716	-.124	.0630	-.005	.1008	-.0198	.0077
	20.0	20.0	0	0	.0	.0	4.01	-5.0	0	-.007	.0624	-.007	.0624	.005	.1046	-.0199	.0086
	20.0	20.0	0	0	.0	.0	4.01	-5.0	4	.098	.0688	.102	.0617	.014	.1088	-.0198	.0096
	20.0	20.0	0	0	.0	.0	4.01	-5.0	8	.213	.0925	.224	.0619	.022	.1113	-.0181	.0105
	20.0	20.0	0	0	.0	.0	4.01	-5.0	12	.336	.1352	.357	.0622	.028	.1110	-.0149	.0107
	20.0	20.0	0	0	.0	.0	4.01	-5.0	20	.628	.2969	.692	.0639	.025	.1142	-.0081	.0102
	20.0	20.0	0	0	.0	.0	4.01	.0	-4	-.104	.0647	-.108	.0572	-.010	.0038	-.0005	.0005
	20.0	20.0	0	0	.0	.0	4.01	.0	-2	-.052	.0616	-.054	.0598	-.003	.0033	.0002	.0002
	20.0	20.0	0	0	.0	.0	4.01	.0	0	-.000	.0606	-.000	.0606	.001	.0032	.0008	-.0001
	20.0	20.0	0	0	.0	.0	4.01	.0	2	.057	.0628	.059	.0608	.008	.0023	.0009	-.0005
	20.0	20.0	0	0	.0	.0	4.01	.0	4	.112	.0697	.117	.0616	.014	.0023	.0004	-.0006
	20.0	20.0	0	0	.0	.0	4.01	.0	8	.226	.0945	.237	.0621	.020	.0004	-.0001	-.0008
	20.0	20.0	0	0	.0	.0	4.01	.0	12	.358	.1420	.379	.0644	.028	-.0001	.0004	-.0009
	20.0	20.0	0	0	.0	.0	4.01	.0	16	.495	.2097	.533	.0651	.026	.0000	.0009	-.0013
	20.0	20.0	0	0	.0	.0	4.01	.0	20	.650	.3081	.716	.0670	.018	.0025	.0008	-.0019
	30.0	30.0	0	0	.0	.0	2.98	.0	-4	-.128	.1136	-.136	.1043	.010	.0057	-.0018	.0000
	30.0	30.0	0	0	.0	.0	2.98	.0	-2	-.064	.1097	-.068	.1074	.013	.0041	-.0013	-.0002
	30.0	30.0	0	0	.0	.0	2.98	.0	0	-.003	.1080	-.003	.1080	.013	.0036	-.0009	-.0004
	30.0	30.0	0	0	.0	.0	2.98	.0	2	.064	.1118	.068	.1095	.015	.0030	-.0007	-.0003
	30.0	30.0	0	0	.0	.0	2.98	.0	4	.124	.1195	.132	.1105	.016	.0025	-.0005	-.0007
	30.0	30.0	0	0	.0	.0	2.98	.0	8	.258	.1479	.276	.1106	.017	.0014	-.0005	-.0006
	30.0	30.0	0	0	.0	.0	2.98	.0	12	.392	.1931	.424	.1072	.016	.0025	-.0011	-.0006
	30.0	30.0	0	0	.0	.0	2.98	.0	16	.536	.2592	.587	.1013	.012	.0020	-.0013	-.0004
	30.0	30.0	0	0	.0	.0	2.98	.0	20	.678	.3421	.755	.0893	.018	.0158	-.0096	.0008
	30.0	30.0	0	0	.0	.0	4.01	.0	-4	-.101	.1127	-.109	.1053	.003	.0042	-.0003	-.0001
	30.0	30.0	0	0	.0	.0	4.01	.0	-2	-.050	.1077	-.054	.1058	.007	.0046	-.0001	-.0002
	30.0	30.0	0	0	.0	.0	4.01	.0	0	.002	.1064	.002	.1064	.012	.0041	.0006	-.0003
	30.0	30.0	0	0	.0	.0	4.01	.0	2	.056	.1108	.060	.1087	.015	.0031	.0009	-.0008
	30.0	30.0	0	0	.0	.0	4.01	.0	4	.106	.1171	.114	.1093	.022	.0021	.0007	-.0012
	30.0	30.0	0	0	.0	.0	4.01	.0	8	.224	.1425	.241	.1099	.026	-.0003	.0005	-.0011
	30.0	30.0	0	0	.0	.0	4.01	.0	12	.353	.1877	.385	.1100	.026	-.0003	.0007	-.0013
	30.0	30.0	0	0	.0	.0	4.01	.0	16	.494	.2505	.544	.1045	.017	.0003	.0014	-.0016
	30.0	30.0	0	0	.0	.0	4.01	.0	20	.646	.3438	.724	.1021	.001	.0023	.0010	-.0024
	30.0	45.0	0	0	.0	.0	2.98	.0	-4	-.114	.1413	-.123	.1330	-.015	.0064	-.0019	-.0001
	30.0	45.0	0	0	.0	.0	2.98	.0	-2	-.049	.1407	-.053	.1389	-.011	.0053	-.0016	-.0002
	30.0	45.0	0	0	.0	.0	2.98	.0	0	.013	.1420	.013	.1420	-.012	.0048	-.0012	-.0002
	30.0	45.0	0	0	.0	.0	2.98	.0	2	.075	.1470	.080	.1443	-.012	.0037	-.0009	-.0005
	30.0	45.0	0	0	.0	.0	2.98	.0	4	.137	.1572	.147	.1472	-.011	.0021	-.0005	-.0006
	30.0	45.0	0	0	.0	.0	2.98	.0	8	.272	.1905	.295	.1507	-.012	.0020	-.0004	-.0009
	30.0	45.0	0	0	.0	.0	2.98	.0	12	.419	.2424	.460	.1499	-.015	.0009	-.0007	-.0010
	30.0	45.0	0	0	.0	.0	2.98	.0	16	.566	.3160	.631	.1477	-.019	.0009	-.0011	-.0007
	30.0	45.0	0	0	.0	.0	2.98	.0	20	.706	.4080	.803	.1418	-.020	.0143	-.0087	.0007
	30.0	45.0	0	0	.0	.0	4.01	-5.0	-4	-.105	.1341	-.114	.1265	-.011	.1157	-.0306	.0102
	30.0	45.0	0	0	.0	.0	4.01	-5.0	0	.002	.1321	.002	.1321	-.009	.1201	-.0320	.0113
	30.0	45.0	0	0	.0	.0	4.01	-5.0	4	.109	.1439	.118	.1359	-.009	.1287	-.0350	.0124
	30.0	45.0	0	0	.0	.0	4.01	-5.0	8	.217	.1707	.239	.1387	-.006	.1321	-.0345	.0128
	30.0	45.0	0	0	.0	.0	4.01	-5.0	12	.340	.2192	.378	.1436	-.013	.1289	-.0298	.0124
	30.0	45.0	0	0	.0	.0	4.01	-5.0	20	.625	.3886	.720	.1514	-.043	.1264	-.0180	.0094
	30.0	45.0	0	0	.0	.0	4.01	.0	-4	-.090	.1365	-.099	.1299	-.020	.0017	-.0004	.0003
	30.0	45.0	0	0	.0	.0	4.01	.0	-2	-.037	.1347	-.042	.1333	-.018	.0016	.0001	-.0001
	30.0	45.0	0	0	.0	.0	4.01	.0	0	.014	.1377	.014	.1377	-.017	.0016	.0007	-.0003
	30.0	45.0	0	0	.0	.0	4.01	.0	2	.064	.1434	.069	.1411	-.011	.0010	.0007	-.0007
	30.0	45.0	0	0	.0	.0	4.01	.0	4	.119	.1542	.129	.1455	-.007	.0000	.0007	-.0010
	30.0	45.0	0	0	.0	.0	4.01	.0	8	.230	.1860	.254	.1521	-.006	-.0015	.0000	-.0010
	30.0	45.0	0	0	.0	.0	4.01	.0	12	.357	.2369	.398	.1575	-.011	-.0025	.0009	-.0011
	30.0	45.0	0	0	.0	.0	4.01	.0	16	.497	.3092	.562	.1602	-.026	-.0015	.0015	-.0015
	30.0	45.0	0	0	.0	.0	4.01	.0	20	.643	.4097	.744	.1650	-.049	.0004	.0006	-.0024

TABLE III.- Continued

CONFIGURATION 2 WITH HORIZONTAL TAIL 2a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β, deg	α, deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Vertical and horizontal tails off	-	-	0	0	.0	.0	2.98	-5.0	-4	-.131	.0396	-.134	.0303	-.015	.0305	.0214	-.0014
	-	-	0	0	.0	.0	2.98	-5.0	-2	-.062	.0319	-.063	.0297	-.006	.0306	.0223	-.0011
	-	-	0	0	.0	.0	2.98	-5.0	0	-.005	.0313	-.005	.0313	-.000	.0305	.0233	-.0010
	-	-	0	0	.0	.0	2.98	-5.0	2	.063	.0342	.064	.0320	.005	.0326	.0240	-.0005
	-	-	0	0	.0	.0	2.98	-5.0	4	.129	.0419	.132	.0327	.011	.0358	.0244	-.0002
	-	-	0	0	.0	.0	2.98	-5.0	8	.268	.0711	.275	.0331	.023	.0412	.0251	.0020
	-	-	0	0	.0	.0	2.98	-5.0	12	.411	.1223	.428	.0340	.031	.0439	.0258	.0042
	-	-	0	0	.0	.0	2.98	-5.0	16	.556	.1971	.589	.0360	.036	.0504	.0250	.0072
	-	-	0	0	.0	.0	2.98	-5.0	20	.705	.2945	.763	.0356	.045	.0563	.0249	.0095
	-	-	0	0	.0	.0	2.98	-3.0	-4	-.127	.0372	-.129	.0282	-.011	.0176	.0134	-.0010
	-	-	0	0	.0	.0	2.98	-3.0	-2	-.061	.0311	-.062	.0290	-.003	.0171	.0136	-.0009
	-	-	0	0	.0	.0	2.98	-3.0	0	.005	.0302	.005	.0302	.002	.0171	.0146	-.0007
	-	-	0	0	.0	.0	2.98	-3.0	2	.074	.0345	.076	.0319	.004	.0186	.0146	-.0004
	-	-	0	0	.0	.0	2.98	-3.0	4	.137	.0422	.139	.0325	.011	.0207	.0152	-.0001
	-	-	0	0	.0	.0	2.98	-3.0	8	.277	.0720	.284	.0327	.020	.0239	.0155	.0013
	-	-	0	0	.0	.0	2.98	-3.0	12	.423	.1242	.439	.0335	.030	.0265	.0161	.0025
	-	-	0	0	.0	.0	2.98	-3.0	16	.570	.1990	.603	.0341	.036	.0281	.0157	.0045
	-	-	0	0	.0	.0	2.98	-3.0	20	.724	.3006	.783	.0348	.047	.0330	.0146	.0062
	-	-	0	0	.0	.0	2.98	.0	-4	-.139	.0323	-.141	.0225	-.013	.0021	.0011	-.0005
	-	-	0	0	.0	.0	2.98	.0	-2	-.069	.0283	-.070	.0259	-.008	.0016	.0009	-.0005
	-	-	0	0	.0	.0	2.98	.0	0	-.003	.0271	-.003	.0271	-.002	.0016	.0009	-.0005
	-	-	0	0	.0	.0	2.98	.0	2	.065	.0305	.067	.0282	.003	.0011	.0007	-.0005
	-	-	0	0	.0	.0	2.98	.0	4	.131	.0396	.134	.0303	.005	.0011	.0006	-.0005
	-	-	0	0	.0	.0	2.98	.0	8	.268	.0692	.275	.0311	.018	.0006	.0007	-.0004
	-	-	0	0	.0	.0	2.98	.0	12	.425	.1233	.441	.0322	.026	.0012	.0005	-.0003
	-	-	0	0	.0	.0	2.98	.0	16	.575	.2001	.608	.0337	.036	.0003	.0004	-.0003
	-	-	0	0	.0	.0	2.98	.0	20	.726	.3031	.786	.0363	.045	.0004	.0005	-.0003
Wing off	20.0	20.0	0	0	.0	.0	2.98	.0	-4	-.069	.0662	-.073	.0612	.004	.0056	-.0015	.0001
	20.0	20.0	0	0	.0	.0	2.98	.0	-2	-.028	.0628	-.030	.0618	.000	.0056	-.0017	.0001
	20.0	20.0	0	0	.0	.0	2.98	.0	-2	-.028	.0637	-.030	.0627	.001	.0051	-.0015	.0000
	20.0	20.0	0	0	.0	.0	2.98	.0	0	.006	.0623	.006	.0623	-.003	.0057	-.0016	.0000
	20.0	20.0	0	0	.0	.0	2.98	.0	2	.047	.0661	.050	.0644	-.009	.0052	-.0014	.0000
	20.0	20.0	0	0	.0	.0	2.98	.0	4	.092	.0733	.097	.0667	-.016	.0043	-.0012	-.0001
	20.0	20.0	0	0	.0	.0	2.98	.0	8	.189	.0954	.201	.0681	-.025	.0033	-.0012	-.0001
	20.0	20.0	0	0	.0	.0	2.98	.0	12	.307	.1352	.328	.0684	-.037	.0029	-.0011	.0000
	20.0	20.0	0	0	.0	.0	2.98	.0	16	.426	.1919	.462	.0670	-.051	.0031	-.0016	-.0001
	20.0	20.0	0	0	.0	.0	2.98	.0	20	.548	.2655	.606	.0618	-.071	.0029	-.0017	-.0001
	20.0	20.0	0	0	.0	.0	4.01	.0	-4	-.071	.0586	-.075	.0535	-.000	.0037	-.0007	.0002
	20.0	20.0	0	0	.0	.0	4.01	.0	-2	-.031	.0553	-.033	.0542	-.001	.0032	.0000	.0002
	20.0	20.0	0	0	.0	.0	4.01	.0	0	.002	.0539	.002	.0539	-.002	.0033	.0005	.0003
	20.0	20.0	0	0	.0	.0	4.01	.0	2	.037	.0560	.039	.0547	-.002	.0028	.0002	.0001
	20.0	20.0	0	0	.0	.0	4.01	.0	4	.073	.0607	.077	.0554	-.002	.0024	-.0003	.0001
	20.0	20.0	0	0	.0	.0	4.01	.0	8	.165	.0818	.174	.0580	-.010	.0011	-.0008	.0001
	20.0	20.0	0	0	.0	.0	4.01	.0	12	.267	.1188	.286	.0606	-.021	.0003	-.0007	.0000
	20.0	20.0	0	0	.0	.0	4.01	.0	16	.374	.1704	.406	.0607	-.040	.0014	.0003	.0000
	20.0	20.0	0	0	.0	.0	4.01	.0	20	.494	.2425	.547	.0589	-.071	.0031	.0001	-.0003
Wing and horizontal tail off	20.0	20.0	0	0	.0	.0	2.98	.0	-4	-.036	.0614	-.041	.0587	-.043	.0060	-.0011	.0001
	20.0	20.0	0	0	.0	.0	2.98	.0	-2	-.015	.0593	-.017	.0588	-.021	.0043	-.0009	.0001
	20.0	20.0	0	0	.0	.0	2.98	.0	0	.003	.0581	.003	.0581	.000	.0041	-.0007	.0001
	20.0	20.0	0	0	.0	.0	2.98	.0	2	.021	.0608	.023	.0601	.021	.0030	-.0004	.0001
	20.0	20.0	0	0	.0	.0	2.98	.0	4	.042	.0641	.047	.0609	.041	.0023	-.0003	.0000
	20.0	20.0	0	0	.0	.0	2.98	.0	8	.121	.0813	.131	.0635	.064	.0022	-.0005	.0000
	20.0	20.0	0	0	.0	.0	2.98	.0	12	.215	.1112	.233	.0641	.088	.0010	-.0006	.0000
	20.0	20.0	0	0	.0	.0	2.98	.0	16	.316	.1572	.347	.0638	.112	-.0007	-.0013	-.0001
	20.0	20.0	0	0	.0	.0	2.98	.0	20	.414	.2126	.462	.0580	.134	.0014	-.0014	.0002
	20.0	20.0	0	0	.0	.0	4.01	.0	-4	-.047	.0525	-.051	.0491	-.039	.0039	-.0004	.0003
	20.0	20.0	0	0	.0	.0	4.01	.0	-2	-.013	.0502	-.015	.0497	-.023	.0034	.0001	.0002
	20.0	20.0	0	0	.0	.0	4.01	.0	0	.005	.0492	.005	.0492	-.001	.0033	.0006	.0003
	20.0	20.0	0	0	.0	.0	4.01	.0	2	.025	.0509	.027	.0500	.018	.0031	.0006	.0003
	20.0	20.0	0	0	.0	.0	4.01	.0	4	.053	.0548	.057	.0510	.034	.0021	.0003	.0002
	20.0	20.0	0	0	.0	.0	4.01	.0	8	.120	.0709	.129	.0534	.056	.0006	-.0006	.0002
	20.0	20.0	0	0	.0	.0	4.01	.0	12	.200	.1001	.216	.0563	.075	-.0004	-.0008	.0002
	20.0	20.0	0	0	.0	.0	4.01	.0	16	.288	.1408	.316	.0558	.094	.0004	.0008	-.0002
	20.0	20.0	0	0	.0	.0	4.01	.0	20	.383	.1982	.427	.0552	.109	.0017	.0005	-.0004

[redacted]

TABLE III. - Concluded

CONFIGURATION 2 WITH HORIZONTAL TAIL 2a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β, deg	α, deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Wing and horizontal and vertical tails off	-	-	0	0	.0	.0	2.98	-5.0	-4	-.048	.0264	-.050	.0229	-.046	.0289	.0224	-.0012
	-	-	0	0	.0	.0	2.98	-5.0	-2	-.018	.0238	-.019	.0232	-.025	.0297	.0228	-.0005
	-	-	0	0	.0	.0	2.98	-5.0	0	.000	.0232	.000	.0232	-.004	.0297	.0236	.0000
	-	-	0	0	.0	.0	2.98	-5.0	2	.020	.0238	.021	.0231	.016	.0317	.0243	.0005
	-	-	0	0	.0	.0	2.98	-5.0	4	.053	.0279	.054	.0241	.032	.0342	.0250	.0013
	-	-	0	0	.0	.0	2.98	-5.0	8	.124	.0424	.129	.0246	.059	.0347	.0269	.0014
	-	-	0	0	.0	.0	2.98	-5.0	12	.215	.0724	.225	.0261	.086	.0347	.0292	.0015
	-	-	0	0	.0	.0	2.98	-5.0	16	.310	.1192	.331	.0291	.113	.0378	.0287	.0017
	-	-	0	0	.0	.0	2.98	-5.0	20	.406	.1789	.443	.0291	.146	.0434	.0285	.0018
	-	-	0	0	.0	.0	2.98	-3.0	-4	-.043	.0253	-.045	.0221	-.048	.0158	.0138	-.0008
	-	-	0	0	.0	.0	2.98	-3.0	-2	-.007	.0214	-.008	.0211	-.024	.0173	.0138	-.0003
	-	-	0	0	.0	.0	2.98	-3.0	0	.008	.0220	.008	.0220	-.000	.0166	.0145	-.0001
	-	-	0	0	.0	.0	2.98	-3.0	2	.034	.0217	.035	.0205	.022	.0175	.0149	.0005
	-	-	0	0	.0	.0	2.98	-3.0	4	.060	.0258	.062	.0215	.036	.0190	.0157	.0007
	-	-	0	0	.0	.0	2.98	-3.0	8	.138	.0422	.143	.0225	.066	.0184	.0172	.0007
	-	-	0	0	.0	.0	2.98	-3.0	12	.234	.0746	.244	.0243	.092	.0194	.0179	.0008
	-	-	0	0	.0	.0	2.98	-3.0	16	.333	.1236	.354	.0269	.120	.0207	.0178	.0010
	-	-	0	0	.0	.0	2.98	-3.0	20	.419	.1795	.455	.0254	.167	.0262	.0153	.0009
	-	-	0	0	.0	.0	2.98	.0	-4	-.042	.0198	-.043	.0169	-.048	.0023	.0012	.0000
	-	-	0	0	.0	.0	2.98	.0	-2	-.012	.0174	-.013	.0170	-.026	.0017	.0010	.0000
	-	-	0	0	.0	.0	2.98	.0	0	.006	.0176	.006	.0176	.000	.0016	.0008	.0000
	-	-	0	0	.0	.0	2.98	.0	2	.029	.0205	.030	.0195	.023	.0014	.0010	.0001
	-	-	0	0	.0	.0	2.98	.0	4	.055	.0244	.057	.0204	.040	.0009	.0006	.0001
	-	-	0	0	.0	.0	2.98	.0	8	.136	.0413	.140	.0219	.068	.0008	.0004	.0001
	-	-	0	0	.0	.0	2.98	.0	12	.234	.0745	.244	.0242	.094	.0007	.0000	.0001
	-	-	0	0	.0	.0	2.98	.0	16	.331	.1219	.351	.0259	.126	.0001	-.0003	.0000
	-	-	0	0	.0	.0	2.98	.0	20	.424	.1846	.462	.0282	.159	-.0000	-.0001	.0000

[redacted]

TABLE IV

CONFIGURATION 2 WITH HORIZONTAL TAIL 2b

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β, deg	α, deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	20.0	20.0	0	0	.0	.0	2.98	-5.0	-4	-.172	.0960	-.178	.0838	.041	.1148	-.0325	.0061
	20.0	20.0	0	0	.0	.0	2.98	-5.0	-2	-.088	.0867	-.091	.0835	.022	.1113	-.0300	.0069
	20.0	20.0	0	0	.0	.0	2.98	-5.0	0	-.003	.0847	-.003	.0847	-.000	.1093	-.0272	.0076
	20.0	20.0	0	0	.0	.0	2.98	-5.0	2	.080	.0882	.083	.0853	-.028	.1095	-.0249	.0081
	20.0	20.0	0	0	.0	.0	2.98	-5.0	4	.165	.0969	.171	.0852	-.055	.1087	-.0224	.0081
	20.0	20.0	0	0	.0	.0	2.98	-5.0	8	.338	.1319	.353	.0835	-.105	.1086	-.0186	.0088
	20.0	20.0	0	0	.0	.0	2.98	-5.0	12	.519	.1964	.548	.0841	-.156	.1070	-.0150	.0115
	20.0	20.0	0	0	.0	.0	2.98	-5.0	16	.695	.2879	.747	.0850	-.203	.1034	-.0099	.0127
	20.0	20.0	0	0	.0	.0	2.98	-5.0	20	.884	.4067	.970	.0797	-.265	.1031	-.0050	.0130
	20.0	20.0	0	0	.0	.0	2.98	-3.0	-4	-.167	.0941	-.173	.0822	.037	.0707	-.0208	.0034
	20.0	20.0	0	0	.0	.0	2.98	-3.0	-2	-.079	.0856	-.082	.0827	.018	.0675	-.0189	.0040
	20.0	20.0	0	0	.0	.0	2.98	-3.0	0	-.002	.0839	-.002	.0839	-.005	.0658	-.0168	.0045
	20.0	20.0	0	0	.0	.0	2.98	-3.0	2	.081	.0867	.084	.0837	-.033	.0653	-.0153	.0048
	20.0	20.0	0	0	.0	.0	2.98	-3.0	4	.165	.0950	.171	.0832	-.061	.0661	-.0138	.0052
	20.0	20.0	0	0	.0	.0	2.98	-3.0	8	.341	.1318	.356	.0830	-.116	.0630	-.0098	.0056
	20.0	20.0	0	0	.0	.0	2.98	-3.0	12	.521	.1964	.550	.0838	-.163	.0624	-.0072	.0069
	20.0	20.0	0	0	.0	.0	2.98	-3.0	16	.699	.2871	.751	.0832	-.211	.0583	-.0028	.0075
	20.0	20.0	0	0	.0	.0	2.98	-3.0	20	.887	.4070	.972	.0791	-.272	.0580	-.0019	.0085
	20.0	20.0	0	0	.0	.0	2.98	.0	-4	-.161	.0876	-.166	.0762	.030	.0069	-.0021	-.0003
	20.0	20.0	0	0	.0	.0	2.98	.0	-2	-.083	.0823	-.086	.0793	.013	.0055	-.0017	-.0001
	20.0	20.0	0	0	.0	.0	2.98	.0	0	-.003	.0807	-.003	.0807	-.011	.0057	-.0014	.0000
	20.0	20.0	0	0	.0	.0	2.98	.0	2	.083	.0849	.086	.0819	-.038	.0039	-.0009	.0000
	20.0	20.0	0	0	.0	.0	2.98	.0	4	.164	.0946	.170	.0830	-.067	.0036	-.0009	.0000
	20.0	20.0	0	0	.0	.0	2.98	.0	8	.342	.1327	.357	.0838	-.124	.0036	-.0008	.0001
	20.0	20.0	0	0	.0	.0	2.98	.0	12	.524	.1979	.554	.0846	-.171	.0025	-.0009	-.0001
	20.0	20.0	0	0	.0	.0	2.98	.0	16	.705	.2889	.757	.0829	-.219	.0025	-.0012	-.0001
	20.0	20.0	0	0	.0	.0	2.98	.0	20	.894	.4143	.982	.0834	-.274	.0031	-.0015	.0000
	20.0	20.0	0	0	.0	.0	2.98	1.0	-4	-.147	.0896	-.153	.0791	.034	-.0133	.0035	-.0013
	20.0	20.0	0	0	.0	.0	2.98	1.0	-2	-.068	.0851	-.071	.0826	.017	-.0153	.0038	-.0013
	20.0	20.0	0	0	.0	.0	2.98	1.0	0	.014	.0832	.014	.0832	-.007	-.0150	.0036	-.0015
	20.0	20.0	0	0	.0	.0	2.98	1.0	2	.096	.0877	.099	.0842	-.035	-.0143	.0030	-.0015
	20.0	20.0	0	0	.0	.0	2.98	1.0	4	.181	.0968	.187	.0840	-.061	-.0146	.0028	-.0016
	20.0	20.0	0	0	.0	.0	2.98	1.0	8	.354	.1354	.369	.0848	-.114	-.0156	.0019	-.0018
	20.0	20.0	0	0	.0	.0	2.98	1.0	12	.541	.2017	.571	.0847	-.164	-.0158	.0008	-.0021
	20.0	20.0	0	0	.0	.0	2.98	1.0	16	.720	.2925	.772	.0827	-.213	-.0152	-.0004	-.0026
	20.0	20.0	0	0	.0	.0	2.98	1.0	20	.907	.4186	.996	.0829	-.270	-.0140	-.0007	-.0026
	20.0	20.0	0	0	.0	.0	4.01	.0	-4	-.134	.0757	-.139	.0662	.025	.0040	-.0006	.0002
	20.0	20.0	0	0	.0	.0	4.01	.0	-2	-.061	.0712	-.063	.0691	.007	.0041	.0002	.0002
	20.0	20.0	0	0	.0	.0	4.01	.0	0	.005	.0702	.005	.0702	-.008	.0038	.0008	.0001
	20.0	20.0	0	0	.0	.0	4.01	.0	2	.075	.0734	.078	.0708	-.027	.0035	.0007	-.0002
	20.0	20.0	0	0	.0	.0	4.01	.0	4	.145	.0813	.150	.0710	-.047	.0027	.0002	-.0004
	20.0	20.0	0	0	.0	.0	4.01	.0	8	.292	.1154	.305	.0736	-.084	.0012	-.0003	-.0003
	20.0	20.0	0	0	.0	.0	4.01	.0	12	.448	.1748	.474	.0778	-.122	.0011	.0000	-.0004
	20.0	20.0	0	0	.0	.0	4.01	.0	16	.620	.2616	.668	.0805	-.176	.0016	.0008	-.0010
	20.0	20.0	0	0	.0	.0	4.01	.0	20	.808	.3837	.891	.0840	-.250	.0042	.0004	-.0010

[redacted]

TABLE V

CONFIGURATION 3 WITH VERTICAL TAILS 3a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β, deg	α, deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	5.0	5.0	0	0	.0	.0	2.98	-5.0	-2			-.085		.016	.1070	-.0283	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	0			-.004		-.004	.1081	-.0276	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	2			.086		-.031	.1098	-.0261	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	4			.171		-.055	.1126	-.0251	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	8			.343		-.105	.1221	-.0227	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	12			.521		-.151	.1316	-.0224	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	16			.699		-.195	.1443	-.0246	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	20	.836	.3450	.904	.0381	-.249	.1398	-.0248	.0040
	5.0	5.0	0	0	.0	.0	2.98	-5.0	20			.901		-.246	.1522	-.0282	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	-4	-.144	.0567	-.147	.0466	.028	.0645	-.0178	-.0003
	5.0	5.0	0	0	.0	.0	2.98	-3.0	-2			-.076		.012	.0636	-.0174	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	0	.021	.0474	.021	.0474	-.009	.0627	-.0160	-.0005
	5.0	5.0	0	0	.0	.0	2.98	-3.0	0			.004		-.007	.0641	-.0168	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	2			.088		-.032	.0628	-.0160	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	4	.173	.0595	.177	.0473	-.054	.0615	-.0137	-.0009
	5.0	5.0	0	0	.0	.0	2.98	-3.0	4			.173		-.057	.0629	-.0139	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	8			.346		-.109	.0665	-.0116	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	12	.500	.1537	.521	.0462	-.150	.0701	-.0101	-.0002
	5.0	5.0	0	0	.0	.0	2.98	-3.0	12			.525		-.153	.0741	-.0111	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	16			.706		-.199	.0797	-.0116	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	20	.837	.3482	.906	.0407	-.247	.0771	-.0130	.0035
	5.0	5.0	0	0	.0	.0	2.98	-3.0	20			.918		-.249	.0881	-.0170	
	5.0	5.0	0	0	.0	.0	2.98	.0	-4	-.142	.0552	-.145	.0452	.026	.0050	-.0018	-.0005
	5.0	5.0	0	0	.0	.0	2.98	.0	-2			-.074		.011	.0016	-.0006	
	5.0	5.0	0	0	.0	.0	2.98	.0	0	.013	.0464	.013	.0464	-.009	.0006	-.0006	-.0003
	5.0	5.0	0	0	.0	.0	2.98	.0	0			.013		-.011	.0007	-.0004	
	5.0	5.0	0	0	.0	.0	2.98	.0	2			.091		-.032	-.0024	.0001	
	5.0	5.0	0	0	.0	.0	2.98	.0	4	.171	.0591	.175	.0470	-.056	-.0032	.0003	.0000
	5.0	5.0	0	0	.0	.0	2.98	.0	4			.175		-.059	-.0028	-.0001	
	5.0	5.0	0	0	.0	.0	2.98	.0	8			.344		-.111	-.0030	.0002	
	5.0	5.0	0	0	.0	.0	2.98	.0	12	.491	.1510	.512	.0455	-.152	-.0043	.0010	.0007
	5.0	5.0	0	0	.0	.0	2.98	.0	12			.522		-.157	-.0041	.0004	
	5.0	5.0	0	0	.0	.0	2.98	.0	16			.704		-.202	-.0032	.0008	
	5.0	5.0	0	0	.0	.0	2.98	.0	20	.832	.3458	.900	.0403	-.254	-.0125	.0026	.0009
	5.0	5.0	0	0	.0	.0	2.98	.0	20			.915		-.257	-.0024	.0007	
	5.0	5.0	0	0	.0	.0	2.98	.0	24	.017	.4816	1.125	.0261	-.319	-.0081	.0020	.0014
	5.0	5.0	0	0	.0	.0	2.98	.0	24			1.164		-.331	-.0008	.0006	
	5.0	5.0	0	0	.0	.0	2.98	1.0	-2			-.073		.010	-.0190	.0047	
	5.0	5.0	0	0	.0	.0	2.98	1.0	0	.004	.0475	.004	.0475	-.007	-.0169	.0041	.0000
	5.0	5.0	0	0	.0	.0	2.98	1.0	0			.017		-.010	-.0189	.0045	
	5.0	5.0	0	0	.0	.0	2.98	1.0	2			.095		-.032	-.0199	.0040	
	5.0	5.0	0	0	.0	.0	2.98	1.0	4	.168	.0596	.172	.0478	-.057	-.0211	.0042	.0003
	5.0	5.0	0	0	.0	.0	2.98	1.0	4			.175		-.058	-.0207	.0039	
	5.0	5.0	0	0	.0	.0	2.98	1.0	8			.347		-.110	-.0235	.0033	
	5.0	5.0	0	0	.0	.0	2.98	1.0	12	.492	.1528	.513	.0472	-.153	-.0260	.0035	.0009
	5.0	5.0	0	0	.0	.0	2.98	1.0	12			.532		-.158	-.0231	.0028	
	5.0	5.0	0	0	.0	.0	2.98	1.0	16			.721		-.206	-.0252	.0032	
	5.0	5.0	0	0	.0	.0	2.98	1.0	20	.827	.3496	.897	.0453	-.250	-.0321	.0060	.0004
	5.0	5.0	0	0	.0	.0	2.98	1.0	20			.910		-.254	-.0282	.0055	
	5.0	5.0	0	0	.0	.0	2.98	1.0	24	.008	.4790	1.116	.0273	-.311	-.0267	.0017	.0006
	5.0	5.0	0	0	.0	.0	2.98	1.0	24			1.165		-.321	-.0116	-.0040	

[redacted]

TABLE V. - Continued

CONFIGURATION 3 WITH VERTICAL TAILS 3a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β, deg	α, deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Upper and lower vertical tails off	-	-	0	0	.0	.0	2.98	-5.0	-2					-.027	.0226	.0225	
	-	-	0	0	.0	.0	2.98	-5.0	0			.000		-.005	.0330	.0218	
	-	-	0	0	.0	.0	2.98	-5.0	2			.089		-.028	.0373	.0228	
	-	-	0	0	.0	.0	2.98	-5.0	4			.167		-.047	.0478	.0250	
	-	-	0	0	.0	.0	2.98	-5.0	8			.333		-.090	.0563	.0265	
	-	-	0	0	.0	.0	2.98	-5.0	12			.507		-.129	.0671	.0254	
	-	-	0	0	.0	.0	2.98	-5.0	16			.697		-.171	.0705	.0250	
	-	-	0	0	.0	.0	2.98	-5.0	20			.901		-.218	.0790	.0242	
	-	-	0	0	.0	.0	2.98	-5.0	24			.869		-.160	.0799	.0240	
	-	-	0	0	.0	.0	2.98	-3.0	-2			-.083		.014	.0176	.0114	
	-	-	0	0	.0	.0	2.98	-3.0	0			.005		-.005	.0172	.0118	
	-	-	0	0	.0	.0	2.98	-3.0	2			.086		-.025	.0173	.0129	
	-	-	0	0	.0	.0	2.98	-3.0	4			.171		-.049	.0190	.0138	
	-	-	0	0	.0	.0	2.98	-3.0	8			.338		-.095	.0245	.0153	
	-	-	0	0	.0	.0	2.98	-3.0	12			.511		-.133	.0284	.0173	
	-	-	0	0	.0	.0	2.98	-3.0	16			.699		-.176	.0310	.0192	
	-	-	0	0	.0	.0	2.98	-3.0	20			.895		-.218	.0304	.0191	
	-	-	0	0	.0	.0	2.98	-3.0	24			.906		-.217	.0324	.0160	
	-	-	0	0	.0	.0	2.98	.0	-2			-.081		.014	-.0000	-.0004	
	-	-	0	0	.0	.0	2.98	.0	0			.010		-.006	.0001	-.0004	
	-	-	0	0	.0	.0	2.98	.0	2			.091		-.028	-.0014	-.0006	
	-	-	0	0	.0	.0	2.98	.0	4			.166		-.049	-.0024	-.0004	
	-	-	0	0	.0	.0	2.98	.0	8			.346		-.100	-.0036	-.0002	
	-	-	0	0	.0	.0	2.98	.0	12			.521		-.141	-.0048	.0004	
	-	-	0	0	.0	.0	2.98	.0	16			.704		-.181	-.0049	.0006	
	-	-	0	0	.0	.0	2.98	.0	20			.903		-.224	-.0043	.0018	
	-	-	0	0	.0	.0	2.98	.0	24			1.127		-.266	-.0024	.0010	
	-	-	0	0	.0	.0	2.98	1.0	-2			-.076		.013	-.0047	-.0040	
	-	-	0	0	.0	.0	2.98	1.0	0			.013		-.007	-.0050	-.0041	
	-	-	0	0	.0	.0	2.98	1.0	2			.091		-.026	-.0060	-.0040	
	-	-	0	0	.0	.0	2.98	1.0	4			.183		-.053	-.0074	-.0045	
	-	-	0	0	.0	.0	2.98	1.0	8			.348		-.101	-.0113	-.0043	
	-	-	0	0	.0	.0	2.98	1.0	12			.521		-.140	-.0130	-.0040	
	-	-	0	0	.0	.0	2.98	1.0	16			.704		-.179	-.0142	-.0036	
	-	-	0	0	.0	.0	2.98	1.0	20			.903		-.221	-.0146	-.0029	
	-	-	0	0	.0	.0	2.98	1.0	24			1.112		-.261	-.0180	-.0014	
Horizontal tail off	5.0	5.0	0	0	.0	.0	2.98	-5.0	-2			-.075		.000	.1064	-.0269	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	0			-.001		-.000	.1079	-.0268	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	2			.073		-.002	.1104	-.0260	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	4			.145		-.005	.1119	-.0244	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	8			.287		-.012	.1227	-.0222	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	12			.439		-.023	.1335	-.0223	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	16			.639		-.040	.1468	-.0249	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	20			.782		-.043	.1561	-.0292	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	24			.931		-.030	.1654	-.0235	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	-2			-.070		-.000	.0634	-.0170	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	0			.007		-.002	.0644	-.0168	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	2			.078		-.005	.0633	-.0156	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	4			.146		-.007	.0642	-.0144	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	8			.288		-.016	.0683	-.0119	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	12			.444		-.026	.0736	-.0107	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	16			.607		-.037	.0810	-.0118	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	20			.780		-.044	.0869	-.0164	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	24			.893		-.012	.0993	-.0158	
	5.0	5.0	0	0	.0	.0	2.98	.0	-2			-.064		-.002	.0017	-.0010	
	5.0	5.0	0	0	.0	.0	2.98	.0	0			.010		-.002	.0011	-.0007	
	5.0	5.0	0	0	.0	.0	2.98	.0	2			.077		-.005	-.0010	-.0006	
	5.0	5.0	0	0	.0	.0	2.98	.0	4			.131		-.005	-.0022	-.0002	
	5.0	5.0	0	0	.0	.0	2.98	.0	8			.290		-.018	-.0032	-.0001	
	5.0	5.0	0	0	.0	.0	2.98	.0	12			.452		-.032	-.0047	.0004	
	5.0	5.0	0	0	.0	.0	2.98	.0	16			.611		-.041	-.0041	.0005	
	5.0	5.0	0	0	.0	.0	2.98	.0	20			.783		-.049	-.0007	-.0004	
	5.0	5.0	0	0	.0	.0	2.98	.0	24			.992		-.065	.0009	-.0007	
	5.0	5.0	0	0	.0	.0	2.98	1.0	-2			-.066		-.001	-.0173	.0039	
	5.0	5.0	0	0	.0	.0	2.98	1.0	0			.014		-.003	-.0189	.0041	
	5.0	5.0	0	0	.0	.0	2.98	1.0	2			.078		-.004	-.0195	.0037	
	5.0	5.0	0	0	.0	.0	2.98	1.0	4			.148		-.008	-.0206	.0036	
	5.0	5.0	0	0	.0	.0	2.98	1.0	8			.289		-.018	-.0233	.0029	
	5.0	5.0	0	0	.0	.0	2.98	1.0	12			.451		-.030	-.0252	.0028	
	5.0	5.0	0	0	.0	.0	2.98	1.0	16			.614		-.040	-.0252	.0029	
	5.0	5.0	0	0	.0	.0	2.98	1.0	20			.786		-.050	-.0275	.0051	
	5.0	5.0	0	0	.0	.0	2.98	1.0	24			.933		-.026	-.0359	.0070	

[redacted]

TABLE V. - Continued

CONFIGURATION 3 WITH VERTICAL TAILS 3a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β, deg	α, deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Vertical and horizontal tails off	-	-	0	0	.0	.0	2.98	-5.0	-2			-.074		-.003	.0288	.0210	
	-	-	0	0	.0	.0	2.98	-5.0	0			.000		-.001	.0292	.0221	
	-	-	0	0	.0	.0	2.98	-5.0	2			.068		.001	.0307	.0233	
	-	-	0	0	.0	.0	2.98	-5.0	4			.140		.000	.0348	.0247	
	-	-	0	0	.0	.0	2.98	-5.0	8			.272		.001	.0445	.0268	
	-	-	0	0	.0	.0	2.98	-5.0	12			.431		-.004	.0539	.0266	
	-	-	0	0	.0	.0	2.98	-5.0	16			.584		-.006	.0627	.0257	
	-	-	0	0	.0	.0	2.98	-5.0	20			.760		-.011	.0654	.0253	
	-	-	0	0	.0	.0	2.98	-5.0	24			.780		.012	.0707	.0248	
	-	-	0	0	.0	.0	2.98	-3.0	-2			-.076		-.002	.0161	.0126	
	-	-	0	0	.0	.0	2.98	-3.0	0			.001		-.001	.0156	.0132	
	-	-	0	0	.0	.0	2.98	-3.0	2			.069		-.000	.0165	.0138	
	-	-	0	0	.0	.0	2.98	-3.0	4			.137		-.002	.0181	.0146	
	-	-	0	0	.0	.0	2.98	-3.0	8			.276		-.003	.0241	.0160	
	-	-	0	0	.0	.0	2.98	-3.0	12			.428		-.010	.0293	.0174	
	-	-	0	0	.0	.0	2.98	-3.0	16			.588		-.015	.0325	.0183	
	-	-	0	0	.0	.0	2.98	-3.0	20			.759		-.018	.0322	.0186	
	-	-	0	0	.0	.0	2.98	-3.0	24			.823		.026	.0444	.0180	
	-	-	0	0	.0	.0	2.98	.0	-2			-.067		-.002	.0001	.0000	
	-	-	0	0	.0	.0	2.98	.0	0			.010		-.002	-.0004	.0002	
	-	-	0	0	.0	.0	2.98	.0	2			.067		-.001	-.0011	-.0002	
	-	-	0	0	.0	.0	2.98	.0	4			.141		-.002	-.0022	-.0002	
	-	-	0	0	.0	.0	2.98	.0	8			.273		-.007	-.0039	-.0001	
	-	-	0	0	.0	.0	2.98	.0	12			.435		-.015	-.0043	.0006	
	-	-	0	0	.0	.0	2.98	.0	16			.594		-.020	-.0048	.0012	
	-	-	0	0	.0	.0	2.98	.0	20			.766		-.024	-.0051	.0021	
	-	-	0	0	.0	.0	2.98	.0	24			.928		.010	.0006	.0020	
	-	-	0	0	.0	.0	2.98	1.0	-2			-.073		-.003	-.0046	-.0039	
	-	-	0	0	.0	.0	2.98	1.0	0			.003		-.002	-.0051	-.0039	
	-	-	0	0	.0	.0	2.98	1.0	2			.071		-.001	-.0063	-.0043	
	-	-	0	0	.0	.0	2.98	1.0	4			.138		-.003	-.0074	-.0042	
	-	-	0	0	.0	.0	2.98	1.0	8			.280		-.007	-.0111	-.0045	
	-	-	0	0	.0	.0	2.98	1.0	12			.439		-.016	-.0136	-.0042	
	-	-	0	0	.0	.0	2.98	1.0	16			.595		-.019	-.0141	-.0034	
	-	-	0	0	.0	.0	2.98	1.0	20			.767		-.022	-.0144	-.0028	
	-	-	0	0	.0	.0	2.98	1.0	24			.912		.015	-.0202	-.0016	
Wing off	5.0	5.0	0	0	.0	.0	2.98	-5.0	-2			-.051		.013	.1085	-.0287	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	0			-.007		.002	.1105	-.0286	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	2			.043		-.011	.1119	-.0281	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	4			.090		-.025	.1158	-.0269	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	8			.188		-.048	.1217	-.0234	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	12			.309		-.076	.1262	-.0194	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	16			.431		-.102	.1230	-.0140	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	20			.566		-.134	.1213	-.0118	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	-2			-.049		.011	.0657	-.0181	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	0			-.005		.001	.0650	-.0176	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	2			.044		-.011	.0653	-.0173	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	4			.088		-.024	.0652	-.0157	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	8			.192		-.051	.0675	-.0129	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	12			.314		-.080	.0679	-.0088	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	16			.435		-.104	.0632	-.0031	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	20			.577		-.136	.0612	-.0026	
	5.0	5.0	0	0	.0	.0	2.98	.0	-2			-.043		.009	.0012	-.0009	
	5.0	5.0	0	0	.0	.0	2.98	.0	0			.000		-.000	.0010	-.0009	
	5.0	5.0	0	0	.0	.0	2.98	.0	2			.047		-.012	-.0002	-.0009	
	5.0	5.0	0	0	.0	.0	2.98	.0	4			.087		-.025	-.0009	-.0008	
	5.0	5.0	0	0	.0	.0	2.98	.0	8			.194		-.054	-.0026	-.0006	
	5.0	5.0	0	0	.0	.0	2.98	.0	12			.316		-.081	-.0022	-.0005	
	5.0	5.0	0	0	.0	.0	2.98	.0	16			.440		-.107	-.0023	-.0004	
	5.0	5.0	0	0	.0	.0	2.98	.0	20			.574		-.136	-.0023	.0003	
	5.0	5.0	0	0	.0	.0	2.98	1.0	-2			-.042		.009	-.0177	.0042	
	5.0	5.0	0	0	.0	.0	2.98	1.0	0			.000		-.000	-.0183	.0041	
	5.0	5.0	0	0	.0	.0	2.98	1.0	2			.044		-.011	-.0186	.0037	
	5.0	5.0	0	0	.0	.0	2.98	1.0	4			.091		-.025	-.0193	.0034	
	5.0	5.0	0	0	.0	.0	2.98	1.0	8			.191		-.053	-.0216	.0027	
	5.0	5.0	0	0	.0	.0	2.98	1.0	12			.318		-.081	-.0221	.0015	
	5.0	5.0	0	0	.0	.0	2.98	1.0	16			.436		-.106	-.0188	-.0005	
	5.0	5.0	0	0	.0	.0	2.98	1.0	20			.567		-.132	-.0167	-.0006	

TABLE V. - Concluded

CONFIGURATION 3 WITH VERTICAL TAILS 3a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β, deg	α, deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Wing and upper and lower vertical tails off	5.0	5.0	0	0	.0	.0	2.98	-5.0	-2			-.046		.009	.0315	.0191	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	0			-.006		.001	.0307	.0207	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	2			.044		-.009	.0321	.0218	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	4			.092		-.021	.0366	.0231	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	8			.187		-.040	.0441	.0256	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	12			.305		-.062	.0495	.0274	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	16			.424		-.082	.0540	.0269	
	5.0	5.0	0	0	.0	.0	2.98	-5.0	20			.562		-.106	.0571	.0266	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	-2			-.045		.010	.0173	.0114	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	0			.001		.001	.0171	.0119	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	2			.045		-.009	.0174	.0125	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	4			.089		-.020	.0198	.0131	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	8			.190		-.043	.0247	.0146	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	12			.309		-.066	.0292	.0155	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	16			.431		-.086	.0322	.0170	
	5.0	5.0	0	0	.0	.0	2.98	-3.0	20			.563		-.106	.0337	.0170	
	5.0	5.0	0	0	.0	.0	2.98	.0	-2			-.040		.008	-.0003	-.0003	
	5.0	5.0	0	0	.0	.0	2.98	.0	0			.000		-.000	-.0005	-.0004	
	5.0	5.0	0	0	.0	.0	2.98	.0	2			.044		-.009	-.0002	-.0010	
	5.0	5.0	0	0	.0	.0	2.98	.0	4			.084		-.021	-.0009	-.0012	
	5.0	5.0	0	0	.0	.0	2.98	.0	8			.192		-.046	-.0012	-.0014	
	5.0	5.0	0	0	.0	.0	2.98	.0	12			.309		-.068	-.0008	-.0018	
	5.0	5.0	0	0	.0	.0	2.98	.0	16			.427		-.087	-.0004	-.0016	
	5.0	5.0	0	0	.0	.0	2.98	.0	20			.557		-.107	.0016	-.0014	
	5.0	5.0	0	0	.0	.0	2.98	.0	24			.700		-.121	.0036	-.0005	
	5.0	5.0	0	0	.0	.0	2.98	1.0	-2			-.043		.009	-.0049	-.0041	
	5.0	5.0	0	0	.0	.0	2.98	1.0	0			-.002		.000	-.0046	-.0044	
	5.0	5.0	0	0	.0	.0	2.98	1.0	2			.044		-.009	-.0048	-.0053	
	5.0	5.0	0	0	.0	.0	2.98	1.0	4			.087		-.021	-.0050	-.0052	
	5.0	5.0	0	0	.0	.0	2.98	1.0	8			.192		-.046	-.0078	-.0057	
	5.0	5.0	0	0	.0	.0	2.98	1.0	12			.312		-.070	-.0090	-.0064	
	5.0	5.0	0	0	.0	.0	2.98	1.0	16			.427		-.087	-.0087	-.0061	
	5.0	5.0	0	0	.0	.0	2.98	1.0	20			.555		-.106	-.0057	-.0059	
	5.0	5.0	0	0	.0	.0	2.98	1.0	24			.687		-.109	-.0058	-.0054	
Wing and horizontal and vertical tails off	-	-	0	0	.0	.0	2.98	-5.0	-2			-.026		-.020	.0286	.0213	
	-	-	0	0	.0	.0	2.98	-5.0	0			-.002		.000	.0286	.0223	
	-	-	0	0	.0	.0	2.98	-5.0	2			.024		.017	.0297	.0233	
	-	-	0	0	.0	.0	2.98	-5.0	4			.054		.029	.0339	.0249	
	-	-	0	0	.0	.0	2.98	-5.0	8			.128		.004	.0418	.0277	
	-	-	0	0	.0	.0	2.98	-5.0	12			.220		.058	.0473	.0271	
	-	-	0	0	.0	.0	2.98	-5.0	16			.317		.074	.0529	.0264	
	-	-	0	0	.0	.0	2.98	-5.0	20			.415		.094	.0561	.0260	
	-	-	0	0	.0	.0	2.98	-3.0	-2			-.028		-.021	.0159	.0126	
	-	-	0	0	.0	.0	2.98	-3.0	0			-.008		.001	.0160	.0131	
	-	-	0	0	.0	.0	2.98	-3.0	2			.018		.019	.0166	.0138	
	-	-	0	0	.0	.0	2.98	-3.0	4			.049		.031	.0177	.0146	
	-	-	0	0	.0	.0	2.98	-3.0	8			.126		.045	.0218	.0163	
	-	-	0	0	.0	.0	2.98	-3.0	12			.217		.058	.0275	.0168	
	-	-	0	0	.0	.0	2.98	-3.0	16			.318		.072	.0301	.0174	
	-	-	0	0	.0	.0	2.98	-3.0	20			.423		.092	.0303	.0182	
	-	-	0	0	.0	.0	2.98	.0	-2			-.027		-.020	-.0001	.0000	
	-	-	0	0	.0	.0	2.98	.0	0			-.006		.002	-.0001	-.0001	
	-	-	0	0	.0	.0	2.98	.0	2			.016		.020	-.0005	-.0005	
	-	-	0	0	.0	.0	2.98	.0	4			.047		.033	-.0004	-.0008	
	-	-	0	0	.0	.0	2.98	.0	8			.128		.046	-.0004	-.0009	
	-	-	0	0	.0	.0	2.98	.0	12			.218		.057	-.0004	-.0014	
	-	-	0	0	.0	.0	2.98	.0	16			.319		.073	-.0003	-.0010	
	-	-	0	0	.0	.0	2.98	.0	20			.419		.091	-.0003	-.0008	
	-	-	0	0	.0	.0	2.98	.0	24			.531		.120	.0024	.0004	
	-	-	0	0	.0	.0	2.98	1.0	-2			-.023		-.021	-.0047	-.0040	
	-	-	0	0	.0	.0	2.98	1.0	0			-.006		.002	-.0047	-.0041	
	-	-	0	0	.0	.0	2.98	1.0	2			.017		.020	-.0051	-.0044	
	-	-	0	0	.0	.0	2.98	1.0	4			.047		.032	-.0050	-.0052	
	-	-	0	0	.0	.0	2.98	1.0	8			.121		.046	-.0061	-.0059	
	-	-	0	0	.0	.0	2.98	1.0	12			.221		.058	-.0086	-.0064	
	-	-	0	0	.0	.0	2.98	1.0	16			.319		.073	-.0091	-.0063	
	-	-	0	0	.0	.0	2.98	1.0	20			.417		.095	-.0065	-.0051	

[redacted]

TABLE VI

CONFIGURATION 3 WITH VERTICAL TAILS 3b

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β, deg	α, deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	5.0	15.0	0	0	.0	.0	2.98	-5.0	-2			-.086		.013	.0872	-.0166	
	5.0	15.0	0	0	.0	.0	2.98	-5.0	0			.003		-.008	.0863	-.0147	
	5.0	15.0	0	0	.0	.0	2.98	-5.0	2			.085		-.031	.0853	-.0123	
	5.0	15.0	0	0	.0	.0	2.98	-5.0	4			.173		-.055	.0875	-.0099	
	5.0	15.0	0	0	.0	.0	2.98	-5.0	8			.344		-.104	.0959	-.0063	
	5.0	15.0	0	0	.0	.0	2.98	-5.0	12			.522		-.150	.1041	-.0038	
	5.0	15.0	0	0	.0	.0	2.98	-5.0	16			.712		-.197	.1122	-.0030	
	5.0	15.0	0	0	.0	.0	2.98	-5.0	20			.920		-.250	.1160	-.0045	
	5.0	15.0	0	0	.0	.0	2.98	-3.0	-2			-.077		.009	.0521	-.0104	
	5.0	15.0	0	0	.0	.0	2.98	-3.0	0			.014		-.012	.0506	-.0090	
	5.0	15.0	0	0	.0	.0	2.98	-3.0	2			.099		-.035	.0487	-.0073	
	5.0	15.0	0	0	.0	.0	2.98	-3.0	4			.181		-.061	.0488	-.0053	
	5.0	15.0	0	0	.0	.0	2.98	-3.0	8			.355		-.113	.0507	-.0017	
	5.0	15.0	0	0	.0	.0	2.98	-3.0	12			.528		-.157	.0547	.0007	
	5.0	15.0	0	0	.0	.0	2.98	-3.0	16			.716		-.204	.0599	.0015	
	5.0	15.0	0	0	.0	.0	2.98	-3.0	20			.928		-.256	.0632	-.0010	
	5.0	15.0	0	0	.0	.0	2.98	.0	-2			-.071		.007	.0011	-.0006	
	5.0	15.0	0	0	.0	.0	2.98	.0	0			.020		-.014	.0002	-.0004	
	5.0	15.0	0	0	.0	.0	2.98	.0	2			.098		-.036	-.0023	-.0002	
	5.0	15.0	0	0	.0	.0	2.98	.0	4			.183		-.062	-.0032	-.0002	
	5.0	15.0	0	0	.0	.0	2.98	.0	8			.356		-.116	-.0045	.0000	
	5.0	15.0	0	0	.0	.0	2.98	.0	12			.532		-.163	-.0051	.0004	
	5.0	15.0	0	0	.0	.0	2.98	.0	16			.721		-.210	-.0041	.0010	
	5.0	15.0	0	0	.0	.0	2.98	.0	20			.926		-.264	-.0044	.0011	
	5.0	15.0	0	0	.0	.0	2.98	.0	24			1.167		-.331	-.0039	.0018	
	5.0	15.0	0	0	.0	.0	2.98	1.0	-2			-.073		.007	-.0144	.0024	
	5.0	15.0	0	0	.0	.0	2.98	1.0	0			.014		-.014	-.0153	.0021	
	5.0	15.0	0	0	.0	.0	2.98	1.0	2			.094		-.038	-.0152	.0015	
	5.0	15.0	0	0	.0	.0	2.98	1.0	4			.176		-.062	-.0162	.0011	
	5.0	15.0	0	0	.0	.0	2.98	1.0	8			.351		-.114	-.0189	.0003	
	5.0	15.0	0	0	.0	.0	2.98	1.0	12			.527		-.161	-.0196	-.0002	
	5.0	15.0	0	0	.0	.0	2.98	1.0	16			.724		-.211	-.0206	-.0004	
	5.0	15.0	0	0	.0	.0	2.98	1.0	20			.927		-.265	-.0220	.0012	
	5.0	15.0	0	0	.0	.0	2.98	1.0	24			1.163		-.324	-.0122	-.0049	
	15.0	5.0	0	0	.0	.0	2.98	-5.0	-2			-.092		.025	.0914	-.0190	
	15.0	5.0	0	0	.0	.0	2.98	-5.0	0			-.003		.004	.0896	-.0170	
	15.0	5.0	0	0	.0	.0	2.98	-5.0	2			.081		-.020	.0901	-.0147	
	15.0	5.0	0	0	.0	.0	2.98	-5.0	4			.163		-.043	.0917	-.0125	
	15.0	5.0	0	0	.0	.0	2.98	-5.0	8			.333		-.092	.0988	-.0076	
	15.0	5.0	0	0	.0	.0	2.98	-5.0	12			.514		-.137	.1054	-.0045	
	15.0	5.0	0	0	.0	.0	2.98	-5.0	16			.701		-.182	.1119	-.0024	
	15.0	5.0	0	0	.0	.0	2.98	-5.0	20			.901		-.230	.1140	-.0024	
	15.0	5.0	0	0	.0	.0	2.98	-3.0	-2			-.080		.022	.0539	-.0118	
	15.0	5.0	0	0	.0	.0	2.98	-3.0	0			.011		.000	.0520	-.0102	
	15.0	5.0	0	0	.0	.0	2.98	-3.0	2			.093		-.023	.0501	-.0083	
	15.0	5.0	0	0	.0	.0	2.98	-3.0	4			.170		-.046	.0496	-.0058	
	15.0	5.0	0	0	.0	.0	2.98	-3.0	8			.343		-.099	.0510	-.0018	
	15.0	5.0	0	0	.0	.0	2.98	-3.0	12			.524		-.144	.0550	.0007	
	15.0	5.0	0	0	.0	.0	2.98	-3.0	16			.708		-.190	.0587	.0020	
	15.0	5.0	0	0	.0	.0	2.98	-3.0	20			.912		-.239	.0624	.0004	
	15.0	5.0	0	0	.0	.0	2.98	.0	-2			-.078		.019	.0005	-.0001	
	15.0	5.0	0	0	.0	.0	2.98	.0	0			.020		-.004	.0001	.0001	
	15.0	5.0	0	0	.0	.0	2.98	.0	2			.095		-.025	-.0024	.0002	
	15.0	5.0	0	0	.0	.0	2.98	.0	4			.183		-.052	-.0028	.0002	
	15.0	5.0	0	0	.0	.0	2.98	.0	8			.355		-.104	-.0045	.0004	
	15.0	5.0	0	0	.0	.0	2.98	.0	12			.532		-.150	-.0041	.0006	
	15.0	5.0	0	0	.0	.0	2.98	.0	16			.719		-.197	-.0032	.0015	
	15.0	5.0	0	0	.0	.0	2.98	.0	20			.918		-.246	-.0036	.0016	
	15.0	5.0	0	0	.0	.0	2.98	.0	24			1.161		-.311	-.0030	.0018	
	15.0	5.0	0	0	.0	.0	2.98	1.0	-2			-.080		.019	-.0155	.0033	
	15.0	5.0	0	0	.0	.0	2.98	1.0	0			.014		-.003	-.0164	.0029	
	15.0	5.0	0	0	.0	.0	2.98	1.0	2			.095		-.025	-.0168	.0021	
	15.0	5.0	0	0	.0	.0	2.98	1.0	4			.179		-.051	-.0167	.0017	
	15.0	5.0	0	0	.0	.0	2.98	1.0	8			.351		-.103	-.0189	.0005	
	15.0	5.0	0	0	.0	.0	2.98	1.0	12			.533		-.149	-.0201	.0002	
	15.0	5.0	0	0	.0	.0	2.98	1.0	16			.723		-.197	-.0191	-.0003	
	15.0	5.0	0	0	.0	.0	2.98	1.0	20			.923		-.247	-.0221	.0018	
	15.0	5.0	0	0	.0	.0	2.98	1.0	24			1.252		-.304	-.0118	-.0040	

[redacted]

TABLE VI.- Concluded

CONFIGURATION 3 WITH VERTICAL TAILS 3b

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β, deg	α, deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	15.0	15.0	0	0	.0	.0	2.98	-5.0	-2			-.080		.019	.0947	-.0224	
	15.0	15.0	0	0	.0	.0	2.98	-5.0	0			.006		-.002	.0941	-.0201	
	15.0	15.0	0	0	.0	.0	2.98	-5.0	2			.096		-.028	.0938	-.0179	
	15.0	15.0	0	0	.0	.0	2.98	-5.0	4			.178		-.052	.0964	-.0158	
	15.0	15.0	0	0	.0	.0	2.98	-5.0	8			.347		-.103	.1025	-.0110	
	15.0	15.0	0	0	.0	.0	2.98	-5.0	12			.526		-.151	.1086	-.0080	
	15.0	15.0	0	0	.0	.0	2.98	-5.0	16			.717		-.198	.1184	-.0066	
	15.0	15.0	0	0	.0	.0	2.98	-5.0	20			.919		-.248	.1204	-.0064	
	15.0	15.0	0	0	.0	.0	2.98	-3.0	-2			-.423		.089	.0552	-.0138	
	15.0	15.0	0	0	.0	.0	2.98	-3.0	0			.008		-.005	.0557	-.0124	
	15.0	15.0	0	0	.0	.0	2.98	-3.0	2			.093		-.030	.0537	-.0107	
	15.0	15.0	0	0	.0	.0	2.98	-3.0	4			.172		-.054	.0522	-.0080	
	15.0	15.0	0	0	.0	.0	2.98	-3.0	8			.357		-.110	.0542	-.0039	
	15.0	15.0	0	0	.0	.0	2.98	-3.0	12			.532		-.157	.0594	-.0016	
	15.0	15.0	0	0	.0	.0	2.98	-3.0	16			.725		-.206	.0630	-.0002	
	15.0	15.0	0	0	.0	.0	2.98	-3.0	20			.934		-.258	.0647	-.0059	
	15.0	15.0	0	0	.0	.0	2.98	.0	-2			-.078		.013	.0010	-.0005	
	15.0	15.0	0	0	.0	.0	2.98	.0	0			.013		-.009	-.0004	-.0003	
	15.0	15.0	0	0	.0	.0	2.98	.0	2			.099		-.033	-.0018	-.0001	
	15.0	15.0	0	0	.0	.0	2.98	.0	4			.184		-.060	-.0033	.0001	
	15.0	15.0	0	0	.0	.0	2.98	.0	8			.358		-.115	-.0040	.0000	
	15.0	15.0	0	0	.0	.0	2.98	.0	12			.539		-.161	-.0036	.0004	
	15.0	15.0	0	0	.0	.0	2.98	.0	16			.729		-.211	-.0025	.0009	
	15.0	15.0	0	0	.0	.0	2.98	.0	20			.940		-.267	-.0029	.0007	
	15.0	15.0	0	0	.0	.0	2.98	.0	24			1.181		-.330	-.0018	.0013	
	15.0	15.0	0	0	.0	.0	2.98	1.0	-2			-.077		.014	-.0166	.0035	
	15.0	15.0	0	0	.0	.0	2.98	1.0	0			.017		-.008	-.0174	.0032	
	15.0	15.0	0	0	.0	.0	2.98	1.0	2			.099		-.032	-.0169	.0025	
	15.0	15.0	0	0	.0	.0	2.98	1.0	4			.187		-.059	-.0183	.0020	
	15.0	15.0	0	0	.0	.0	2.98	1.0	8			.354		-.113	-.0201	.0009	
	15.0	15.0	0	0	.0	.0	2.98	1.0	12			.541		-.162	-.0202	.0006	
	15.0	15.0	0	0	.0	.0	2.98	1.0	16			.731		-.212	-.0202	.0002	
	15.0	15.0	0	0	.0	.0	2.98	1.0	20			.928		-.264	-.0227	.0024	
	15.0	15.0	0	0	.0	.0	2.98	1.0	24			1.175		-.326	-.0138	-.0028	

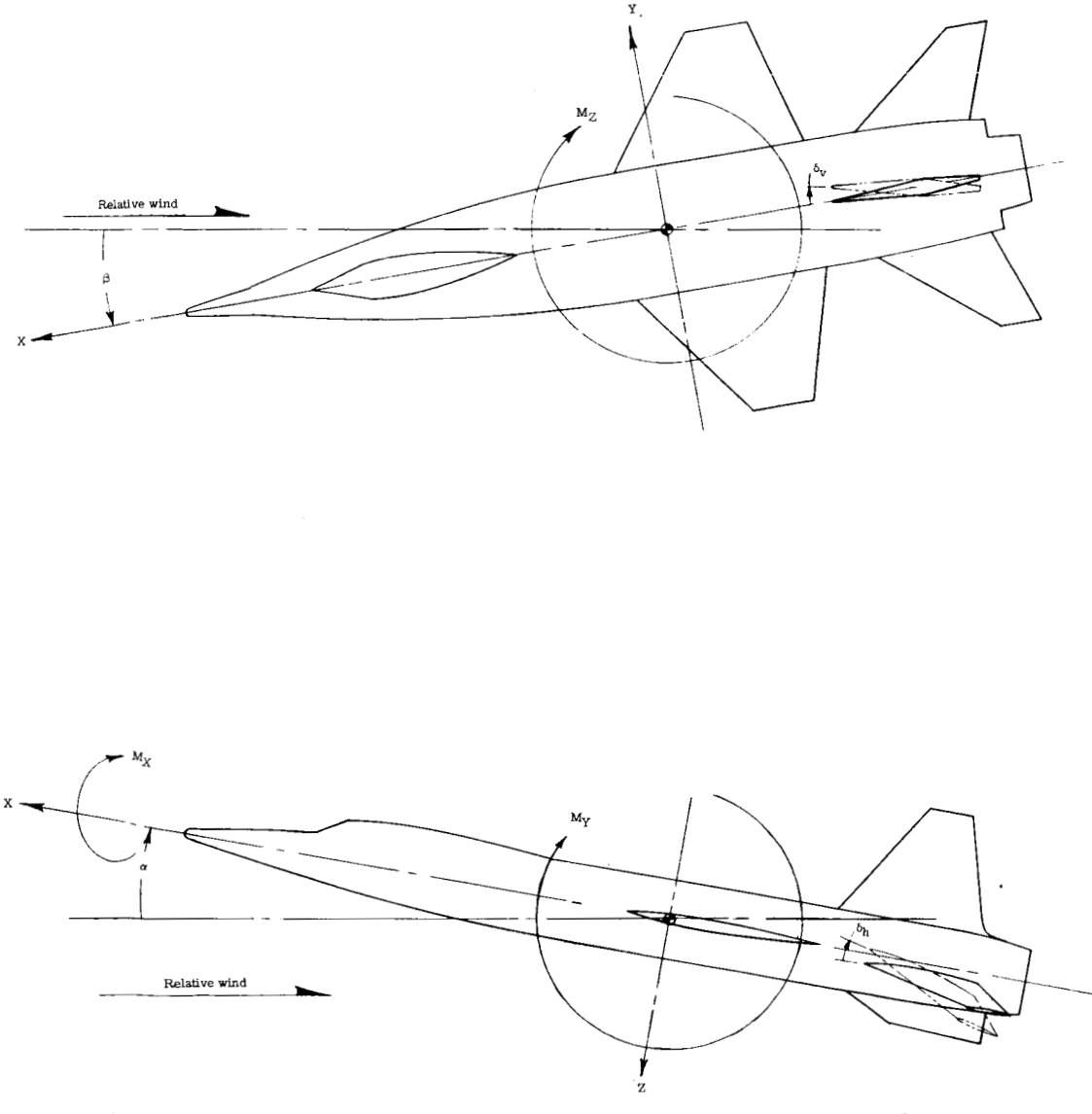


Figure 1.- Axis system.

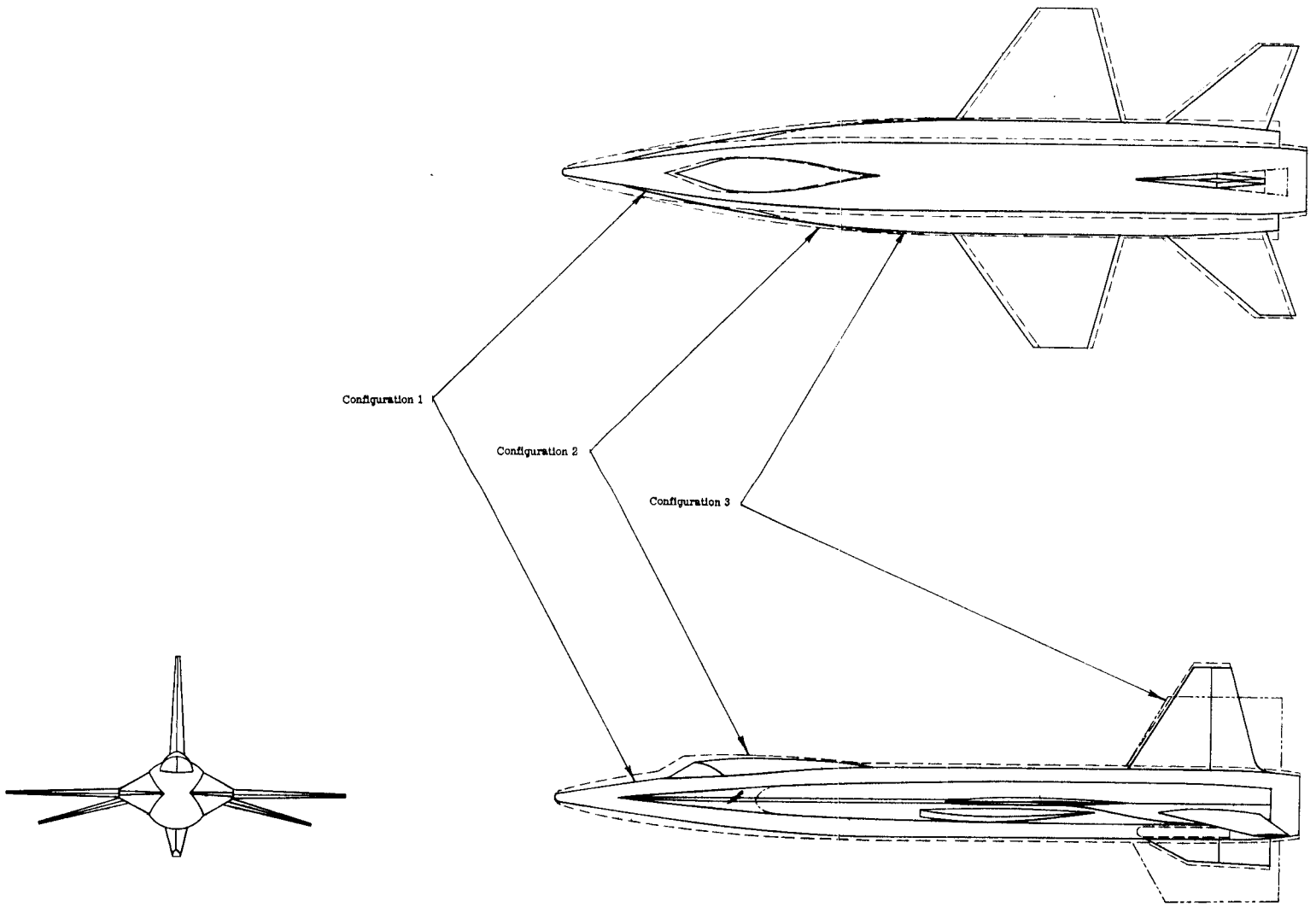


Figure 2.- Comparison of three configurations.

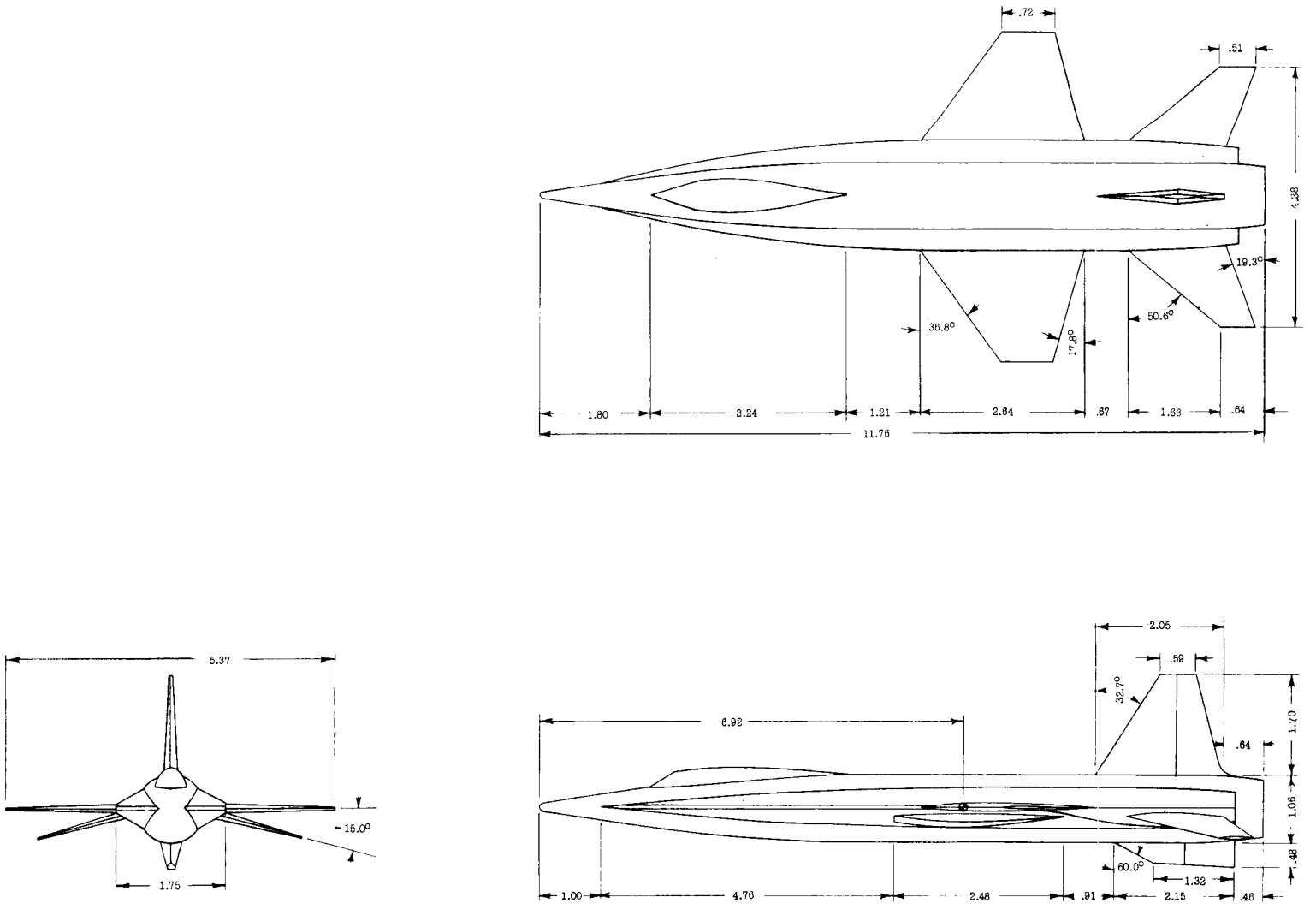


Figure 3.- Details of configuration 1. All dimensions in inches.

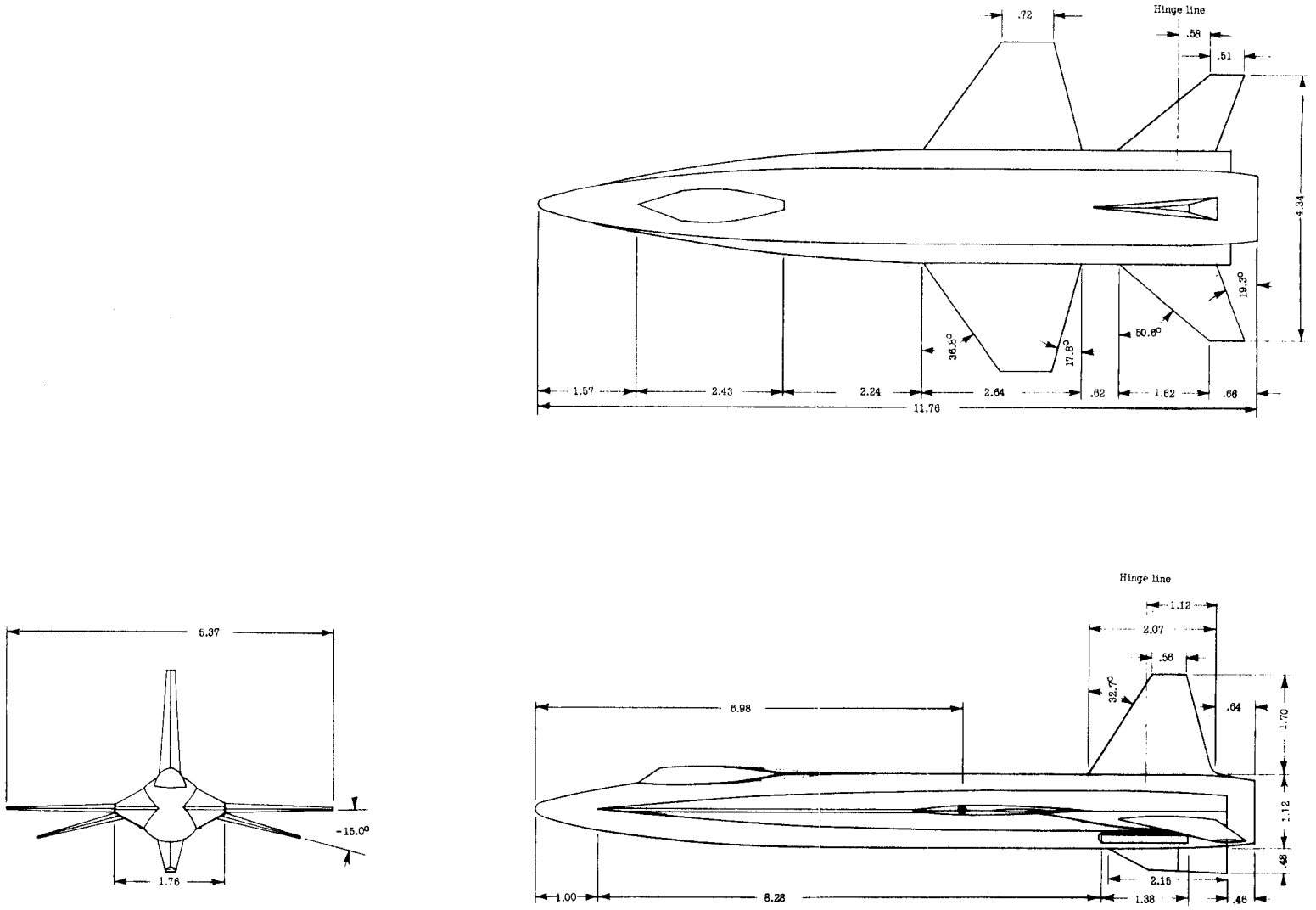


Figure 4.- Details of configuration 2. All dimensions in inches.

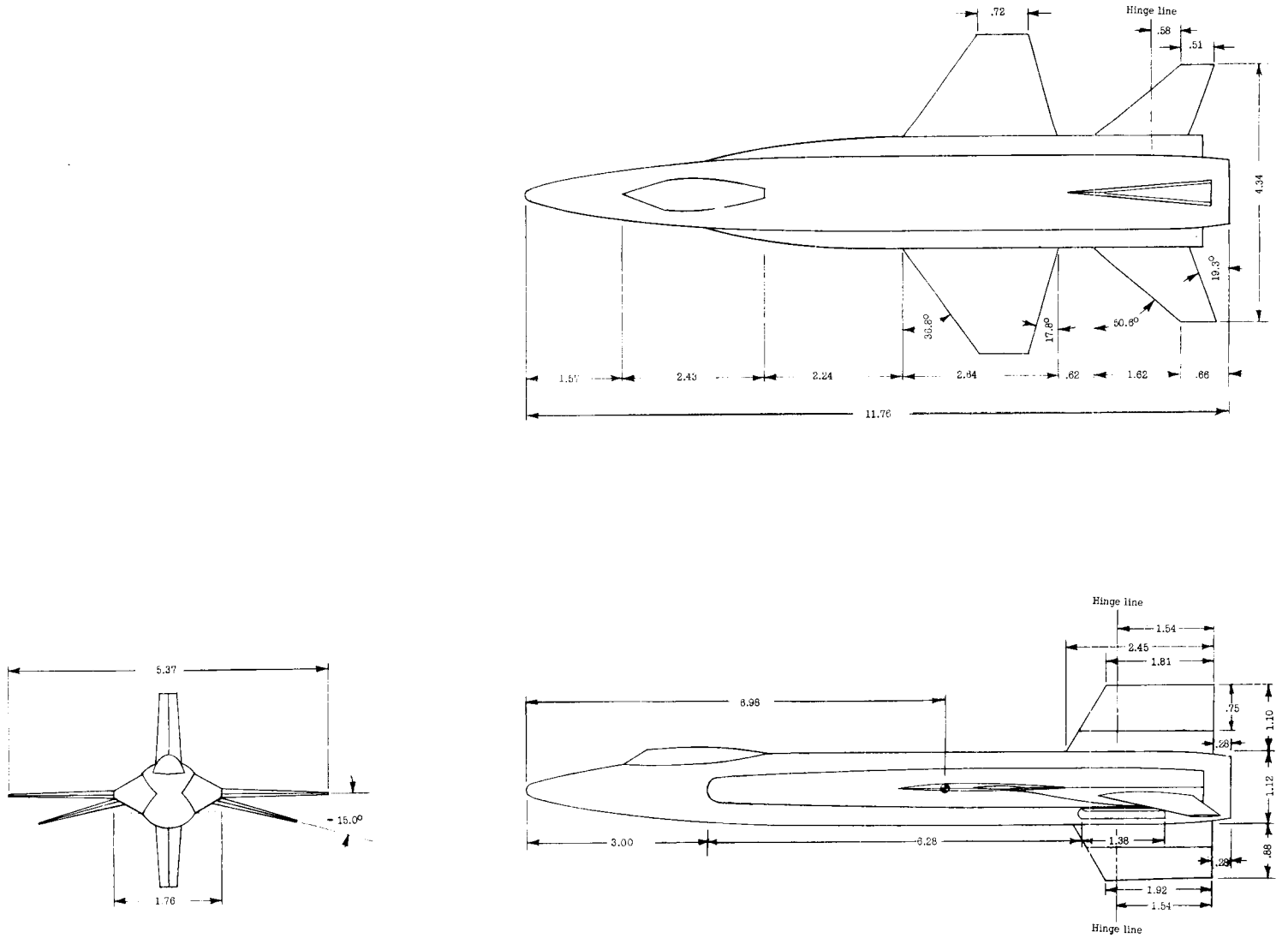


Figure 5.- Details of configuration 3. All dimensions in inches.

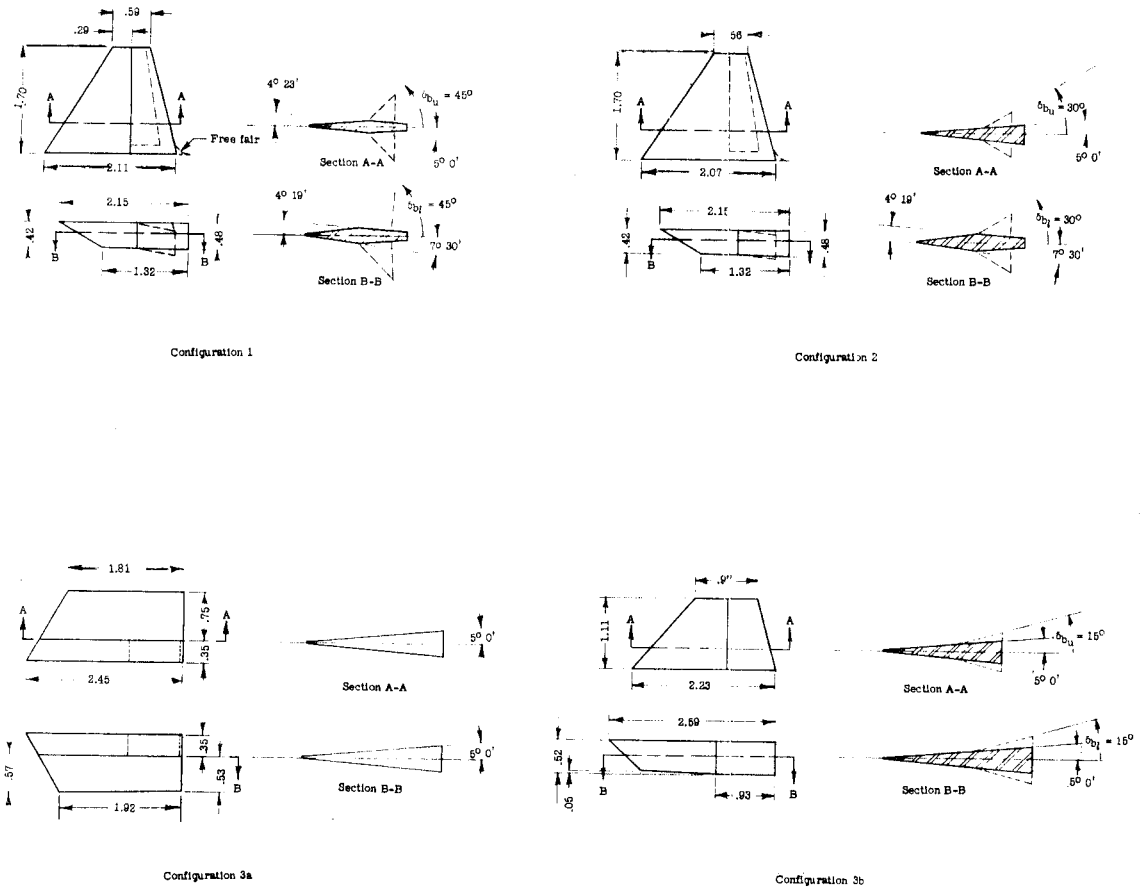
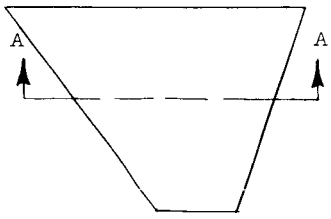
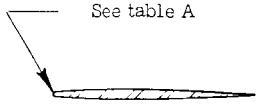


Figure 6.- Details of upper and lower vertical tails used for three configurations. All dimensions in inches.





Section A-A

Modified 66-005 wing section.

TABLE A

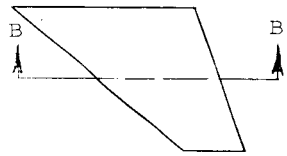
Wing sections (NACA)

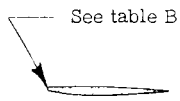
Configuration	Section	L.E.R. (root)	L.E.R. (tip)
1	Modified 66-005	.004	.001
2	Modified 66-005	.014	.008
3	Modified 66-005	.014	.008

TABLE B

Horizontal-tail sections (NACA)

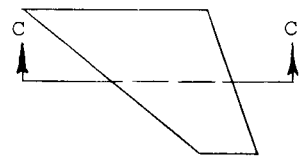
Configuration	Section	L.E.R. (root)	L.E.R. (tip)
1	Modified 66-005	.003	.001
2a	Modified 66-005	.010	.005
2b	10° wedge	.010	.005
3	Modified 66-005	.010	.005

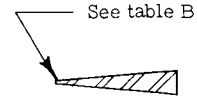




Section B-B

Modified 66-005 horizontal-tail section.
Configuration 2a

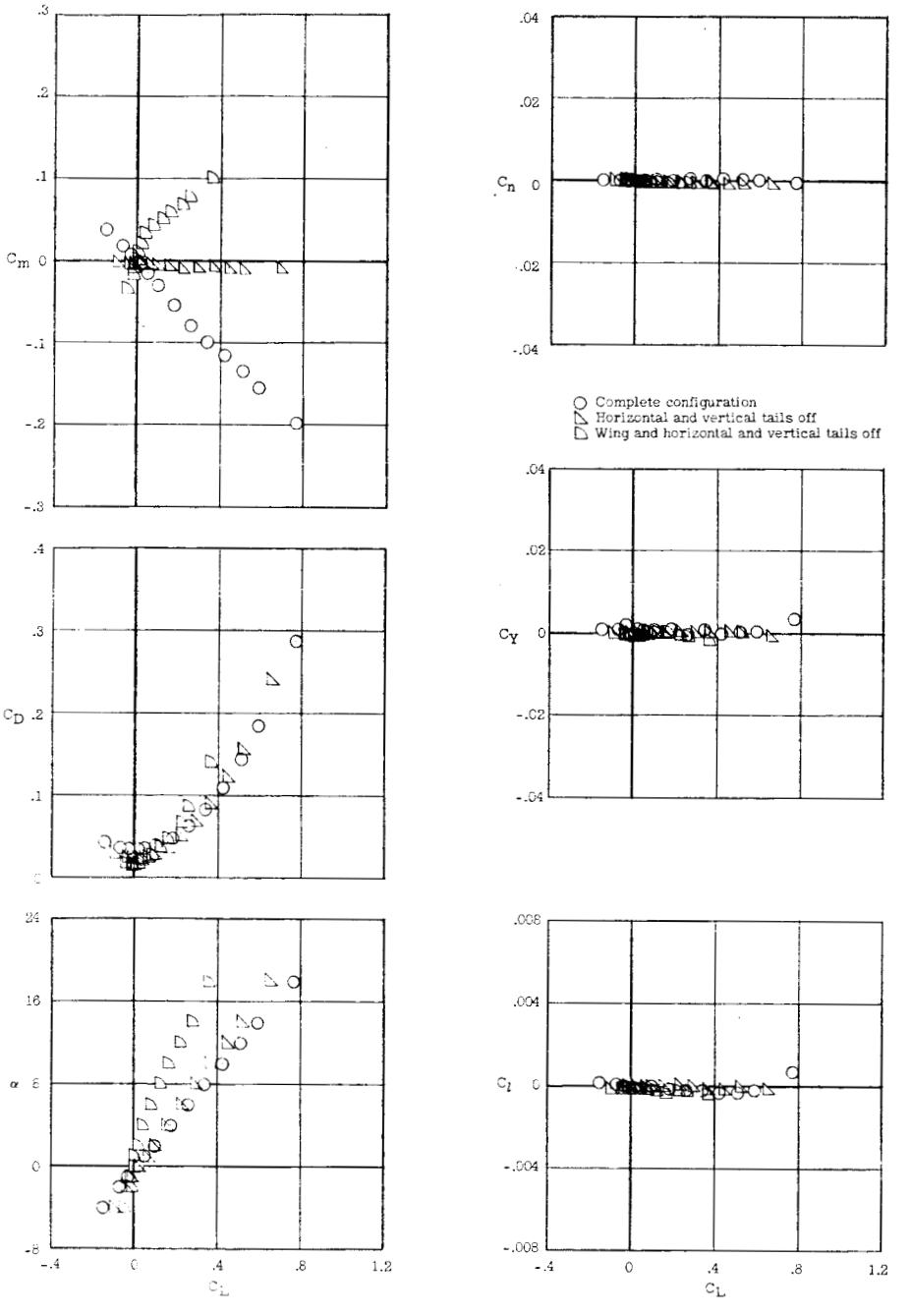




Section C-C

10° wedge horizontal-tail section.
Configuration 2b

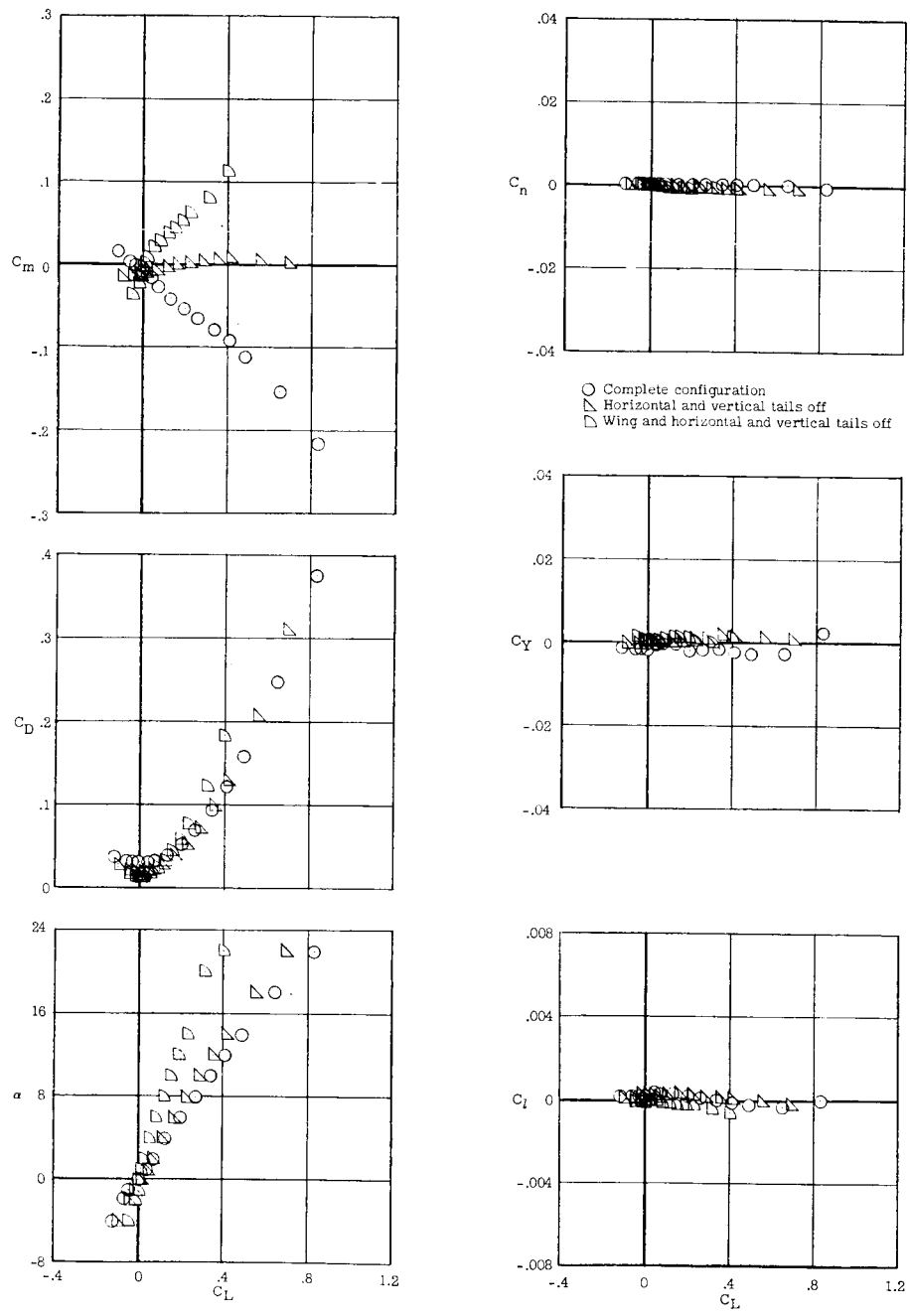
Figure 7.- Wing and horizontal-tail sections.



(a) M = 2.98; R = 2.6×10^6.

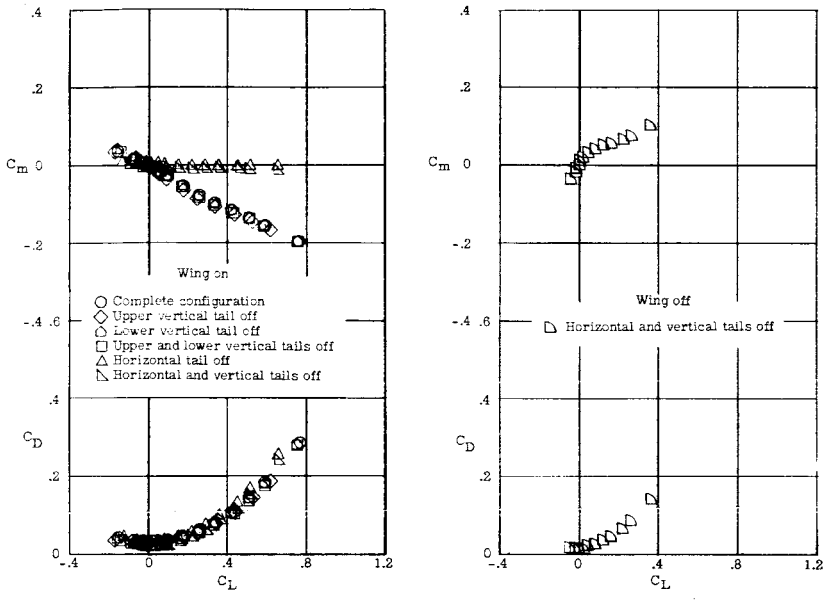
Figure 8.- Comparison of the effects on the aerodynamic characteristics of configuration 1 of removing the tails and of removing the wing and tails. $\delta_{b,u} = -4.4^\circ$; $\delta_{b,l} = -4.3^\circ$; $\beta \approx 0^\circ$.

[redacted]

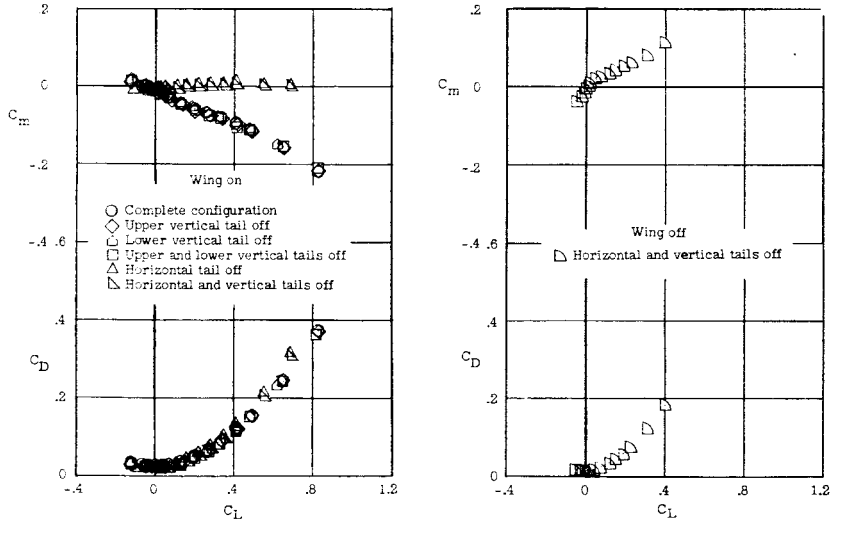


(b) M = 4.01; R = 4.0×10^6.

Figure 8.- Concluded.

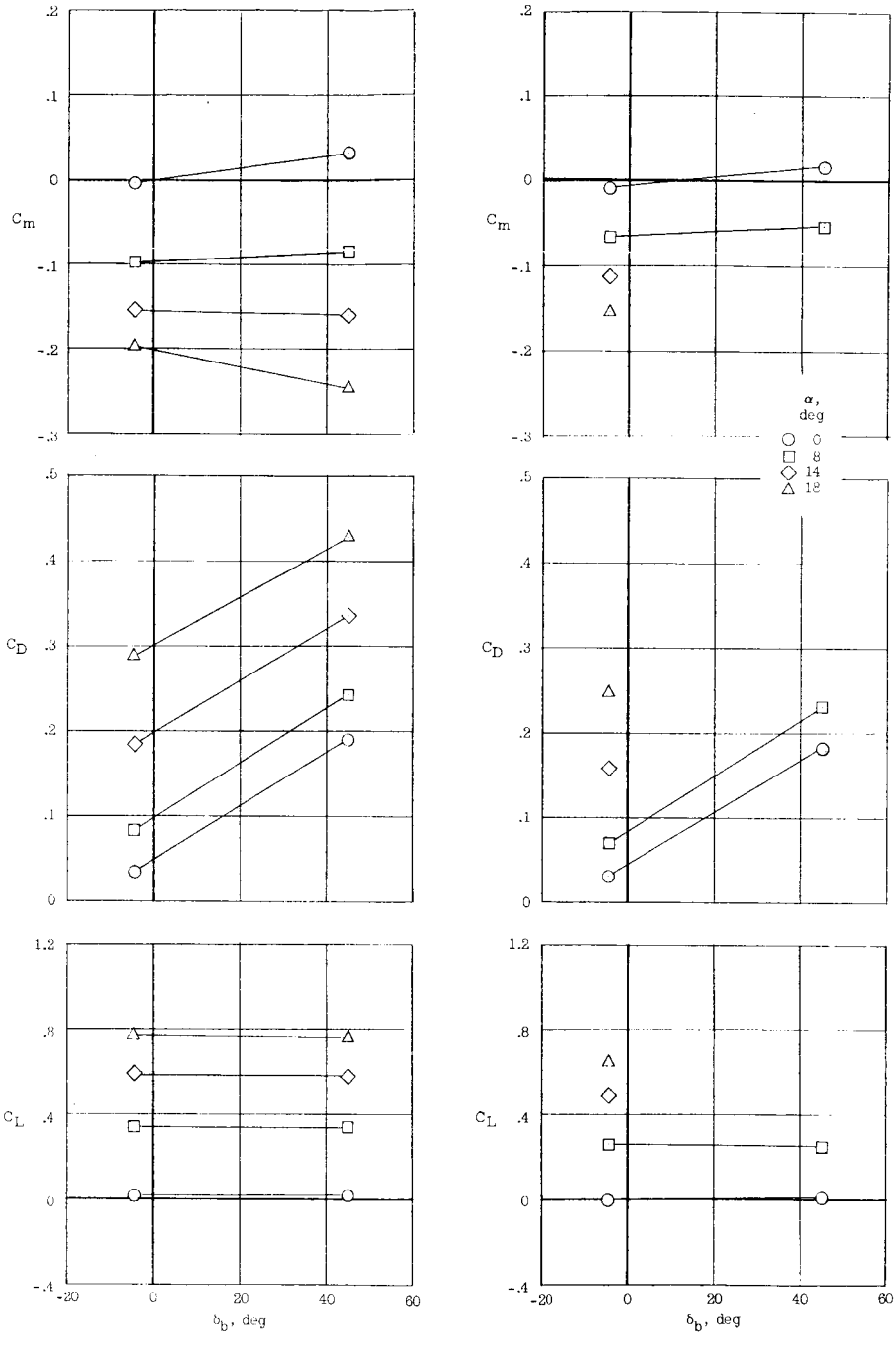


(a) M = 2.98; R = 2.6×10^6.



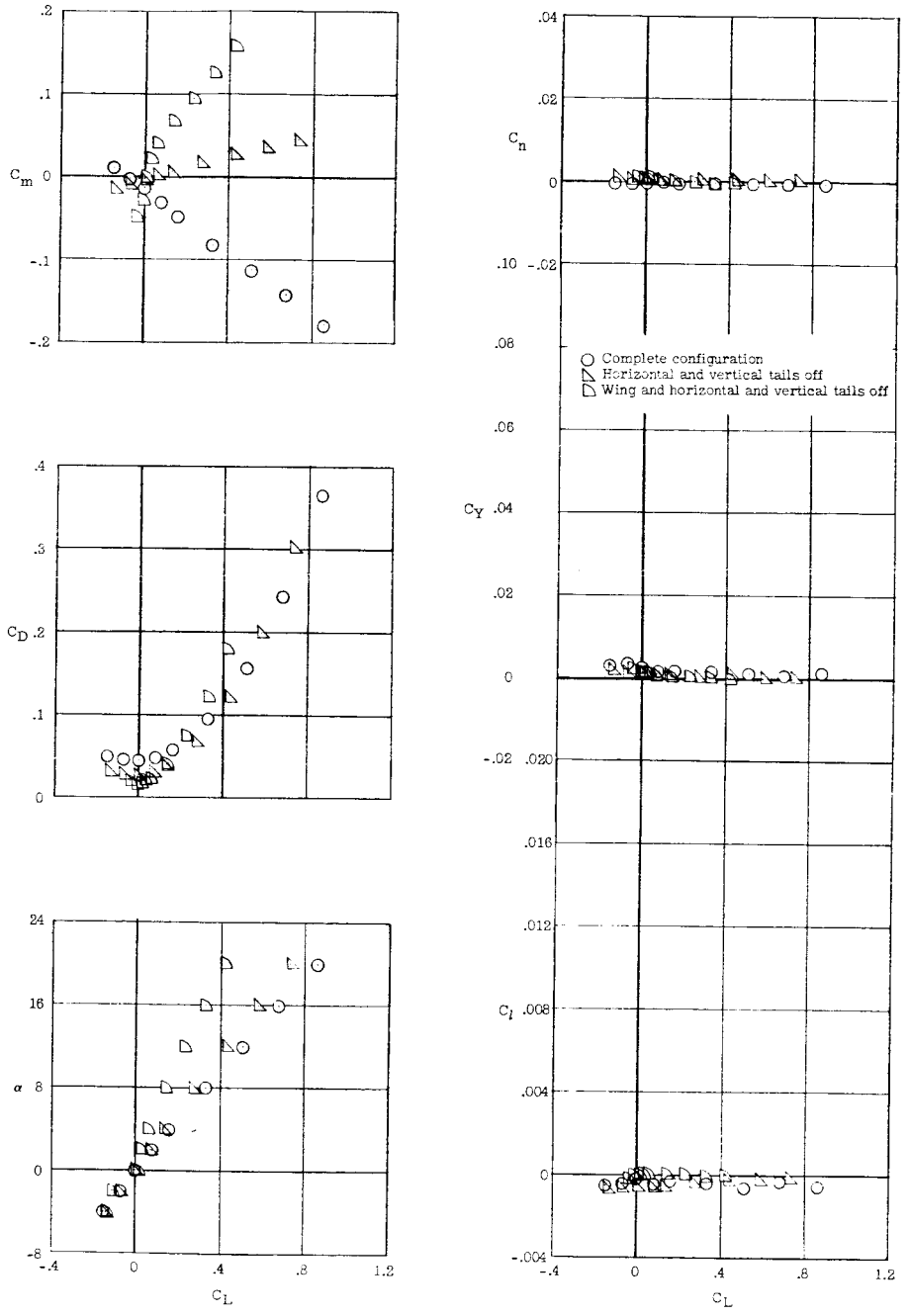
(b) M = 4.01; R = 4.0×10^6.

Figure 9.- Effects of various tail combinations on the longitudinal stability characteristics of configuration 1. $\beta \approx 0^\circ$.



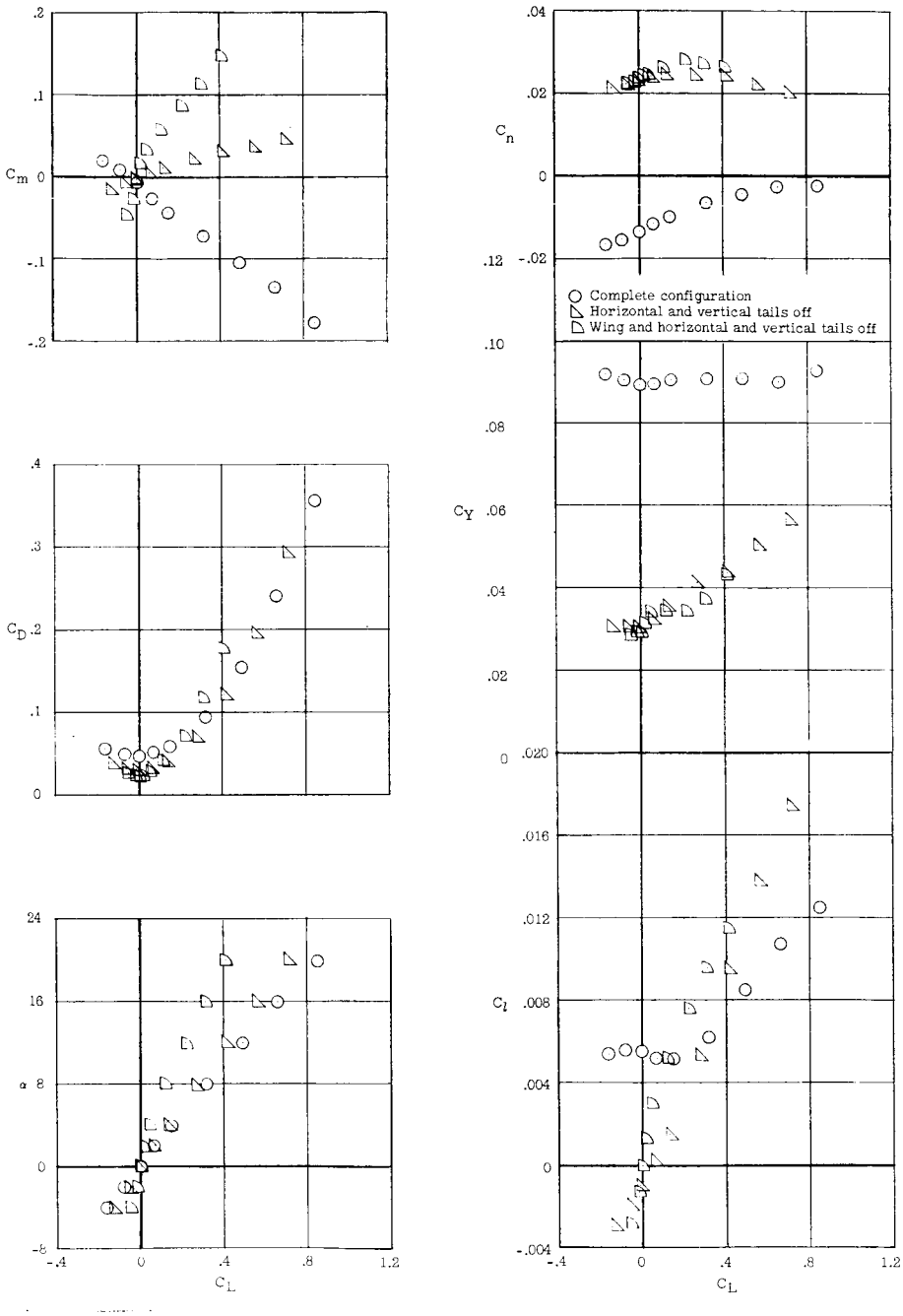
(a) M = 2.98; R = 2.6×10^6. (b) M = 4.01; R = 4.0×10^6.

Figure 10.- Effect of dive brake angle on the longitudinal stability characteristics of configuration 1. $\beta \approx 0^\circ$.



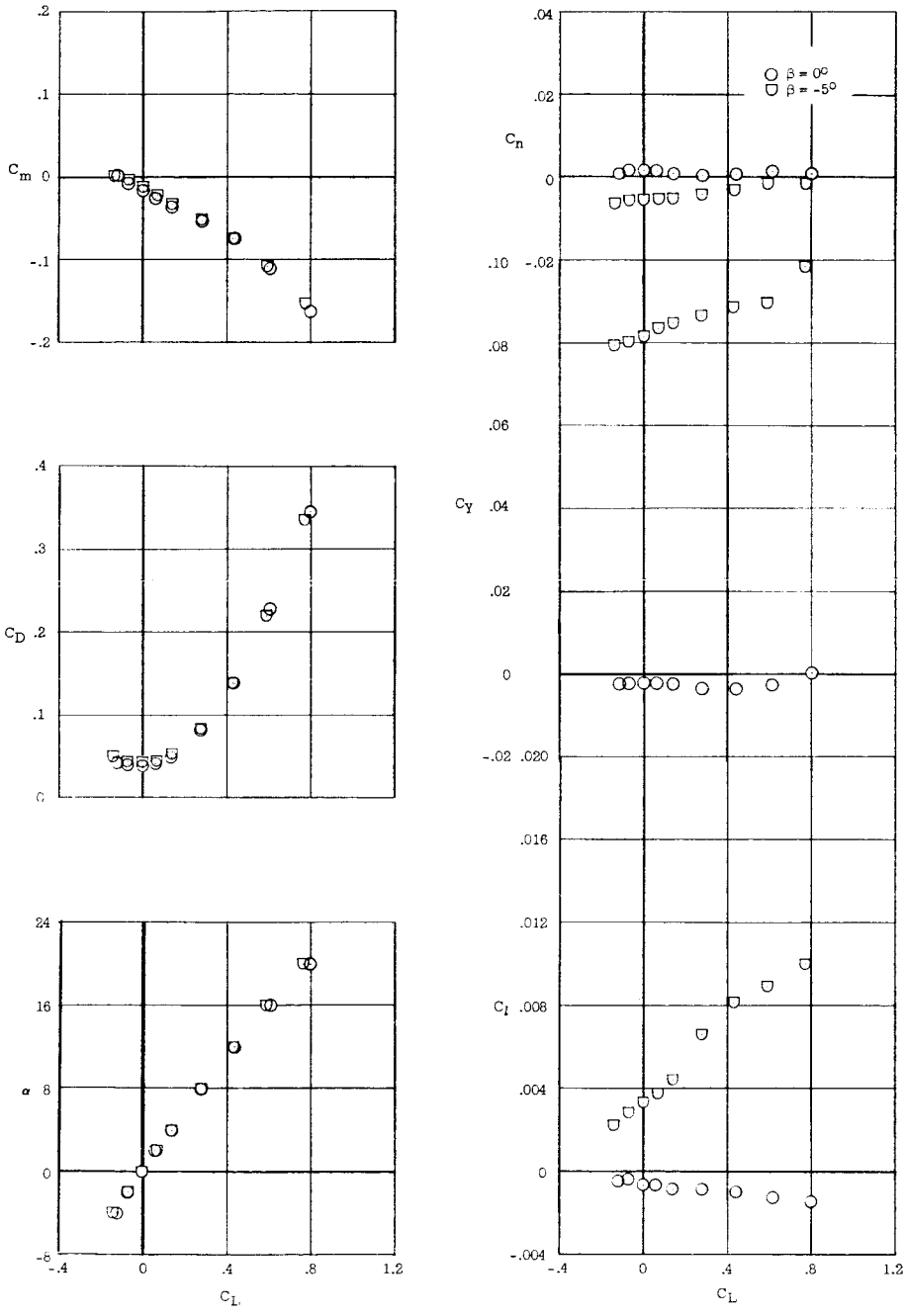
(a) $M = 2.98$; $R = 2.4 \times 10^6$; $\beta = 0^\circ$.

Figure 11.- Comparison of the effects on the aerodynamic characteristics of configuration 2 of removing the tails and of removing the wings and tails. $\delta_{b,u} = 5^\circ$; $\delta_{b,l} = 7.5^\circ$; horizontal tail 2a.



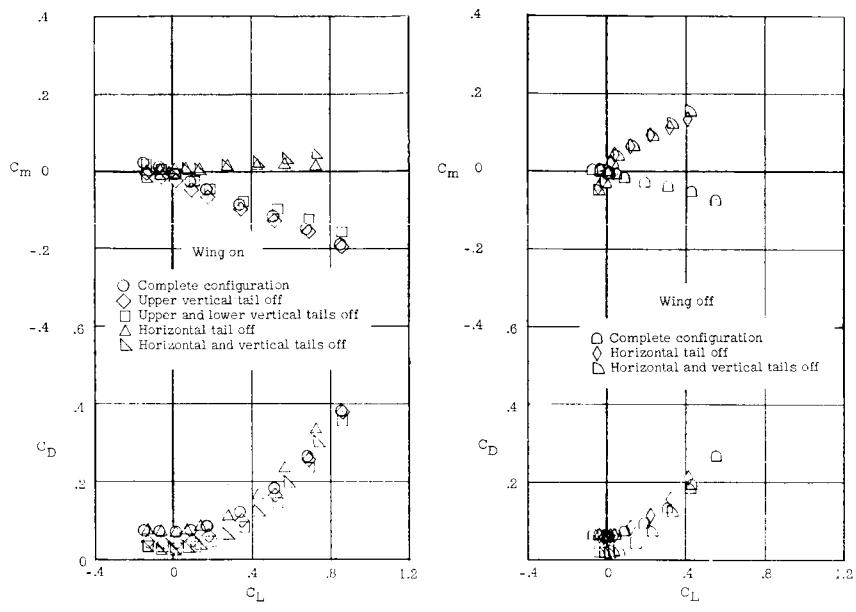
(b) M = 2.98; R = 2.4×10^6; $\beta = -5^\circ$.

Figure 11.- Continued.

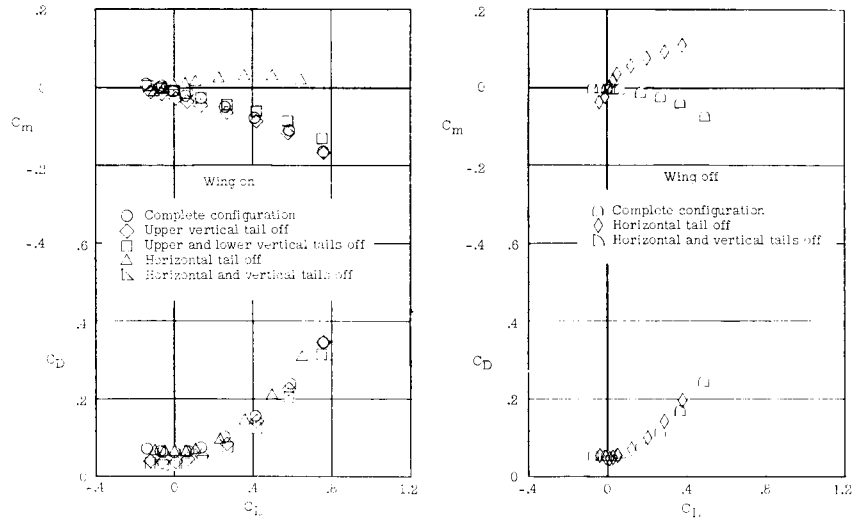


(c) M = 4.01; R = 3.7×10^6; complete configuration.

Figure 11.- Concluded.

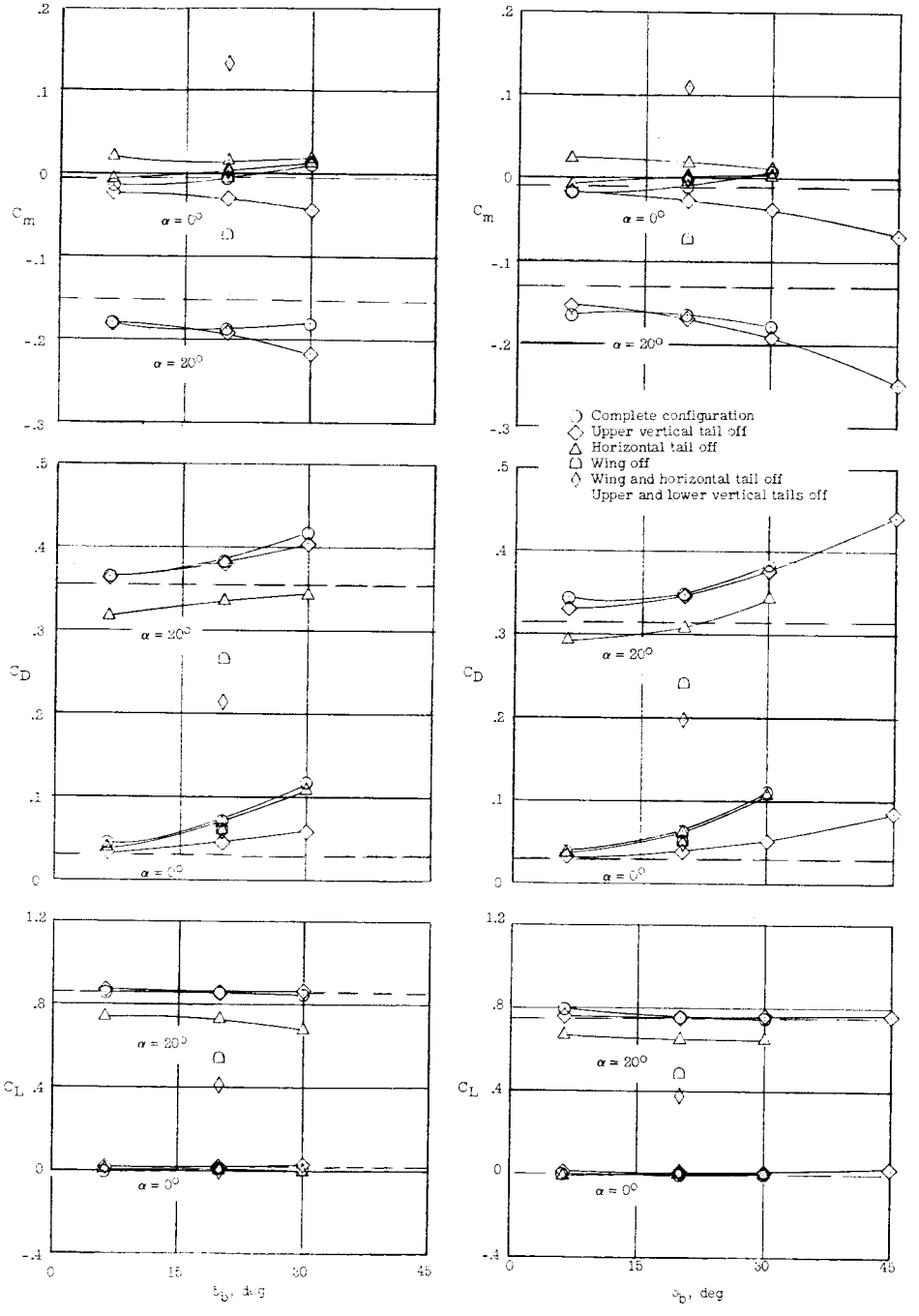


(a) M = 2.98; R = 2.4×10^6.



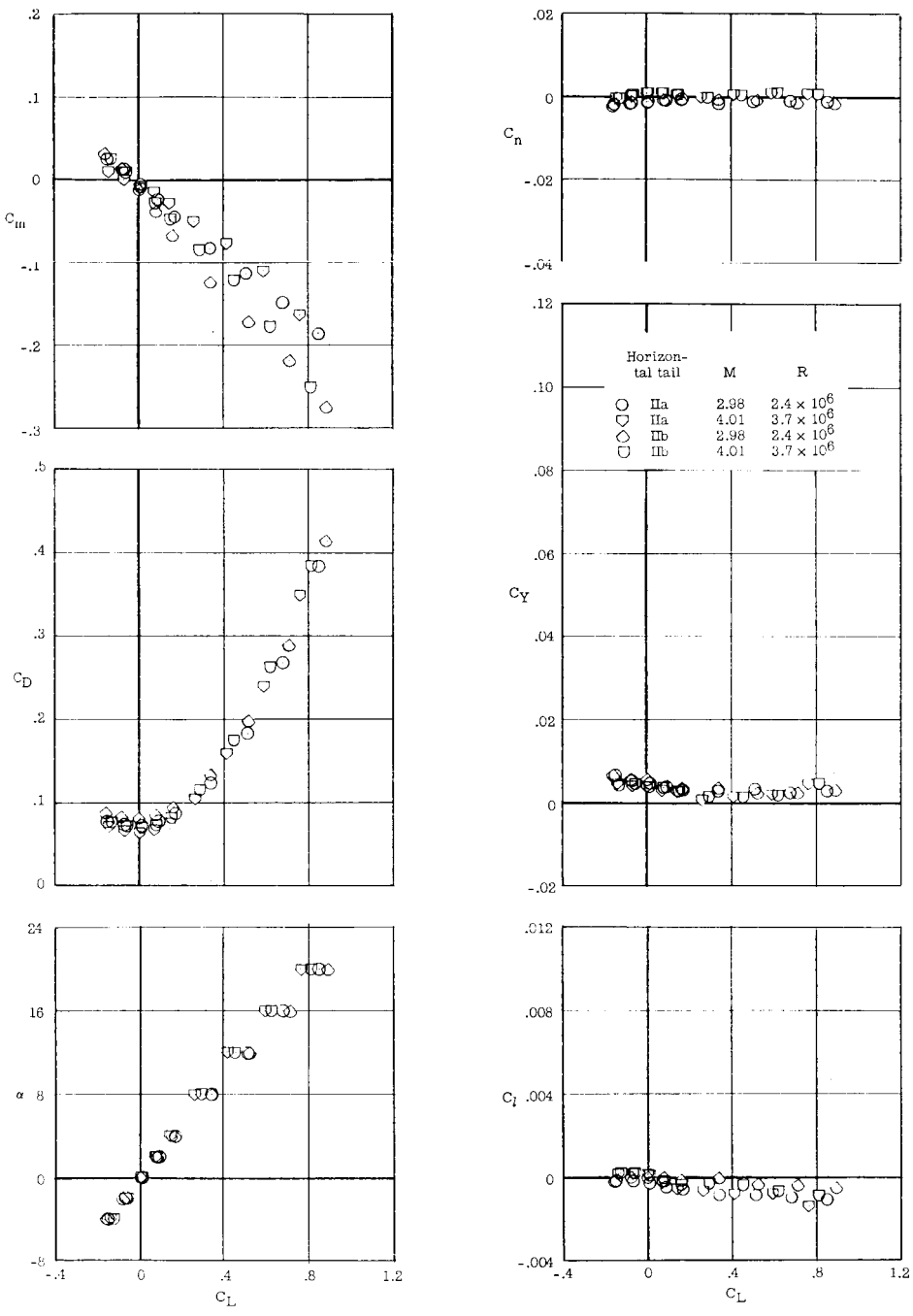
(b) M = 4.01; R = 3.7×10^6.

Figure 12.- Effects of various tail combinations on the longitudinal stability characteristics of configuration 2. $\delta_{b,u} = 20^\circ$; $\delta_{b,l} = 20^\circ$; $\beta = 0^\circ$; horizontal tail 2a.



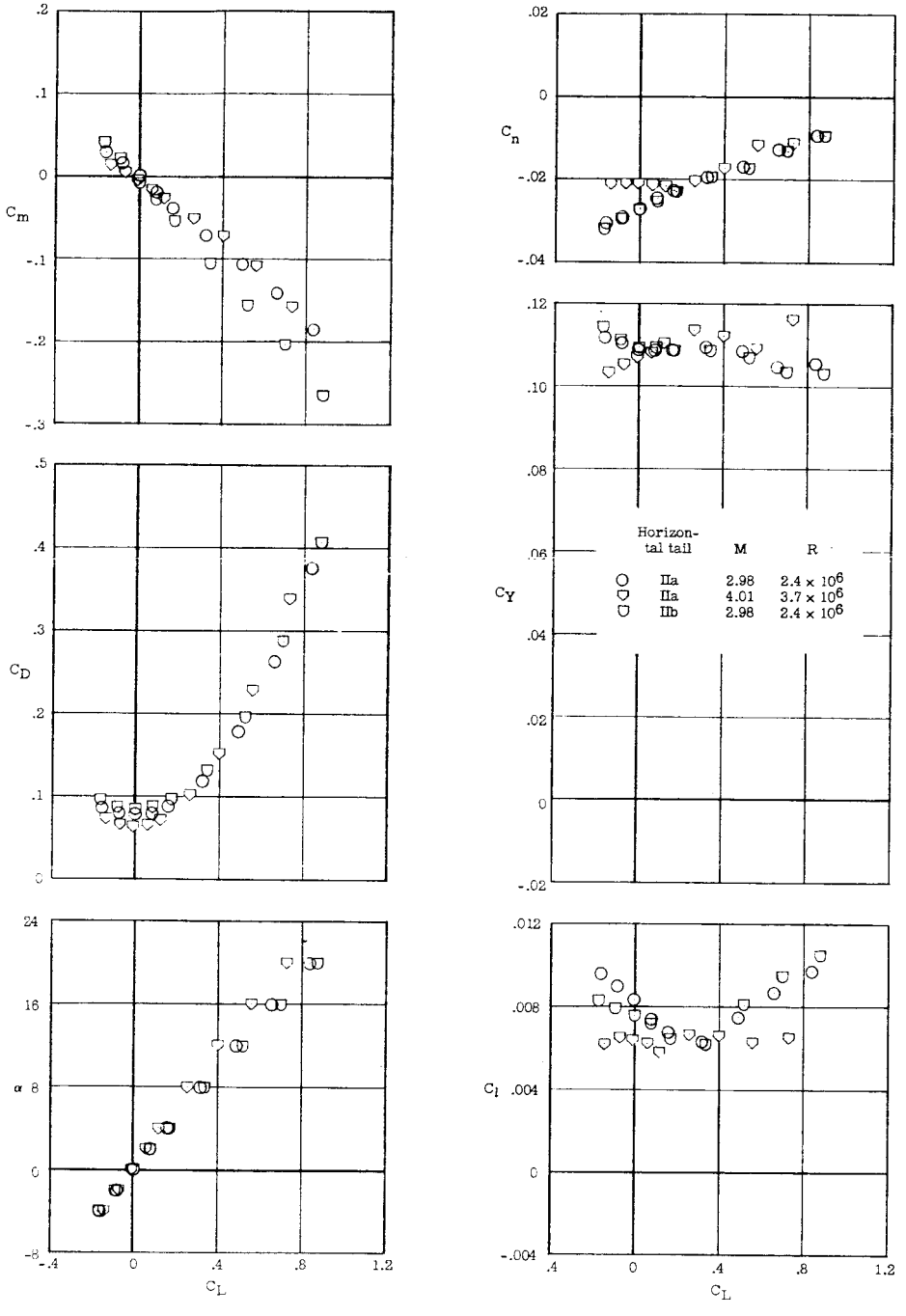
(a) M = 2.98; R = 2.4 × 10^6. (b) M = 4.01; R = 3.7 × 10^6.

Figure 13.- Effect of dive brake angle on the longitudinal stability characteristics of configuration 2. β = 0°, horizontal tail 2a.



(a) $\beta = 0^\circ$.

Figure 14.- Effect of horizontal-tail section on the aerodynamic characteristics of configuration 2. $\delta_{b,u} = 20^\circ$; $\delta_{b,l} = 20^\circ$.



(b) $\beta = 5^\circ$.

Figure 14.- Concluded.

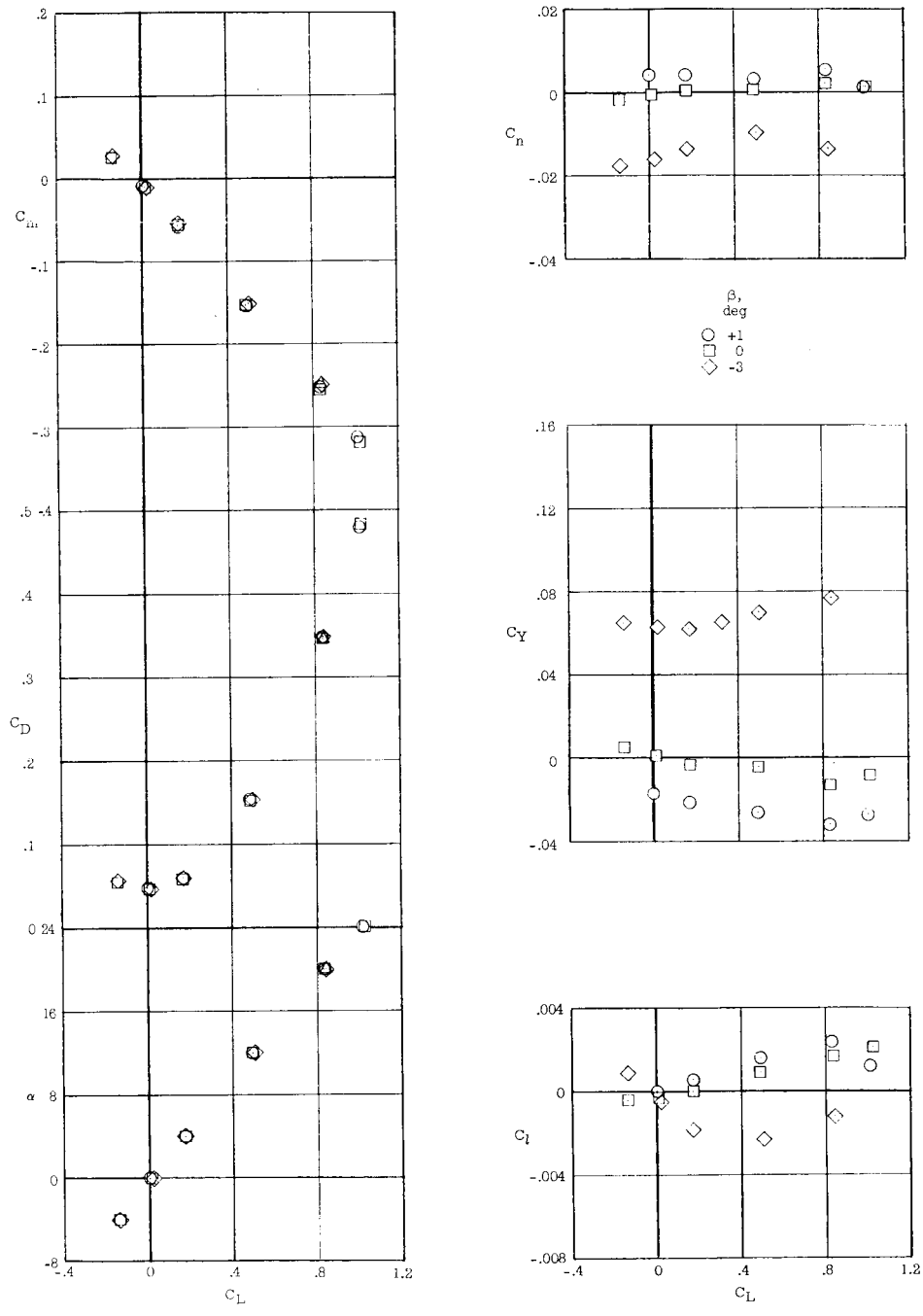
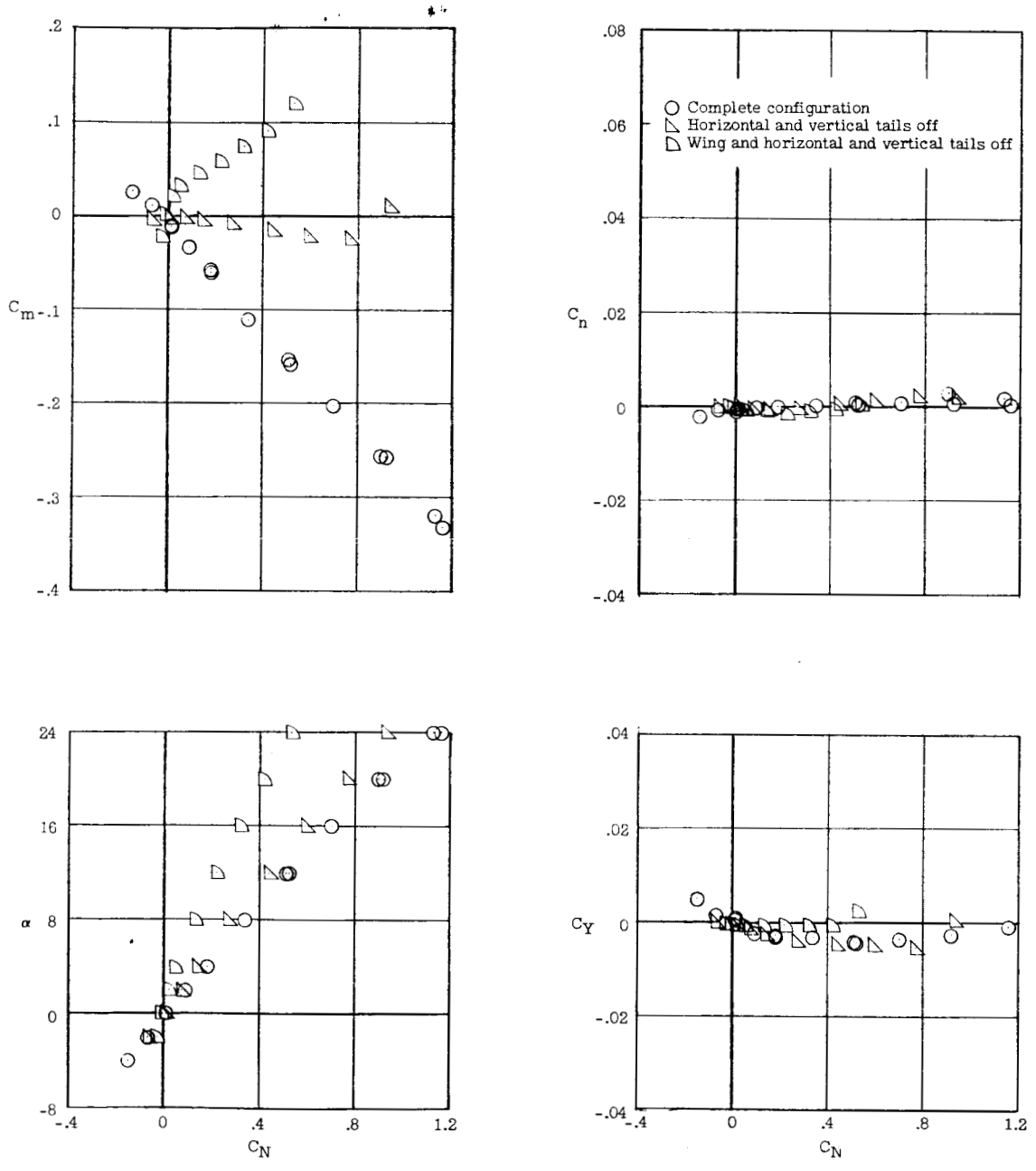
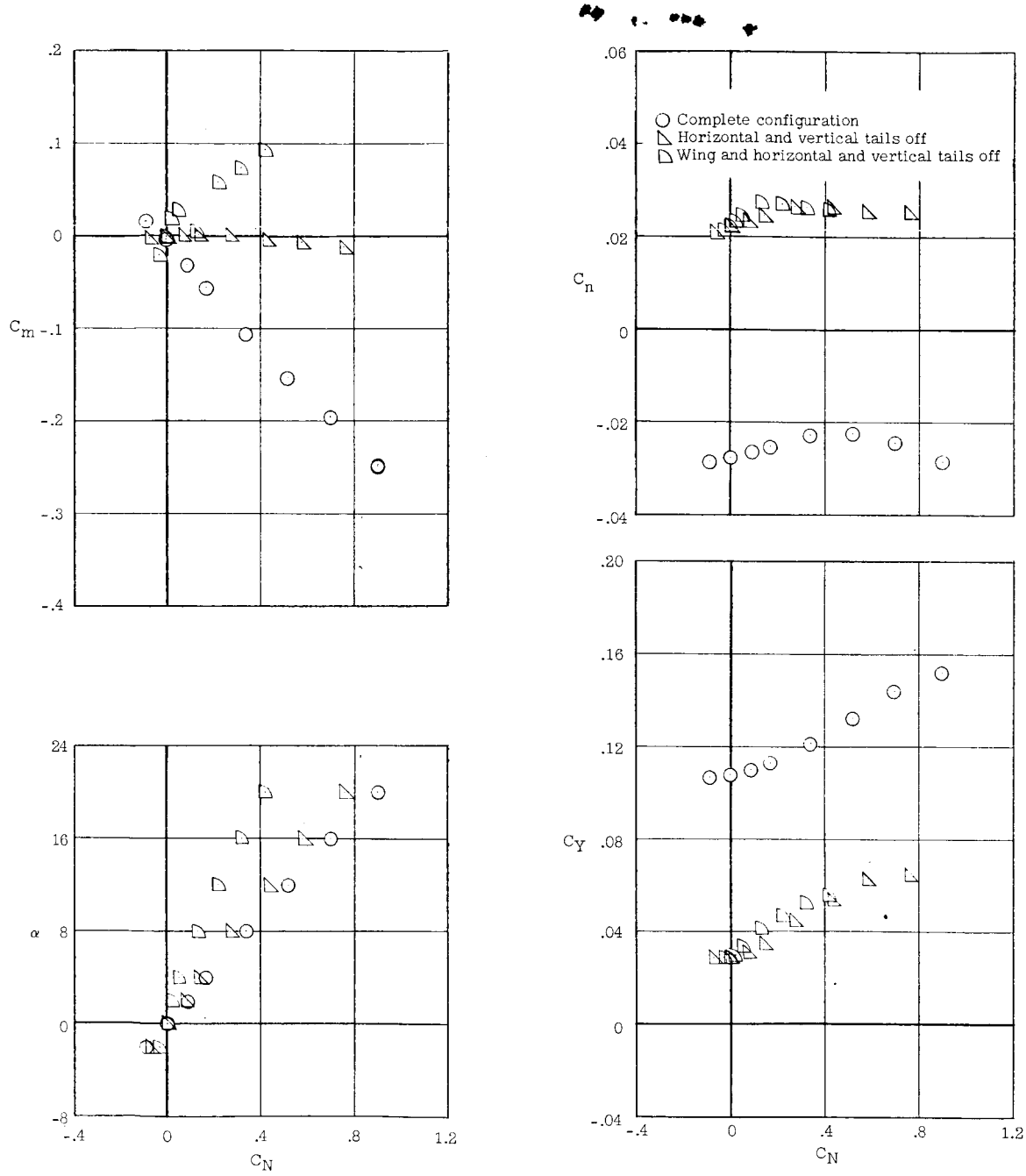


Figure 15.- Effect of sideslip angle on the aerodynamic characteristics of configuration 3. $\delta_{b,u} = 5^{\circ}$; $\delta_{b,l} = 5^{\circ}$; M = 2.98; R = 2.7 × 10^6; vertical tail 3a.



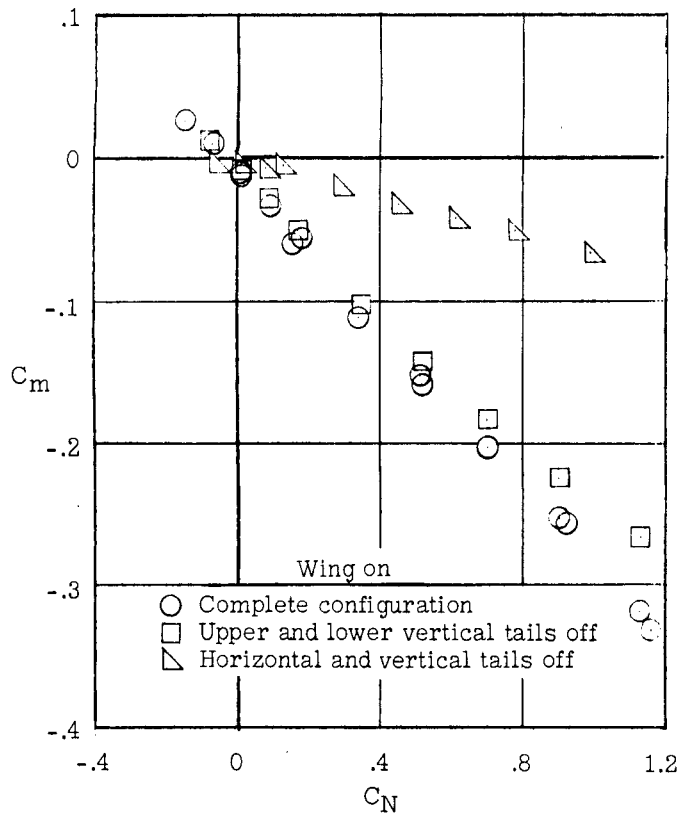
(a) $\beta = 0^\circ$.

Figure 16.- Comparison of the effects on the aerodynamic characteristics of configuration 3 of removing the tails and of removing the wing and tails. $\delta_{b,u} = 5^\circ$; $\delta_{b,l} = 5^\circ$; M = 2.98; R = 2.7×10^6; vertical tail 3a.



(b) $\beta = -5^\circ$.

Figure 16.- Concluded.



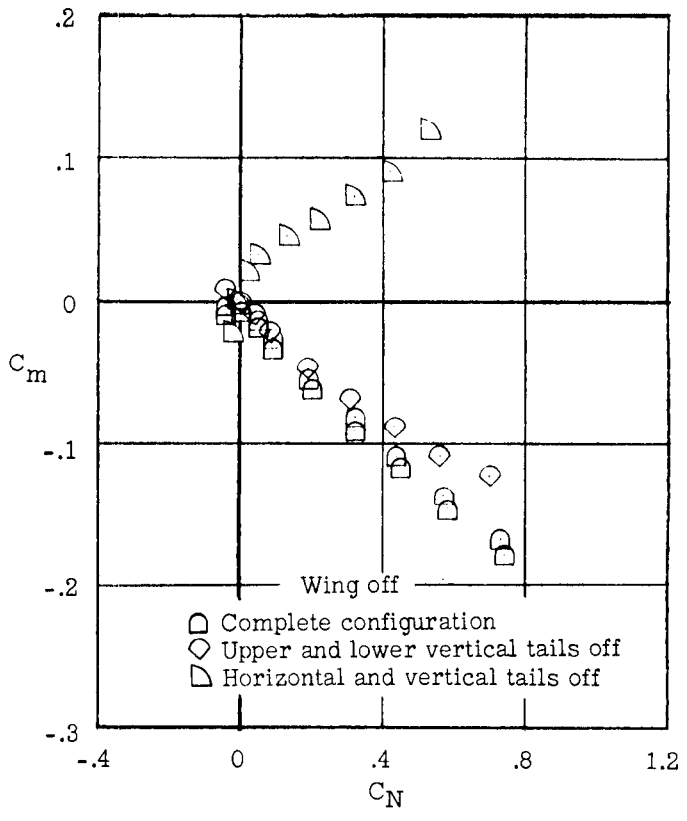


Figure 17.- Effect of various tail combinations on the longitudinal stability characteristics of configuration 3. $\delta_{b,u} = 5^\circ$; $\delta_{b,l} = 5^\circ$; $\beta = 0^\circ$; $M = 2.98$; $R = 2.7 \times 10^6$; vertical tail 3a.

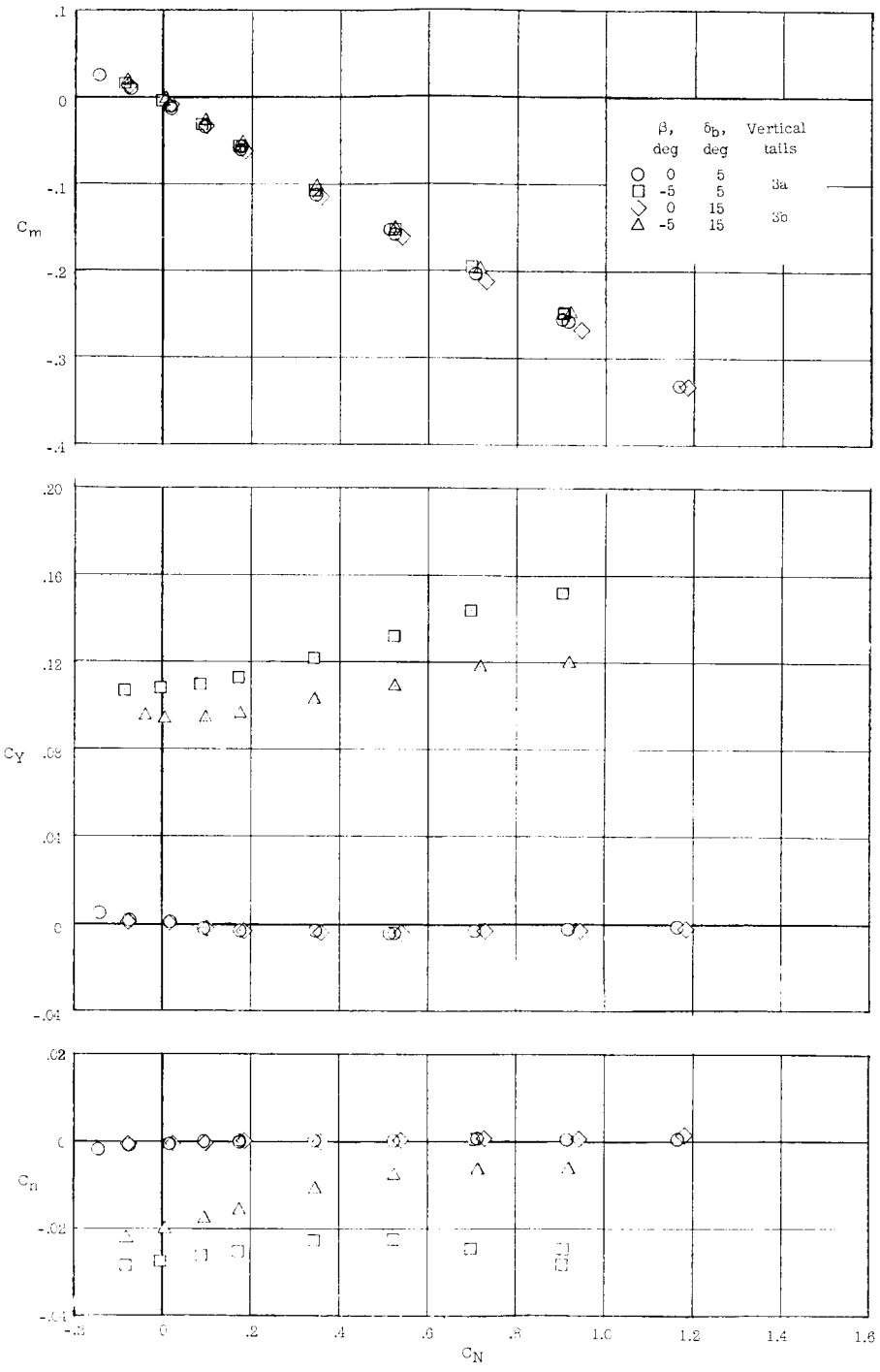
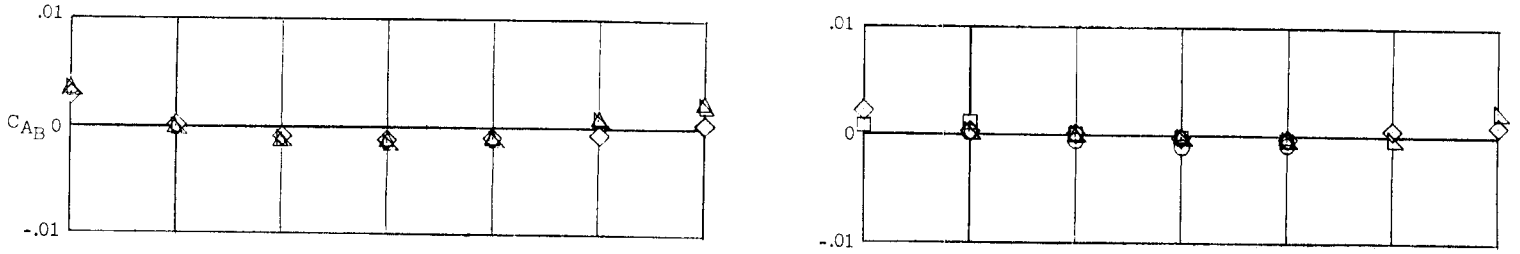
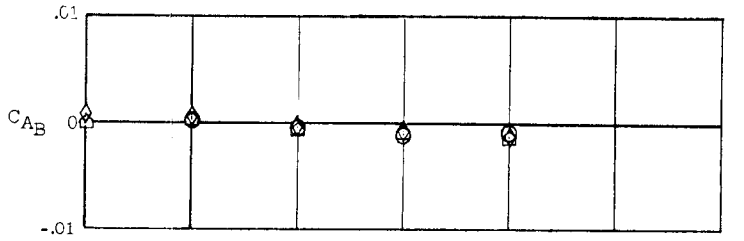


Figure 18.- Effect of vertical-tail variations on the aerodynamic characteristics of configuration 3. M = 2.98; R = 2.7×10^6.

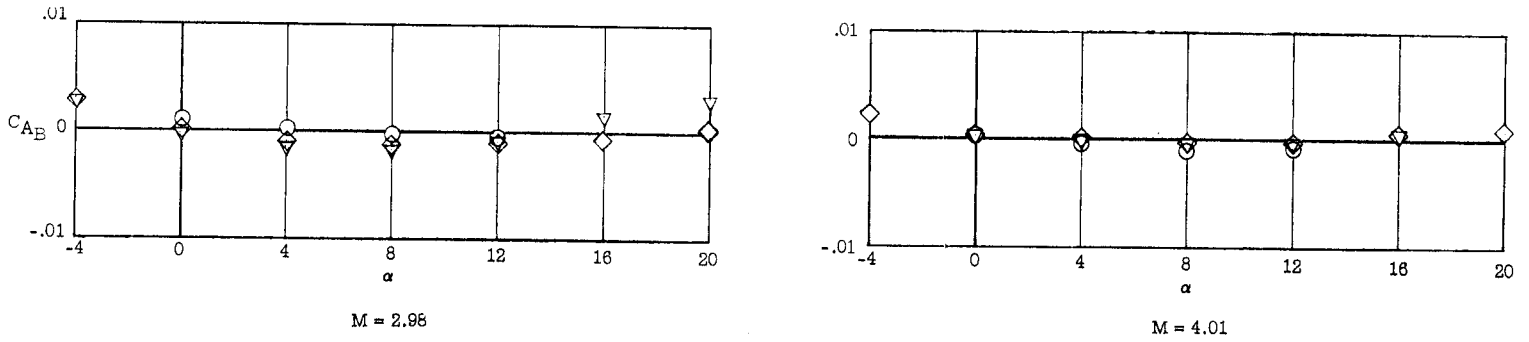


(a) Effect of opening brakes.

	$\delta_{b,u}$	$\delta_{b,l}$	Configuration
○	-4.3	-4.4	1
□	45	45	1
◇	-	-	1 with horizontal and vertical tails off
⬠	-	-	1 with wing and horizontal and vertical tails off
◇	5	7.5	2a
△	20	20	3a
◺	30	30	2a
▽	20	20	2b

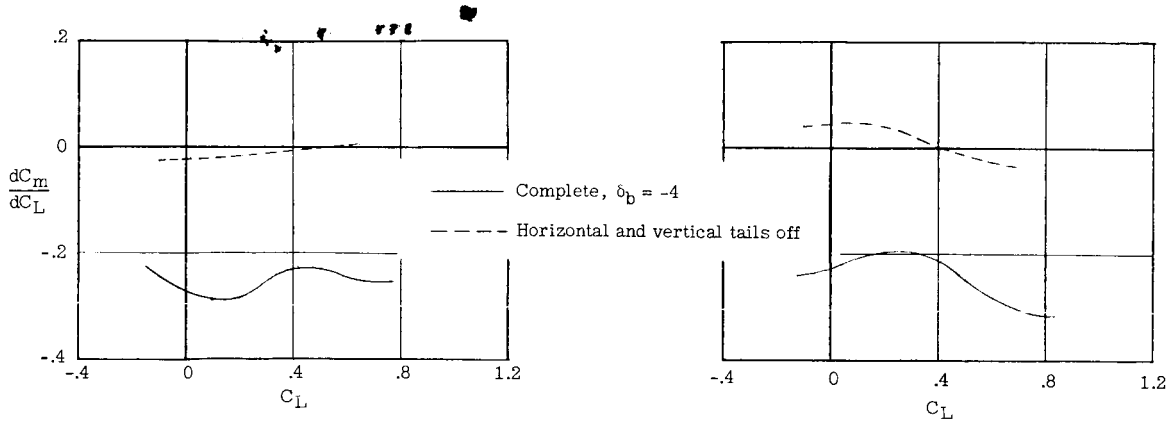


(b) Effect of removing wing and tails.

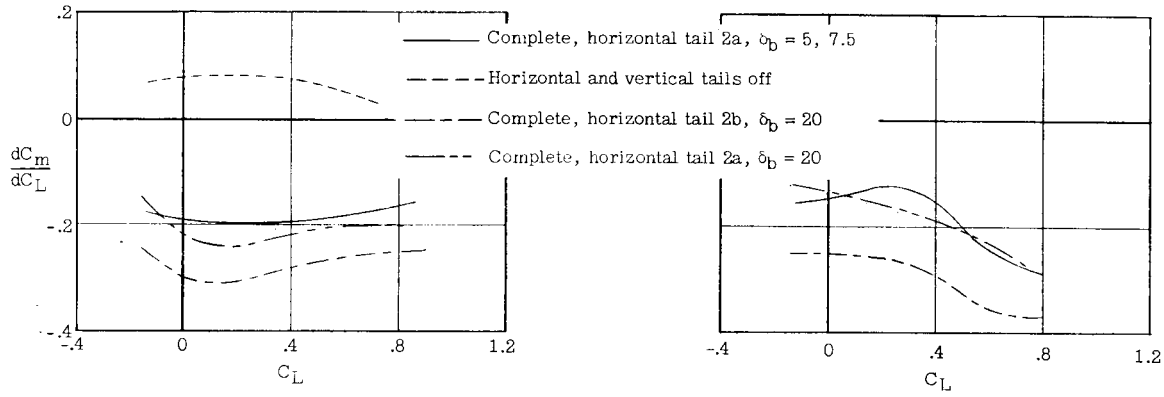


(c) Effect of configuration.

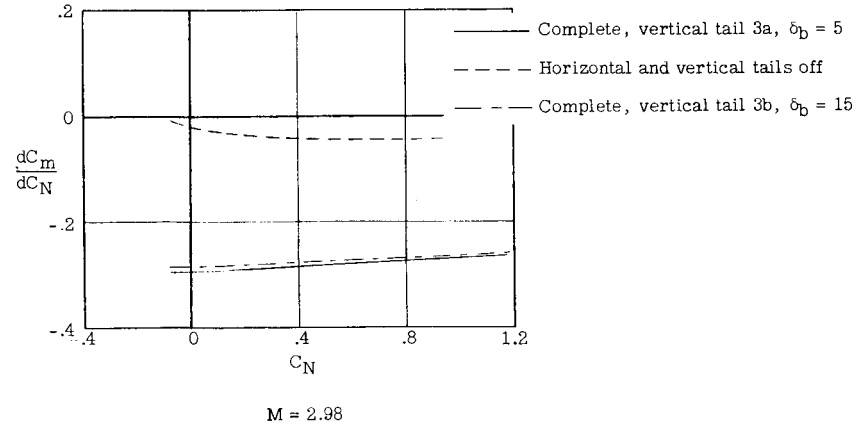
Figure 19.- Variations of base pressure coefficient with angle of attack for several configurations. $\beta = 0^{\circ}$.



(a) Configuration 1.



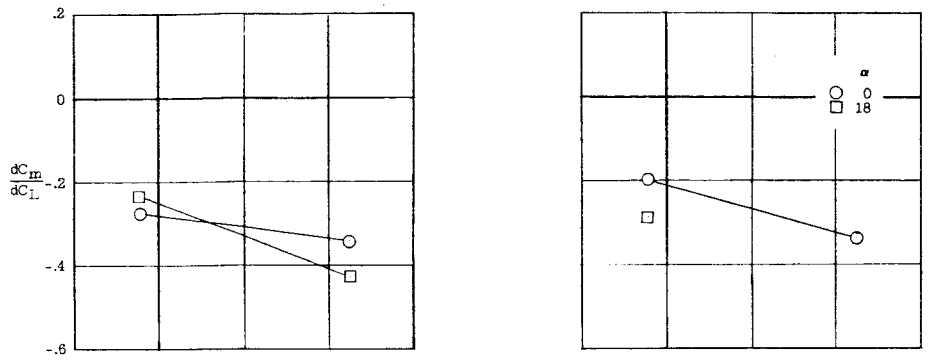
(b) Configuration 2.



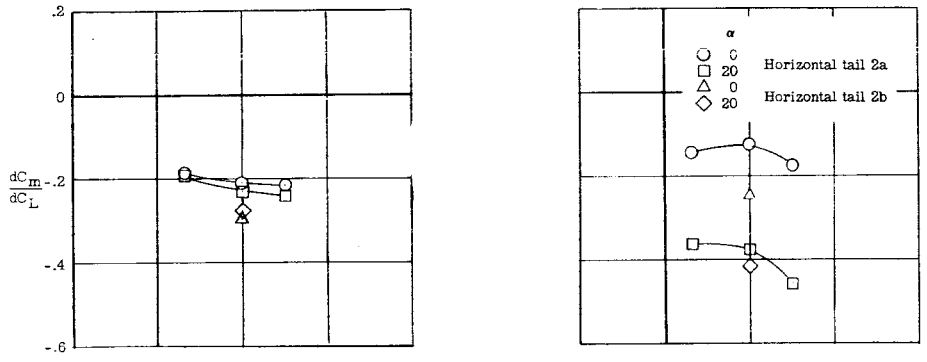
M = 2.98 M = 4.01

(c) Configuration 3.

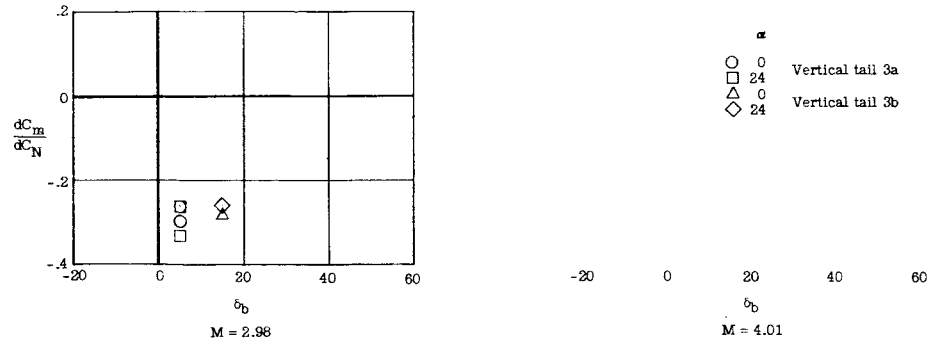
Figure 20.- Variation of the longitudinal stability with angle of attack and Mach number. $\beta = 0^{\circ}$.



(a) Configuration 1.

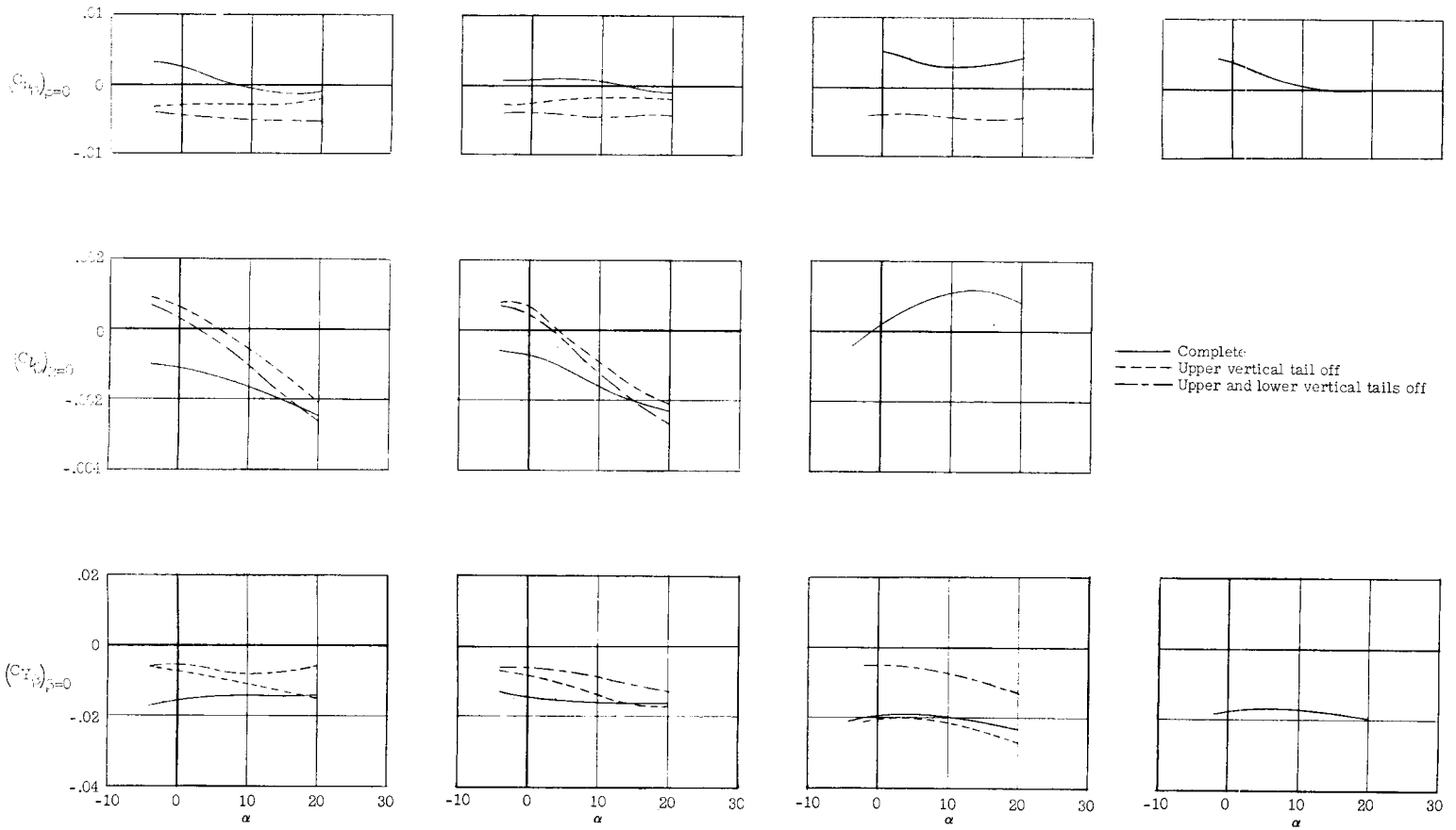


(b) Configuration 2.



(c) Configuration 3.

Figure 21.- Effect on the longitudinal stability of opening the dive brakes. $\beta = 0^{\circ}$.



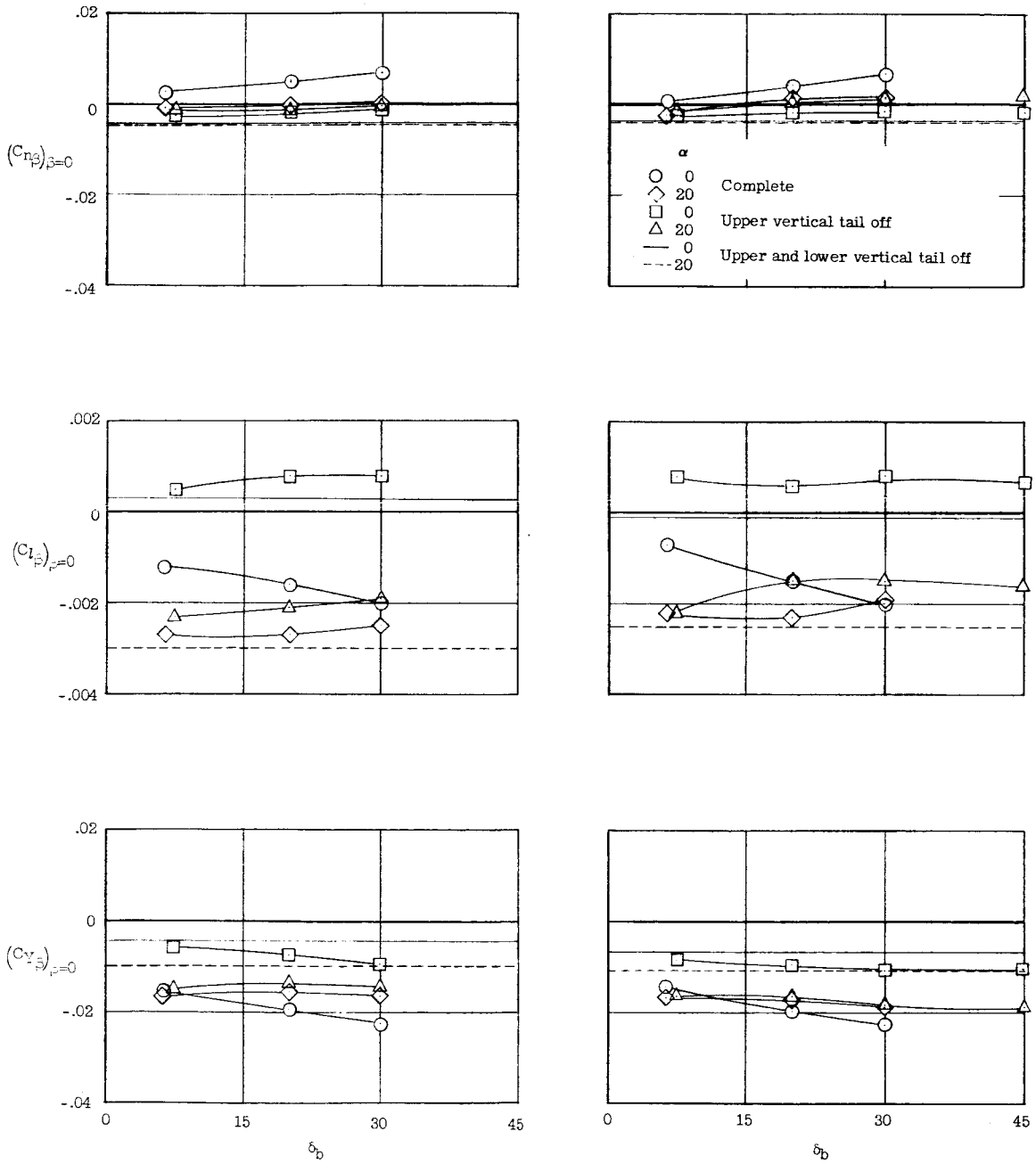
(a) Configuration 2, horizontal tail 2a; M = 2.98. δ_b = 5, 7.5.

(b) Configuration 2, horizontal tail 2a; M = 4.01. δ_b = 5, 7.5.

(c) Configuration 3, vertical tail 3a; M = 2.98. δ_b = 5, 5.

(d) Configuration 3, vertical tail 3b; M = 2.98. δ_b = 15, 15.

Figure 22.- Variation of lateral and directional stability with angle of attack.



(a) Configuration 2, horizontal tail 2a; M = 2.98.

(b) Configuration 2, horizontal tail 2a; M = 4.01.

Figure 23.- Effect on the lateral and directional stability of opening the dive brakes.