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SPACE SHUTTLE ORBITER TRIMMED
CENTER-OF-GRAVITY EXTENSION STUDY:
VOLUME IX - EFFECTS OF CONFIGURATION
MODIFICATIONS ON THE AERODYNAMIC
CHARACTERISTICS OF THE 140A/B ORBITER
AT MACH NUMBERS OF 1.5, 2.0, AND 2.5

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SPACE SHUTTLE ORBITER TRIMMED CENTER-OF-GRAVITY EXTENSION STUDY:
VOLUME IX--EFFECTS OF CONFIGURATION MODIFICATIONS ON THE
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SUMMARY

Wind-tunnel tests were conducted in the Langley Unitary Plan Wind Tunnel to determine the effects of modifications designed to extend the forward trimmed center-of-gravity envelope on the static longitudinal and lateral-directional characteristics of an 0.01 scale, 140 A/B Space Shuttle Orbiter model at Mach numbers of 1.5, 2.0, and 2.5. The test Reynolds number was 2.15×10^6 , based on model fuselage reference length. The angle-of-attack range was -1° to 32° for sideslip angles of 0° and 5° .

All the modifications, forward extended wing fillet, a flat plate canard, and a blended canard, provided significant reductions in longitudinal stability at all Mach numbers tested. The modifications also tended to increase the directional stability at the higher angles of attack and in most cases, provided some increases in positive effective dihedral.

INTRODUCTION

The longitudinal center-of-gravity range of the Space Shuttle Orbiter for trimmed flight during entry, approach, and landing is quite limited. This puts a considerable constraint on the allowable mass distribution of Shuttle payloads. In an effort to extend the orbiter center-of-gravity envelope, a study was undertaken at the Langley Research Center to determine the feasibility of developing simple, "bolt-on" modifications.

Modifications which were studied included changes in fuselage nose shape and wing fillet planform and the addition of fixed canard surfaces. Systems design analyses were undertaken to determine the weight penalties (ref. 1), and aerodynamic heating tests and analyses provided information on the impact of the modifications on thermal protection system requirements (ref. 2). Wind-tunnel force and moment tests were conducted across the speed range to assess the effectiveness of the modifications on flight characteristics. Hypersonic aerodynamic characteristics of the modification are presented in references 3 and 4, and transonic characteristics in reference 5.

The purpose of this paper is to present the effects of planform fillet and canard modifications on the aerodynamic characteristics of the 140A/B orbiter configuration at Mach numbers from 1.5 to 2.5. The investigation was conducted in the low Mach number test section of the Langley Unitary Plan Wind Tunnel at Mach numbers 1.5, 2.0 and 2.5 for a Reynolds number of 2.15×10^6 , based on fuselage reference length. The angle-of-attack range extended from approximately -1° to 32° at sideslip angles of 0° and 5° .

SYMBOLS

The longitudinal aerodynamic data are presented about the stability system of axes, and the lateral directional data are presented about the body axes. All of the aerodynamic data contained herein are non-dimensionalized using the baseline model values for wing reference area, span, and mean aerodynamic chord. The moment reference point is located at 65 percent of the fuselage reference length (i.e. 21.38 cm (8.42 in.)) aft of the model nose. Values are given in both SI and US Customary Units. When two symbols are listed for an aerodynamic coefficient, the second applies to the computerized tabulation of coefficients in the appendix.

A	aspect ratio
b	wing span, 23.79 cm (9.37 in.)
c	mean aerodynamic chord, 12.06 cm (4.75 in.)
C_A, C_A	axial-force coefficient, $\frac{\text{Axial force}}{q_\infty S}$
C_D, C_D	drag coefficient $\frac{\text{Drag force}}{q_\infty S}$
C_L, C_L	lift coefficient, $\frac{\text{Lift force}}{q_\infty S}$
$C_{l, C_{lB}}$	rolling-moment coefficient, $\frac{\text{Rolling moment}}{q_\infty S b}$
$C_{l\beta}$	$\left(\frac{\Delta C_l}{\Delta \beta}\right)_{\beta=0^\circ, 5^\circ}$, per degree

C_m, CLM pitching-moment coefficient, $\frac{\text{Pitching moment}}{q_\infty S c}$

C_N, CN normal-force coefficient, $\frac{\text{Normal force}}{q_\infty S}$

C_n, CYN yawing-moment coefficient, $\frac{\text{Yawing moment}}{q_\infty S h}$

C_{n_β} $\left(\frac{\Delta C_n}{\Delta \beta} \right)_{\beta=0^\circ, 5^\circ}$, per degree

C_{Y_β} $\left(\frac{\Delta C_Y}{\Delta \beta} \right)_{\beta=0^\circ, 5^\circ}$, per degree

L/D lift-drag ratio

l fuselage reference length, 32.77 cm (12.90 in.)

M Mach number

q_∞ free-stream dynamic pressure, Newtons per meter² (lb/ft²)

R_l free-stream Reynolds number based on l

S wing reference area, 0.025 m² (0.269 ft²)

x_0, y_0 model stations, cm (in.)

α angle of attack, deg

- β sideslip angle, deg
- δ_{BF} body-flap deflection angle (positive for trailing edge down), deg
- δ_e elevon deflection angle (positive for trailing edge down), deg.
- δ_{SB} split-rudder flare angle (positive for trailing edges deflected outboard), deg.

Model Configuration Components:

- B_1WVS_0EF baseline 140 A/B orbiter configuration
- B_1 baseline fuselage forebody
- C_4 canard with flat-plate airfoil sections
- C_5 blended canard with contoured airfoil sections
- E baseline elevon
- F baseline body flap
- S_0 baseline planform fillet
- S_2 fillet modification having planform geometry similar to a strake
- V baseline vertical tail
- W baseline wing (outboard panel) having a leading-edge sweep of 45°

APPARATUS AND TESTS

Model

Geometric details of the model used in the wind-tunnel investigation are shown in figure 1 and table 1, and photographs of the model are shown in figure 2. The baseline configuration (fig. 1(a)) was an 0.01-scale model of the Rockwell International 140 A/B Space Shuttle Orbiter configuration described in reference 3. The model had a removable forebody and removable components in the wing planform fillet region which allowed geometry modifications. The modifications shown in figures 1(b), 1(c), and 1(d) consisted of one wing planform fillet configuration, S_2 , and two canard configurations, C_4 and C_5 . All configurations of the present investigation incorporated a split-rudder flare angle of 55° .

The leading edge of the S_2 fillet modification produced a planform shape very similar to a strake (fig. 1(b)). Fillet S_2 had a leading-edge sweep angle of 67.4° that extended outboard to $y_0 = 3.584$ cm at $x_0 = 12.929$ cm. At this point, the fillet leading-edge sweep increased to 85° , and the effective fillet intersection with the outboard wing panel was the same as for the baseline fillet (S_0) intersection. The streamwise sections of this modified fillet were faired with the outboard wing panel and had leading-edge radii identical to those of the baseline fillet, S_0 .

Canard C_4 (fig. 1(c)) had a flat-plate section with a rounded leading edge and a sharp trailing edge. The leading-edge sweep angle was 54.7° . The trailing edge was formed by a circular arc segment having a radius of 6.217 cm. The blended canard, C_5 (fig. 1 (d)) was about the same size as canard C_4 , but it was contoured more realistically for the actual flight environment where aerodynamic heating effects must be considered.

Tests

The investigation was conducted in the low Mach number test section of the Langley Unitary Plan Wind Tunnel (ref. 9) at Mach numbers of 1.5, 2.0, and 2.5. Free-stream Reynolds number for the investigation was approximately 2.15×10^6 , based on fuselage reference length. Tests angles of attack were varied from about -1° to 32° at 0° and 5° of sideslip. An internally mounted strain-gage balance was used to measure aerodynamic forces and moments acting on the model. Corrections have been applied to the angles of attack and sideslip to account for sting and balance deflections produced by aerodynamic loads on the model.

Transition strips approximately 0.16 cm wide were located behind the leading edges of all model components using carborundum grains having a nominal grain diameter of 0.027 cm. The streamwise locations of the transition strips were 3.05 cm behind fuselage nose and 1.02 cm behind the leading edges of the wing planform fillets, canards, wing, and vertical tail.

RESULTS AND DISCUSSION

Aerodynamic data obtained in the present study are tabulated by run number in the appendix which also includes a Data Set/Run Number Collation Summary (table II) to expedite the location of data for a particular configuration and test condition.

Longitudinal Aerodynamic Characteristics

The longitudinal aerodynamic characteristics for the baseline orbiter configuration, B₁WVS₀EF, are shown in figure 3 for three elevon deflections at $\delta_{BF} = -11.7^\circ$ and $\delta_{SB} = 55^\circ$.

The effects of the various configuration modifications on the static longitudinal characteristics of the orbiter model are presented in figures 4 to 6. Replacing the baseline fillet, S_0 , with the forward extended fillet, S_2 produced significant reductions in longitudinal stability levels over the Mach number range of this investigation (fig. 4). The model was still longitudinally stable in the nominal flight angle-of-attack range ($10 \leq \alpha \leq 13.2^\circ$) at Mach 1.5, but it was unstable at the two higher Mach numbers. With the c.g. moved to the maximum forward hypersonic trim position, $x/l=0.623$, as taken from the table in reference 6, the model was longitudinally stable in the nominal flight angle of attack range at all three Mach numbers. The dashed line in figure 4 represents the $C_m = 0$ line rotated to reflect the maximum forward c.g. location.

Addition of the canards (figs. 5 and 6) also produced significant reductions in longitudinal stability at all Mach numbers tested, but the model is still stable at Mach 1.5. Figures 5(a) and 6(a) show that the unstable break in the baseline model pitching moment curve at Mach 1.5 was eliminated by installing the canards. Reference 8 also shows this effect for the C_4 canard at a Mach number of 1.2. A comparison of the model longitudinal characteristics with the C_4 and blended (C_5) canards (fig. 7) indicates that the flat-plate canard produced larger positive pitching-moment increments than the blended canard. Reference 5 also shows the same trend at Mach 6.0. Post-test measurements indicated that, although the areas of the canards were nearly the same, the estimated effective moment arm of the blended canard was somewhat shorter than that of the flat-plate canard, and this may explain some of the differences. The blended canard produced about the same negative stability contribution as the S_2 fillet for the Mach number range of these tests.

With the c.g. moved to the maximum forward position for hypersonic trim (dashed zero- C_m lines, figs. 5 and 6) as taken from the table in reference 6 (0.6182 for C_4 and 0.623 for the blended canard, assuming its contribution to be equivalent to that of S_2), the model would be longitudinally stable at all Mach numbers except for the blended canard at Mach 2.5 (fig. 6(c)) where it is neutrally stable in the nominal flight angle-of-attack range.

Lateral-Directional Aerodynamic Characteristics

The static lateral-directional characteristics of the baseline model and with the configuration modifications are presented in figures 8 to 12. Figure 9 shows that, in general, all of the modifications tended to increase the directional stability of the baseline model over the higher angle-of-attack range at all Mach numbers investigated. The modifications also increased the positive effective dihedral parameter, $-C_{\dot{\rho}_\beta}$, at Mach numbers of 1.5 and 2.0, but a slight reduction in this parameter occurred at Mach 2.5.

Concluding Remarks

The results of an investigation of the static aerodynamic characteristics of an 0.01 scale Space Shuttle Orbiter model at Mach numbers of 1.5, 2.0, and 2.5, as affected by configuration modifications, showed that the extended fillet, flat-plate canard, and blended canard decreased the longitudinal stability at all Mach numbers tested. With the center of gravity moved to the maximum forward hypersonic trim position, the model with the modifications was longitudinally stable at all Mach numbers tested, with the exception that the model with the blended canard was neutrally stable at Mach 2.5. The modifications increased the directional stability at high angles of attack at all Mach numbers tested and increased the effective dihedral parameter at Mach numbers of 1.5 and 2.0.

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9. Schaefer, William T., Jr.: Characteristics of Major Active Wind Tunnels at the Langley Research Center. NASA TM X-1130, 1965.

TABLE I. - MODEL GEOMETRY

Theoretical wing:

Area, planform, m ² (ft ²)	0.02499 (0.2690)
Area, elevon, m ² (ft ²)	0.001951 (.0210)
Span, cm (in.)	23.792 (9.367)
Chord, centerline root, cm (in.)	17.507 (6.892)
Chord, tip, cm (in.)	3.501 (1.378)
Taper ratio	0.20
Aspect ratio	2.265
Leading-edge sweep angle, deg	45.0
Trailing-edge sweep angle, deg	-10.0
Dihedral angle, deg	3.5
Incidence angle, deg ($y_0 = 5.056$ cm)	0.5
Twist angle, deg	3.0
Airfoil section, tip	0012-64 modified
x_0 , wing leading edge, plane of symmetry	21.234 (8.360)

Wing planform fillet S₀, baseline:

Leading-edge sweep angle, deg	80.9
x_0 , wing leading-edge (theoretical) intersection cm (in.)	25.984 (10.230)

Wing planform fillet S₂:

Leading-edge sweep angle (forward portion), deg	67.4
Leading-edge sweep angle (aft portion), deg	85.0
x_0 , intersection of forward and aft fillet leading edges, cm (in.)	12.929 (5.090)
x_0 , intersection of aft fillet and theoretical wing, cm (in.)	25.984 (10.230)

TABLE I. - CONCLUDED

Canard C₄:

Leading-edge sweep angle(ft ²)	54.7
Exposed area, m ₂ (ft ₂).	0.002544(0.027388)

Blended Canard C₅

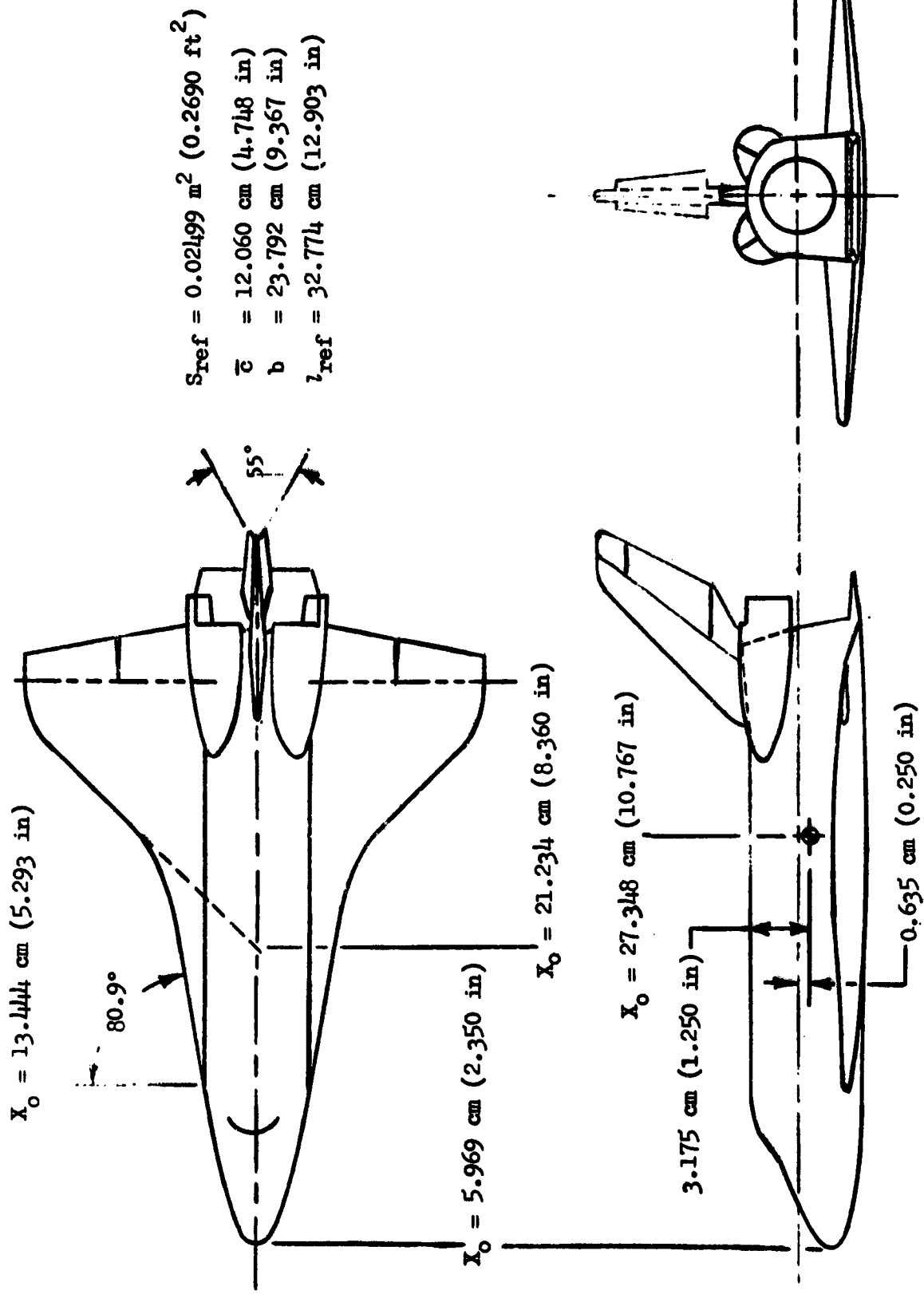
Exposed area, m ² (ft ²).0.001839 (0.019798)
Leading-edge sweep angle, deg58.15

Vertical tail:

Area (theoretical), m ² (ft ²)	0.003839 (0.041325)
Leading-edge sweep angle, deg	45.0
Root chord (theoretical), cm (in.)	6.820 (2.685)
Tip chord (theoretical), cm (in.)	2.755 (1.085)
Span, cm (in.)	8.019 (3.157)

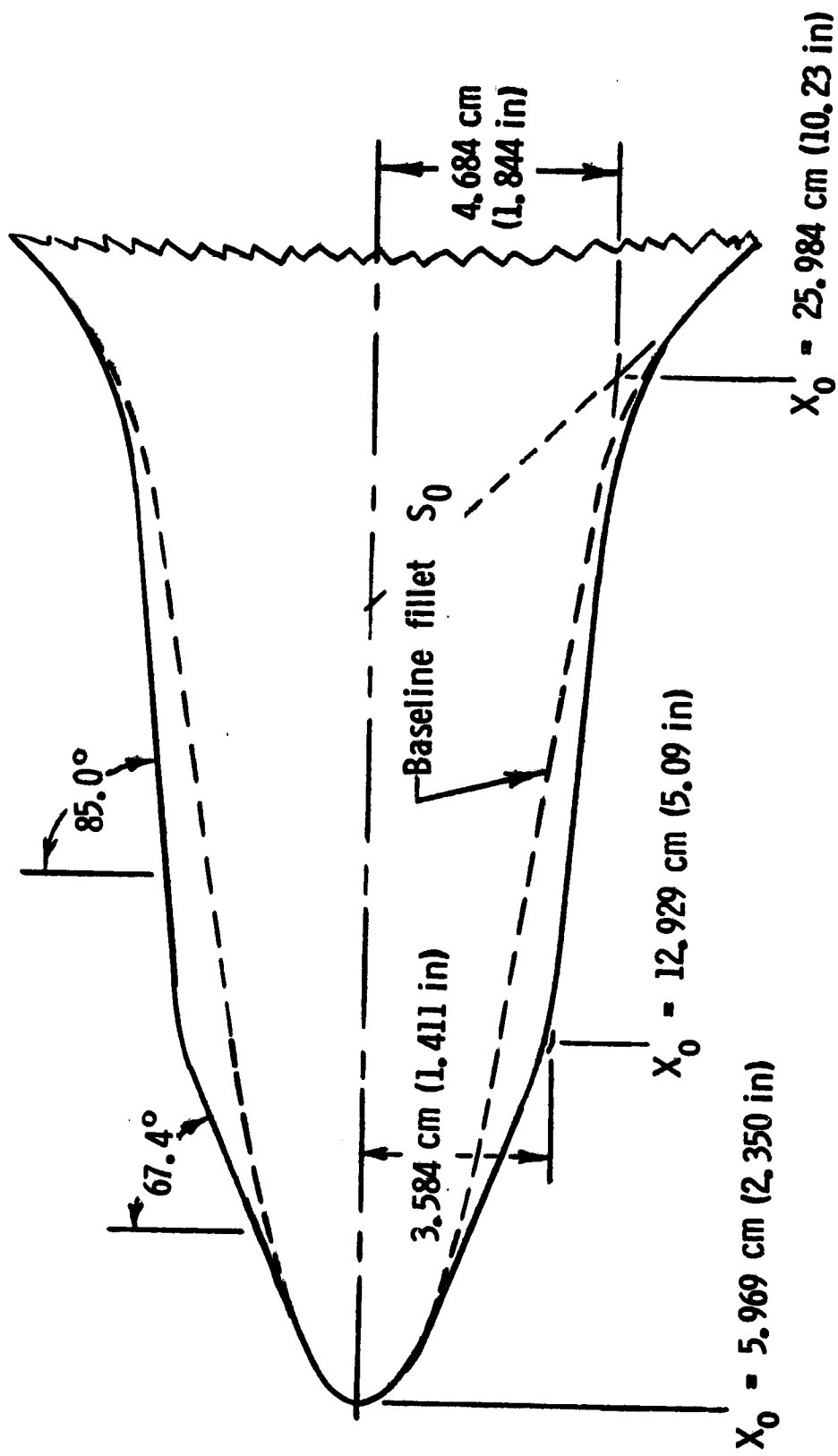
Fuselage:

Maximum cross-sectional area, m ² (ft ²)	0.003595 (.0387)
Length, cm (in.)	32.774 (12.903)
Maximum width, cm (in.)	6.797 (2.676)



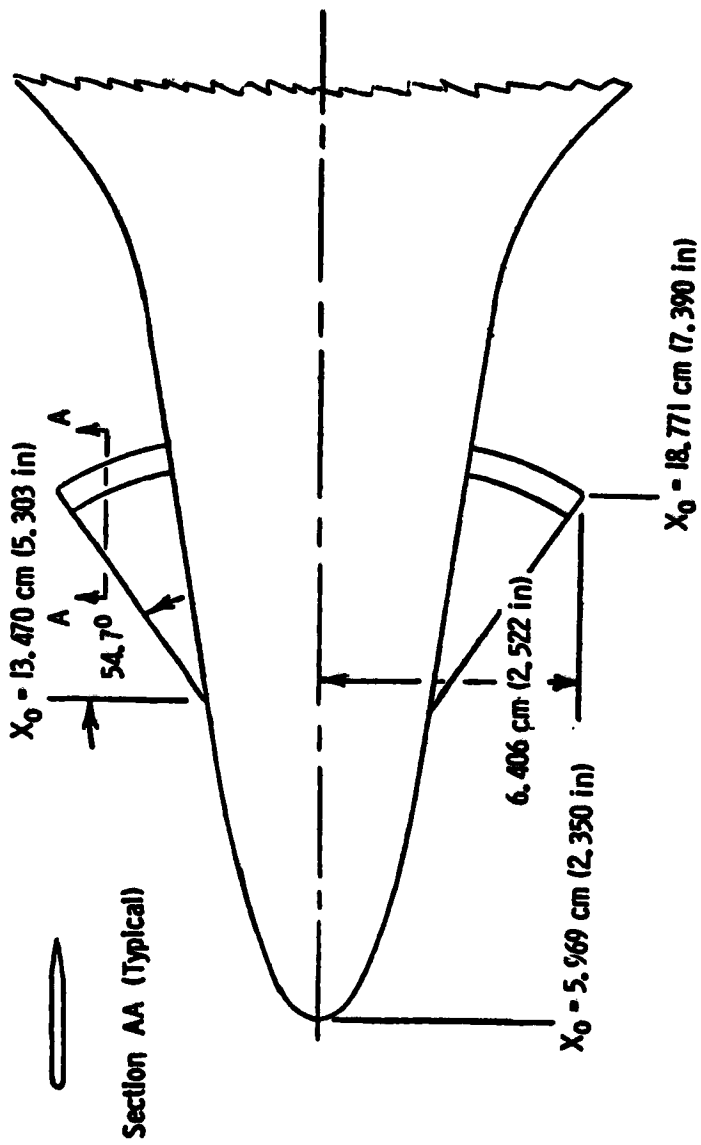
(a) Three-view of baseline orbiter model (Configuration B1W5QEF)

Figure 1. - Model drawings.



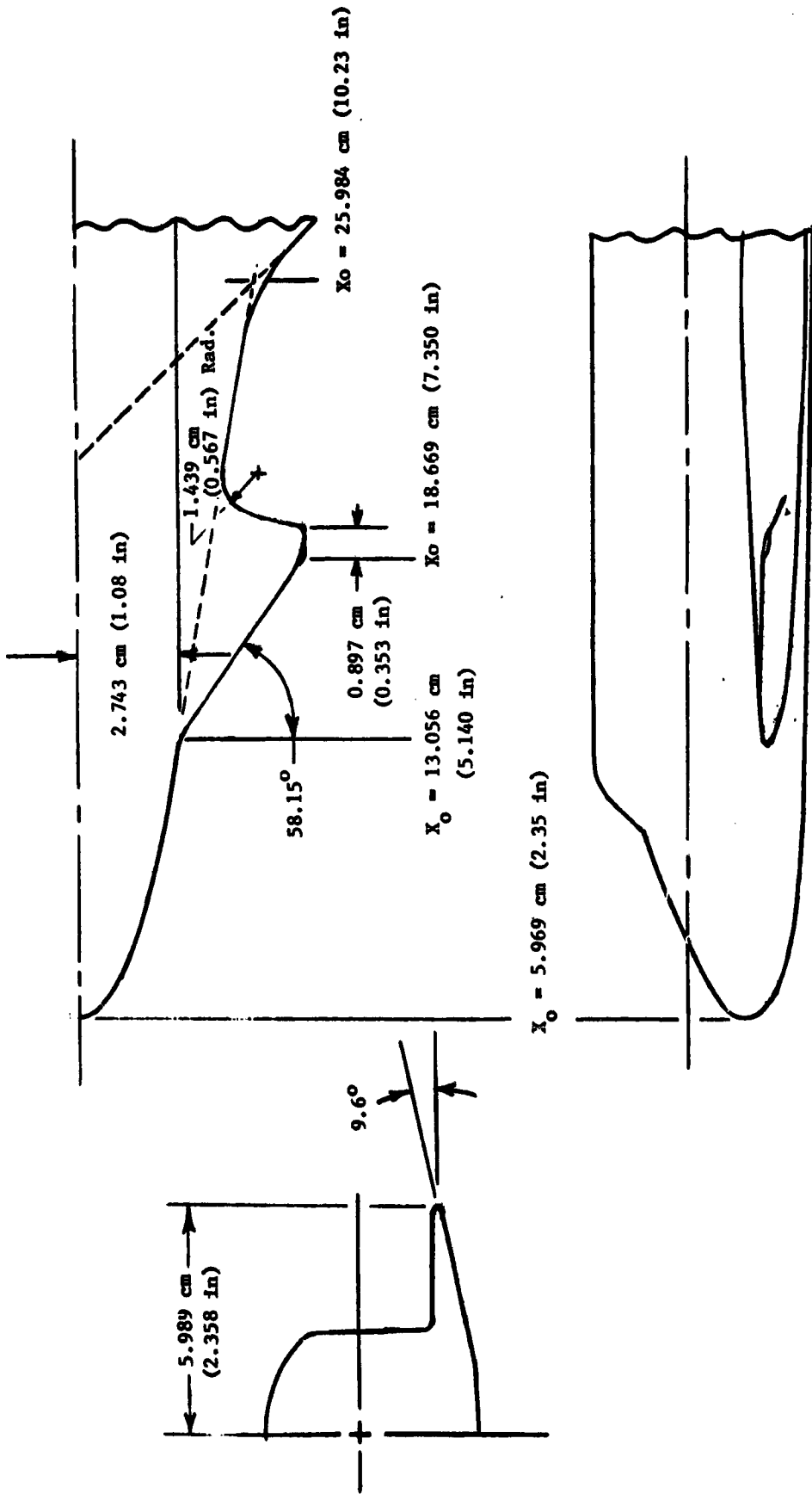
(b) Fillet S_2 (Configuration B_1WVS_2EF)

Figure 1.- Continued.



(c) Canard C_4 modification

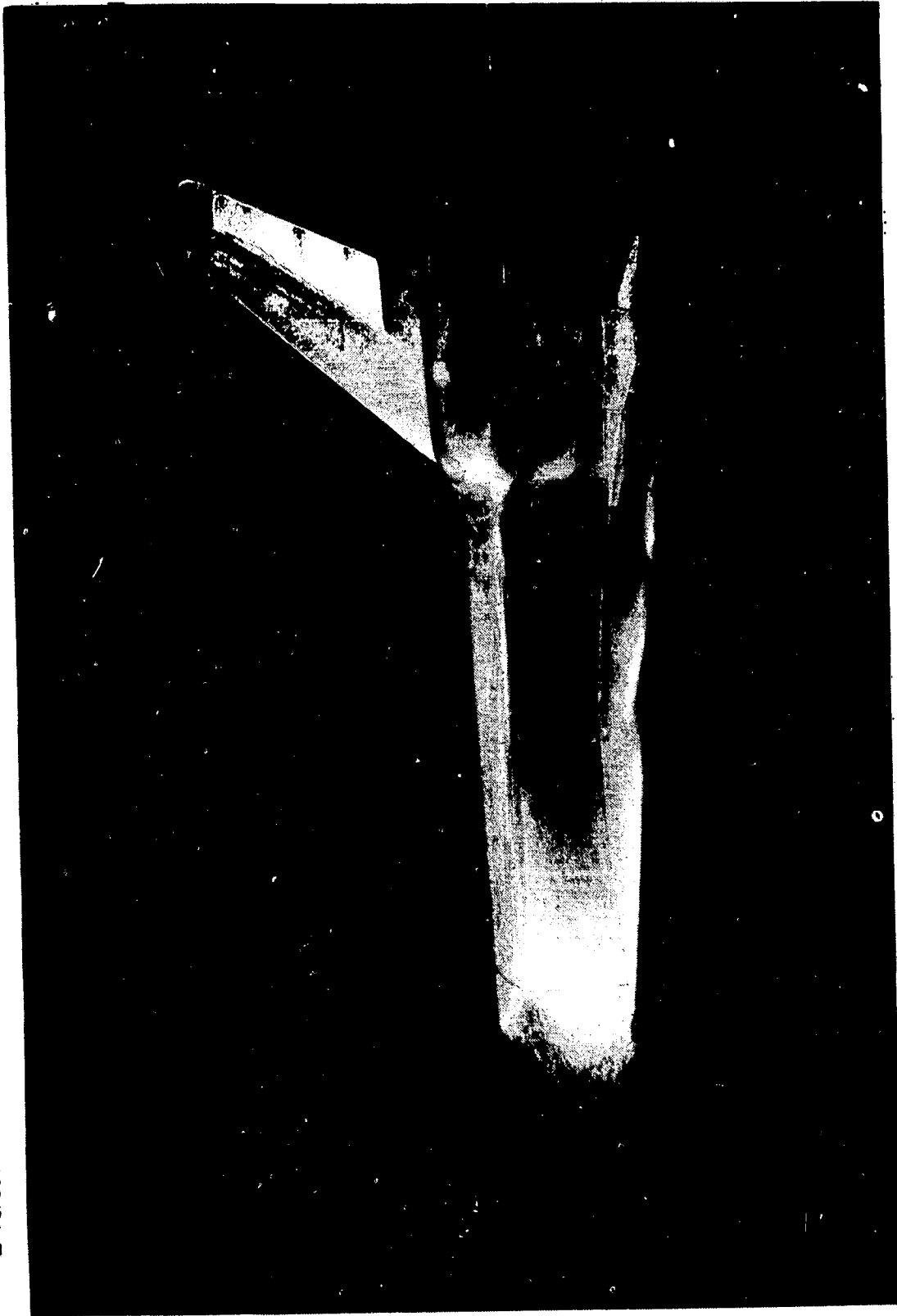
Figure 1. - Continued



(d) Canard C_5

Figure 1. - Concluded.

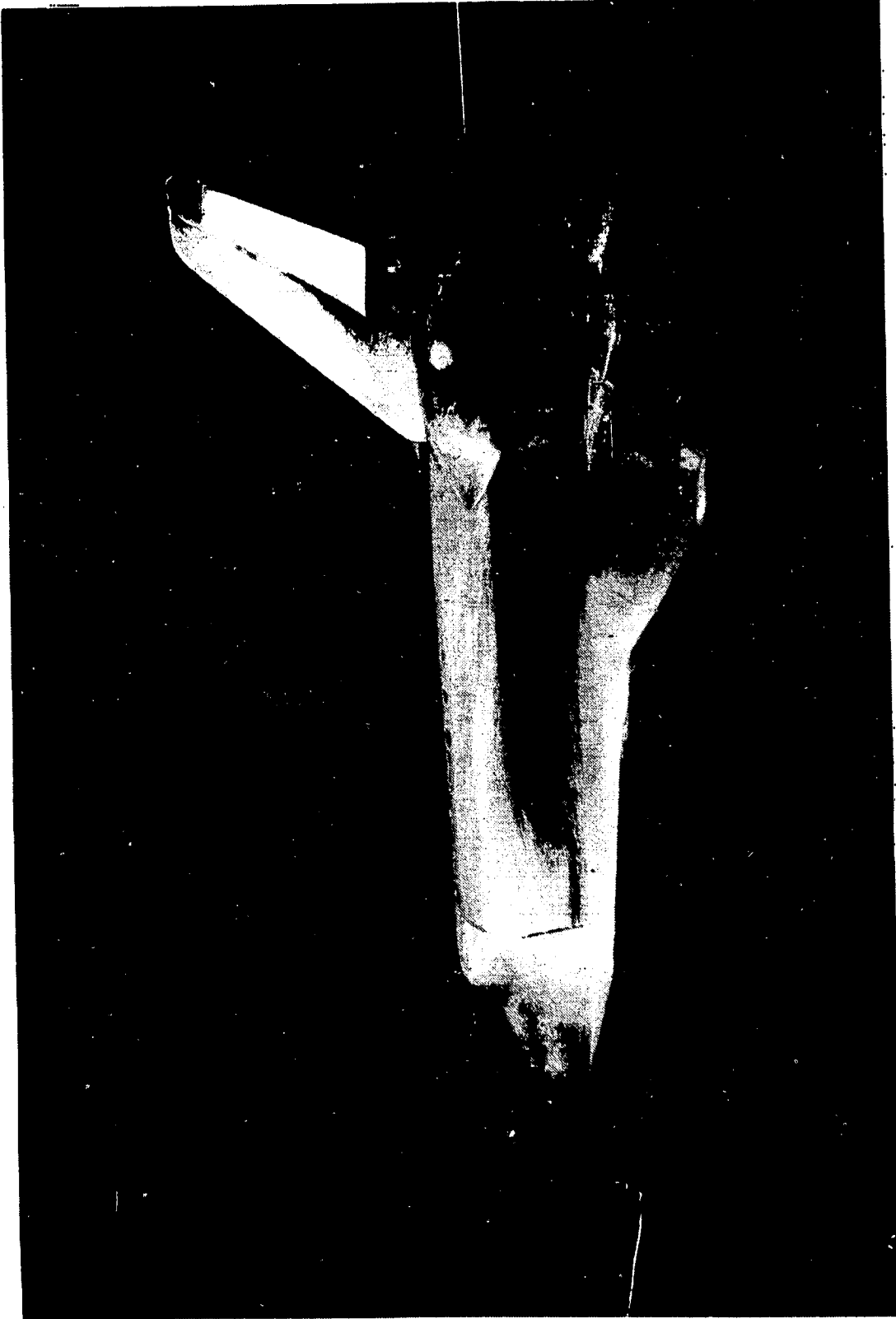
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(a) Baseline orbiter model configuration.

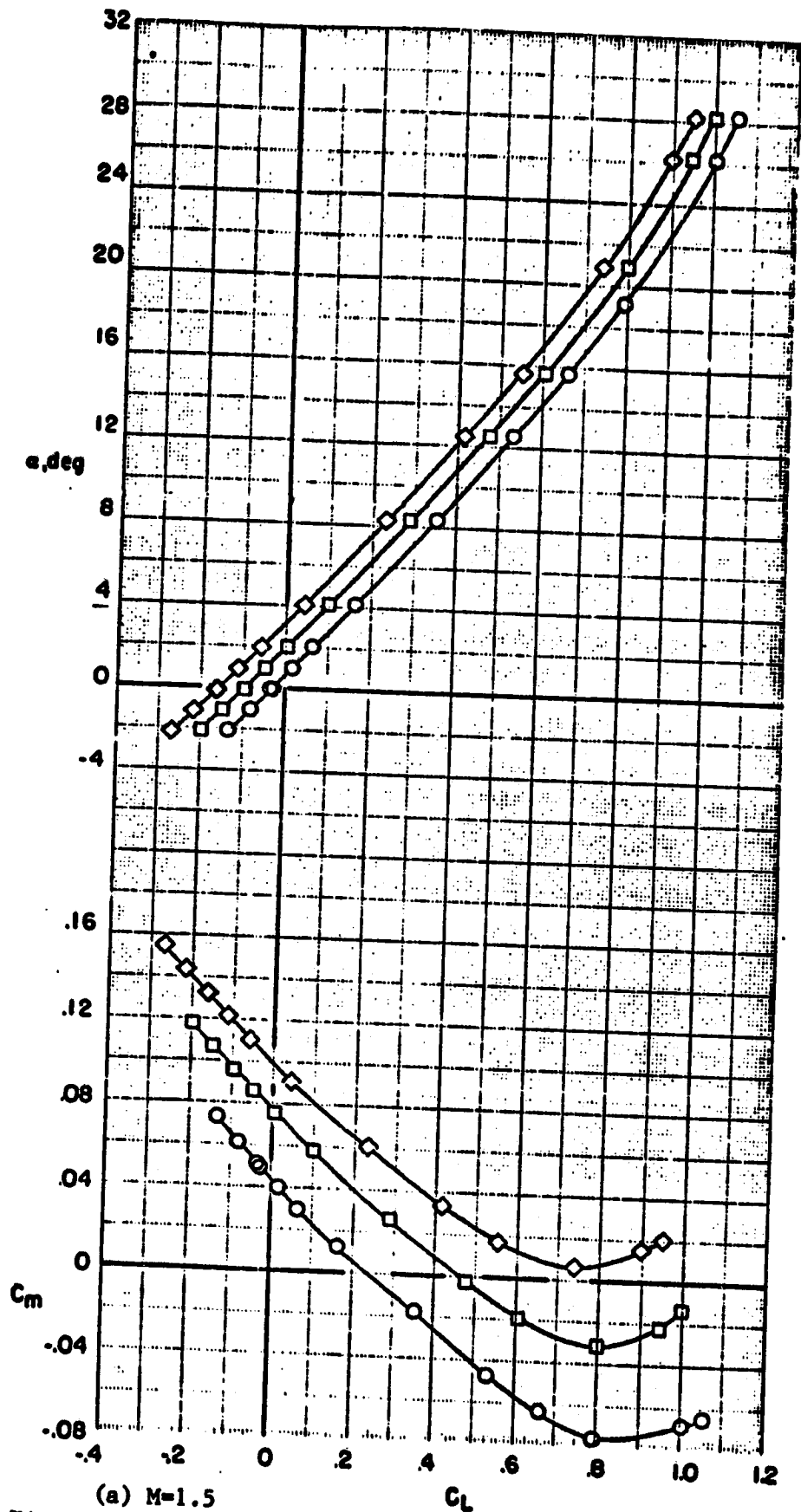
Figure 2. - Photographs of the 0.01-scale 140 A/B orbiter model.

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(b) Model with the S_2 fillet modifications.

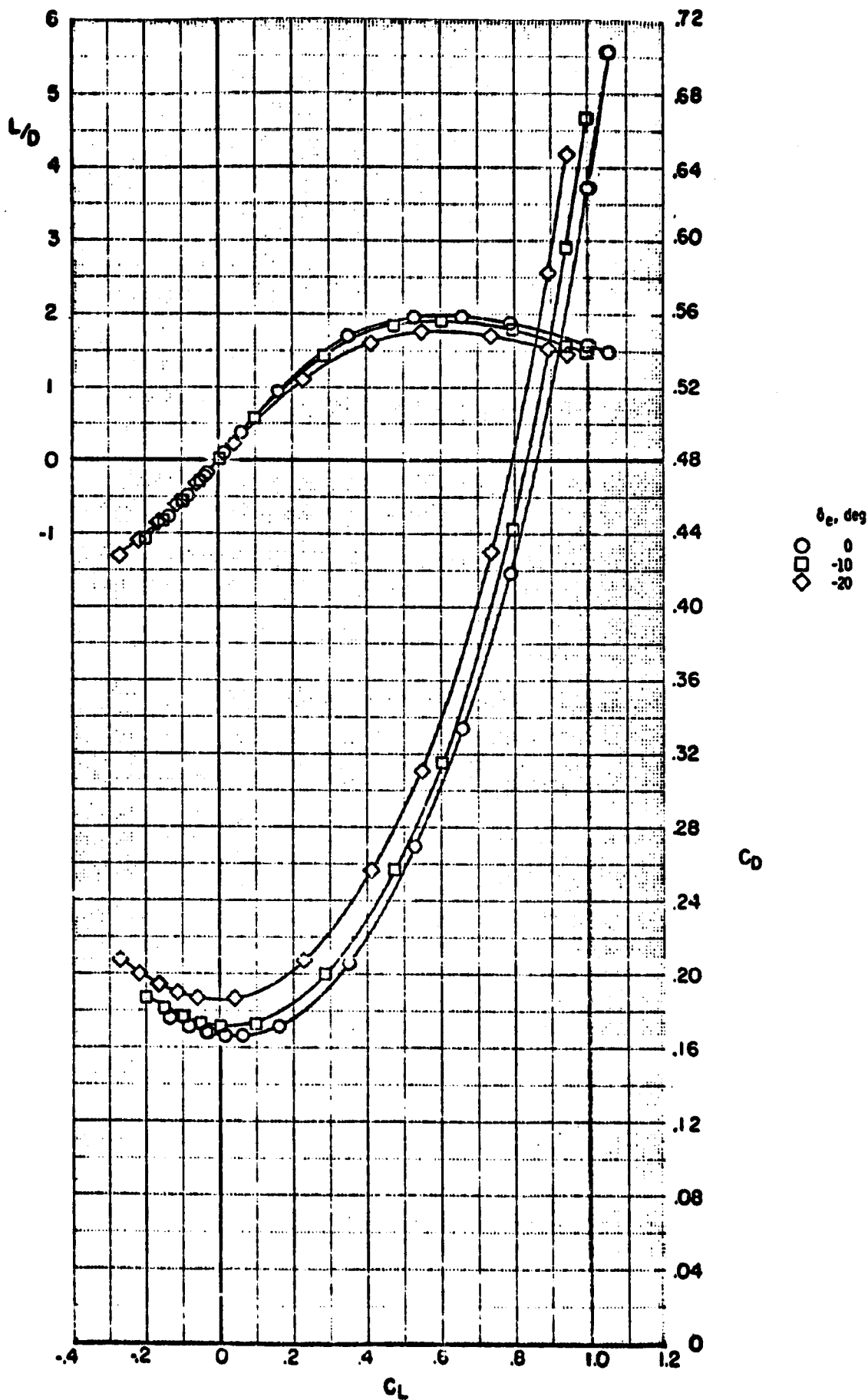
Figure 2. - Concluded.



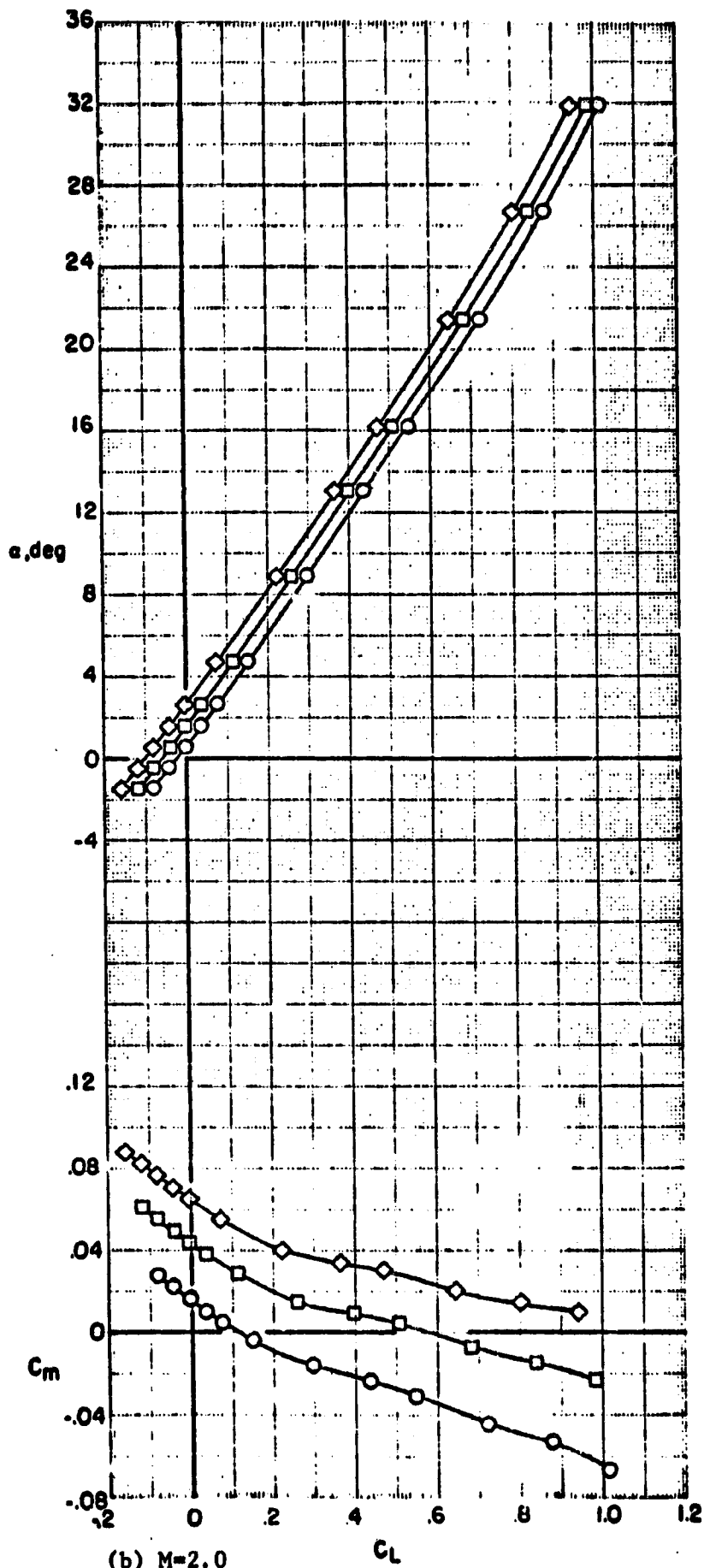
δ_e , deg
 ○ 0
 □ -10
 ◇ -20

(a) $M=1.5$

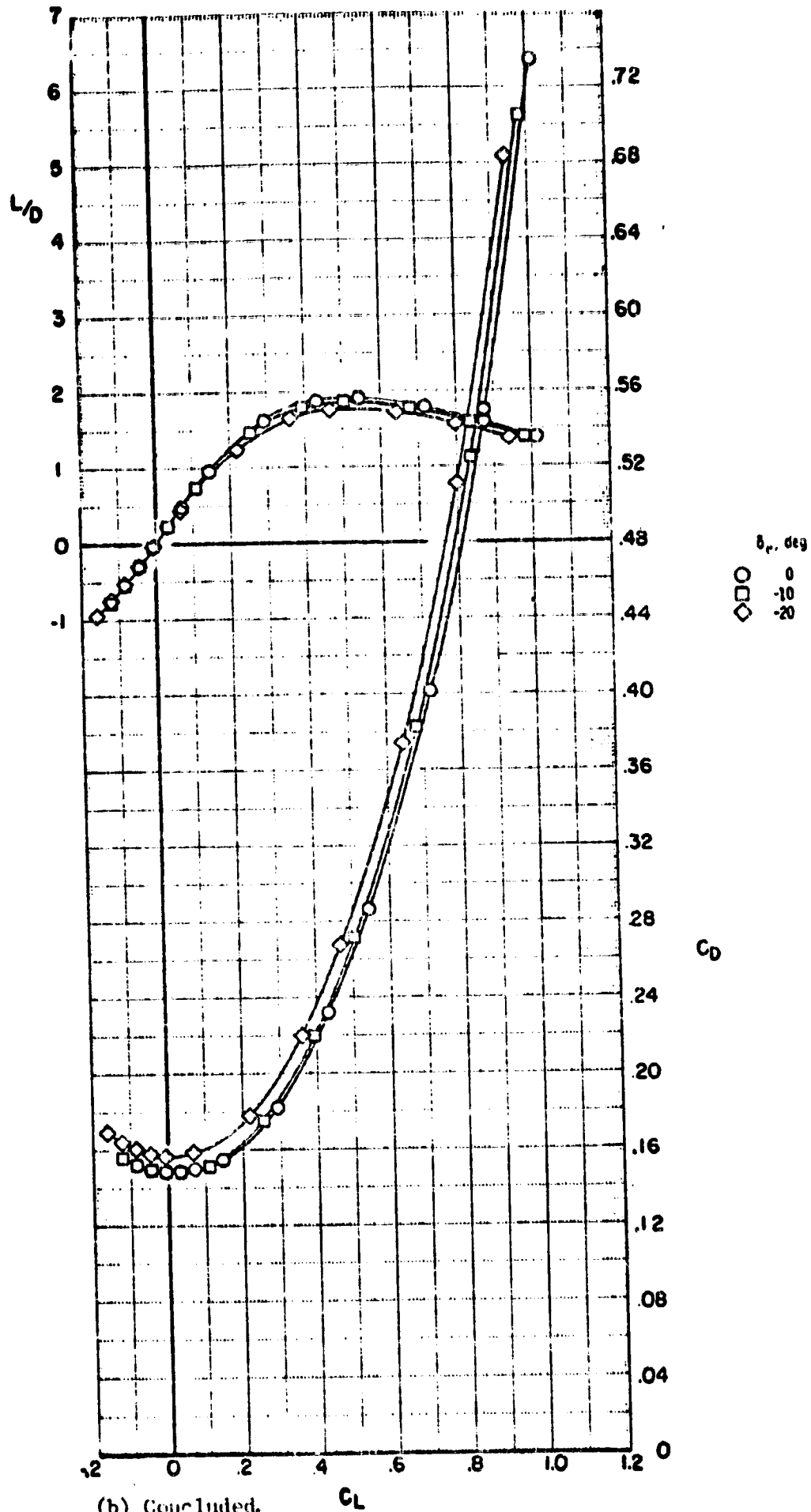
Figure 3. - Longitudinal aerodynamic characteristics for baseline 140 A/B configuration ($B_1 WVS_{0EF}$) $\delta_{BF} = -1.7^\circ$; $\delta_{SB} = 55^\circ$



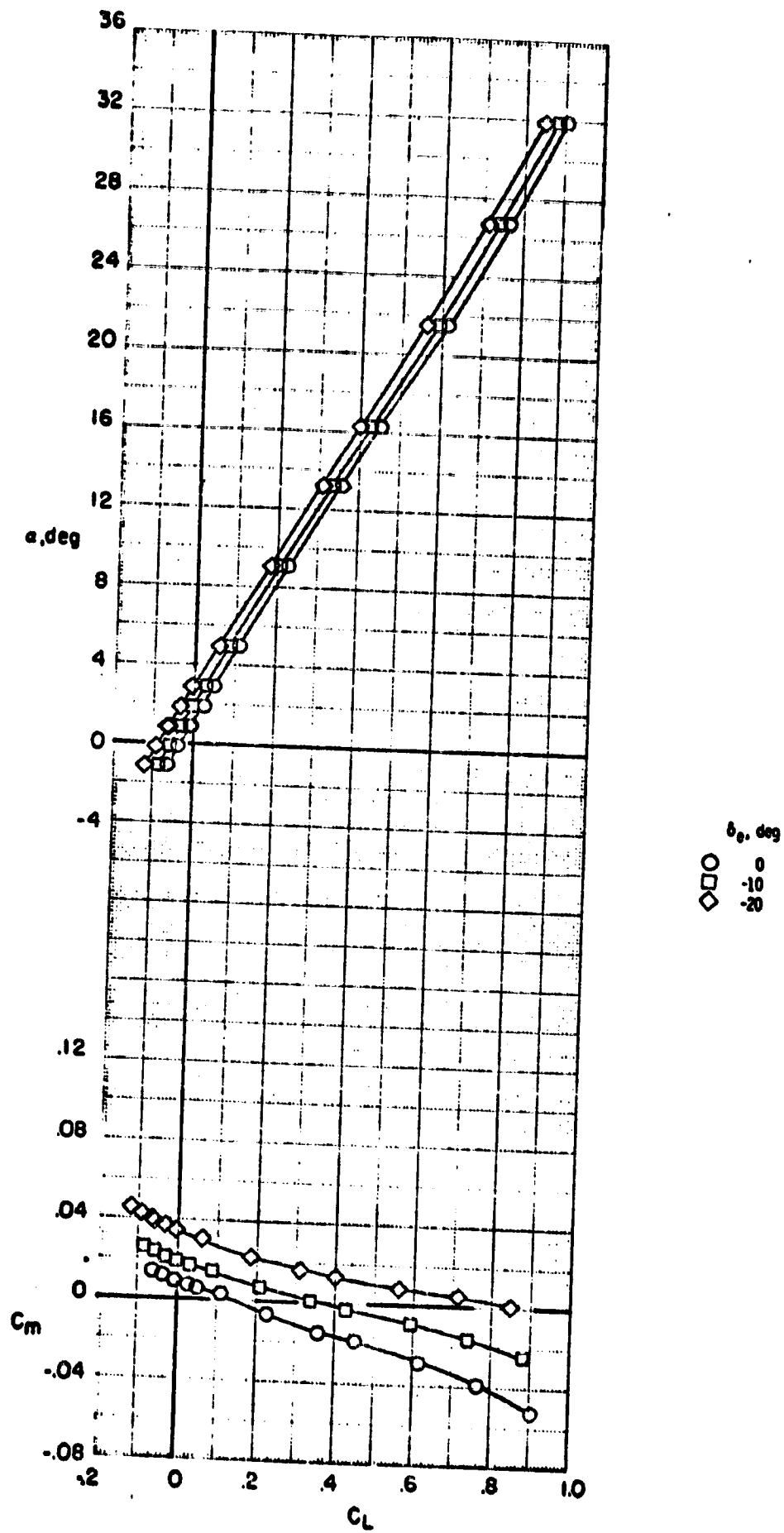
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Figure 3. - Continued.



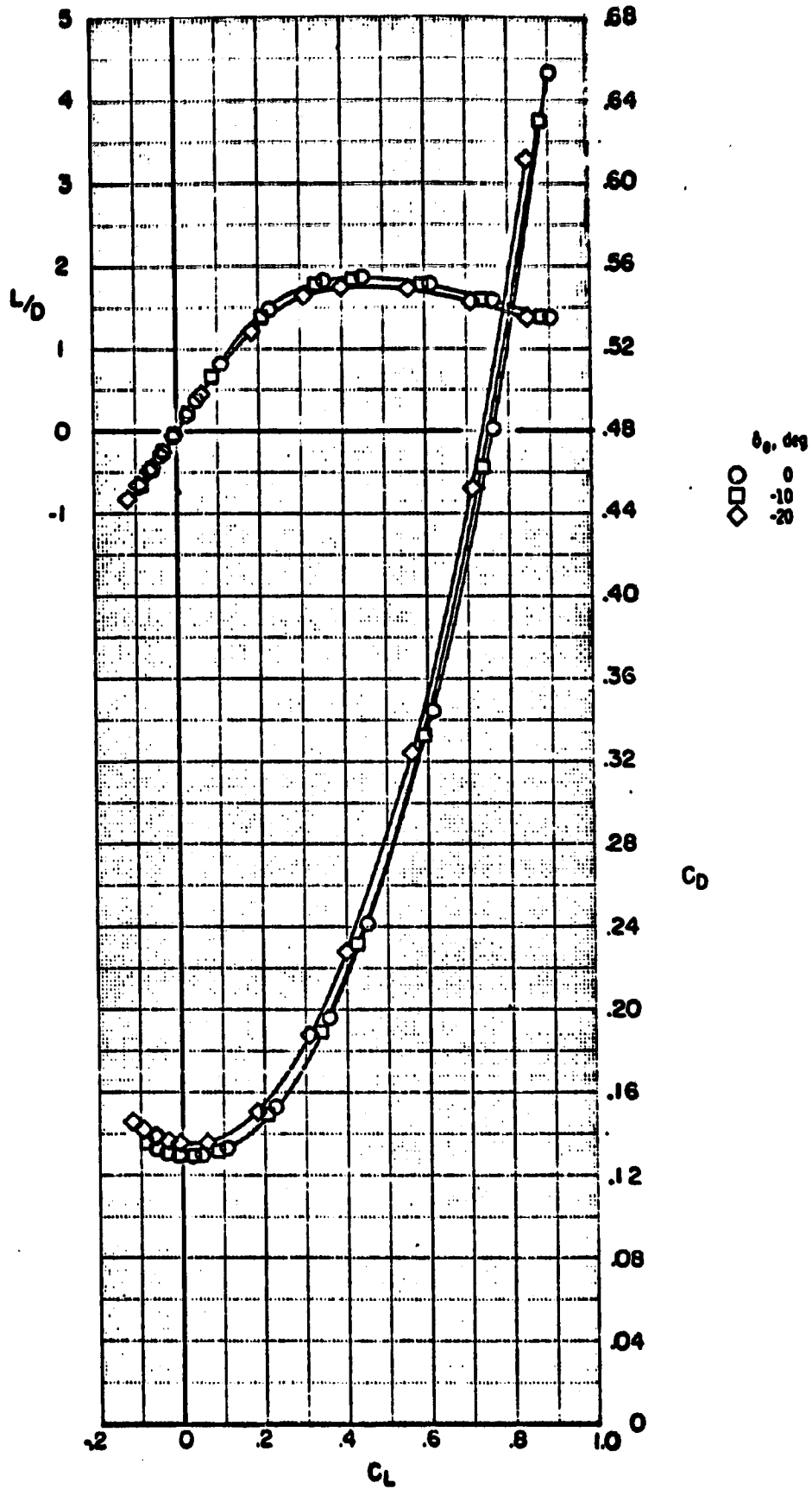
(b) $M=2.0$
 Figure 3. - Continued.



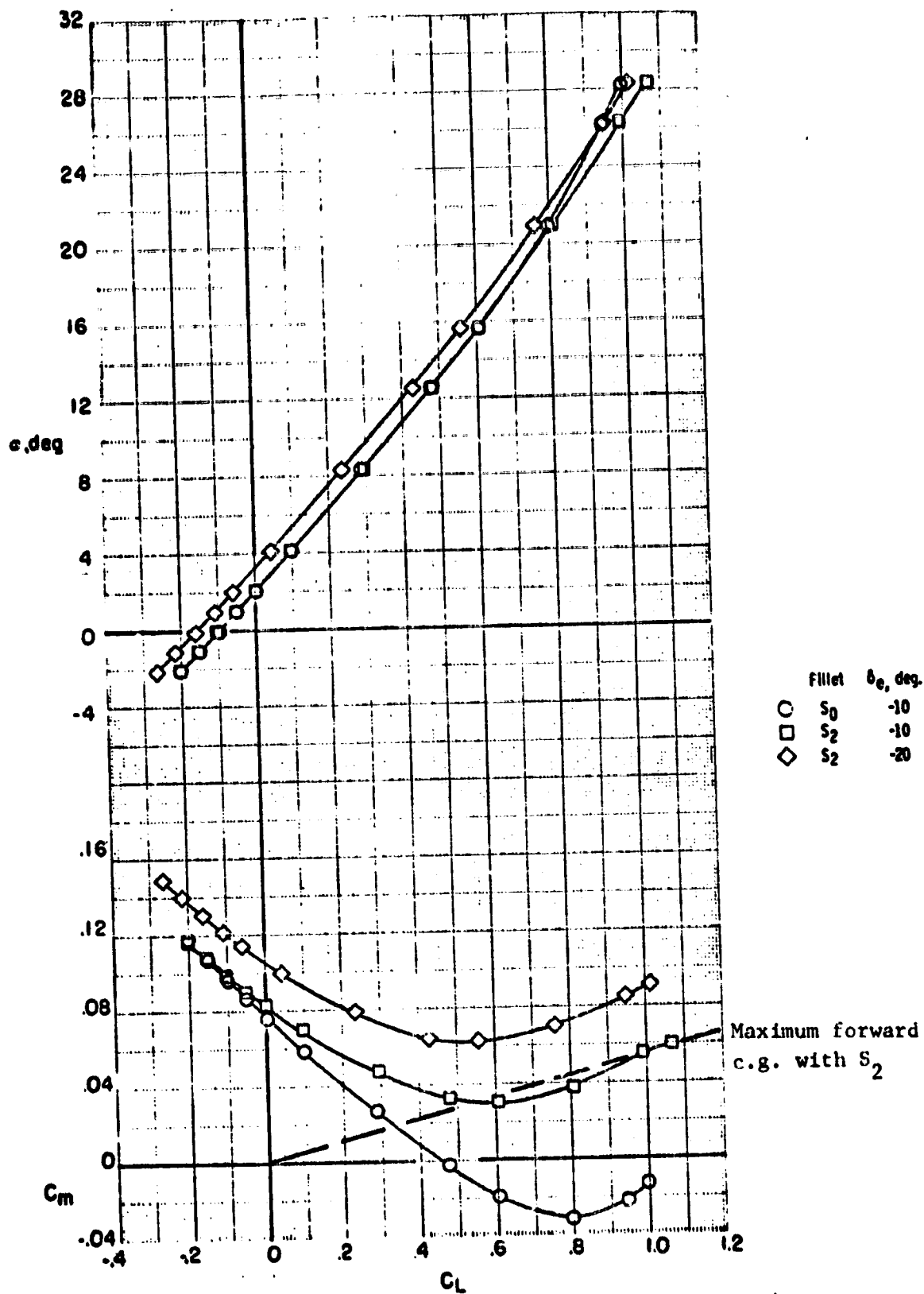
(b) Concluded.
Figure 3. - Continued.



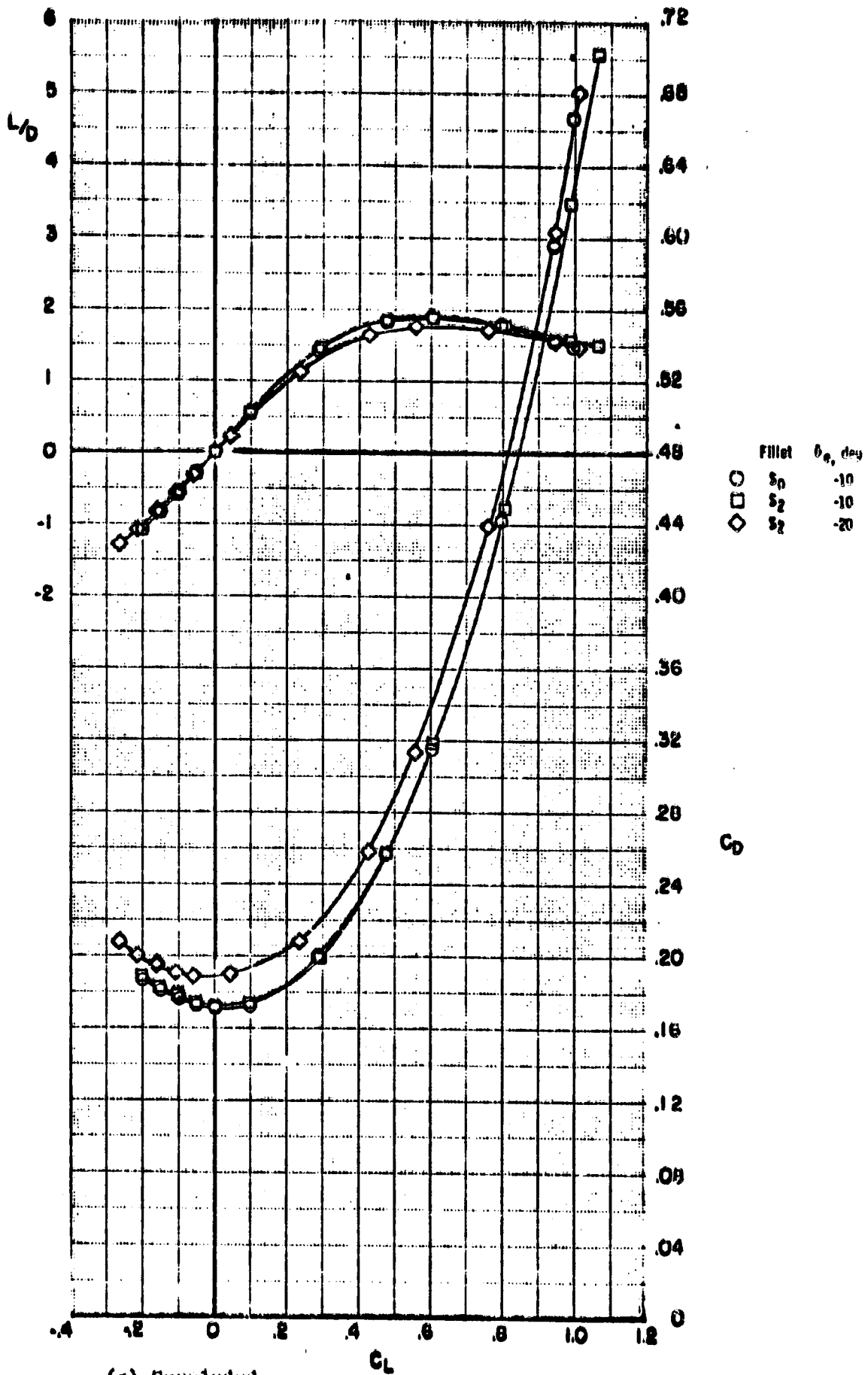
(c) $M=2.5$
Figure 3. - Continued.



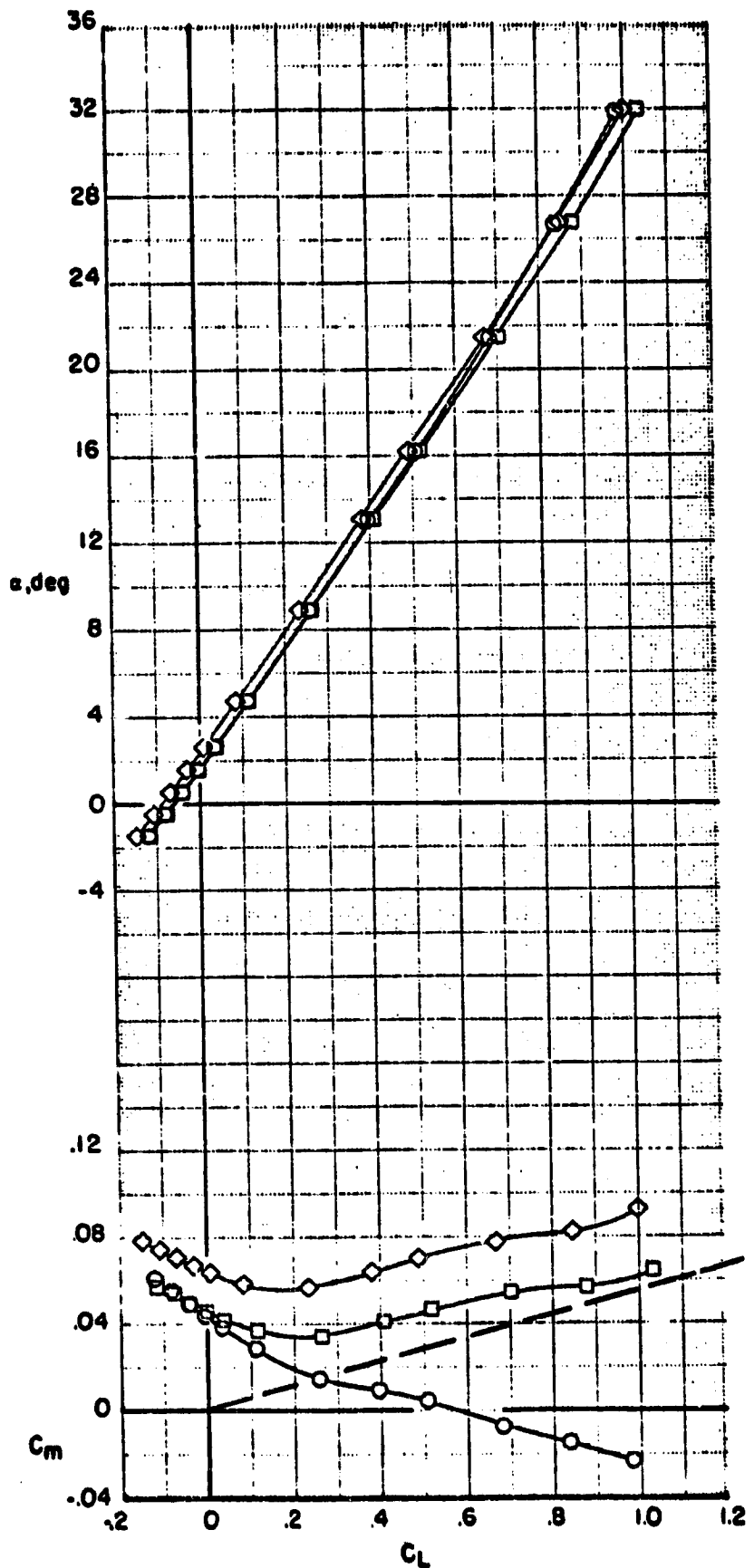
(c) Concluded.
Figure 3. - Concluded.



(a) $M=1.5$
 Figure 4. - Effect of fillet S_2 on longitudinal aerodynamic characteristics of configuration $B_1WV S_0EF$.
 $\delta_{BF} = -11.7^\circ$; $\delta_{SB} = 55^\circ$.



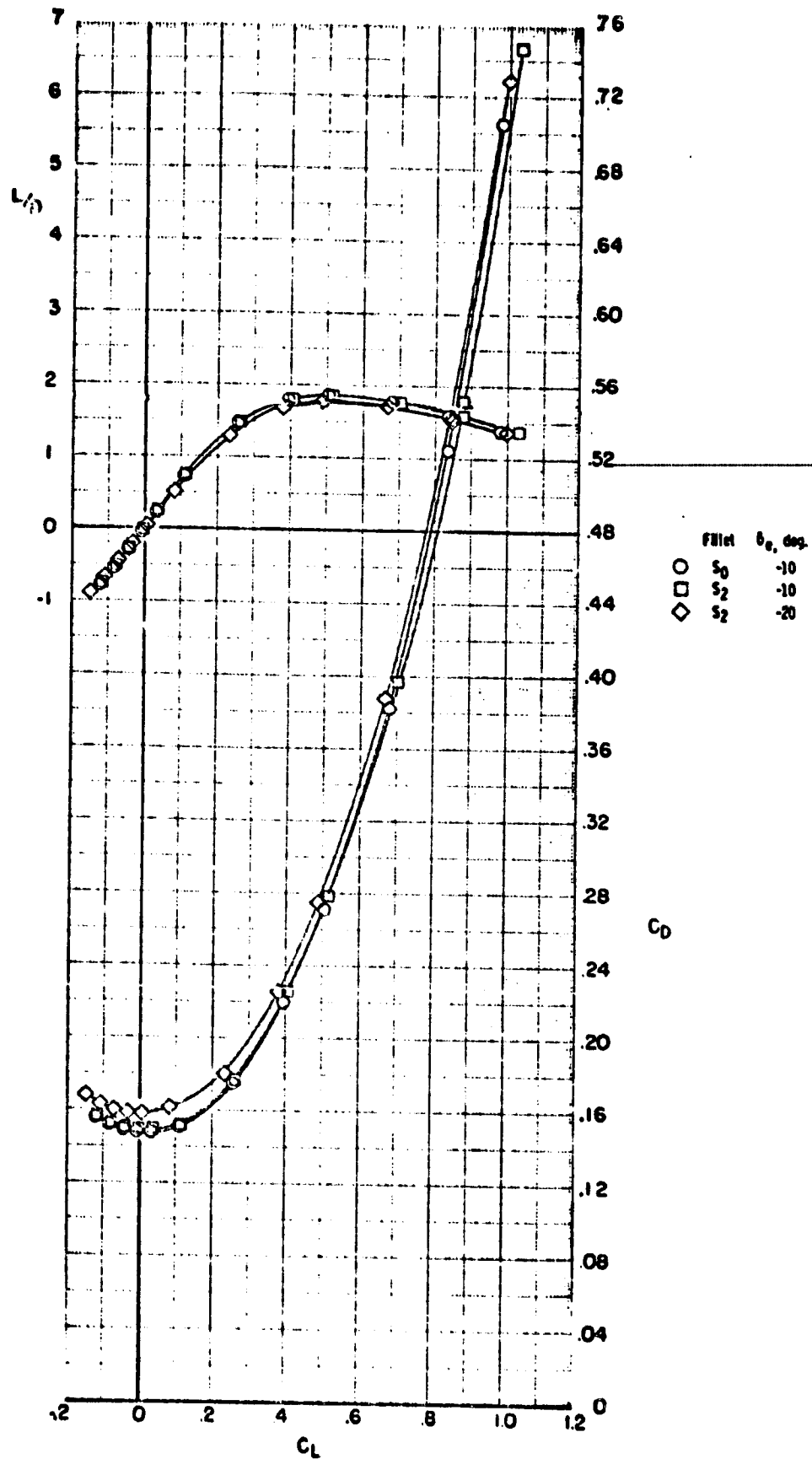
(a) Concluded.
Figure 4. - Continued.



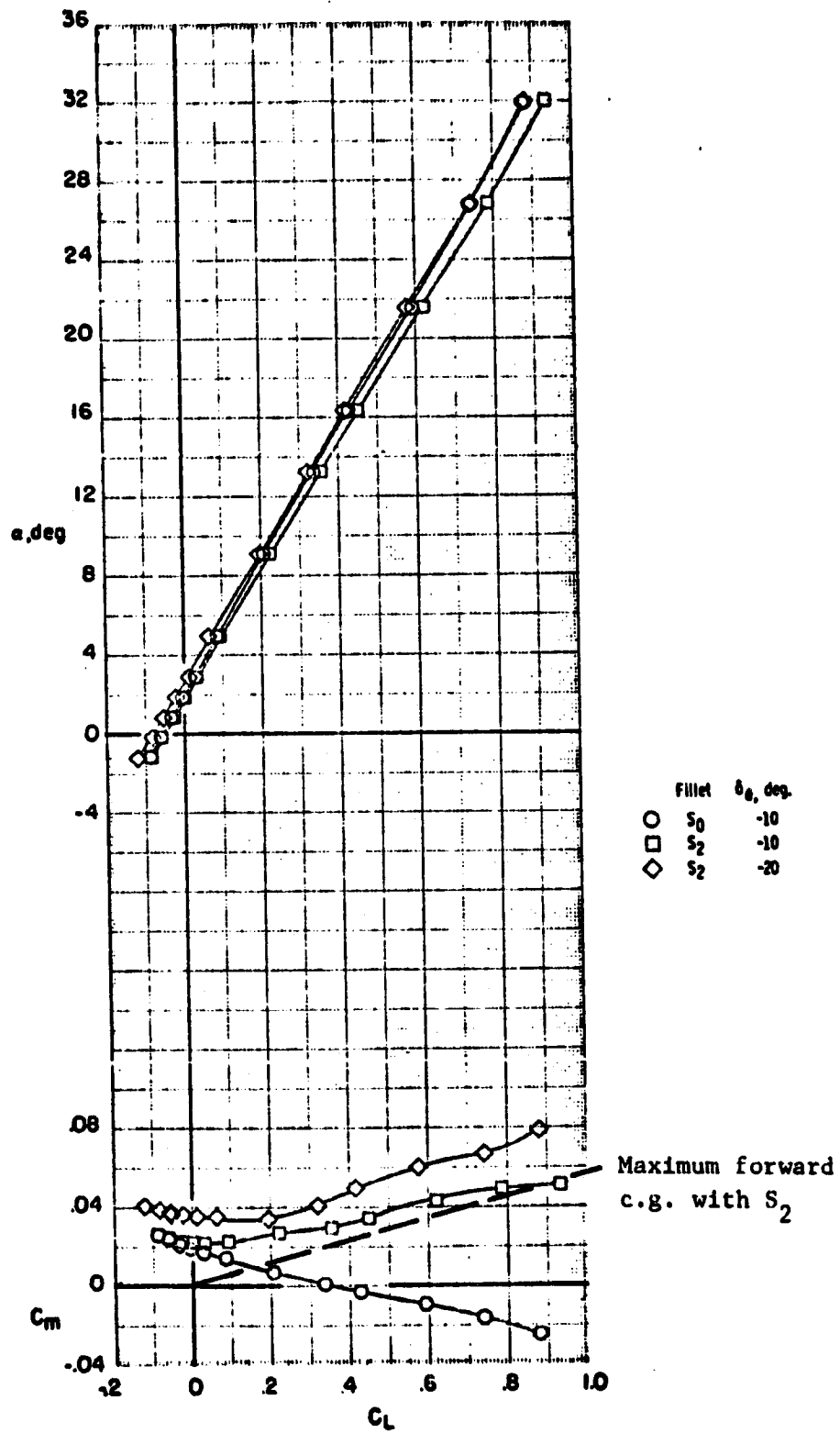
Fillet	θ , deg.
○	S_0 -10
□	S_2 -10
◇	S_2 -20

Maximum forward
c.g. with S_2

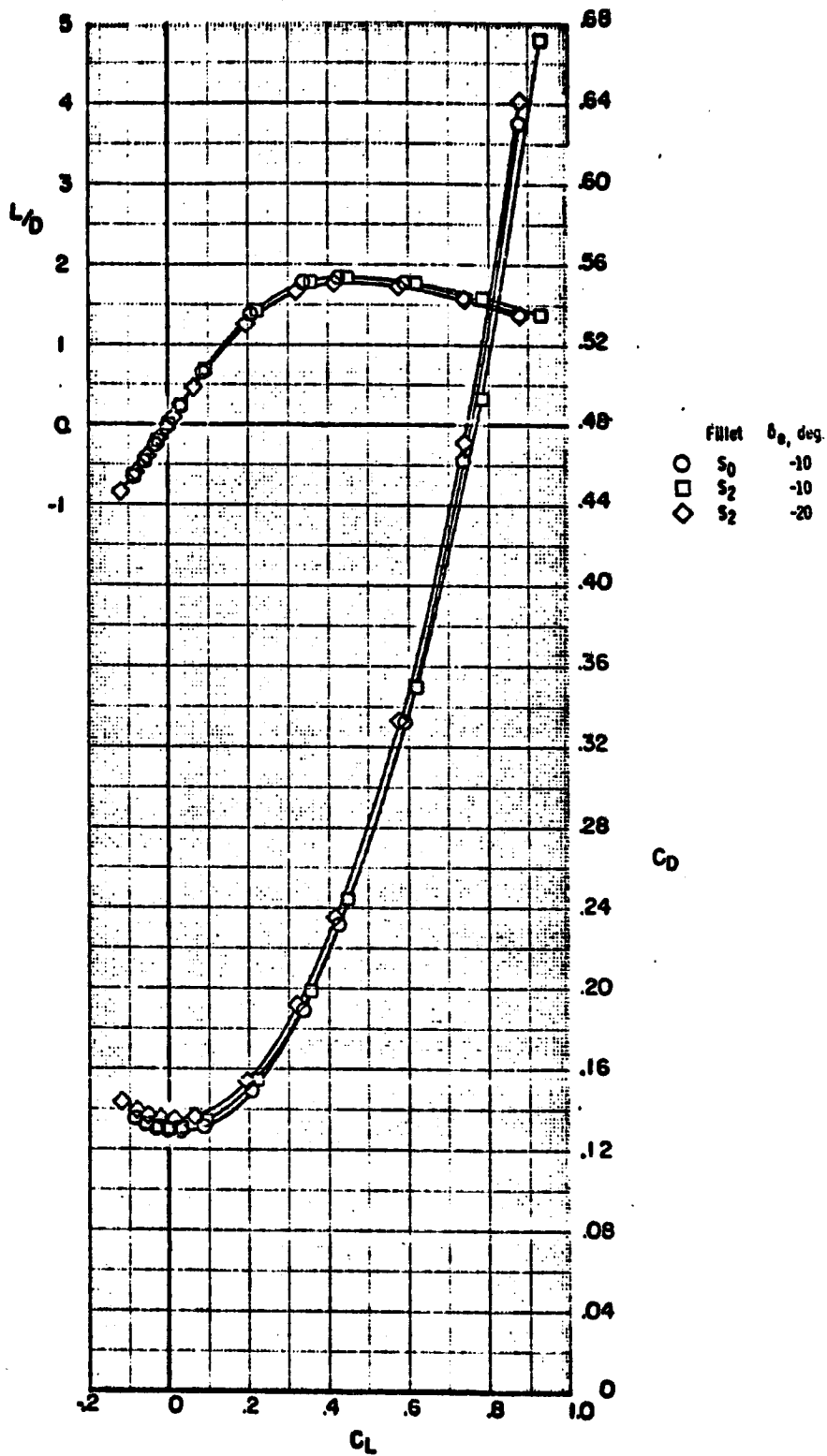
(b) M=2.0
Figure 4. - Continued.



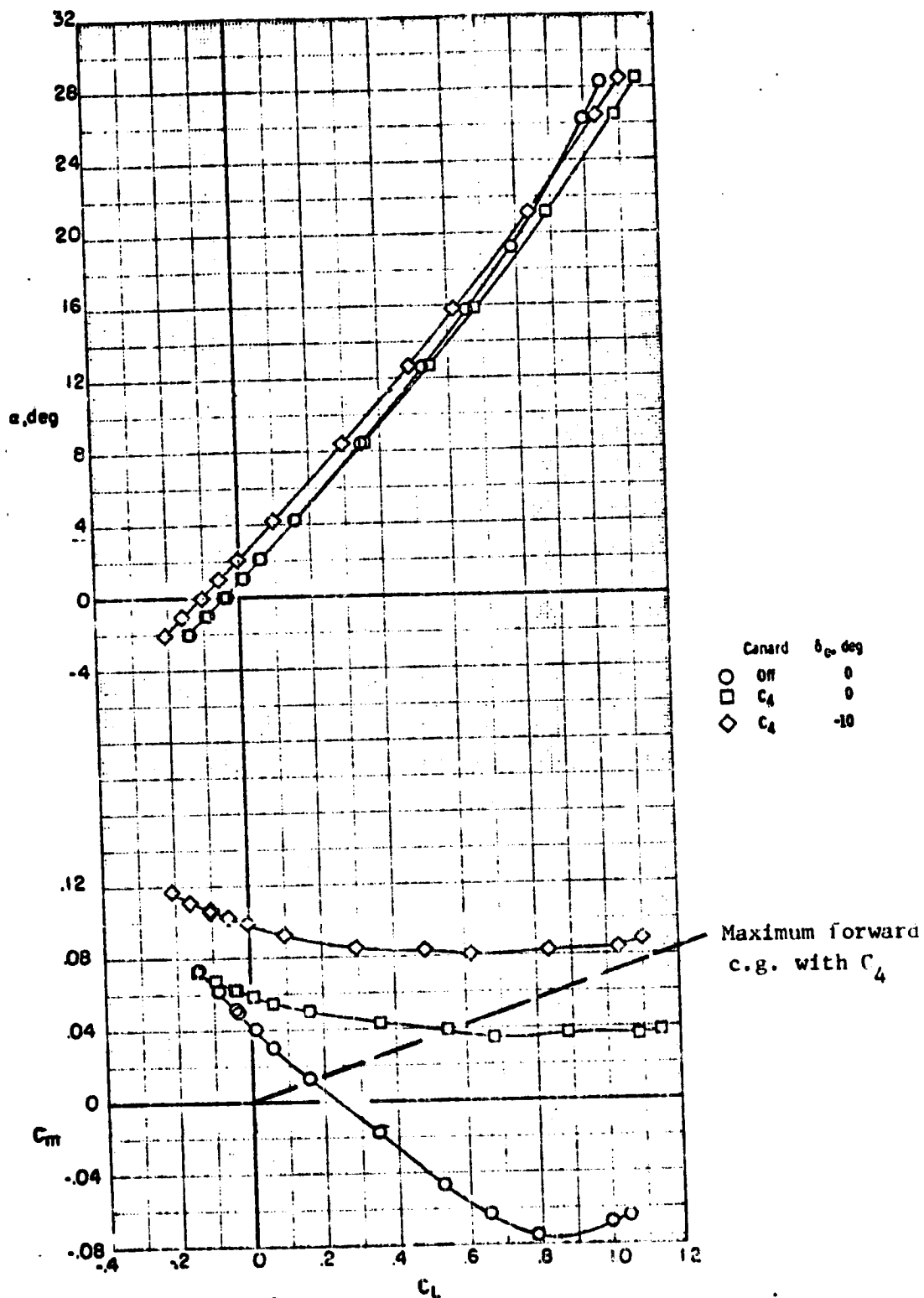
(b) Concluded.
 Figure 4. - Continued. 29



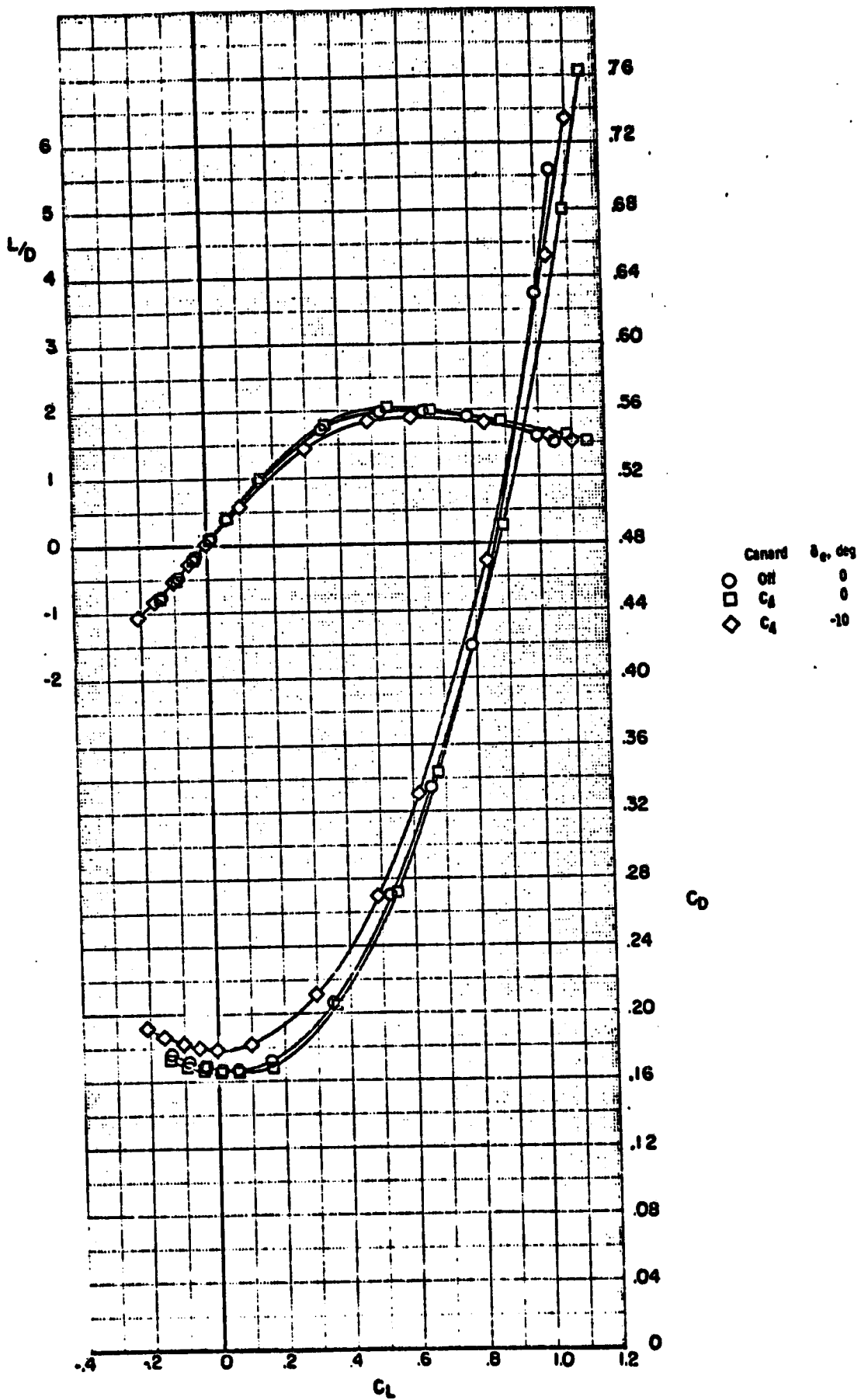
(c) $M=2.5$
 Figure 4. - Continued.



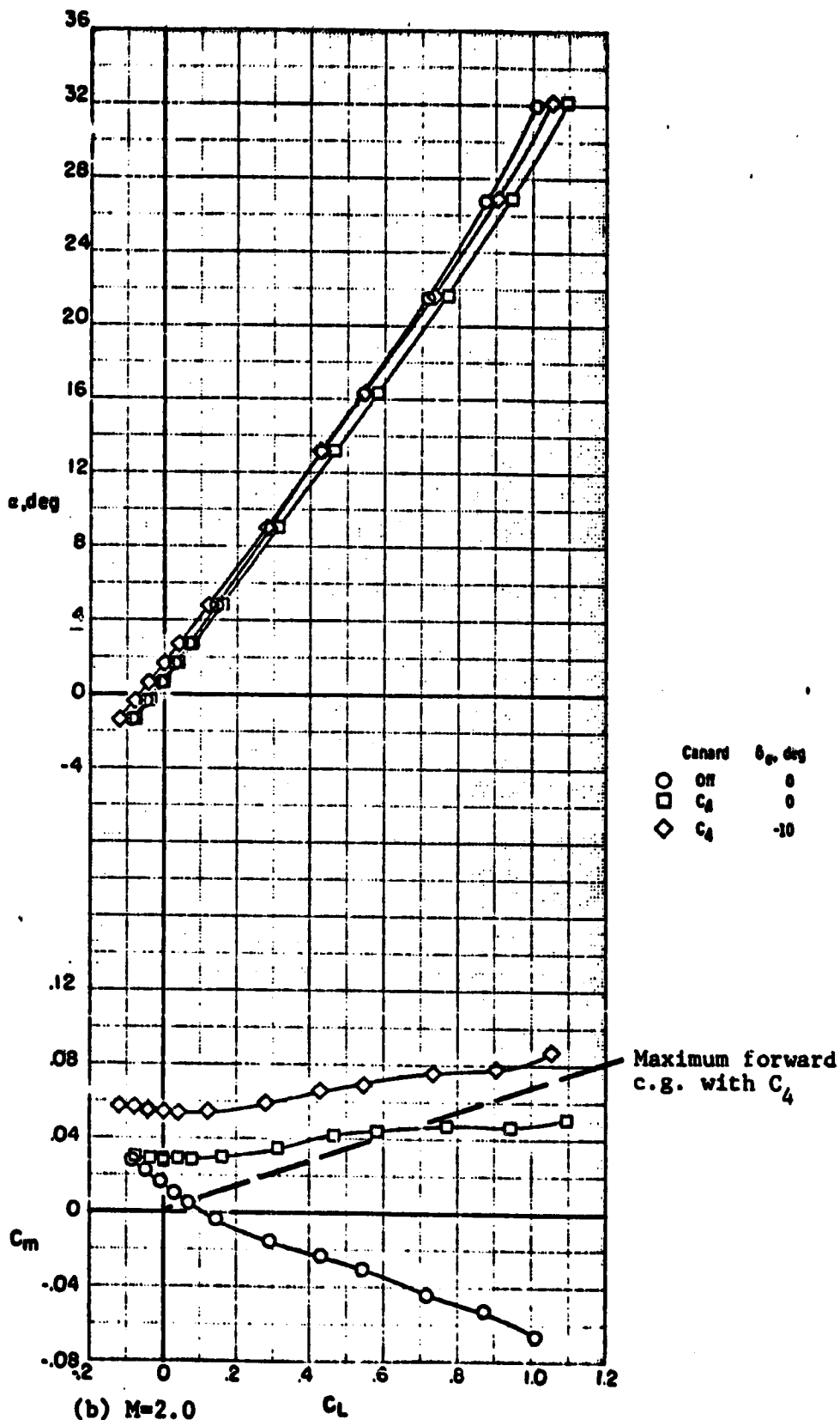
(c) Concluded.
Figure 4. - Concluded.



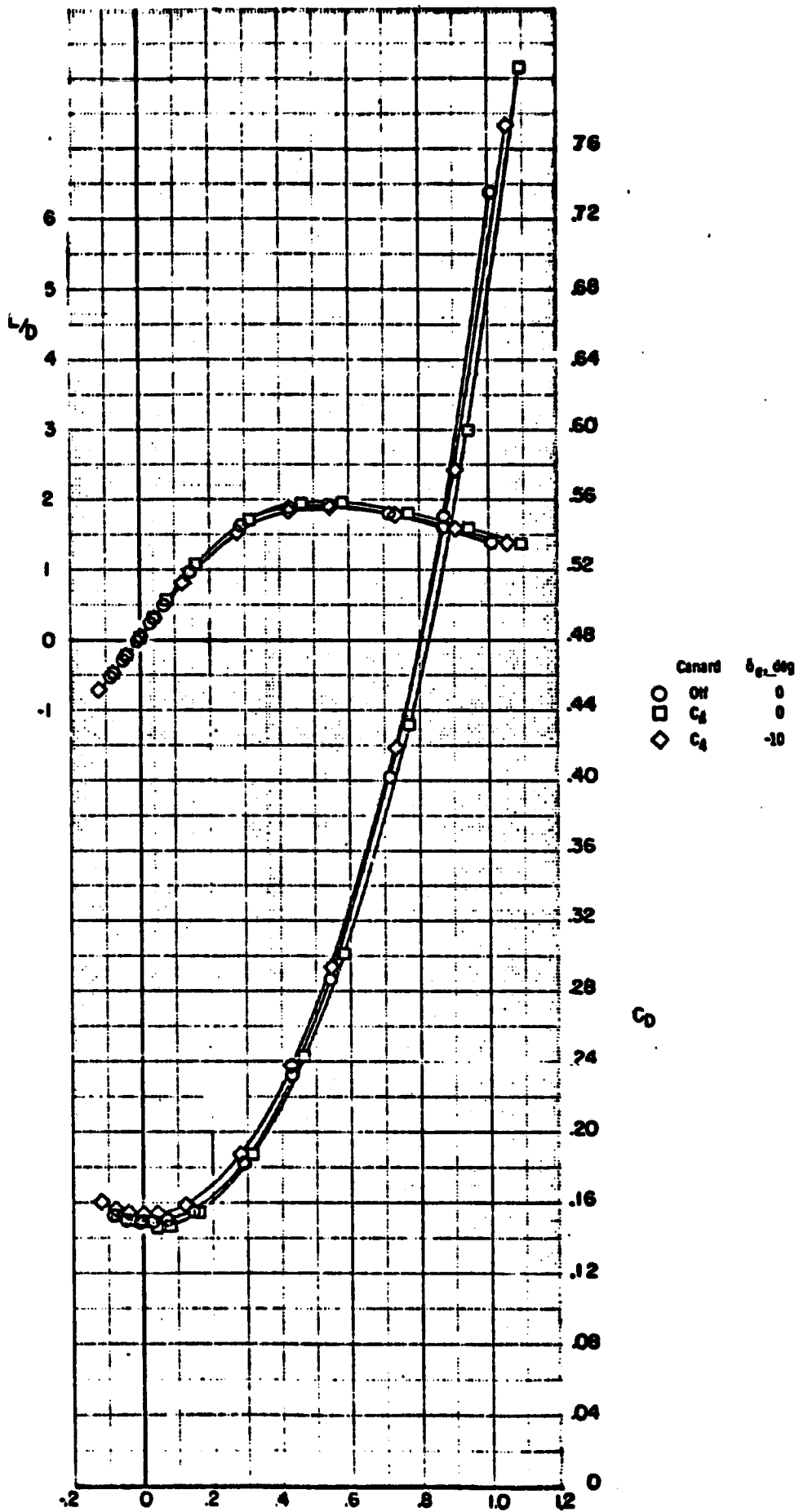
(a) $M=1.5$
 Figure 5. - Effect of canard C_4 on the longitudinal aerodynamic characteristics of configuration B_1WVS_0EF
 $\delta_{EF} = -11.7^\circ$; $\delta_{SB} = 55^\circ$



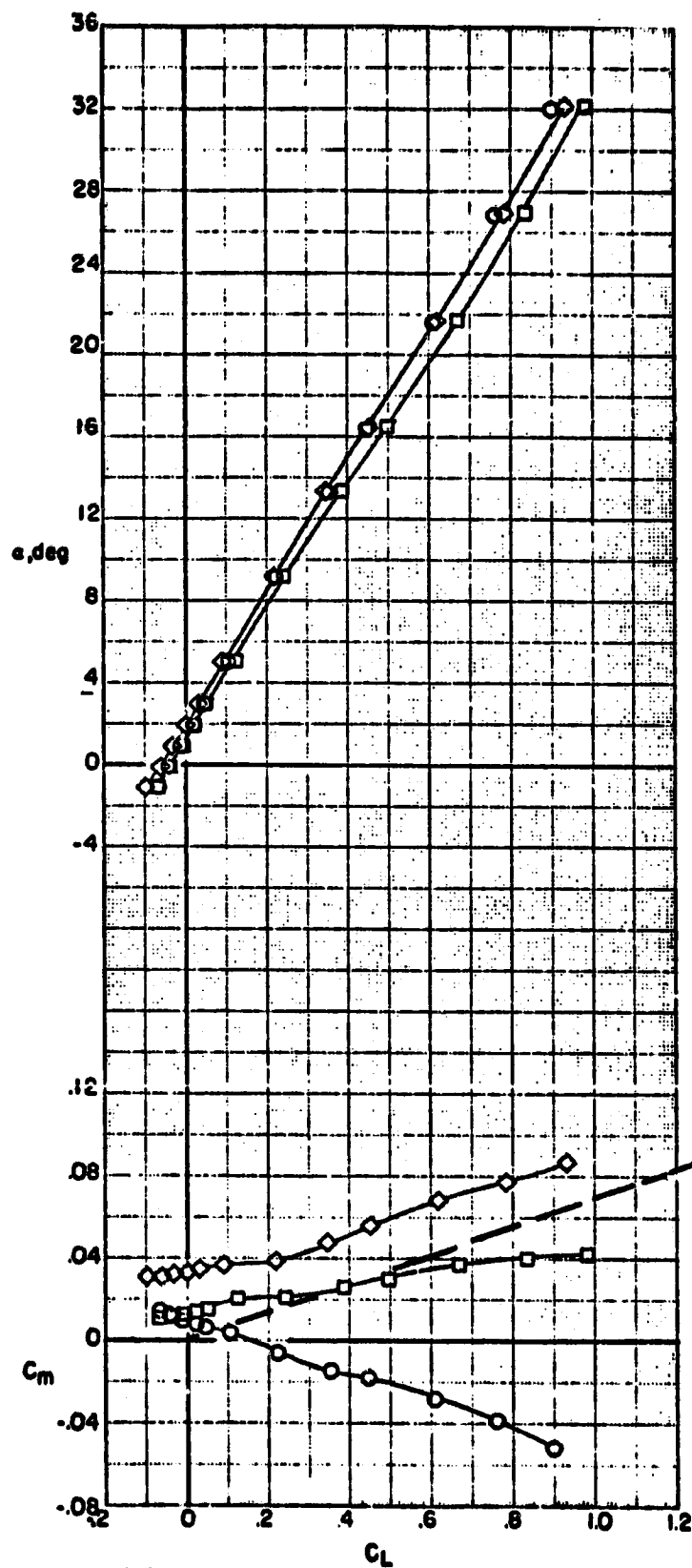
(a) Concluded.
Figure 5. - Continued.



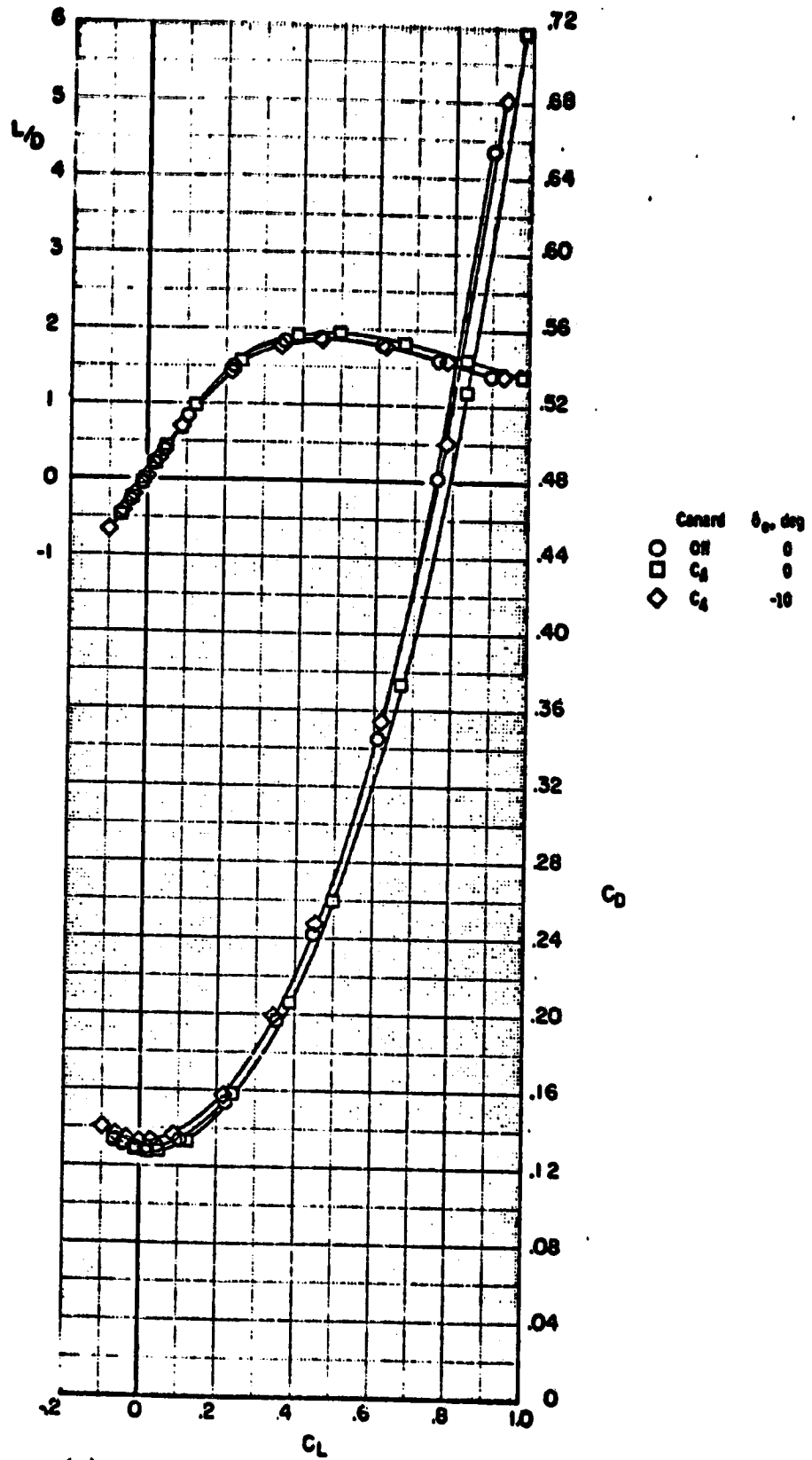
(b) $M=2.0$
 Figure 5. - Continued.



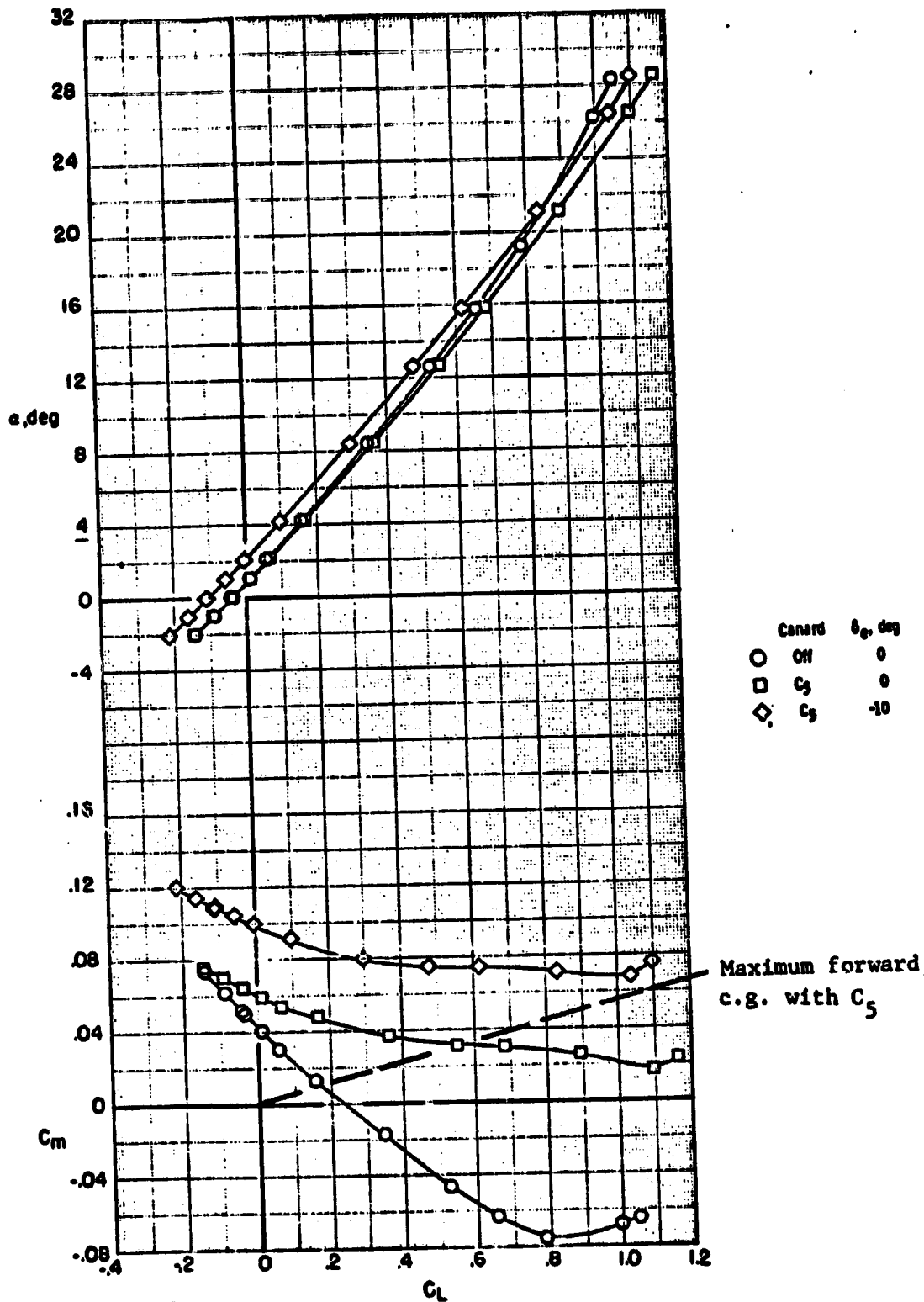
(b) Concluded. C_L
 Figure 5. - Continued. 35



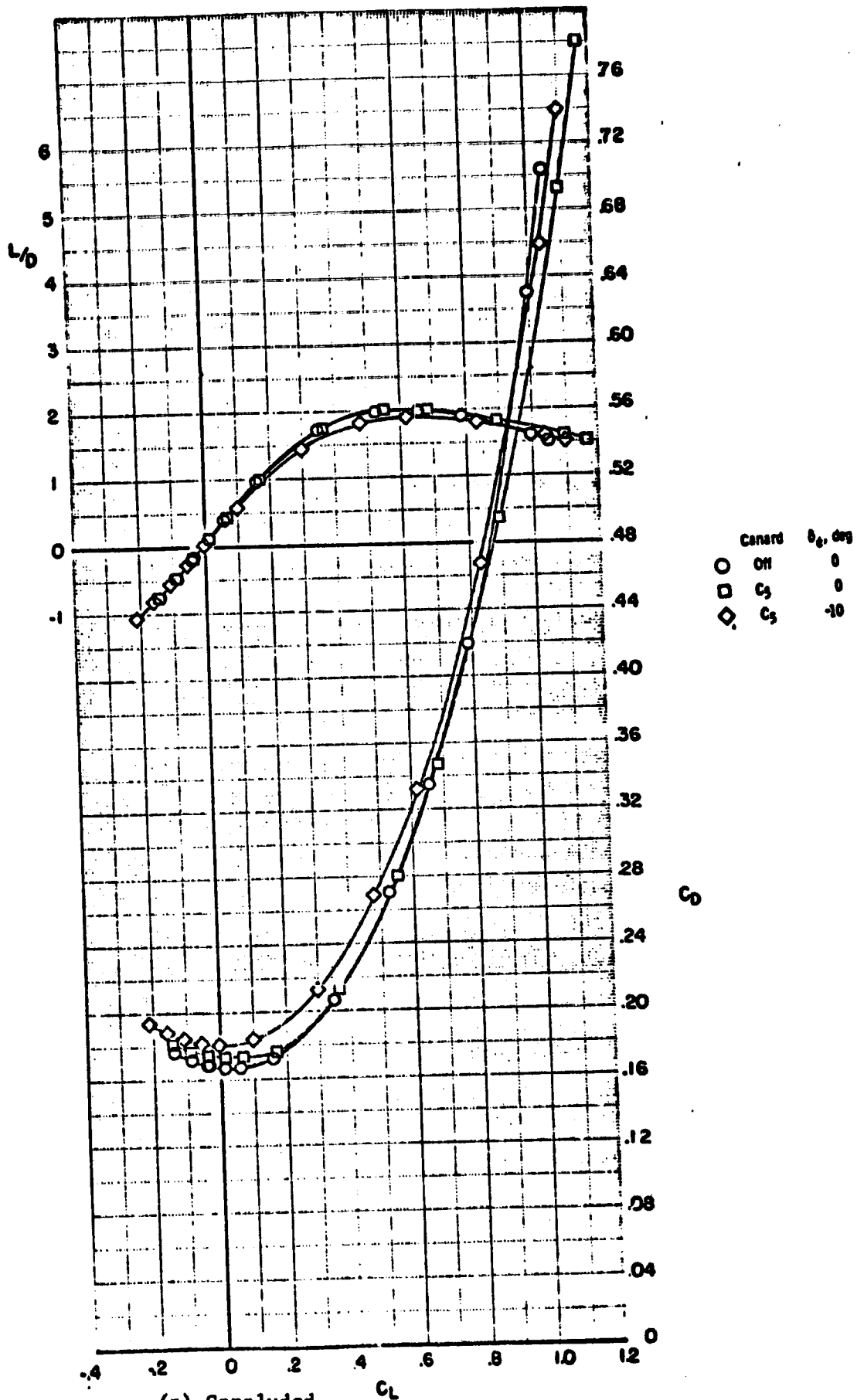
(c) $M=2.5$
Figure 5. - Continued.



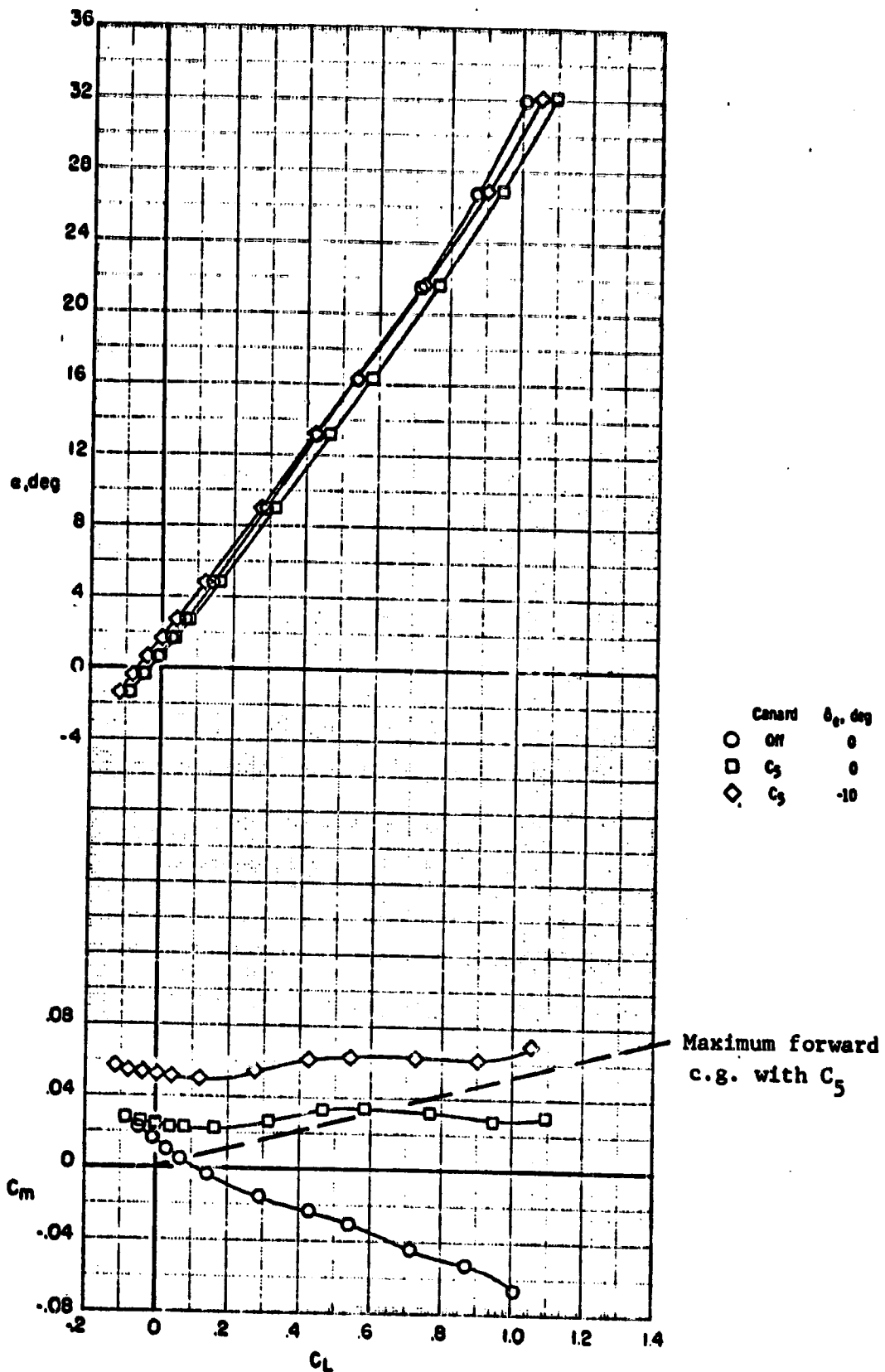
(c) Concluded.
Figure 5. - Concluded.



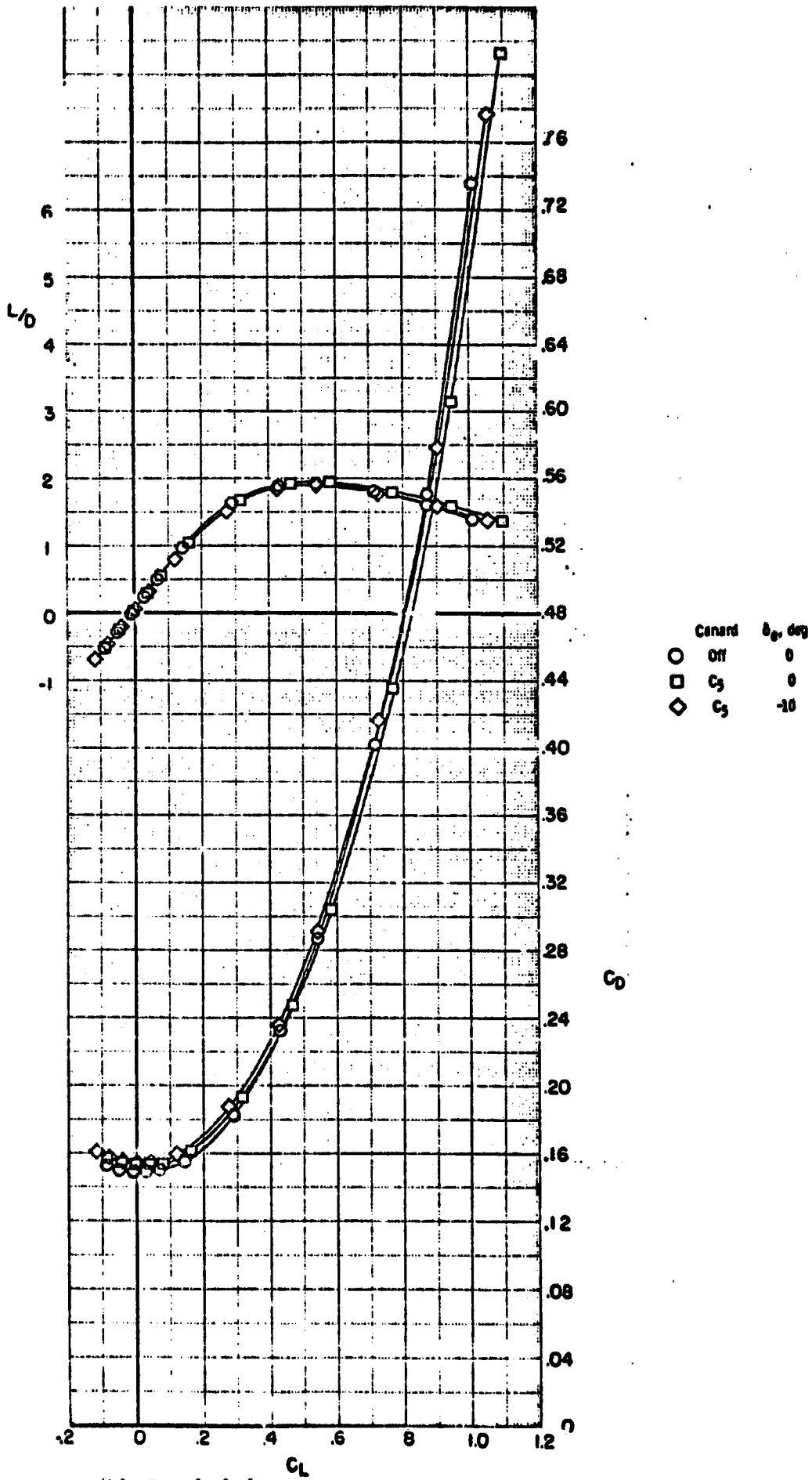
(a) $M=1.5$
 Figure 6. - Effect of canard C_5 on the longitudinal aerodynamic characteristics of configuration $B_1 W S_{OE} F$. $\delta_{BF} = -11.7^\circ$; $\delta_{SB} = 55^\circ$



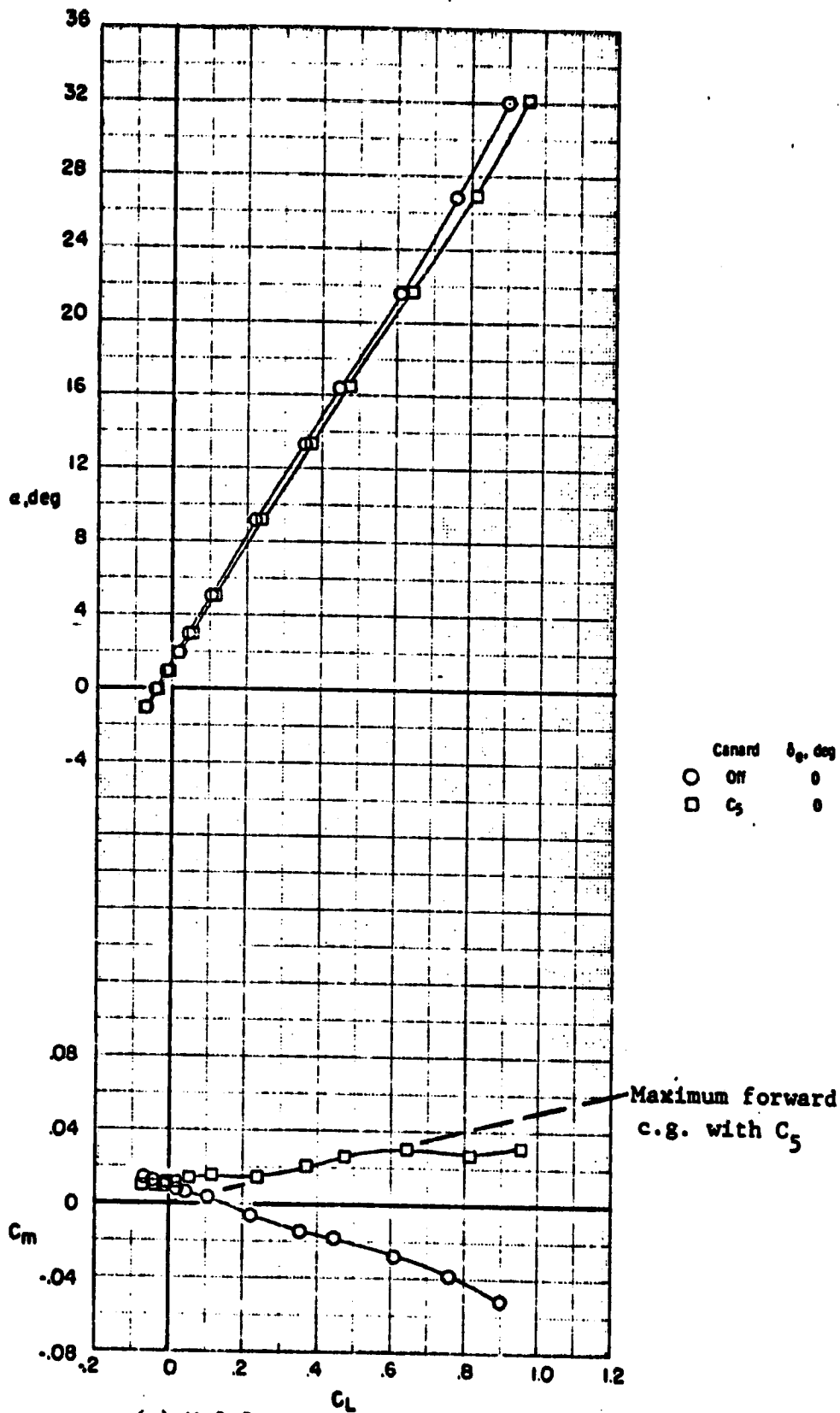
(a) Concluded.
Figure 6. - Continued.



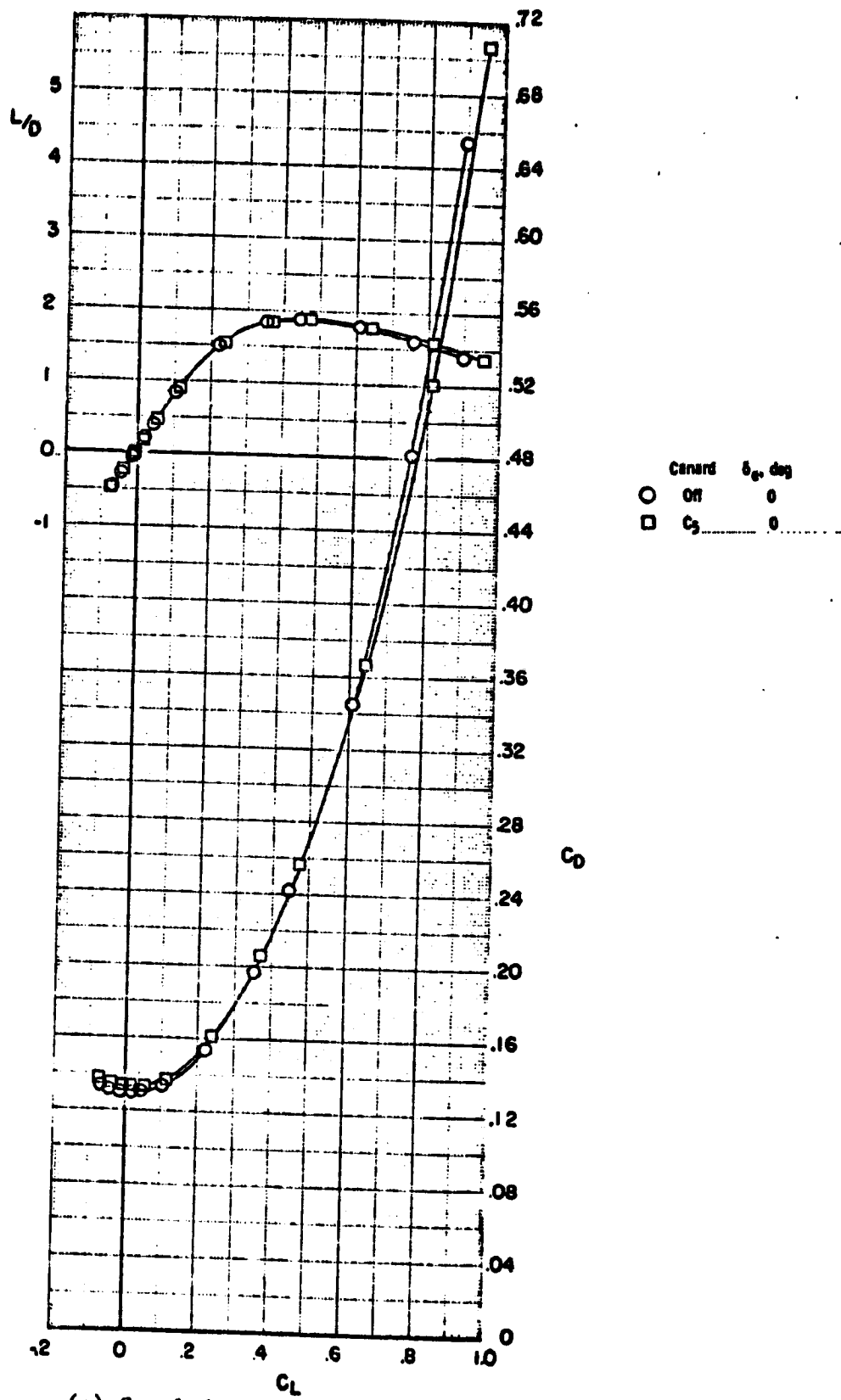
(b) $M=2.0$
 Figure 6. - Continued.



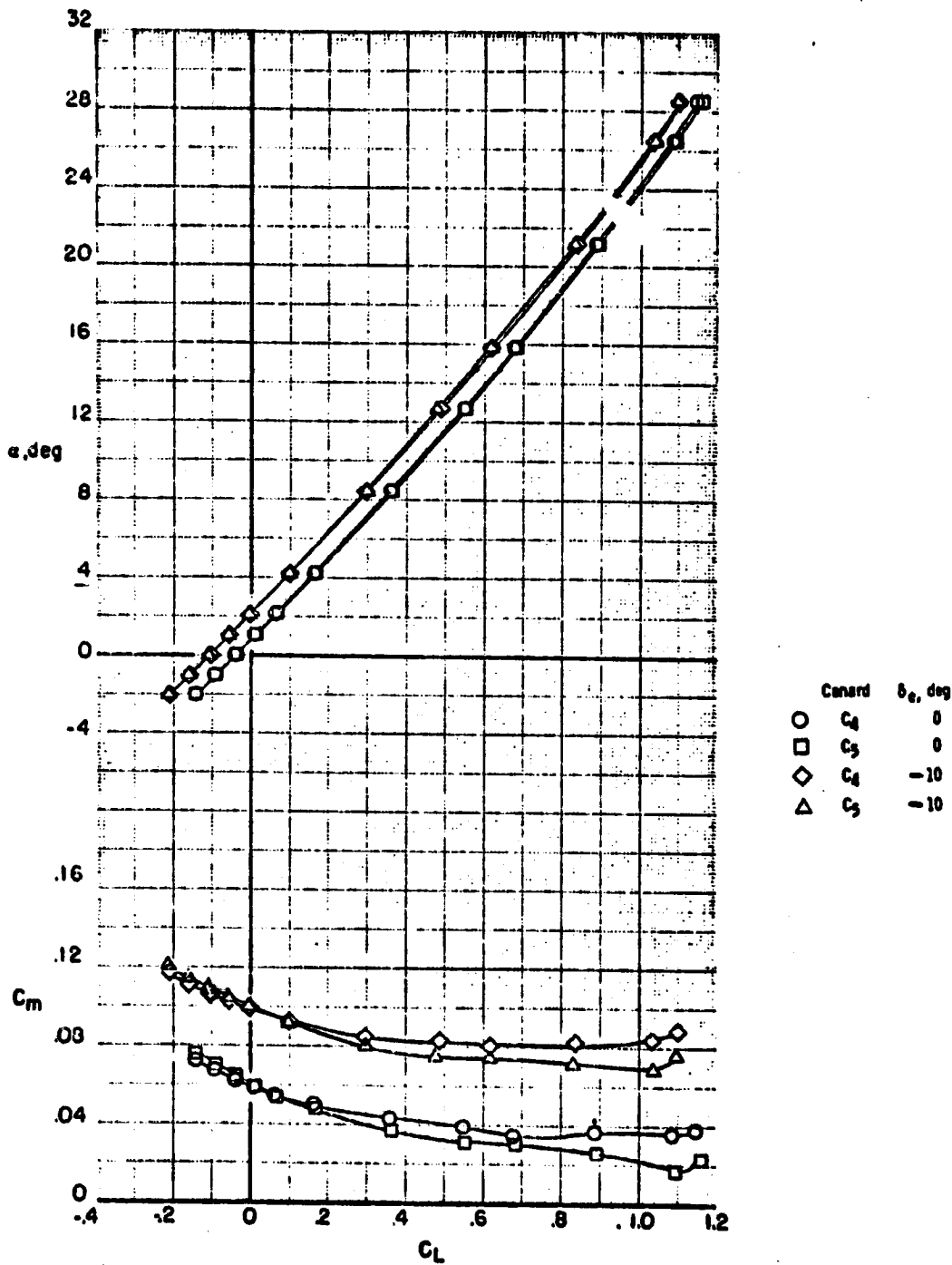
(b) Concluded.
Figure 6. - Continued.



(c) M=2.5
Figure 6. - Continued.

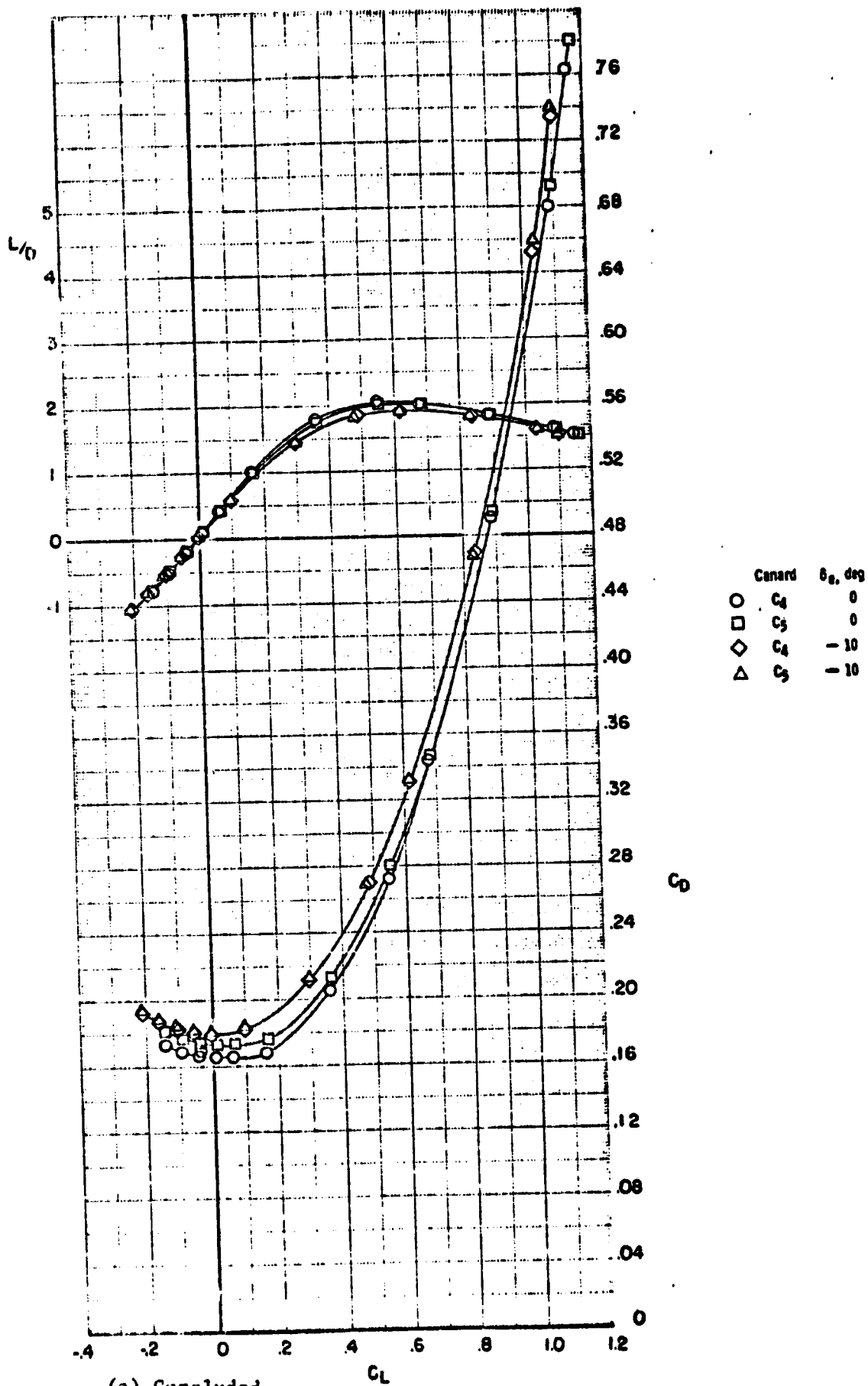


(c) Concluded.
 Figure 6. - Concluded.

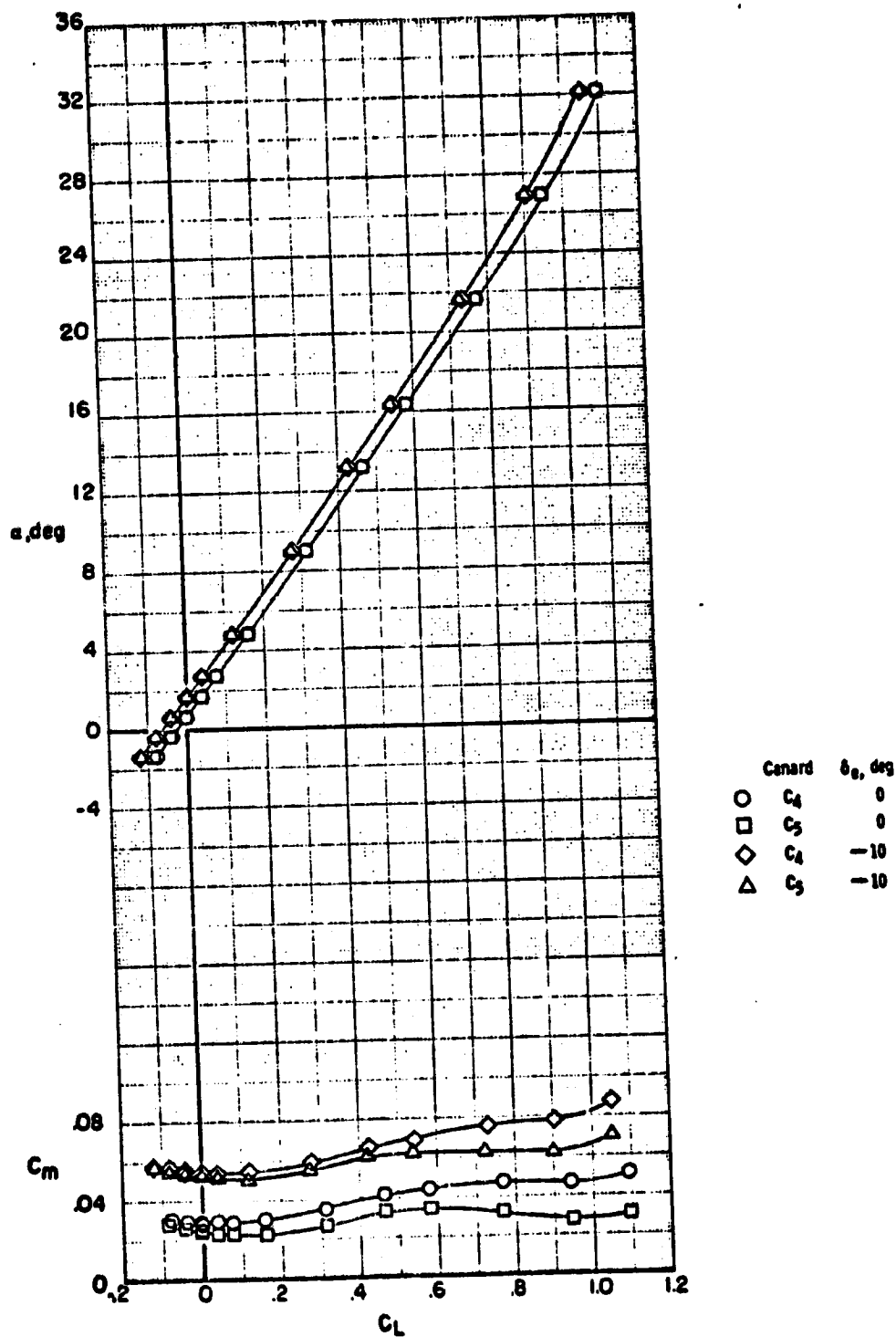


(a) $M=1.5$

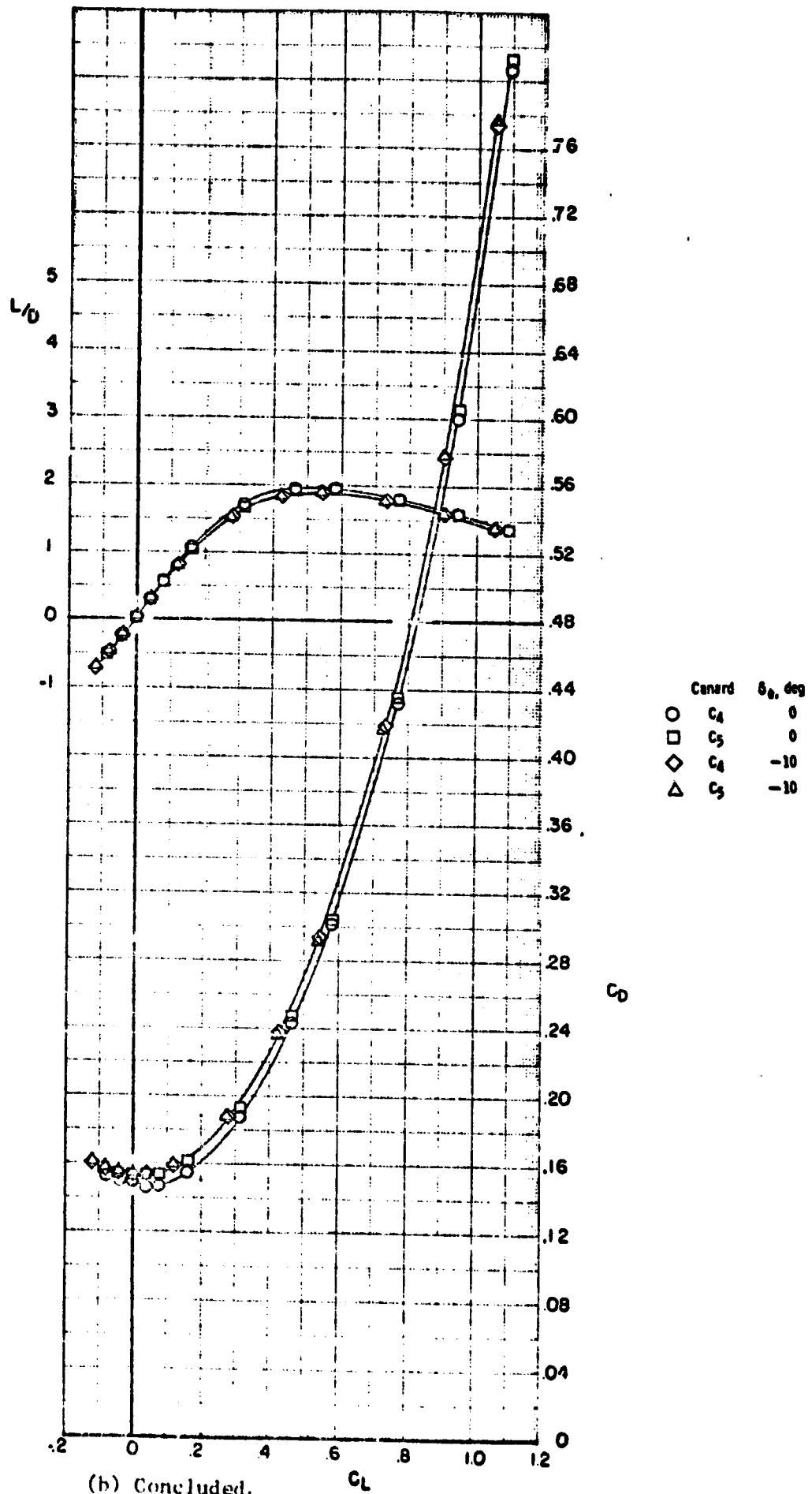
Figure 7. - Longitudinal aerodynamic characteristics of configurations $B_1WVS_0C_4EF$ and $B_1WVS_0C_5EF$. $\delta_{BF} = -11.7^\circ$; $\delta_{SB} = 55^\circ$



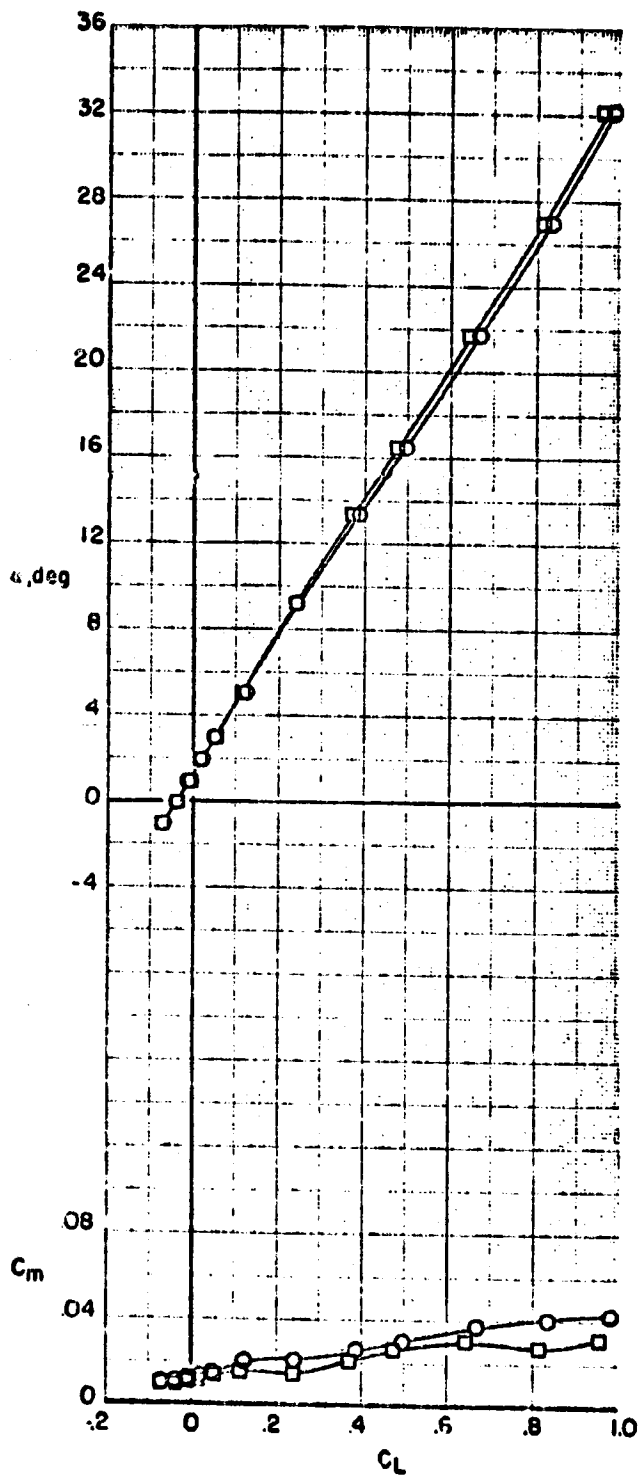
(a) Concluded.
Figure 7. - Continued.



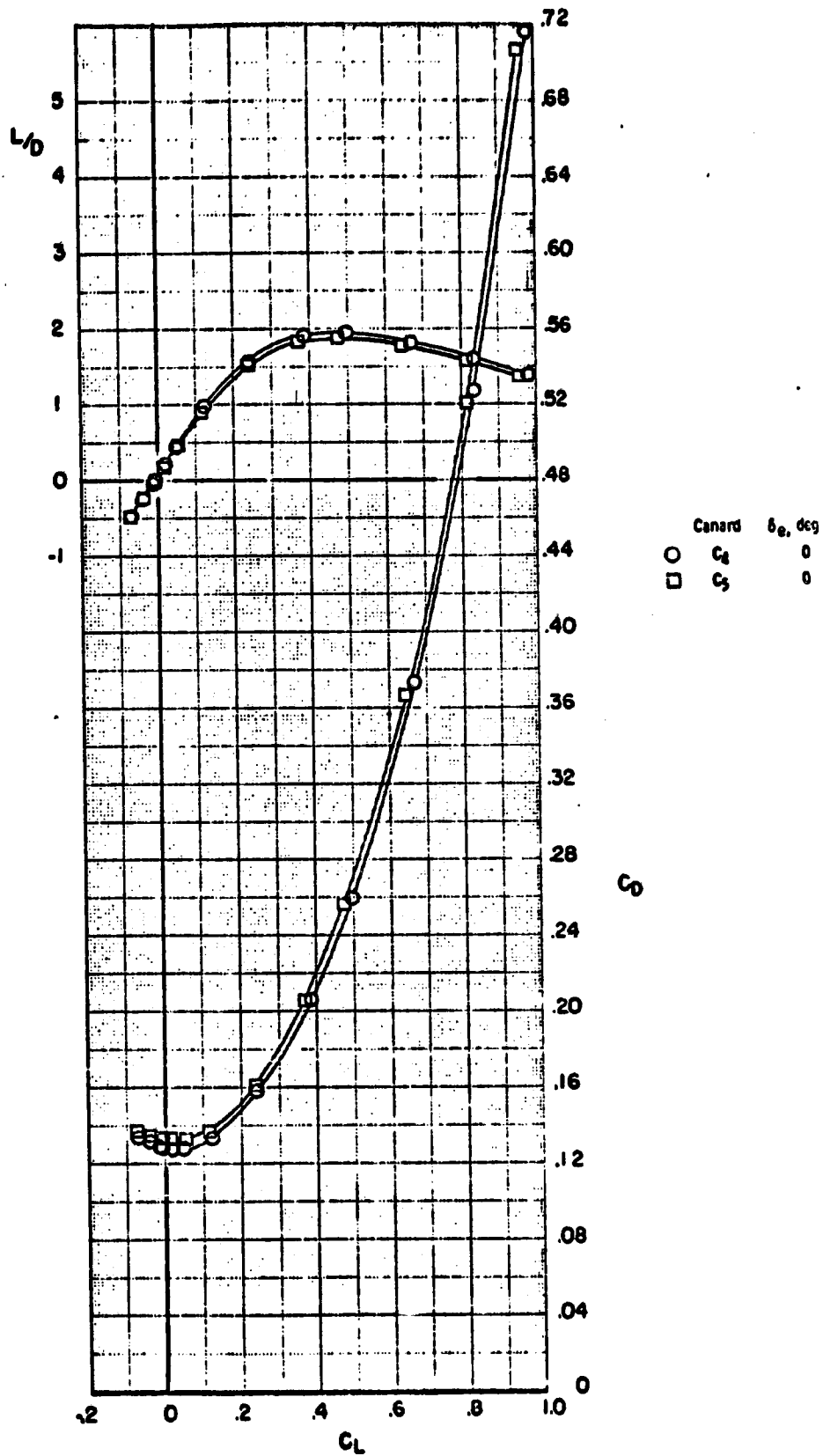
(b) M=2.0
Figure 7. - Continued.



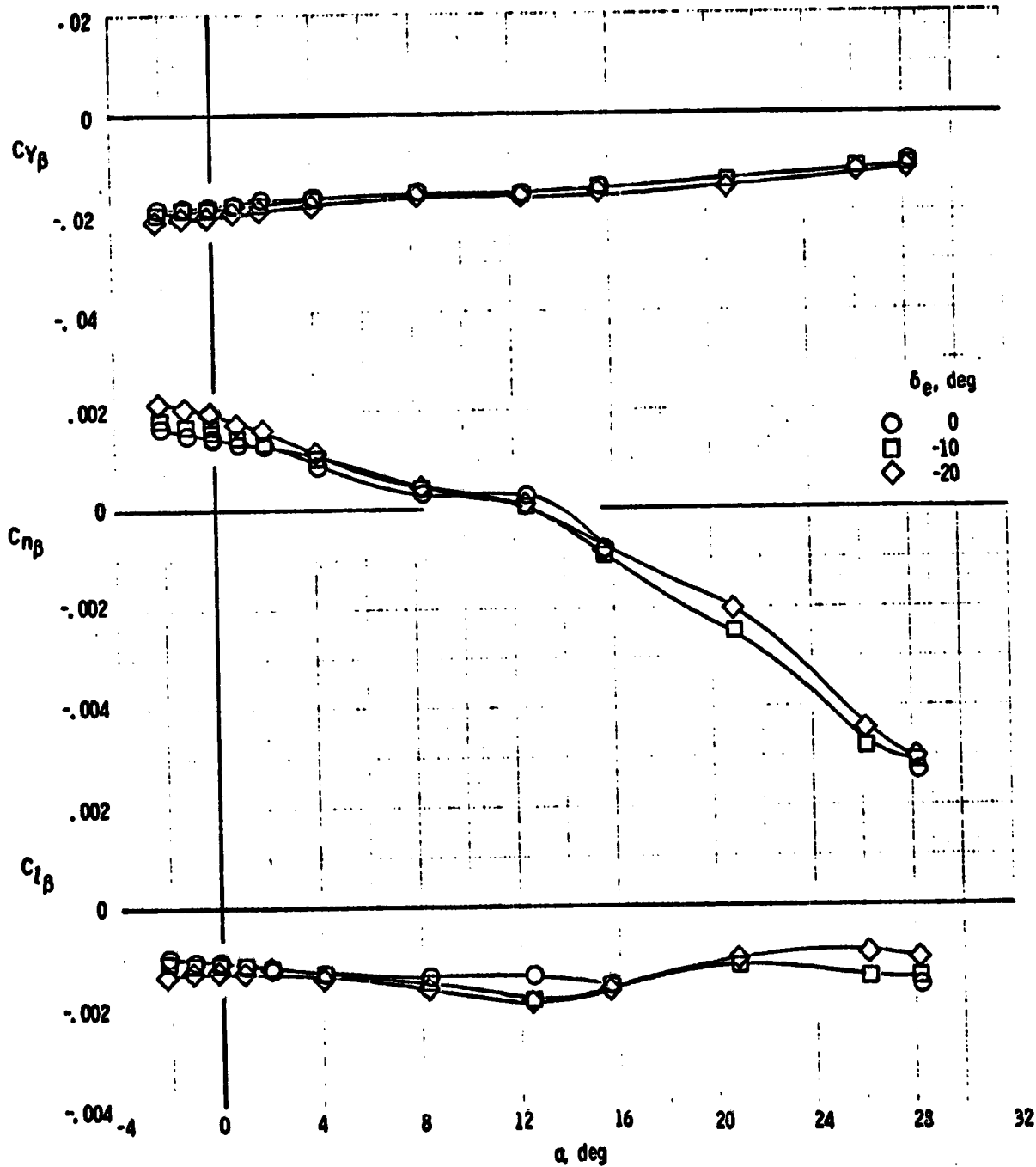
(b) Concluded.
Figure 7. - Continued.



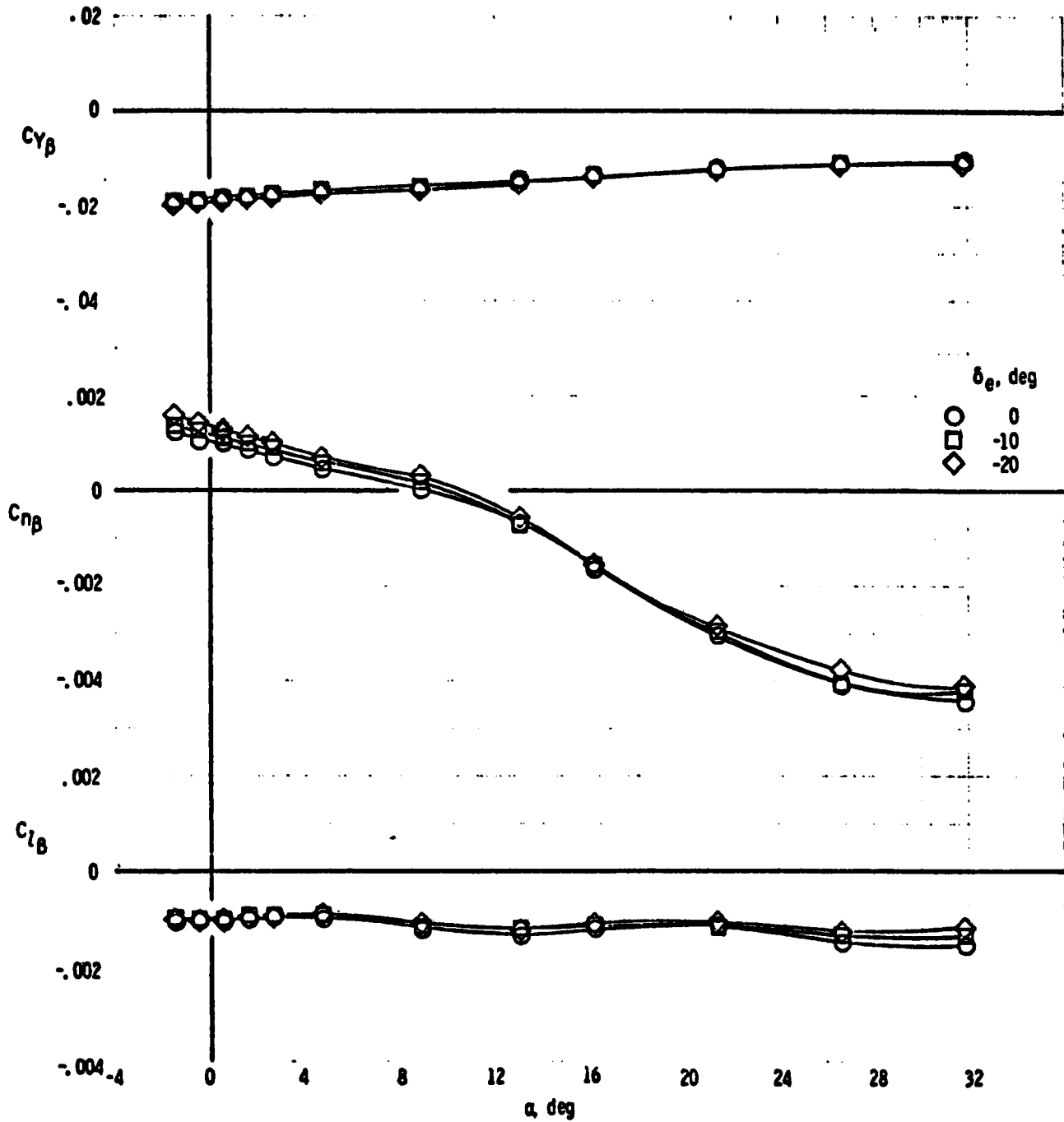
(c) $M=2.5$
 Figure 7. - Continued.



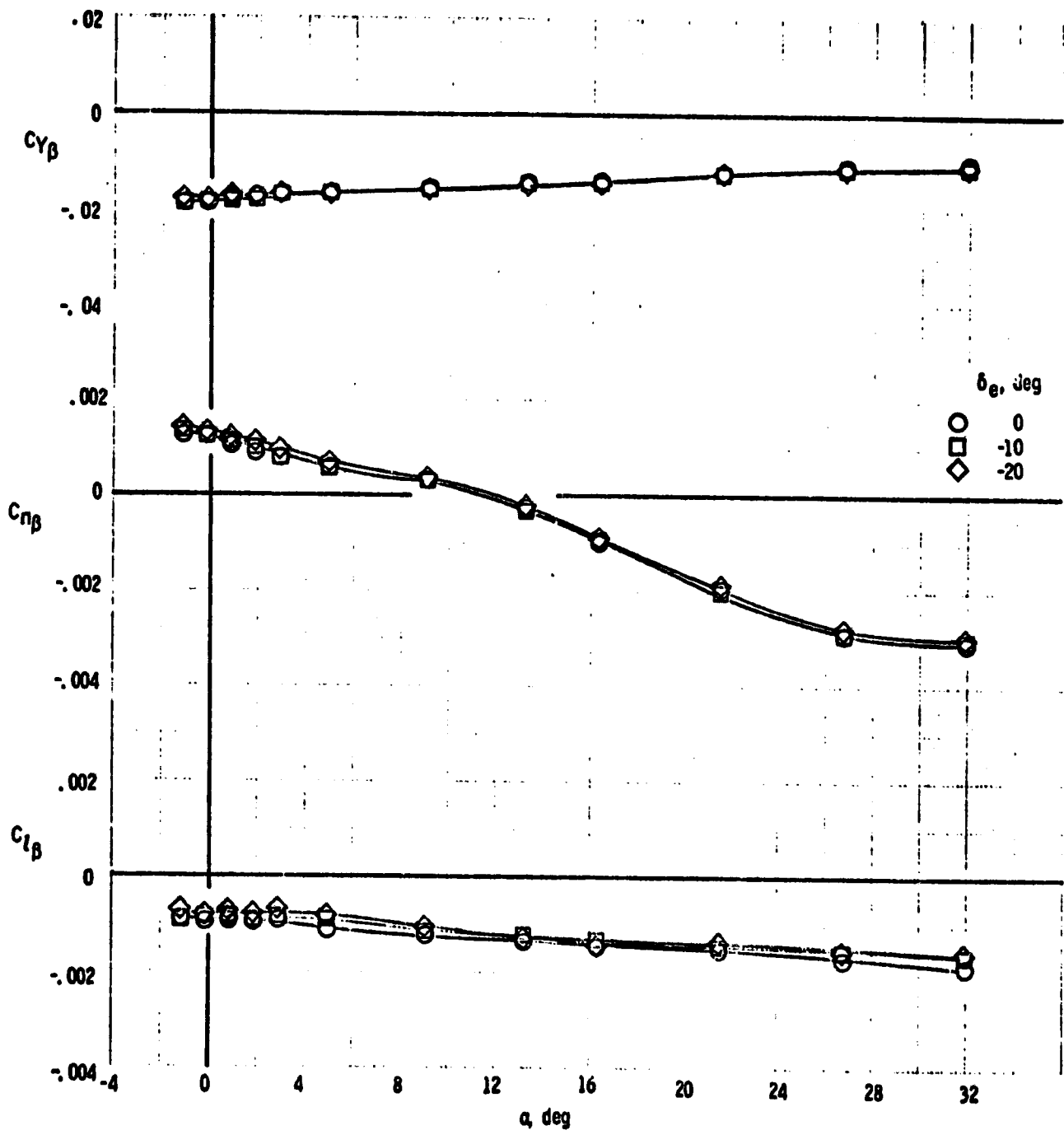
(c) Concluded.
 Figure 7. - Concluded.



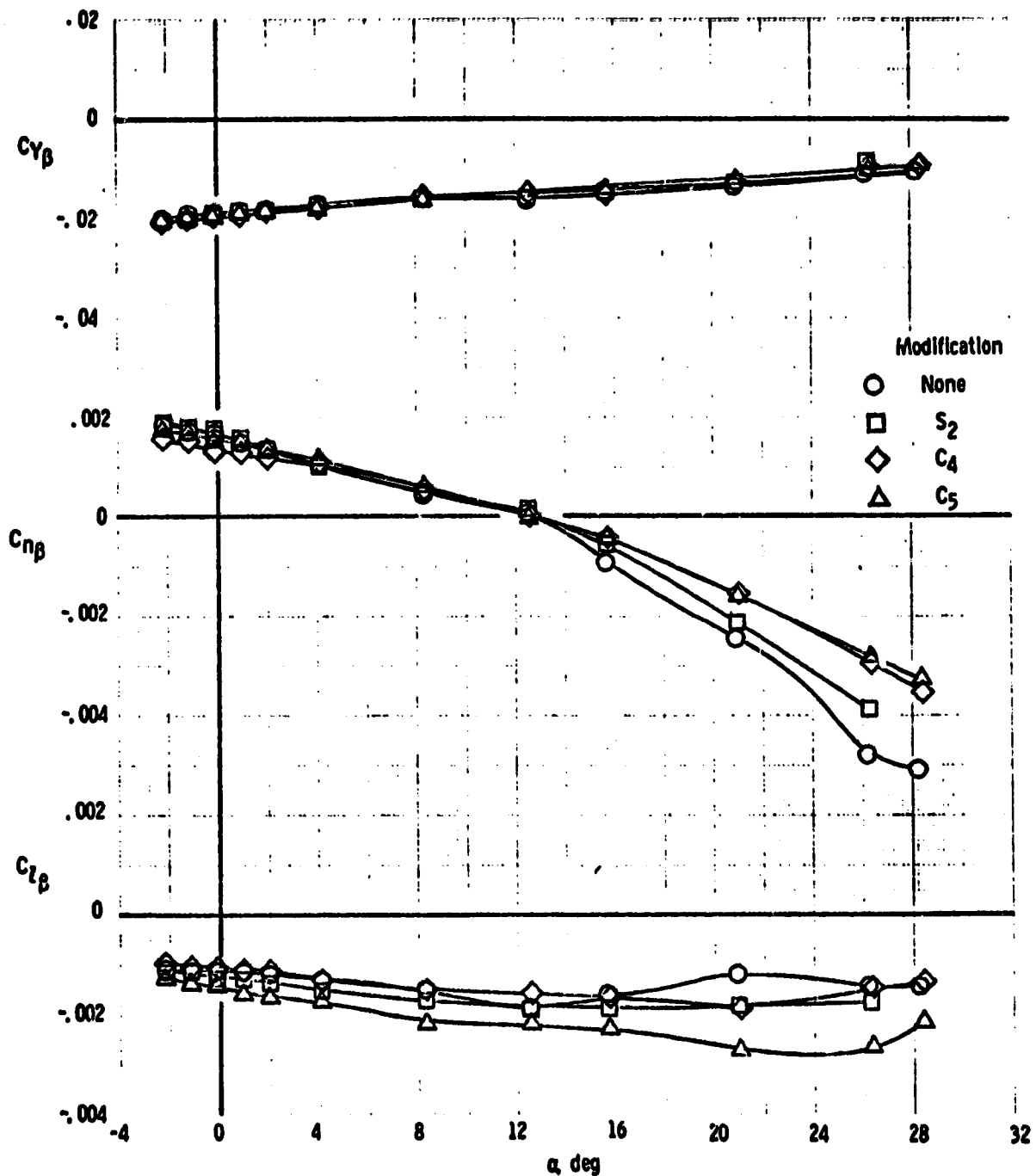
(a) $M=1.5$
 Figure 8. - Lateral-directional characteristics
 for configuration B_1WVS_{0EF} $\delta_{BF} = -11.7^\circ$; $\delta_{SB} = 55^\circ$



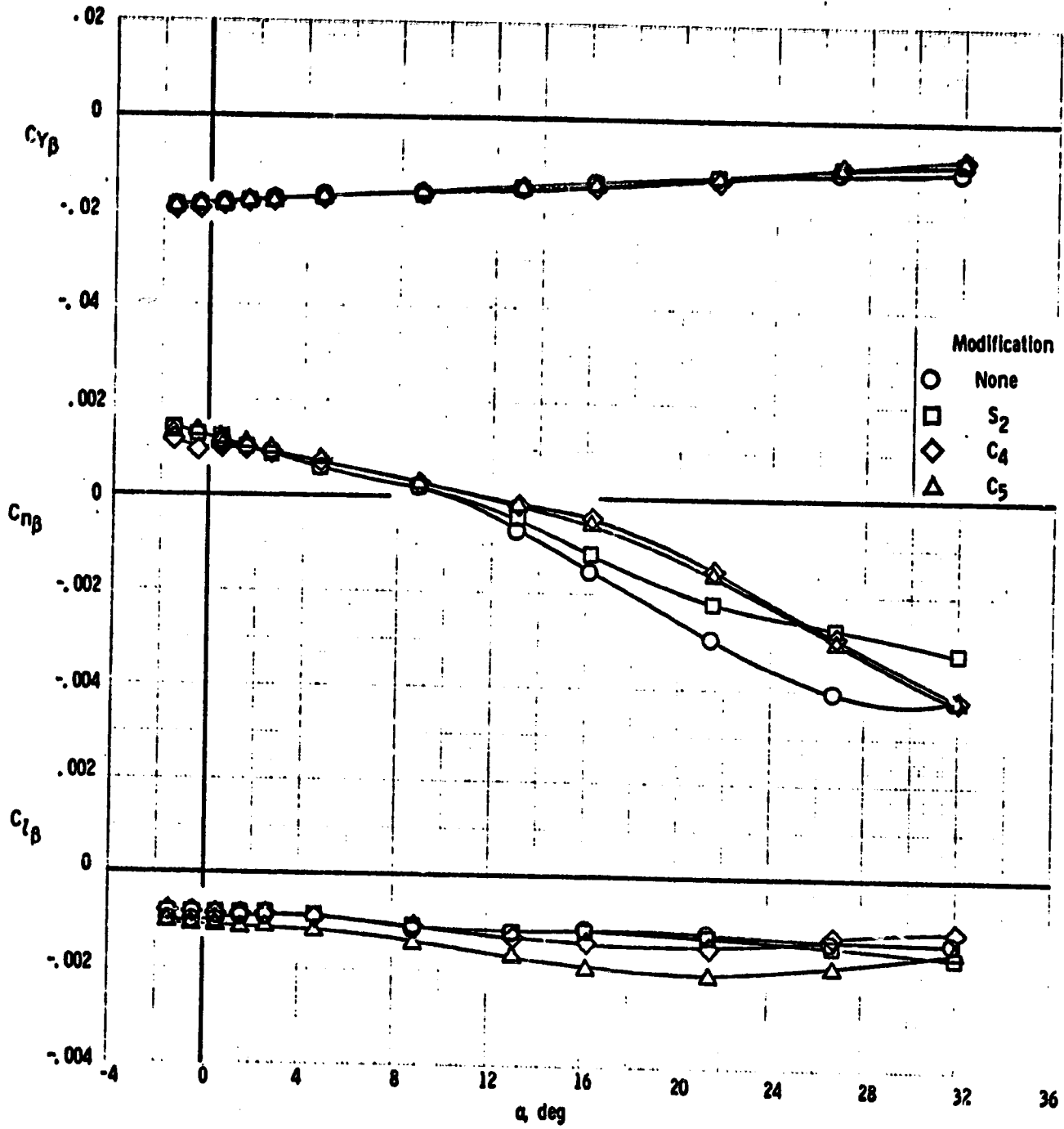
(b) $M=2.0$
Figure 8. - Continued.



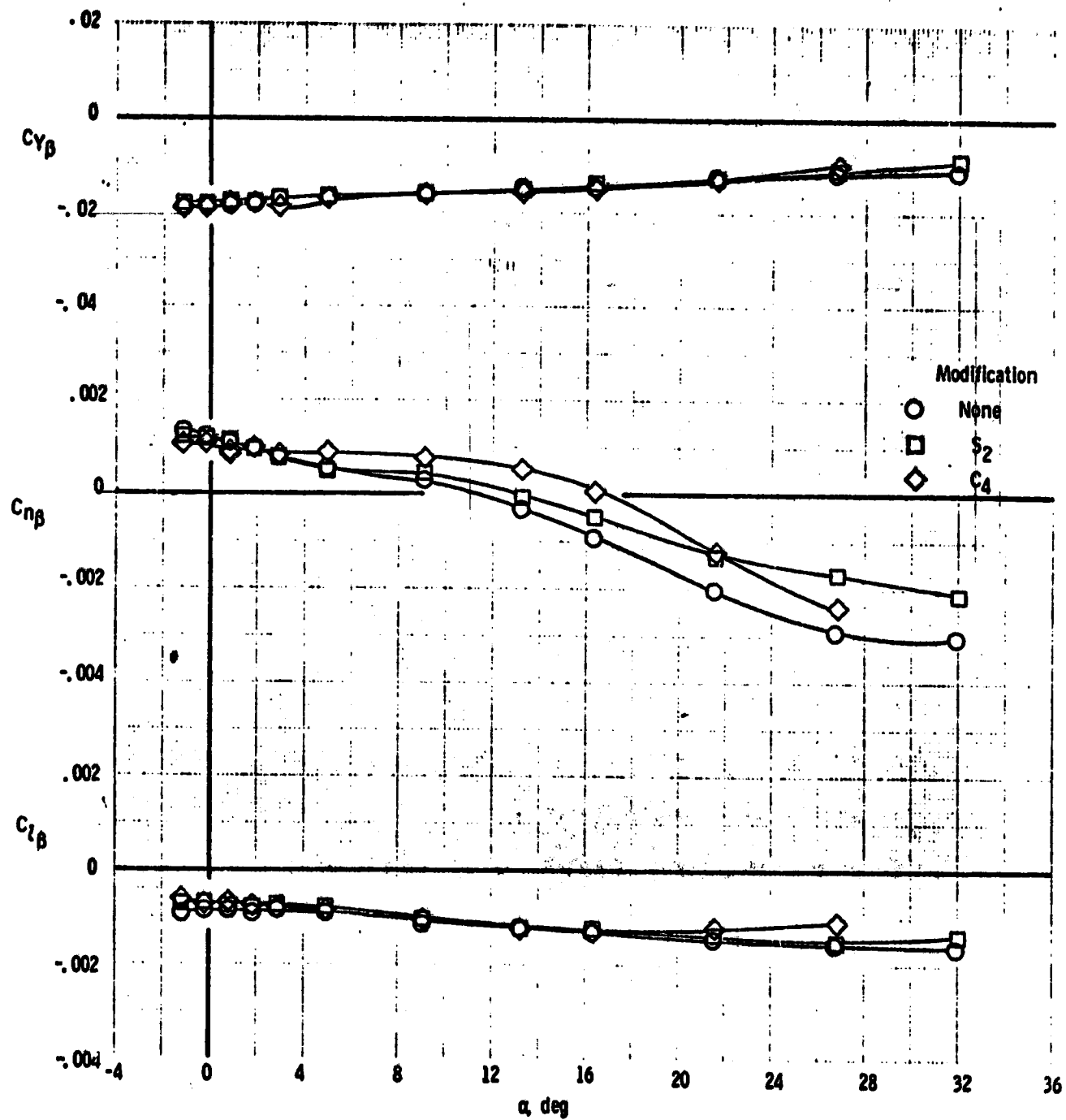
(c) M=2.5
Figure 8. - Concluded.



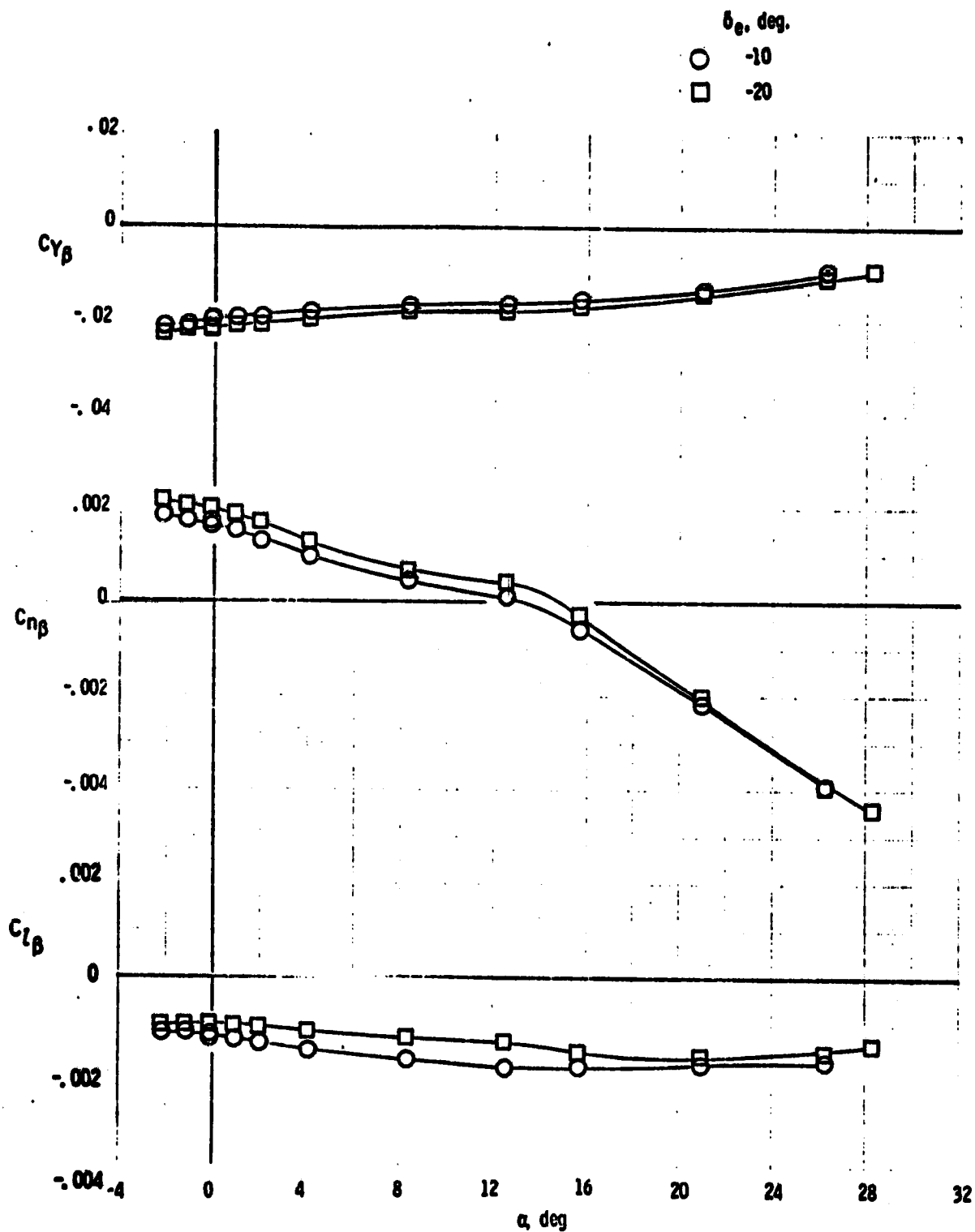
(a) $M=1.5$
 Figure 9. - Effect of fillet and canard modifications on lateral-directional characteristics for configuration $B_1WVSoEF$. $\delta_e = -10^\circ$; $\delta_{BF} = -11.7^\circ$; $\delta_{SB} = 55^\circ$



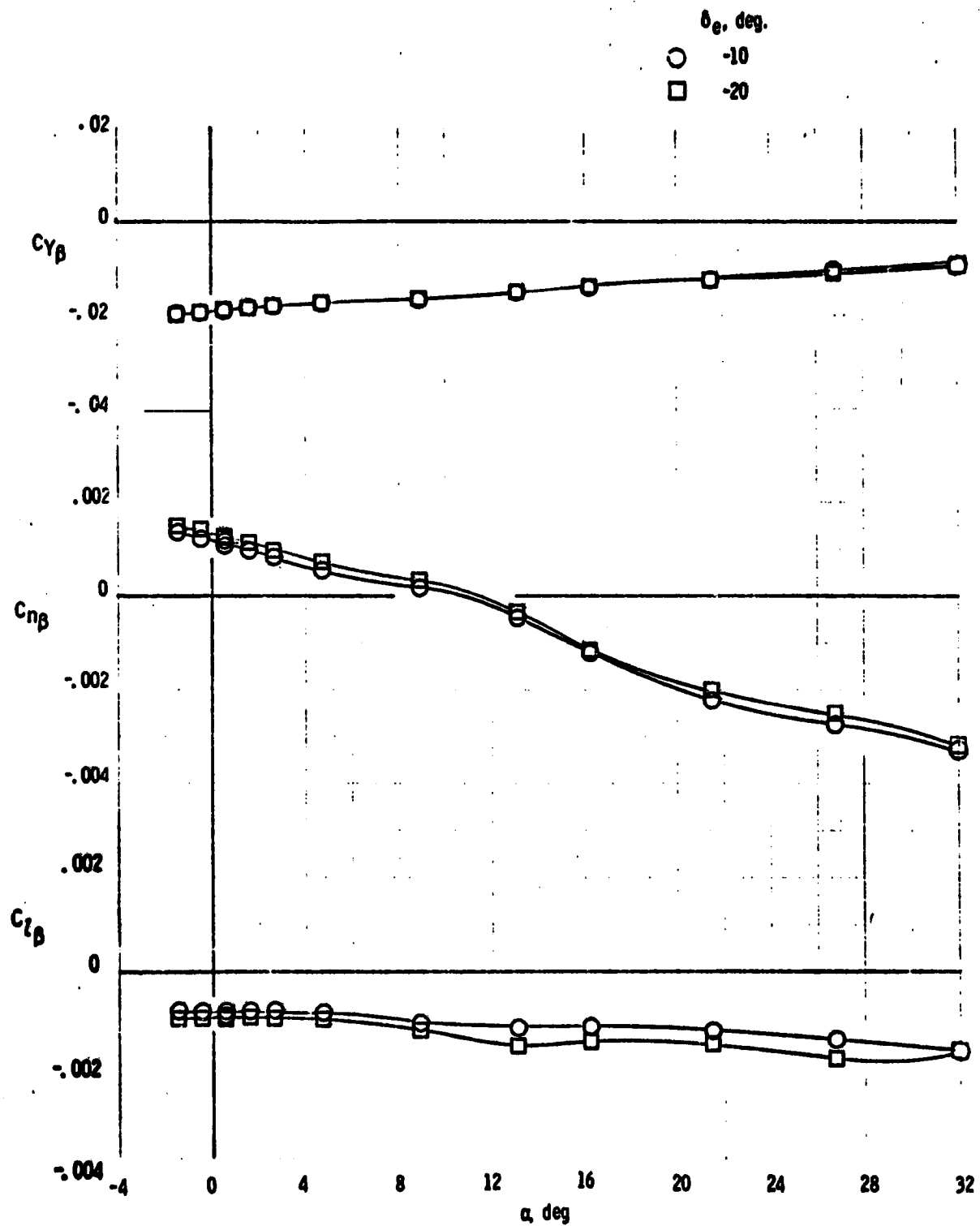
(b) M=2.0
Figure 9. - Continued.



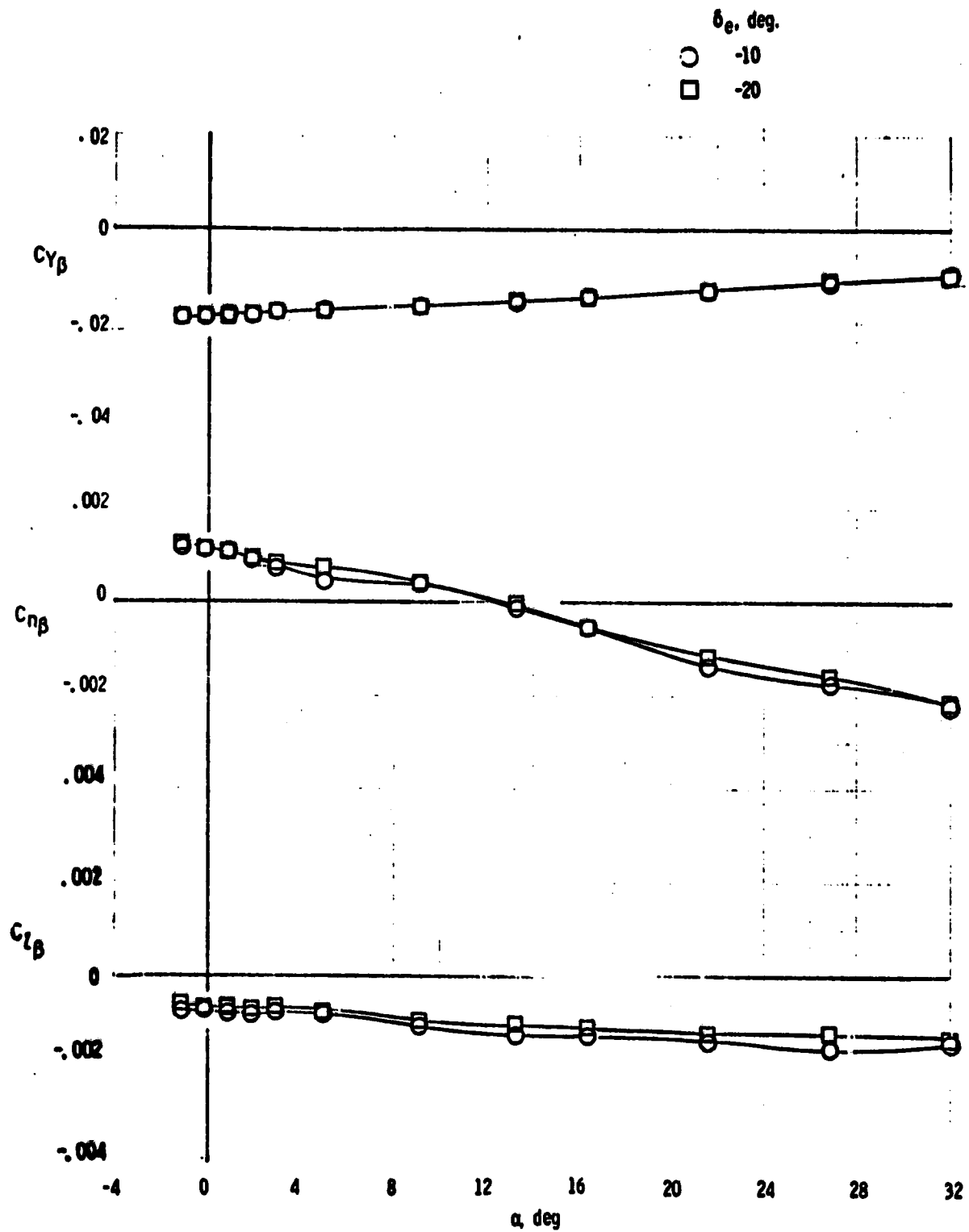
(c) M=2.5
Figure 9. - Concluded.



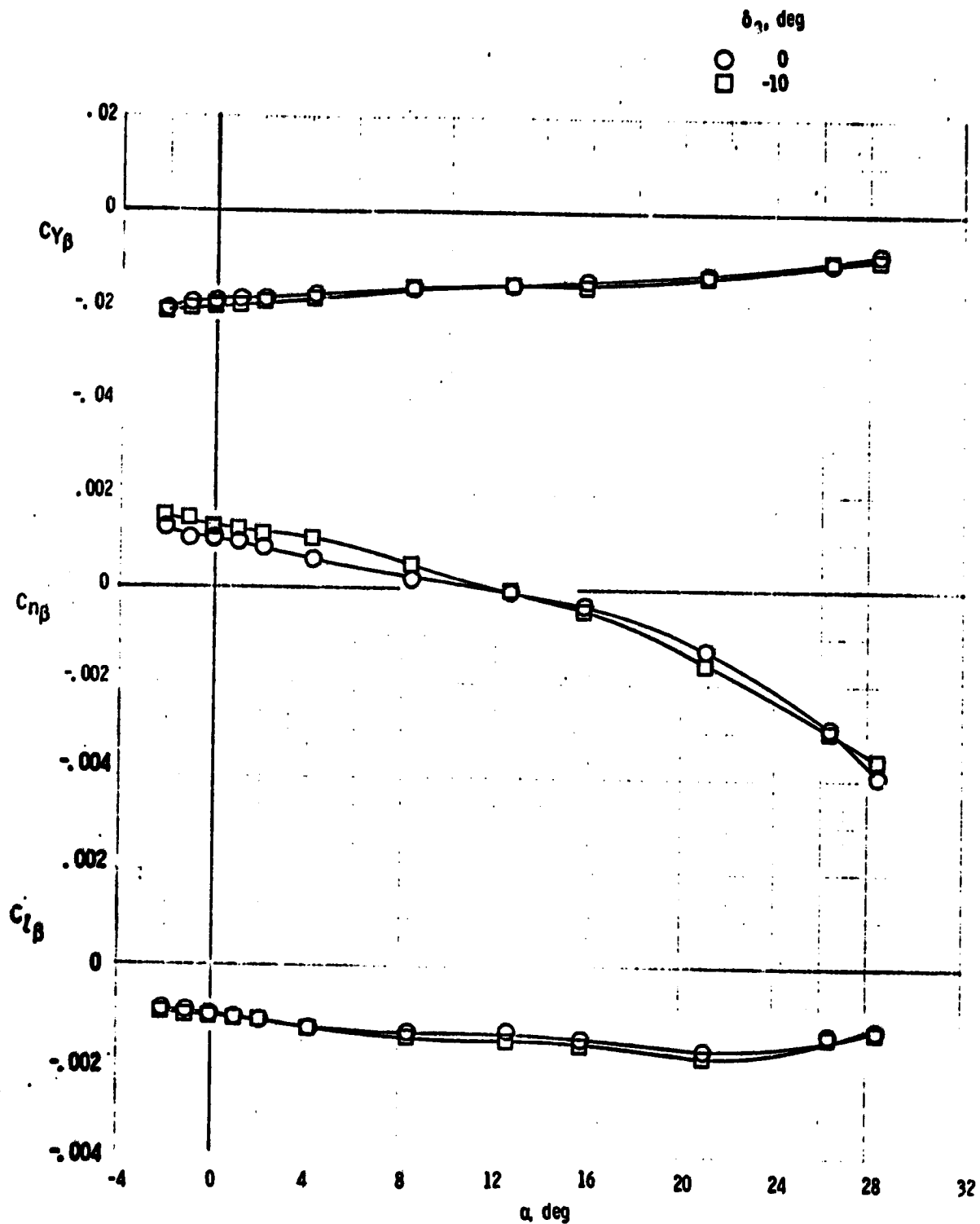
(a) $M=1.5$
 Figure 10. - Lateral-directional aerodynamic characteristics
 for configuration B_1WVS_2EF . $\delta_{BF} = -11.7^\circ$; $\delta_{SB} = 55^\circ$



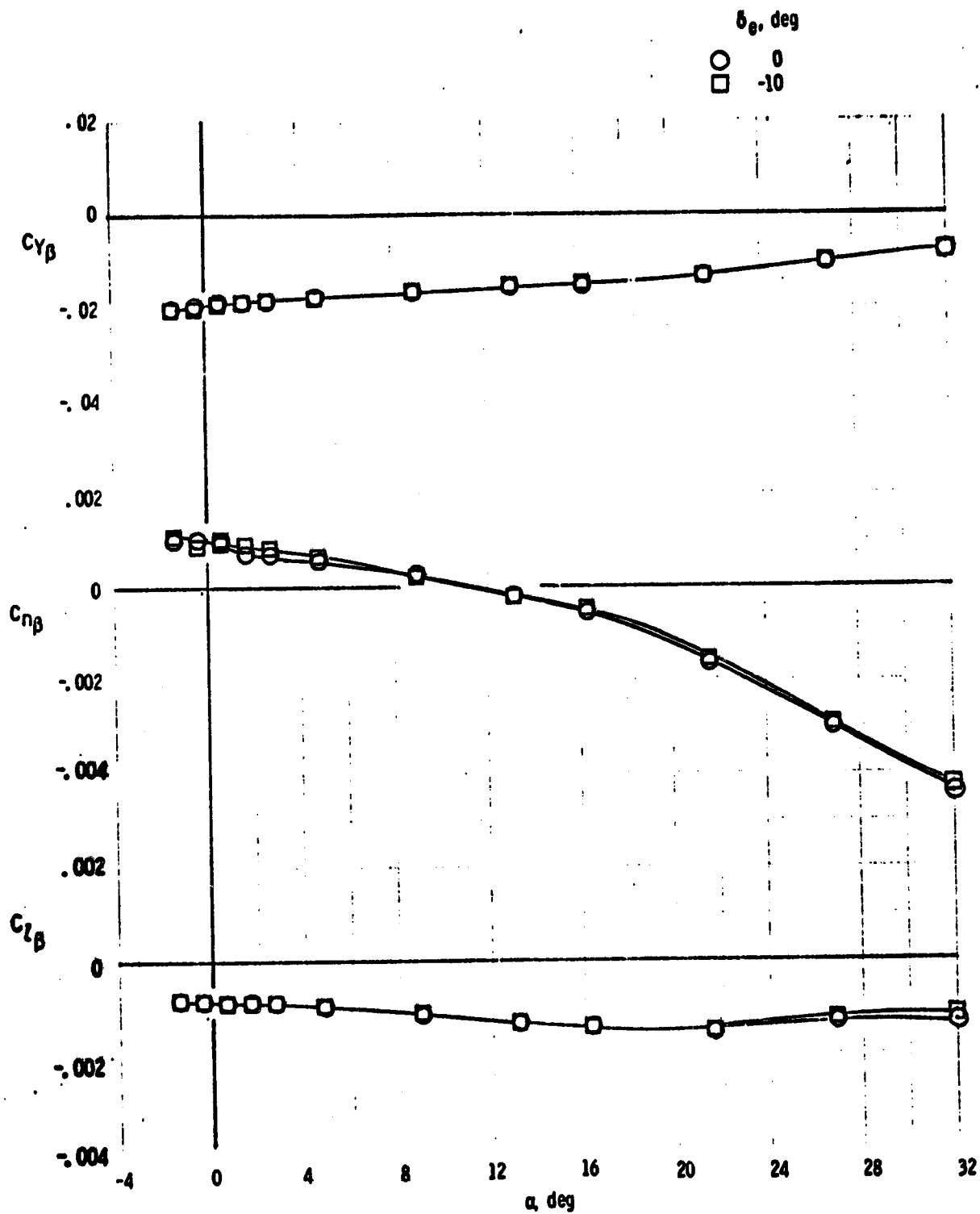
(b) M=2.0
 Figure 10. - Continued.



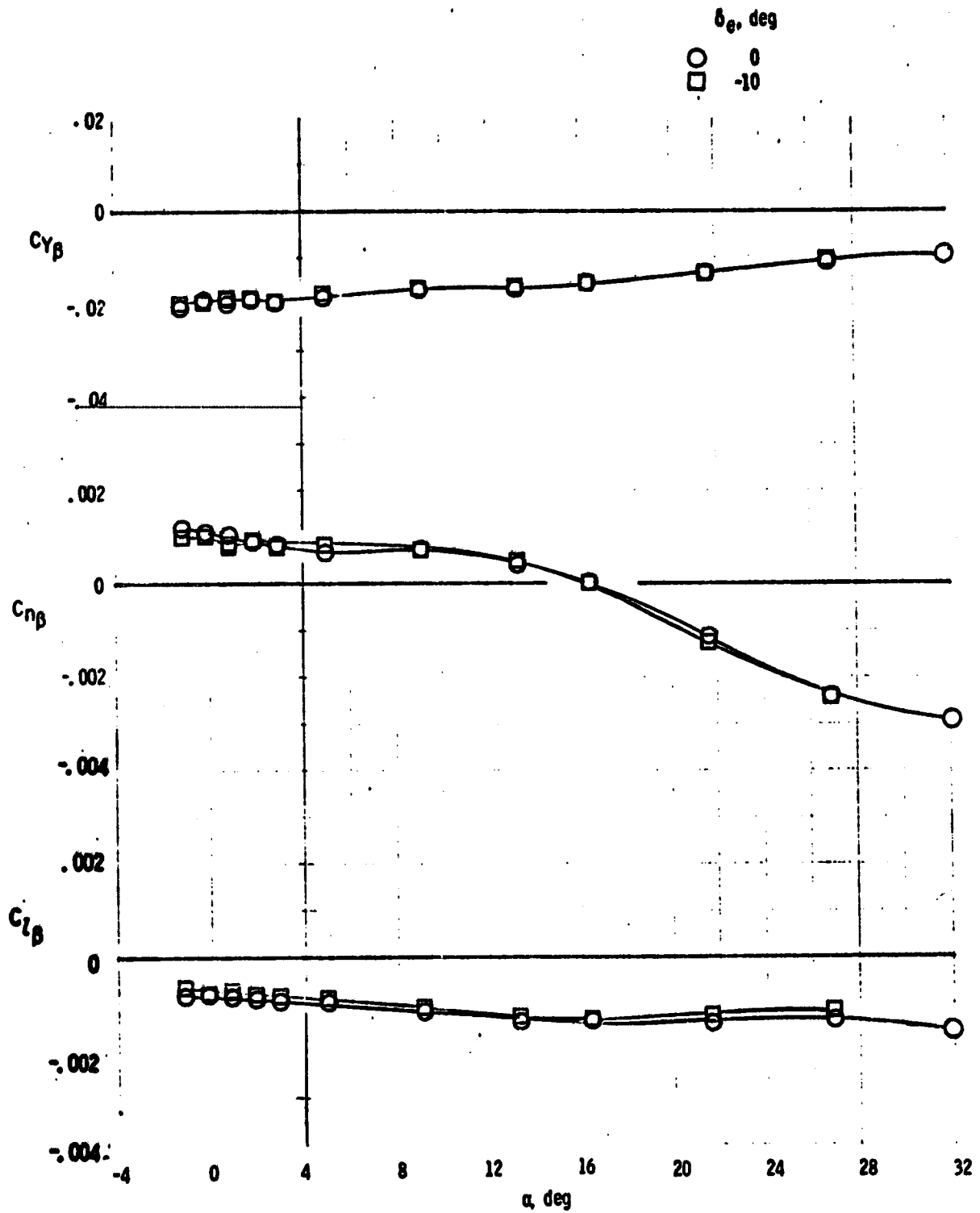
(c) M-2.5
 Figure 10. - Concluded.



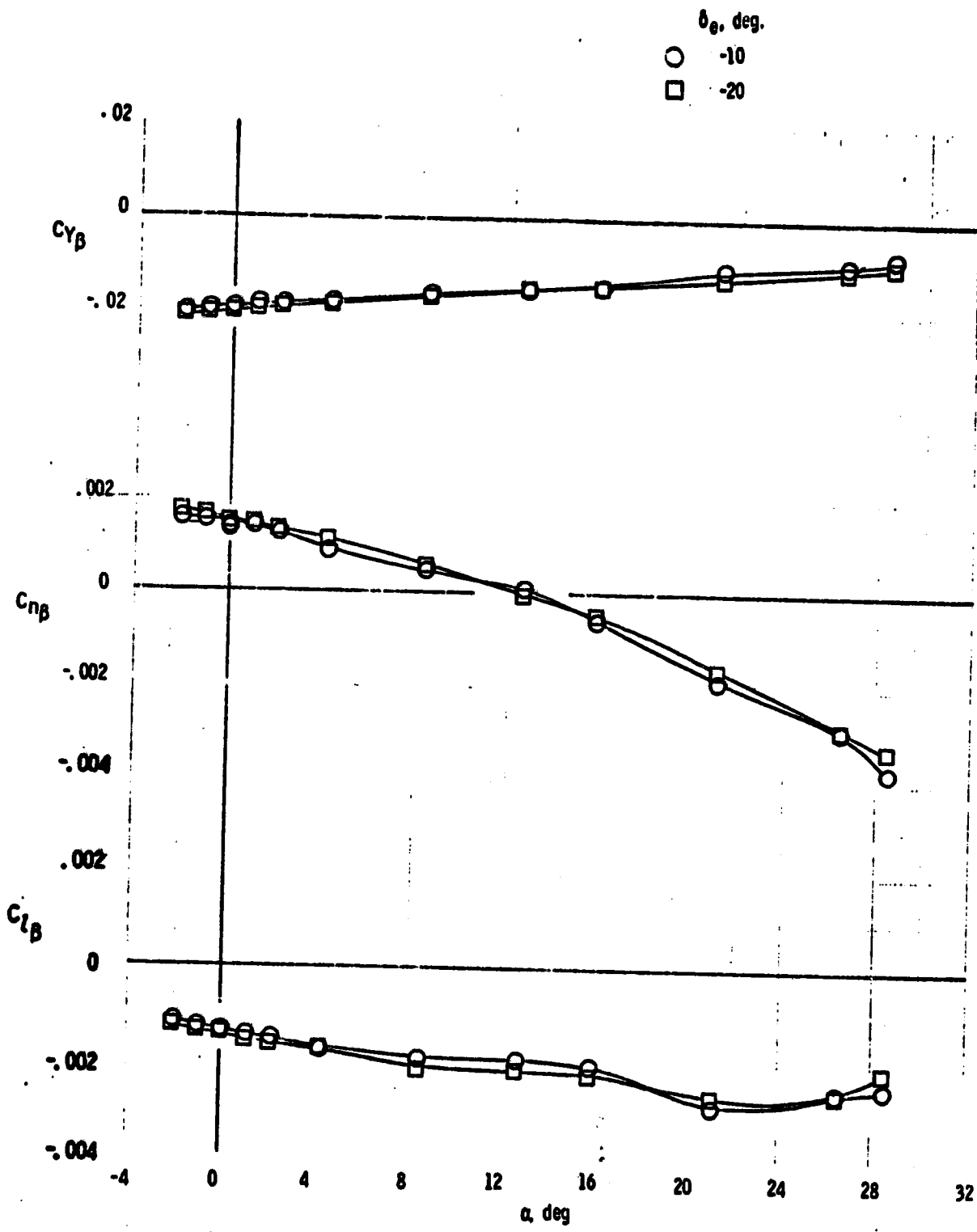
(a) $M=1.5$
 Figure 11. - Lateral-directional aerodynamic characteristics for configuration B_1WVSC_4EF . $\delta_{BF} = -11.7^\circ$; $\delta_{SB} = 55^\circ$



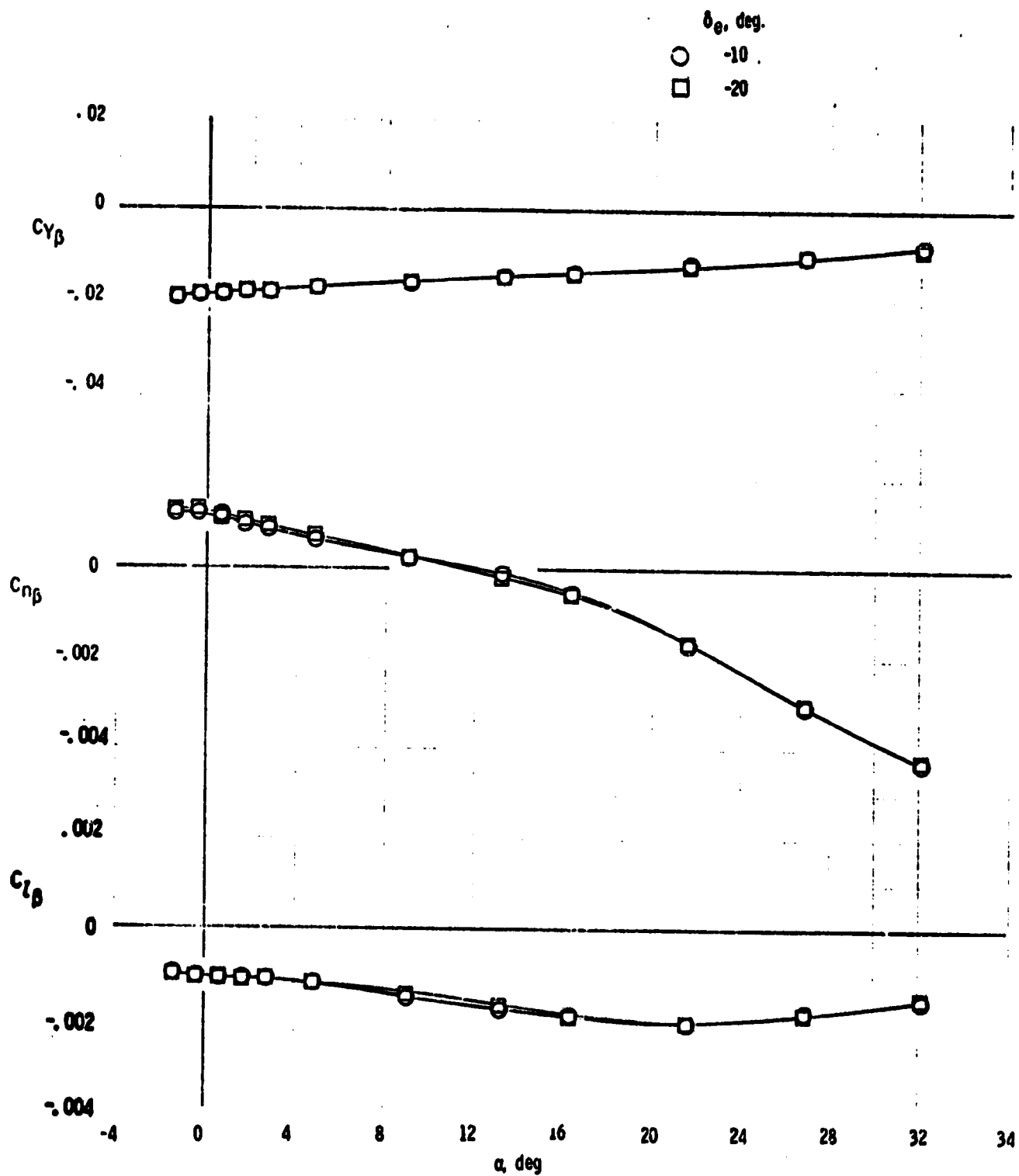
(b) $M=2.0$
 Figure 11. - Continued.



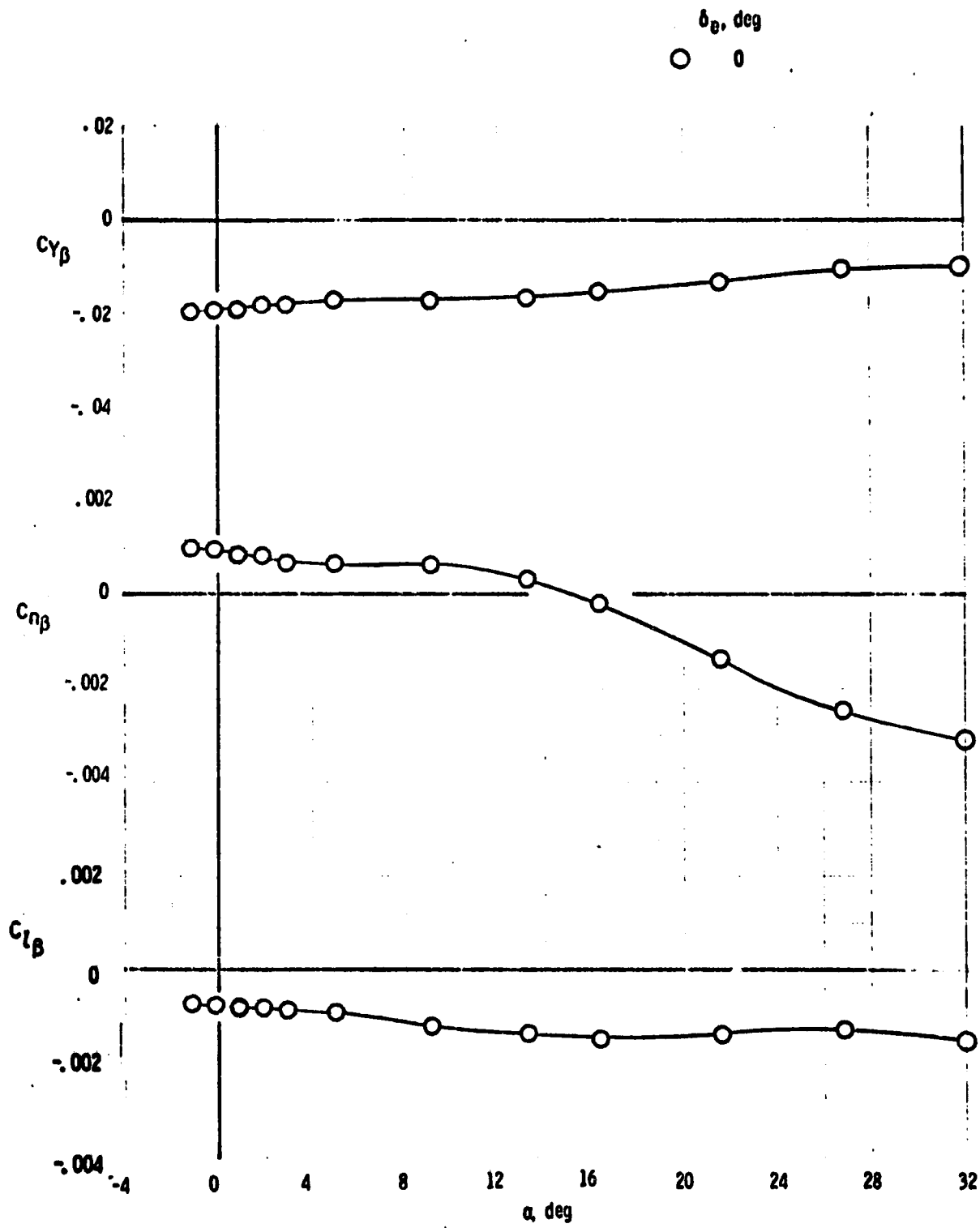
(c) M=2.5
 Figure 11. - Concluded.



(a) $M=1.5$
 Figure 12. - Lateral-directional aerodynamic characteristics for configuration B_1WVSc_5EF . $\delta_{BF} = -11.7^\circ$; $\delta_{SB} = 55^\circ$



(b) $M=2.0$
 Figure 12. - Continued.



(c) $M=2.5$
Figure 12. - Concluded.

APPENDIX
Tabulated Data

The data presented herein are identified in table II (Data Set/Run Number Collation Summary) by configuration and run number. These data are also sorted on tape in the Space Shuttle Data Management System (DATAMAN) and are identified by Shuttle test number LA-46A and data set identifier letters RHG. Access to the data may be obtained by writing to the following address:

Crysler Corporation, Space Division
Dept. 2910, P.O. Box 29200
New Orleans, LA 70189

TABLE II

TEST: UPMT-1092 (LA-46A)		DATA SET/RUN NUMBER COLLATION SUMMARY										DATE: 15 JANUARY 1975		
DATA SET IDENTIFIER	CONFIGURATION	SCMD.			PARAMETERS/VALUES					NO. OF RUNS	MACH NUMBERS			
		α	β	δE	δBF	δSB						1.5	2.0	2.5
RHG001	B1W S0 E1F1	A	0°	0°	-17	55°					3	13	16	20
02			5°	0°								14	17	21
03			0°	-10°								9	11	7
04			5°	-10°								10	12	8
05			0°	-20°								3	5	1
06			5°	-20°								4	6	2
07	S2		0°	-10°								24	26	22
08			5°	-10°								25	27	23
09			0°	-20°								30	32	28
10			5°	-20°								31	33	29
11	S0C4		0°	0°								42	44	40
12			5°	0°								43	45	41
13			0°	-10°								56	58	60
14			5°	-10°								57	59	61
15			0°	-20°								36	38	34
16			5°	-20°								37	39	35

7 13 19 25 31 37 43 49 55 61 67 73 76

GN...CA...CLM...CY...EYN...CB...CD...L/P...BETA...MACH...ALPHA...O

α OR β $\alpha(A) = -2, -1, 2, 4, 8, 16, 20, 26, 32$ COEFFICIENTS

SCHEDULES

10VAR (1) 10VAR (2) NCV

LA46 A/B TABULATED SOURCE DATA

(RM/001)

UPWT-1092 (LA-46A)ORBITER (BIMWSELF1)

PARAMETRIC DATA

BETA = .000 ELEVTR = .000
 BDFLAP = -11.700 SFDORK = 55.000

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CC	L/D	BETA
1.500	-2.062	-1.4225	.17043	.07271	.00783	.00051	.00069	-.13993	.17552	-.77443	-.04559
1.500	-1.059	-.08701	.16828	.06078	.00870	.00042	.00100	-.08387	.17006	-.49006	-.04637
1.500	-.038	-.03771	.16773	.05970	.00940	.00029	.00061	-.03760	.16775	-.22412	-.04694
1.500	.995	.01647	.16561	.05944	.00927	.00021	.00069	.01559	.16590	.09397	-.04675
1.500	2.064	.06826	.16368	.05918	.00712	.00022	.00059	.06232	.16503	.37335	-.04669
1.500	4.160	.17337	.15893	.05189	.00734	.00007	.00021	.16158	.17115	.94437	-.04527
1.500	8.366	.37708	.15228	-.01854	.00700	.00000	.00052	.35591	.25552	1.70740	-.04549
1.500	12.577	.57501	.14760	-.04759	.00374	.00109	.00052	.26926	.33306	1.95489	-.04290
1.500	15.717	.72401	.14358	-.06397	.00319	.00196	.00048	.65818	.41847	1.97145	-.04301
1.500	19.180	.88300	.13591	-.07601	.00169	.00200	.00055	.78933	.62918	1.88625	-.04177
1.500	26.238	1.17453	.12255	-.06882	.00252	.00296	.00073	.99934	.70306	1.58833	-.04307
1.500	28.299	1.25845	.12091	-.06543	.00168	.00273	.00027	1.05072	1.49451	1.49451	-.04279

RUN NO. 13/ 0

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CC	L/D	BETA
2.000	-1.443	-.06720	.14559	.02696	.00917	-.00058	.00061	-.08341	.15174	-.54966	-.06452
2.000	-.437	-.04750	.14869	.02155	.00508	-.00028	.00050	-.04636	.14995	-.31105	-.06481
2.000	.573	-.00424	.14790	.01543	.00941	-.00037	.00057	-.00572	.14783	-.03863	-.06505
2.000	1.609	.03663	.14732	.00936	.00935	-.00036	.00054	.03248	.14829	-.21904	-.06480
2.000	2.671	.07871	.14595	.00413	.00535	-.00036	.00040	.07182	.14346	.48057	-.06507
2.000	4.735	.15904	.14161	-.00452	.00752	-.00017	.00049	.14680	.15425	.95172	-.06548
2.000	8.901	.31838	.13388	-.01656	.00640	.00031	.00030	.18152	.16152	1.61869	-.06311
2.000	13.072	.47449	.12734	-.02427	.00589	.00013	.00059	.43339	.23136	1.67323	-.06505
2.000	16.201	.60320	.12218	-.03142	.00342	.00033	.00062	.28562	.28562	1.90857	-.06520
2.000	21.445	.81608	.11563	-.04514	.00352	.00058	.00052	.71914	.40134	1.79187	-.06508
2.000	26.713	1.02840	.09792	-.05383	.00344	.00062	.00048	.54976	.54976	1.59289	-.06133
2.000	31.926	1.24804	.08811	-.06723	.00203	.00111	.00069	1.01265	.73479	1.37816	-.05888

LA46 A/B TABULATED SOURCE DATA

UPWT-1092 (LA-46A)ORBITER (B:WWS0E1F1)

(R=0001)

PARAMETRIC DATA

BETA = .000 ELEVTR = .000
BDFLAP = -11.700 SPCBRK = 99.000

RUN NO. 20/ 0

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
2.500	-1.130	-.06683	.13104	.01309	.00311	.00024	-.00019	-.06393	.13233	-.40311	-.06109
2.500	-.143	-.03980	.13012	.01137	.00446	.00036	-.00003	-.03947	.13022	-.30910	-.06068
2.500	.062	-.00778	.12912	.00856	.00564	.00004	.00021	-.00973	.12898	-.07342	-.06140
2.500	1.085	.02827	.12791	.00768	.00400	.00021	.00029	.02404	.12877	.16573	-.06056
2.500	2.917	.05455	.12680	.00551	.00312	.00021	.00006	.04893	.12941	.37114	-.05941
2.500	4.976	.11951	.12277	.00273	.00354	.00022	.00020	.10842	.13267	.61716	-.05979
2.500	9.095	.24729	.11509	.00147	.00354	.00022	.00014	.22660	.15259	1.48010	-.05794
2.500	13.240	.39211	.10874	-.00171	-.00761	.00032	.00019	.35679	.19565	1.82556	-.05623
2.500	16.336	.49990	.10461	-.01978	.00096	.00170	.00021	.45028	.25101	1.86631	-.05651
2.500	21.548	.69662	.09493	-.02911	-.00169	.00120	.00022	.61367	.74415	1.78138	-.05655
2.500	26.786	.89822	.08525	-.03944	-.00202	.00191	.00056	.76341	.48090	1.58728	-.05711
2.500	31.974	1.11171	.07641	-.05277	-.00436	.00143	.00084	.95259	.55350	1.33815	-.05432

UPWT-1092 (LA-46A)ORBITER (B:WWS0E1F1)

(R=0002)

PARAMETRIC DATA

BETA = 5.000 ELEVTR = .000
BDFLAP = -11.700 SPCBRK = 99.000

RUN NO. 14/ 0

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
1.500	-2.090	-.13753	.17029	.06550	-.09237	.00887	-.00451	-.13123	.17319	-.74904	5.08441
1.500	-1.062	-.09171	.16580	.05526	-.09029	.00800	-.00462	-.08855	.17147	-.51641	5.08335
1.500	-.030	-.03625	.16893	.04516	-.08936	.00758	-.00507	-.08616	.16895	-.21403	5.08292
1.500	.987	.01545	.16794	.03465	-.08661	.00683	-.00537	.01256	.16818	.07467	5.08107
1.500	2.044	.06843	.16624	.02605	-.08340	.00666	-.00586	.06245	.16857	.37049	5.07809
1.500	4.146	.17260	.16175	.00787	-.08085	.00485	-.00666	.16046	.17381	.92316	5.07775
1.500	8.346	.36844	.15473	-.02015	-.07583	.00253	-.00658	.34208	.20657	1.65597	5.07564
1.500	12.554	.55407	.14854	-.04498	-.08106	.00271	-.00652	.51830	.26759	1.93691	5.07041
1.500	15.713	.71628	.14133	-.06190	-.07466	-.00235	-.00720	.65124	.33003	1.97331	5.07994
1.500	20.992	.96071	.12671	-.08296	-.07060	-.01112	-.00520	.85156	.46246	1.84136	5.08582
1.500	25.604	1.14199	.12035	-.07778	-.05572	-.02135	-.00665	.97784	.60204	1.62423	5.08297
1.500	28.285	1.25726	.11556	-.07586	-.05061	-.02454	-.00804	1.05238	.69753	1.51073	5.08177

LAM6 A/B TABULATED SOURCE DATA

UFMT-1092 (L.A-46A) ORBITER (BIMWSDEFI)

(RMG052)

PARAMETRIC DATA

BETA = 5.000 ELEVTR = .000
BDFLAP = -11.700 SFDBRK = 53.000

RUN NO. 177 0

MACH	ALPHA	CN	CA	CLP	CY	CYN	CBL	CL	CD	L/D	BETA
2.000	-1.431	-0.06983	.14676	.02378	-.07083	.03553	-.00496	-.02209	.15085	-.34416	5.06724
2.000	-.433	-.04726	.11803	.01741	-.09033	.00491	-.00495	-.04614	.14838	-.31043	5.06773
2.000	.572	-.00435	.14376	.01318	-.05542	.00434	-.00503	-.00581	.14671	-.03962	5.05345
2.000	1.602	.03345	.14594	.00748	-.05424	.00341	-.00476	.03136	.14888	.21331	5.06354
2.000	2.645	.07774	.1474	.00215	-.08233	.00298	-.00457	.05266	.14816	.47982	5.06266
2.000	4.727	.15959	.14189	-.00591	-.08023	.00190	-.00474	.14735	.15456	.95340	5.06195
2.000	8.934	.31823	.13604	-.01825	-.07773	.00039	-.00609	.29433	.16385	1.60052	5.06049
2.000	13.075	.47771	.12923	-.02457	-.07097	-.00358	-.00643	.43603	.23395	1.85454	5.05935
2.000	16.209	.67487	.12150	-.03305	-.06680	-.001831	-.00562	.54691	.29551	1.91553	5.05966
2.000	21.443	.81141	.10763	-.04455	-.05900	-.01512	-.00540	.71541	.39541	1.80413	5.05966
2.000	26.713	1.02688	.09816	-.05315	-.05357	-.02052	-.00728	.87316	.54528	1.58963	5.06049
2.000	31.931	1.25254	.09139	-.06727	-.05334	-.02179	-.00735	1.01467	.74003	1.37112	5.06177

RUN NO. 217 0

MACH	ALPHA	CN	CA	CLP	CY	CYN	CBL	CL	CD	L/D	BETA
2.500	-1.137	-.06880	.13100	.00919	-.09456	.00634	-.00495	-.06619	.13234	-.50015	5.06197
2.500	-.133	-.04035	.12970	.00767	-.09500	.00634	-.00508	-.04905	.12979	-.35059	5.06232
2.500	.891	.06375	.12797	.00534	-.08764	.00499	-.00450	.00176	.12801	-.01373	5.07716
2.500	1.862	.02795	.12688	.00363	-.08761	.00442	-.00479	-.02381	.12772	.18545	5.07773
2.500	2.925	.06595	.12516	.00219	-.08609	.00389	-.00476	.05948	.12837	.46338	5.07694
2.500	4.979	.12845	.12223	-.00101	-.08427	.00287	-.00572	.11736	.13289	.68313	5.07640
2.500	9.110	.26018	.11564	-.00759	-.08071	.00164	-.00629	.23859	.15538	1.53551	5.07459
2.500	13.239	.39231	.10955	-.01569	-.07611	-.00128	-.00692	.35680	.19648	1.81593	5.07348
2.500	16.350	.50855	.10353	-.02315	-.07286	-.00422	-.00740	.45884	.24250	1.89210	5.07363
2.500	21.548	.69854	.09273	-.03193	-.06650	-.00905	-.00775	.61566	.34281	1.79594	5.07276
2.500	26.782	.90198	.08554	-.04332	-.06025	-.01329	-.00843	.76648	.48280	1.58799	5.07159
2.500	31.970	1.11136	.07954	-.05205	-.05871	-.01468	-.00894	.90069	.65591	1.37319	5.07168

LA46 A/B TABULATED SOURCE DATA

(RM6533)

UFMT-1092 (LA-46A)ORBITER (B1WSD0E1F1)

PARAMETRIC DATA

BETA = .000 ELEVTR = -10.000
 BDFLAF = -11.700 SPDRBK = 55.000

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CC	L/D	BETA
1.500	-2.133	-20740	.17910	.11743	-.00152	-.00169	.00149	-.20359	.16660	-1.07500	-.05737
1.500	-1.103	-15357	.17031	.10641	-.00183	.00192	.00154	-.15012	.14094	-.82967	-.05721
1.500	-.050	-10355	.17620	.09576	-.00161	.00183	.00133	-.10028	.17636	-.56859	-.05743
1.500	.945	-04780	.17360	.08575	-.00191	.00186	.00135	-.05055	.17279	-.29319	-.05726
1.500	2.018	.00817	.17095	.07514	-.00089	.00178	.00125	-.02215	.17108	.01258	-.05826
1.500	4.166	.10245	.16475	.05751	-.00000	.00138	.00103	.00000	.17223	.57121	-.05611
1.500	8.313	.31267	.15616	.02568	-.00025	.00227	.00127	.26681	.19974	1.43591	-.05749
1.500	12.534	.51790	.14766	-.00299	-.00304	.00264	.00173	.47351	.25657	1.64555	-.05697
1.500	15.680	.66512	.14058	-.01376	-.00485	.00275	.00165	.60237	.31519	1.91168	-.05519
1.500	20.951	.90153	.12875	-.03176	-.00636	.00271	.00139	.79589	.44260	1.75624	-.05373
1.500	26.221	1.10788	.11915	-.02266	-.00646	.00329	.00109	.94123	.59639	1.57821	-.05412
1.500	28.259	1.19271	.11622	-.01373	-.00689	.00270	.00024	.99453	.66706	1.49241	-.05292

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CC	L/D	BETA
2.000	-1.473	-12542	.15227	.06049	.00147	-.00013	.00109	-.12146	.15544	-.78138	-.03905
2.000	-.459	-08241	.15094	.05488	.00210	-.00011	.00107	-.08319	.15161	-.54872	-.03979
2.000	.556	-04149	.14927	.04880	.00200	-.00007	.00092	-.04294	.14886	-.28846	-.03984
2.000	1.566	-00289	.14795	.04301	.00187	.00005	.00065	-.00698	.14781	-.04725	-.03995
2.000	2.633	.03999	.14593	.03756	.00134	-.00001	.00068	-.03325	.14761	-.22523	-.03946
2.000	4.714	.12237	.14110	.02794	.00078	.00015	.00054	-.11036	.15068	.73245	-.03843
2.000	8.874	.28027	.13305	.01402	-.00048	.00048	.00049	.25638	.17470	1.46755	-.03763
2.000	13.049	.43389	.12453	.00877	-.00140	.00101	.00043	.36457	.21928	1.75939	-.03776
2.000	16.185	.56126	.11893	.00386	-.00294	.00093	.00059	.27066	.27066	1.86900	-.03606
2.000	21.427	.72247	.10791	-.00791	-.00273	.00095	.00075	.67981	.38224	1.77830	-.03633
2.000	26.698	.98270	.09300	-.01532	-.00326	.00108	.00051	.52461	.52461	1.59384	-.03580
2.000	31.982	1.20520	.08057	-.02370	-.00553	.00082	.00071	.98058	.70531	1.39028	-.03303

L446 A/B TABULATED SOURCE DATA

UPWT-1092 (LA-46A)ORBITER (BIWSDREIF1)

(RMCD003)

PARAMETRIC DATA

BETA = .000 ELEVTR = -10.000
 BDFLAP = -11.700 SFCBRK = 55.000

RUN NO. 7/ 0

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
2.500	-1.153	-0.0908	.13348	.02544	.00806	.01089	.00110	-.00797	.13520	-.65033	-.04588
2.500	-.147	-.06119	.13212	.02327	.00863	.00780	.00050	-.06085	.13227	-.46076	-.04640
2.500	.849	-.03125	.13053	.02056	.01002	.00072	.00083	-.03318	.13005	-.25514	-.04763
2.500	1.865	-.00113	.12935	.01863	.00781	.00079	.00068	-.00534	.12924	-.04133	-.04585
2.500	2.901	.03501	.12737	.01650	.00648	.00098	.00078	.02852	.12698	.22115	-.04497
2.500	4.957	.09703	.12332	.01395	.00939	.00102	.00086	.08883	.13124	.65348	-.04759
2.500	9.084	.22765	.11452	.00650	.00748	.00102	.00069	.20572	.14903	1.28714	-.04590
2.500	13.228	.37115	.10651	.00339	.00535	.00107	.00049	.33646	.16891	1.78321	-.04386
2.500	16.323	.47435	.10220	-.00362	.00491	.00115	.00067	.42650	.22119	1.84319	-.04551
2.500	21.537	.67181	.09209	-.00944	.00496	.00103	.00081	.59110	.32223	1.77687	-.04423
2.500	26.763	.85712	.08046	-.01670	.00443	.00226	.00096	.73799	.46233	1.59624	-.04405
2.500	31.951	1.07670	.06956	-.02493	.00372	.00389	.00089	.87932	.63039	1.39488	-.04481

UPWT-1092 (LA-46A)ORBITER (BIWSDREIF1)

(RMCD004)

PARAMETRIC DATA

BETA = 5.000 ELEVTR = -10.000
 BDFLAP = -11.700 SFCBRK = 55.000

RUN NO. 10/ 0

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
1.500	-2.143	-.20913	.17659	.11273	-.10748	.01107	-.00428	-.20238	.18428	-1.05818	5.09618
1.500	-1.113	-.15407	.17528	.10178	-.10295	.01044	-.00443	-.15263	.17824	-.84512	5.09237
1.500	-.107	-.10296	.17416	.09229	-.10329	.01026	-.00457	-.10263	.17435	-.56865	5.09272
1.500	.946	-.05019	.17277	.08196	-.09555	.00922	-.00466	-.05303	.17192	-.30847	5.09019
1.500	2.043	.00352	.17092	.07206	-.09717	.00848	-.00505	-.00235	.17095	-.01376	5.08864
1.500	4.099	.10605	.16633	.05506	-.09161	.00669	-.00584	.00390	.17348	.54125	5.08529
1.500	6.309	.31081	.15777	.02393	-.08634	.00425	-.00657	.28475	.20103	1.41644	5.08299
1.500	12.523	.51184	.14756	-.00213	-.08911	.00277	-.00799	.46767	.25503	1.93376	5.08063
1.500	15.667	.65554	.13895	-.01626	-.08276	-.00222	-.00721	.59366	.31091	1.91903	5.08731
1.500	20.945	.89768	.12270	-.03263	-.07795	-.01016	-.00486	.79450	.43549	1.82438	5.09176
1.500	26.207	1.10310	.11507	-.02583	-.06507	-.02150	-.00638	.93888	.59039	1.59027	5.09262
1.500	28.243	1.18598	.11147	-.02304	-.06273	-.02368	-.00722	.99203	.65942	1.50440	5.09286

LA46 A/B TABULATED SOURCE DATA

UPWT-1092 (LA-46A)ORBITER (BIWSEIF1)

(RMGDDA)

PARAMETRIC DATA

BETA = 5.000 ELEVTR = -10.000
BCFLAP = -11.700 SPDBRK = 55.000

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
2.000	-1.463	-1.2744	.15176	.05727	-.09766	.07666	-.09405	-.12353	.15497	-.79712	5.09133
2.000	-.464	-.08549	.15044	.05226	-.09569	.07615	-.09426	-.08427	.15112	-.95762	5.06994
2.000	.546	-.04588	.14909	.04706	-.09312	.07553	-.09433	-.04739	.14864	-.31820	5.06804
2.000	1.586	-.02284	.14761	.04115	-.09170	.07494	-.09419	-.07692	.14747	-.04695	5.06726
2.000	2.626	.03792	.14612	.03592	-.08954	.07443	-.09416	.03119	.14770	-.21114	5.06565
2.000	4.707	.11873	.14267	.02828	-.08705	.07289	-.09425	.17682	.15193	.70180	5.06402
2.000	8.870	.27690	.13495	.01278	-.08406	.07124	-.09554	.25278	.17693	1.43805	5.06398
2.000	13.051	.43627	.12661	.00794	-.07894	-.07286	-.09581	.39641	.22186	1.78674	5.06398
2.000	16.175	.58841	.11906	.00187	-.07272	-.07121	-.09520	.50314	.26991	1.86409	5.06307
2.000	21.422	.77085	.10494	-.00944	-.06660	-.04428	-.09536	.67927	.37924	1.79114	5.06322
2.000	26.687	.97977	.09319	-.01454	-.05991	-.01965	-.09545	.83355	.52329	1.59288	5.06533
2.000	31.895	1.19412	.08351	-.02144	-.05610	-.02789	-.09562	.96971	.70183	1.38169	5.06794

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
2.500	-1.149	-.09005	.13293	.02199	-.09153	.07743	-.09382	-.08736	.13471	-.64852	5.07769
2.500	-.172	-.06077	.13128	.01974	-.08895	.07677	-.09403	-.06038	.13146	-.45930	5.07603
2.500	.853	-.02074	.12937	.01758	-.08523	.07614	-.09360	-.02266	.12904	-.17559	5.07324
2.500	1.859	.07330	.12807	.01499	-.08796	.07552	-.09420	-.09086	.12811	-.07668	5.07639
2.500	2.911	.03919	.12634	.01356	-.08267	.07463	-.09370	.03273	.12817	-.25534	5.07248
2.500	4.961	.10270	.12297	.01044	-.07886	.07356	-.09395	.09168	.13139	.69778	5.07001
2.500	9.091	.23584	.11498	.00439	-.07639	.07227	-.09330	.21471	.15080	1.42376	5.06930
2.500	13.225	.36991	.10811	-.00152	-.07106	-.07089	-.09386	.33536	.16987	1.76629	5.06803
2.500	16.325	.47929	.10171	-.00646	-.06922	-.07043	-.09616	.43138	.23233	1.85673	5.06927
2.500	21.537	.67439	.08939	-.01302	-.06056	-.07874	-.09874	.59449	.33072	1.79757	5.06711
2.500	26.760	.86601	.08157	-.01962	-.05571	-.01284	-.09715	.73832	.46366	1.59237	5.06729
2.500	31.952	1.07813	.07289	-.02489	-.05689	-.01399	-.09761	.87622	.63239	1.38156	5.06981

LA46 A/B TABULATED SOURCE DATA

UPWT-1992 (LA-46A10RBITER (BIWSDRIF1))

(RM6095)

PARAMETRIC DATA

BETA = .0000 CLEAR = -20.949
 BDFLAP = -11.700 SPDRK = 95.000

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CC	L/D	BETA
1.500	-2.194	-22311	19744	15465	-00336	.00168	.00093	-27139	.20356	-1.31117	-.03714
1.500	-1.176	-22276	15434	14335	-00316	.00179	.00056	-21671	.19937	-1.09702	-.03710
1.500	-.191	-10736	18718	13245	-00180	.00171	.00036	-11867	.19352	-.08230	-.03837
1.500	.905	-11203	18197	12146	-00323	.00140	.00045	-11503	.18918	-.67807	-.03673
1.500	1.964	-05343	18687	11006	-00235	.00172	.00019	-06974	.18550	-.32557	-.03741
1.500	4.364	.05355	12297	.05053	-00195	.00169	-.00029	.00076	.18529	.21981	-.03605
1.500	8.272	.25678	17460	.06014	-00215	.00215	-.00043	.22239	.20596	1.10939	-.03547
1.500	12.466	.46759	16057	.03215	-00417	.00284	.00022	.41199	.25659	1.63367	-.03444
1.500	17.639	.61211	15502	.01654	-00500	.00360	.00047	.56873	.31044	1.75729	-.03515
1.500	21.937	.64811	13317	.00638	-00719	.00211	-.00003	.73596	.43012	1.71111	-.03372
1.500	26.185	1.05464	12561	.00485	-00842	.00179	-.00050	.89323	.58258	1.53354	-.03211
1.500	29.222	1.13079	12359	.01992	-00762	.00199	-.00111	.54497	.54741	1.45952	-.03304

RUN NO 270

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CC	L/D	BETA
2.000	-1.575	-16584	16452	.08735	-00399	-.00061	.00040	-16067	.16880	-.55182	-.03660
2.000	-.192	-12379	16366	.08175	-00091	-.00048	.00065	-12359	.16372	-.74758	-.03674
2.000	.933	-08331	15784	.07590	-00295	-.00035	.00000	-.00440	.15986	-.53043	-.03576
2.000	1.559	-04139	15813	.06942	-00346	-.00043	.00016	-.04629	.15733	-.29422	-.03701
2.000	2.609	.00051	15622	.06435	-00439	-.00040	.00011	-.05660	.15503	-.04231	-.03707
2.000	4.697	.56117	15236	.05434	-00538	-.00041	-.00014	.06647	.15820	.43282	-.03619
2.000	6.856	.24375	14147	.03959	-00647	-.00012	-.00026	.21977	.17730	1.23555	-.03462
2.000	13.033	.40203	13200	.03316	-00412	-.00009	-.00004	.36189	.21932	1.65007	-.03393
2.000	16.152	.52408	12997	.02955	-00376	-.00003	-.00011	.46835	.26679	1.75545	-.03437
2.000	21.454	.73469	11345	.01956	-00610	-.00024	-.00005	.64262	.37375	1.71937	-.03209
2.000	26.656	.94345	03788	.01377	-00591	-.00029	-.00037	.79926	.51074	1.56491	-.03219
2.000	31.865	1.15926	03486	.00894	-00462	-.00013	-.00045	.93976	.68407	1.37378	-.02986

RUN NO 570

LA46 A/B TABULATED SOURCE DATA

(RM6005)

UPWT-1092 (LA-46A)ORBITER (B1WS0E1F1)

PARAMETRIC DATA

BETA = .000 ELEVTR = -20.000
BCFLAP = -11.700 SFCBRK = 55.000

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
2.500	-1.164	-0.12375	.14298	.04499	.00593	.00104	.00040	-.12002	.14547	-.03057	-.04403
2.500	-.173	-.09411	.14119	.04202	.01046	.00091	.00060	-.09369	.14146	-.66221	-.04843
2.500	.813	-.08562	.13942	.03937	.00803	.00087	.00058	-.06780	.13647	-.48980	-.04615
2.500	1.842	-.03082	.13726	.03635	.00944	.00081	.00070	-.03522	.13620	-.25835	-.04723
2.500	2.877	-.00071	.13514	.03389	.00870	.00087	.00059	-.00749	.13494	-.05551	-.04636
2.500	4.932	.07065	.12955	.02990	.01076	.00112	.00063	.05925	.13315	.43638	-.04874
2.500	9.060	.20335	.11964	.02144	.00911	.00120	.00055	.18198	.13017	1.21181	-.04753
2.500	13.209	.34261	.11207	.01559	.00769	.00115	.00041	.30794	.12739	1.64331	-.04628
2.500	16.306	.44578	.10648	.01273	.00610	.00159	.00032	.39793	.22735	1.75032	-.04684
2.500	21.516	.63997	.09586	.00781	.00470	.00176	.00013	.56022	.32390	1.72960	-.04430
2.500	26.745	.83791	.08387	.00483	.00327	.00221	.00006	.71053	.45198	1.57203	-.04327
2.500	31.926	1.04116	.07216	.00283	.00216	.00196	.00009	.84531	.61183	1.36195	-.04295

(RM6006)

UPWT-1092 (LA-46A)ORBITER (B1WS0E1F1)

PARAMETRIC DATA

BETA = 5.000 ELEVTR = -20.000
BCFLAP = -11.700 SFCBRK = 55.000

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
1.500	-2.194	-.27681	.19518	.15234	-.11985	.01272	-.00613	-.26914	.20564	-1.30879	5.08295
1.500	-1.161	-.22155	.19353	.14134	-.11231	.01211	-.00614	-.21758	.19798	-1.09920	5.08032
1.500	-.148	-.16874	.19169	.13040	-.10960	.01149	-.00620	-.16824	.19212	-.87570	5.07848
1.500	.909	-.11360	.18958	.11917	-.10714	.01059	-.00630	-.11660	.18776	-.62100	5.07724
1.500	1.960	-.05689	.18741	.10815	-.10403	.00979	-.00614	-.06326	.18535	-.34130	5.07523
1.500	4.056	.05074	.18268	.08945	-.09883	.00736	-.00763	-.03769	.18362	.29285	5.07285
1.500	8.273	.24997	.17311	.06100	-.09207	.00431	-.00888	.22246	.20728	1.07326	5.06961
1.500	12.483	.45506	.16085	.03418	-.09438	.00330	-.00959	.40554	.25541	1.60345	5.07318
1.500	15.628	.59747	.15112	.02305	-.08867	-.00184	-.00979	.53467	.30649	1.74449	5.07361
1.500	20.901	.83362	.13512	.01160	-.08581	-.00837	-.00557	.73057	.42362	1.72457	5.07807
1.500	26.167	1.03983	.12433	.01263	-.07075	-.02110	-.00549	.87843	.57015	1.54069	5.07817
1.500	28.215	1.13225	.11979	.01569	-.06713	-.02380	-.00665	.94197	.64088	1.46842	5.07784

LA46 A/B TABULATED SOURCE DATA

(RM0206)

UPWT-1092 (LA-46A)ORBITER (01MWS0E1F1)

PARAMETRIC DATA

BETA = 5.000 ELEVTR = -20.000
 BDFLAP = -11.700 SPCDRK = 55.000

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	QL	CD	L/D	BETA
2.000	-1.500	-1.6989	.16407	.06432	-.10421	.00734	-.00494	-.16334	.16047	-.96262	5.09630
2.000	-.493	-.12932	.16239	.07928	-.10167	.00661	-.00320	-.12812	.16350	-.78361	5.09477
2.000	.521	-.08758	.16047	.07381	-.09894	.00600	-.00306	-.08904	.15967	-.55764	5.09291
2.000	1.557	-.04414	.15819	.06806	-.09689	.00520	-.00497	-.04842	.15693	-.30832	5.09193
2.000	2.597	-.00416	.15657	.06325	-.09450	.00457	-.00497	-.01125	.15622	-.07204	5.09044
2.000	4.680	.07839	.15236	.05310	-.09156	.00289	-.00468	-.06577	.15624	-.41519	5.08944
2.000	8.848	.24282	.14999	.03841	-.09019	.00144	-.00395	-.21778	.17962	1.21243	5.08960
2.000	13.030	.40279	.13367	.03345	-.08333	-.00315	-.00647	.36228	.22104	1.63894	5.08839
2.000	16.154	.52423	.12498	.02858	-.07596	-.00809	-.00378	.46876	.26590	1.76293	5.08697
2.000	21.397	.73161	.11048	.01800	-.07032	-.01488	-.00353	.64088	.36977	1.73317	5.08919
2.000	26.660	.93969	.09831	.01572	-.06534	-.01971	-.00700	.79568	.50948	1.56173	5.08976
2.000	31.872	1.15277	.08722	.01222	-.06702	-.02105	-.00660	.93291	.68276	1.36637	5.09312

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	QL	CD	L/D	BETA
2.500	-1.182	-.12818	.14288	.04127	-.08843	.00794	-.00337	-.12520	.14549	-.06254	5.07395
2.500	-.162	-.08956	.14025	.03865	-.08464	.00731	-.00332	-.08917	.14050	-.63462	5.07131
2.500	.824	-.06252	.13635	.03639	-.08209	.00675	-.00338	-.06450	.13744	-.46933	5.06976
2.500	1.873	-.02437	.13588	.03287	-.08338	.00618	-.00330	-.02800	.13501	-.21332	5.07161
2.500	2.886	.00787	.13373	.03054	-.07964	.00542	-.00309	.00112	.13395	.00837	5.06914
2.500	4.929	.06848	.12976	.02674	-.07825	.00429	-.00360	.03708	.13516	.42233	5.06897
2.500	9.069	.21020	.12520	.01932	-.07419	.00277	-.00498	.18863	.15184	1.24233	5.06583
2.500	13.214	.34862	.11258	.01317	-.07050	-.00204	-.00631	.31366	.18929	1.65701	5.06585
2.500	16.319	.45818	.10554	.00842	-.06832	-.00323	-.00715	.41077	.23903	1.78267	5.06816
2.500	21.515	.64136	.09373	.00443	-.06024	-.00804	-.00700	.58230	.32241	1.74404	5.06576
2.500	26.741	.83405	.08505	.00130	-.05504	-.01234	-.00750	.71658	.45123	1.58583	5.06566
2.500	31.932	1.04091	.07585	.00027	-.05471	-.01353	-.00772	.84327	.61492	1.37135	5.06679

LA46 A/B TABULATED SOURCE DATA

UPMT-1092 (LA-46A)ORBITER (B1WSEIF1) (RM62007)

PARAMETRIC DATA

BETA = .000 ELEVTR = -10.000
 BDFLAP = -11.700 SPOBRK = 55.000

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
1.500	-2.138	-20981	.16093	.11370	-.00096	.00116	.00035	-.20292	.18663	-1.07573	-.03917
1.500	-1.120	-15677	.17943	.10763	.00277	.00111	.00223	-.15324	.18246	-.83984	-.04094
1.500	-.096	-10562	.17788	.09821	-.00263	.00093	.00223	-.10532	.17895	-.59148	-.03754
1.500	.962	-.04908	.17317	.08959	-.00156	.00102	.00006	-.03201	.17432	-.29836	-.03882
1.500	2.021	.00641	.17203	.08222	-.00226	.00139	.00018	.00034	.17215	.02196	-.04052
1.500	4.114	.10877	.16673	.06954	-.00149	.00144	.00004	.09653	.17410	.95445	-.03914
1.500	8.335	.31909	.15423	.04668	-.00254	.00270	.00009	.29337	.19885	1.47530	-.03901
1.500	12.558	.52321	.14274	.03211	-.00385	.00242	.00043	.47868	.25748	1.85912	-.03872
1.500	15.714	.66893	.13088	.02997	-.00518	.00279	.00064	.60528	.31854	1.90015	-.03791
1.500	21.010	.91297	.11722	.03706	-.00577	.00279	.00094	.80536	.44950	1.79168	-.03608
1.500	26.333	1.18071	.11722	.05475	-.00519	.00242	.00164	.98827	.61993	1.59416	-.03582
1.500	28.399	1.27201	.11134	.05904	-.00205	.00259	.00065	1.06598	.70293	1.51647	-.03862

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
2.000	-1.472	-12159	.15309	.05645	.00241	.00021	.00012	-.11762	.15616	-.75322	-.06266
2.000	-.455	-.07823	.15171	.05361	-.00381	.00059	.00016	-.07702	.15233	-.50361	-.06218
2.000	.557	-.03894	.15076	.04856	.00242	.00079	.00022	-.04040	.15037	-.26868	-.06038
2.000	1.565	.00236	.14935	.04503	.00226	.00038	.00015	-.00172	.14936	-.01149	-.06070
2.000	2.638	.04556	.14758	.04108	-.00175	.00029	.00019	.03872	.14952	.25895	-.06221
2.000	4.721	.12696	.14177	.03620	.00224	.00096	.00013	.11487	.15174	.75700	-.06111
2.000	8.898	.28690	.13383	.03352	-.00109	.00152	.00029	.26275	.17660	1.48781	-.06206
2.000	13.089	.44890	.12736	.04042	-.00161	.00168	.00042	.40751	.22551	1.80796	-.06824
2.000	16.223	.57486	.12230	.04600	-.00227	.00165	.00061	.51780	.27804	1.86235	-.05783
2.000	21.493	.79895	.11187	.05386	-.00187	.00165	.00077	.70241	.39681	1.77013	-.05844
2.000	26.788	1.03330	.09660	.05621	-.00469	.00283	.00094	.87887	.55193	1.59237	-.05551
2.000	32.033	1.27075	.08578	.06387	-.00328	.00274	.00085	1.03177	.74673	1.38171	-.05824

LA46 A/B TABULATED SOURCE DATA

(RM62017)

UPWT-1092 (LA-46A)ORBITER (S1WSZE1F1)

PARAMETRIC DATA

BETA = .020 ELEVTR = -10.000
BCFLAP = -11.700 SPCSRK = 55.000

RUN NO. 22/ 0

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
2.500	-1.158	-.04991	.13350	.02575	.00760	.00135	.00029	-.00720	.13529	-.64452	-.06607
2.500	-.150	-.06031	.13250	.02401	.00827	.00125	.00014	-.05996	.13266	-.43200	-.06469
2.500	.854	-.02484	.13131	.02190	.00737	.00105	.00050	-.02679	.13092	-.20463	-.06359
2.500	1.862	.00451	.13004	.02181	.00683	.00127	.00039	.00028	.13011	.00216	-.06547
2.500	2.904	.03625	.12866	.02142	.00768	.00149	.00026	.03169	.13043	.24295	-.06658
2.500	4.973	.10399	.12567	.02233	.01045	.00160	.00061	.09271	.13421	.69577	-.06880
2.500	9.114	.24326	.11750	.02642	.00807	.00167	.00045	.22158	.15455	1.43369	-.06617
2.500	13.268	.39114	.11177	.02903	.00597	.00176	.00070	.35505	.19856	1.76812	-.06302
2.500	16.374	.50044	.10745	.03386	.00495	.00171	.00067	.44986	.24417	1.84240	-.06436
2.500	21.599	.70539	.09677	.04241	.00588	.00265	.00100	.62024	.34963	1.77397	-.06543
2.500	26.855	.92246	.08578	.04867	.00553	.00325	.00121	.78423	.49323	1.59020	-.06315
2.500	32.056	1.14660	.07468	.05058	.00353	.00299	.00102	.93214	.67185	1.36742	-.06237

UPWT-1092 (LA-46A)ORBITER (S1WSZE1F1)

(RM62006)

PARAMETRIC DATA

BETA = 5.000 ELEVTR = -10.000
BCFLAP = -11.700 SPCSRK = 55.000

RUN NO. 25/ 0

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
1.500	-2.140	-.21051	.17775	.11028	-.10928	.01059	-.00968	-.20372	.18549	-1.09030	5.09731
1.500	-1.124	-.15979	.17899	.10300	-.10545	.01000	-.00372	-.15629	.18009	-.66787	5.09432
1.500	-.109	-.10564	.17591	.09527	-.10237	.00973	-.00640	-.10530	.17611	-.59794	5.09171
1.500	.956	-.05148	.17457	.08771	-.09946	.00885	-.00667	-.05439	.17369	-.31314	5.08956
1.500	2.012	.00488	.17239	.07945	-.09742	.00800	-.00697	-.00117	.17246	-.00680	5.08817
1.500	4.106	.10740	.16751	.06815	-.09262	.00635	-.00790	.09513	.17477	.54428	5.08675
1.500	6.327	.31645	.15658	.04378	-.08711	.00499	-.00682	.29044	.20076	1.44672	5.08283
1.500	12.551	.51763	.14687	.03037	-.08700	.00294	-.00939	.47335	.25585	1.65011	5.06449
1.500	15.711	.66880	.13969	.02852	-.08285	.00261	-.00908	.60599	.31558	1.92925	5.08430
1.500	20.996	.90982	.12456	.03640	-.07285	-.00332	-.00849	.80478	.44228	1.61962	5.08421
1.500	26.306	1.13860	.11631	.03961	-.05115	-.01759	-.00745	.96915	.60885	1.59176	5.07439
1.500	27.733	1.19913	.11504	.06669	-.04646	-.01975	-.00856	1.00784	.65984	1.52740	5.07248

LA46 A/B TABULATED SOURCE DATA

UPMT-1092 (LA-46A)ORBITER (B1WS2E1F1)

(RM2/208)

PARAMETRIC DATA

BETA = 5.000 ELEVTR = -10.000
 BCFLAP = -11.700 SPORBK = 99.000

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	Q	CD	L/D	BETA
2.000	-1.462	-1.12371	.15183	.05403	-.09668	.02713	-.00427	-.11979	.15494	-.77316	5.09378
2.000	-.434	-.08180	.15037	.05092	-.09644	.02678	-.00431	-.08060	.15121	-.53304	5.06868
2.000	.558	-.04273	.14923	.04695	-.09510	.02605	-.00420	-.04418	.14881	-.29691	5.06832
2.000	1.604	.00037	.14768	.04336	-.09240	.02527	-.00423	-.00376	.14763	-.02349	5.06643
2.000	2.647	.04137	.14646	.03941	-.09138	.02444	-.00416	.03456	.14822	.23319	5.06529
2.000	4.711	.12614	.14243	.03407	-.08744	.02366	-.00444	.11402	.15231	.74858	5.06371
2.000	8.894	.28666	.13427	.03197	-.08506	.02233	-.00539	.26245	.17698	1.48295	5.06352
2.000	13.090	.44876	.12799	.04020	-.07894	-.02078	-.00377	.40811	.22630	1.80042	5.06257
2.000	16.220	.57542	.11987	.04395	-.07431	-.00463	-.00544	.51903	.27583	1.88169	5.06122
2.000	21.491	.79670	.10606	.04882	-.06470	-.00899	-.00572	.70246	.39056	1.79858	5.07666
2.000	26.782	1.02334	.09647	.05720	-.05676	-.01131	-.00645	.87028	.54732	1.59026	5.07222
2.000	32.020	1.26089	.08759	.06248	-.04858	-.01391	-.00764	1.02263	.74280	1.37671	5.06783

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	Q	CD	L/D	BETA
2.500	-1.135	-.08961	.13267	.02232	-.08797	.02751	-.00354	-.06096	.13439	-.66285	5.05444
2.500	-.153	-.05740	.13160	.02083	-.08906	.02697	-.00356	-.05705	.13175	-.43303	5.05383
2.500	.860	-.02388	.13042	.01968	-.08526	.02660	-.00356	-.02583	.13025	-.19863	5.05270
2.500	1.876	.00663	.12926	.01815	-.08636	.02586	-.00384	.02239	.12941	.01048	5.05443
2.500	2.910	.04463	.12763	.01833	-.08140	.02515	-.00367	.03810	.12973	.29366	5.05047
2.500	4.983	.11696	.12455	.01888	-.07653	.02382	-.00355	.10570	.13423	.78741	5.04789
2.500	9.106	.24583	.11779	.02339	-.07505	.02367	-.00498	.22409	.15521	1.44377	5.04735
2.500	13.269	.39300	.11103	.02614	-.07300	.02114	-.00571	.35703	.19827	1.80069	5.04758
2.500	16.372	.50023	.10593	.02913	-.06665	-.00100	-.00576	.45009	.24264	1.85496	5.04389
2.500	21.599	.70825	.09468	.03387	-.06020	-.00431	-.00606	.62366	.34875	1.78829	5.04240
2.500	26.864	.92929	.08446	.04168	-.05128	-.00562	-.00661	.79084	.49526	1.59680	5.03680
2.500	32.055	1.13983	.07696	.04837	-.04261	-.00810	-.00614	.92320	.67018	1.38032	5.03194

L46 A/B TABULATED SOURCE DATA

UPWT-1092 (LA-46A)ORBITER (81WS2EIF1)

(RMEM09)

PARAMETRIC DATA

BETA = .000 ELEVTR = -20.000
 BIDFLAP = -11.700 SPDBRK = 53.000

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CC	L/O	BETA
1.500	-2.190	-2.7261	.19701	.14644	-.00007	.00099	.00029	-.26486	.20728	-1.27787	-.03904
1.500	-1.164	-2.1886	.19463	.13945	-.00145	.00100	.00029	-.21486	.20003	-1.07407	-.25863
1.500	-.134	-1.6191	.19368	.13021	-.00038	.00079	.00011	-.16145	.19426	-.83109	-.09937
1.500	.912	-1.0580	.19224	.12099	-.00133	.00070	.00010	-.16884	.19033	-.57128	-.03867
1.500	1.970	-.05333	.19091	.11367	-.00043	.00055	.00010	-.05985	.18897	-.31739	-.09931
1.500	4.071	.05628	.18618	.09908	-.00053	.00043	-.00031	.04292	.18971	.22624	-.03892
1.500	8.289	.26289	.17172	.07820	-.00358	.00209	-.00036	.23538	.20783	1.13239	-.03828
1.500	12.316	.47253	.15927	.06332	-.00472	.00223	-.00016	.42678	.23789	1.65493	-.03896
1.500	15.077	.68022	.15113	.05188	-.00597	.00277	-.00009	.53632	.31309	1.77084	-.03882
1.500	20.978	.80981	.13881	.04937	-.00720	.00302	-.00071	.75879	.43940	1.72888	-.03498
1.500	26.289	1.11527	.12249	.04452	-.00268	.00181	.00114	.94566	.63377	1.56623	-.03716
1.500	28.354	1.21411	.11907	.04058	-.00338	.00202	.00050	1.01190	.68139	1.46904	-.03672

RUN NO. 30/ 0

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CC	L/O	BETA
2.000	-1.490	-1.1582	.16380	.07783	.00019	.00011	.00001	-.14932	.16753	-.09127	-.03799
2.000	-.481	-1.1043	.16189	.07386	.00007	.00001	.00003	-.10926	.16282	-.66983	-.03789
2.000	.538	-.07002	.16038	.07019	-.00090	.00010	.00003	-.07192	.15972	-.44781	-.03737
2.000	1.574	-.02802	.15900	.06631	-.00101	.00000	.00000	-.03237	.15817	-.20468	-.03709
2.000	2.618	.01416	.15737	.06303	-.00077	-.00001	.00002	.00696	.15783	-.04410	-.03743
2.000	4.701	.09595	.15393	.05782	-.00137	.00007	-.00002	.06001	.16125	.31482	-.03839
2.000	8.884	.25774	.14180	.05622	-.00204	.00105	-.00009	.23275	.17990	1.29376	-.03645
2.000	13.075	.42144	.13320	.06342	-.00399	.00128	.00013	.38038	.22308	1.68994	-.03531
2.000	16.205	.54559	.12713	.06967	-.00421	.00123	.00013	.48843	.27434	1.78039	-.03547
2.000	21.464	.76307	.11656	.07895	-.00477	.00164	.00034	.66750	.38770	1.72170	-.03466
2.000	26.765	1.00024	.10134	.08185	-.00631	.00216	.00047	.84744	.54982	1.56668	-.03317
2.000	32.007	1.23251	.08931	.09219	-.00561	.00283	.00056	.99782	.72899	1.36876	-.03293

RUN NO. 32/ 0

LA46 A/B TABULATED SOURCE DATA

UPWT-1992 (LA-46A)ORBITER (BIWWS2E1F1) (RMG0009)

PARAMETRIC DATA

BETA = .000 ELEVTR = -20.000
 BDFLAF = -11.700 SPCBRK = 55.000

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/C	BETA
2.500	-1.216	-12388	.14090	.03994	.00763	.00039	.00012	-.12086	-.14350	-.64227	-.04613
2.500	-.167	-.08375	.13896	.03824	.00823	.00244	.00037	-.08355	.13921	-.59873	-.04688
2.500	.819	-.05312	.13743	.03693	.00817	.00034	.00026	-.05308	-.13668	-.49353	-.04684
2.500	1.881	-.01823	.13611	.03582	.00724	.00037	.00037	-.02271	-.13544	-.16768	-.04599
2.500	2.890	.01839	.13394	.03490	.00694	.00032	.00019	.01162	-.13470	.08626	-.04599
2.500	4.938	-.07442	.13012	.03472	.00665	.00029	.00020	.08294	-.13605	.48265	-.04516
2.500	9.086	.21636	.12102	.03349	.00672	.00084	.00025	.19453	.13367	1.26593	-.04519
2.500	13.236	.35538	.11314	.04016	.00498	.00062	.00026	.32003	.19150	1.87119	-.04403
2.500	16.350	.46505	.10848	.04895	.00515	.00097	.00038	.41571	.23501	1.76891	-.04485
2.500	21.566	.65776	.09801	.05952	.00417	.00164	.00056	.57569	.33292	1.72922	-.04396
2.500	26.814	.87389	.08824	.06622	.00388	.00211	.00064	.74103	.47118	1.57270	-.04350
2.500	32.023	1.08740	.07649	.07823	.00352	.00237	.00084	.88138	.64145	1.37405	-.04301

UPWT-1092 (LA-46A)ORBITER (BIWWS2E1F1) (RMG0010)

PARAMETRIC DATA

BETA = 5.070 ELEVTR = -20.000
 BDFLAF = -11.700 SPCBRK = 55.000

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/C	BETA
1.500	-2.199	-.27557	.19547	.14677	-.11534	.01209	-.00490	-.26787	-.20690	-1.30096	5.08261
1.500	-1.169	-.22024	.19430	.13770	-.11164	.01153	-.00489	-.21623	-.19873	-1.08792	5.07991
1.500	-.136	-.16229	.19275	.12880	-.10938	.01100	-.00491	-.16183	-.19314	-.83788	5.07780
1.500	.911	-.10793	.19054	.11974	-.10752	.01026	-.00513	-.11095	-.18980	-.58768	5.07669
1.500	1.962	-.05468	.18888	.11226	-.10534	.00920	-.00531	-.06111	-.18689	-.32790	5.07560
1.500	4.070	.05387	.18534	.09745	-.09966	.00697	-.00617	.04058	-.18869	.21528	5.07296
1.500	8.286	.26091	.17408	.07847	-.09393	.00549	-.00687	.23310	-.25986	1.11574	5.06968
1.500	12.517	.46624	.16096	.06404	-.09553	.00437	-.00713	.42027	-.25819	1.62776	5.07191
1.500	15.670	.61133	.15101	.06348	-.09345	.00336	-.00816	.54782	-.31052	1.76420	5.07322
1.500	20.963	.85334	.13416	.07189	-.07794	-.00221	-.00774	.74887	-.43057	1.73923	5.06867
1.500	26.275	1.09639	.12298	.09203	-.05637	-.00182	-.00696	.92868	-.59561	1.51920	5.06099
1.500	28.314	1.18248	.12071	.10155	-.04855	-.00044	-.00678	.98377	-.68711	1.47466	5.05813

LA46 A/B TABULATED SOURCE DATA

(06/2010)

UPWT-1092 (LA-46A)ORBITER (8:1WSE1F1)

PARAMETRIC DATA

BETA = 5.000 ELEVTR = -20.000
BDFLAP = -11.700 SFSBOK = 55.000

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
2.000	-1.497	-0.15470	.16250	.07923	-0.10220	.03767	-0.09322	-0.19040	.16649	-0.93337	5.07434
2.000	-0.478	-0.11309	.16057	.07185	-0.09964	.03721	-0.09513	-0.21175	.16151	-0.65191	5.07227
2.000	.335	-0.07114	.15076	.06805	-0.09741	.07296	-0.09511	-0.07202	.15808	-0.45939	5.07070
2.000	1.383	-0.02046	.15726	.06447	-0.09591	.09372	-0.09508	-0.03280	.15641	-0.29970	5.07010
2.000	2.613	.01237	.15612	.06136	-0.09323	.07405	-0.09517	-0.03224	.15633	-0.33446	5.06808
2.000	4.698	.09443	.15244	.05584	-0.09015	.07366	-0.09536	.22163	.15966	-0.11228	5.06711
2.000	8.076	.25620	.14452	.05320	-0.08649	.07282	-0.09532	.29283	.16232	1.26605	5.06535
2.000	13.070	.41738	.13262	.06375	-0.08756	-0.07032	-0.09600	.37657	.22358	1.69431	5.06261
2.000	16.253	.54272	.12624	.06886	-0.07446	-0.07471	-0.09532	.46994	.27267	1.78217	5.06125
2.000	21.467	.76381	.11082	.07241	-0.06735	-0.07063	-0.09752	.67027	.38266	1.75161	5.05960
2.000	26.761	.99463	.09903	.08119	-0.06123	-0.07062	-0.09994	.84315	.53698	1.57915	5.05856
2.000	31.995	1.22317	.09141	.09143	-0.05195	-0.07413	-0.09641	.98893	.72561	1.36293	5.05128

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
2.500	-1.154	-0.10948	.14054	.03595	-0.06771	.03674	-0.09290	-0.10663	.14272	-0.74710	5.07402
2.500	-0.229	-0.06732	.13886	.03483	-0.06558	.03626	-0.09309	-0.07976	.13918	-0.57309	5.07263
2.500	.805	-0.04946	.13700	.03329	-0.06738	.03586	-0.09325	-0.05138	.13629	-0.37698	5.07436
2.500	1.041	-0.01645	.13477	.03185	-0.06519	.03518	-0.09326	-0.02977	.13417	-0.15482	5.07305
2.500	2.887	.01746	.13271	.03266	-0.06229	.03472	-0.09316	-0.01076	.13342	.06763	5.07282
2.500	4.933	.08247	.12856	.02342	-0.06156	.03408	-0.09370	.07111	.13517	.52628	5.07121
2.500	9.087	.21498	.12126	.03070	-0.07684	.03294	-0.09456	.19313	.15369	1.25563	5.06882
2.500	13.232	.35109	.11341	.03867	-0.07147	.03049	-0.09488	.31981	.19976	1.65552	5.06622
2.500	16.339	.46486	.10715	.04466	-0.06821	.03171	-0.09513	.41594	.23359	1.76063	5.06514
2.500	21.558	.66371	.09451	.05210	-0.06120	-0.07421	-0.09560	.58255	.33177	1.75587	5.06224
2.500	26.897	.87903	.08461	.06236	-0.05976	-0.09585	-0.09546	.73837	.45789	1.57807	5.05468
2.500	32.014	1.08225	.07799	.07534	-0.04510	-0.07835	-0.09586	.87631	.63987	1.36951	5.05347

LA46 A/B TABULATED SOURCE DATA

UPWT-1092 (LA-46A)ORBITER (B1MVSJCAEIF1)

(RM2011)

PARAMETRIC DATA

BETA = .000 ELEVTR = .000
 BDFLAP = -11.700 SPCBRK = 55.000

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/C	BETA
1.500	-2.091	-1.4534	.16701	.07121	-.00040	.00213	.00041	-.13915	.17221	-.00005	-.05085
1.500	-1.070	-.99347	.16624	.06646	-.00260	.00246	.00033	-.09035	.16796	-.53792	-.05715
1.500	-.038	-.03910	.16548	.06150	-.00046	.00214	.00034	-.03907	.16550	-.23678	-.05093
1.500	1.004	.01488	.16435	.05760	-.00101	.00234	.00022	.01200	.16456	.07291	-.05070
1.500	2.066	.07052	.16219	.05349	-.00081	.00224	.00030	.06463	.16463	.39256	-.05083
1.500	4.178	.17697	.15451	.04915	-.00291	.00338	.00017	.16524	.16699	.98950	-.05074
1.500	8.410	.30872	.14081	.04237	-.00354	.00358	.00010	.36278	.20406	1.77776	-.05749
1.500	12.647	.59729	.14363	.03822	-.00519	.00381	.00024	.55135	.27092	2.03313	-.05611
1.500	15.805	.74824	.14431	.03371	-.00648	.00247	.00041	.34285	.34285	1.98513	-.05336
1.500	21.110	1.00658	.13663	.03583	-.00827	.00268	.00037	.68981	.49720	1.61596	-.05185
1.500	26.441	1.27725	.12347	.03481	-.00895	.00233	-.00016	1.08867	.67927	1.60269	-.05089
1.500	28.493	1.37437	.12117	.03718	-.01105	.00304	.00003	1.15010	.76213	1.50903	-.04972

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/C	BETA
2.000	-1.430	-.07035	.14982	.02910	-.00259	.00044	.00012	-.07459	.15173	-.49157	-.05979
2.000	-.413	-.03590	.14891	.02817	.00211	.00036	.00010	-.03482	.14916	-.23345	-.05930
2.000	.600	.00461	.14837	.02673	-.00034	.00020	.00019	.00306	.14841	.02060	-.03747
2.000	1.647	.04707	.14383	.02814	.00179	.00150	.00000	.04291	.14513	.29568	-.06043
2.000	2.681	.08773	.14201	.02749	.00121	.00131	.00010	.08099	.14596	.55493	-.05971
2.000	4.783	.17538	.13966	.02898	-.00026	.00160	.00017	.16312	.15380	1.06059	-.05855
2.000	8.963	.34213	.13502	.03374	-.00174	.00150	.00024	.31691	.18668	1.69765	-.05627
2.000	13.156	.51090	.12919	.04078	-.00247	.00165	.00034	.46809	.24208	1.93363	-.05553
2.000	16.297	.64513	.12425	.04314	-.00346	.00178	.00038	.84434	.30029	1.94594	-.05320
2.000	21.580	.87785	.11664	.04615	-.00619	.00208	.00069	.77342	.43134	1.79356	-.05189
2.000	26.878	1.11563	.10645	.04557	-.00681	.00138	.00046	.94699	.59031	1.56013	-.05189
2.000	32.127	1.35797	.09881	.04987	-.00929	.00217	.00083	1.09749	.80584	1.36192	-.05054

L466 A/B TABULATED SOURCE DATA

(RMG0111)

UPWT-1092 (LA-46A)ORBITER (B1WSOC4E1F1)

PARAMETRIC DATA

BETA = .000 ELEVTR = .000
 BDFLAP = -11.700 SFCBRK = 55.000

RUN NO. 40/ 0

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
2.500	-1.146	-0.6813	.13168	.00976	.00852	.00045	.00049	-.06348	.13301	-.49233	-.06481
2.500	-.133	-.03423	.13080	.01023	.00478	.00096	.00020	-.03492	.13089	-.26683	-.06166
2.500	.867	-.00649	.12827	.01154	.00497	.00081	.00027	-.00843	.12816	-.06578	-.06217
2.500	1.888	.02879	.12587	.01282	.00321	.00123	.00032	.02462	.12675	.19423	-.06112
2.500	2.921	.05980	.12419	.01411	.00596	.00123	.00058	.05340	.12708	.42720	-.06362
2.500	5.001	.13869	.12084	.01946	.00329	.00179	.00021	.12763	.13247	.96331	-.06177
2.500	9.129	.26659	.11653	.01999	.00192	.00115	.00026	.24473	.13735	1.55528	-.05972
2.500	13.302	.42695	.11011	.02307	.00082	.00043	.00043	.39016	.20539	1.89966	-.05902
2.500	16.423	.55352	.10654	.02890	-.00195	.00140	.00024	.50082	.25869	1.93598	-.05658
2.500	21.658	.76213	.09829	.03618	-.00310	.00168	.00045	.67205	.37263	1.87355	-.05583
2.500	26.920	.98561	.09016	.03915	-.00378	.00174	.00056	.83799	.52663	1.59123	-.05537
2.500	32.136	1.21451	.08231	.04126	-.00469	.00101	.00079	.98465	.71573	1.37573	-.05393

UPWT-1092 (LA-46A)ORBITER (B1WSOC4E1F1)

(RMG012)

PARAMETRIC DATA

BETA = 5.000 ELEVTR = .000
 BDFLAP = -11.700 SFCBRK = 55.000

RUN NO. 43/ 0

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
1.500	-2.092	-1.14330	.17021	.06794	-.10702	.00862	-.00444	-.13699	.17532	-.78134	5.09833
1.500	-1.061	-.09079	.17031	.06393	-.10241	.00774	-.00468	-.08762	.17196	-.50935	5.09400
1.500	-.045	-.03793	.16922	.05907	-.09814	.00748	-.00504	-.03779	.16925	-.22330	5.09091
1.500	1.008	.01507	.16842	.05531	-.09553	.00724	-.00547	.01210	.16866	-.07174	5.08959
1.500	2.067	.06911	.16636	.05017	-.09577	.00652	-.00569	.06306	.16875	.37371	5.08962
1.500	4.182	.18100	.15986	.04473	-.09290	.00641	-.00666	.16886	.17263	.97812	5.08791
1.500	8.411	.38378	.15141	.03647	-.08669	.00447	-.00716	.35948	.20621	1.74330	5.08335
1.500	12.630	.58707	.14654	.03640	-.08417	.00337	-.00684	.54082	.27136	1.99300	5.08222
1.500	15.801	.74153	.14114	.03625	-.08045	.00061	-.00746	.67508	.33773	1.95889	5.08171
1.500	21.116	1.01207	.12677	.03188	-.07454	-.00394	-.00868	.89844	.48287	1.86561	5.08124
1.500	26.436	1.26804	.11860	.03137	-.06186	-.01261	-.00740	1.08265	.67072	1.61415	5.07884
1.500	28.486	1.36604	.11693	.03928	-.05439	-.01711	-.00672	1.14488	.75432	1.51777	5.07673

LA46 A/B TABULATED SOURCE DATA

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UPWT-1092 (LA-46A)ORBITER (B14WS0C4E1F1)

(RMG012)

PARAMETRIC DATA

BETA = 5.000 ELEVTR = .000
 BEFLAP = -11.700 SFSBRK = 55.000

RUN NO. 45/ 0

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
2.000	-1.442	-.08268	.14855	.02787	-.09944	.00563	-.00419	-.07891	.15059	-.52402	5.07485
2.000	-.421	-.03979	.14775	.02744	-.09675	.00561	-.00430	-.03870	.14804	-.26142	5.07220
2.000	.594	-.00092	.14631	.02614	-.09491	.00518	-.00436	-.00244	.14629	-.01669	5.07088
2.000	1.633	.04183	.14481	.02526	-.09344	.00518	-.00442	-.03769	.14594	-.25827	5.06937
2.000	2.674	.08529	.14353	.02481	-.09305	.00489	-.00451	.07850	.14735	.53275	5.06927
2.000	4.758	.17057	.14019	.02335	-.09223	.00449	-.00485	-.15836	.15385	1.02926	5.06610
2.000	6.932	.34074	.13361	.02993	-.08608	.00292	-.00568	.31580	.18501	1.70895	5.06502
2.000	13.155	.64723	.12713	.03550	-.08129	.00068	-.00646	.47164	.24079	1.95869	5.06300
2.000	16.299	.87699	.12151	.03827	-.08113	-.00104	-.00684	.58711	.29827	1.96840	5.06474
2.000	21.573	1.11669	.11355	.03924	-.07327	-.00629	-.00717	.77381	.42804	1.80777	5.06320
2.000	26.870	1.34986	.10244	.04316	-.05940	-.01392	-.00620	.94983	.59608	1.59345	5.05845
2.000	32.109		.09555	.04677	-.04947	-.02013	-.00568	1.09259	.79842	1.36844	5.05583

RUN NO. 41/ 0

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
2.500	-1.133	-.06351	.13058	.00646	-.09806	.00653	-.00377	-.06091	.13181	-.48215	5.06339
2.500	-.138	-.03410	.12939	.00707	-.09149	.00618	-.00369	-.03378	.12948	-.28093	5.05959
2.500	.863	-.00845	.12781	.00884	-.09351	.00616	-.00409	-.01037	.12747	-.08134	5.06309
2.500	1.904	.03969	.12593	.00846	-.09287	.00579	-.00425	.03348	.12720	.27893	5.06109
2.500	2.933	.06305	.12470	.00893	-.09353	.00548	-.00428	.05659	.12776	.44294	5.06198
2.500	5.053	.13775	.12106	.01280	-.09022	.00517	-.00475	.12666	.13261	.95512	5.05944
2.500	9.147	.28291	.11377	.01750	-.08339	.00489	-.00568	.26123	.15730	1.68768	5.05379
2.500	13.307	.43515	.10829	.02054	-.08306	.00349	-.00661	.39854	.20554	1.93902	5.05308
2.500	16.423	.59071	.10415	.02480	-.07923	.00151	-.00667	.49879	.25361	1.95141	5.05363
2.500	21.648	.79791	.09547	.02988	-.06952	-.00412	-.00672	.68925	.36832	1.81704	5.05098
2.500	26.910	.97918	.08632	.03340	-.05788	-.01057	-.00625	.83409	.52014	1.60357	5.04738
2.500	32.116	1.20382	.08202	.03920	-.04942	-.01404	-.00721	.97600	.70946	1.37571	5.04340

LA46 A/B TABULATED SOURCE DATA

(RMCO13)

UFWT-1992 (LA-46A) ORBITER (B1WS0C4E1F1)

PARAMETRIC DATA

BETA = .000 ELEVTR = -10.000
 BDFLAP = -11.700 SFD8RK = 53.000

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CC	L/D	BETA
1.500	-2.151	-21270	.18328	.11620	.09583	.07227	.00040	-.20568	.19113	-1.07611	-.06297
1.500	-1.112	-16006	.18270	.11010	.09552	.07177	.00056	-.15649	.18577	-.04235	-.06216
1.500	-.584	-.09962	.18135	.10610	.09476	.06231	.00038	-.09935	.18149	-.54740	-.06210
1.500	.967	-.04880	.17998	.10173	.09607	.07188	.00032	-.05182	.17913	-.28931	-.06294
1.500	2.017	.00686	.17783	.09842	.09483	.06029	.00012	-.00060	.17796	.00335	-.06227
1.500	4.131	.11458	.17325	.09154	.09520	.06174	.00032	.10181	.18196	.56229	-.06224
1.500	8.366	.32703	.16464	.08406	.09141	.06226	.00025	.29960	.21947	1.42346	-.05938
1.500	12.612	.53818	.15480	.08239	.08994	.06275	.00053	.49140	.26858	1.82953	-.06205
1.500	15.764	.68609	.14889	.07972	.08256	.06257	.00036	.62061	.32990	1.88122	-.05985
1.500	21.084	.95270	.13512	.08159	-.00531	.06326	.00091	.84032	.46879	1.79254	-.05561
1.500	26.408	1.21769	.12292	.08307	-.00649	.06232	-.00012	1.03595	.65168	1.58967	-.05387
1.500	28.465	1.31994	.11880	.08768	-.00413	.06176	.00007	1.10374	.73355	1.50466	-.05573

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CC	L/D	BETA
2.000	-1.454	-12120	.15643	.05615	.06654	.04148	.00021	-.11719	.15945	-.73495	-.06273
2.000	-.444	-.07719	.15485	.05577	.06725	.04200	.00013	-.07599	.15544	-.48888	-.06407
2.000	.561	-.03781	.15399	.05329	.06511	.04134	.00019	-.03932	.15361	-.25597	-.06130
2.000	1.611	.00855	.15250	.05313	.06553	.04156	.00010	-.00425	.15260	.02786	-.06201
2.000	2.653	.03151	.15098	.05253	.06555	.04150	-.00003	.04447	.15320	.29026	-.06079
2.000	4.736	.13801	.14692	.05349	.06421	.04169	-.00001	.12540	.15782	.79461	-.06119
2.000	8.939	.30846	.14043	.05798	.06231	.04210	.00012	.28289	.18655	1.51561	-.06028
2.000	13.128	.47397	.13265	.06487	.06035	.04172	.00035	.43145	.23683	1.82176	-.06226
2.000	16.277	.60866	.12704	.06800	.06154	.04154	.00045	.54866	.29254	1.87550	-.05718
2.000	21.548	.83926	.11794	.07455	-.00286	.04208	.00054	.73208	.41794	1.76407	-.05660
2.000	26.847	1.07109	.10394	.07696	-.01549	.04129	.00025	.90871	.57644	1.57641	-.05367
2.000	32.092	1.30617	.09301	.08641	-.00745	.04180	.00042	1.05716	.77274	1.36807	-.05277

LA46 A/B TABULATED SOURCE DATA

(RM6213)

UPWT-1092 (LA-46A)ORBITER (B1WWSOC4E1F1)

PARAMETRIC DATA

BETA = .000 ELEVTR = -10.000
BCFLAP = -11.700 SFCBRK = 55.000

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
2.500	-1.152	-.09001	.13744	.02988	.00263	.00121	-.00027	-.09323	.13938	-.68321	-.05830
2.500	-.153	-.05981	.13550	.02975	.00339	.00096	.00010	-.05945	.13565	-.43825	-.05876
2.500	.852	-.02807	.13378	.03114	.00248	.00135	-.00001	-.03005	.13325	-.22536	-.05842
2.500	1.877	.00705	.13209	.03201	.00171	.00109	-.00011	.00272	.13225	.02054	-.05732
2.500	2.914	.04012	.13047	.03383	.00620	.00119	.00016	.03344	.13234	.25268	-.06167
2.500	4.970	.10396	.12704	.03574	.00030	.00090	-.00006	.09237	.13557	.68280	-.05636
2.500	9.117	.24287	.11954	.03774	-.00170	.00059	.00000	.22087	.15651	1.41116	-.09473
2.500	13.270	.38480	.11303	.04569	-.00276	.00054	.00016	.34858	.19834	1.75746	-.05405
2.500	16.385	.50570	.10841	.05486	-.00266	.00083	.00028	.45458	.24666	1.84293	-.05472
2.500	21.619	.70808	.09939	.06744	-.00478	.00126	.00013	.62165	.35328	1.75965	-.05403
2.500	26.887	.92819	.08944	.07644	-.00598	.00141	.00043	.78740	.49953	1.57630	-.05366
2.500	32.094	1.15331	.07982	.08597	-.00531	.00068	.00095	.93465	.68039	1.37370	-.05391

UPWT-1092 (LA-46A)ORBITER (B1WWSOC4E1F1)

(RM6214)

PARAMETRIC DATA

BETA = 5.000 ELEVTR = -10.000
BCFLAP = -11.700 SFCBRK = 55.000

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
1.500	-2.148	-.21046	.18137	.11209	-.10335	.01000	-.00476	-.20351	.18913	-1.07605	5.07623
1.500	-1.120	-.15363	.18080	.10679	-.10222	.00927	-.00492	-.15006	.18377	-.81659	5.07401
1.500	-.094	-.10375	.17994	.10199	-.09608	.00869	-.00517	-.10345	.18011	-.57439	5.07380
1.500	.967	-.04841	.17908	.09786	-.09504	.00819	-.00550	-.05142	.17824	-.28850	5.07107
1.500	2.021	.00603	.17751	.09389	-.09298	.00704	-.00581	-.00023	.17761	-.00131	5.06817
1.500	4.134	.11644	.17326	.08810	-.08888	.00703	-.00654	.10364	.18121	-.57196	5.06509
1.500	6.364	.32711	.16463	.07937	-.08029	.00454	-.00752	.29968	.21046	1.42391	5.05919
1.500	12.602	.53532	.15578	.07810	-.07725	.00254	-.00760	.48844	.26881	1.81702	5.05819
1.500	15.767	.68642	.14734	.07787	-.07633	.00115	-.00818	.62056	.32832	1.89010	5.06269
1.500	21.072	.95093	.13139	.07854	-.07361	-.00489	-.00883	.84010	.46450	1.80862	5.06217
1.500	26.398	1.20805	.11985	.08349	-.05735	-.01299	-.00765	1.02879	.64447	1.59634	5.05516
1.500	28.449	1.29915	.11718	.08817	-.05303	-.01655	-.00689	1.08645	.72191	1.50497	5.05493

L446 A/B TABULATED SOURCE DATA

UPWT-1092 (LA-46A)ORBITER (BIWSDC(E1F1)

(RM6014)

PARAMETRIC DATA

BETA = 5.000 ELEVTR = -10.000
 BDFLAP = -11.700 SECBRK = 55.000

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
2.000	-1.469	-1.2400	.1575	.05443	-.09654	.00710	-.00407	-.11998	.15807	-.75519	5.07256
2.000	-.449	-.07993	.15446	.03271	-.09325	.00650	-.00427	-.07871	.15509	-.50756	5.07196
2.000	.559	-.04009	.15320	.05149	-.09267	.00617	-.00437	-.04159	.15280	-.27215	5.06976
2.000	1.605	.00652	.15153	.05145	-.08947	.00626	-.00448	-.02228	.15166	.01501	5.06653
2.000	2.653	.05043	.15032	.04977	-.08951	.00578	-.00456	.04342	.15249	.28475	5.06701
2.000	4.740	.13748	.14703	.04953	-.08660	.00503	-.00489	.12486	.15789	.79079	5.06483
2.000	6.930	.30652	.14071	.05383	-.08166	.00320	-.00558	.28096	.16658	1.50583	5.06168
2.000	13.134	.47614	.13283	.06079	-.07646	.00060	-.00642	.43350	.23755	1.82489	5.05932
2.000	16.275	.61265	.12597	.06361	-.07605	-.00092	-.00677	.55279	.29262	1.86939	5.06037
2.000	21.554	.84131	.11542	.06837	-.07037	-.00186	-.00711	.74008	.41642	1.77723	5.05979
2.000	26.840	1.06886	.10279	.07473	-.05681	-.01361	-.00607	.90730	.57432	1.57980	5.05935
2.000	32.086	1.30101	.09252	.06497	-.04958	-.01989	-.00533	1.05314	.76947	1.36866	5.05479

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/C	BETA
2.500	-1.153	-.09426	.13646	.02742	-.09751	.00633	-.00360	-.09149	.13833	-.65141	5.06711
2.500	-.152	-.05550	.13435	.02797	-.09594	.00617	-.00377	-.05514	.13450	-.40996	5.06591
2.500	.845	-.02897	.13312	.02820	-.09157	.00570	-.00375	-.03093	.13268	-.23312	5.06237
2.500	1.879	.01379	.13072	.02925	-.09285	.00582	-.00416	.02949	.13111	.07241	5.06333
2.500	2.916	.04343	.12957	.02945	-.09211	.00518	-.00410	.03678	.13161	.27943	5.06329
2.500	4.980	.11326	.12561	.03241	-.08877	.00512	-.00456	.10192	.13497	.75517	5.06017
2.500	9.115	.24199	.11876	.03594	-.08537	.00423	-.00550	.22012	.15559	1.41470	5.05759
2.500	13.269	.38944	.11211	.04409	-.08432	.00295	-.00632	.35331	.19850	1.77989	5.05772
2.500	16.394	.50962	.10722	.05125	-.08040	.00087	-.00646	.45864	.24670	1.89913	5.05821
2.500	21.624	.70898	.09759	.05858	-.07205	-.00522	-.00619	.62313	.35199	1.77029	5.05448
2.500	26.874	.92280	.08781	.06927	-.05756	-.01099	-.00530	.78345	.49545	1.58129	5.04709
2.500	32.981	1.16236	.08070	.06428	-.05441	-.01496	-.00629	.93162	.72077	1.32944	5.04798

LA46 A/B TABULATED SOURCE DATA

UPWT-1092 (LA-46A)ORBITER (B1WS0C4E1F1)

(RNG015)

PARAMETRIC DATA

BETA = .000 ELEVTR = -20.000
 BDFLAP = -11.700 SFCBRK = 53.000

RUN NO. 36/ 0

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
1.500	-2.191	-2.7974	.19811	.14814	.00022	.00106	.00014	-.27196	.20867	-1.30334	-.05829
1.500	-1.180	-.22518	.19709	.14258	-.00039	.00128	.00010	-.22108	.20169	-1.09614	-.05792
1.500	-.143	-.16699	.19621	.13750	-.00011	.00129	.00010	-.16690	.19663	-.84676	-.05829
1.500	.915	-.11200	.19543	.13335	-.00143	.00142	.00002	-.11511	.19362	-.59453	-.05721
1.500	1.970	-.05680	.19423	.12943	-.00005	.00120	.00004	-.06345	.19217	-.33017	-.05808
1.500	4.084	.05586	.19037	.12308	-.00105	.00106	-.00007	.04215	.19406	-.21718	-.05716
1.500	8.319	.26895	.17372	.11600	-.00259	.00198	-.00007	.24099	.21081	1.14317	-.05637
1.500	12.561	.47687	.16394	.11656	-.00391	.00247	.00017	.42980	.26372	1.62978	-.05581
1.500	15.716	.62720	.15578	.11575	-.00506	.00229	-.00004	.56156	.31985	1.75372	-.05496
1.500	21.033	.88506	.14360	.11730	-.00444	.00197	-.00008	.77436	.43168	1.71483	-.05475
1.500	26.358	1.15228	.12826	.11857	-.00812	.00254	-.00035	.97534	.62652	1.55758	-.05193
1.500	28.422	1.25587	.12505	.12360	-.01053	.00296	-.00049	1.04498	.70771	1.47637	-.04965

RUN NO. 38/ 0

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
2.000	-1.489	-1.5431	.16690	.07784	.00409	.00006	-.00001	-.14992	.17086	-.87749	-.06080
2.000	-.481	-.11271	.16538	.07663	.00319	.00019	-.00008	-.11132	.16632	-.66928	-.06015
2.000	.543	-.07123	.16435	.07623	.00343	.00010	-.00005	-.07278	.16367	-.44470	-.06034
2.000	1.576	-.02743	.16280	.07595	.00295	.00032	-.00006	-.03189	.16198	-.19689	-.06220
2.000	2.630	.01746	.16083	.07589	.00217	.00025	-.00012	.01006	.16146	-.06229	-.05943
2.000	4.726	.09463	.15666	.07706	.00195	.00022	-.00016	.09137	.16475	.55458	-.05911
2.000	8.914	.27532	.14501	.08191	-.00066	.00107	-.00011	.24953	.18592	1.34211	-.05740
2.000	13.117	.44532	.13642	.08944	-.00174	.00132	-.00005	.40274	.23392	1.72168	-.05624
2.000	16.266	.58064	.12842	.09426	-.00312	.00123	.00000	.52142	.28592	1.82369	-.05523
2.000	21.534	.80682	.11948	.10137	-.00425	.00155	.00016	.70665	.40729	1.73499	-.05446
2.000	26.821	1.03530	.10540	.10764	-.00559	.00167	.00004	.87637	.56120	1.56161	-.05340
2.000	32.053	1.26339	.09526	.11903	-.00661	.00161	.00013	1.02024	.75122	1.35810	-.05248

LA46 A/B TABULATED SOURCE DATA

(RW6015)

UPWT-1092 (LA-46A) ORBITER (B1W5DCAE1F1)

PARAMETRIC DATA

BETA = .000 ELEVTR = -20.000
 BDFLAP = -11.700 SPCBRK = 55.000

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
2.500	-1.189	-1.3041	.14545	.04681	.00803	.00763	.00022	-.12736	.14812	-.85985	-.06457
2.500	-1.178	-.09293	.14355	.04644	.00857	.00871	.00013	-.08248	.14384	-.64296	-.06319
2.500	.835	-.05640	.14203	.04631	.00691	.00070	.00010	-.09846	.14119	-.41403	-.06378
2.500	1.863	-.02769	.14081	.04690	.00606	.00078	.00014	-.02321	.13986	-.18022	-.06318
2.500	2.895	.01007	.13914	.04799	.00634	.00082	.00020	.02303	.13947	.02174	-.06353
2.500	4.954	.07691	.13298	.05203	.00790	.00196	.00029	.06713	.13930	.48193	-.06310
2.500	9.109	.22957	.12068	.05631	.00338	.00164	.00001	.20757	.13550	1.33490	-.06134
2.500	13.270	.37920	.11163	.06064	.00282	.00190	.00025	.34345	.19569	1.75505	-.06126
2.500	16.389	.49859	.10626	.06654	.00236	.00227	.00014	.44835	.24262	1.84797	-.06128
2.500	21.627	.70628	.09839	.07764	.00040	.00257	.00027	.62030	.35177	1.76334	-.05987
2.500	26.886	.92238	.08895	.08723	.00040	.00264	.00043	.78245	.49646	1.57658	-.05703
2.500	32.086	1.13938	.07951	.09934	-.00067	.00155	.00050	.92310	.67261	1.37243	-.05807

(RW6016)

UPWT-1092 (LA-46A) ORBITER (B1W5DCAE1F1)

PARAMETRIC DATA

BETA = 5.000 ELEVTR = -20.000
 BDFLAP = -11.700 SPCBRK = 55.000

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
1.500	-2.198	-.26358	.19736	.14905	-.11087	.01041	-.00501	-.27581	.20808	-1.32353	5.00059
1.500	-1.175	-.22602	.19656	.14326	-.10843	.00979	-.00534	-.22194	.20115	-1.10335	5.07688
1.500	-.139	-.16793	.19552	.13761	-.10484	.00896	-.00591	-.16746	.19593	-.85469	5.07633
1.500	.912	-.11349	.19454	.13268	-.10220	.00821	-.00559	-.11637	.19271	-.67490	5.07457
1.500	1.987	-.05620	.19295	.12828	-.09859	.00756	-.00578	-.06279	.19091	-.38289	5.07181
1.500	4.591	.00598	.18736	.12042	-.09489	.00635	-.00667	.04247	.19088	.22249	5.06970
1.500	8.314	.28801	.17514	.11339	-.09080	.00516	-.00797	.23987	.21205	1.13119	5.06728
1.500	12.558	.47774	.16383	.11281	-.08737	.00366	-.00813	.43069	.26379	1.63269	5.06571
1.500	15.707	.62240	.15528	.11438	-.08513	.00208	-.00817	.53712	.31797	1.75211	5.06328
1.500	21.927	.88981	.13643	.11539	-.08003	-.00096	-.00898	.78161	.44662	1.75007	5.06370
1.500	26.343	1.14153	.12604	.12612	-.06583	-.00300	-.00799	.98703	.61934	1.56088	5.06383
1.500	28.397	1.24000	.12252	.13241	-.05965	-.00167	-.00649	1.03253	.69749	1.48035	5.06214

LA46 A/B TABULATED SOURCE DATA

UPMT-1092 (LA-46A)ORBITER (81WNSDCE1F1)

(RMG016)

PARAMETRIC DATA

BETA = 5.000 ELEVTR = -20.000
 BDFLAP = -11.700 SPCBRK = 55.000

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CC	L/D	BETA
2.000	-1.492	-1.1866	.16553	.07762	-.10120	.00711	-.00402	-.15431	.16960	-.90984	5.07302
2.000	-.482	-1.1394	.16398	.07627	-.09871	.00670	-.00433	-.11256	.16493	-.68245	5.07302
2.000	.536	-.07351	.16218	.07493	-.09610	.00627	-.00437	-.07502	.16149	-.46457	5.07302
2.000	1.578	-.02814	.16049	.07422	-.09530	.00588	-.00442	-.03255	.15966	-.20386	5.07351
2.000	2.631	-.01609	.15870	.07374	-.09410	.00558	-.00451	.00879	.15927	-.05520	5.06964
2.000	4.716	.10335	.15502	.07418	-.08832	.00426	-.00465	.09026	.16299	.55375	5.06563
2.000	6.911	.27678	.14497	.07898	-.08515	.00290	-.00537	.25098	.18609	1.34871	5.06428
2.000	13.115	.44912	.13576	.08552	-.08180	.00206	-.00640	.40582	.23392	1.73402	5.06411
2.000	16.256	.58070	.12703	.08935	-.08010	.00160	-.00657	.52192	.26451	1.83446	5.06455
2.000	21.524	.80295	.11676	.09618	-.07197	-.00630	-.00657	.70411	.45322	1.74824	5.06209
2.000	26.822	1.03400	.10429	.10405	-.06020	-.01417	-.00574	.87569	.55954	1.56475	5.05963
2.000	32.059	1.26125	.09453	.11843	-.05049	-.01958	-.00514	1.01874	.74957	1.35910	5.05630

RUN NO. 39/ 0

RUN NO. 35/ 0

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CC	L/D	BETA
2.500	-1.178	-1.1866	.14462	.04431	-.08717	.00728	-.00282	-.11568	.14703	-.78678	5.07385
2.500	-.182	-.09643	.14325	.04365	-.09070	.00713	-.00318	-.09597	.14355	-.66655	5.07711
2.500	.842	-.04572	.14028	.04444	-.08716	.00688	-.00335	-.04777	.13959	-.34223	5.07419
2.500	1.863	-.02004	.13888	.04415	-.08563	.00644	-.00343	-.02455	.13815	-.17768	5.07322
2.500	2.890	-.01231	.13682	.04474	-.08602	.00639	-.00359	.00540	.13727	.03934	5.07357
2.500	4.964	.08327	.13142	.04691	-.08455	.00566	-.00401	.07159	.13813	.51829	5.07309
2.500	9.113	.23222	.12087	.05281	-.07940	.00519	-.00464	.21014	.15612	1.34599	5.06917
2.500	13.274	.37997	.11252	.05578	-.07964	.00422	-.00564	.34398	.19676	1.74824	5.07047
2.500	16.384	.49692	.10720	.06201	-.07071	.00195	-.00552	.44650	.24302	1.83729	5.06484
2.500	21.620	.70483	.09671	.07105	-.06391	-.00333	-.00569	.61962	.34965	1.77238	5.06440
2.500	26.876	.92188	.08644	.08119	-.05240	-.00972	-.00523	.78323	.49384	1.58599	5.06084
2.500	32.084	1.13451	.07918	.09653	-.04676	-.01332	-.00630	.91918	.68969	1.37254	5.05930

LA46 A/B TABULATED SOURCE DATA

(RM6017)

UPUT-1092 (LA-46A)ORBITER (B1WSOC41E1F1)

PARAMETRIC DATA

BETA = .000 ELEVTR = .000
 BDFLAP = -11.700 SFCBRK = 99.000

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CC	L/D	BETA
1.500	-2.084	-1.4626	.17527	.07476	.00363	.00136	.00074	-.13979	.18047	-.77458	-.05976
1.500	-1.065	-.09026	.17431	.06909	.00222	.00140	.00088	-.08700	.17596	-.49443	-.06109
1.500	-.028	-.03569	.17330	.06363	.00286	.00123	.00065	-.03560	.17332	-.29541	-.06123
1.500	1.017	.01996	.17197	.05802	.00290	.00128	.00081	.01691	.17229	.09813	-.06106
1.500	2.132	.07758	.16994	.05272	.00285	.00112	.00051	.07121	.17271	.41230	-.06059
1.500	4.186	.18366	.16222	.04714	.00339	.00230	.00092	.17133	.17520	.97794	-.06253
1.500	8.410	.39434	.15584	.03629	.00345	.00230	.00057	.36731	.21184	1.73390	-.05975
1.500	12.645	.60321	.15071	.03022	-.00108	.00276	.00092	-.55559	.27911	1.99355	-.05874
1.500	15.807	.75518	.14568	.02949	-.00173	.00269	.00114	.68594	.34589	1.98521	-.05767
1.500	21.107	1.01345	.13804	.02504	-.01022	.00269	.00231	.89575	.49373	1.61424	-.05553
1.500	26.447	1.29112	.13063	.01614	-.00728	.00186	.00200	1.09782	.69199	1.58547	-.05159
1.500	28.507	1.39665	.12900	.02221	-.00835	.00208	.00230	1.16574	.77994	1.49466	-.05040

RUN NO. 46/ 0

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CC	L/D	BETA
2.000	-1.439	-.08693	.15406	.02686	.00447	.00081	.00046	-.08303	.15620	-.53157	-.06280
2.000	-.424	-.04198	.15320	.02497	.00471	.00087	.00045	-.04085	.15351	-.26610	-.06285
2.000	.595	.00259	.15257	.02308	.00490	.00093	.00053	.00101	.15259	.07662	-.06284
2.000	1.628	.04665	.15140	.02186	.00360	.00120	.00041	.04233	.15266	.27725	-.06164
2.000	2.670	.08936	.14896	.02187	.00458	.00153	.00034	.08232	.15296	.53820	-.06272
2.000	4.768	.17781	.14647	.02155	.00272	.00161	.00030	.16502	.16074	1.02664	-.06106
2.000	8.954	.34466	.14342	.02350	.00208	.00175	.00062	.31861	.19235	1.65639	-.06056
2.000	13.151	.51352	.13308	.03222	-.00060	.00121	.00063	.46977	.24642	1.95641	-.05742
2.000	16.294	.64729	.12642	.03308	-.00209	.00143	.00077	.58602	.30300	1.93403	-.05626
2.000	21.576	.87825	.12049	.03156	-.00283	.00132	.00115	.77245	.43493	1.77601	-.05591
2.000	26.866	1.12117	.11027	.02678	-.00448	.00156	.00165	.95533	.60504	1.57568	-.05401
2.000	32.116	1.36342	.10327	.02930	-.00401	.00119	.00183	1.09988	.81230	1.35403	-.05307

RUN NO. 48/ 0

LA46 A/B TABULATED SOURCE DATA

(RM6017)

UPWT-1092 (LA-46A)ORBITER (B1W5DCA1E1F1)

PARAMETRIC DATA

BETA = .000 ELEVTR = .000
BDFLAP = -11.700 SPDBRK = 55.000

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
2.500	-1.148	-0.7132	.13498	.02887	.00099	.00043	.00004	-.06860	.13639	-.50302	-.03887
2.500	-.136	-.03408	.13380	.00876	.00214	.00008	.00024	-.03376	.13388	-.23218	-.03927
2.500	.865	.00064	.13256	.01062	.00373	.00000	.00015	-.00136	.13255	-.01028	-.06198
2.500	1.889	.02436	.13175	.01073	-.00008	.00006	.00021	.02020	.13249	.19249	-.03798
2.500	2.924	.06347	.12915	.01318	-.00043	.00102	.00010	.09879	.13232	.44432	-.05722
2.500	4.987	.13117	.12509	.01473	-.00000	.00074	.00002	.11980	.13202	.88073	-.05448
2.500	9.128	.26539	.11969	.01362	-.00228	.00027	.00012	.24304	.16028	1.51635	-.05429
2.500	13.284	.41110	.11354	.01972	-.00288	.00037	.00036	.37491	.20496	1.82478	-.03444
2.500	16.404	.53080	.11005	.02517	-.00435	.00057	.00047	.47811	.25548	1.87145	-.05336
2.500	21.628	.73586	.10176	.02925	-.00511	.00082	.00085	.64555	.36582	1.76741	-.05312
2.500	26.887	.96399	.09435	.02629	-.00687	.00089	.00094	.81711	.52010	1.57105	-.05122
2.500	32.103	1.18699	.08879	.03020	-.00483	.00019	.00166	.95831	.76603	1.35733	-.05155

UPWT-1092 (LA-46A)ORBITER (B1W5DCA1E1F1)

(RM6018)

PARAMETRIC DATA

BETA = 5.000 ELEVTR = .000
BDFLAP = -11.700 SPDBRK = 55.000

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
1.500	-2.085	-1.3984	.17630	.06973	-.10405	.00918	-.00548	-.13333	.18127	-.73553	5.07498
1.500	-1.072	-.09143	.17585	.06595	-.09982	.00899	-.00591	-.04812	.17753	-.49638	5.07072
1.500	-.039	-.03536	.17533	.06025	-.09649	.00818	-.00652	-.03825	.17535	-.20100	5.06950
1.500	1.014	.02133	.17398	.05649	-.09153	.00825	-.00683	.01825	.17433	.10466	5.06482
1.500	2.066	.07361	.17209	.05064	-.09194	.00737	-.00746	.06736	.17463	.38573	5.06641
1.500	4.172	.18209	.16706	.04203	-.08900	.00663	-.00886	.16945	.17986	.94219	5.06433
1.500	8.406	.39044	.15791	.03125	-.08232	.00456	-.00992	.36316	.21330	1.70262	5.05717
1.500	12.637	.59219	.15126	.02974	-.07902	.00307	-.00921	.54475	.27717	1.96542	5.05877
1.500	15.802	.74600	.14595	.02878	-.07612	-.00282	-.00962	.67806	.34359	1.97346	5.05341
1.500	21.112	1.00923	.13367	.02405	-.06364	-.00092	-.01271	.88335	.48821	1.82983	5.05479
1.500	26.437	1.27651	.12825	.02247	-.05504	-.00297	-.01135	1.08592	.68317	1.58953	5.05402
1.500	28.479	1.36542	.12698	.03023	-.04794	-.00170	-.01064	1.13964	.76271	1.49420	5.05236

LA46 A/B TABULATED SOURCE DATA

(RMED10)

UPWT-1092 (LA-46A)ORBITER (B1MWS0CA1E1F1)

PARAMETRIC DATA

BETA = 5.000 ELEVTR = .000
BDFLAP = -11.700 SFCORR = 99.000

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
2.000	-1.451	-.08572	.1333	.02513	-.09877	.07684	-.00485	-.08181	.1545	-.52826	5.07210
2.000	-.433	-.04087	.15251	.02410	-.09324	.07695	-.00320	-.03972	.13282	-.25993	5.06808
2.000	.903	.02270	.15136	.02348	-.09299	.07686	-.00327	.00116	.13138	-.00764	5.06739
2.000	1.630	.04494	.15052	.02291	-.09192	.07599	-.00540	.04065	.13124	.26880	5.06729
2.000	2.676	.08953	.14840	.01984	-.09121	.07583	-.00555	.08248	.13241	.54114	5.06713
2.000	4.769	.17622	.14583	.01903	-.08769	.07471	-.00601	.16328	.15996	1.02378	5.06488
2.000	8.959	.34672	.13959	.02202	-.08285	.07276	-.00736	.32075	.19187	1.67168	5.06233
2.000	13.155	.51858	.13059	.02856	-.07753	.07049	-.00864	.47525	.24519	1.92890	5.05982
2.000	16.295	.69114	.12484	.02808	-.07416	-.00149	-.00913	.90995	.30253	1.95708	5.05804
2.000	21.564	.88173	.11656	.02741	-.06444	-.00745	-.00989	.77736	.43201	1.79939	5.05575
2.000	26.866	1.12078	.10727	.02436	-.05729	-.01425	-.00787	.93134	.60218	1.57983	5.05273
2.000	32.112	1.35576	.10059	.02702	-.04544	-.02099	-.00642	1.09482	.80397	1.35840	5.04446

RUN NO. 49/ 0

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
2.500	-1.141	-.06494	.13497	.00574	-.09881	.00545	-.00369	-.06224	.13623	-.45685	5.06640
2.500	-.129	-.03061	.13385	.00613	-.09594	.00495	-.00363	-.00931	.13392	-.22633	5.06463
2.500	.873	.00456	.13240	.00724	-.09331	.00500	-.00391	.00254	.13246	.01915	5.06251
2.500	1.908	.03959	.13096	.00810	-.09207	.00453	-.00393	.00921	.13221	.26532	5.06218
2.500	2.936	.07100	.12934	.00855	-.09247	.00438	-.00430	.06429	.13280	.48407	5.06173
2.500	5.004	.13942	.12554	.01123	-.08997	.00403	-.00463	.12694	.13713	.92567	5.06204
2.500	9.133	.27554	.11717	.01191	-.09046	.00345	-.00603	.25346	.15942	1.58990	5.06166
2.500	13.290	.42631	.11141	.01652	-.08714	.00199	-.00656	.38929	.20542	1.88386	5.06107
2.500	16.410	.54242	.10713	.02063	-.08135	-.00047	-.00705	.49006	.25650	1.91428	5.05951
2.500	21.632	.74078	.09912	.02351	-.07180	-.00654	-.00718	.65206	.36522	1.70541	5.05732
2.500	26.882	.96438	.09118	.02305	-.05982	-.01192	-.00556	.81895	.51737	1.58290	5.05032
2.500	32.084	1.17845	.08702	.02538	-.05403	-.01558	-.00606	.95224	.69968	1.36098	5.04075

RUN NO. 51/ 0

LA46 A/B TABULATED SOURCE DATA

(RM6919)

UPWT-1092 (LA-46A)ORBITER (B1W50K41E1F1)

PARAMETRIC DATA

BETA = .000 ELEVTR = -19.000
BDPLAP = -11.700 SP2BRK = 55.000

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
1.500	-2.143	-21606	.16493	.11932	.00172	.00198	.00072	-.20899	.18290	-1.00341	-.06192
1.500	-1.110	-15915	.16442	.11333	.00145	.00163	.00060	-.19395	.18747	-.82972	-.06283
1.500	-.090	-10439	.16318	.10881	.00128	.00144	.00060	-.10411	.18335	-.56762	-.06224
1.500	-.959	-.04993	.16163	.10353	.00067	.00197	.00060	-.05297	.18077	-.29301	-.06263
1.500	2.020	.00669	.17961	.09826	.00182	.00182	.00055	-.00035	.17974	.00196	-.06126
1.500	4.128	.11467	.17592	.09049	.00340	.00161	.00034	.00177	.16282	.00055	-.06175
1.500	6.367	.32978	.16554	.07907	.00059	.00184	.00051	.00218	.21176	.00051	-.06033
1.500	12.587	.52829	.15624	.07394	-.00141	.00214	.00057	.00155	.26761	1.42658	-.06773
1.500	13.764	.68794	.14965	.07341	-.00145	.00216	.00062	.02141	.33082	1.07764	-.05773
1.500	21.068	.94717	.13500	.07023	-.00059	.00193	.00135	.03533	.46646	1.79079	-.05421
1.500	26.406	1.22520	.12681	.06743	-.00025	.00190	.00150	1.04097	.65947	1.58091	-.05360
1.500	28.463	1.31999	.12482	.07494	-.00053	.00123	.00126	1.10794	.73683	1.49012	-.05178

MACH	ALPHA	CN	CA	CLM	CY	CYN	CBL	CL	CD	L/D	BETA
2.000	-1.466	-11737	.15701	.09370	.00081	.00121	.00094	-.11331	.15997	-.70236	-.06457
2.000	-.456	-.07747	.15593	.09325	.00397	.00057	.00044	-.07623	.15634	-.48695	-.06179
2.000	.558	-.03341	.15452	.09271	.00055	.00110	.00035	-.03494	.15418	-.22668	-.06350
2.000	1.610	.00935	.15314	.09121	.00436	.00106	.00036	.00004	.15334	.00287	-.06225
2.000	2.663	.03333	.15151	.09019	.00428	.00091	.00022	.04623	.15382	.00025	-.06174
2.000	4.740	.13673	.14792	.08902	.00421	.00093	.00025	.12404	.15071	.78155	-.06176
2.000	6.927	.30484	.14110	.08858	.00291	.00151	.00035	.27925	.16669	1.49577	-.06122
2.000	13.130	.47074	.13135	.08909	-.00002	.00118	.00090	.42859	.23486	1.62492	-.05764
2.000	16.266	.60311	.12543	.08157	-.00065	.00137	.00070	.54576	.28991	1.88234	-.05759
2.000	21.535	.83151	.11863	.06151	-.00180	.00113	.00095	.72992	.41558	1.75639	-.05670
2.000	26.836	1.06937	.10642	.06066	-.00010	.00142	.00142	.97616	.57772	1.96853	-.05327
2.000	32.079	1.30799	.09585	.06888	-.00233	.00138	.00152	1.05737	.77580	1.36260	-.05492

LA46 A/B TABULATED SOURCE DATA

UPMT-1092 (LA-46A)ORBITER (BIWSDCAIEIF1) (RM=020)

BETA = 5.000 ELEVTR = -10.000
BDFLAP = -11.700 SPDRK = 55.000

PARAMETRIC DATA

MACH	ALPHA	CN	CA	CLM	CY	CYN	COL	Q	CO	L/O	BETA
1.000	-2.141	-0.21451	.16365	.11914	-1.10852	.01097	-.00998	-.00750	.19153	-1.00337	5.07601
1.000	-1.115	-0.15876	.16305	.10941	-1.10468	.01029	-.00646	-.15316	.16611	-.83373	5.07491
1.000	-.998	-0.10737	.16218	.10522	-1.10071	.00956	-.00687	-.10706	.16236	-.58736	5.07174
1.000	.965	-0.04876	.16099	.09996	-.09733	.00926	-.00769	-.05160	.16014	-.28756	5.06905
1.000	2.015	.00541	.17967	.09440	-.09532	.00845	-.00210	-.00091	.17975	-.00508	5.06836
1.000	4.122	.11047	.17554	.08577	-.09203	.00719	-.00070	.00737	.16303	-.03509	5.06656
1.000	6.362	.32459	.16588	.07369	-.08560	.00564	-.01081	.29702	.21133	1.40549	5.06318
1.000	12.594	.53343	.15472	.06945	-.07806	.00172	-.01071	.86686	.26720	1.62139	5.05926
1.000	15.753	.68385	.14696	.07151	-.07385	-.00039	-.01099	.61627	.32719	1.69218	5.05959
1.000	21.036	.93624	.13319	.07240	-.06949	-.00630	-.01264	.62387	.45368	1.73273	5.05987
1.000	26.397	1.20436	.12638	.07270	-.05992	-.01280	-.01213	1.02231	.64883	1.57593	5.05846
1.000	28.414	1.26722	.12361	.07789	-.05484	-.01569	-.00994	1.07333	.72122	1.44821	5.05721

RUN NO. 53/ 0

MACH	ALPHA	CN	CA	CLM	CY	CYN	COL	Q	CO	L/O	BETA
2.000	-1.473	-0.12029	.15640	.05509	-.09619	.00759	-.00512	-.11623	-.19945	-.72894	5.06692
2.000	-.449	-0.07883	.15319	.05319	-.09473	.00711	-.00532	-.07761	.15360	-.49815	5.06830
2.000	.564	-.03612	.15373	.05192	-.09245	.00682	-.00552	-.03763	.15337	-.24534	5.06669
2.000	1.612	.00056	.15206	.05060	-.09012	.00634	-.00566	-.02428	.15224	-.02908	5.06526
2.000	2.651	.04975	.15068	.04897	-.09111	.00580	-.00565	.04271	.15202	.27914	5.06731
2.000	4.733	.13358	.14831	.04684	-.08617	.00455	-.00608	.12048	.15082	.76113	5.06367
2.000	6.925	.30336	.14064	.05018	-.08027	.00299	-.00724	.27787	.16603	1.49532	5.06012
2.000	13.120	.47169	.13149	.05585	-.07819	-.00204	-.00834	.42953	.25113	1.62676	5.06122
2.000	16.268	.60594	.12476	.05732	-.07455	-.00174	-.00930	.54635	.28959	1.68792	5.05958
2.000	21.542	.83624	.11372	.05709	-.06610	-.00137	-.00980	.73534	.41470	1.77520	5.05737
2.000	26.834	1.06697	.10379	.05915	-.05812	-.00145	-.00836	.95323	.57425	1.57637	5.05804
2.000	32.066	1.29744	.09404	.06688	-.04709	-.00203	-.00642	1.04958	.76849	1.36577	5.05563

RUN NO. 55/ 0

END
DATE

APR. 23, 1985