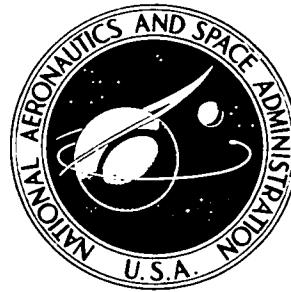


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A COMPARISON OF THE EXPERIMENTAL AERODYNAMIC  
CHARACTERISTICS OF AN OBLIQUE WING  
WITH THOSE OF A SWEPT WING

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16. Abstract  Force and moment characteristics were measured for two trapezoidal oblique wings and a conventional swept wing mounted on a body of revolution at Mach numbers from 0.25 to 2.0. Both oblique wings had the same planform, but differed in profile and flexibility. One of the oblique wings was made of solid steel and had a maximum thickness-to-chord ratio of 4 percent. The other wing was built up by taking an aluminum wing (having a geometrically similar profile and planform to that of the steel wing) and adding epoxy material to the upper surface to increase the maximum thickness-to-chord ratio to 8.2 percent. The aspect ratio for both oblique wings when swept 45°, and for the swept wing with 45° of sweep was 4.1. Data were obtained at unit Reynolds numbers ranging from 3.3 to 8.2 million per meter in order to vary the dynamic pressure and to explore any flexibility effects. These data were compared with previously obtained data (ref. 5) on the aluminum wing before it was built up with epoxy.			
Wing flexibility designed into the aluminum and built-up aluminum oblique wings increased the range of lift coefficients from 0.30 to 0.70 over which the pitching-moment curves were linear. However, flexibility did not improve the linearity of the rolling-moment curves and produced sizable side forces. At a Mach number of 0.95, the trapezoidal oblique wing had little or no improvement in the lift/drag ratios over those for a conventional swept wing of the same aspect ratio, sweep, and profile, probably because of the thinness of the wing profile. Thicker, highly cambered profiles previously investigated on oblique wings showed considerable improvement in the maximum lift/drag ratios over those for a conventional swept wing with the same profiles throughout a Mach number range from 0.6 to 1.2.			
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## NOMENCLATURE

The axes systems and sign conventions are presented in figure 1. Lift, drag, and pitching moments are presented about the stability axes system; and the side force, rolling moments, and yawing moments are presented about the body axes system. Reference lengths and wing area are given in table 1.

$A$	aspect ratio
$b$	wing span ( $\Lambda = 45^\circ$ )
$C_L$	lift coefficient, $\frac{\text{lift}}{qS}$
$C_m$	pitching-moment coefficient about moment center shown in figures 2(a) and 3(a), $\frac{\text{pitching moment}}{qS\bar{c}}$
$C_n$	yawing-moment coefficient, $\frac{\text{yawing moment}}{qSb}$
$C_y$	side-force coefficient, $\frac{\text{side force}}{qS}$
$c$	wing chord ( $\Lambda = 0^\circ$ )
$c_{\text{root}}$	wing root chord ( $\Lambda = 0^\circ$ )
$\bar{c}$	wing mean aerodynamic chord
$C_D$	drag coefficient, $\frac{\text{drag}}{qS}$
$C_\varphi$	rolling-moment coefficient, $\frac{\text{rolling moment}}{qSb}$
$\frac{L}{D}$	lift-to-drag ratio
$M$	Mach number
$q, Q$	free-stream dynamic pressure, N/m <sup>2</sup>
$r$	body radius
$\frac{RN}{L}$	unit Reynolds number in millions per meter
$S$	wing area
$\left(\frac{t}{c}\right)_{\max}$	maximum wing thickness-to-chord ratio

- $x$  chordwise distance along airfoil
- $x_1$  axial distance along body from the 57.45 cm longitudinal station
- $x_2, y_1, y_2$  coordinates to define the wing tip (see figs. 2(b) and 3(b))
- $z$  vertical distance from the chord plane of the airfoil
- $\alpha$  angle of attack, deg
- $\Lambda$  sweep angle between a perpendicular to the body axis and the  $0.25c$  line of the wing measured in a horizontal plane (right wing tip is forward for positive  $\Lambda$ 's), deg

# A COMPARISON OF THE EXPERIMENTAL AERODYNAMIC CHARACTERISTICS OF AN OBLIQUE WING WITH THOSE OF A SWEPT WING

Edward J. Hopkins and Sam C. Yee\*

Ames Research Center

## SUMMARY

Force and moment characteristics were measured for two trapezoidal oblique wings and a conventional swept wing mounted on a body of revolution at Mach numbers from 0.25 to 2.0. Both oblique wings had the same planform, but differed in profile and flexibility. One of the oblique wings was made of solid steel and had a maximum thickness-to-chord ratio of 4 percent. The other wing was built up by taking an aluminum wing (having a geometrically similar profile and planform to that of the steel wing) and adding epoxy material to the upper surface to increase the maximum thickness-to-chord ratio to 8.2 percent. The aspect ratio for both oblique wings when swept 45°, and for the swept wing with 45° of sweep was 4.1. Data were obtained at unit Reynolds numbers ranging from 3.3 to 8.2 million per meter in order to vary the dynamic pressure and to explore any flexibility effects. These data were compared with previously obtained data (ref. 5) on the aluminum wing before it was built up with epoxy.

Wing flexibility designed into the aluminum and built-up aluminum oblique wings increased the range of lift coefficients from 0.30 to 0.70 over which the pitching-moment curves were linear. However, flexibility did not improve the linearity of the rolling-moment curves and produced sizable side forces. At a Mach number of 0.95, the trapezoidal oblique wing had little or no improvement in the lift/drag ratios over those for a conventional swept wing of the same aspect ratio, sweep, and profile, probably because of the thinness of the wing profile. Thicker, highly cambered profiles previously investigated on oblique wings showed considerable improvement in the maximum lift/drag ratios over those for a conventional swept wing with the same profiles throughout a Mach number range from 0.6 to 1.2.

## INTRODUCTION

An oblique wing for highly maneuverable aircraft, was investigated (refs. 1 and 2) as a possible means of improving both the maximum lift-to-drag ratios at transonic Mach numbers (with the wing swept), and the landing characteristics (with the wing unswept). At the high lift required for such aircraft, however, oblique wings incur asymmetric spanwise stalling resulting in nonlinear pitching-, rolling-, and yawing-moment curves. Several possible solutions to this problem were investigated: (a) fixed upward bending of the wing panels (refs. 2 and 3); (b) Krüger nose flaps (ref. 4); and (c) designed flexibility to give variable upward bending of the wing panels (ref. 5).

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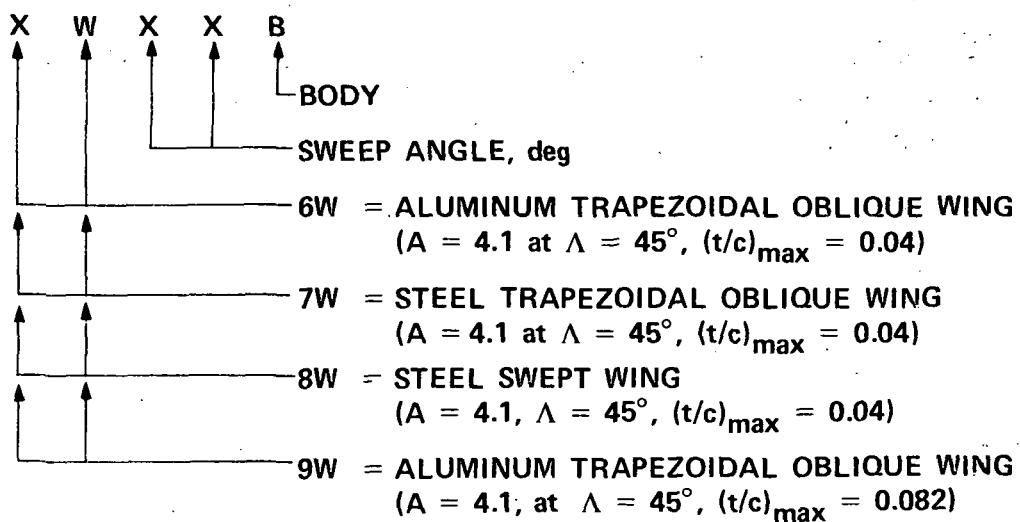
\*Project Engineer, ARO, Inc., Moffett Field, Calif. 94035.

To obtain the desired flexibility (ref. 5), an oblique wing was made of solid aluminum with a maximum thickness-to-chord ratio of only 4 percent. It was found that at the design flow conditions, this aluminum wing had nearly linear moment curves indicating that as a result of wing flexibility, the wing was "self-relieving." However, because of the thinness of the profile, it is suspected that flow separation probably occurred near the wing leading edge at a low lift coefficient. In an attempt to alleviate this problem in the present investigation, the maximum thickness of the profile was approximately doubled and the leading-edge thickness was increased considerably more than double by reshaping the upper surface after an epoxy material was added. Wing flexibility was expected to be nearly the same as for the thin wing because of the low value of the modulus of elasticity for the added material.

In contrast to the elliptical wing planform used in references 1 through 4, the flexible aluminum wings tested in the present investigation had straight leading and trailing edges, and wing spans that were 15 percent greater than those for the elliptical wing previously tested. The planform of these flexible wings approximated the planform given by R. T. Jones (ref. 6) which specifies the optimum planform for minimum induced drag for a given lift and root bending moment. However, for these specified conditions (with the wing span as a free variable), the optimum planform is not elliptical.

The present experimental investigation was undertaken to study further the effects of wing flexibility on the forces and moments of oblique wings, and to compare the aerodynamic efficiency of such wings at transonic Mach numbers with that of a conventional swept wing having a maximum thickness of 4 percent chord. With the two oblique wings swept 45°, both wings have an aspect ratio of 4.1. The unit Reynolds number was varied from 3.3 to 8.2 million per meter in order to measure the effect of flexibility resulting from dynamic-pressure changes on the linearity of the moment curves. Results for the aluminum and the built-up aluminum oblique wings, and for the steel oblique wing are compared throughout the Mach number range from 0.25 to 2.0.

#### CONFIGURATION CODE



## TEST FACILITY

The Ames 6- by 6-Foot Wind Tunnel is a variable pressure, continuous flow, closed return-type facility. The nozzle ahead of the test section consists of an asymmetric sliding block which permits a continuous variation of Mach number from 0.25 to 2.3. The test section has a perforated floor and ceiling for boundary-layer removal to permit transonic testing.

## MODEL DESCRIPTION

The model consisted of a Sears-Haack body of revolution (designed to have minimum wave drag for a given length and volume) on which three different wings were mounted. Two of the three wings were trapezoidal which could be mounted on the body at different sweep angles. The third wing was a conventional swept wing having 45° of sweepback.

With different fairing blocks installed under the wings, the model could accommodate the oblique wings swept 0°, 45°, 50°, 55°, and 60° or the conventional swept wing as indicated in figures 2(a) and 3(a), respectively. Dimensional details of the body and the fairing blocks are given in table 3 of reference 1. The oblique wings had an aspect ratio of 7.9 ( $\Lambda = 0^\circ$ ) or 4.1 ( $\Lambda = 45^\circ$ ) and straight leading and trailing edges with modified elliptical wing tips as shown in figure 2(b). The swept wing had an aspect ratio of 4.1, its 0.25 chordline swept 45° and straight leading and trailing edges with modified elliptical tips as shown in figure 3(b). One oblique wing and the swept wing were made of stainless steel, had the NACA 65A204 profile perpendicular to their 0.25-chordlines, and had the same planform area. The other oblique wing was built up by taking an aluminum wing (geometrically similar in planform and thickness to that of the steel oblique wing) and adding epoxy material to the upper surface to make the maximum thickness-to-chord ratio 8.2 percent. This modified profile was developed on the Jameson-Hicks-Vanderplaats optimization program to be "shock free" at a Mach number of 0.6 and an angle of attack of 0°. The modified profile is compared with the NACA 65A204 in figure 4. This aluminum oblique wing with a modified profile was expected to have the same flexibility as the thin aluminum oblique wing investigated in reference 5, because the modulus of elasticity of the epoxy material is less than one-tenth that of aluminum. To prevent flaking of the epoxy material (fig. 5), slots (0.0635 cm in width) were cut in the epoxy material at various spanwise stations. Coordinates for the NACA 65A204 and the modified profile are presented in tables 2 and 3, respectively. The oblique wings had the same straight-edged planforms that approximated the R. T. Jones optimum planform (with curved edges) for a given area and root bending moment. The wing span was 15 percent greater than the wing span of the elliptical wing of references 1 and 2 in accordance with the Jones' concept of reference 6.

## DATA REDUCTION AND TEST PROCEDURE

The model was sting supported through its base on a six-component electrical strain-gage balance as shown in figures 6 and 7. Measured drag forces were corrected to a condition corresponding to having the free-stream static pressure on the base of the model. Moment data are presented about moment centers located as shown in figures 2(a) and 3(a),  $0.4c_{\text{root}}$  ( $\Lambda = 0^\circ$ ) for the oblique

wing and  $0.25\bar{c}$  for the swept wing. Reference lengths and the wing area used in the reduction of the data are given in table 1.

Boundary-layer transition strips (0.1905 cm wide), consisting of random distribution of glass spheres 0.01905 cm in diameter, were placed on the upper and lower surface of the wing 0.762 cm downstream of the wing leading edge and on the body 2.54 cm behind its tip. Sublimation studies made on the elliptical oblique wing (ref. 1) at wing sweep angles of  $0^\circ$  and  $45^\circ$  indicate that the boundary layer was tripped near the transition strips at  $\alpha = 0^\circ$  and  $10^\circ$ . Estimates based on the size of the glass spheres required to cause transition at other sweep angles and Mach numbers in reference 1 indicate that the size chosen in the present investigation should be adequate.

Data were obtained for both the oblique wing and the swept wing at Mach numbers of 0.25, 0.4, 0.6, 0.8, 0.9, 0.95, 1.1, 1.2, 1.6, and 2.0. At each Mach number, the model was tested at unit Reynolds numbers ranging from  $3.3 \times 10^6 / m$  to  $8.2 \times 10^6 / m$  and throughout an angle-of-attack range of  $-3^\circ$  to  $22^\circ$ . Angle of attack was indicated by an electrical dangleometer mounted in the model support strut located downstream of the sting. Corrections were applied to the indicated angle of attack for balance and sting deflections.

## RESULTS AND DISCUSSION

Force and moment coefficients are presented for each of the wing-body combinations at each of the test Mach numbers. Table 4 shows the index of the figures for the various configurations. Results for the aluminum oblique wing with the modified NACA 65A204 profile are presented in figures 8 through 48, and the results for the steel oblique wing with the NACA 65A204 profile are presented in figures 49 through 89. Results for the steel swept wing with the NACA 65A204 profile are presented in figures 90 through 98. Finally, at a Mach number of 0.95 and a sweep angle of  $45^\circ$ , a comparison of the results for all of the above wings and the aluminum oblique wing with the NACA 65A204 profile (previously investigated in ref. 5) is presented in figure 99.

A comparison of the pitching-moment data for the aluminum oblique wings (with either profile) with that for the steel oblique wing is shown in figure 99(c). For the steel oblique wing, the pitching-moment curves were linear up to a  $C_L \cong 0.3$  while the pitching-moment curves for the aluminum wings were linear up to a  $C_L \cong 0.7$ , indicating that wing flexibility increases the range of lift coefficients over which the pitching moment curves are linear. For reasonable center-of-gravity locations, the swept wing exhibited the usual "pitch-up" tendencies above a  $C_L \cong 0.4$ . Wing flexibility, which had a very small effect in linearizing the rolling-moment curves, produced sizable side forces as shown in figure 99(e). It is interesting to note that the oblique wing (7W45B) with the thinner wing profile had only a slightly higher maximum lift/drag ratio than the swept wing (8W45B), and that the lift/drag ratios for the thicker oblique wing (9W45B) were only superior to the swept wing (8W45B) between lift coefficients of about 0.4 and 0.6 as shown in figure 99(d). This result is different from the result shown previously in reference 2 for the elliptical wings for which the oblique wing configuration had considerably higher maximum lift/drag ratios than the conventional swept wing at all Mach numbers. This difference in result is believed related to the difference in the airfoils for the two investigations, the elliptical wings having a highly cambered thick airfoil ( $(t/c)_{max} \cong 0.10$  along the wing span) and the trapezoidal wings having the thin NACA 65A204 airfoil with practically no camber. Therefore, it must be concluded that to provide

maximum aerodynamic efficiency, the oblique-wing concept has application primarily to wings designed with relatively thick and cambered airfoils.

Ames Research Center

National Aeronautics and Space Administration  
Moffett Field, Calif. 94035, January 25, 1977

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2. Hopkins, Edward J.; and Levin, Alan D.: Study of Low Aspect Ratio Swept and Oblique Wings. J. Aircraft, vol. 12, no. 8, August 1975, pp. 648-652.
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4. Hopkins, Edward J.; and Lovette, George H.: Effect of Krüger Nose Flaps on the Experimental Force and Moment Characteristics of an Oblique Wing. NASA TM X-3372, 1976.
5. Hopkins, Edward J.; and Yee, Sam C.: Effect of Wing Flexibility on the Experimental Aerodynamic Characteristics of an Oblique Wing. NASA TM X-3460, 1977.
6. Jones, Robert T.: The Spanwise Distribution of Lift for Minimum Induced Drag of Wings Having a Given Lift and a Given Bending Moment. NACA TN-2249, 1950.

TABLE 1.— MODEL GEOMETRY, REFERENCE LENGTHS AND AREAS

**Body**

Radius	$r = 3.856 \{1 - [1 - (2x_1 / 114.91)]^2\}^{3/4}$ cm
Length	
Closed	114.91 cm
Cutoff	91.44 cm
Maximum diameter	7.71 cm

**Straight-tapered oblique wings**

Span ( $\Lambda = 0^\circ$ )	104.08 cm
Span (reference), $b$	74.80 cm
Area (reference) $S$	1365.09 cm <sup>2</sup>
Mean aerodynamic chord (reference), $c$	21.62 cm
Aspect ratio ( $\Lambda = 0^\circ$ )	7.9
Aspect ratio ( $\Lambda = 45^\circ$ )	4.1
Root chord	22.51 cm
Tip chord (projected)	3.81 cm
Taper ratio	0.169
Incidence relative to body centerline	0°
Profiles perpendicular to the $0.25c$ line	NACA 65A204 or modified NACA 65A204 (see tables 2 and 3 and fig. 4)

**Straight-tapered swept wing**

Span (reference), $b$	74.80 cm
Area (reference), $S$	1365.09 cm <sup>2</sup>
Mean aerodynamic chord (reference), $\bar{c}$	21.62 cm
Aspect ratio	4.1
Root chord	31.83 cm
Tip chord (projected)	4.67 cm
Taper ratio	0.147
Incidence relative to body centerline	0°
Profile perpendicular to $0.25c$ line	NACA 65A204 (see table 2 and fig. 4)

TABLE 2:— COORDINATES FOR THE NACA 65A204 PROFILE

$x/c$	$z/c$	$x/c$	$z/c$
0	0	0	0
.00040	.00111	.00060	-.00096
.00086	.00160	.00114	-.00132
.00133	.00198	.00167	-.00158
.00180	.00231	.00220	-.00180
.00228	.00211	.00272	-.00199
.00276	.00287	.00324	-.00215
.00324	.00312	.00376	-.00229
.00421	.00356	.00479	-.00253
.00519	.00395	.00581	-.00273
.00617	.00431	.00683	-.00291
.00716	.00464	.00784	-.00306
.00815	.00496	.00885	-.00320
.00914	.00525	.00986	-.00333
.01013	.00554	.01087	-.00345
.01112	.00581	.01188	-.00356
.01212	.00607	.01288	-.00366
.01958	.00776	.02042	-.00423
.02456	.00871	.02544	-.00449
.02955	.00956	.03045	-.00469
.03454	.01033	.03546	-.00484
.03953	.01106	.04047	-.00497
.04453	.01174	.04547	-.00508
.04952	.01241	.05048	-.00519
.05452	.01305	.05548	-.00531
.05951	.01369	.06049	-.00542
.06451	.01431	.06549	-.00554
.06951	.01491	.07049	-.00566
.07450	.01549	.07550	-.00577
.07950	.01606	.08050	-.00587
.08450	.01660	.08550	-.00597
.08950	.01713	.09050	-.00605
.09450	.01764	.09550	-.00614
.09950	.01814	.10050	-.00622
.14952	.02243	.15048	-.00682
.19956	.02579	.20044	-.00719
.24961	.02841	.25039	-.00738
.29968	.03041	.30033	-.00744
.34975	.03185	.35026	-.00737
.39982	.03275	.40018	-.00717
.44990	.03309	.45010	-.00680
.49998	.03282	.50002	-.00622
.55005	.03193	.54995	-.00541
.60012	.03043	.59988	-.00440
.65019	.02839	.64981	-.00329
.70024	.02583	.69976	-.00217
.75029	.02273	.75971	-.00113
.80035	.01903	.79965	-.00034
.85034	.01453	.84966	-.00010
.90024	.00983	.89976	-.00002
.95012	.00491	.94988	-.00001
1.00000	.00000	1.00000	.00000

TABLE 3.—COORDINATES FOR THE MODIFIED NACA 65A204 PROFILE

$x/c$	$z/c$	$x/c$	$z/c$
0	0	0	0
.00040	.00449	.00060	-.00096
.00080	.00578	.00114	-.00132
.00100	.00632	.00167	-.00158
.00200	.00839	.00220	-.00180
.00300	.00995	.00272	-.00199
.00400	.01123	.00376	-.00229
.00500	.01232	.00479	-.00253
.01000	.01661	.00986	-.00333
.02000	.02259	.02042	-.00423
.03000	.02702	.03045	-.00469
.04000	.03076	.04047	-.00497
.05000	.03409	.05048	-.00519
.06000	.03713	.06049	-.00542
.07000	.03993	.07049	-.00566
.08000	.04252	.08050	-.00587
.10000	.04715	.10050	-.00622
.15000	.05664	.15048	-.00682
.20000	.06403	.20044	-.00719
.25000	.06983	.25039	-.00738
.30000	.07434	.30033	-.00744
.35000	.07774	.35026	-.00737
.40000	.08005	.40018	-.00717
.45000	.08137	.45010	-.00680
.50000	.08165	.50002	-.00622
.55000	.08087	.54995	-.00541
.60000	.07887	.59988	-.00440
.65000	.07547	.64981	-.00329
.70000	.07037	.69976	-.00217
.75000	.06259	.75971	-.00113
.80000	.05178	.79965	-.00034
.85000	.03925	.84966	-.00010
.90000	.02536	.89976	-.00002
.95000	.01126	.94988	-.00001
1.00000	.00000	1.00000	.00000

TABLE 4.— INDEX OF DATA FIGURES

Mach number, <i>M</i>	Sweep, $\Lambda$ , deg	Wing configuration	Figure
.4 – 2.0	45	Aluminum oblique, modified NACA 65A204 profile	8 – 16
.4 – 2.0	50	Aluminum oblique, modified NACA 65A204 profile	17 – 25
.4 – 2.0	55	Aluminum oblique, modified NACA 65A204 profile	26 – 34
.4 – 2.0	60	Aluminum oblique, modified NACA 65A204 profile	35 – 43
.4 – .95	0	Aluminum oblique, modified NACA 65A204 profile	44 – 48
.4 – 2.0	45	Steel oblique, NACA 65A204 profile	49 – 57
.4 – 2.0	50	Steel oblique, NACA 65A204 profile	58 – 66
.4 – 2.0	55	Steel oblique, NACA 65A204 profile	67 – 75
.4 – 2.0	60	Steel oblique, NACA 65A204 profile	76 – 84
.4 – .95	0	Steel oblique, NACA 65A204 profile	85 – 89
.4 – 2.0	45	Steel swept, NACA 65A204 profile	90 – 98
.95	45	a. Aluminum oblique, NACA 65A204 profile. b. Aluminum oblique, modified NACA 65A204 profile c. Steel oblique, NACA 65A204 profile d. Steel swept, NACA 65A204 profile	99



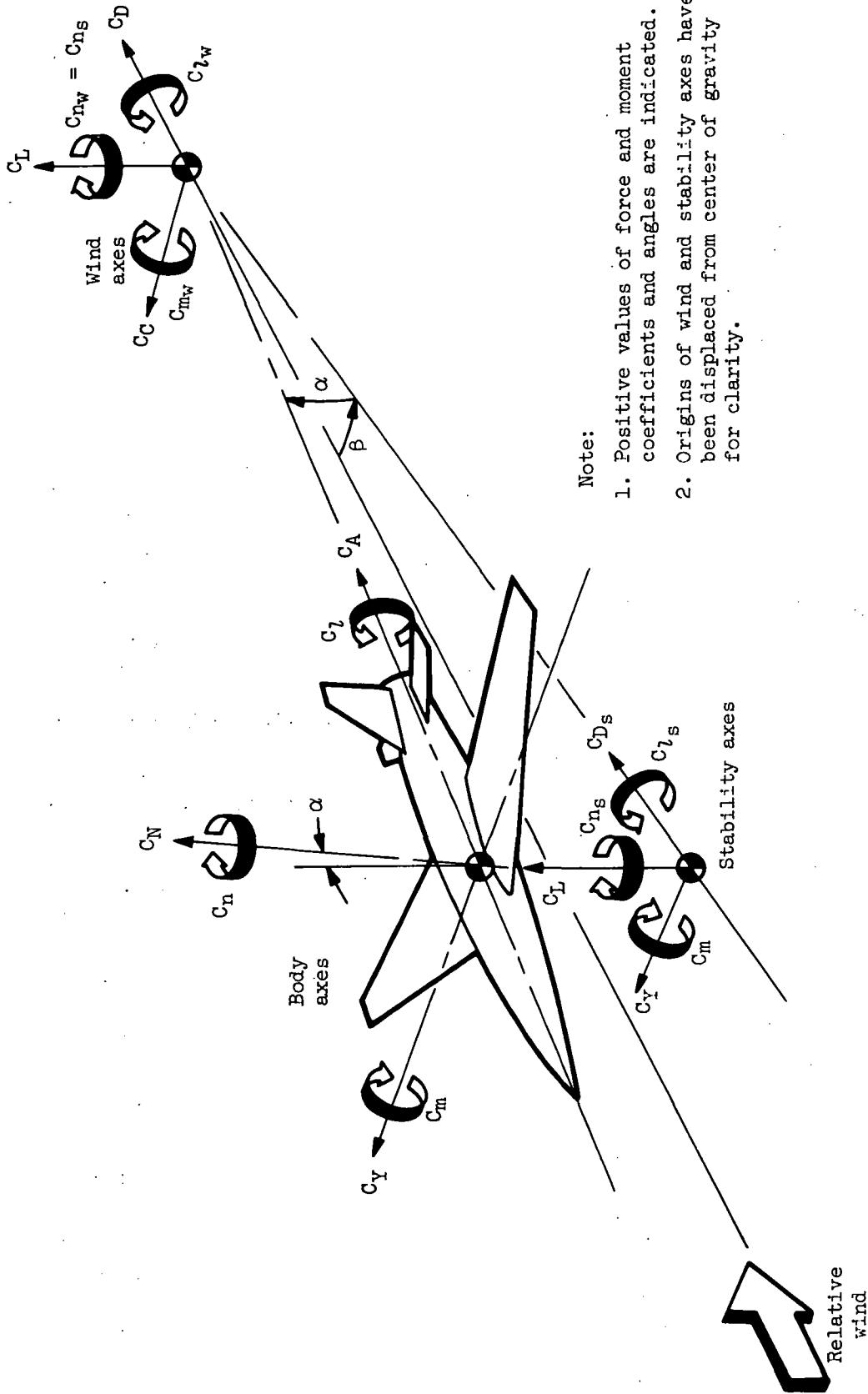


Figure 1.— Axes systems.

**NOTE: ALL DIMENSIONS ARE IN CENTIMETERS EXCEPT AS NOTED**

PIVOT AND MOMENT CENTER AT  
0.40 $c_{\text{root}}$  OF UNSWEPT OBLIQUE  
WING

-SEE FIGURE 2(b)  
FOR WING DETAILS

0.25c

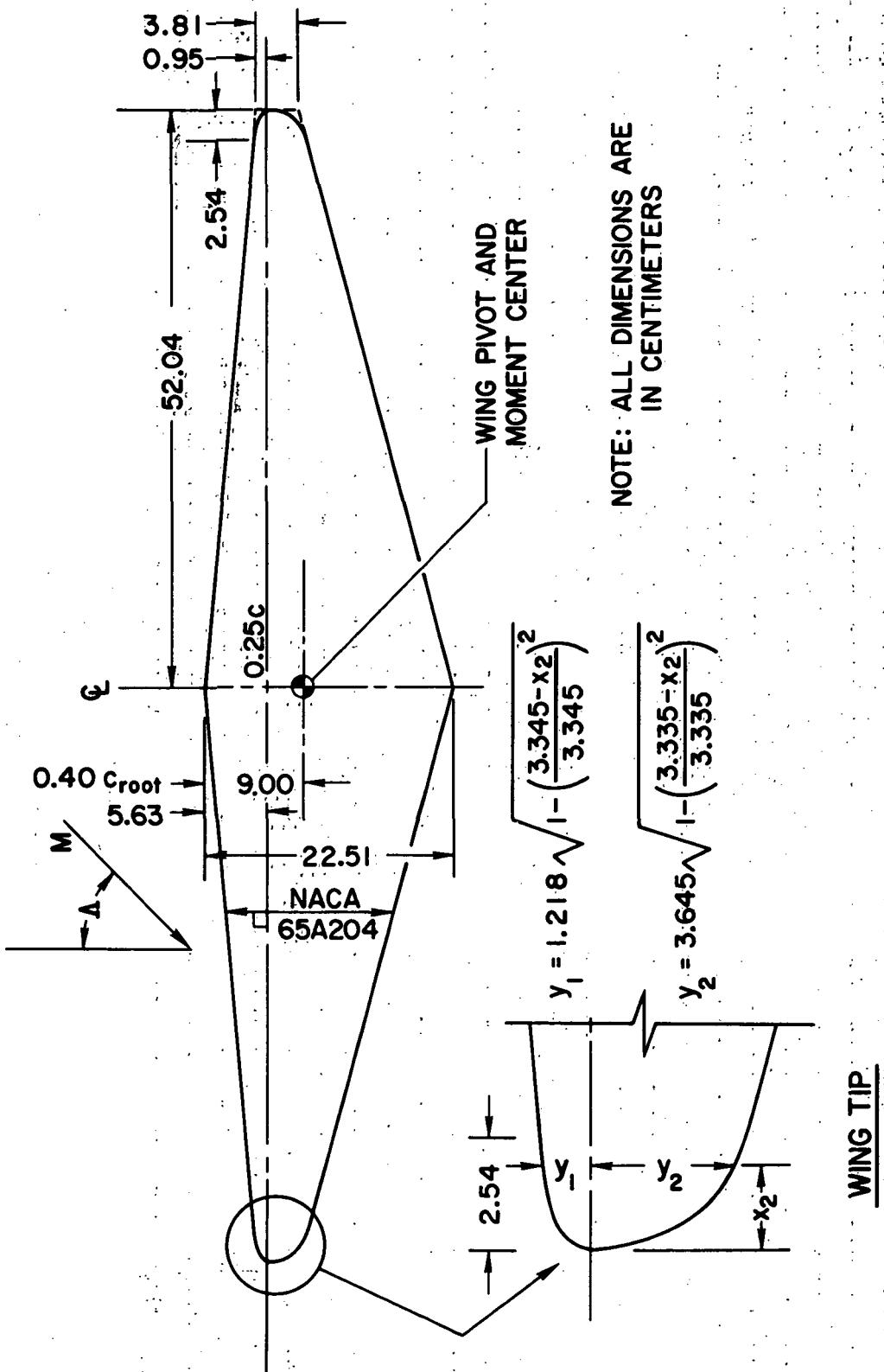
SEE REF. 1 (TABLE 3) FOR  
BODY DIMENSIONAL DATA

## MOMENT CENTER AND WING PIVOT

WING CHORD PLANE LIES IN THE PLANE OF THE UPPER SURFACE OF THE ATTACHMENT BLOCKS

(a) Wing mounted on top of body.

Figure 2.— Straight-tapered oblique wing and body details.

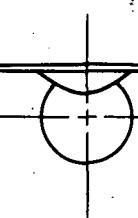


(b) Wing planform.

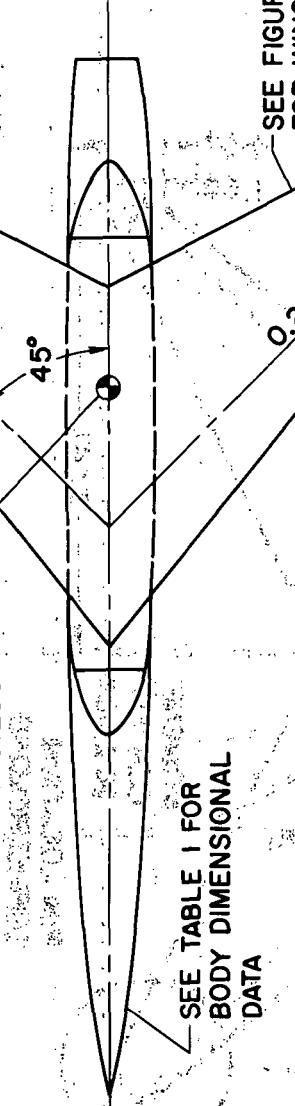
Figure 2.—Concluded.

NOTE: ALL DIMENSIONS ARE IN  
CENTIMETERS EXCEPT AS  
NOTED

MOMENT CENTER  
AT 0.25c



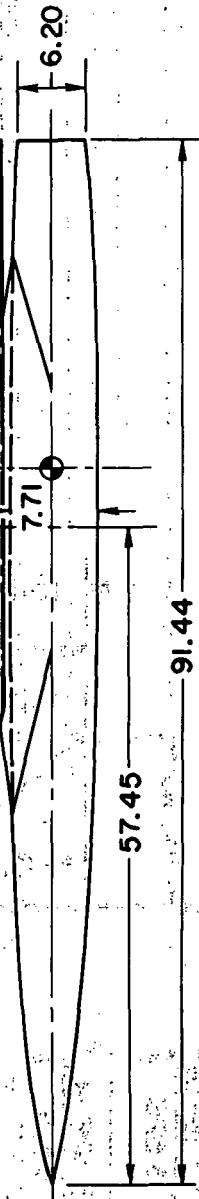
SEE TABLE I FOR  
BODY DIMENSIONAL  
DATA



SEE FIGURE 3(b)  
FOR WING DETAILS

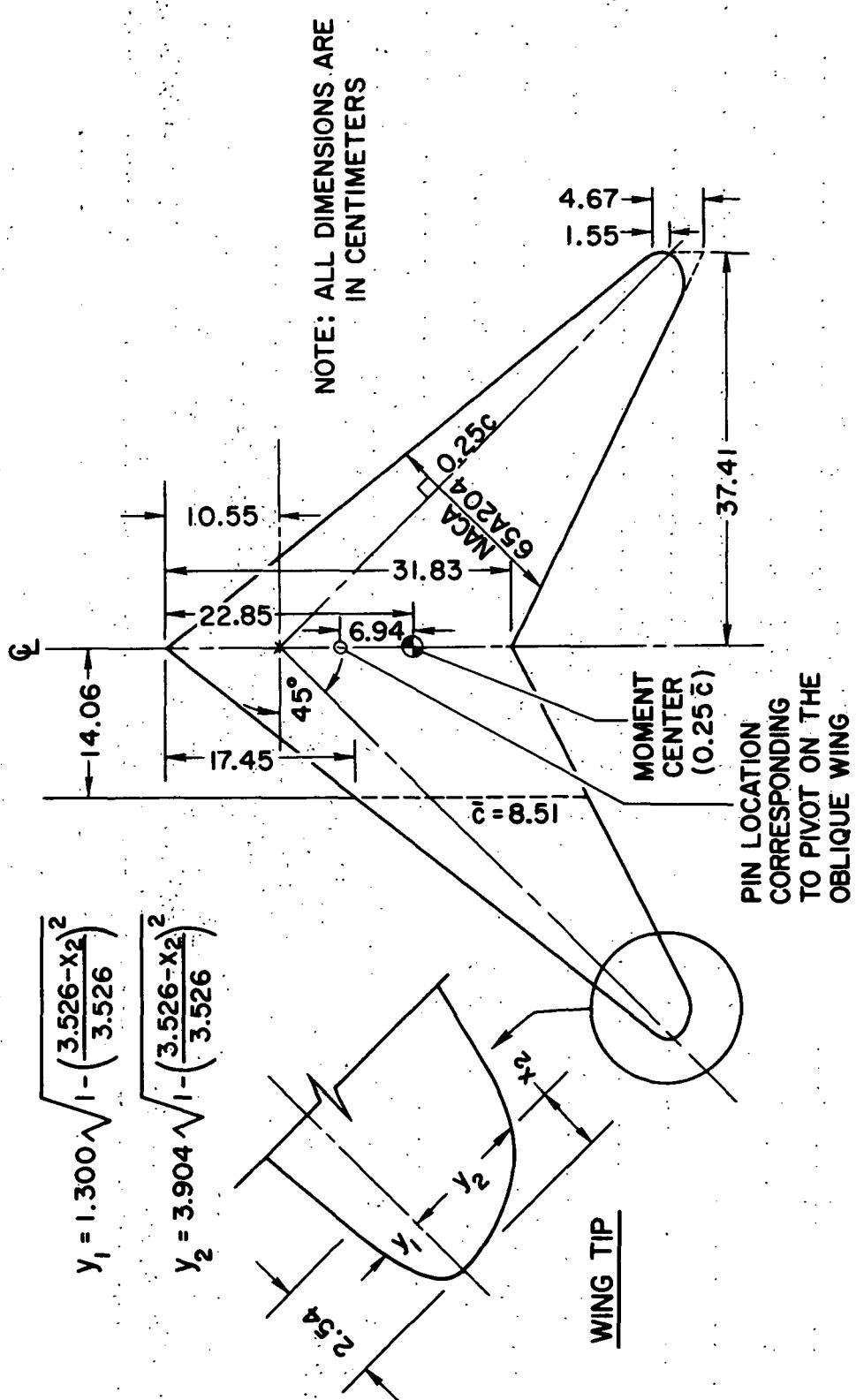
6 OF UNCUT  
OFF BODY  
MOMENT CENTER

WING CHORD PLANE LIES  
IN THE PLANE OF THE  
UPPER SURFACE OF THE  
ATTACHMENT BLOCKS



(a) Wing mounted on top of body.

Figure 3.— Swept wing and body details.



(b) Wing planform.

Figure 3.— Concluded.

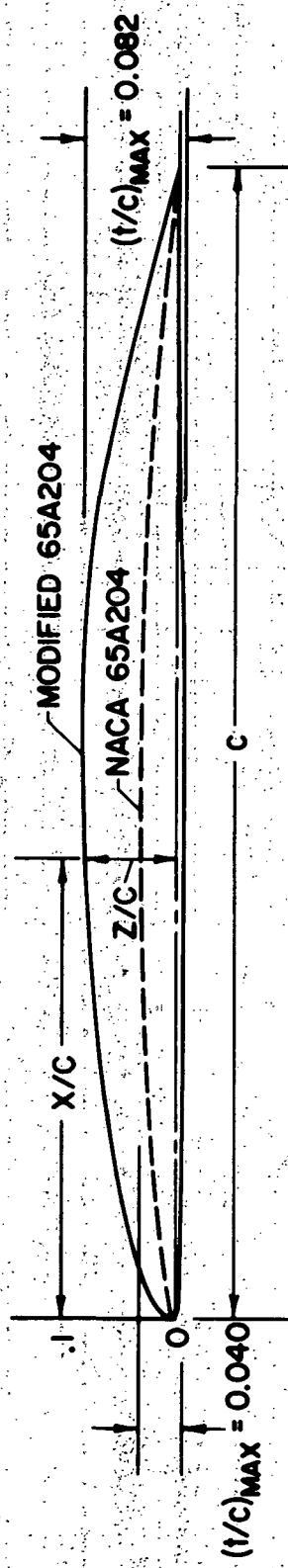


Figure 4.—Comparison between the NACA 65A204 and the modified NACA 65A204 profiles.

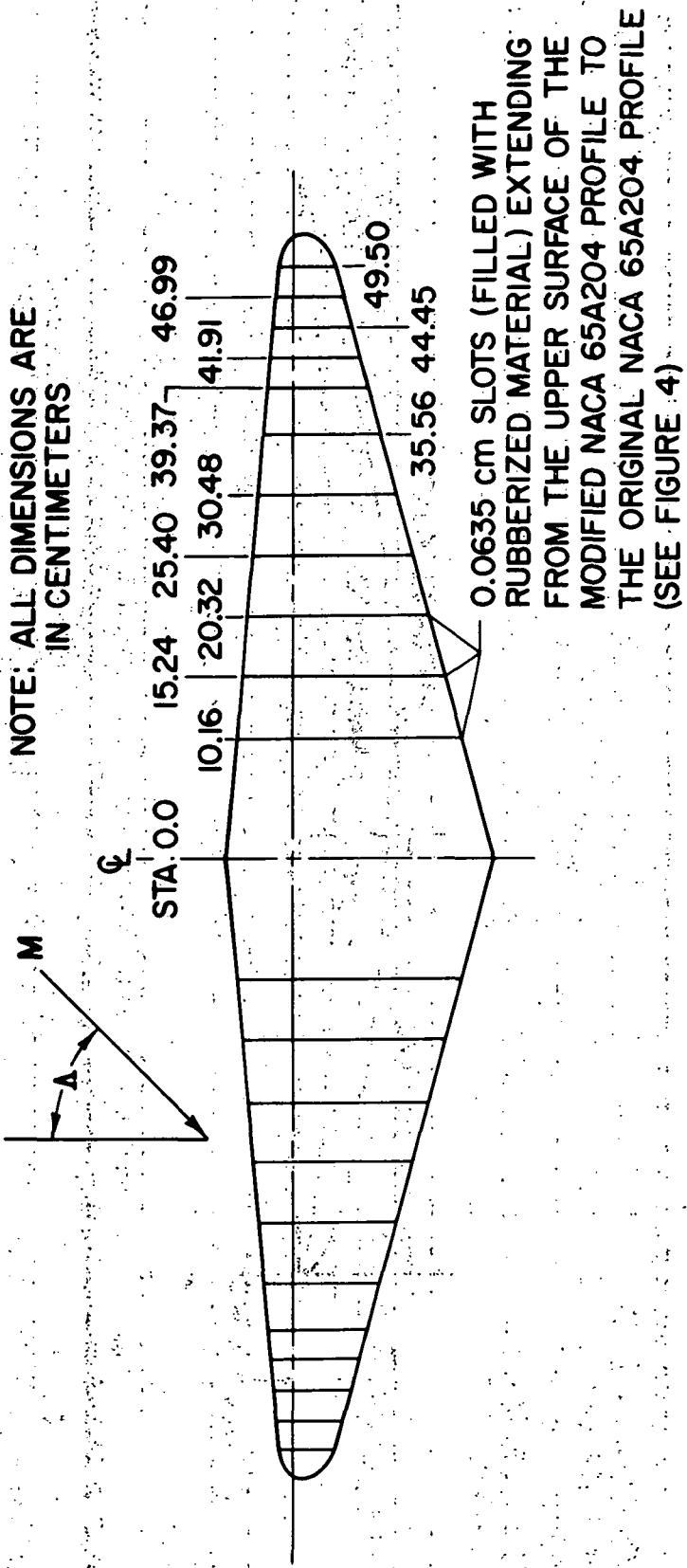


Figure 5.—Slot details for the oblique wing with the modified NACA 65A204 profile.

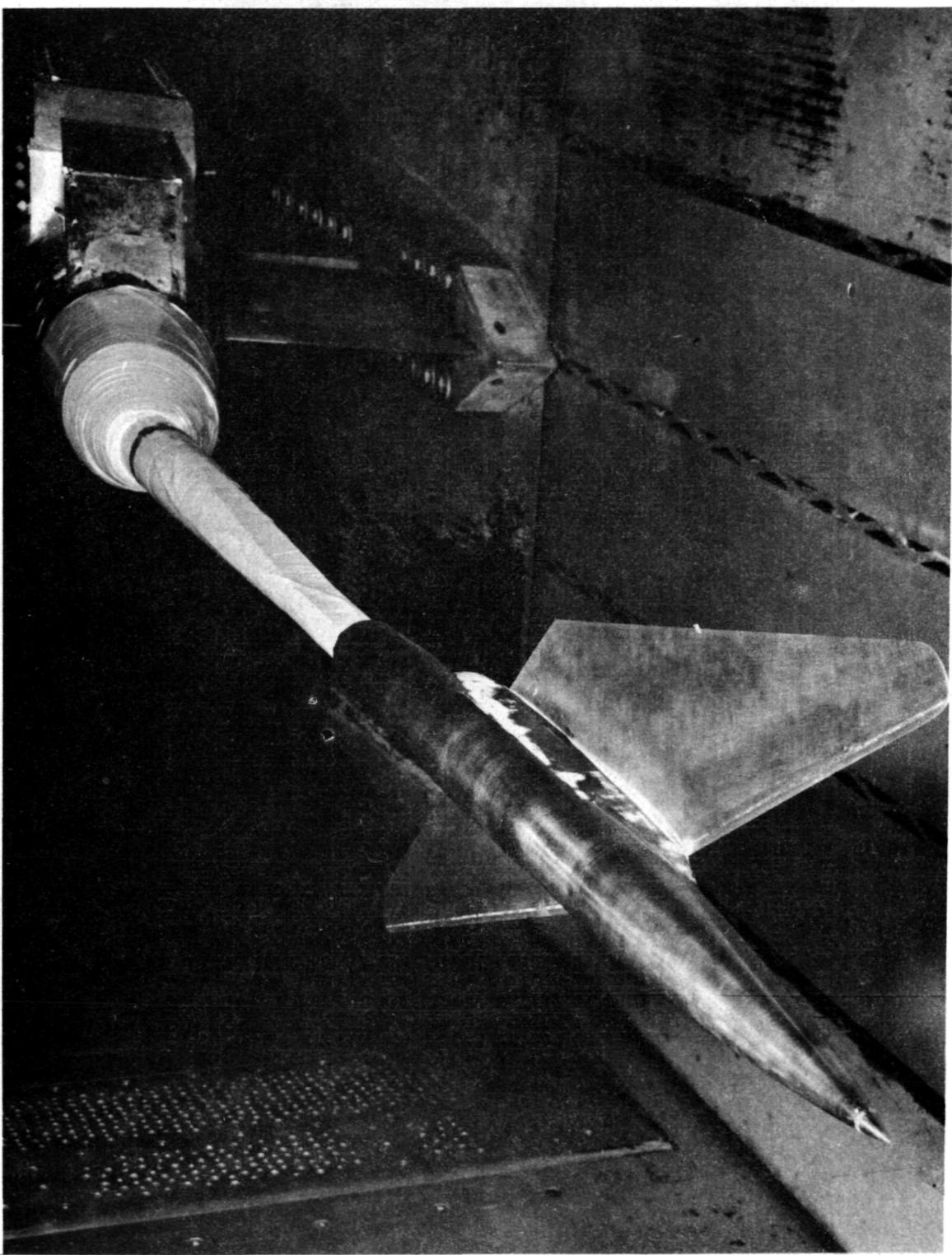


Figure 6.—Photograph of the oblique wing ( $\Lambda = 45^\circ$ ) mounted on top of the body of revolution (model is pitched in the  $+\alpha$  direction toward the test section floor).

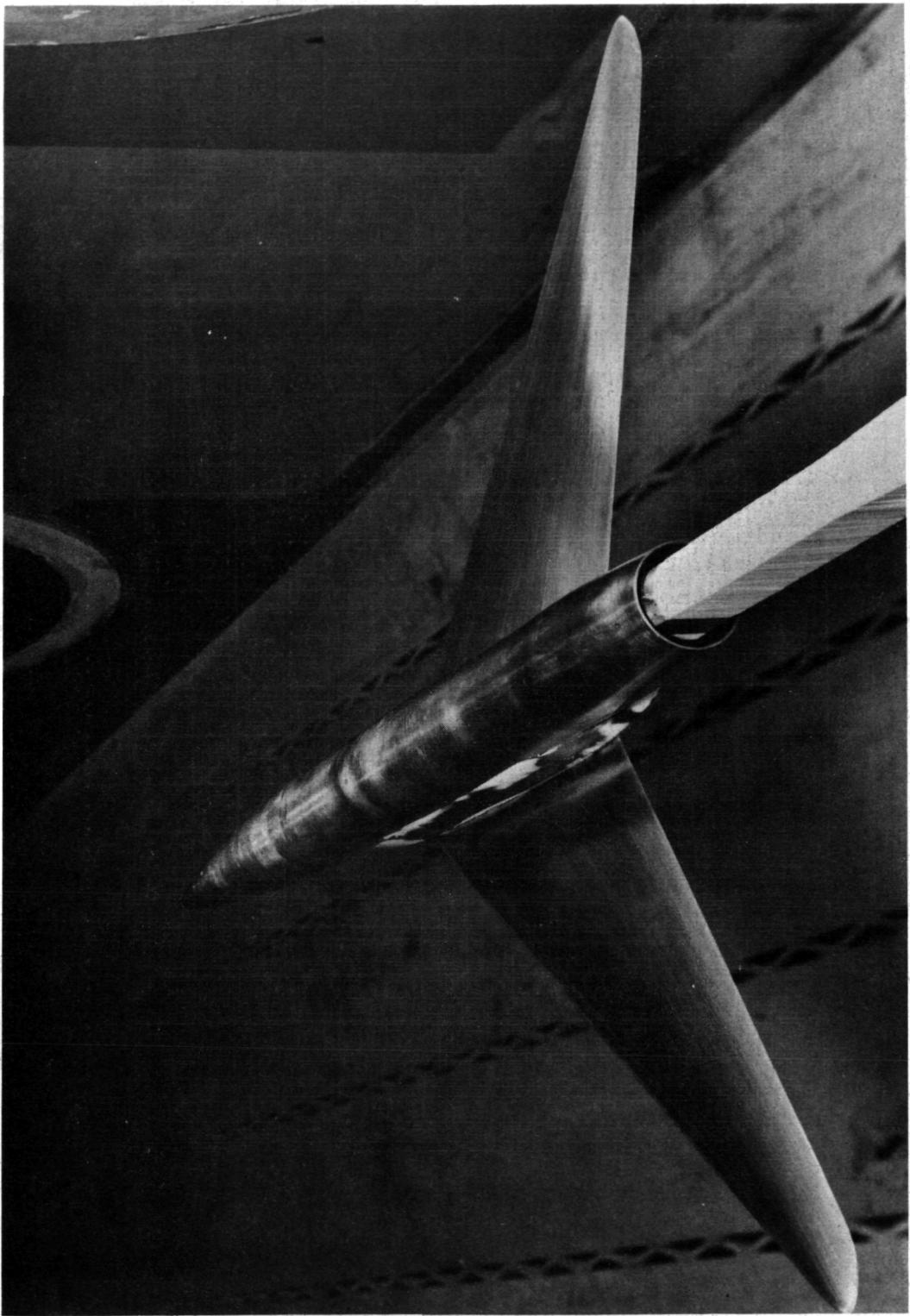
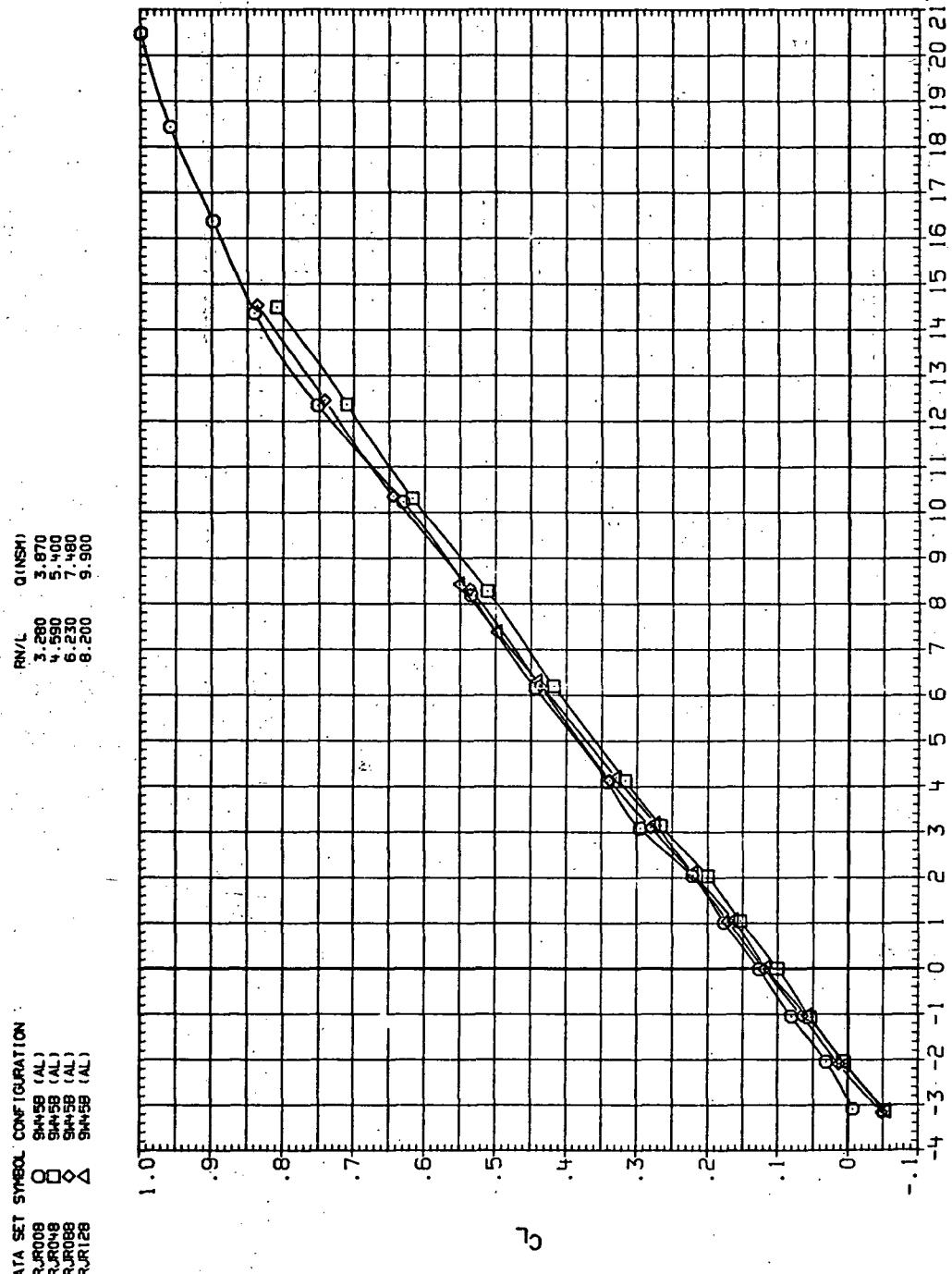


Figure 7.—Photograph of the swept wing with  $45^{\circ}$  of sweep mounted on top of the body of revolution.



(a)  $C_L$  vs  $\alpha$ .

Figure 8.—Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 45^\circ$ ,  $M = 0.4$  and the modified NACA 65A204 airfoil).

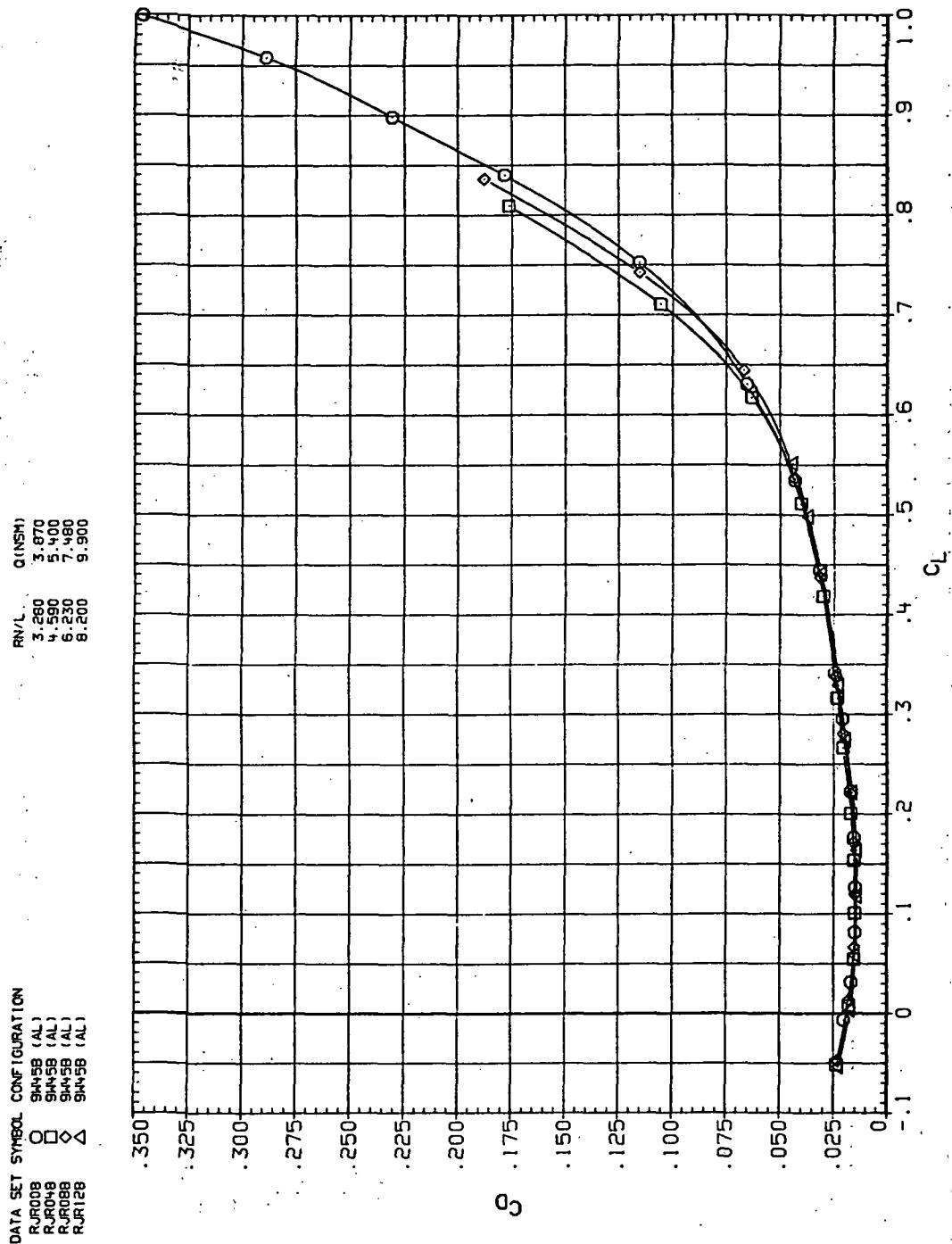


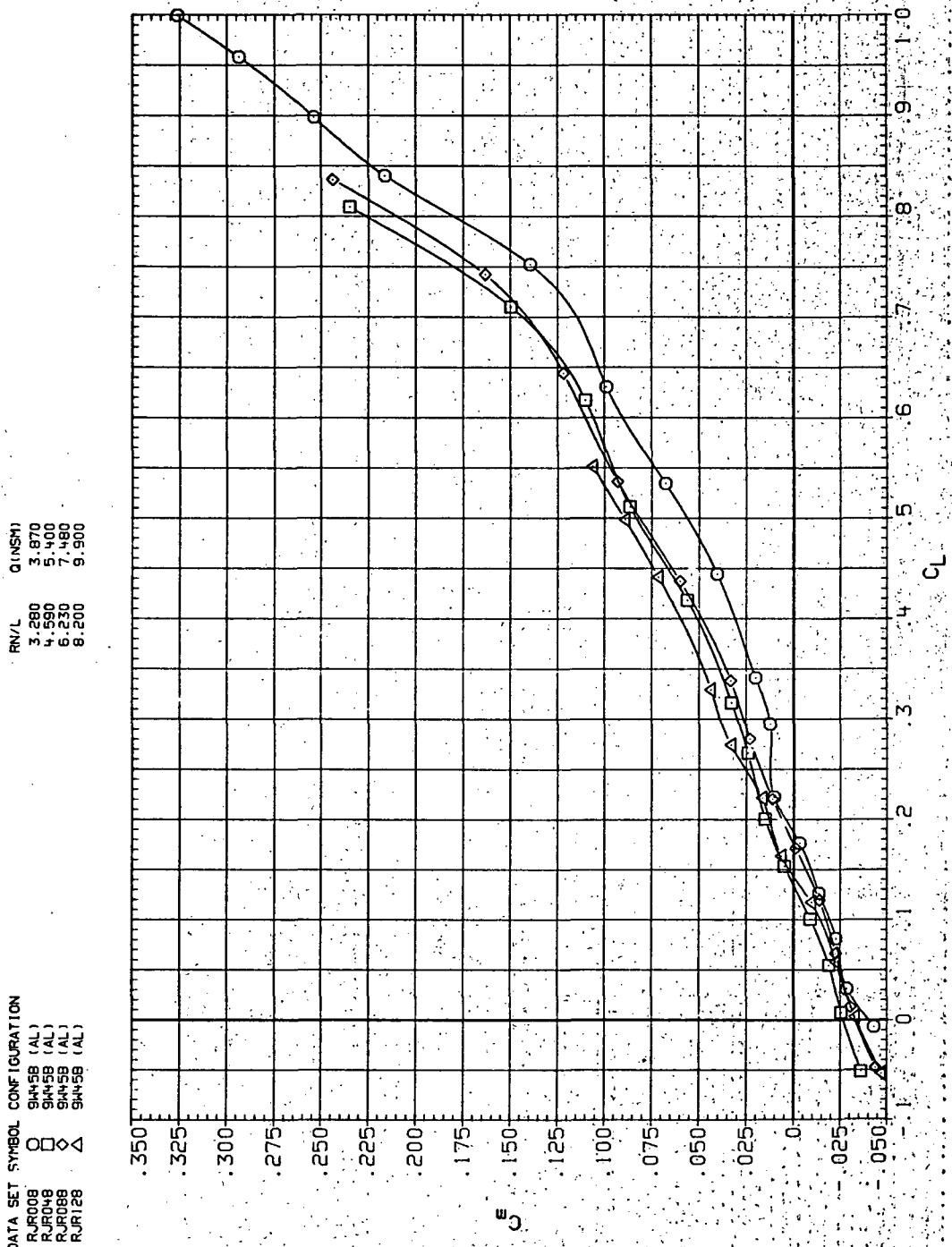
Figure 8.—Continued.

DATA SET SYMBOL CONFIGURATION

DATA SET	SIMULATION	CONFIGURATION
RUR009	O	9445B (AL)
RUR048	□	9445B (AL)
RUR088	◇	9445B (AL)
RUR128	△	9445B (AL)

DATA SET SYMBOL CONFIGURATION

DATA SET	SIMULATION	CONFIGURATION
RUR009	O	9445B (AL)
RUR048	□	9445B (AL)
RUR088	◇	9445B (AL)
RUR128	△	9445B (AL)



(c)  $C_D$  vs  $C_L$

Figure 8.—Continued.

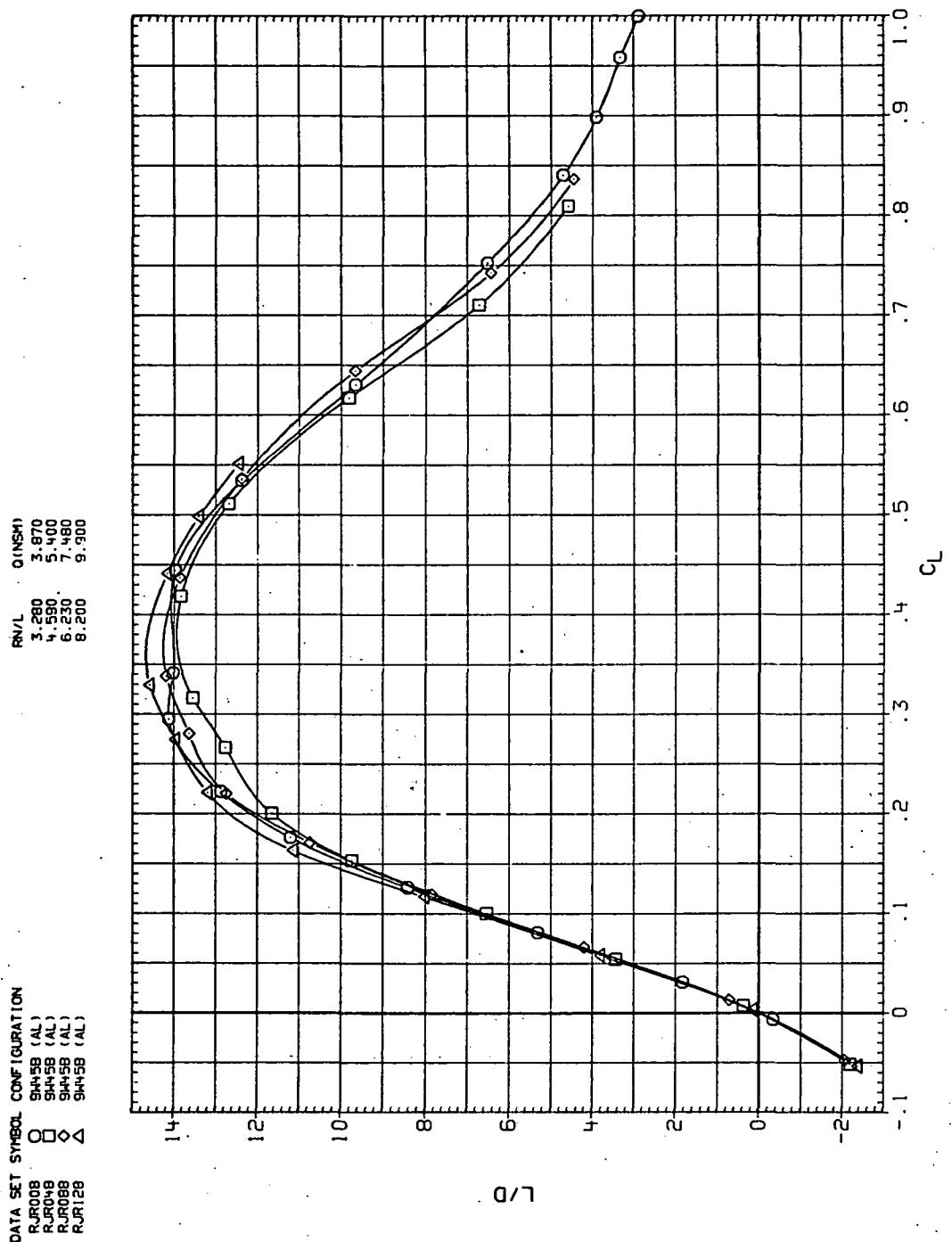
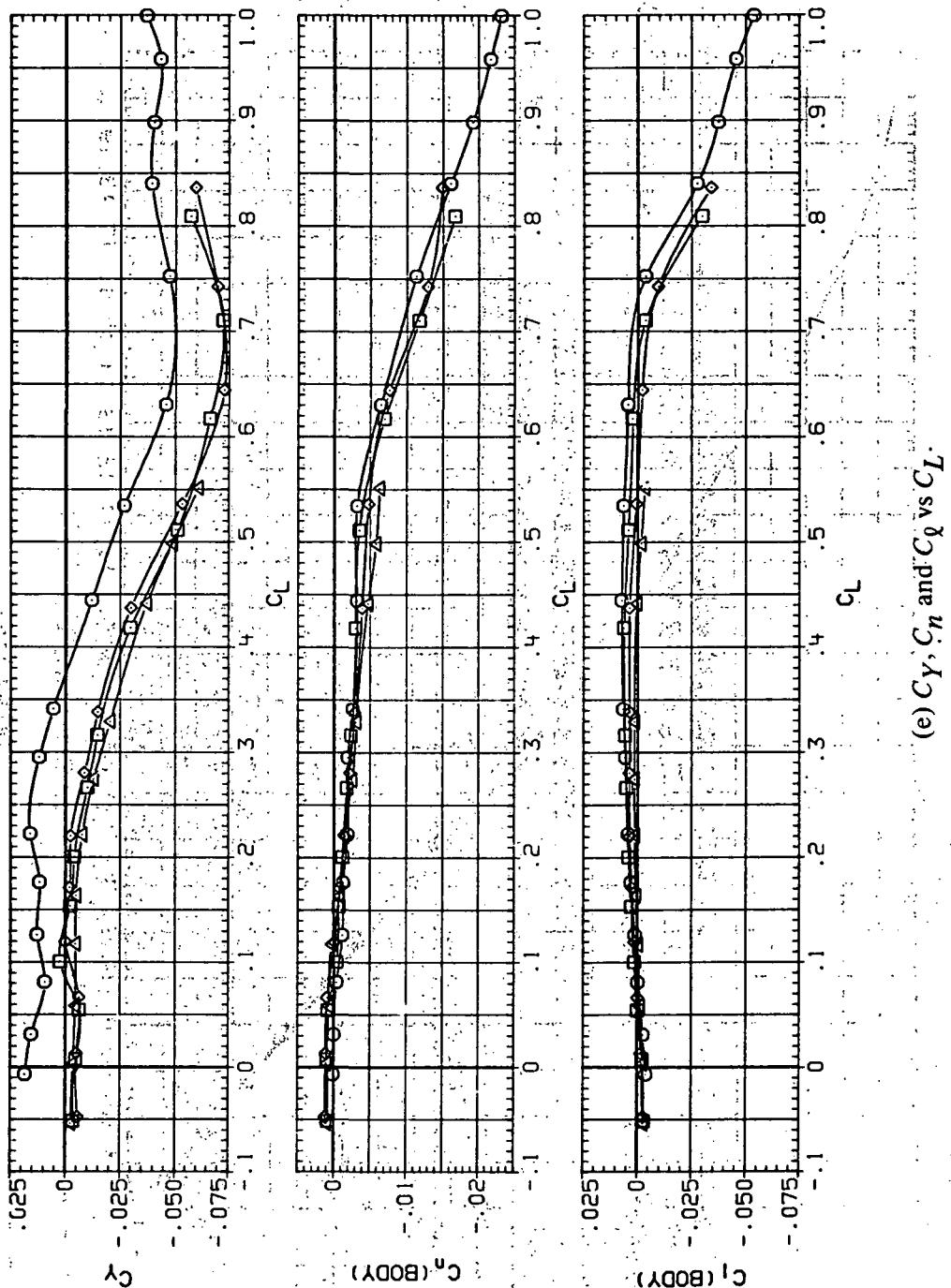


Figure 8.—Continued.

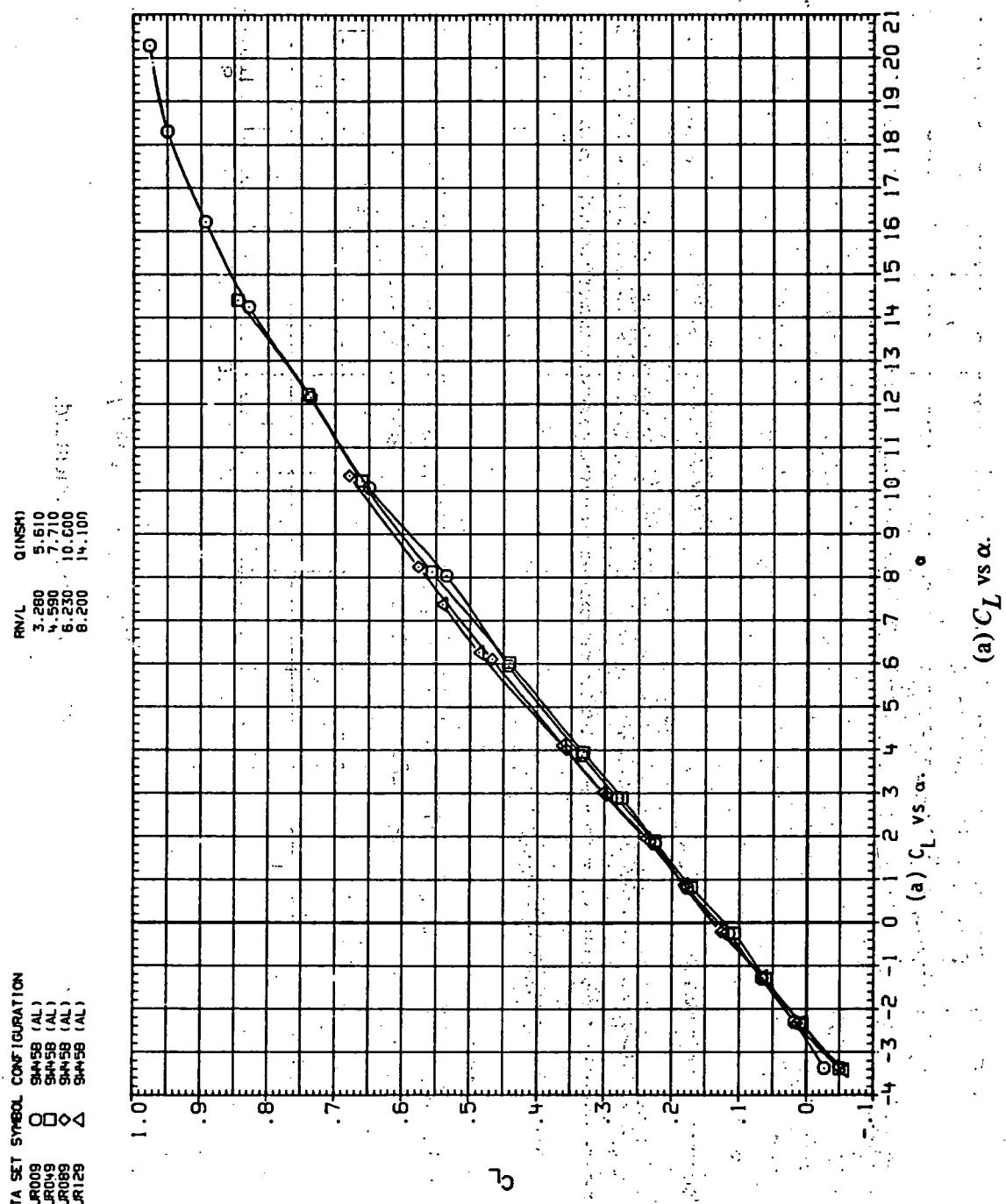
DATA SET SYMBOL CONFIGURATION  
 RJR008 O 94H58 (AL)  
 RJR048 □ 94H58 (AL)  
 RJR088 ◇ 94H58 (AL)  
 RJR128 △ 94H58 (AL)

R/V (INS)  
 13.280 13.870 14.460  
 4.590 5.400 6.210  
 6.230 7.180 8.030  
 8.200 9.300



(e)  $C_Y$ ,  $C_n$  and  $C_z$  vs  $C_L$ .

Figure 8.—Concluded.

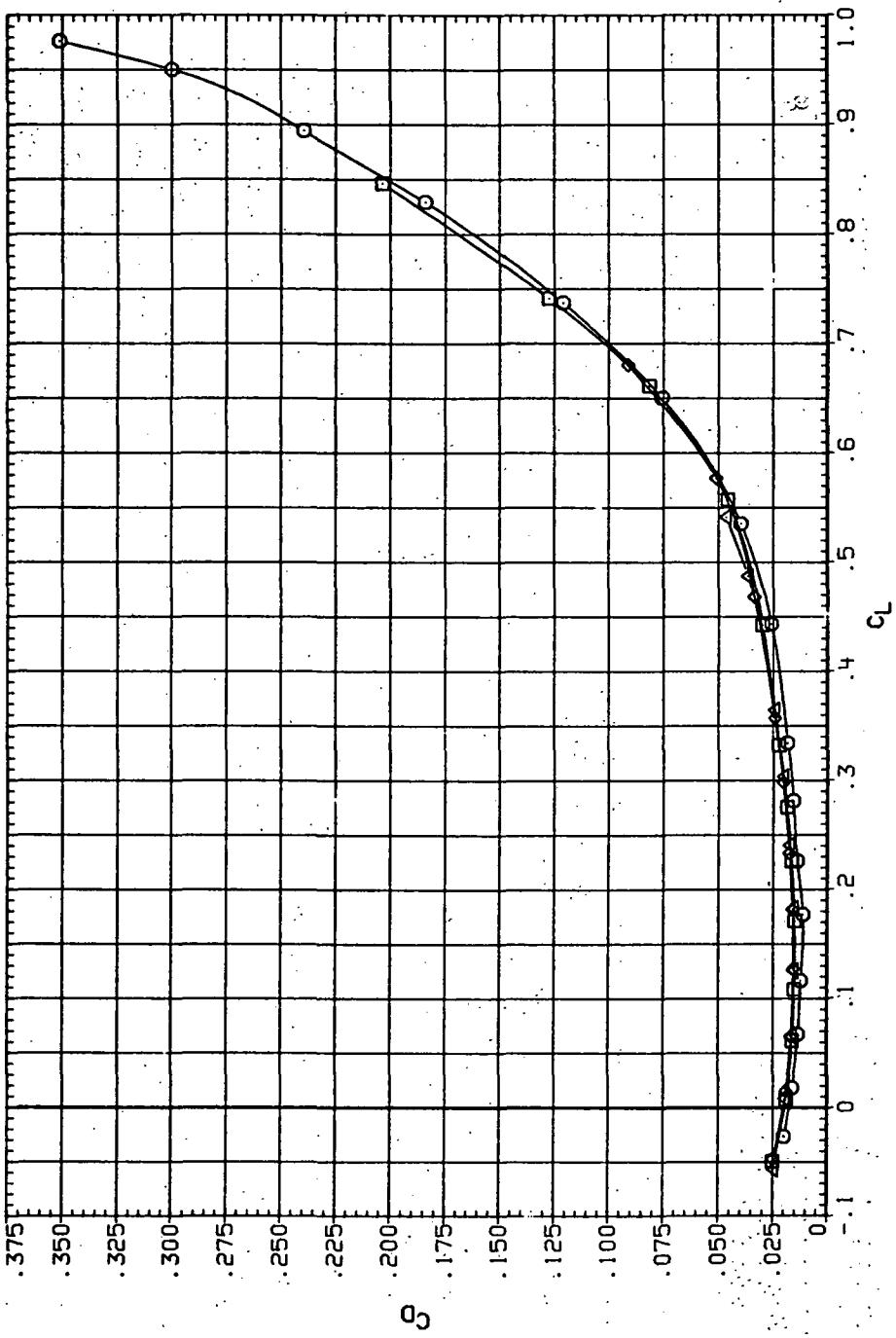


(a)  $C_L$  vs  $\alpha$ .

Figure 9:— Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 45^\circ$ ,  $M = 0.6$  and the modified NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 R.R009 O 9445B (AL)  
 R.R019 □ 9445B (AL)  
 R.R029 ◇ 9445B (AL)  
 R.R129 △ 9445B (AL)

R/V/L Q(NSM)  
 3.280 5.610  
 4.590 7.710  
 6.230 10.600  
 8.200 14.100



(b)  $C_D$  vs  $C_L$ .

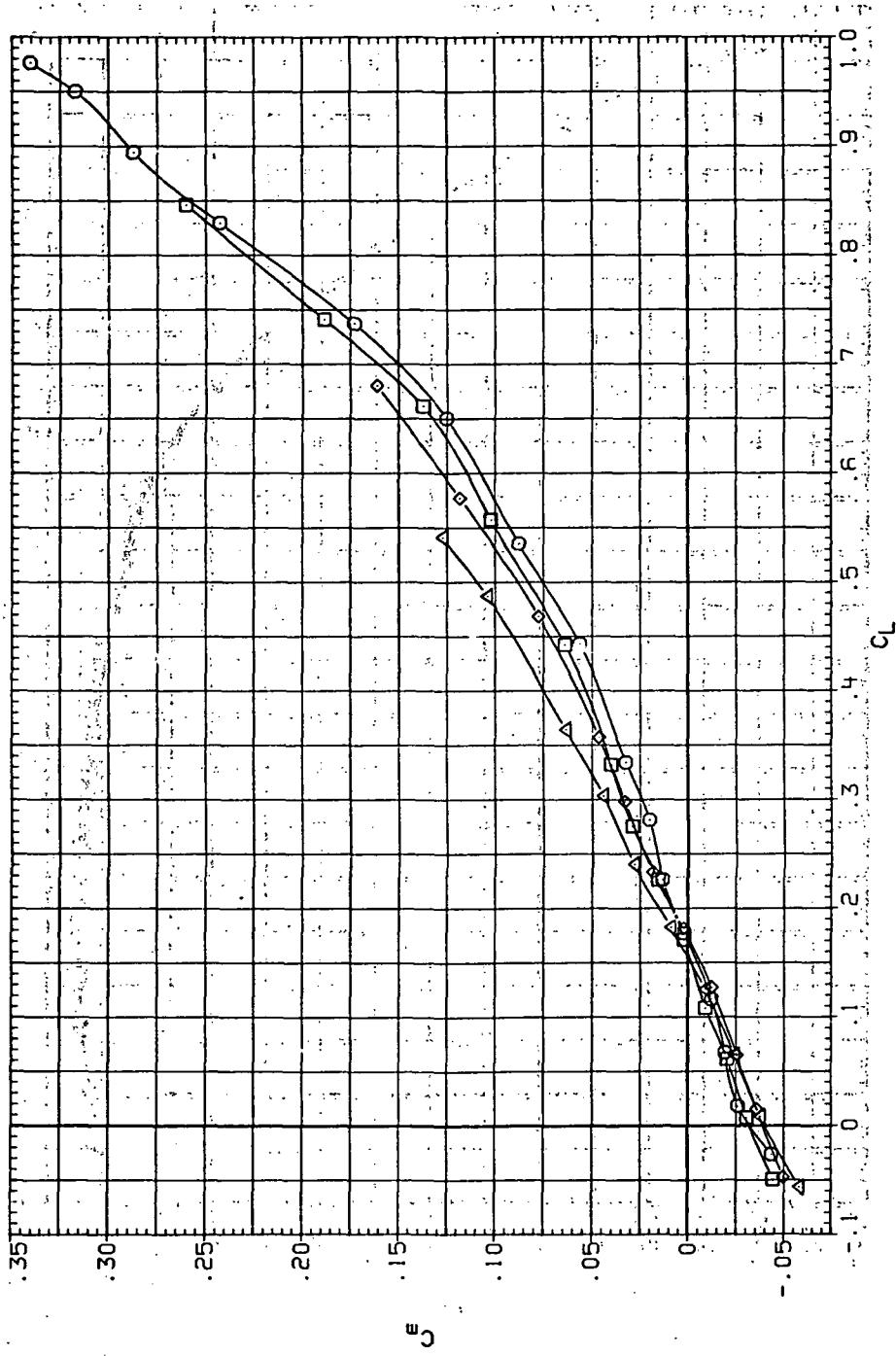
Figure 9.—Continued.

DATA SET SYMBOL CONFIGURATION

RJR09	$\square$	SH45B (AL)
RJR09	$\diamond$	SH45B (AL)
RJR09	$\triangle$	SH45B (AL)
RJR129		

RNL Q(NSM)

3.280	5.610
4.590	7.710
6.230	10.600
8.200	14.100

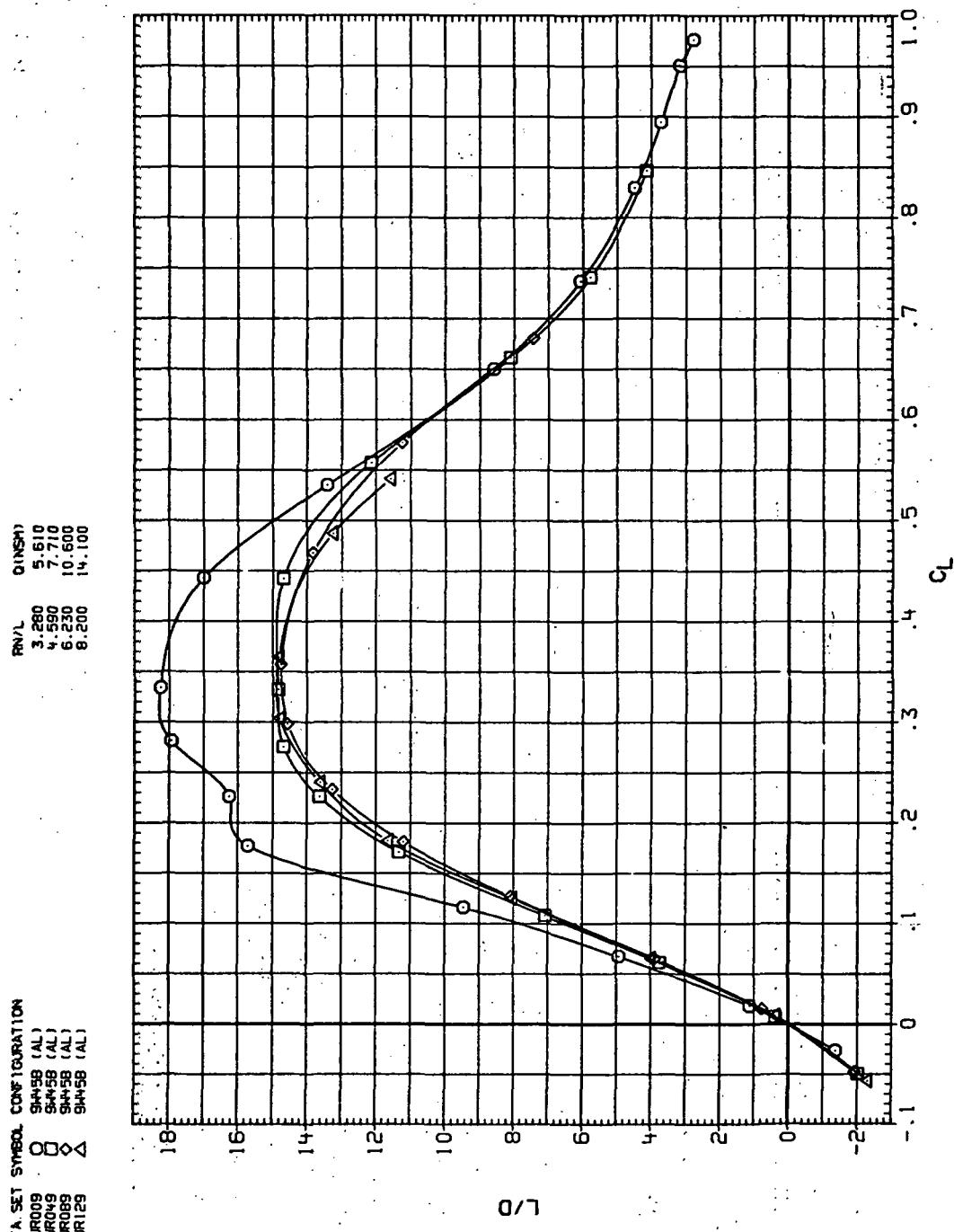


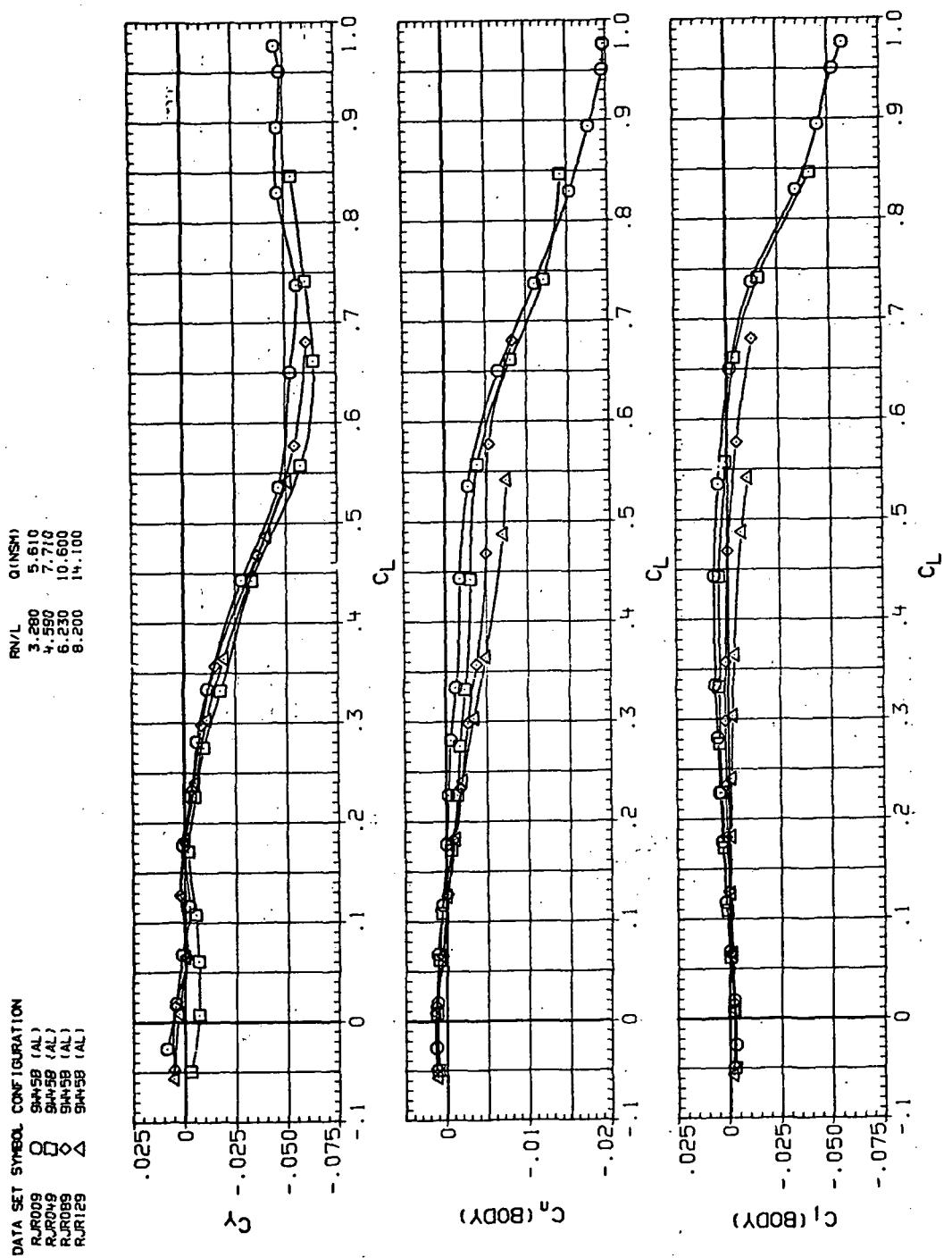
(c)  $C_D$  vs  $C_L$

Figure 9.—Continued.

(d)  $L/D$  vs  $C_L$ .

Figure 9.—Continued.





(e)  $C_Y$ ,  $C_n$  and  $C_i$  vs  $C_L$ .

Figure 9.— Concluded.

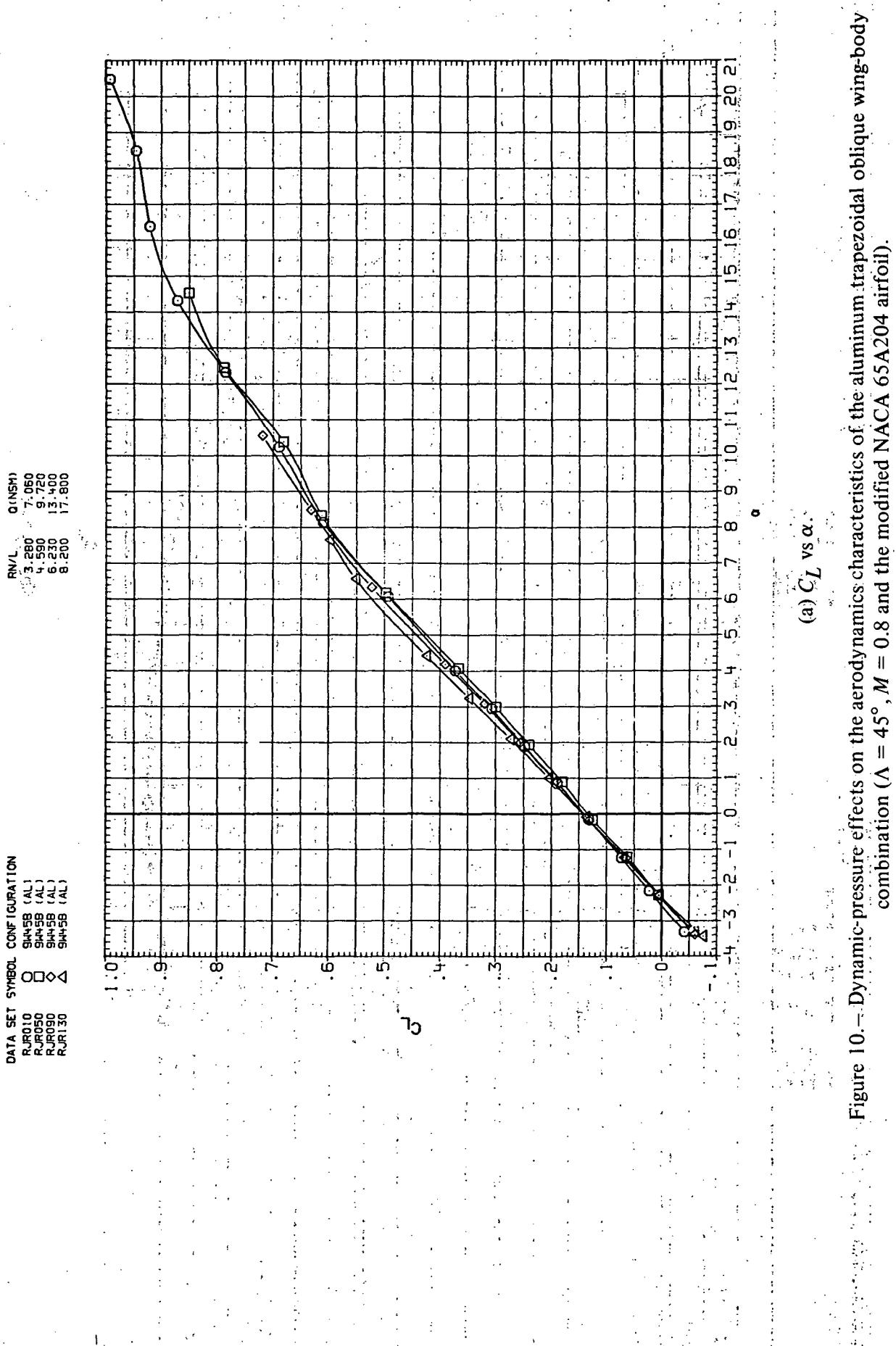


Figure 10.—Dynamic-pressure effects on the aerodynamics characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 45^\circ$ ,  $M = 0.8$  and the modified NACA 65A204 airfoil).

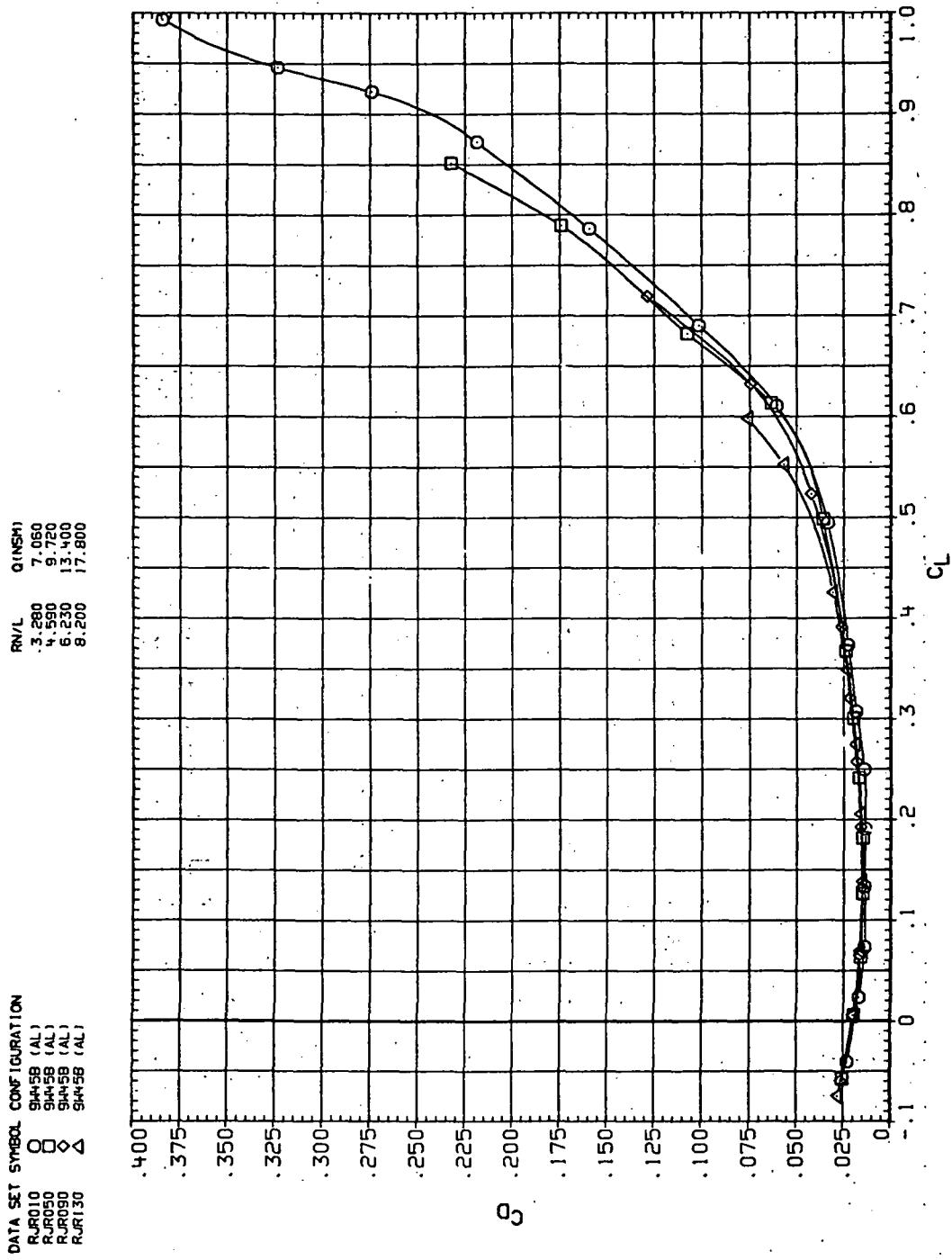


Figure 10.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RUR010 O SH45B (AL)  
 RUR050 □ SH45B (AL)  
 RUR090 ◇ SH45B (AL)  
 RUR130 △ SH45B (AL)

q (NSM) 3.280 7.060  
 4.590 9.720  
 6.230 13.400  
 8.200 17.800

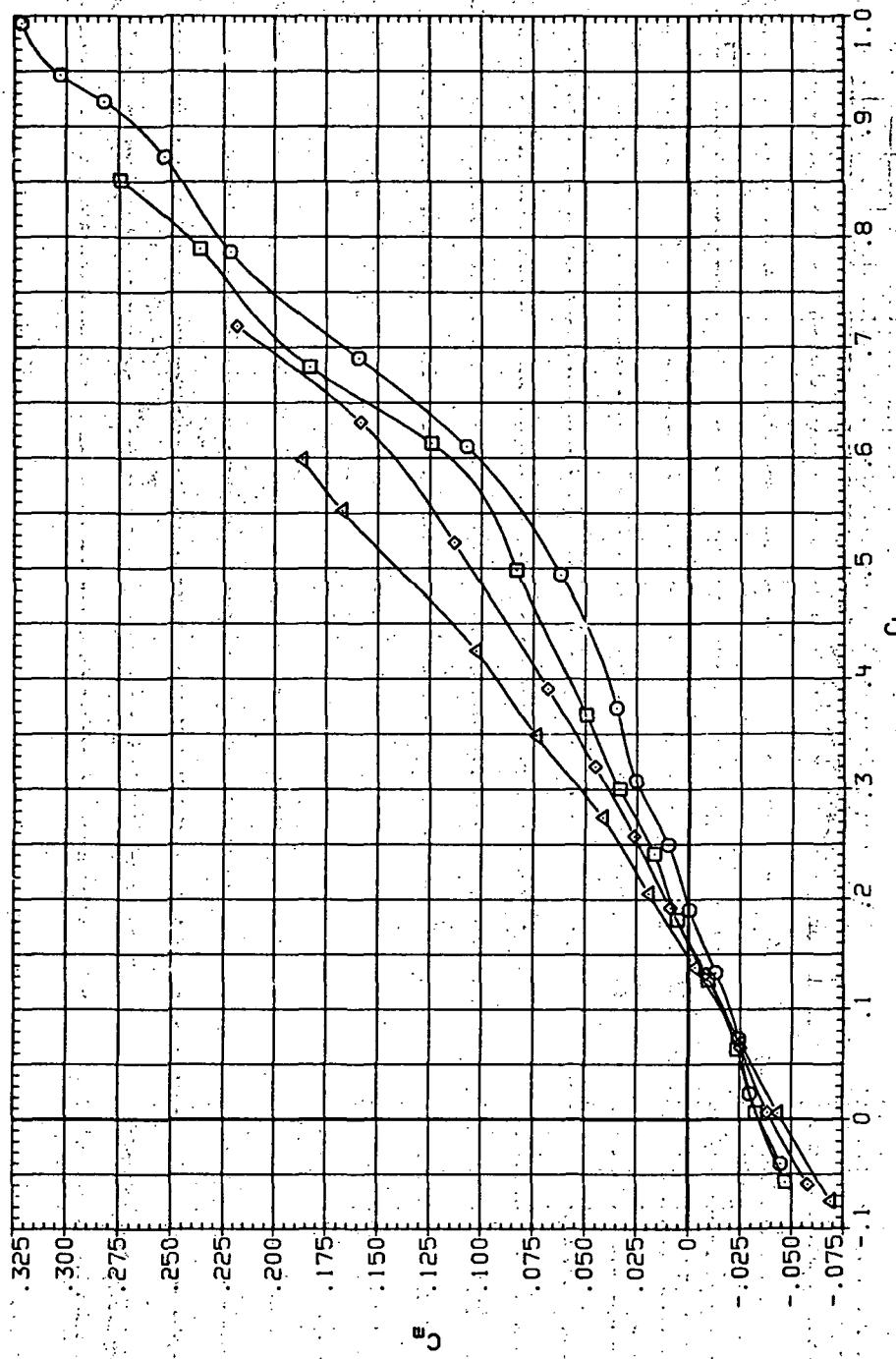
(c)  $C_m$  vs  $C_L$ .

Figure 10.—Continued.

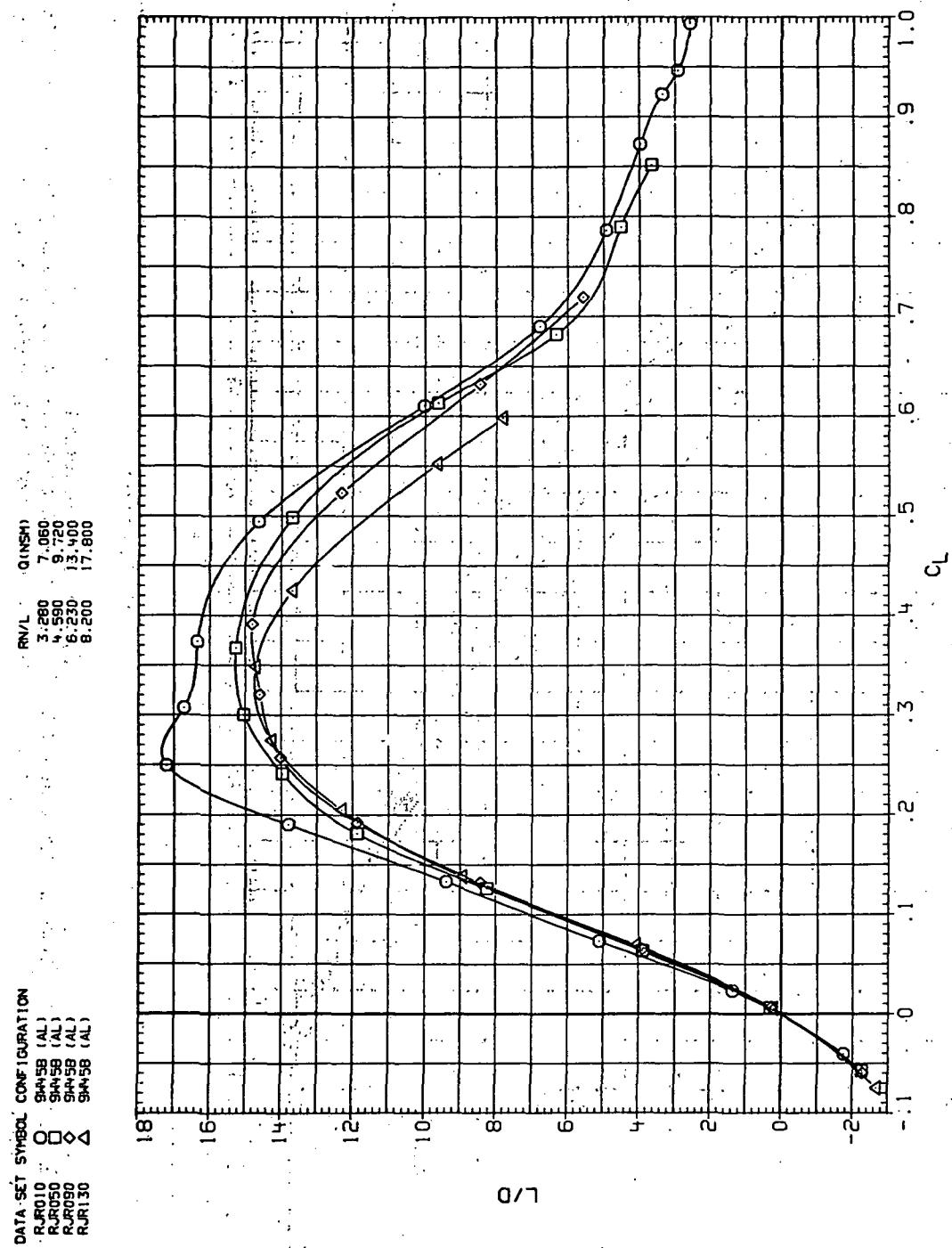
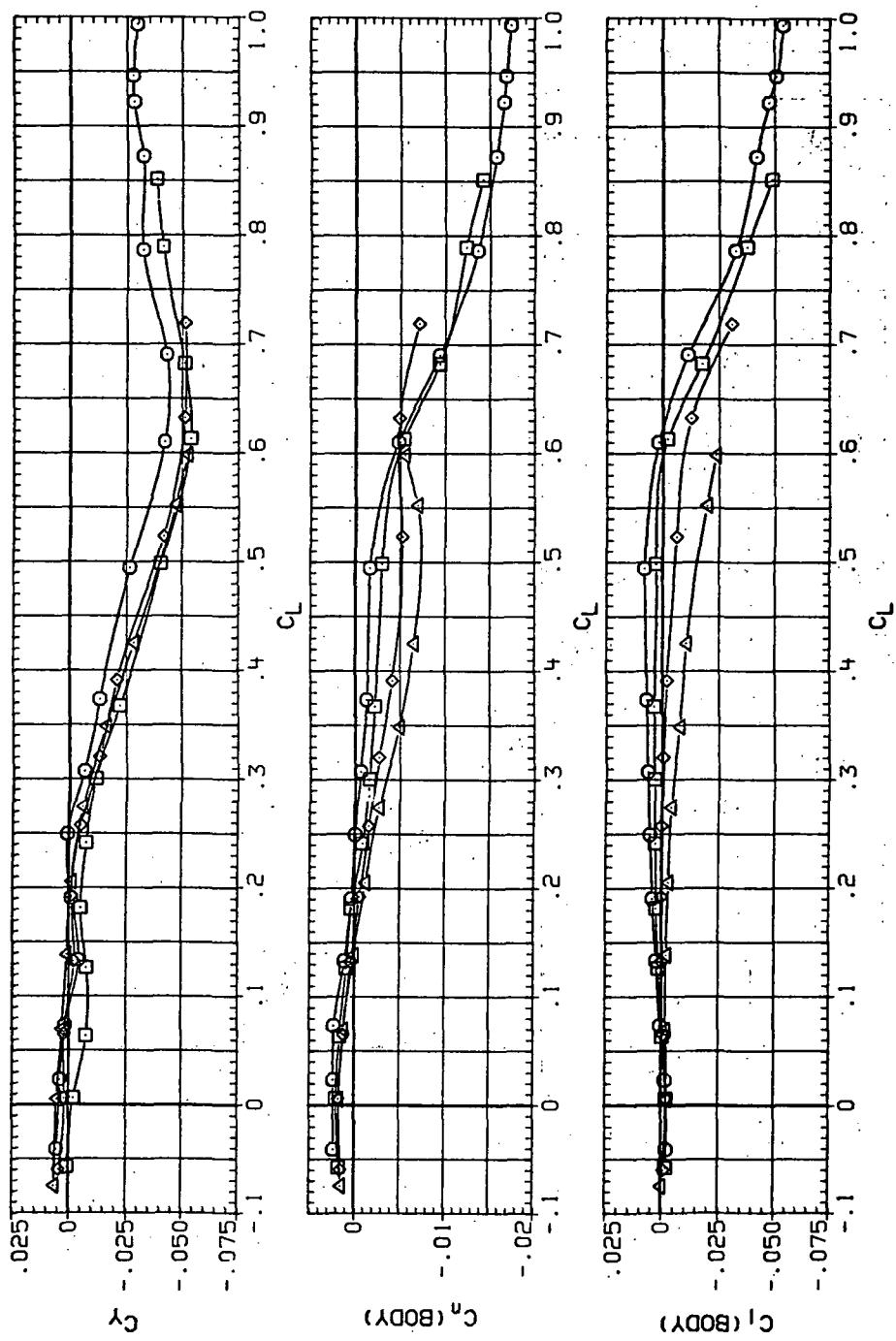


Figure 10.—Continued.

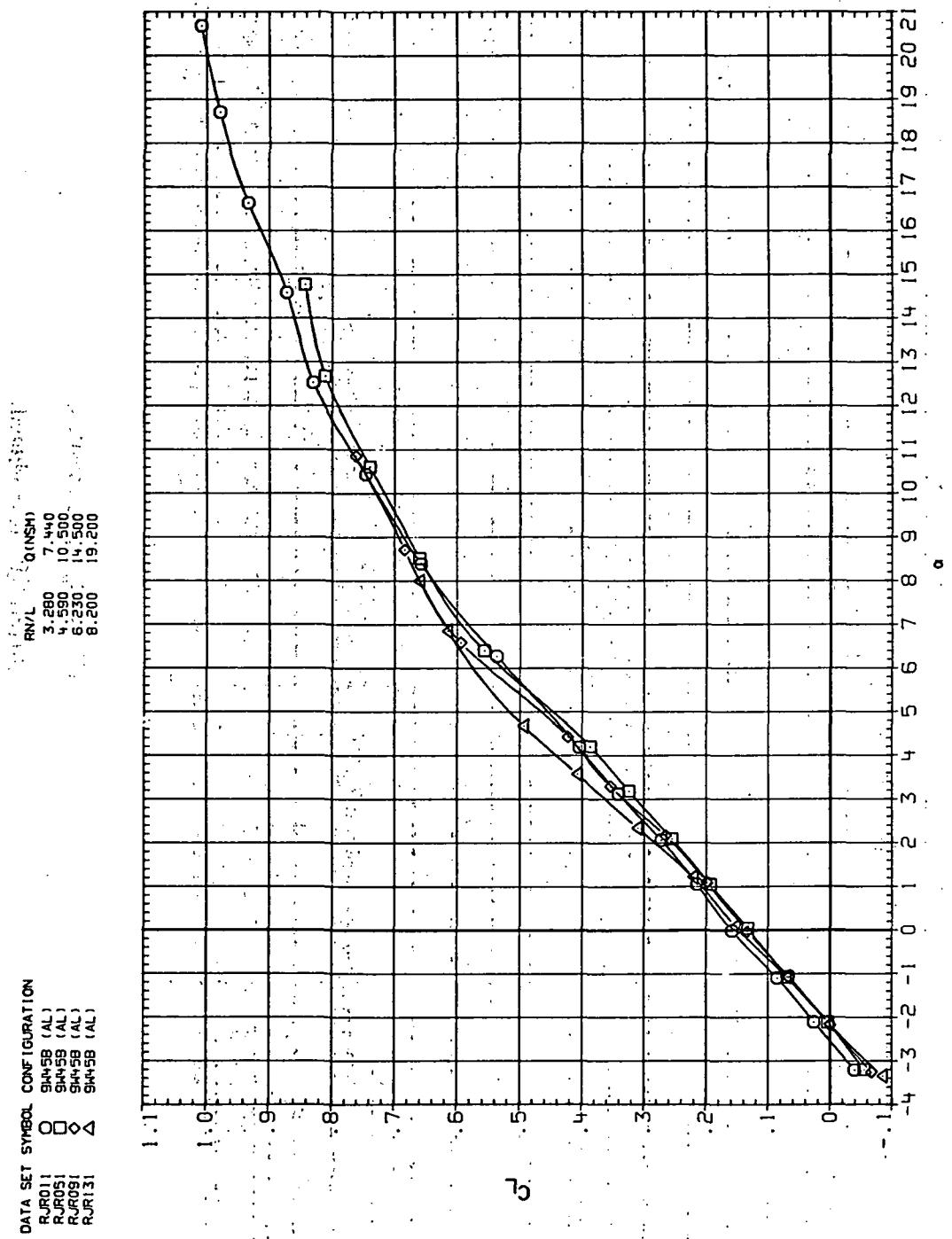
DATA SET SYMBOL CONFIGURATION  
 RJR10 O SH-5B (AL)  
 RJR50 □ SH-5B (AL)  
 RJR90 ◇ 9A-5B (AL)  
 RJR130 △ 9A-5B (AL)

RN/L Q (NSM)  
 3.280 7.060  
 4.590 9.720  
 6.230 13.400  
 8.200 17.800



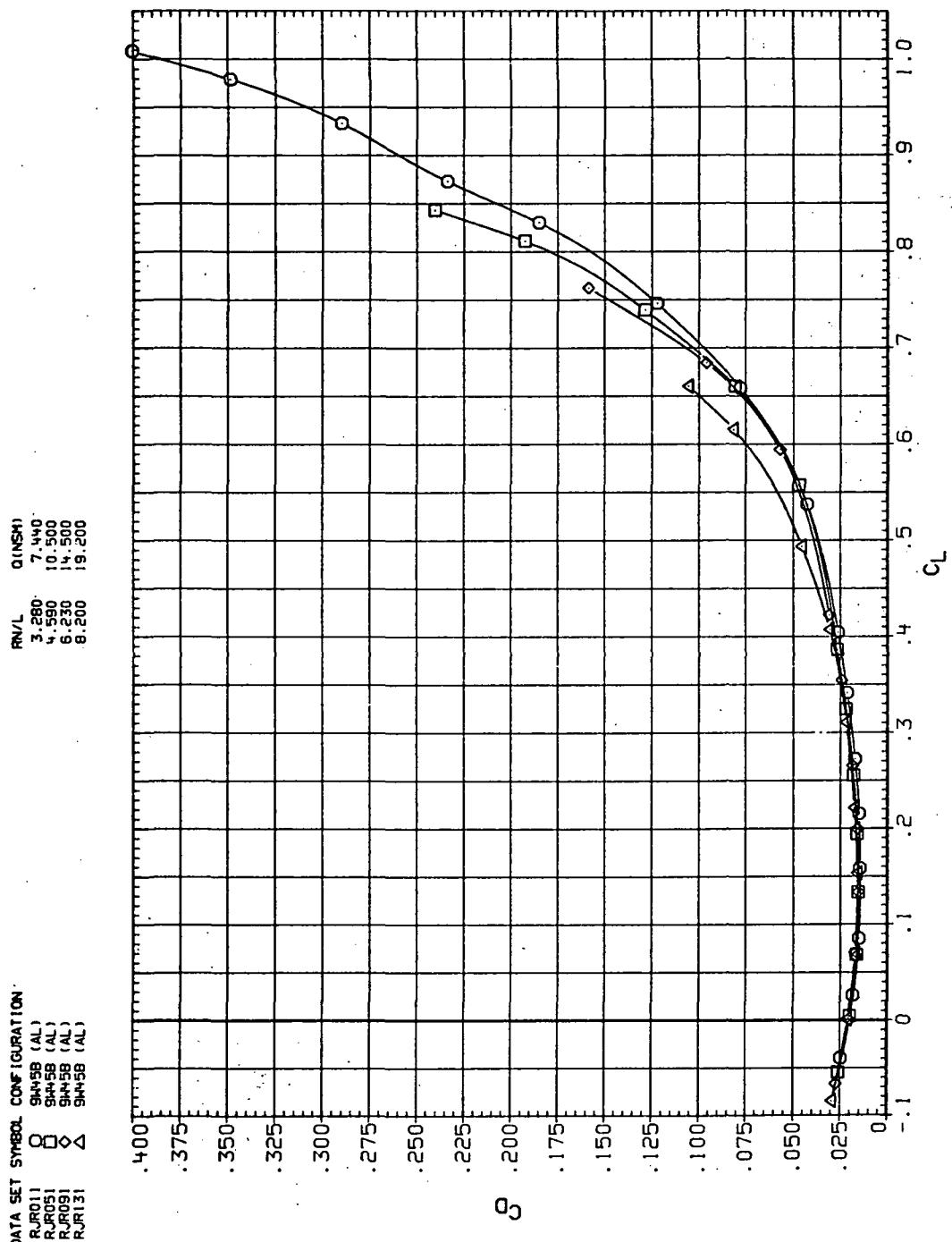
(e)  $C_Y$ ,  $C_n$  and  $C_l$  and  $C_L$ .

Figure 10.—Concluded.



(a)  $C_L$  vs  $\alpha$ .

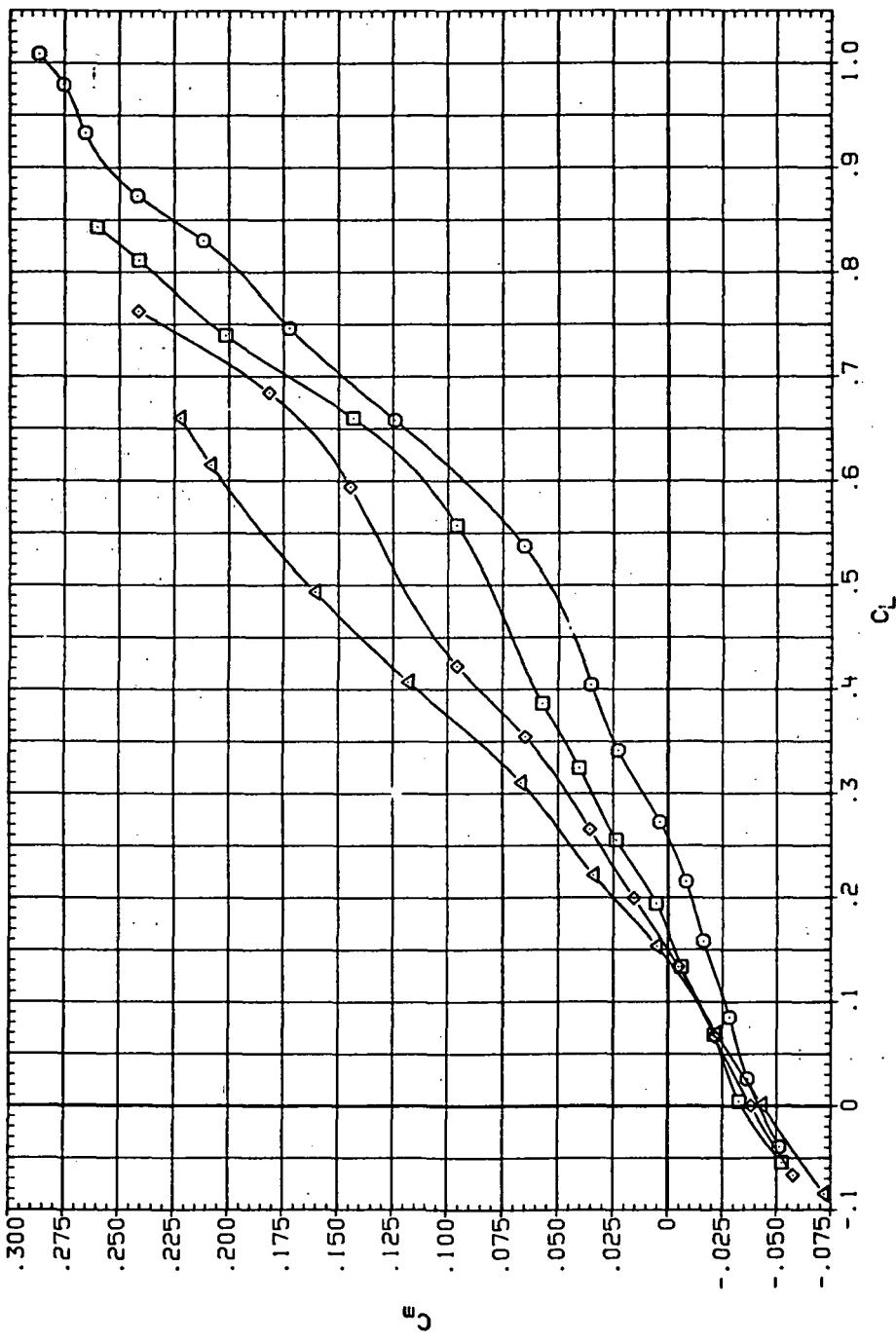
Figure 11.— Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 45^\circ$ ,  $M = 0.9$  and the modified NACA 65A204 airfoil).



(b)  $C_D$  vs  $C_L$

Figure 11.—Continued.

DATA SET	SYMBOL	CONFIGURATION	R/V/L	$C_L$ (NSM)
RJR01	O	SH445B (AL)	3.280	.7440
RJR05	□	SH445B (AL)	4.590	.10500
RJR09	◇	SH445B (AL)	6.230	.14500
RJR13	△	SH445B (AL)	8.200	.19200



(c)  $C_m$  vs  $C_L$ .

Figure 11.—Continued.

DATA SET	SYMBOL	CONFIGURATION
RJR011	O	SH+SB (AL)
RJR051	□	SH+SB (AL)
RJR091	◊	SH+SB (AL)
RJR131	△	SH+SB (AL)

RN/L	Q1(SM)
3.280	7.440
4.250	10.500
6.230	14.500
8.200	19.200

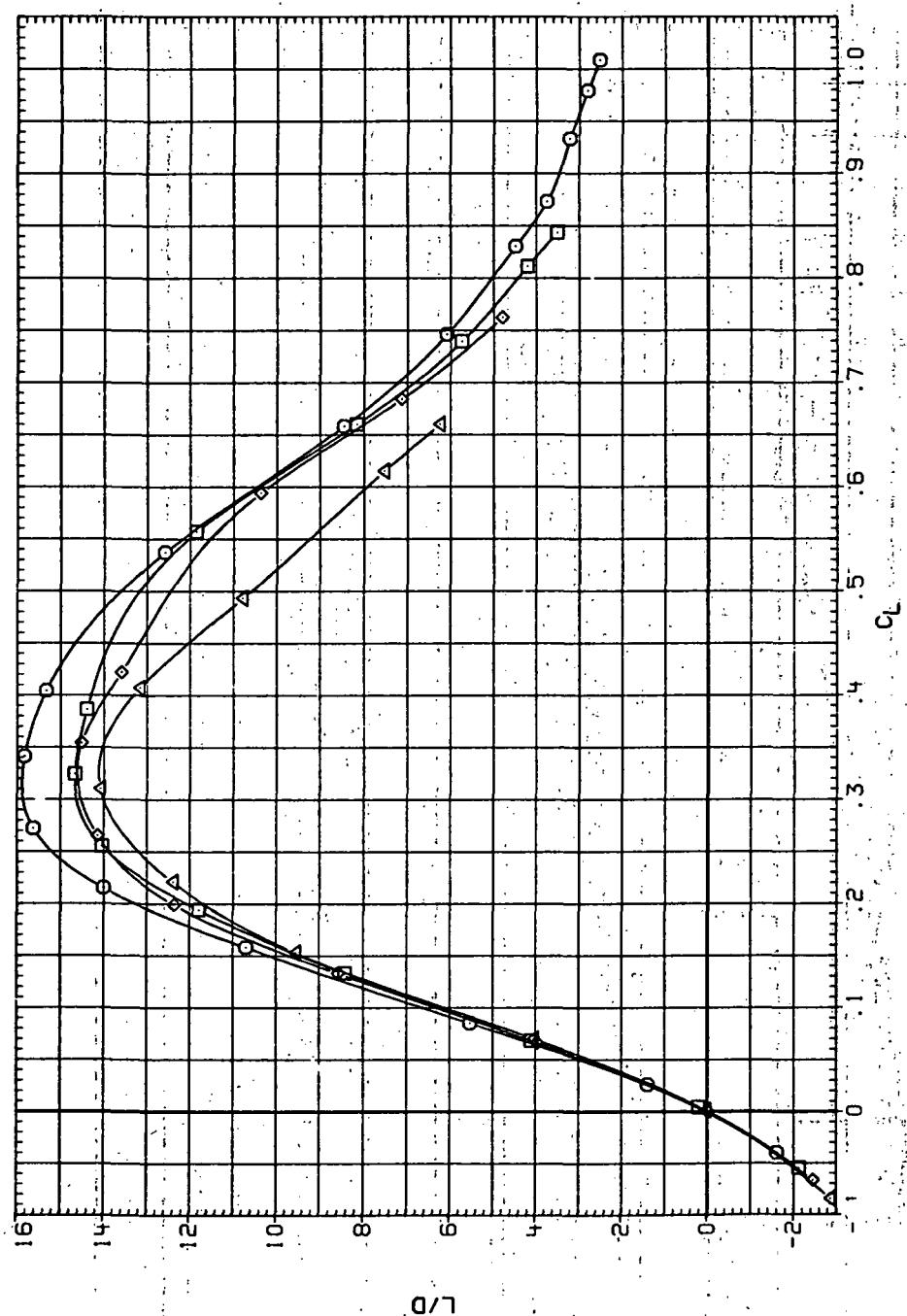
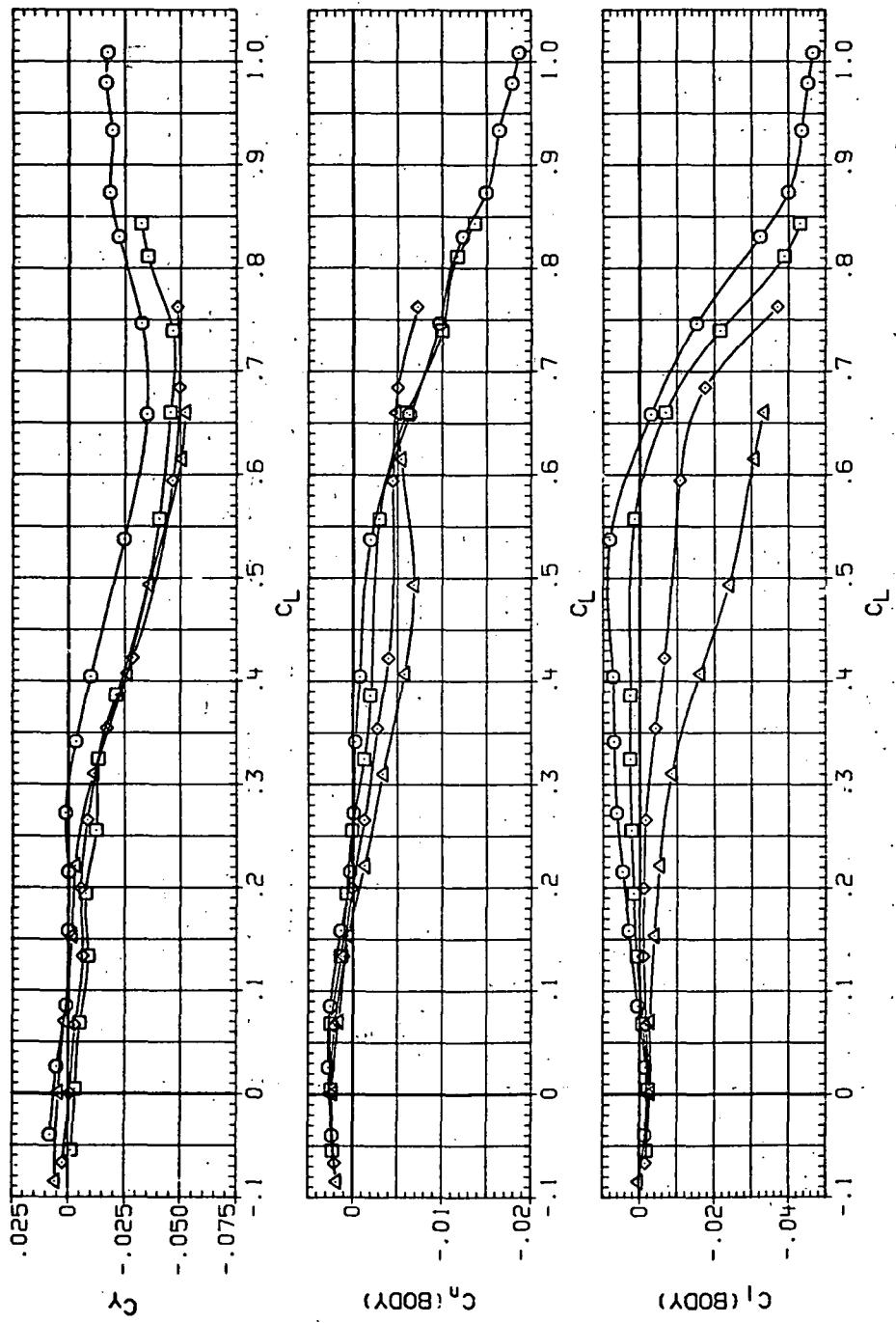
(d)  $L/D$  vs  $C_L$ .

Figure 11.—Continued.

DATA SET SYMBOL	CONFIGURATION	RN/L	Q (INSH)
RJ011	SH458 (AL)	3.280	.7440
RJ051	SH458 (AL)	4.590	10.600
RJ051	SH458 (AL)	6.230	14.500
RJ131	SH458 (AL)	8.200	19.200



(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

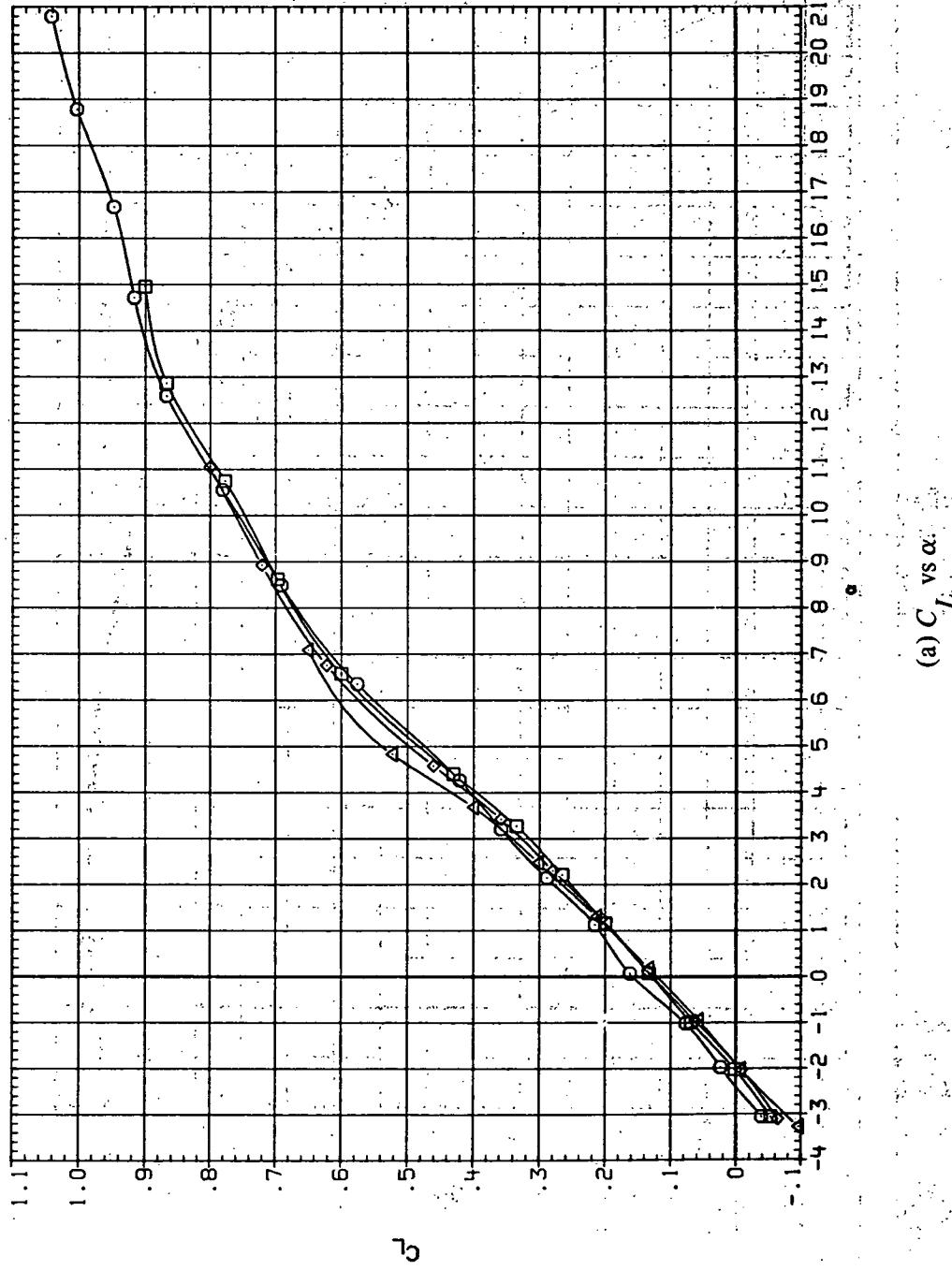
Figure 11.— Concluded.

DATA SET SYMBOL CONFIGURATION

RJRU012	O	9445B (AL)
RJRU052	□	9445B (AL)
RJRU092	◊	9445B (AL)
RJRU132	△	9445B (AL)

R/V/L Q(NSM)

3.280	7.960
4.590	10.900
6.230	15.000
8.200	19.900



(a)  $C_L$  vs  $\alpha$

Figure 12.— Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 45^\circ$ ,  $M = 0.95$  and the modified NACA 6A204 airfoil):

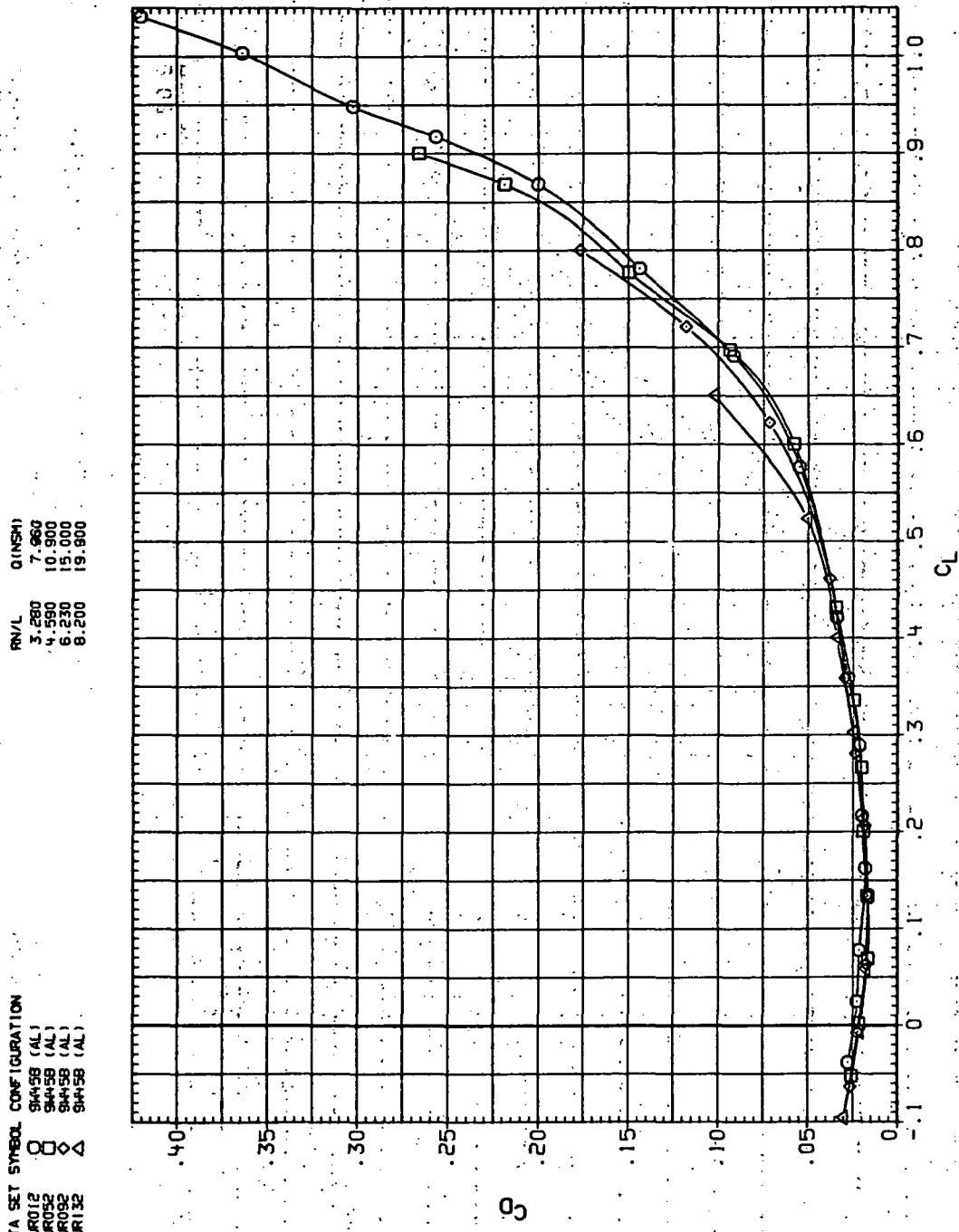


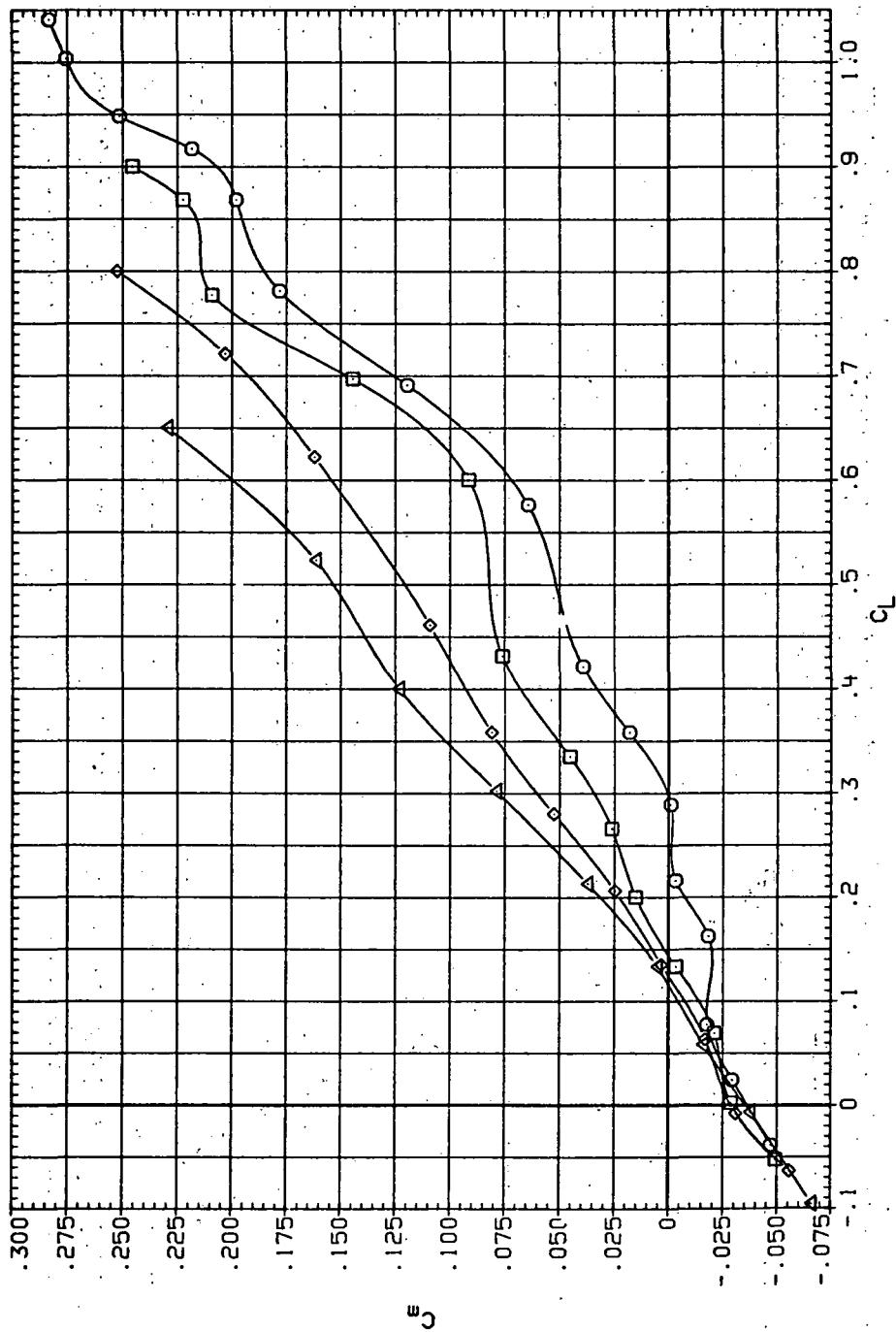
Figure 12.—Continued.  
 (b)  $C_D$  vs  $C_L$ .

DATA SET SYMBOL CONFIGURATION

RJF012	O	S4458 (AL)
RJF052	□	S4458 (AL)
RJF092	◇	S4458 (AL)
RJF132	△	

RN/L Q (INCH)

3.280	7.960
4.590	10.900
6.230	15.000
8.200	19.900



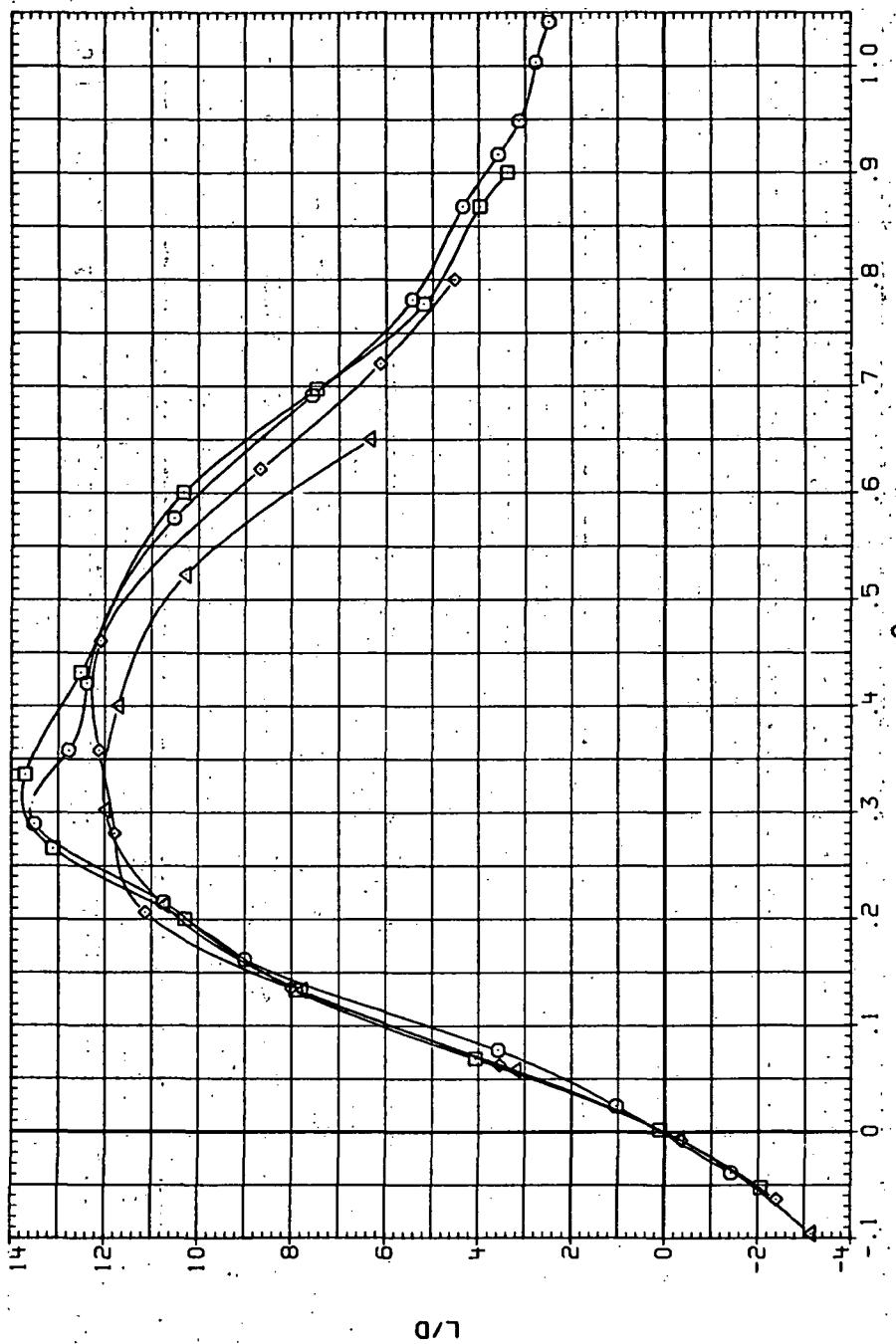
(c)  $C_m$  vs  $C_L$ .

Figure 12--Continued.

DATA SET, SYMBOL CONFIGURATION

RUR012	$\circ$	94-98 (AL)
RUR032	$\square$	94-98 (AL)
RUR032	$\diamond$	94-98 (AL)
RUR132	$\triangle$	94-98 (AL)

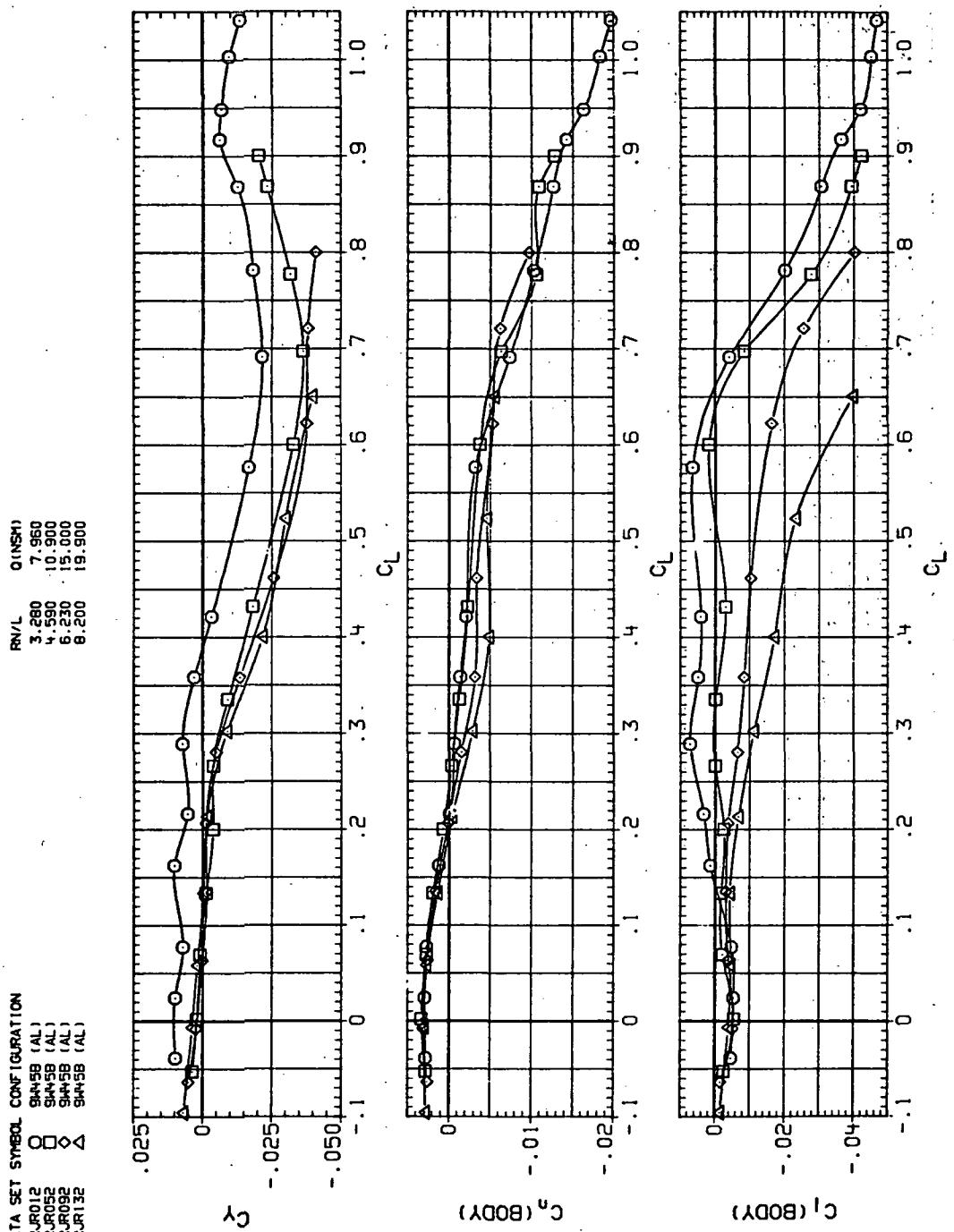
FRN/L (in.) 3.380 7.960  
4.990 10.900  
6.230 15.000  
8.200 19.900



(d)  $L/D$  vs.  $C_L$ .

Figure 12.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR012 O SH-5B (AL)  
 RJR032 □ SH-5B (AL)  
 RJR092 ◇ SH-5B (AL)  
 RJR132 △ SH-5B (AL)



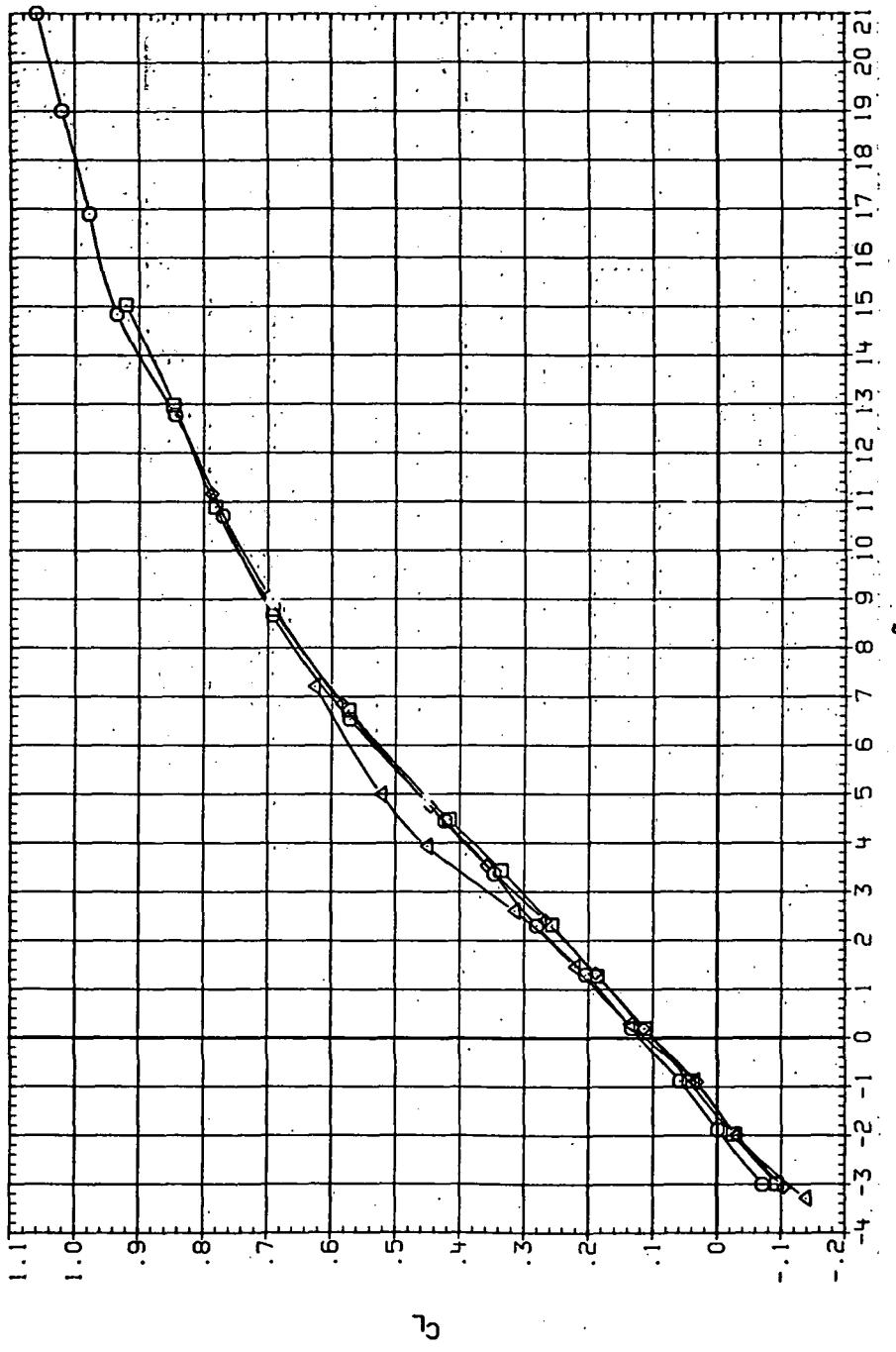
(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

Figure 12.—Concluded.

DATA SET SYMBOL CONFIGURATION

RJU013	○	94459 (AL)
RJU053	□	94459 (AL)
RJU093	◇	94459 (AL)
RJU133	△	94458 (AL)

Q (NSM)  
3.280  
4.550  
6.900  
8.230  
8.200  
21.200



(a)  $C_L$  vs  $\alpha$ .

Figure 13.— Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 45^\circ, M = 1.1$  and the modified NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION

RJR013	O	9445B (AL)
RJR053	□	9445B (AL)
RJR093	◇	9445B (AL)
RJR133	△	9445B (AL)

DATA SET Q(NSM) R/N/L

3.280	8.450
4.590	11.900
6.230	16.400
6.200	21.200

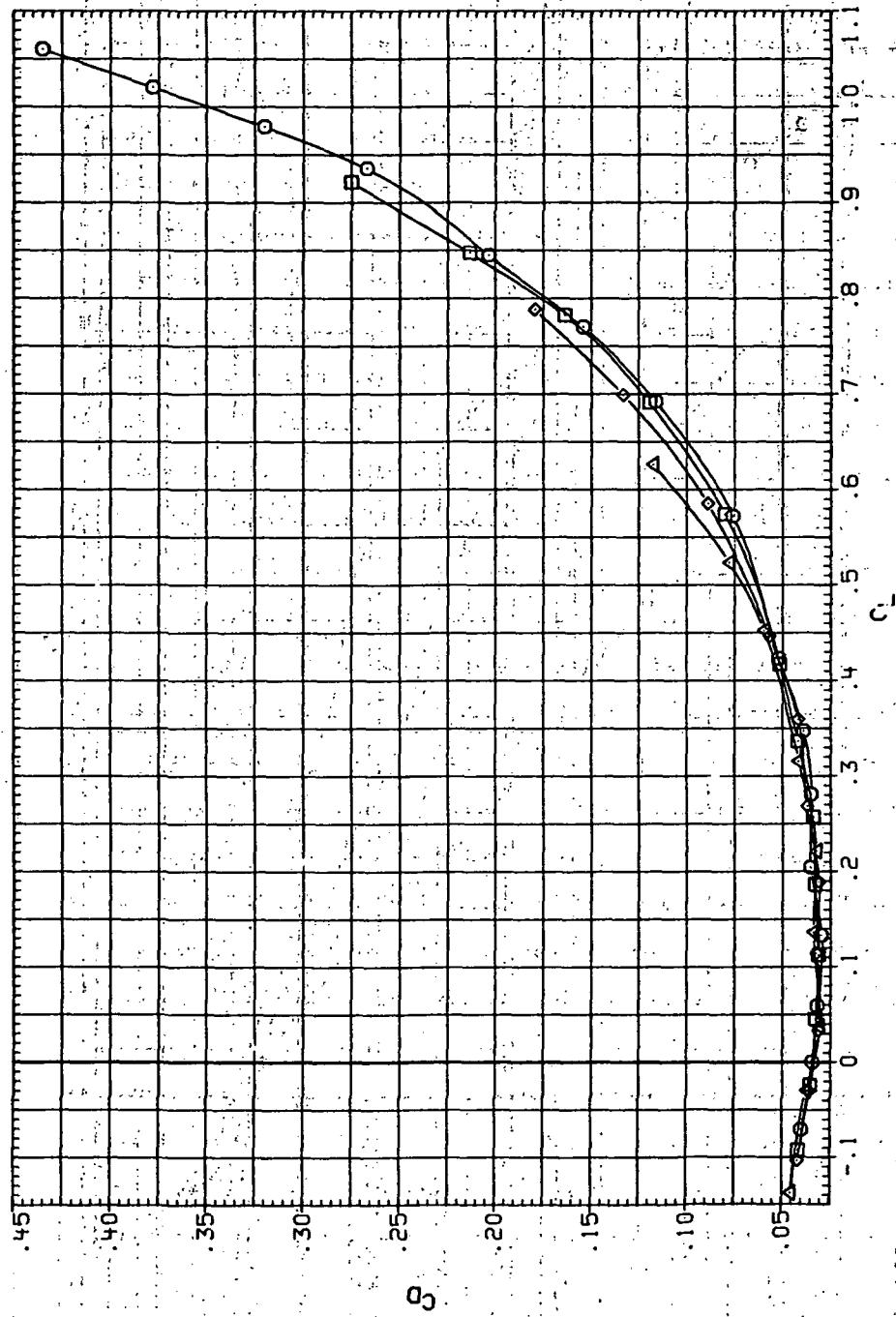
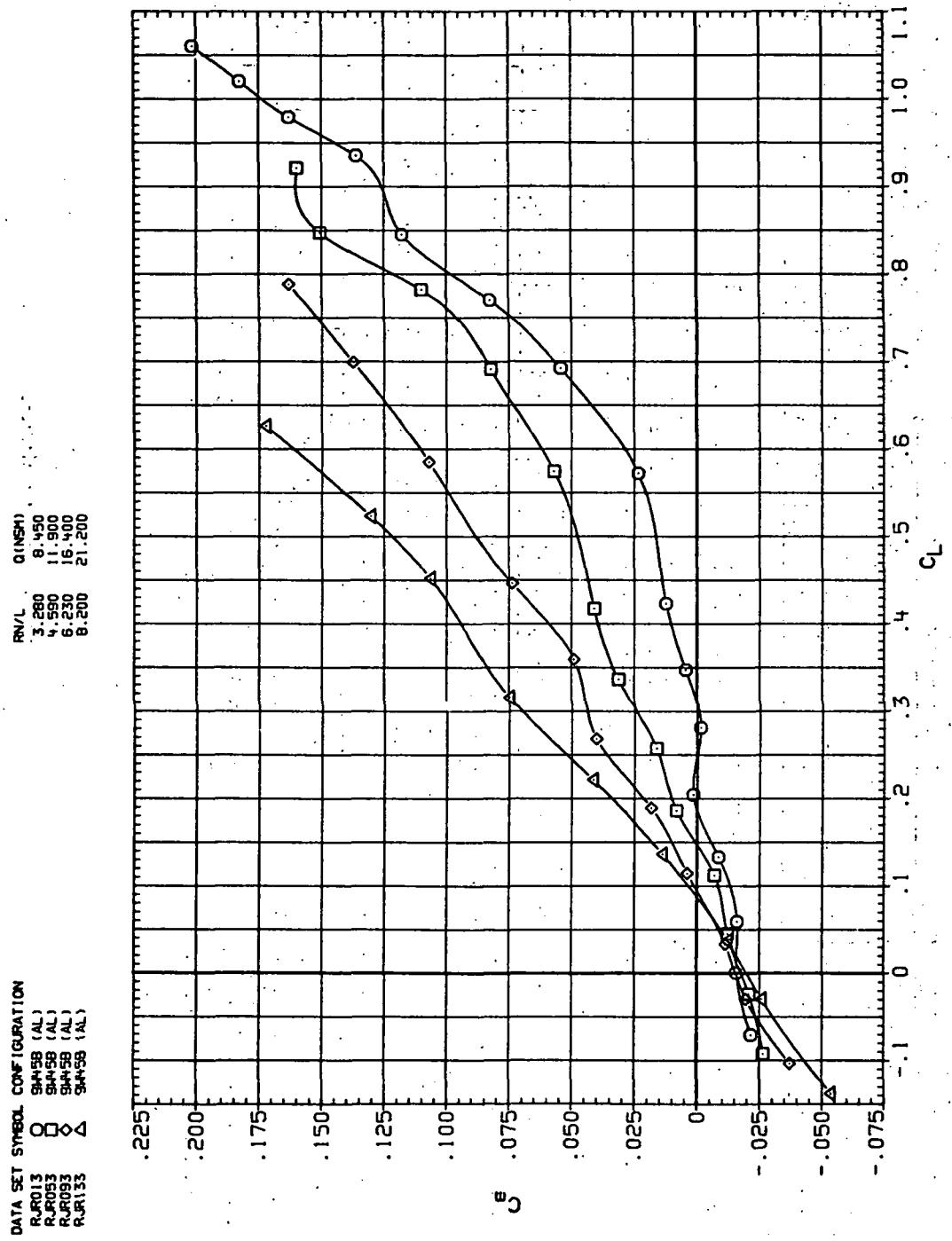
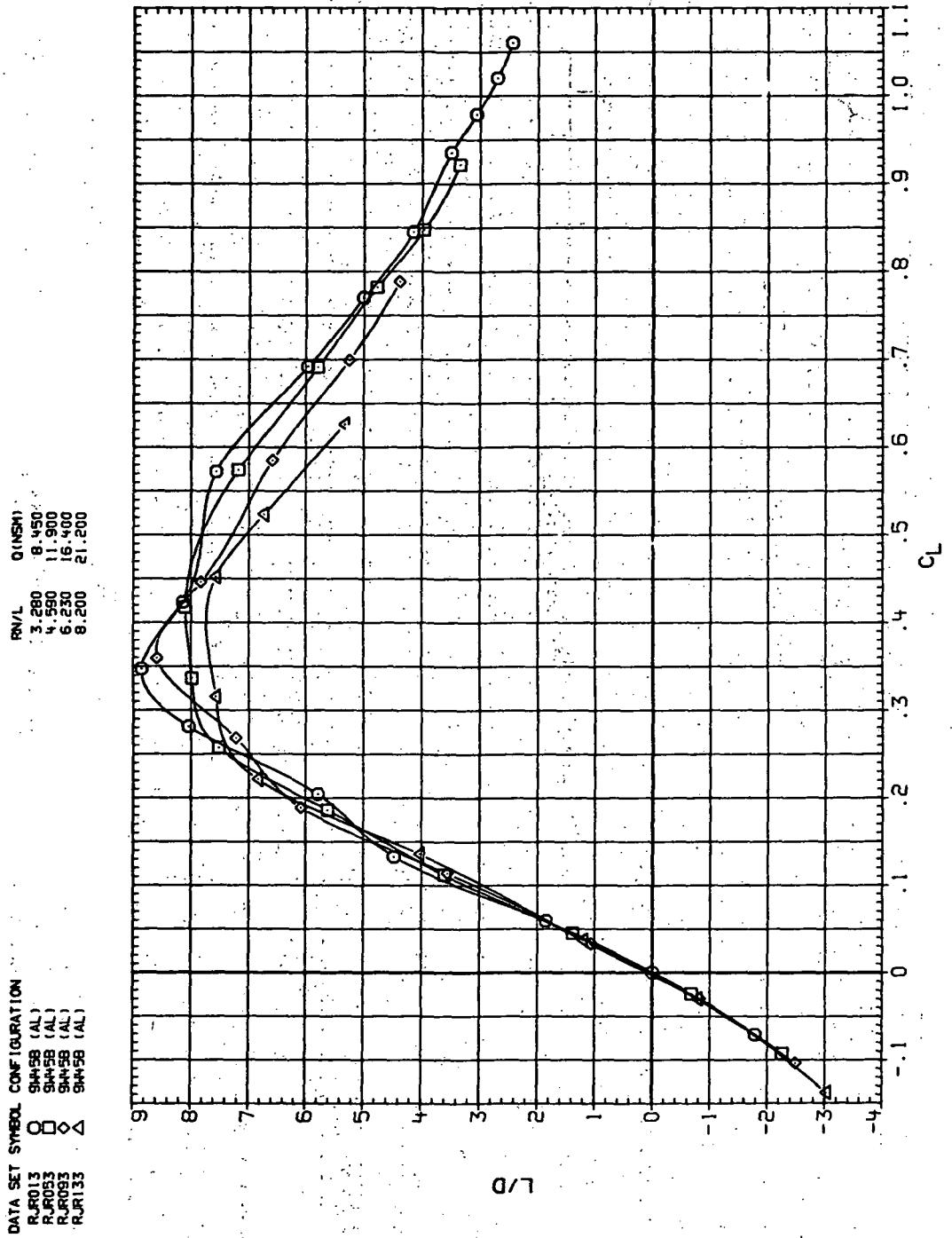
(b)  $C_D$  vs  $C_L$ .

Figure 13—Continued.



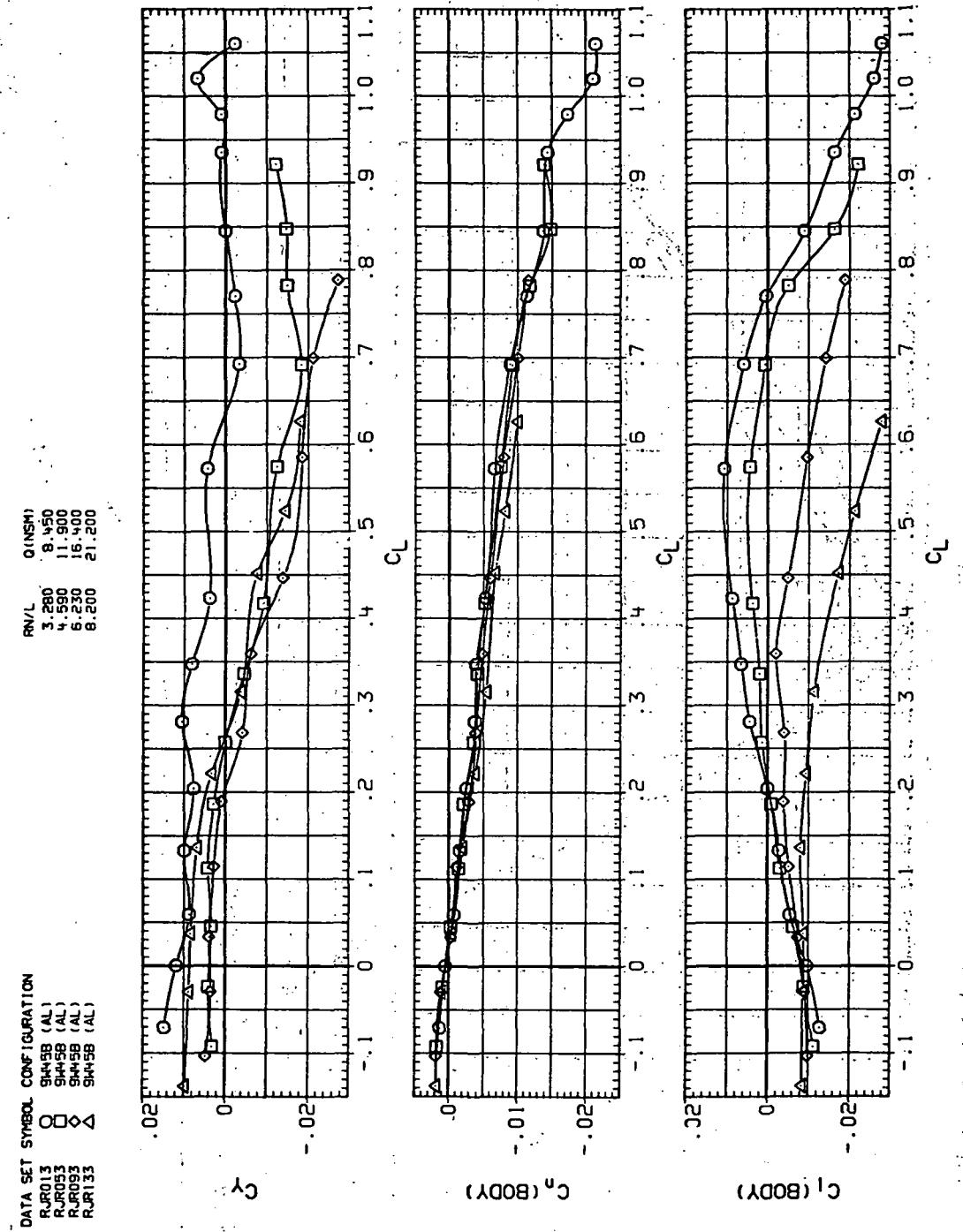
(c)  $C_m$  vs  $C_L$ .

Figure 13.—Continued.



(d)  $L/D$  vs  $C_L$ .

Figure 13.—Continued.



(e)  $C_Y$ ,  $C_n$  and  $C_1$  vs  $C_L$ .

Figure 13.— Concluded.

DATA SET SYMBOL CONFIGURATION  
 R4R014 ◊ SH45B (AL)  
 R4R038 □ SH45B (AL)  
 R4R039 △ SH45B (AL)  
 R4R134 ▲ SH45B (AL)

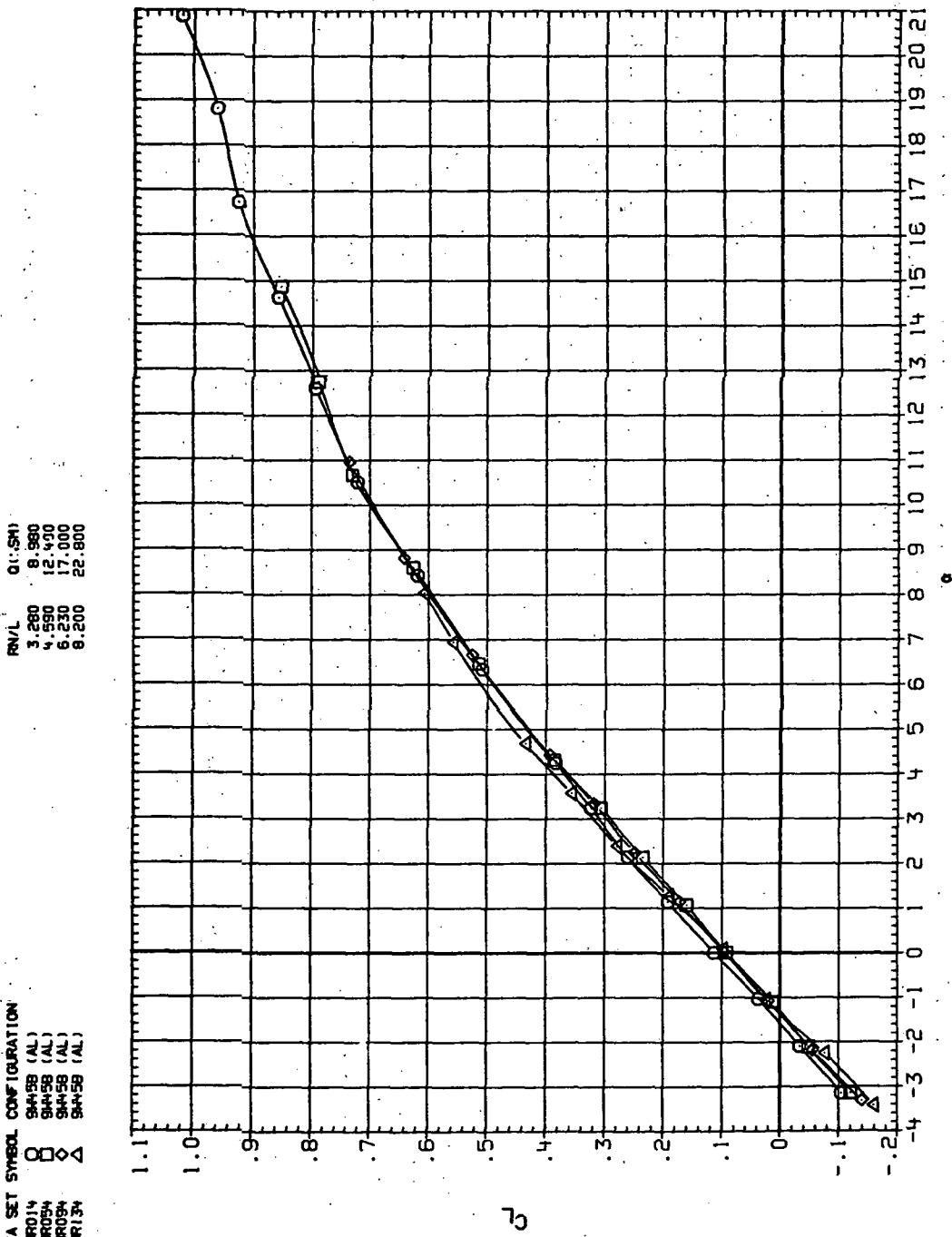
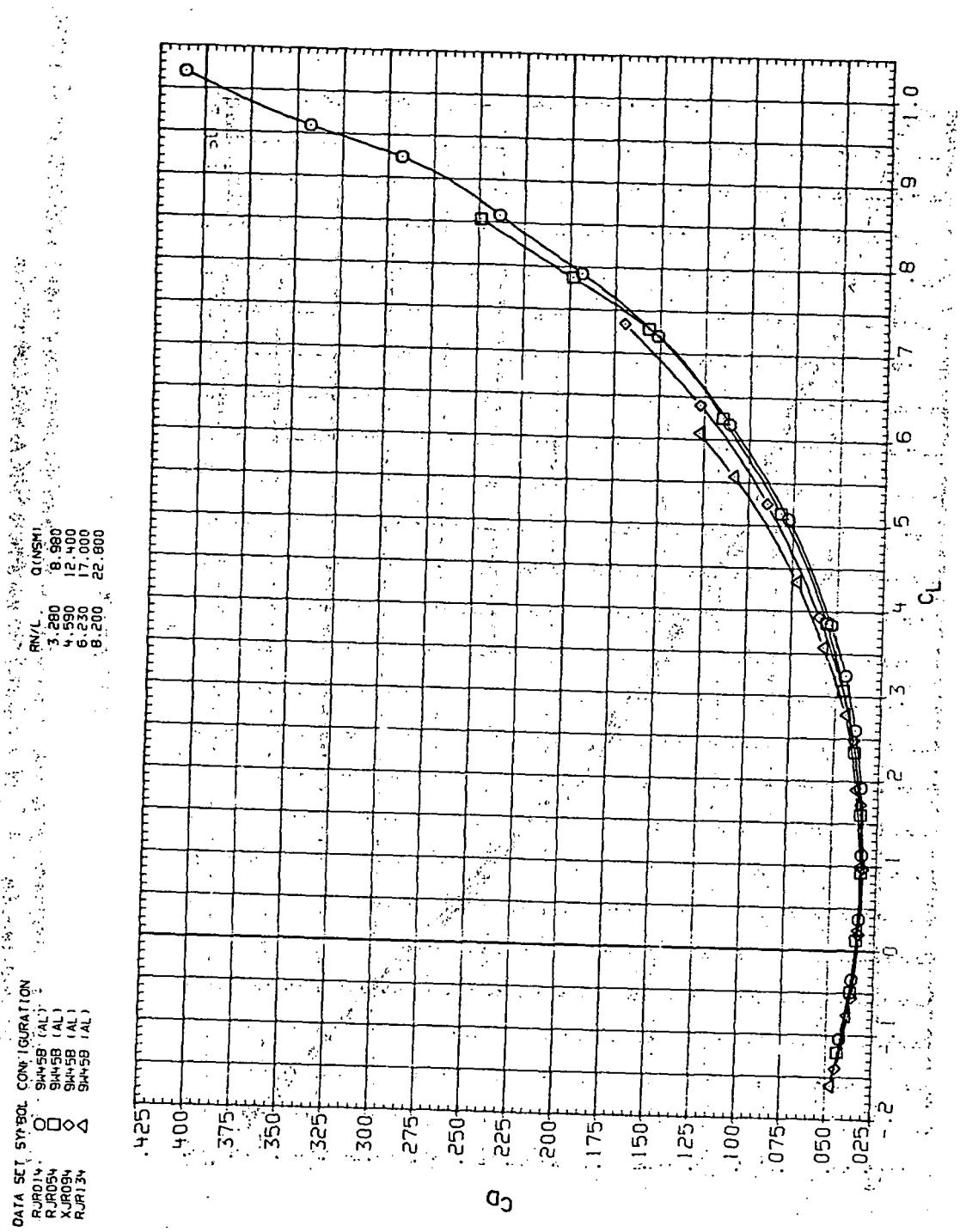
(a)  $C_L$  vs  $\alpha$ .

Figure 14.— Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 45^\circ$ ,  $M = 1.2$  and the modified NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION

RUD014	O	SH45B (AL)
RUD054	□	SH45B (AL)
XJ054	○	SH45B (AL)
RUD134	△	SH45B (AL)

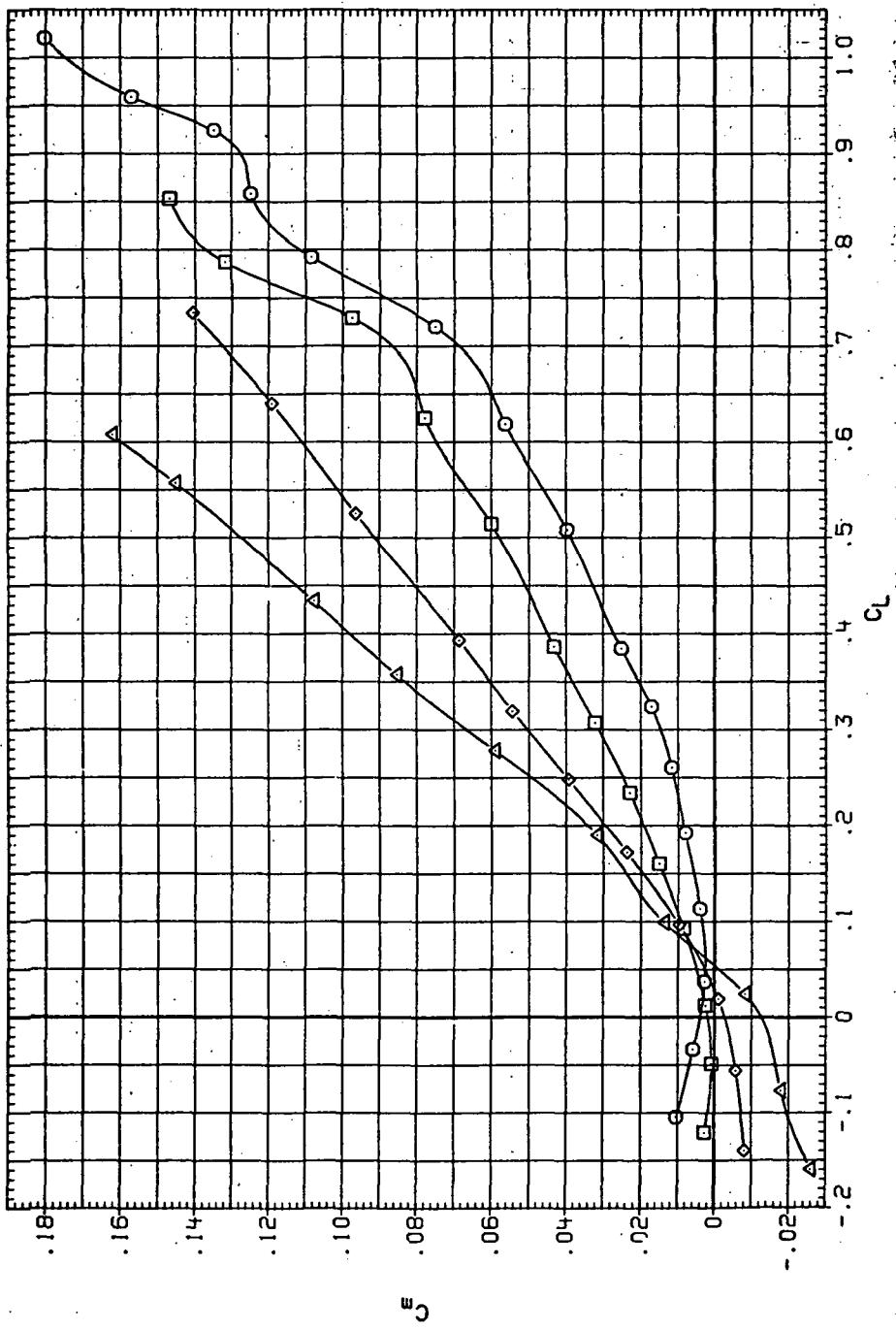


(b)  $C_D$  vs  $C_L$ .

Figure 14. Continued.

DATA SET SYMBOL CONFIGURATION

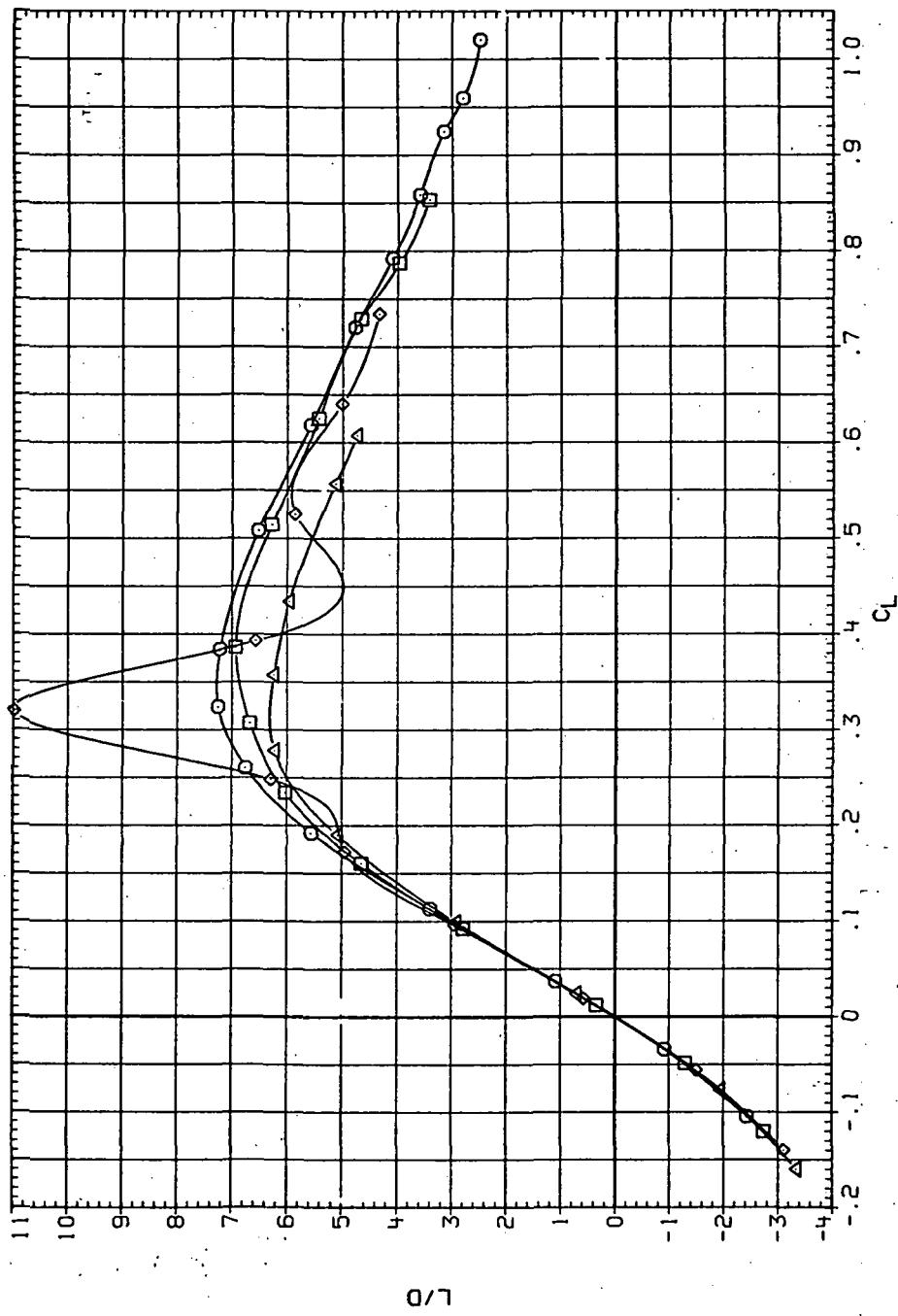
RJR014	○	SH458 (AL)
RJR024	□	SH458 (AL)
RJR024	◇	SH458 (AL)
RJR134	△	SH458 (AL)



(c)  $C_m$  vs  $C_L$ .

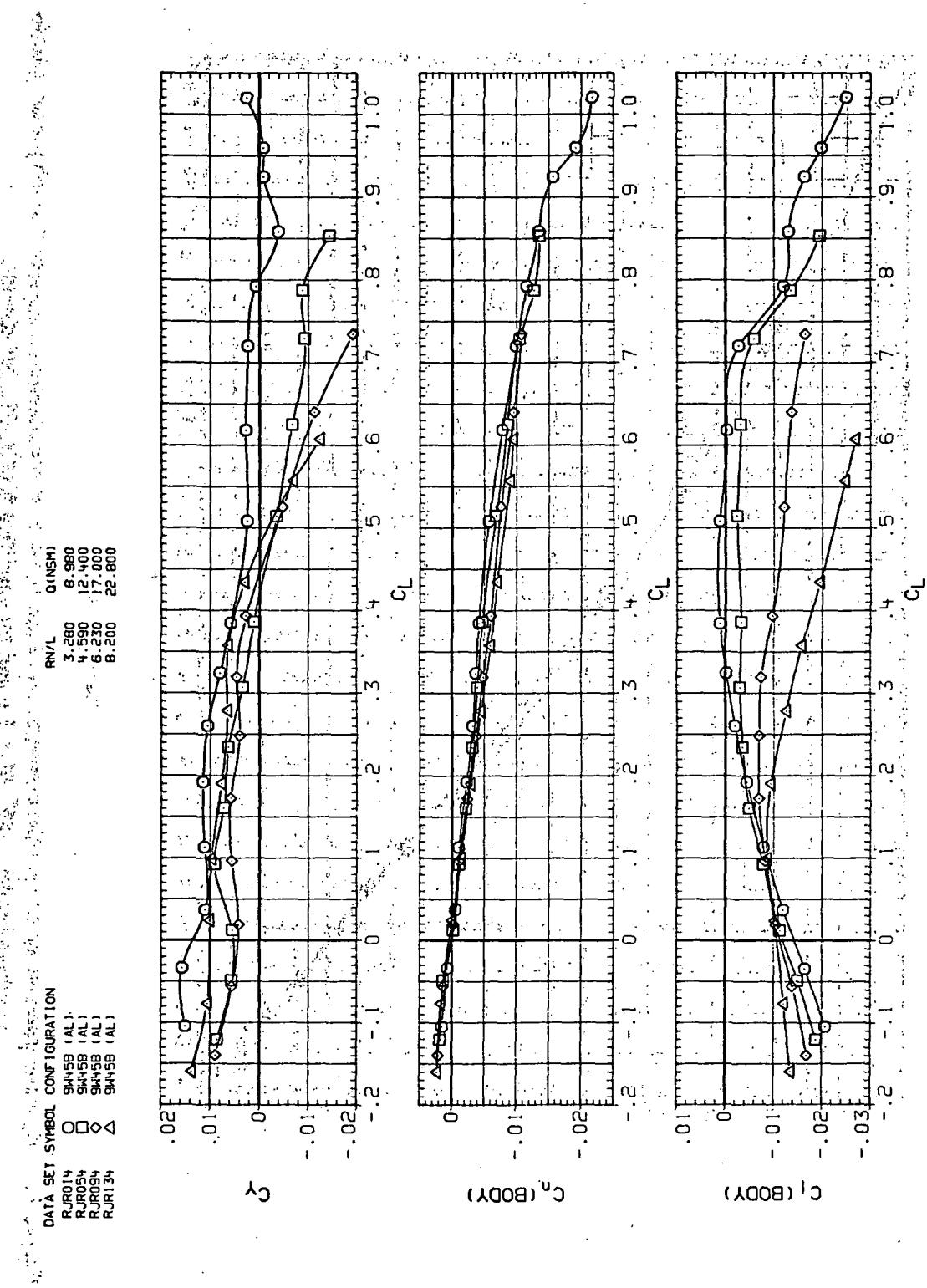
Figure 14.— Continued.

DATA SET	SYMBOL	CONFIGURATION
RJR014	○	SH45B (AL)
RJR054	□	SH45B (AL)
RJR094	◇	SH45B (AL)
RJR134	△	SH45B (AL)



(d)  $L/D$  vs  $C_L$ .

Figure 14.—Continued.



(e)  $C_Y$ ,  $C_{\eta}$ , and  $C_i$  vs  $C_L$ .

Figure 14.—Concluded.

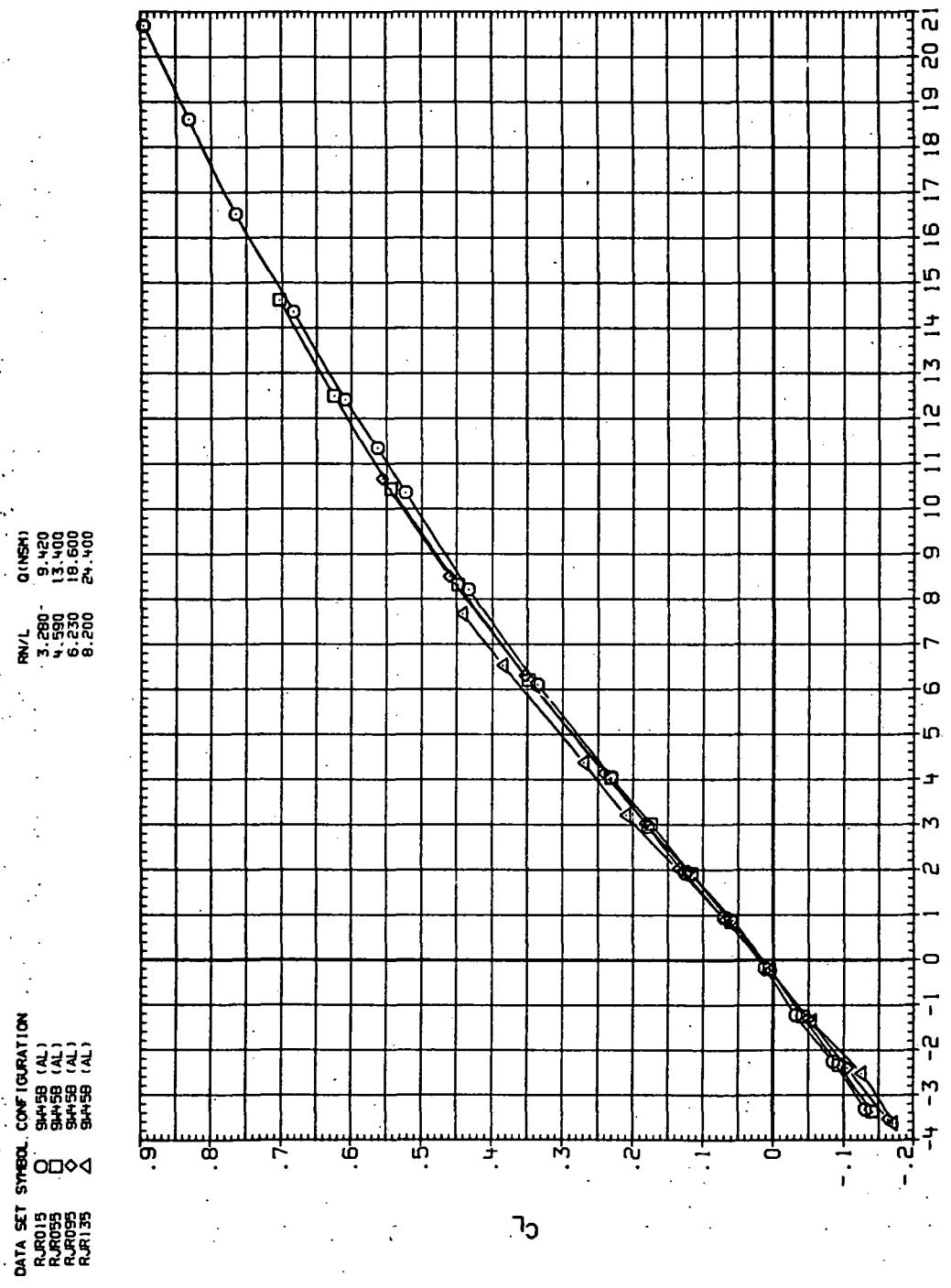


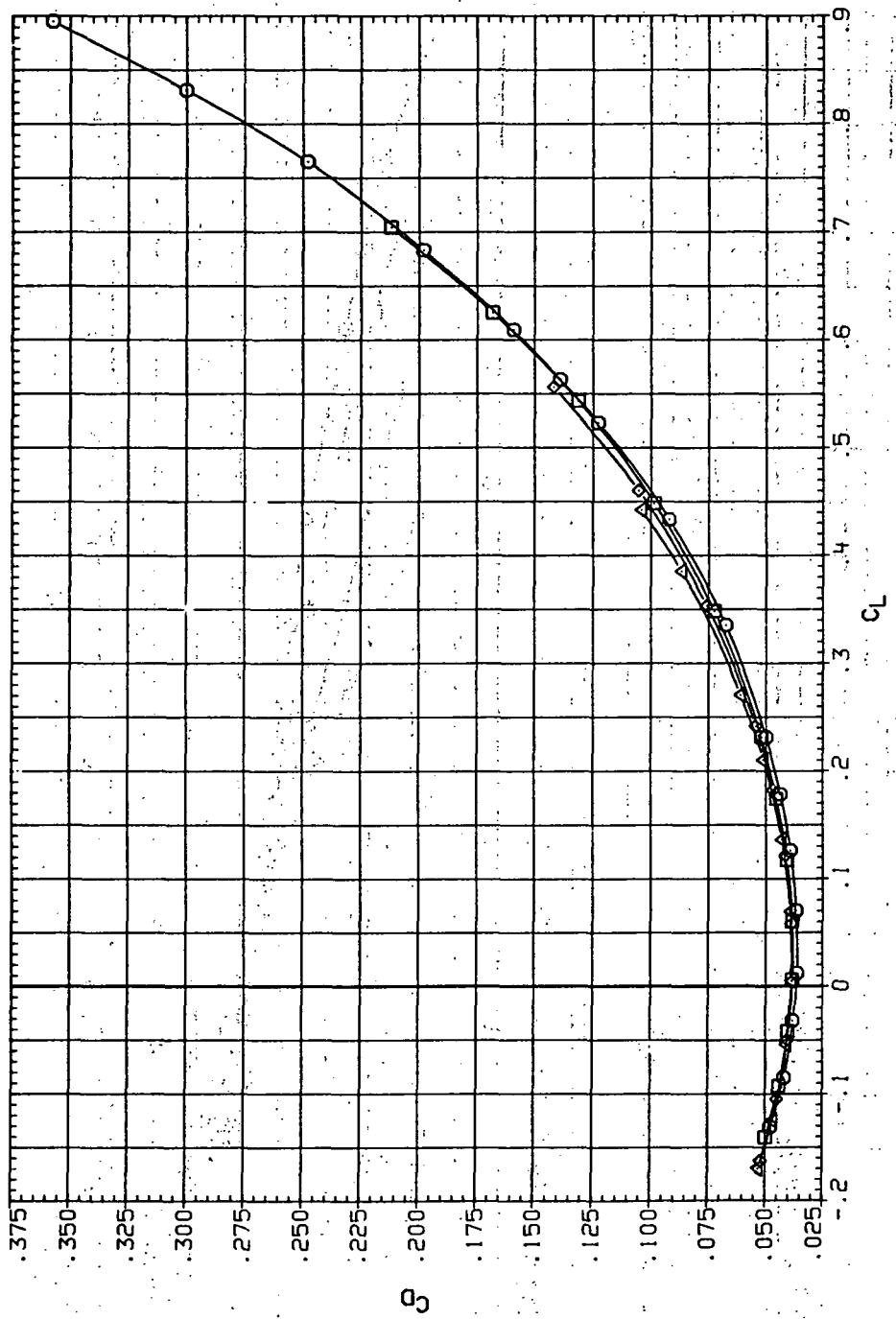
Figure 15.—Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 45^\circ$ ,  $M = 1.6$  and the modified NACA 65A204 airfoil).

DATA SET SY-BOL CONFIGURATION

RJR015	O	Sym-B (AL)
RJR055	□	Sym-B (AL)
RJR095	◇	Sym-B (AL)
RJR135	△	Sym-B (AL)

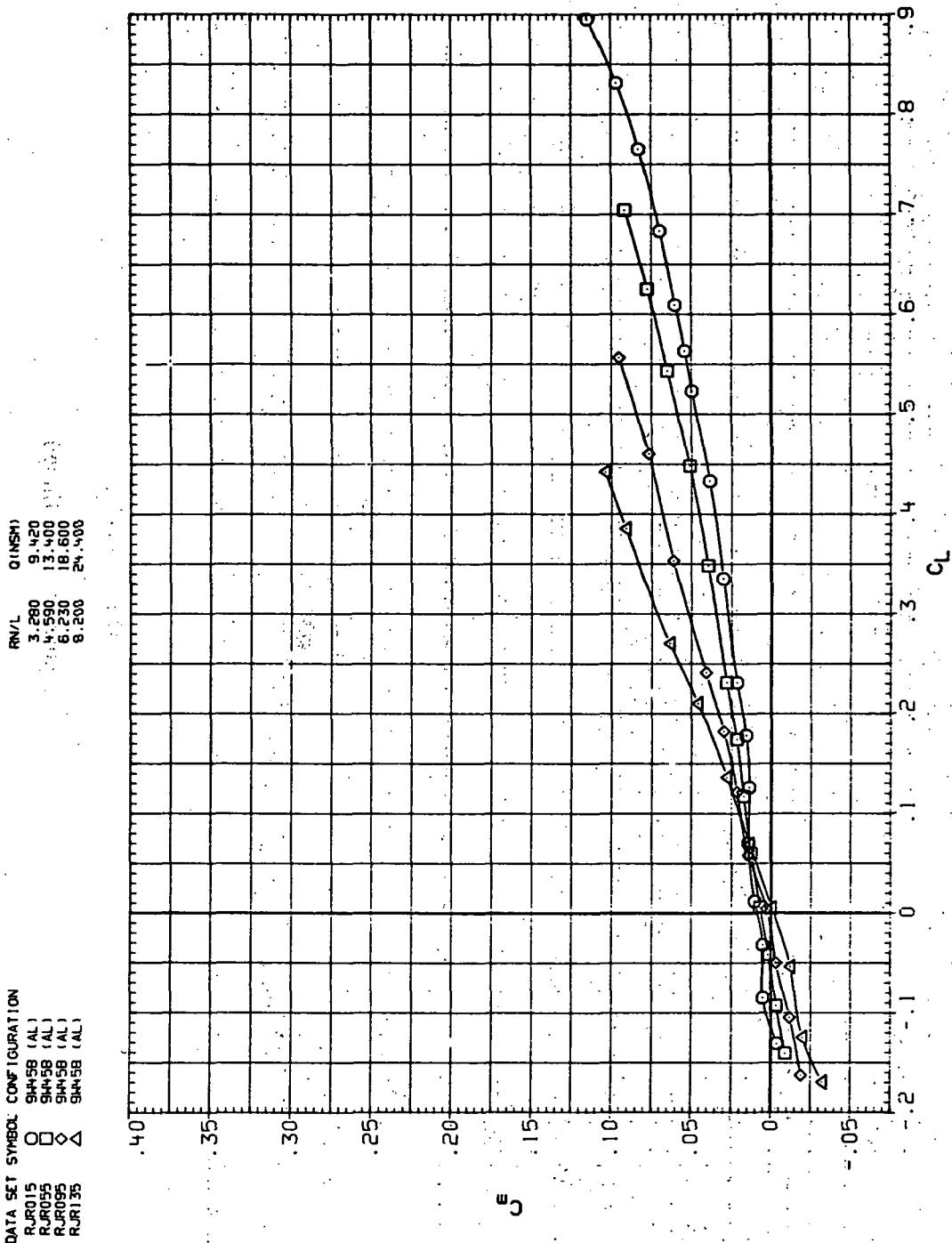
RN/L Q(NSM)

3.280	9.420
4.590	13.400
6.230	18.600
8.200	24.900



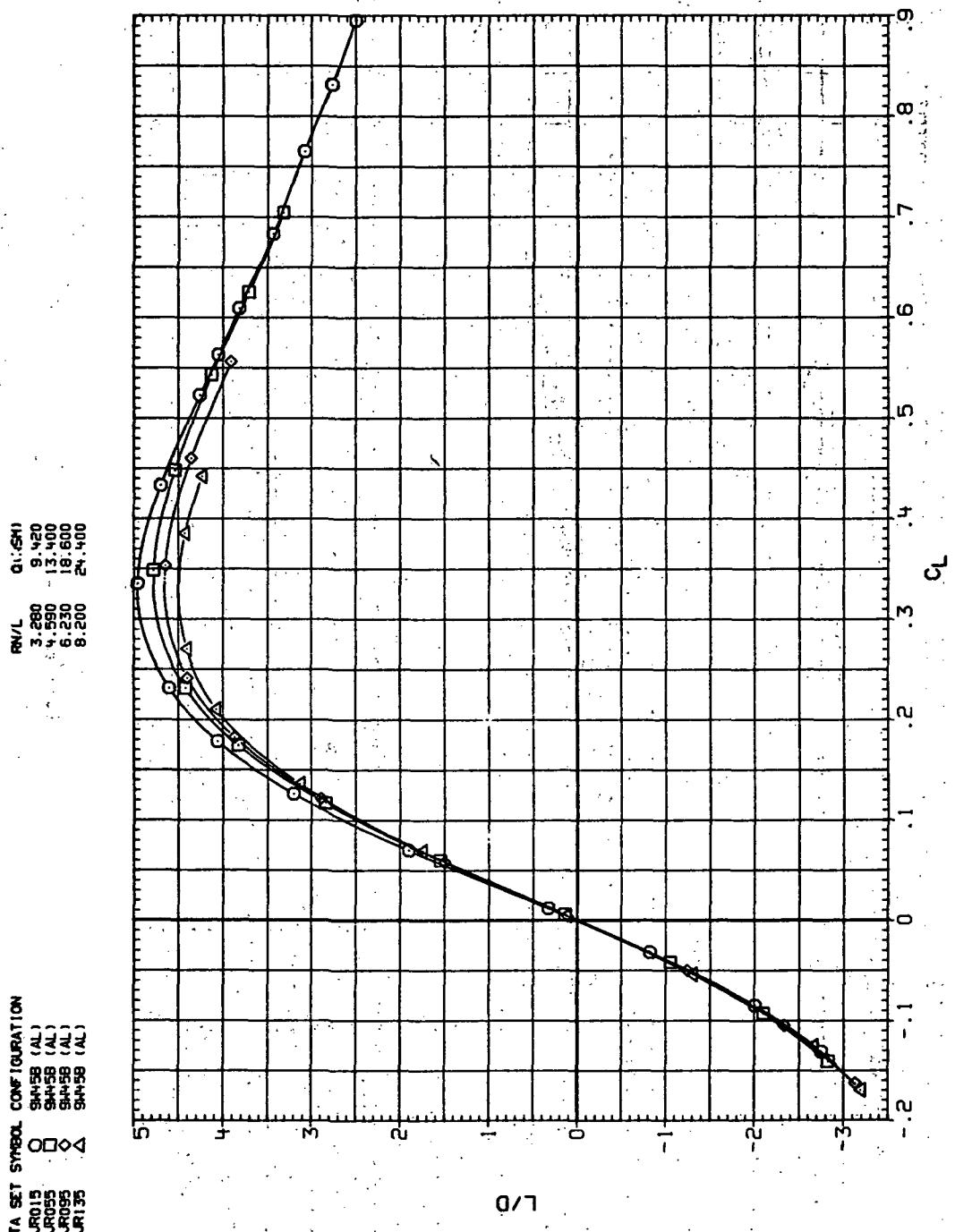
(b)  $C_D$  vs  $C_L$ .

Figure 15. — Continued.



(c)  $C_m$  vs  $C_L$ .

Figure 15.—Continued.



(d)  $L/D$  vs  $C_L$ .

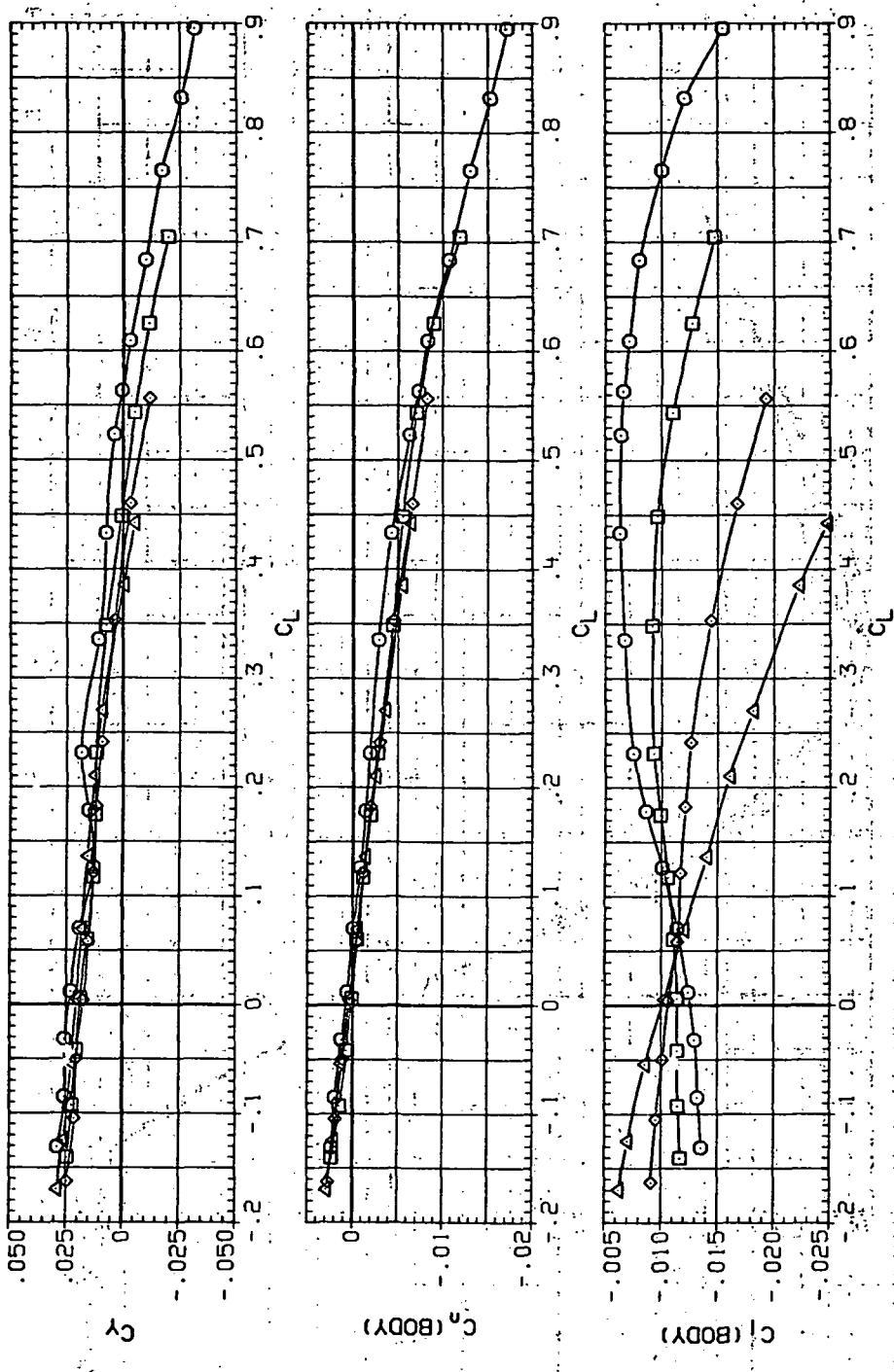
Figure 15.— Continued.

DATA SET SYMBOL CONFIGURATION

RJ015	$\square$	9445B (AL)
RJ055	$\diamond$	9445B (AL)
RJ055	$\triangle$	9445B (AL)
RJ135	$\Delta$	9445B (AL)

RN/L D(ME.)

3.280	9.420
4.590	13.400
6.230	18.600
8.200	24.400



(e)  $C_Y$ ,  $C_D$  and  $C_L$  vs  $C_L$ .

Figure 15.—Concluded.

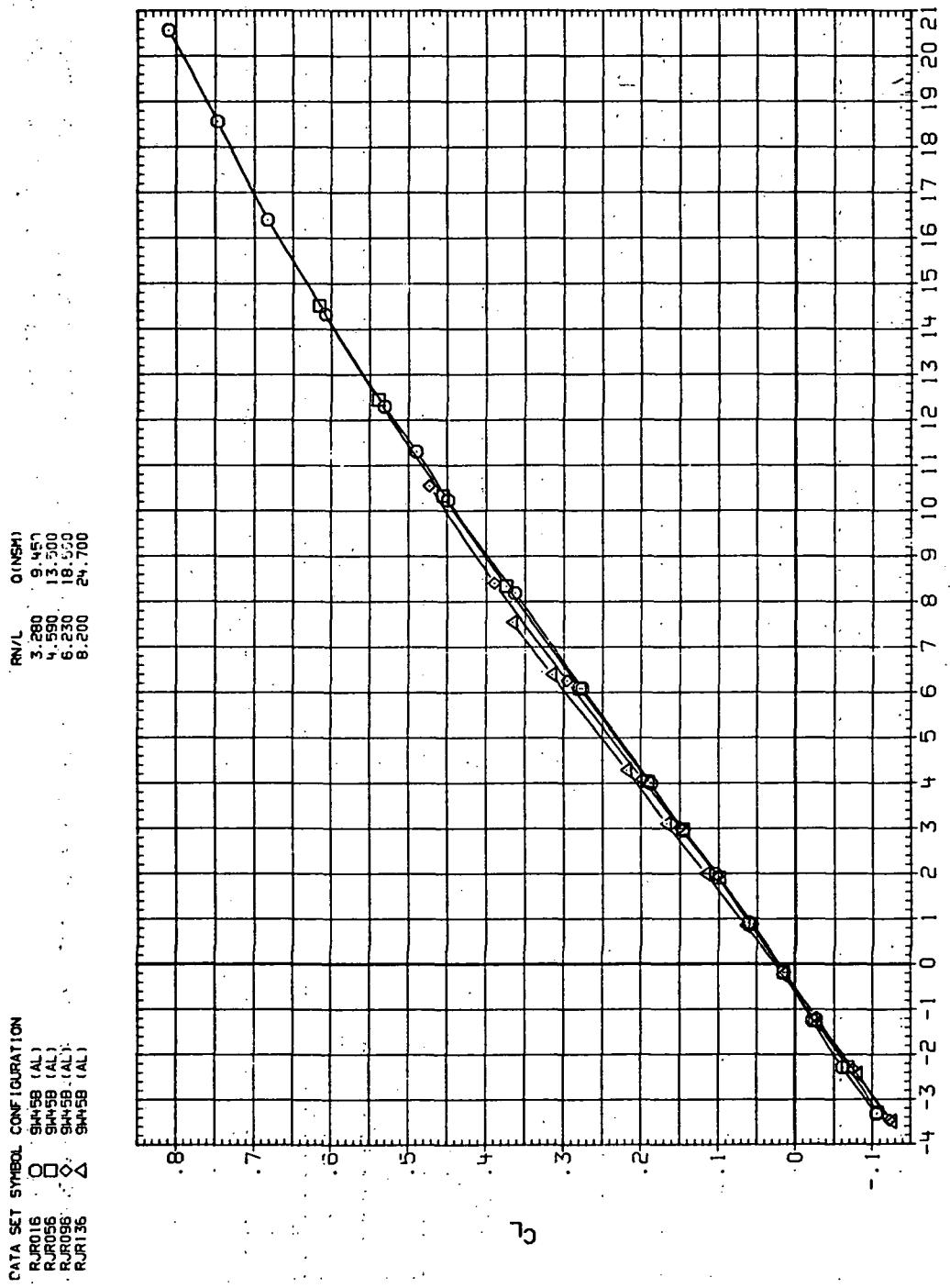
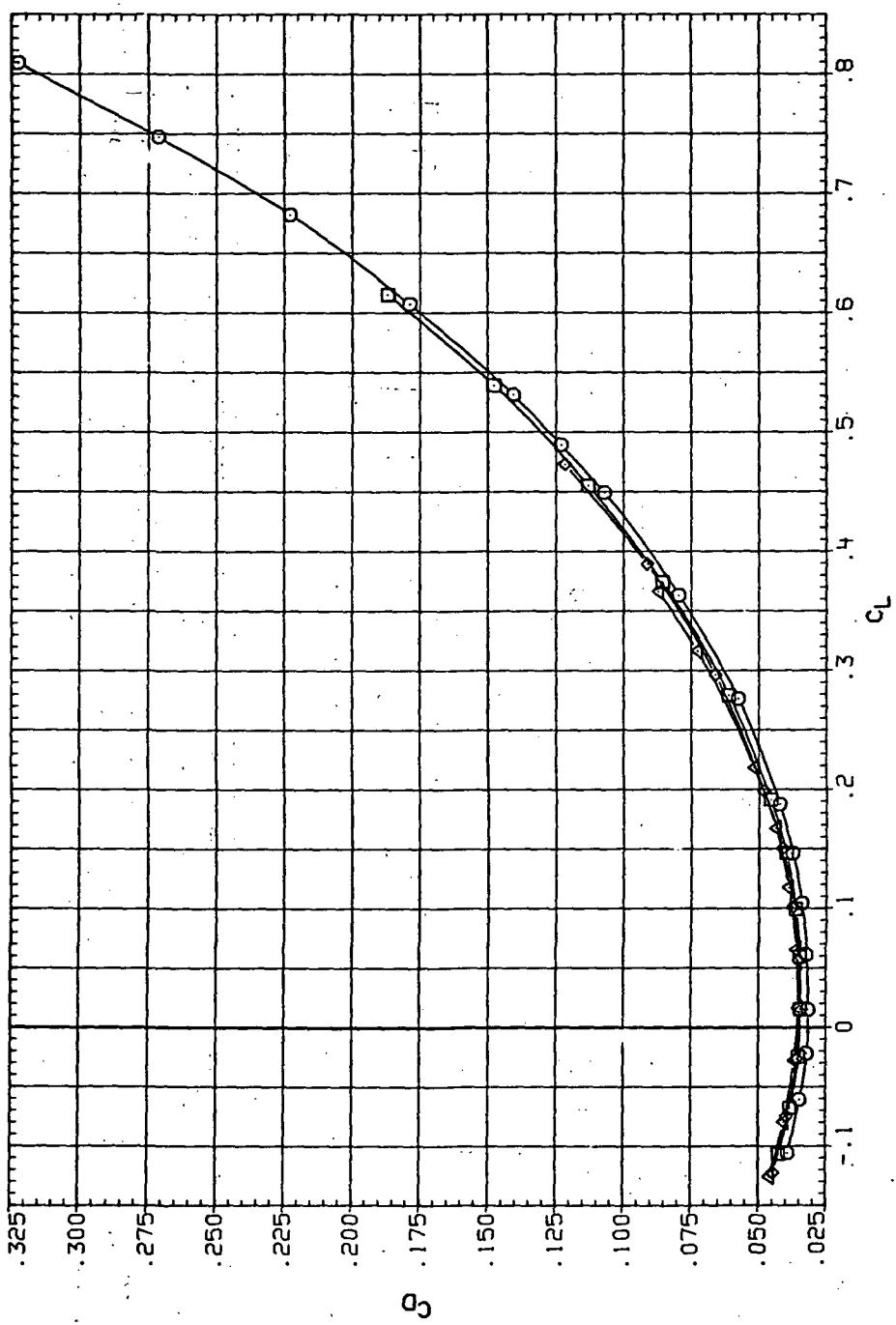


Figure 16.— Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 45^\circ$ ,  $M = 2.0$  and the modified NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 RJP016 O SH458 (AL)  
 RJP056 □ SH458 (AL)  
 RJP096 ◇ SH458 (AL)  
 RJR136 △ SH458 (AL)

R/V/L	Q (NSM)
3.280	9.450
4.590	13.500
6.230	18.500
8.200	24.700



(b)  $C_D$  vs  $C_L$ .

Figure 16.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RU016 O 9445B (AL)  
 RU056 □ 9445B (AL)  
 RU096 ◊ 9445B (AL)  
 RRI36 △ 9445B (AL)

RN/L Q (NSM)  
 3.280 9.450  
 4.590 13.500  
 6.230 18.500  
 8.200 24.700

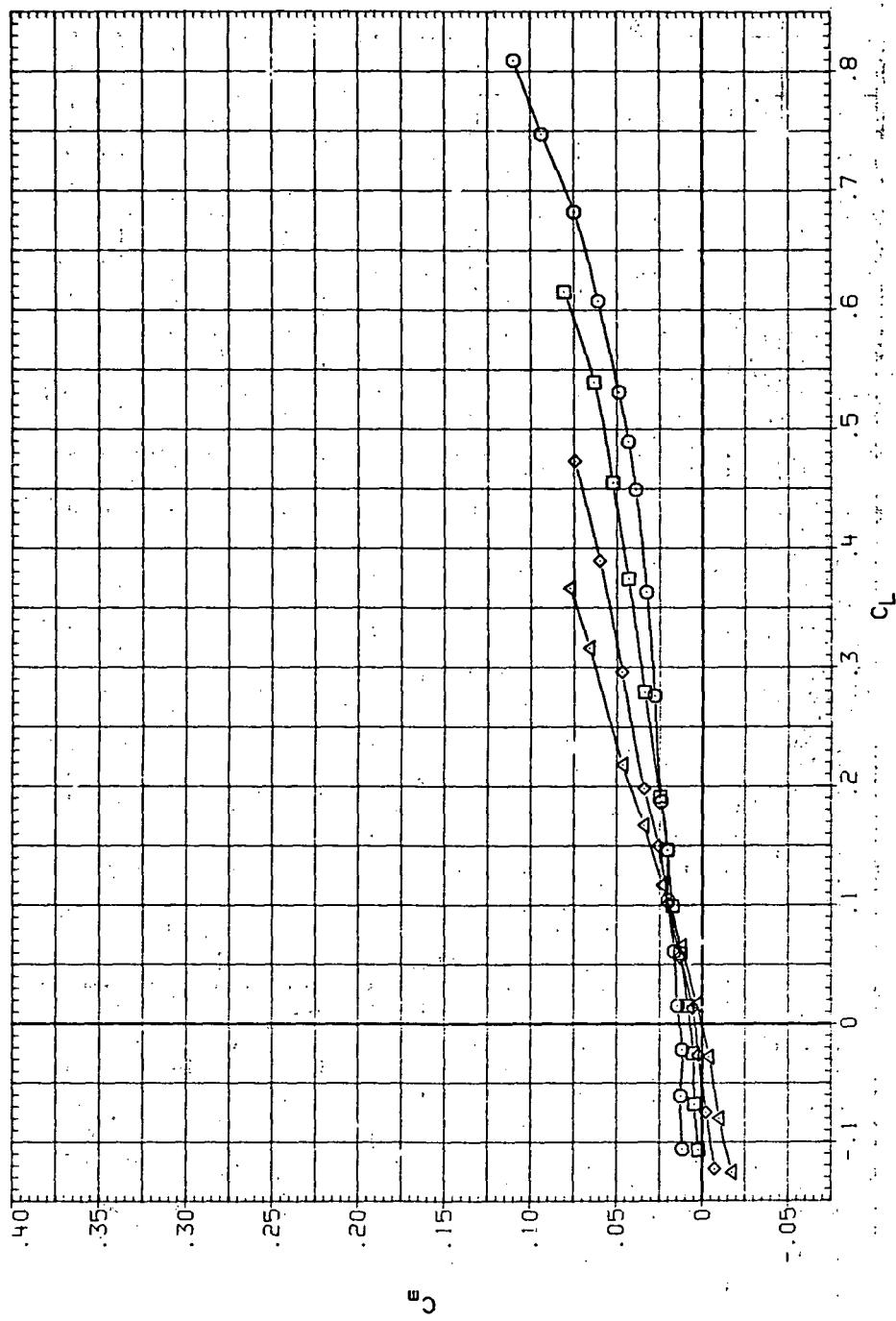
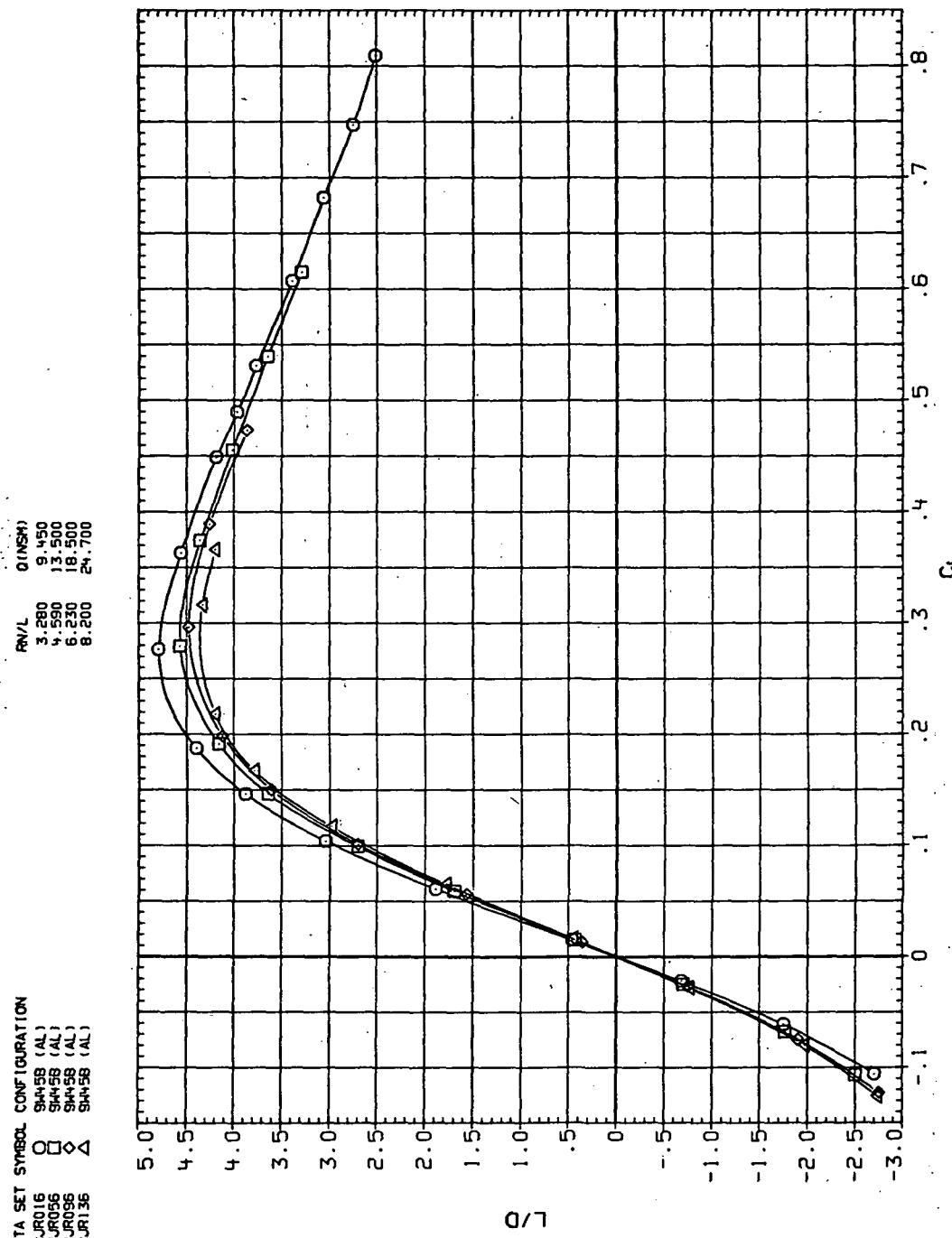
(c)  $C_m$  vs  $C_L$ .

Figure 16.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RUR16 O SH458 (AL)  
 RUR56 □ SH458 (AL)  
 RUR96 ◇ SH458 (AL)  
 RUR136 △ SH458 (AL)



(d)  $L/D$  vs  $C_L$ .

Figure 16.—Continued.

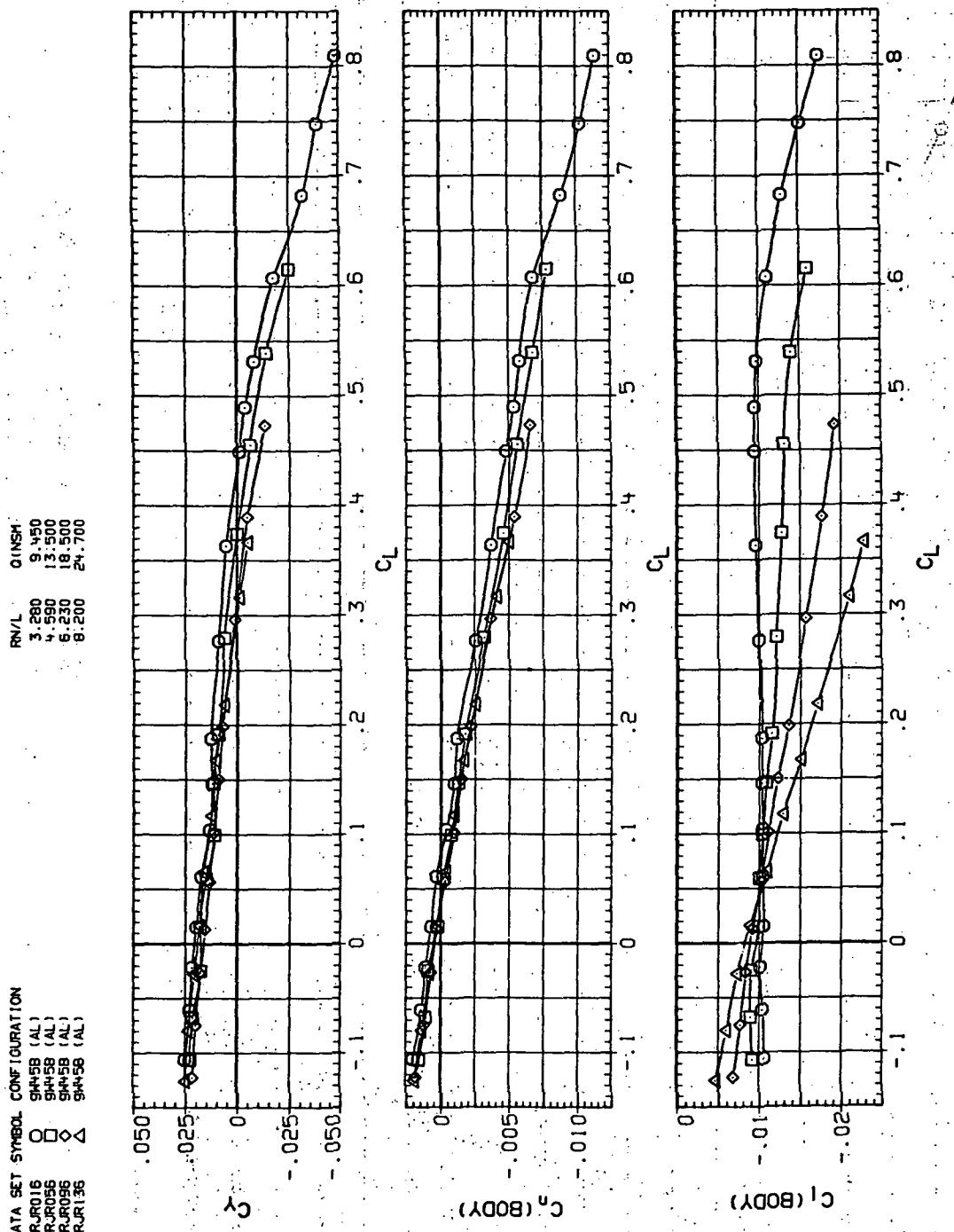
(e)  $C_Y$ ,  $C_n$  and  $C_d$  vs  $C_L$ .

Figure 16.— Concluded.

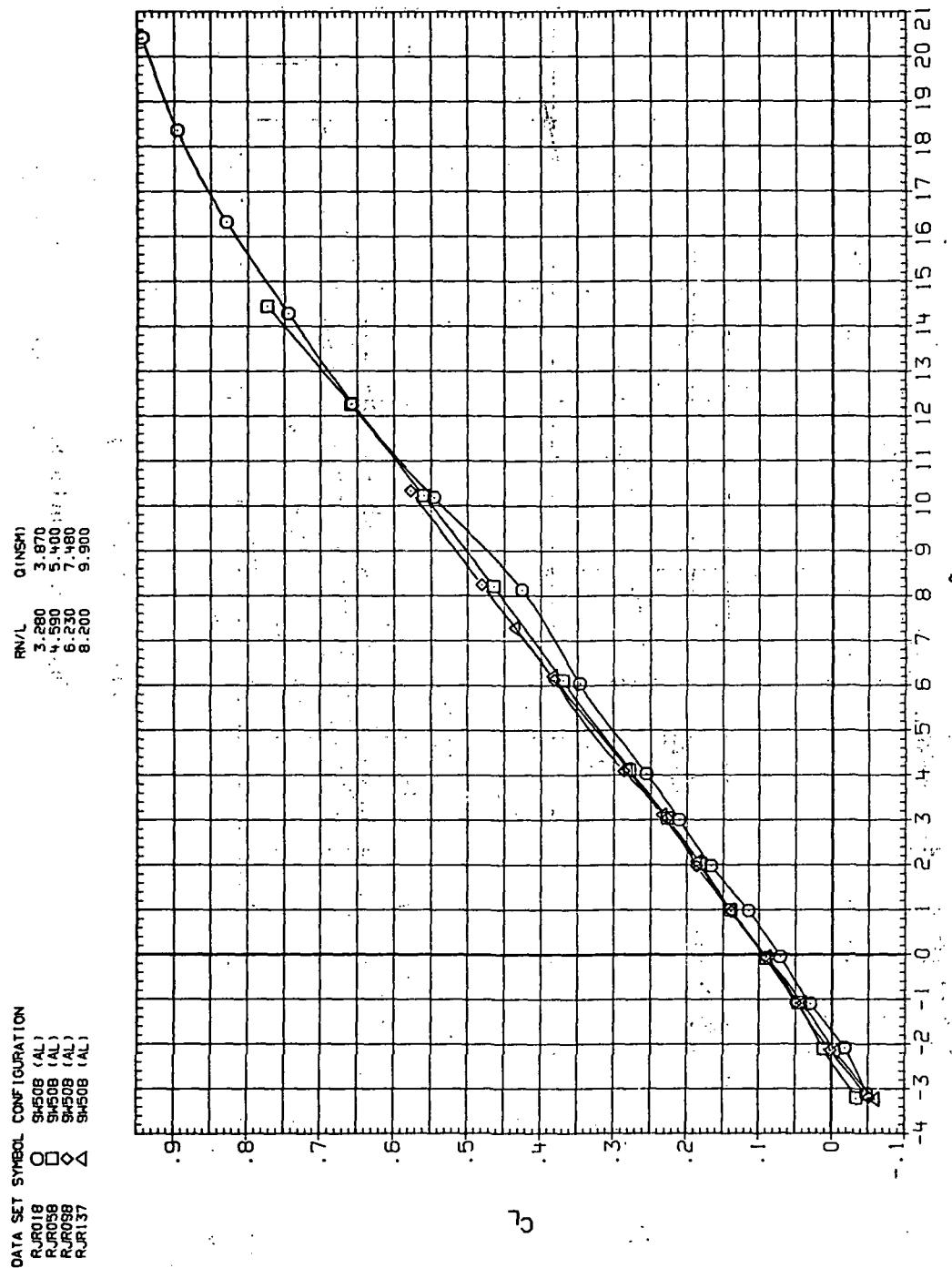
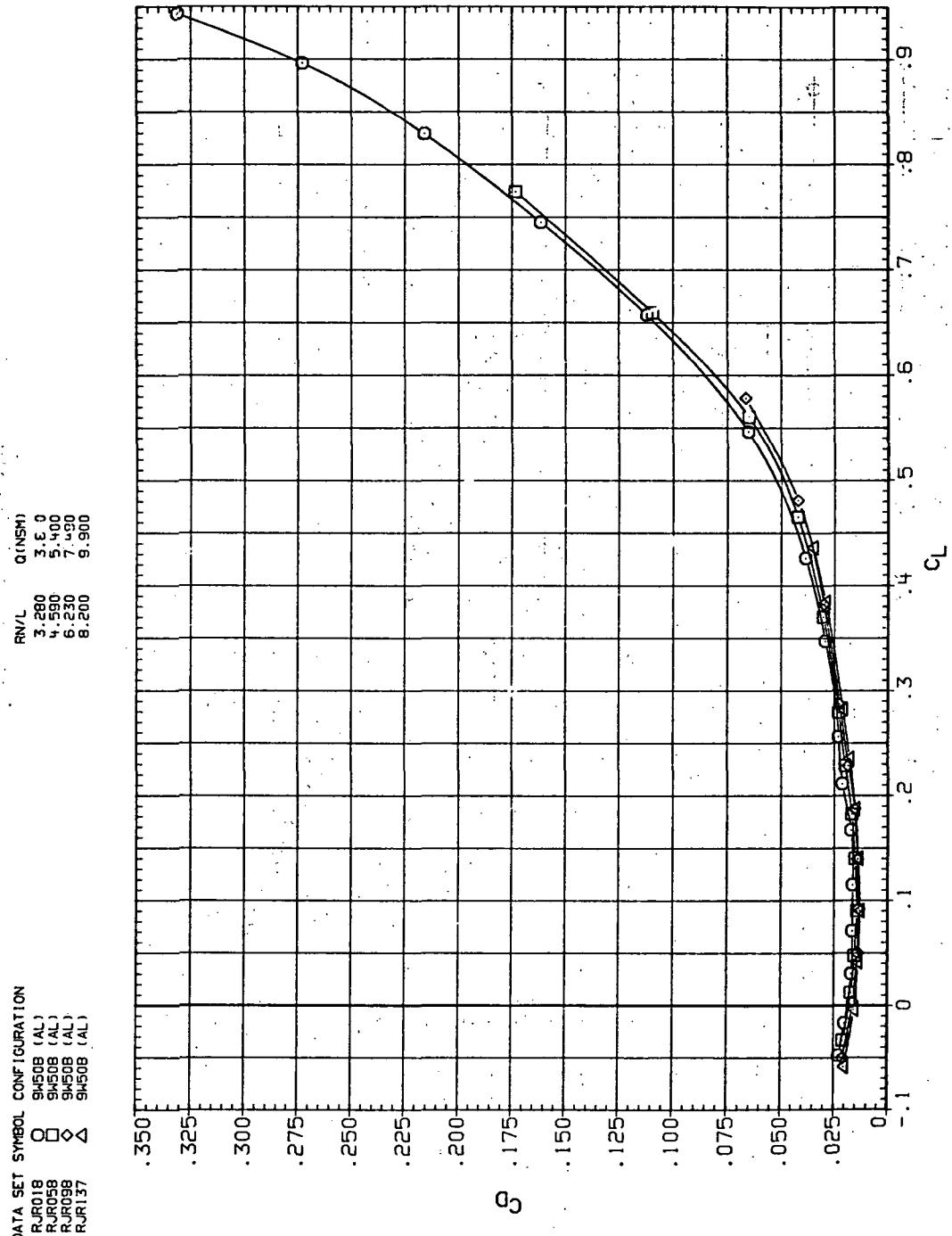


Figure 17.— Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 50^\circ$ ,  $M = 0.4$  and the modified NACA 65A204 airfoil).

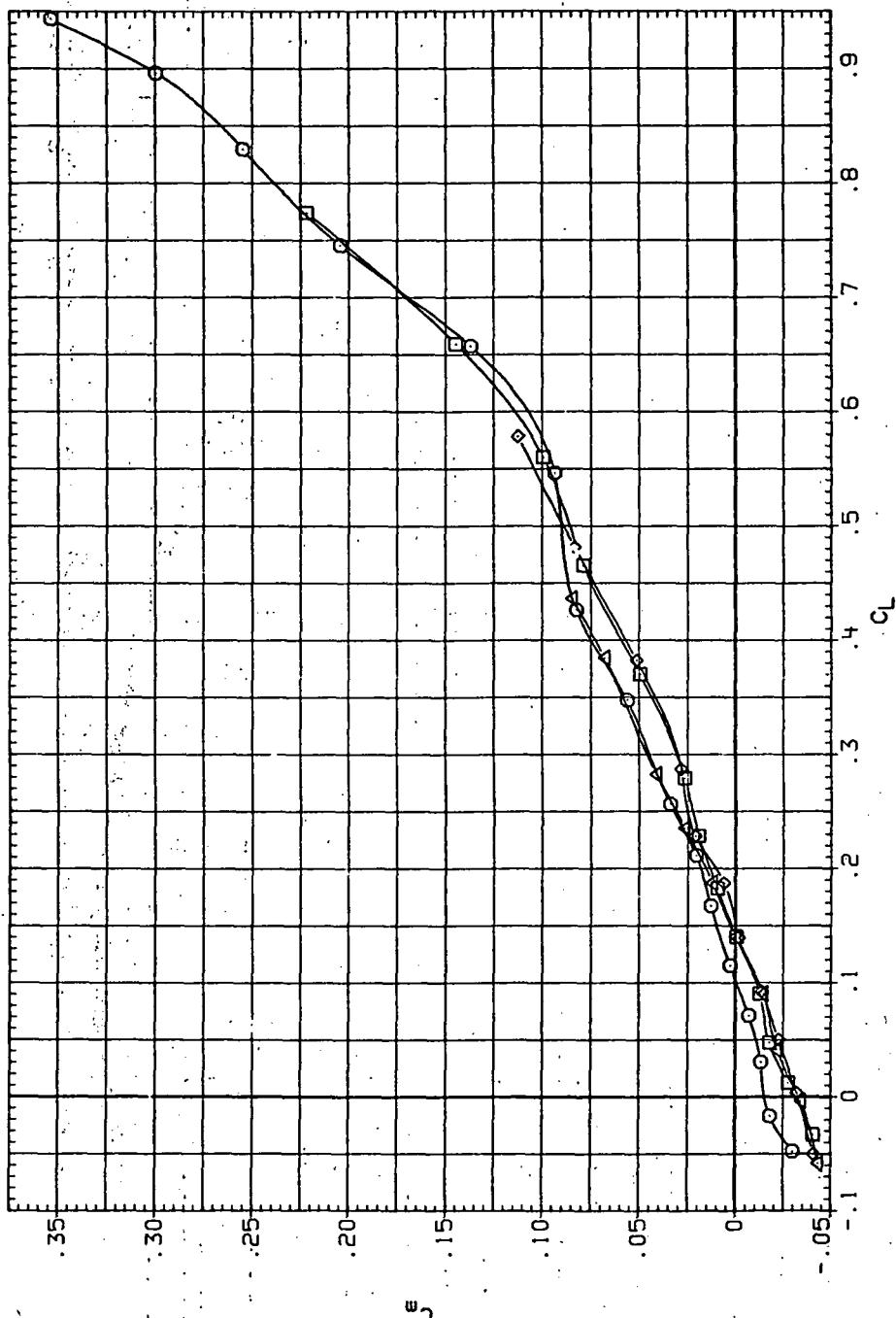


(b)  $C_D$  vs  $C_L$ .

Figure 17.—Continued.

DATA SET	SYMBOL	CONFIGURATION
RJ018	O	94503 (AL)
RJ058	□	94503 (AL)
RJ098	◇	94503 (AL)
RJ137	△	94503 (AL)

RNVL O (NSH) 3.870  
3.280 4.590 5.400  
6.230 7.480 9.900



(c)  $C_m$  vs  $C_L$ .

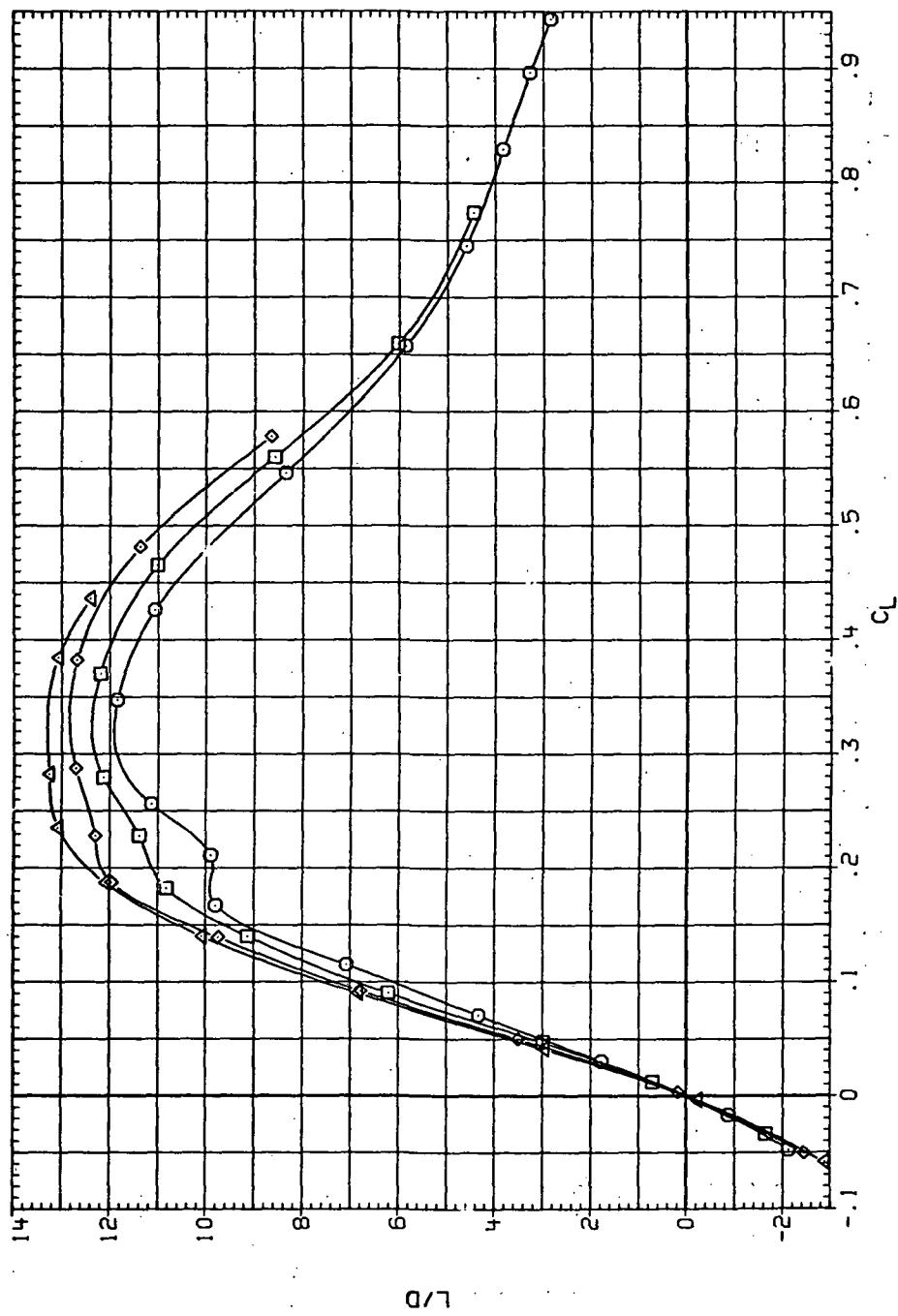
Figure 17.—Continued.

DATA SET SYMBOL CONFIGURATION

RJR16	O	SH508 (AL)
RJR58	□	SH508 (AL)
RJR98	◊	SH508 (AL)
RJR137	△	SH508 (AL)

DATA SET SYMBOL Q (INCH)

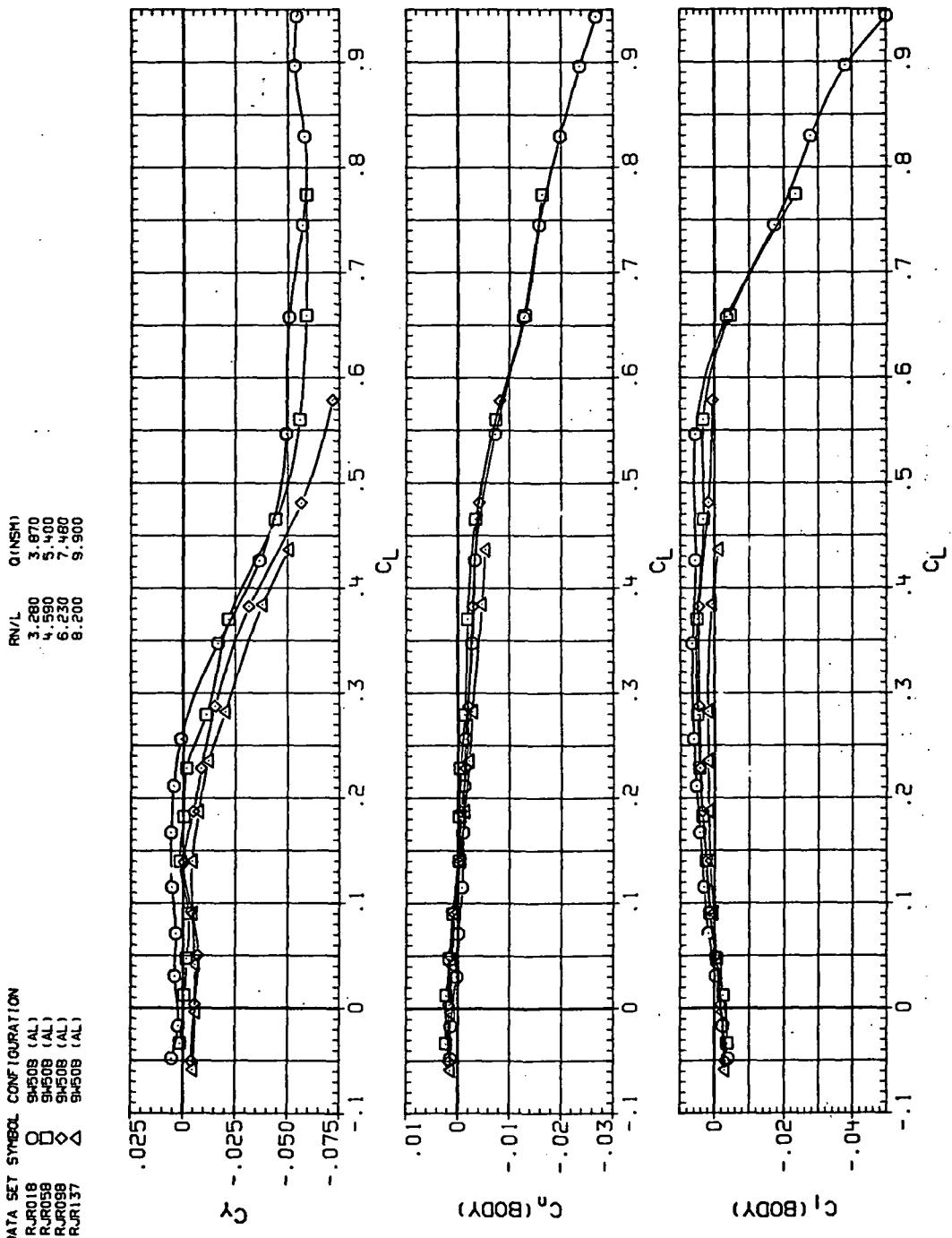
3.280	3.870
4.590	5.400
6.230	7.480
8.200	9.900



(d)  $L/D$  vs  $C_L$ .

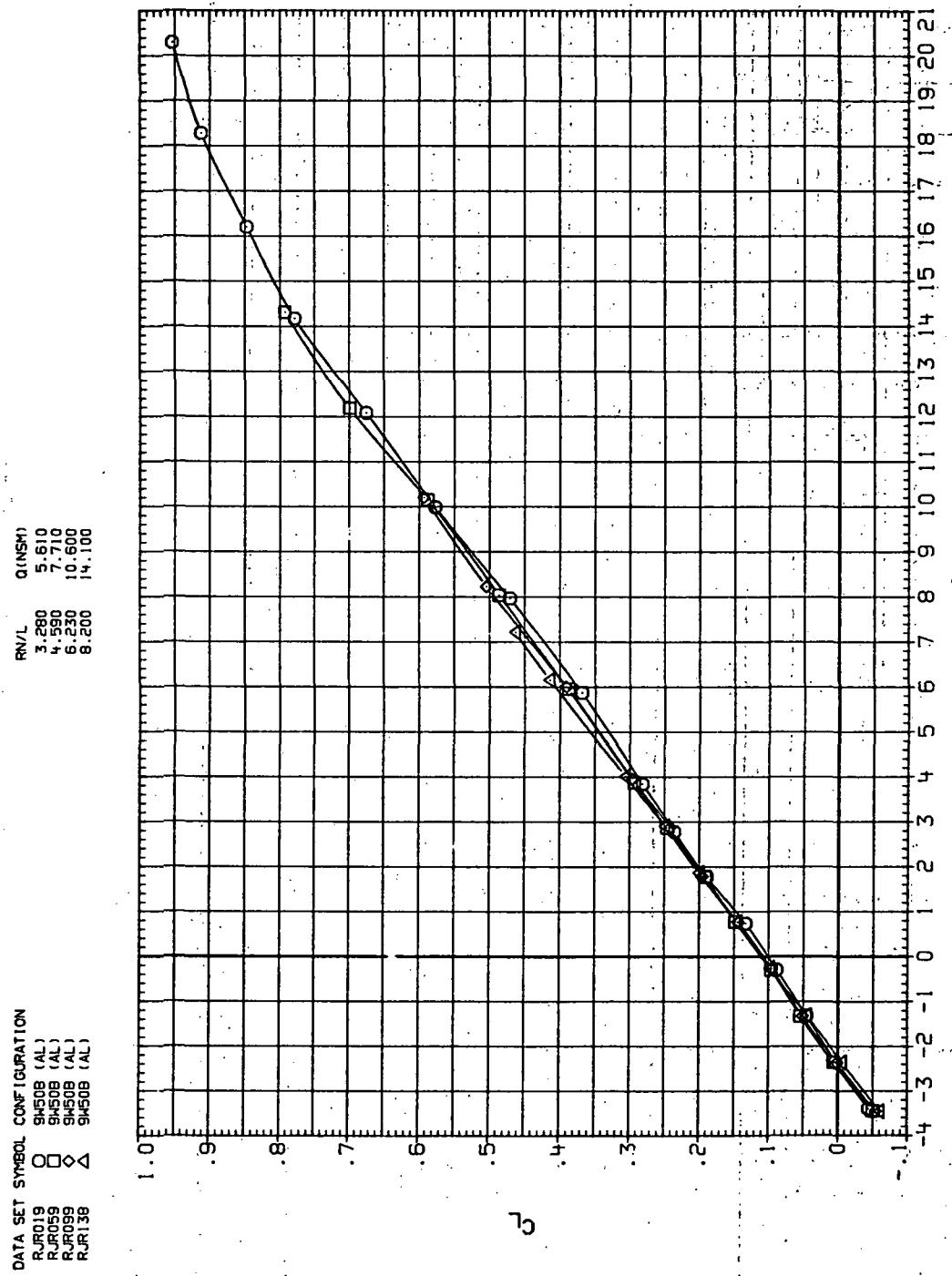
Figure 17.—Continued.

DATA SET	SYMBOL	CONFIGURATION
RJRD18	○	SH508 (AL)
RJRD58	□	SH508 (AL)
RJRD98	◇	SH508 (AL)
RJR137	△	SH508 (AL)



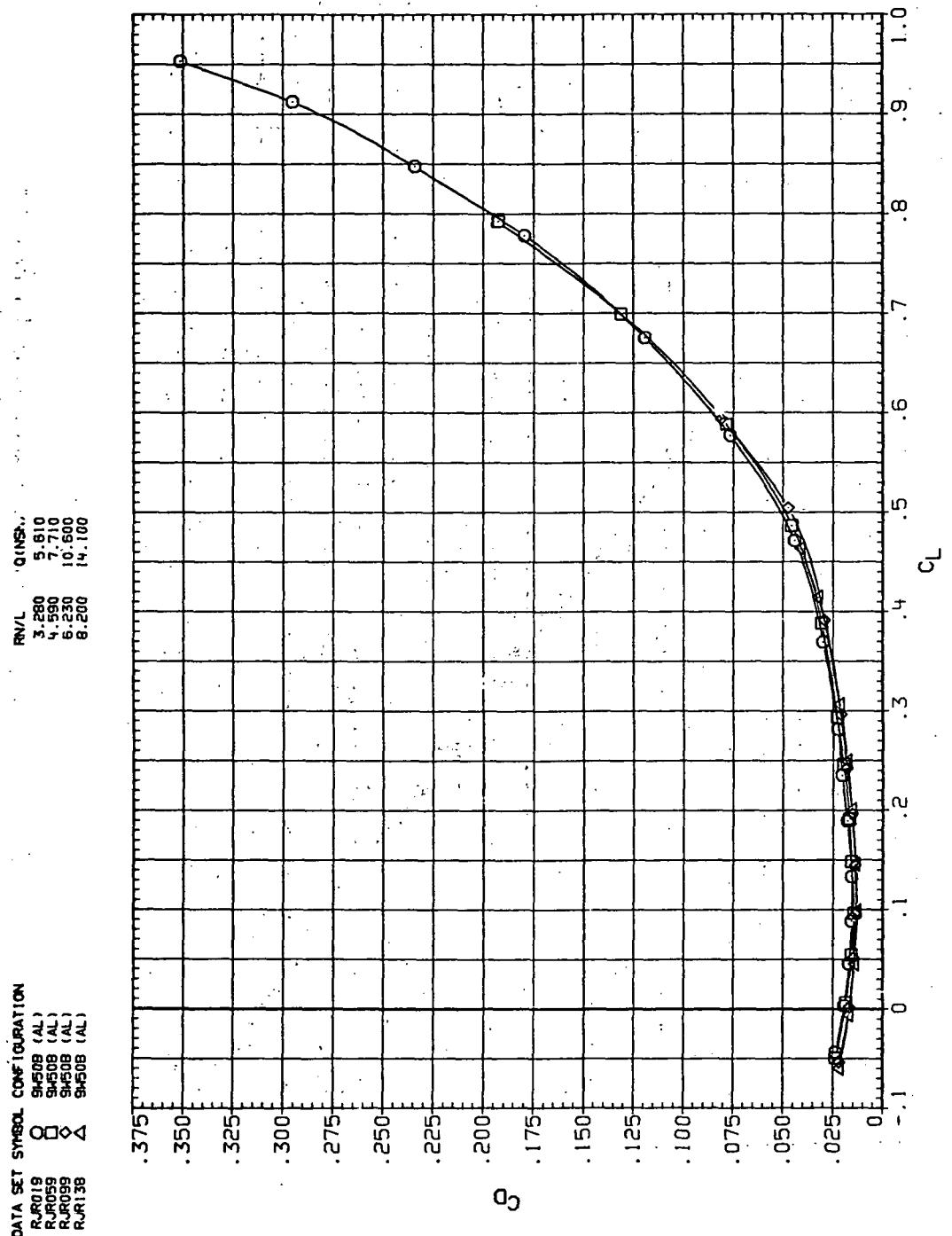
(e)  $C_Y$ ,  $C_n$  and  $C_Q$  vs  $C_L$ .

Figure 17.—Concluded.



(a)  $C_L$  vs  $\alpha$ .

Figure 18.—Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 50^\circ$ ,  $M = 0.6$  and the modified NACA 65A204 airfoil).



(b)  $C_D$  vs  $C_L$ .

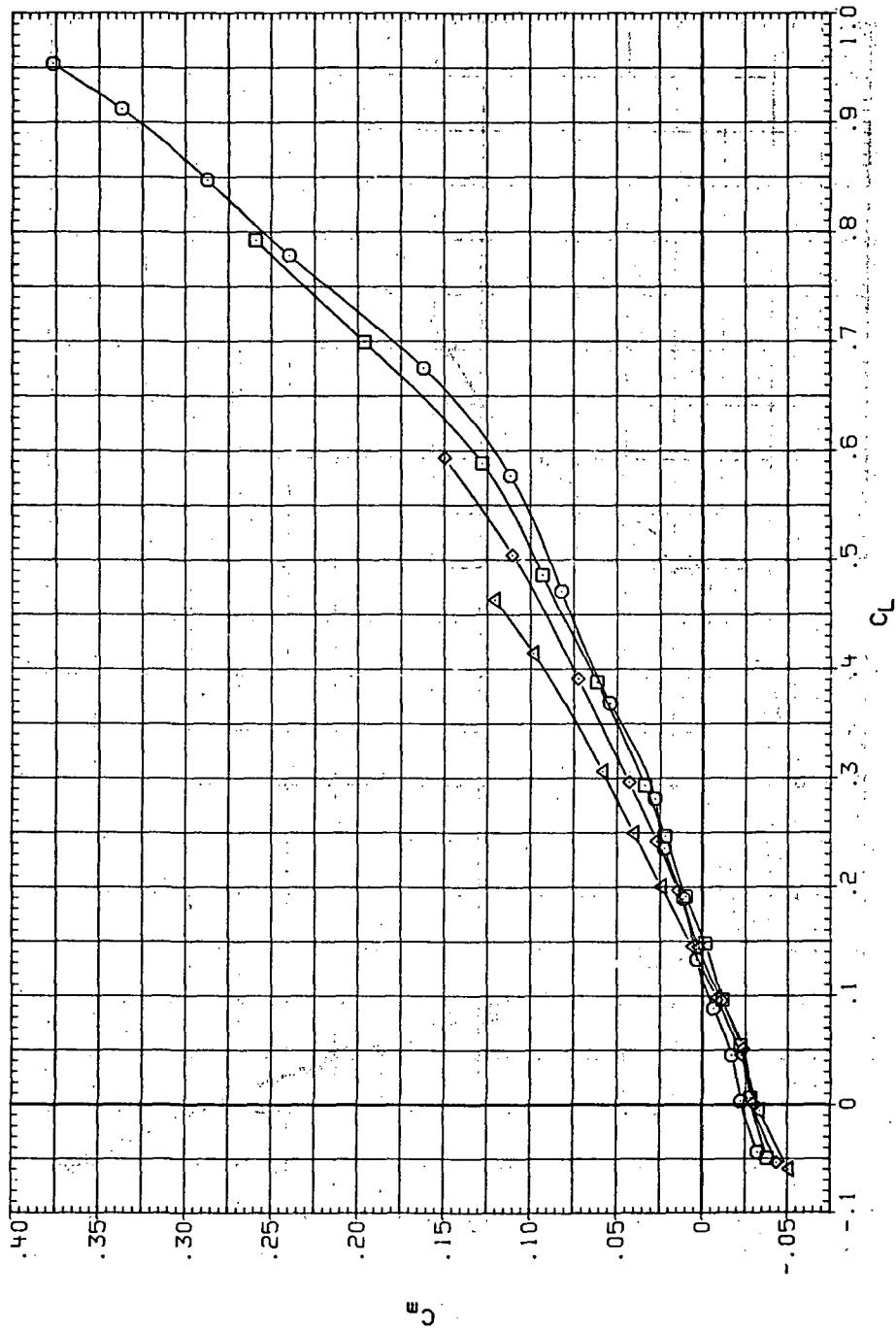
Figure 18.—Continued.

DATA SET SYMBOL CONFIGURATION

RJR019	○	94505 (AL)
RJR058	□	94508 (AL)
RJR099	◊	94508 (AL)
RJR138	△	94508 (AL)

RN/L Q(NSM)

3.280	5.610
4.590	7.710
6.230	10.600
8.200	14.100



(c)  $C_m$  vs  $C_L$ .

Figure 18.—Continued.

DATA SET	SYMBOL	CONFIGURATION
RJR019	O	SH-60B (AL)
RJR019	□	SH-60B (AL)
RJR019	△	SH-60B (AL)
RJR138	△	SH-60B (AL)

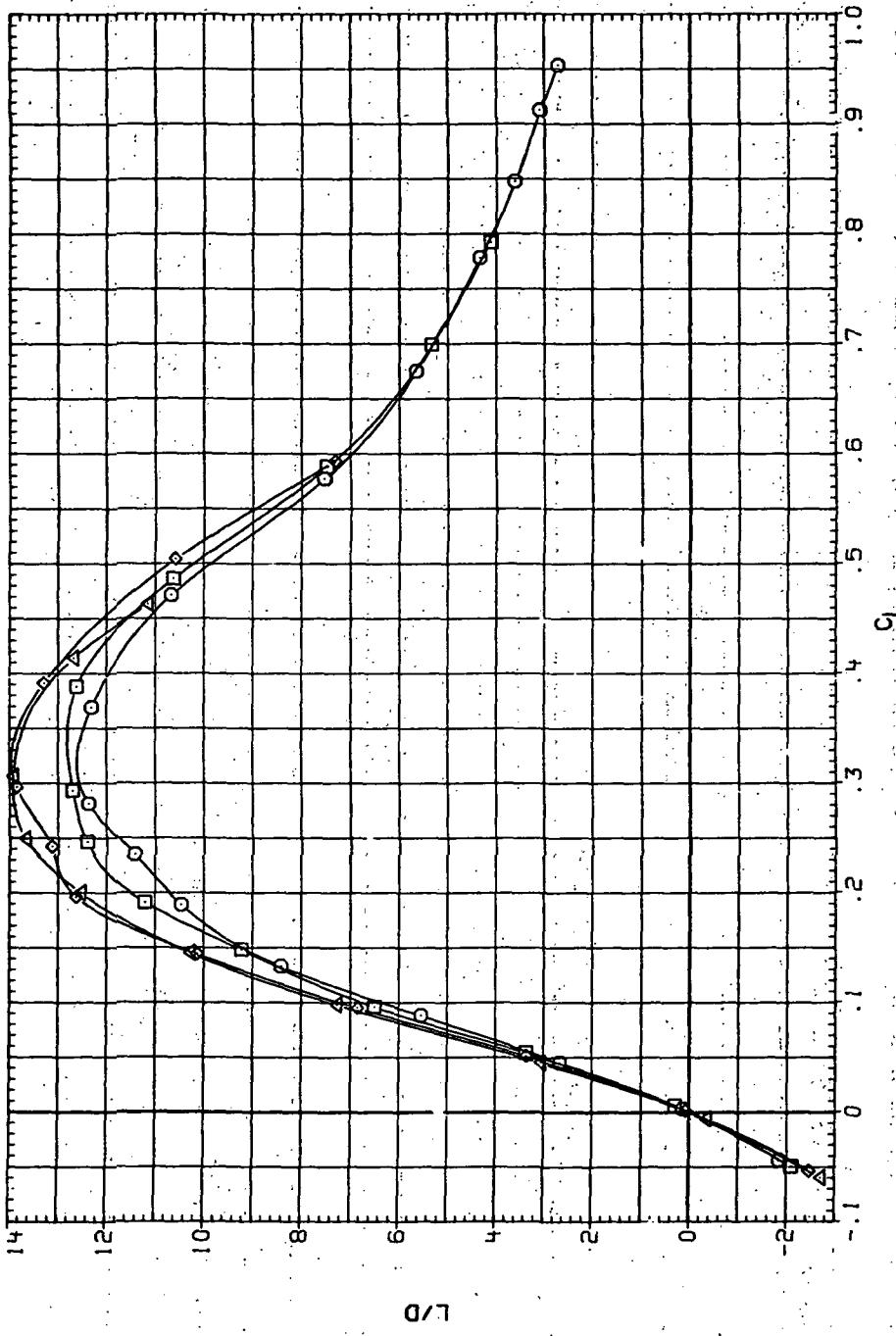
(d)  $L/D$  vs  $C_L$ .

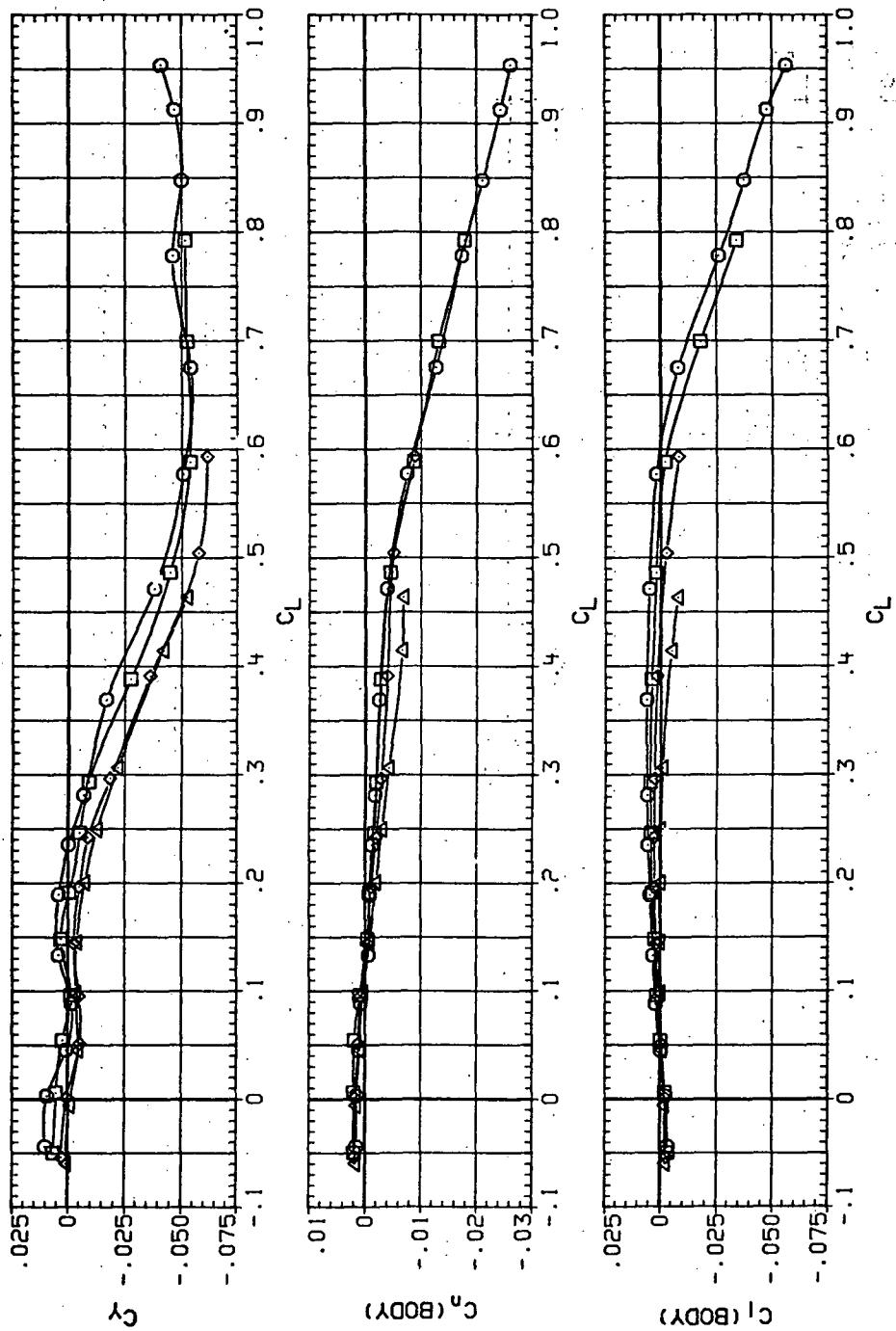
Figure 18.—Continued.

DATA SET SYMBOL CONFIGURATION

RJU019	○	SH50B (AL)
RJU059	□	SH50B (AL)
RJU093	◇	SH50B (AL)
RJU138	△	SH50B (AL)

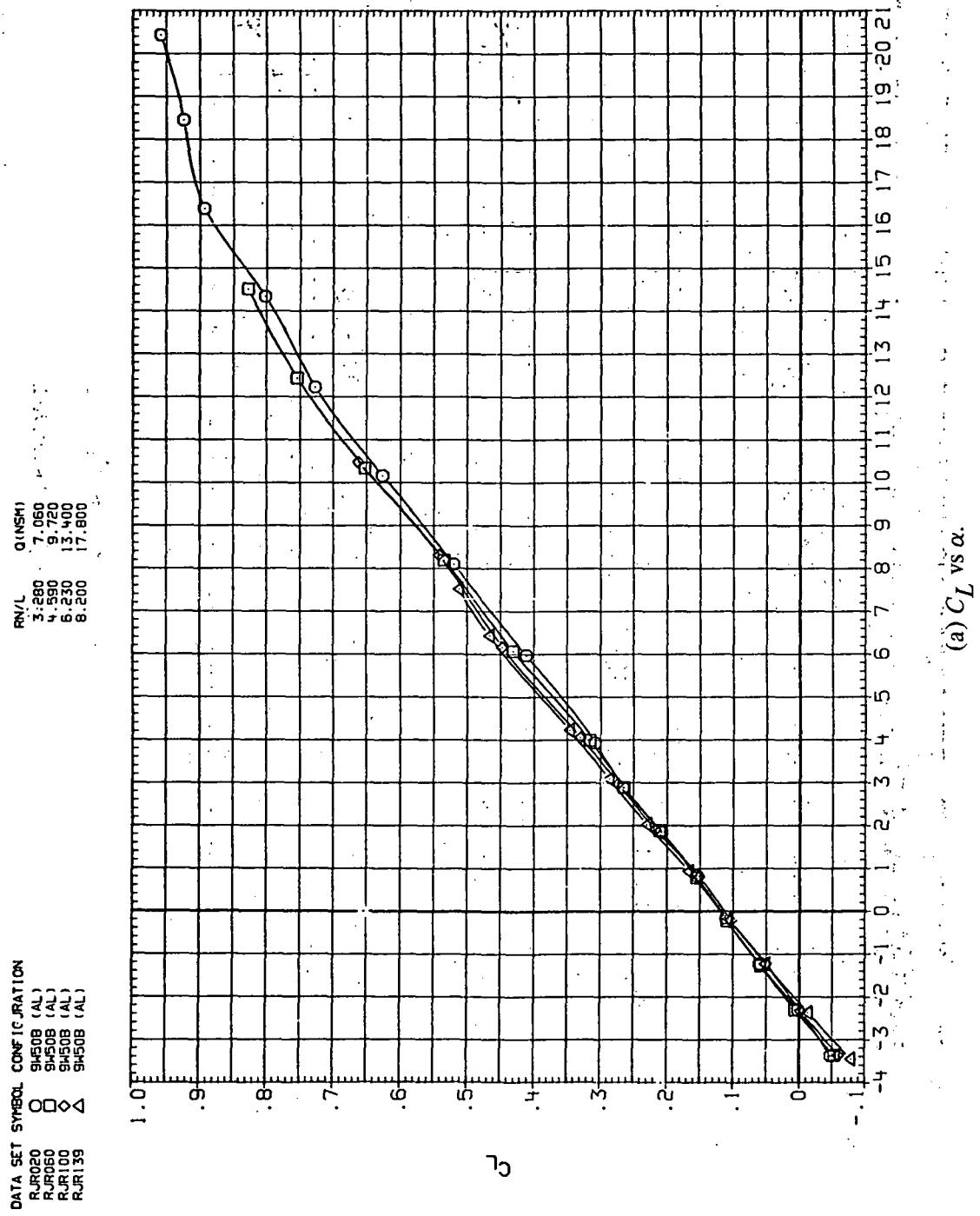
Q(NACA)  
R/V/L

3.280	5.610
4.590	7.710
6.230	10.600
8.200	14.100



(e)  $C_Y$ ,  $C_a$  and  $C_i$  vs  $C_L$ .

Figure 18.—Concluded.



(a)  $C_L$  vs  $\alpha$ .

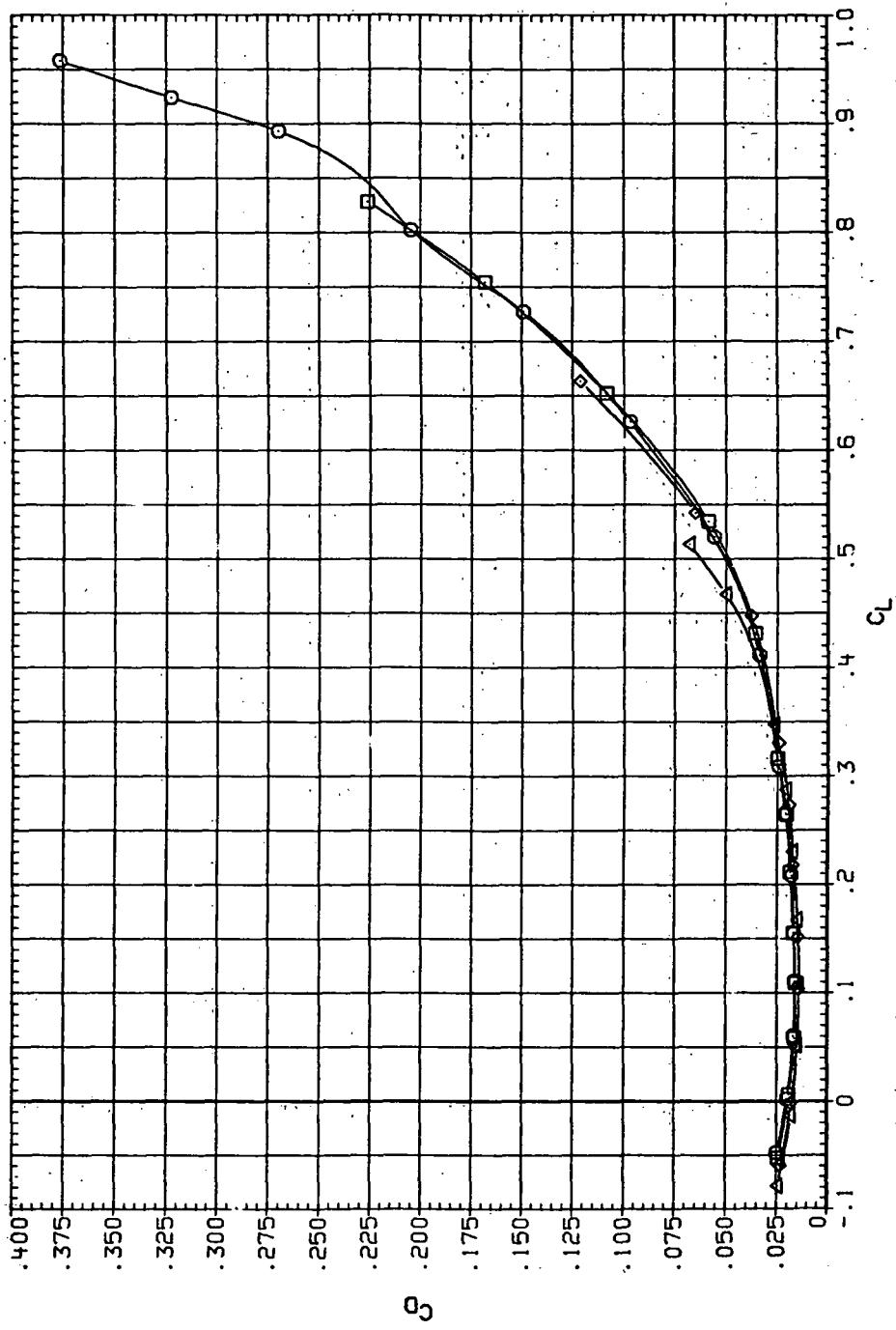
Figure 19.— Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 50^\circ$ ,  $M = 0.8$  and the modified NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION

RJR020	O	SHE0B (AL)
RJR050	□	SHE0B (AL)
RJR100	◇	SHE0B (AL)
RJR139	△	9450B (AL)

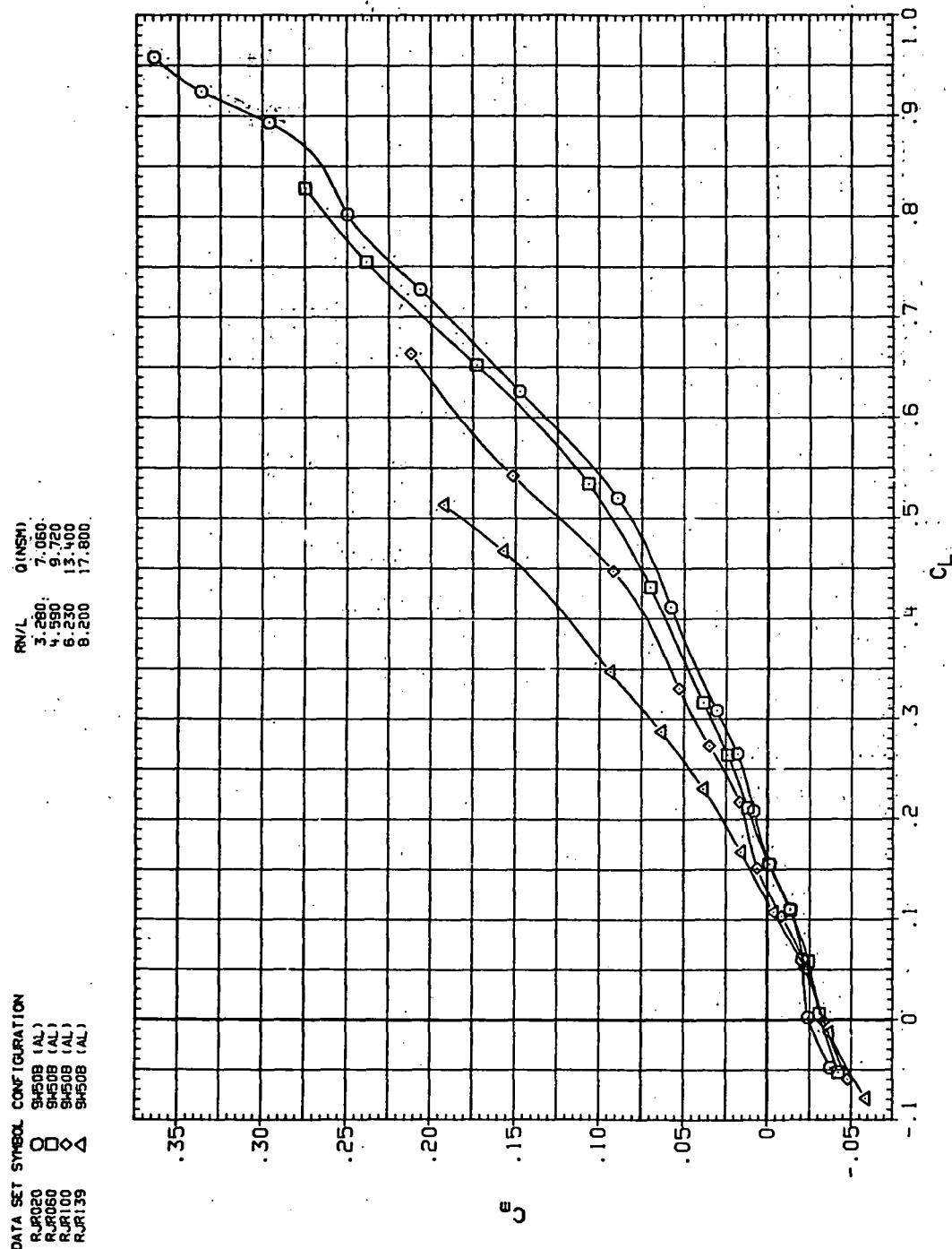
RN/L Q (NSM)

3.280	7.050
4.590	9.720
6.230	13.400
8.200	17.800



(b)  $C_D$  vs  $C_L$ .

Figure 19.—Continued.



(c)  $C_m$  vs  $C_L$ .

Figure 19.—Continued.

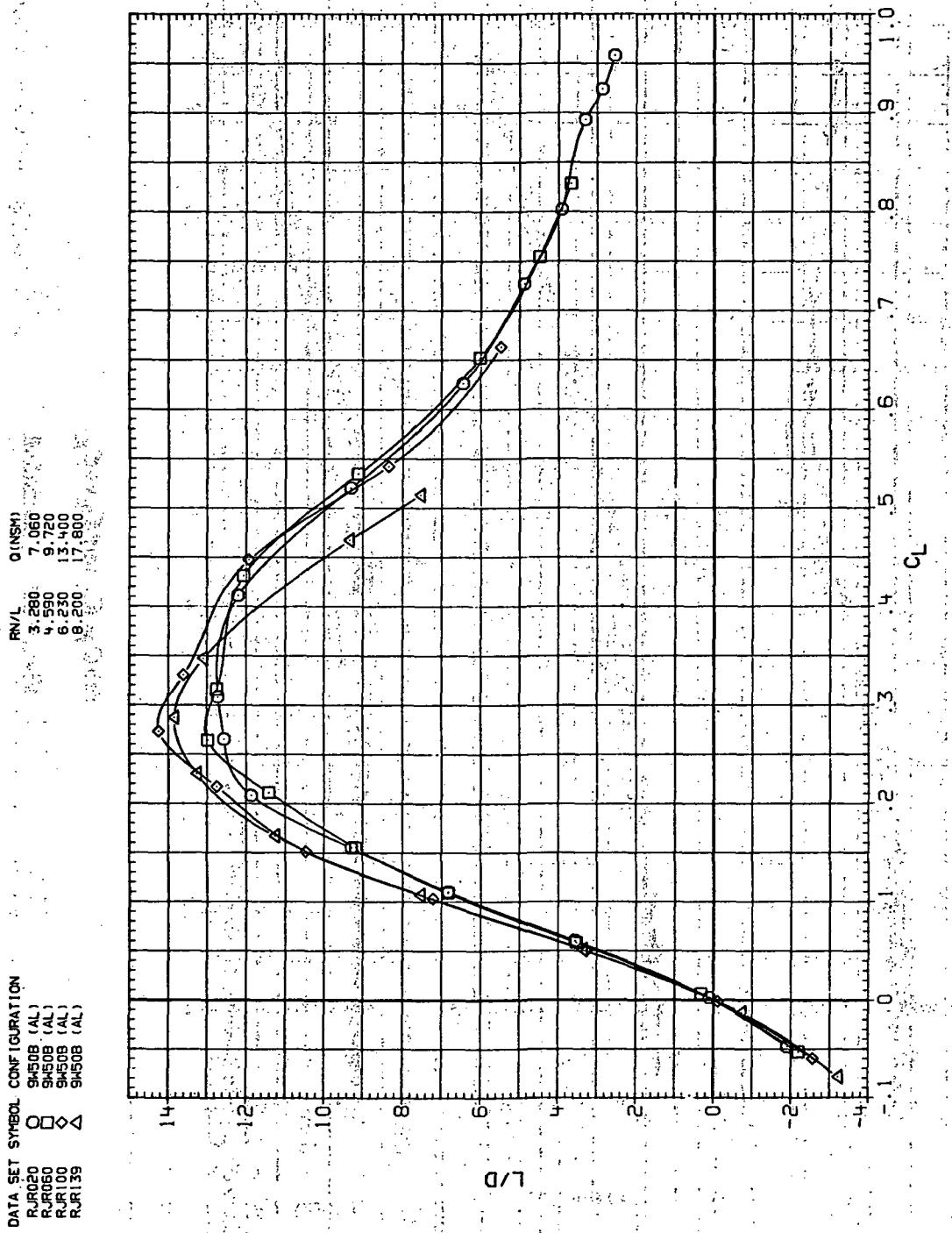
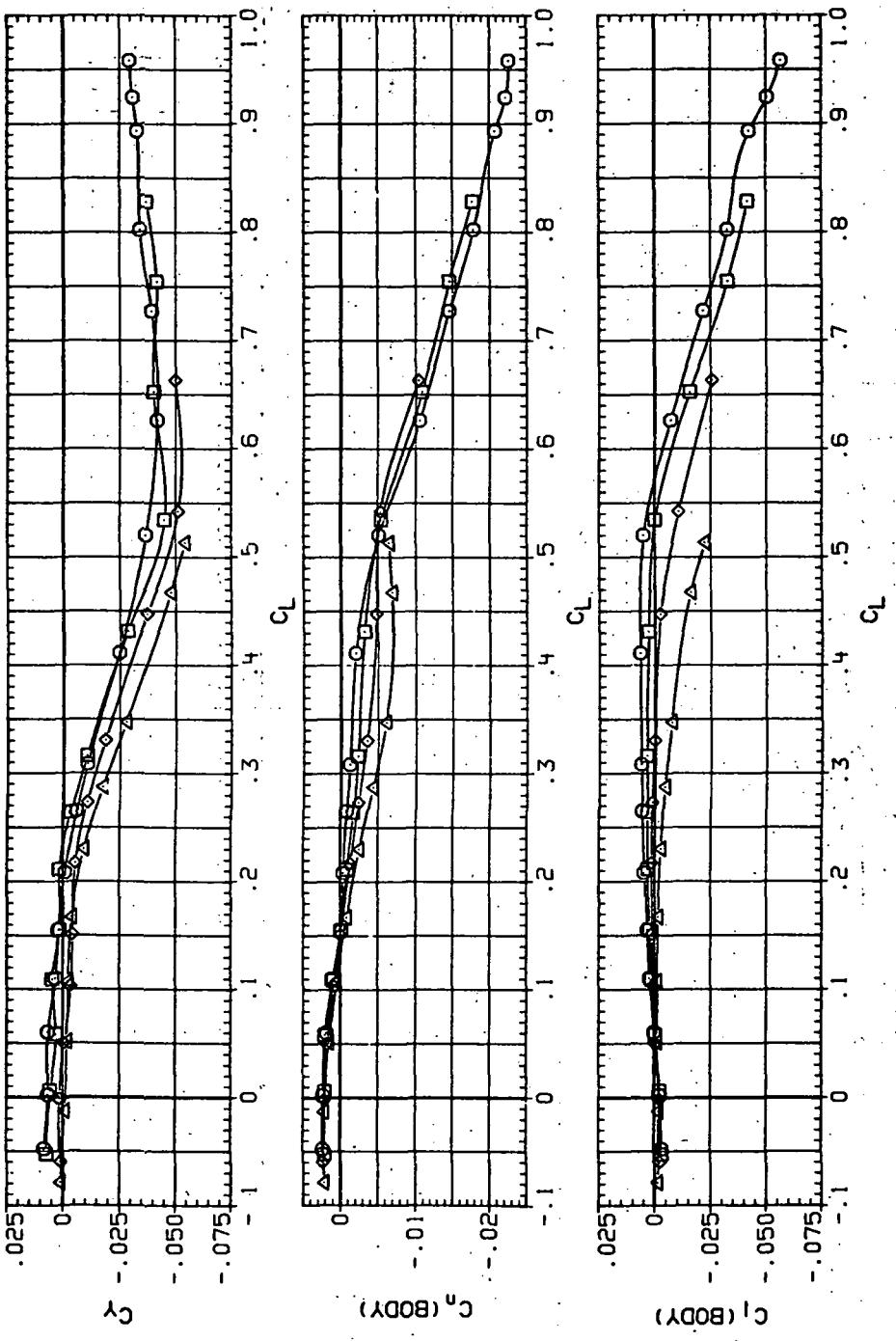
(d)  $L/D$  vs  $C_L$ .

Figure 19.—Continued.

DATA SET	SYMBOL	CONFIGURATION
RJ020	O	SH50B (AL)
RJ060	□	SH50B (AL)
RJ100	◇	SH50B (AL)
RJ139	△	SH50B (AL)



(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

Figure 19.—Concluded.

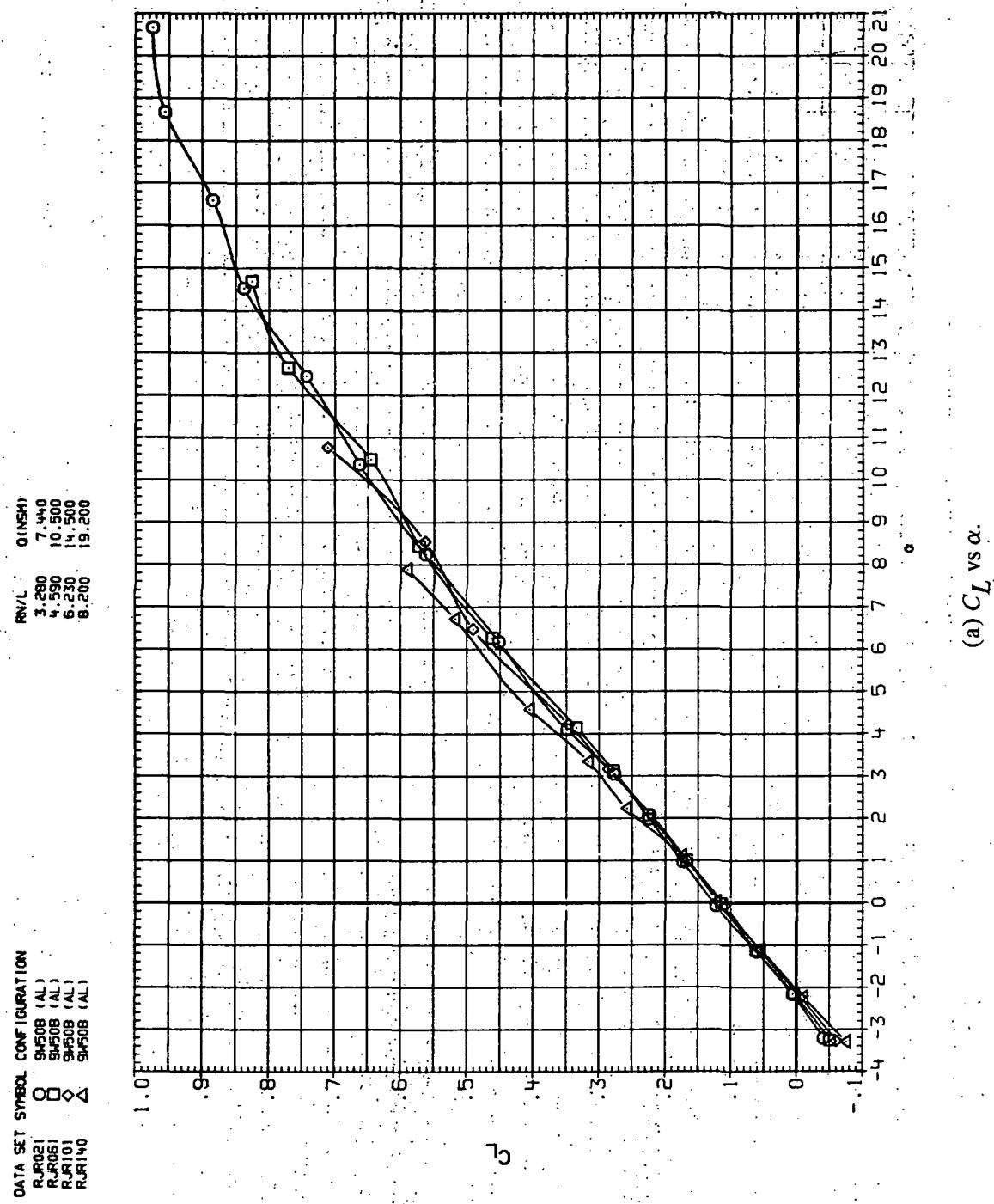


Figure 20.— Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 50^\circ$ ,  $M = 0.9$  and the modified NACA 65A204 airfoil).

## DATA SET SYMBOL CONFIGURATION

RJ021	□	94508 (AL)
RJ061	○	94508 (AL)
RJ101	◊	94508 (AL)
RJ140	△	94508 (AL)

DATA SET SYMBOL CONFIGURATION  
 QINSHI  
 RM/L 7.440  
 3.280 10.500  
 4.590 14.500  
 6.230 19.200

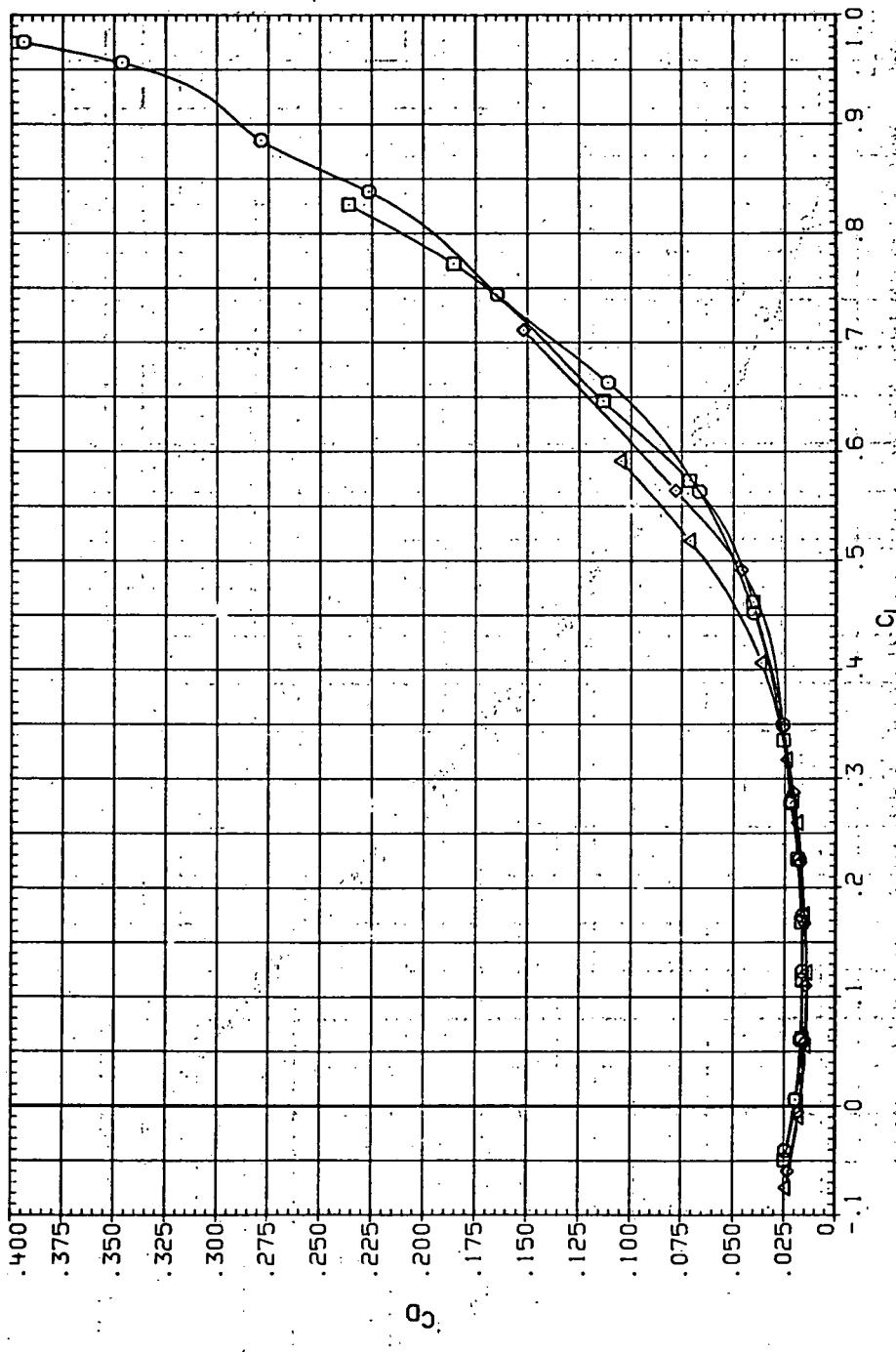
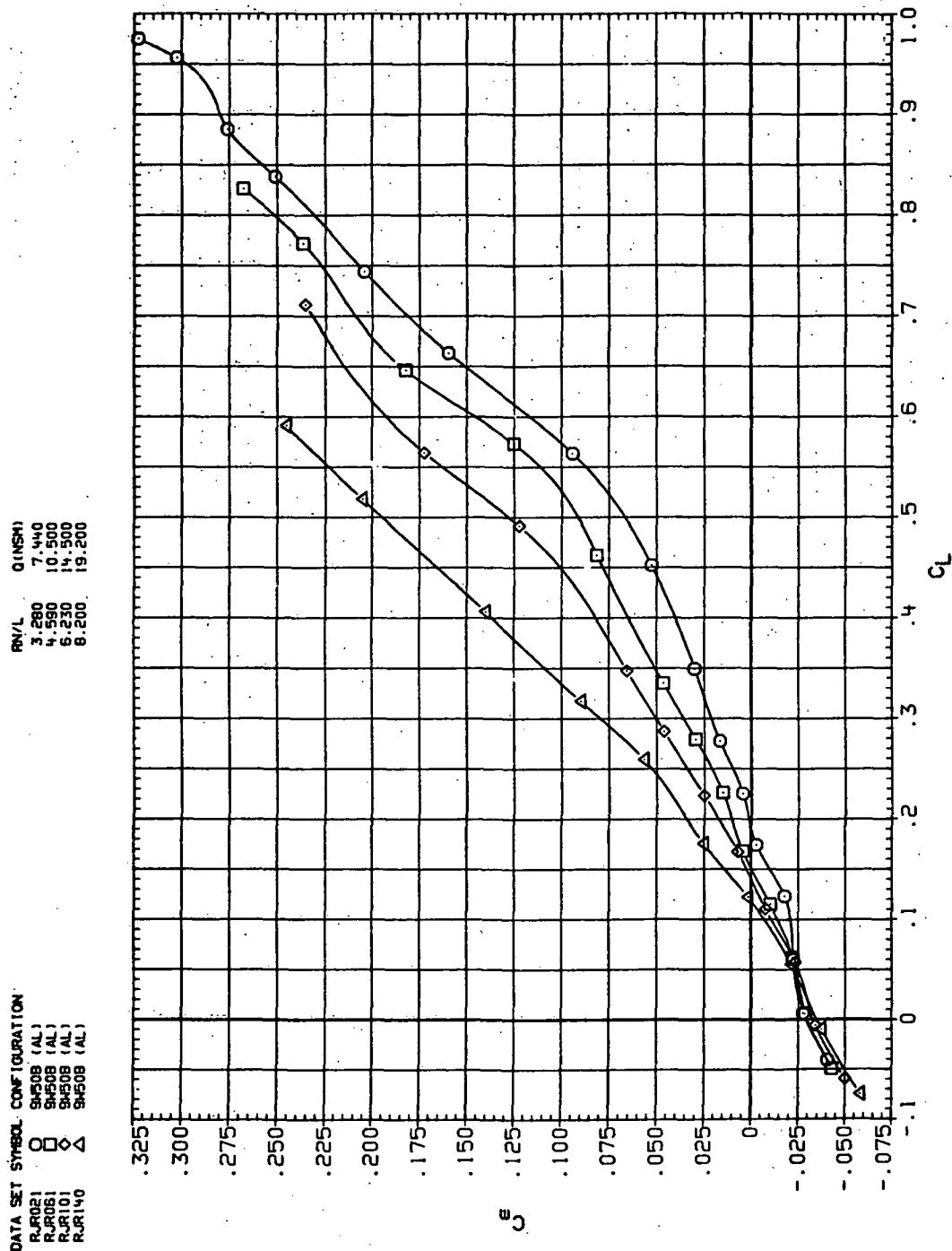
(b)  $C_D$  vs  $C_L$ .

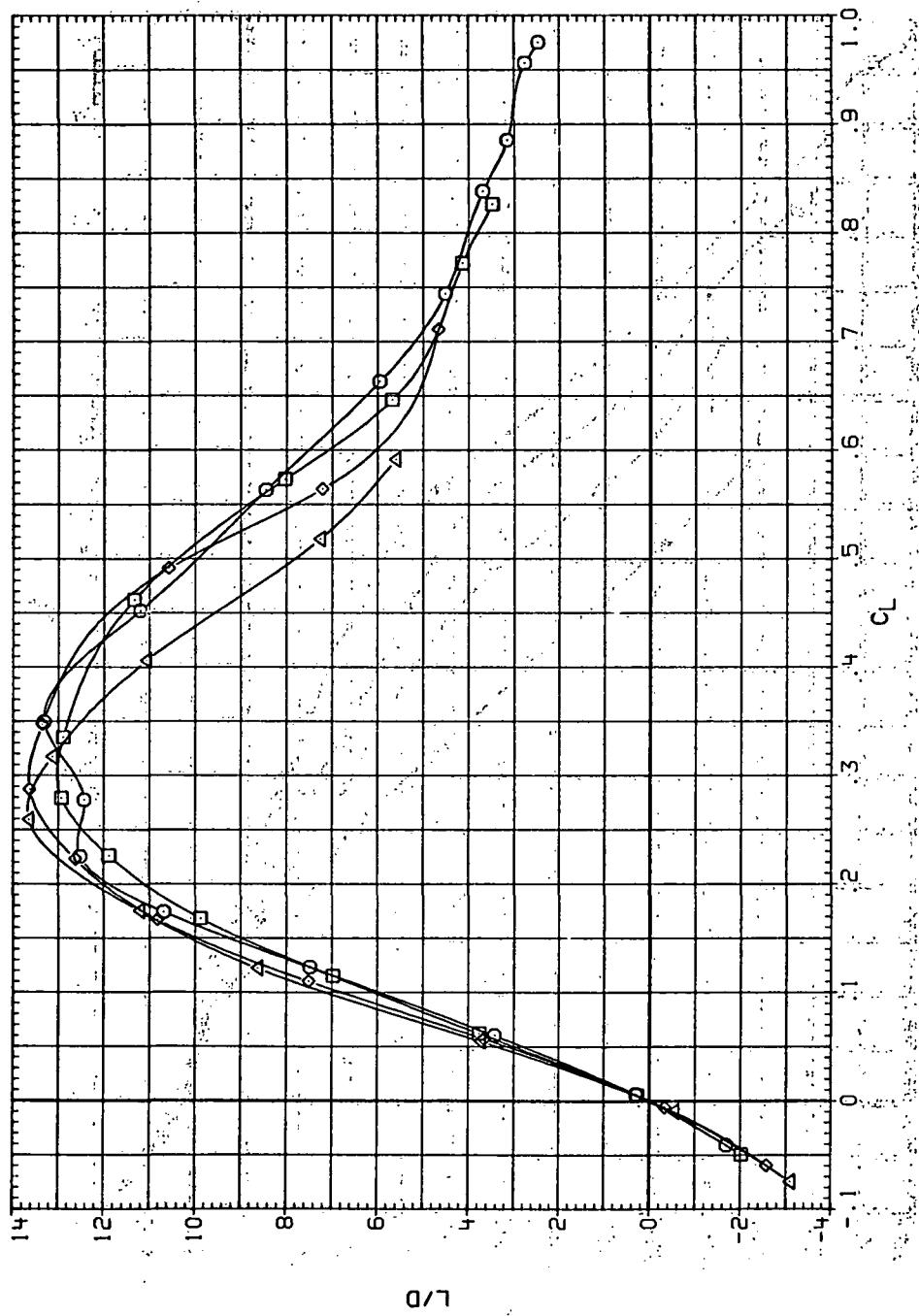
Figure 20.—Continued.



(c)  $C_m$  vs  $C_L$ .

Figure 20.—Continued.

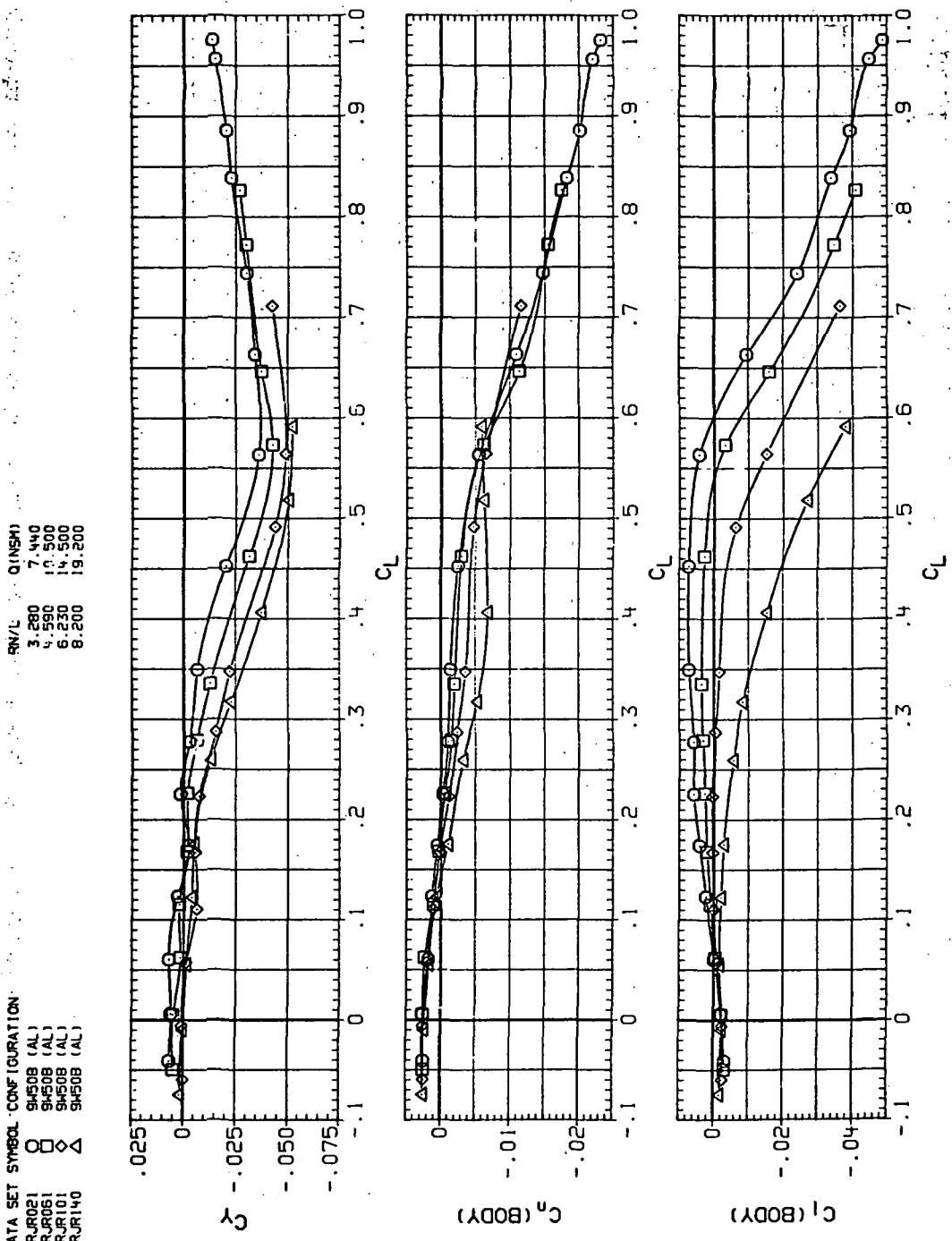
DATA SET	SYMBOL	CONFIGURATION	RNL	QNSM
RJR021	○	9H50B (AL)	3.280	7.440
RJR031	□	9H50B (AL)	4.590	10.500
RJR101	◊	9H50B (AL)	6.230	14.500
RJR140	△	9H50B (AL)	8.200	19.200



(d)  $L/D$  vs  $C_L$ .

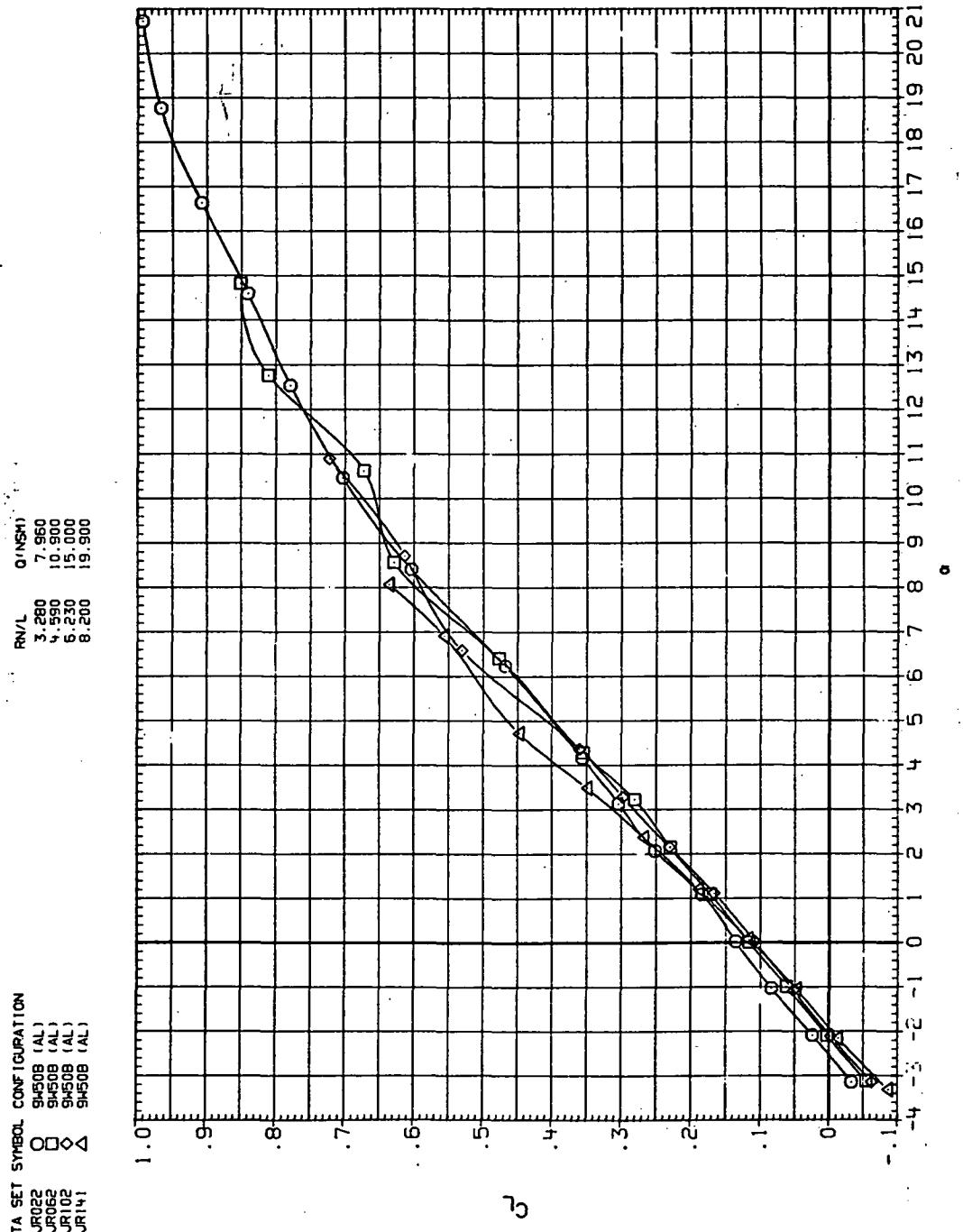
Figure 20.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RUR02I ○ 9450B (AL)  
 RUR06I □ 9450B (AL)  
 RUR10I ◇ 9450B (AL)  
 RUR14I △ 9450B (AL)



(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

Figure 20.— Concluded.



(a)  $C_L$  vs  $\alpha$ .

Figure 21.— Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 50^\circ$ ,  $M = 0.95$  and the modified NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 RJR022 O 9450B (AL)  
 RJR062 □ 9450B (AL)  
 RJR102 ◇ 9450B (AL)  
 RJR141 △ 9450B (AL)

DATA SET SYMBOL CONFIGURATION  
 RJR022 O 7 960  
 RJR062 □ 10 900  
 RJR102 ◇ 15 900  
 RJR141 △ 19 900

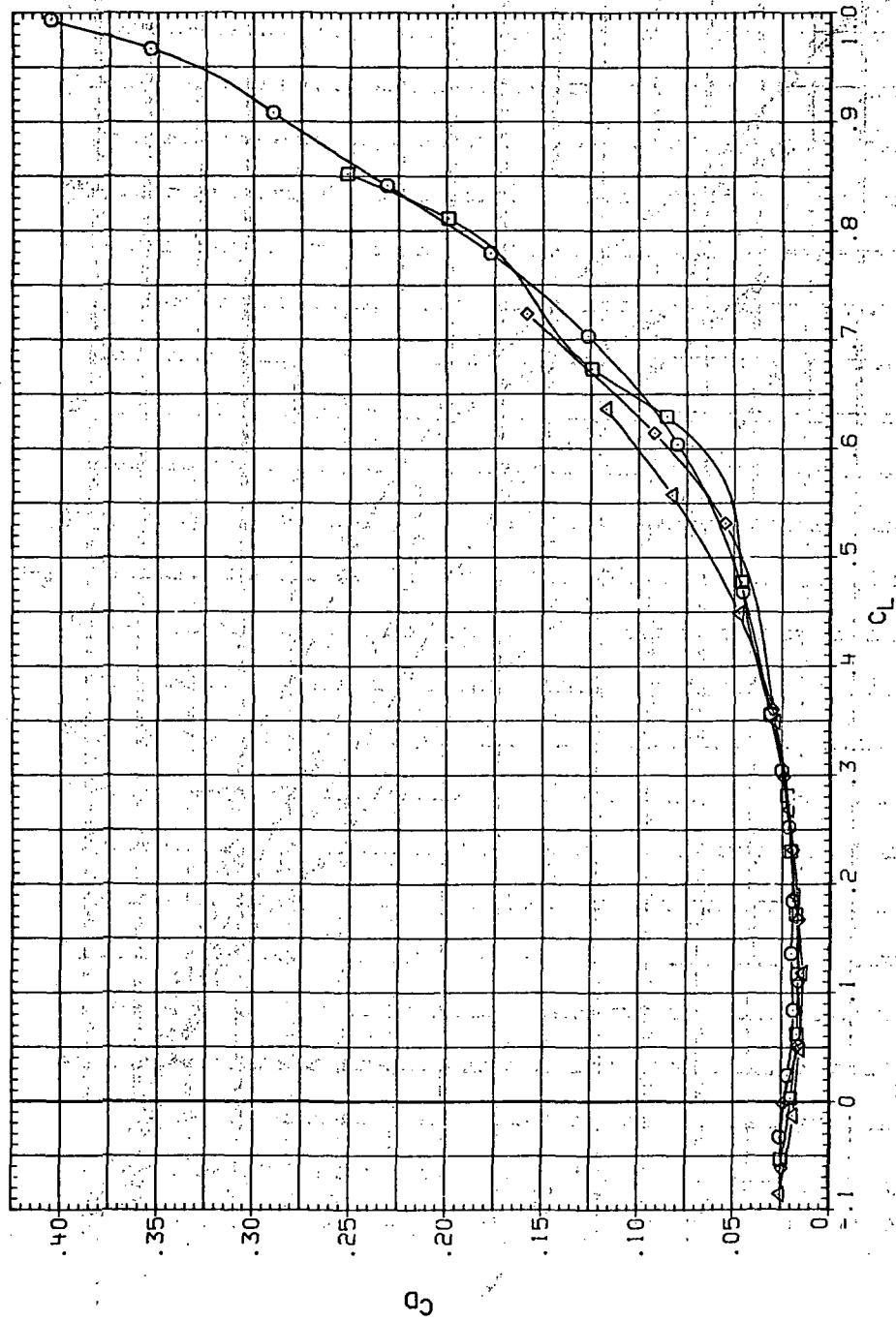
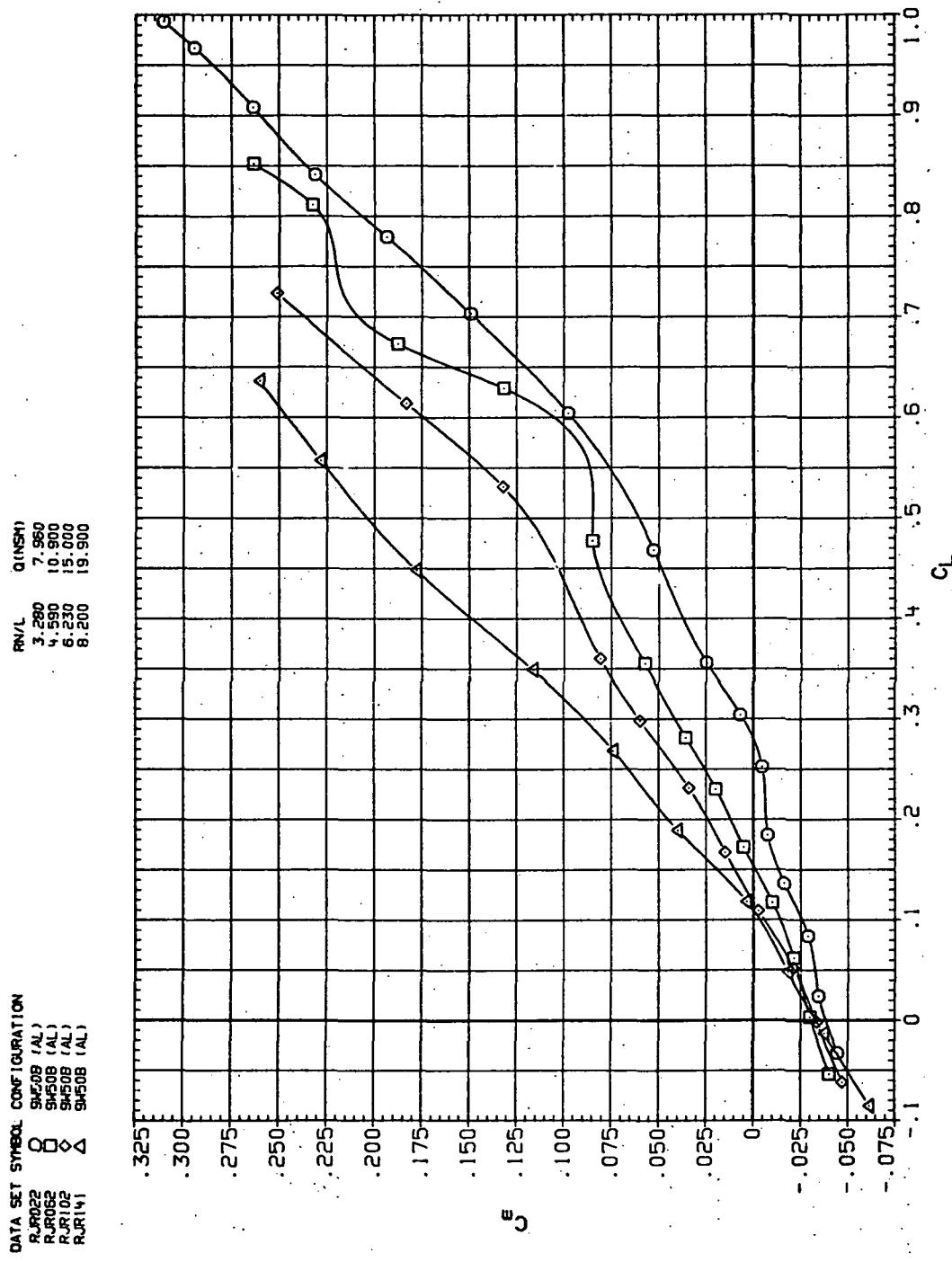
(b)  $C_D$  vs  $C_L$ .

Figure 21.—Continued.



(c)  $C_m$  vs  $C_L$

Figure 21.—Continued.

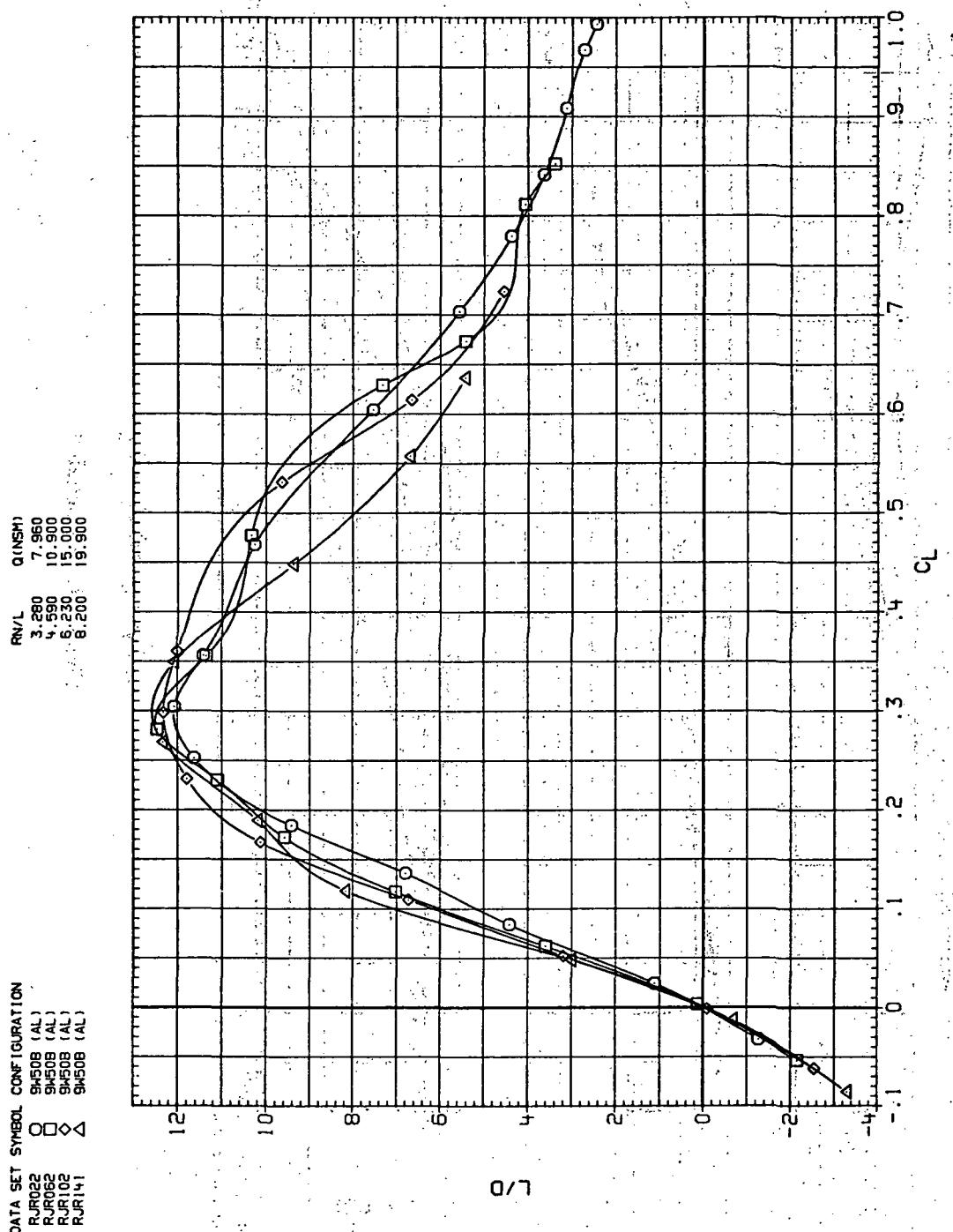
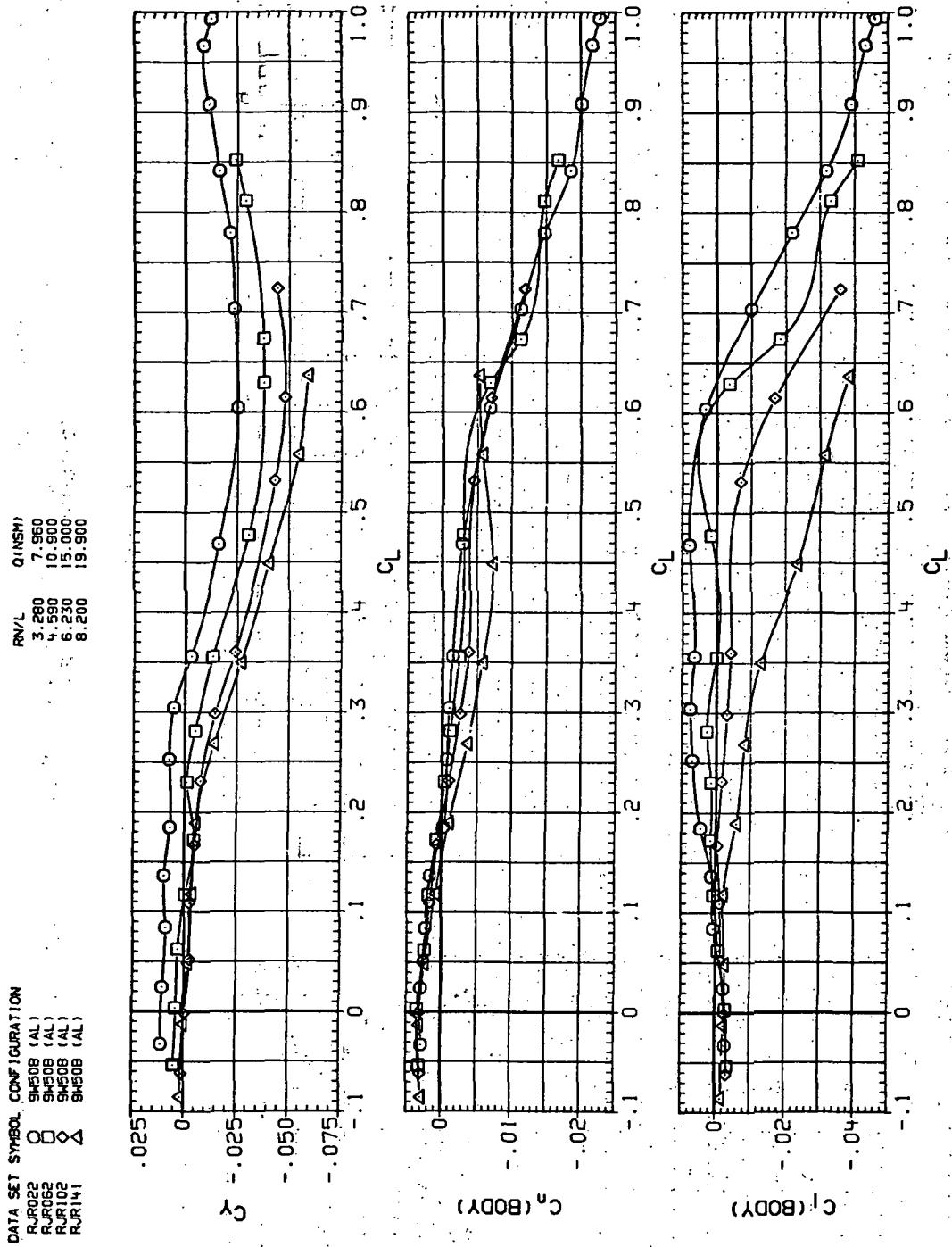
(d)  $L/D$  vs  $C_L$ .

Figure 21.—Continued.



(e)  $C_Y$ ,  $C_n$  and  $C_\chi$  vs  $C_L$

Figure 21.—Concluded.

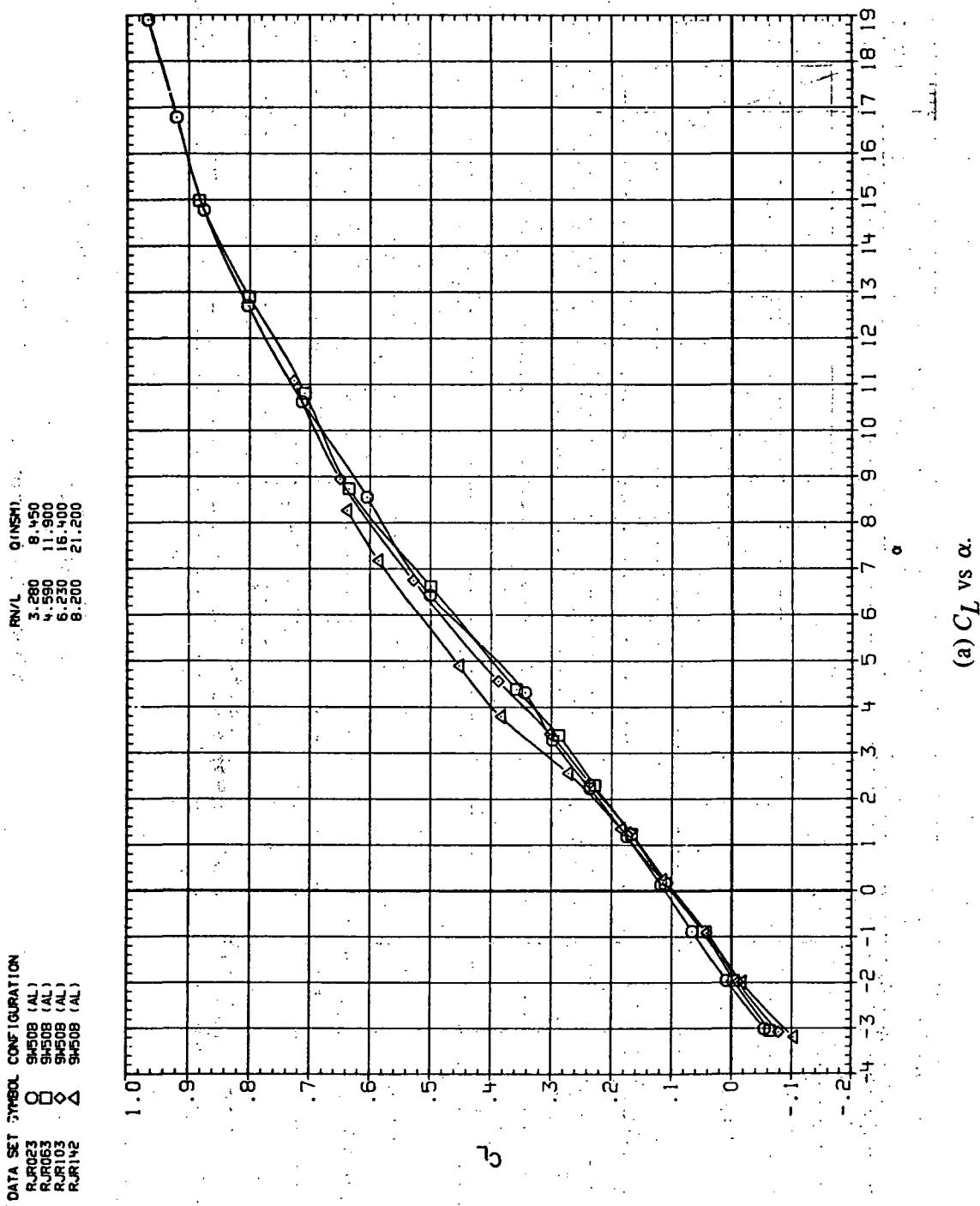
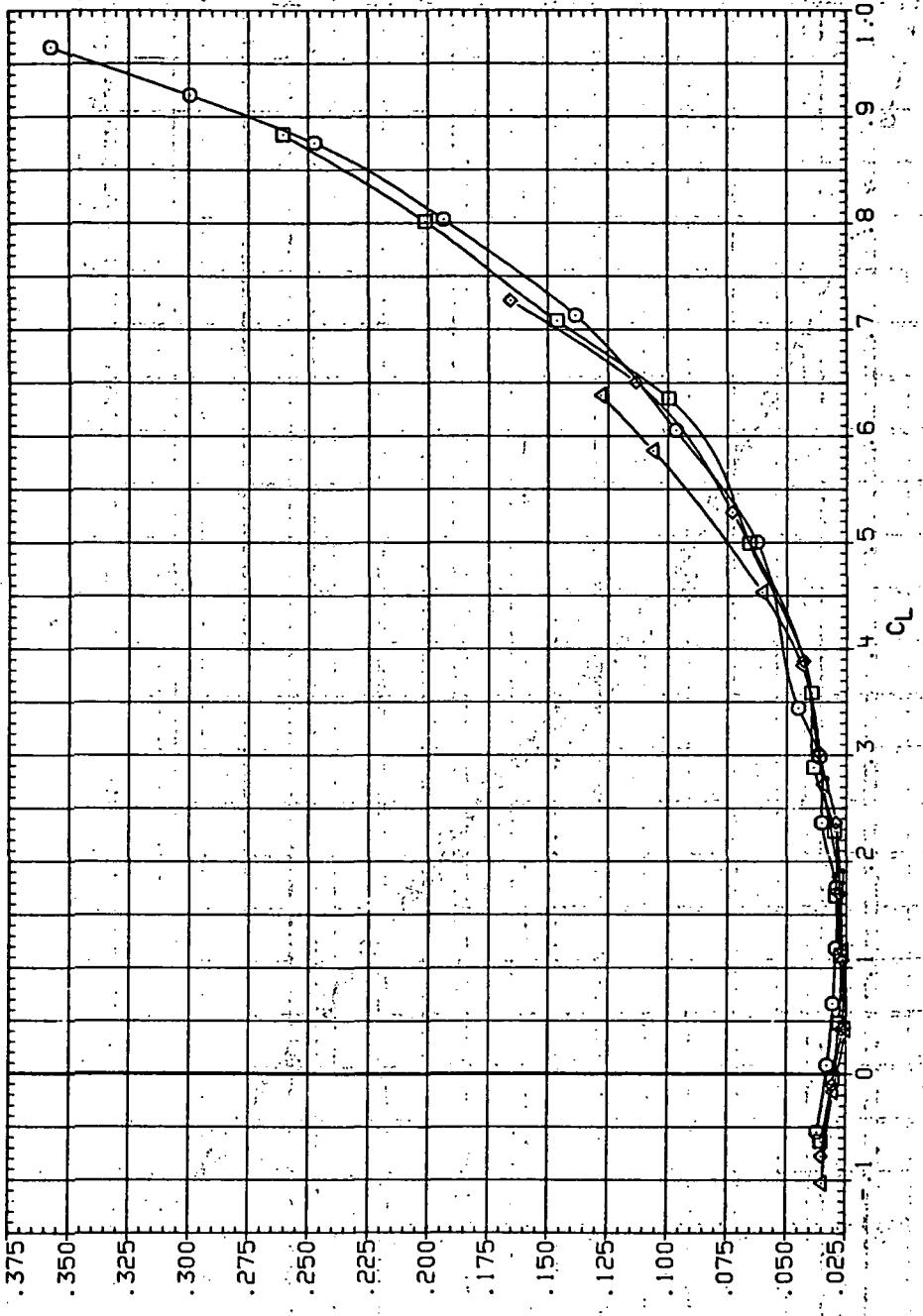
(a)  $C_L$  vs  $\alpha$ .

Figure 22.— Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 50^\circ$ ,  $M = 1.1$  and the modified NACA 65A204 airfoil).

DATA SET	CONFIGURATION	RNL	QINSHI	WIND TUNNEL
RJR023	SH50B (AL)	3.280	8.450	
RJR063	SH50B (AL)	4.590	11.900	
RJR103	SH50B (AL)	6.250	16.400	
RJR142	SH50B (AL)	8.200	21.200	



(b)  $C_D$  vs  $C_L$ .

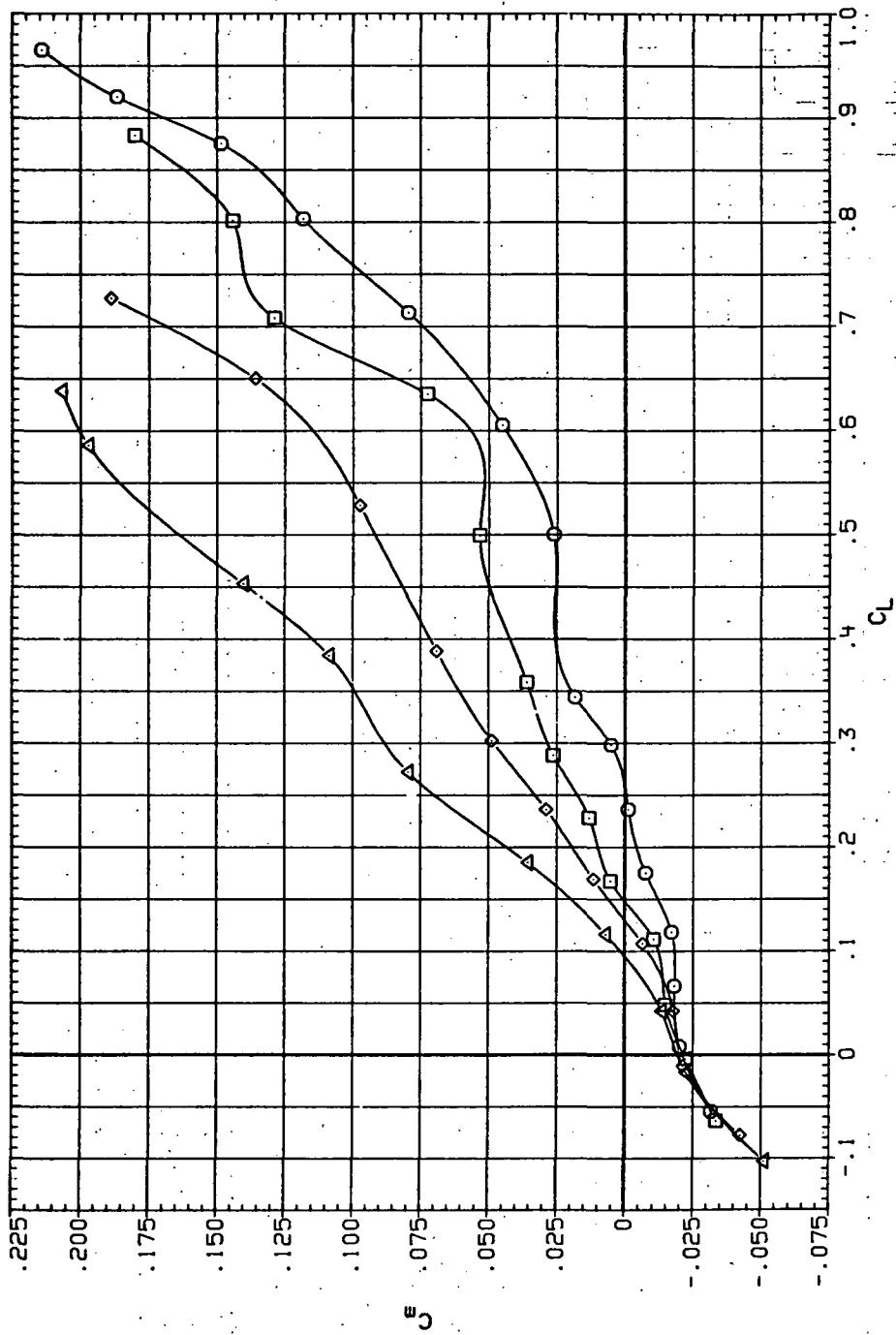
Figure 22.—Continued.

DATA SET SYMBOL CONFIGURATION

RJR03	O	S450B (AL)
RJR03	□	S450B (AL)
RJR103	◊	S450B (AL)
RJR142	△	S450B (AL)

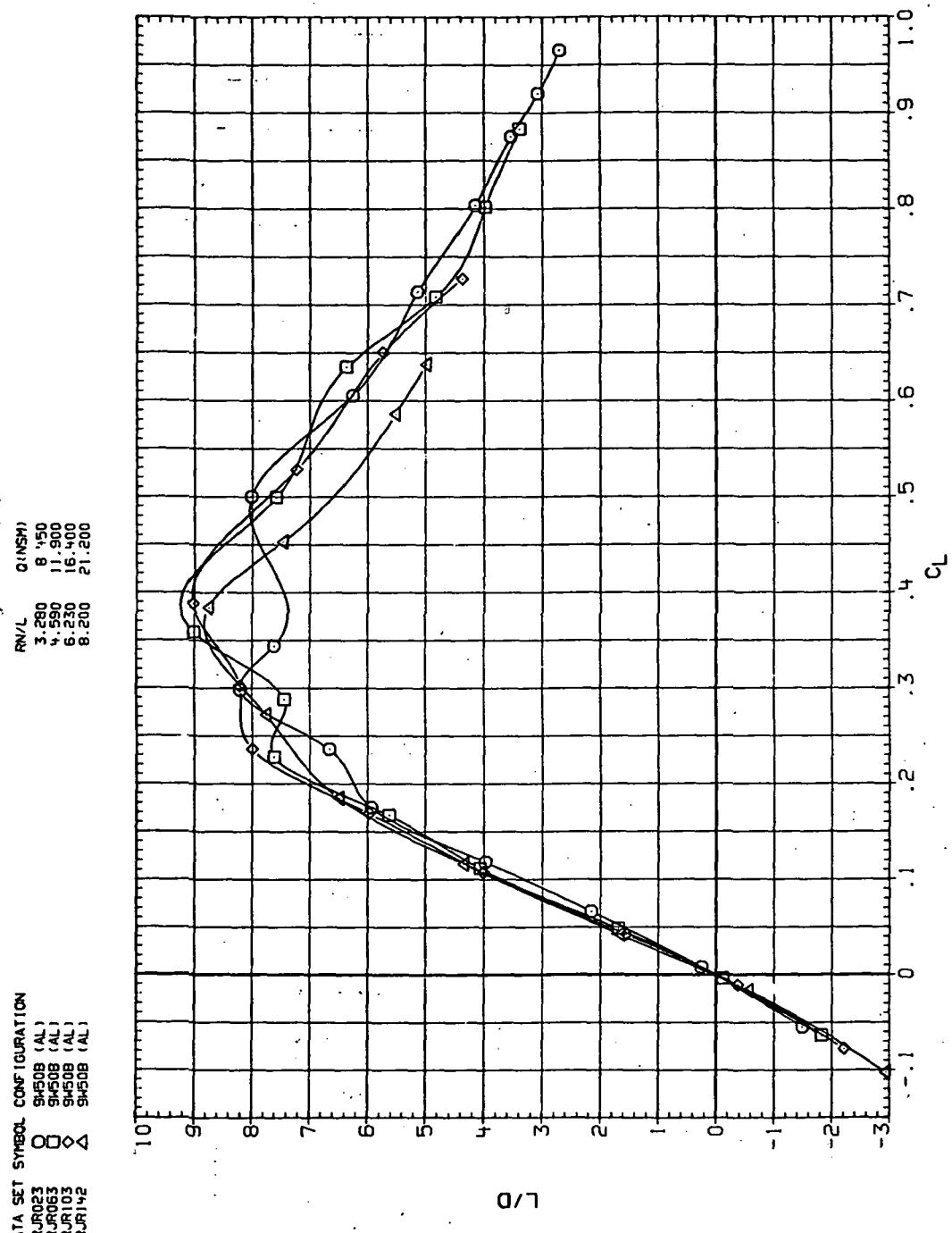
RN/L Q(NSM)

3.280	6.450
4.590	11.900
6.230	16.400
8.200	21.200



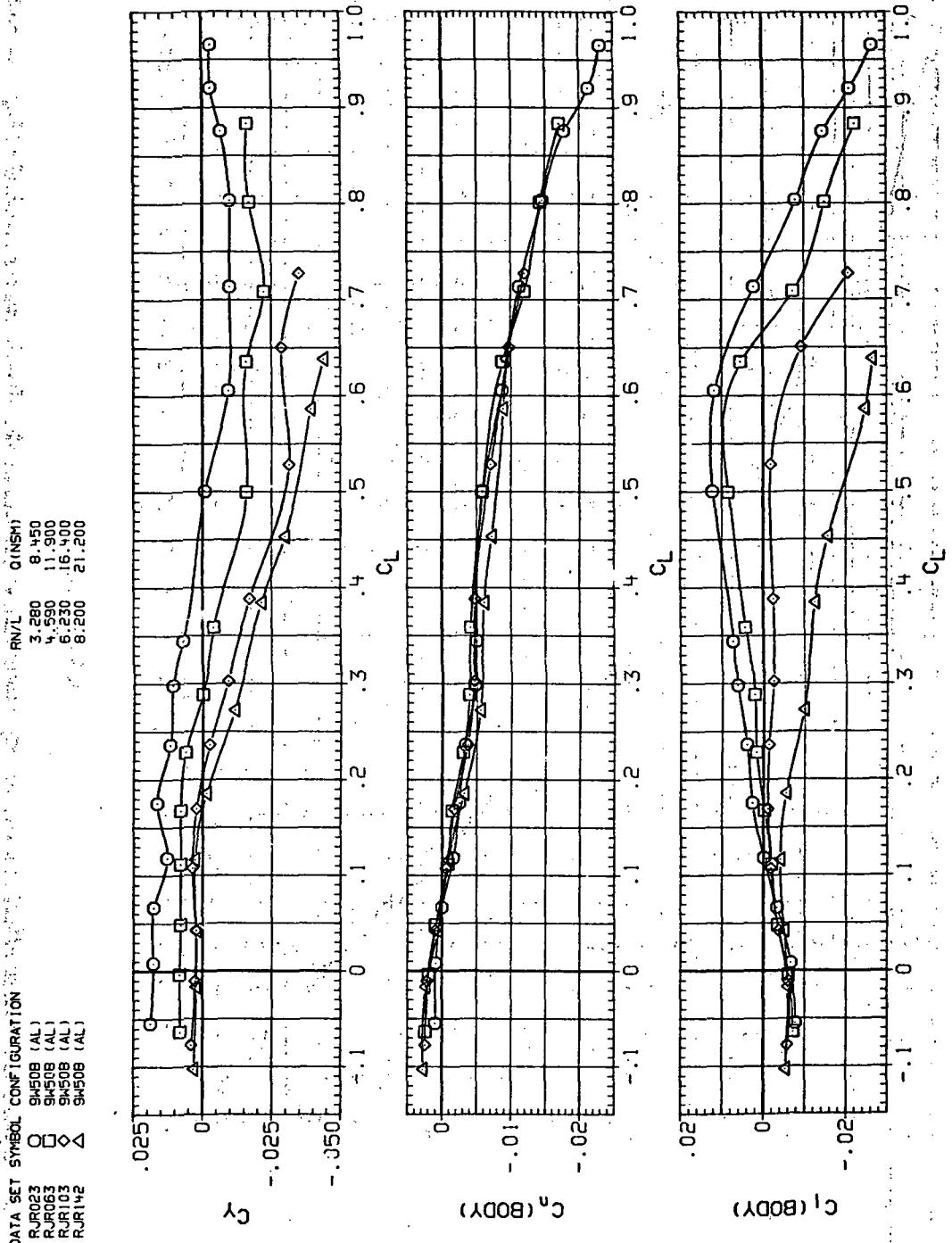
(c)  $C_m$  vs  $C_L$ .

Figure 22.—Continued.



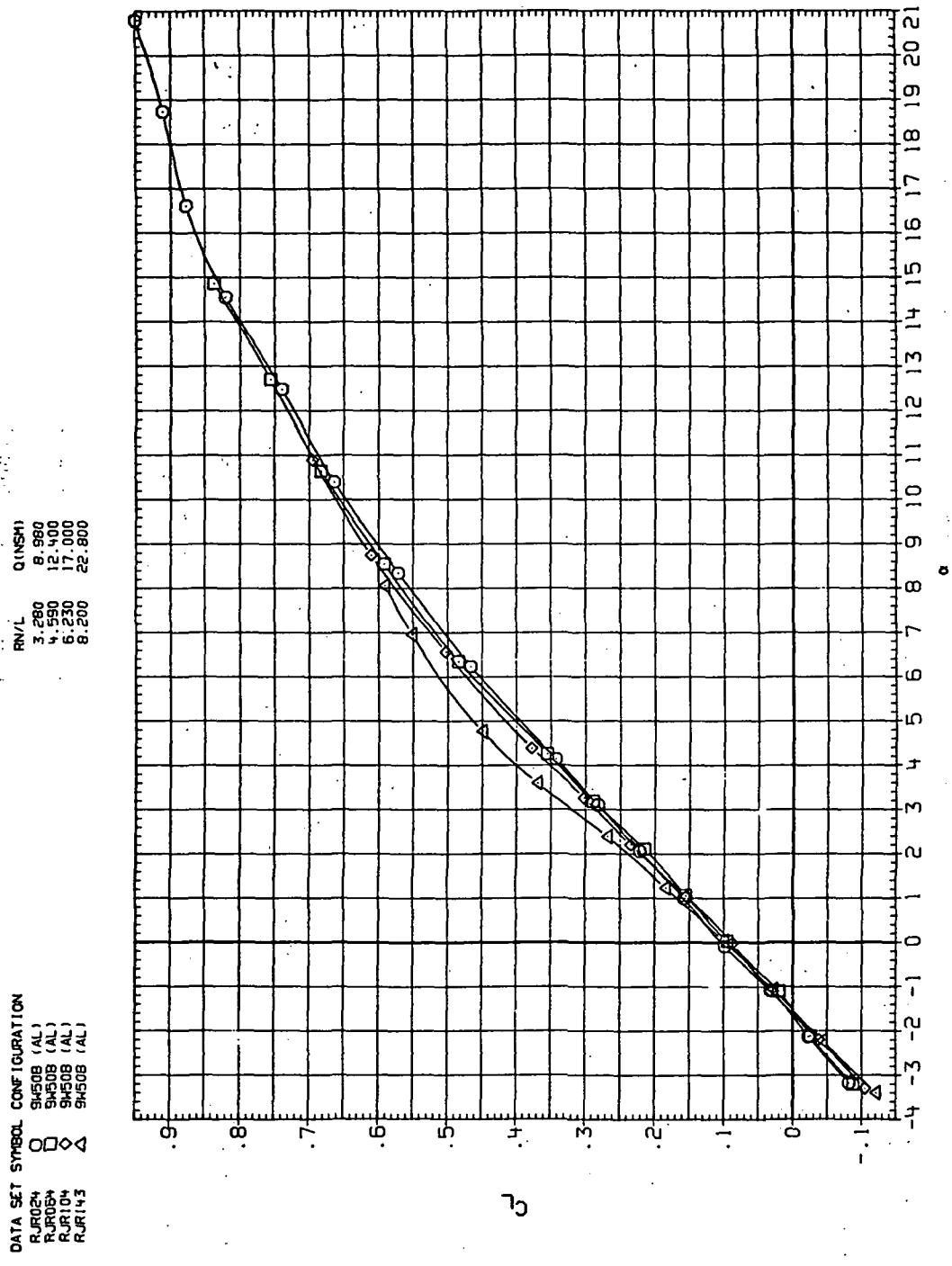
(d)  $L/D$  vs  $C_L$ .

Figure 22.— Continued.



(e)  $C_Y$ ,  $C_n$  and  $C_\ell$  vs  $C_L$ .

Figure 22.— Concluded.



(a)  $C_L$  vs  $\alpha$ .

Figure 23.— Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 50^\circ$ ,  $M = 1.2$  and the modified NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 RUR020 O SH50B (AL)  
 RUR061 □ SH50B (AL)  
 RUR101 ◇ SH50B (AL)  
 RUR143 △ SH50B (AL)

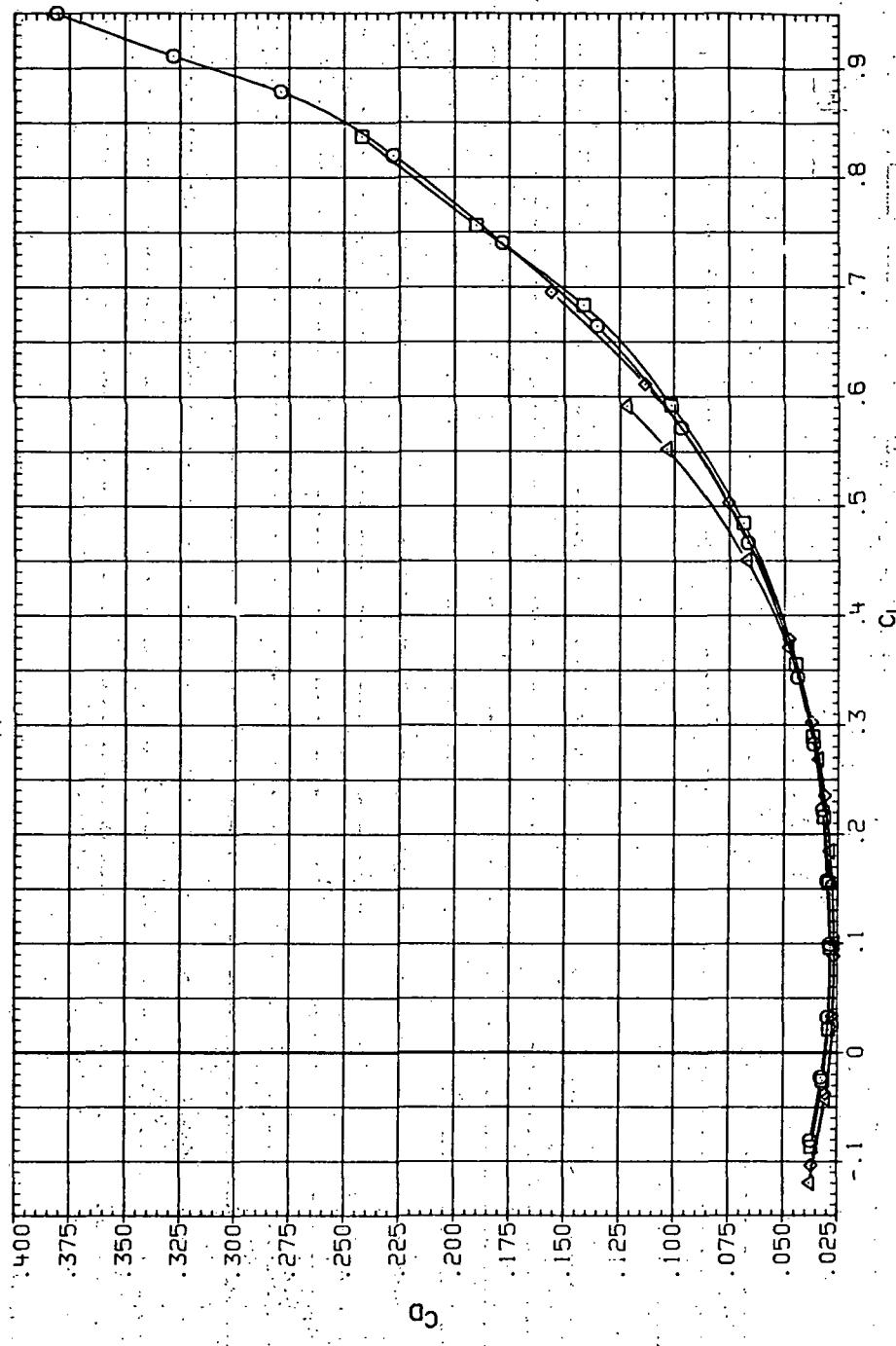
(b)  $C_D$  vs  $C_L$ .

Figure 23.—Continued.

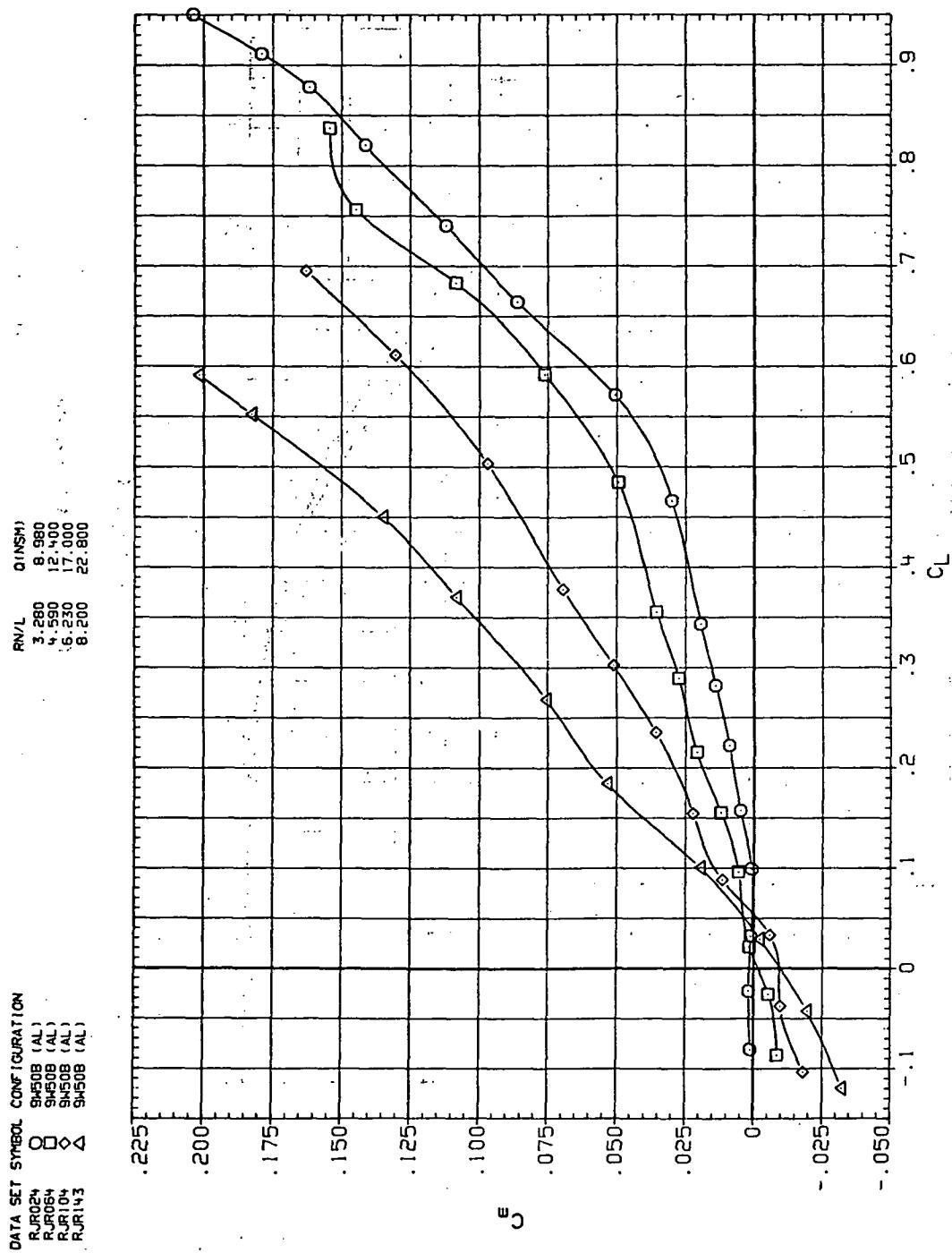
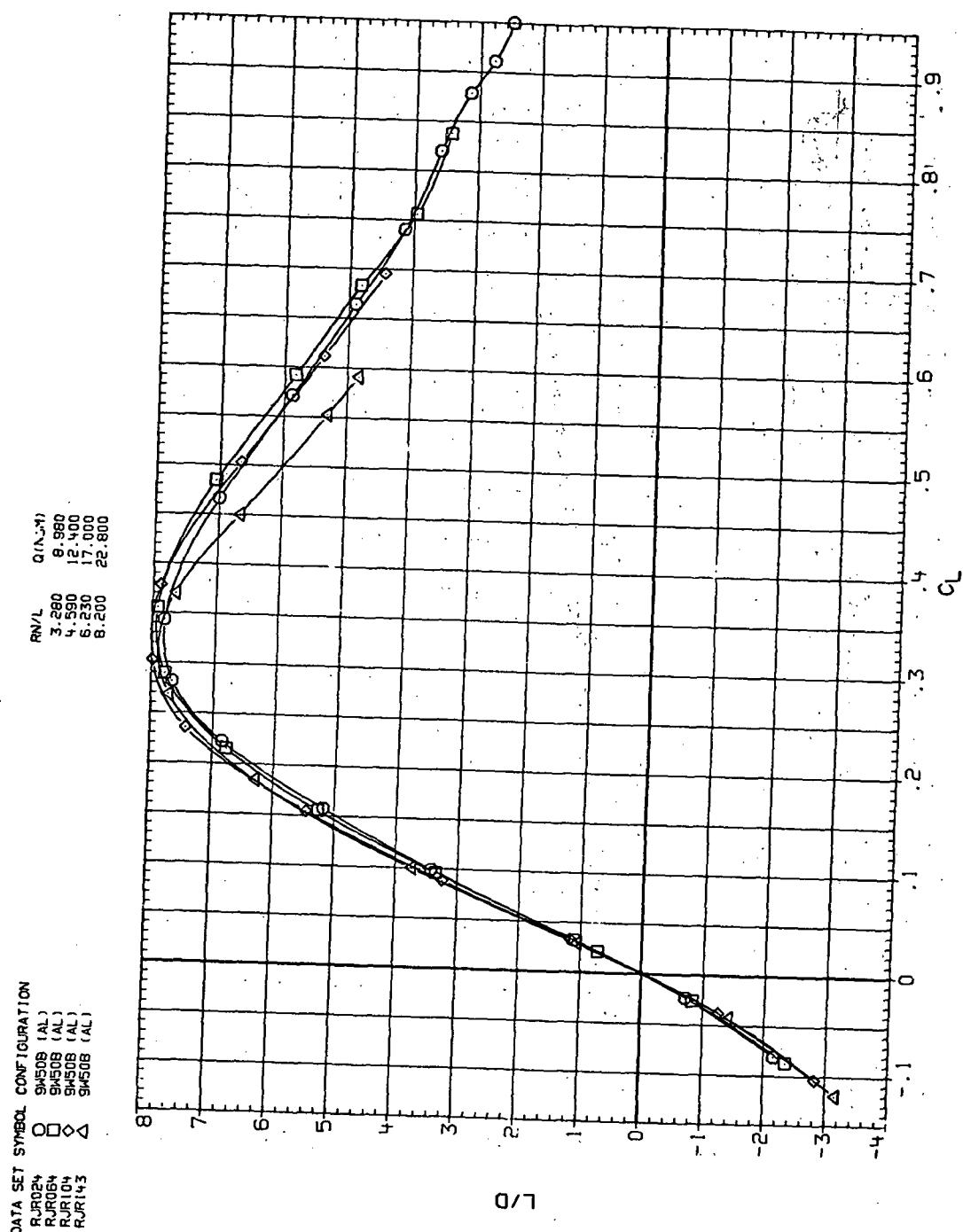


Figure 23—Continued.  
(c)  $C_m$  vs  $C_L$



(d)  $L/D$  vs  $C_L$ .

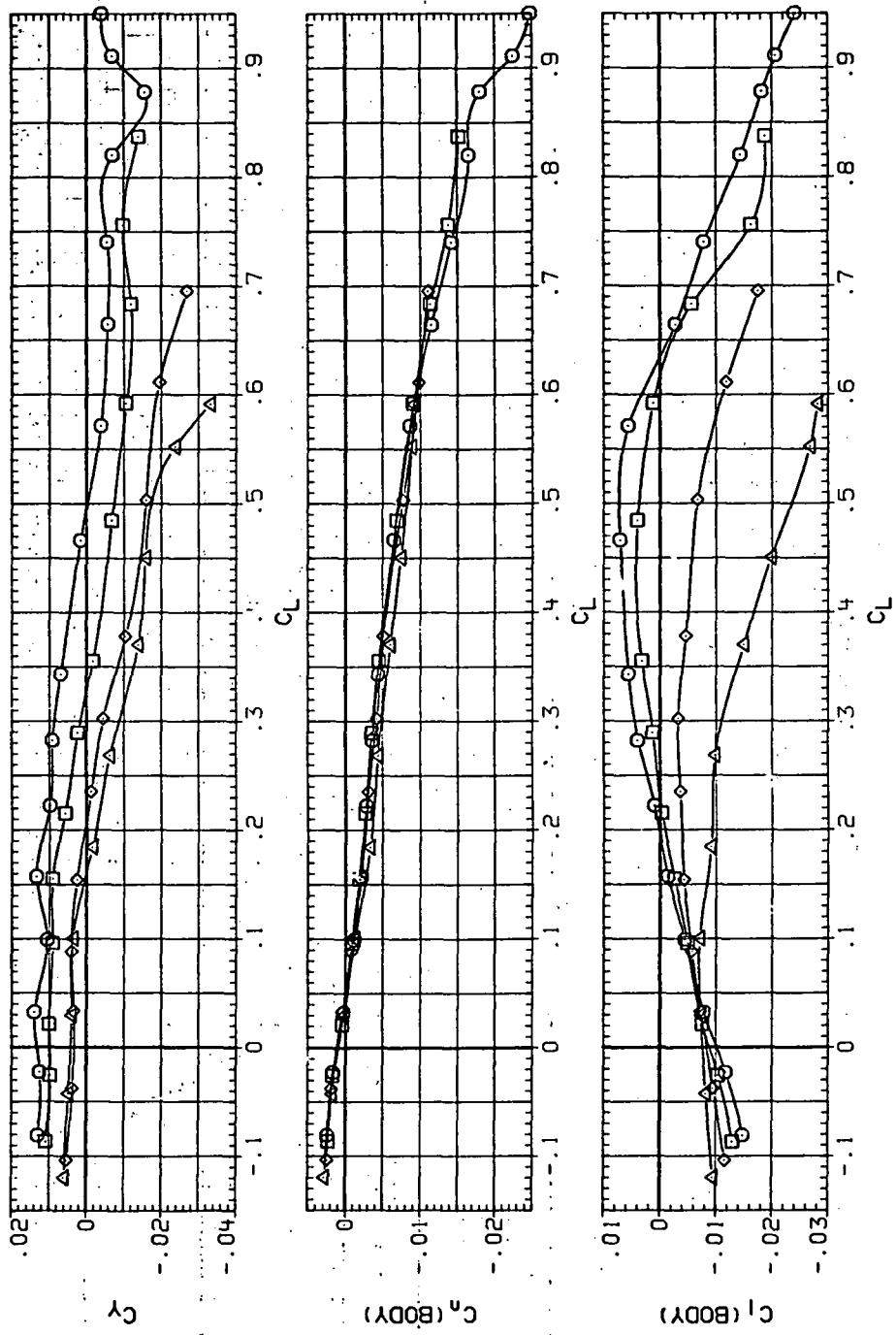
Figure 23.—Continued.

DATA SET SYMBOL CONFIGURATION

RJR024	O	94508 (AL)
RJR064	□	94508 (AL)
RJR104	◇	94508 (AL)
RJR143	△	94508 (AL)

R/V/L Q(NSM)

R/V/L	Q(NSM)
3.280	8.980
4.590	12.400
6.230	17.000
8.200	22.800



(e)  $C_Y$ ,  $C_n$  and  $C_g$  vs  $C_L$ .

Figure 23.— Concluded.

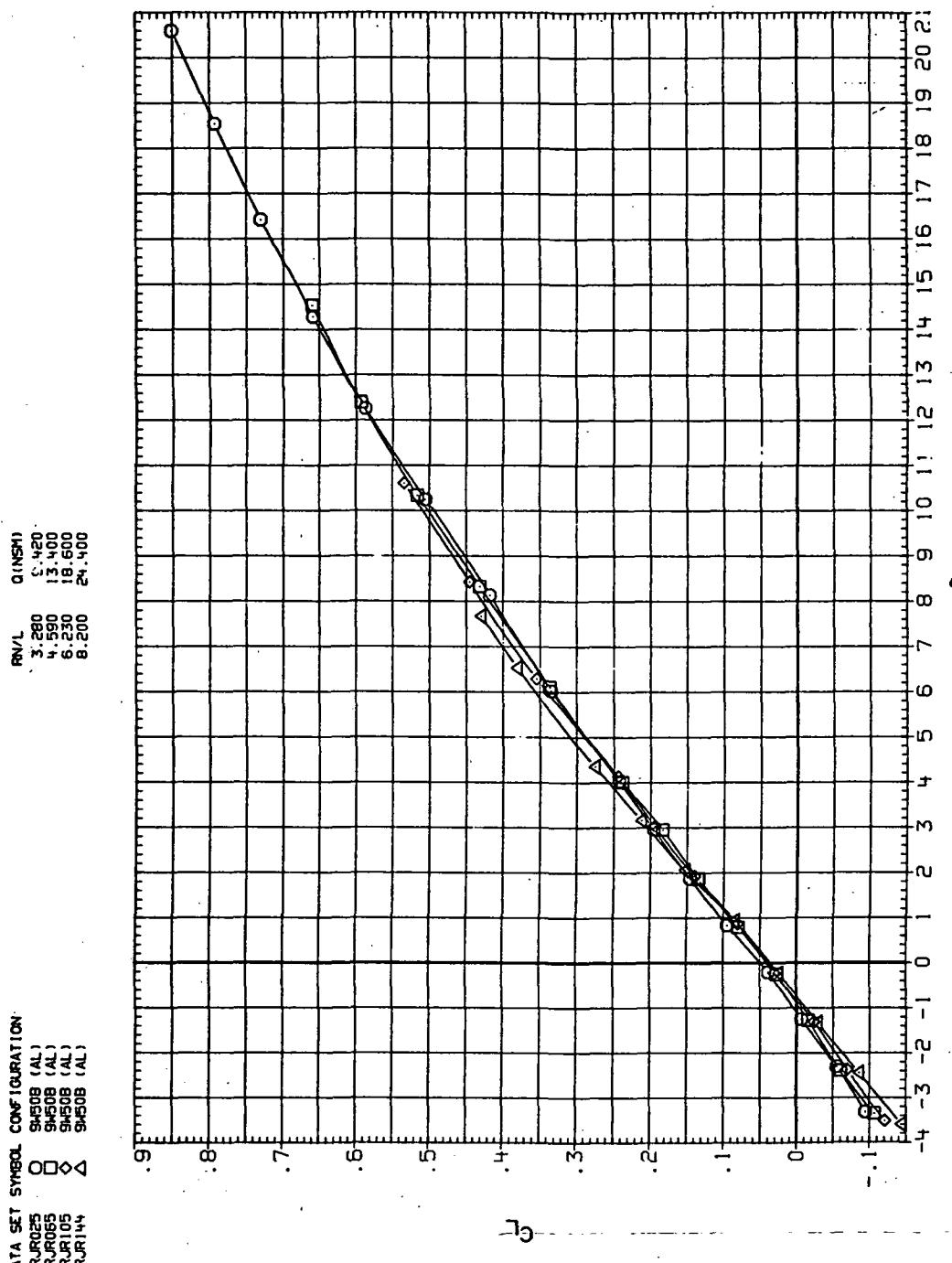
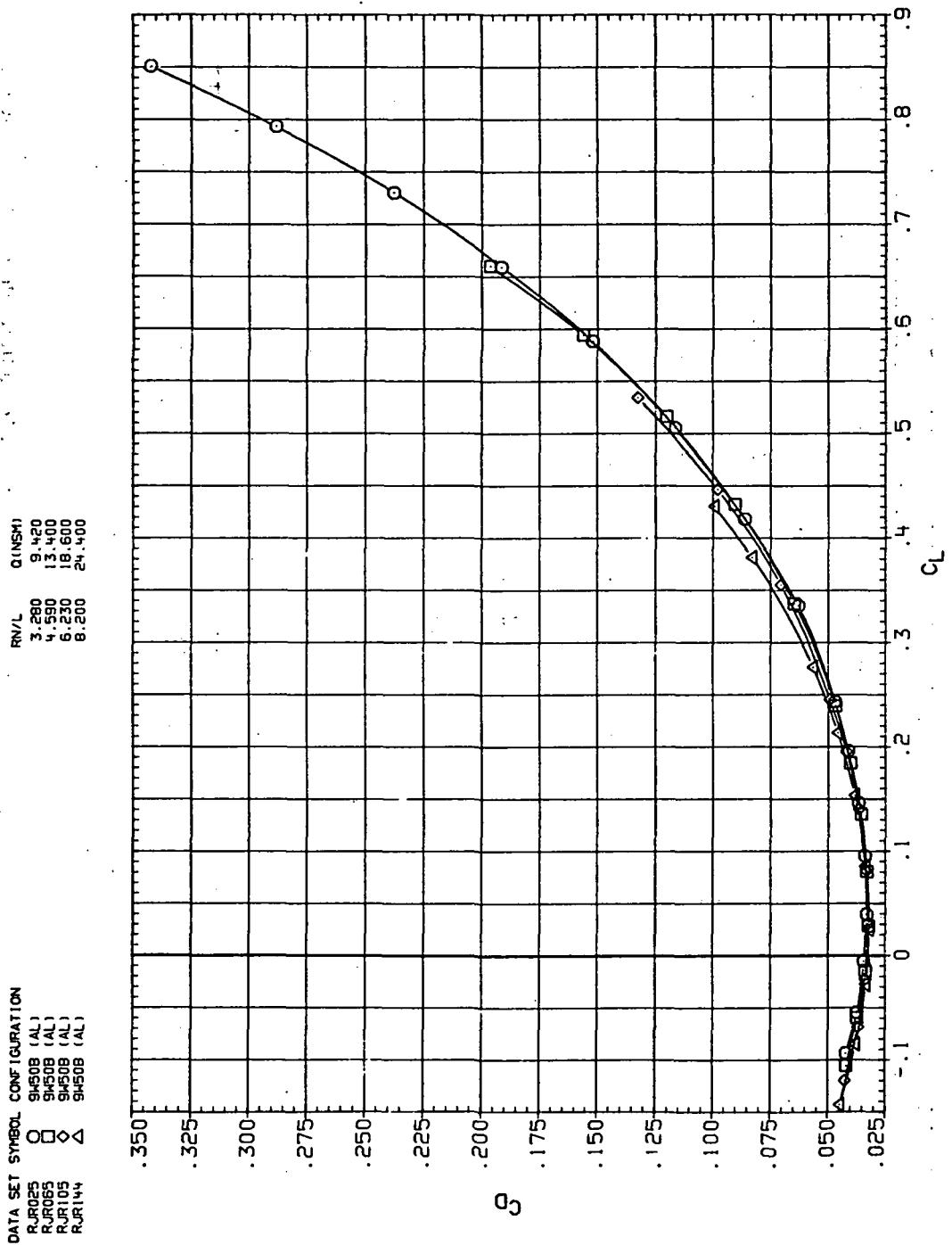
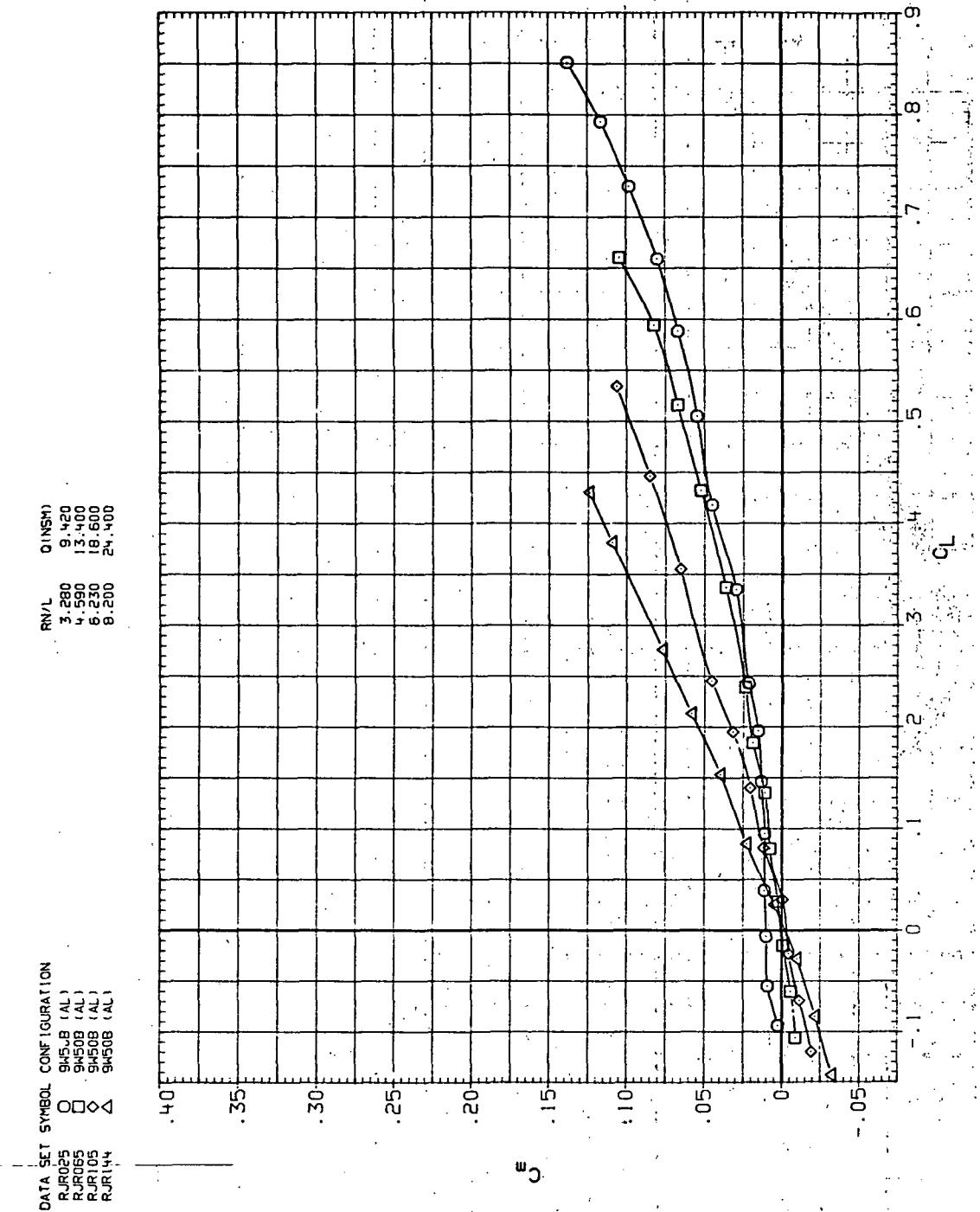


Figure 24.— Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 50^\circ$ ,  $M = 1.6$  and the modified NACA 65A204 airfoil).



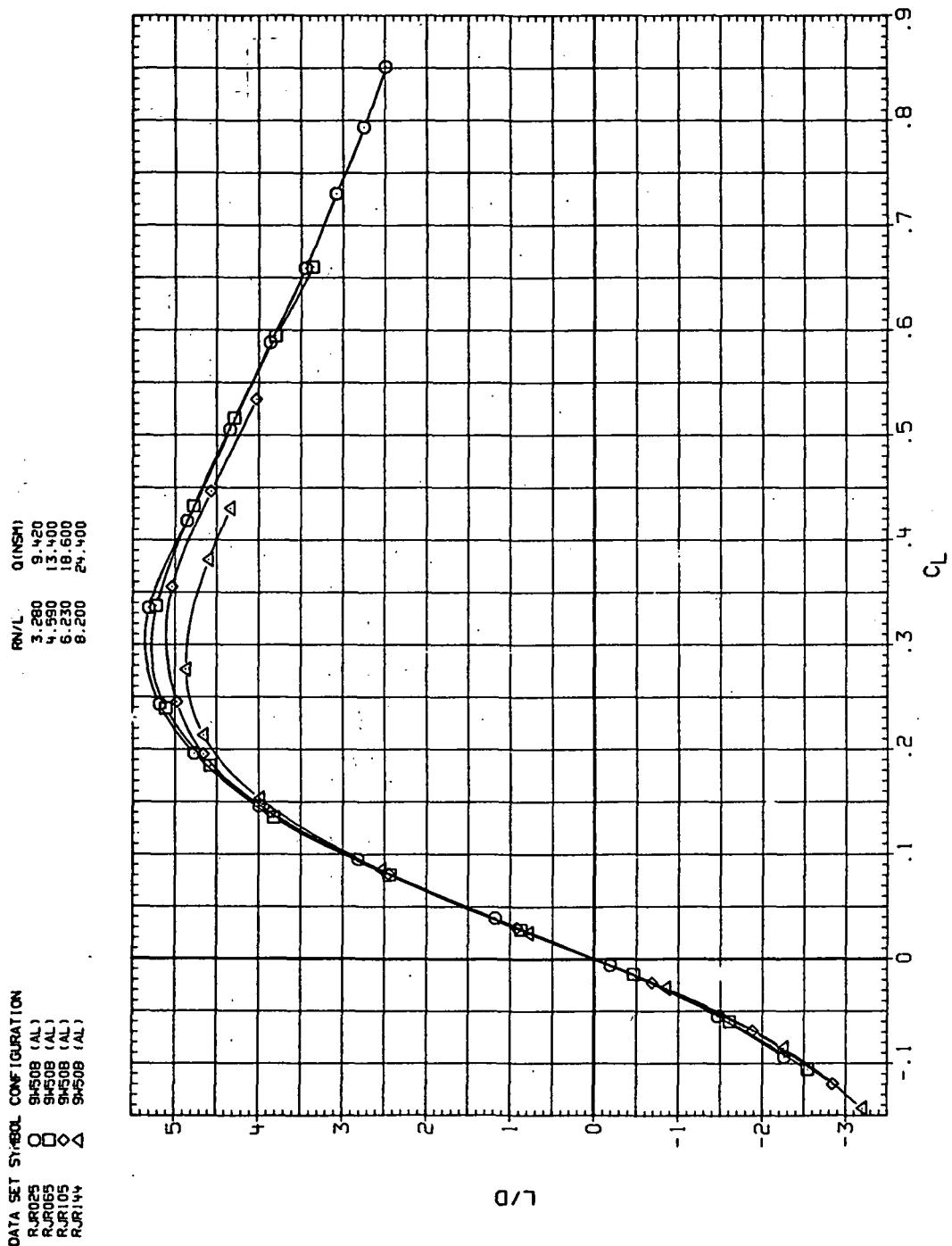
(b)  $C_D$  vs  $C_L$ .

Figure 24.—Continued.



(c)  $C_m$  vs  $C_L$

Figure 24.—Continued.

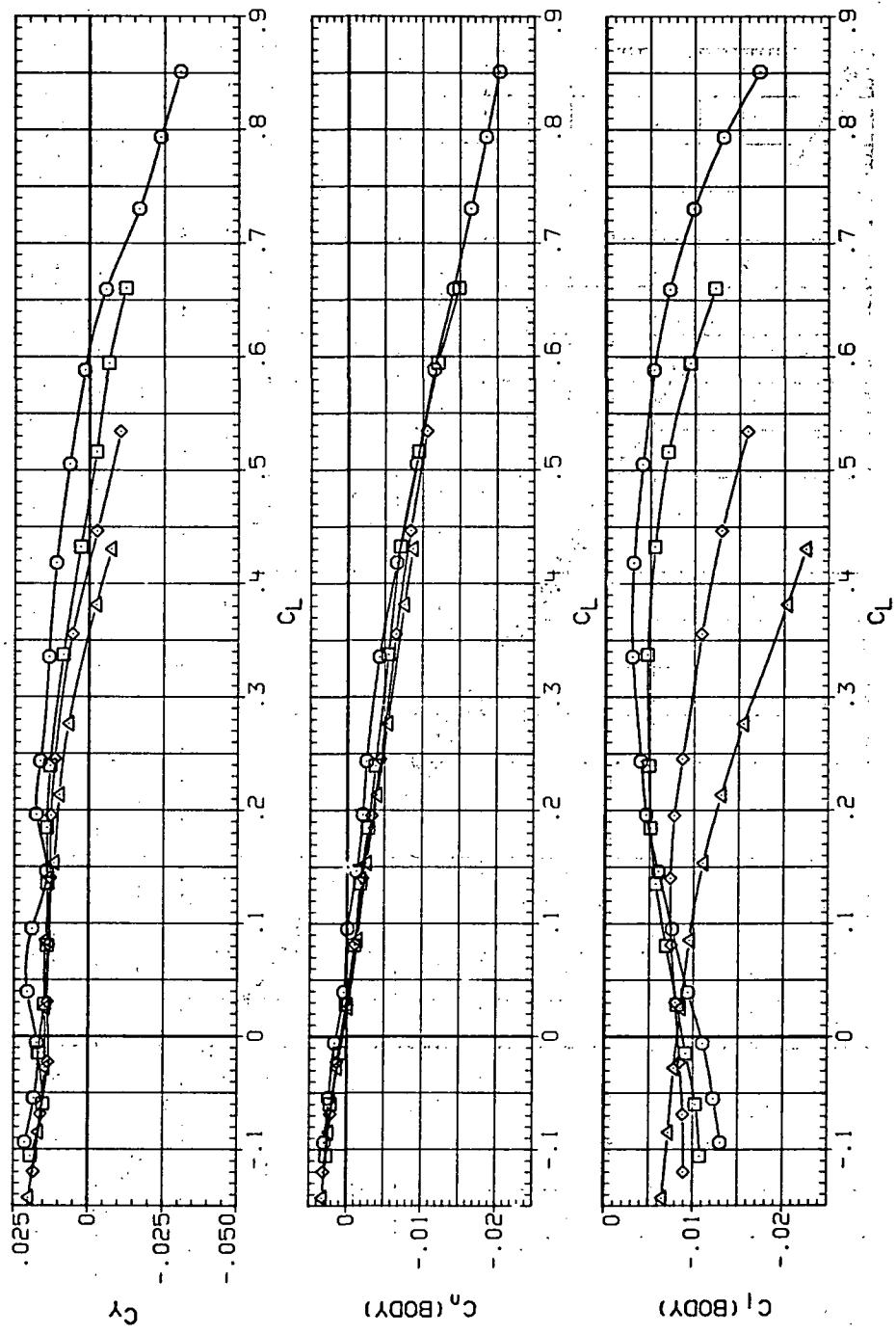


(d)  $L/D$  vs  $C_L$ .

Figure 24.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR025 O SH50B (AL)  
 RJR065 □ SH50B (AL)  
 RJR105 ◇ SH50B (AL)  
 RJR144 △ SH50B (AL)

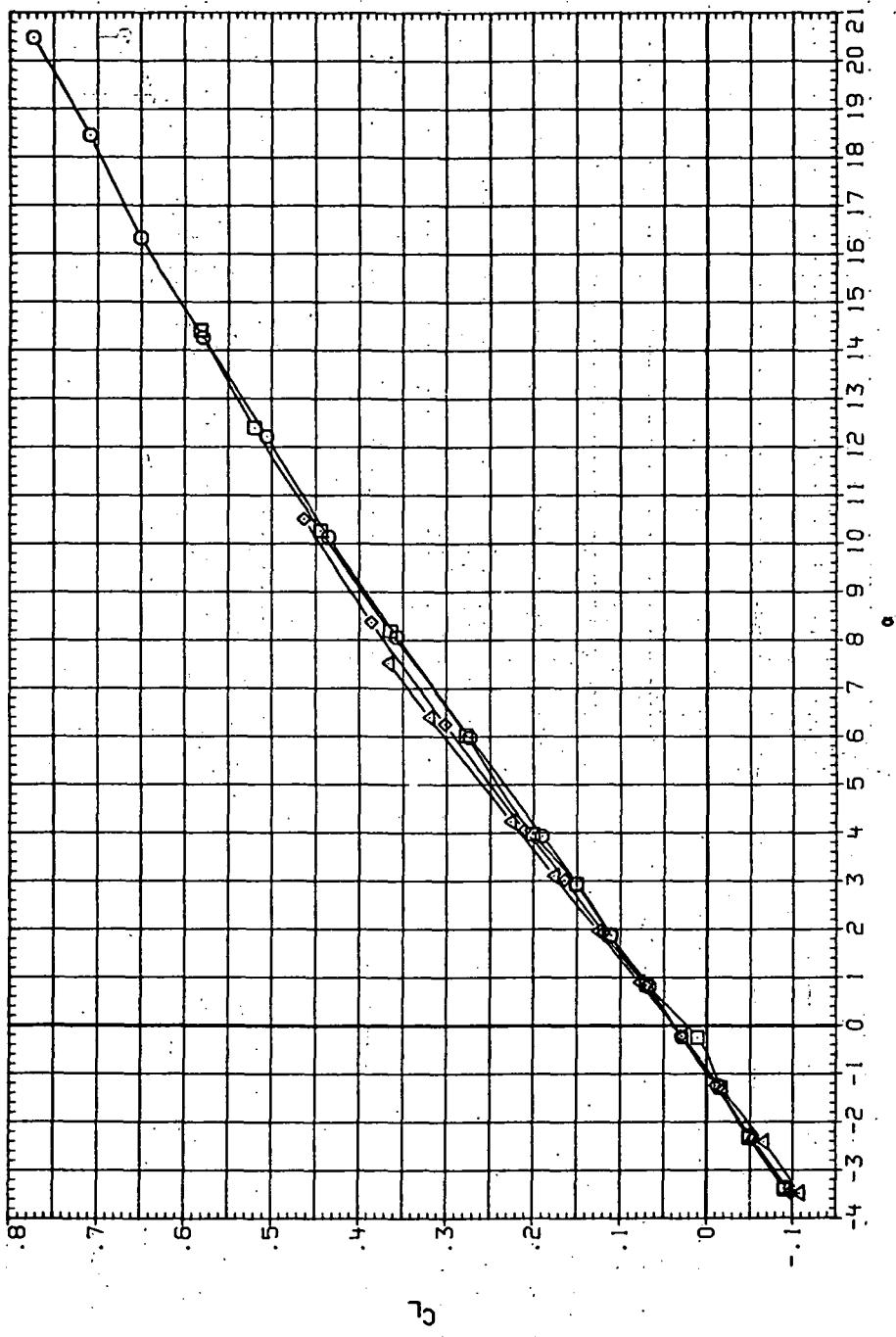
RNL O (NSM)  
 3.280 9.420  
 4.590 13.400  
 6.230 18.600  
 8.200 24.460



(e)  $C_Y$ ;  $C_n$  and  $C_l$  vs  $C_L$

Figure 24.—Concluded.

DATA SET SYMBOL	CONFIGURATION
RJ026	SH4508 (AL)
RJ026	SH4508 (AL)
RJ105	SH4508 (AL)
RJ105	SH4508 (AL)
RJ145	SH4508 (AL)



(a)  $C_L$  vs  $\alpha$

Figure 25.— Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 50^\circ$ ,  $M = 2.0$  and the modified NACA 65A204 airfoil).

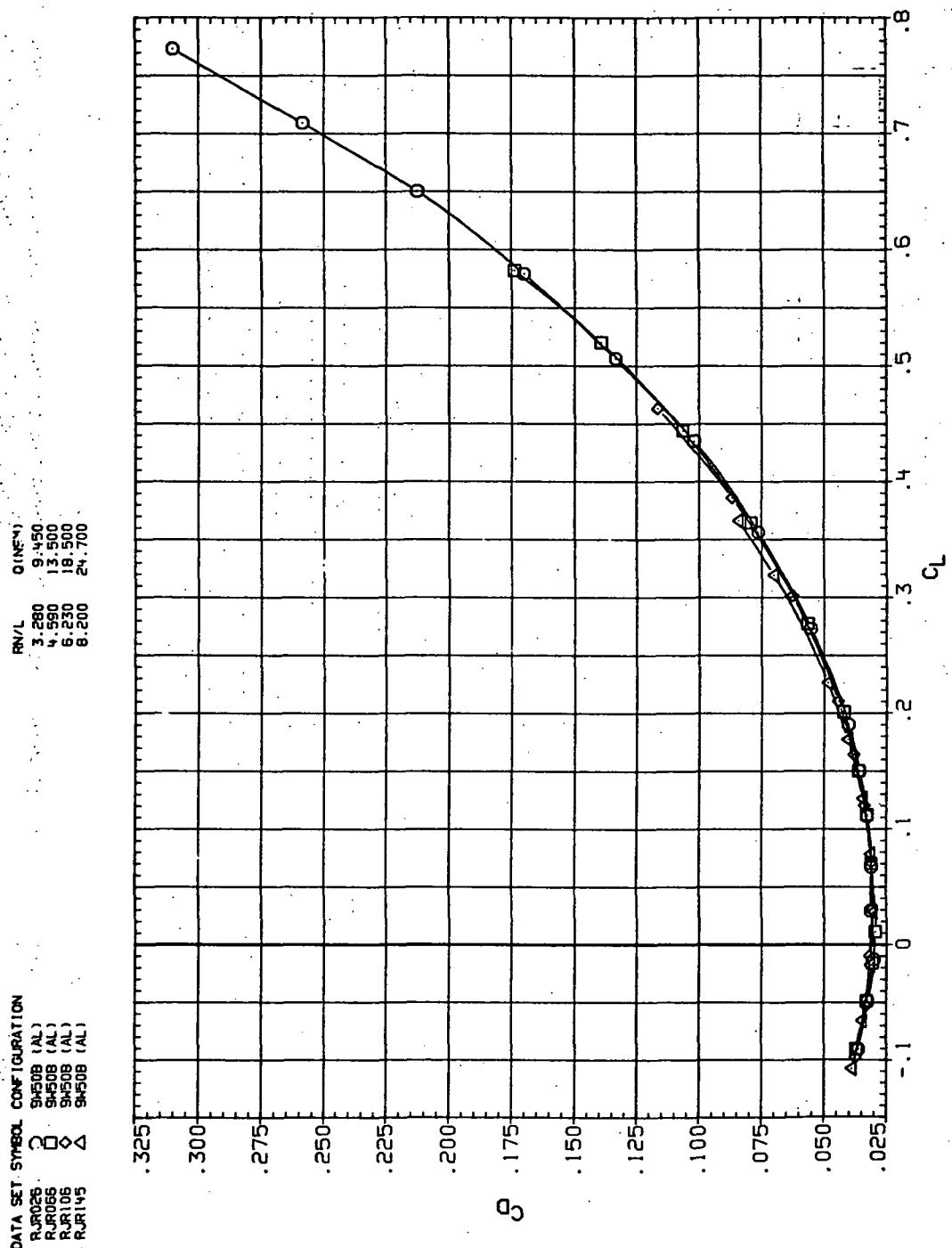
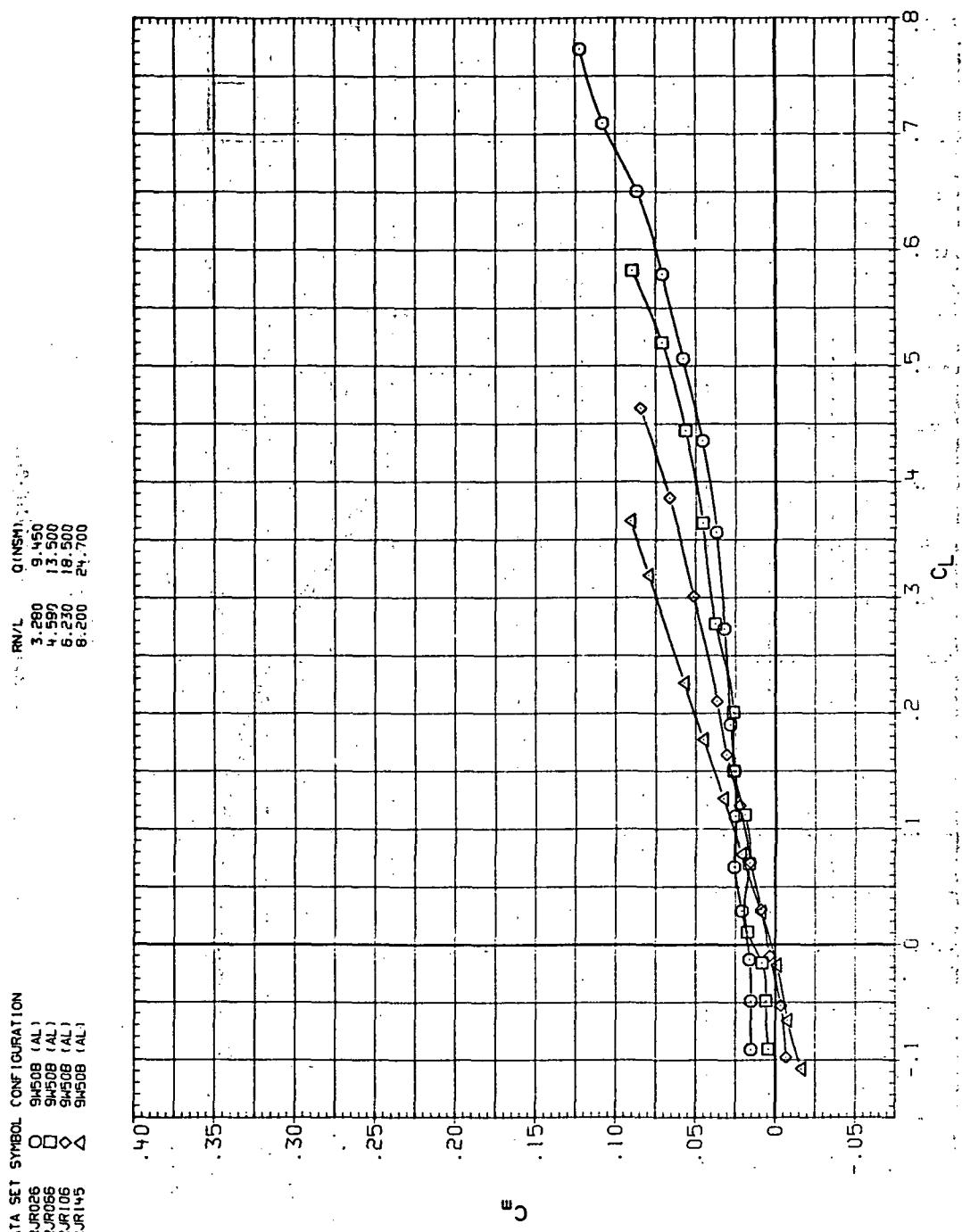
(b)  $C_D$  vs  $C_L$ .

Figure 25.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR026 O 95508 (AL)  
 RJR056 □ 95508 (AL)  
 RJR106 ◇ 95508 (AL)  
 RJR145 △ 95508 (AL)

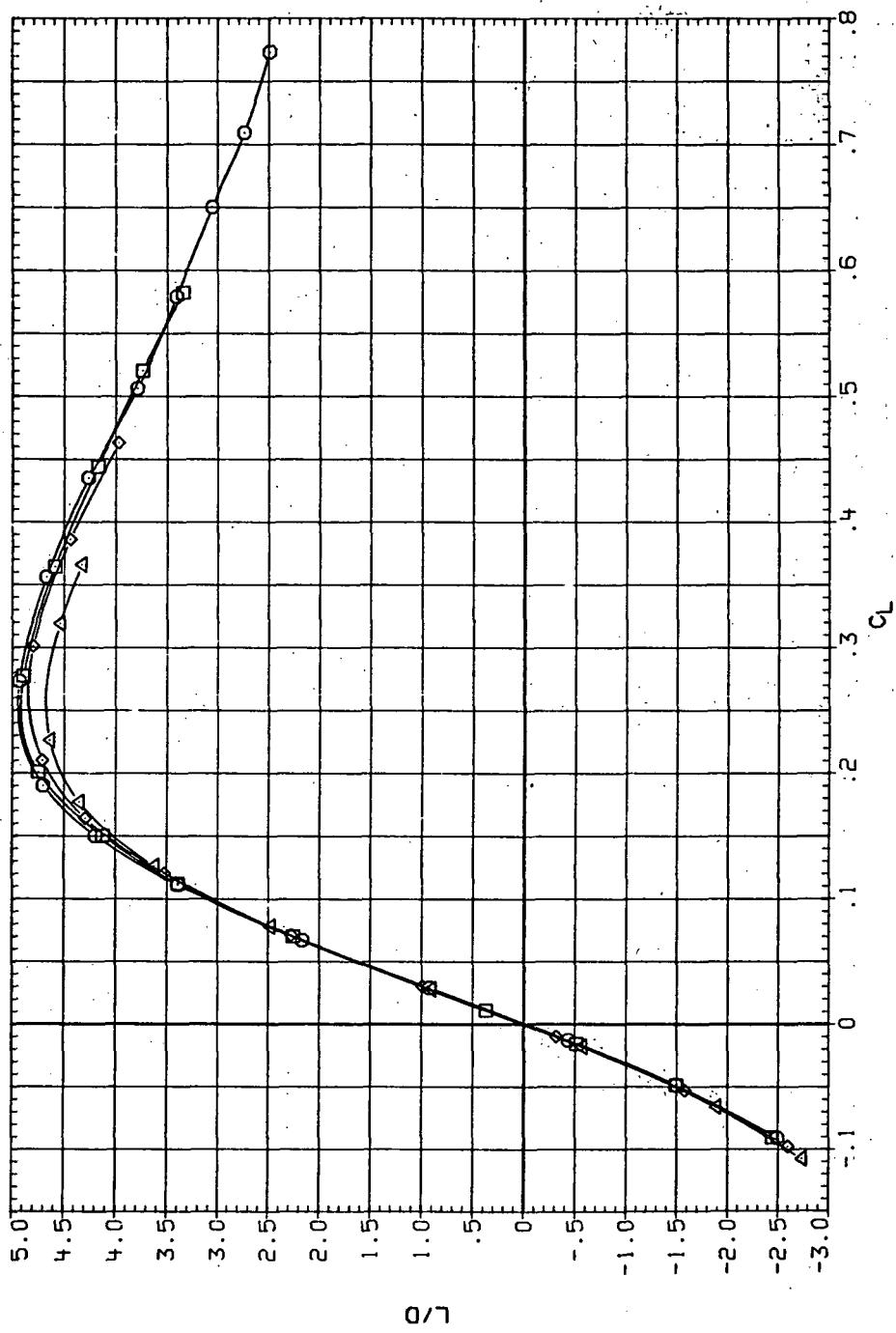


(c)  $C_m$  vs.  $C_L$

Figure 25.—Continued.

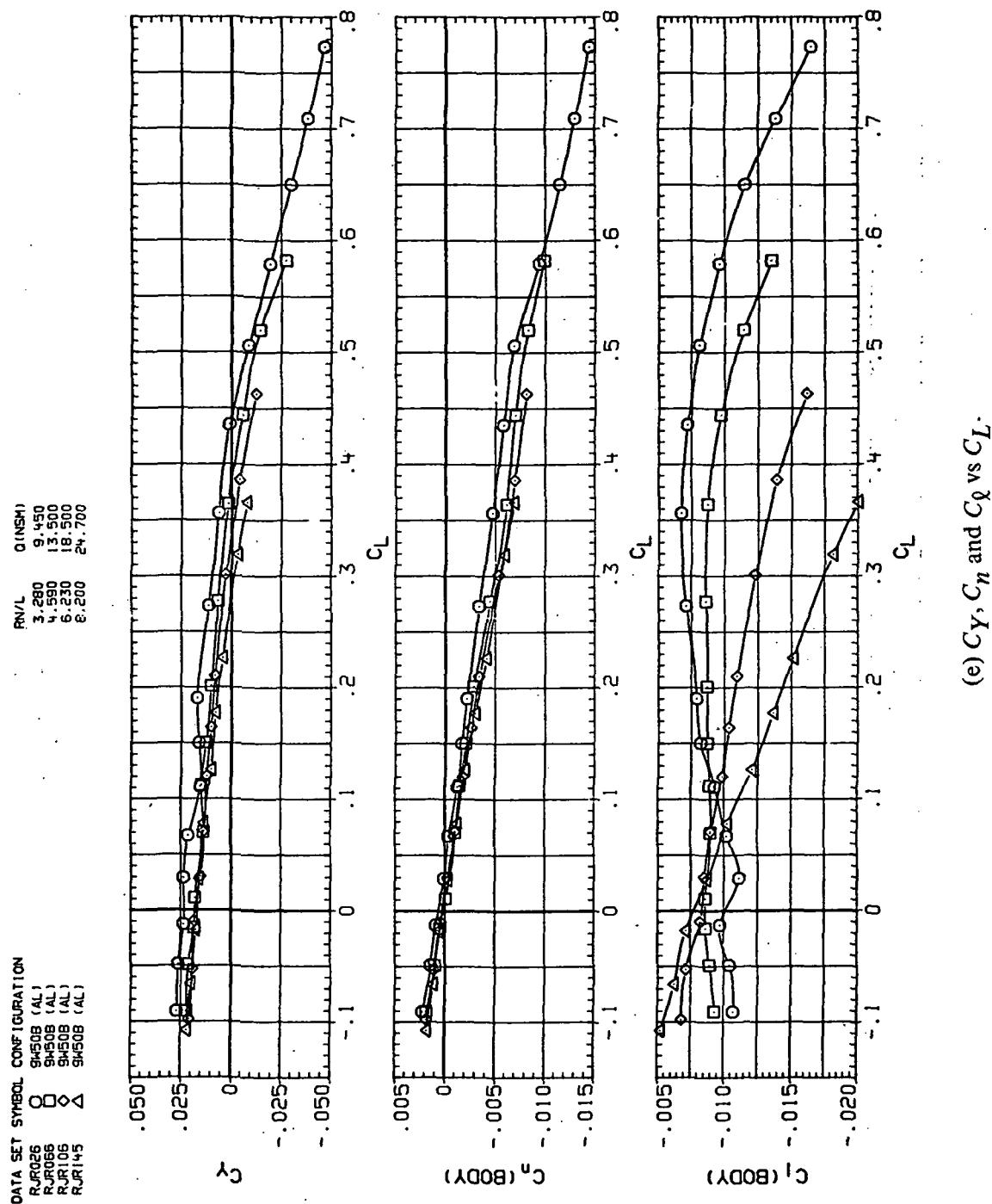
DATA SET	SYMBOL	CONFIGURATION
RJR056	O	SH50B (AL)
RJR056	□	SH50B (AL)
RJR056	◇	SH50B (AL)
RJR106	△	9W50B (AL)
RJR145		

RN/L	Q (ASHM)
3.280	9.450
4.590	13.500
6.230	19.500
8.200	24.700



(d)  $L/D$  vs  $C_L$ .

Figure 25.—Continued.

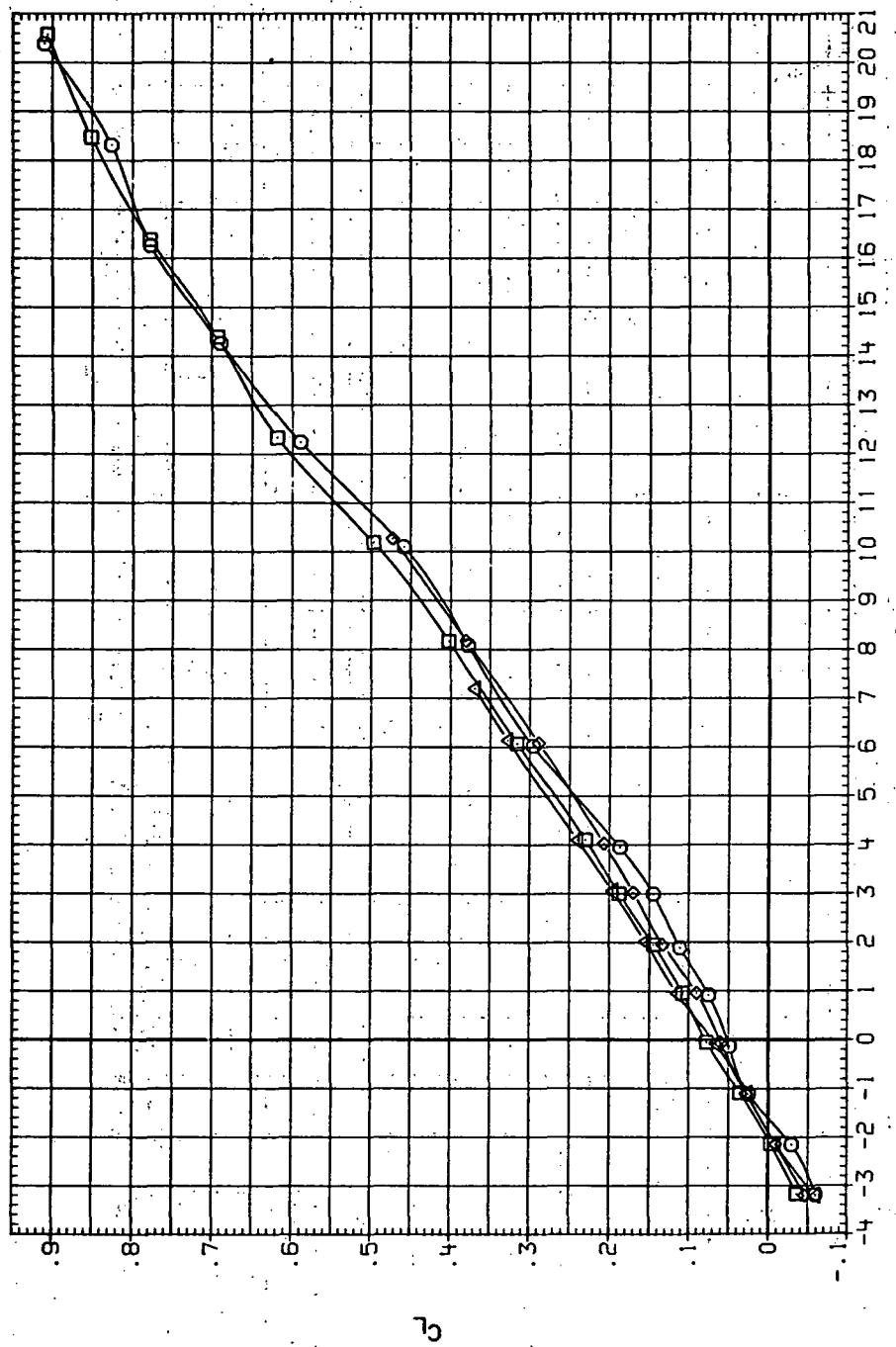


(e)  $C_Y$ ,  $C_n$  and  $C_\vartheta$  vs  $C_L$ .

Figure 25.— Concluded.

DATA SET SYMBOL CONFIGURATION  
 RJR02B O 9455B (AL)  
 RJR06B □ 9455B (AL)  
 RJR108 △ 9455B (AL)  
 RJR147 ▲ 9455B (AL)

RN/L Q (INSH)  
 3.280 3.870  
 4.590 5.400  
 6.230 7.180  
 8.200 9.300



(a)  $C_L$  vs  $\alpha$ .

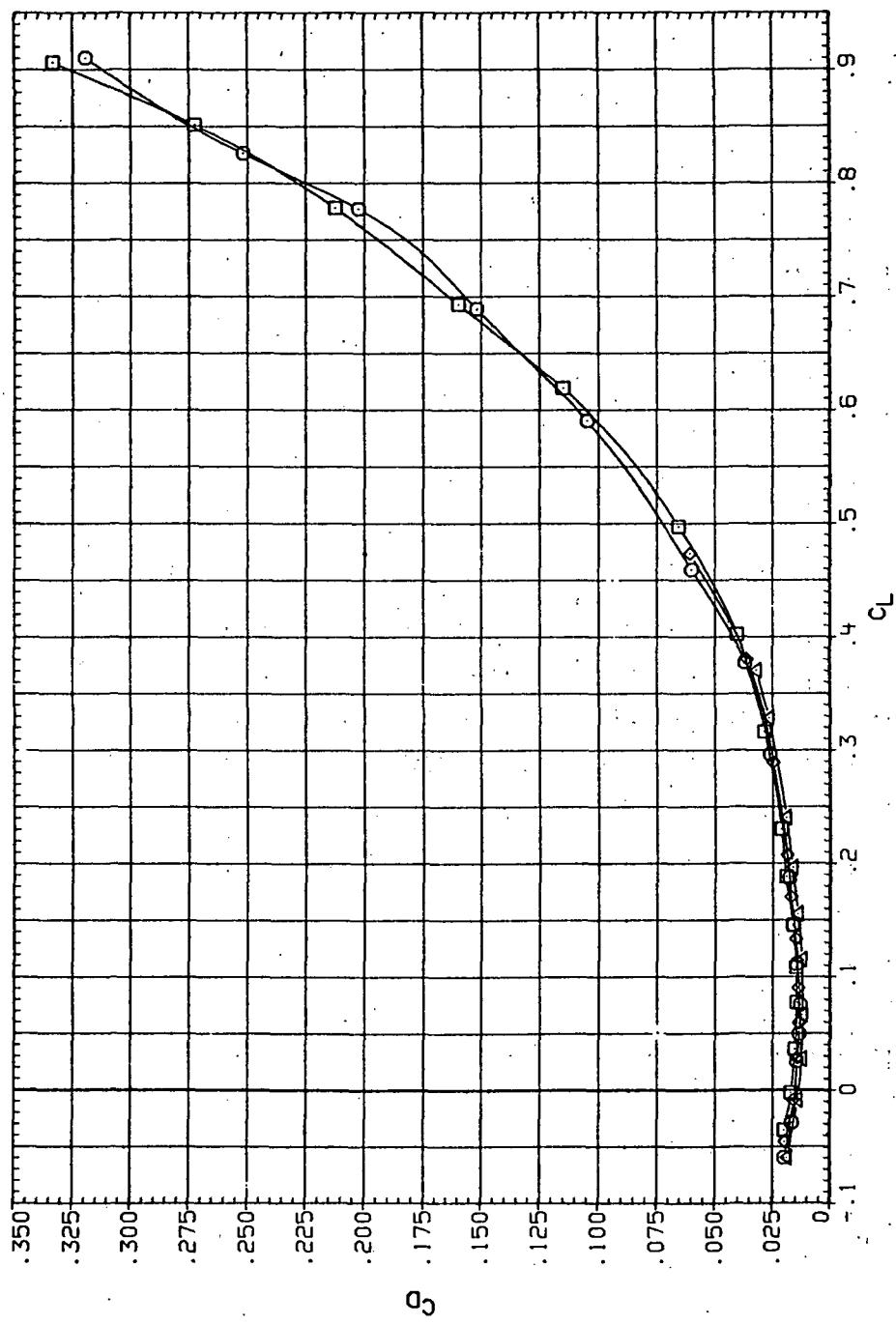
Figure 26.— Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 55^\circ$ ,  $M = 0.4$  and the modified NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION

RJ028	O	S155B (AL)
RJ068	□	S155B (AL)
RJ108	◇	S155B (AL)
RJ147	△	S155B (AL)

RN/L Q(NSM)

3.280	3.870
4.590	5.400
6.230	7.480
8.200	9.900



(b)  $C_D$  vs  $C_L$

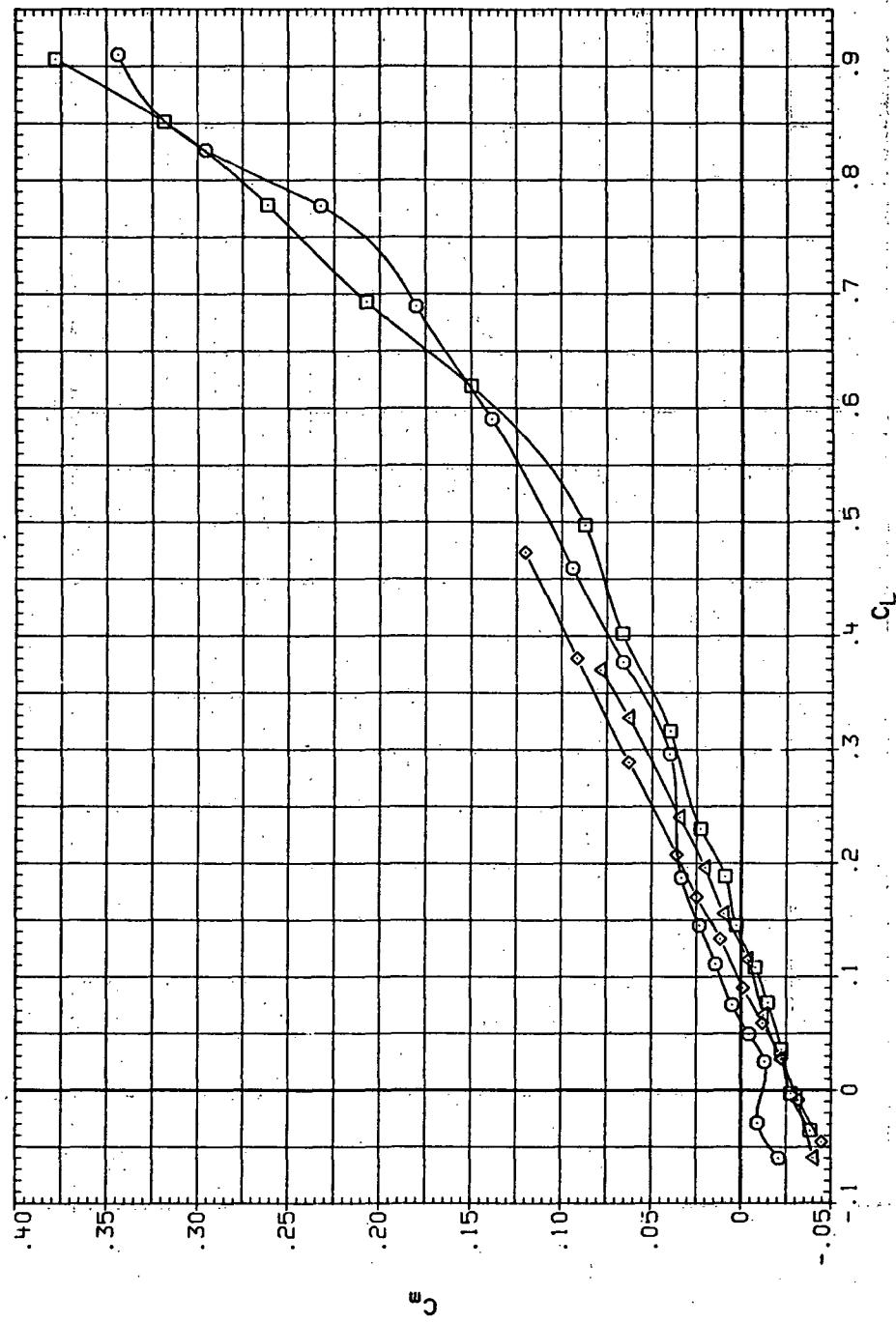
Figure 26.—Continued.

DATA SET SYMBOL CONFIGURATION

RJ1028	O	SW55B (AL)
RJ1068	□	SW55B (AL)
RJ1108	◊	SW55B (AL)
RJ1147	△	SW55B (AL)

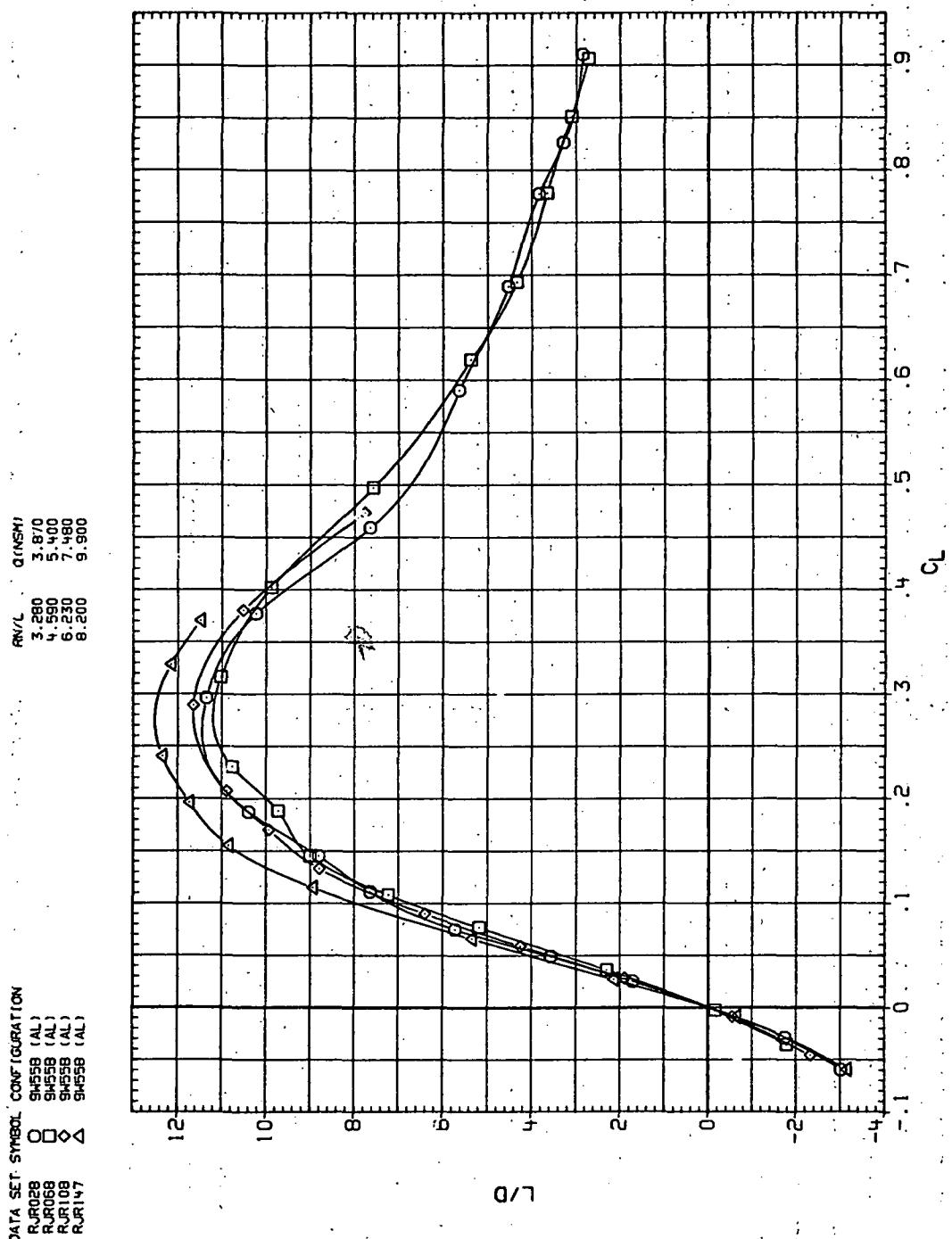
RN/L Q(NSM)

3.280	3.870
4.590	5.400
6.230	7.480
8.200	9.900



(c)  $C_m$  vs  $C_L$

Figure 26.—Continued.



(d)  $L/D$  vs  $C_L$ .

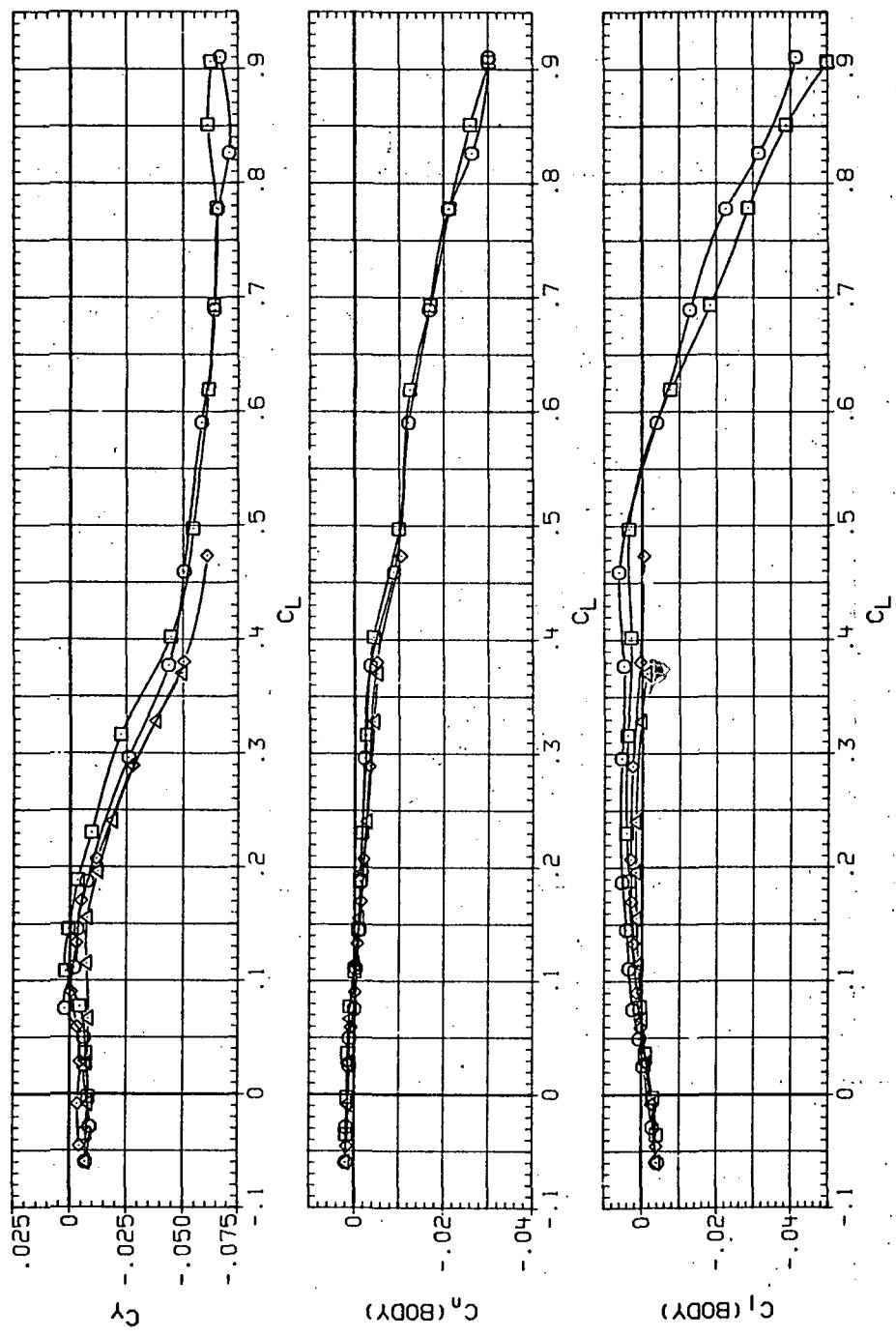
Figure 26.—Continued.

DATA SET SYMBOL CONFIGURATION

RJRD29	O	94558 (AL)
RJRD69	□	94558 (AL)
RJRD108	◇	94558 (AL)
RJRD147	△	94558 (AL)

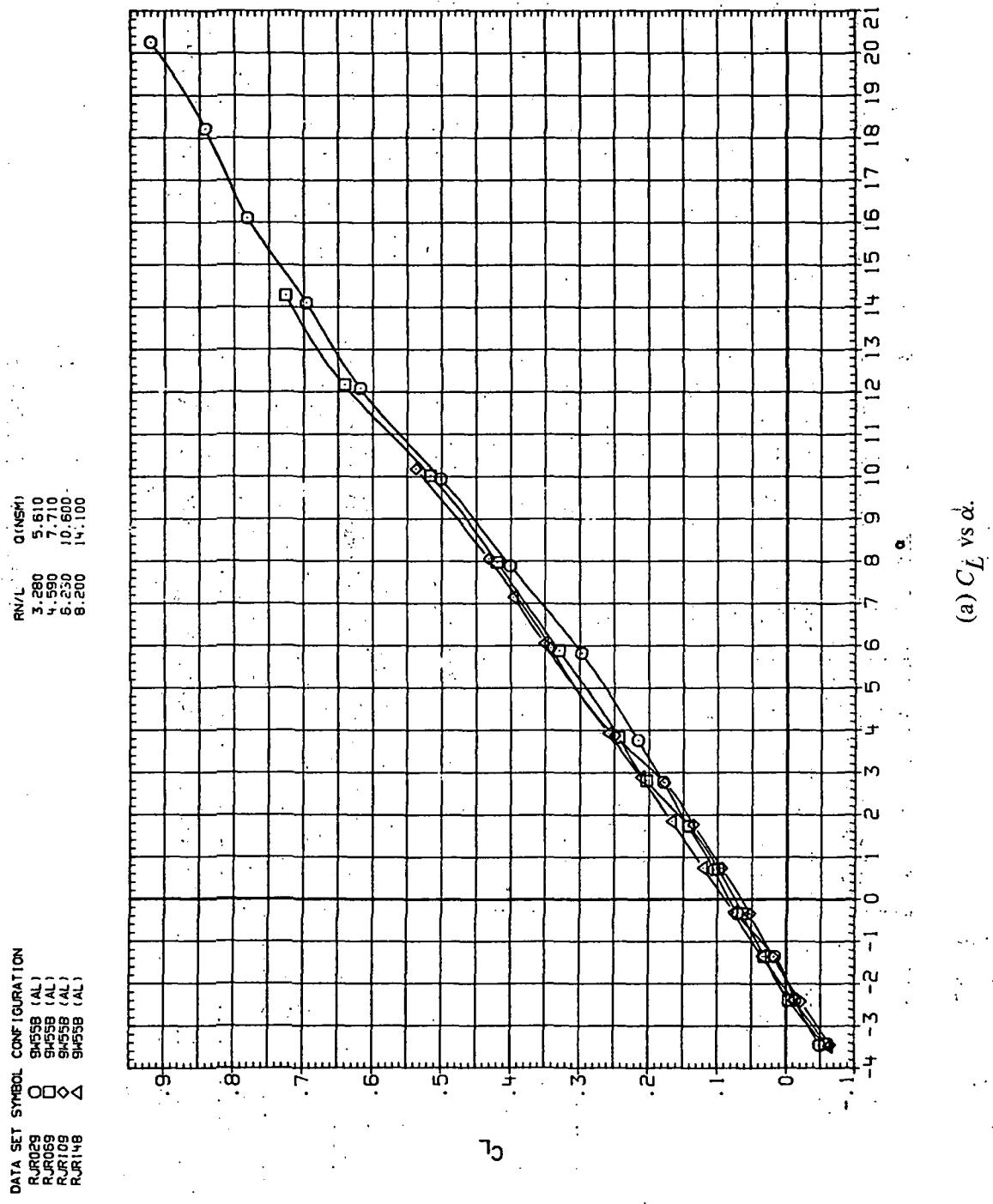
R/V/L Q (NSM)

3.280	3.87C
4.590	5.400
6.230	7.480
8.200	9.900



(e)  $C_Y$ ,  $C_n$  and  $C_I$  vs  $C_L$ .

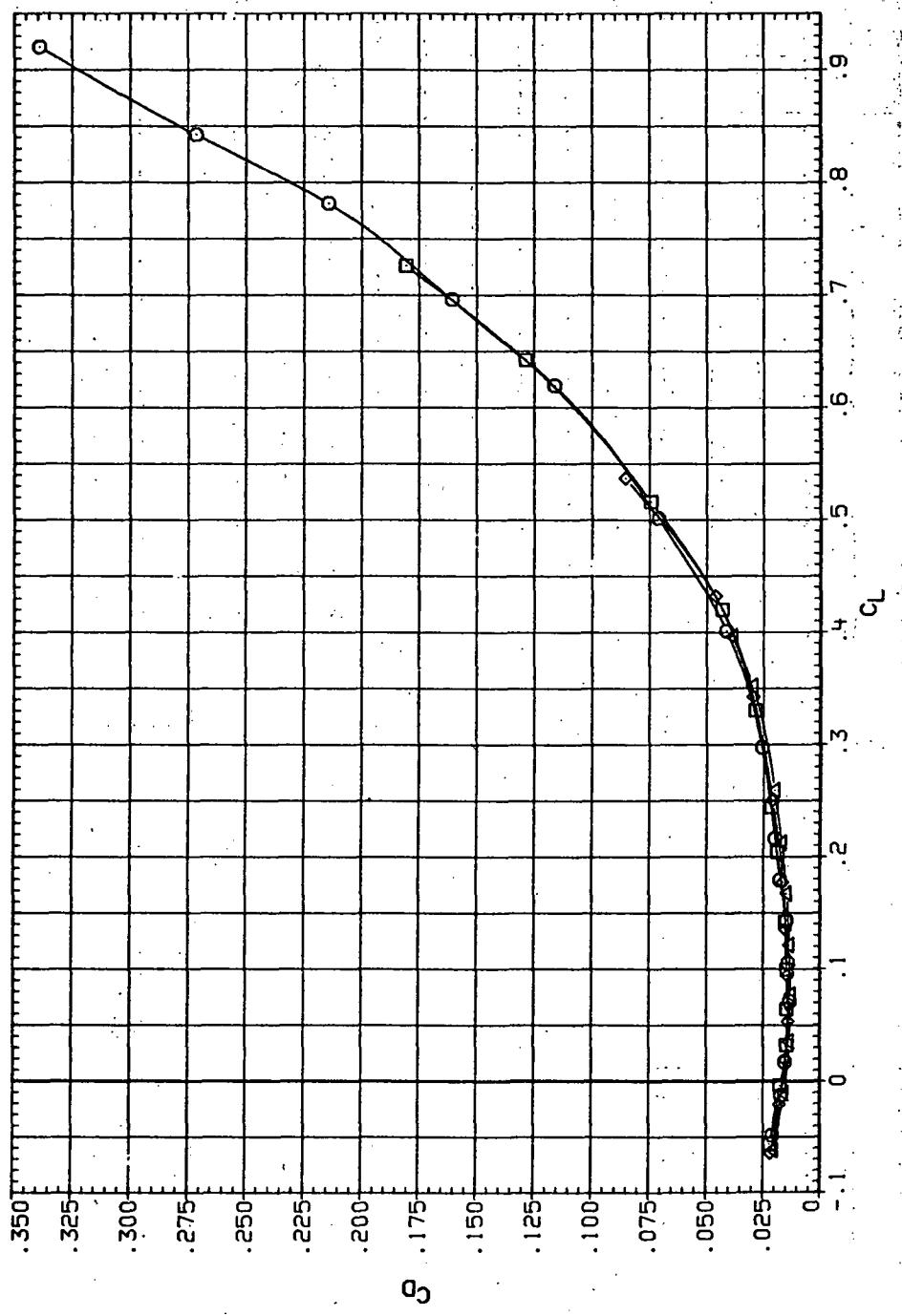
Figure 26.— Concluded.



(a)  $C_L$  vs  $\alpha$ .

Figure 27. Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 55^\circ$ ,  $M = 0.6$  and the modified NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 RJR059 O SJ455B (AL)  
 RJR059 □ SJ455B (AL)  
 RJR109 ◇ SJ455B (AL)  
 RJR149 △ SJ455B (AL)

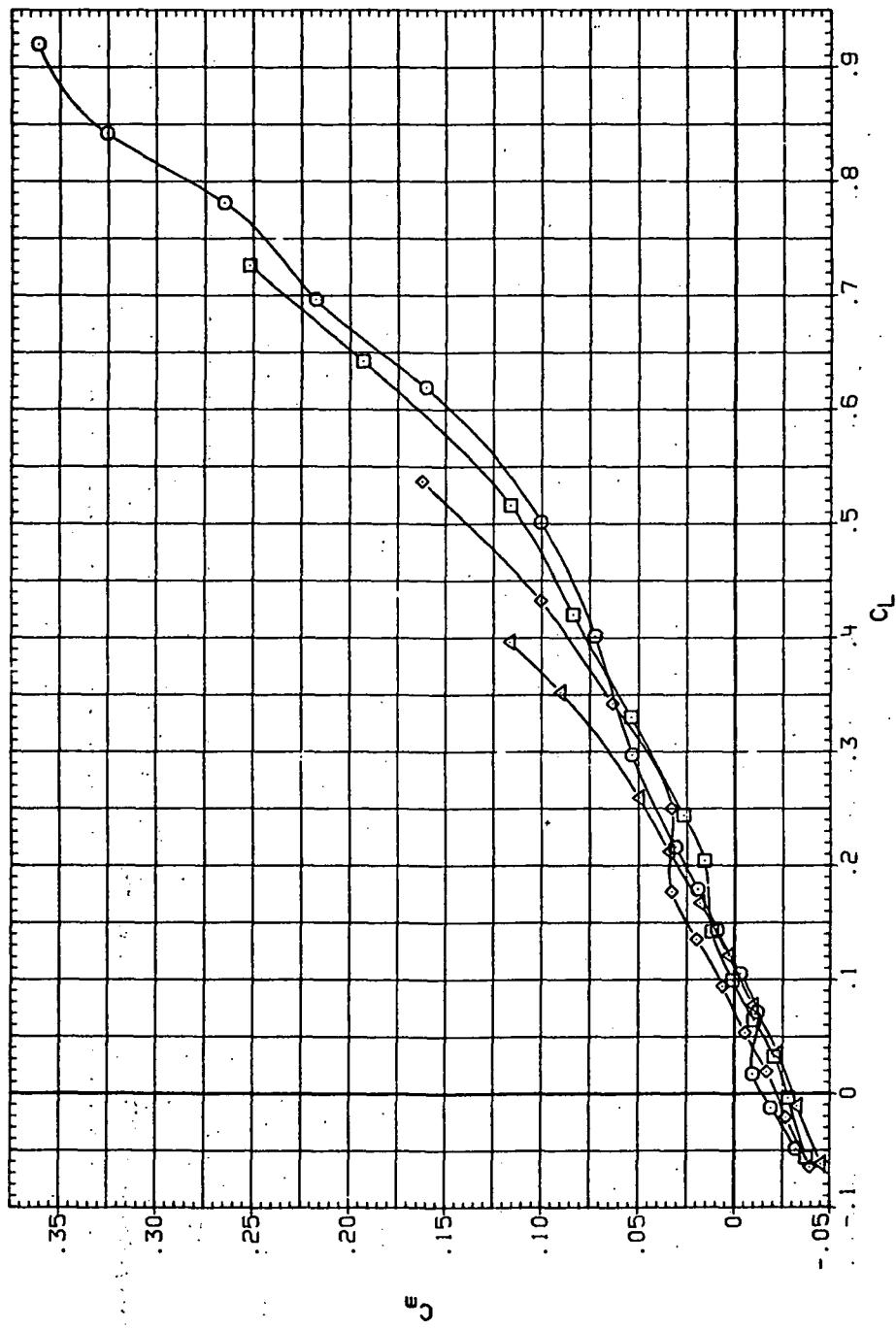


(b)  $C_D$  vs  $C_L$

Figure 27.—Continued.

DATA SET SYMBOL CONFIGURATION

RJRD9	9455B (AL)	RN/L	QINSM
RJRD9	□	3.280	5.610
RJRD9	◊	4.590	7.710
RJRD9	△	6.230	10.600
RJRD9	◆	8.200	14.100

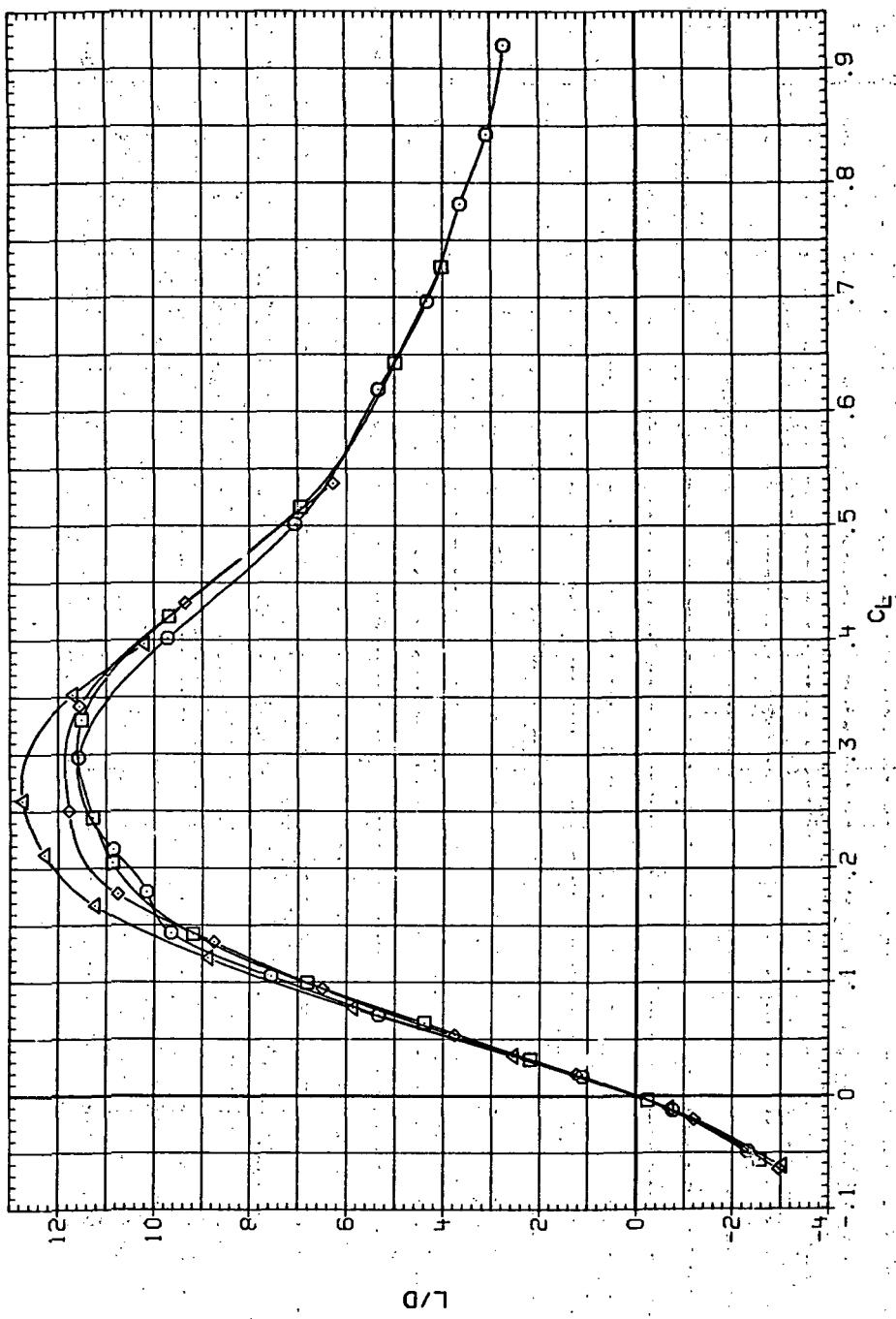


(c)  $C_m$  vs  $C_L$ .

Figure 27.— Continued.

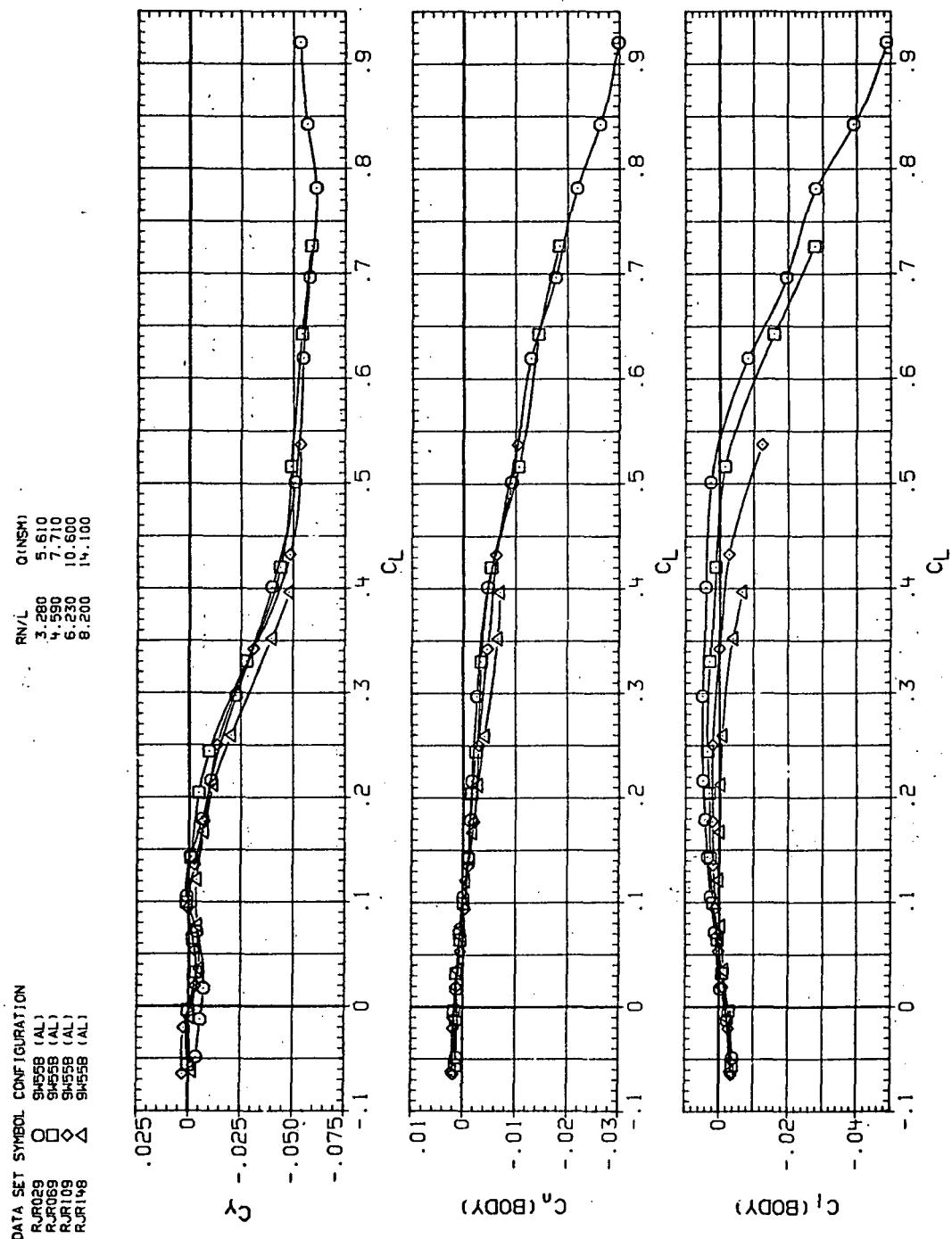
DATA SET SYMBOL	CONFIGURATION
RJR029	SHE5B (AL)
RJR059	SHE5B (AL)
RJR109	SHE5B (AL)
RJR148	SHE5B (AL)

DATA SET	RN/L	Q (NSU)
RJR029	3.280	5.610
RJR059	4.590	7.710
RJR109	6.230	10.600
RJR148	8.200	14.100



(d)  $L/D$  vs  $C_L$ .

Figure 27.—Continued.



(e)  $C_Y$ ,  $C_n$  and  $C_\chi$  vs  $C_L$ .

Figure 27.— Concluded.

DATA SET SYMBOL	CONFIGURATION	R/V/L	Q(NSM)
RJR030	O	9455B (AL)	3.280
RJR070	□	9455B (AL)	7.060
RJR110	◇	9455B (AL)	4.590
RJR149	△	9455B (AL)	9.720
			6.230
			13.000
			8.200
			17.800

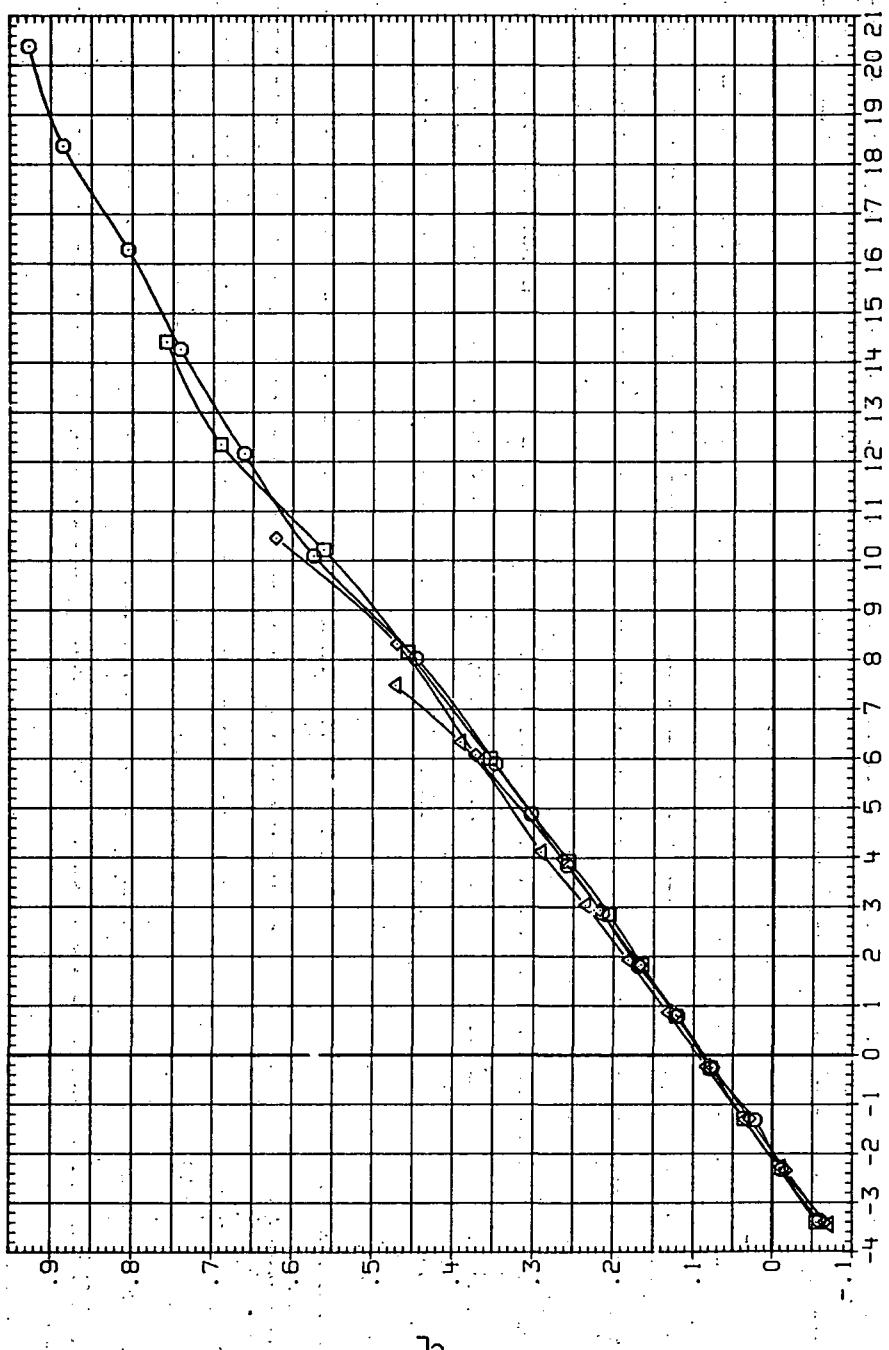
(a)  $C_L$  vs  $\alpha$ .

Figure 28.- Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 55^\circ, M = 0.8$  and the modified NACA 65A204 airfoil).

DATA SET	SYMBOL	CONFIGURATION	RN/L	Q (NSM)
RJ030	O	SH555B (AL)	3.280	7.065
RJ070	□	SH555B (AL)	4.590	9.120
RJ110	◇	SH555B (AL)	6.230	13.400
RJ149	△	SH555B (AL)	8.200	17.800

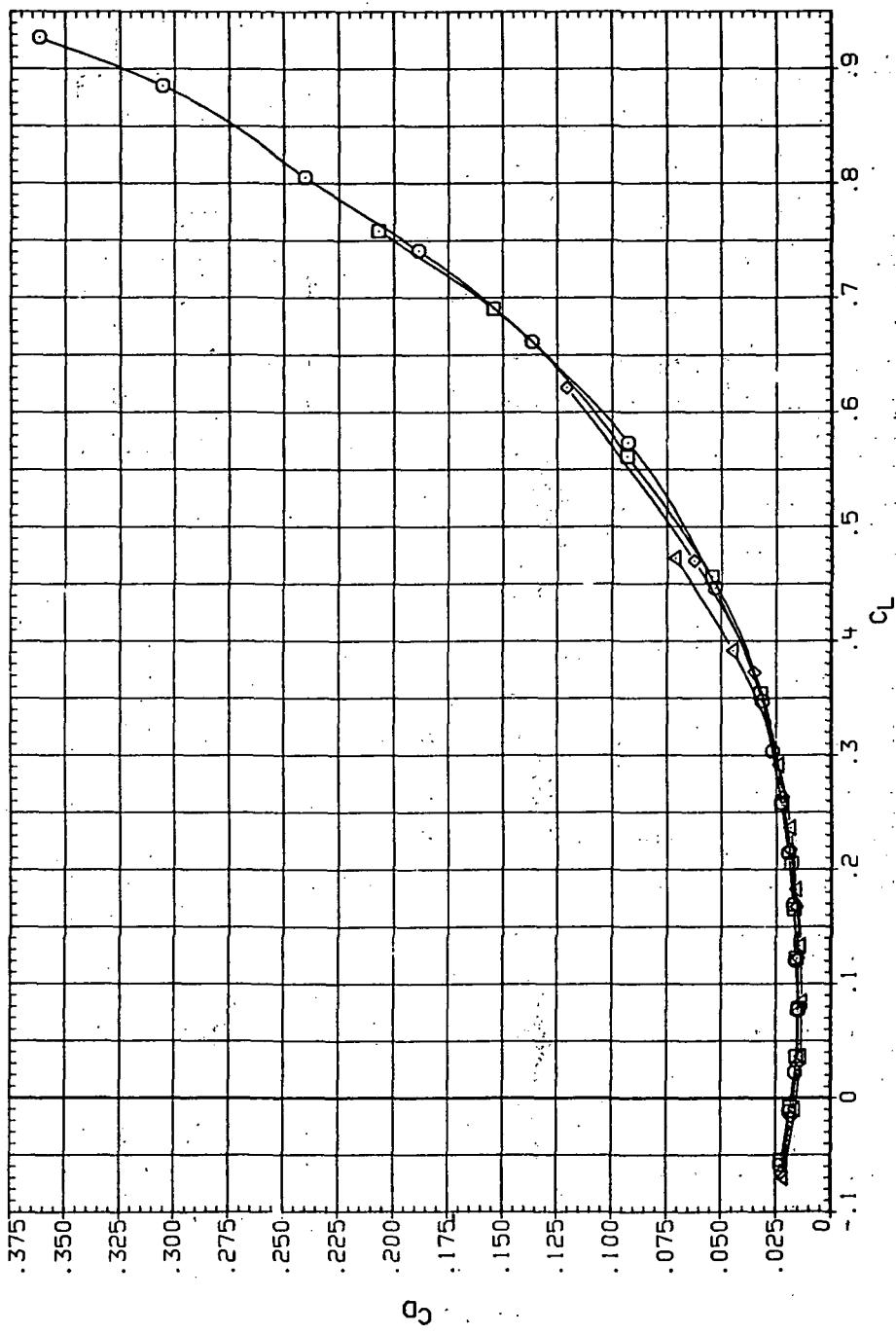
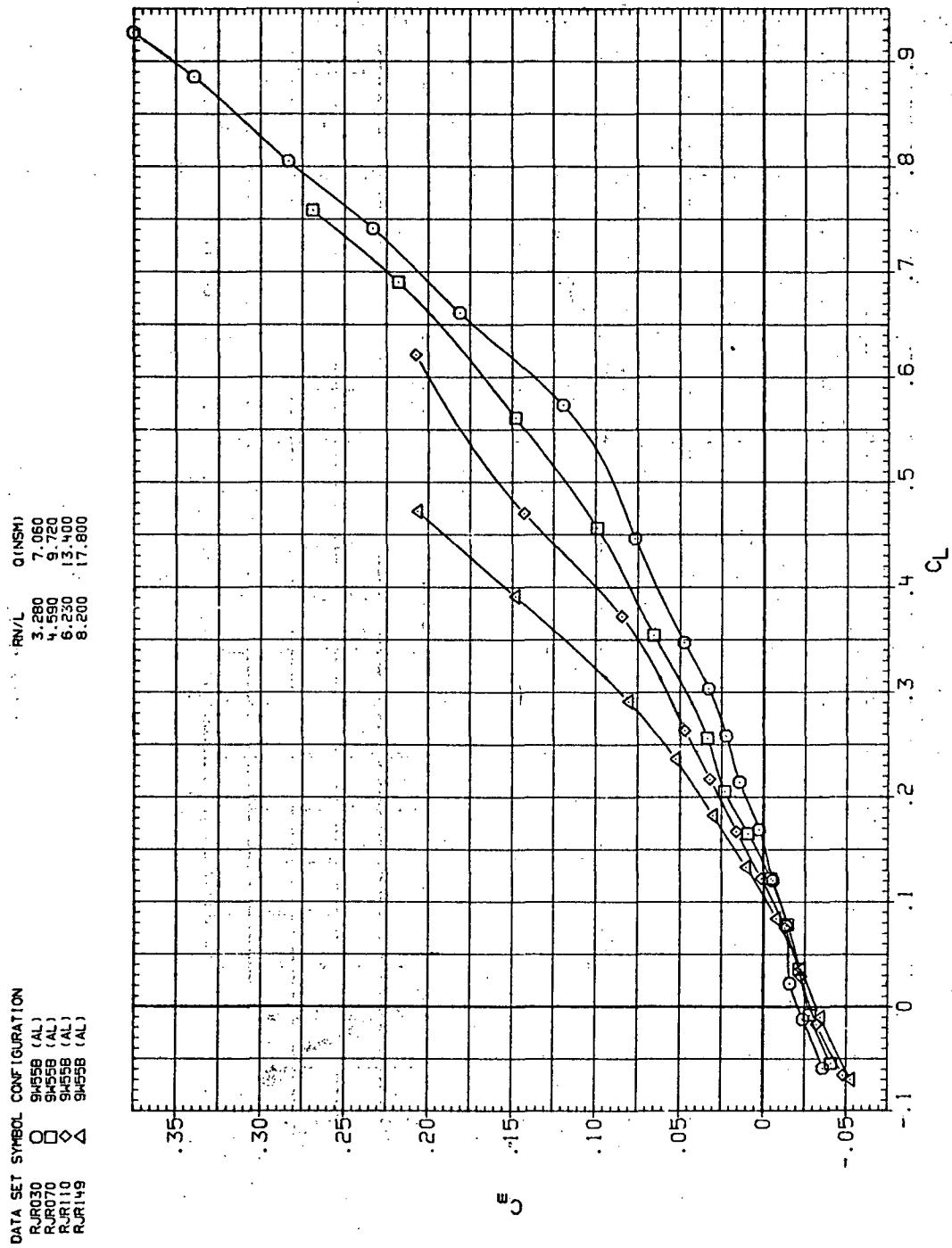
(b)  $C_D$  vs  $C_L$ .

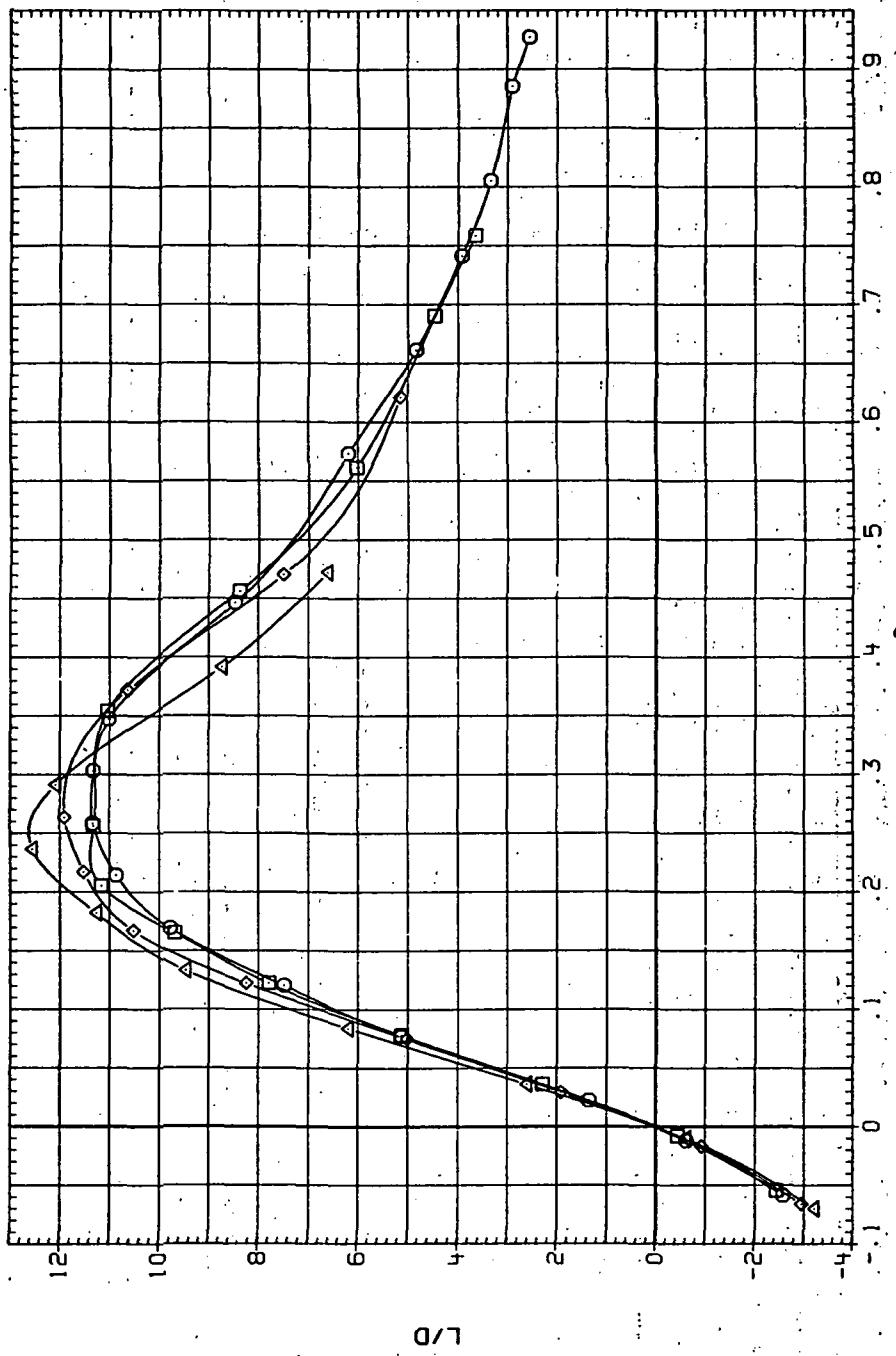
Figure 28.—Continued.



(c)  $C_m$  vs  $C_L$   
Figure 28.—Continued.

DATA SET	SYMBOL	CONFIGURATION
RJR030	O	9455B (AL)
RJR070	□	9455B (AL)
RJR110	◇	9455B (AL)
RJR149	△	9455B (AL)

RN/L	Q (NSM)
3.280	7.050
4.590	9.720
6.230	13.400
8.200	17.800



(d)  $L/D$  vs  $C_L$ .

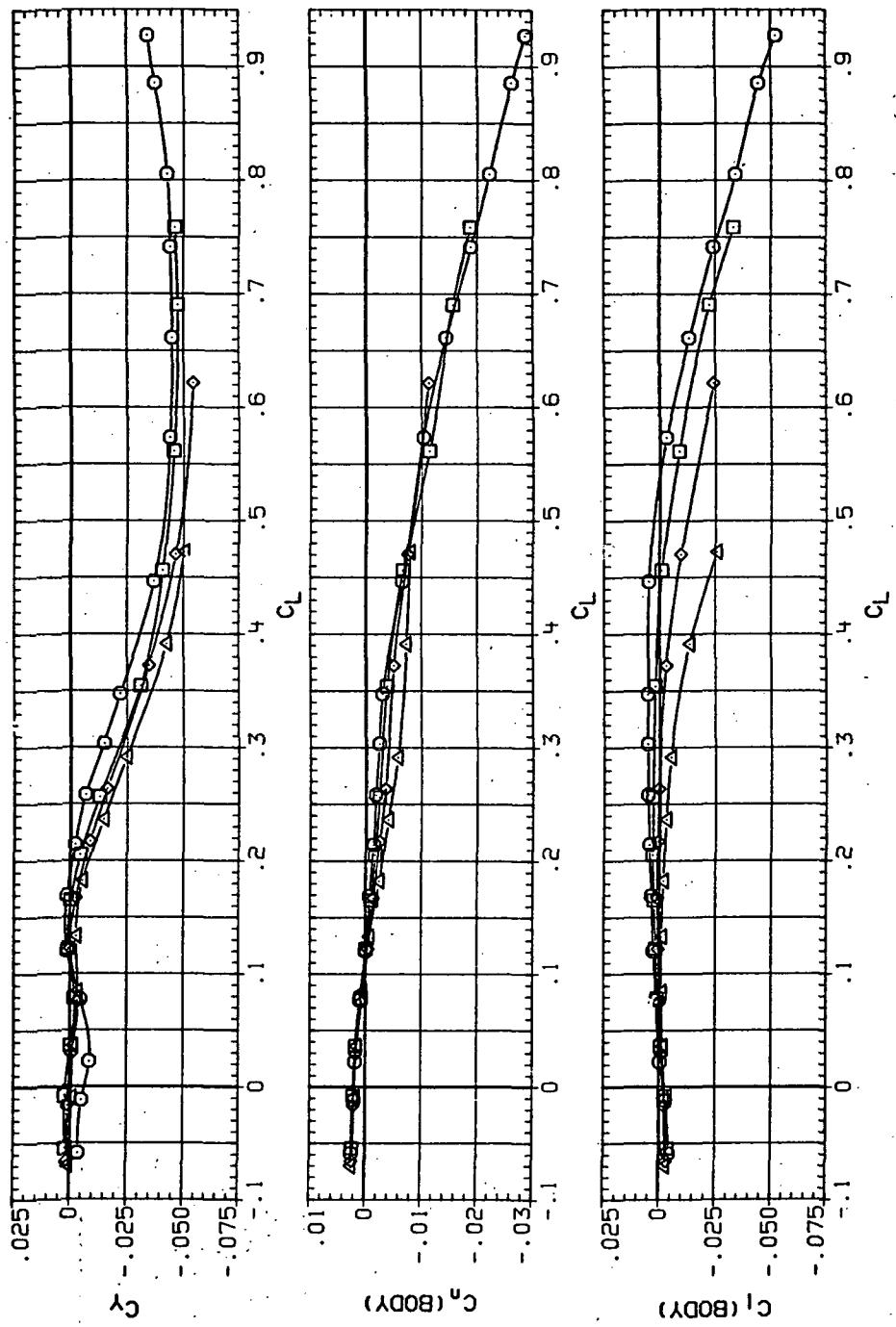
Figure 28.—Continued.

DATA SET SYMBOL CONFIGURATION

R/N/L	Q(NSM)
RJR030	○ 9555B (AL)
RJR070	□ 9555B (AL)
RJR110	◊ 9555B (AL)
RJR149	△ 9555B (AL)

R/N/L Q(NSM)

R/N/L	Q(NSM)
3.280	7.050
4.590	9.750
6.230	13.400
8.200	17.800



(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

Figure 28.— Concluded.

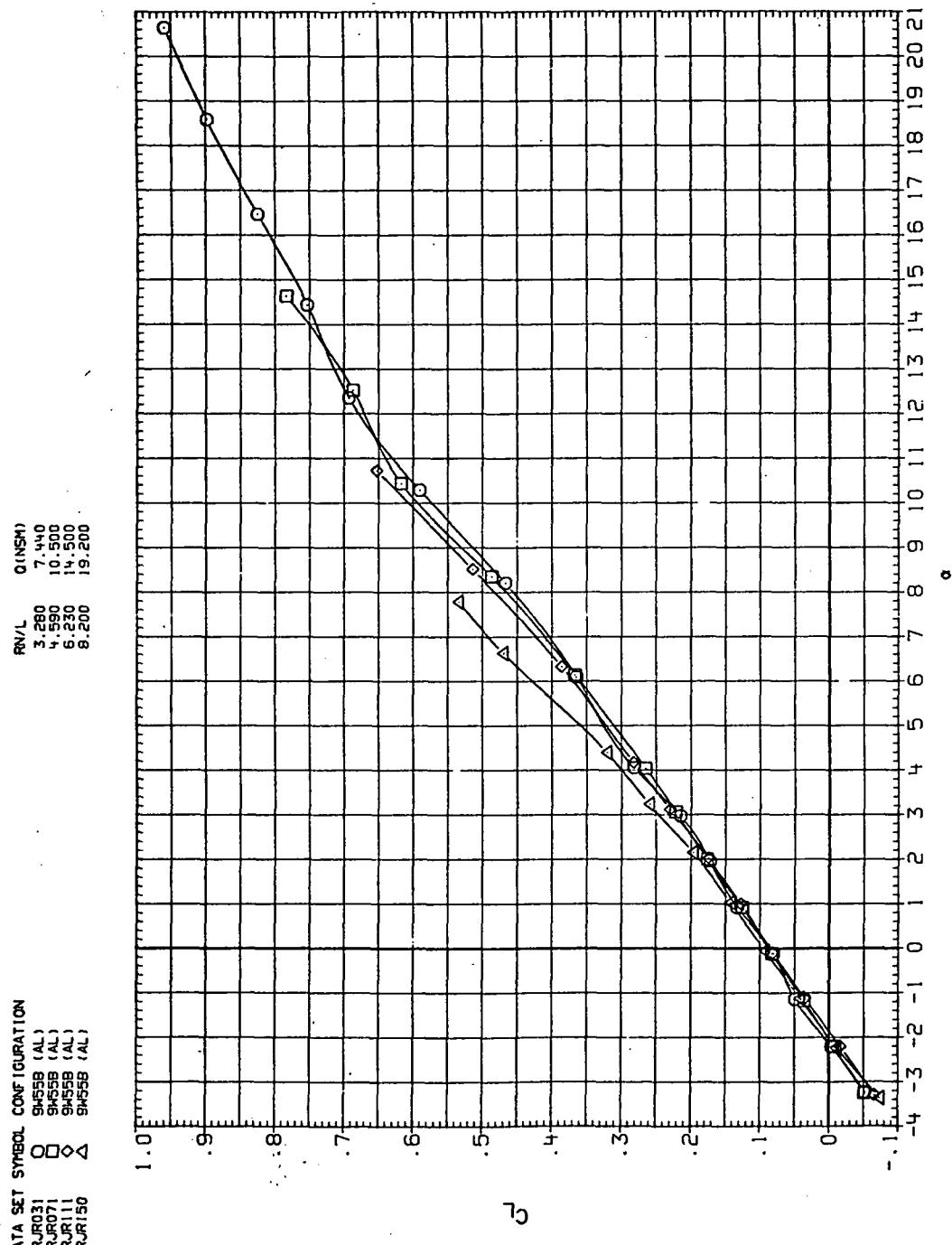
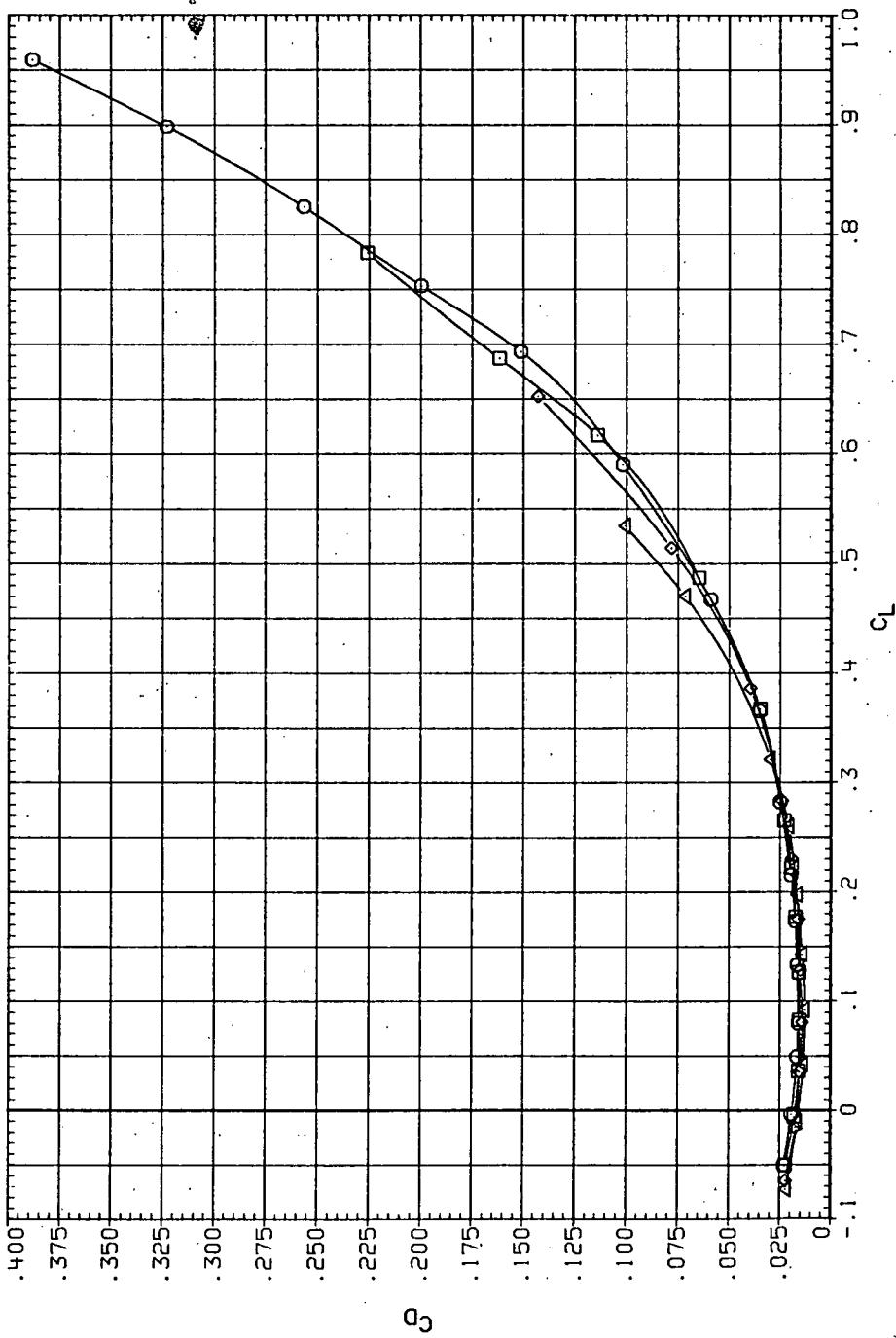


Figure 29.— Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 55^\circ$ ,  $M = 0.9$  and the modified NACA 65A204 airfoil).

DATA SET	SYMBOL	CONFIGURATION	R/N/L	Q (NSM)
RJ031	O	9455B (AL)	3.280	7.440
RJ071	□	9455B (AL)	4.550	10.500
RJ111	◇	9455B (AL)	6.230	14.500
RJ150	△	9455B (AL)	8.200	19.200



(b)  $C_D$  vs  $C_L$ .

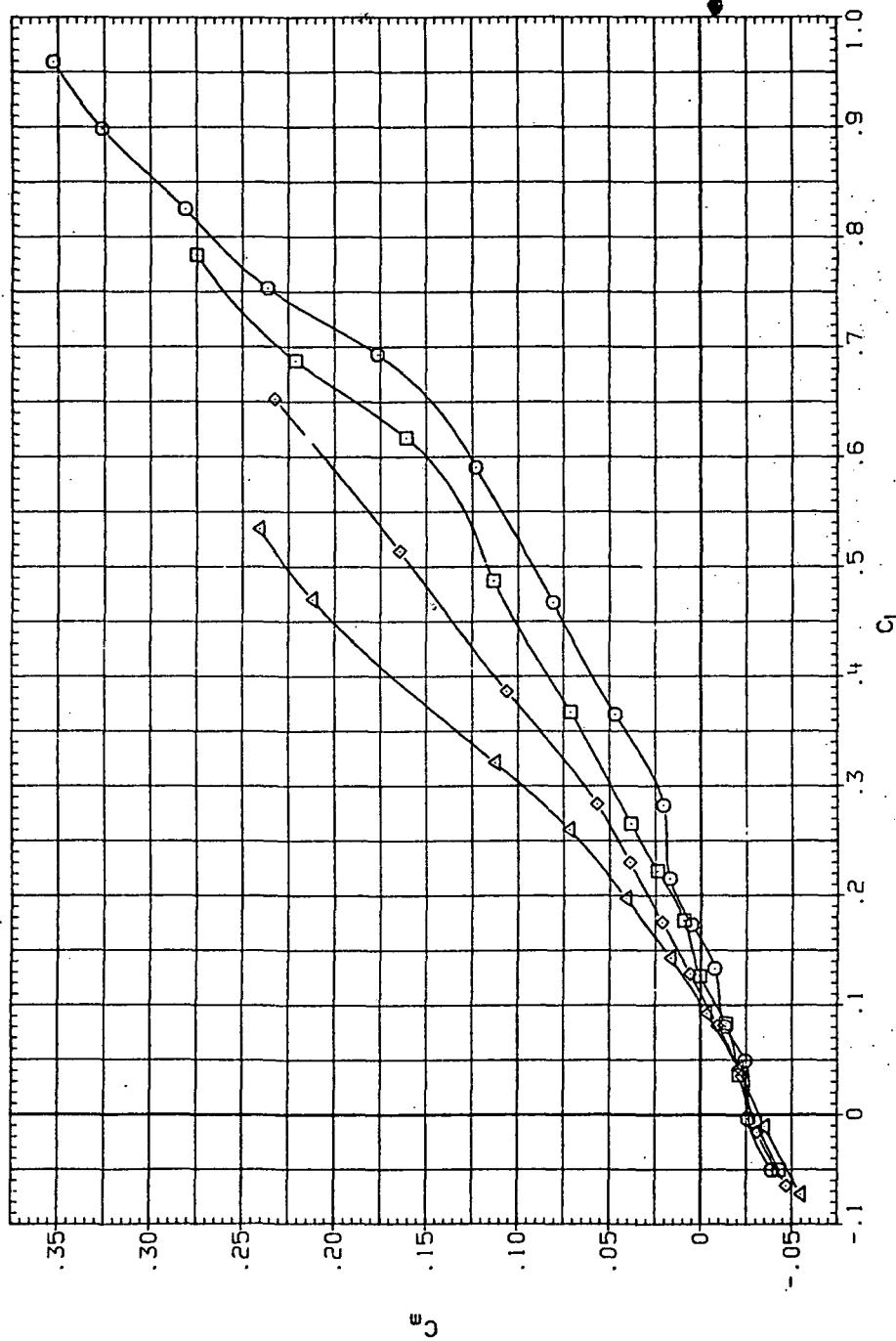
Figure 29.—Continued.

DATA SET SYMBOL CONFIGURATION

RUR031	O	SH155B (AL)
RUR071	□	SH155B (AL)
RUR111	◇	SH155B (AL)
RUR150	△	SH155B (AL)

RN/L Q1(NSM)

3.280	7.440
4.590	10.500
6.230	14.500
8.200	19.200

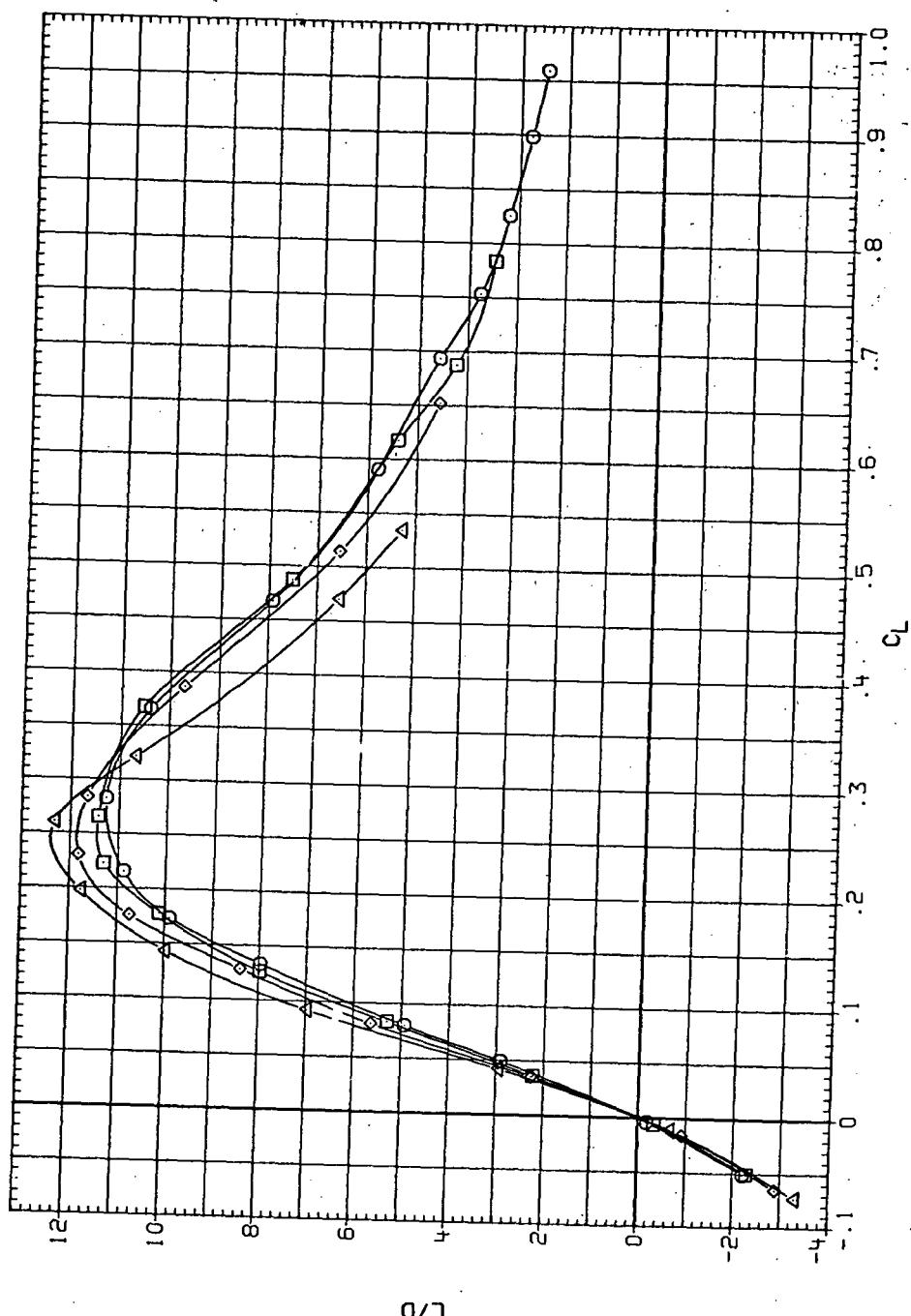


(c)  $C_m$  vs  $C_L$ .

Figure 29.—Continued.

DATA SET	SYMBOL	CONFIGURATION
RJR031	O	SH55B (AL)
RJR071	□	SH55B (AL)
RJR111	◊	SH55B (AL)
RJR150	△	SH55B (AL)

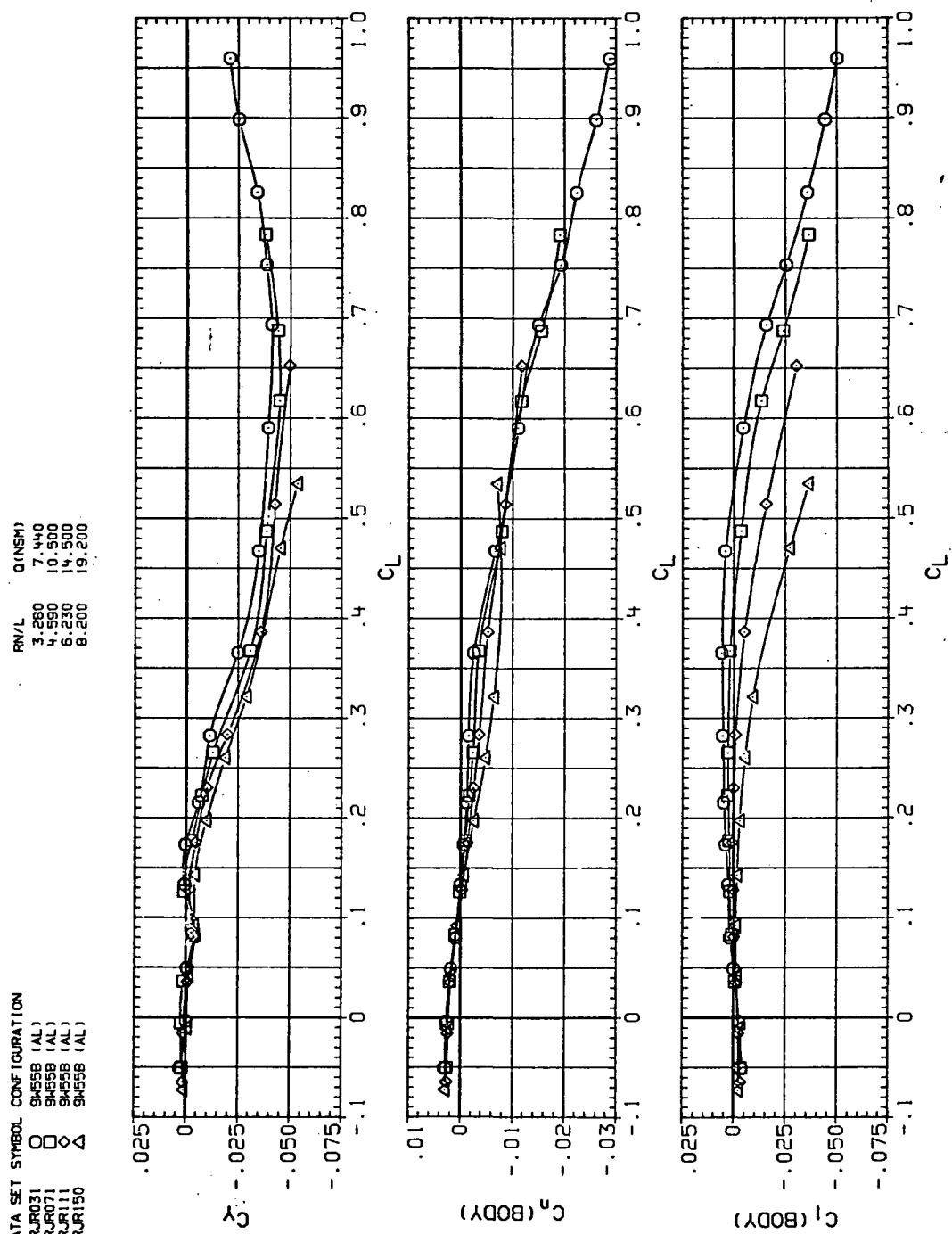
RN/L	Q (INCH)
3.280	7.440
4.590	10.500
6.230	14.500
8.200	19.200



(d)  $L/D$  vs  $C_L$ .

Figure 29.—Continued.

DATA SET	SYMBOL	CONFIGURATION
RJR031	O	9455B (AL)
RJR071	□	9455B (AL)
RJR111	◇	9455B (AL)
RJR150	△	9455B (AL)



(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

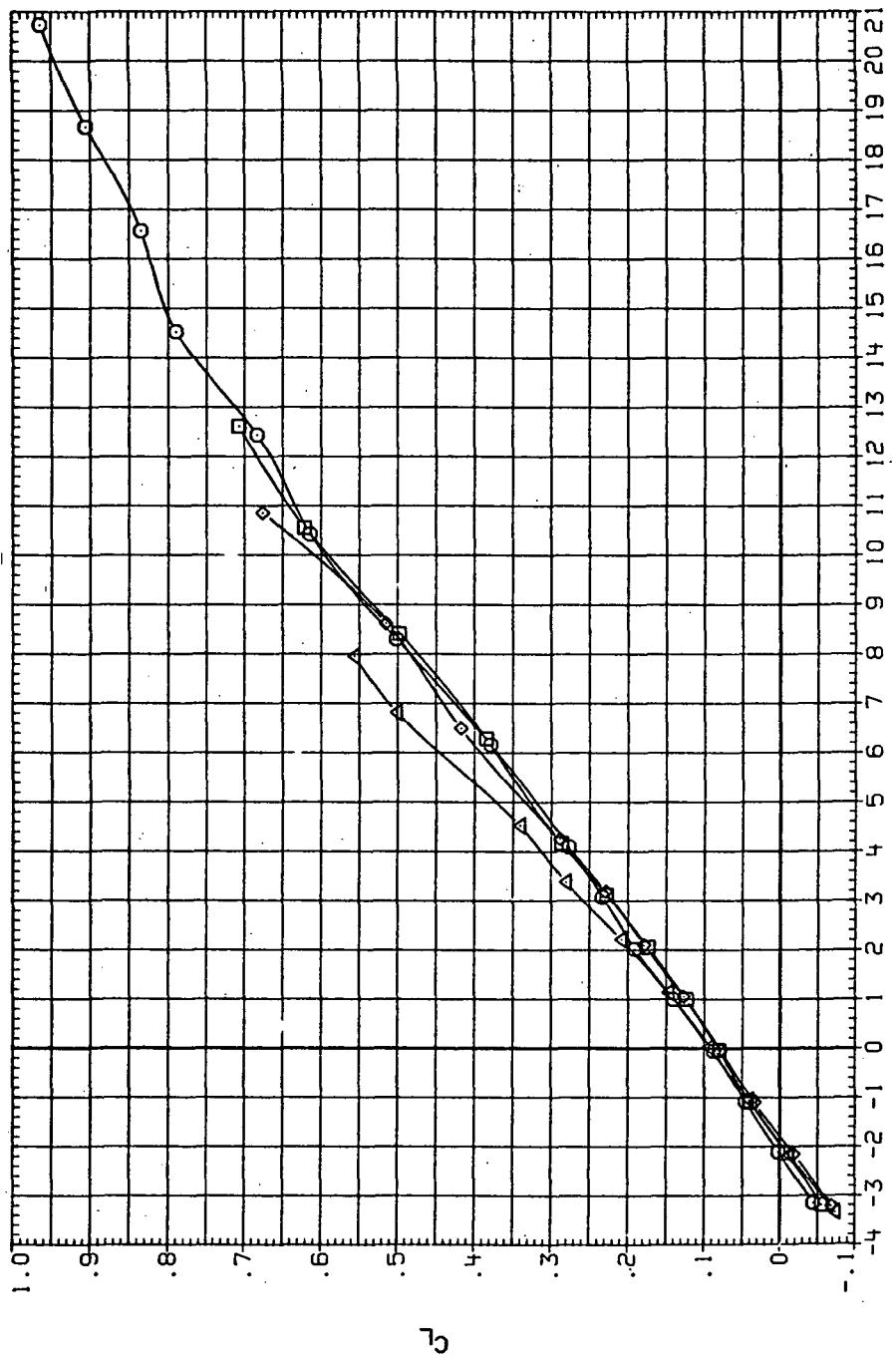
Figure 29.—Concluded.

DATA SET SYMBOL CONFIGURATION

RUR032	O	9455B (AL)
RUR072	□	9455B (AL)
RUR112	◇	9455B (AL)
RUR151	△	9455B (AL)

PW/L Q(NSM)

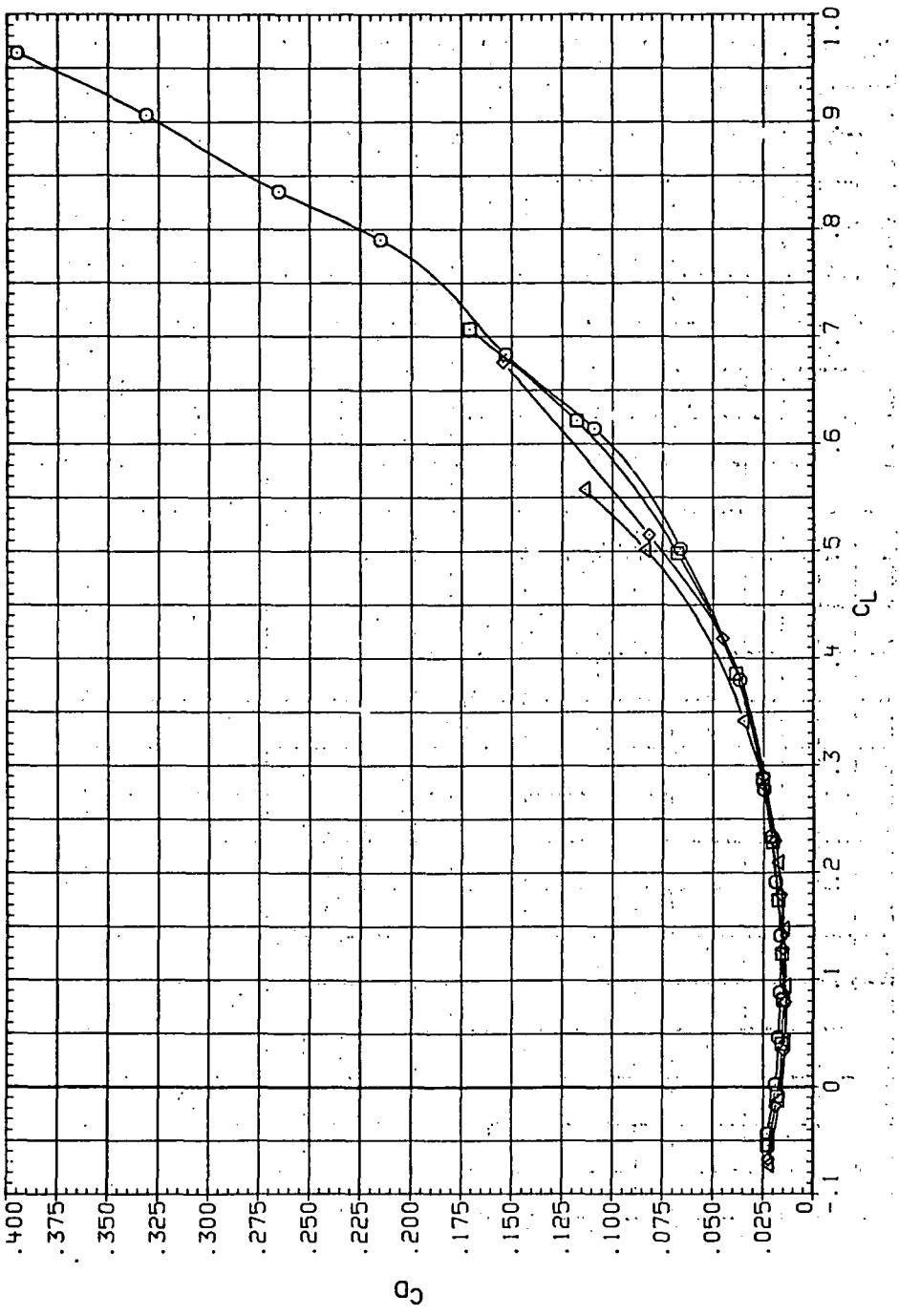
3.250	7.960
4.550	10.900
6.230	15.000
8.200	19.900



(a)  $C_L$  vs  $\alpha$ .

Figure 30.— Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 55^\circ$ ,  $M = 0.95$  and the modified NACA 65A204 airfoil).

DATA SET	SYMBOL	CONFIGURATION	R/V/L	$Q$ (NSM)
RJ032	O	SH55B (AL)	3.280	7.960
RJ072	□	SH55B (AL)	4.590	10.900
RJ112	◊	SH55B (AL)	6.230	15.000
RJ151	△	SH55B (AL)	8.200	19.900



(b)  $C_D$  vs  $C_L$ .

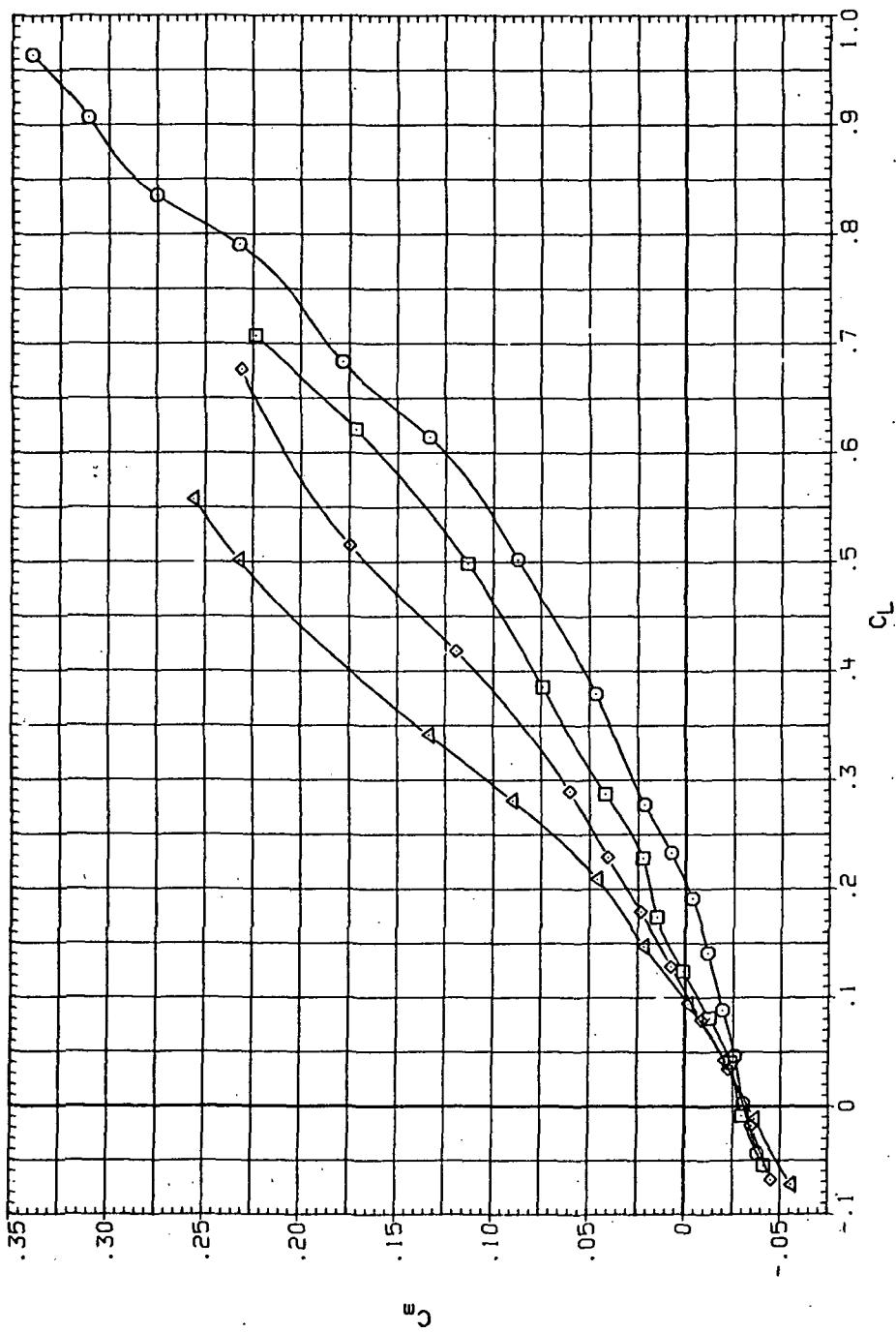
Figure 30.—Continued.

DATA SET SYMBOL CONFIGURATION...

RJU03	O	9455B (AL)
RJU02	□	9455B (AL)
RJU12	◊	9455B (AL)
RJU11	△	9455B (AL)

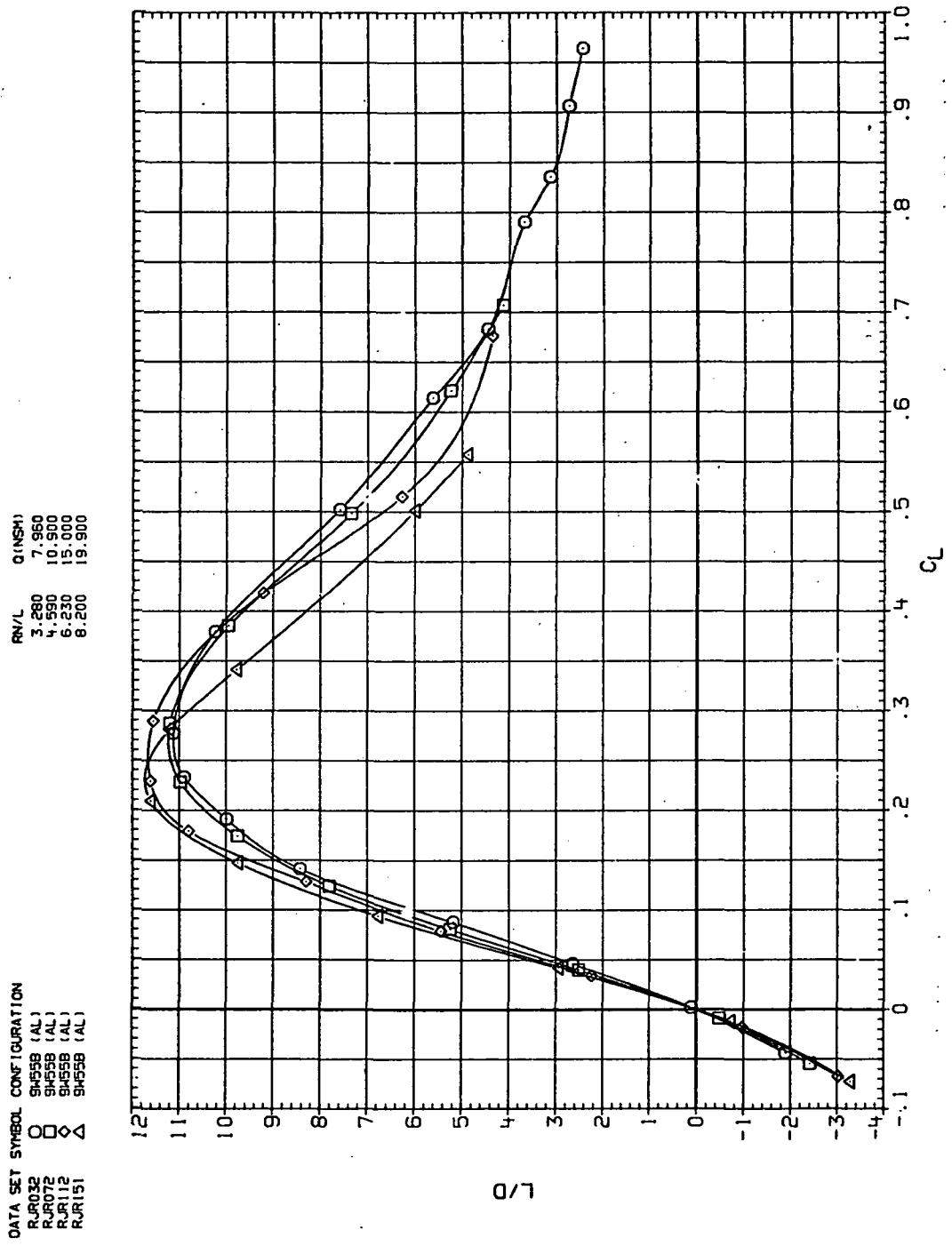
· RV/L Q/(NSM)

3.280	7.980
4.590	10.900
6.230	15.000
8.200	19.900



(c)  $C_m$  vs  $C_L$ .

Figure 30.—Continued.

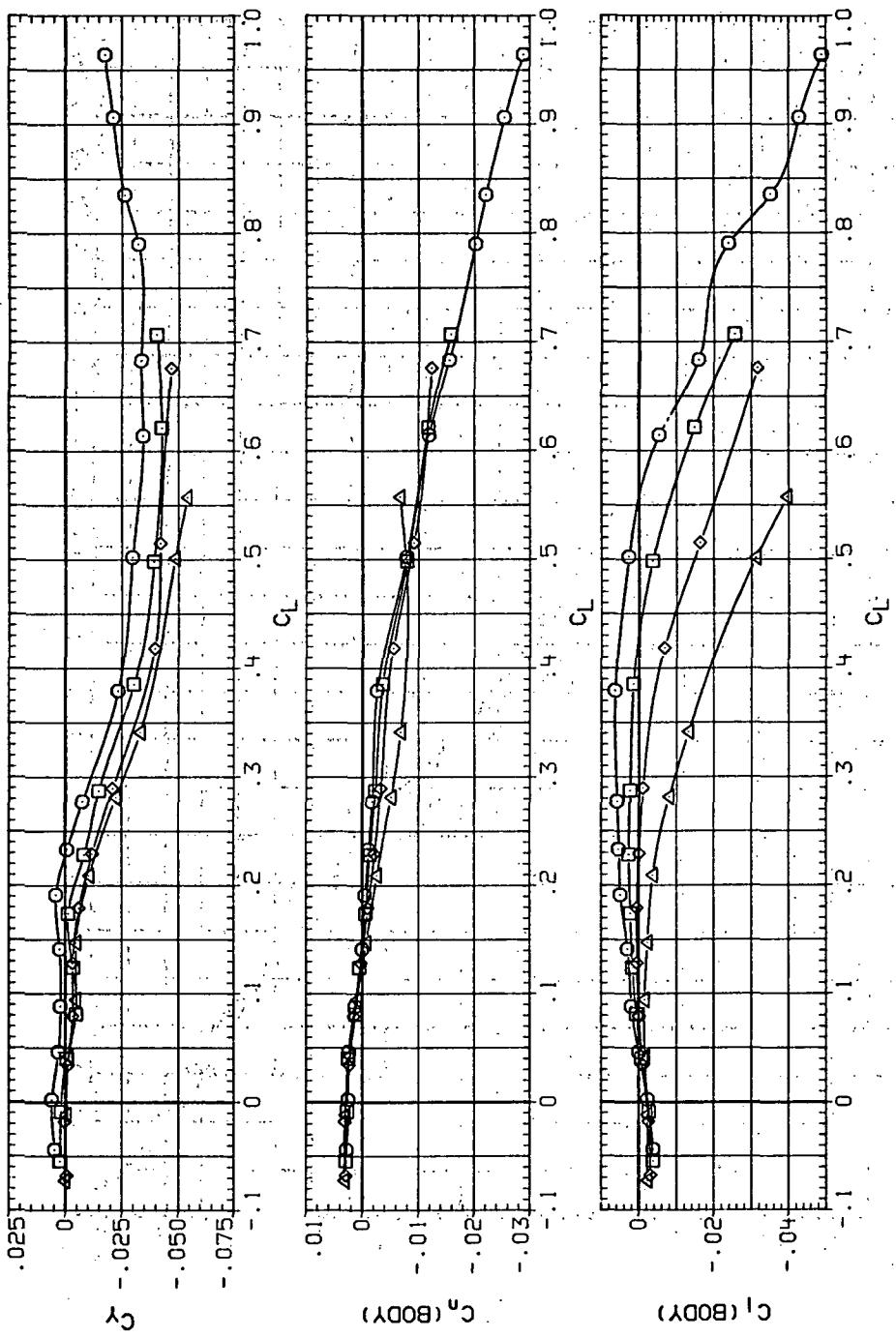


(d)  $L/D$  vs  $C_L$ .

Figure 30.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RUR032 O S9558 (AL)  
 RUR072 □ S9558 (AL)  
 RUR112 ◇ S9558 (AL)  
 RUR151 △ S9558 (AL)

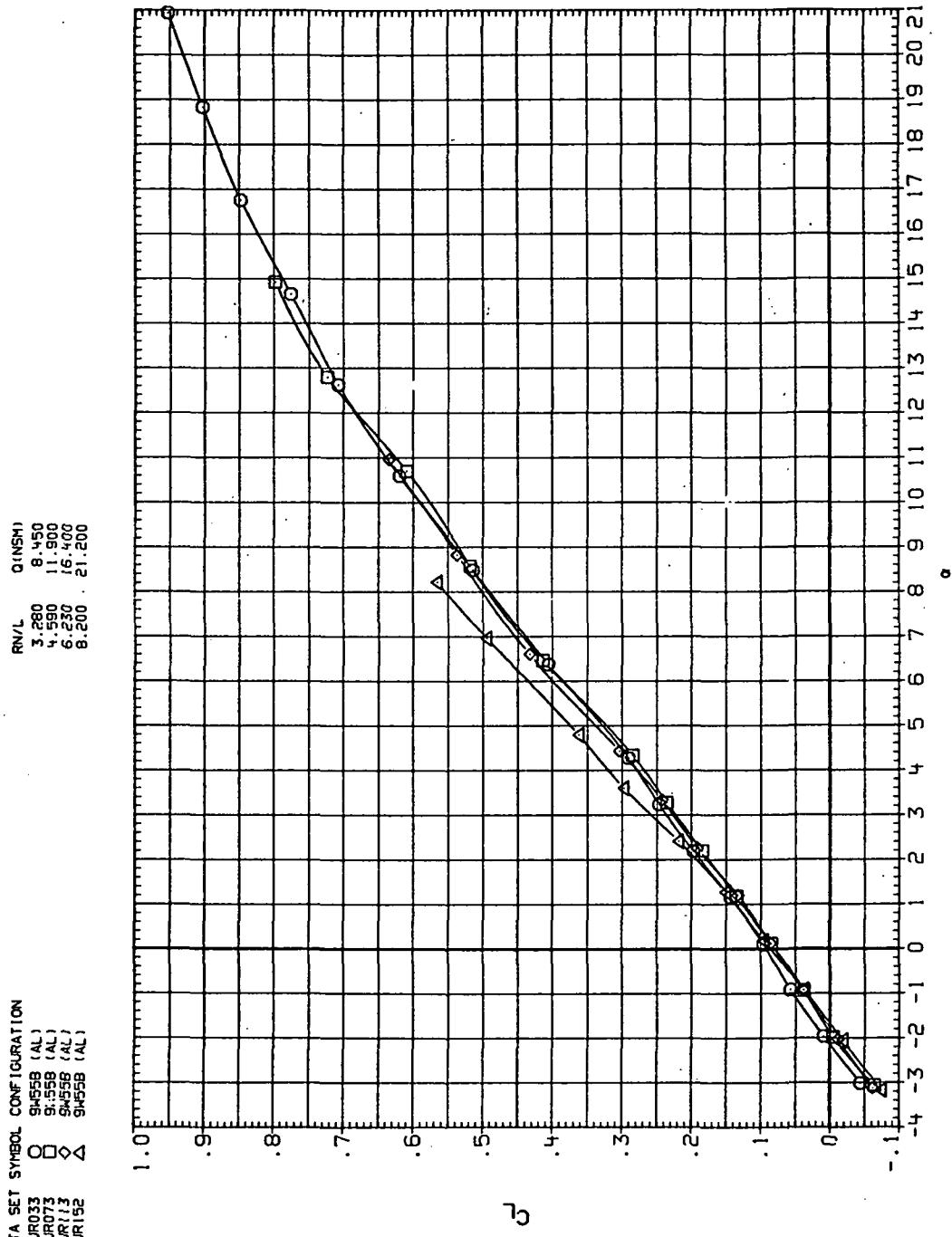
RNL Q (NSH)  
 3.280 7.950  
 4.590 10.900  
 6.230 15.000  
 8.200 19.900



(e)  $C_Y$ ,  $C_n$  and  $C_L$  vs  $C_L$ .

Figure 30.— Concluded.

DATA SET	SYMBOL	CONFIGURATION
RJ5033	O	SH55B (AL)
RJ5073	□	SH55B (AL)
RJR113	◊	SH55B (AL)
RJR152	△	SH55B (AL)



(a)  $C_L$  vs  $\alpha$ .

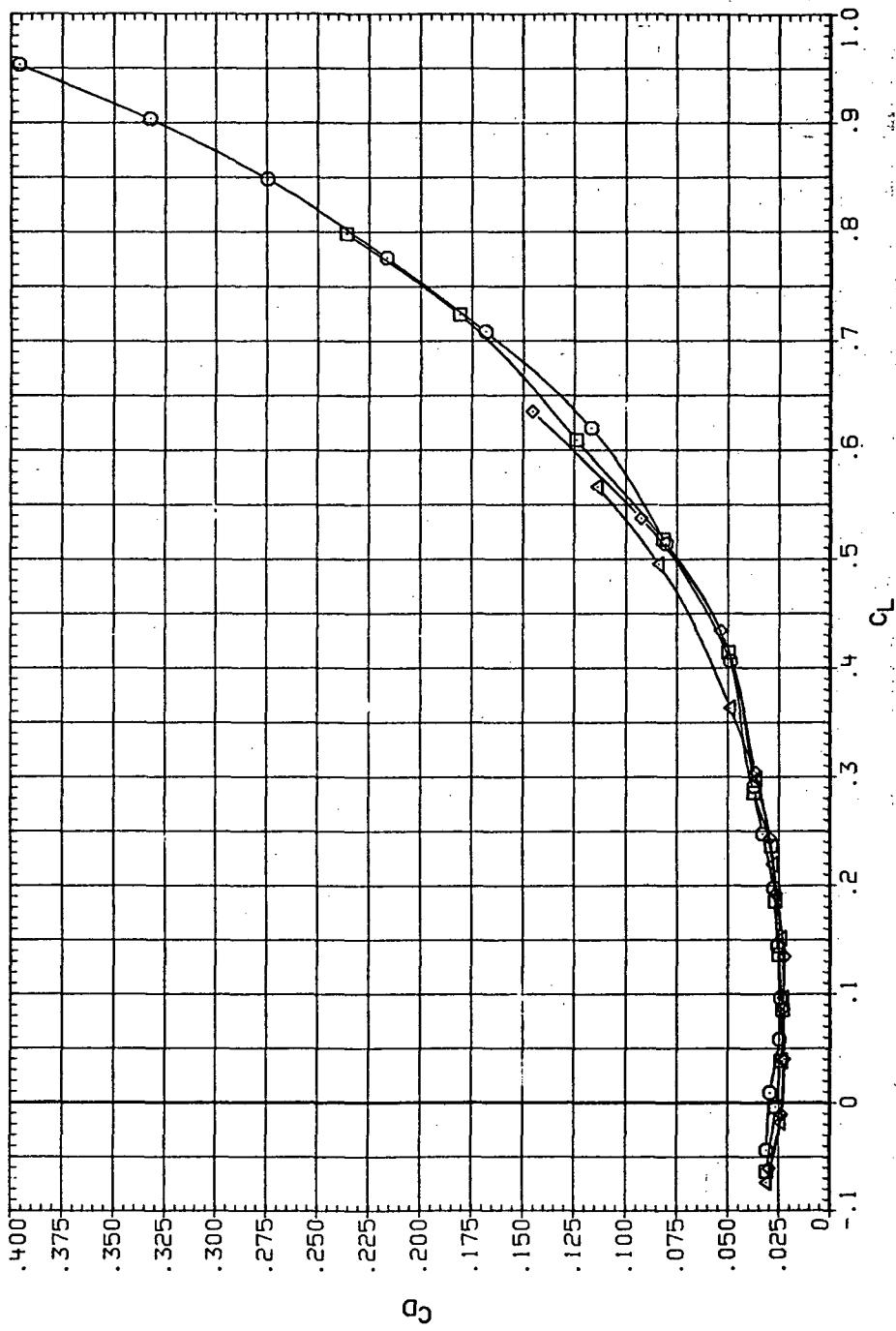
Figure 31.— Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 55^\circ$ ,  $M = 1.1$  and the modified NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION

RUR033	O	SH555B (AL)
RUR073	□	SH555B (AL)
RUR113	◇	SH555B (AL)
RUR152	△	SH555B (AL)

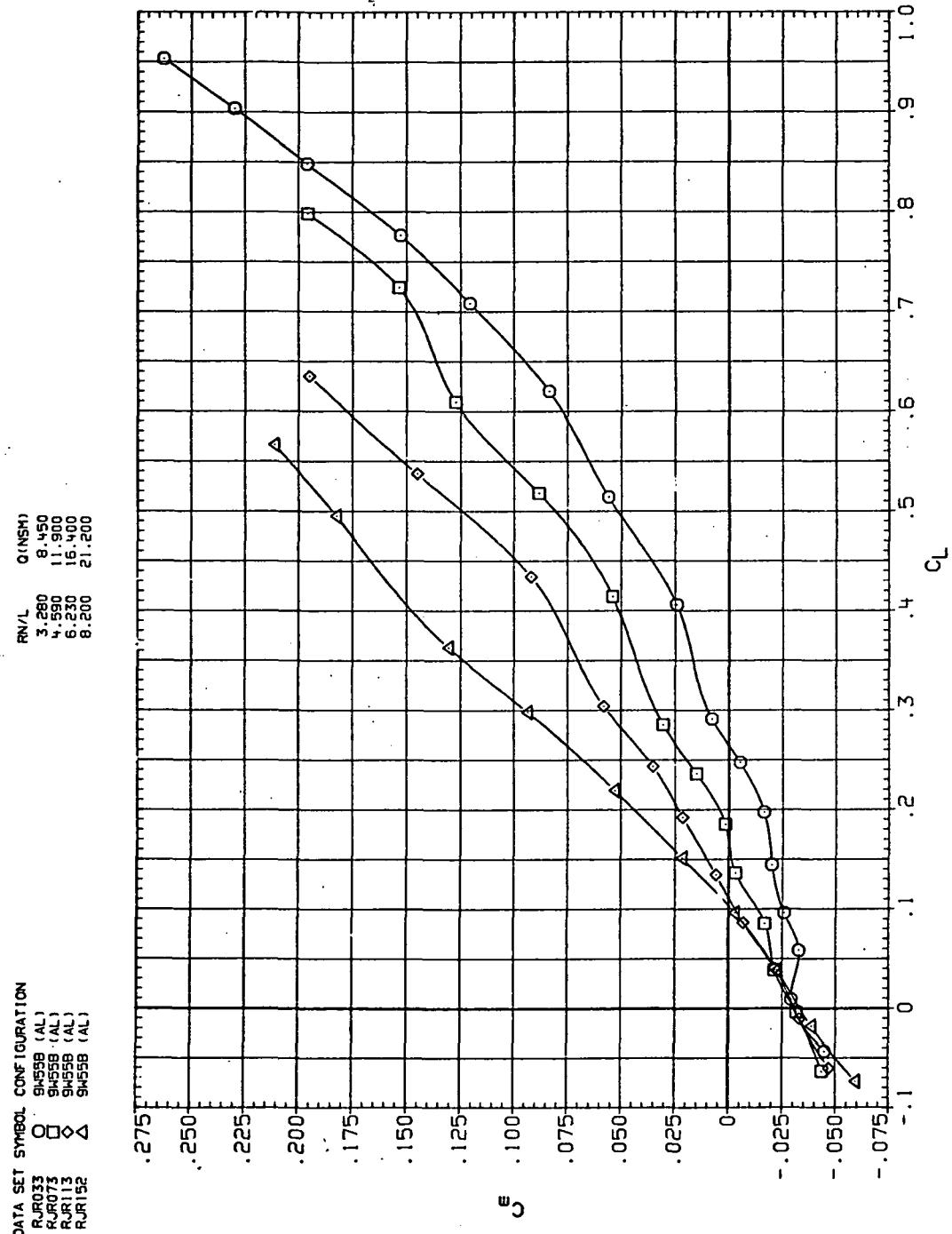
RN/L Q (INSM)

3.280	8.450
4.590	11.900
6.230	16.400
8.200	21.200



(b)  $C_D$  vs  $C_L$ .

Figure 31.—Continued.

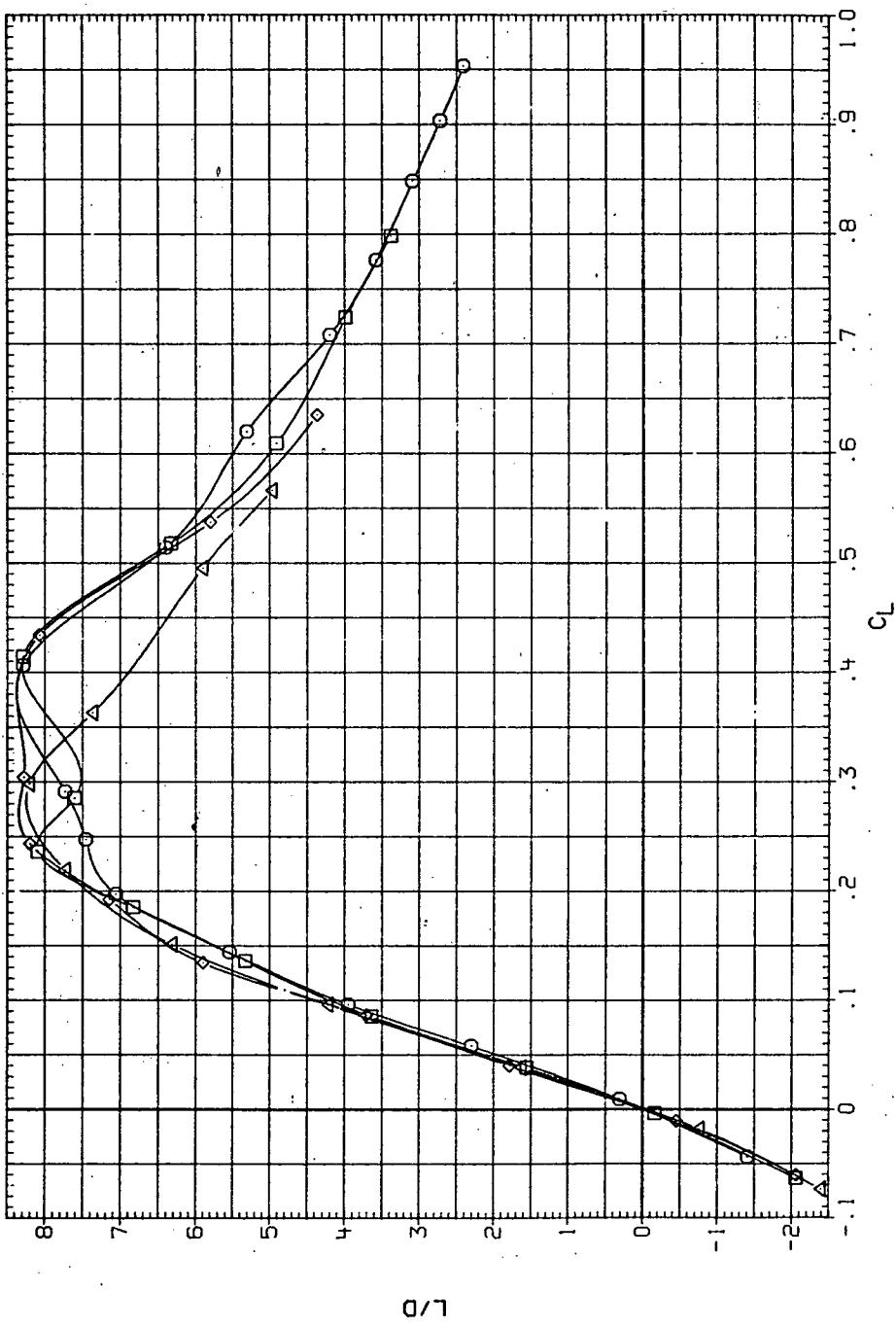


(c)  $C_m$  vs  $C_L$ .

Figure 31.—Continued.

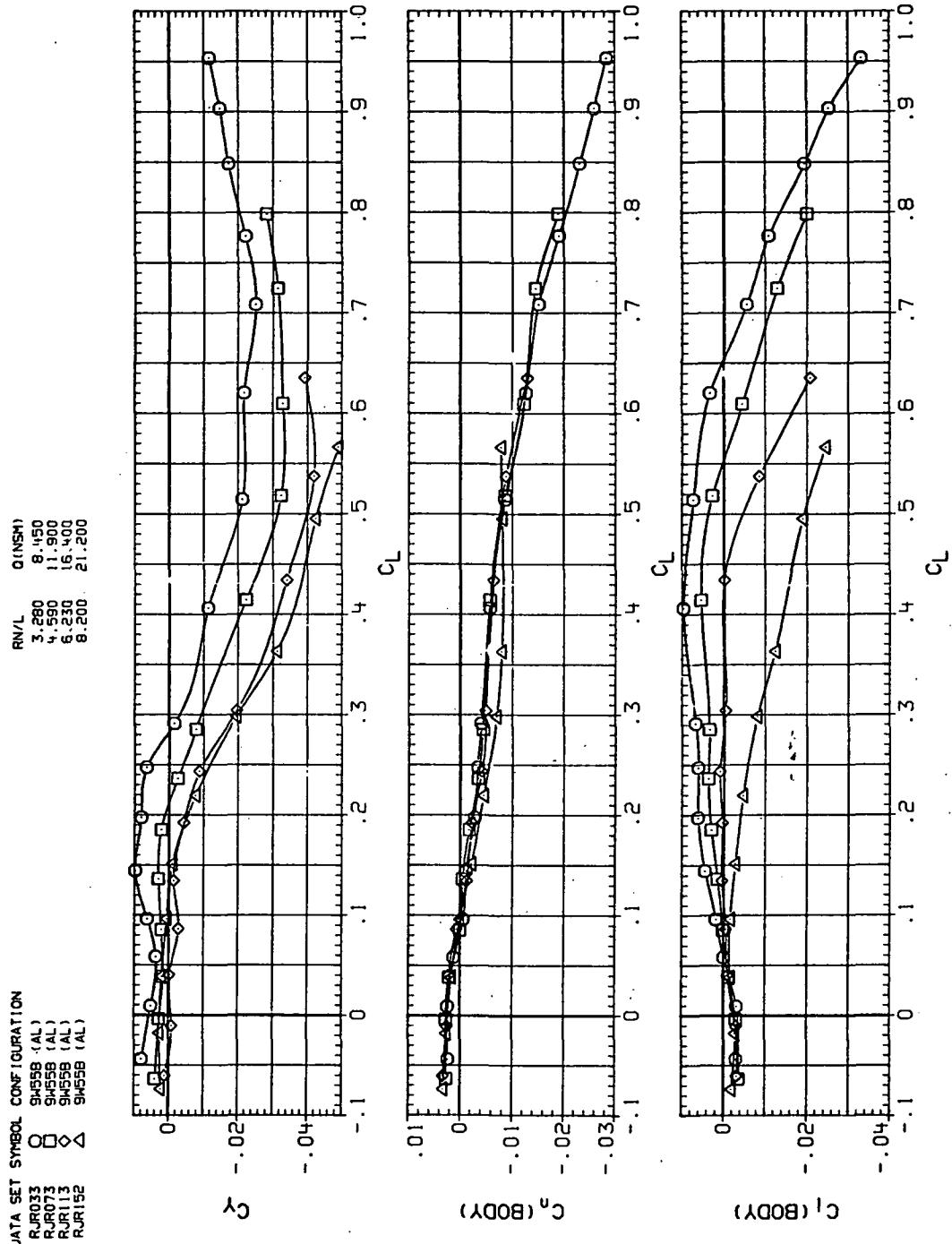
DATA SET SYMBOL CONFIGURATION

RUR033	SH55B (AL)
O	SH55B (AL)
RUR073	SH55B (AL)
RUR113	SH55B (AL)
RUR152	SH55B (AL)



(d)  $L/D$  vs  $C_L$ .

Figure 31.— Continued.



(e)  $C_Y$ ,  $C_n$  and  $C_d$  vs  $C_L$ .

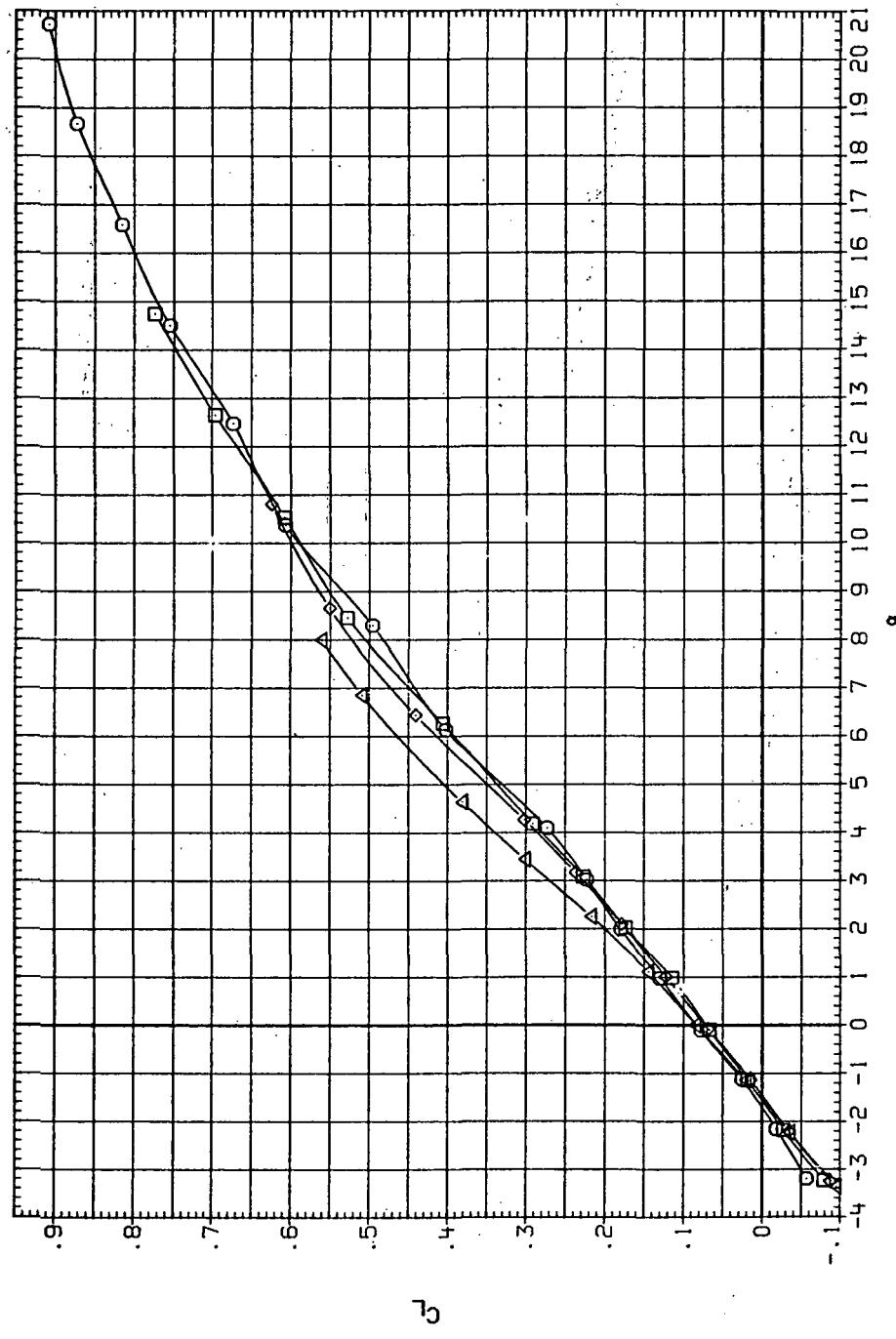
Figure 31.—Concluded.

DATA SET SYMBOL CONFIGURATION

RJF034	O	SH455B (AL)
RJF074	□	SH455B (AL)
RJF114	◇	SH455B (AL)
RJF153	△	SH455B (AL)

RN/L       $\alpha$  (NSM)

3.280	8.980
4.590	12.400
6.230	17.000
8.200	22.900



(a)  $C_L$  vs  $\alpha$ .

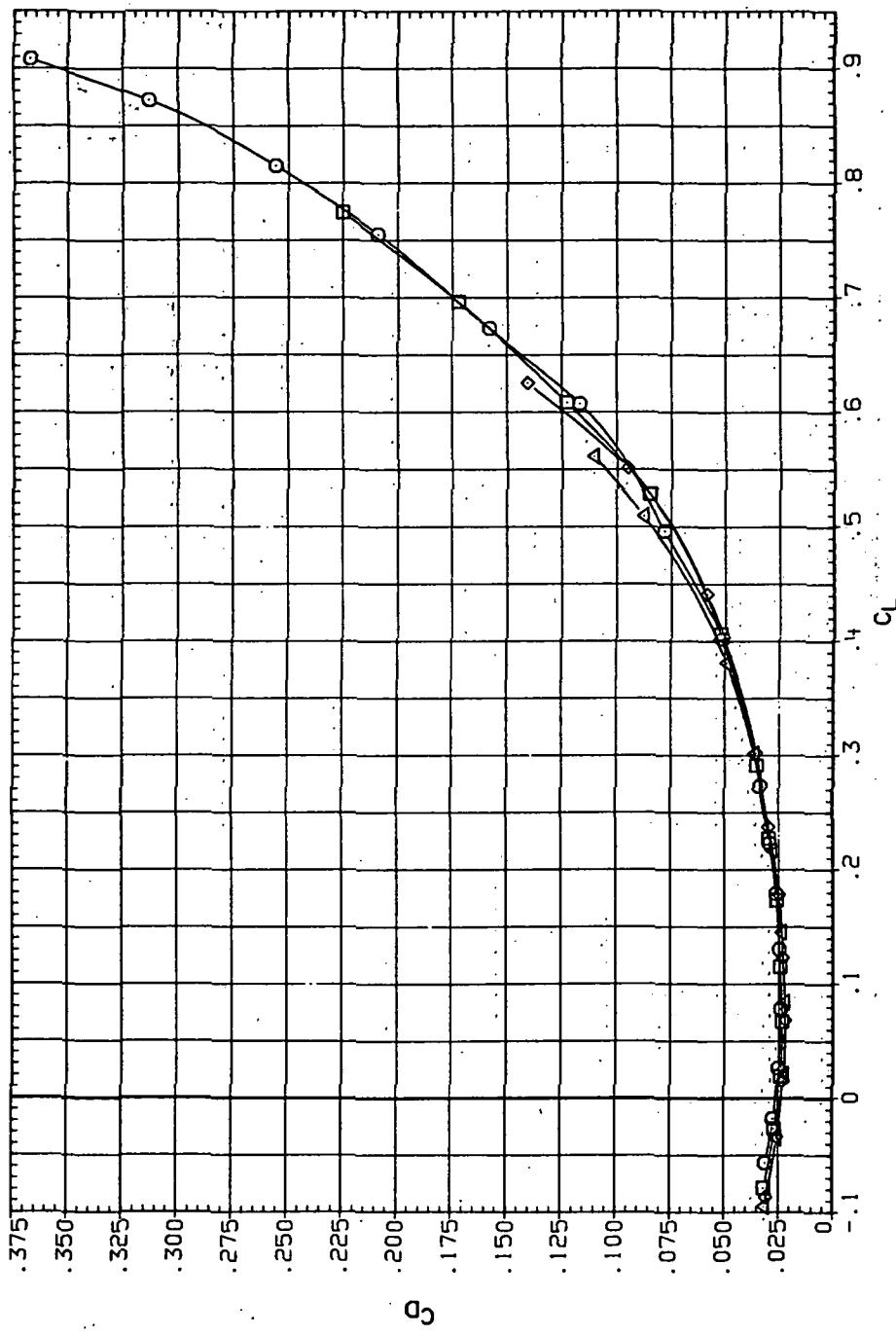
Figure 32.— Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 55^\circ$ ,  $M = 1.2$  and the modified NACA 65A204 airfoil).

ATA SET SYMBOL CONFIGURATION

RJRU03N	O	9455B (AL)
RJR07N	□	9455B (AL)
RJR11N	◇	9455B (AL)
RJR15N	△	9455B (AL)

R/N/L       $\alpha$ (NSM)

3.260	8.980
4.590	12.400
6.230	17.000
8.200	22.800



(b)  $C_D$  vs  $C_L$ .

Figure 32.—Continued.

VTA SET SYMBOL CONFIGURATION  
 RJR03 S455B (AL)  
 RJR07 S455B (AL)  
 RJR14 S455B (AL)  
 RJR153 S455B (AL)

RN/L 0.0500  
 Q1NSM1 8.980  
 Q2NSM1 13.780  
 Q3NSM1 14.590  
 Q4NSM1 12.400  
 Q5NSM1 17.000  
 Q6NSM1 6.230  
 Q7NSM1 8.200  
 Q8NSM1 22.800

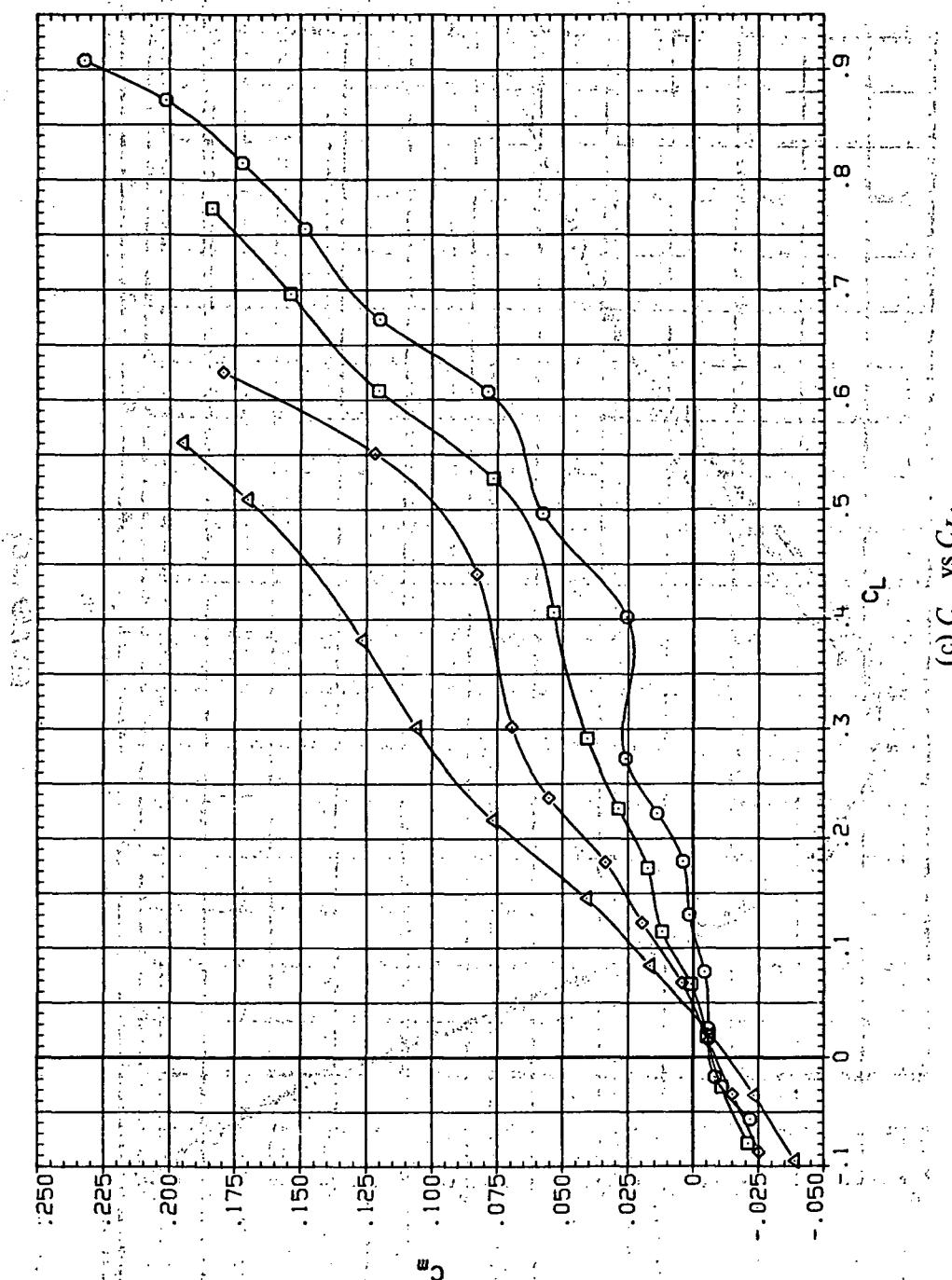
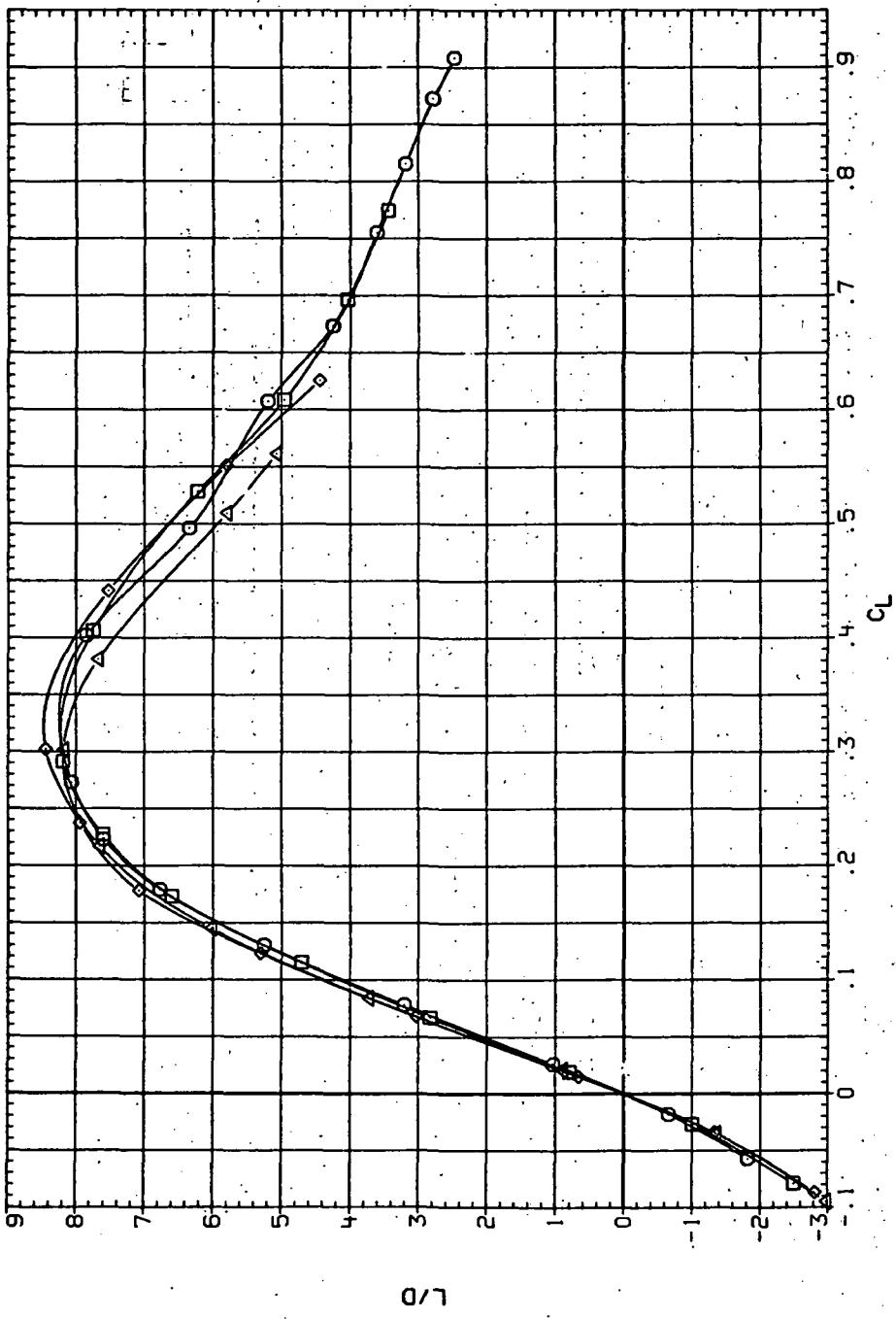


Figure 32—Continued.  
 (c)  $C_m$  vs  $C_L$ .

DATA SET	SYMBOL	CONFIGURATION	RN/L	Q (NSM)
RJR034	○	SH55B (AL)	3.280	8.380
RJR074	□	SH55B (AL)	4.590	12.400
RJR114	◇	SH55B (AL)	6.230	17.000
RJR153	△	SH55B (AL)	8.300	22.800

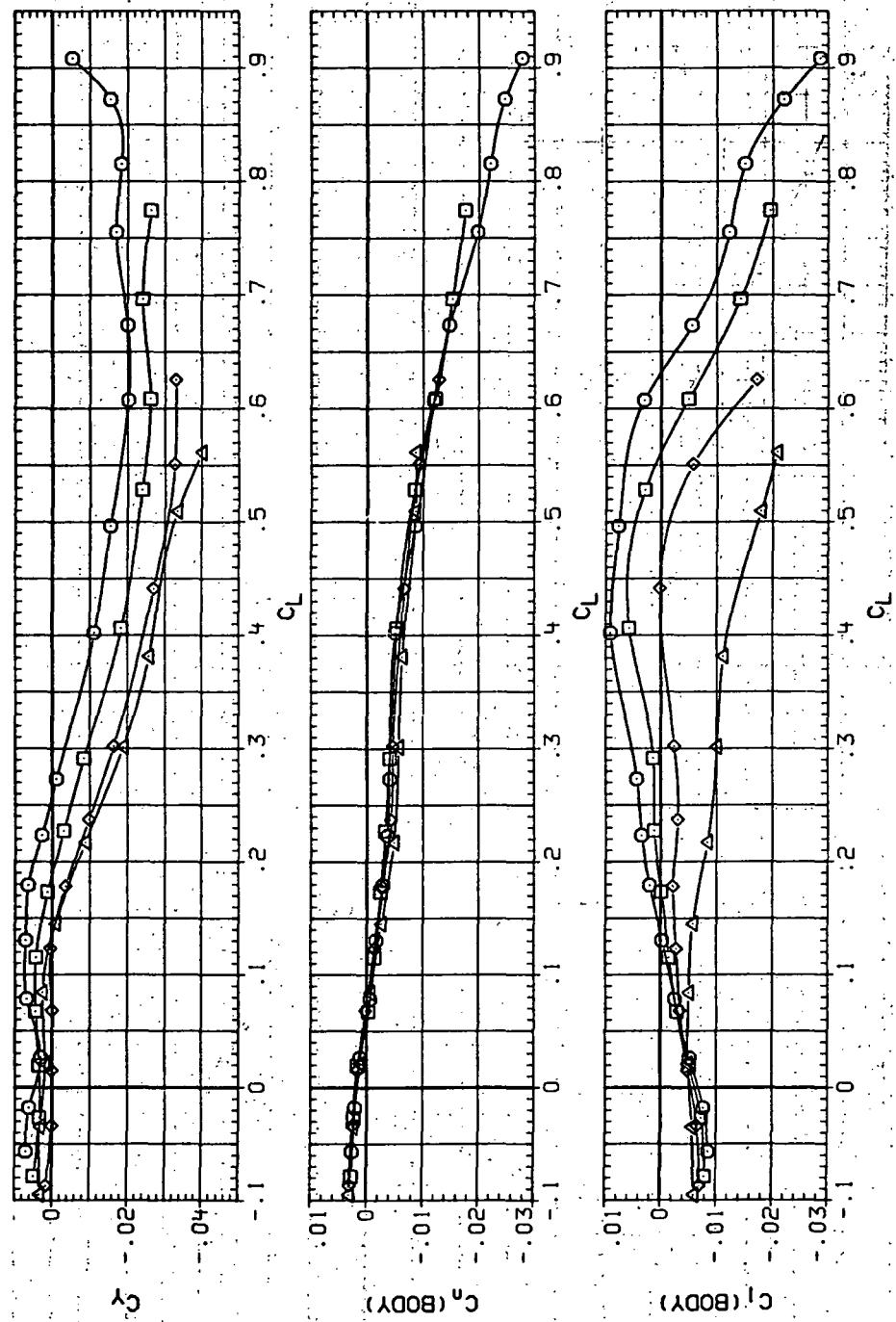


(d)  $L/D$  vs  $C_L$ .

Figure 32.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RUR03N O SH55B (AL)  
 RUR07N □ SH55B (AL)  
 RUR11N ◇ SH55B (AL)  
 RUR15N △ SH55B (AL)

R/N/L Q(NSR)  
 3.260 8.980  
 4.590 12.400  
 6.230 17.000  
 8.200 22.800



(e)  $C_Y$ ,  $C_n$ , and  $C_L$  vs  $C_L$ .

Figure 32.—Concluded.

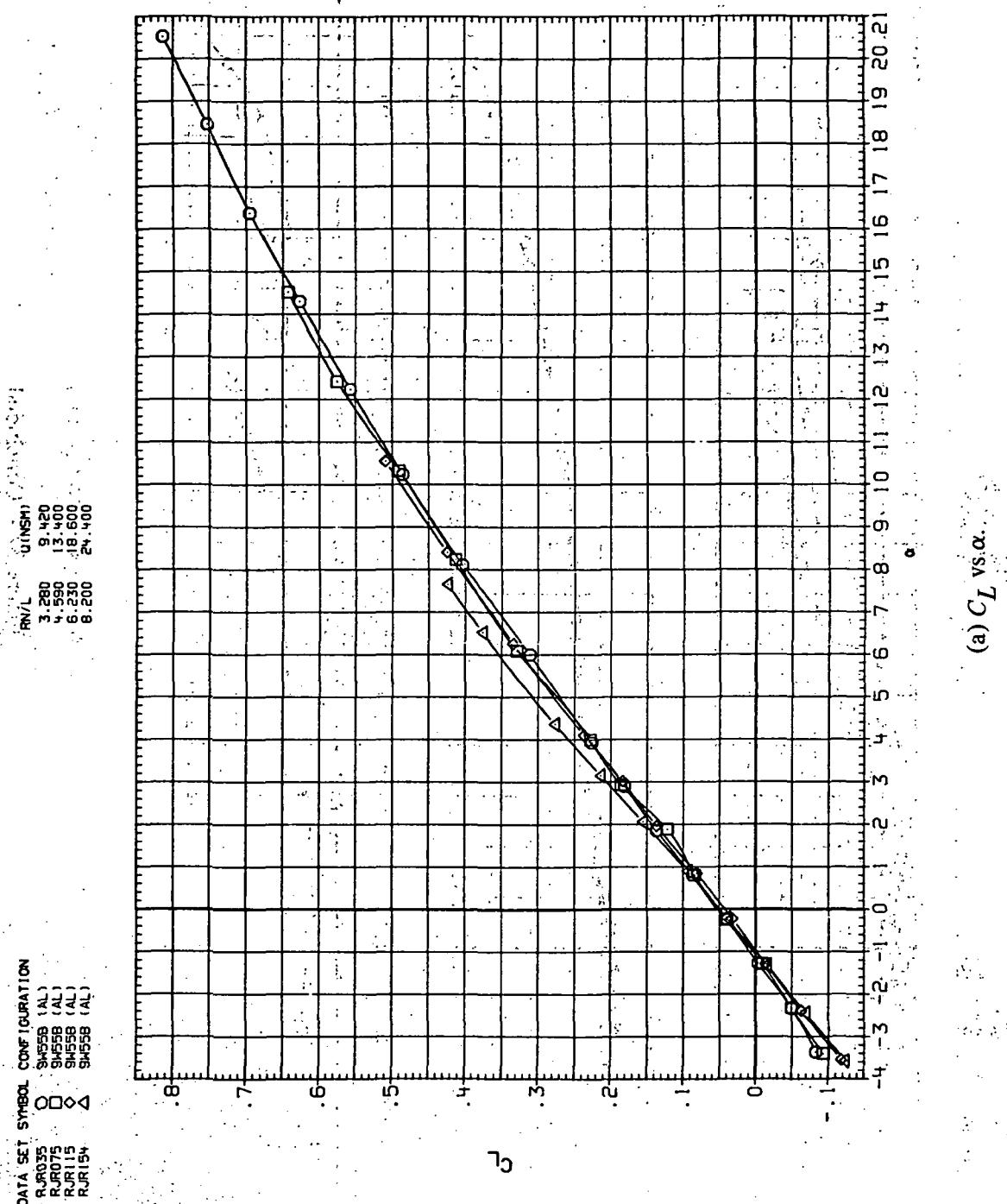
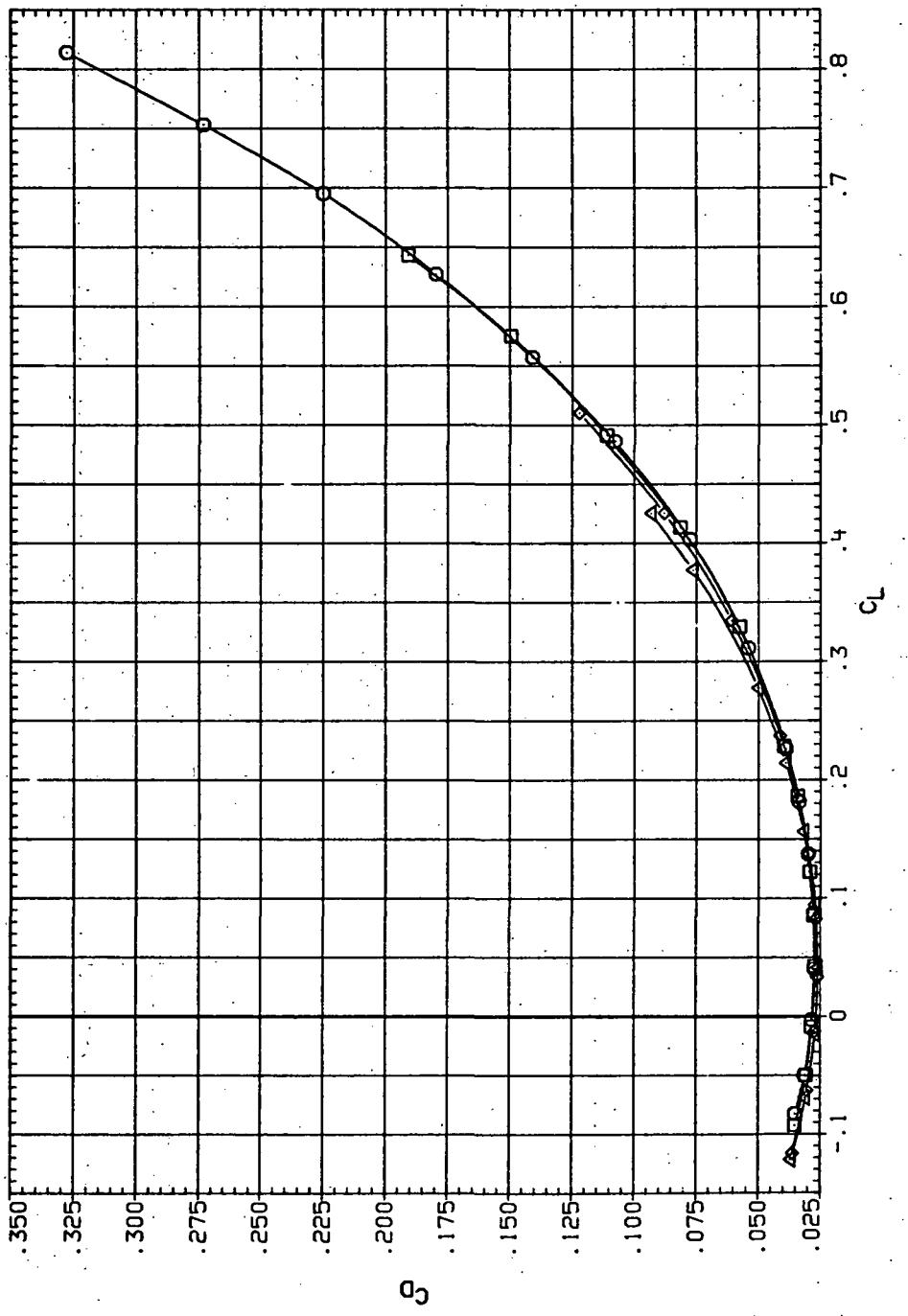


Figure 33.— Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 55^\circ$ ,  $M = 1.6$  and the modified NACA 65A204 airfoil).

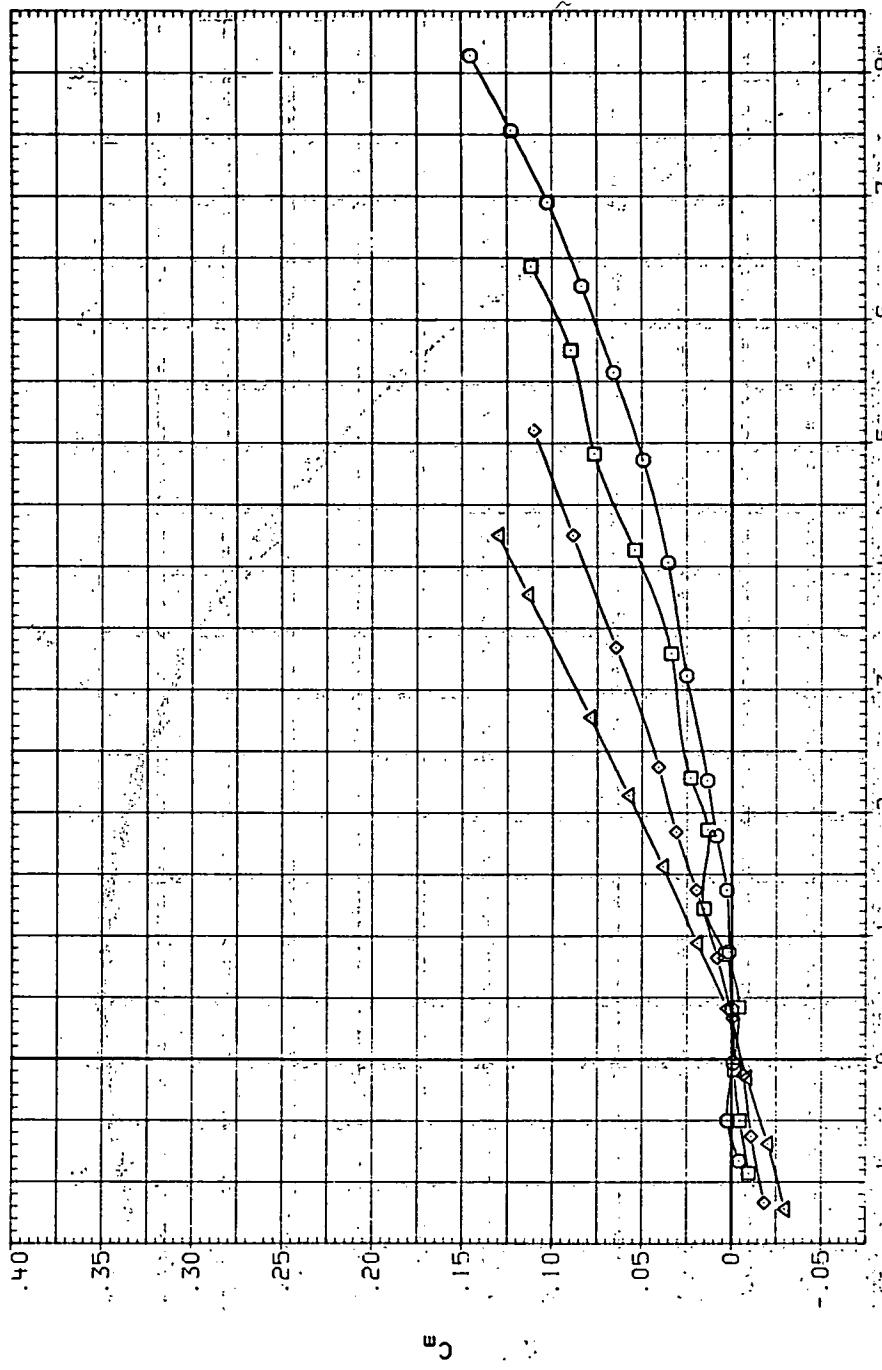
DATA SET SYMBOL CONFIGURATION		$Q(1.3M)$	$R/L$
RJ035	○	SH558 (AL)	3.280
RJ075	□	SH558 (AL)	4.590
RJ115	◇	SH558 (AL)	6.230
RJ150	△	SH558 (AL)	8.200



(b)  $C_D$  vs  $C_L$ .

Figure 33.—Continued.

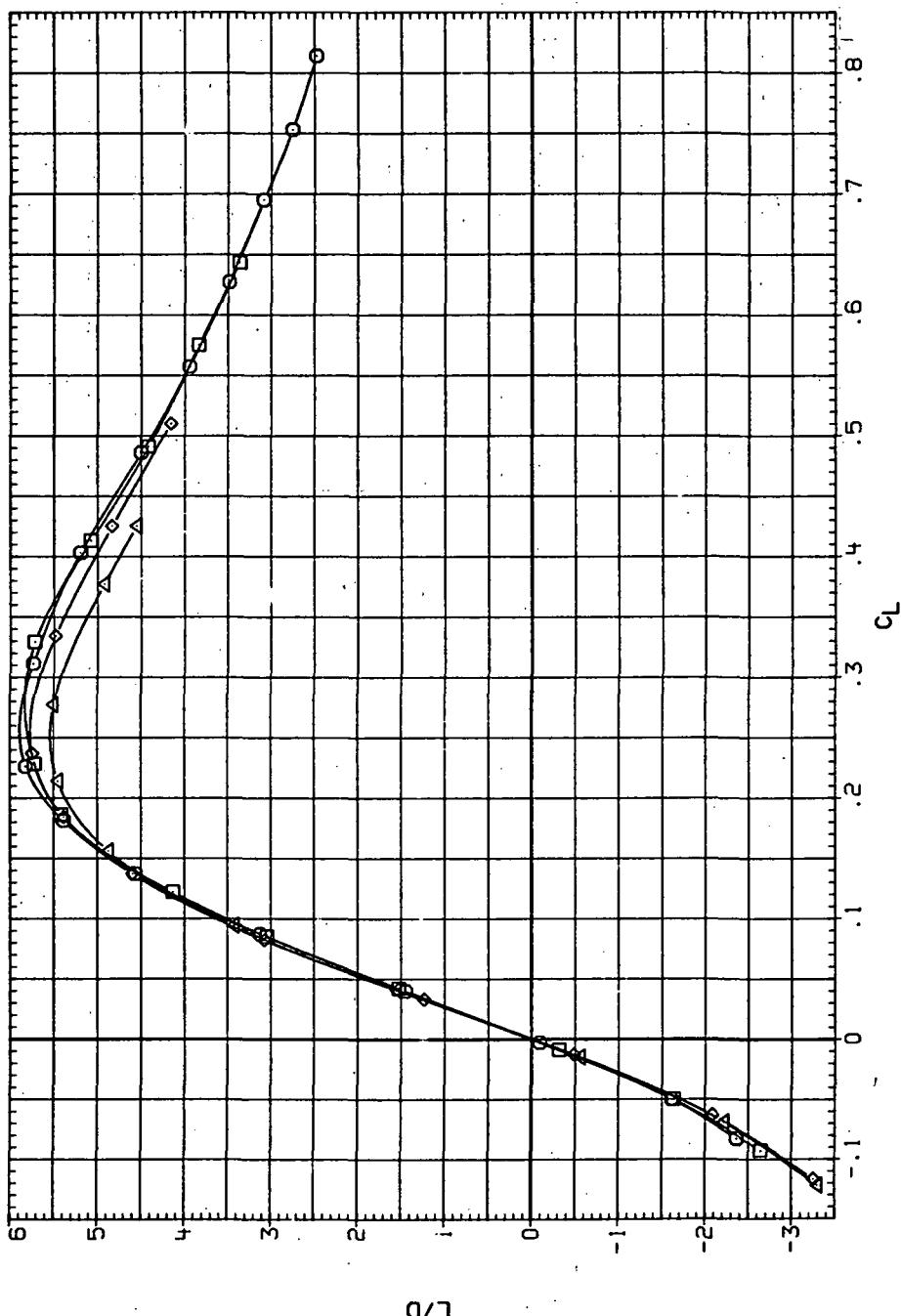
DATA SET SYMBOL CONFIGURATION  
 RJR035 O 9455B (AL)  
 RJR075 □ 9455B (AL)  
 RJR115 ◇ 9455B (AL)  
 RJR154 △ 9455B (AL)



(c)  $C_m$  vs  $C_L$ .

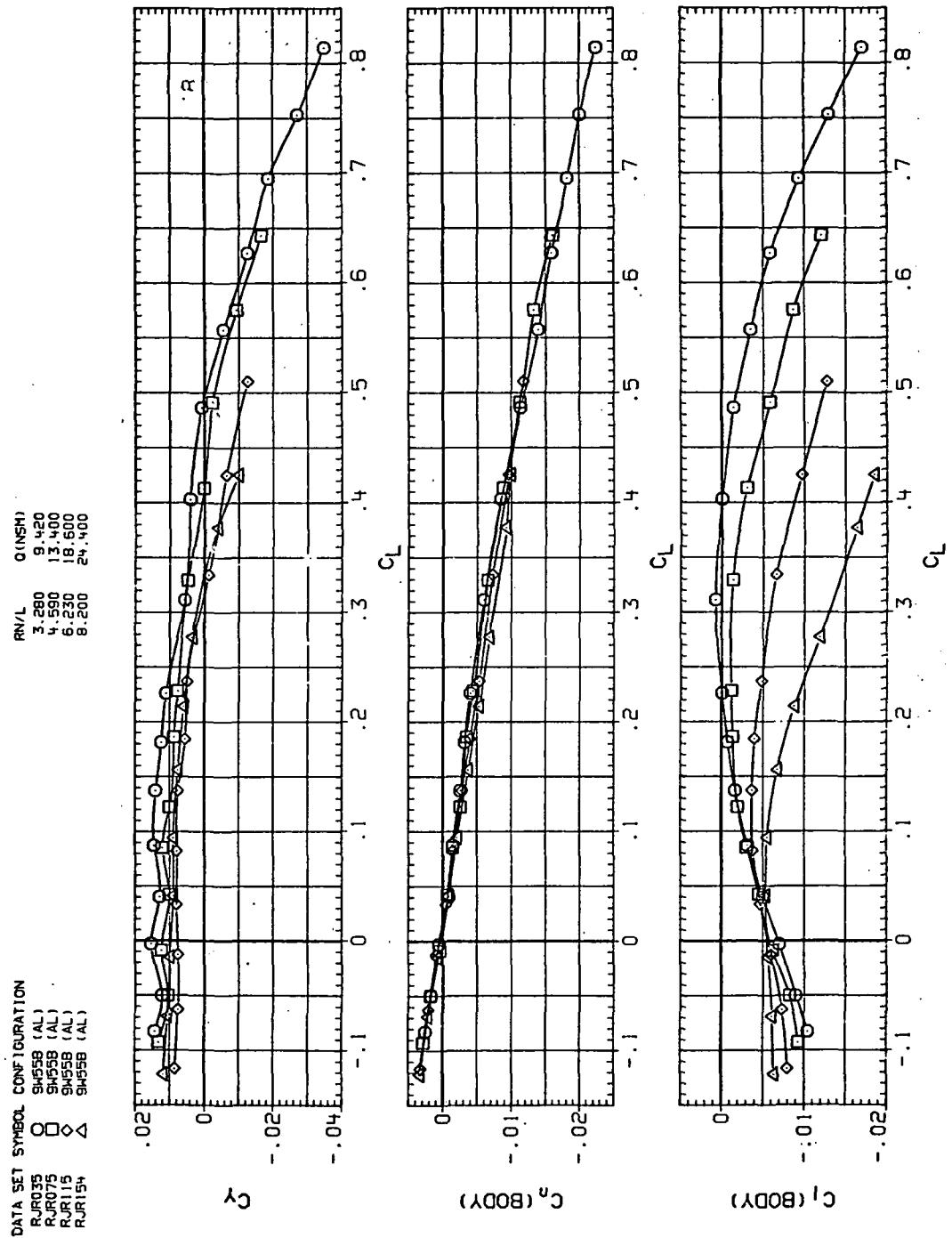
Figure 33. Continued.

DATA SET SYMBOL	CONFIGURATION	R <sub>0</sub> /L	Q (NSM)
○	9455B (AL)	3.280	4.420
□	9455B (AL)	4.590	13.400
◊	9455B (AL)	6.230	18.600
△	9455B (AL)	8.200	24.400



(d)  $L/D$  vs  $C_L$ .

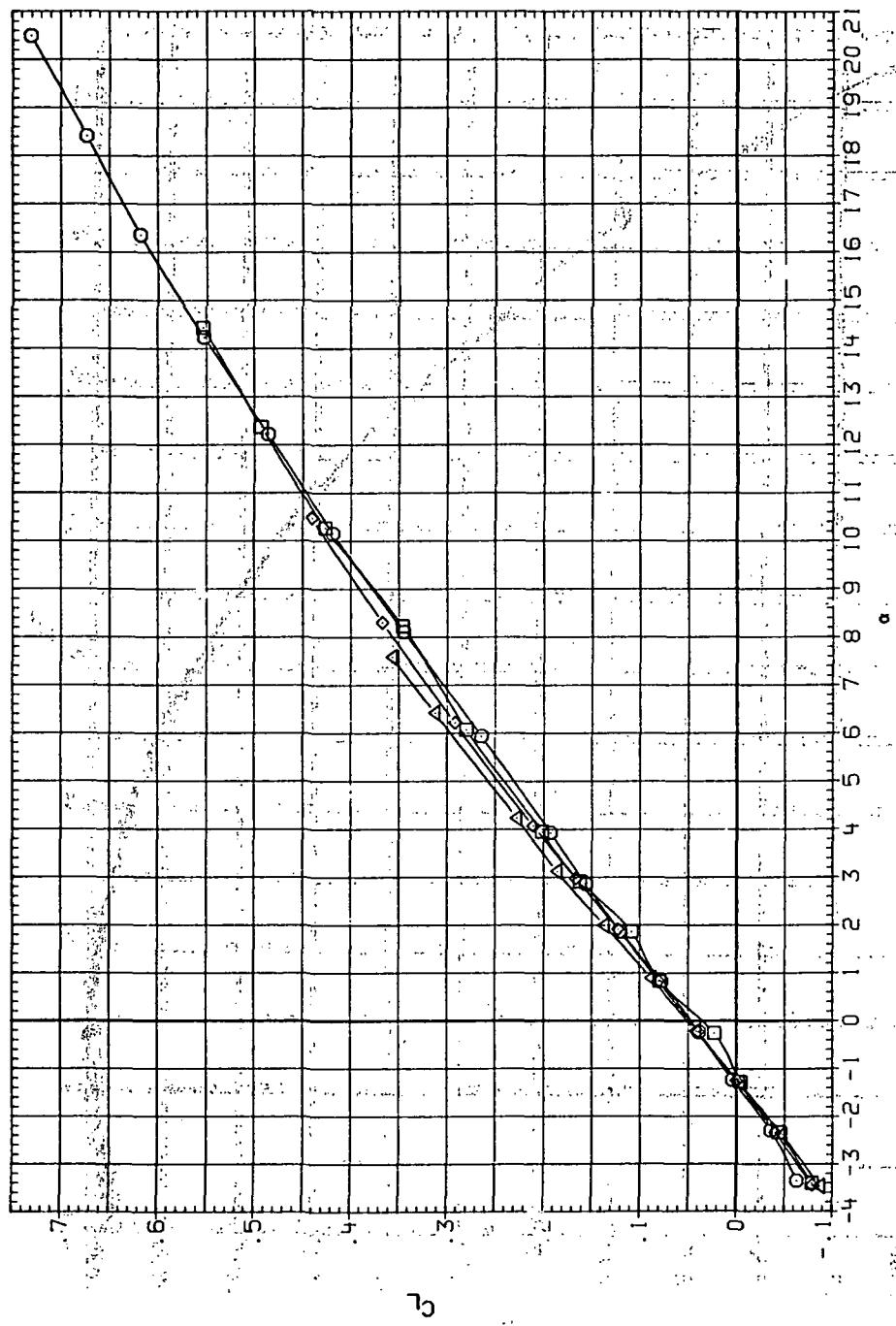
Figure 33.—Continued.



(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

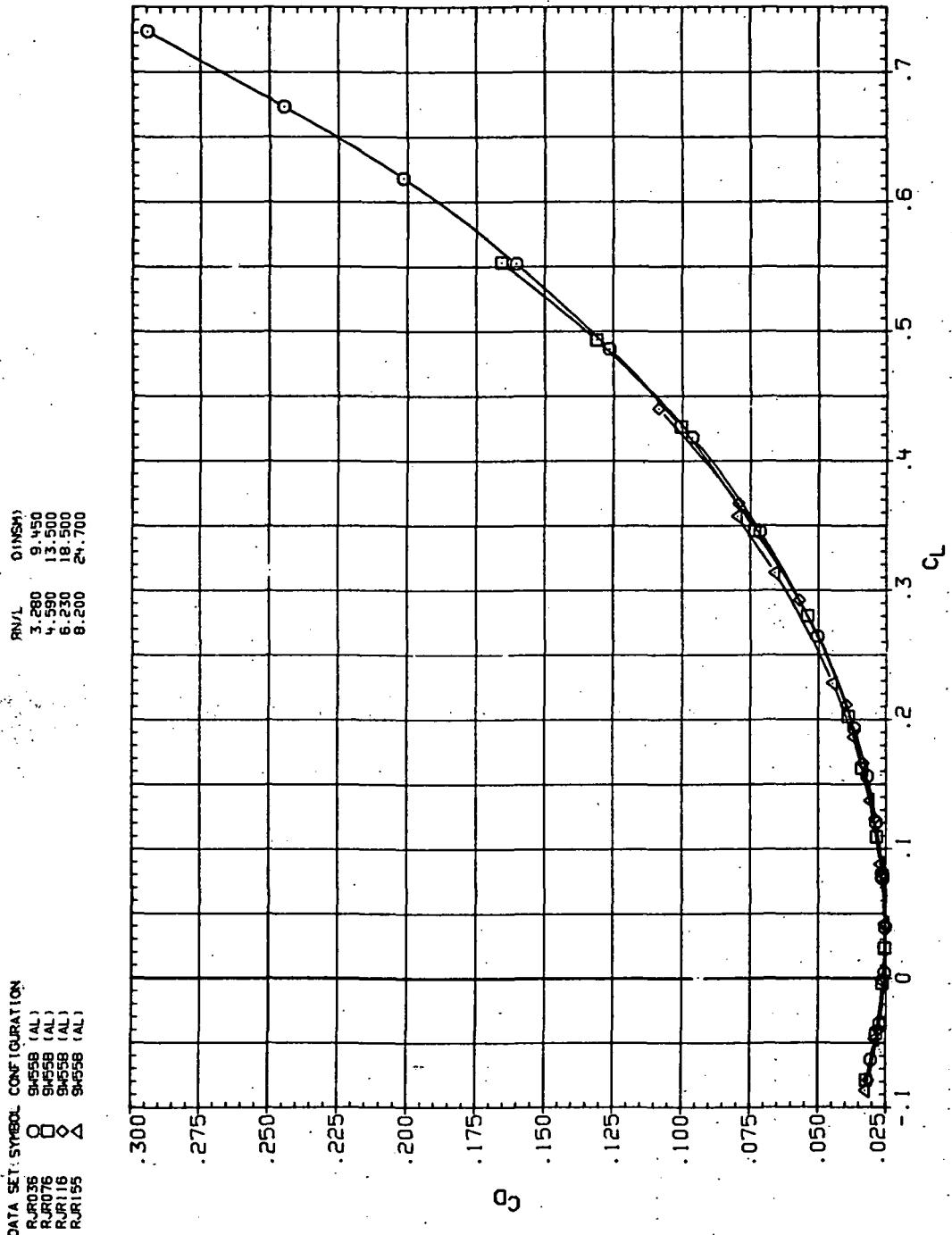
Figure 33.— Concluded.

DATA SET SYMBOL	CONFIGURATION	RIV/	QINSH
RJR056	9W55B (AL)	3	280
RJR076	9W55B (AL)	4	550
RJR116	9W55B (AL)	6	230
RJR155	9W55B (AL)	8	200



(a)  $C_L$  vs.  $\alpha$ .

Figure 34. Dynamic pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 55^\circ$ ,  $M = 2.0$  and the modified NACA 65A204 airfoil).



(b)  $C_D$  vs  $C_L$ .

Figure 34.—Continued.

DATA SET SYMBOL CONFIGURATION

RJ036	O	9455B (AL)
RJ076	□	9455B (AL)
RJ116	◇	9455B (AL)
RJ155	△	9455B (AL)

DATA SET SYMBOL CONFIGURATION

RJ036	O	9455B (AL)
RJ076	□	9455B (AL)
RJ116	◇	9455B (AL)
RJ155	△	9455B (AL)

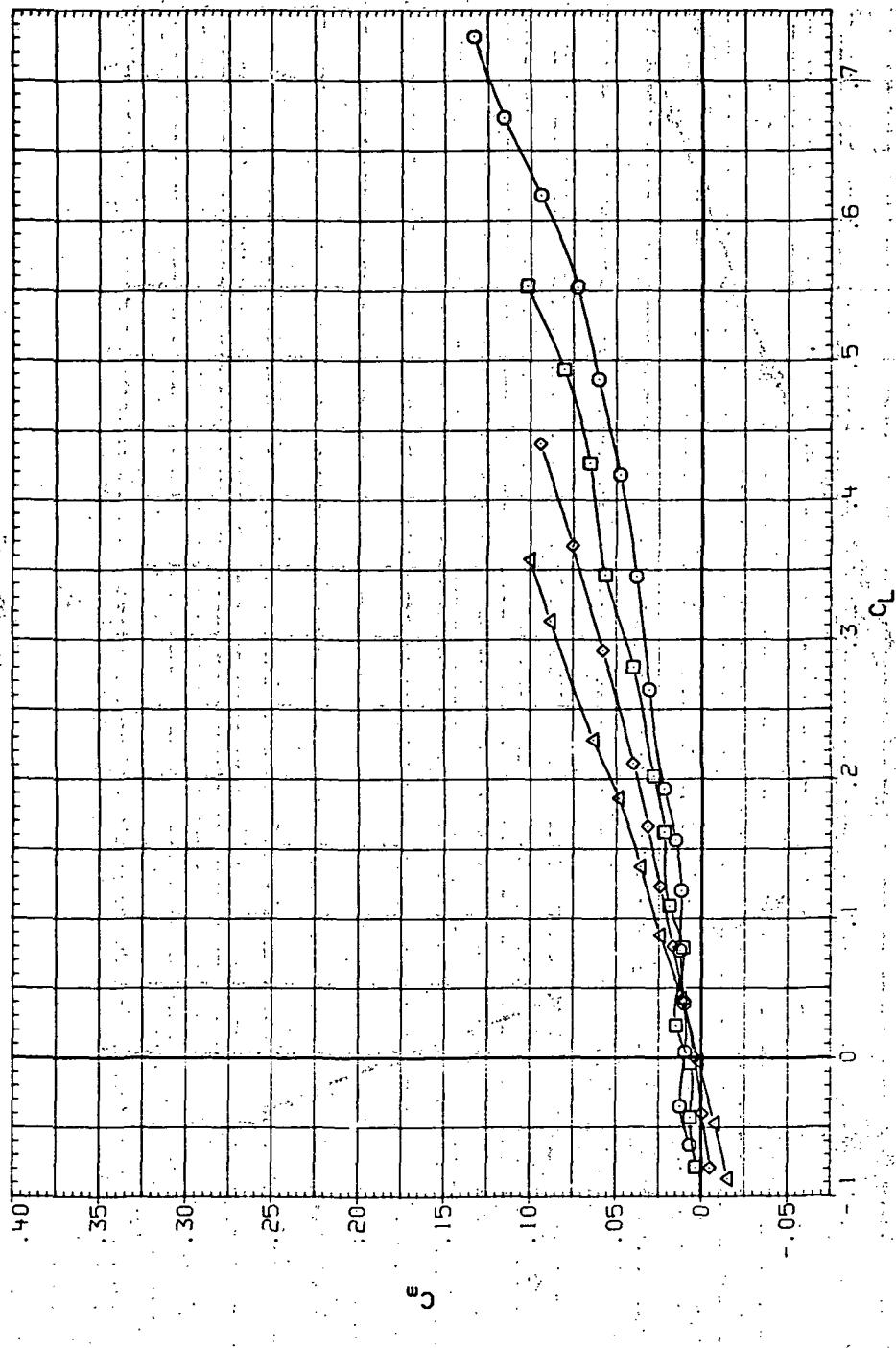
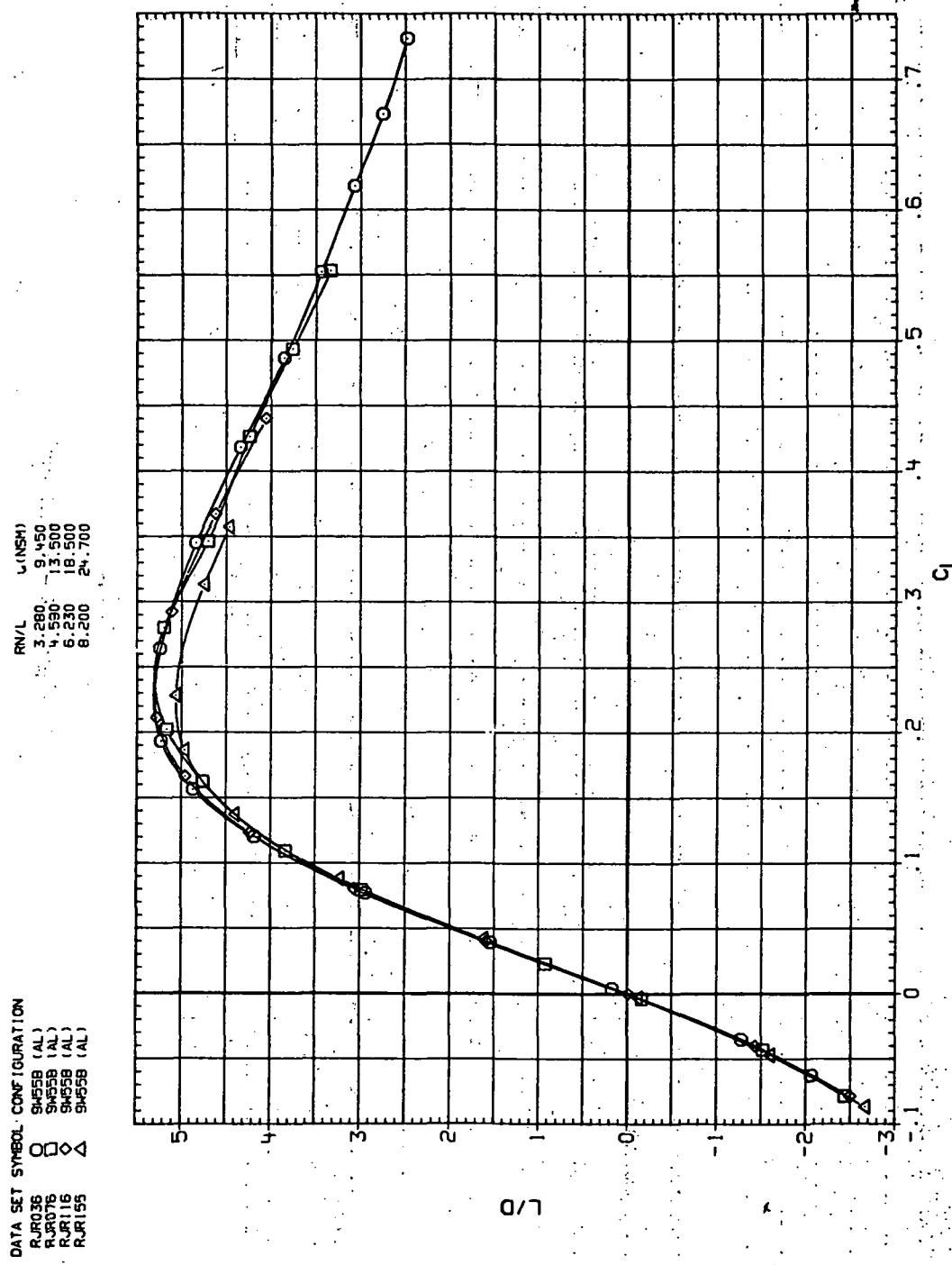
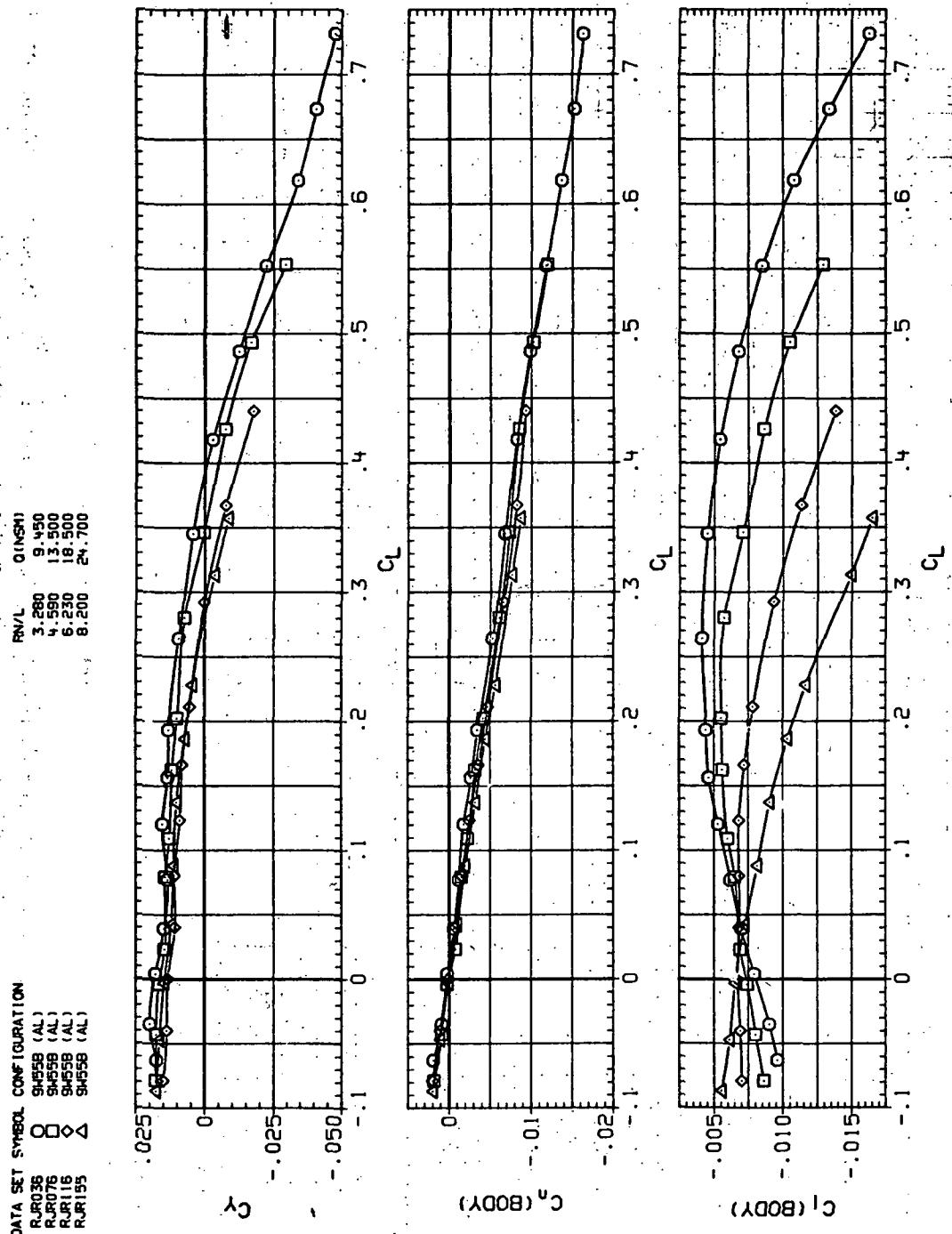


Figure 34.—Continued.  
(c)  $C_m$  vs  $C_L$ .



(d)  $L/D$  vs  $C_L$ .

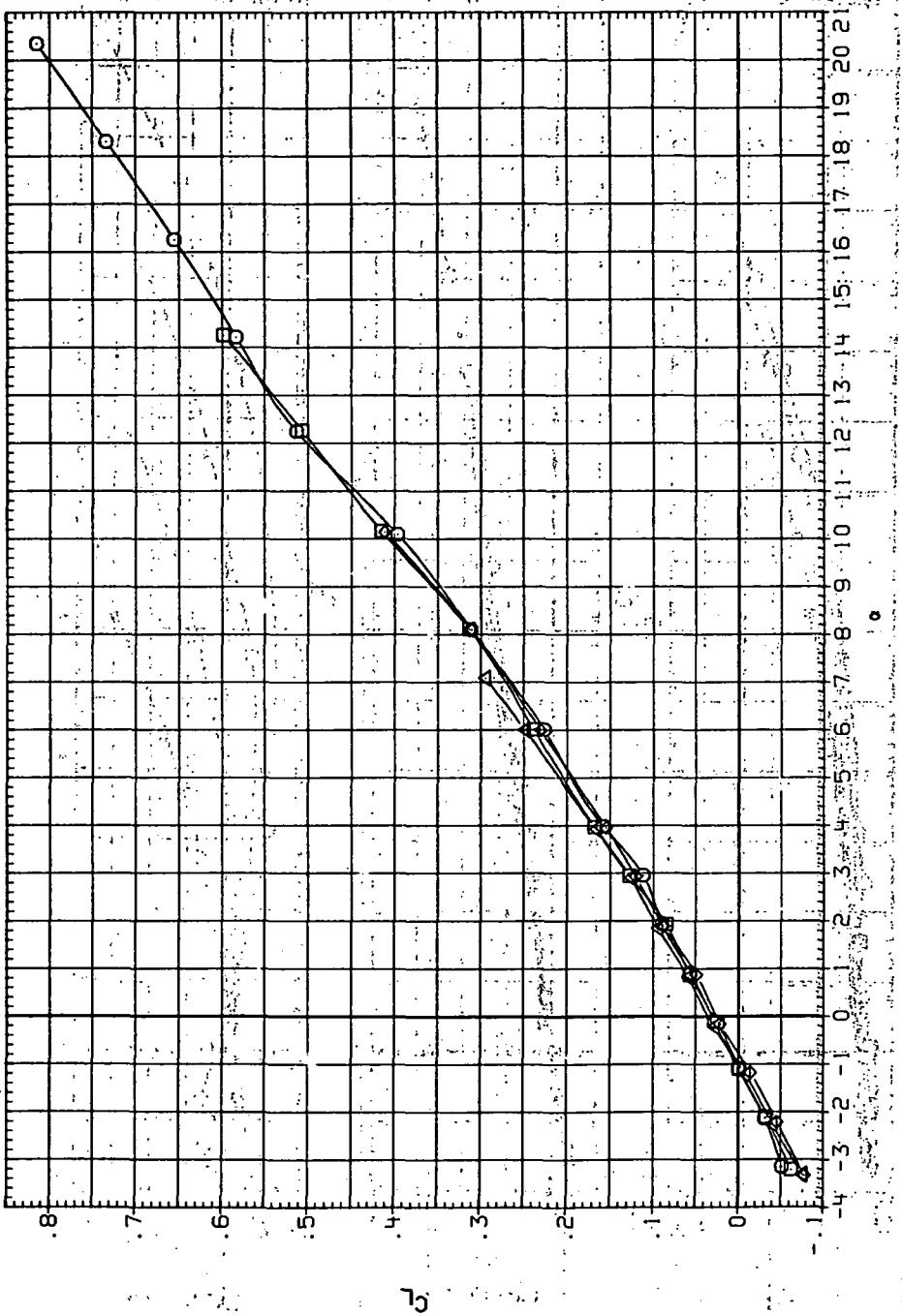
Figure 34.—Continued.



(e)  $C_Y$ ,  $C_n$  and  $C_i$  vs  $C_L$ .

Figure 34.—Concluded.

DATA SET SYMBOL CONFIGURATION  
 RJR038 O 94SB (AL)  
 RJR078 □ 94SB (AL)  
 RJR118 ◇ 94SB (AL)  
 RJR157 △ 94SB (AL)



(a)  $C_L$  vs.  $\alpha$ .

Figure 35. Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 60^\circ, M = 0.4$  and the modified NACA 65A204 airfoil).

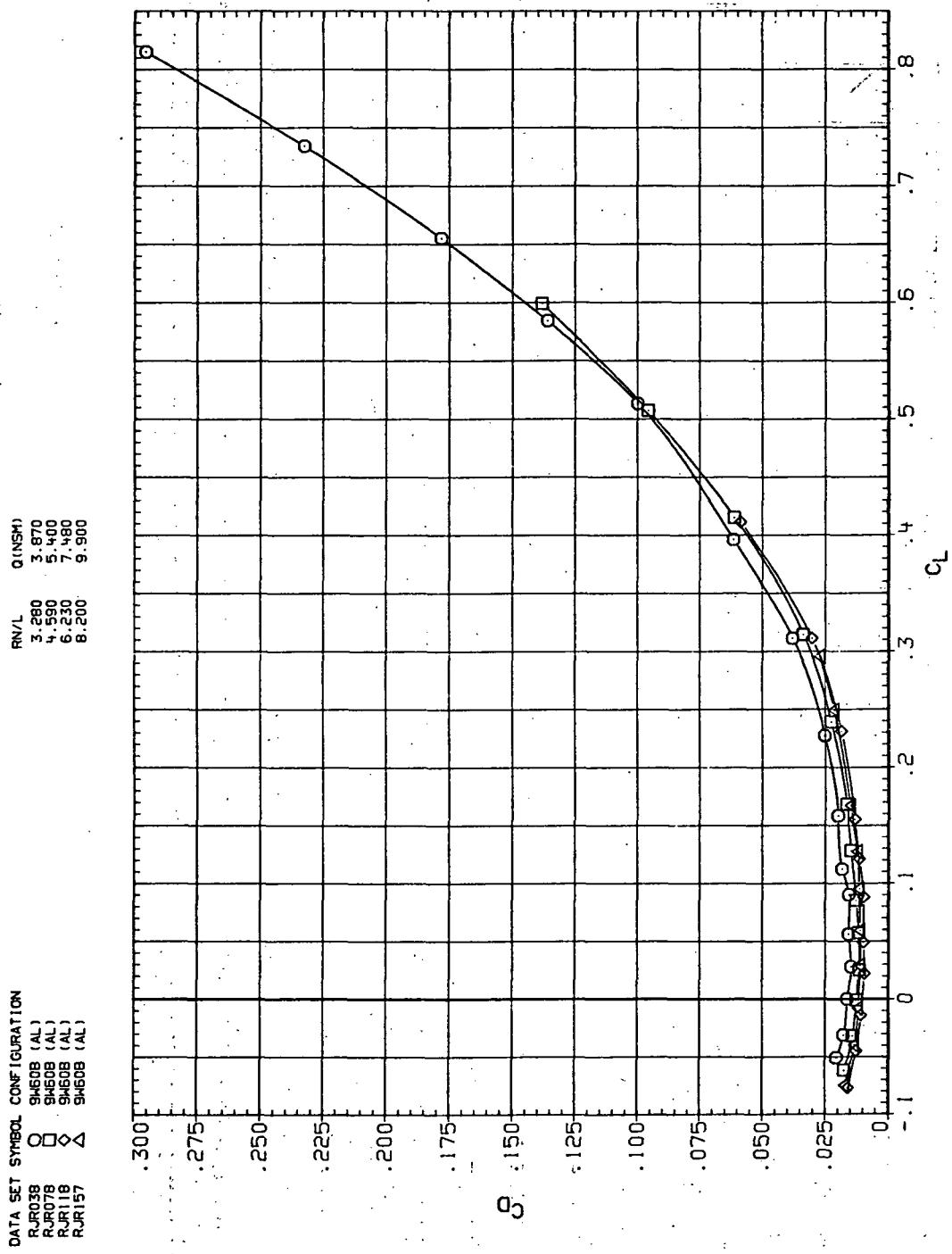
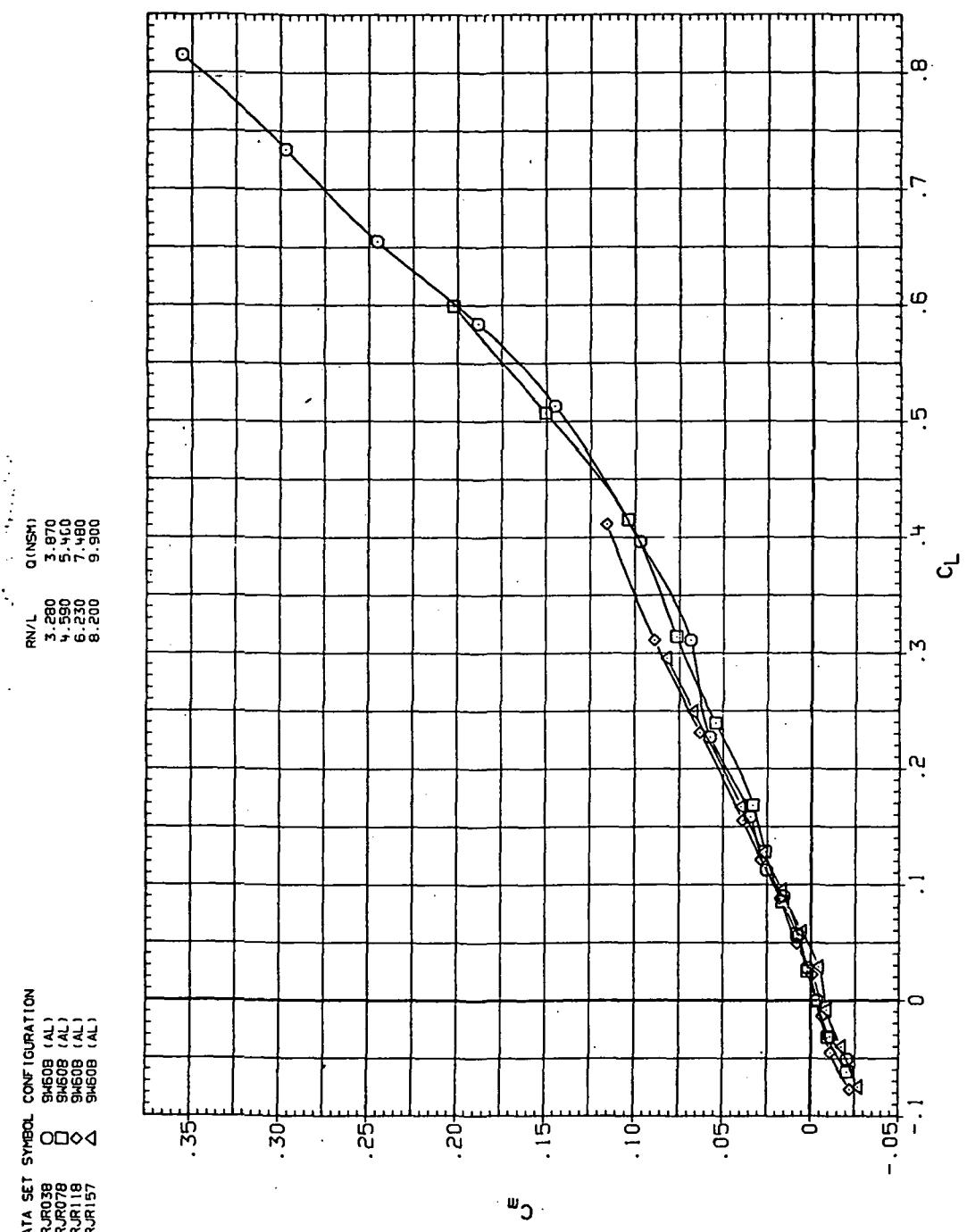
(b)  $C_D$  vs  $C_L$ 

Figure 35.—Continued.



(c)  $C_m$  vs  $C_L$ .

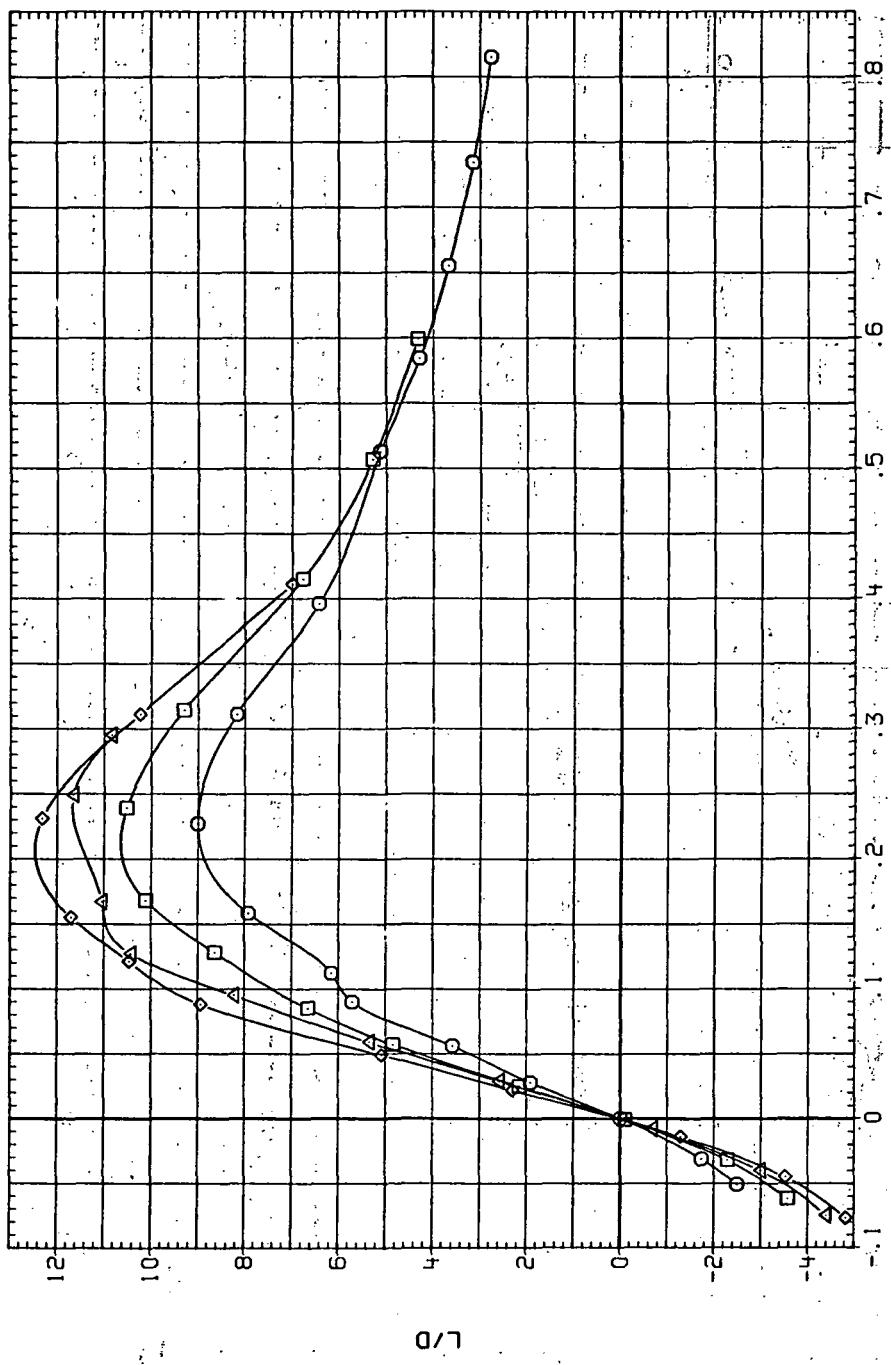
Figure 35.—Continued.

DATA SET SYMBOL CONFIGURATION

RUR038	O	94608 (AL)
RUR078	□	94608 (AL)
RUR118	◊	94608 (AL)
RUR157	△	94608 (AL)

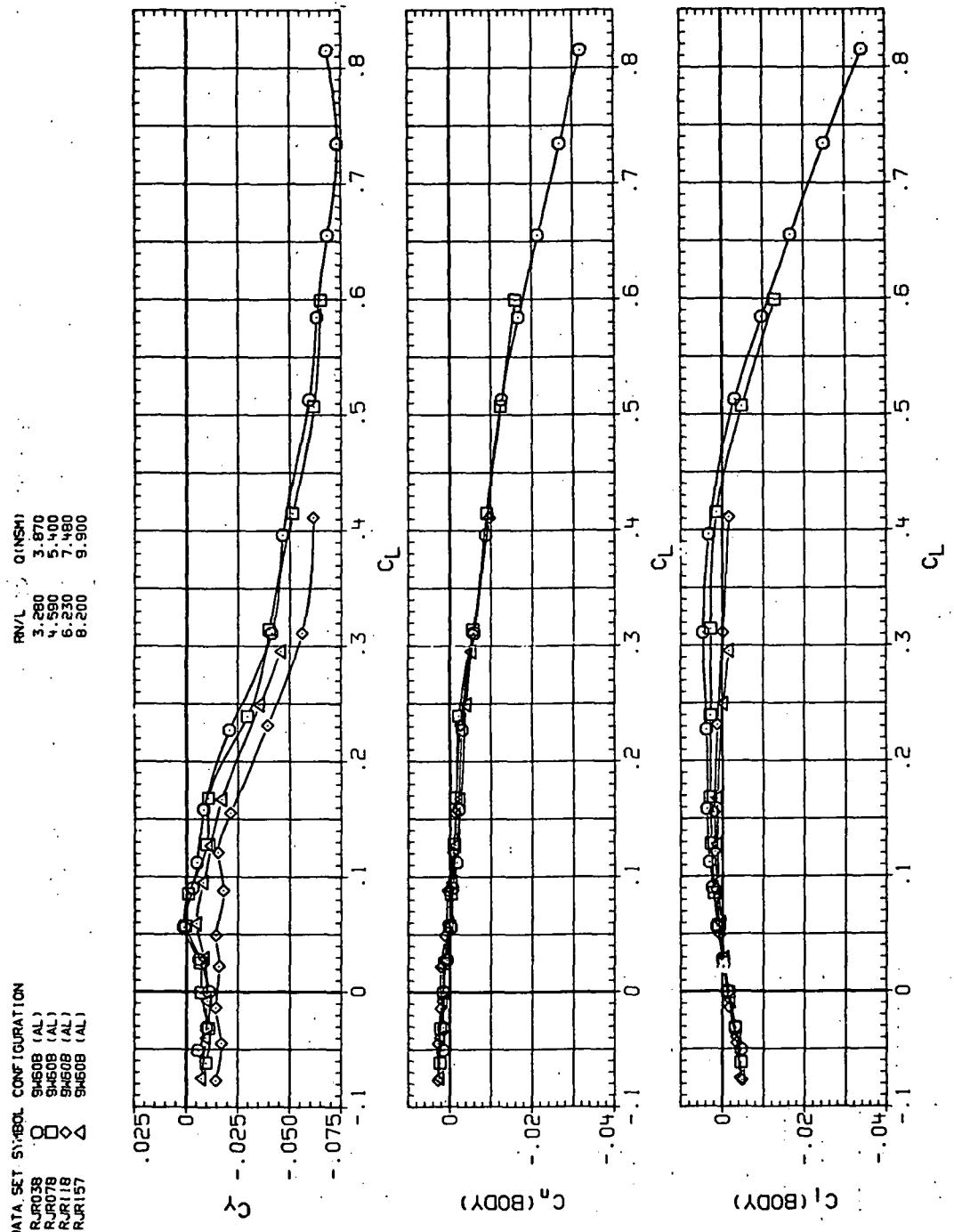
DATA SET RV/L<sub>0</sub> QNSM<sub>0</sub>

3.200	3.870
4.500	5.400
6.230	7.480
8.200	9.900



(d)  $L/D$  vs  $C_L$

Figure 35.—Continued.



(e)  $C_Y$ ,  $C_n$  and  $C_\ell$  vs  $C_L$ .

Figure 35.— Concluded.

DATA SET SYMBOL	CONFIGURATION	RNL	Q(NSM)
RJR039	9460B (AL)	3.200	5.610
RJR079	9460B (AL)	4.590	7.710
RJR119	9460B (AL)	6.230	10.600
RJR158	9460B (AL)	8.200	14.100

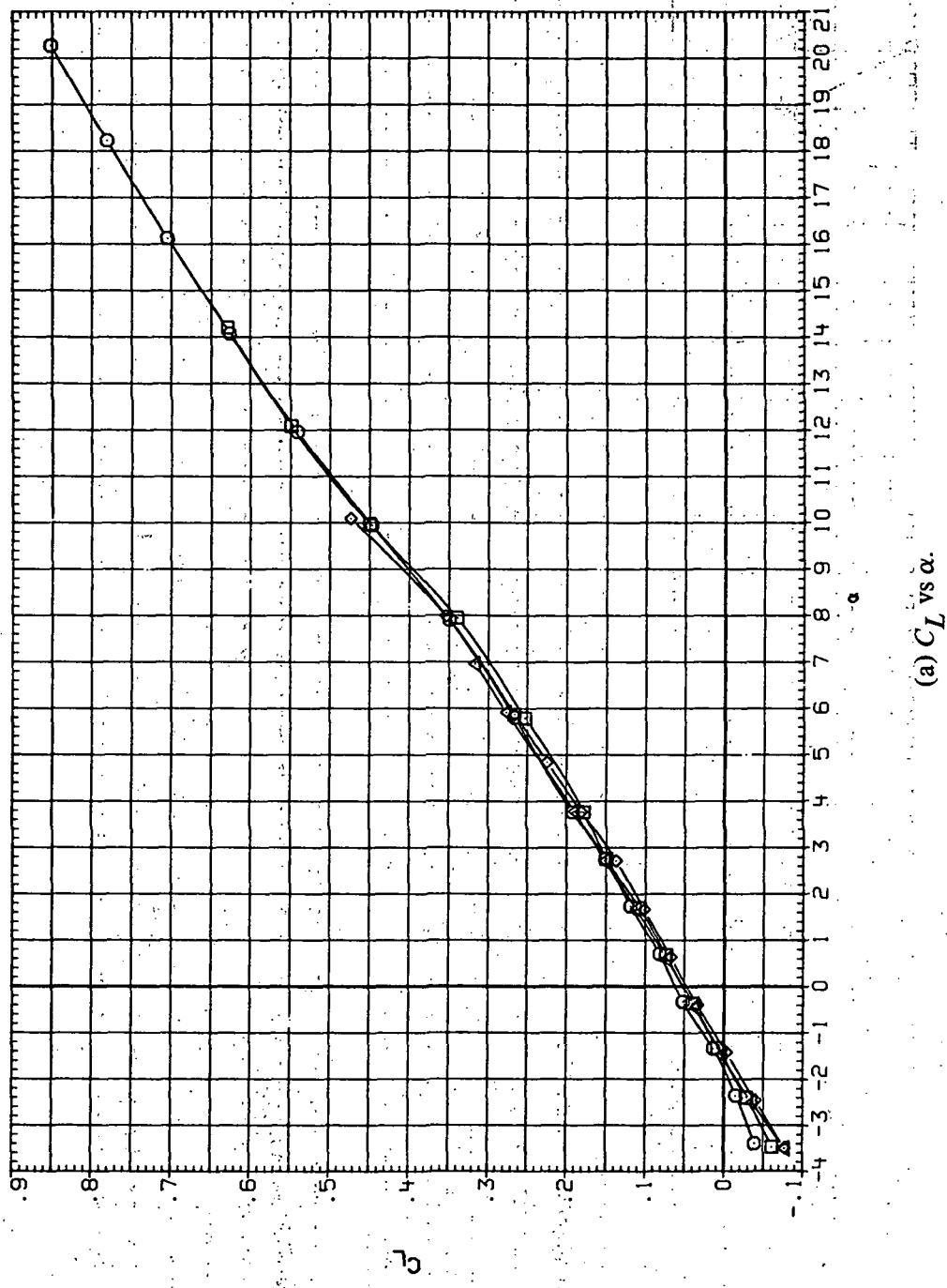
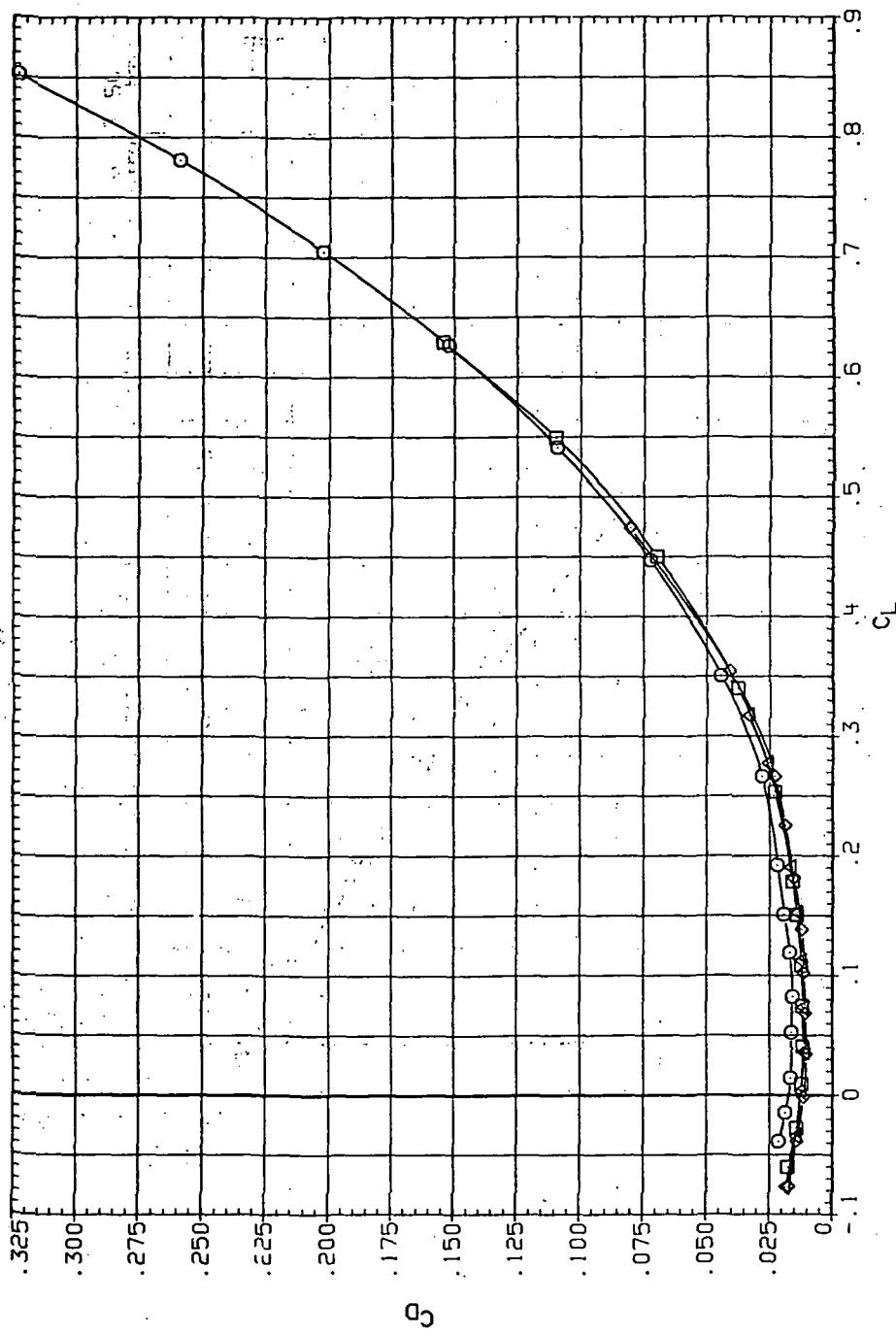
(a)  $C_L$  vs  $\alpha$ .

Figure 36.—Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 60^\circ, M = 0.6$  and the modified NACA 65A204 airfoil).

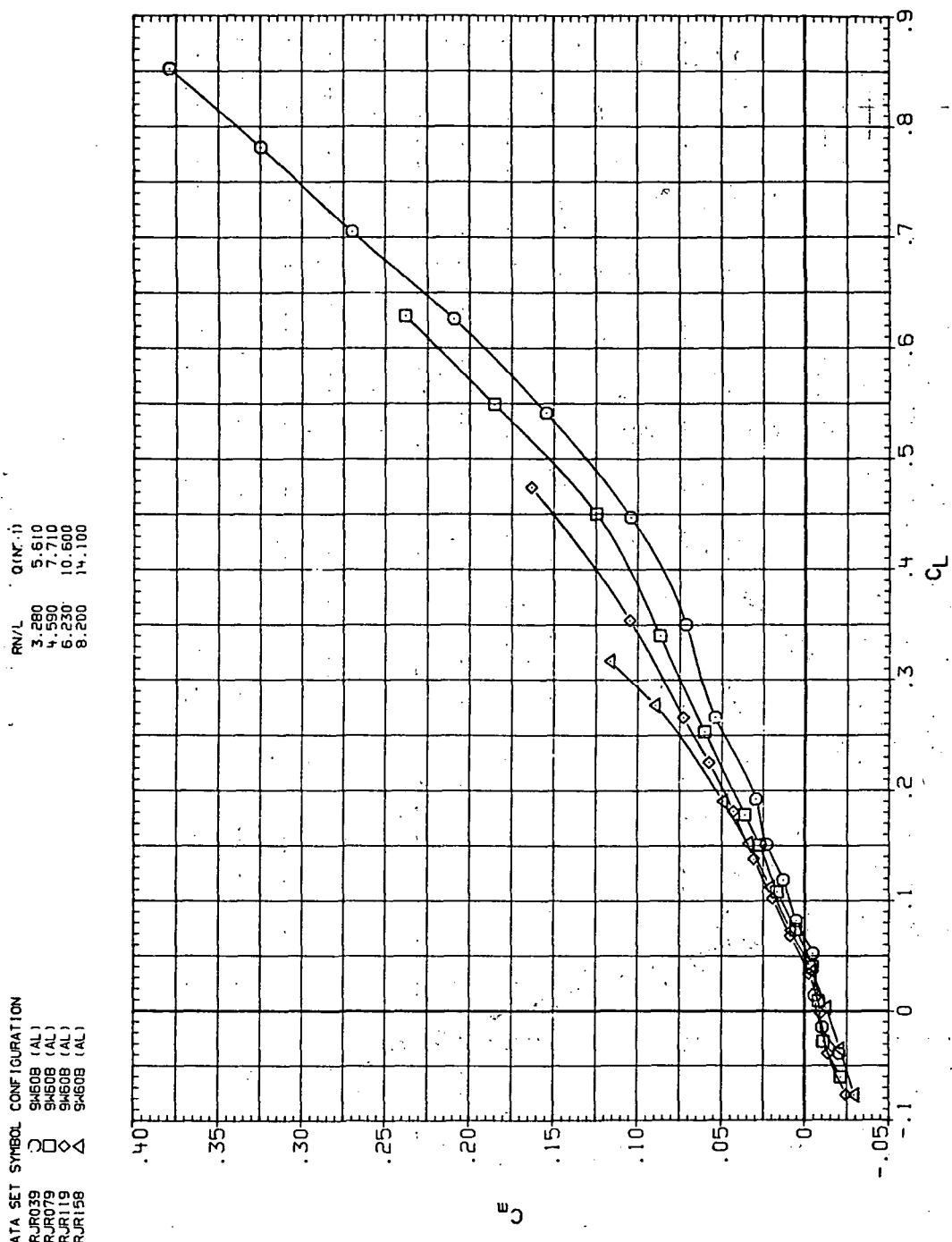
DATA SET SYMBOL CONFIGURATION  
 RU035 O SH608 (AL)  
 RU079 □ SH608 (AL)  
 RJR119 ◇ SH608 (AL)  
 RJR159 △ SH608 (AL)



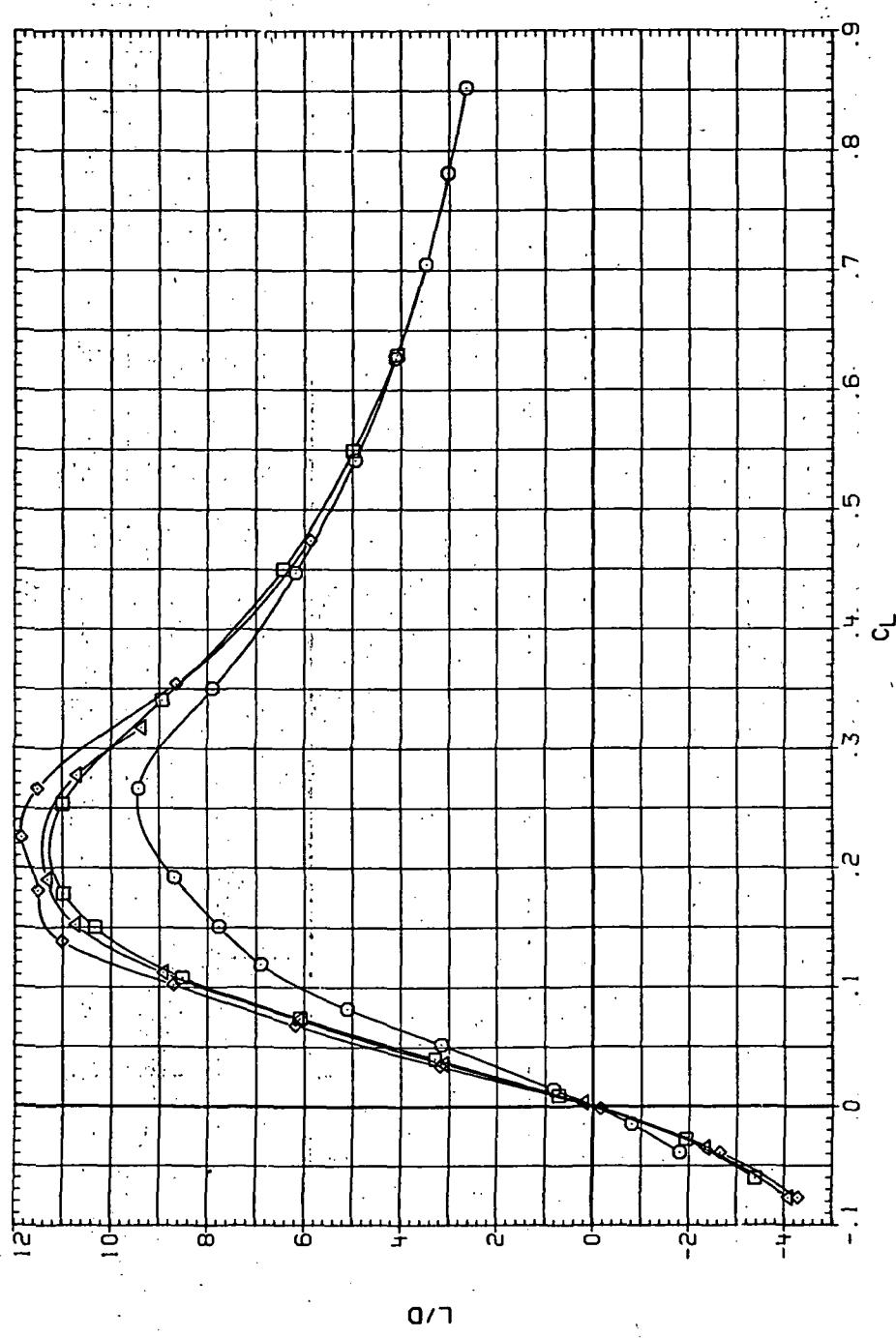
(b)  $C_D$  vs  $C_L$ .

Figure 36.—Continued.

Figure 36.— Continued.  
 (c)  $C_m$  vs  $C_L$ .

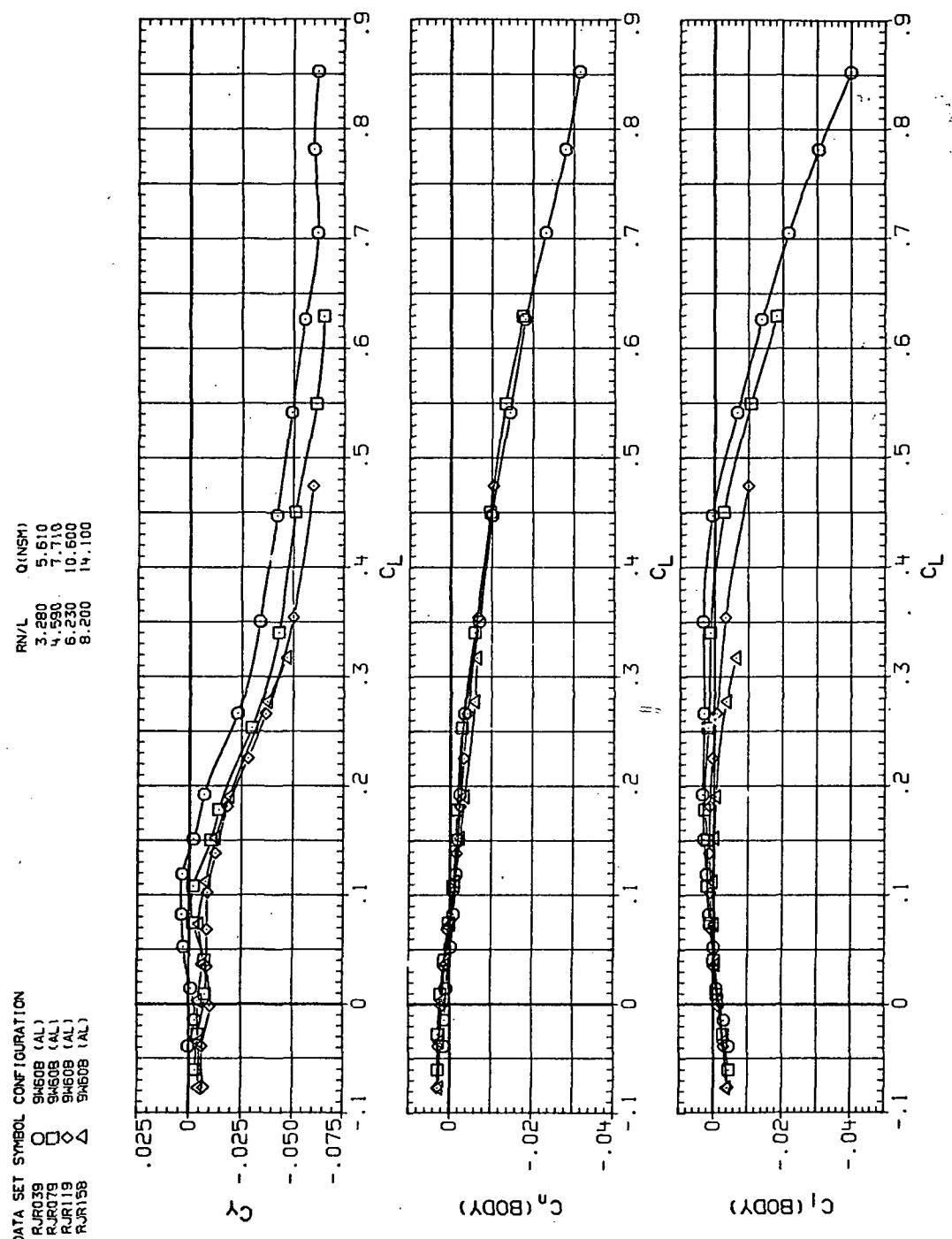


DATA SET	SYMBOL	CONFIGURATION
RJR039	O	9460B (AL)
RJR079	□	9460B (AL)
RJR119	◊	9460B (AL)
RJR158	△	9460B (AL)



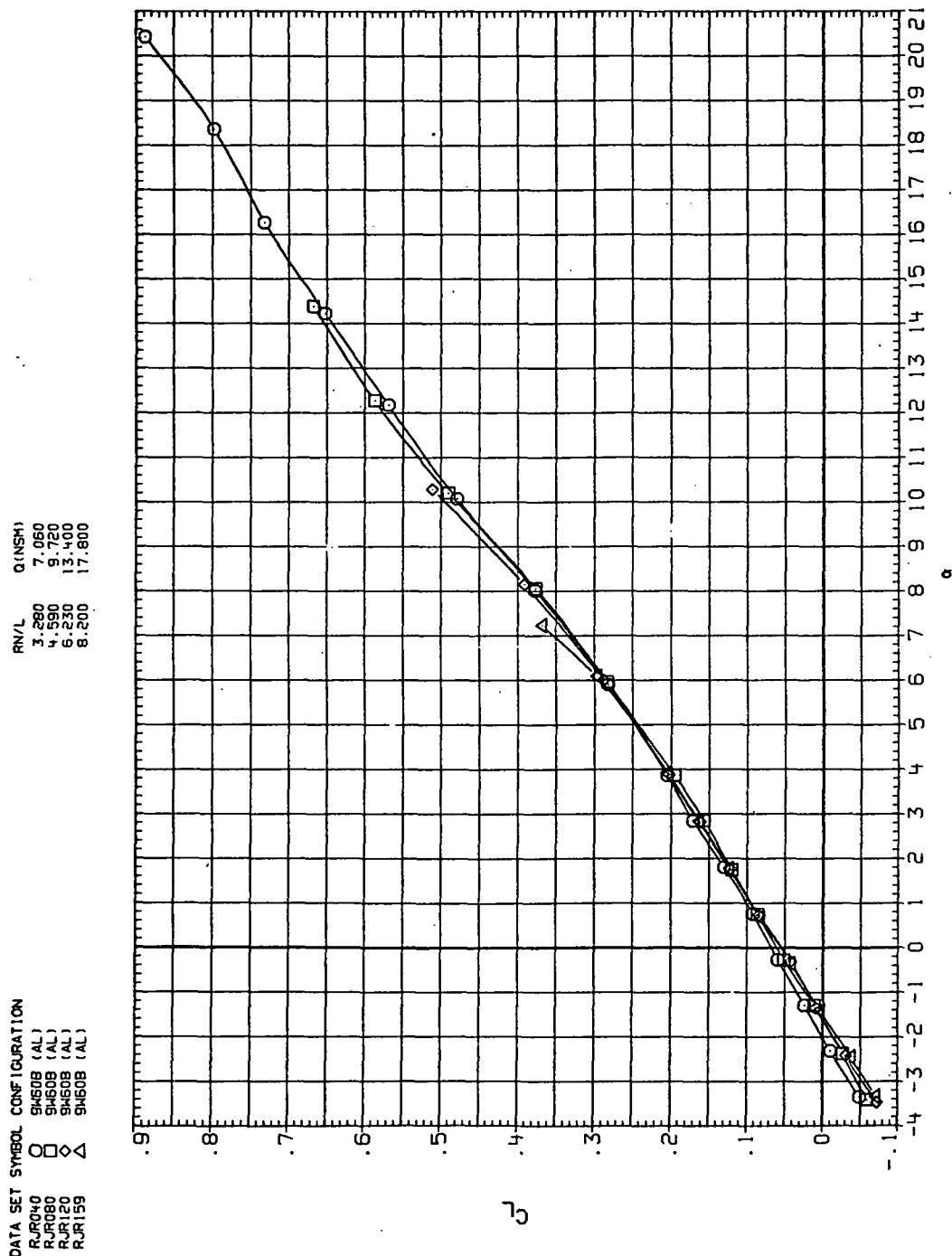
(d)  $L/D$  vs  $C_L$ .

Figure 36.—Continued.



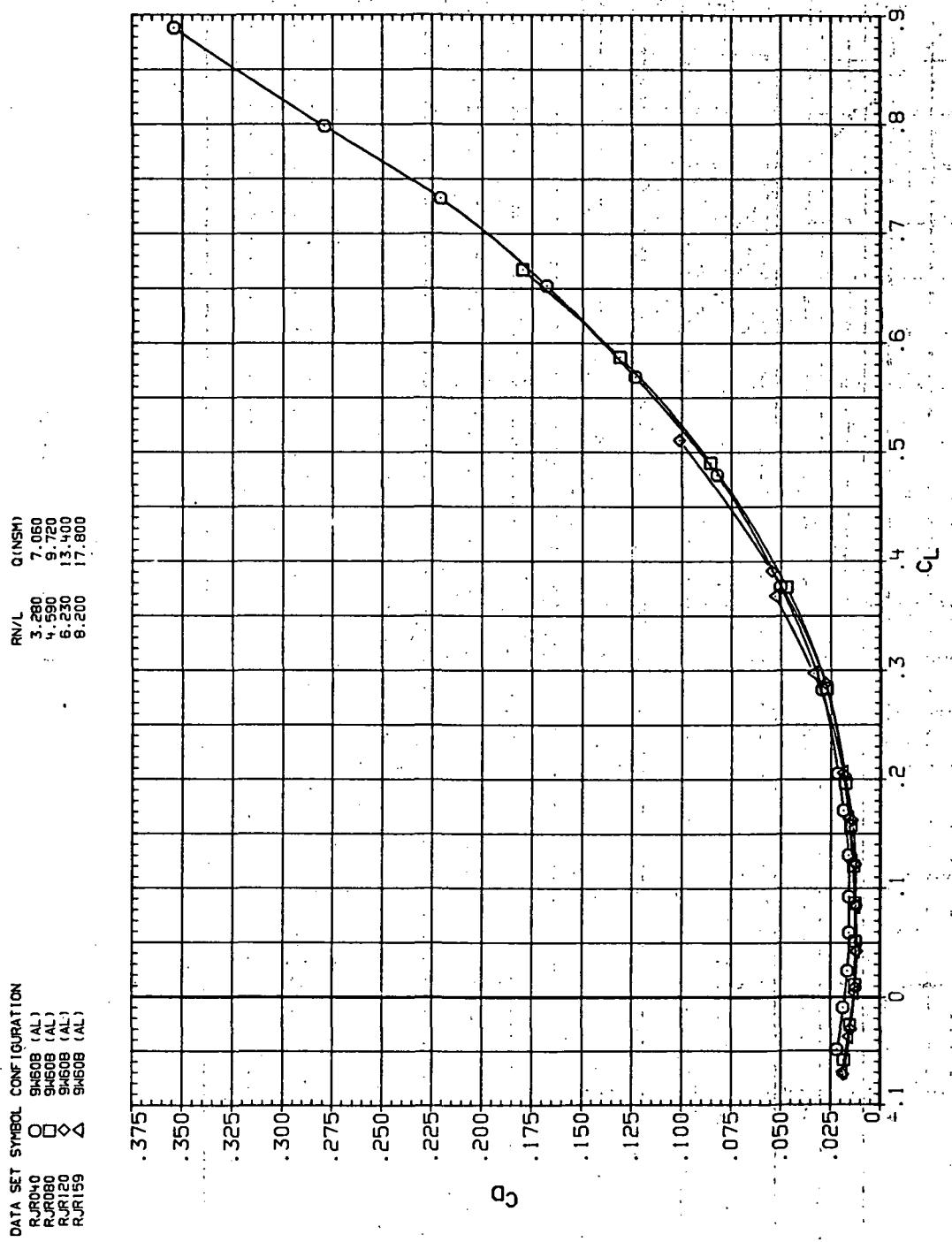
(e)  $C_Y$ ,  $C_n$  and  $C_i$  vs  $C_L$ .

Figure 36.— Concluded.



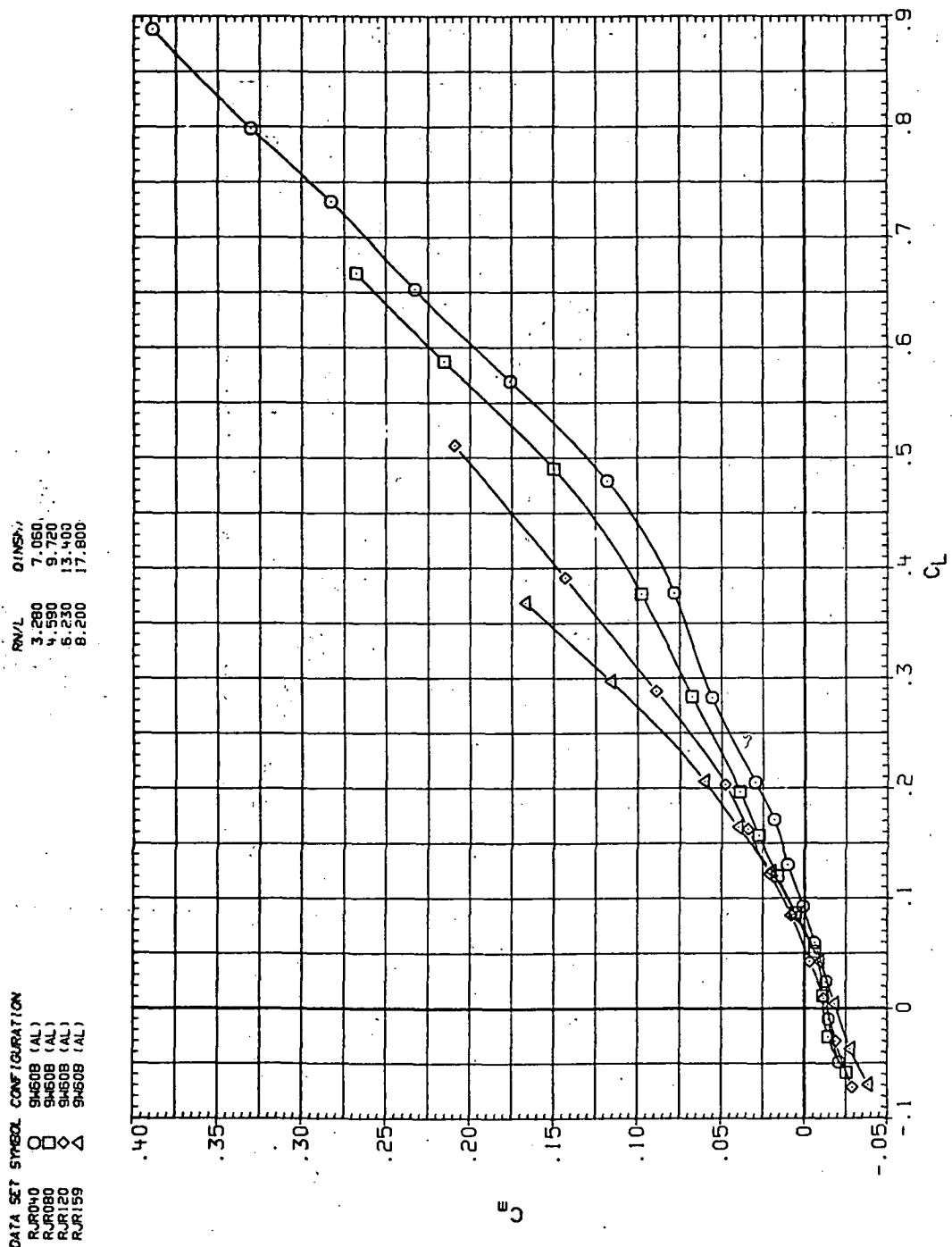
(a)  $C_L$  vs  $\alpha$ .

Figure 37.— Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 60^\circ$ ,  $M = 0.8$  and the modified NACA 65A204 airfoil).

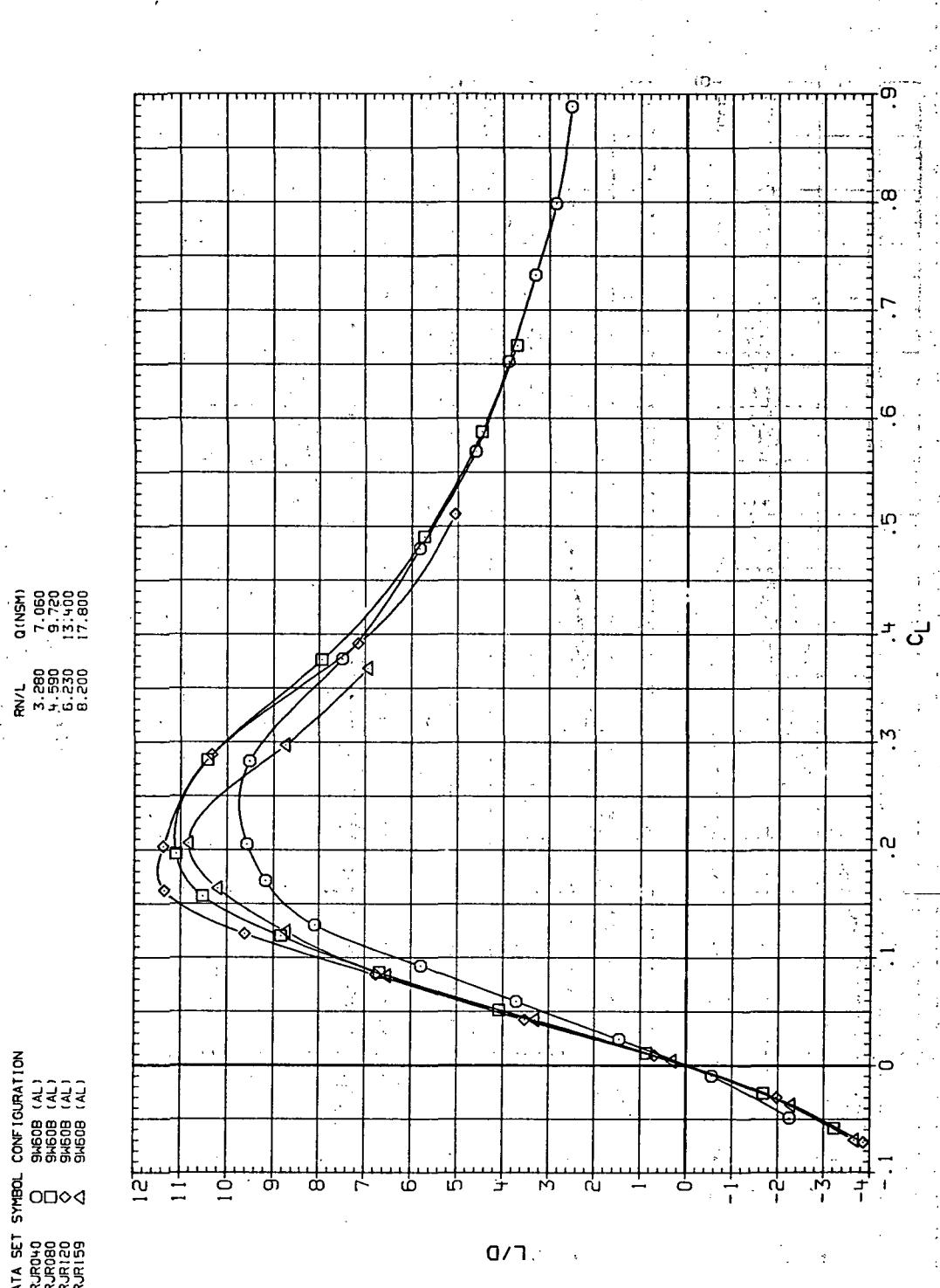


(b)  $C_D$  vs  $C_L$ .

Figure 37.—Continued.



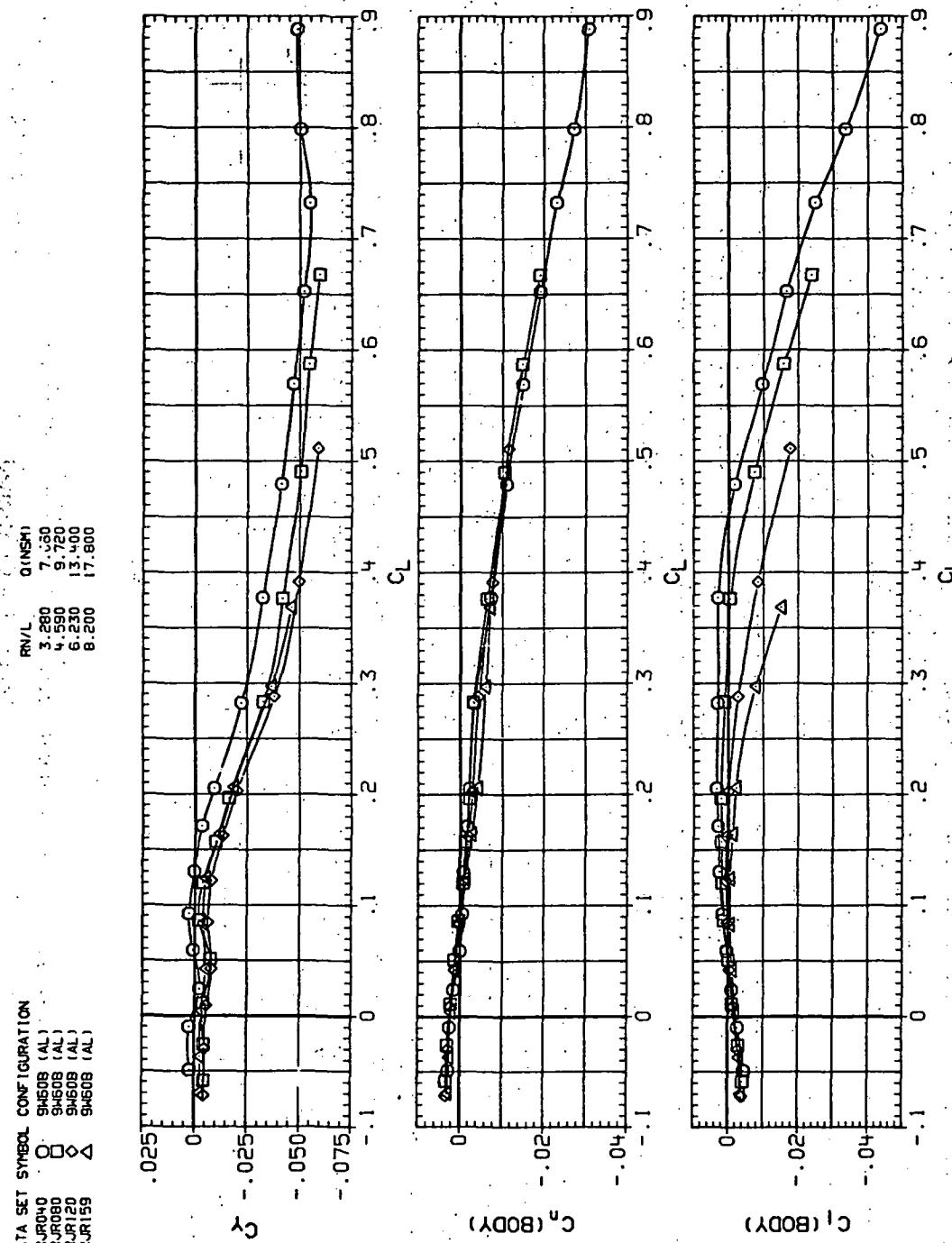
(c)  $C_m$  vs  $C_L$ .  
Figure 37.—Continued.



(d)  $L/D$  vs  $C_L$ .

Figure 37.—Continued.

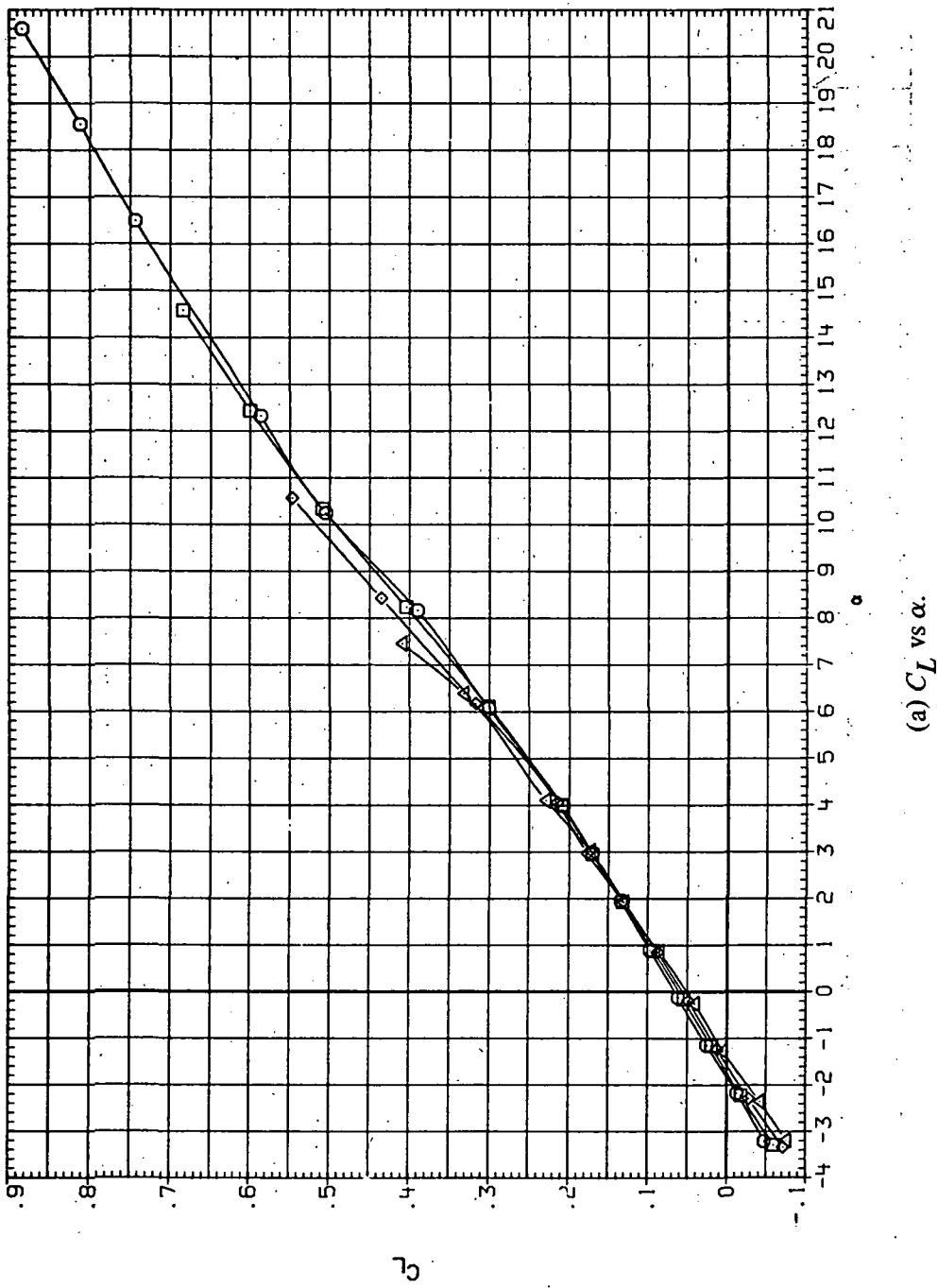
DATA SET SYMBOL CONFIGURATION  
 RJD040 O SJ6508 (AL)  
 RJD080 □ SJ6508 (AL)  
 RJR120 ◇ SJ6508 (AL)  
 RJR159 △ SJ6508 (AL)



(e)  $C_Y$ ;  $C_n$  and  $C_l$  vs  $C_L$

Figure 3.7.—Concluded.

DATA SET	SYMBOL	CONFIGURATION	R <sub>IVL</sub>	Q (NSFM)
RJR041	O	94508 (AL)	3.280	7.440
RJR081	□	94508 (AL)	4.590	10.500
RJR121	◊	94508 (AL)	6.230	14.500
RJR160	△	94508 (AL)	8.200	19.200

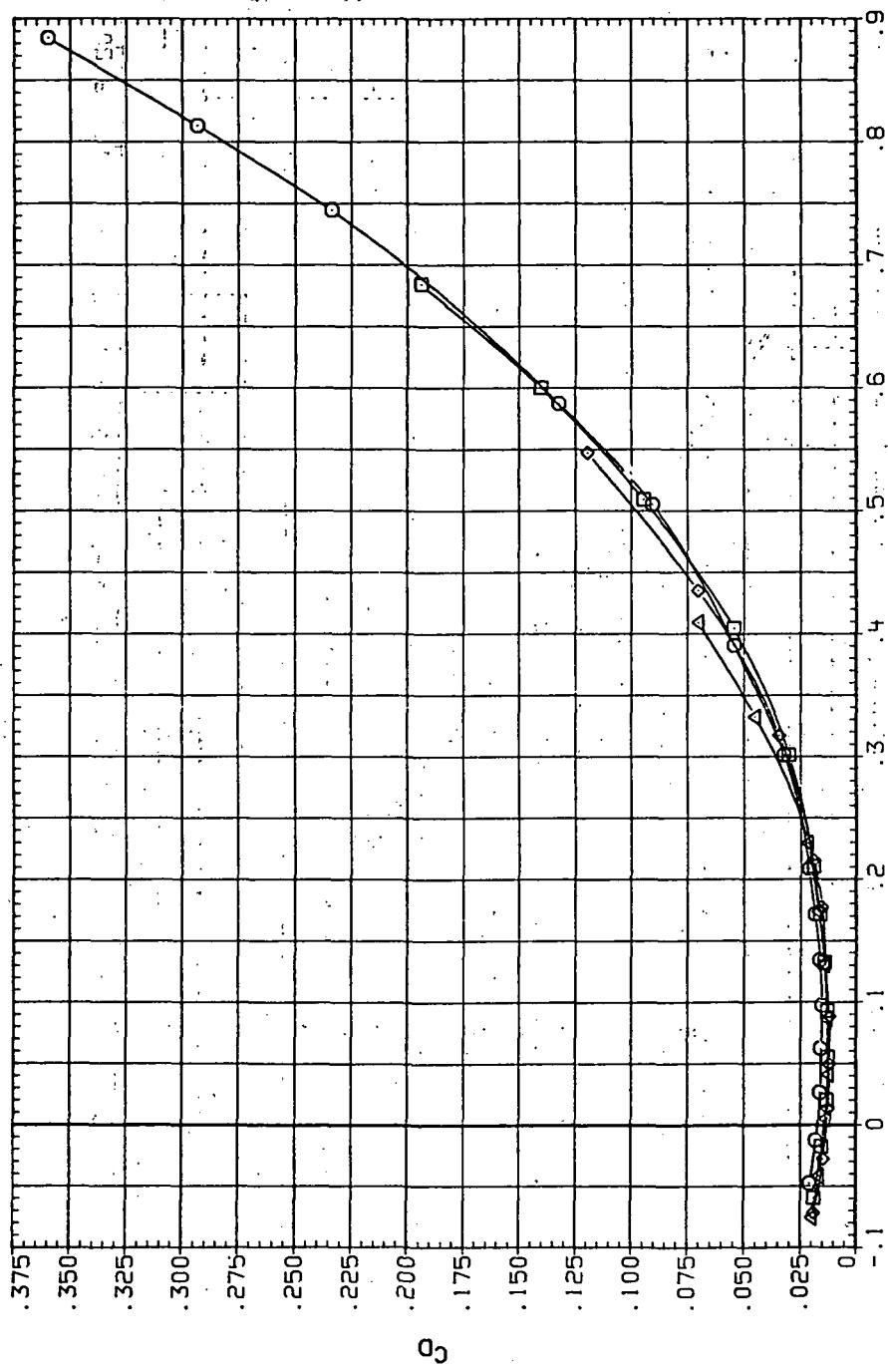


(a)  $C_L$  vs  $\alpha$ .

Figure 38.—Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 60^\circ$ ,  $M = 0.9$  and the modified NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 RJR041 O SH50B (AL)  
 RJR041 □ SH60B (AL)  
 RJR121 ◇ SH60B (AL)  
 RJR160 △ SH60B (AL)

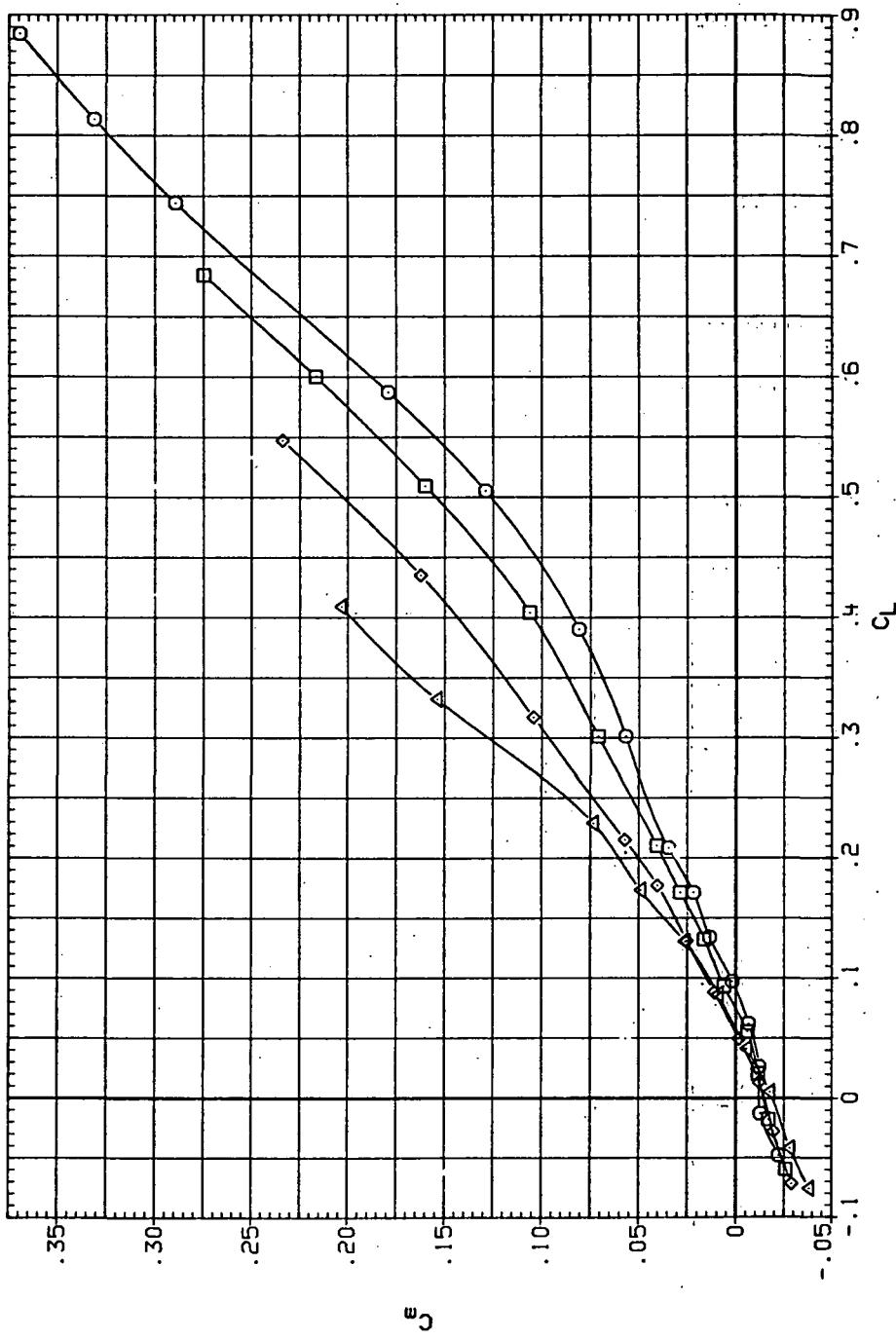
RNL (NSH) 3.280 7.440  
 4.590 10.500  
 6.230 14.500  
 8.200 19.200



(b)  $C_D$  vs  $C_L$ .

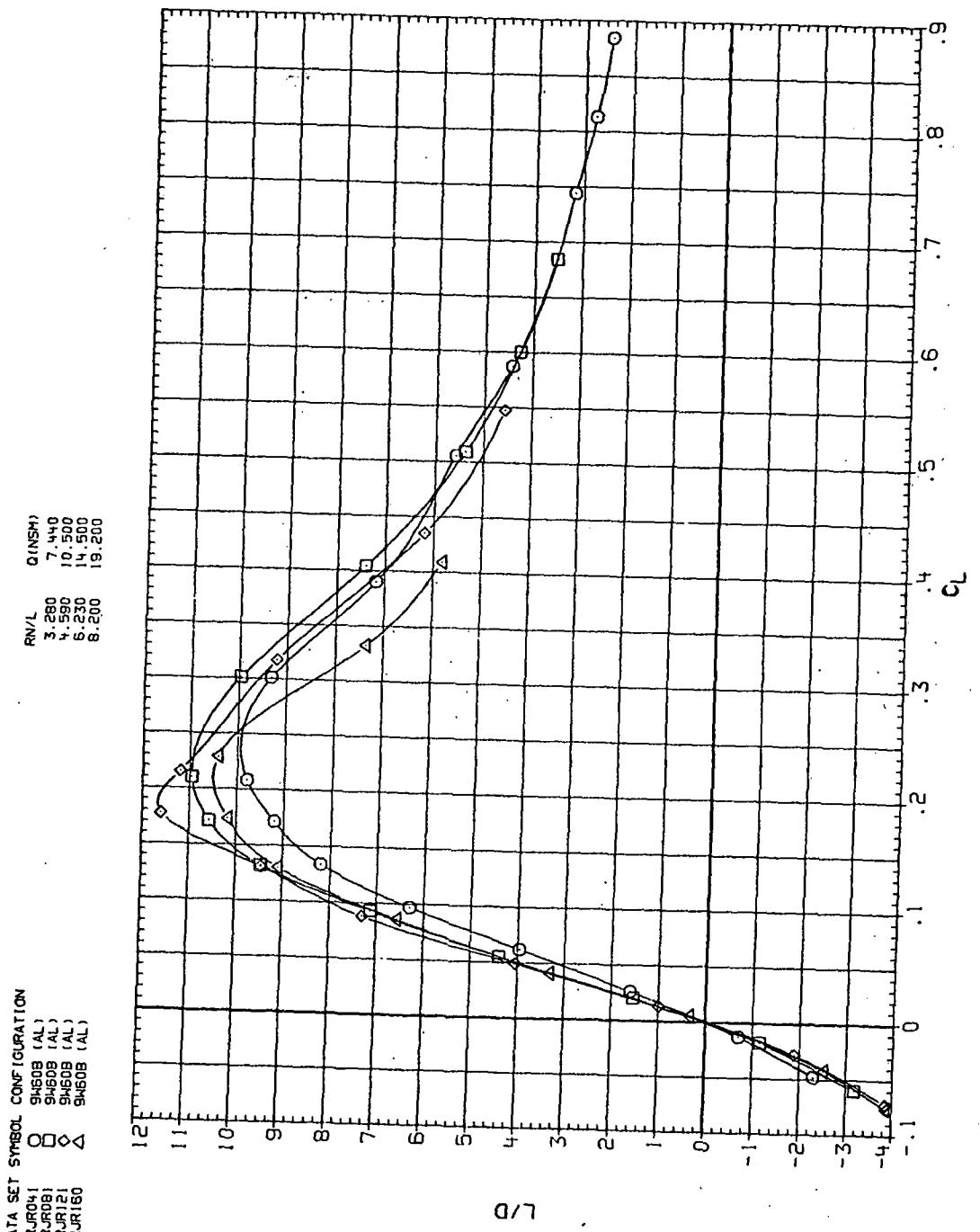
Figure 38.—Continued.

DATA SET SYMBOL	CONFIGURATION	RNL	Q (NSM)
RJR01	9460B (AL)	3.280	7.440
RJR01	9460B (AL)	4.590	10.500
RJR121	9460B (AL)	6.230	14.500
RJR160	9460B (AL)	8.200	19.200



(c)  $C_m$  vs  $C_L$ .

Figure 38.—Continued.

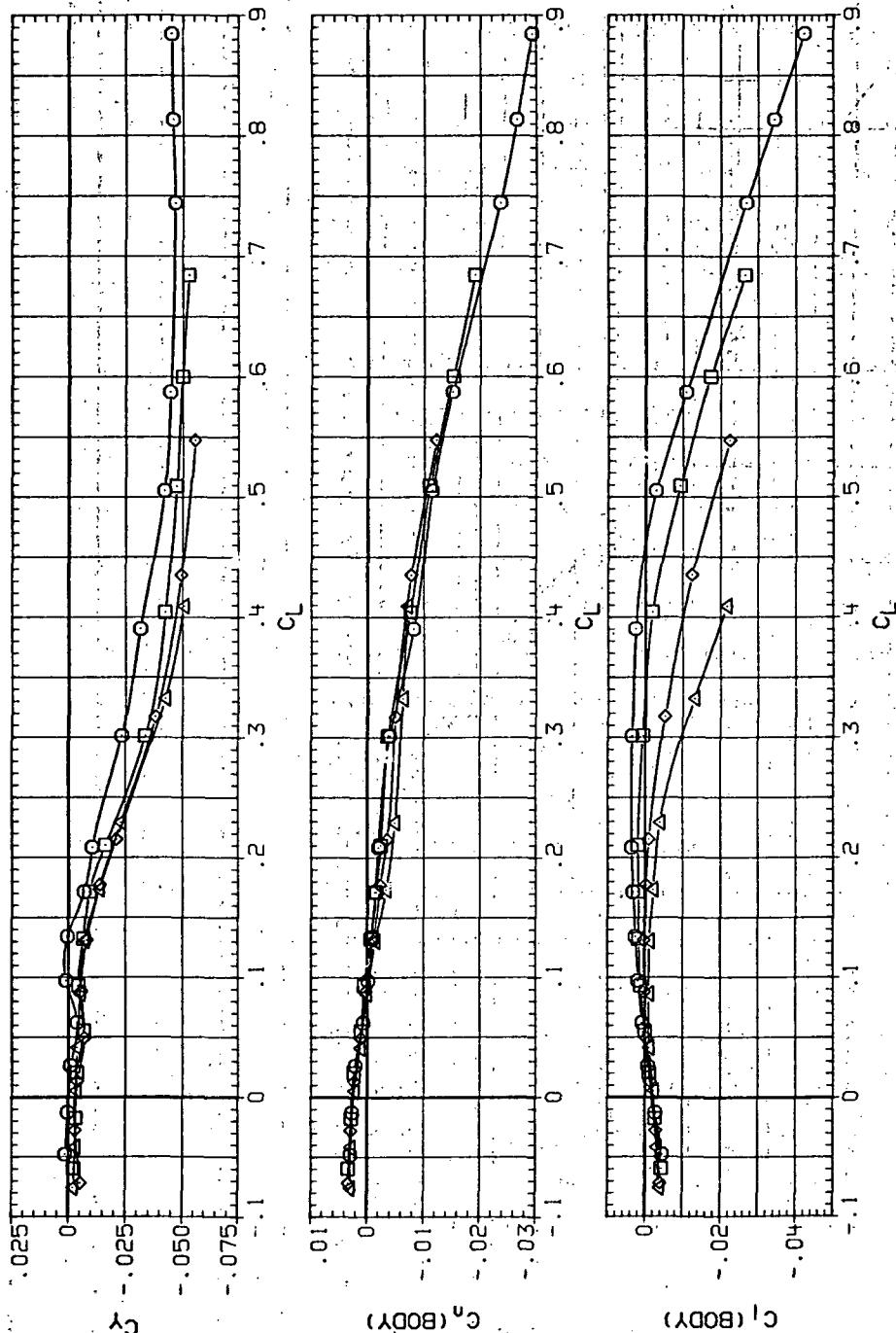


(d)  $L/D$  vs  $C_L$ .

Figure 38.—Continued.

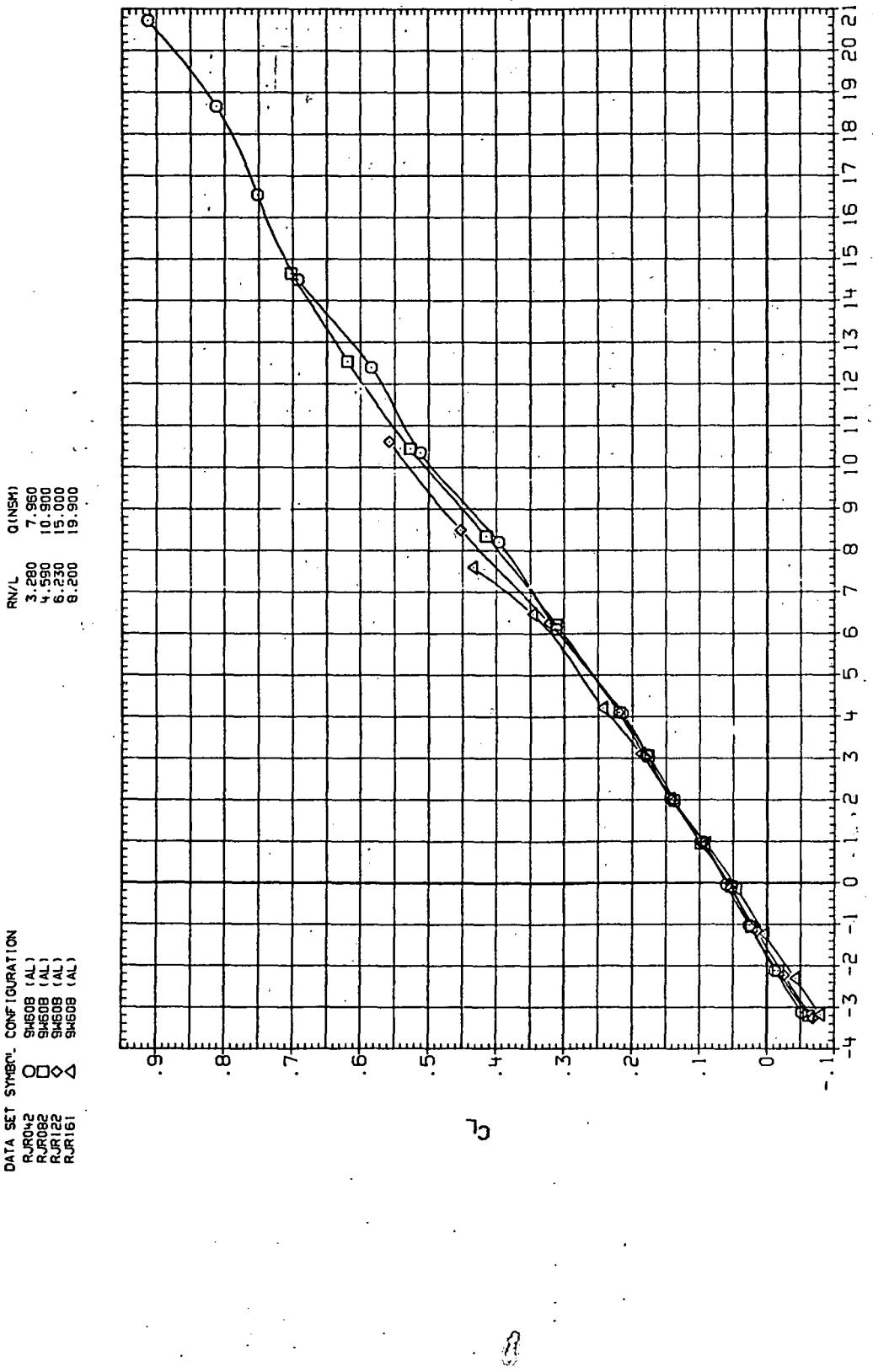
DATA SET SYMBOL CONFIGURATION  
 RUR041 O 9460B (AL)  
 RUR081 □ 9460B (AL)  
 RUR121 ◇ 9460B (AL)  
 RUR160 △ 9460B (AL)

RN/L Q(NSM)  
 3.280 7.440  
 4.590 10.500  
 6.230 14.500  
 8.200 19.200



(e)  $C_Y$ ,  $C_n$ , and  $C_l$  vs  $C_L$ .

Figure 38.—Concluded.



(a)  $C_L$  vs  $\alpha$ .

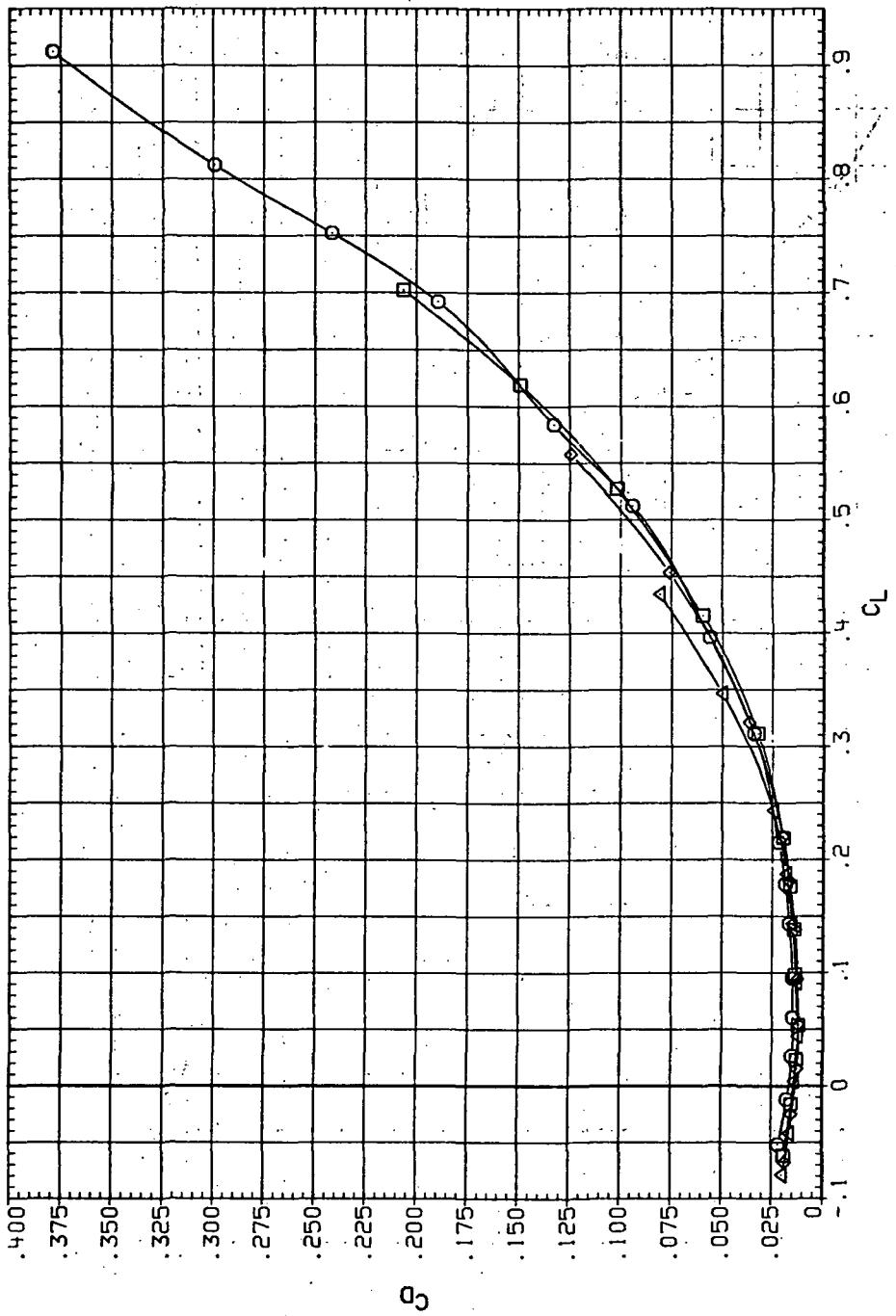
Figure 39.— Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 60^\circ$ ,  $M = 0.95$  and the modified NACA 65A204 airfoil).

DATA SET CONFIGURATION

	DATA SET	SYMBOL	CONFIGURATION
RJ042	94608	(AL)	
RJ082	94608	(AL)	
RJ122	94608	(AL)	
RJ161	94608	(AL)	

RN/L Q(NSM)

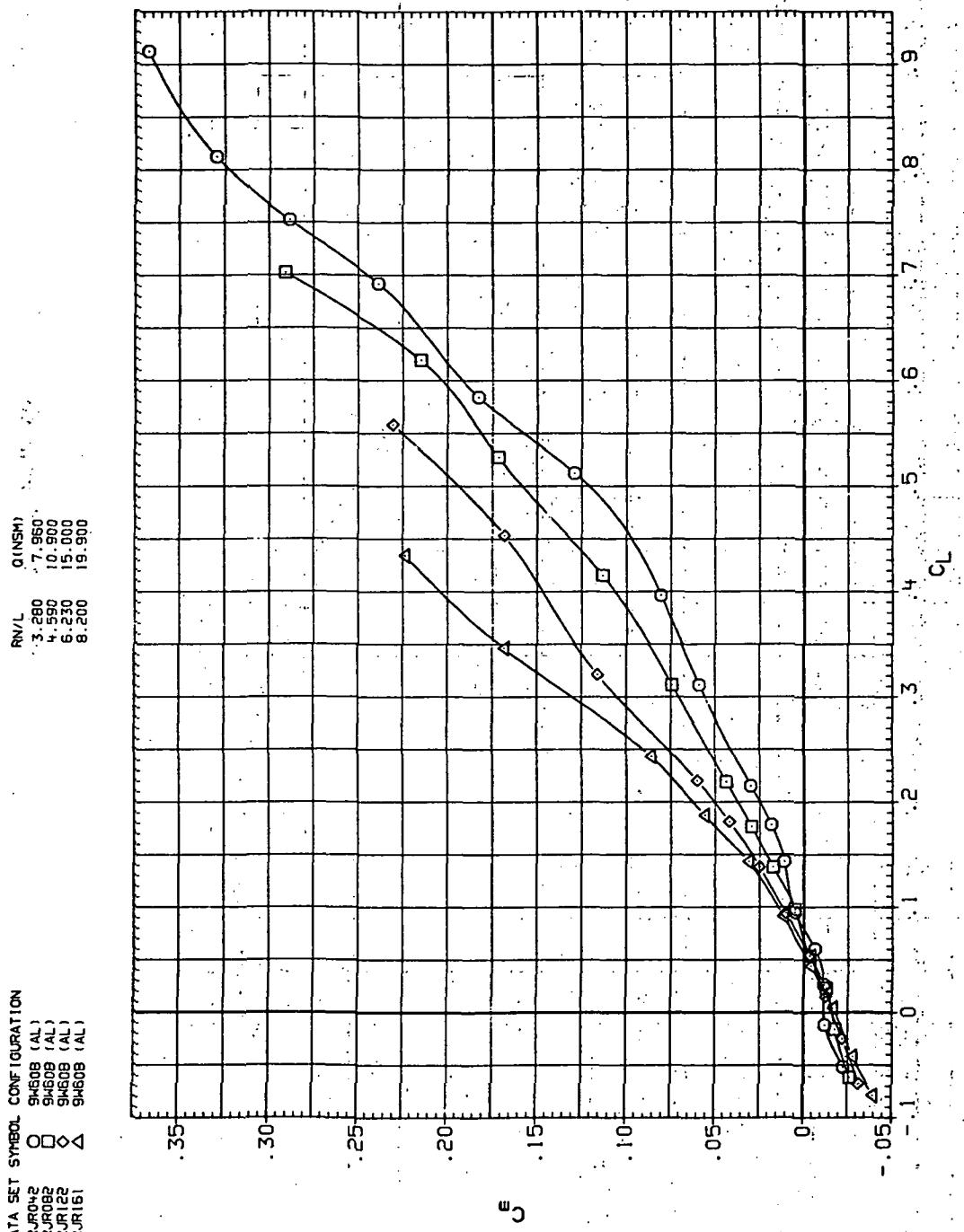
RN/L	Q(NSM)
3.200	7.960
4.500	10.900
6.250	15.000
8.200	19.900



(b)  $C_D$  vs  $C_L$ .

Figure 39.—Continued.

DATA SET SYMBOL CONFIGURATION  
 R.R042 O 946B (AL)  
 R.R082 □ 946B (AL)  
 R.R122 ◇ 946B (AL)  
 R.R161 △ 946B (AL)



(c)  $C_m$  vs  $C_L$ .

Figure 39.—Continued.

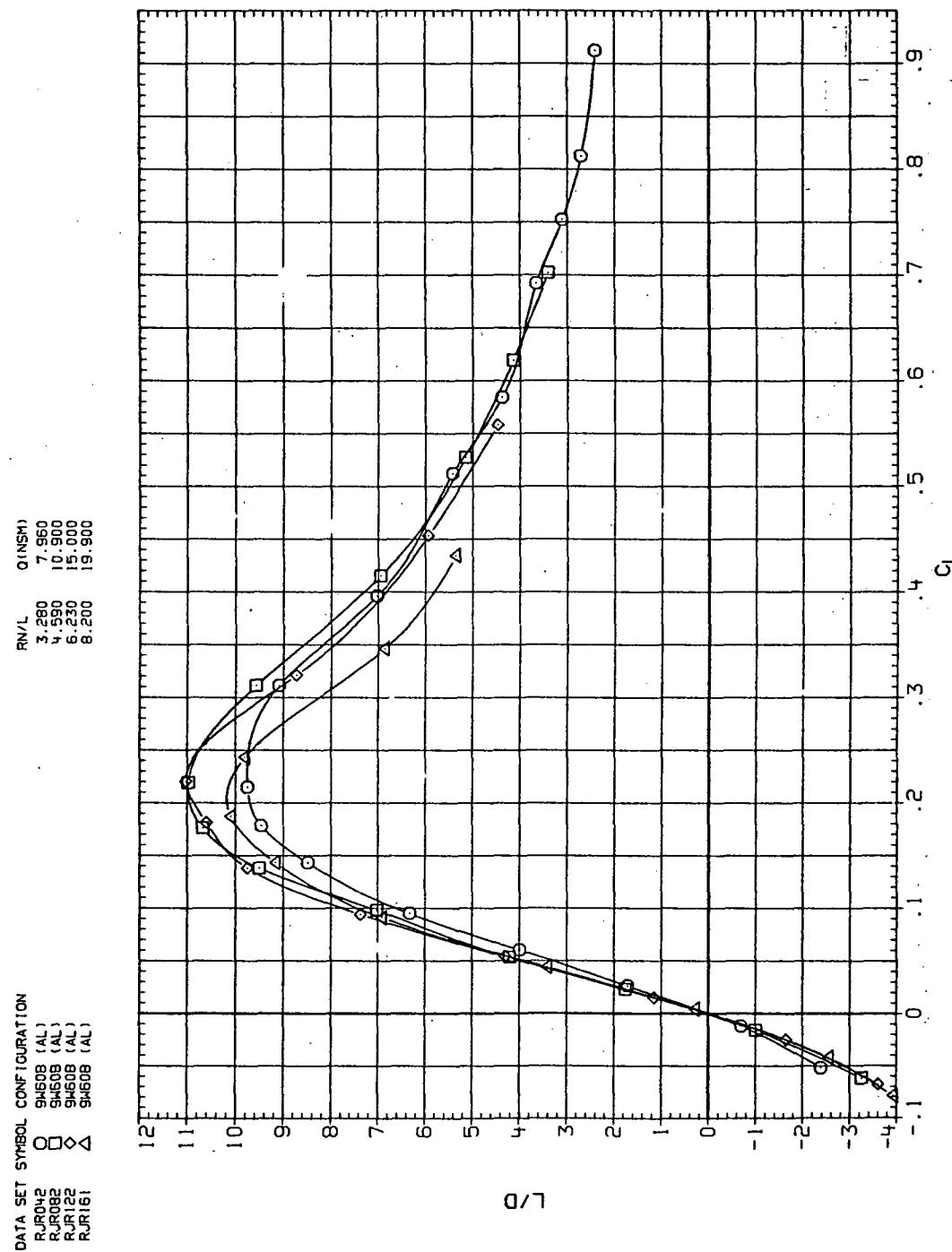
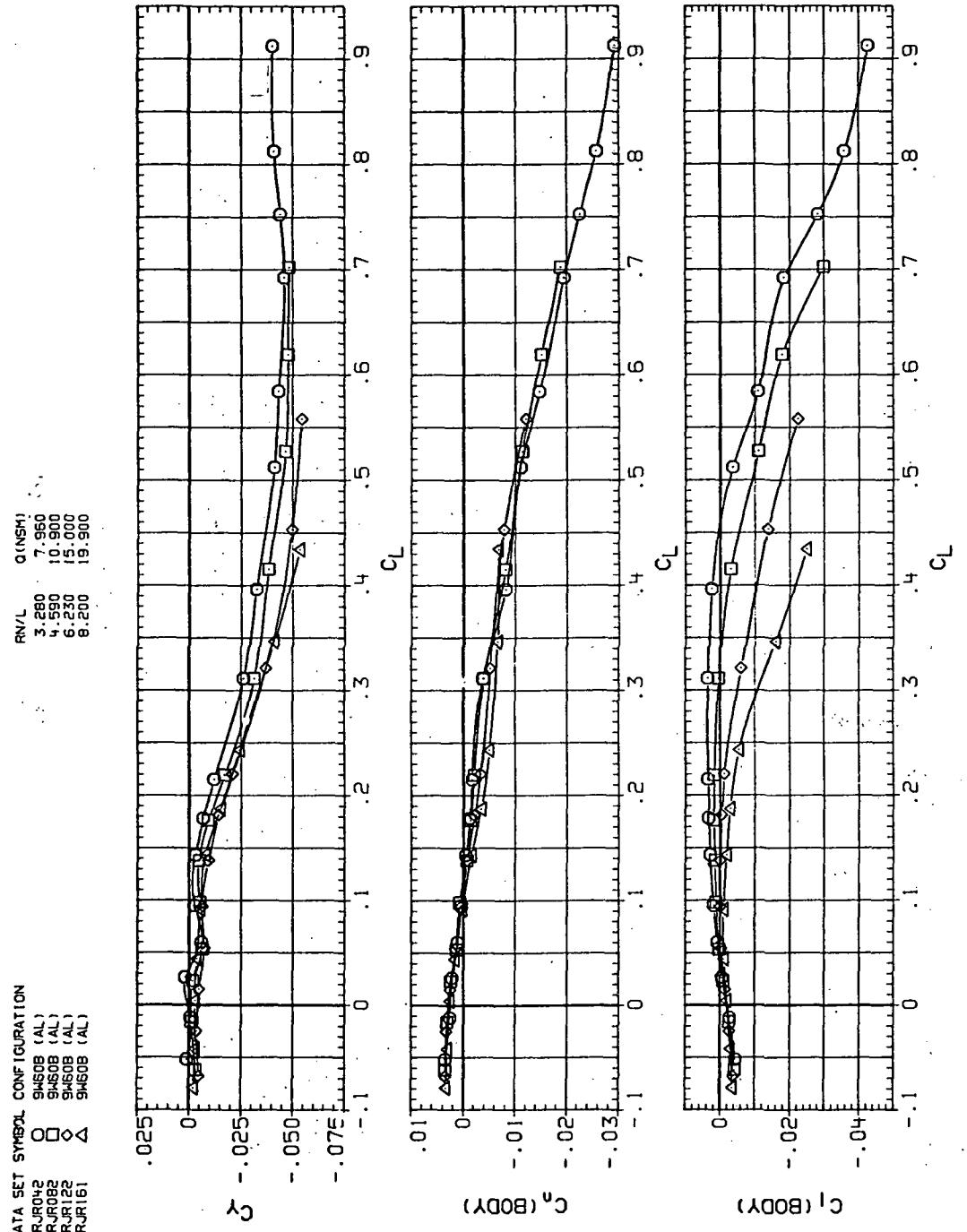
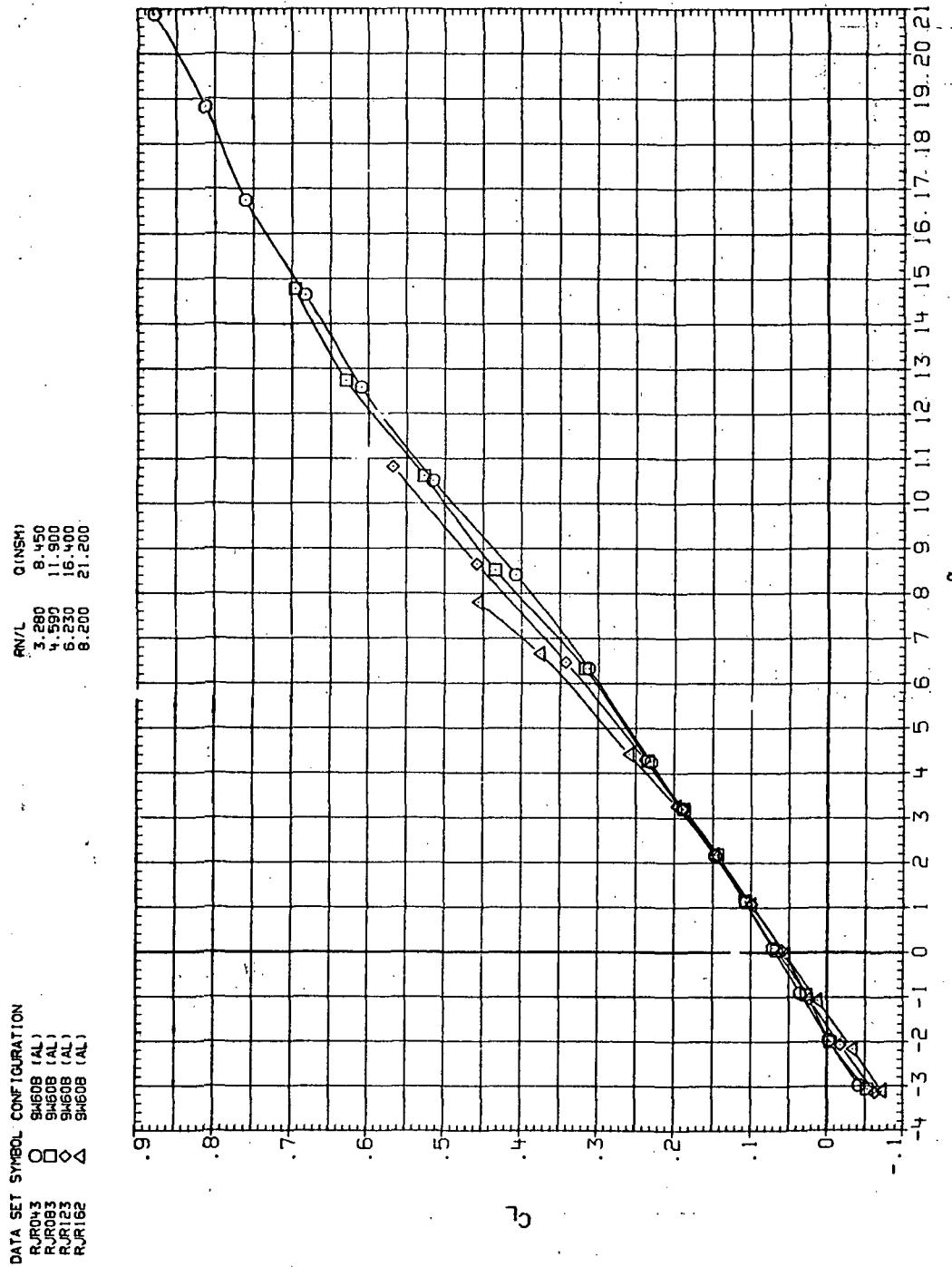
(d)  $L/D$  vs  $C_L$ .

Figure 39.—Continued.

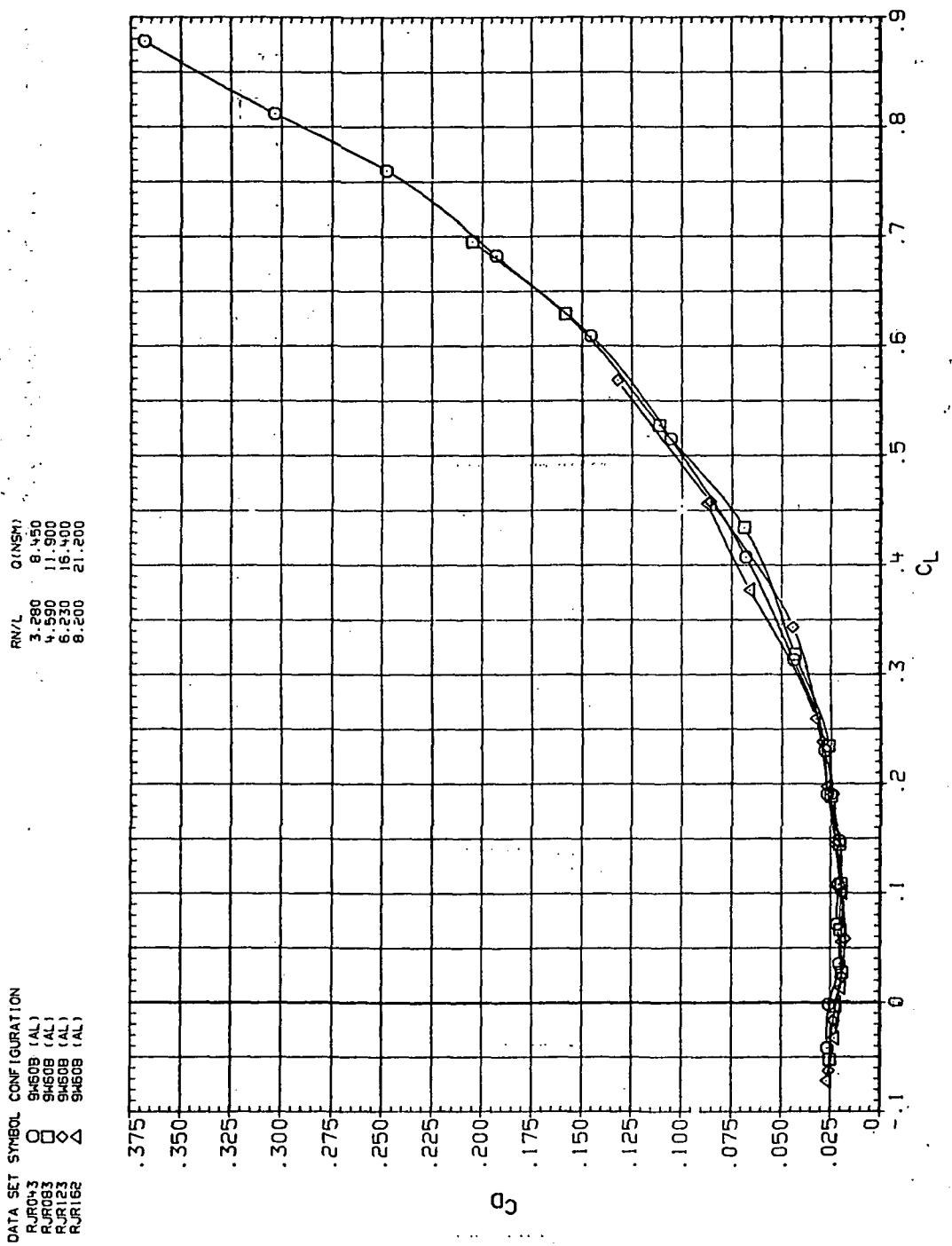


(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .  
Figure 39.— Concluded.



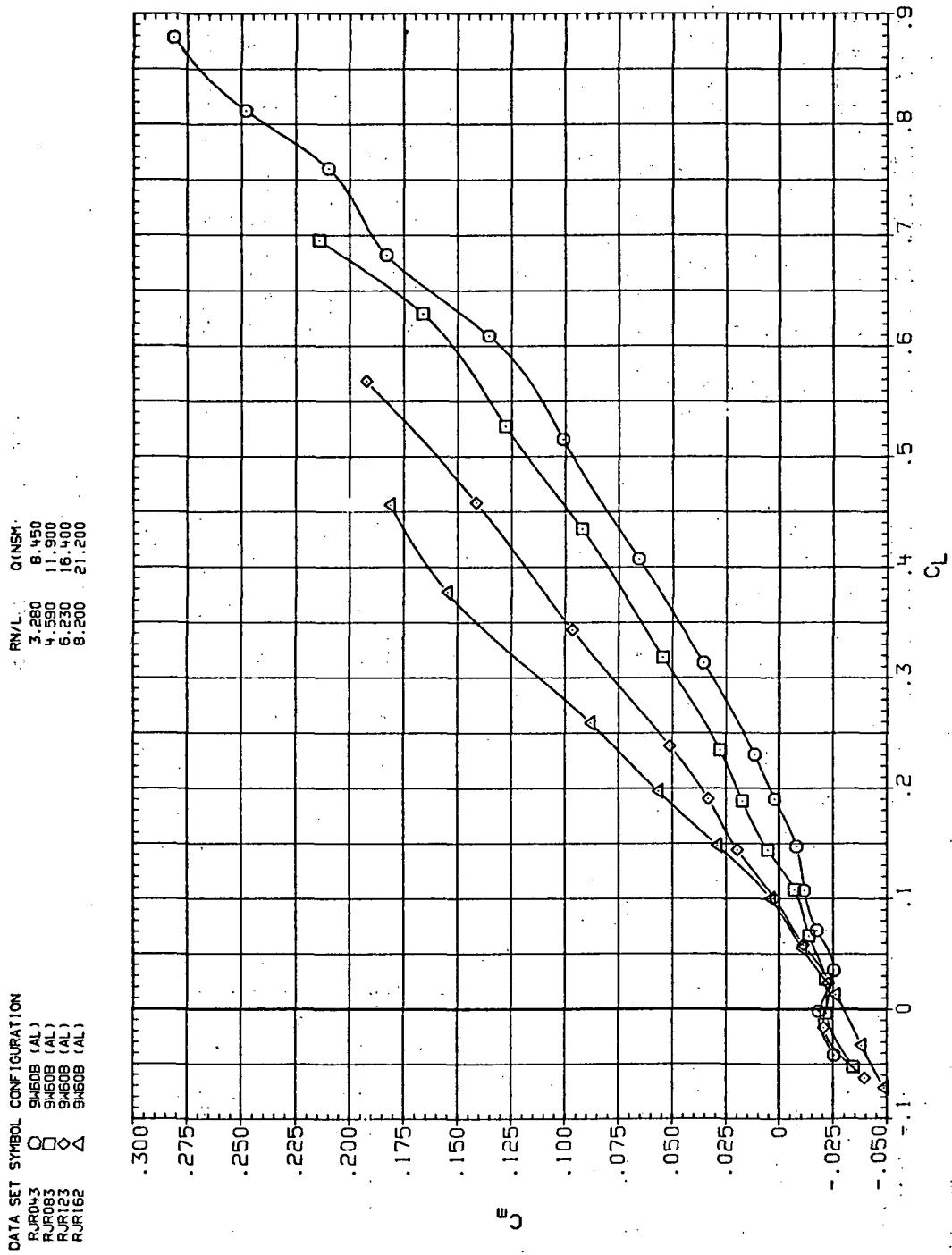
(a)  $C_L$  vs  $\alpha$ .

Figure 40.— Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 60^\circ$ ,  $M = 1.1$  and the modified NACA 65A204 airfoil).

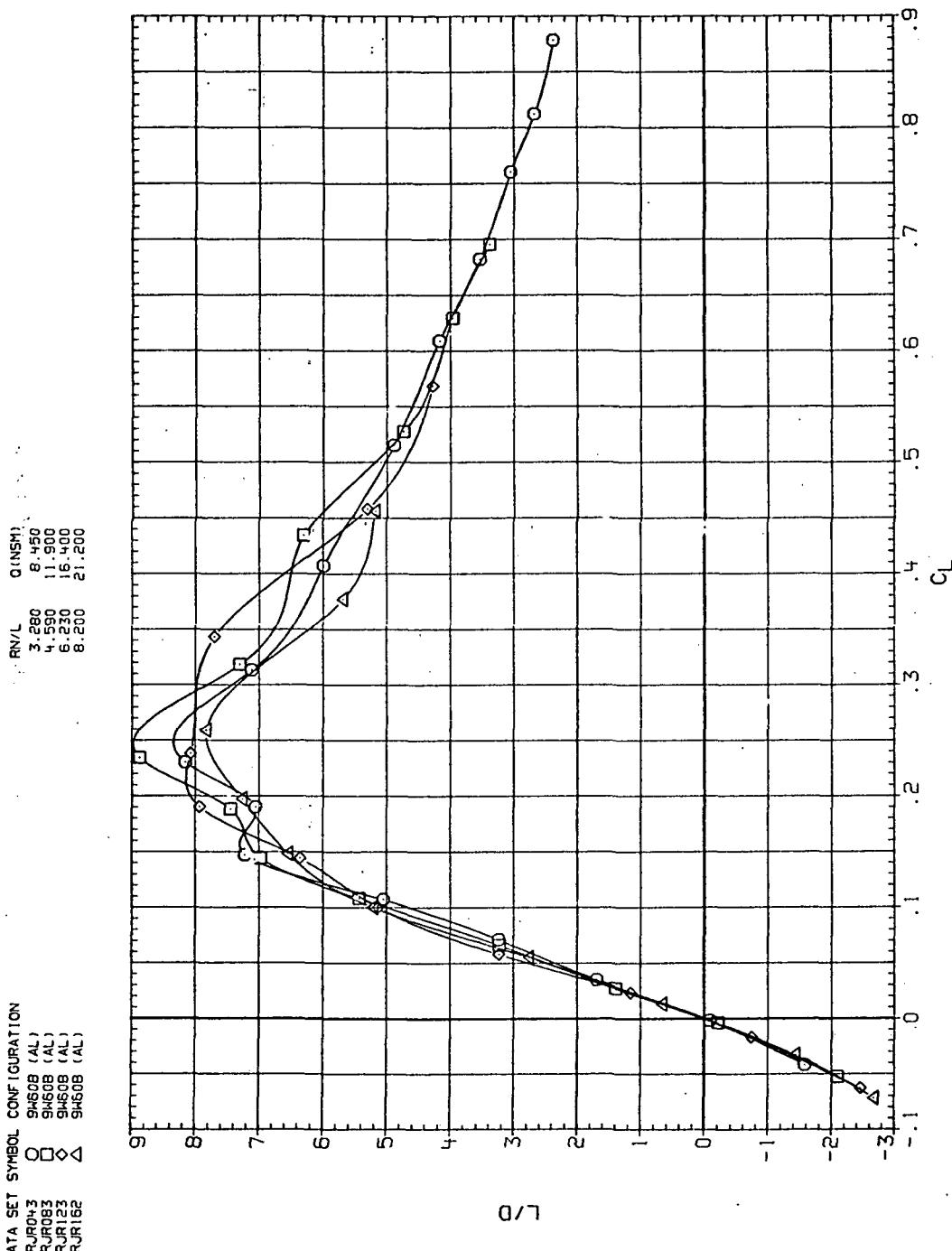


(b)  $C_D$  vs  $C_L$ .

Figure 40.—Continued.



(c)  $C_m$  vs  $C_L$ .  
Figure 40.—Continued.



(d)  $L/D$  vs  $C_L$ .

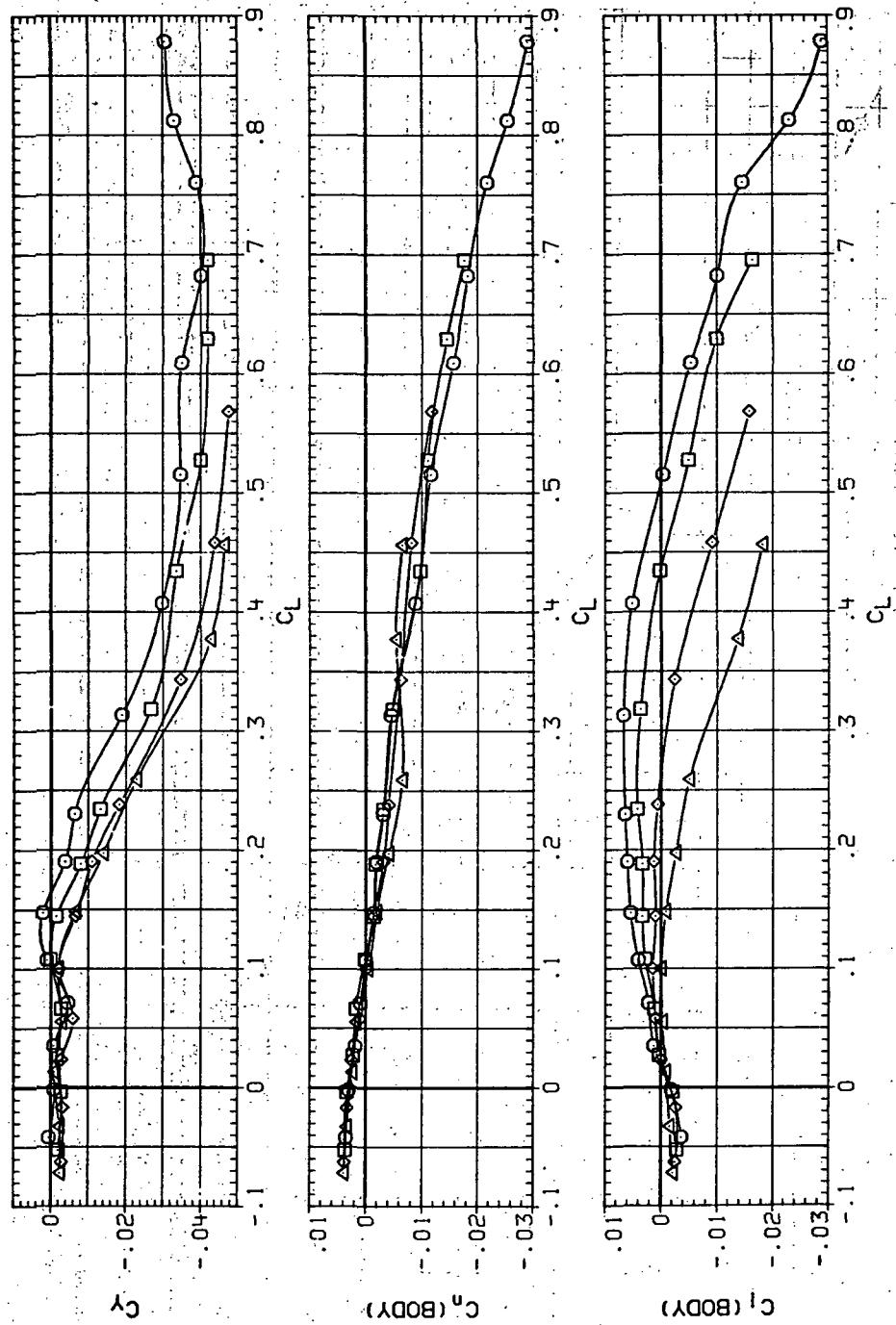
Figure 40.—Continued.

DATA SET SYMBOL CONFIGURATION

RJ043	O	SH60B (AL)
RJ083	□	SH60B (AL)
RJ123	◇	SH60B (AL)
RJ162	△	SH60B (AL)

RN/L Q (NSM)

3.280	8.450
4.590	11.900
6.230	16.400
8.200	21.200



(e)  $C_Y$ ,  $C_n$  and  $C_d$  vs  $C_L$ .

Figure 40.— Concluded.

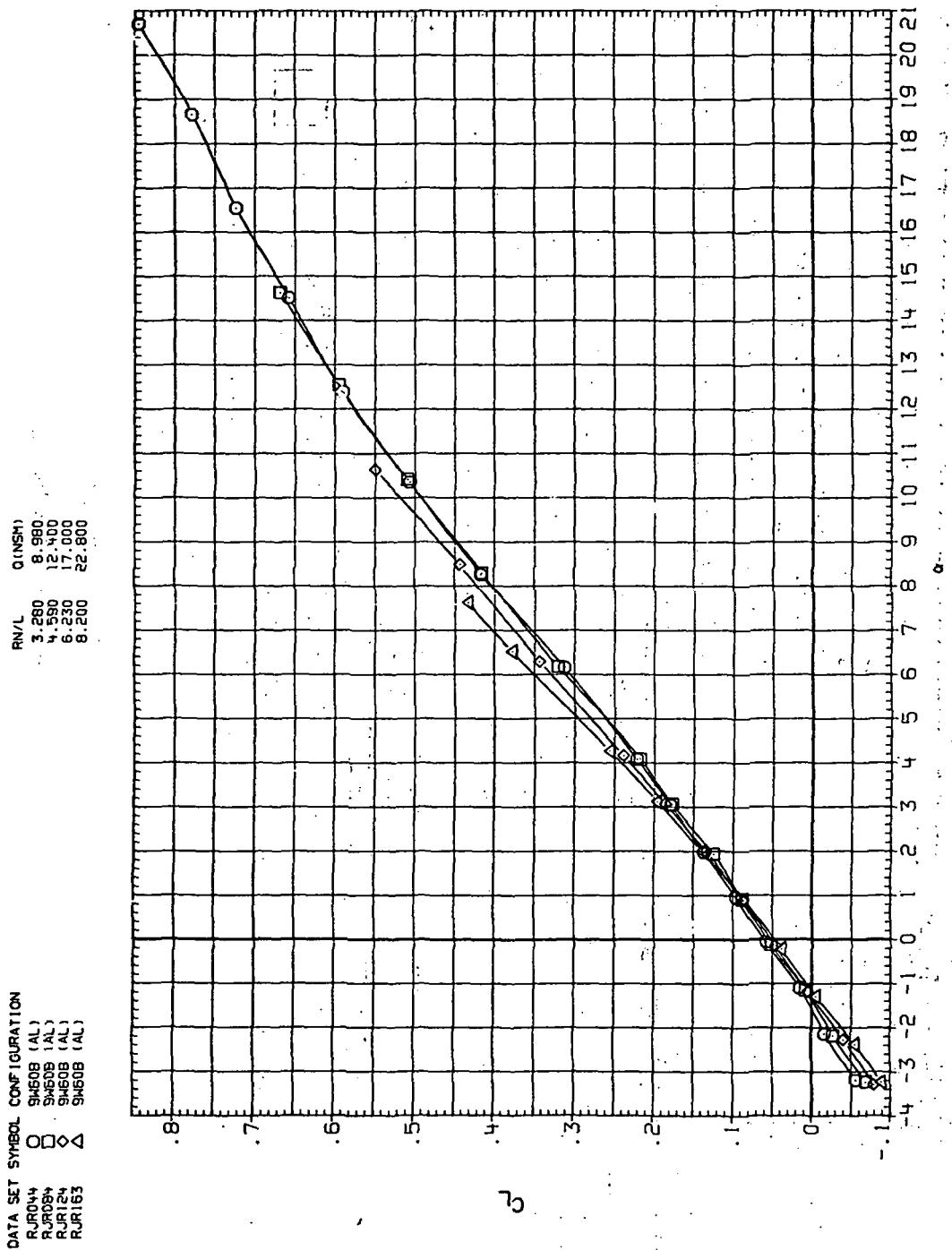
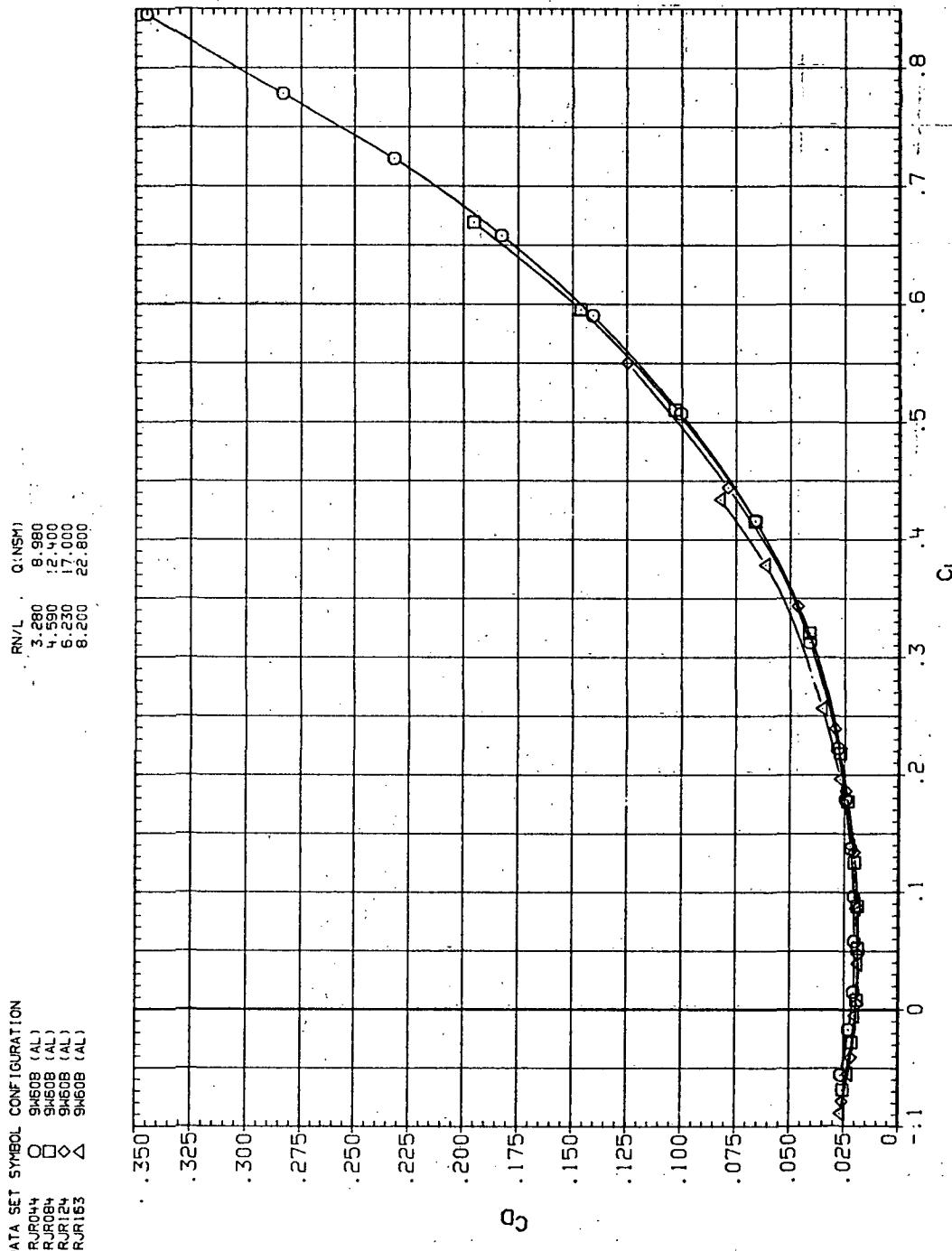
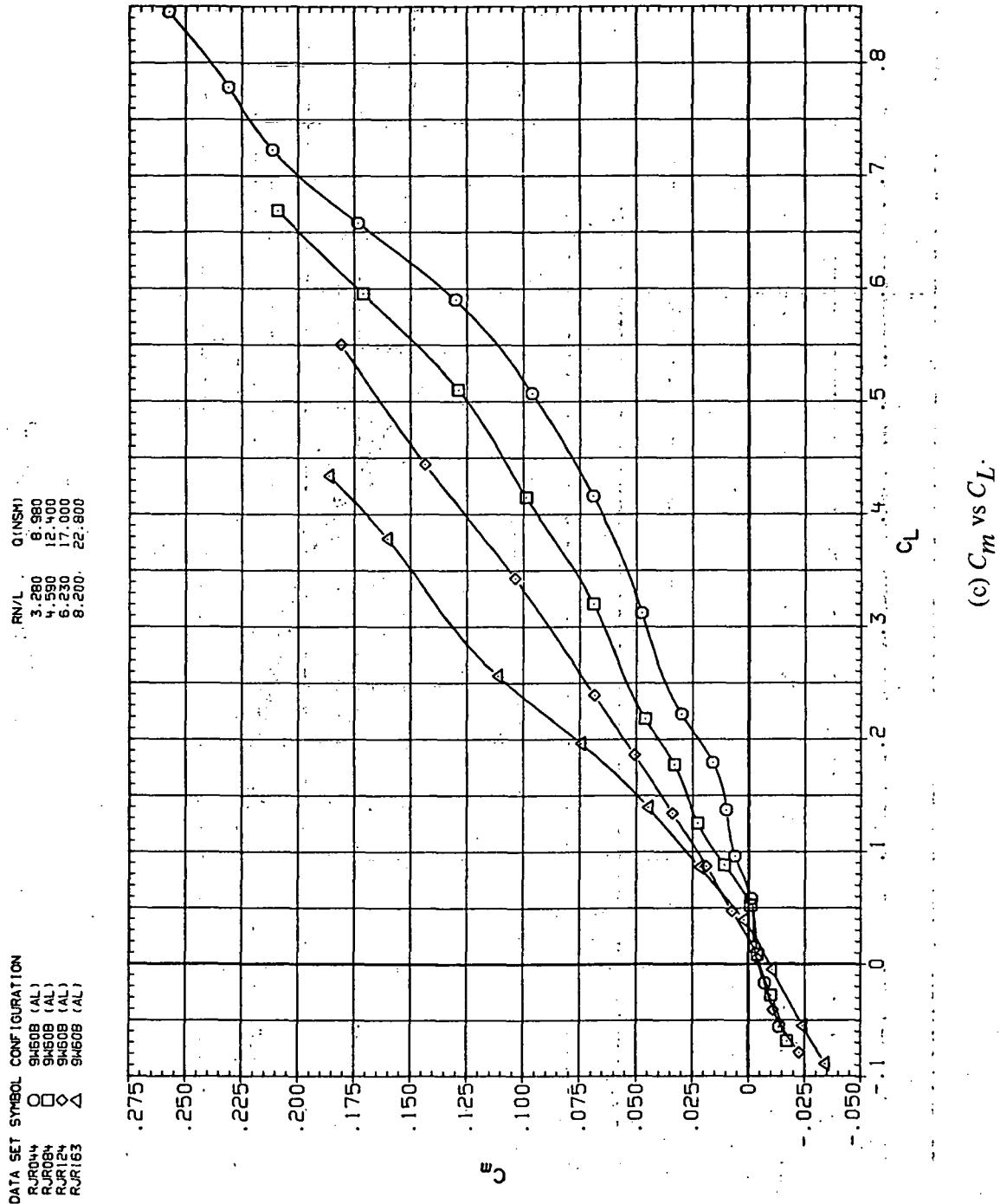


Figure 41.— Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 60^\circ$ ,  $M = 1.2$  and the modified NACA 65A204 airfoil).



(b)  $C_D$  vs  $C_L$ .

Figure 41.—Continued.



(c)  $C_m$  vs  $C_L$

Figure 41.—Continued.

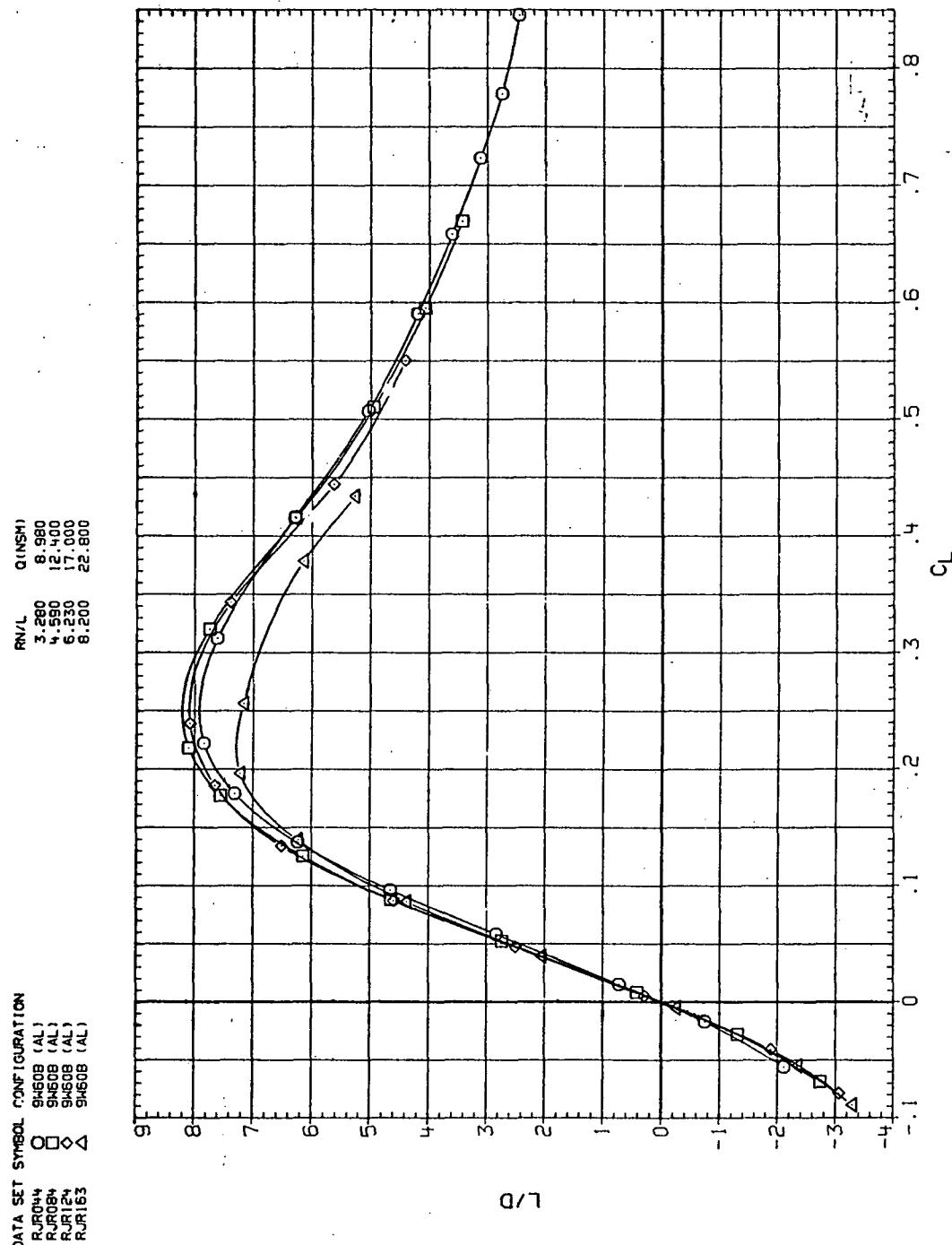
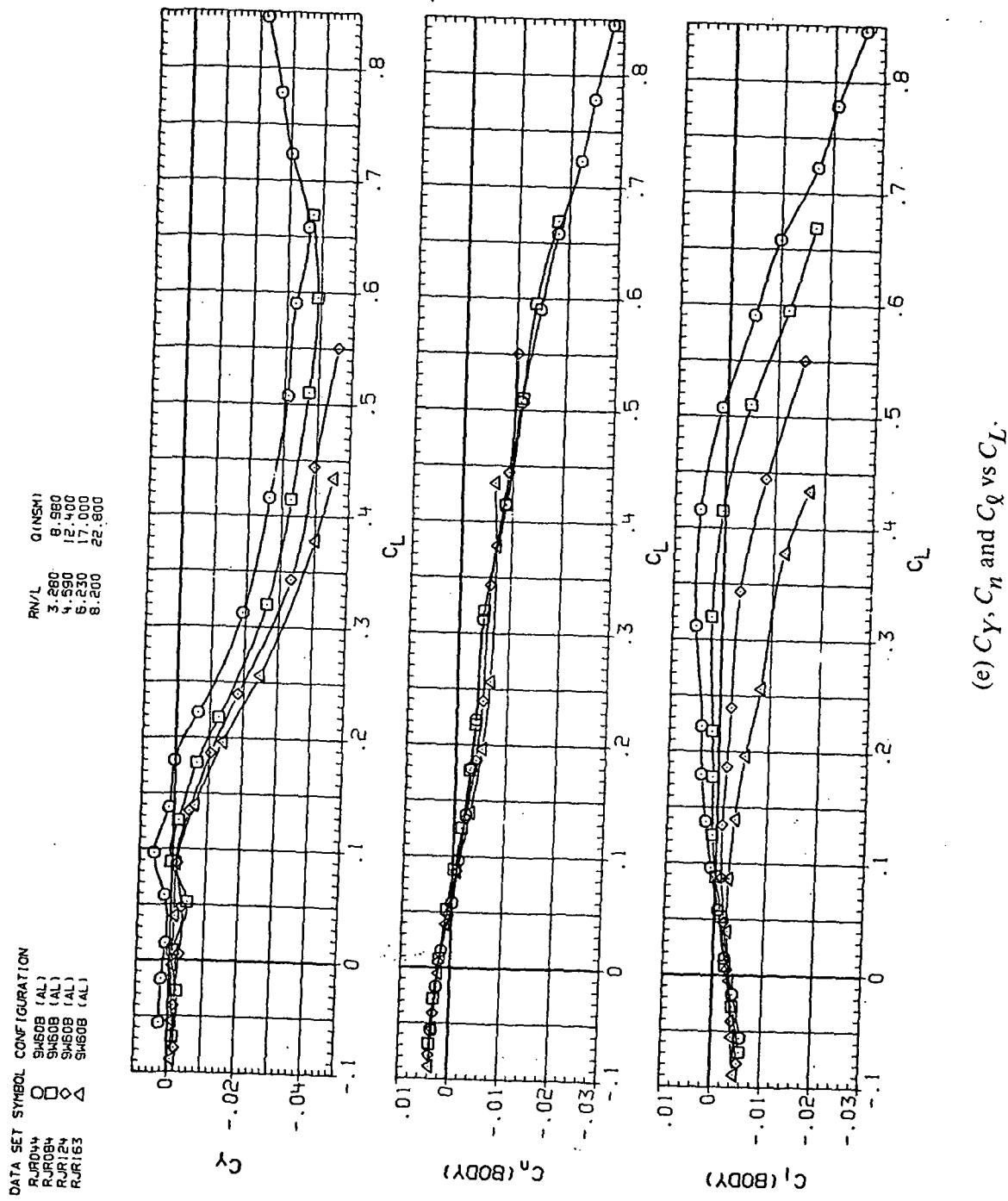
(d)  $L/D$  vs  $C_L$ .

Figure 41.—Continued.

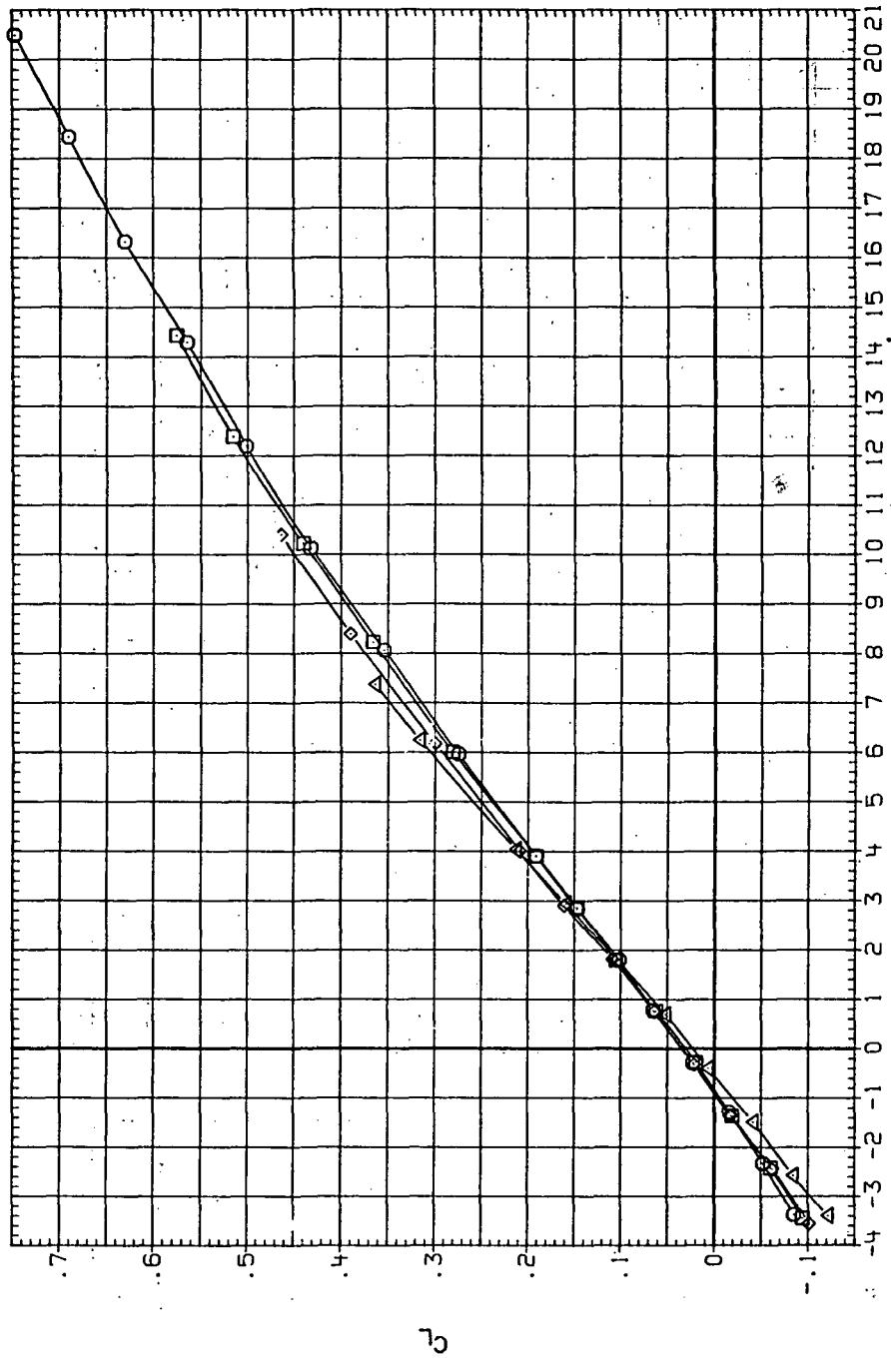


(e)  $C_Y$ ,  $C_n$  and  $C_i$  vs  $C_L$ .

Figure 41.—Concluded.

DATA SET	SYMBOL	CONFIGURATION
RJRD5	O	9460B (AL)
RJRD5	□	9460B (AL)
RJR125	◊	9460B (AL)
RJR164	△	9460B (AL)

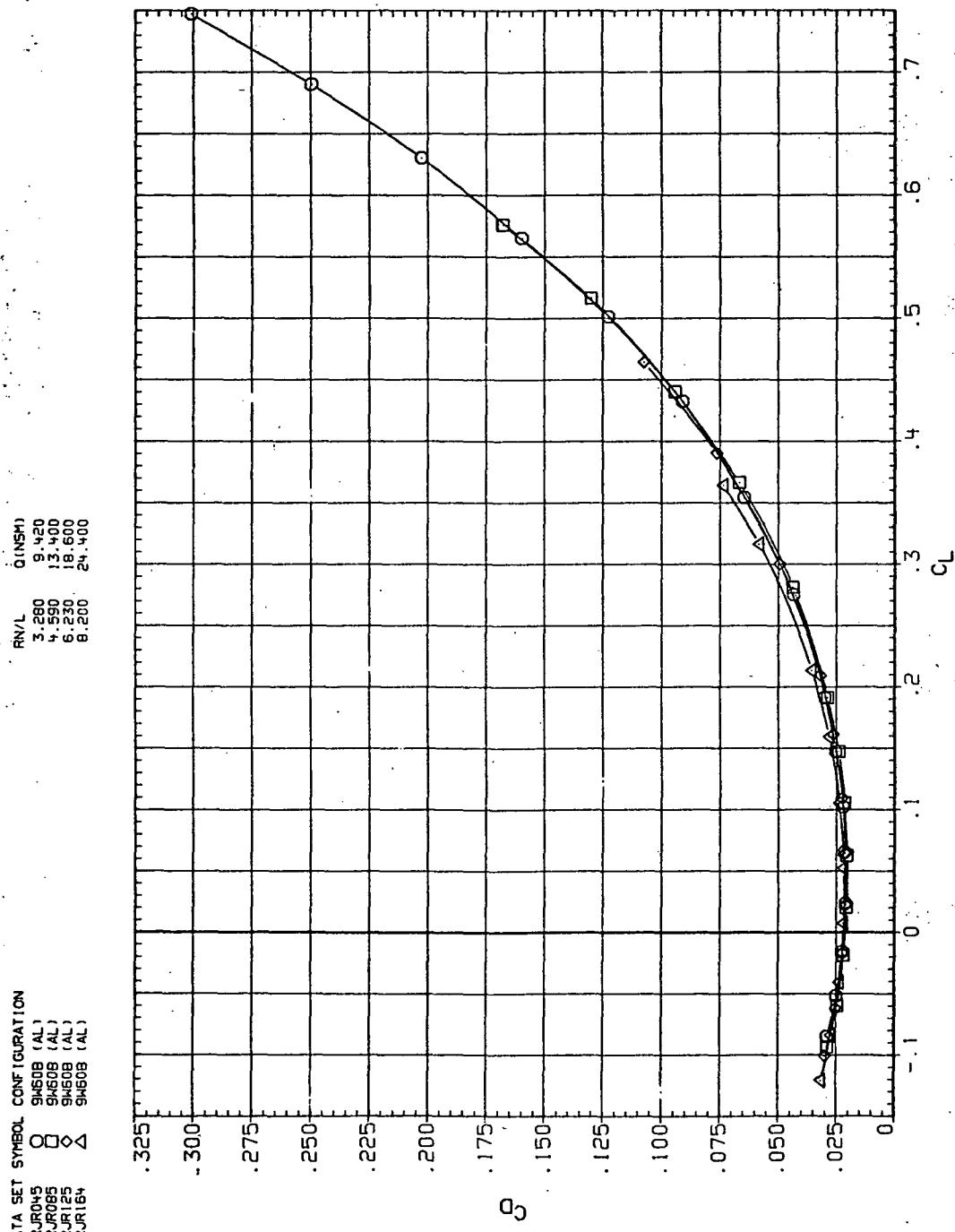
Q (NSM) 9.420  
3.280 13.400  
4.590 18.600  
6.230 24.400  
8.200



(a)  $C_L$  vs  $\alpha$ .

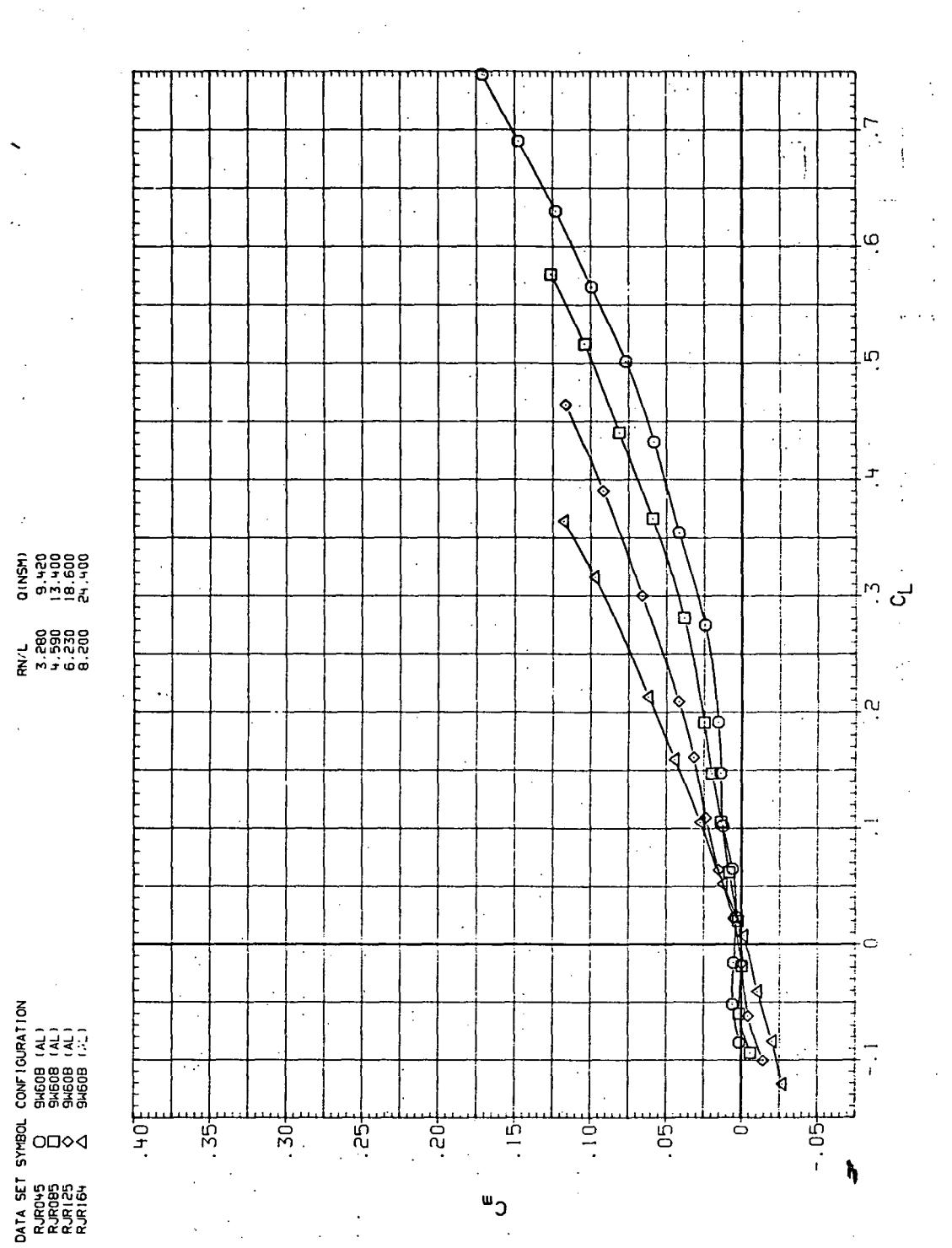
Figure 4.2.— Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 60^\circ$ ,  $M = 1.6$  and the modified NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 RUR045 O 9460B (AL)  
 RUR093 □ 9460B (AL)  
 RUR125 ◇ 9460B (AL)  
 RUR164 △ 9460B (AL)



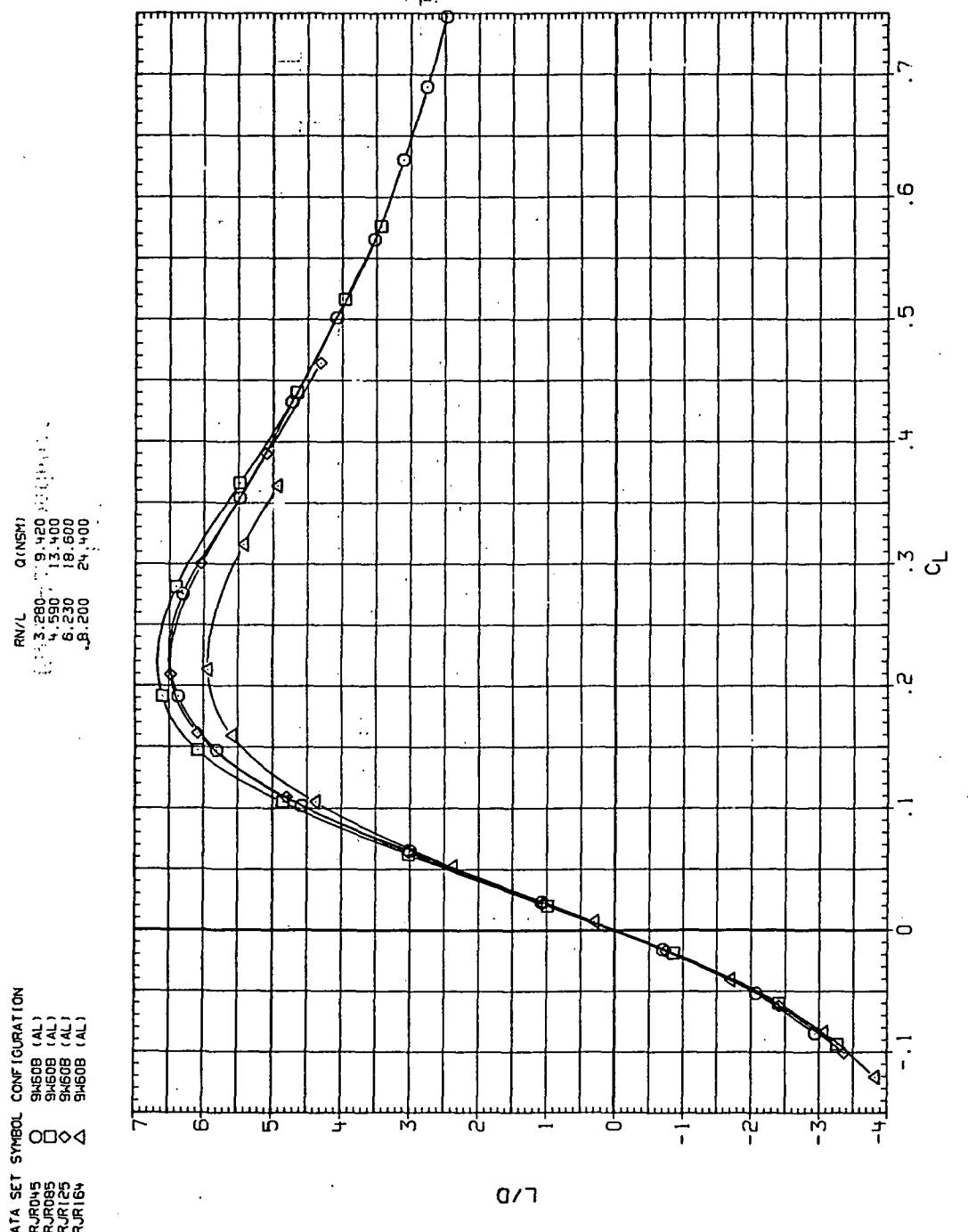
(b)  $C_D$  vs  $C_L$ .

Figure 42.—Continued.



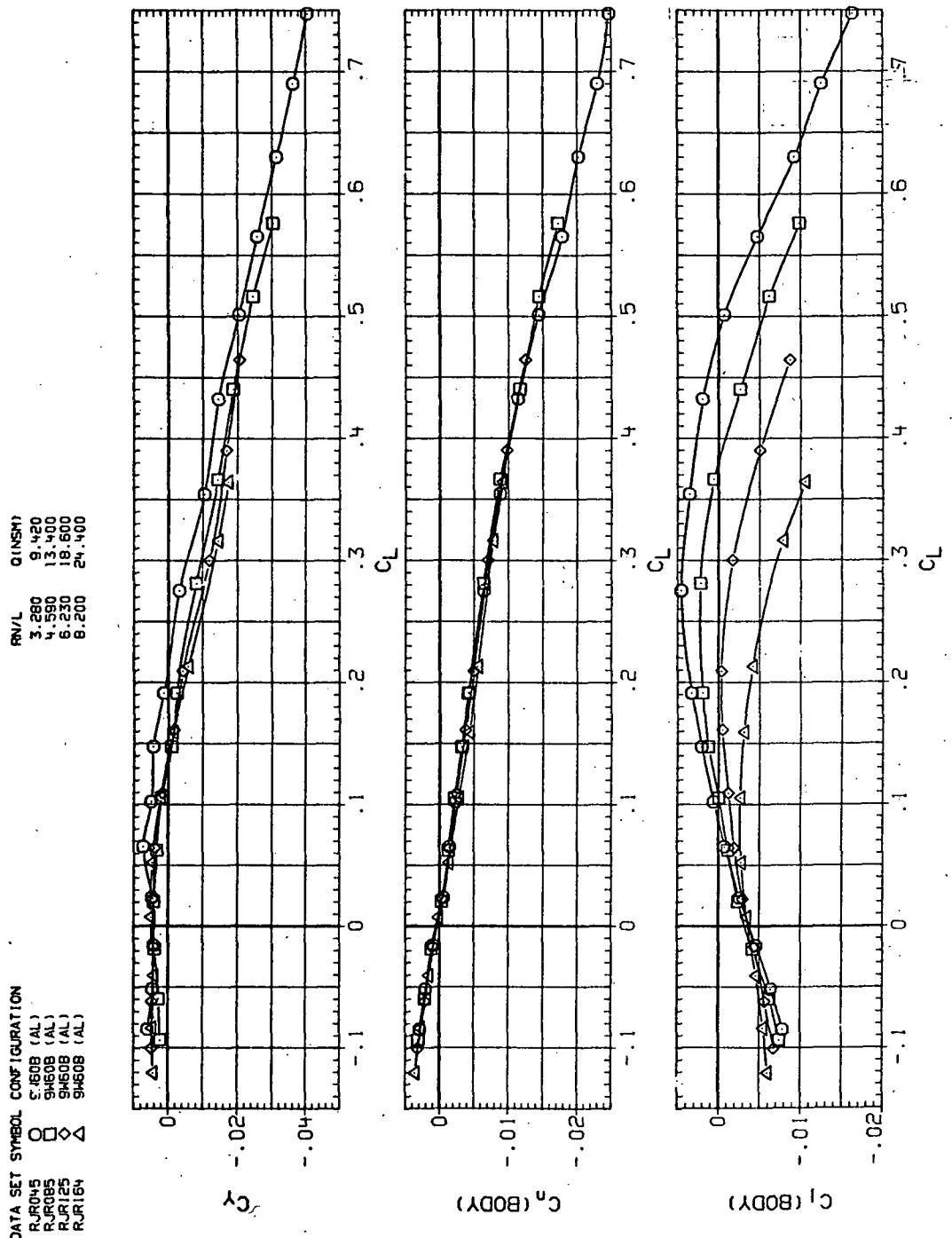
(c)  $C_m$  vs  $C_L$ .

Figure 42.—Continued.



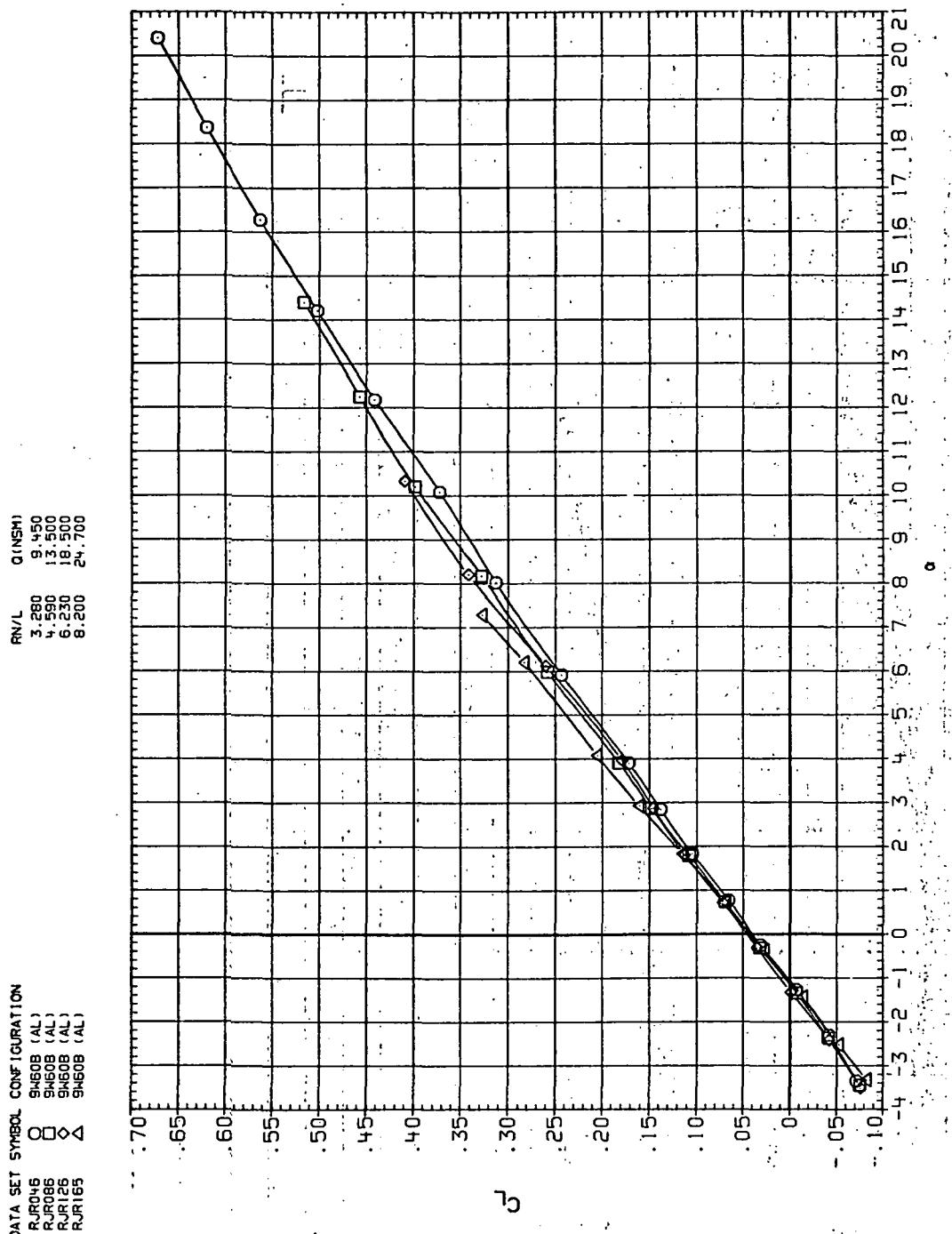
(d)  $L/D$  vs  $C_L$ .

Figure 42.—Continued.



(e)  $\bar{C}_Y$ ,  $C_n$  and  $C_L$  vs  $C_L$

Figure 42.—Concluded.



(a)  $C_L$  vs  $\alpha$ .

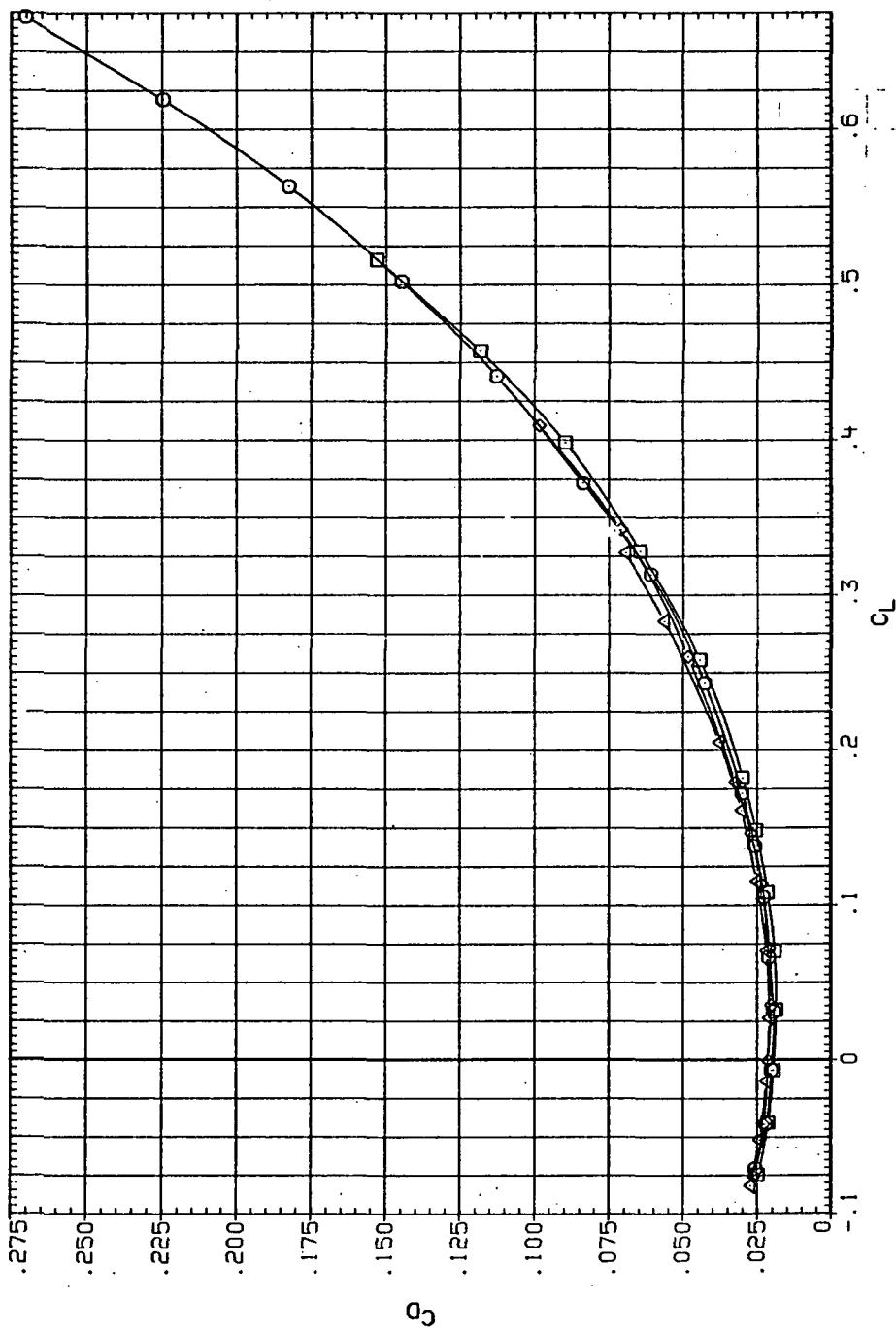
Figure 43.—Dynamic-pressure effects on the aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 60^\circ$ ,  $M = 2.0$  and the modified NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION

RJR046	O	SHS08 (AL)
RJR086	□	SHS08 (AL)
RJR126	◇	SHS08 (AL)
RJR165	△	SHS08 (AL)

R/V/L Q (INCH)

3.280	9.450
4.590	13.500
6.230	18.500
8.200	24.700



(b)  $C_D$  vs  $C_L$ .

Figure 43.—Continued.

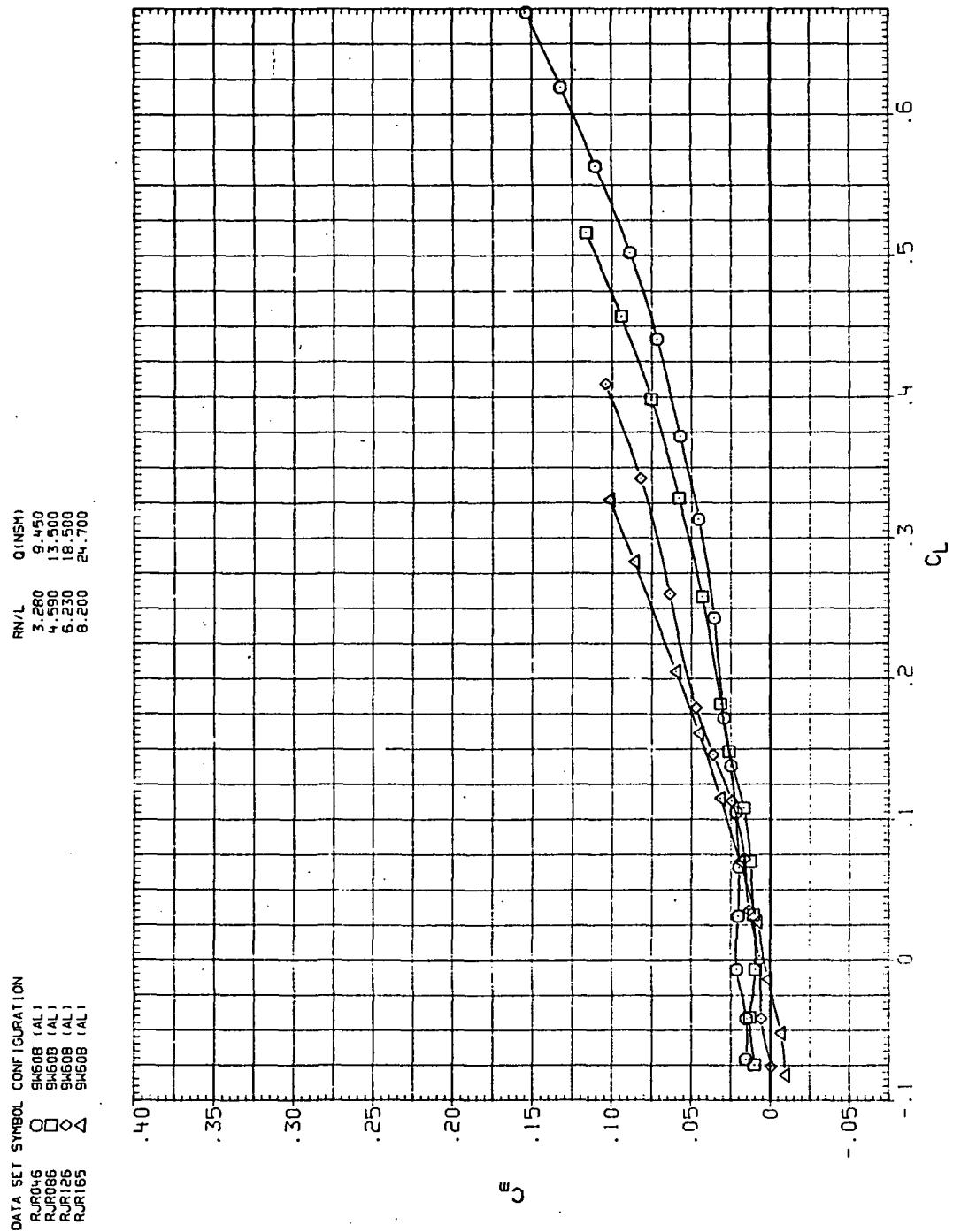


Figure 43.—Continued.

DATA SET	SYMBOL	CONFIGURATION
RJR046	O	SH60B (AL)
RJR086	□	SH60B (AL)
RJR126	◇	SH60B (AL)
RJR165	△	SH60B (AL)

RN/L

Q(NSFM)

3.280 9.450

4.590 13.500

6.230 18.500

8.200 24.700

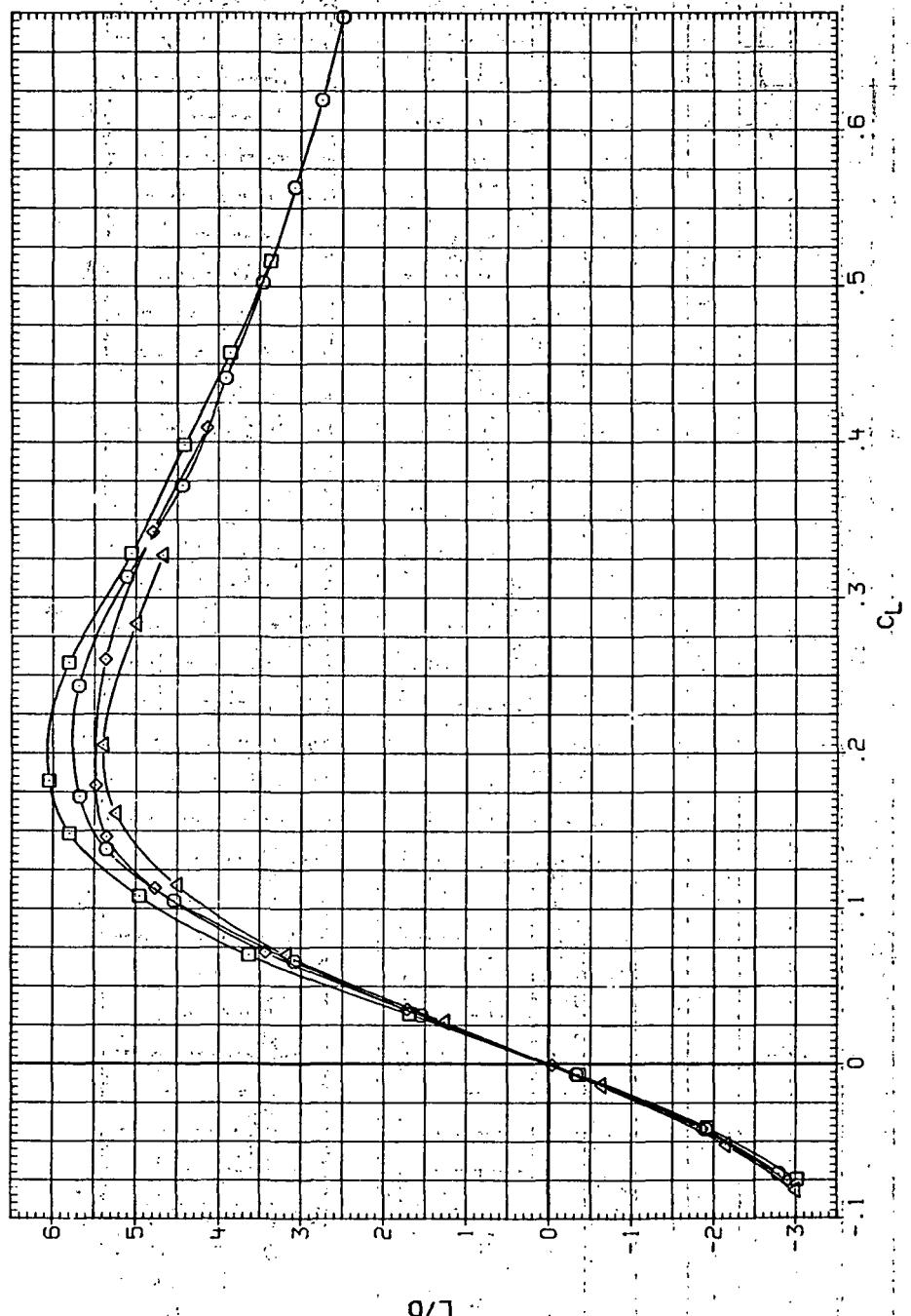
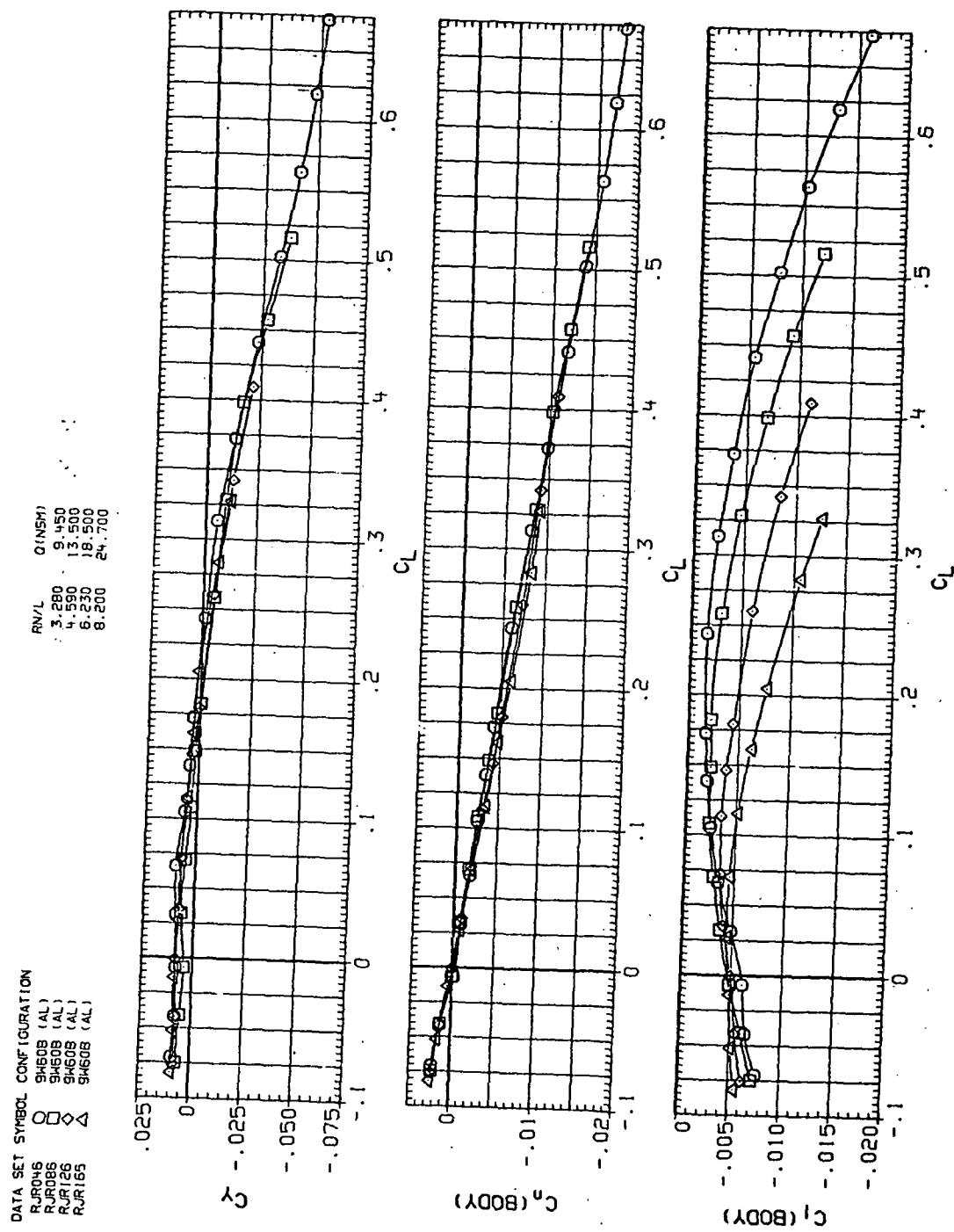
(d)  $L/D$  vs  $C_L$ .

Figure 43.—Continued.

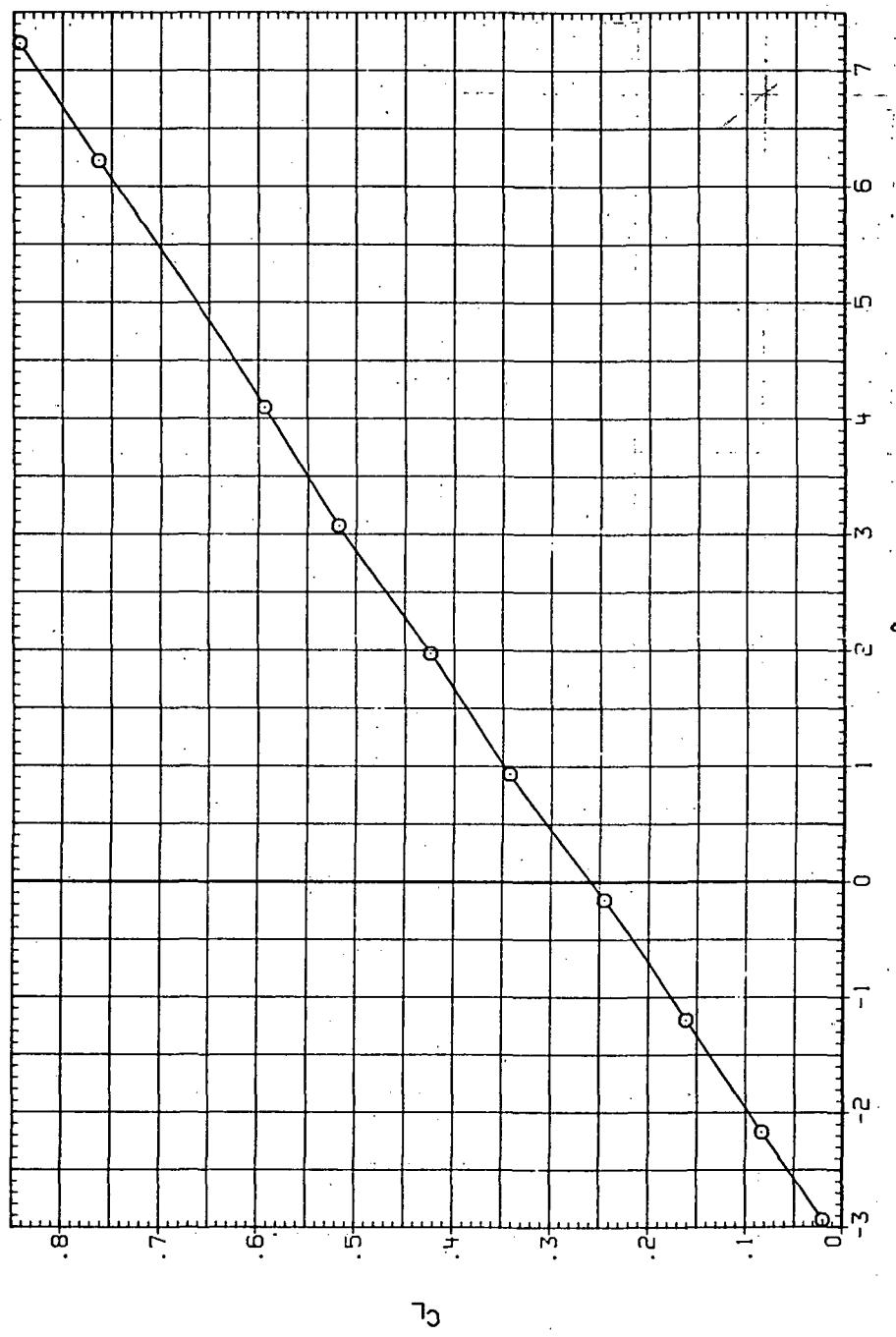


(e)  $C_Y$ ,  $C_n$  and  $C_q$  vs  $C_L$ .

Figure 43.— Concluded.

DATA SET SYMBOL CONFIGURATION  
RJR002 O SHOB (AL)

RN/L Q(NSM)  
6.230 7.480

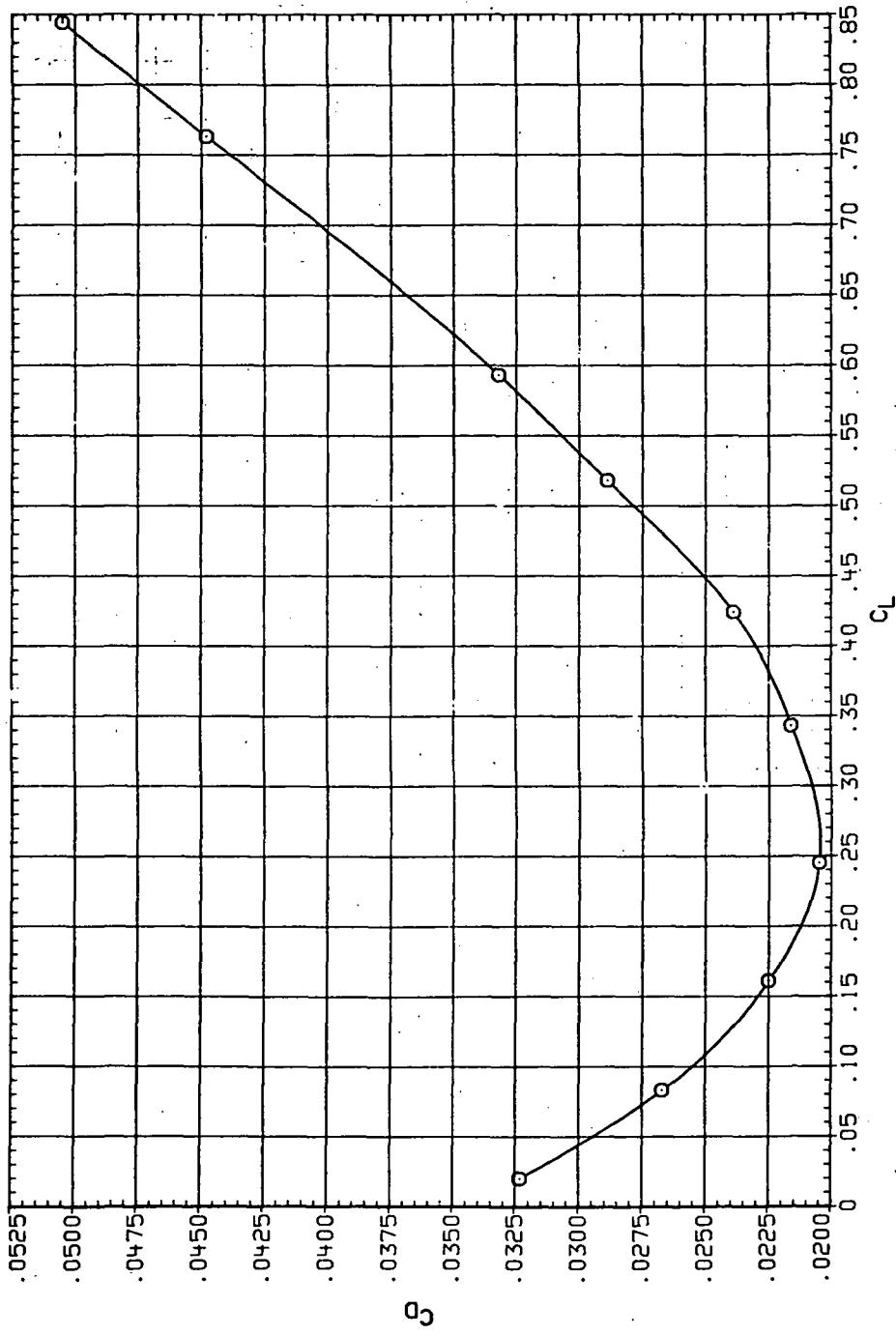


(a)  $C_L$  vs  $\alpha$ .

Figure 44.—Aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 0$ ,  $M = 0.4$  and the modified NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
RJR002 O SHOB (AL)

R/N/L Q (NSM)  
6.230 7.480

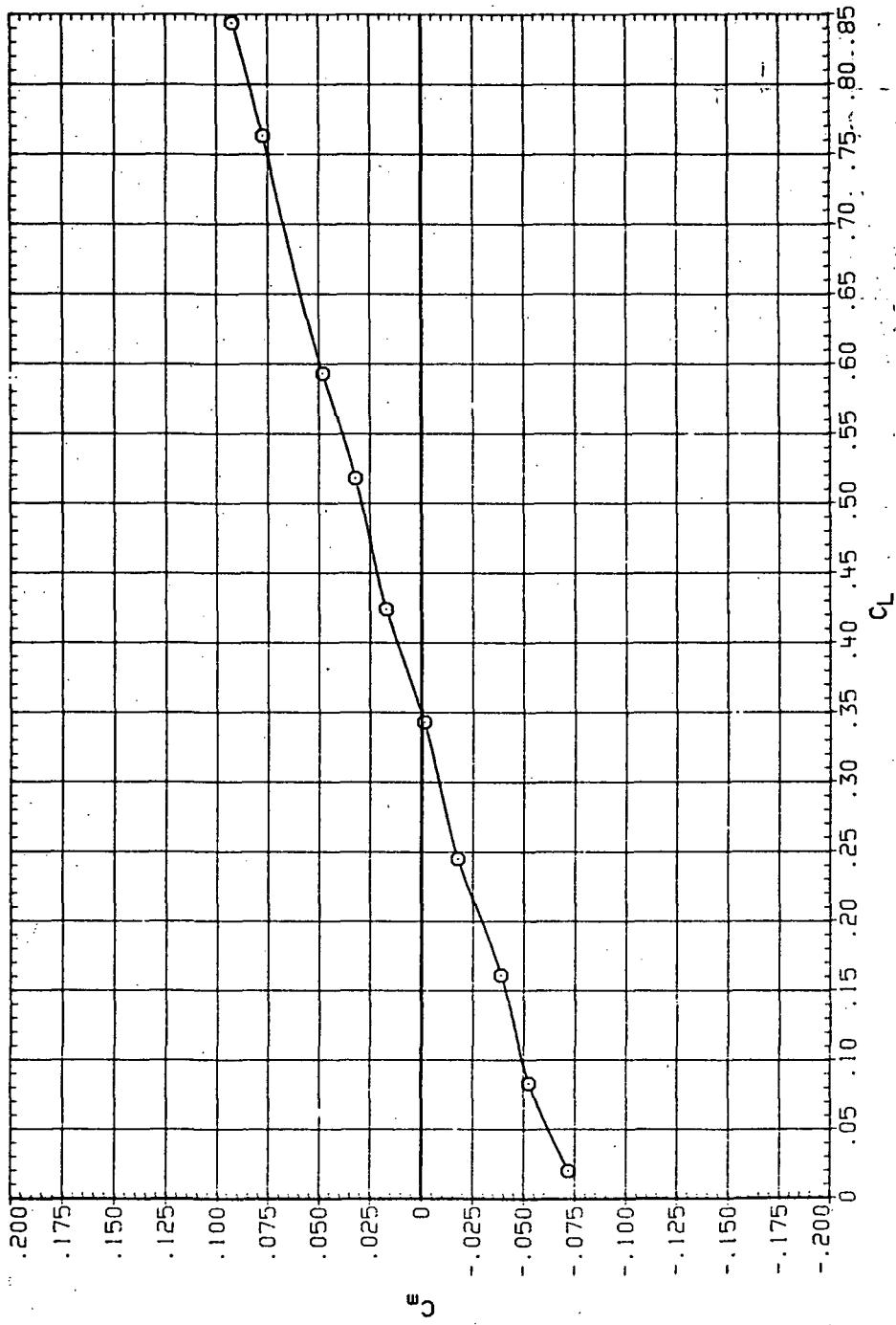


(b)  $C_D$  vs  $C_L$ .

Figure 44.—Continued.

DATA SET SYMBOL CONFIGURATION  
RJ002 O 9W0B (AL)

RN/L Q(NSH)  
6.230 7.480

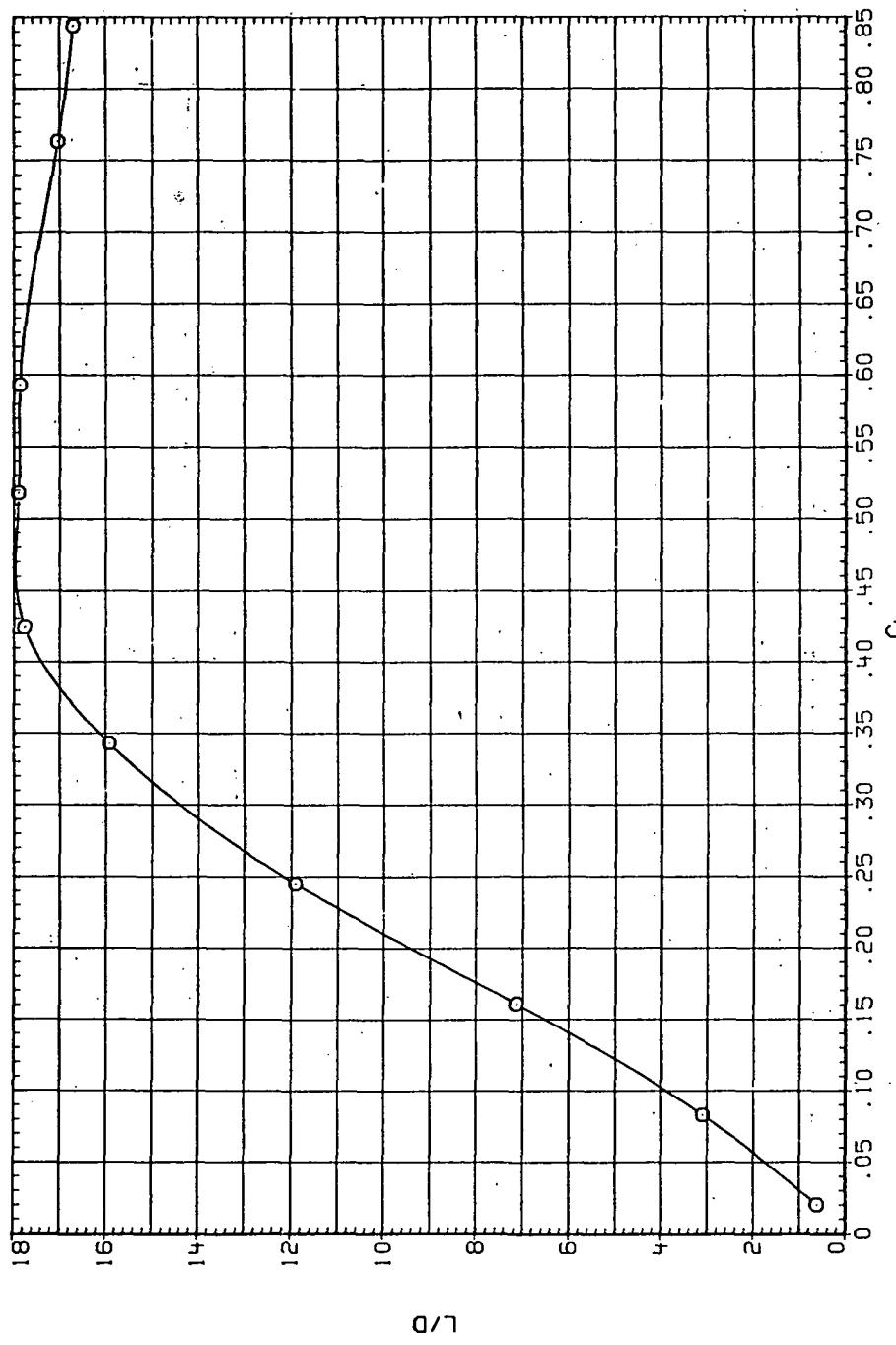


(c)  $C_m$  vs  $C_L$ .

Figure 44.—Continued.

DATA SET SYMBOL CONFIGURATION  
RJR002 9W0B (AL)

R/V/L Q(NSM)  
6.230 7.480

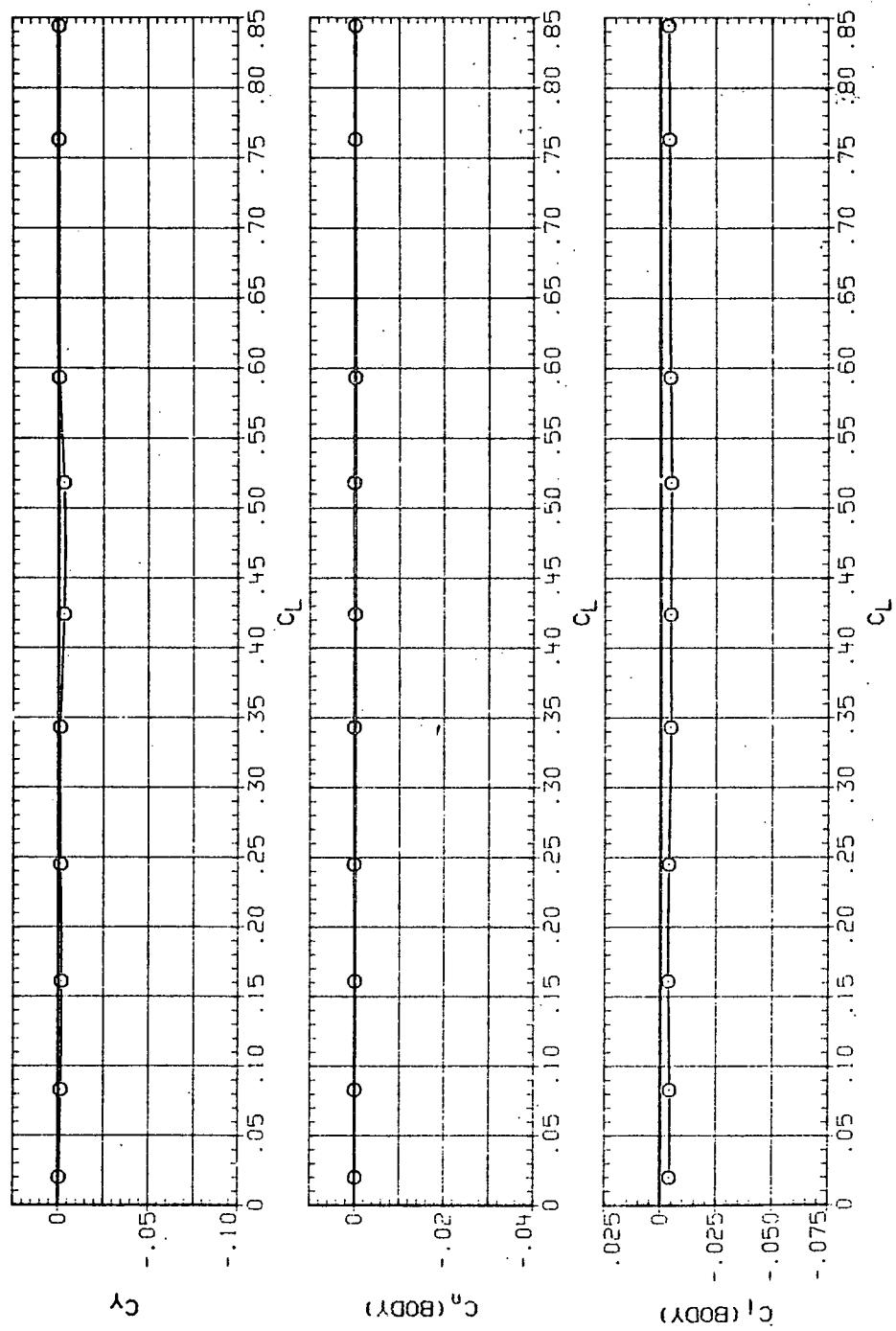


(d)  $L/D$  vs  $C_L$ .

Figure 44.—Continued.

DATA SET SYMBOL CONFIGURATION  
RJR002 O SH0B (AL)

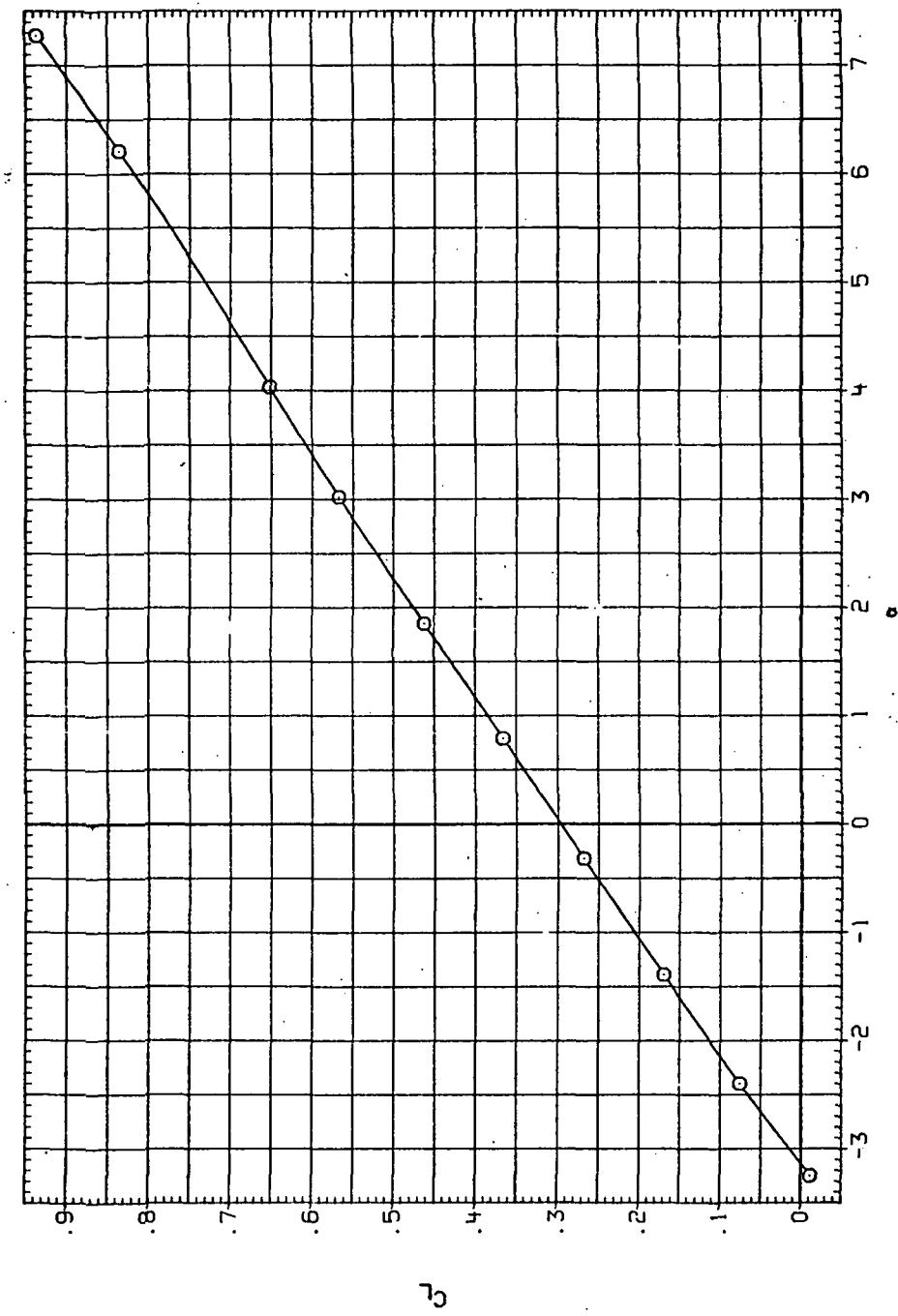
RN/L Q(NSM)  
6.230 7.480



(e)  $C_Y$ ,  $C_n$  and  $C_\chi$  vs  $C_L$ .

Figure 44.— Concluded.

DATA SET SYMBOL CONFIGURATION  
RJR003 O SH09 (AL)  
RN/L 0.1NSM  
6.230 10.600



(a)  $C_L$  vs  $\alpha$ .

Figure 45.— Aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 0$ ,  $M = 0.6$  and the modified NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
RJ003 O SWOB (AL)

RNL QINSMI  
6.230 10.600

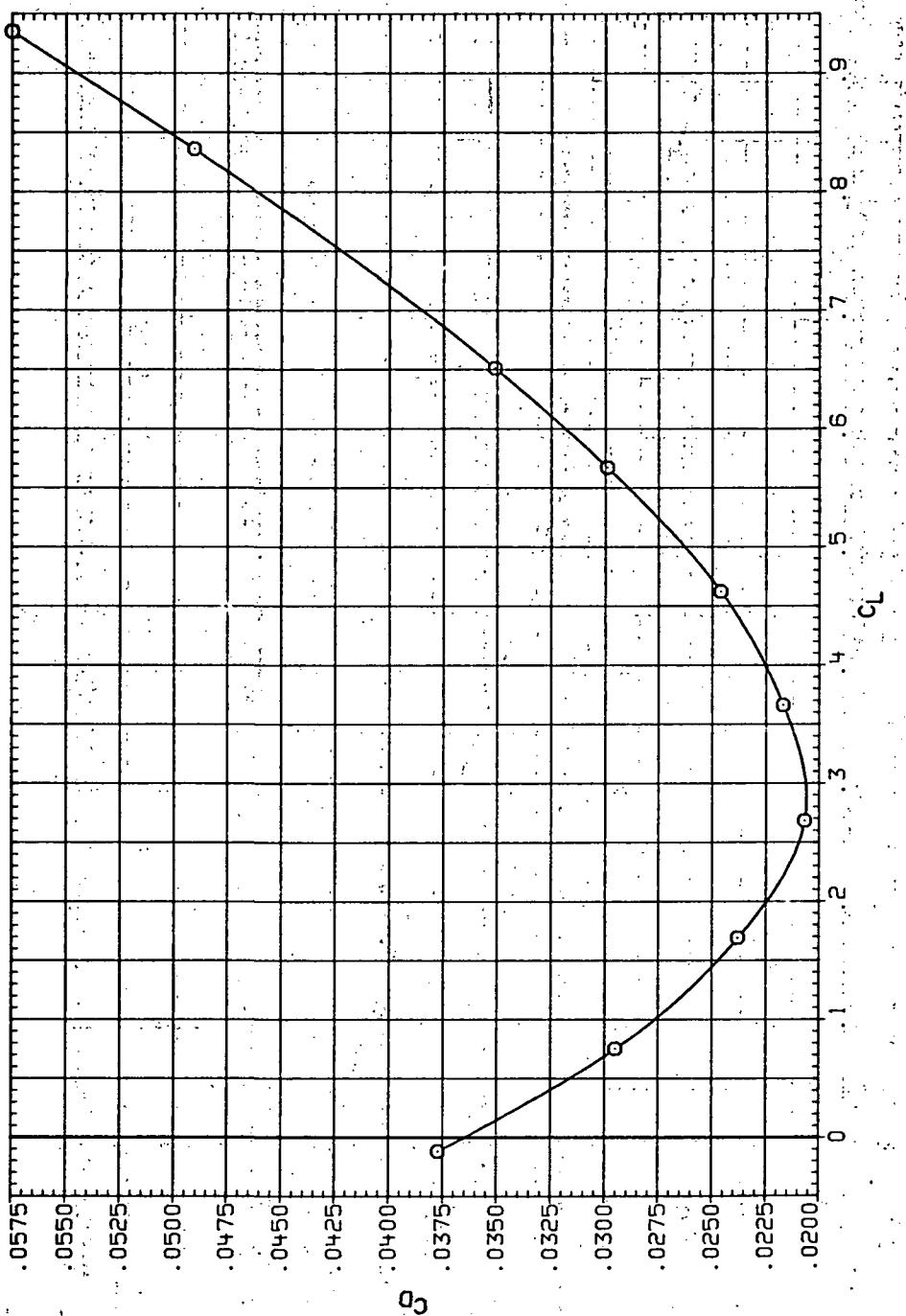
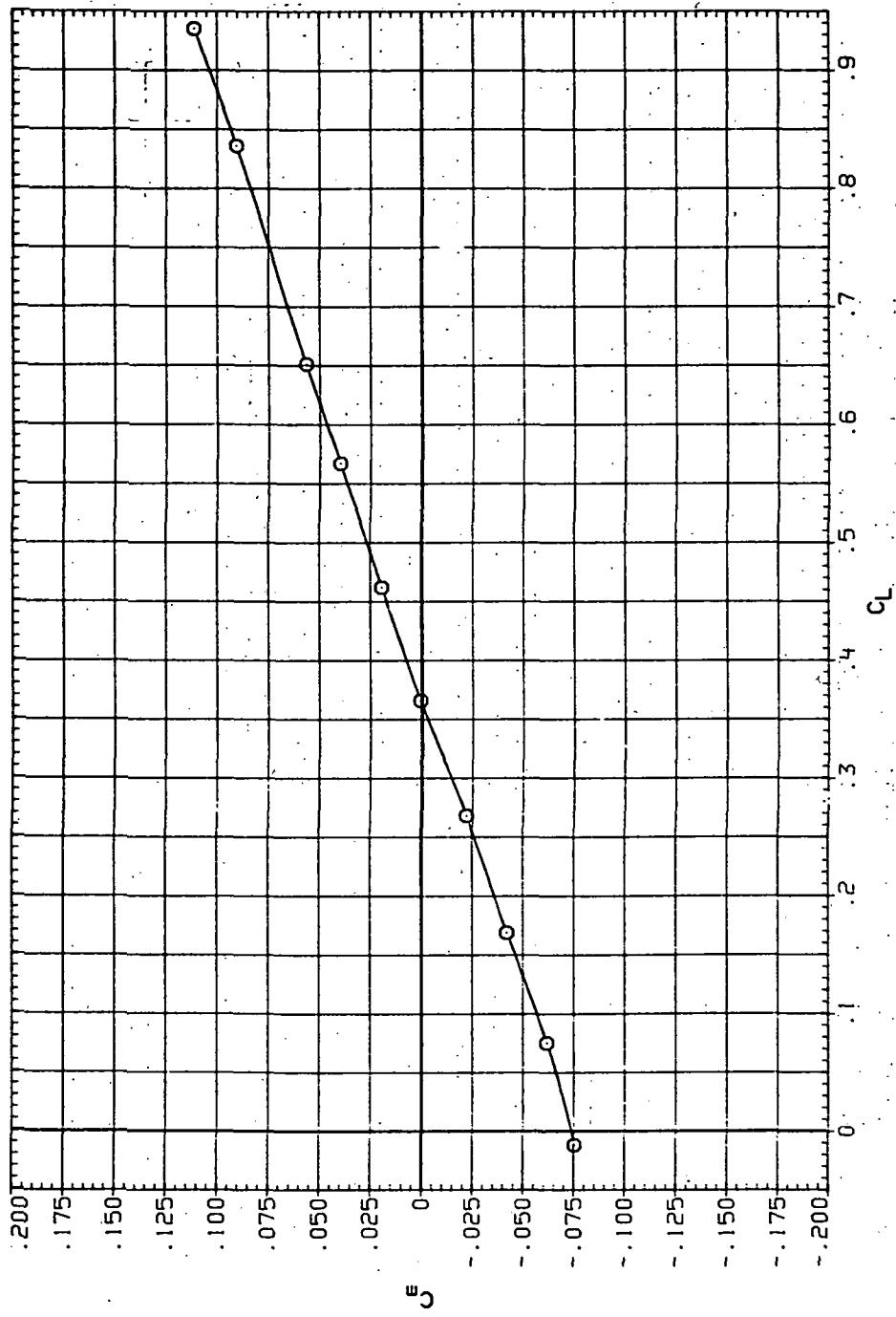
(b)  $C_D$  vs  $C_L$ .

Figure 45.—Continued.

DATA SET SYMBOL CONFIGURATION  
RJR003 O SH00B (AL)

RN/L QINSHI  
6.230 10.600

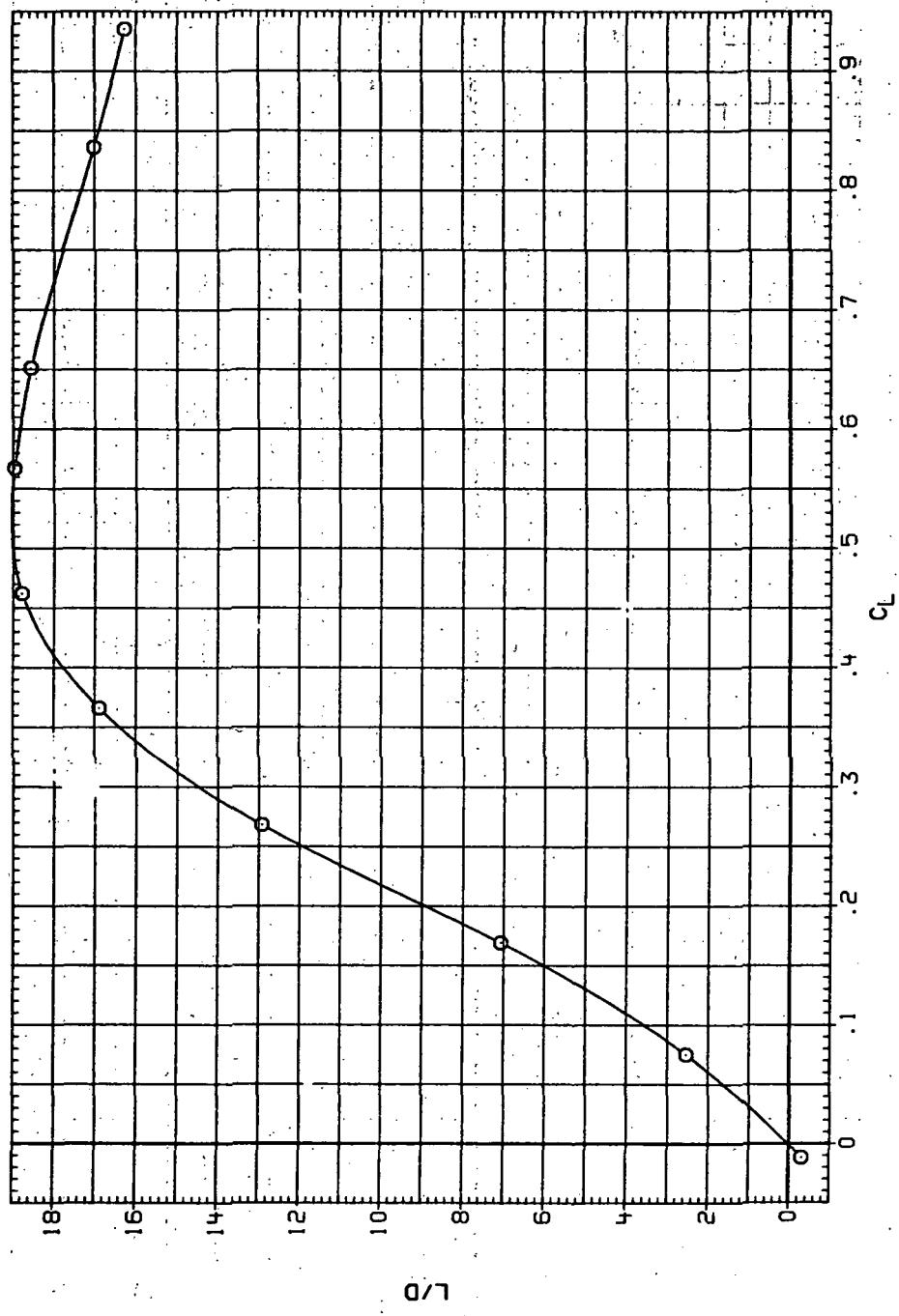


(c)  $C_m$  vs  $C_L$

Figure 45.— Continued.

DATA SET SYMBOL CONFIGURATION  
RJR003 O SHOB (AL)

RN/L Q(NSM)  
6.230 10.600

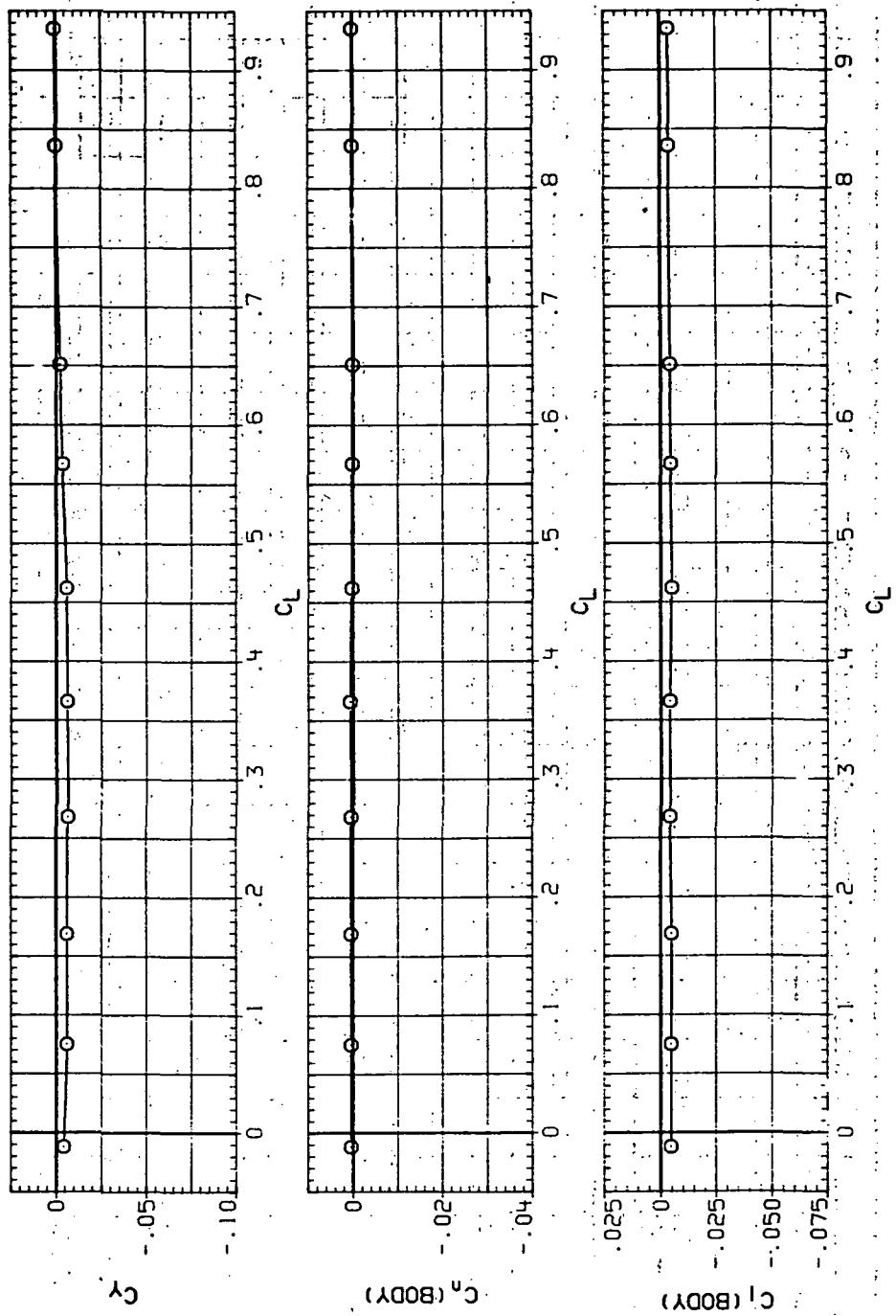


(d)  $L/D$  vs  $C_L$ .

Figure 45.—Continued.

DATA SET SYMBOL CONFIGURATION  
RJ003 O 90OB (AL)

RN/L Q (INCH)  
6.230 10.600

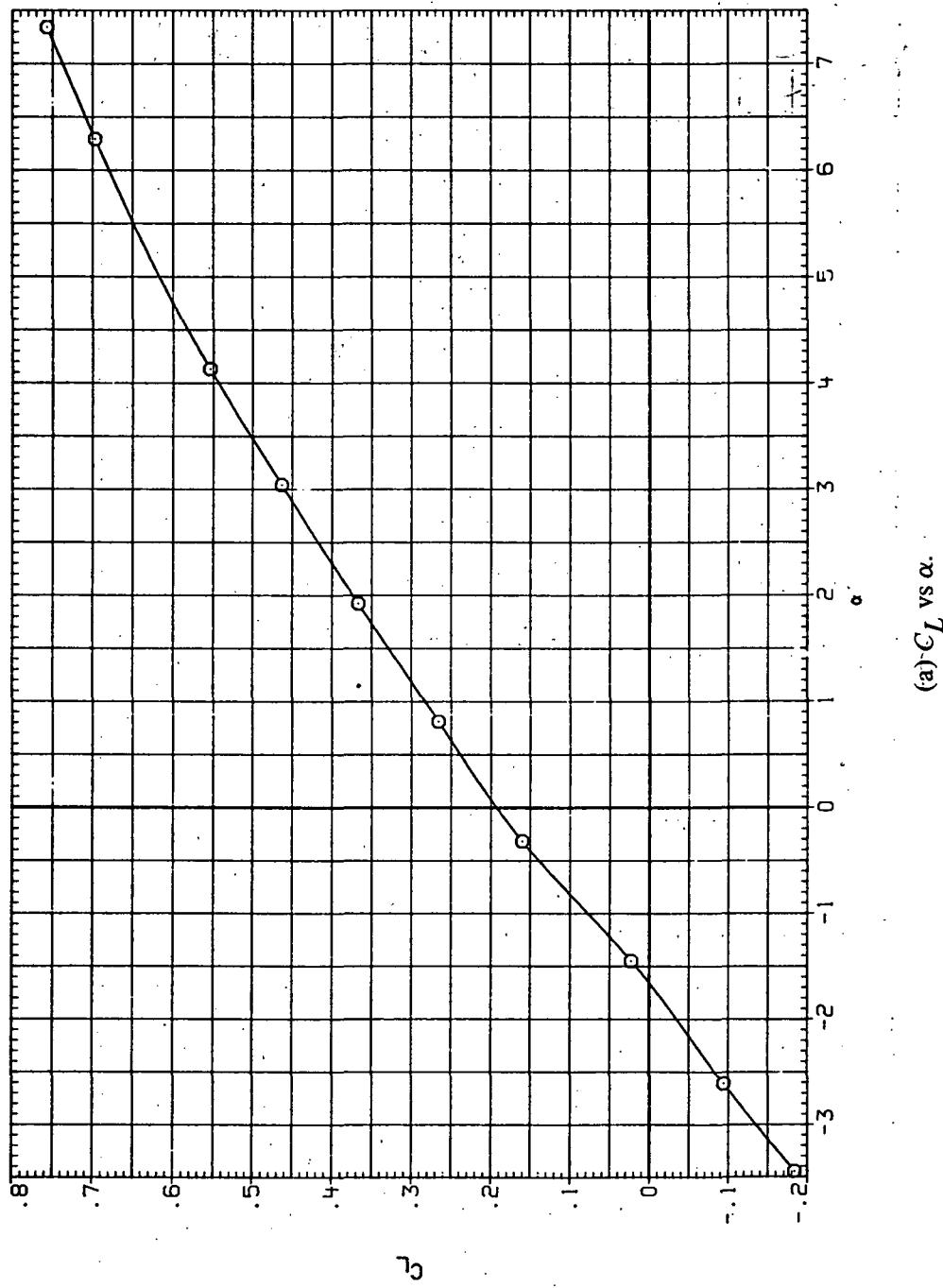


(e)  $C_Y$ ,  $C_n$  and  $C_I$  vs  $C_L$ .

Figure 45.— Concluded.

DATA SET SYMBOL CONFIGURATION  
RJRD04 O SHOB (AL)

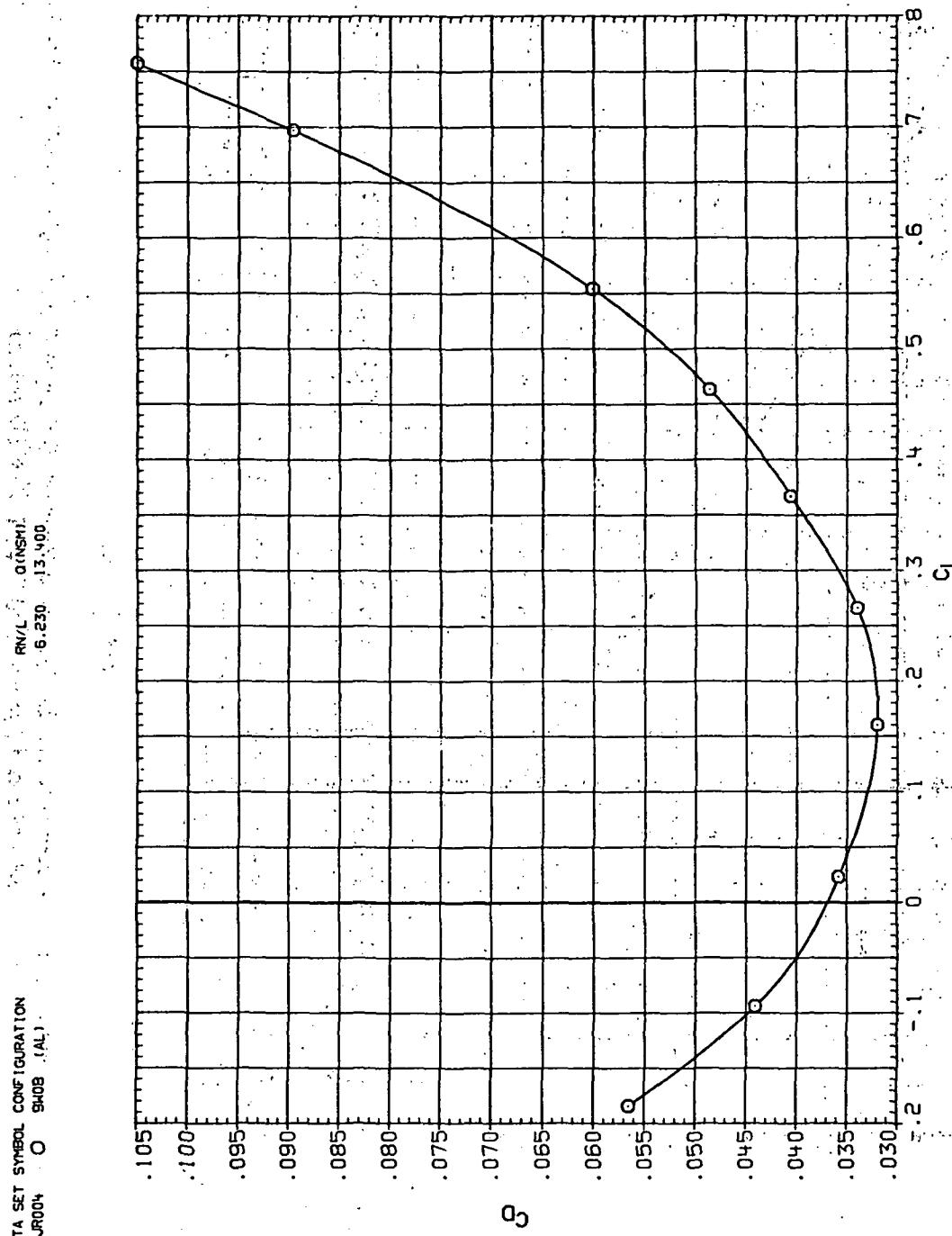
RN/L Q(NSM)  
6.230 15.400



(a)  $C_L$  vs  $\alpha$ .

Figure 46.— Aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 0$ ,  $M = 0.8$  and the modified NACA 65A204 airfoil).

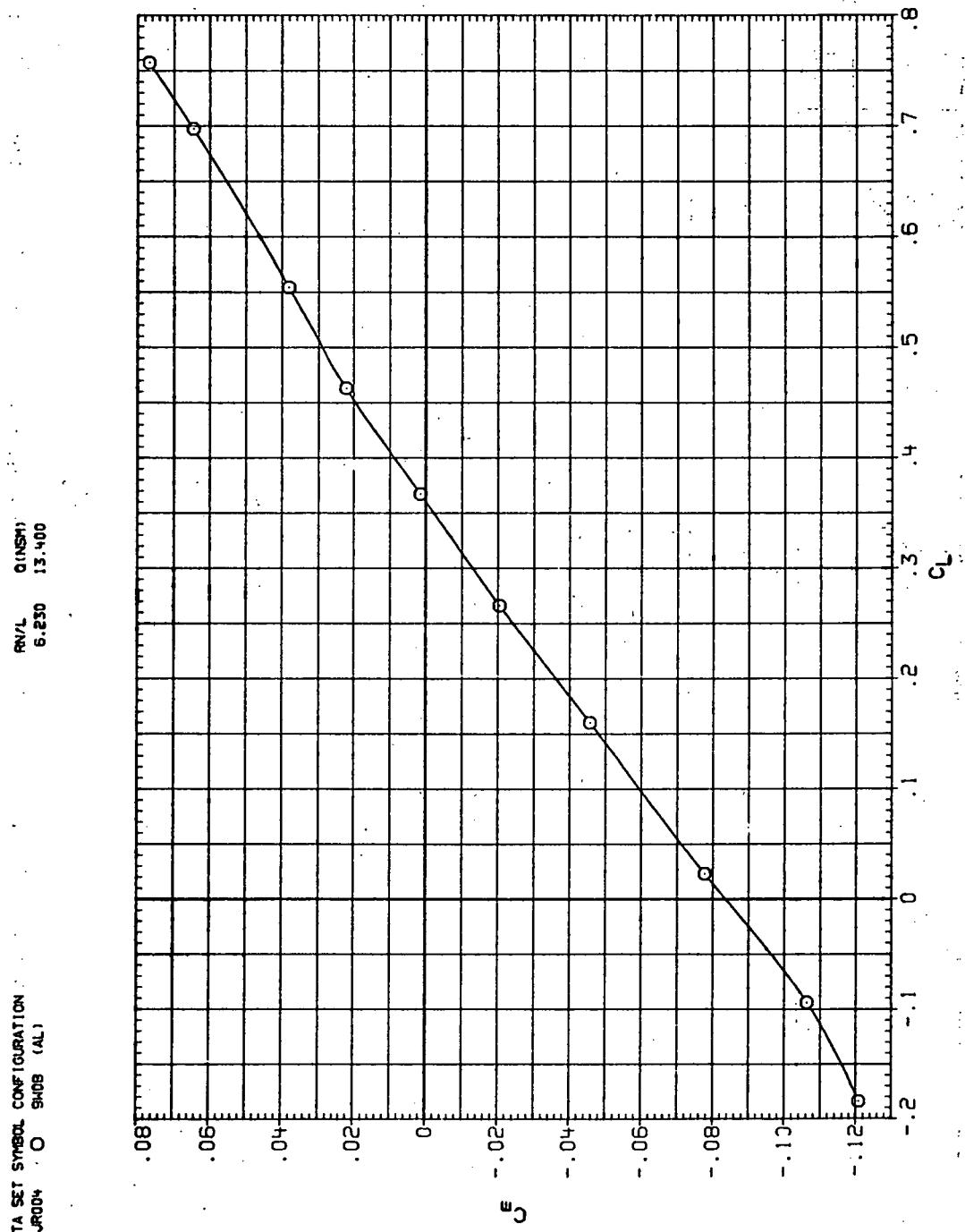
DATA SET SYMBOL CONFIGURATION  
RJRD04 S90B (AL)



(b)  $C_D$  vs  $C_L$ .

Figure 46.-Continued.

DATA SET SYMBOL CONFIGURATION  
RJRD04 O SH0B (AL)

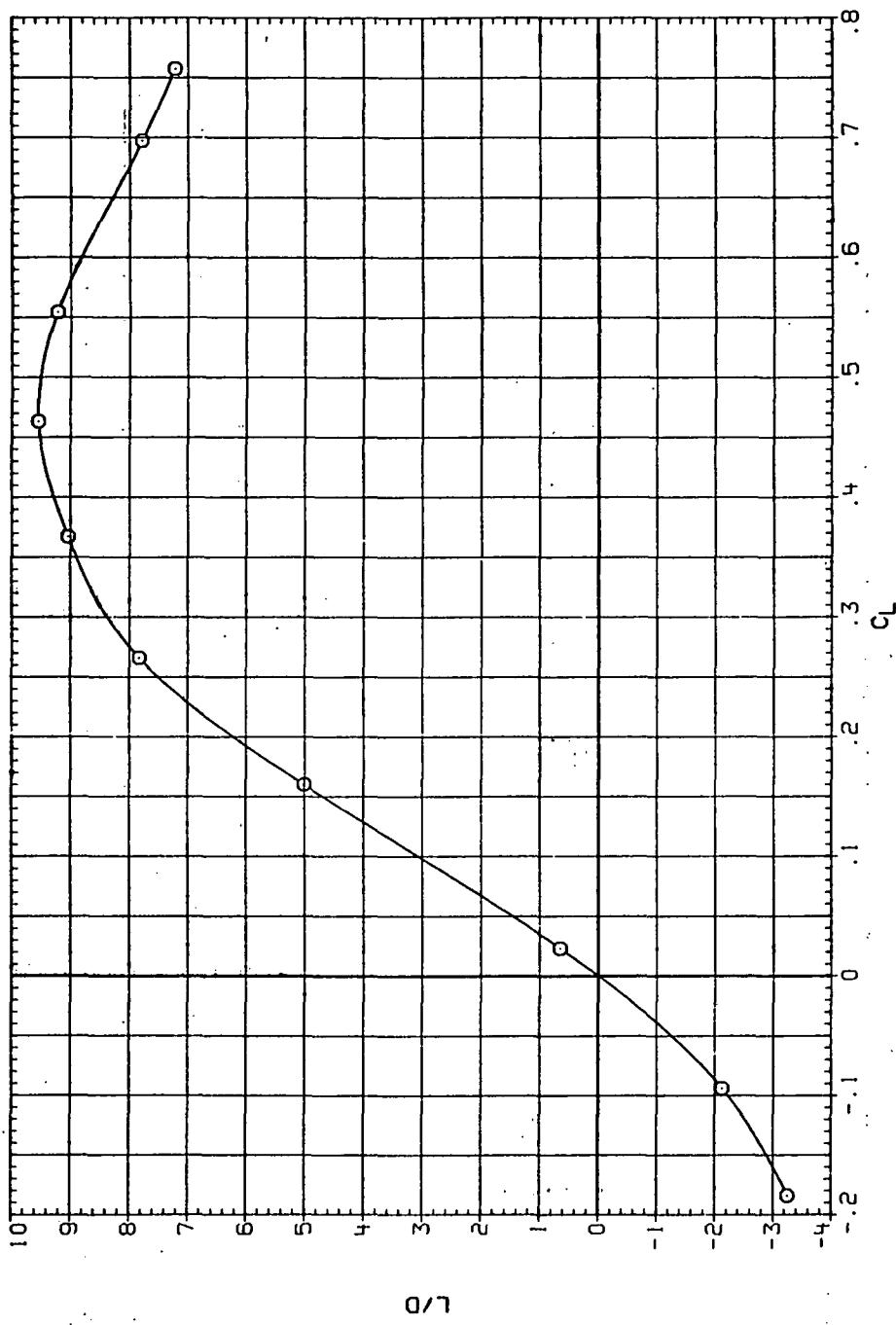


(c)  $C_m$  vs  $C_L$ .

Figure 46.—Continued.

DATA SET SYMBOL CONFIGURATION  
RJ004 O SHOB (AL)

RN/L Q(NSM)  
6.230 13.400

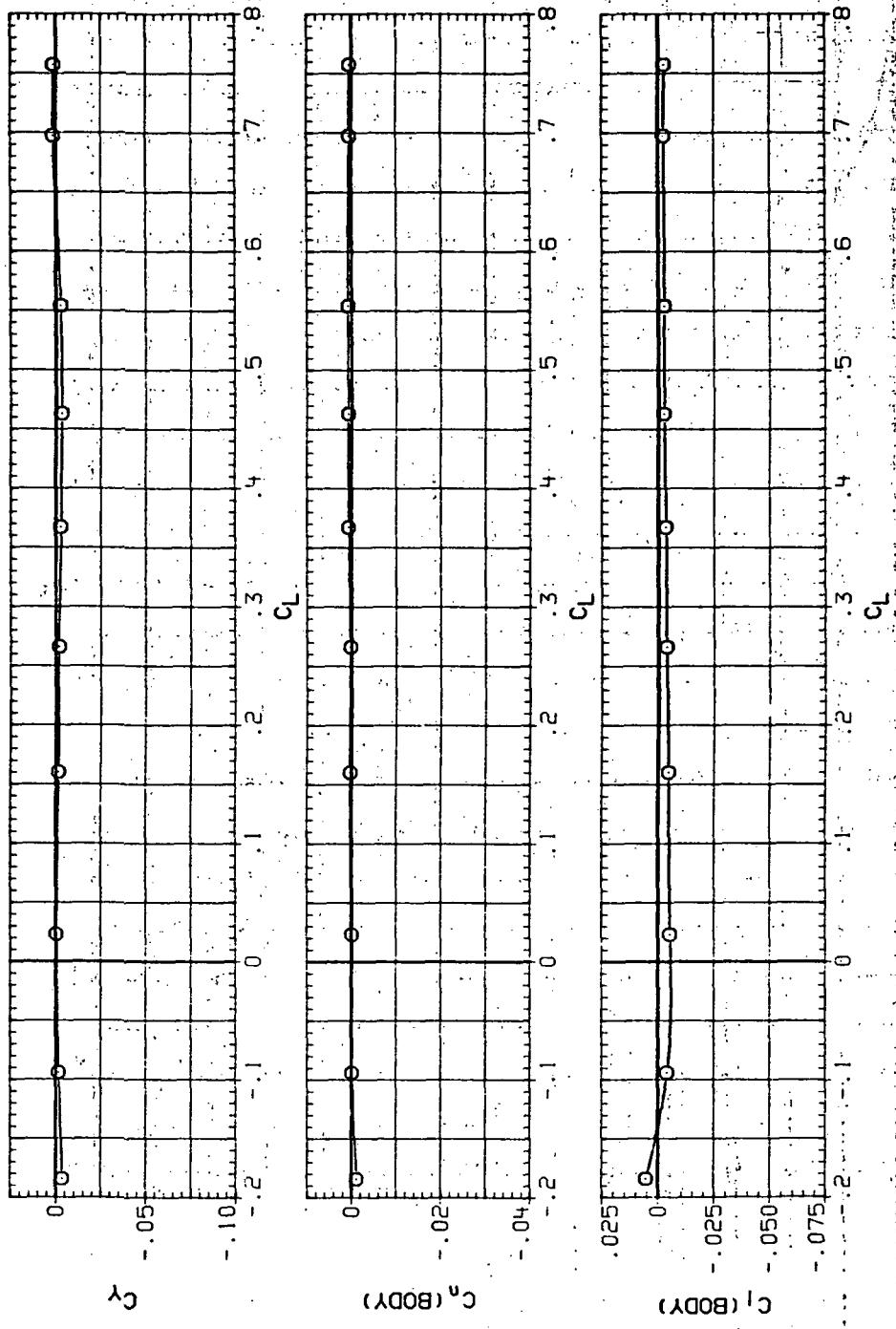


(d)  $L/D$  vs  $C_L$ .

Figure 46.—Continued.

DATA SET SYMBOL CONFIGURATION  
RJRD04 O SH08 (AL)

RN/LT DASHED ON SHM 6:230 13:00

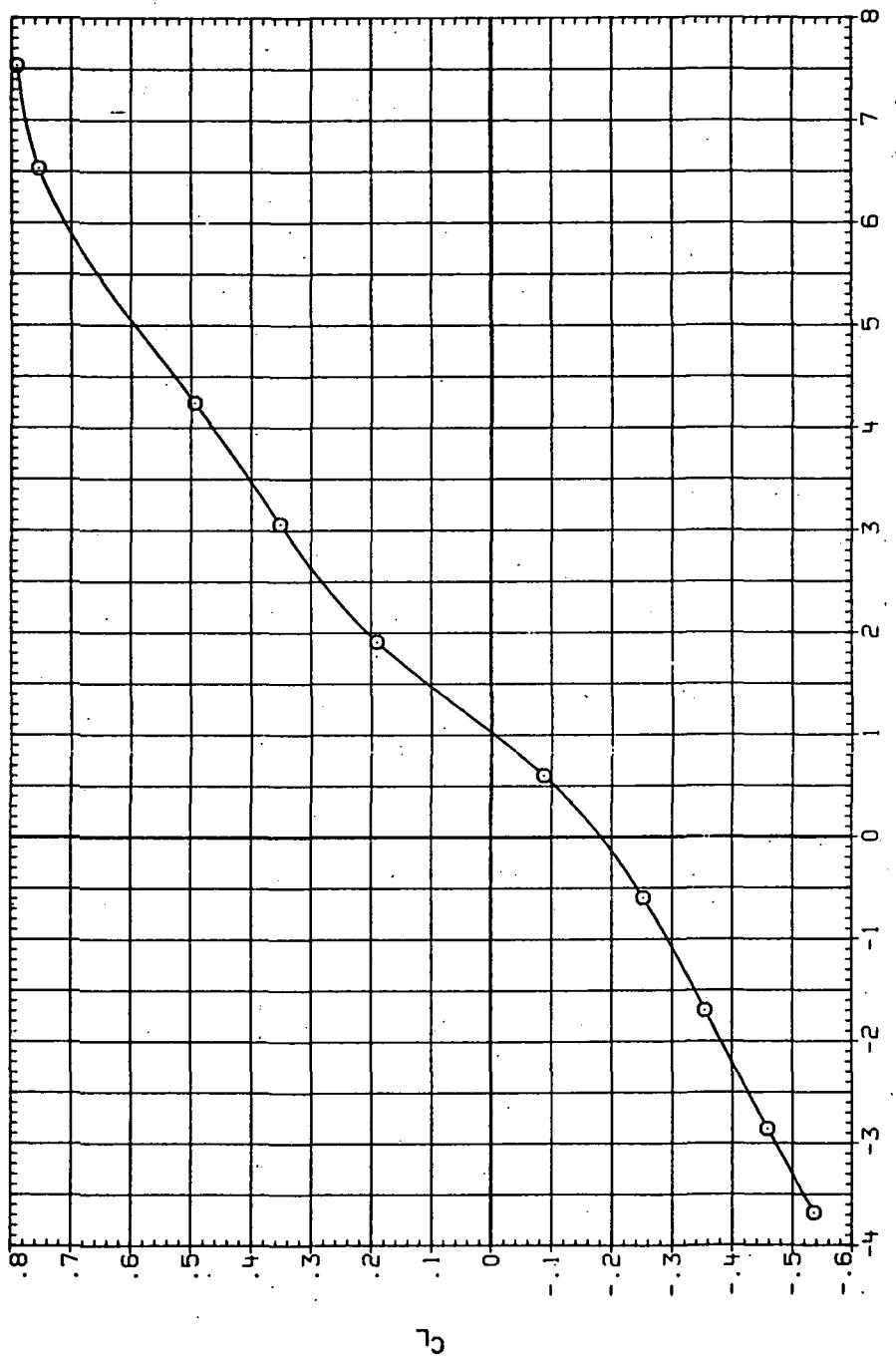


(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

Figure 46.—Concluded.

DATA SET SYMBOL CONFIGURATION  
RJR005 O SHOB (AL)

RN/L C(NSM)  
6.230 14.500

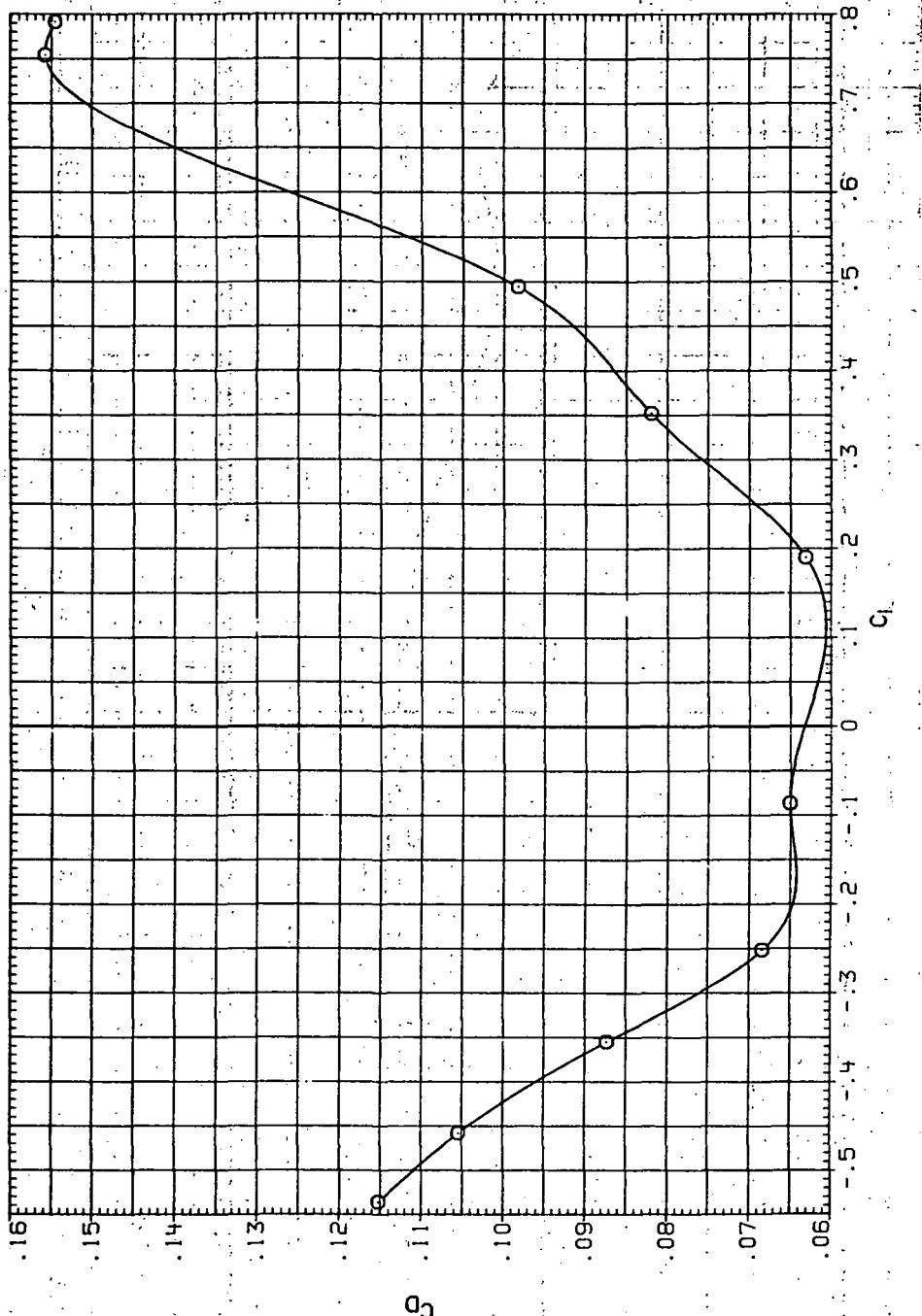


(a)  $C_L$  vs  $\alpha$ .

Figure 47.— Aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 0$ ,  $M = 0.9$  and the modified NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
RJR005 O .908 (AL)

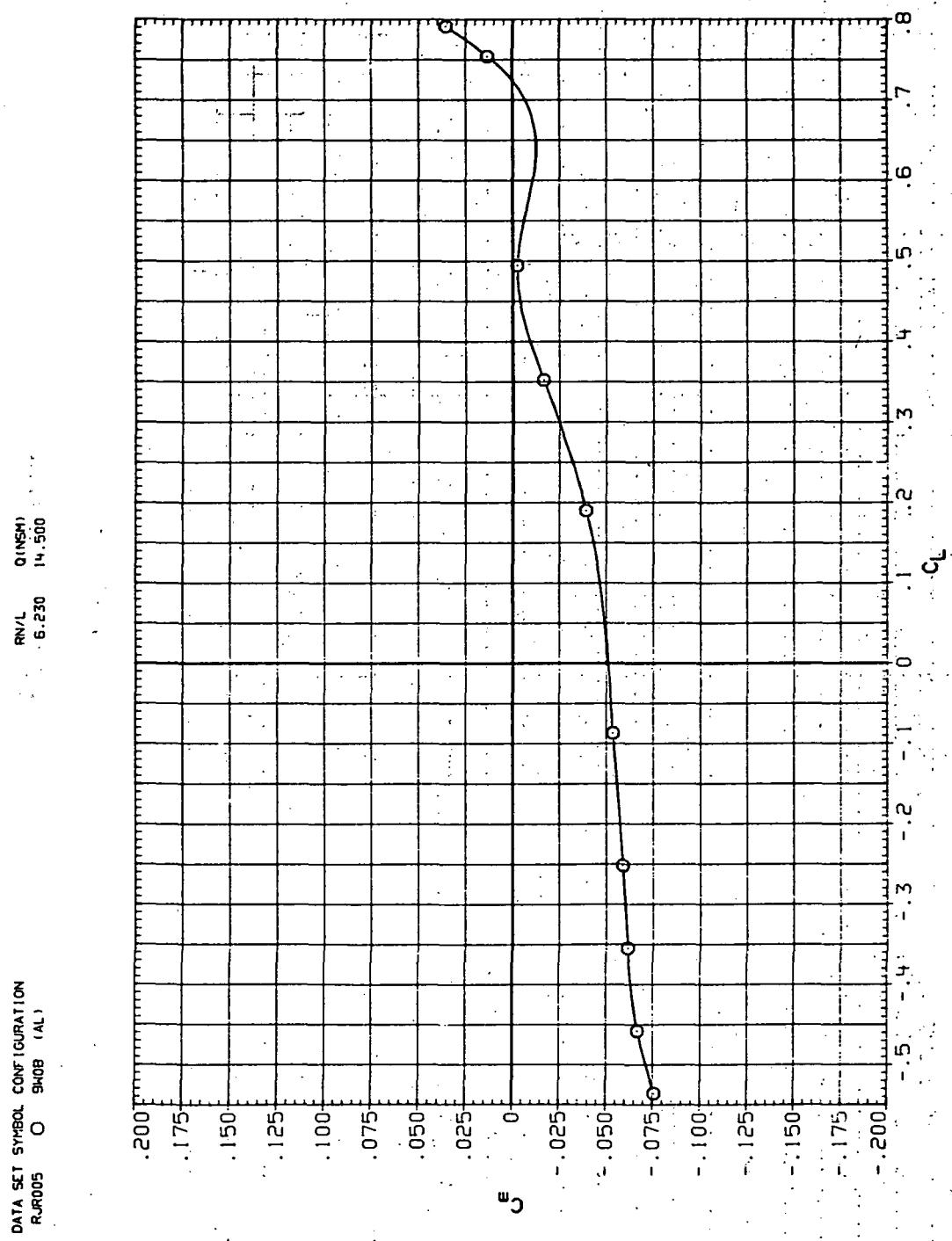
RN/L Q(NSM)  
6.230 14.500



(b)  $C_D$  vs  $C_L$ .

Figure 47.—Continued.

DATA SET SYMBOL CONFIGURATION  
RJR005 O GNDB (AL)

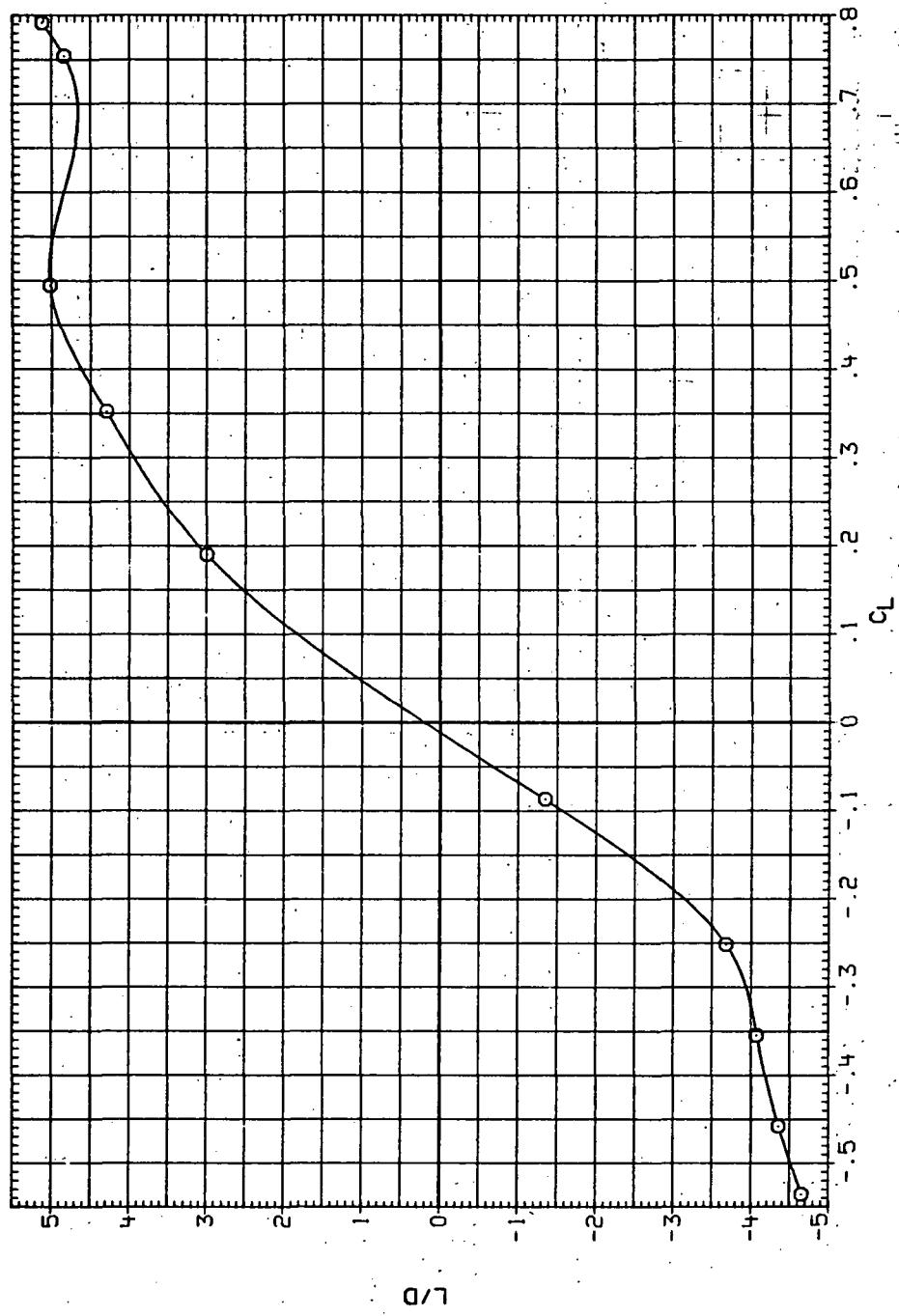


(c)  $C_m$  vs  $C_L$ .

Figure 47.—Continued.

DATA SET SYMBOL CONFIGURATION  
RJ005 O SHOB (AL)

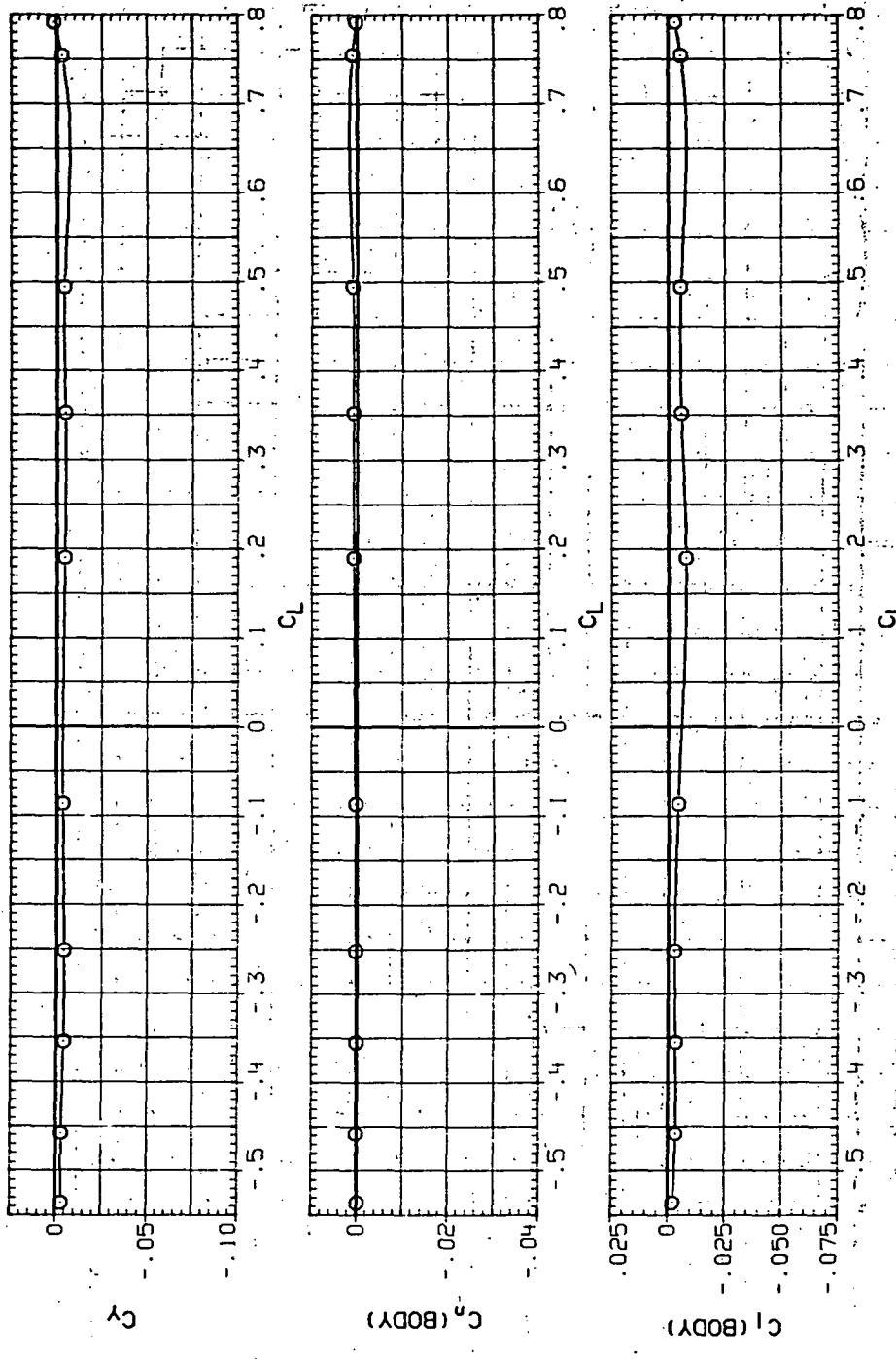
RN/L Q(NSM)  
6.230 14.500



(d)  $L/D$  vs  $C_L$ .

Figure 47.—Continued.

DATA SET SYMBOL CONFIGURATION  
RJR005 O SHOB (AL) 6.230 14,500

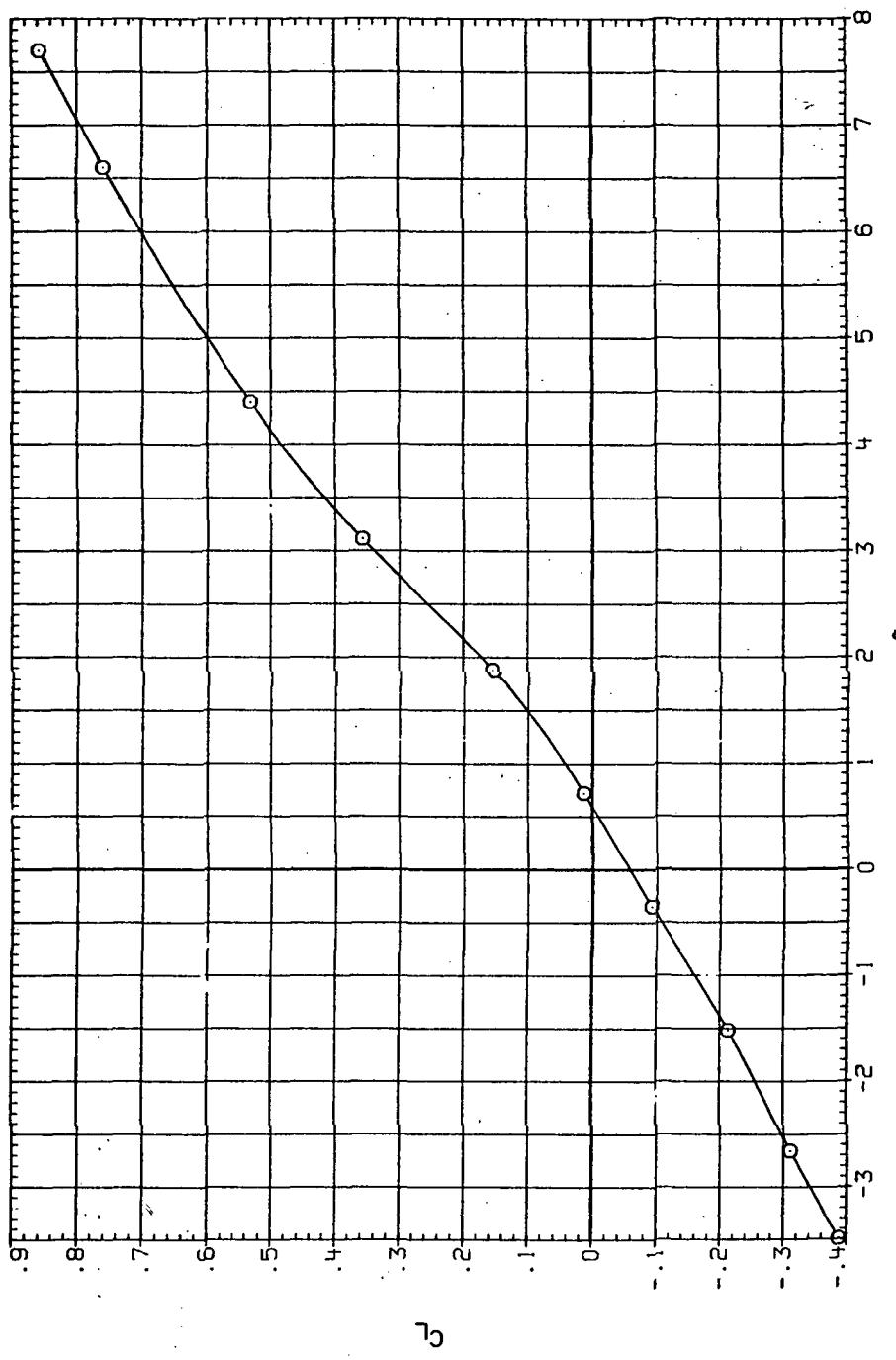


(e)  $C_Y$ ,  $C_g$  and  $C_l$  vs  $C_L$ .

Figure 47.—Concluded.

DATA SET SYMBOL CONFIGURATION  
RJRD6 O SHOB (AL)

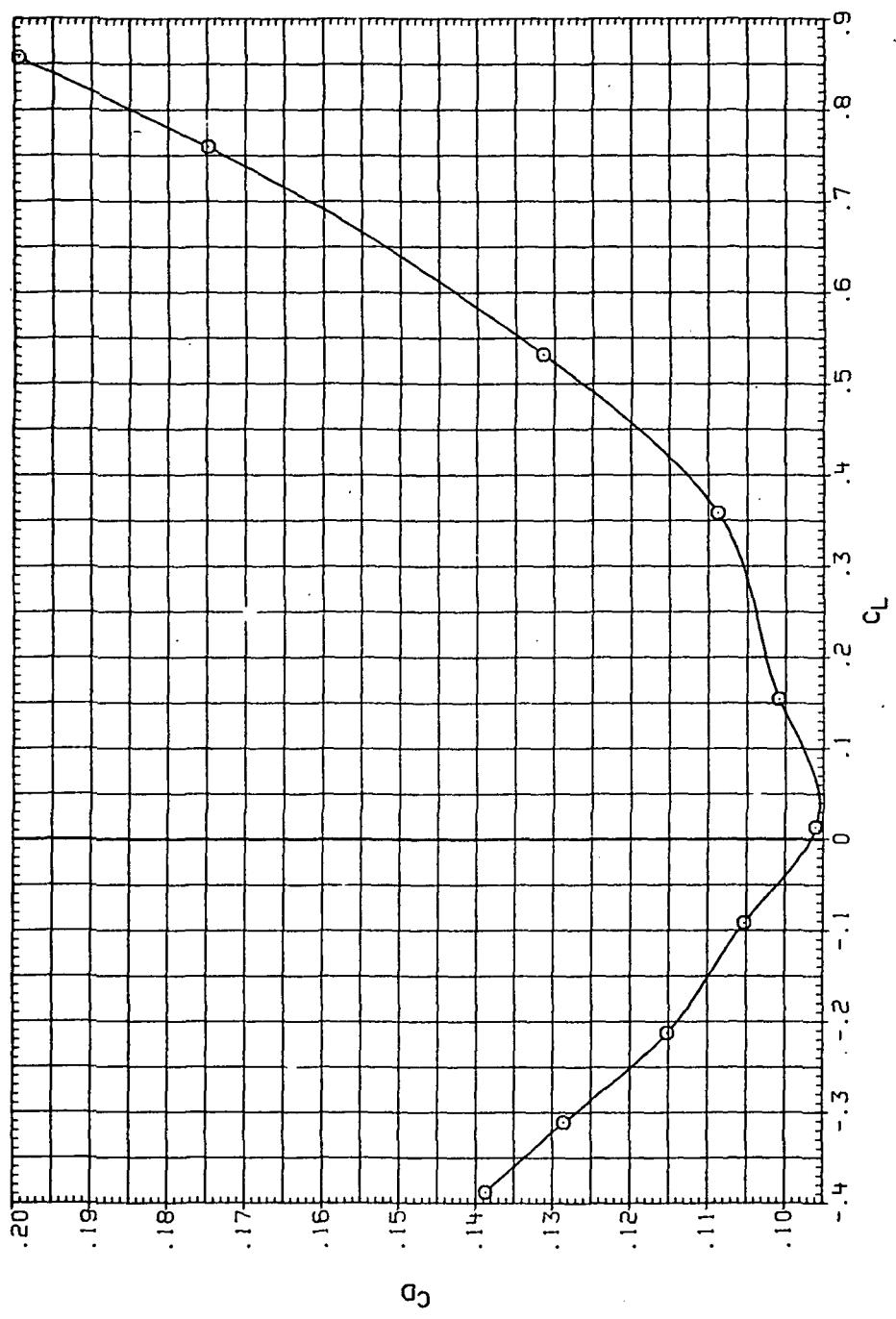
R/V/L 6.230 Q(NSM) 15.000



(a)  $C_L$  vs  $\alpha$ .

Figure 48.— Aerodynamic characteristics of the aluminum trapezoidal oblique wing-body combination ( $\Lambda = 0$ ,  $M = 0.95$  and the modified NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
RJRD05 S40B (AL)  
RN/L Q(NSM) 15.000

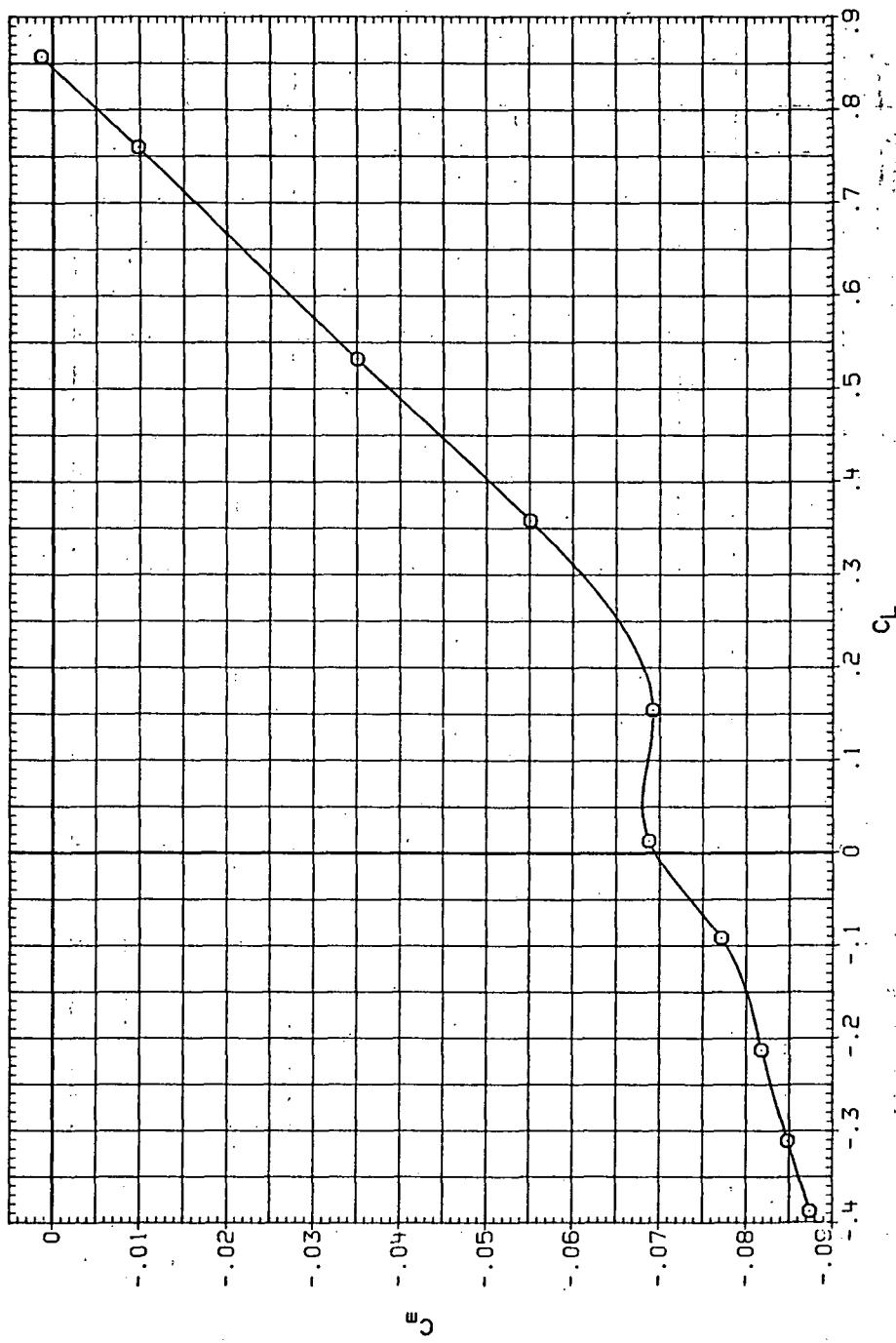


(b)  $C_D$  vs  $C_L$ .

Figure 48.—Continued.

DATA SET SYMBOL CONFIGURATION  
RJRD6 O 9408 (AL)

RNVL (NSM)  
6.230 15.000

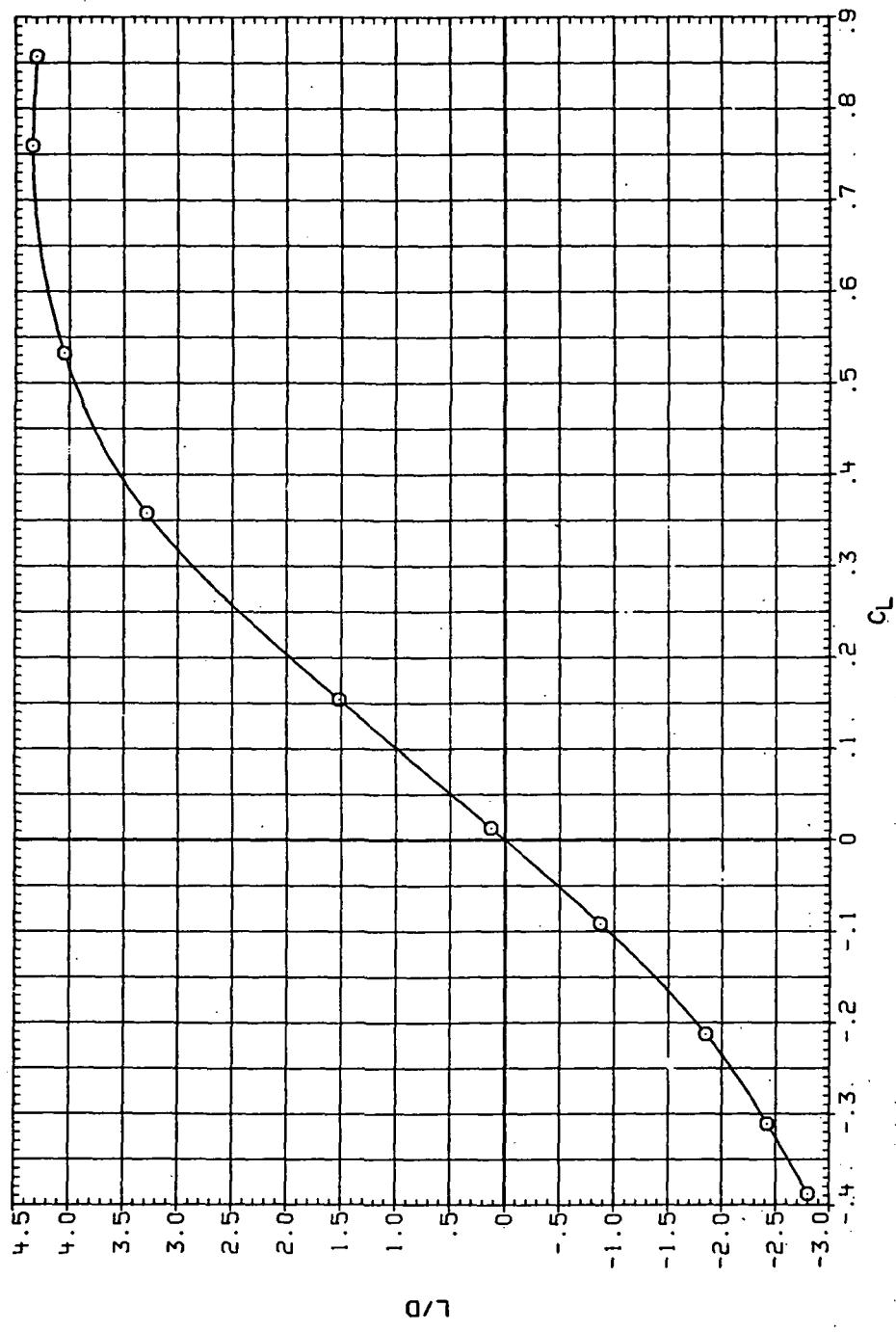


(c)  $C_m$  vs  $C_L$ .

Figure 48.—Continued.

DATA SET SYMBOL CONFIGURATION  
RUR005 O SHOB (AL)

RNL Q(1.5M)  
6.230 15.000

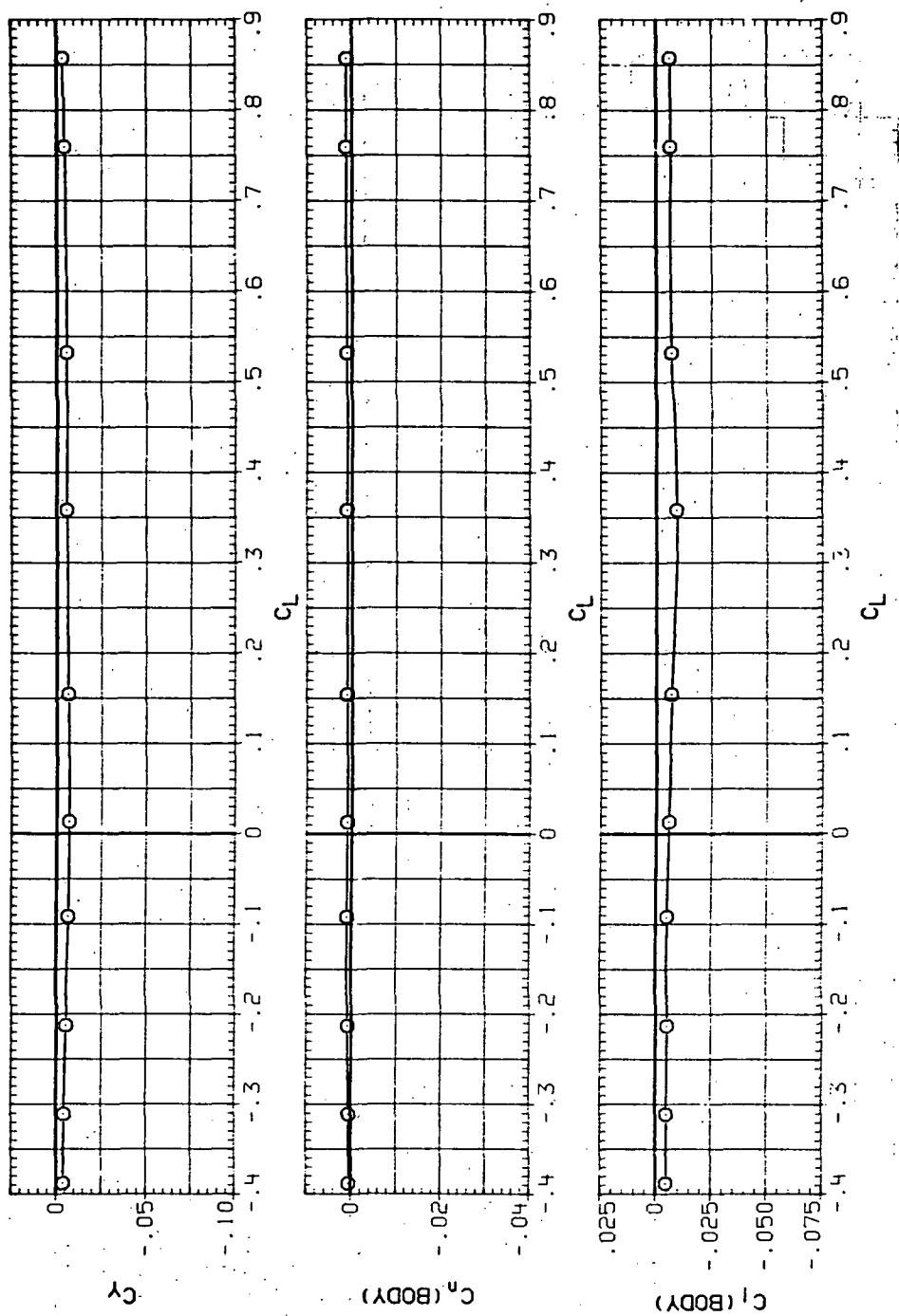


(d)  $L/D$  vs  $C_L$ .

Figure 48.—Continued.

DATA SET SYMBOL CONFIGURATION  
RJ006 O SHOB (AL)

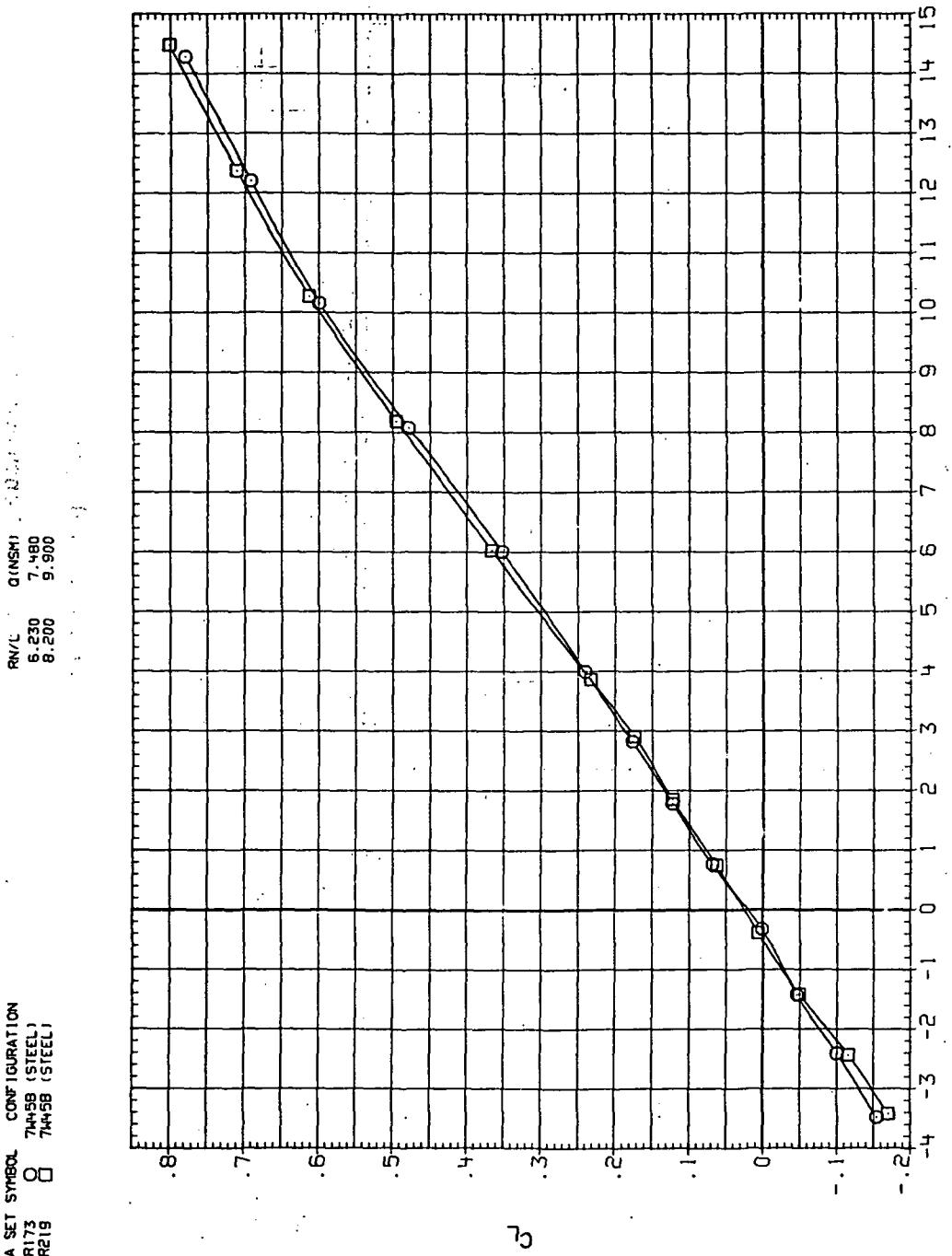
RN/L Q(NSM)  
6.230 15,000



(e)  $C_Y$ ,  $C_n$  and  $C_1$  vs  $C_L$ .

Figure 48.— Concluded.

DATA SET SYMBOL CONFIGURATION  
 RJR173 O 7445B (STEEL)  
 RJR219 □ 7445B (STEEL)



(a)  $C_L$  vs  $\alpha$ .

Figure 49.— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 45^\circ$ ,  $M = 0.4$  and the NACA 65A204 airfoil).

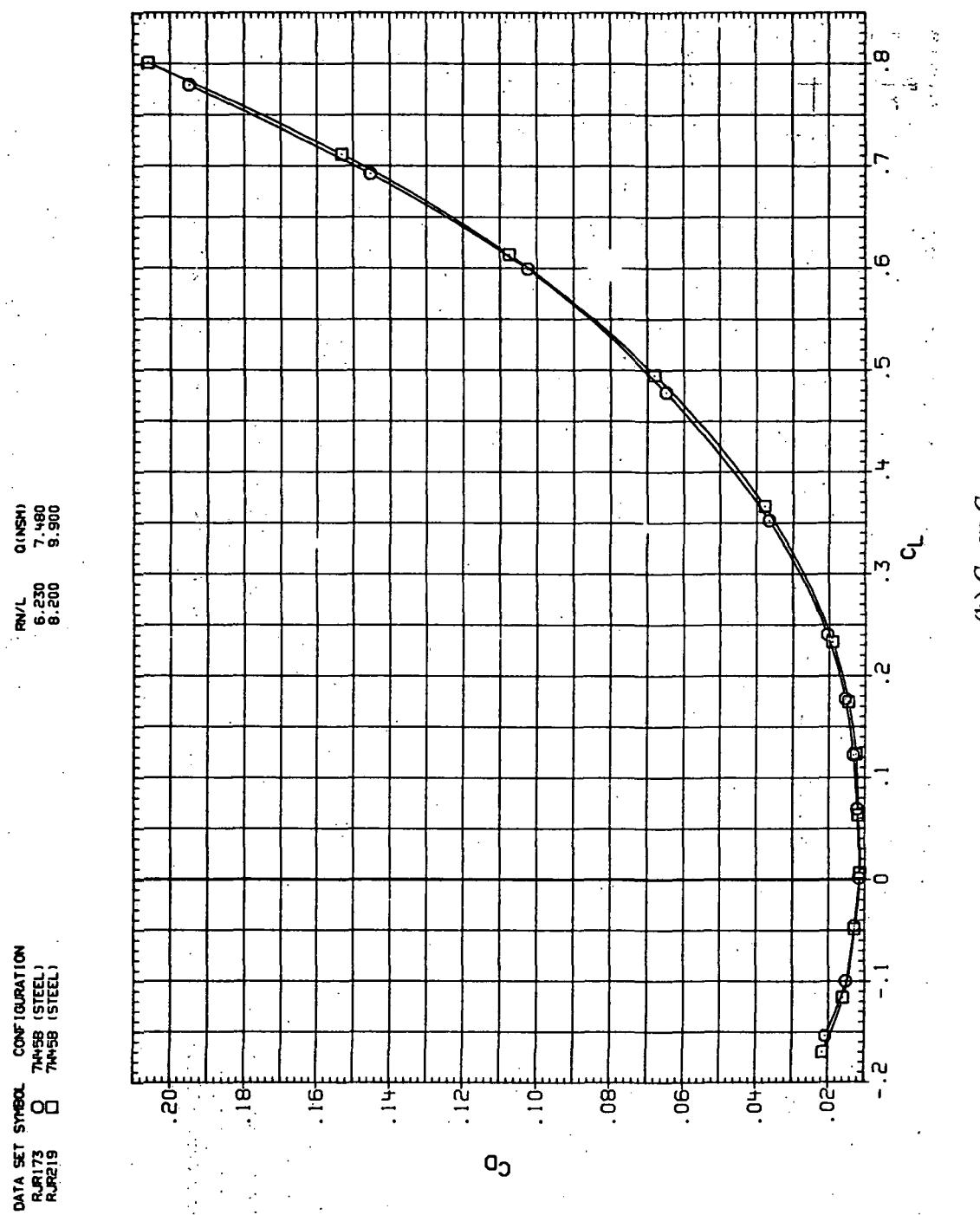
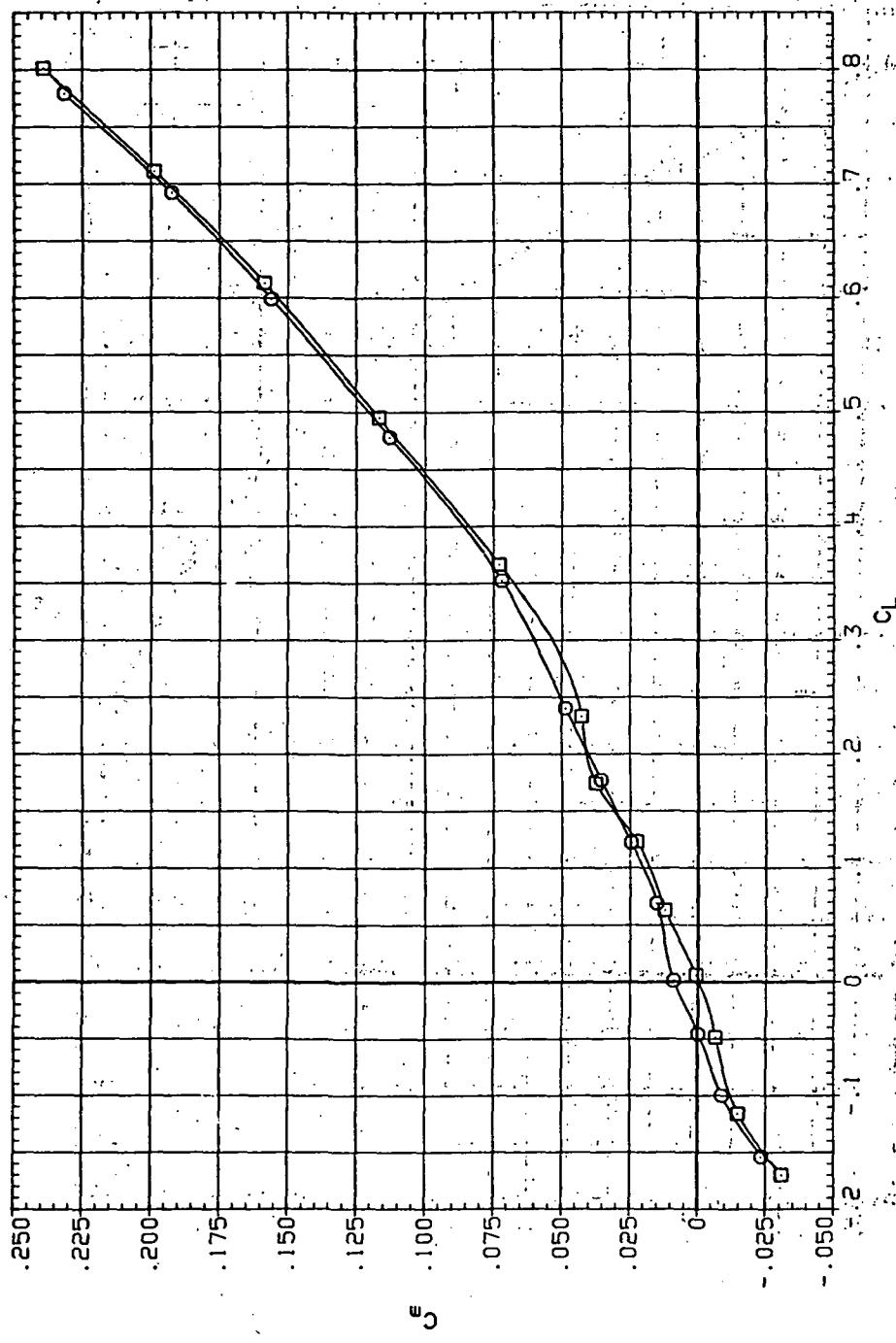


Figure 49.— Continued.

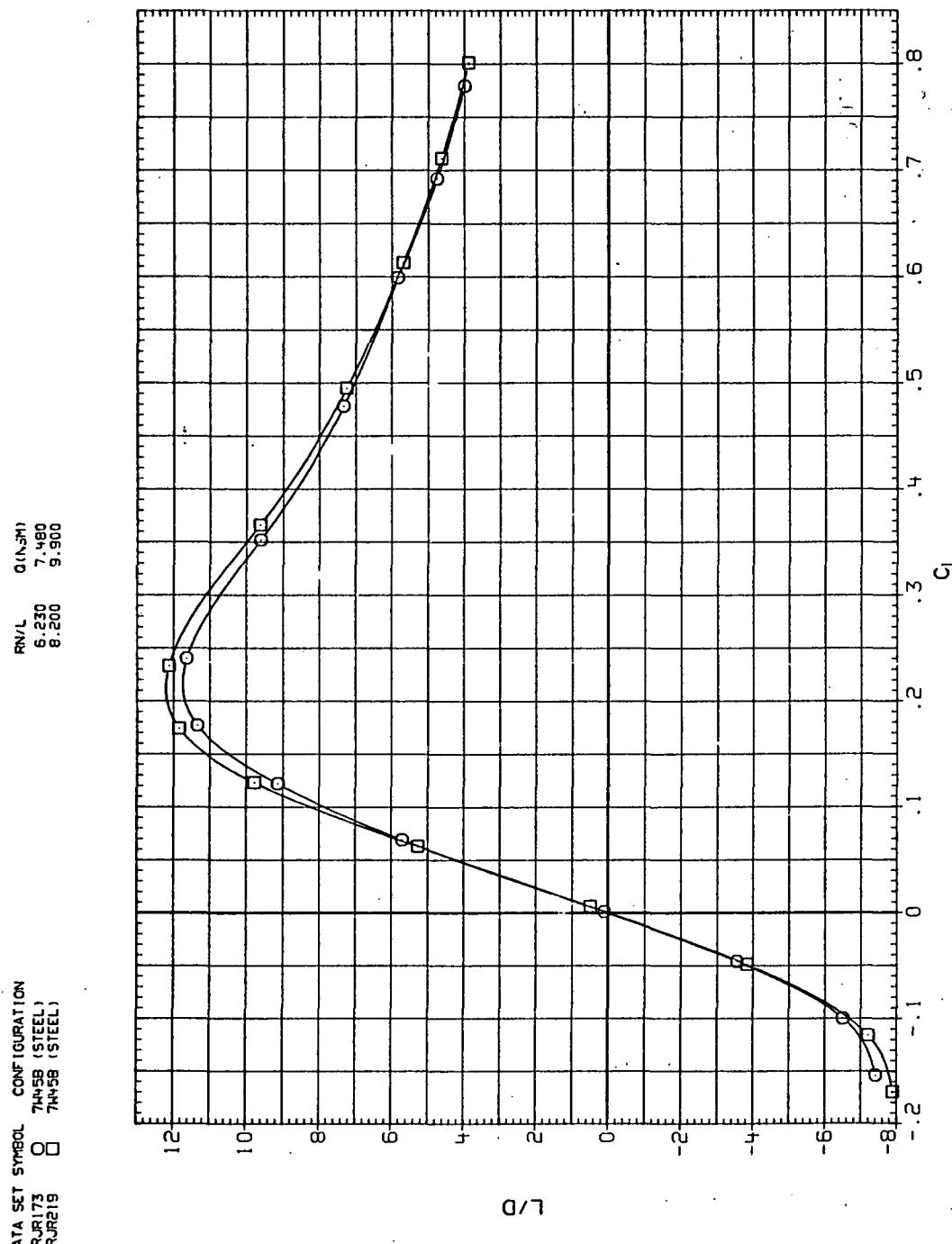
DATA SET SYMBOL CONFIGURATION  
 RJR173 O 744SB (STEEL)  
 RJR219 □ 744SB (STEEL)

RIV L QINSHI  
 6.230 7.480  
 8.200 9.900



(c)  $C_m$  vs  $C_L$ .

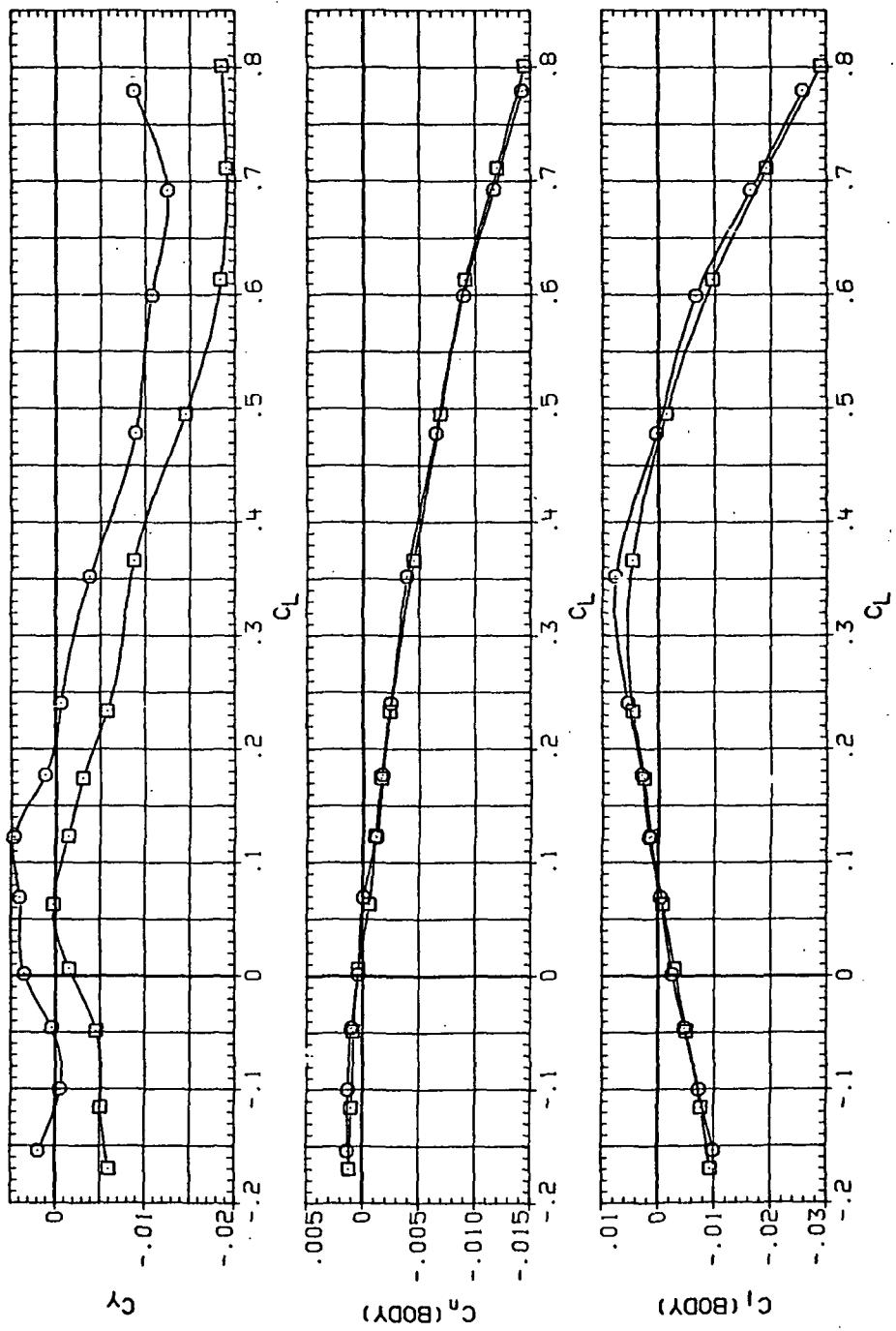
Figure 49.—Continued.



(d)  $L/D$  vs  $C_L$ .

Figure 49.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RNR173 7445B (STEEL)  
 RNR219 7445B (STEEL)



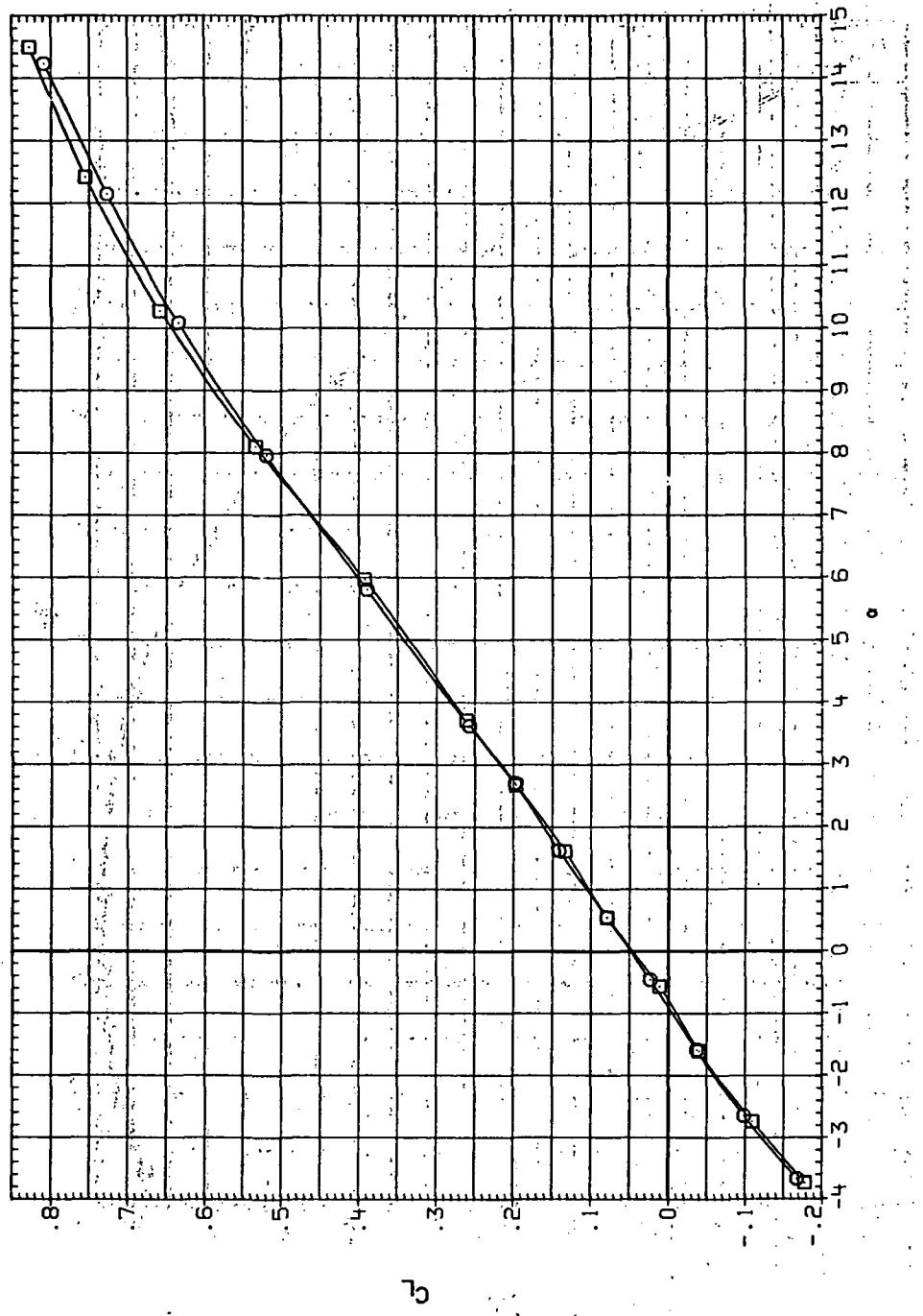
(e)  $C_Y$ ,  $C_n$  and  $C_Q$  vs  $C_L$ .

Figure 49.— Concluded.

DATA SET SYMBOL CONFIGURATION

RJ174	O	745B (STEEL)
RJR220	□	745B (STEEL)

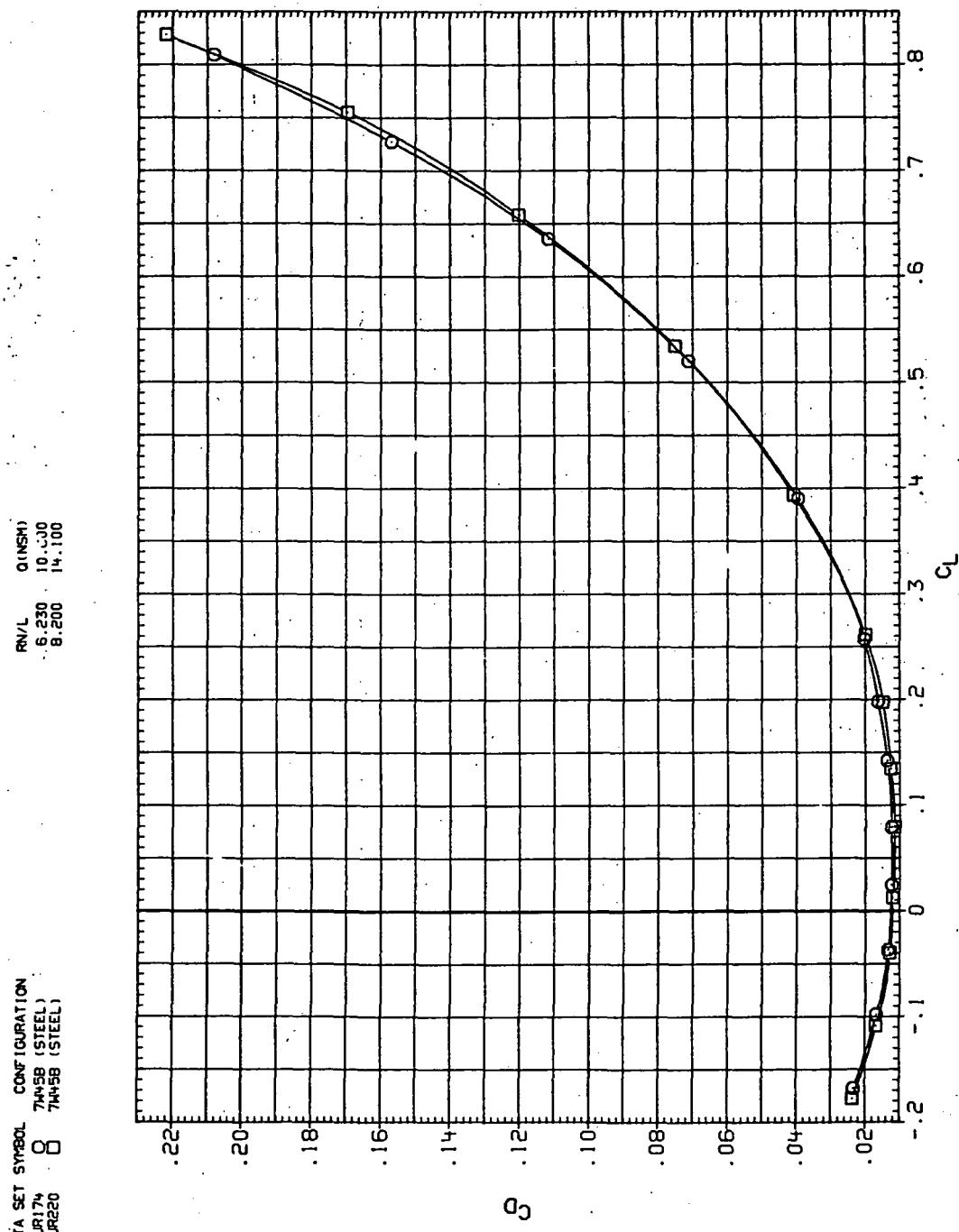
RNVL Q(NSM)  
6.230 13.600  
8.200 14.100



(a)  $C_L$  vs  $\alpha$ .

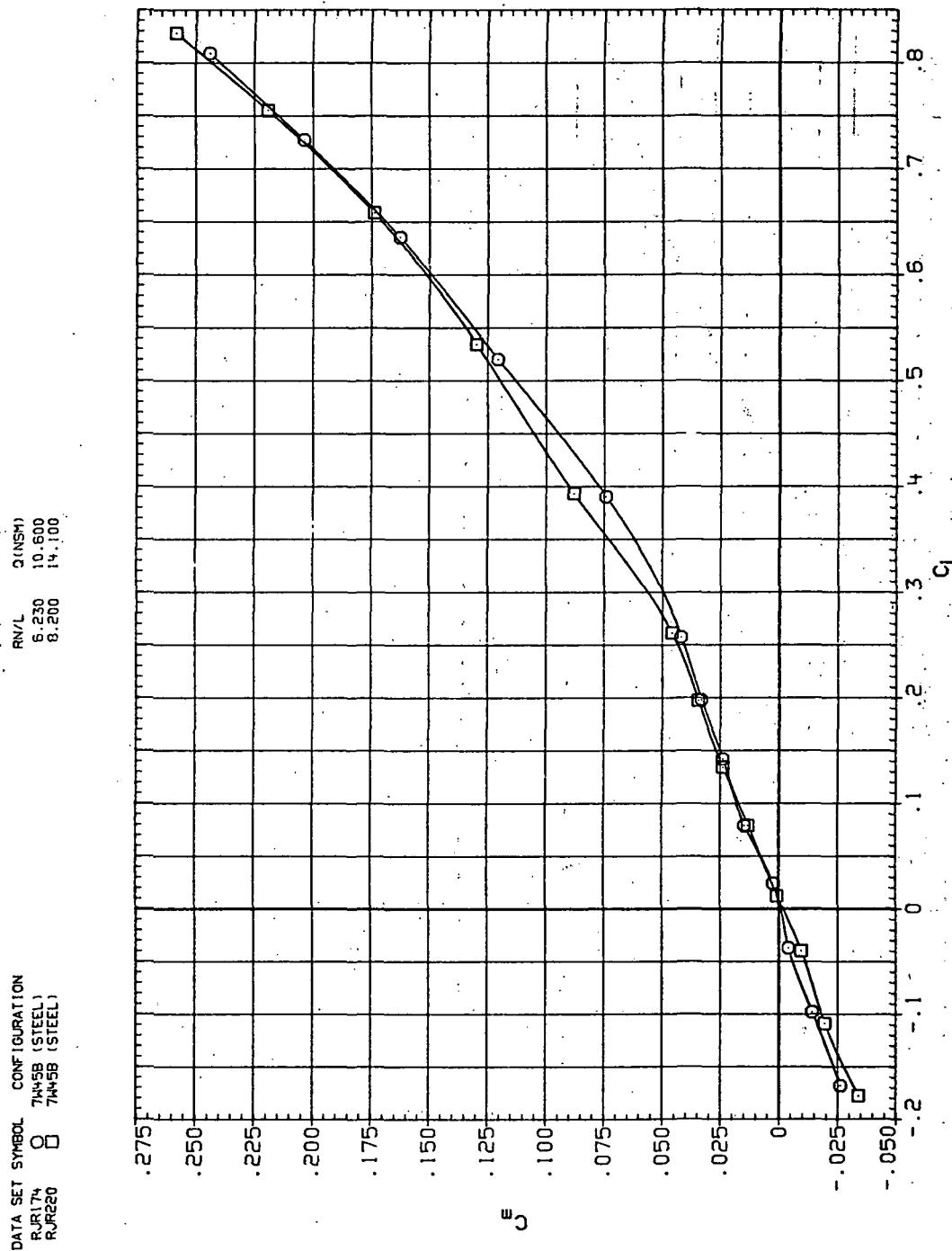
Figure 50:— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 45^\circ$ ,  $M = 0.6$  and the NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 RJR17% O 744SB (STEEL)  
 RJR220 □ 744SB (STEEL)



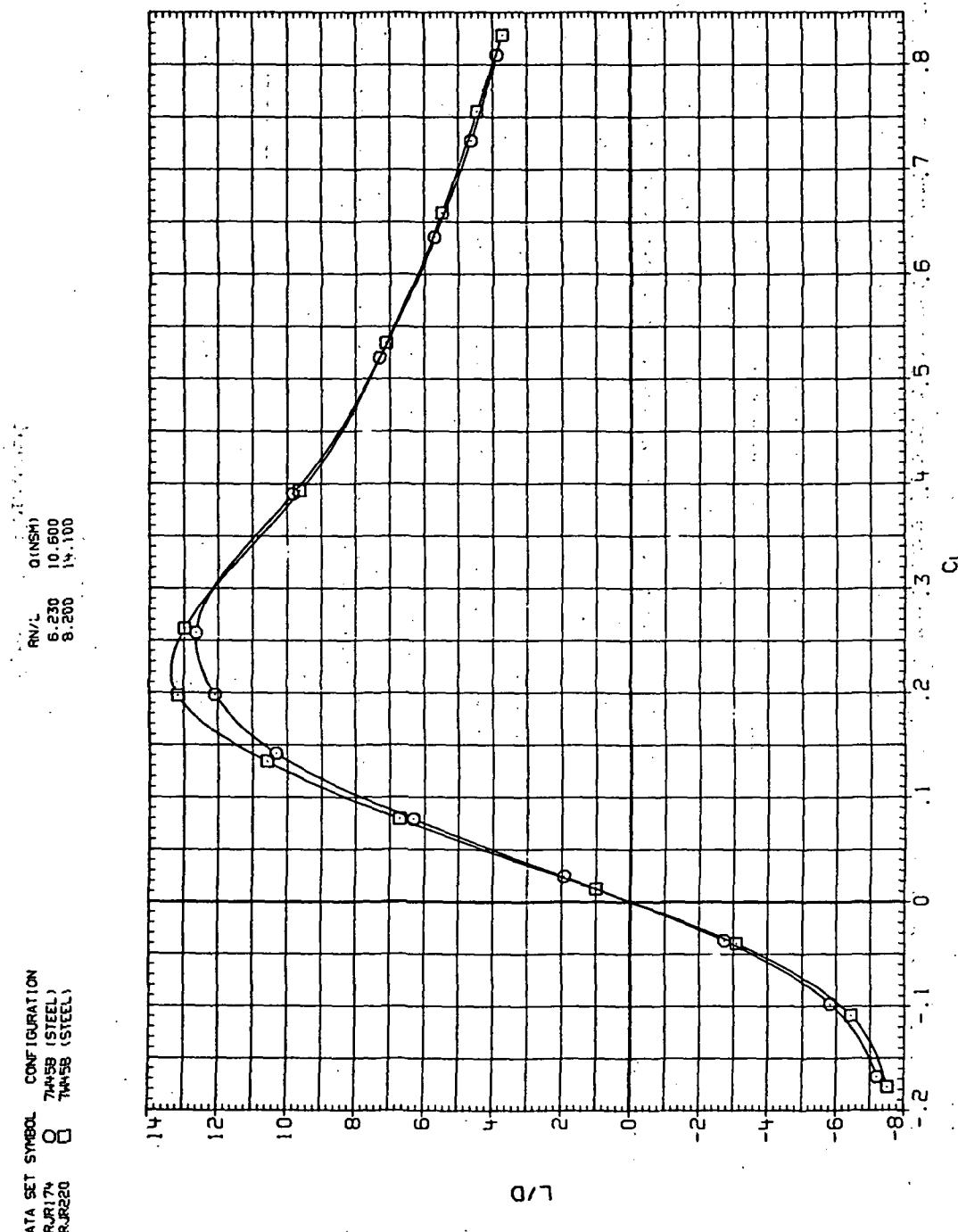
(b)  $C_D$  vs  $C_L$ .

Figure 50.—Continued.



(c)  $C_m$  vs  $C_L$ .

Figure 50.—Continued.

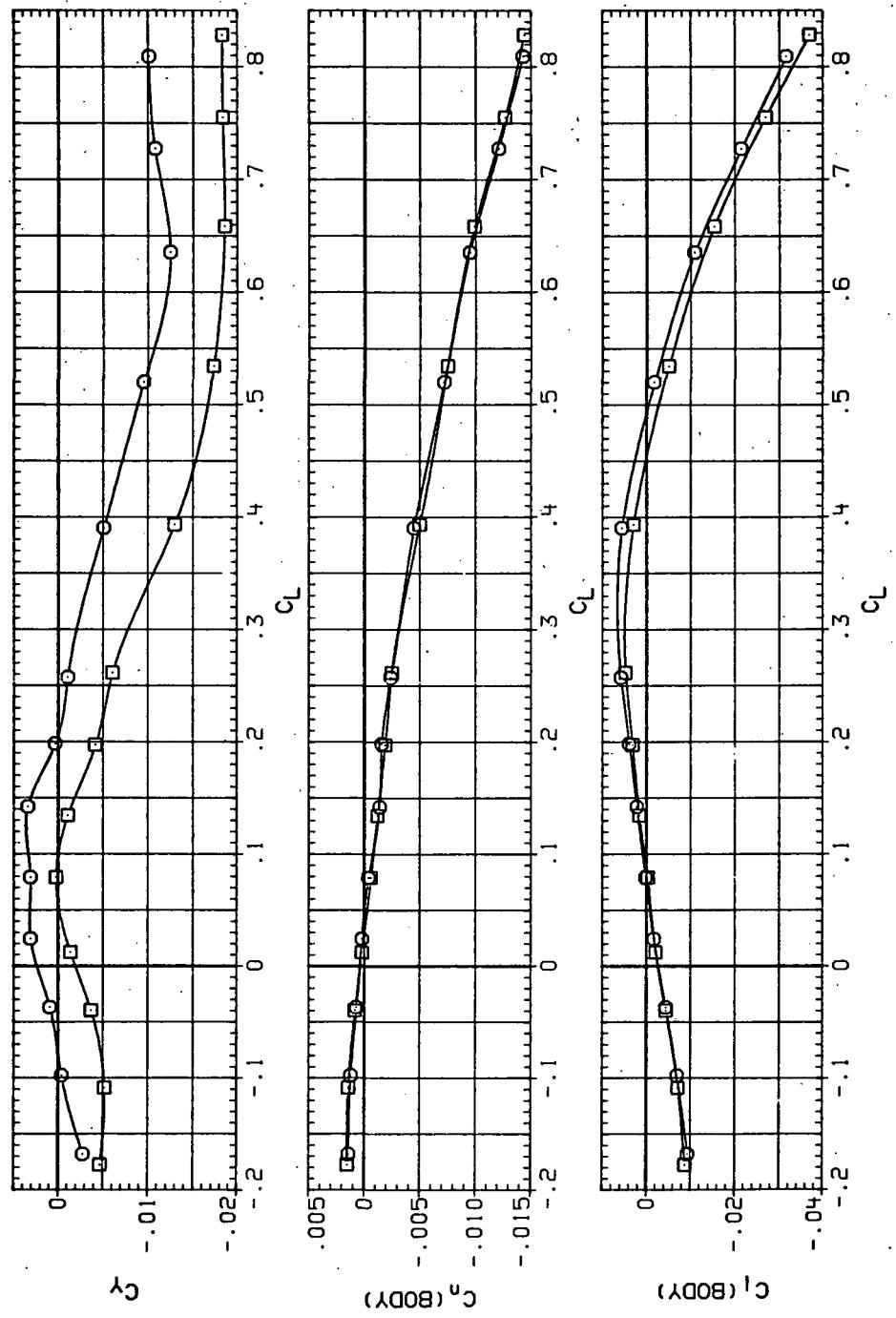


(d)  $L/D$  vs  $C_L$ .

Figure 50.— Continued.

DATA SET SYMBOL CONFIGURATION  
 RUR179 O 7H45B (STEEL)  
 RJR220 □ 7H45B (STEEL)

R/V/L Q(NSM)  
 6.230 10,600  
 8.200 14,100

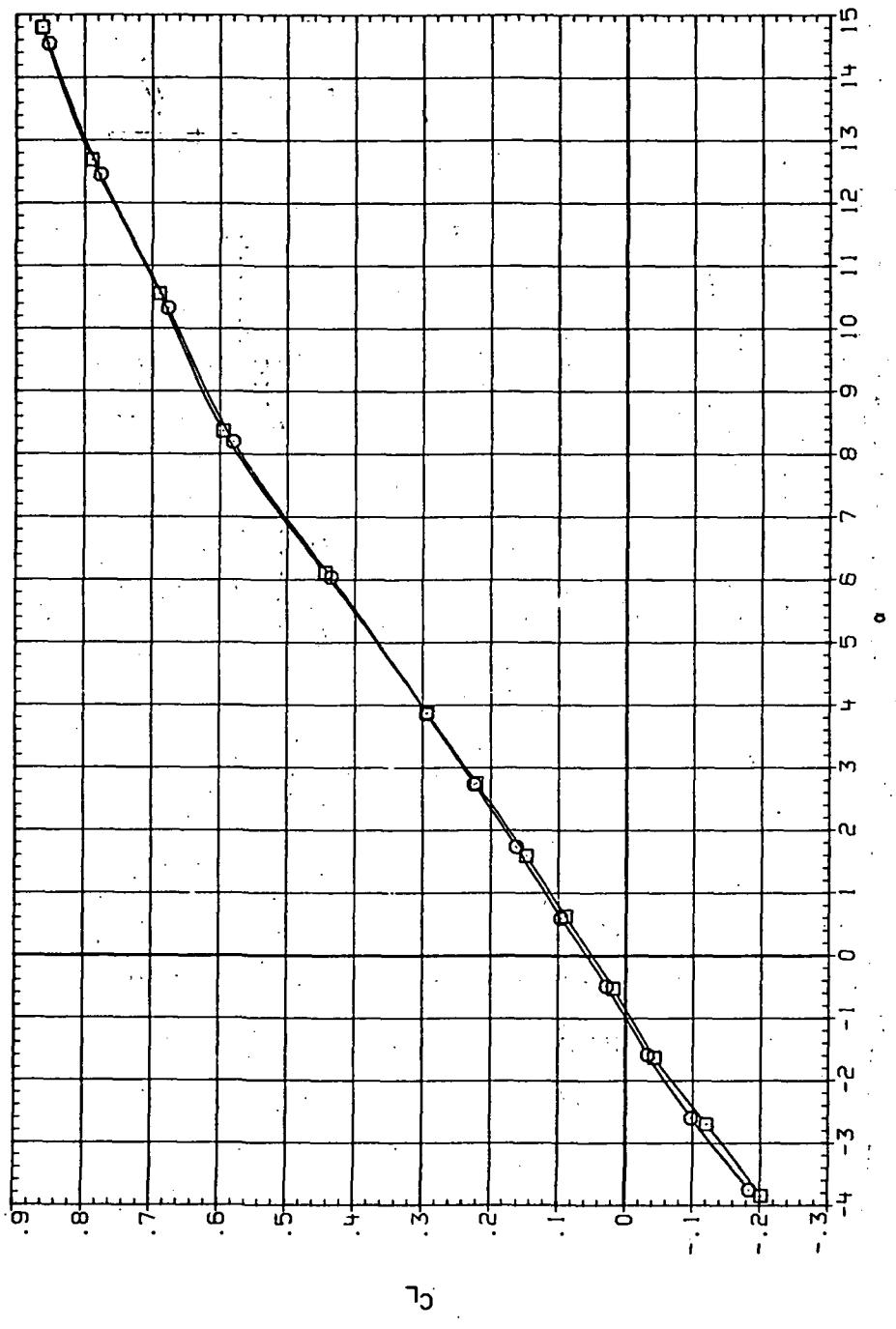


(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

Figure 50.—Concluded.

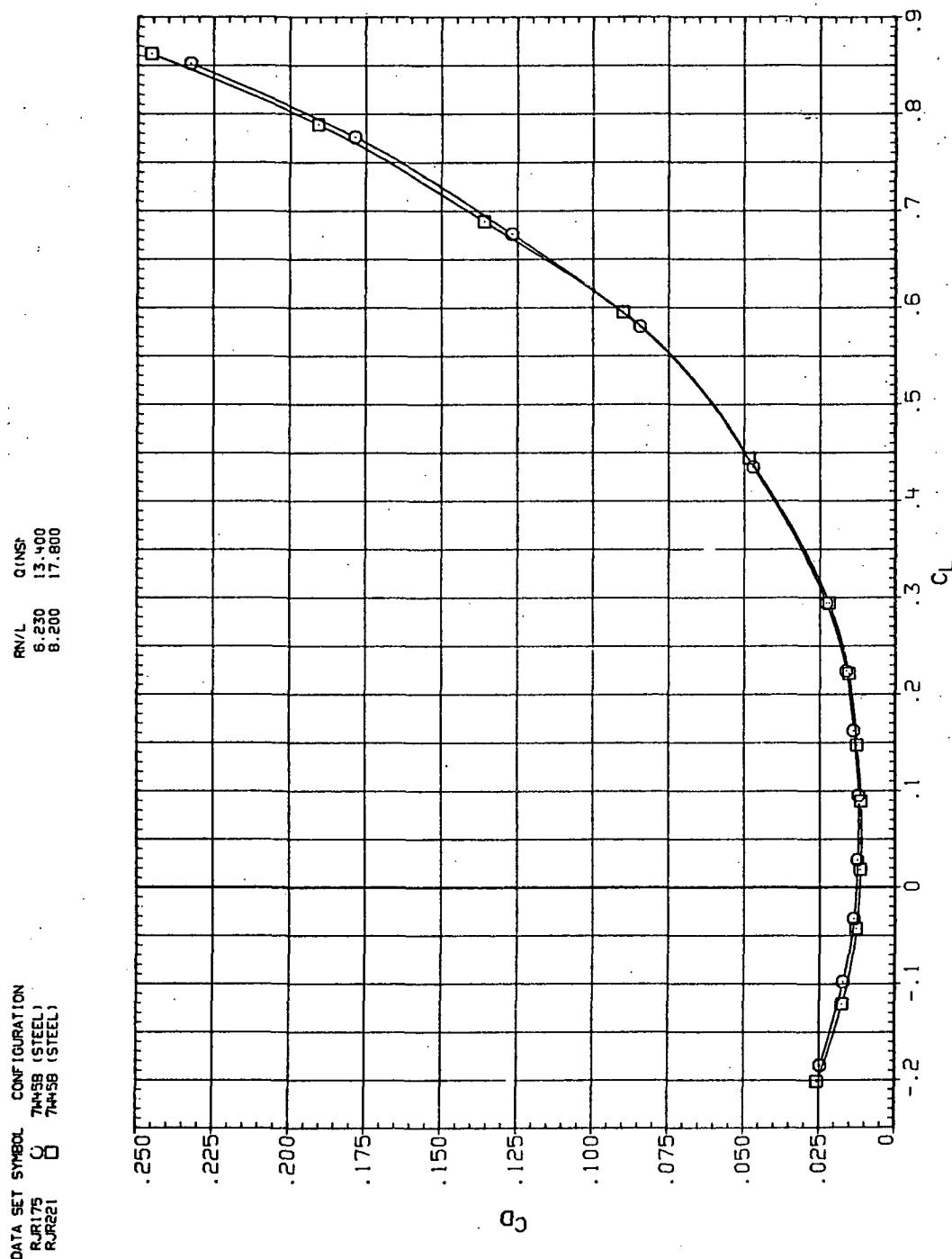
DATA SET SYMBOL CONFIGURATION  
 RJR175 7445B (STEEL)  
 RJR221 7445B (STEEL)

RNL QNSM 13.400 17.800  
 6.230 8.200



(a)  $C_L$  vs  $\alpha$ .

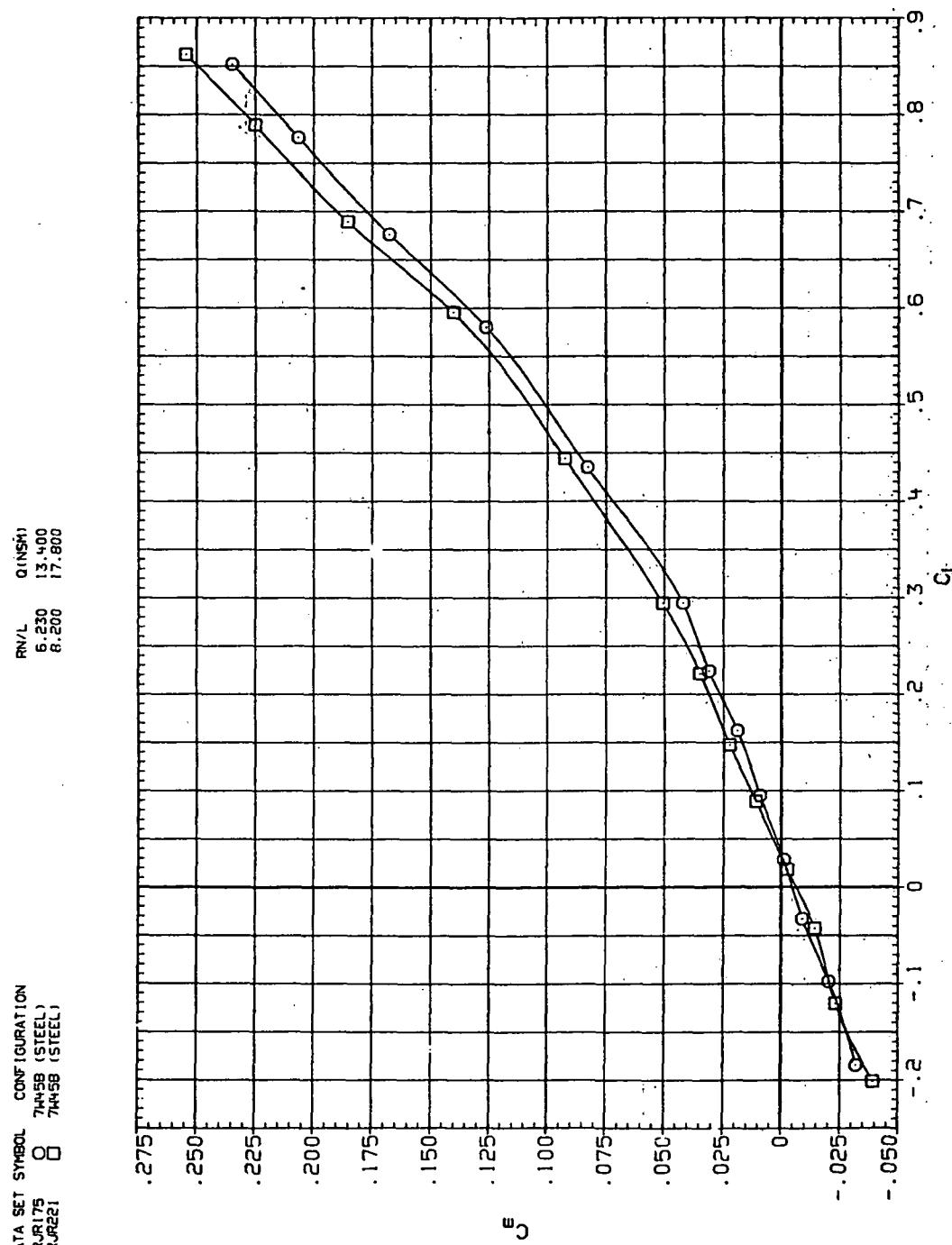
Figure 51.— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 45^\circ$ ,  $M = 0.8$  and the NACA 65A204 airfoil).



(b)  $C_D$  vs  $C_L$ .

Figure 51.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR175 7445B (STEEL)  
 RJR221 7445B (STEEL)



(c)  $C_m$  vs  $C_L$ .

Figure 51.— Continued.

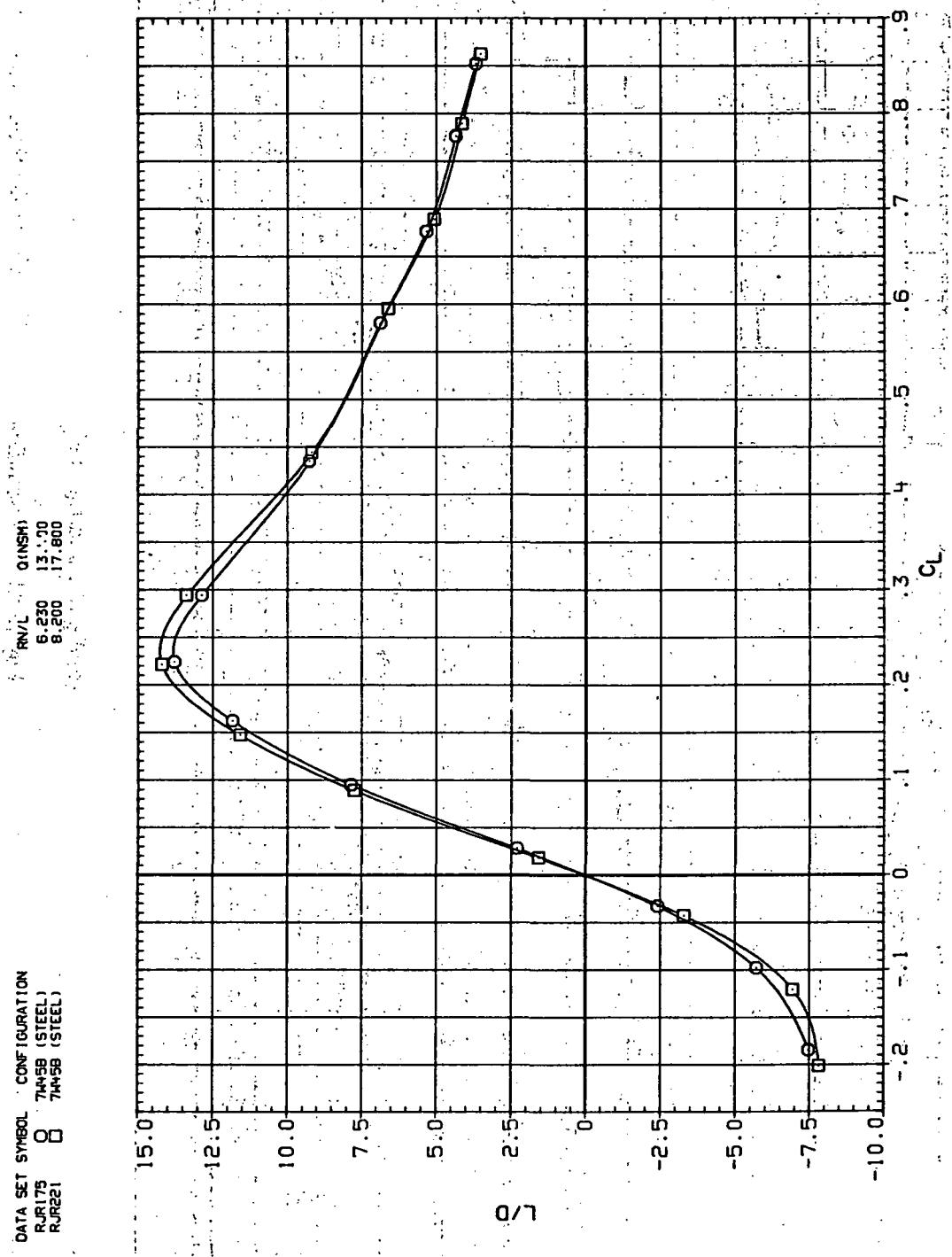
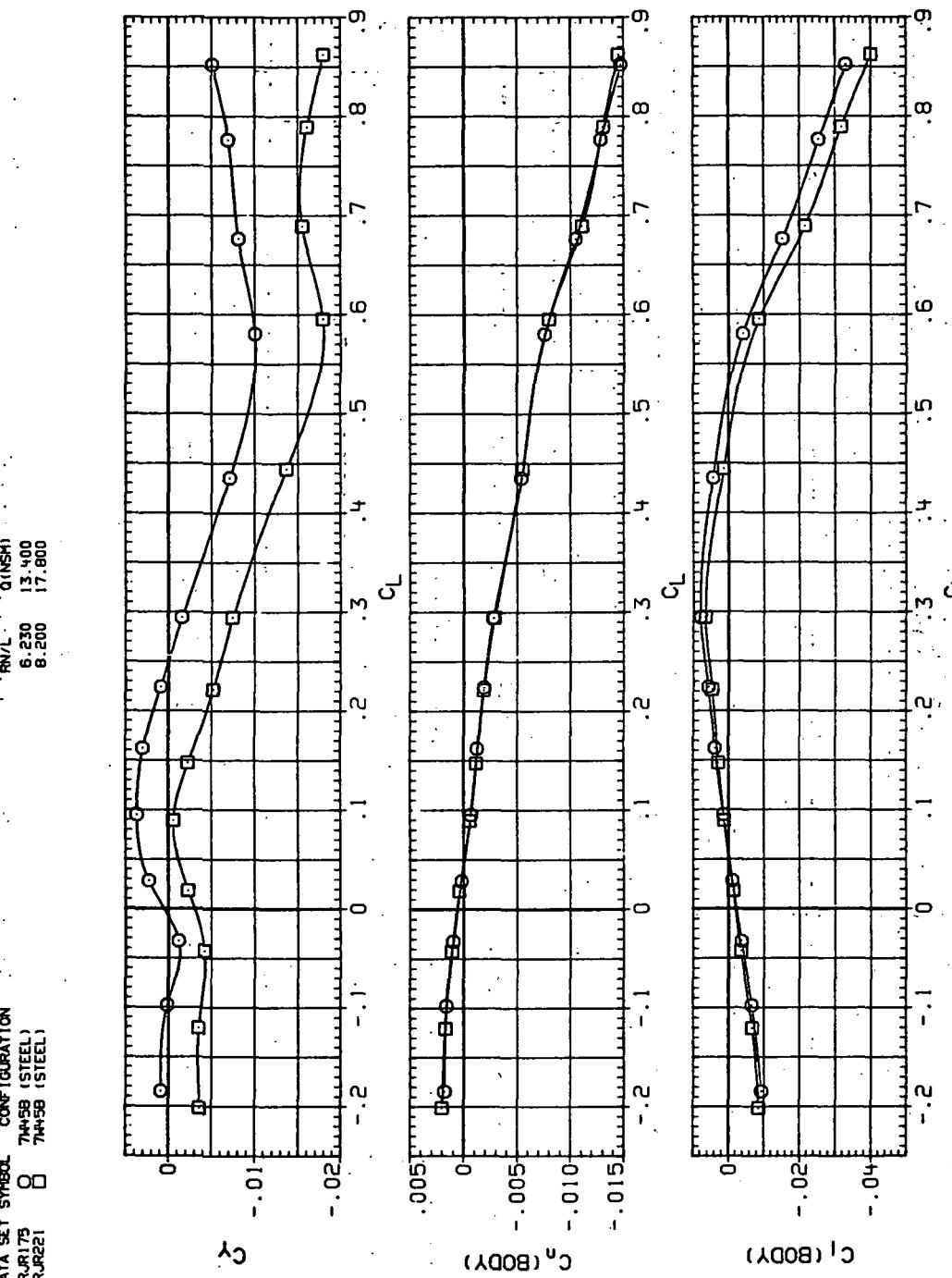
(d)  $L/D$  vs  $C_L$ .

Figure 51.—Continued.

DATA SET SYMBOL CONFIGURATION  
 R/R175 O 7449B (STEEL)  
 R/R221 O 7449B (STEEL)



(e)  $C_Y$ ,  $C_n$  and  $C_Q$  vs  $C_L$ .

Figure 51.— Concluded.

DATA SET SYMBOL	CONFIGURATION
RJR176	74458 (STEEL)
RJR222	74458 (STEEL)

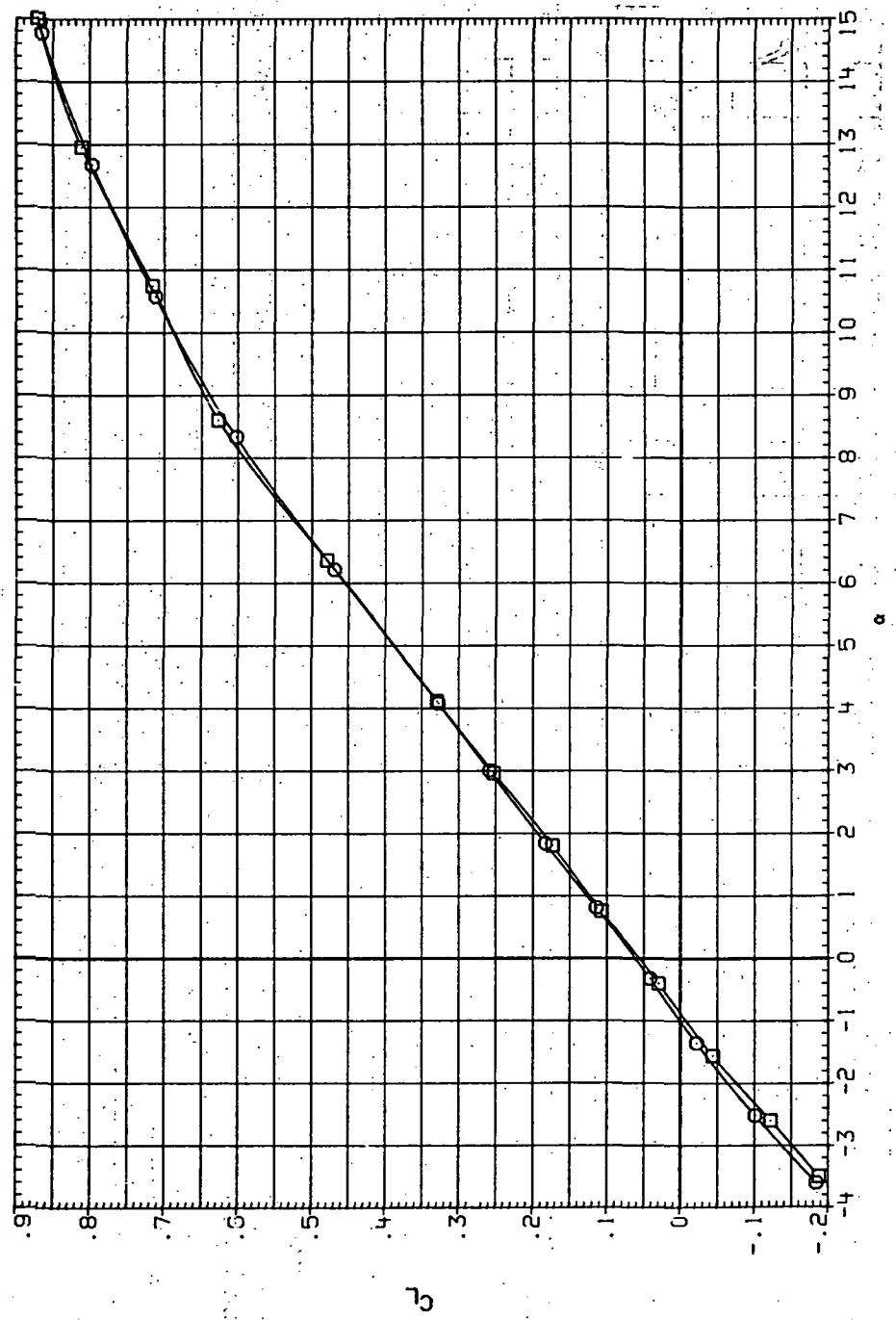
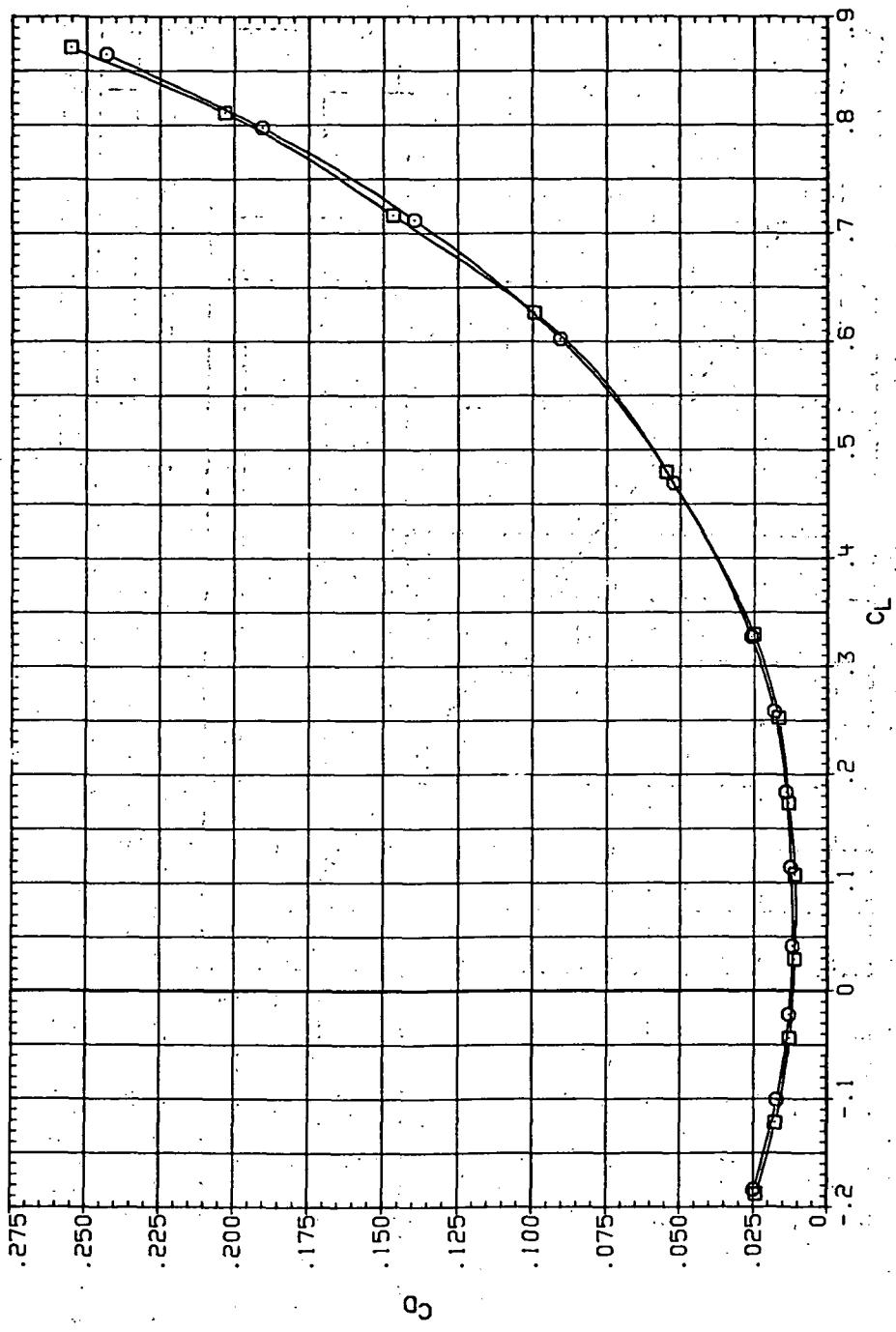
(a)  $C_L$  vs  $\alpha$ .

Figure 52.— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 45^\circ$ ,  $M = 0.9$  and the NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 RIR176 O 74+5B (STEEL)  
 RIR222 □ 74+5B (STEEL)

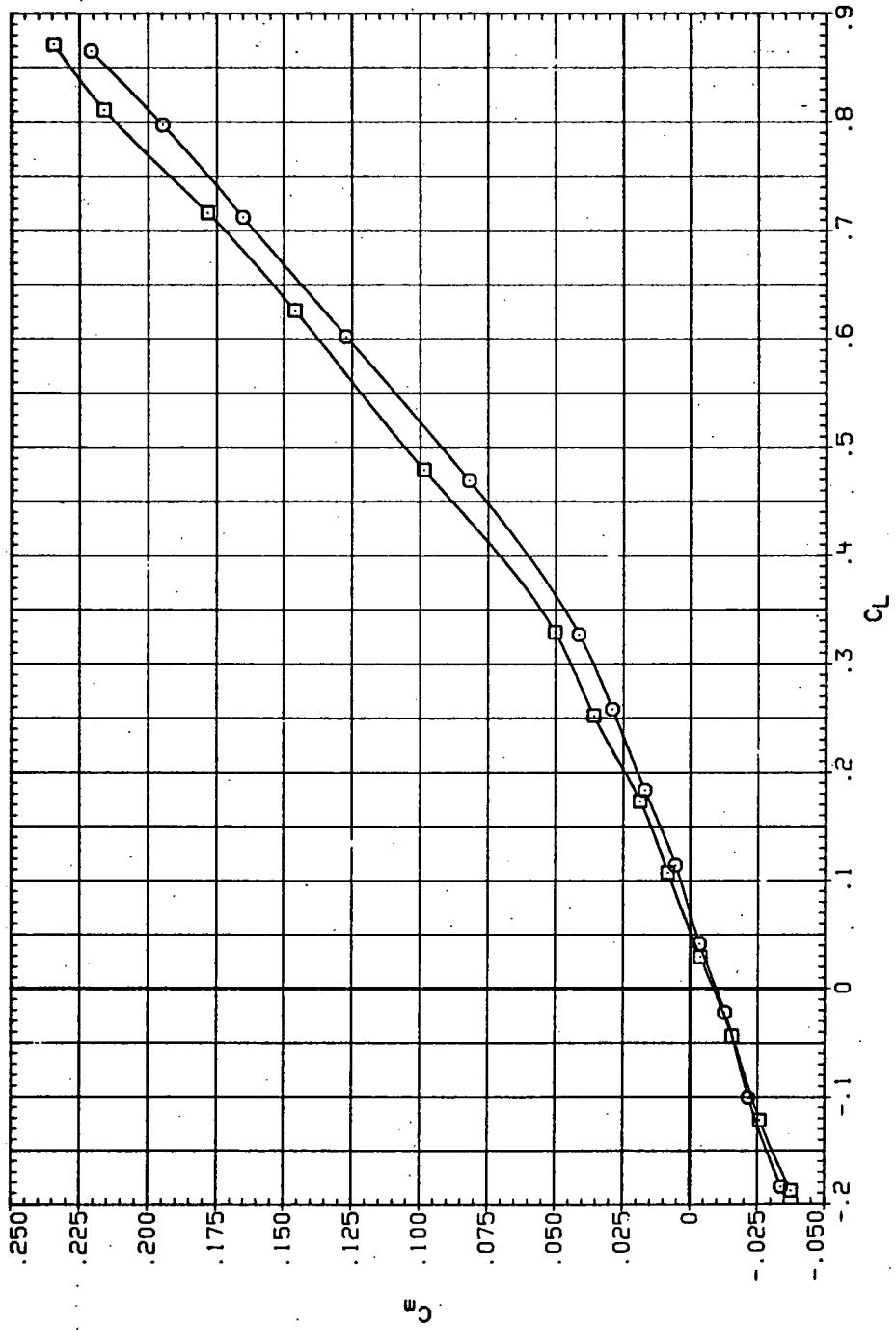
RNL Q(NSM)  
 6.230 14,500  
 8.200 19,200



(b)  $C_D$  vs  $C_L$ .

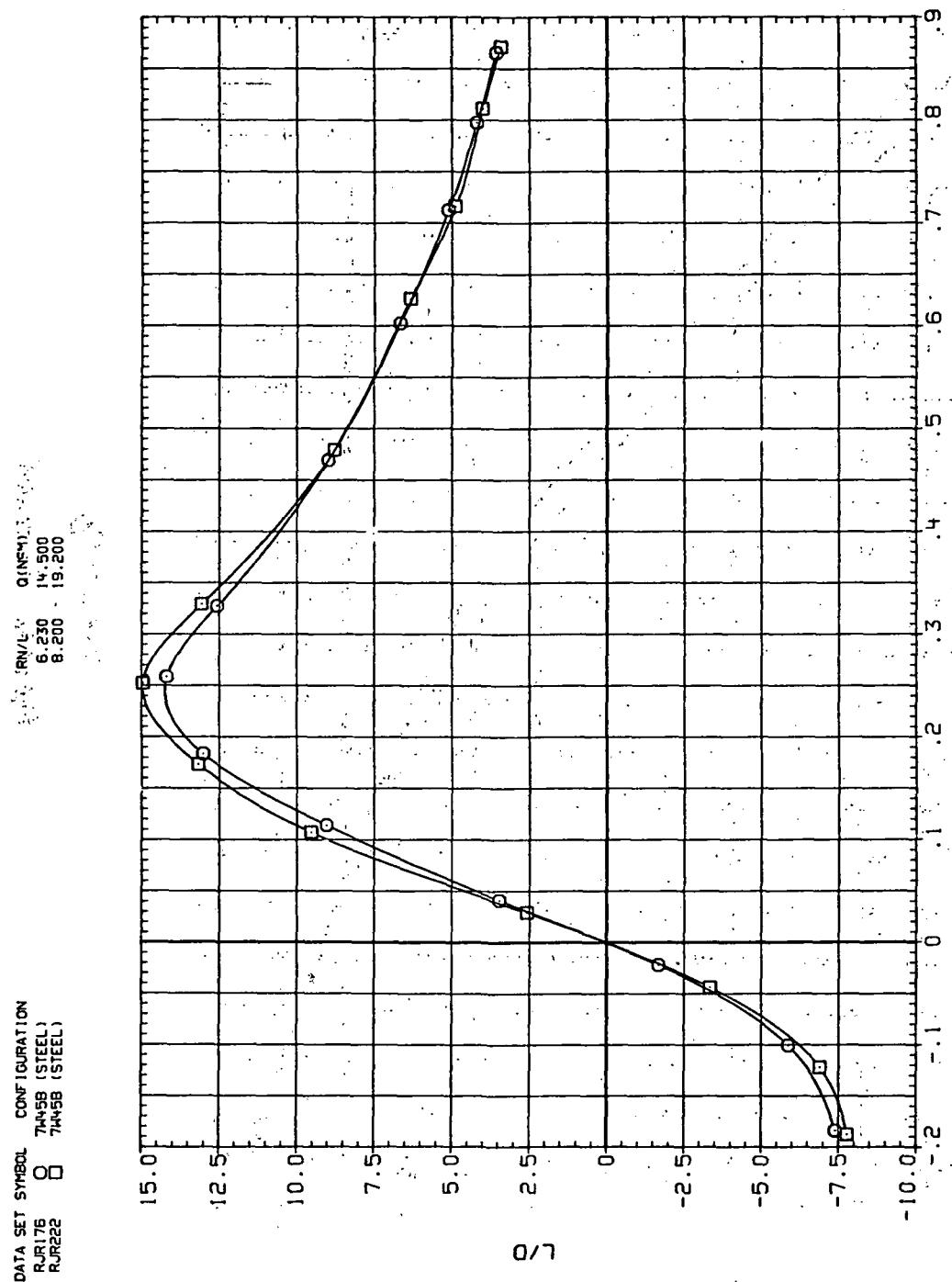
Figure 52.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR176 7445B (STEEL)  
 RJR222 7445B (STEEL)



(c)  $C_m$  vs  $C_L$ .

Figure 52.—Continued.

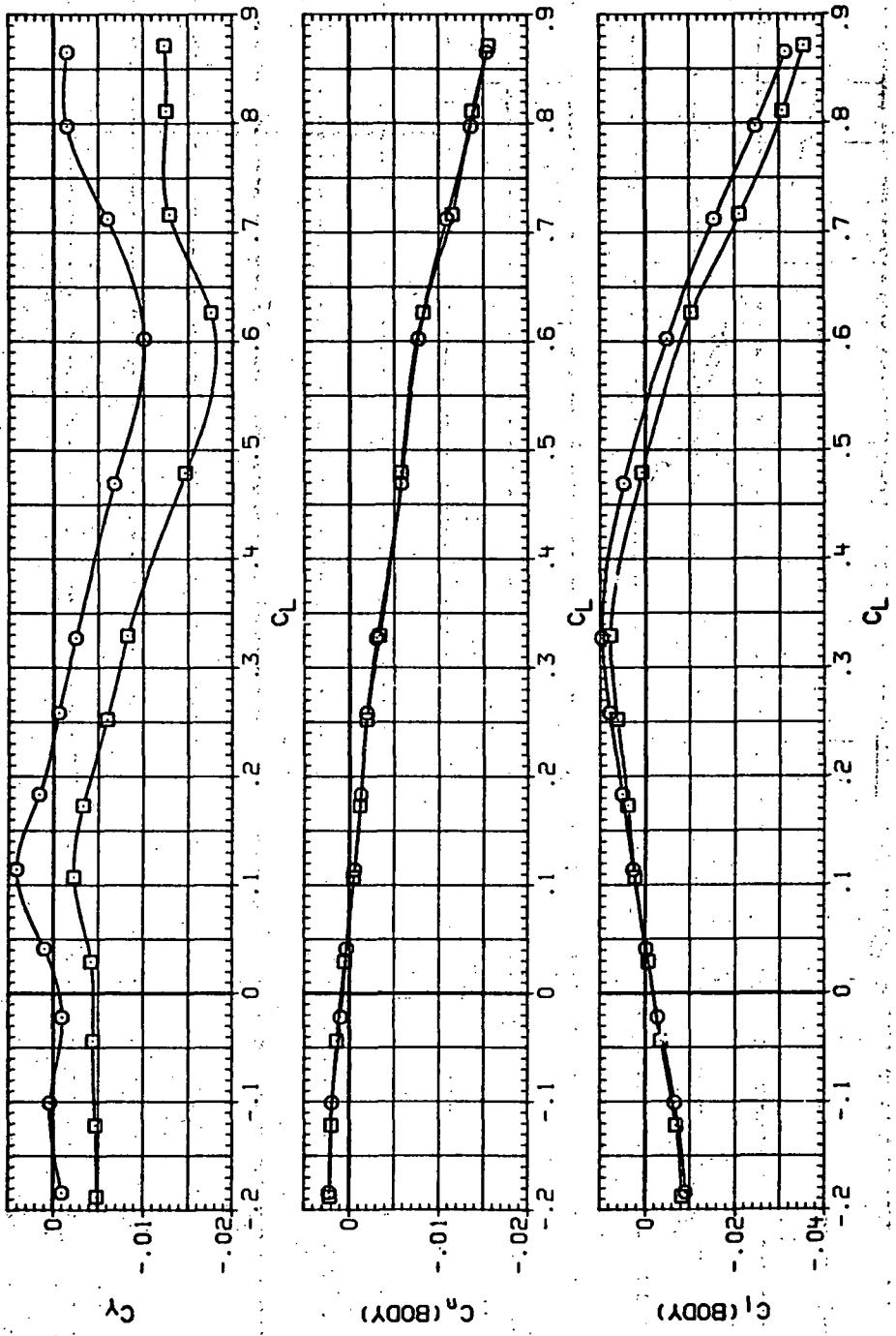


(d)  $L/D$  vs  $C_L$ .

Figure 52.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RUR175 7M3B (STEEL)  
 RUR222 7M3B (STEEL)

RNL QINSH  
 6.250 14.500  
 8.200 18.200

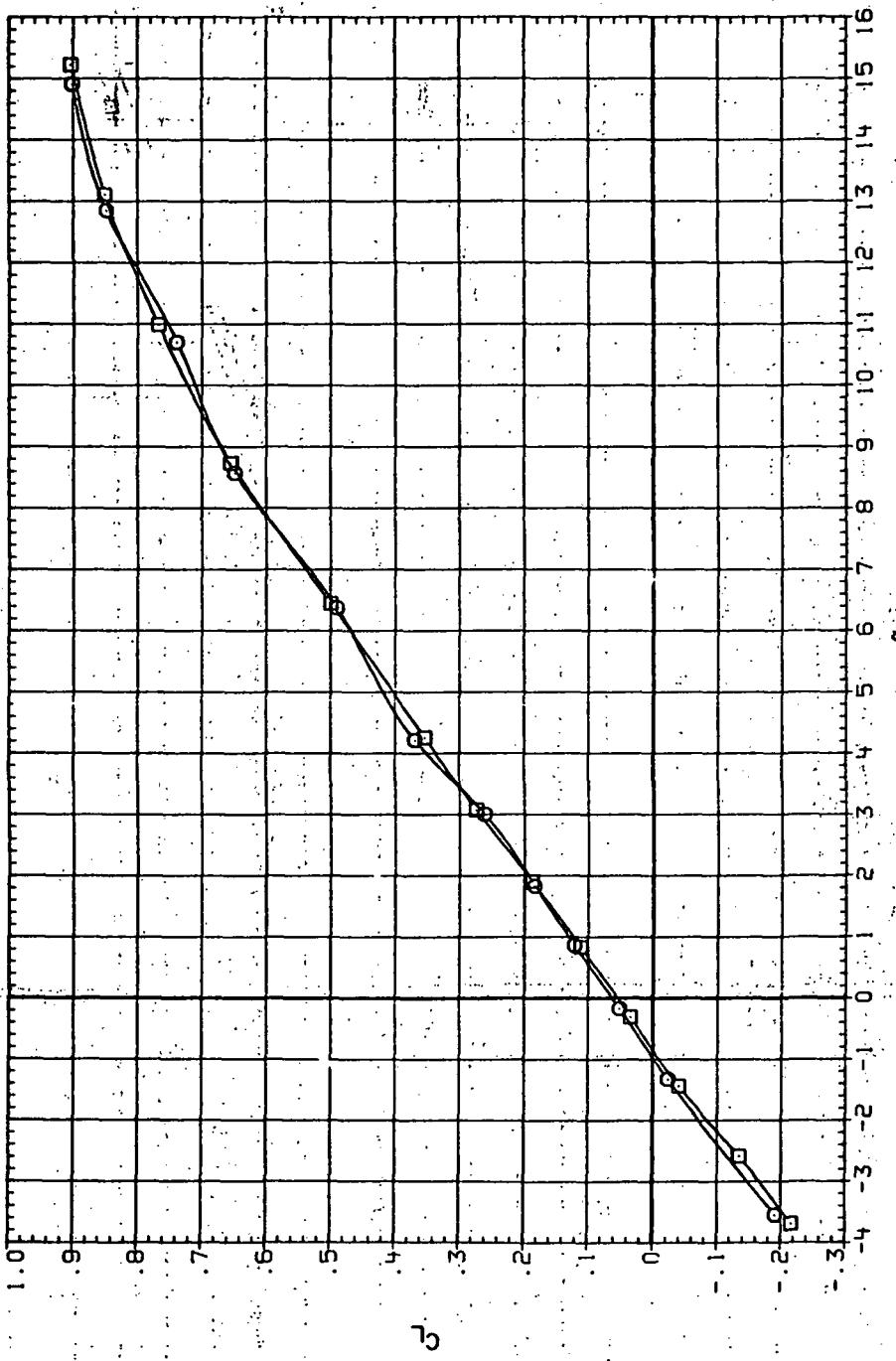


(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

Figure 52.—Concluded.

DATA SET SYMBOL CONFIGURATION:  
 RJ177 7A45B (STEEL)  
 RJ223 7A45B (STEEL)

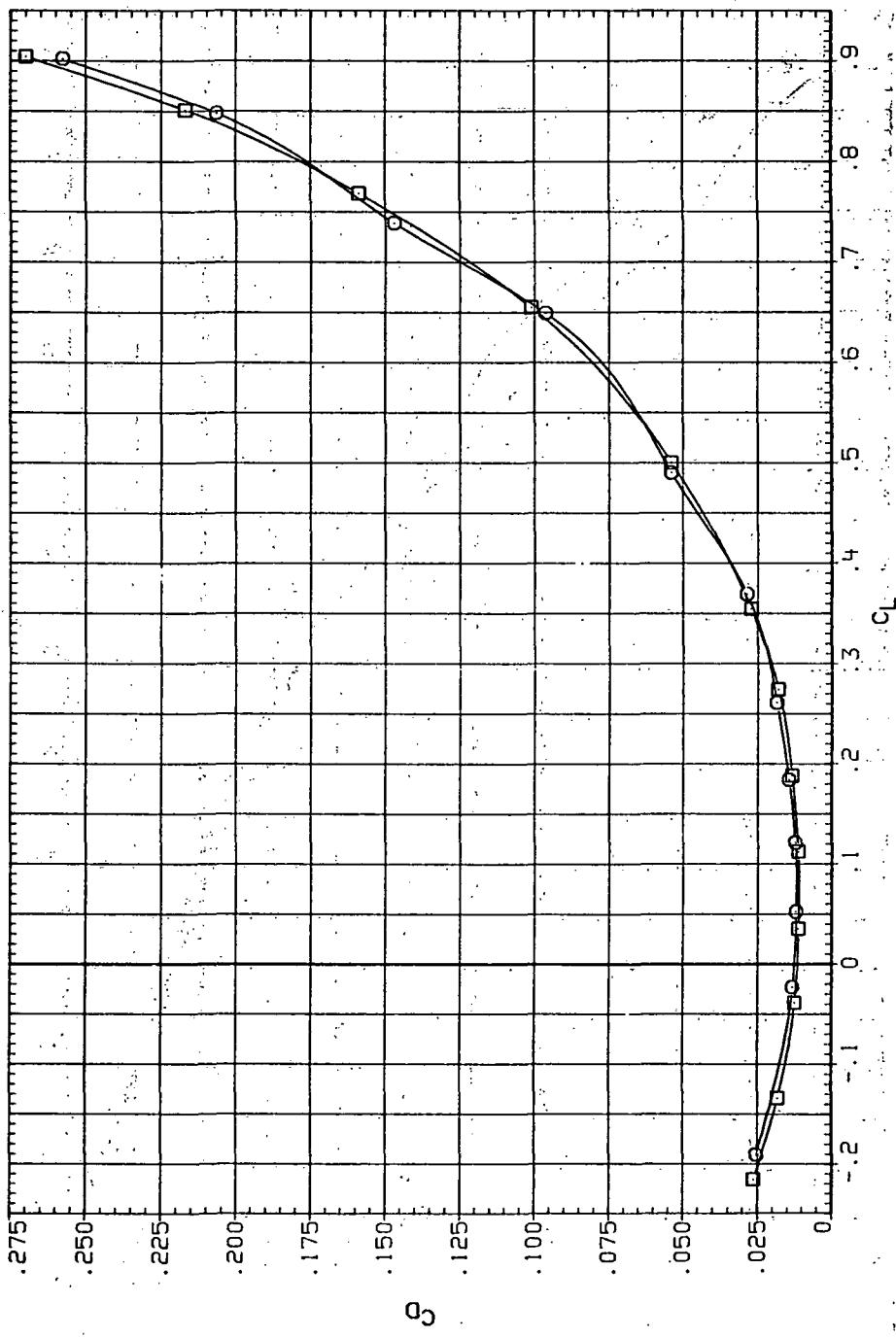
RNL GUNSHI  
 6.230 15,000  
 8.200 19,900



(a)  $C_L$  vs  $\alpha$ .

Figure 53.— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 45^\circ$ ,  $M = 0.95$  and the NACA 65A204 airfoil).

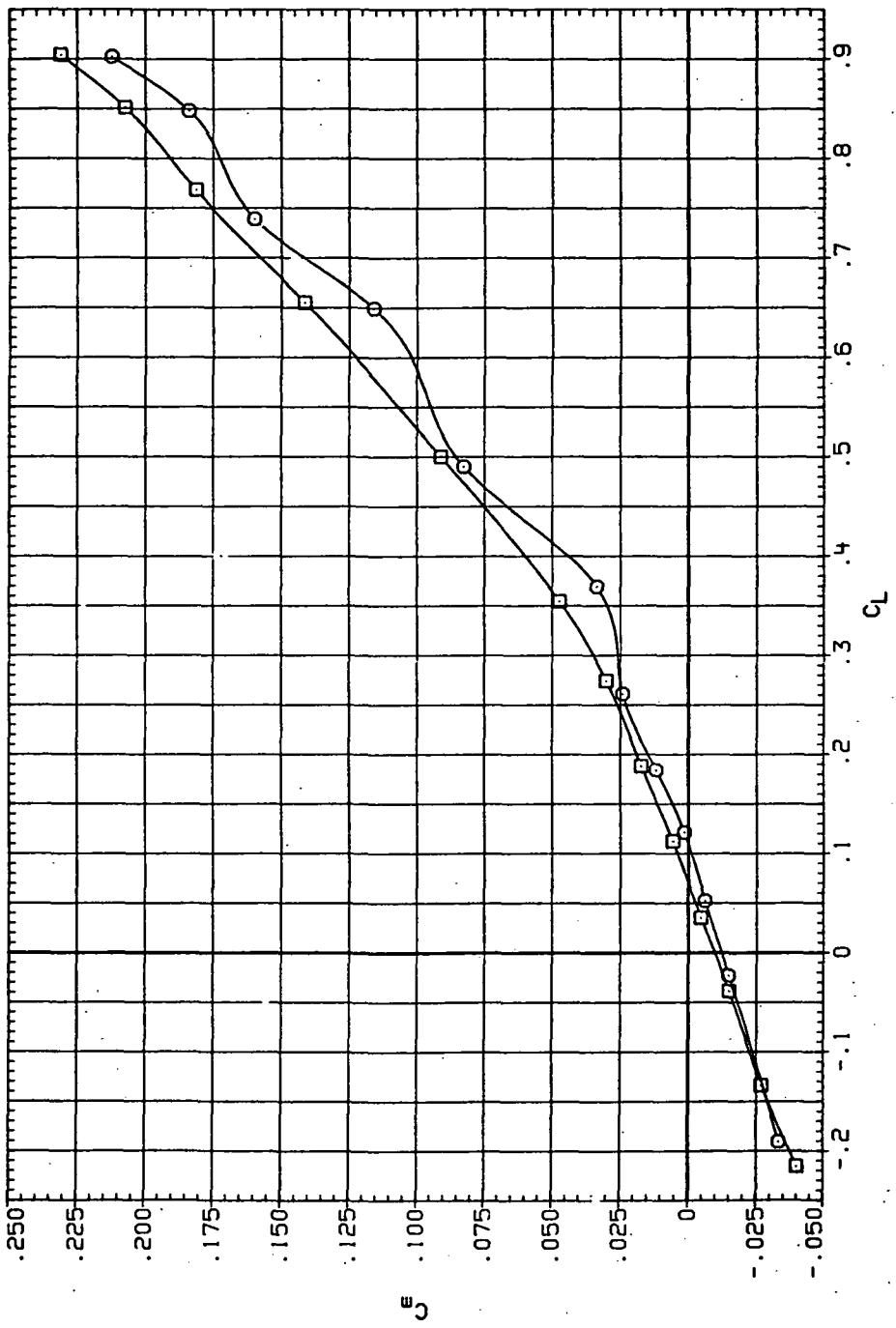
DATA SET SYMBOL CONFIGURATION  
 RJR177 O T445B (STEEL)  
 RJR223 □ T445B (STEEL)



(b)  $C_D$  vs  $C_L$

Figure 53.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR177 O T45B (STEEL)  
 RJR223 □ T45B (STEEL)

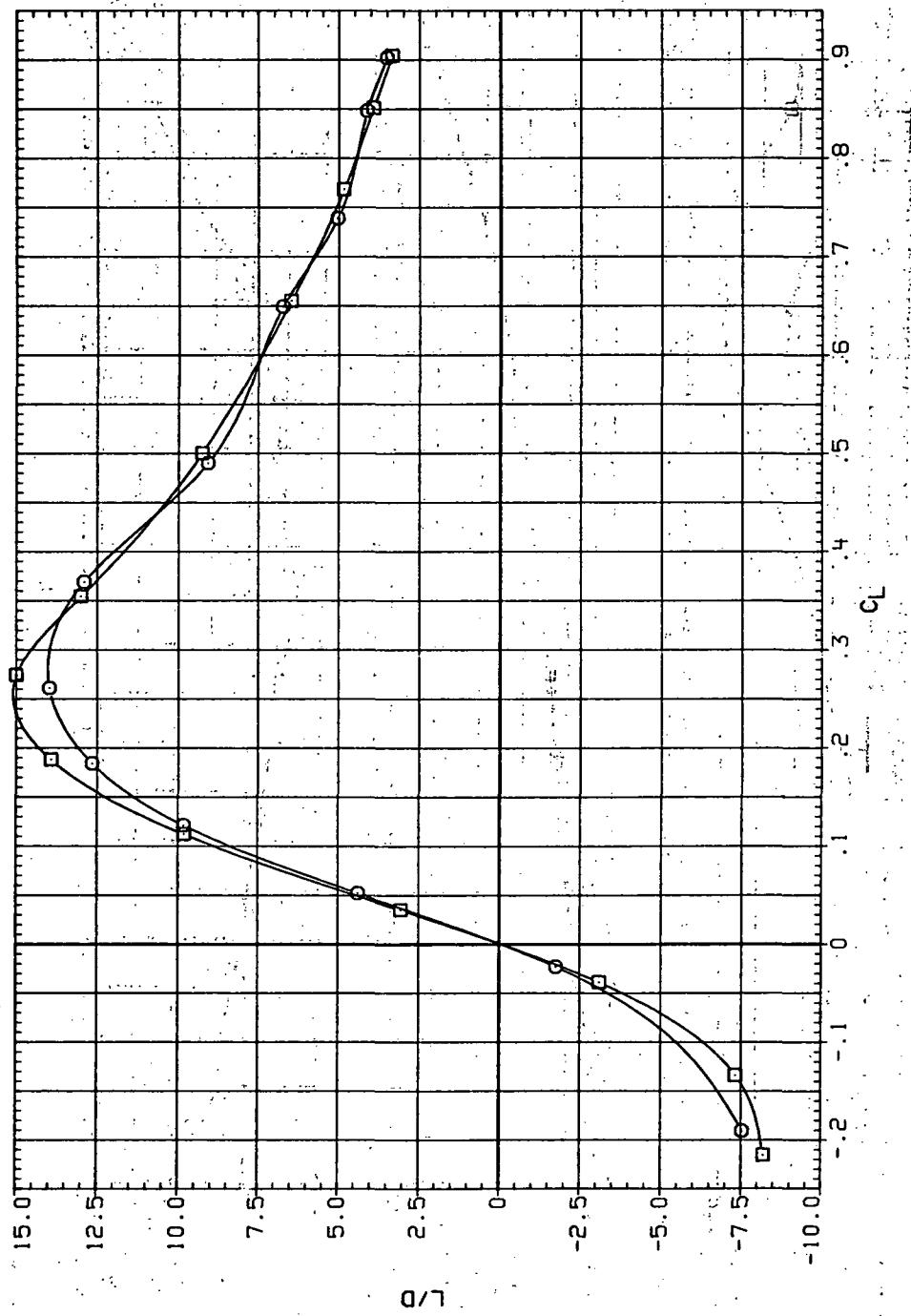


(c)  $C_m$  vs  $C_L$ .

Figure 53.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR177 O 7445B (STEEL)  
 RJR223 □ 7445B (STEEL)

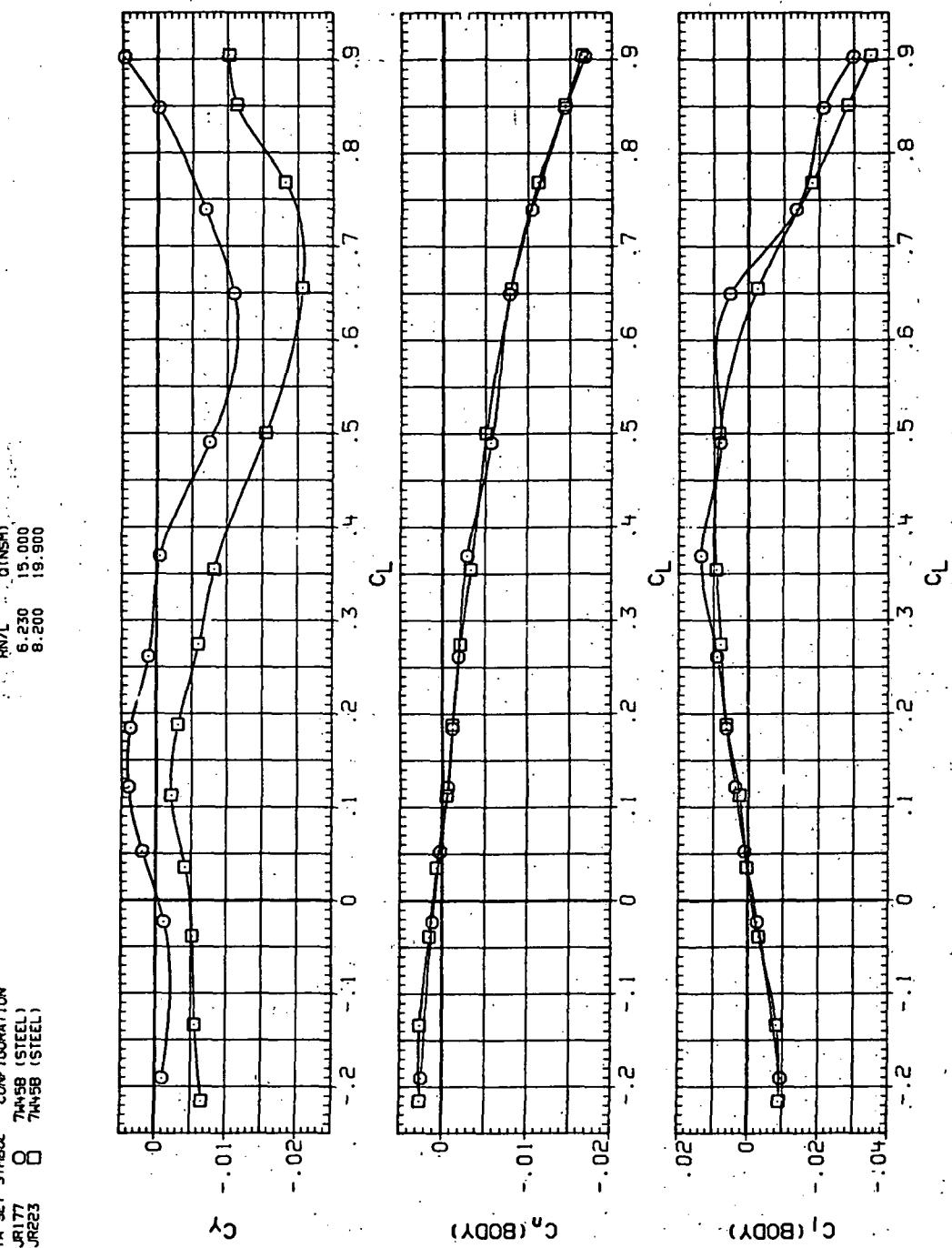
Q (NSM) RNL  
 6.230 15.000  
 8.200 19.900



(d)  $L/D$  vs  $C_L$ .

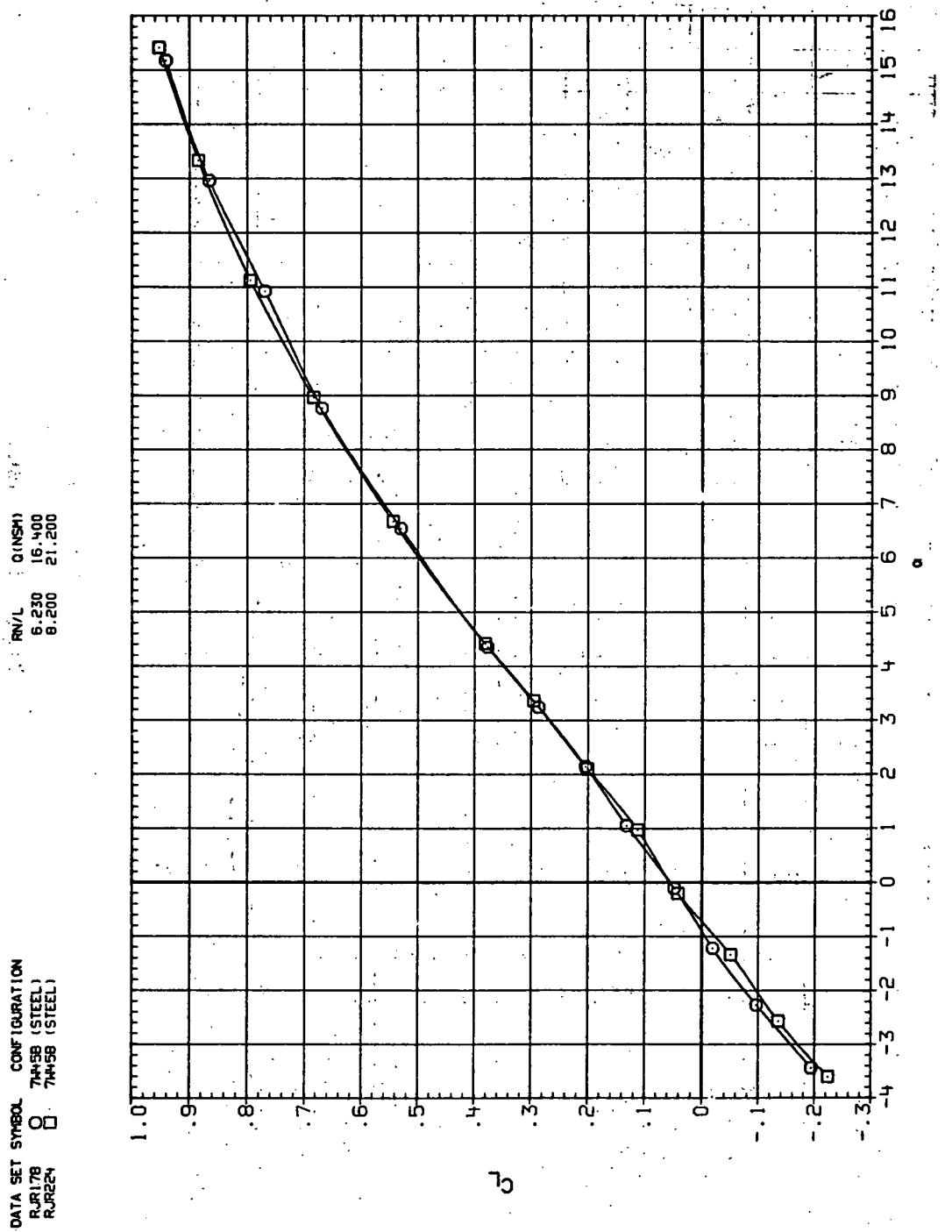
Figure 53—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR177 0 7445B (STEEL)  
 RJR223 □ 7445B (STEEL)



(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

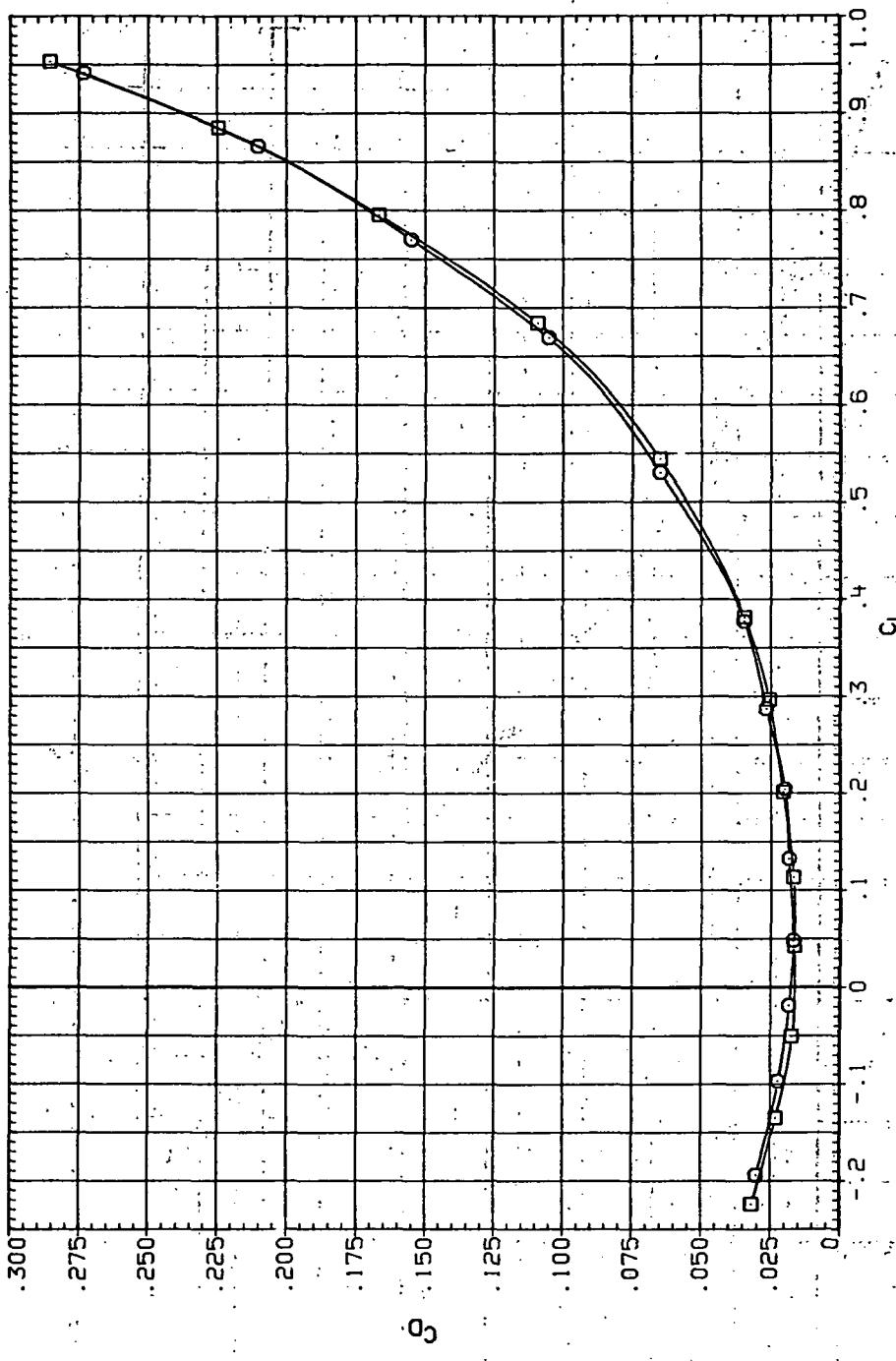
Figure 53.- Concluded.



(a)  $C_L$  vs  $\alpha$ .

Figure 54.— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 45^\circ$ ,  $M = 1.1$  and the NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 RJR178 O QINSHI (STEEL)  
 RJR224 □ 16.40C  
 8.200  
 21.200

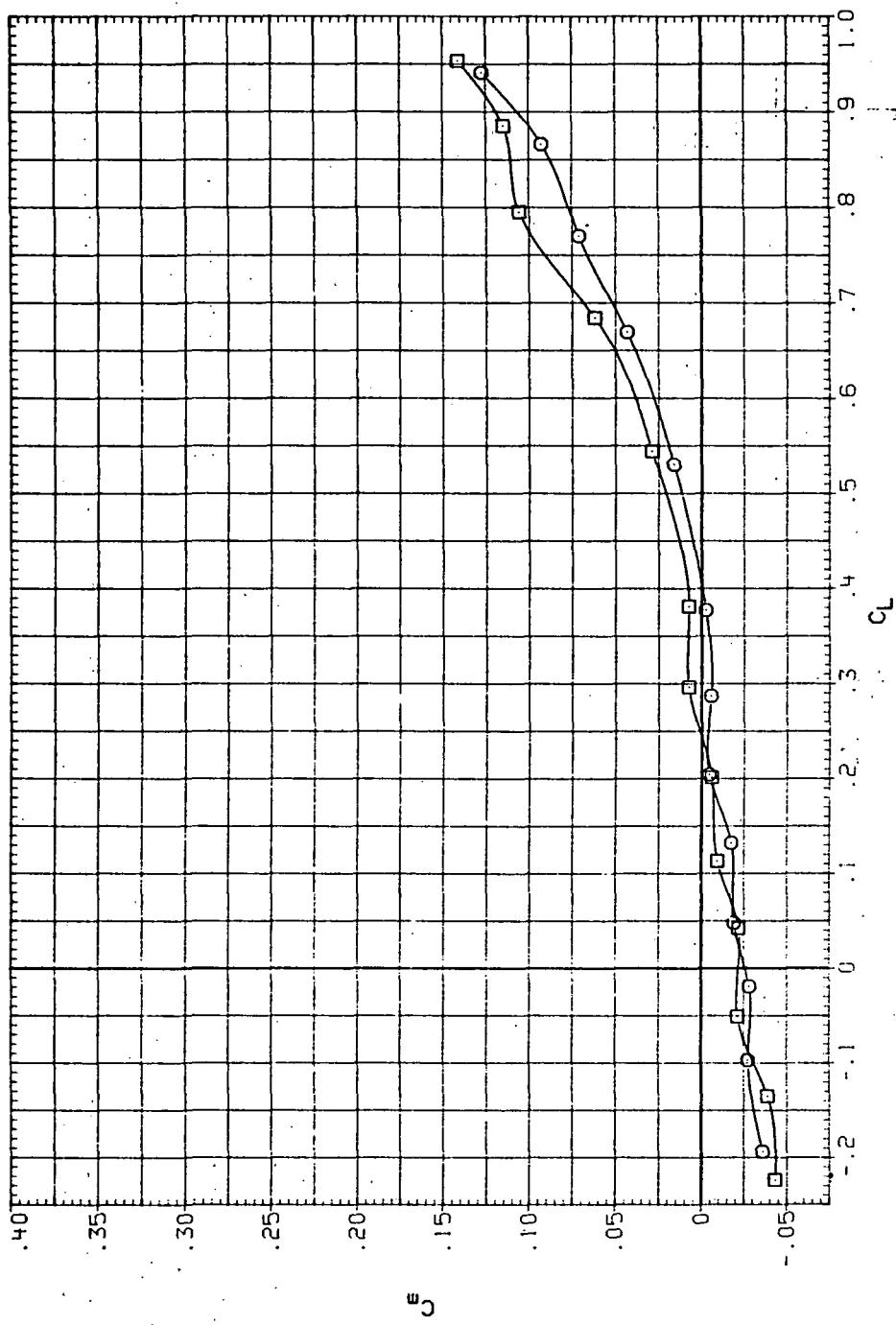


(b)  $C_D$  vs  $C_L$ .

Figure 54.—Continued.

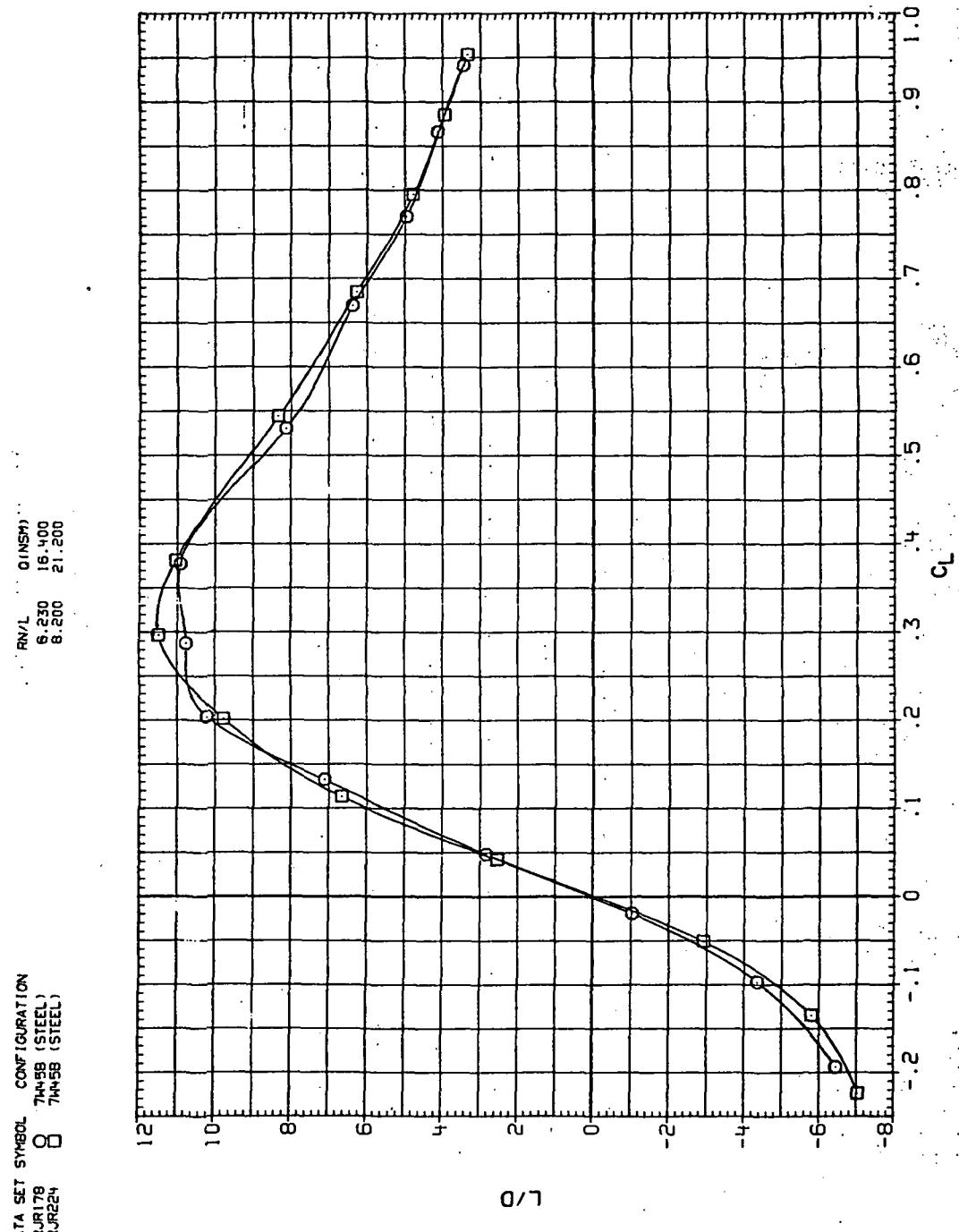
DATA SET SYMBOL CONFIGURATION  
 RR17B O 7 $\frac{1}{4}$  SB (STEEL)  
 RR22B □ 7 $\frac{1}{4}$  SB (STEEL)

R/N/L 0 (INSPI)  
 6.230 16.400  
 8.200 21.200



(c)  $C_m$  vs  $C_L$ .

Figure 54.—Continued.

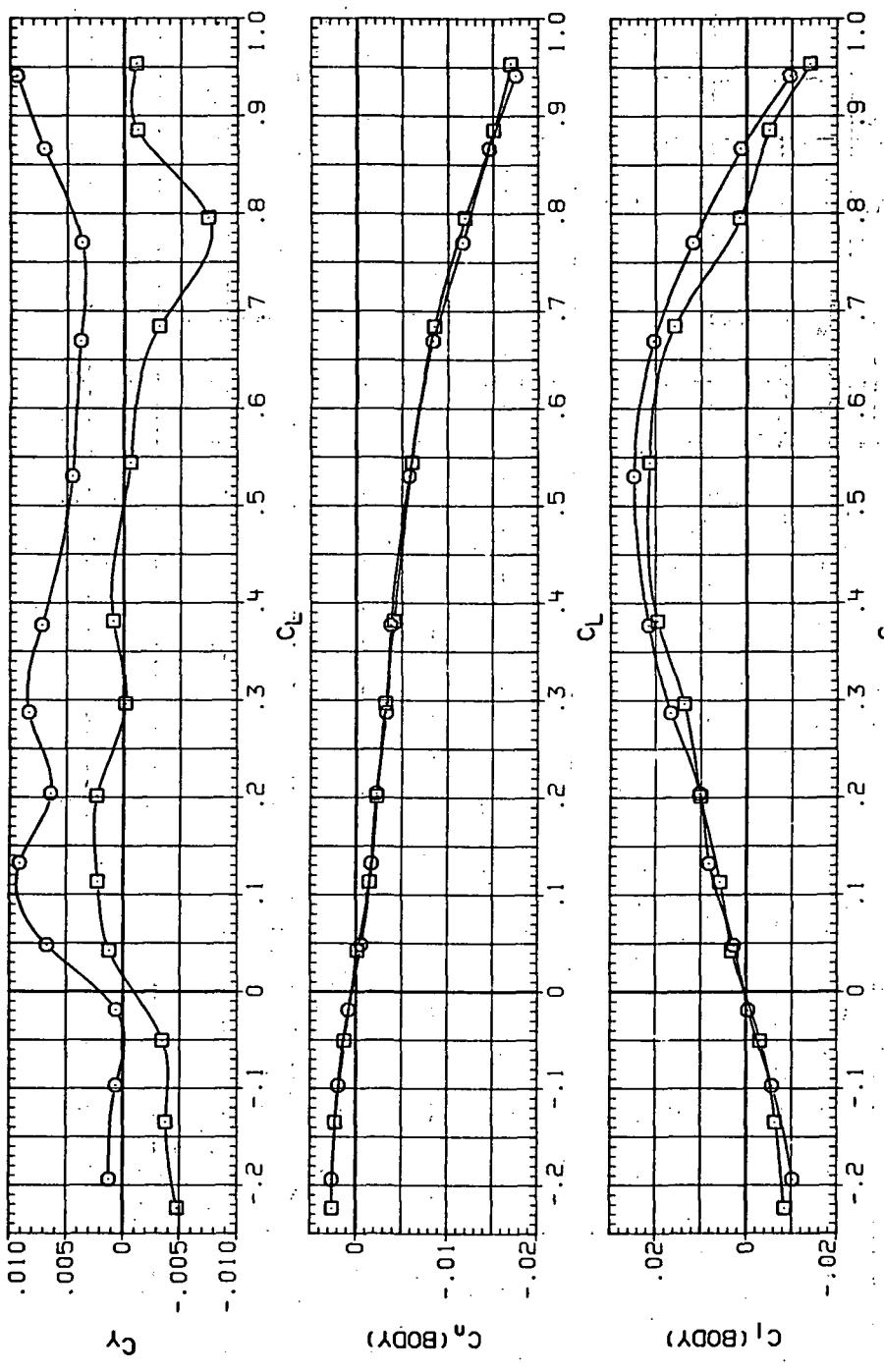


(d)  $L/D$  vs  $C_L$ .

Figure 54.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RIB78 O 7H45B (STEEL)  
 RJR24 □ 7H45B (STEEL)

RNL QINSHI  
 6.230 16.400  
 8.200 21.200

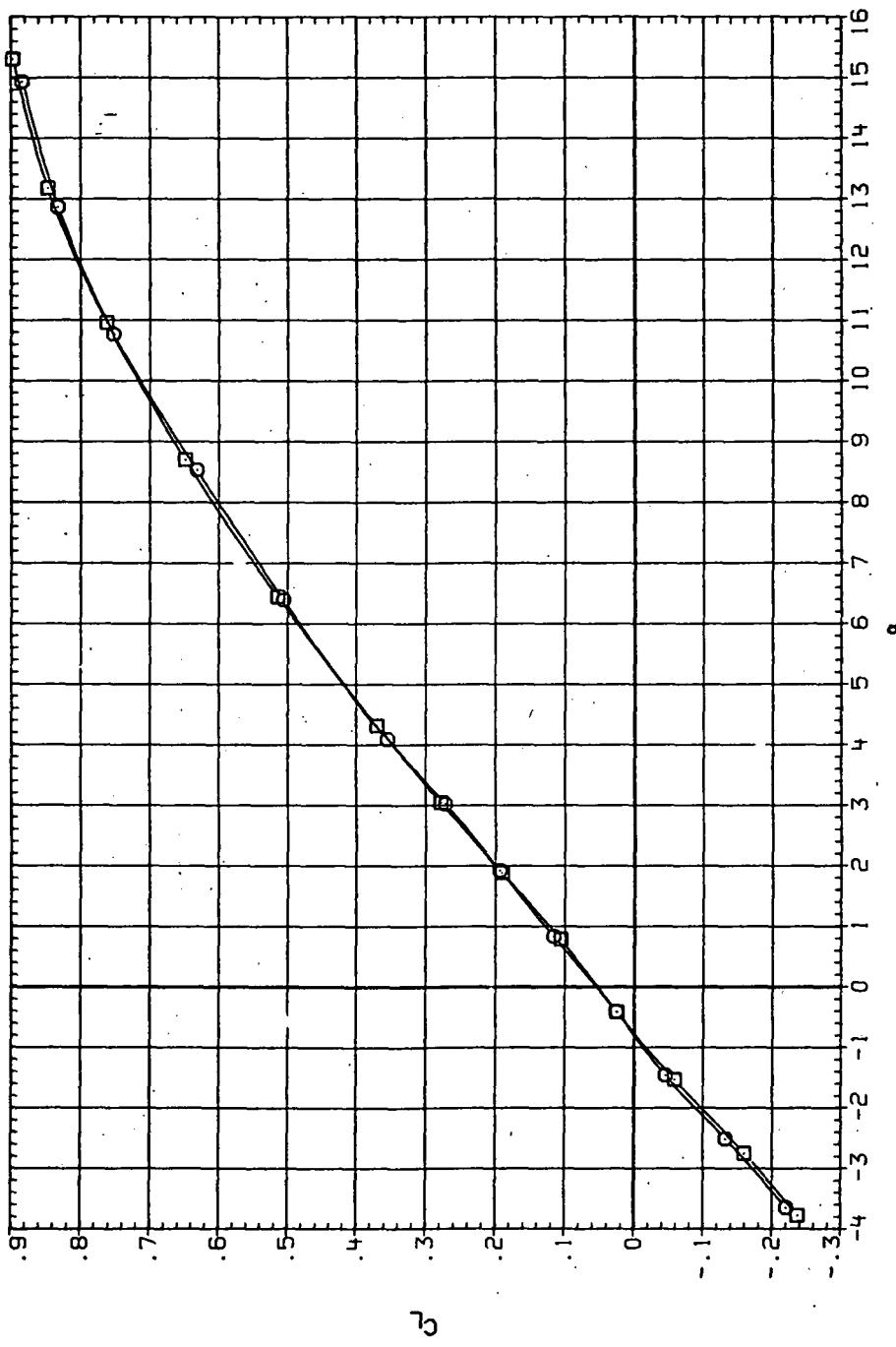


(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

Figure 54.—Concluded.

DATA SET SYMBOL CONFIGURATION  
 RJR179 O 7445B (STEEL)  
 RJR225 □ 7445B (STEEL)

RM/L = 0 (NSM)  
 6.230 17.000  
 8.200 22.800

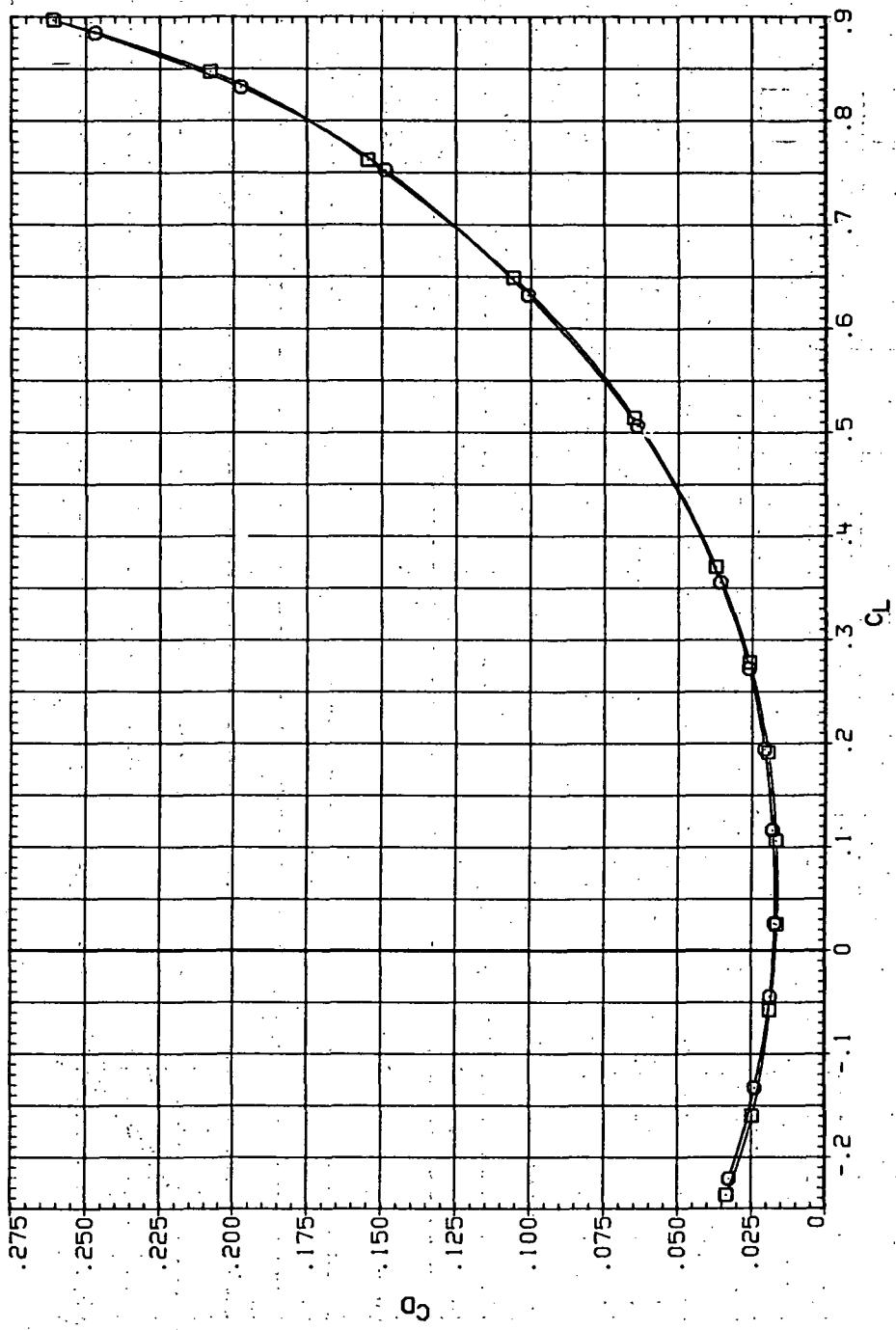


(a)  $C_L$  vs  $\alpha$ .

Figure 55.—Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 45^\circ$ ,  $M = 1.2$  and the NACA 65A204 airfoil).

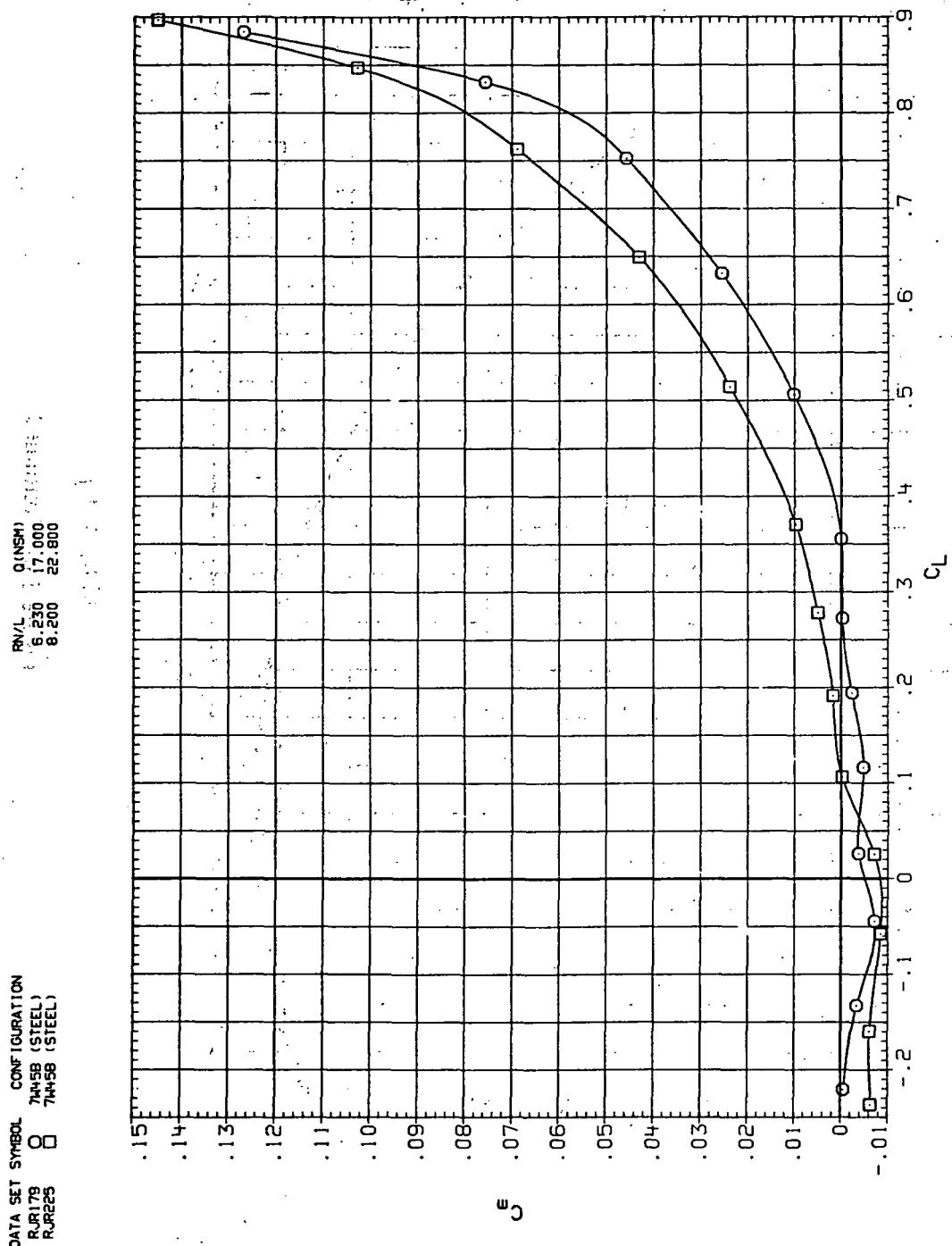
DATA SET SYMBOL CONFIGURATION  
 RRI79 O TA45B (STEEL)  
 RRJ225 □ TA45B (STEEL)

RN/L Q (INCH)  
 6.230 17.000  
 8.200 22.800



(b)  $C_D$  vs  $C_L$ .

Figure 55. Continued.

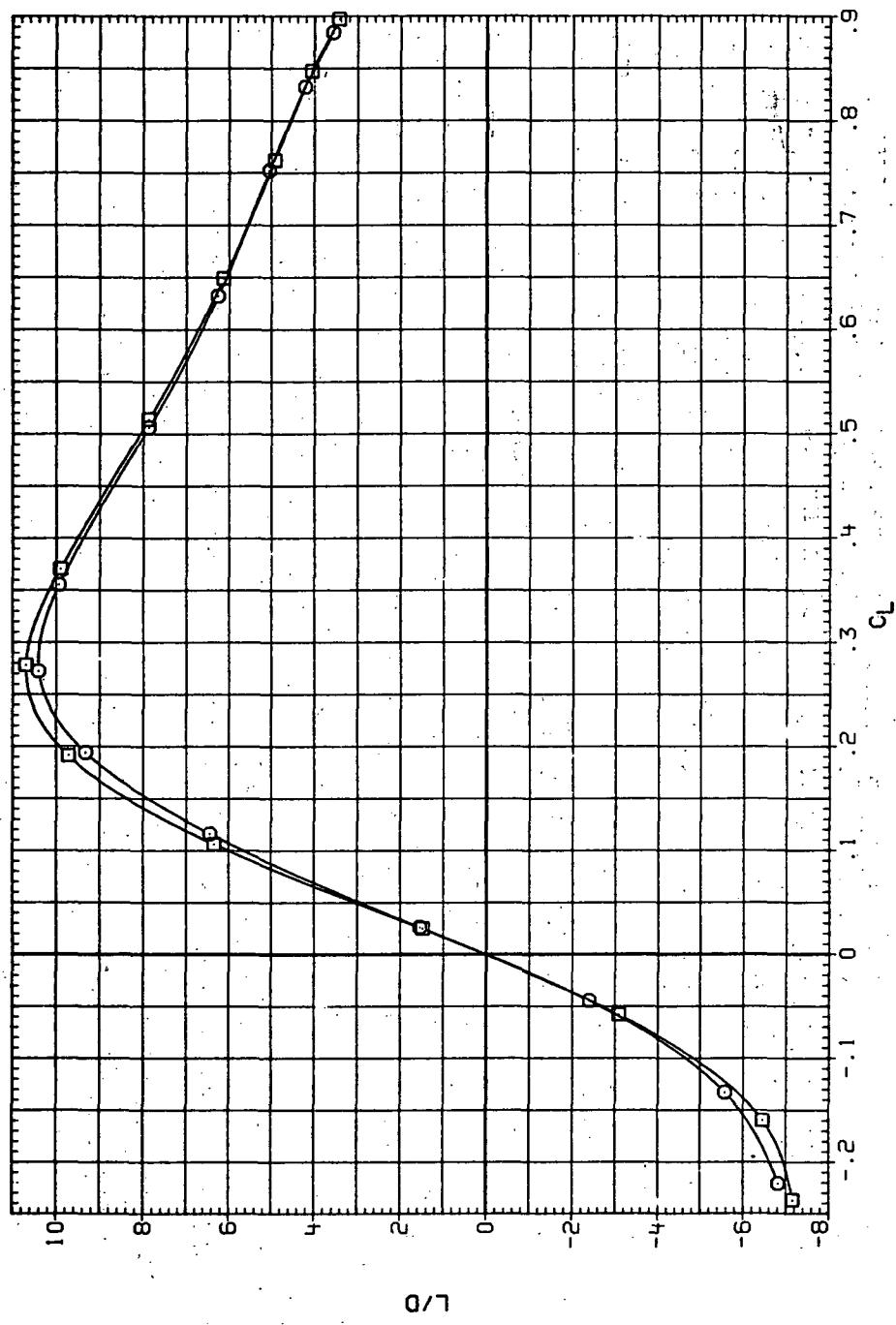


(c)  $C_m$  vs  $C_L$ .

Figure 55.—Continued.

DATA SET SYMBOL    CONFIGURATION  
 RUR179    0    7445B (STEEL)  
 RUR23    8    7445B (STEEL)

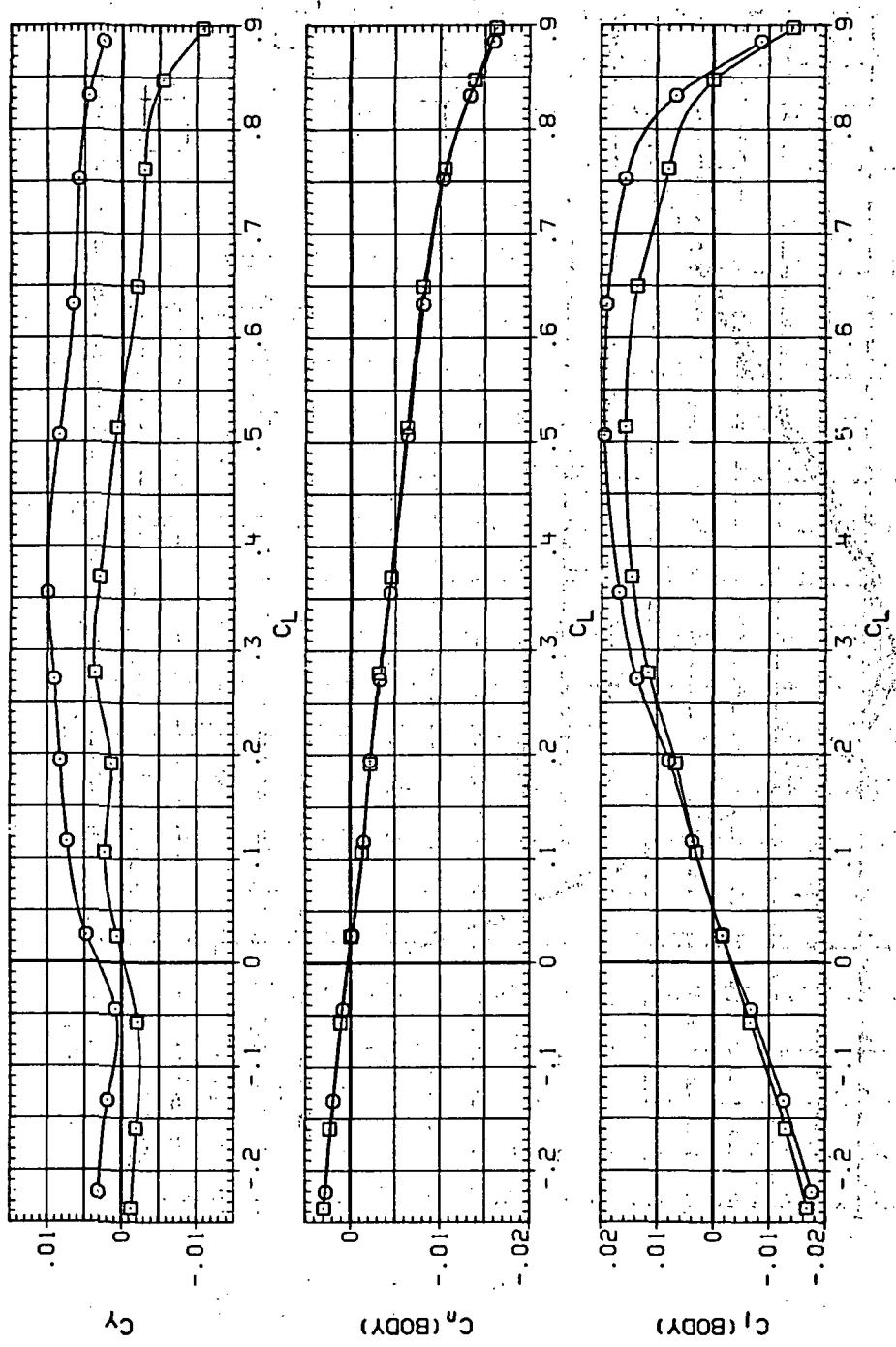
$\frac{P_N/L}{L}$     0 (INSPI)  
 6.230    17.000  
 8.200    22.800



(d)  $L/D$  vs  $C_L$ .

Figure 55.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RRI179 O QINSM, C<sub>L</sub> = f<sub>1</sub>(C<sub>D</sub>, C<sub>L</sub>)  
 74493 (STEEL)  
 RJR225 □ 22.800

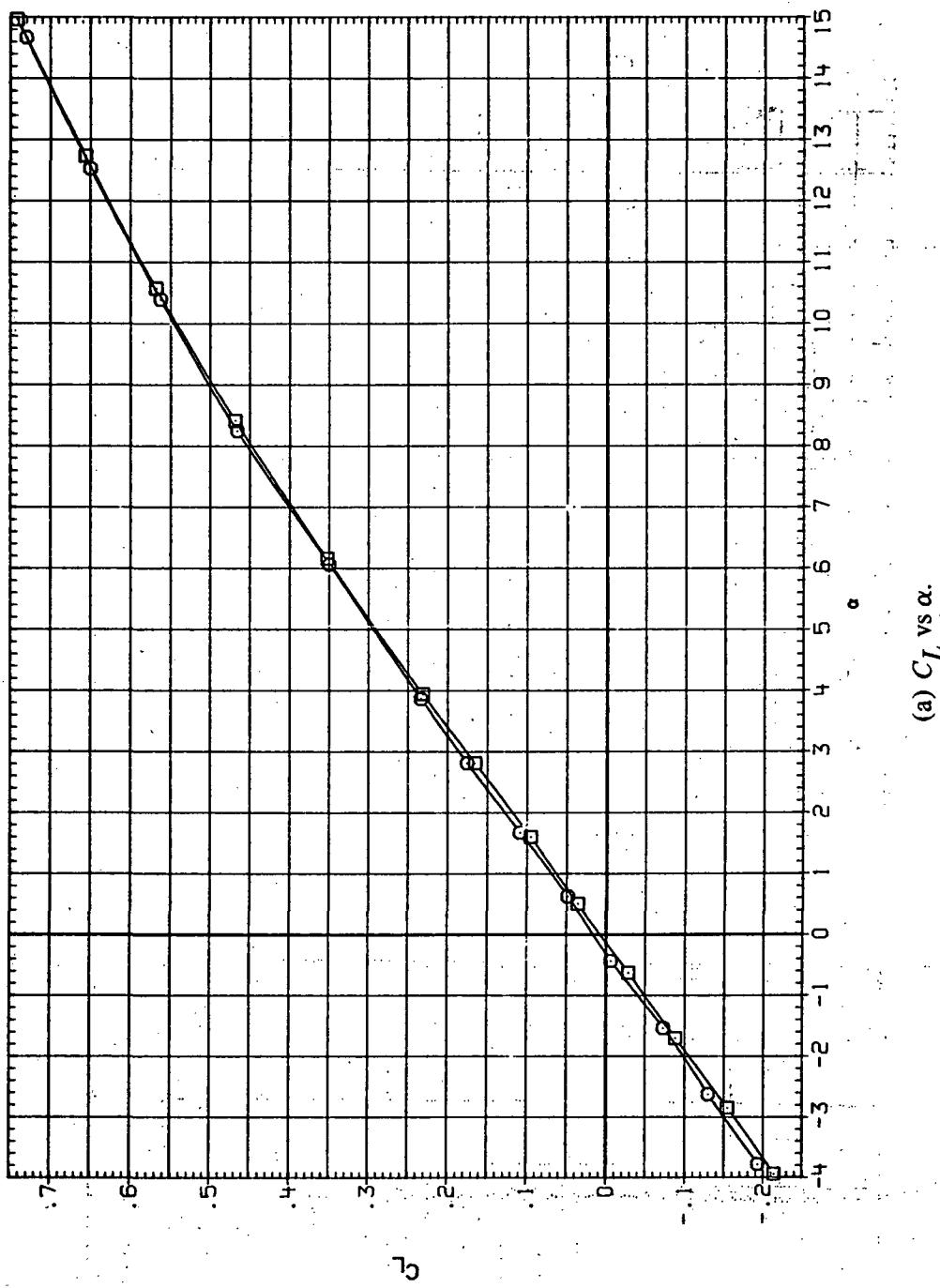


(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

Figure 55.—Concluded.

DATA SET SYMBOL CONFIGURATION  
 R.JR180 O 74458 (STEEL)  
 R.JR226 □ 74458 (STEEL)

RN/L Q (NSH)  
 6.230 18.600  
 8.200 24.400

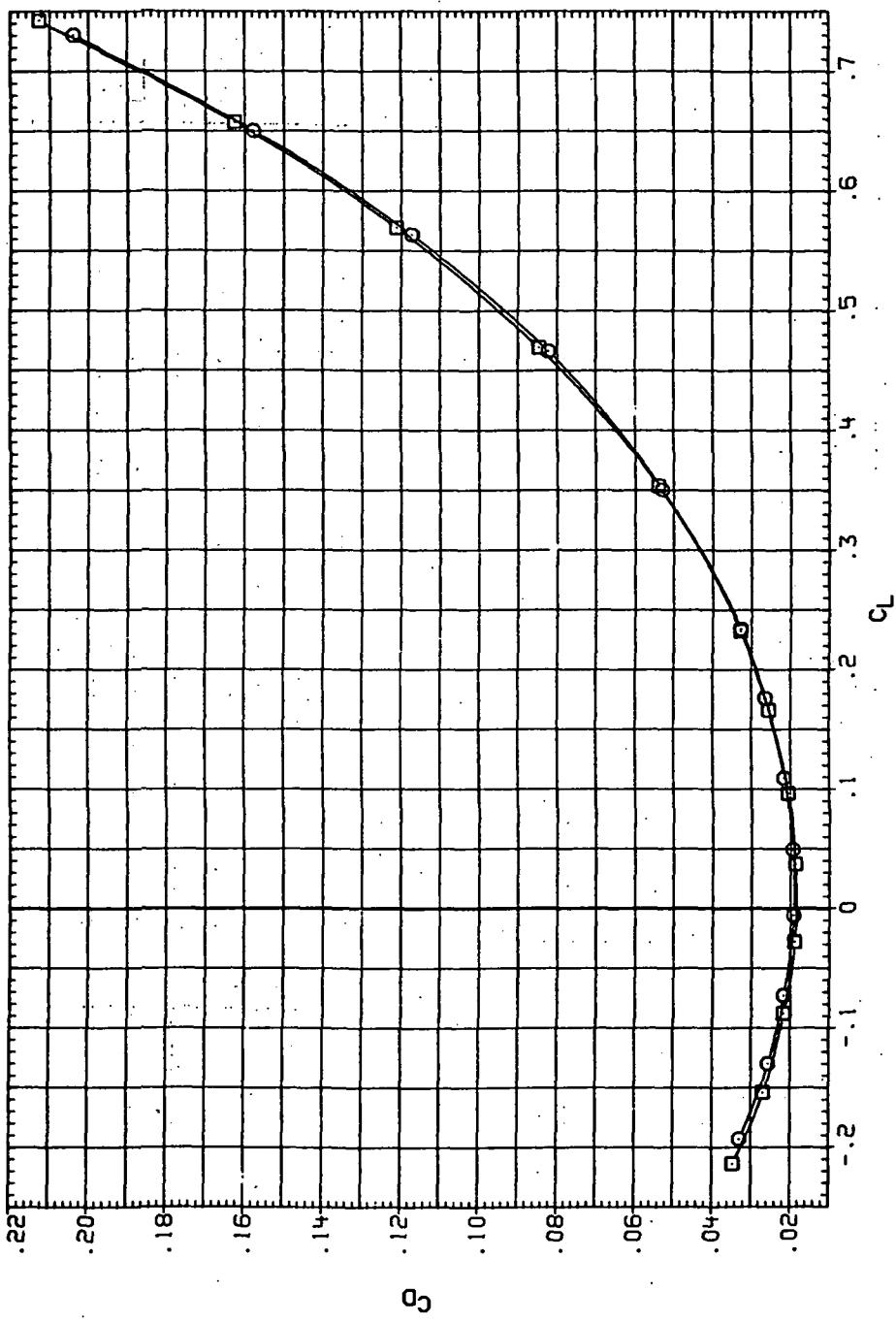


(a)  $C_L$  vs  $\alpha$ .

Figure 56.—Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 45^\circ$ ,  $M = 1.6$  and the NACA 65A204 airfoil).

DATA SET SYMBOL	CONFIGURATION
RJ180	7445B (STEEL)
RJ226	7445B (STEEL)

RN/L Q(NSR)  
6.230 18.500  
8.200 24.400

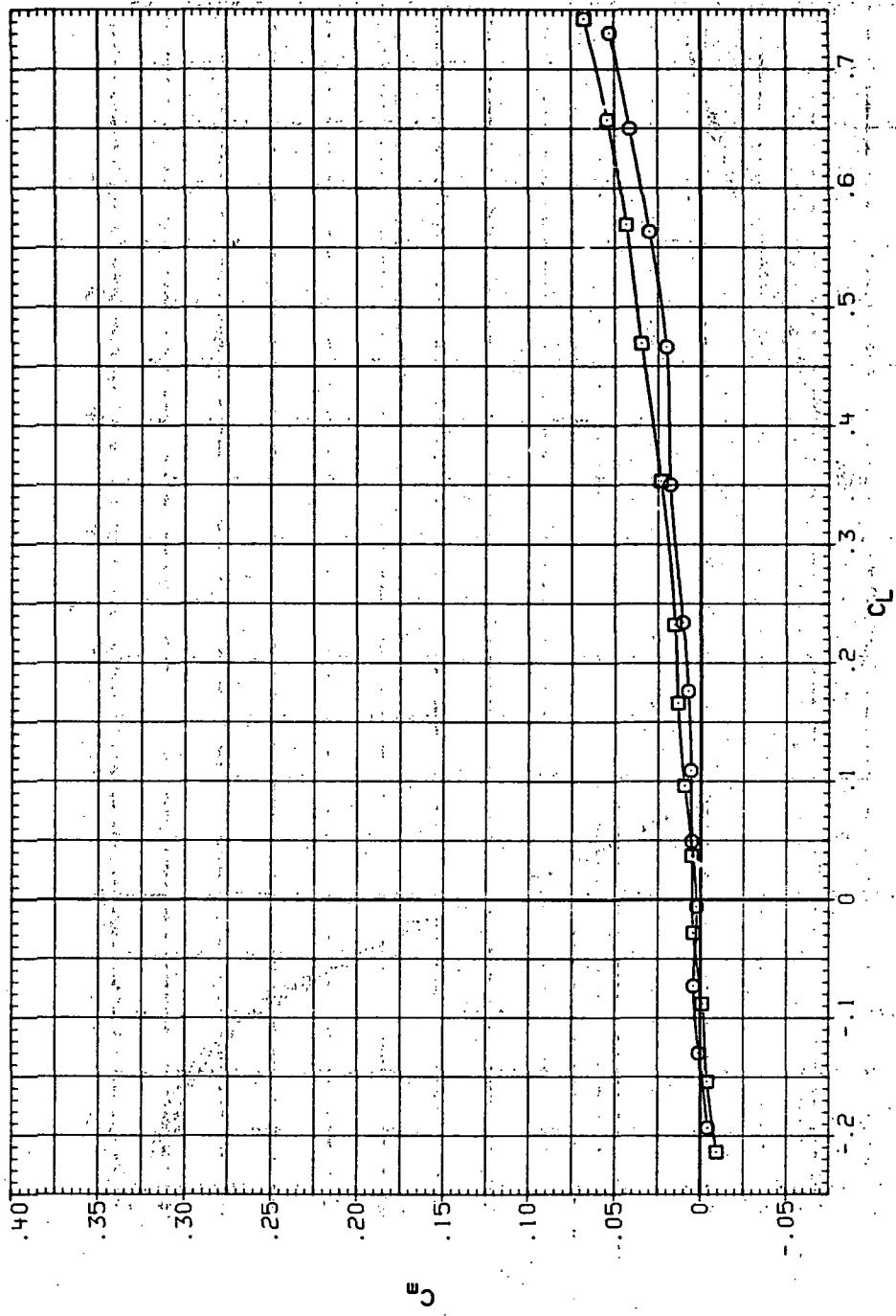


(b)  $C_D$  vs  $C_L$ .

Figure 56.— Continued.

DATA SET SYMBOL CONFIGURATION  
RJR180 □ 7K45B (STEEL)  
RJR226 □ 7K45B (STEEL)

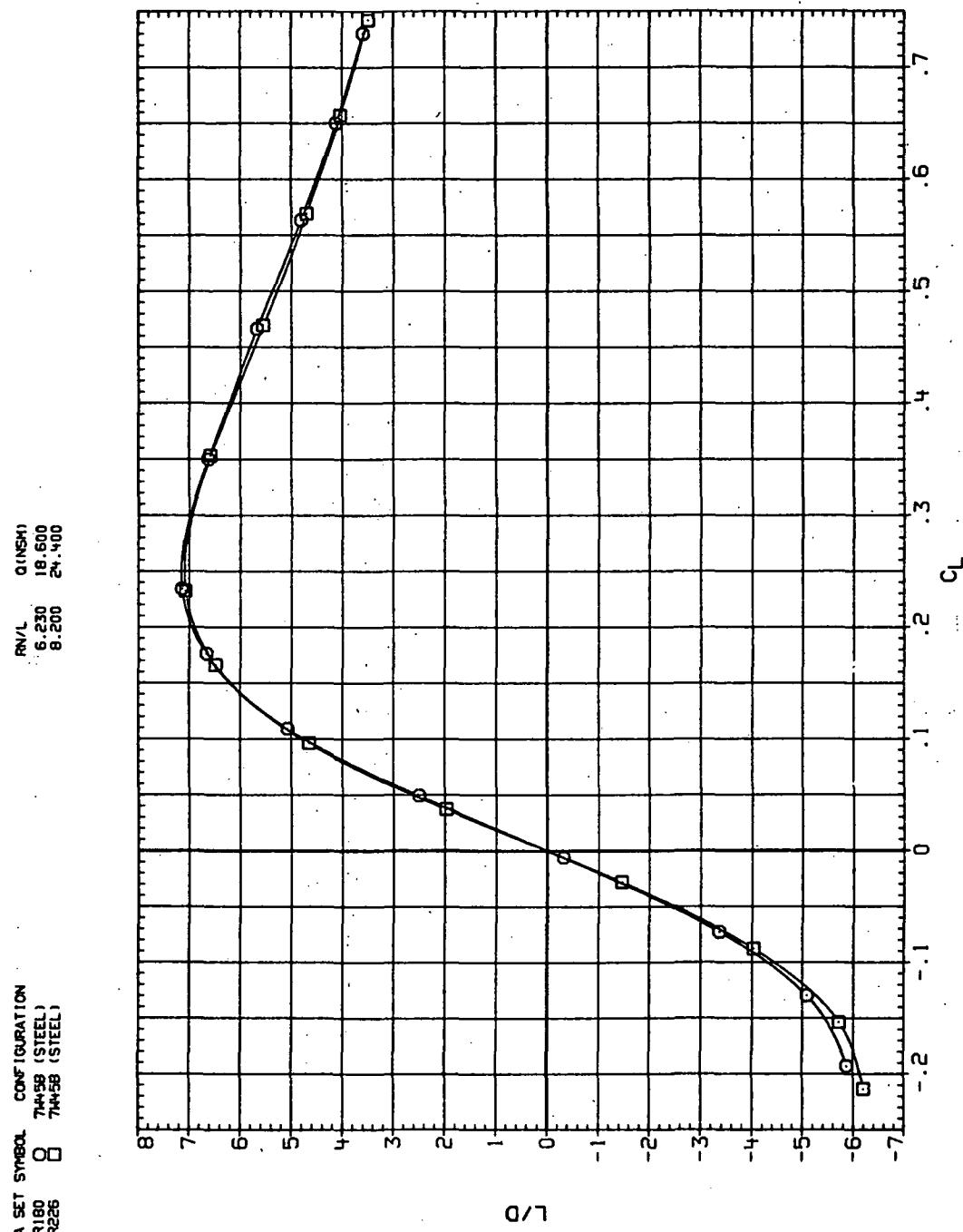
RN/L Q (NSM)  
6.230 18,500  
8.200 24,400



(c)  $C_m$  vs  $C_L$

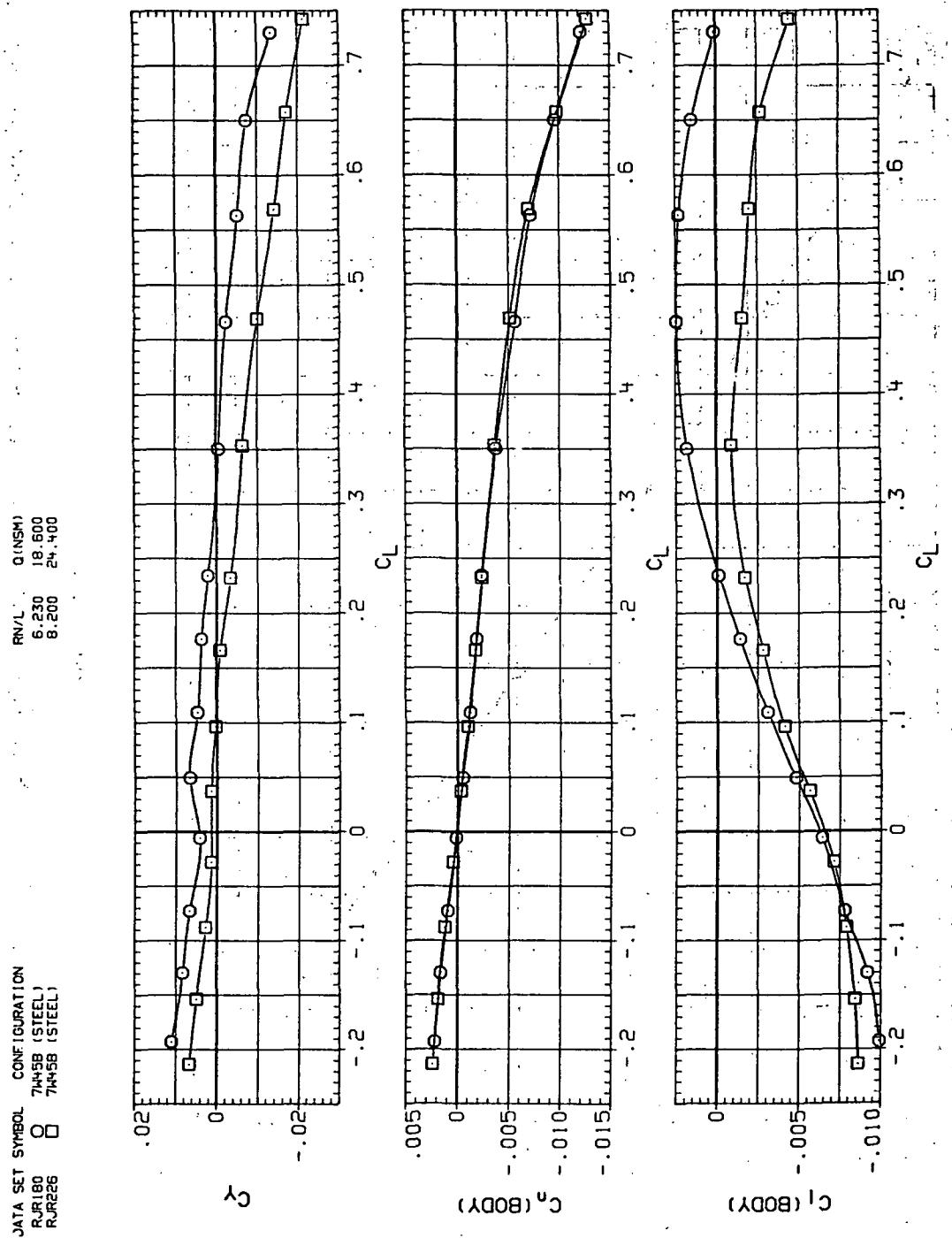
Figure 56.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR180 O 74458 (STEEL)  
 RJR226 □ 74458 (STEEL)



(d)  $L/D$  vs  $C_L$ .

Figure 56.—Continued.

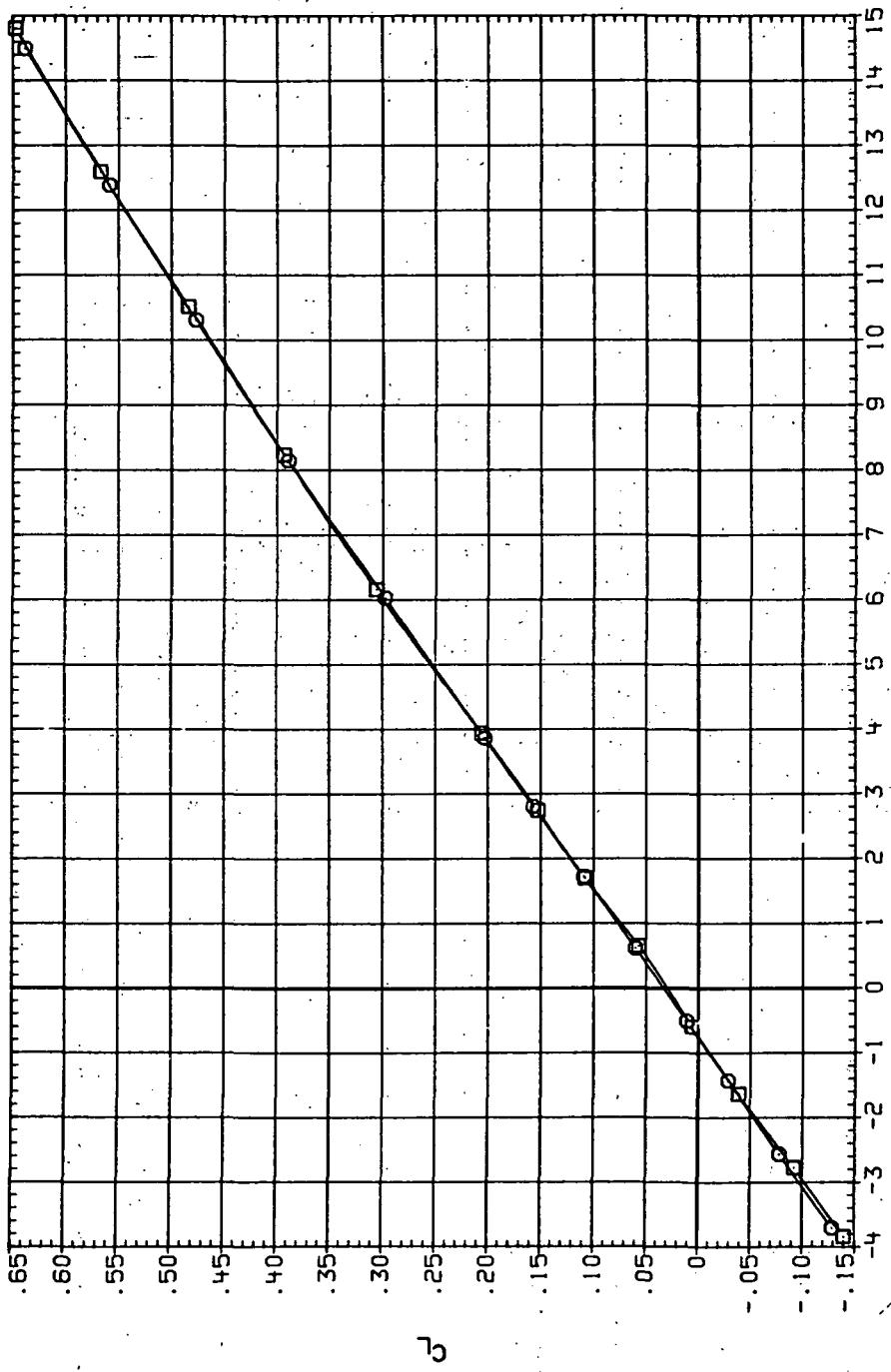


(e)  $C_Y$ ,  $C_n$  and  $C_L$  vs  $C_L$ .

Figure 56.— Concluded.

DATA SET SYMBOL      CONFIGURATION  
 RUR181      7458 (STEEL)  
 RUR227      7458 (STEEL)

DYN/P      0 (NSFM)  
 6.230      18.500  
 8.200      24.700



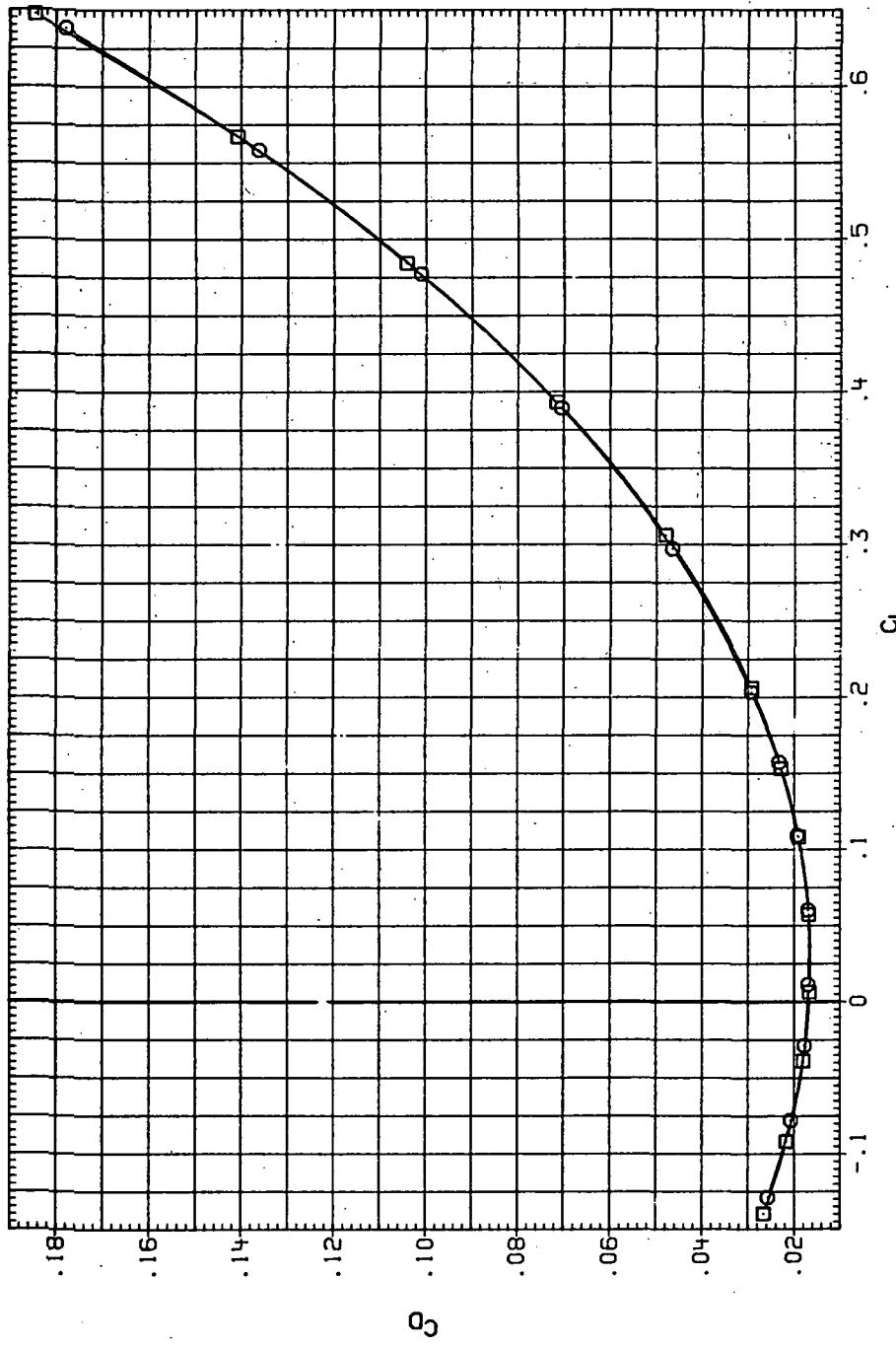
(a)  $C_L$  vs  $\alpha$ .

Figure 5.7.— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 45^\circ$ ,  $M = 2.0$  and the NACA 65A204 airfoil).

ATA SET SYMBOL CONFIGURATION

RJR181 O 74x58 (STEEL)  
RJR227 □ 74x58 (STEEL)

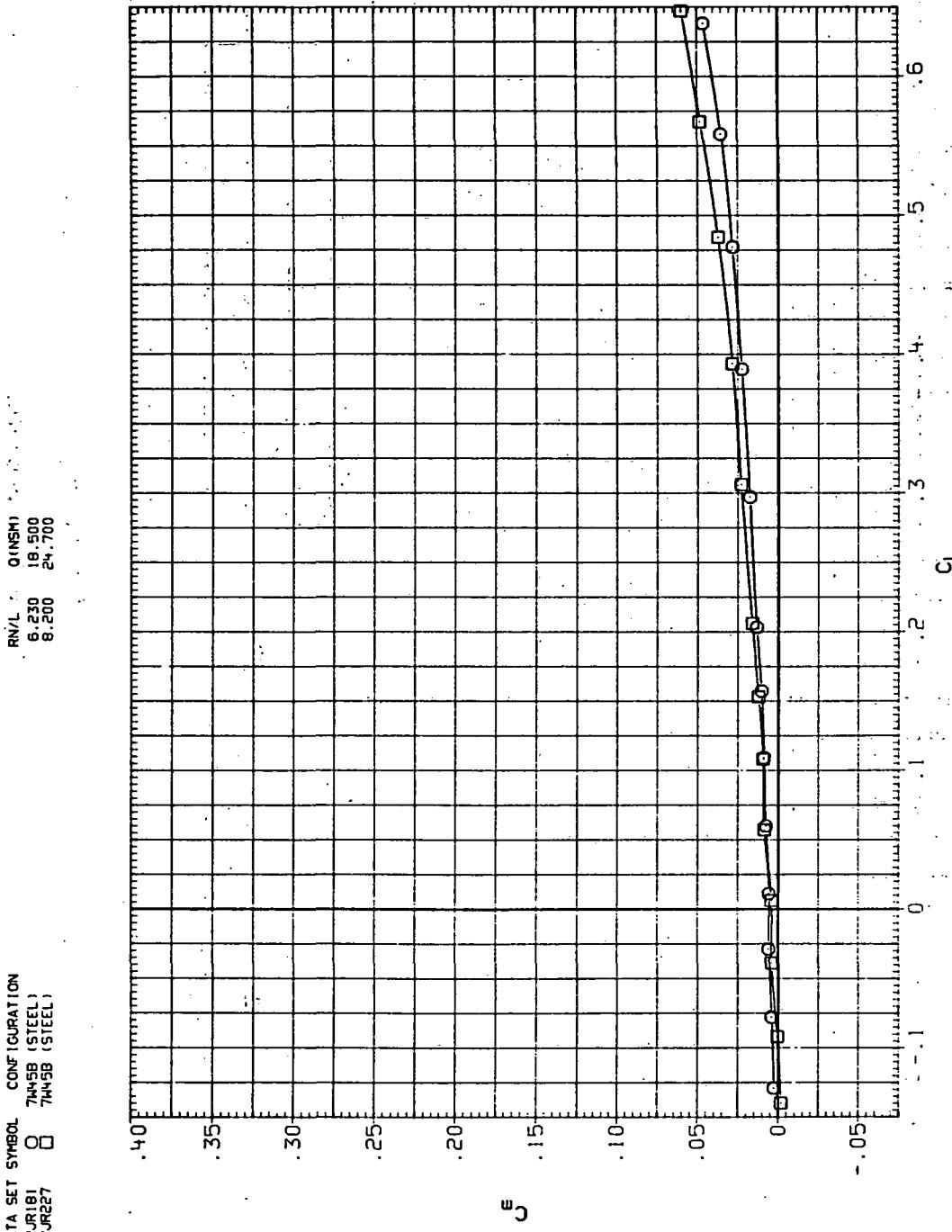
RNL Q (NSM)  
6.230 18.500  
8.200 25.700



(b)  $C_D$  vs  $C_L$ .

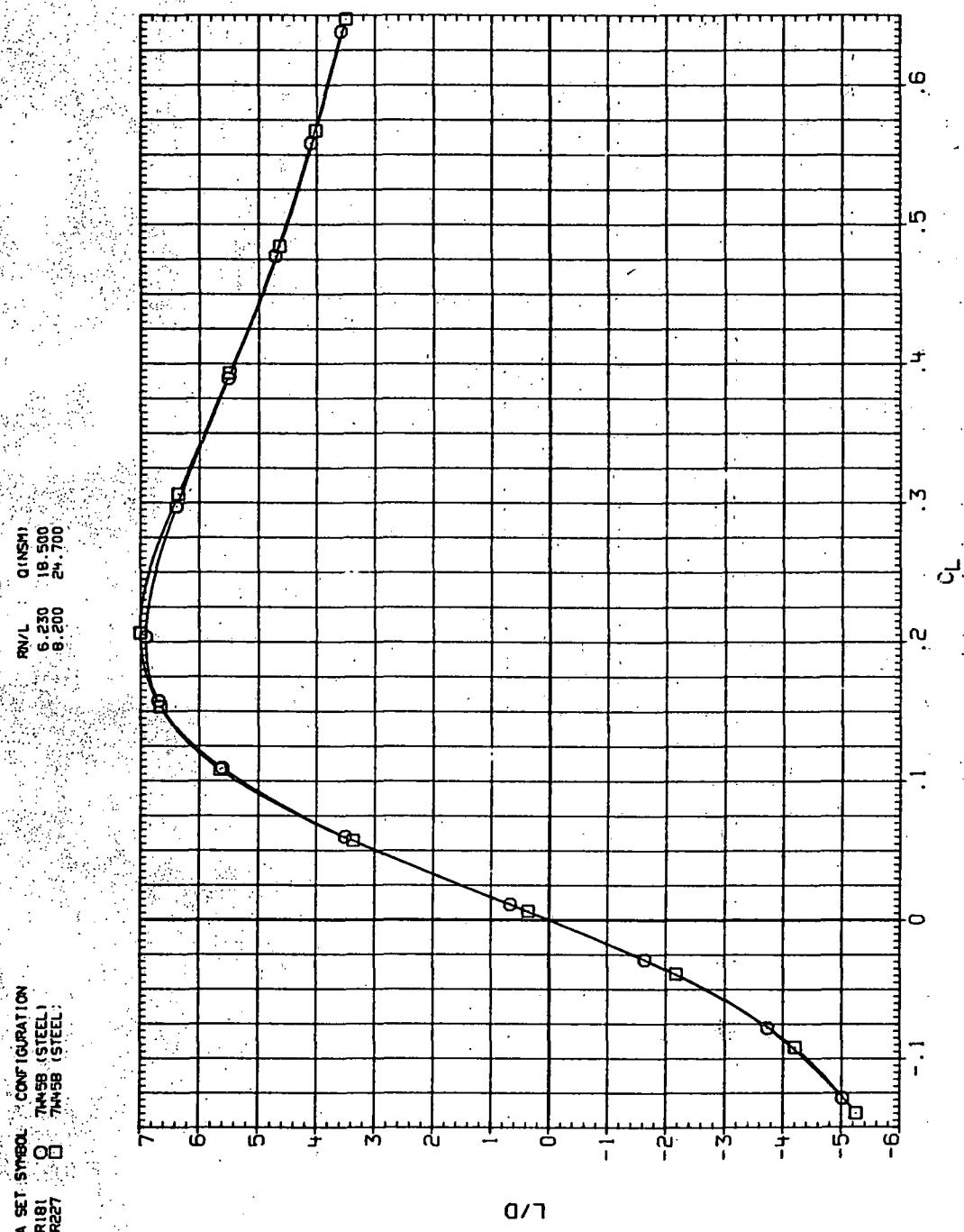
Figure 57.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR181 O 7445B (STEEL)  
 RJR227 □ 7445B (STEEL)



(c)  $C_m$  vs  $C_L$

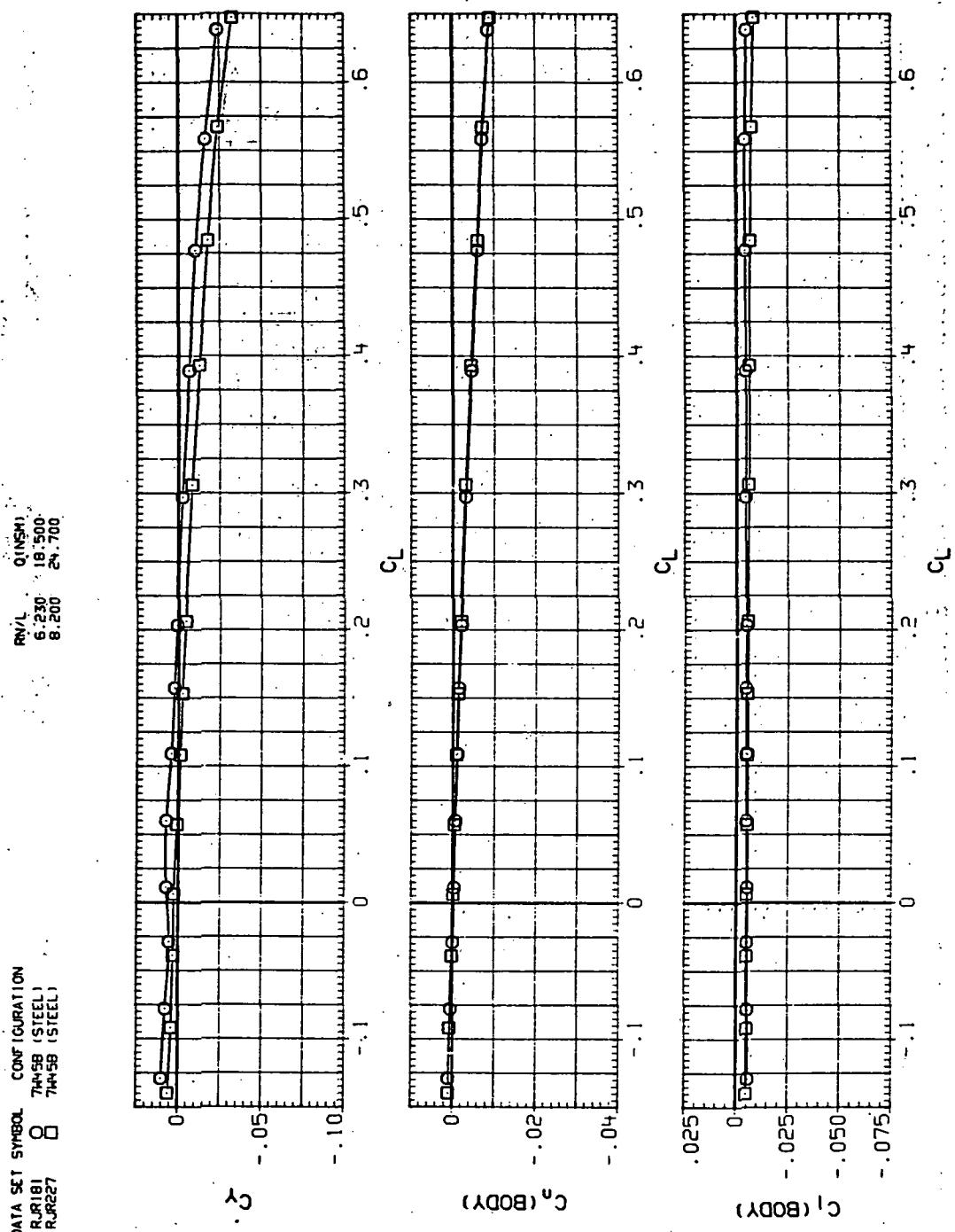
Figure 57.—Continued.



(d)  $L/D$  vs  $Q_L$ .

Figure 57.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR181 7445B (STEEL)  
 RJR227 7445B (STEEL)



(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$

Figure 57.— Concluded.

DATA SET SYMBOL CONFIGURATION  
 RJP183 O 7450B (STEEL)  
 RJR229 □ 7450B (STEEL)

RN/L Q (NSM)  
 6.230 7.480  
 3.200 9.900

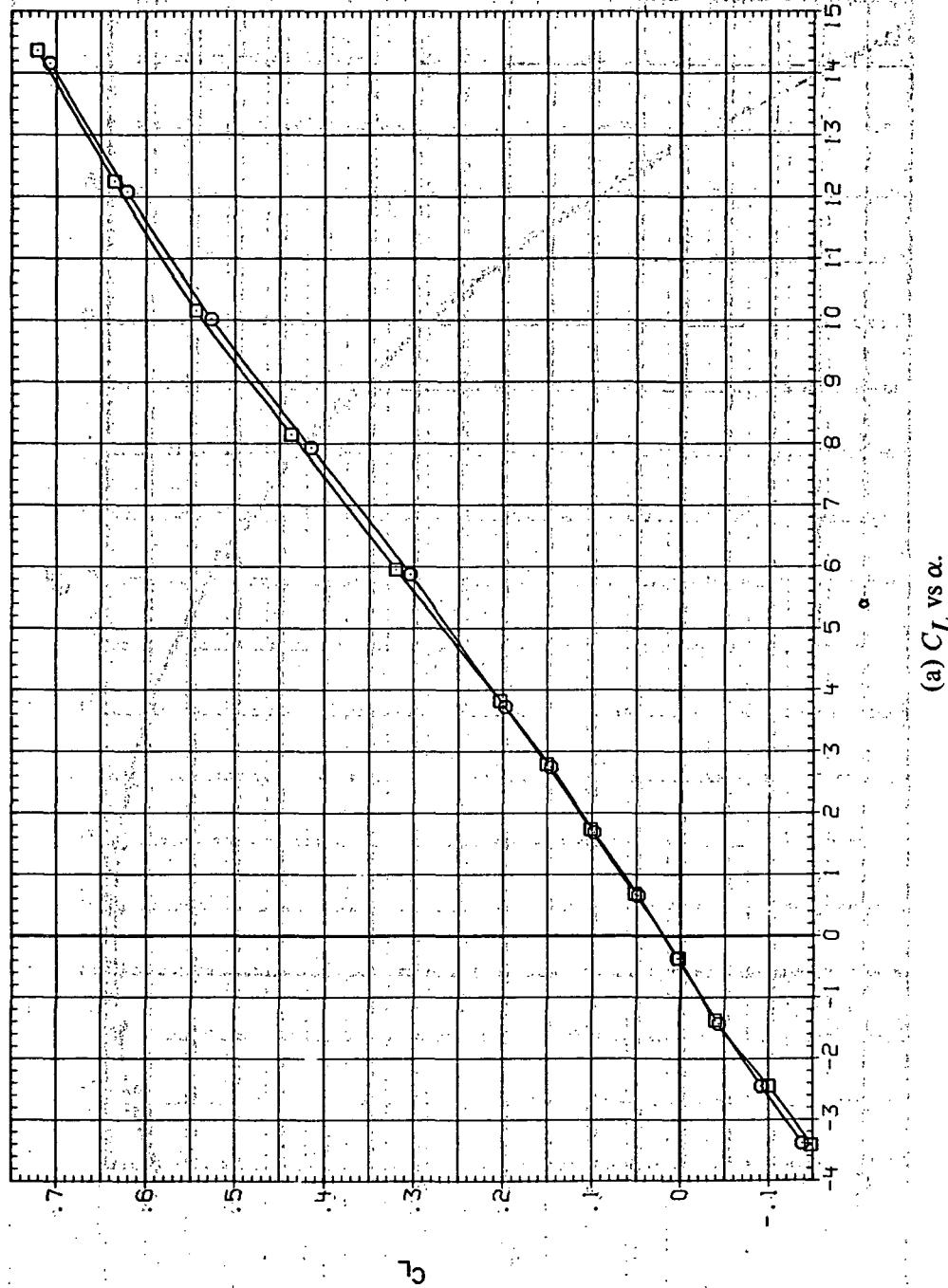
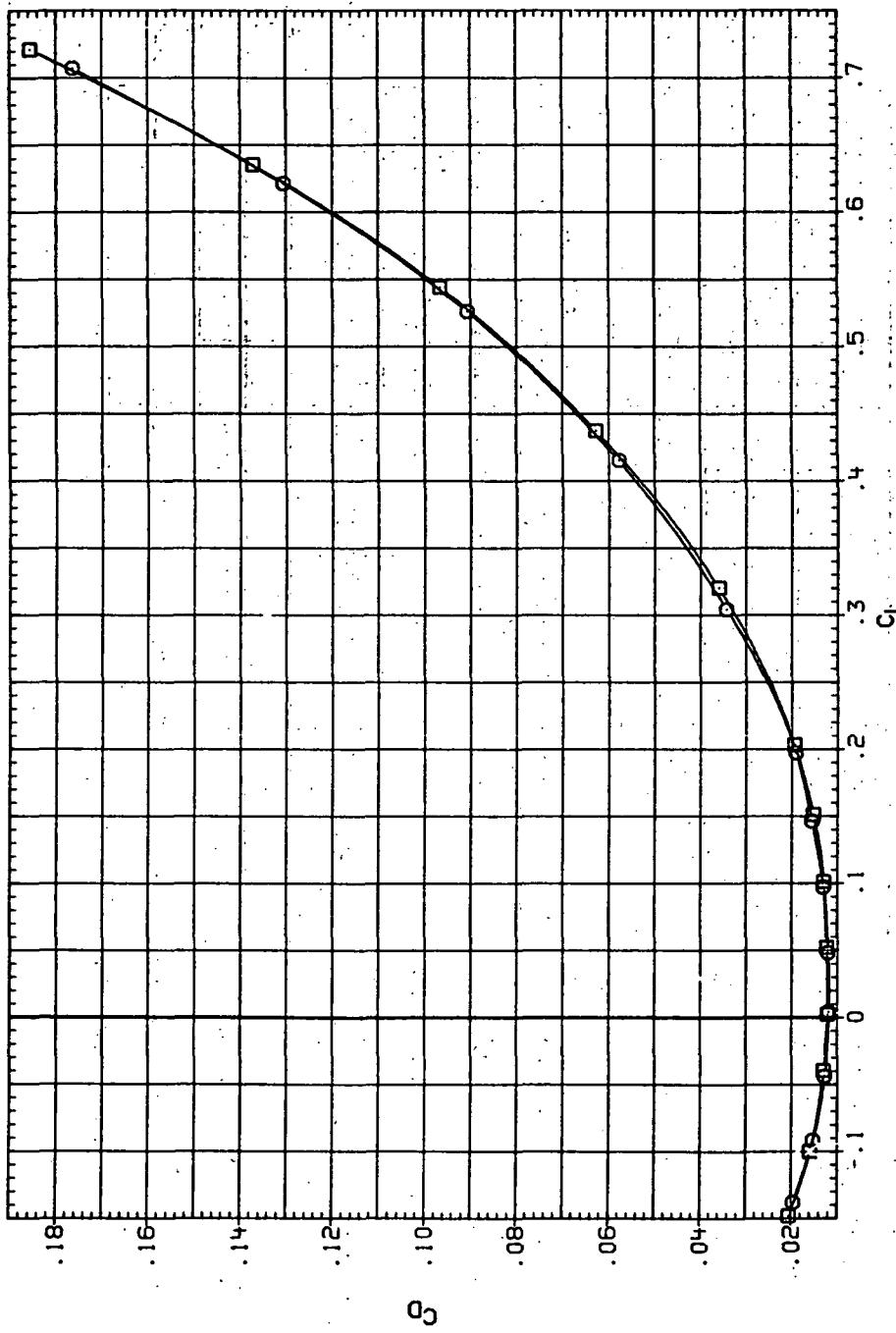
(a)  $C_L$  vs  $\alpha$ .

Figure 58.—Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 50^\circ, M = 0.4$  and the NACA 65A204 airfoil).

DATA SET SYMBOL	CONFIGURATION	$q_{INSH}$	$R/V/L$
R.R1B3	O	7.450	6.230
R.R2B8	□	5.900	8.200



(b)  $C_D$  vs  $C_L$ .

Figure 58.—Continued.

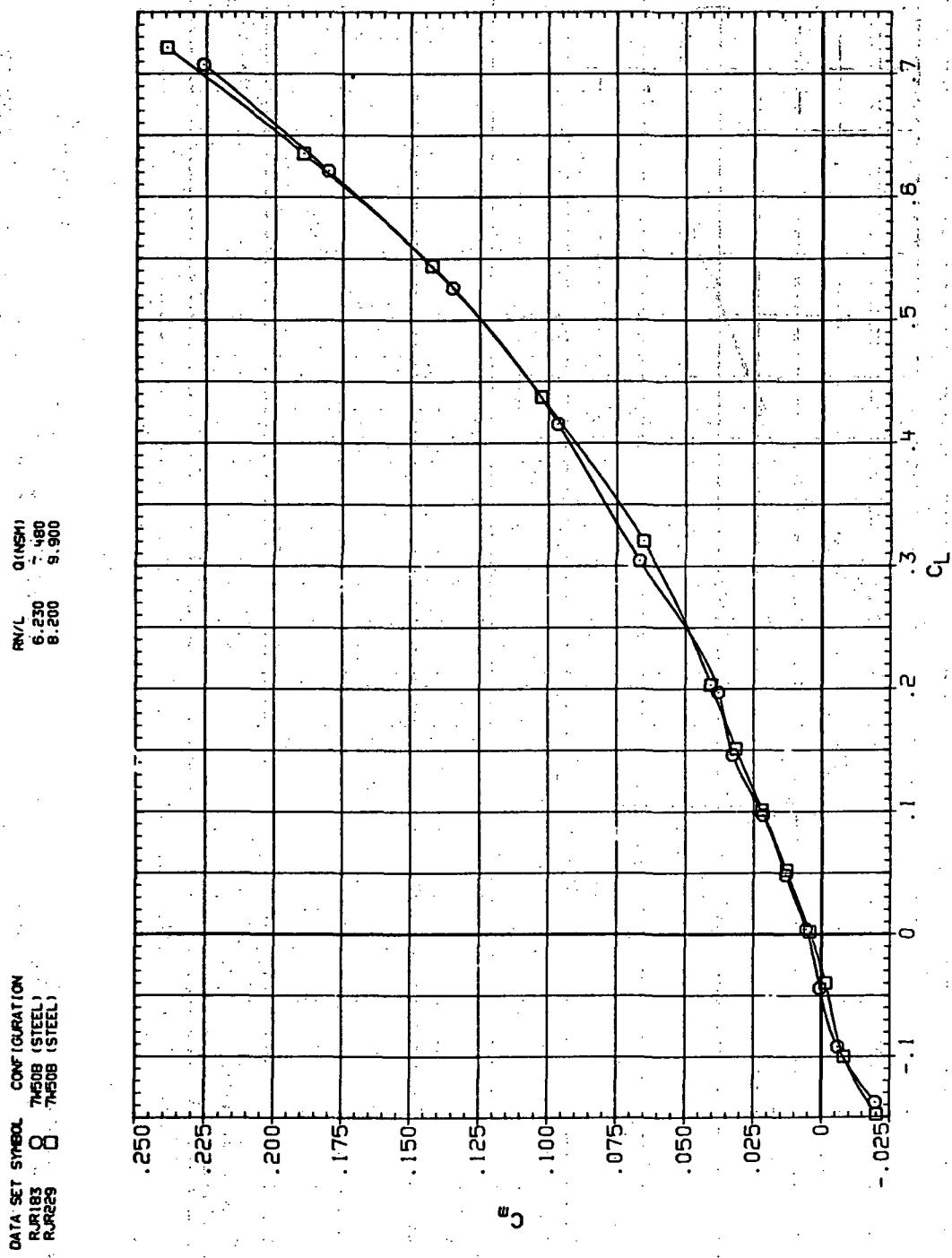
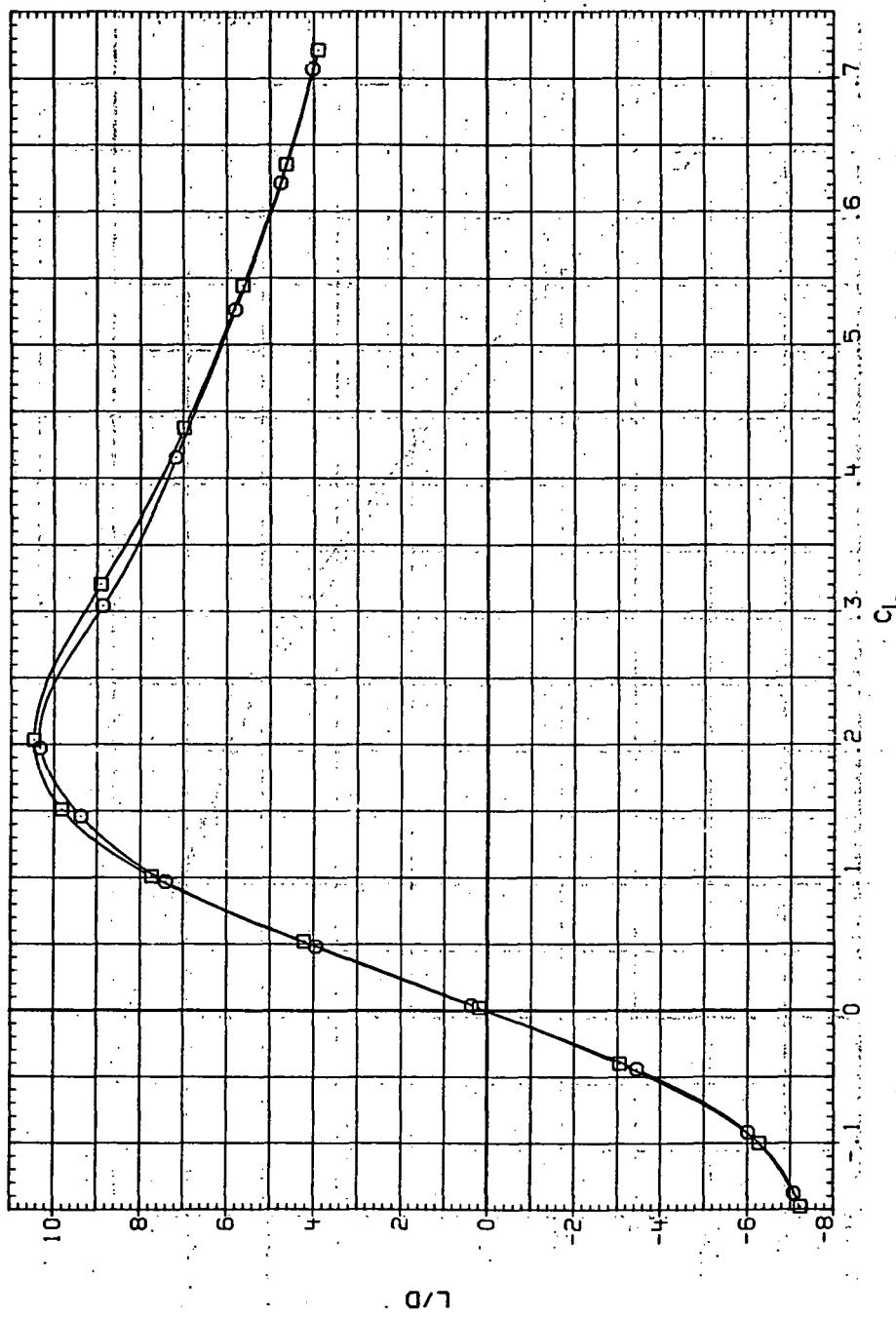
(c)  $C_m$  vs  $C_L$ .

Figure 58.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RUR183 O 7450B (STEEL)  
 RJR229 □ 7450B (STEEL)

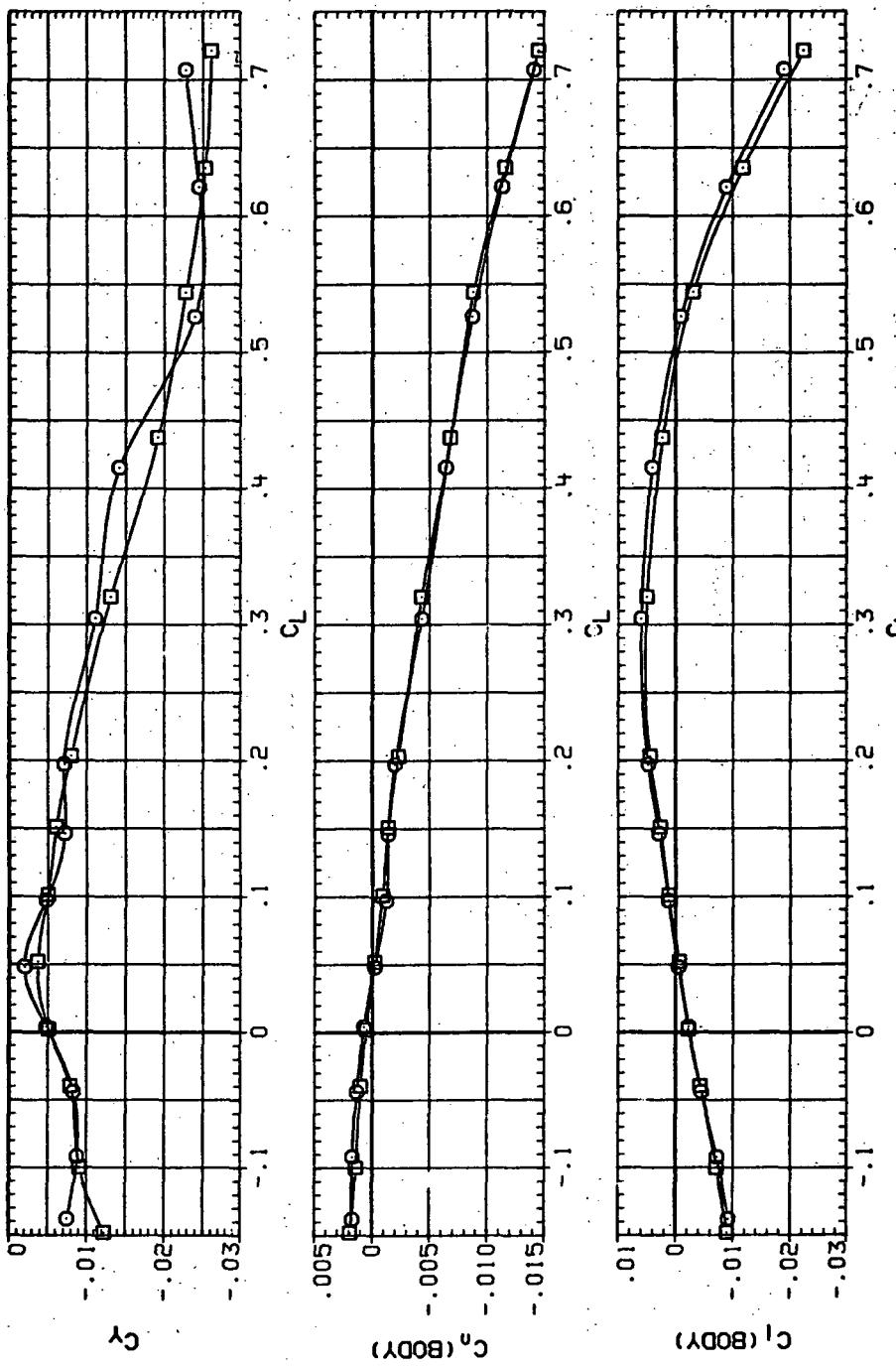
RN/L Q (NSM)  
 6.230 -7.480  
 8.200 9.900



(d)  $L/D$  vs  $C_L$ .

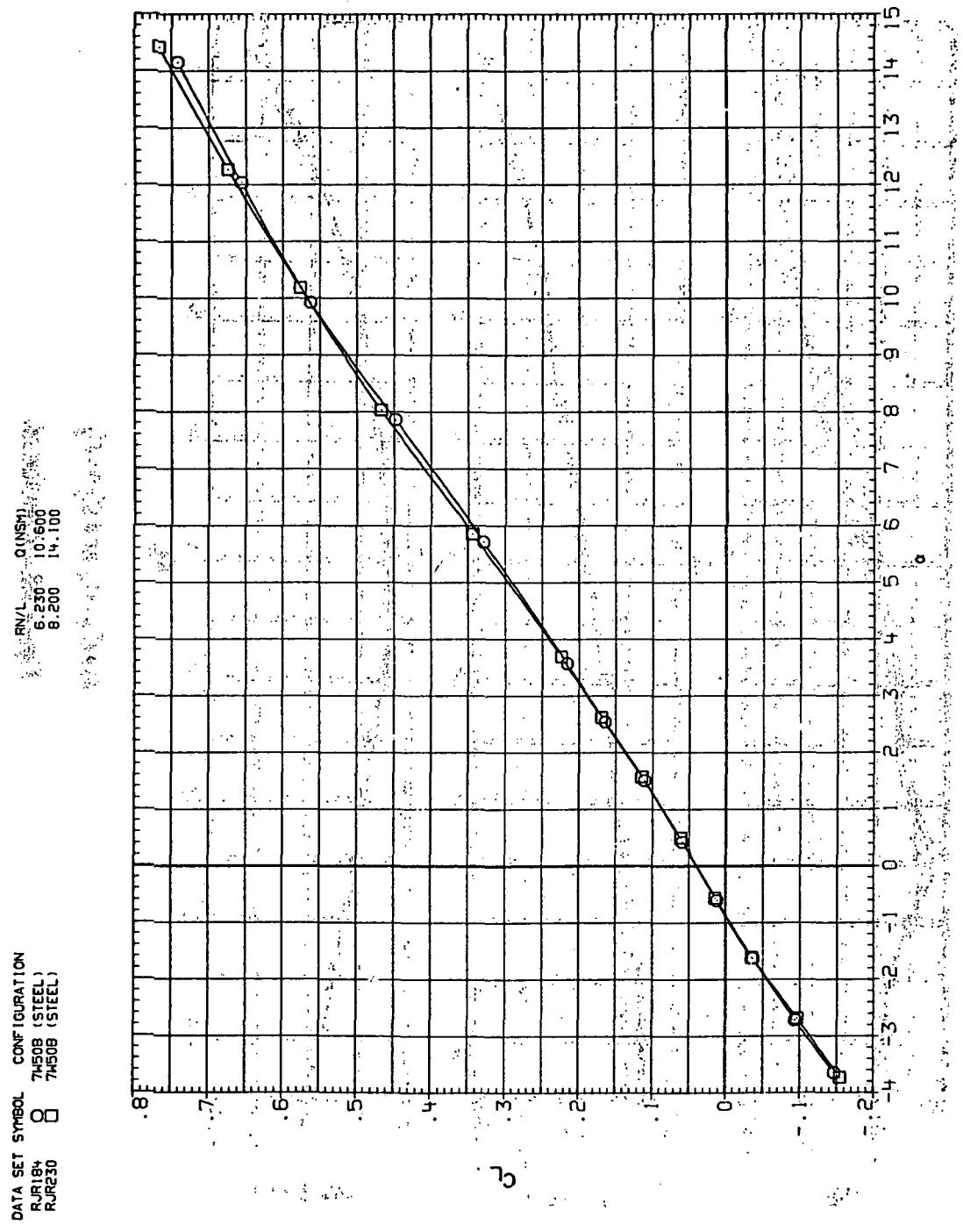
Figure 58.—Continued.

DATA SET SYMBOL	CONFIGURATION	RN/L	Q (NSM)
RJ1B3	7450B (STEEL)	6.230	7.480
RJ2B3	7450B (STEEL)	8.200	9.900



(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

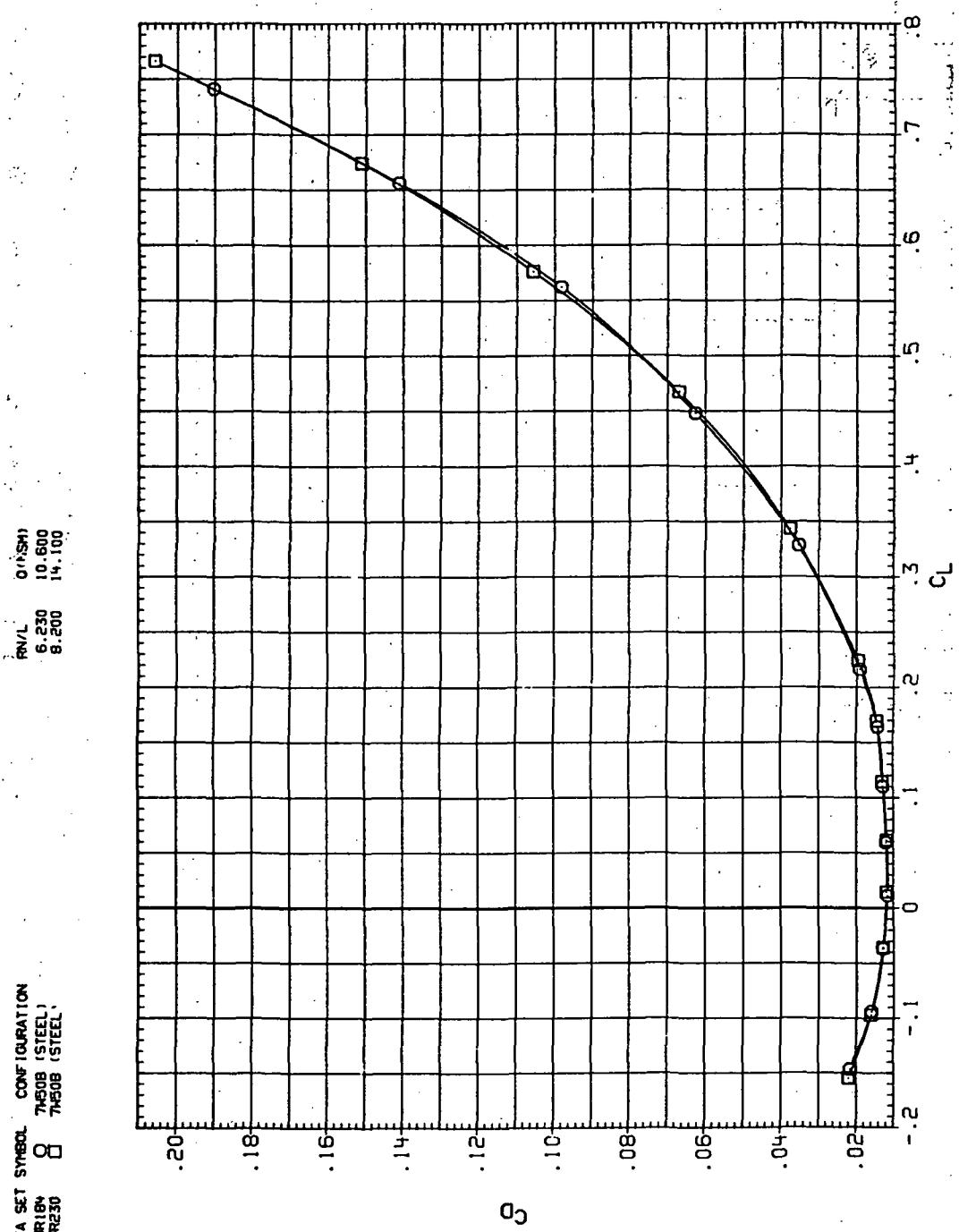
Figure 58.— Concluded.



(a)  $C_L$  vs  $\alpha$ .

Figure 59. Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 50^\circ$ ,  $M = 0.6$  and the NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 R.R16N 7450B (STEEL)  
 R.R230 7450B (STEEL)

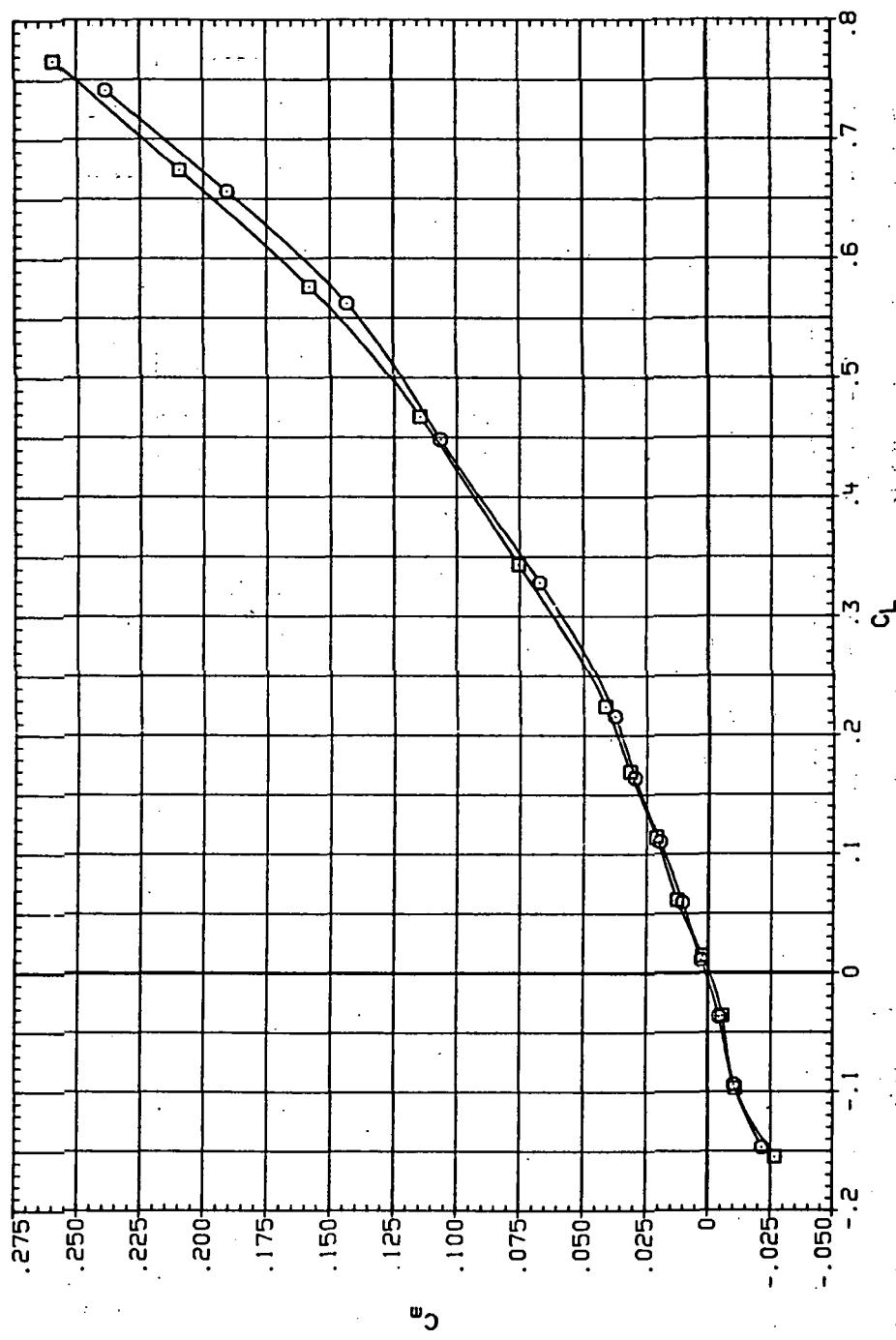


(b)  $C_D$  vs  $C_L$

Figure 59.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR184 O 7450B (STEEL)  
 RJR230 □ 7450B (STEEL)

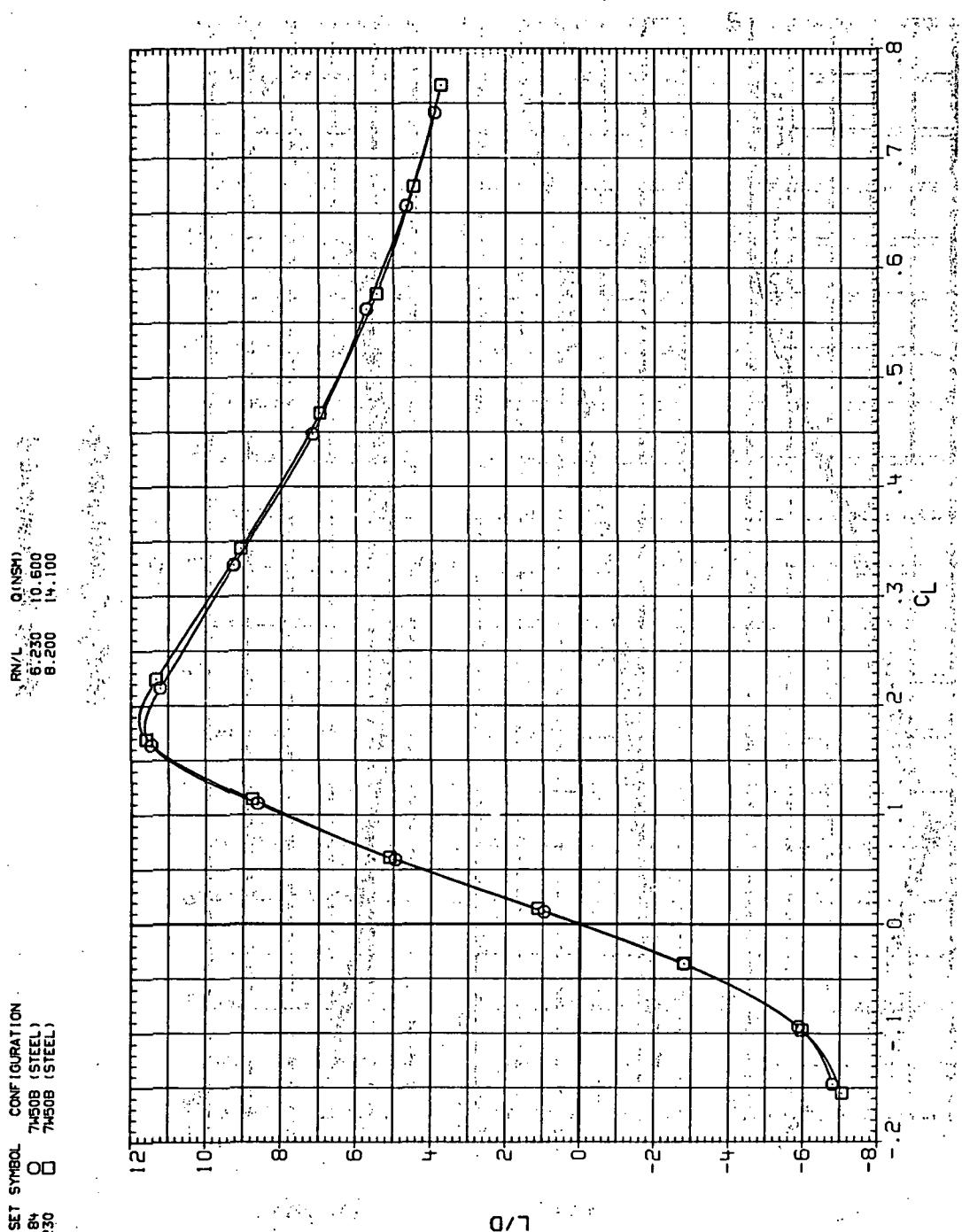
RN/L C (NSM)  
 6.230 10.600  
 8.200 14.100



(c)  $C_m$  vs  $C_L$ .

Figure 59.—Continued.

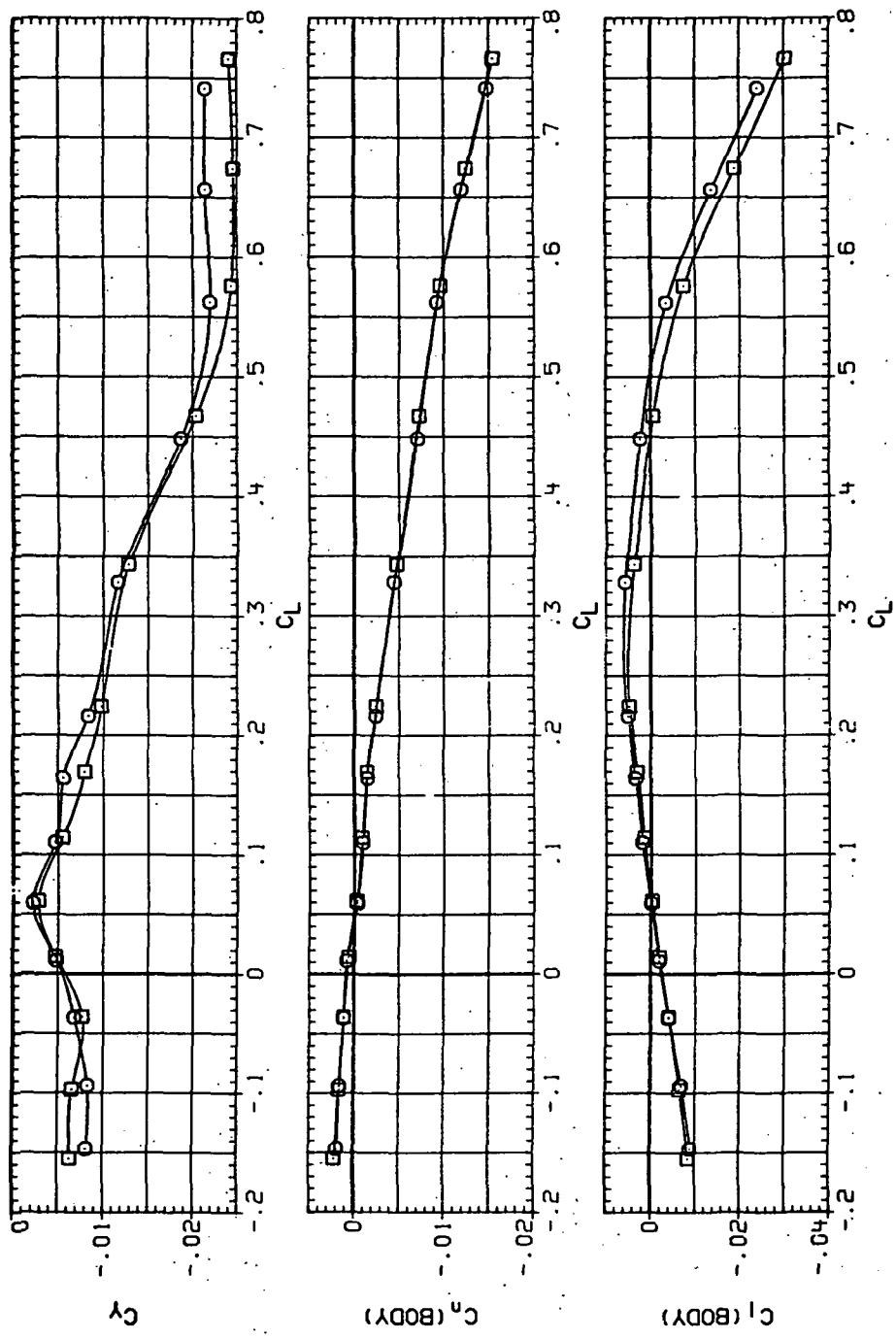
DATA SET SYMBOL CONFIGURATION  
 RUR188 O 7450B (STEEL)  
 RJR230 □ 7450B (STEEL)



(d)  $L/D$  vs  $C_L$ .

Figure 59.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR194 T7508 (STEEL)  
 RJR230 T7508 (STEEL)

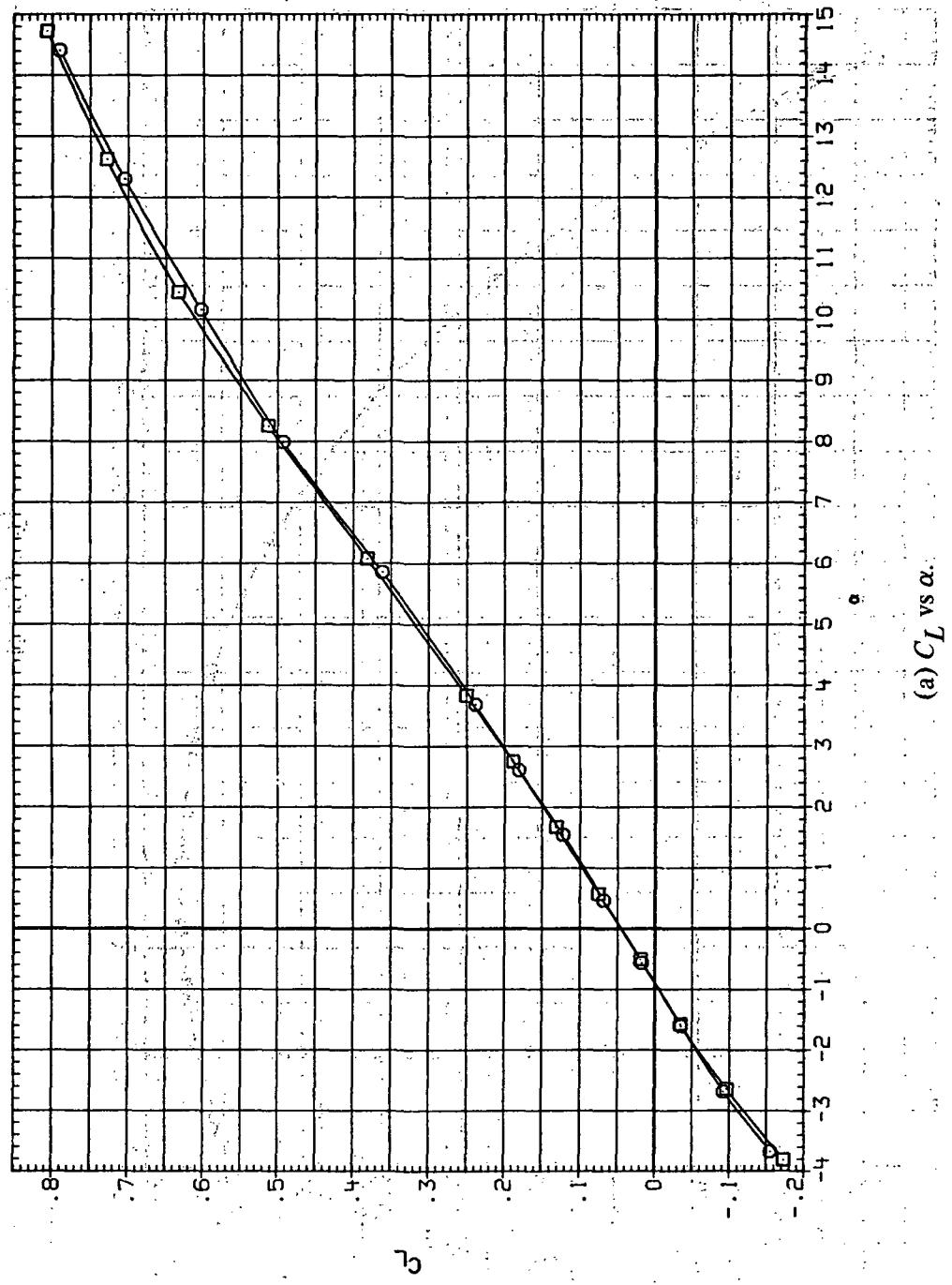


(e)  $C_Y$ ,  $C_n$  and  $C_i$  vs  $C_L$ .

Figure 59.— Concluded.

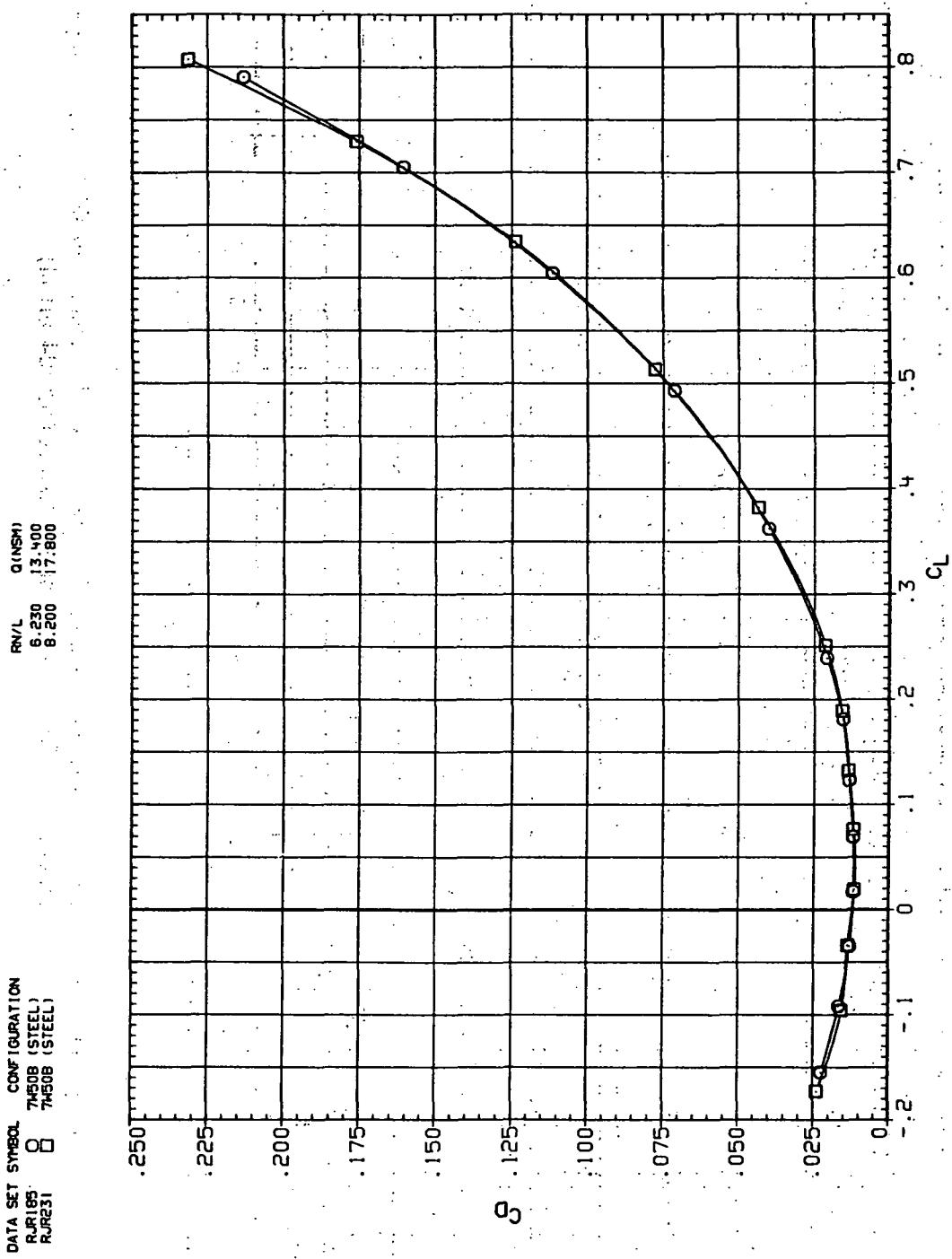
DATA SET SYMBOL CONFIGURATION  
 RUR15 O 74508 (STEEL)  
 RUR231 □ 74508 (STEEL)

RNL Q (NSM)  
 6.230 13.400  
 8.200 17.800



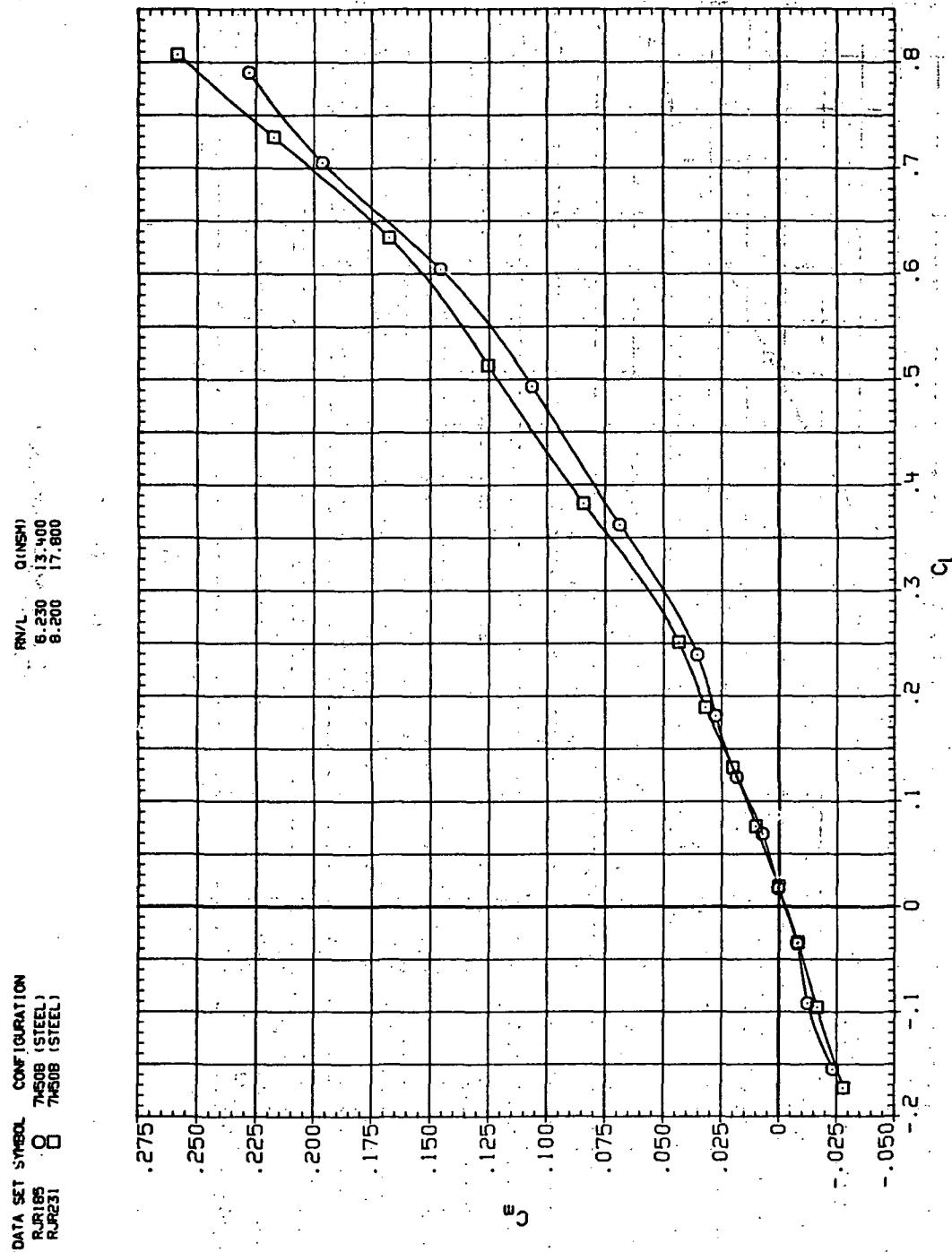
(a)  $C_L$  vs  $\alpha$ .

Figure 60.—Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 50^\circ$ ,  $M = 0.8$ , and the NACA 65A204 airfoil).



(b)  $C_D$  vs  $C_L$ .

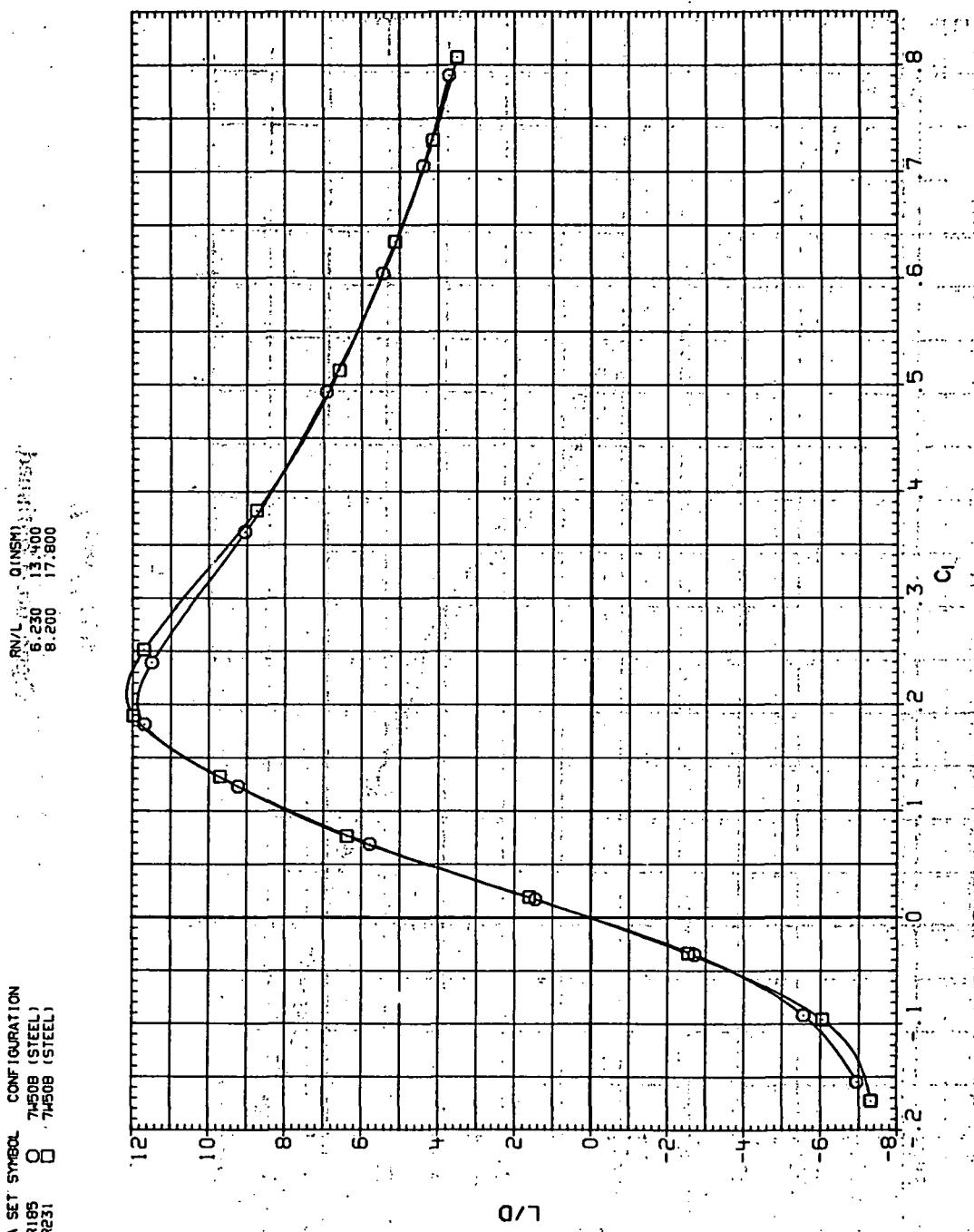
Figure 60.—Continued.



(c)  $C_m$  vs  $C_L$ .

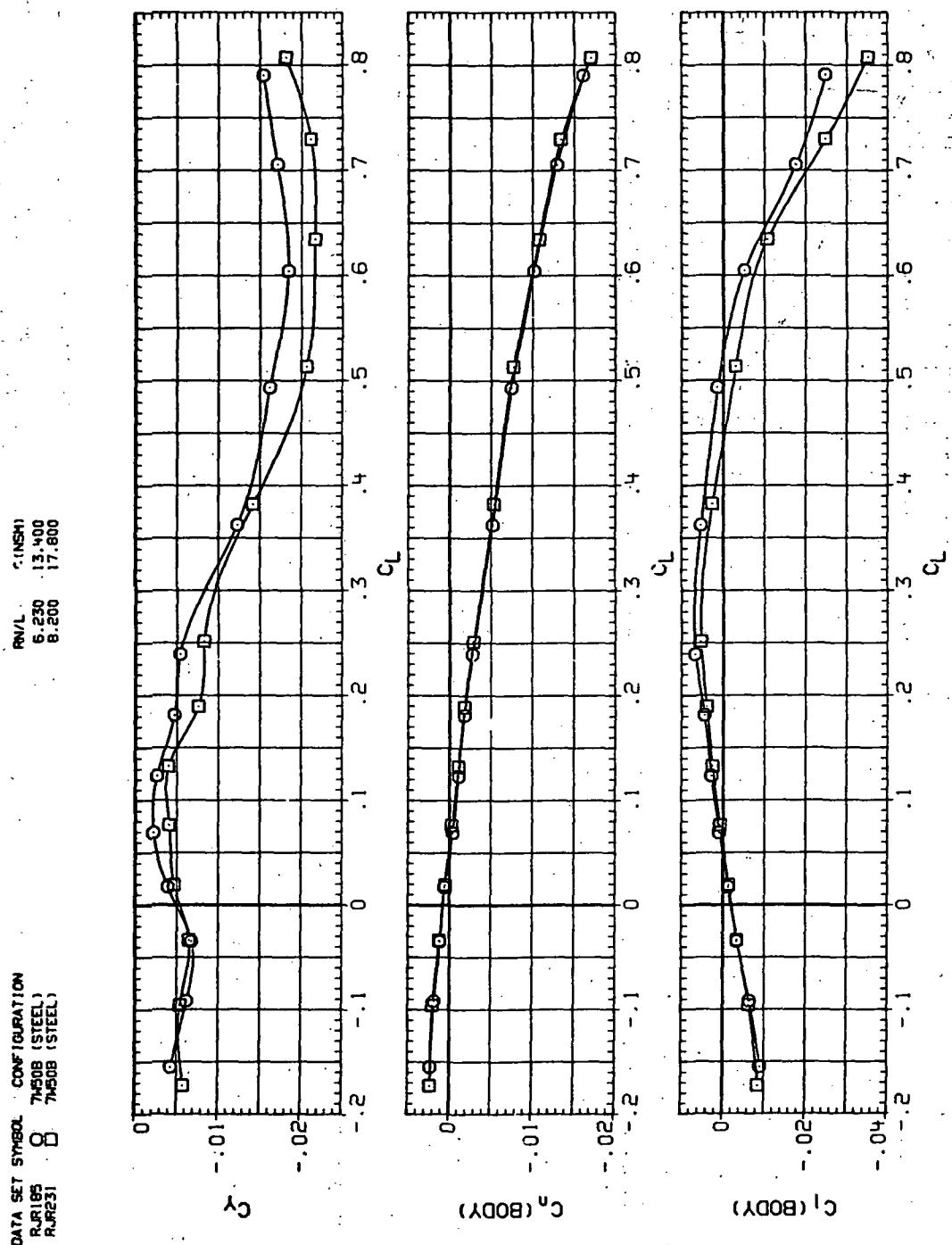
Figure 60.- Continued.

DATA SET SYMBOL CONFIGURATION  
 R.JR185 O 7450B (STEEL)  
 R.JR231 □ 7450B (STEEL)



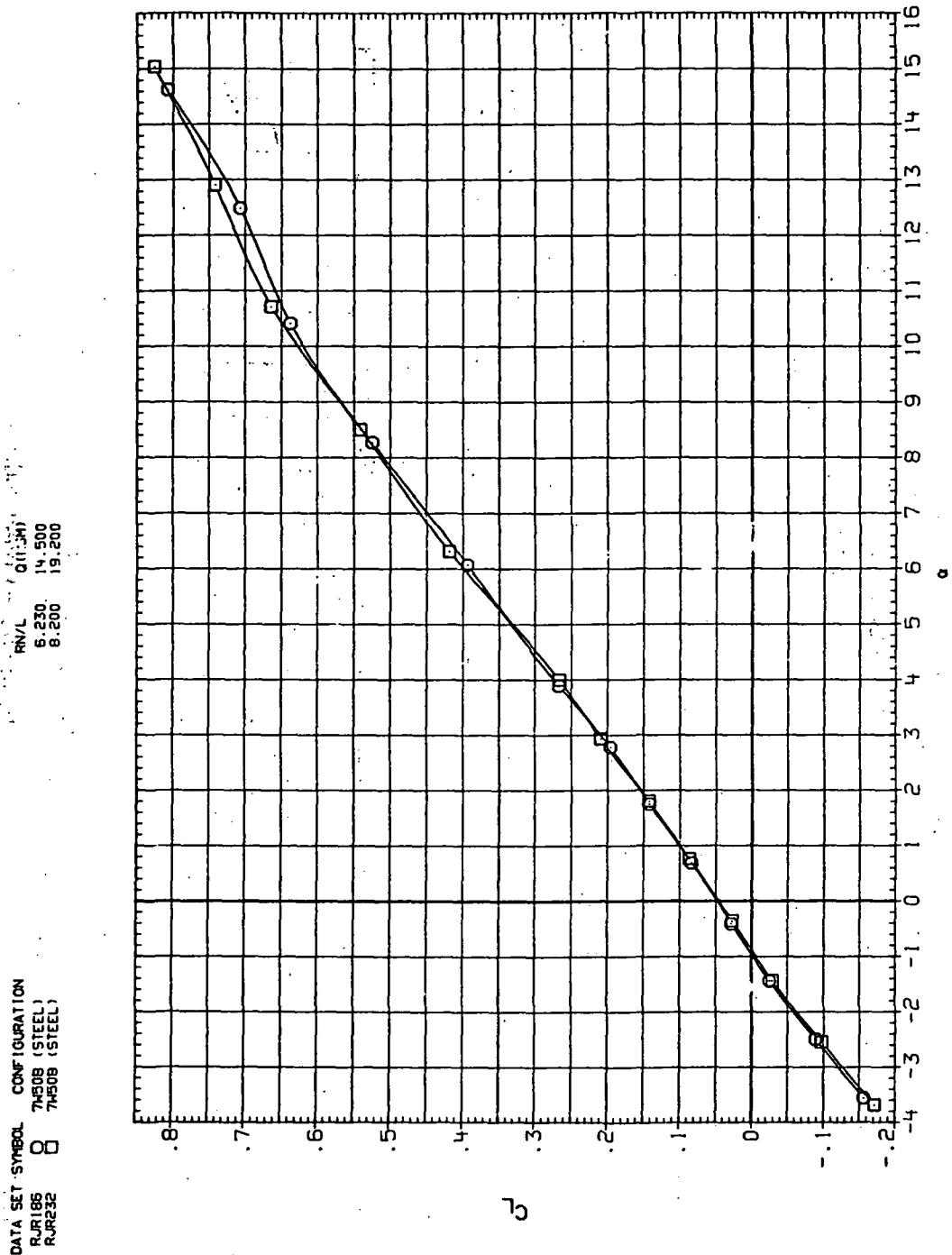
(d)  $L/D$  vs  $C_L$ .

Figure 60-(Continued).



(e)  $C_Y$ ,  $C_n$  and  $C_L$  vs  $C_D$ .

Figure 60.—Concluded.

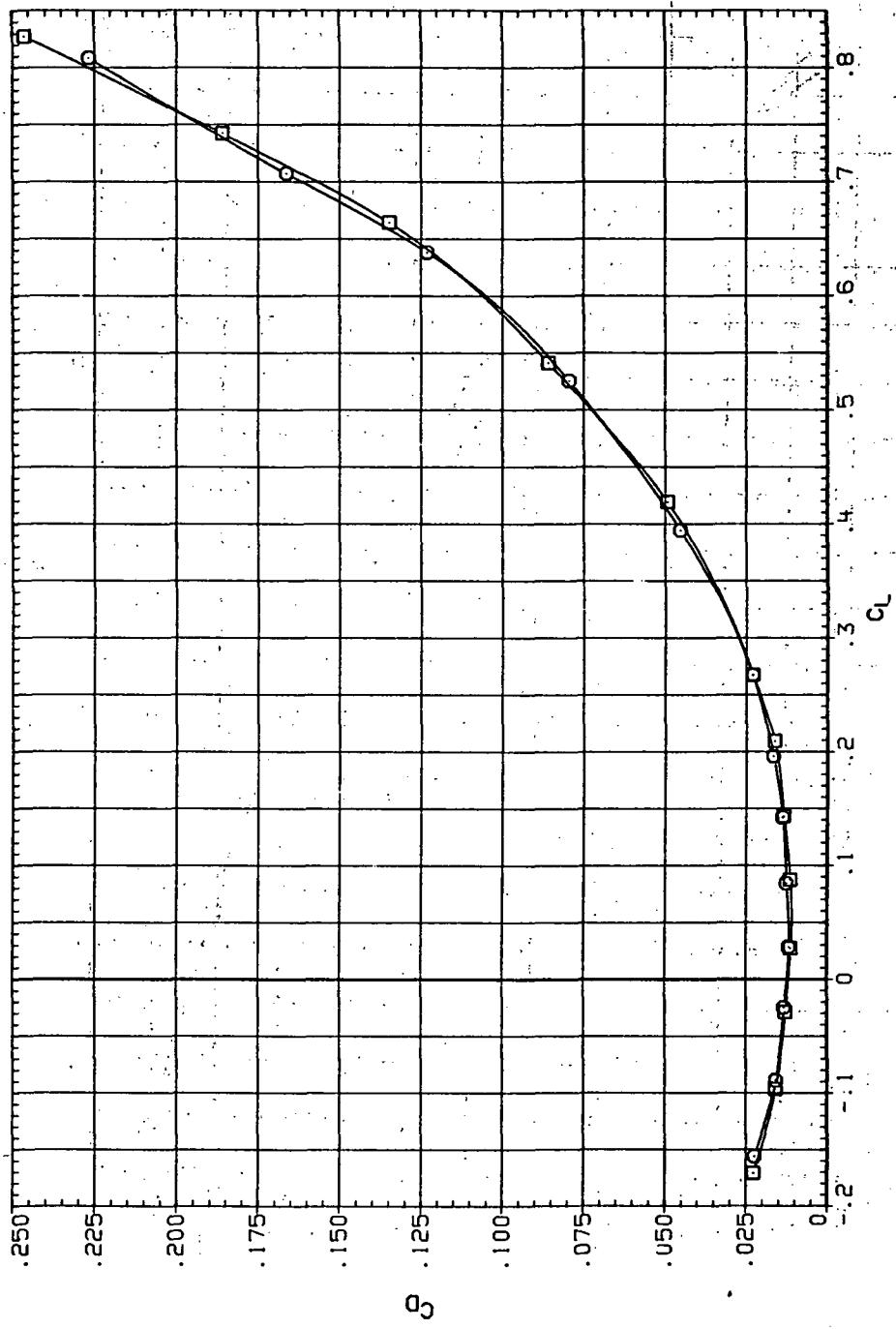


(a)  $C_L$  vs  $\alpha$ .

Figure 61.— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 50^\circ$ ,  $M = 0.9$  and the NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 R(J)186 O 7.508 (STEEL)  
 R(J)232 □ 7.4508 (STEEL)

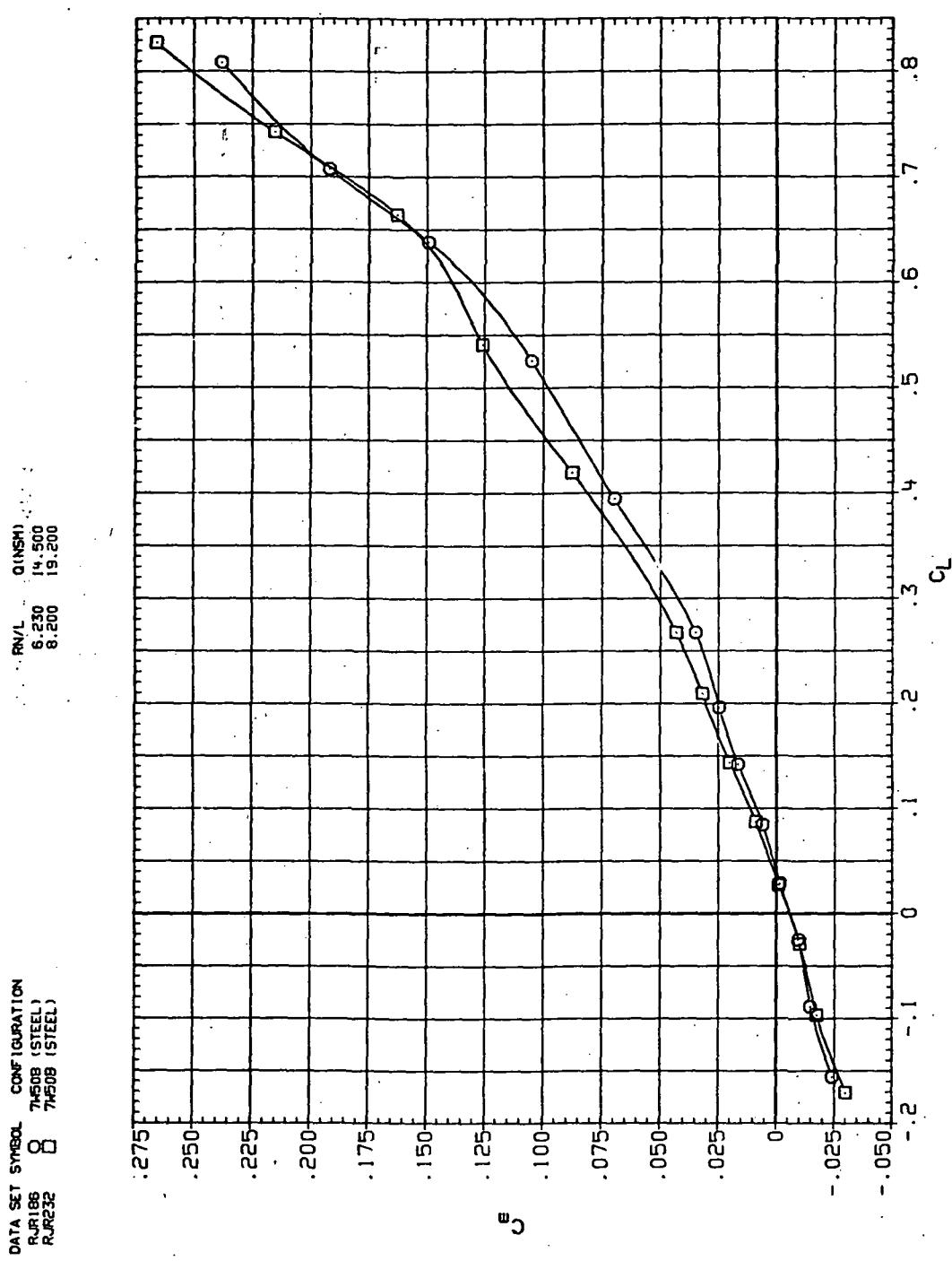
RN/L = .7 Q (NSM) = 14,500  
 6.230 19,200  
 8.200



(b)  $C_D$  vs  $C_L$ .

Figure 61.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RR1186 O 74508 (STEEL)  
 RR2322 □ 74508 (STEEL)

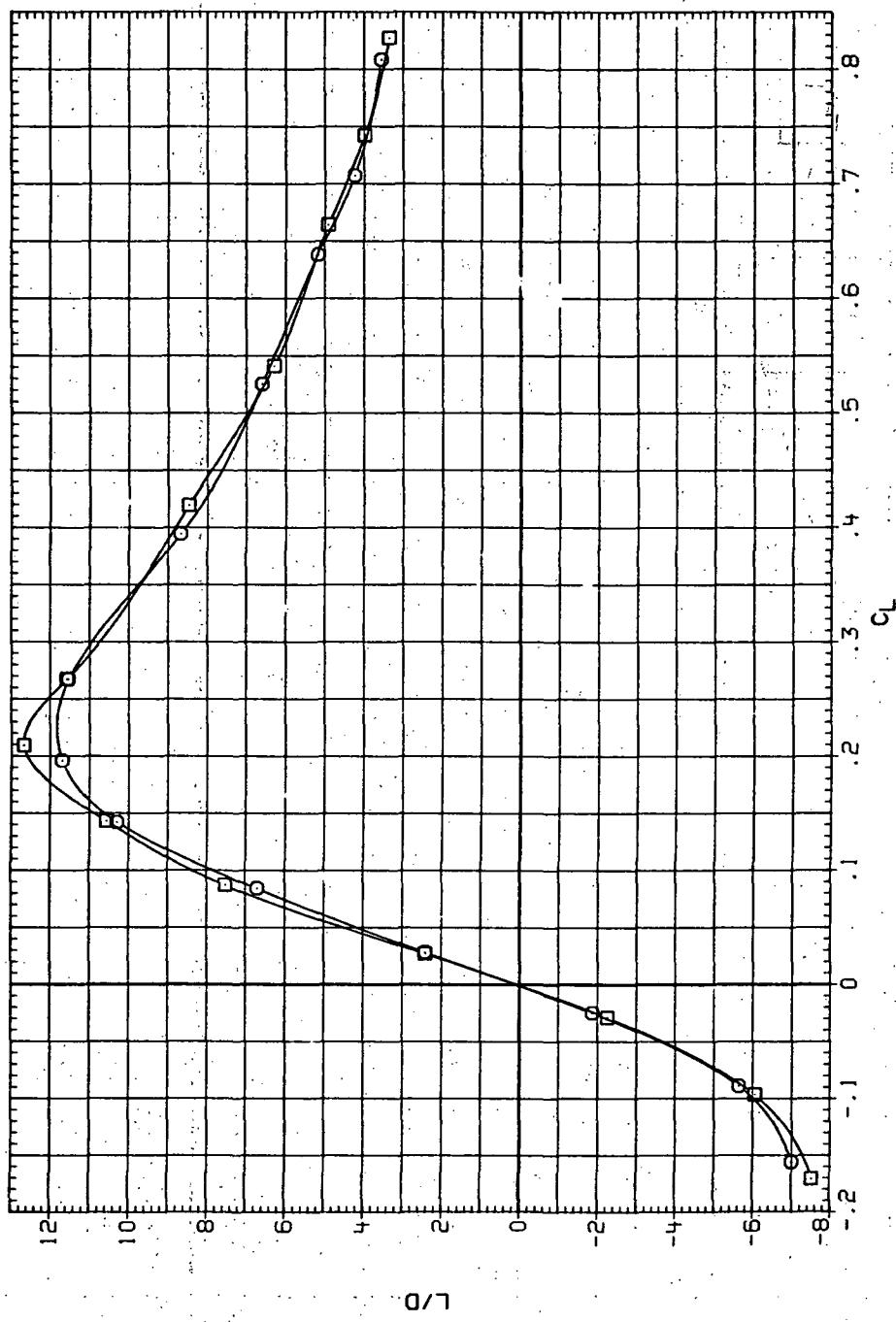


(c)  $C_m$  vs  $C_L$

Figure 61.—Continued.

DATA SET SYMBOL CONFURATION  
 RJR196 O 7450B (STEEL)  
 RJR232 □ 7450B (STEEL)

R/N/L Q(NSM)  
 6.230 14.500  
 8.200 19.200



(d)  $L/D$  vs  $C_L$ .

Figure 61.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR186 O 74508 (STEEL)  
 RJR232 □ 74508 (STEEL)

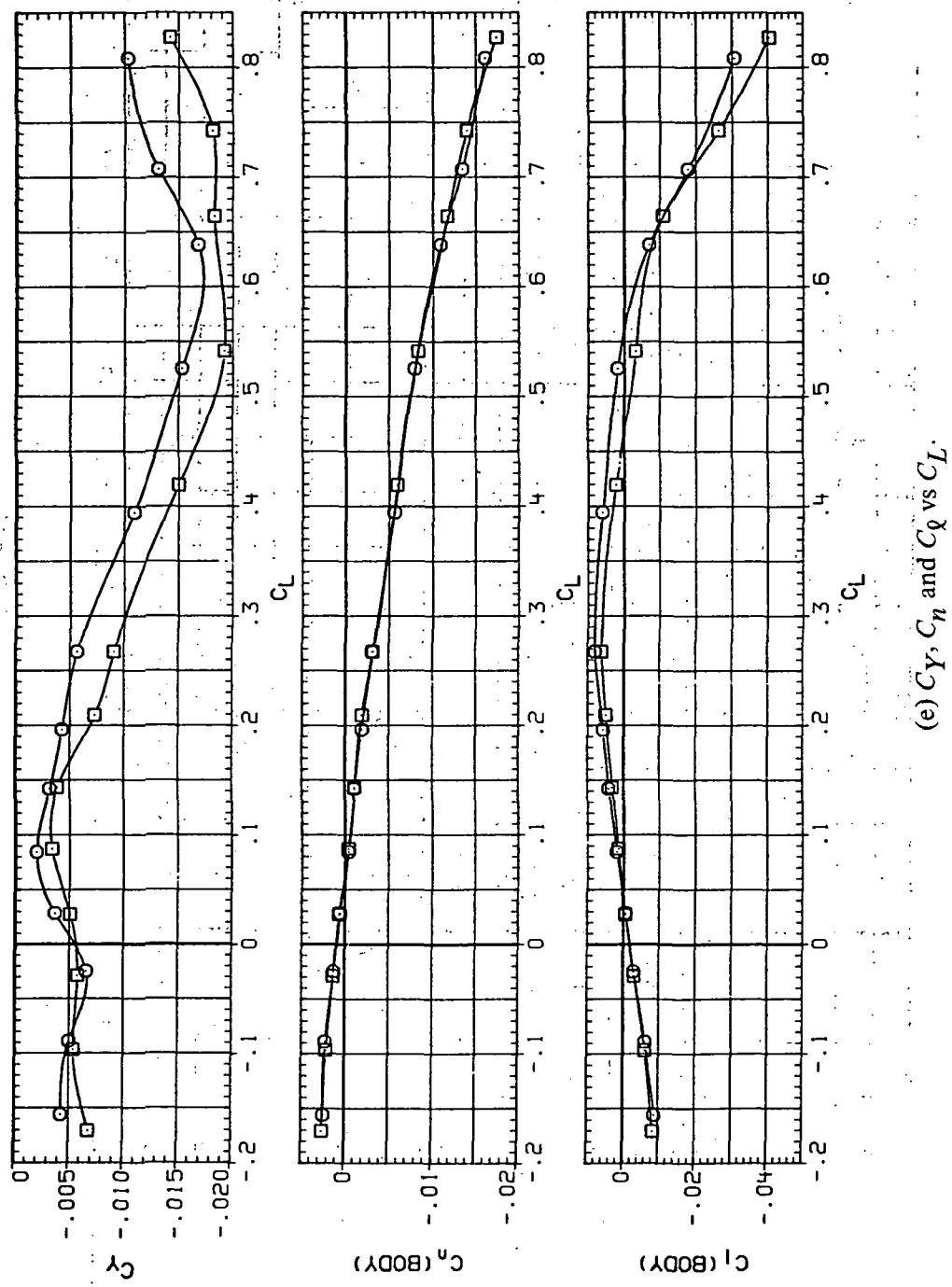
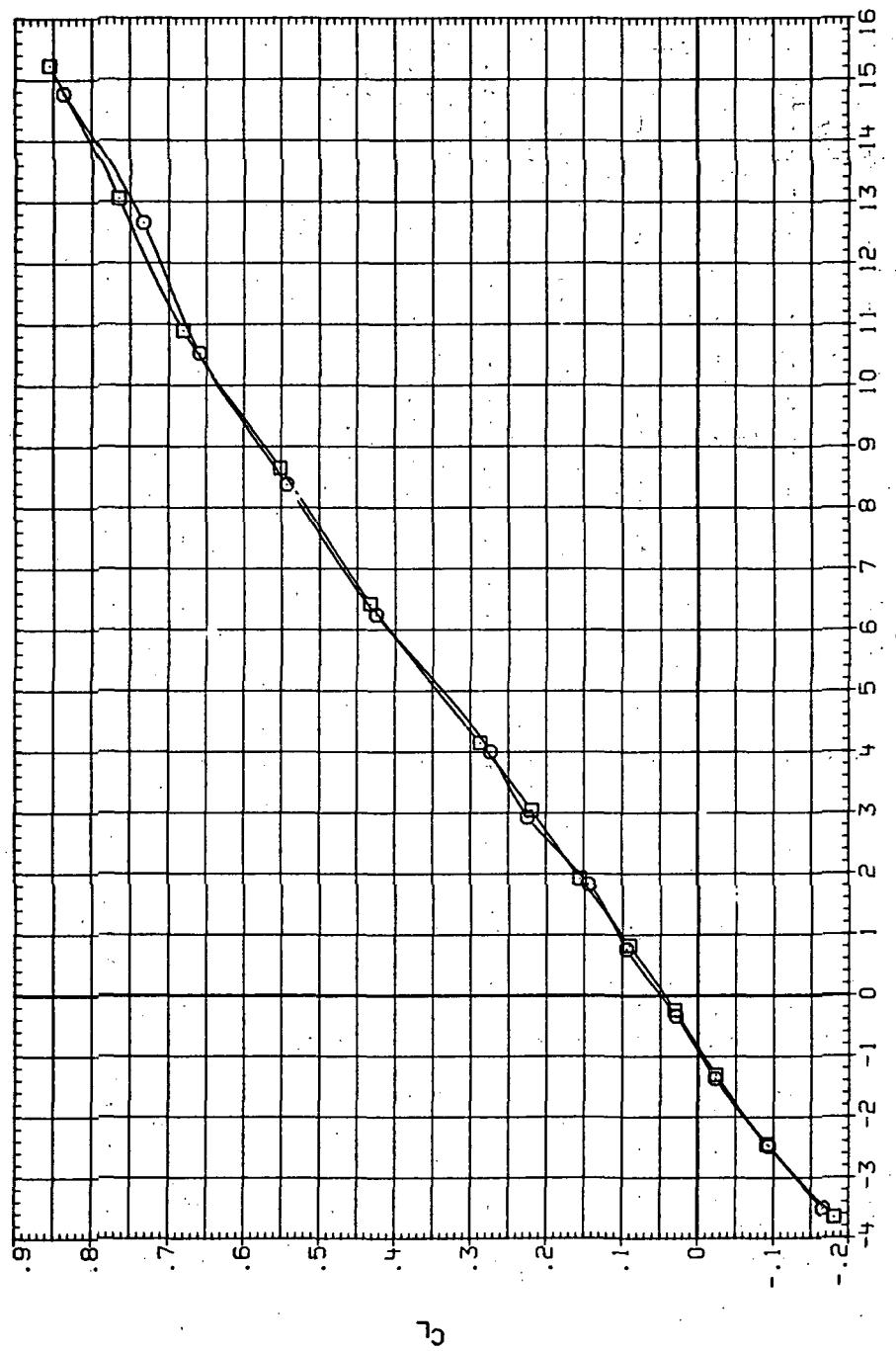


Figure 61.—Concluded.

DATA SET SYMBOL CONFIGURATION  
 RUR187 74508 (STEEL)  
 RUR233 74508 (STEEL)

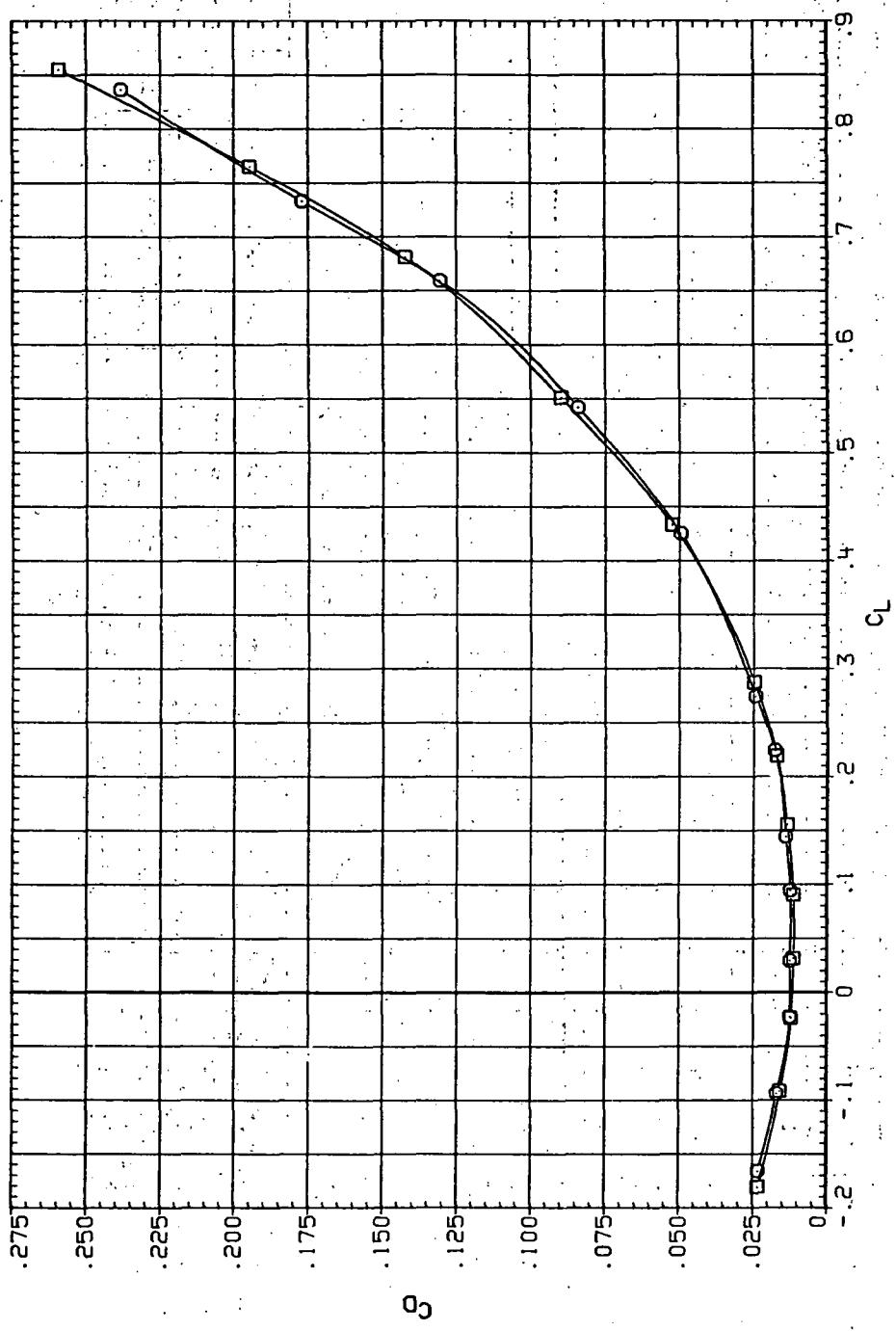
R/V/L Q (PSI)  
 6.220 15,000  
 8.220 18,900



(a)  $C_L$  vs  $\alpha$ .

Figure 62.— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 50^\circ$ ,  $M = 0.95$  and the NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 RJR97 O 7450B (STEEL)  
 RJR233 □ 7450B (STEEL)

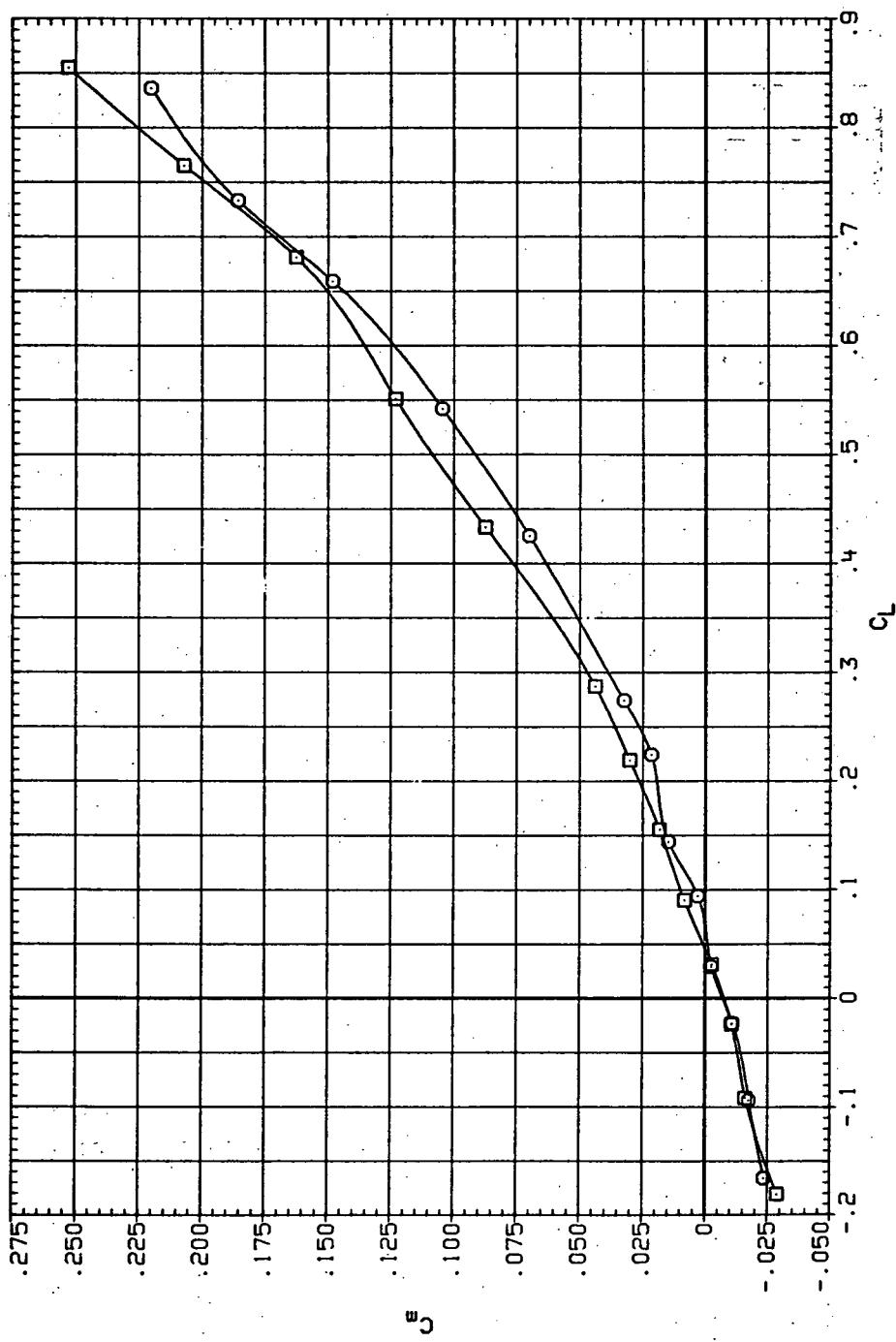


(b)  $C_D$  vs  $C_L$ .

Figure 62.—Continued.

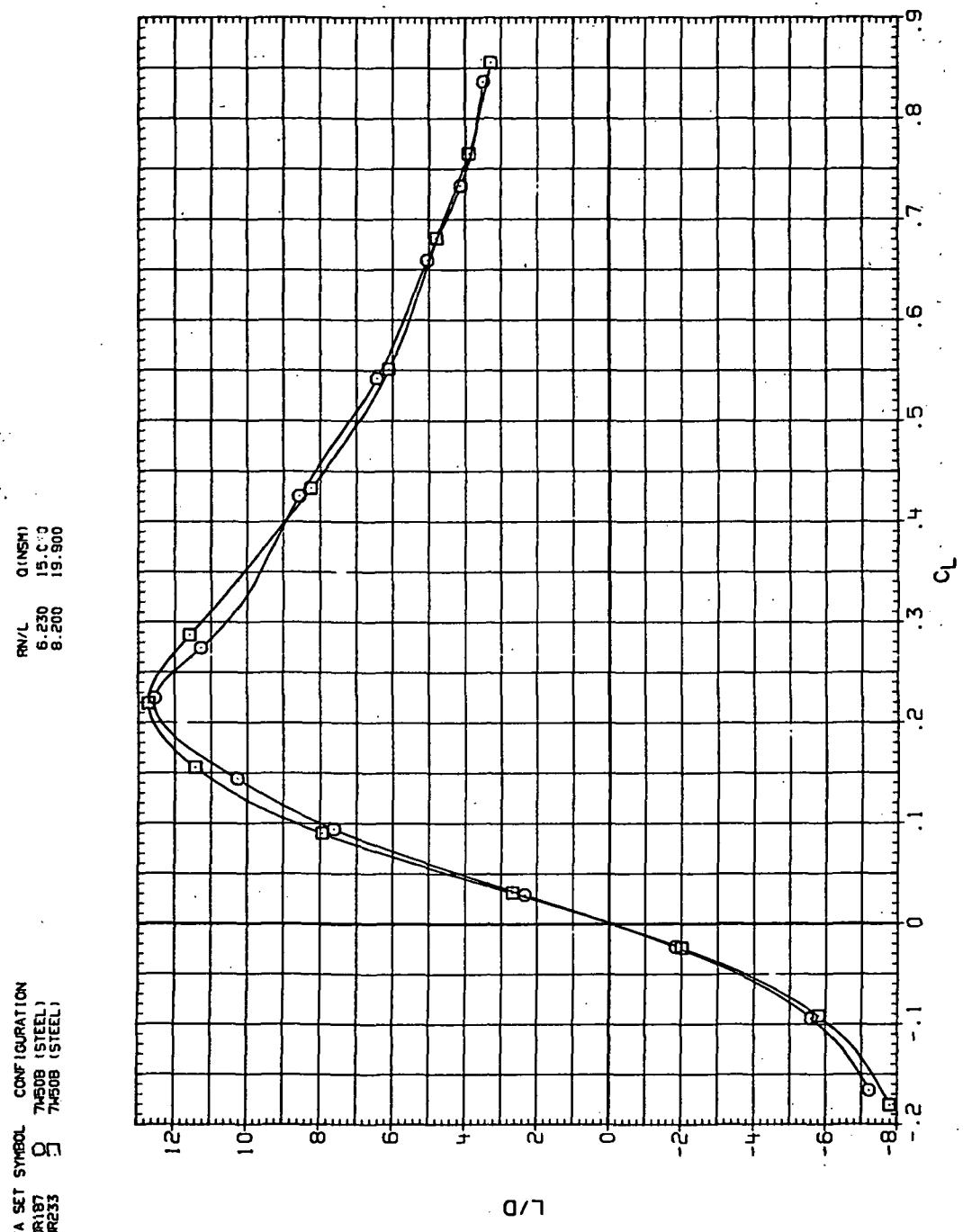
DATA SET SYMBOL CONFIGURATION  
RJR187 O 74508 (STEEL)  
RJR233 □ 74508 (STEEL)

RN/L Q(NSM)  
6.230 15,000  
6.200 19,900



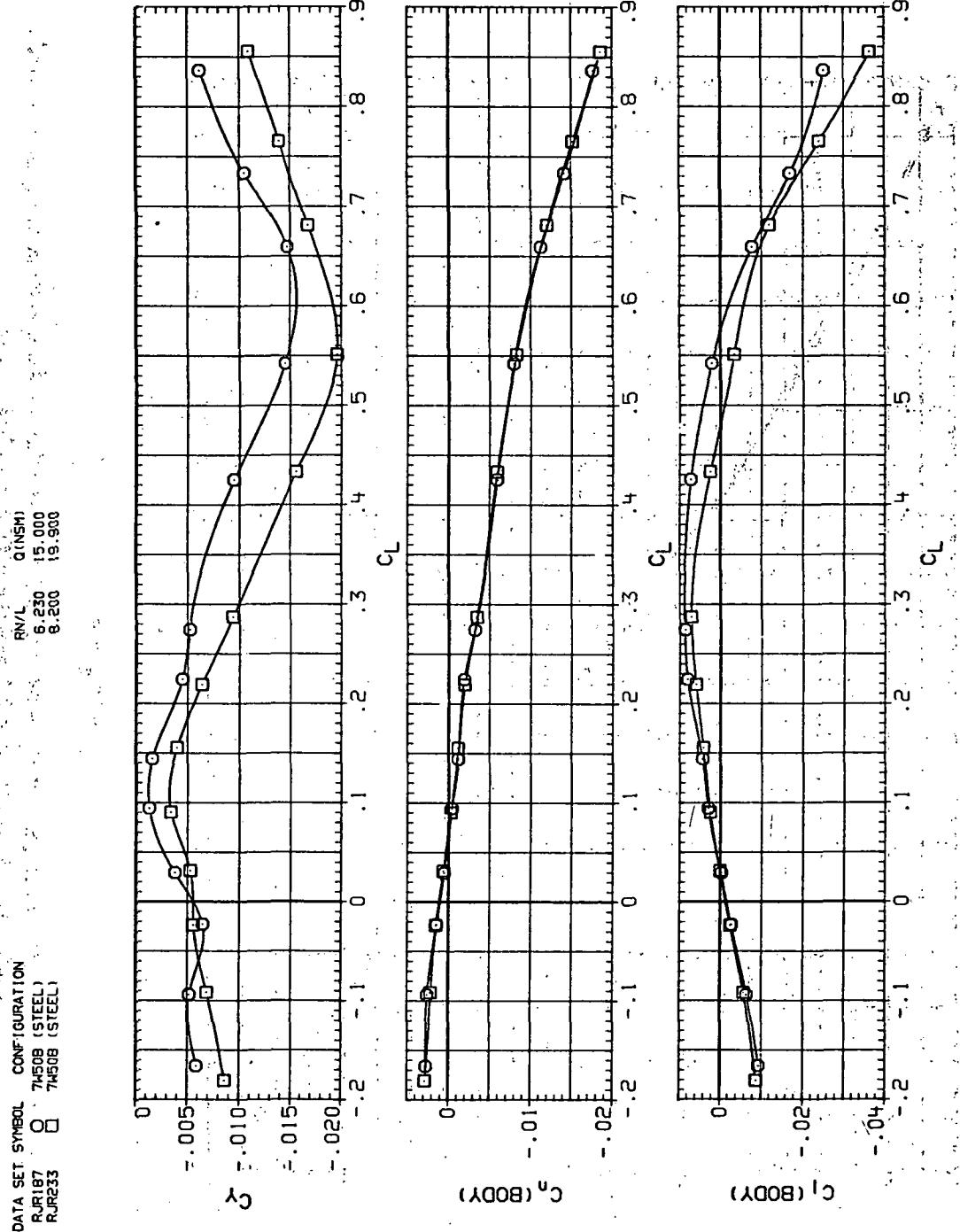
(c)  $C_m$  vs  $C_L$ .

Figure 62.—Continued.



(d)  $L/D$  vs  $C_L$ .

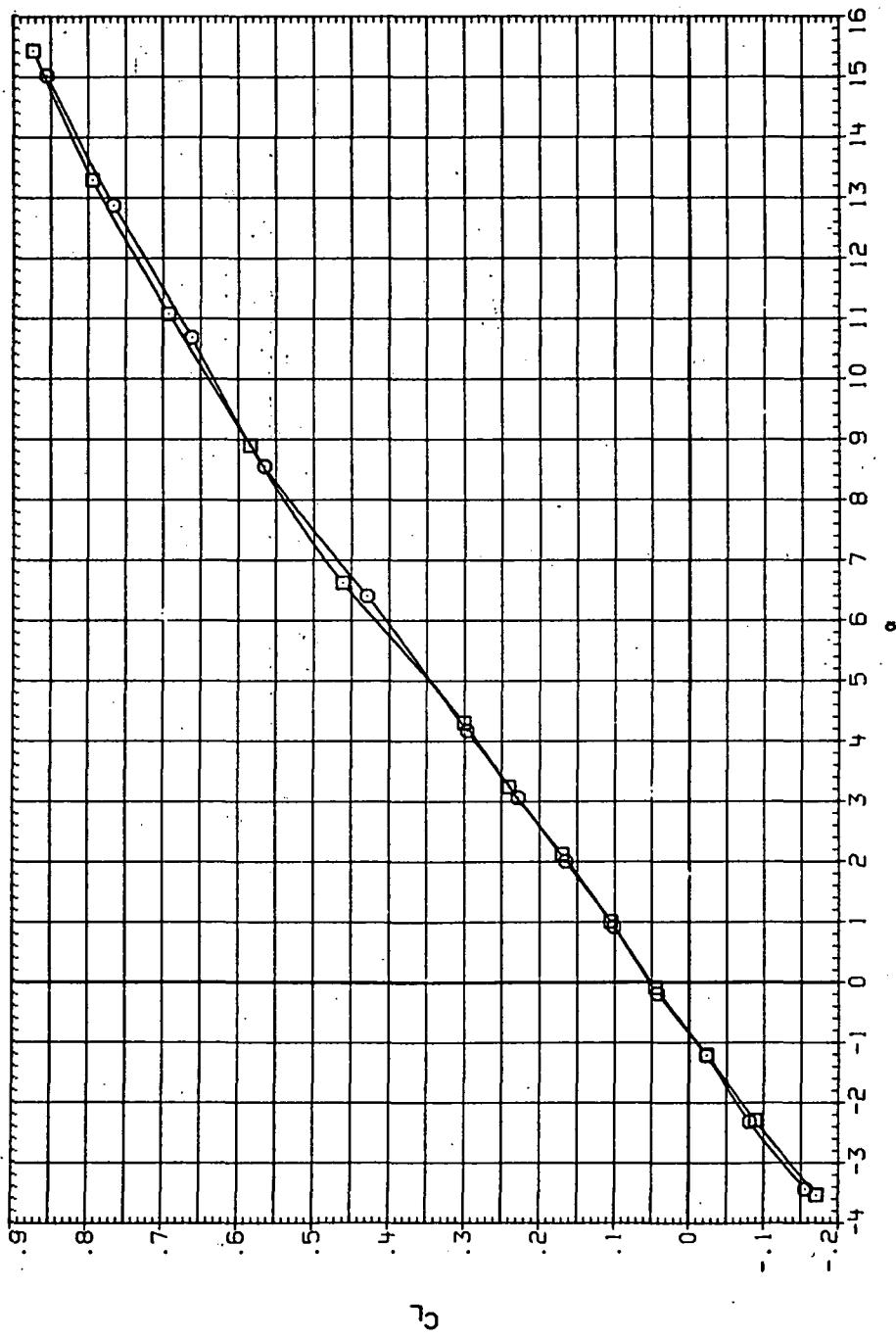
Figure 62.—Continued.



(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

Figure 62.— Concluded.

DATA SET SYMBOL CONFIGURATION  
 RUR88 O 74508 (STEEL)  
 RJR234 □ 74508 (STEEL)

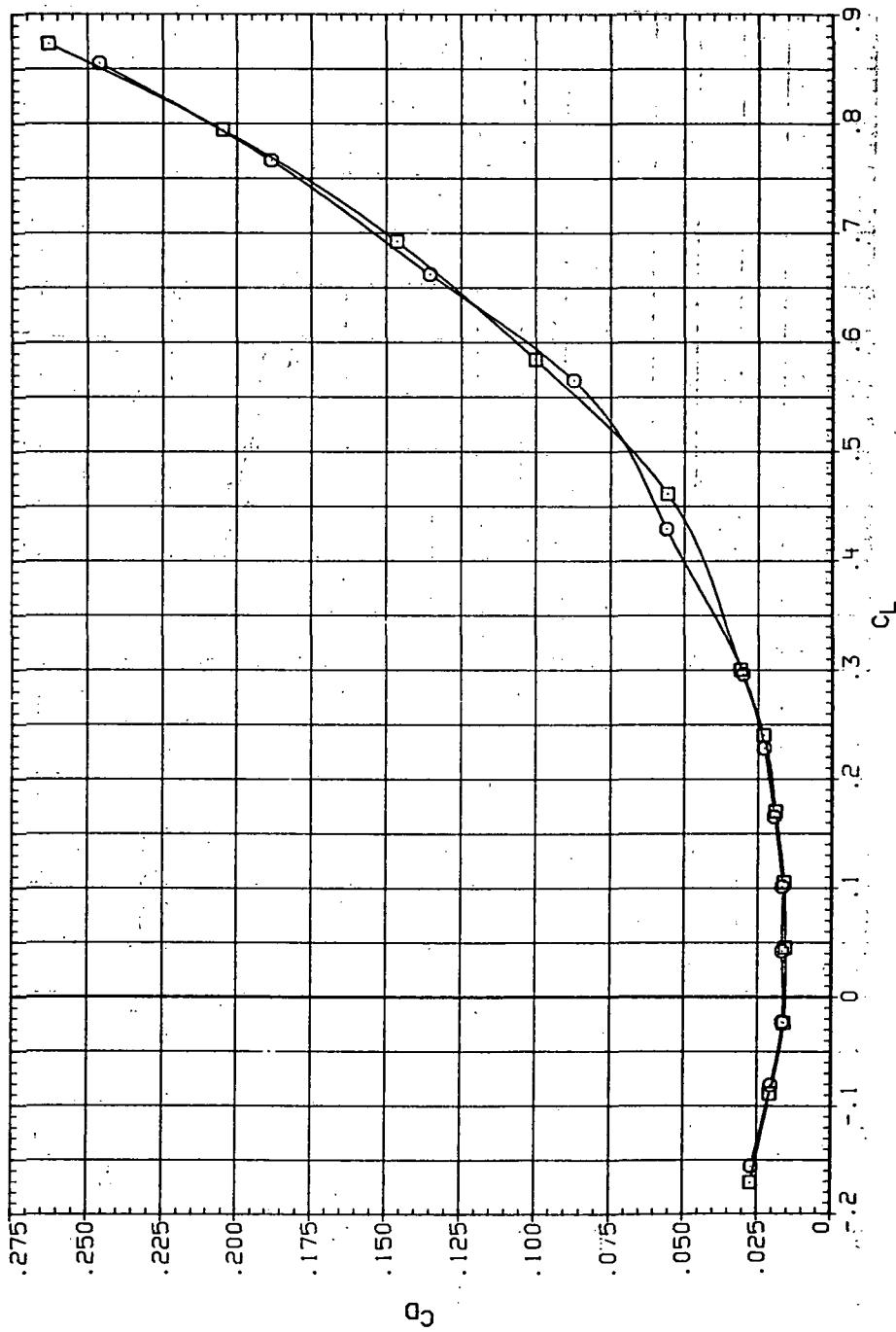


(a)  $C_L$  vs  $\alpha$ .

Figure 63.— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 50^\circ$ ,  $M = 1.1$  and the NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 RUR188 O 7H508 (STEEL)  
 RJR234 □ 7H508 (STEEL)

RN/L Q (NSM)  
 5.230 16.400  
 6.200 21.200

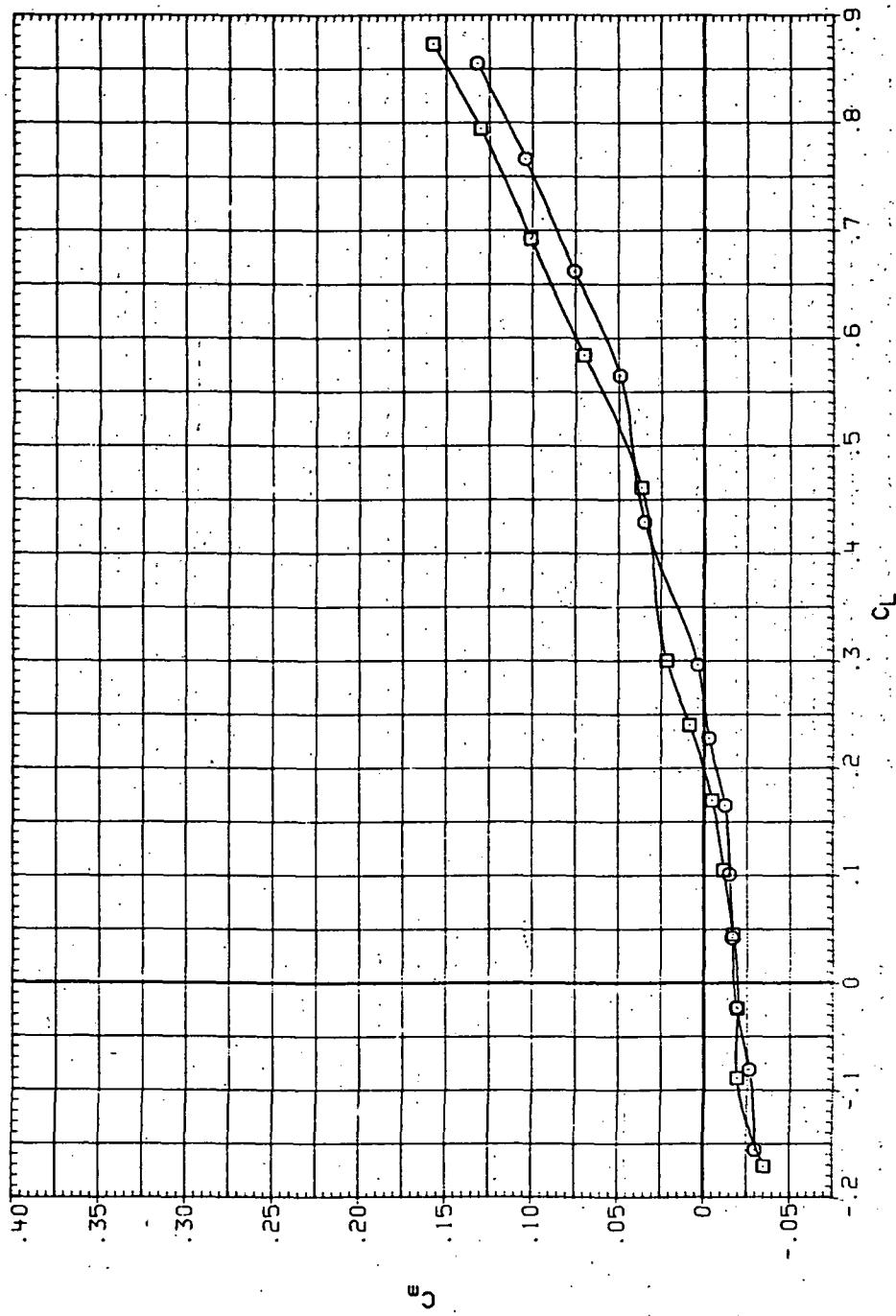


(b)  $C_D$  vs  $C_L$ .

Figure 63.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJI8B O 7450B (STEEL)  
 RJR234 □ 7450B (STEEL)

RNL Q(NSM)  
 6.230 16.400  
 8.200 21.200

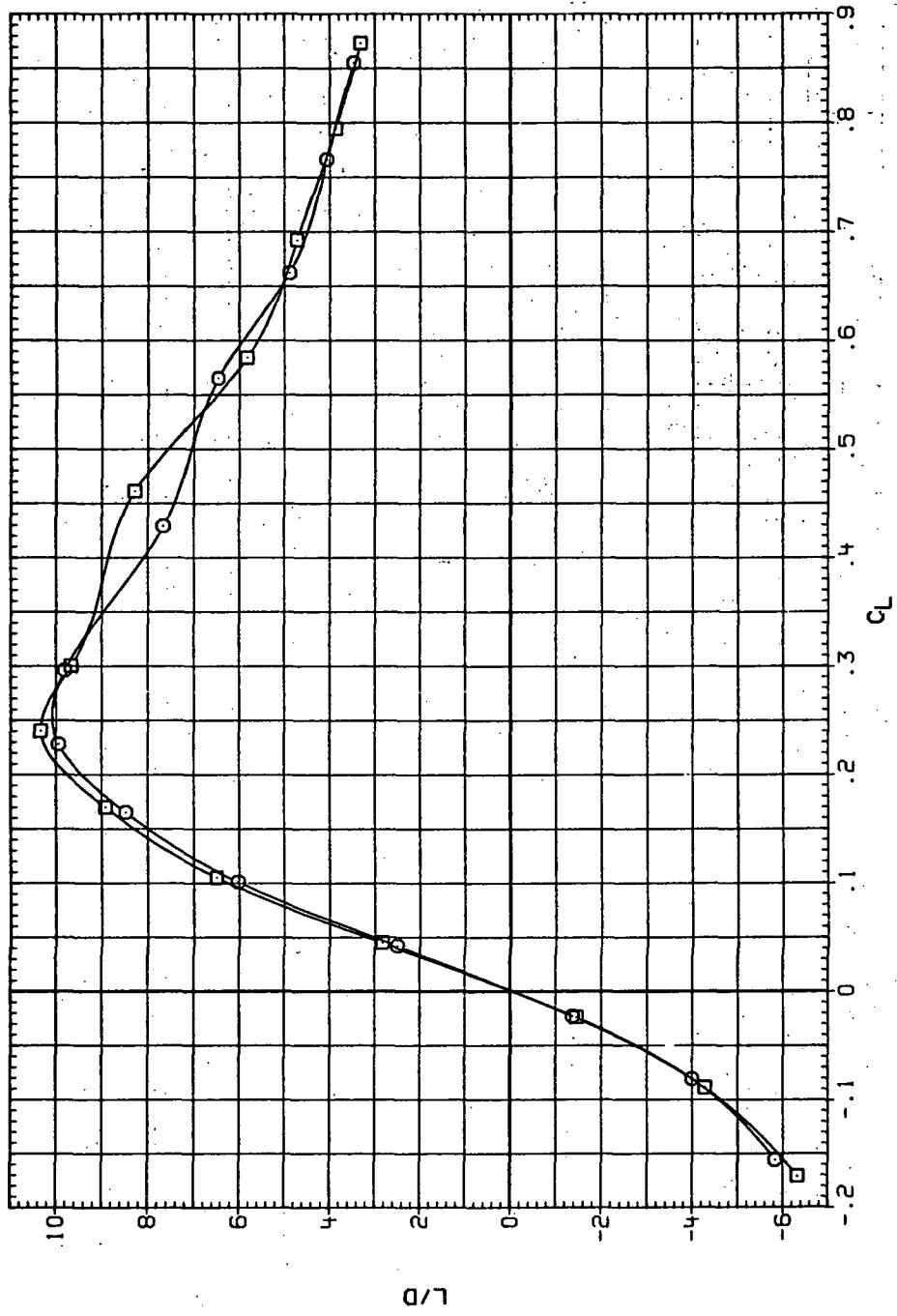


(c)  $C_m$  vs  $C_L$ .

Figure 63.— Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR168 7450B (STEEL)  
 RJR239 7450B (STEEL)

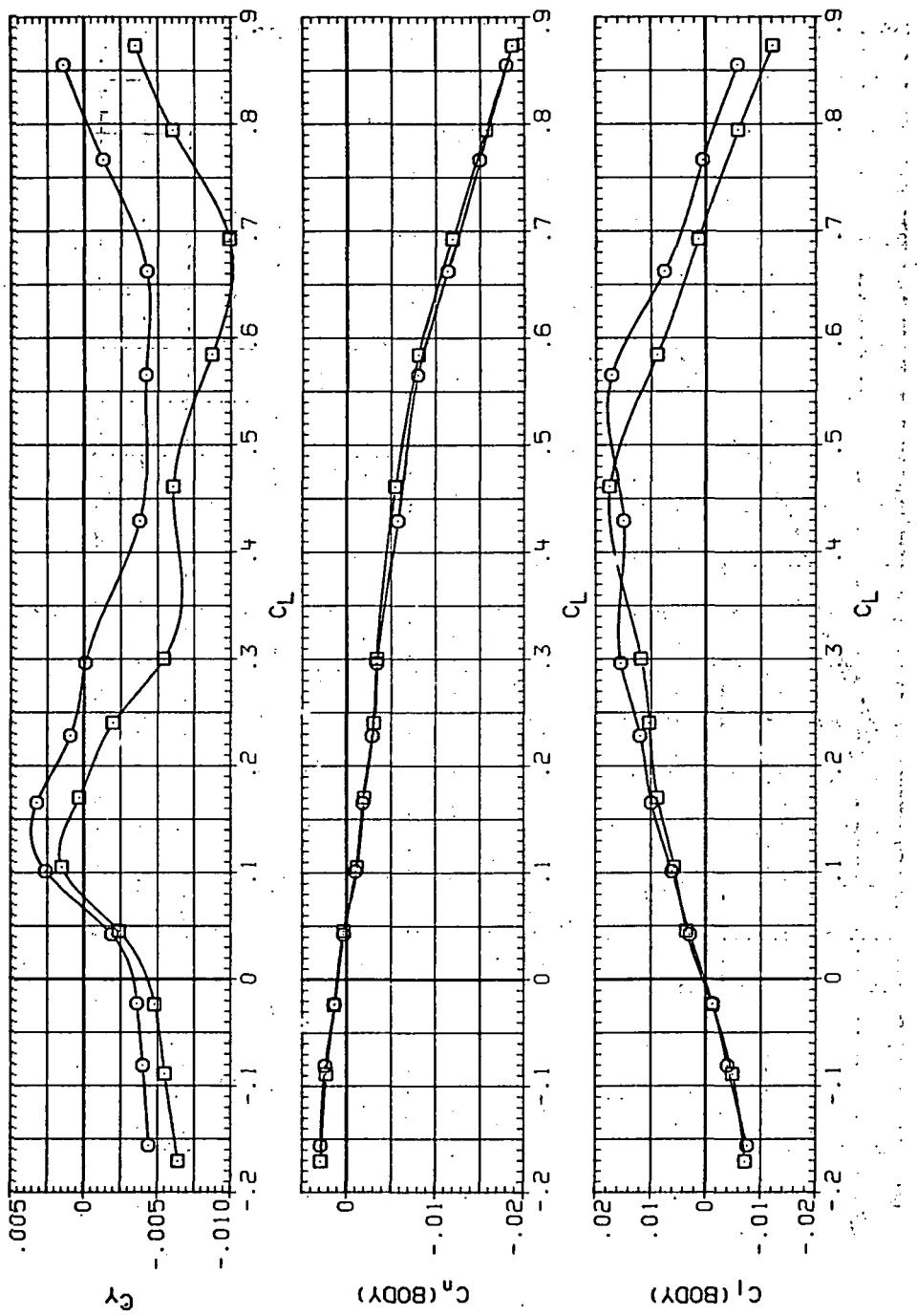
RN/L Q(NSP)  
 6.230 16.400  
 8.200 21.200



(d)  $L/D$  vs  $C_L$ .

Figure 63.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR188 O 7450B (STEEL)  
 RJR234 □ 7450B (STEEL)

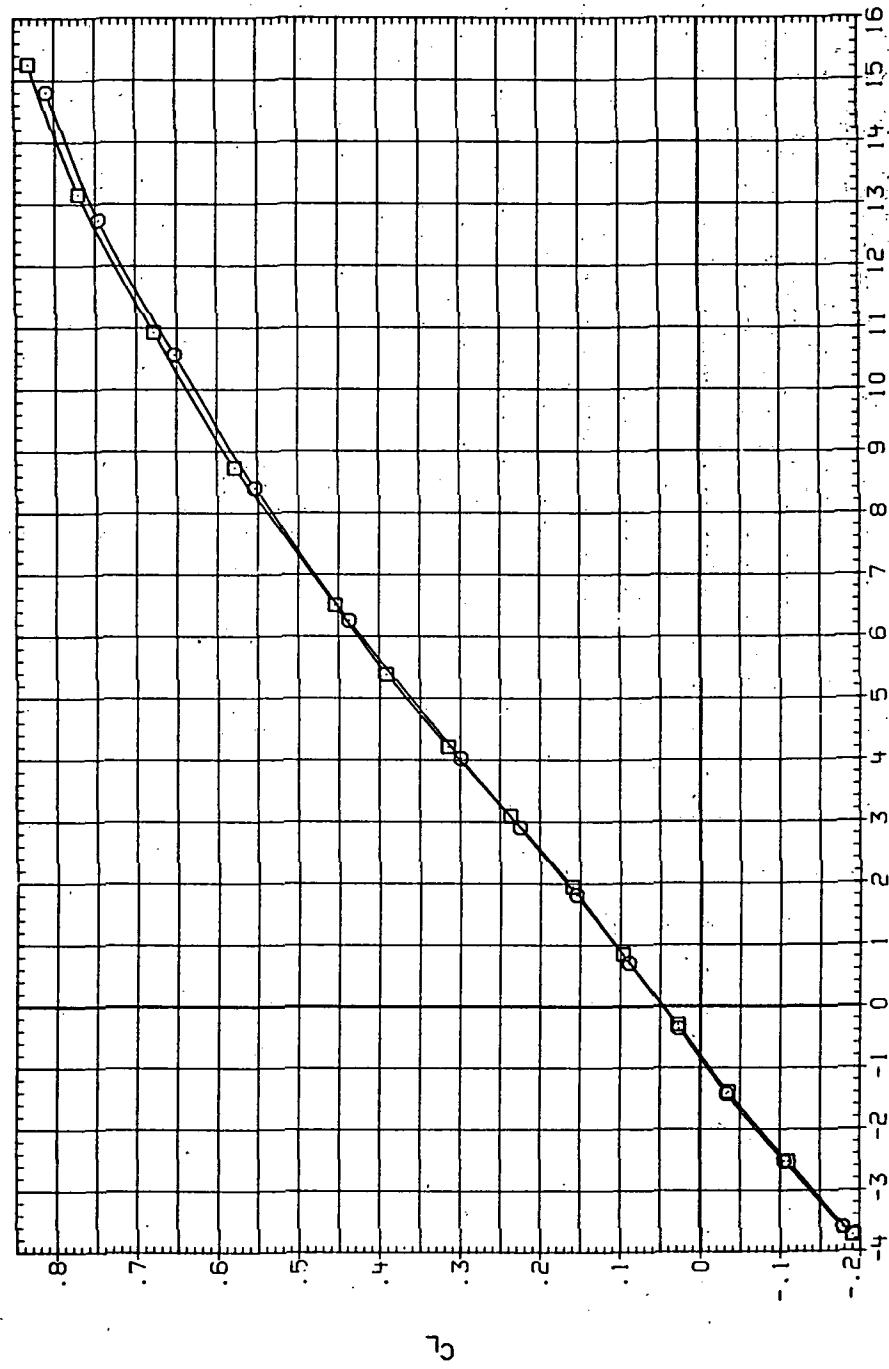


(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

Figure 63 Concluded.

DATA SET SYMBOL CONFIGURATION  
 RJR189 74508 (STEEL)  
 RJR235 74508 (STEEL)

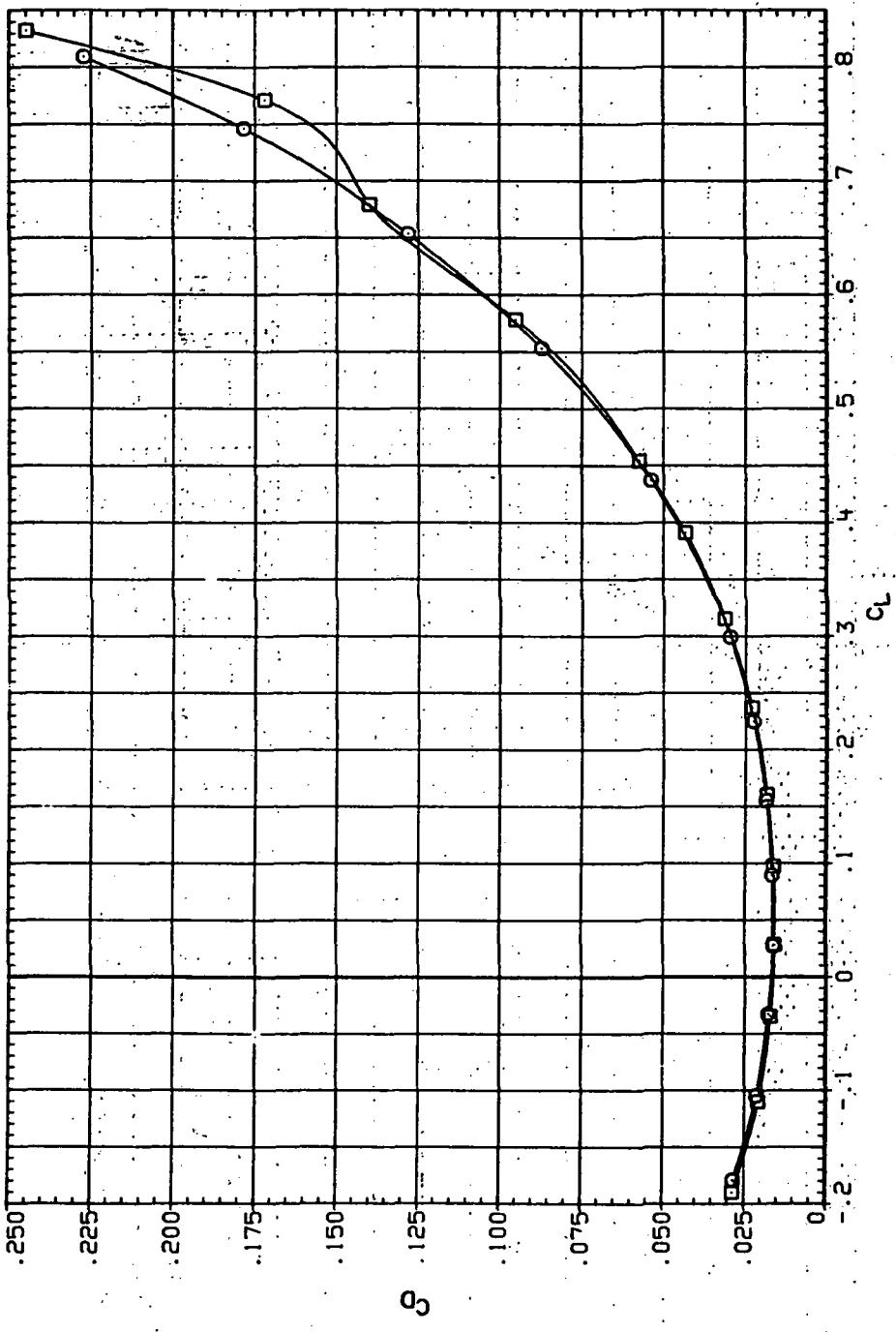
RN/L Q (NSM)  
 6.230 17.510  
 8.200 22.800



(a)  $C_L$  vs  $\alpha$ .

Figure 64.—Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 50^\circ$ ,  $M = 1.2$  and the NACA 65A204 airfoil).

DATA SET SYMBOL	CONFIGURATION	R/N/L	C (INCH)
R.R168	74508 (STEEL)	8;230	17.900
R.R235	74508 (STEEL)	8;200	22.800

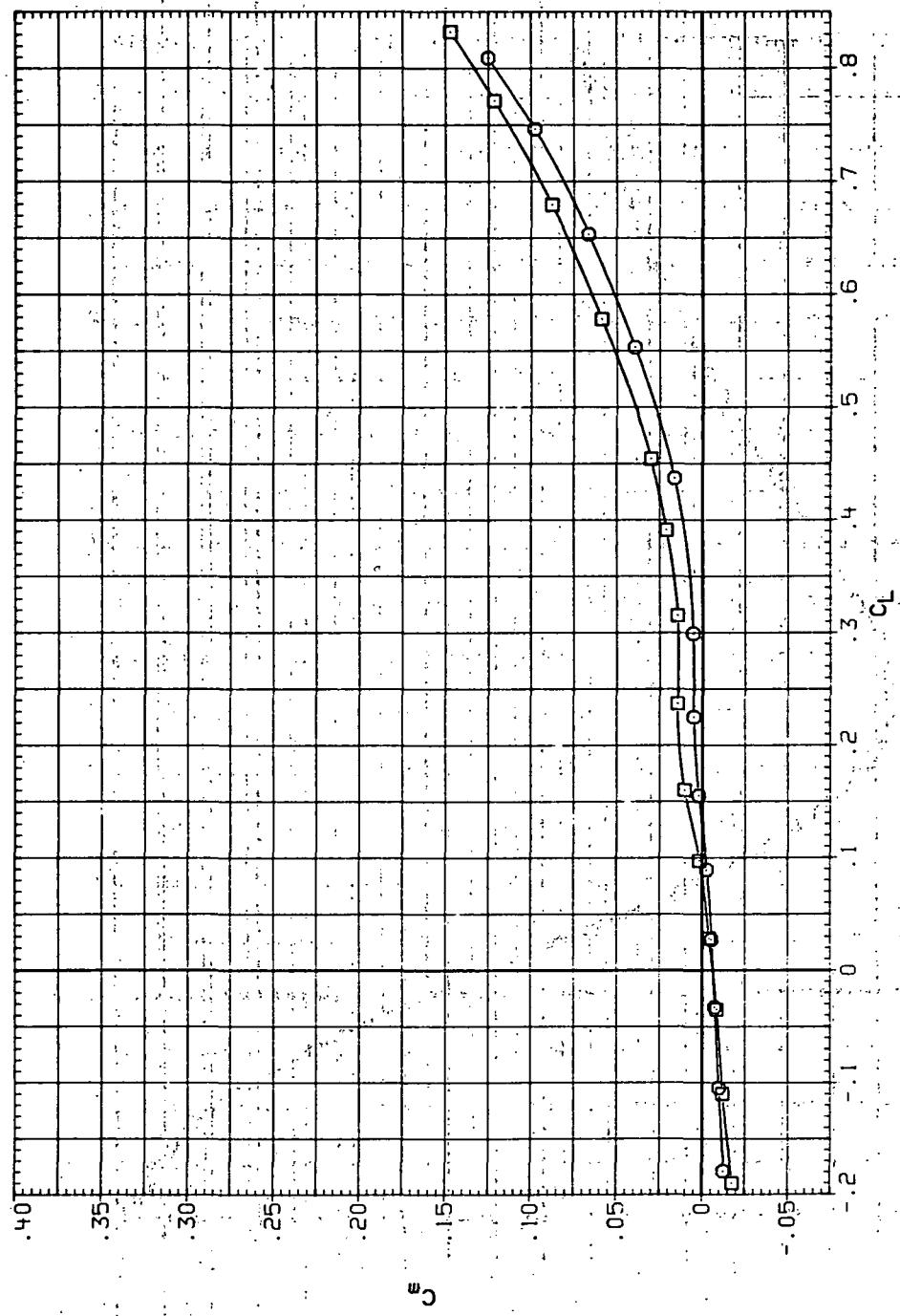


(b)  $C_D$  vs  $C_L$

Figure 64.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR189 7450B (STEEL)  
 RJR235 7450B (STEEL)

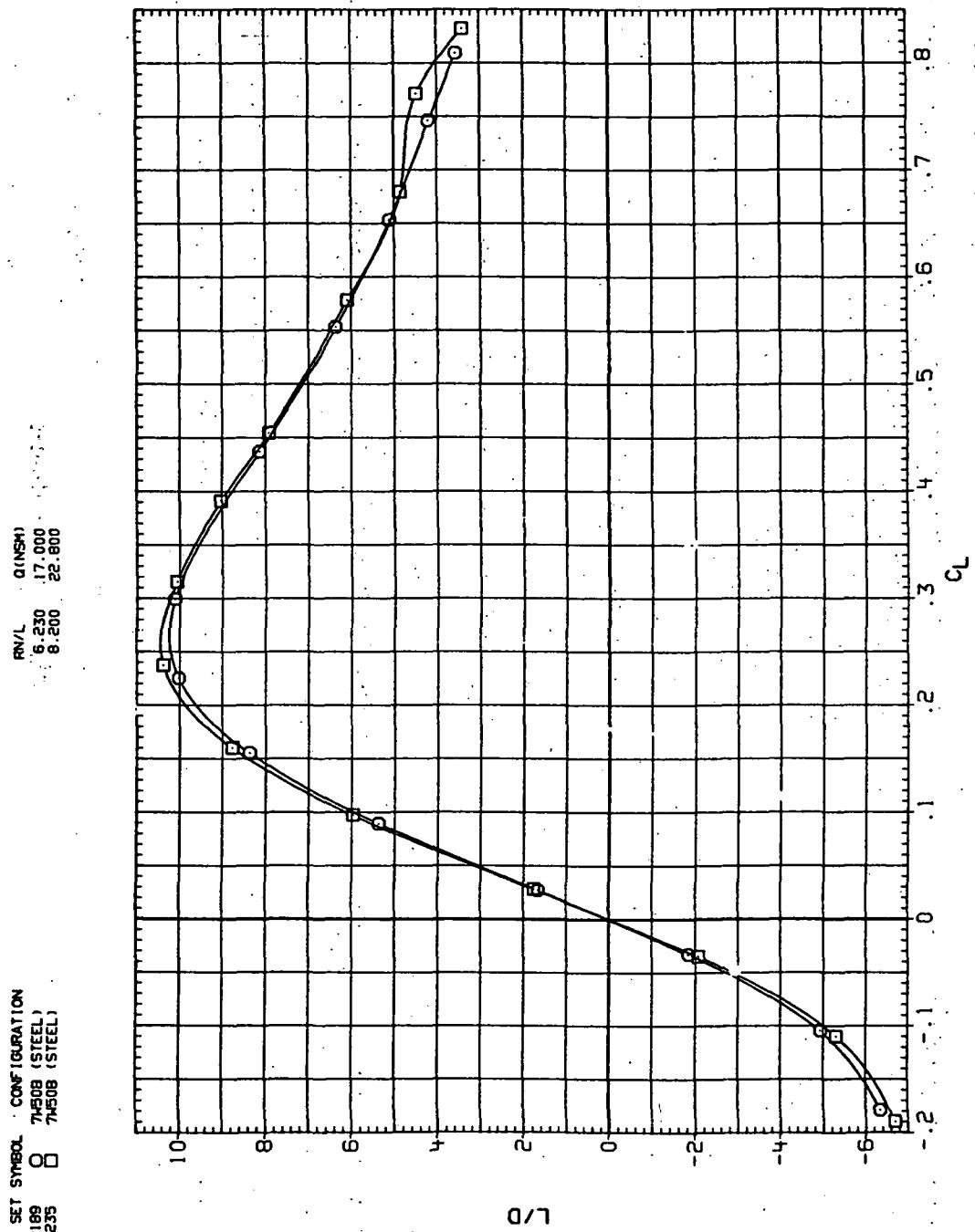
RN/L Q (NSM)  
 6.230 17,000  
 8.200 22,800



(c)  $C_m$  vs  $C_L$ .

Figure 64.—Continued.

DATA SET SYMBOL CONFIGURATION  
 ROR169 O 74508 (STEEL)  
 RJR235 □ 74508 (STEEL)



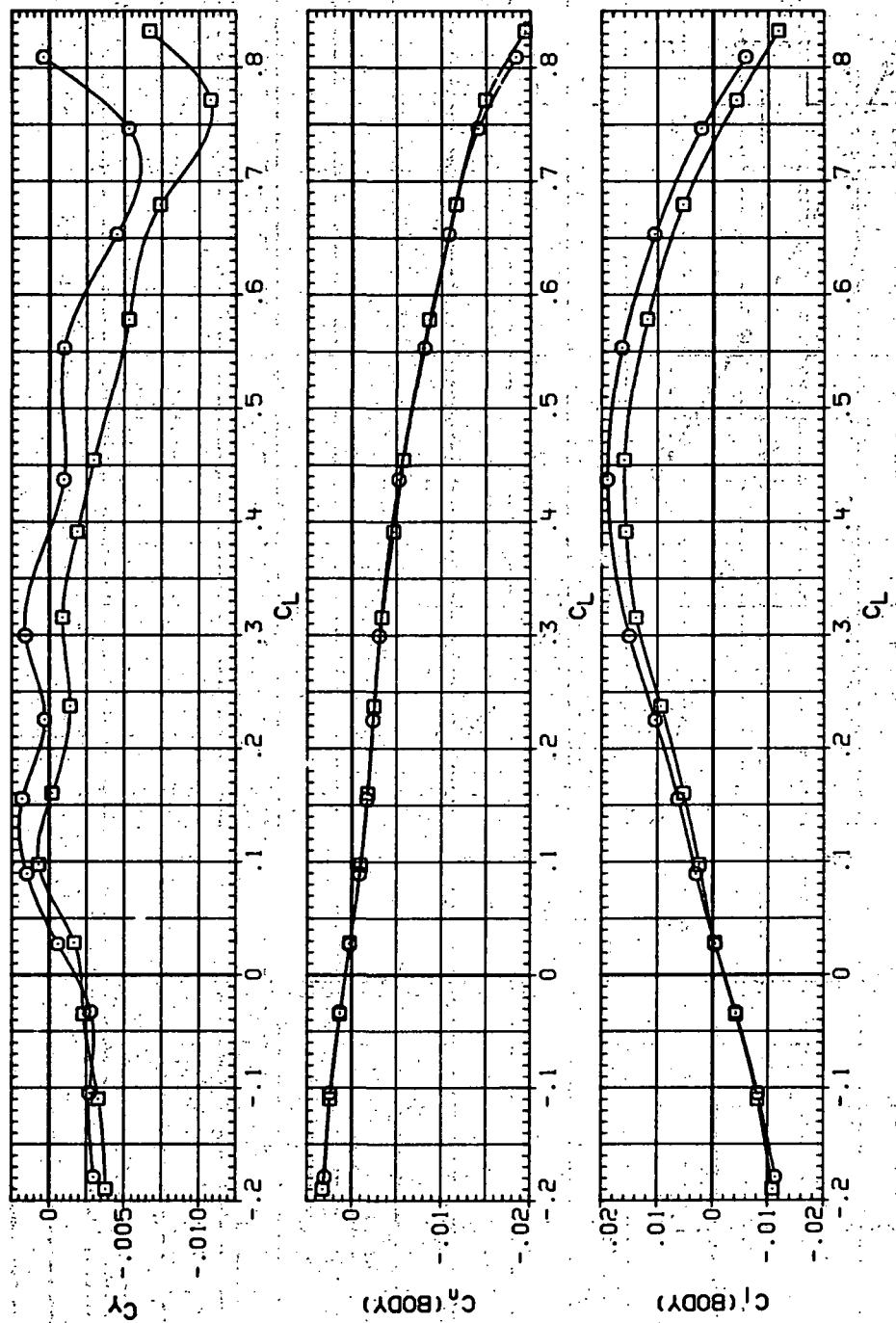
(d)  $L/D$  vs  $C_L$ .

Figure 64.—Continued.

DATA SET SYMBOL

RJ1189      CONFIGURATION  
RJR235      7550B (STEEL)  
                7550B (STEEL)

RNL      QINSHI  
6.230      17.000  
8.200      22.800



(e)  $C_Y$ ,  $C_n$  and  $C_L$  vs  $C_{\alpha}$

Figure 64.—Concluded.

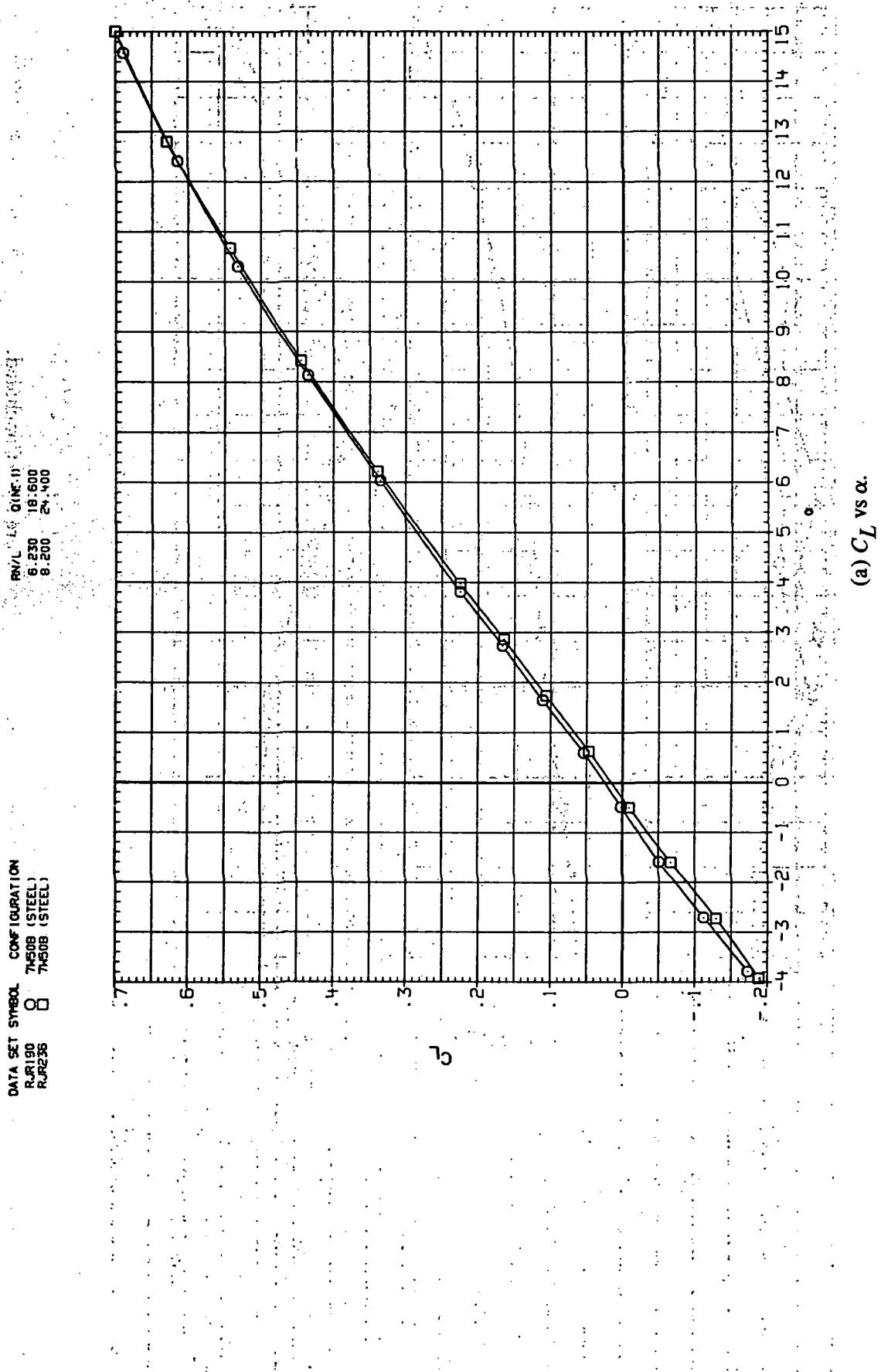
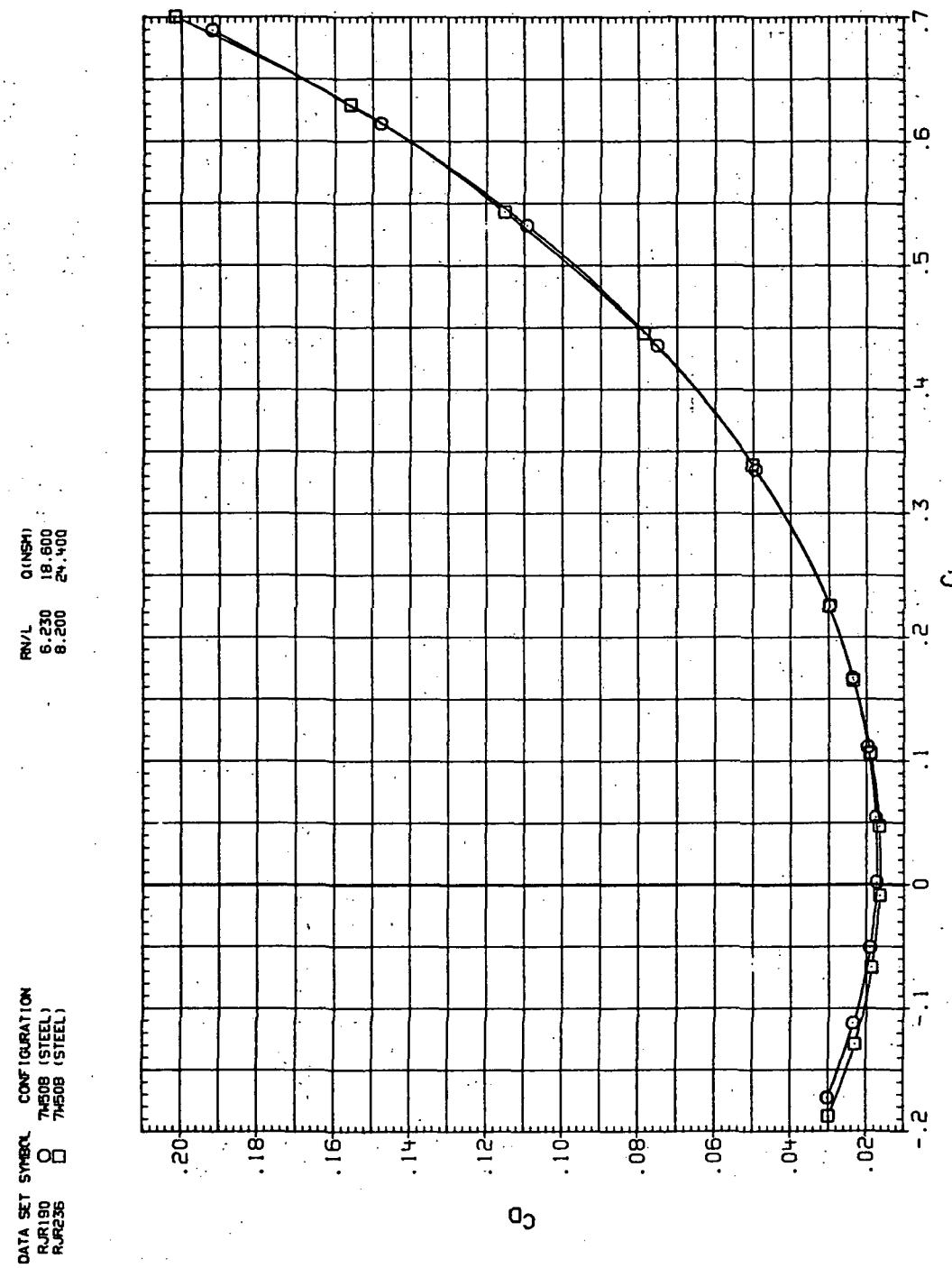
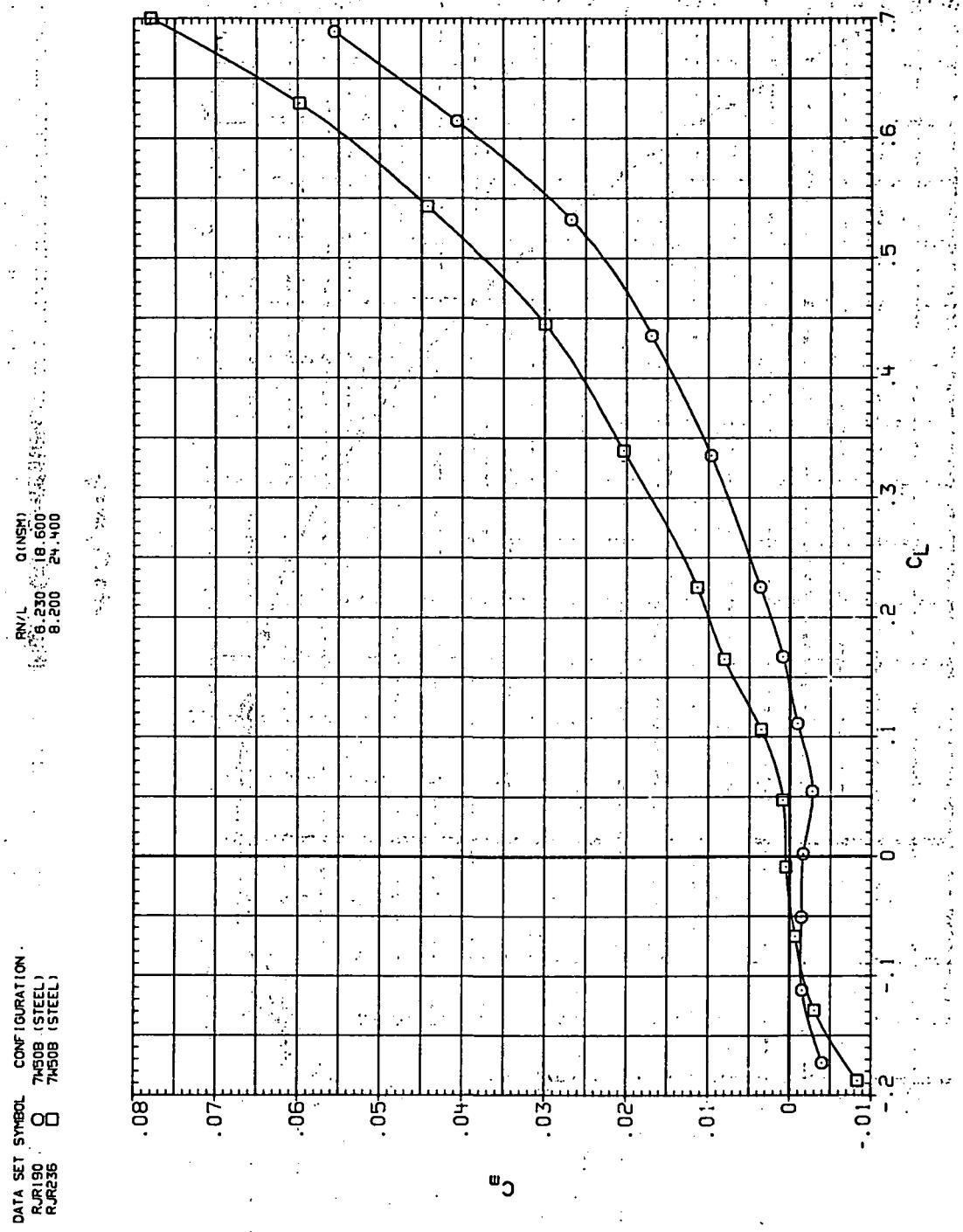


Figure 65. Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 50^\circ$ ,  $M = 1.6$  and the NACA 65A204 airfoil).



(b)  $C_D$  vs  $C_L$ .

Figure 65.—Continued.



(c)  $C_m$  vs  $C_L$ .

Figure 65.—Continued.

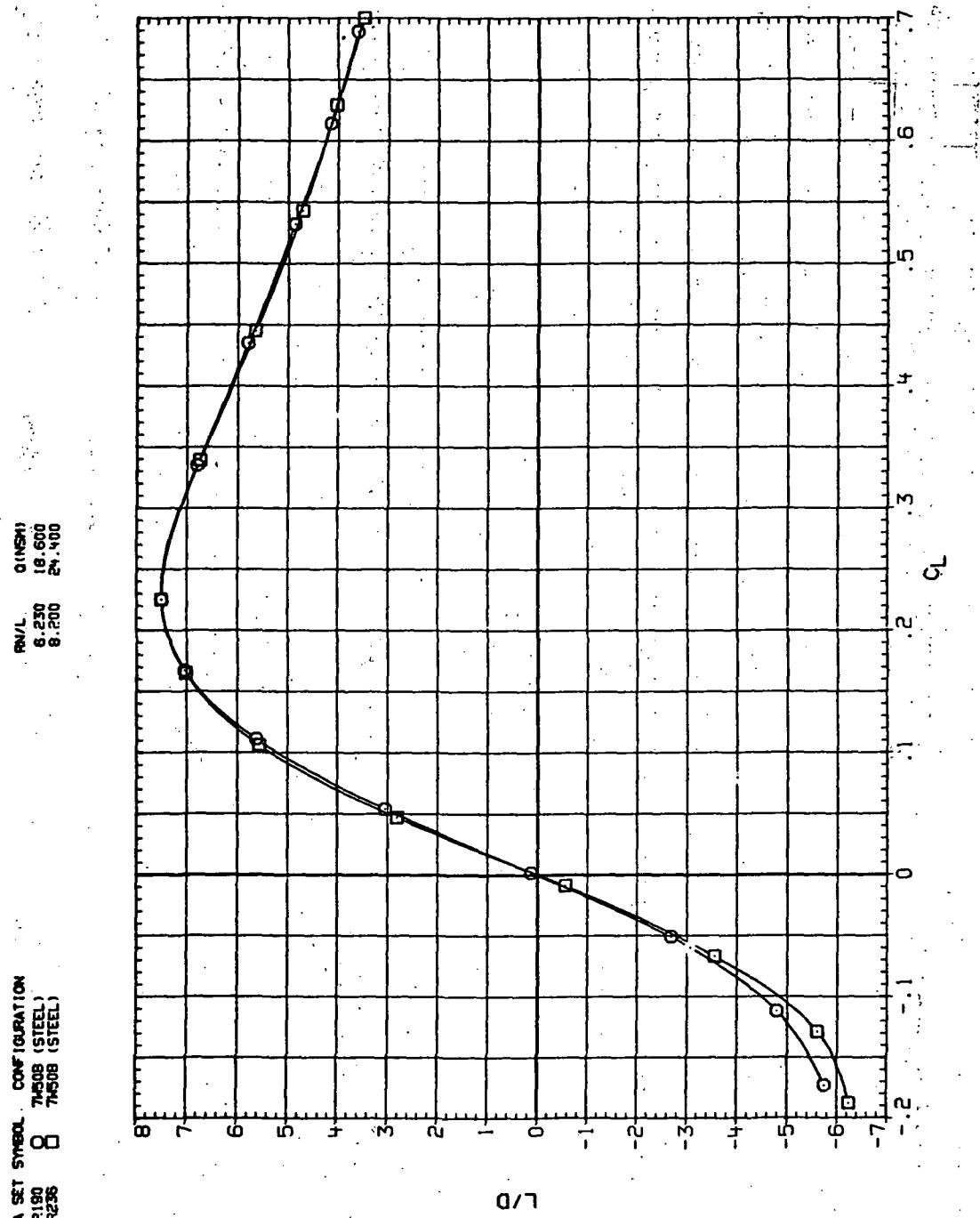
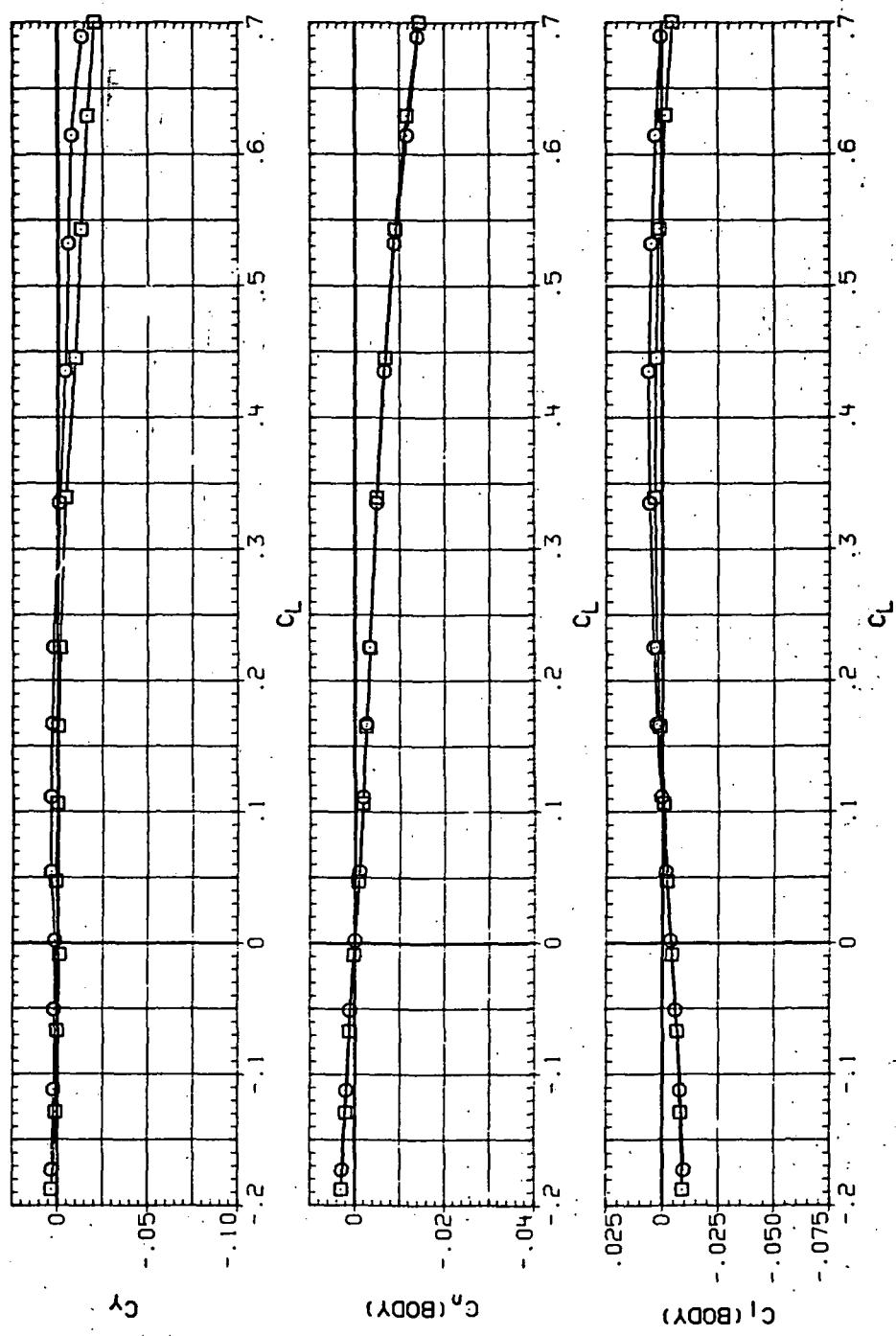


Figure 65.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RUR190 O QIANSI  
 RUR230 □ 18,800  
 RUR236 □ 24,400



(e)  $C_Y$ ,  $C_n$  and  $C_d$  vs  $C_L$ .

Figure 65.- Concluded.

DATA SET SYMBOL CONFIGURATION  
 RJR191 O 7450B (STEEL)  
 RJR237 □ 7450B (STEEL)

Rn/L QINSM 18,500  
 6,230 29,700  
 8,200

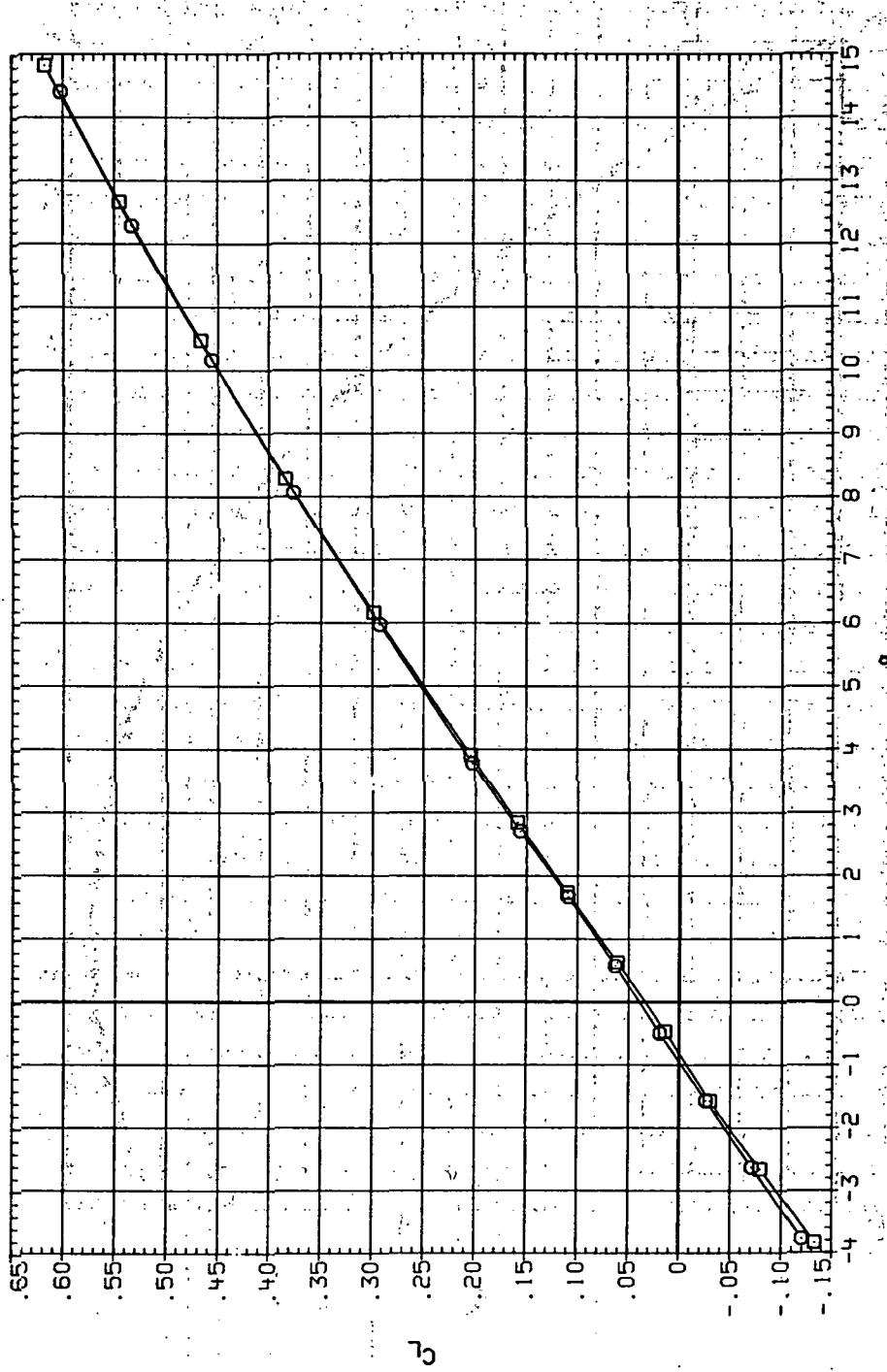
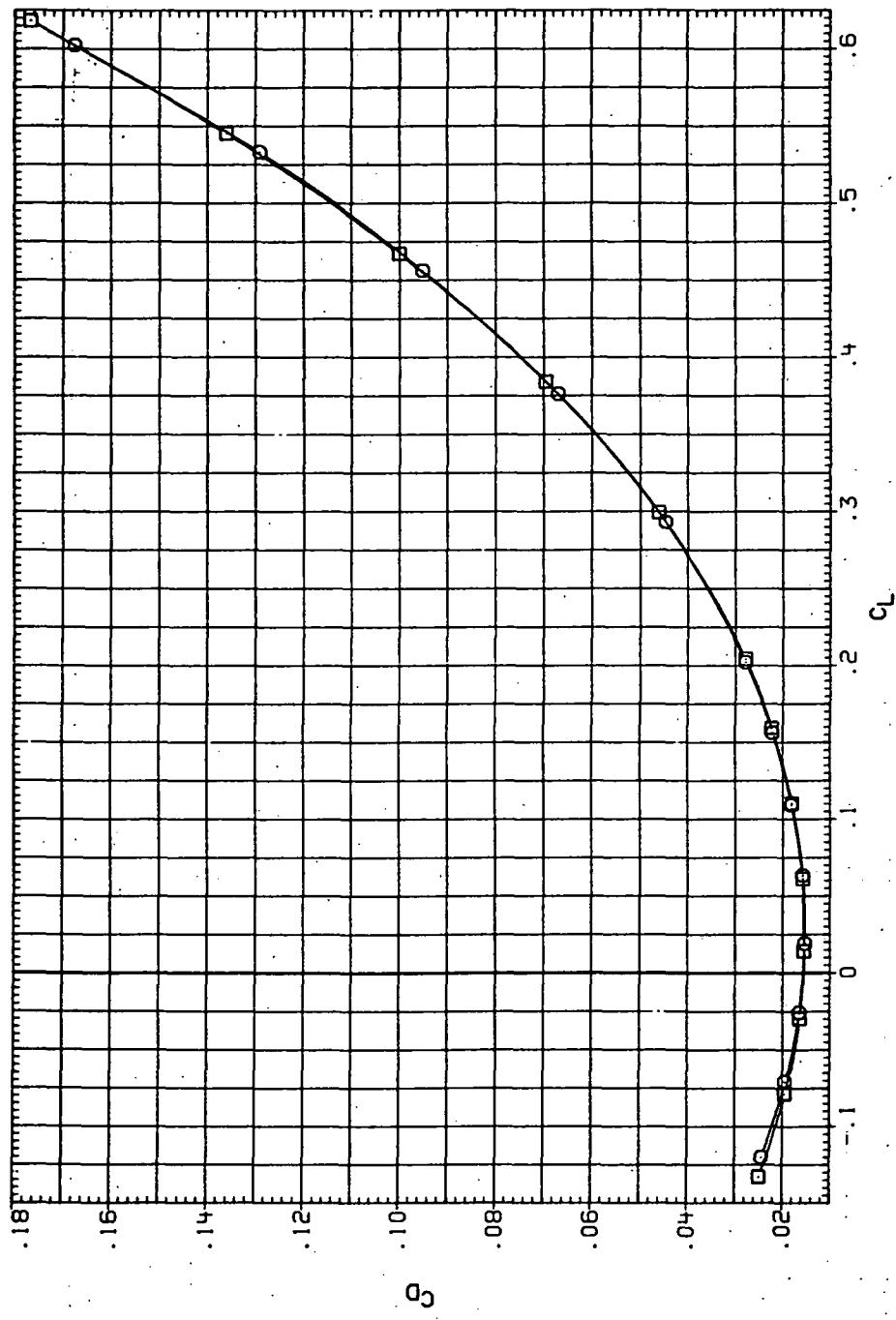


Figure 66.—Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 50^\circ, M = 2.0$  and the NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 RJR191 7M508 (STEEL)  
 RJR237 7M508 (STEEL)

RN/L QINSHI  
 6.230 18.500  
 8.200 24.700



(b)  $C_D$  vs  $C_L$ .

Figure 66.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR191 0 INSMI  
 RJR50B (STEEL) 6, 230 1B, 500  
 RJR50B (STEEL) 8, 200 2N, 700

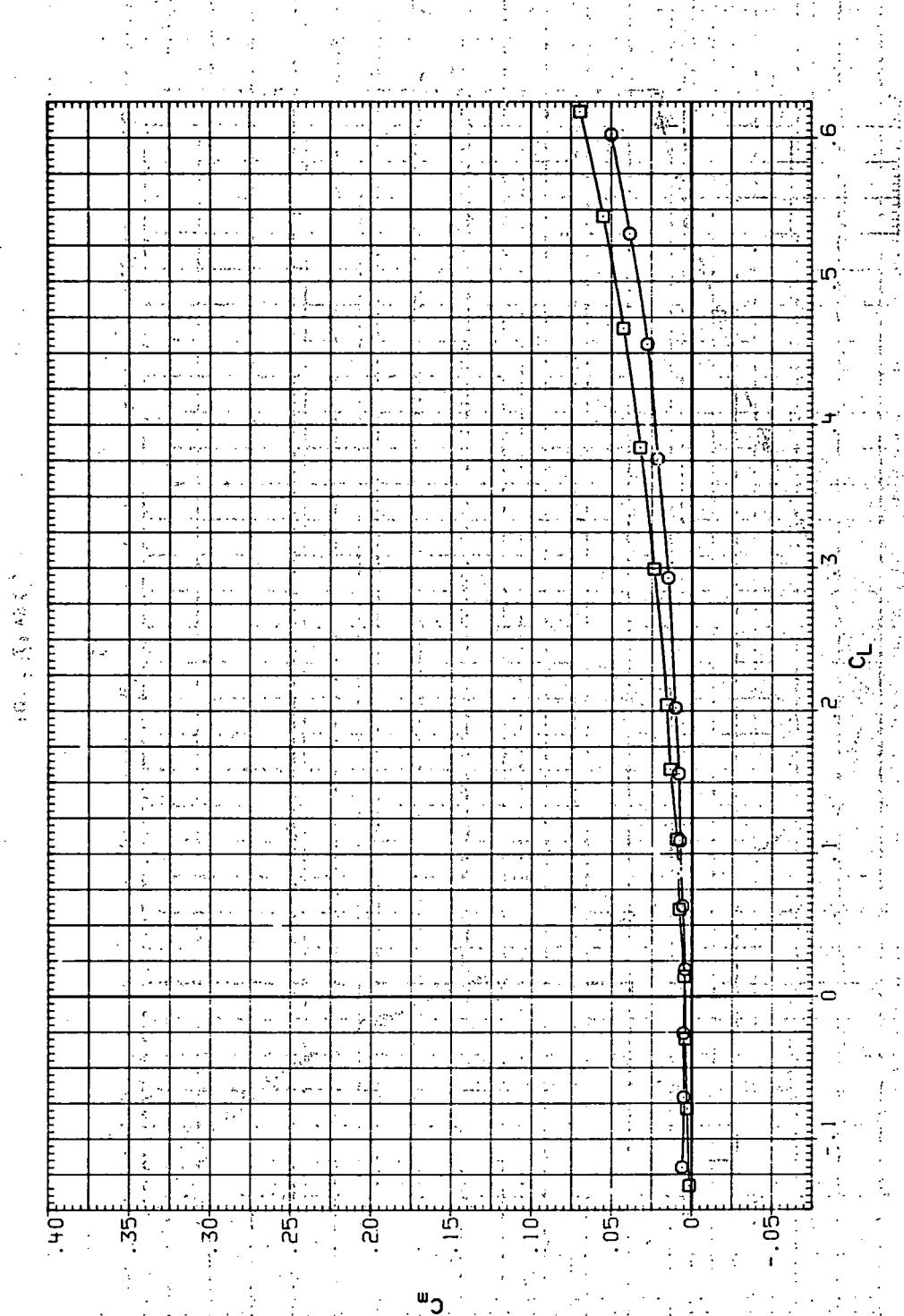
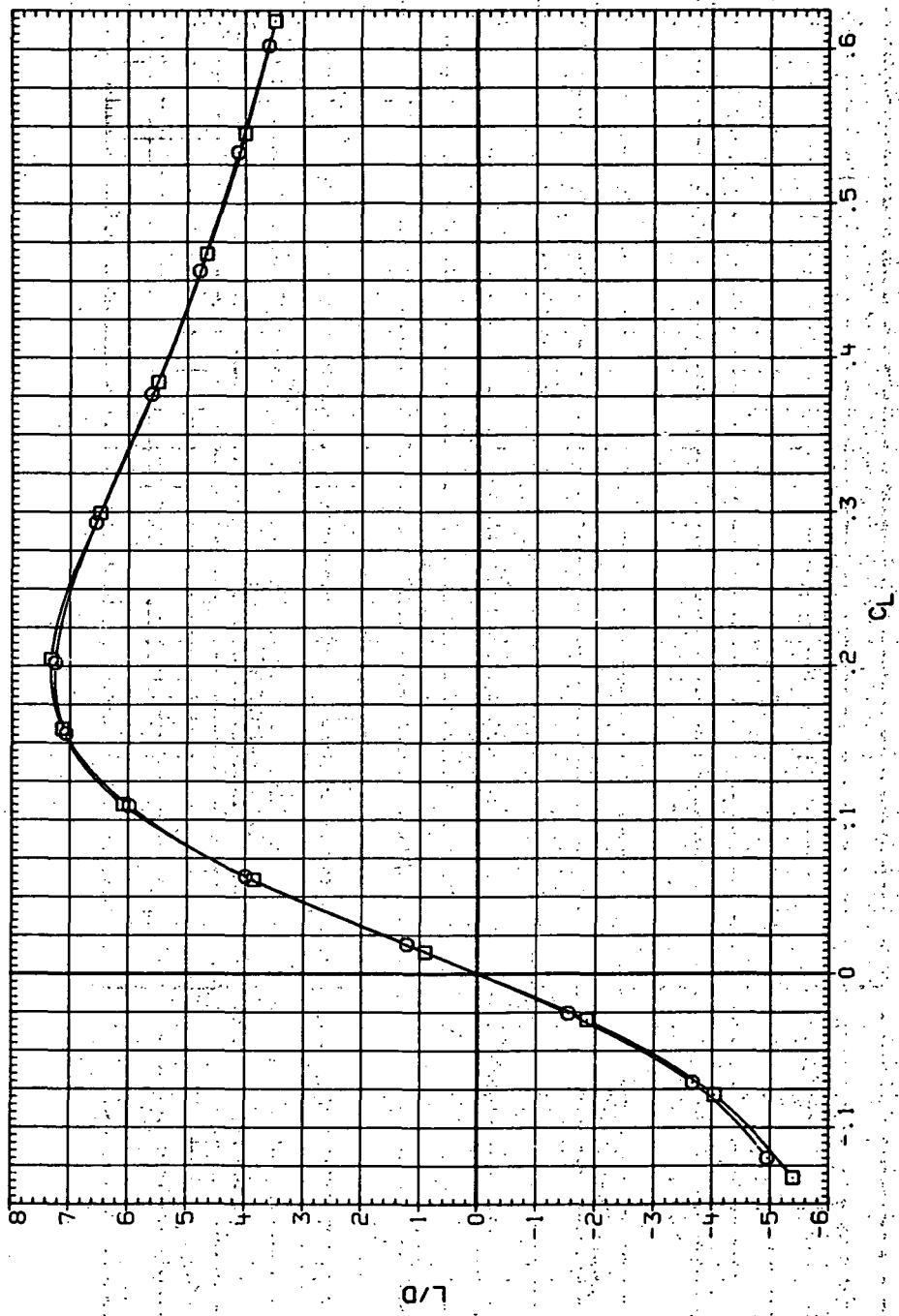
(c)  $C_m$  vs  $C_L$ .

Figure 66.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RR191 O 7M50B (STEEL)  
 RR237 □ 7M50B (STEEL)

R/V/L Q/NSM  
 6.230 18.500  
 8.200 24.700

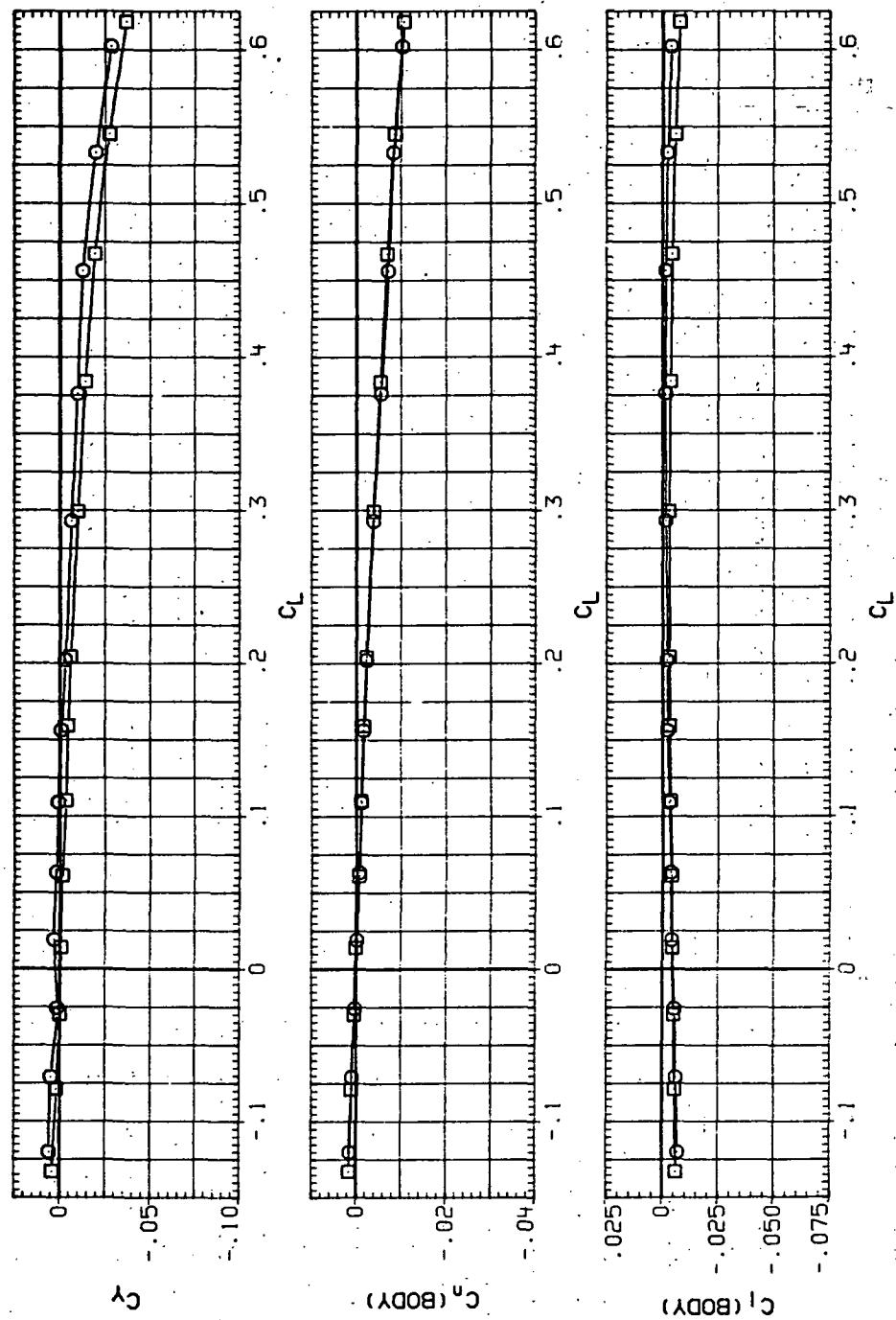


(d)  $L/D$  vs  $C_L$ .

Figure 6.—Continued.

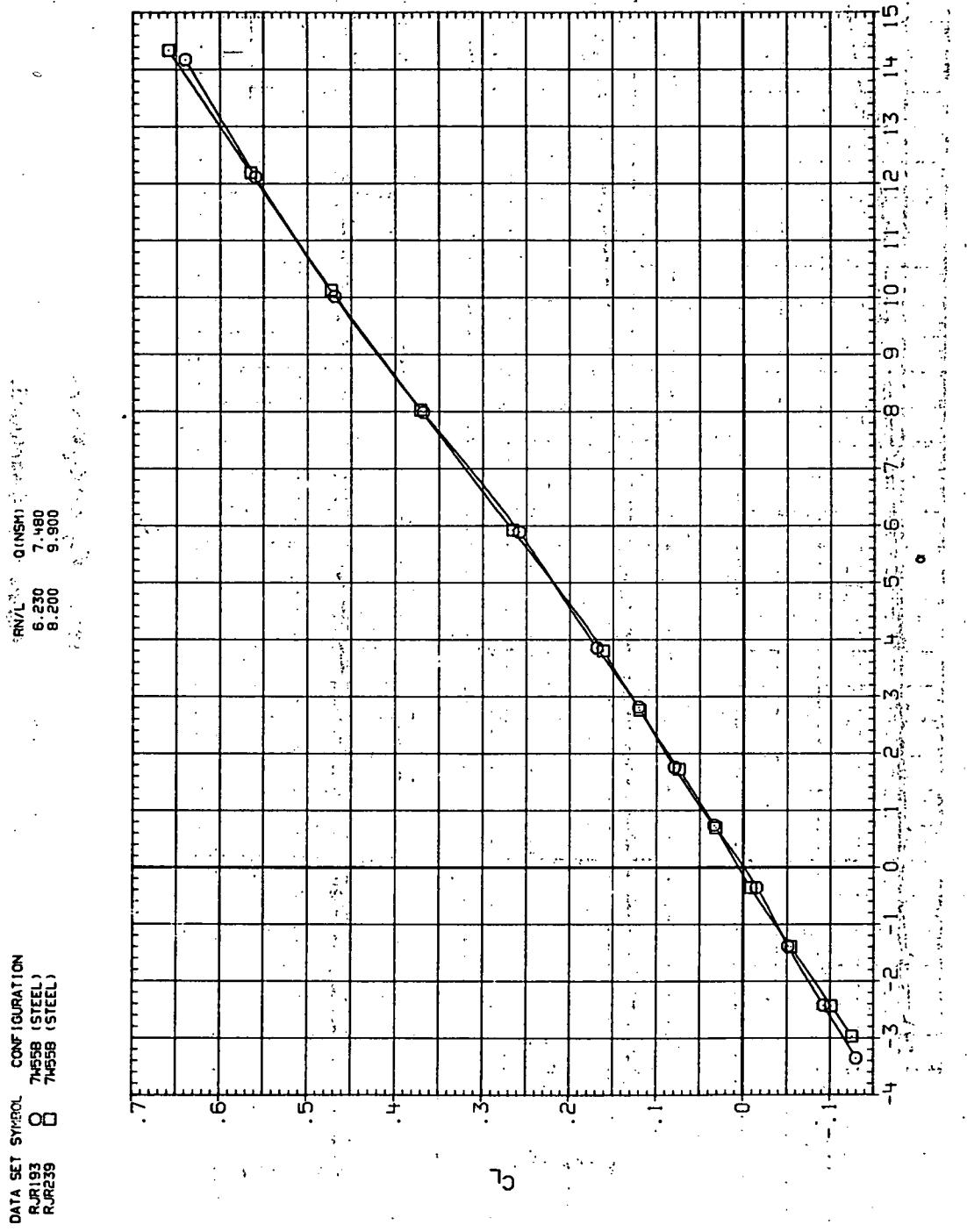
DATA SET SYMBOL CONFIGURATION  
 RJR191 O 74508 (STEEL)  
 RJR237 □ 74508 (STEEL)

RN/L 0 (NSM)  
 6.230 18.500  
 8.200 24.700



(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

Figure 66.—Concluded.



(a)  $C_L$  vs  $\alpha$ .

Figure 6.7.—Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 55^\circ$ ,  $M = 0.4$  and the NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 RJI193 O 74558 (STEEL)  
 RJR239 □ 74558 (STEEL)

R/V/L Q(DSM)  
 6.230 7.480  
 6.200 9.900

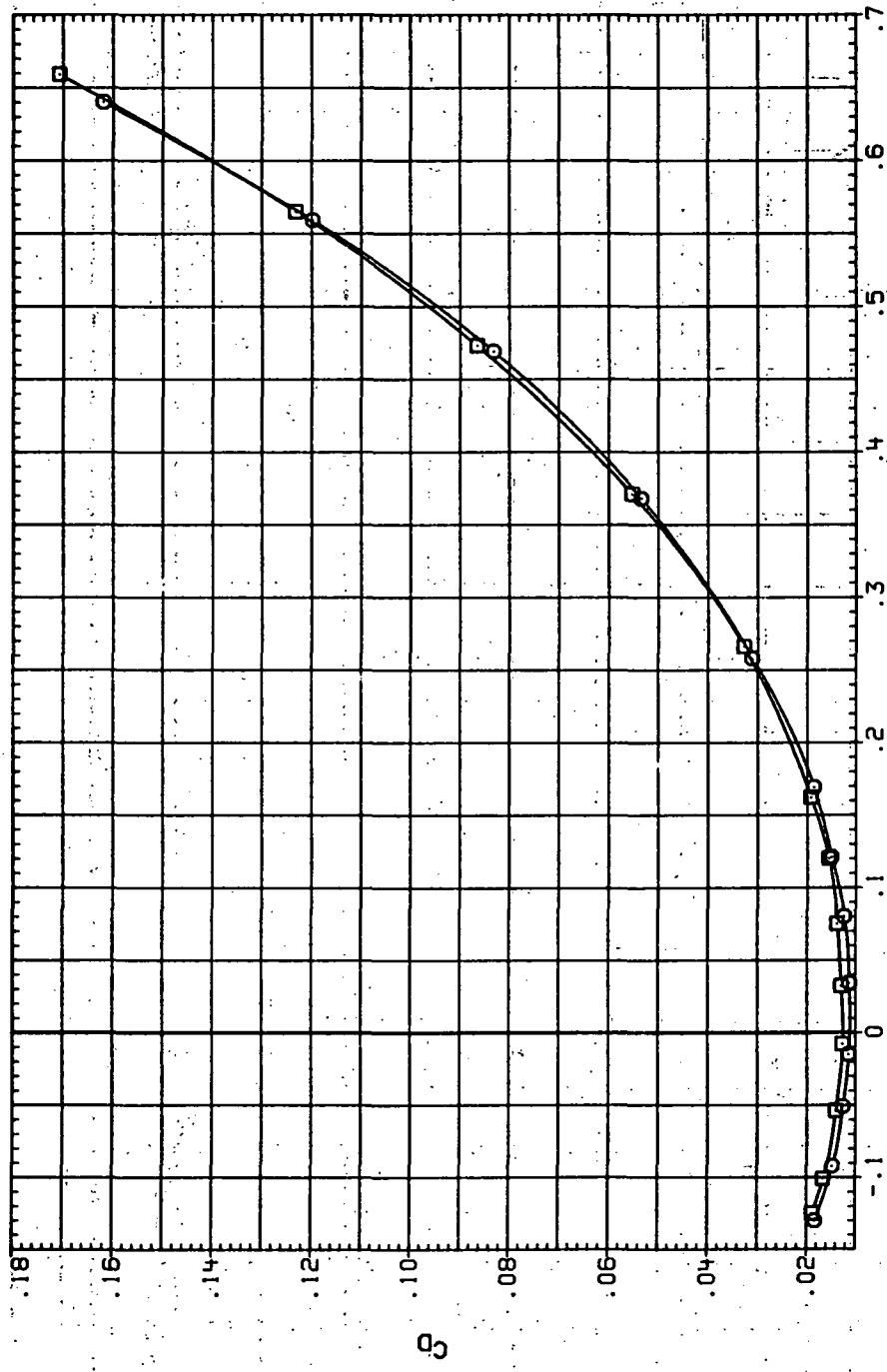
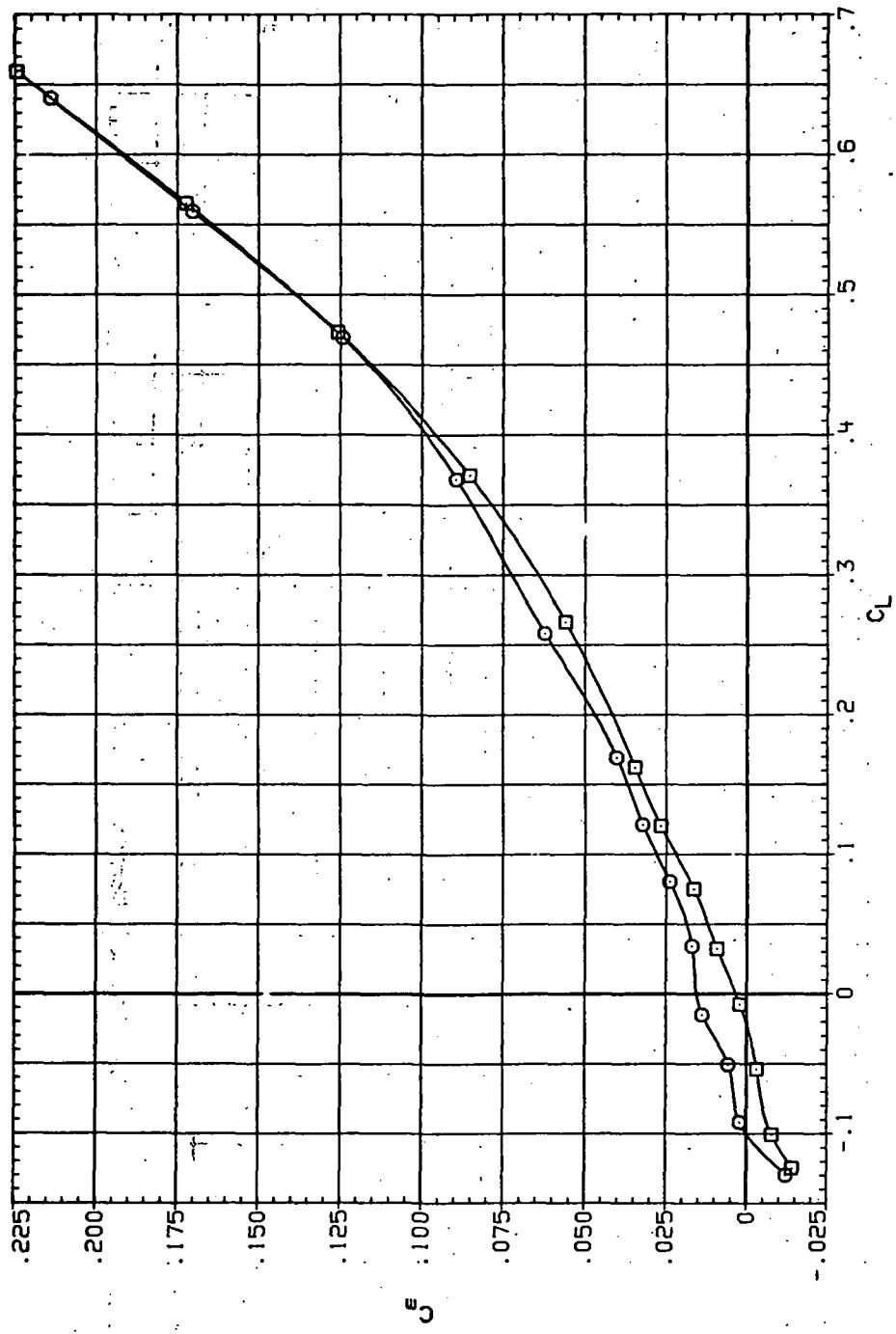
(b)  $C_D$  vs  $C_L$ .

Figure 67.7. Continued.

DATA SET SYMBOL CONFIGURATION  
 R.R193 O 7M55B (STEEL)  
 R.R239 □ 7M55B (STEEL)



(c)  $C_m$  vs  $C_L$ .

Figure 67.—Continued.

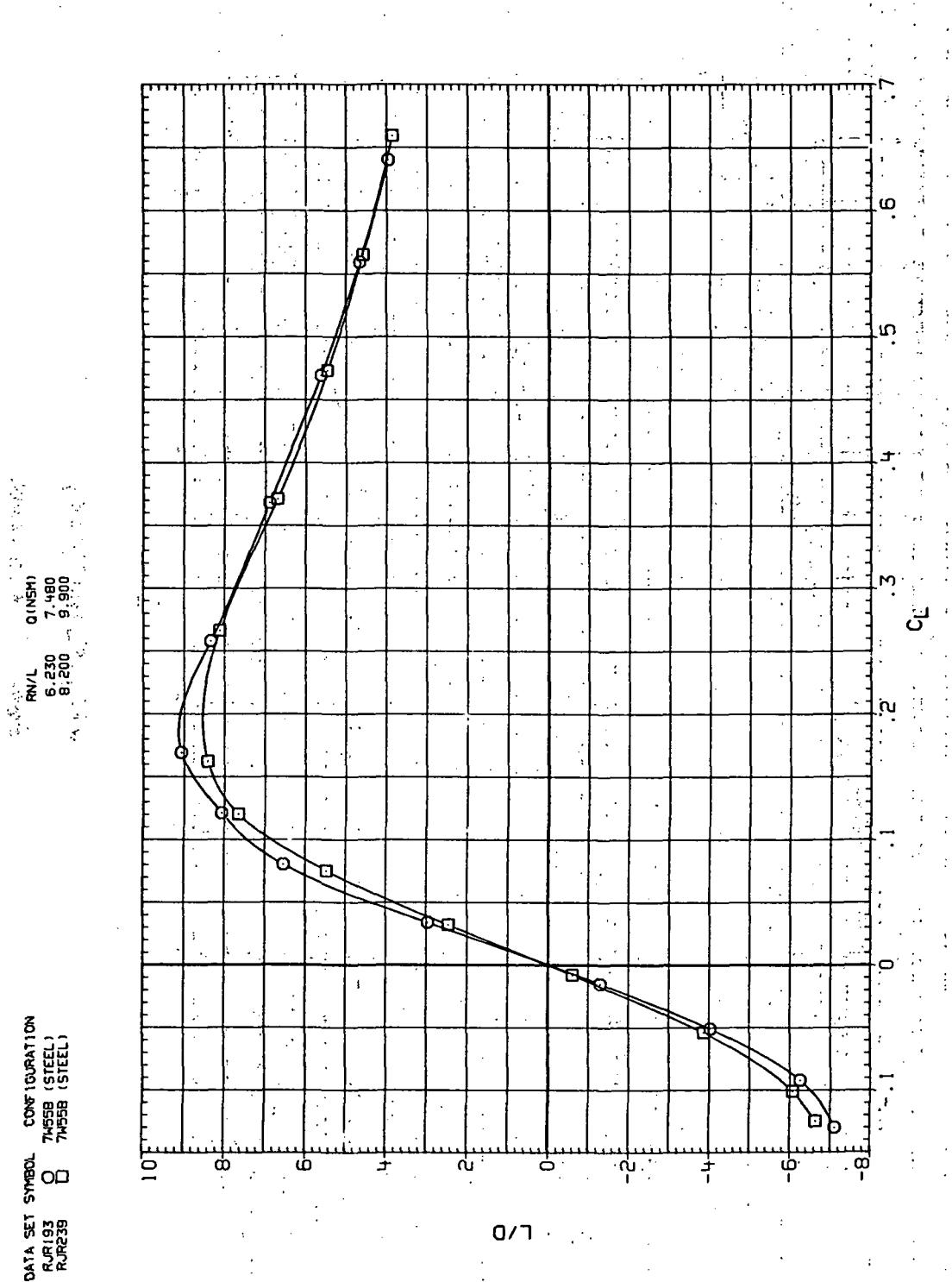
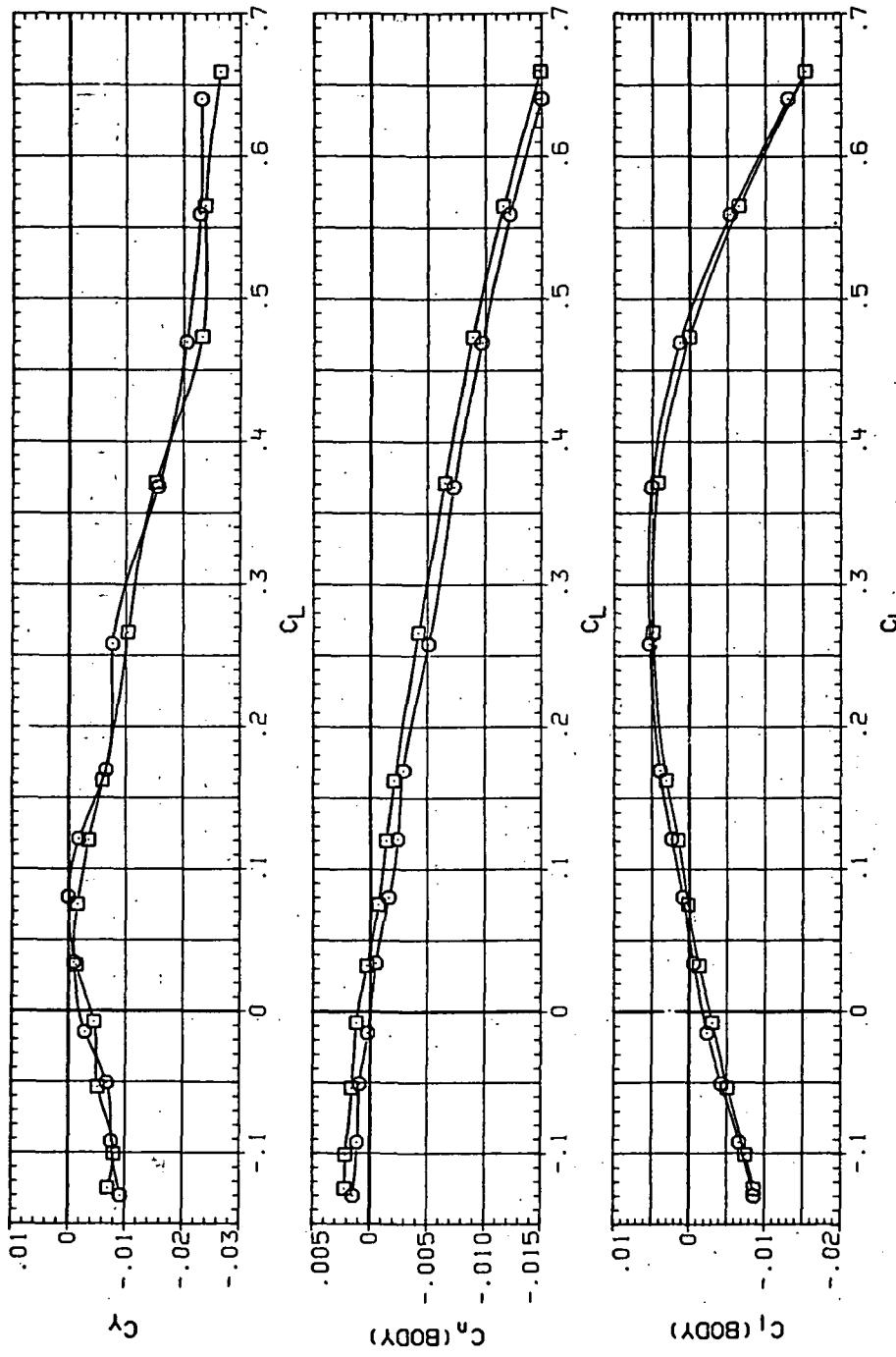


Figure 67.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RUR193 O 7R558 (STEEL)  
 RUR239 □ 7R558 (STEEL)

RNL Q (NSH)  
 6.230 7.480  
 8.200 9.900



(e)  $C_Y$ ,  $C_n$  and  $C_i$  vs  $C_L$ .

Figure 67.— Concluded.

DATA SET SYMBOL CONFIGURATION  
 RJR19N 7455B (STEEL)  
 RJR210 7455B (STEEL)

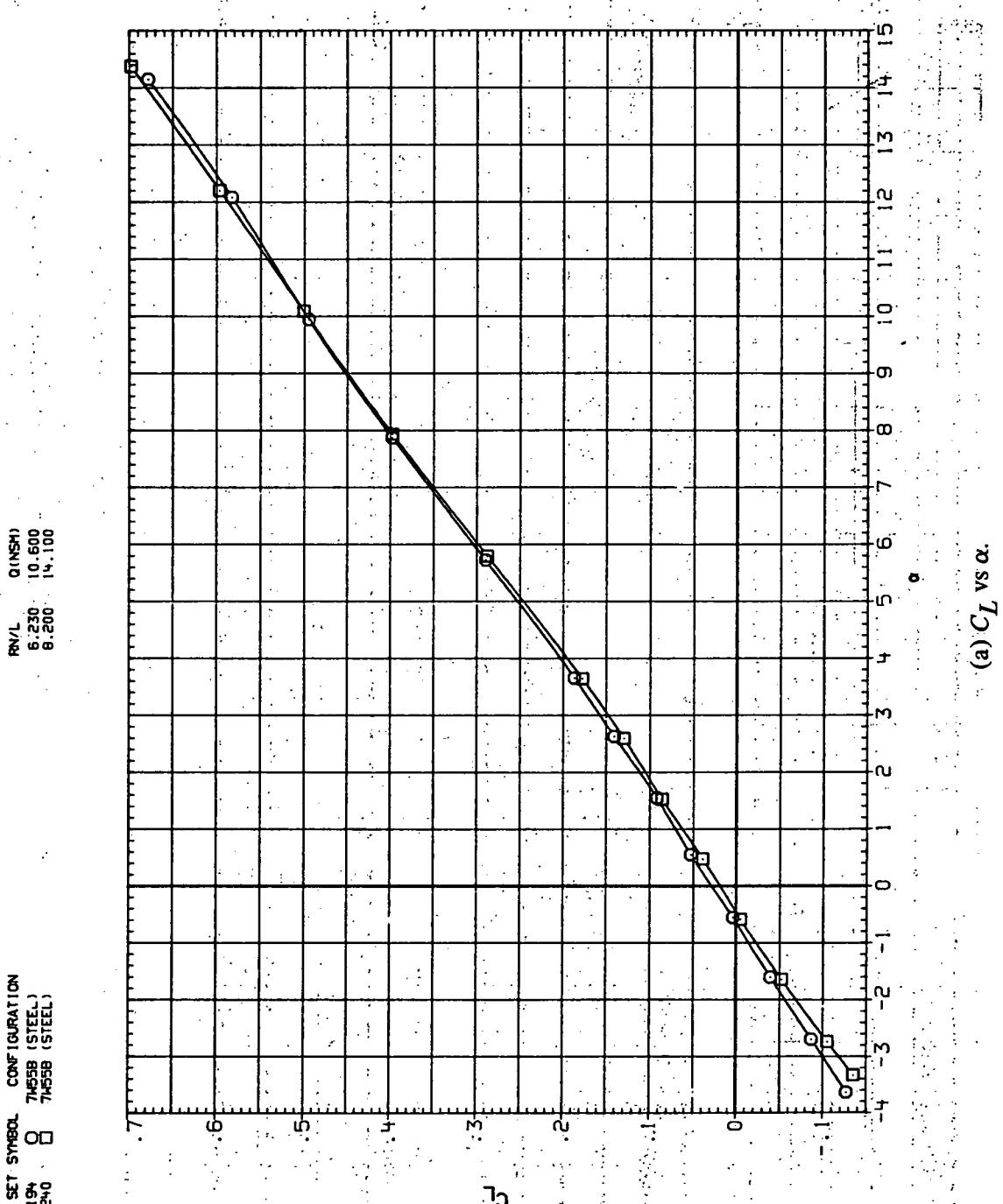
(a)  $C_L$  vs  $\alpha$ .

Figure 68.— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 55^\circ$ ,  $M = 0.6$  and the NACA 65A204 airfoil).

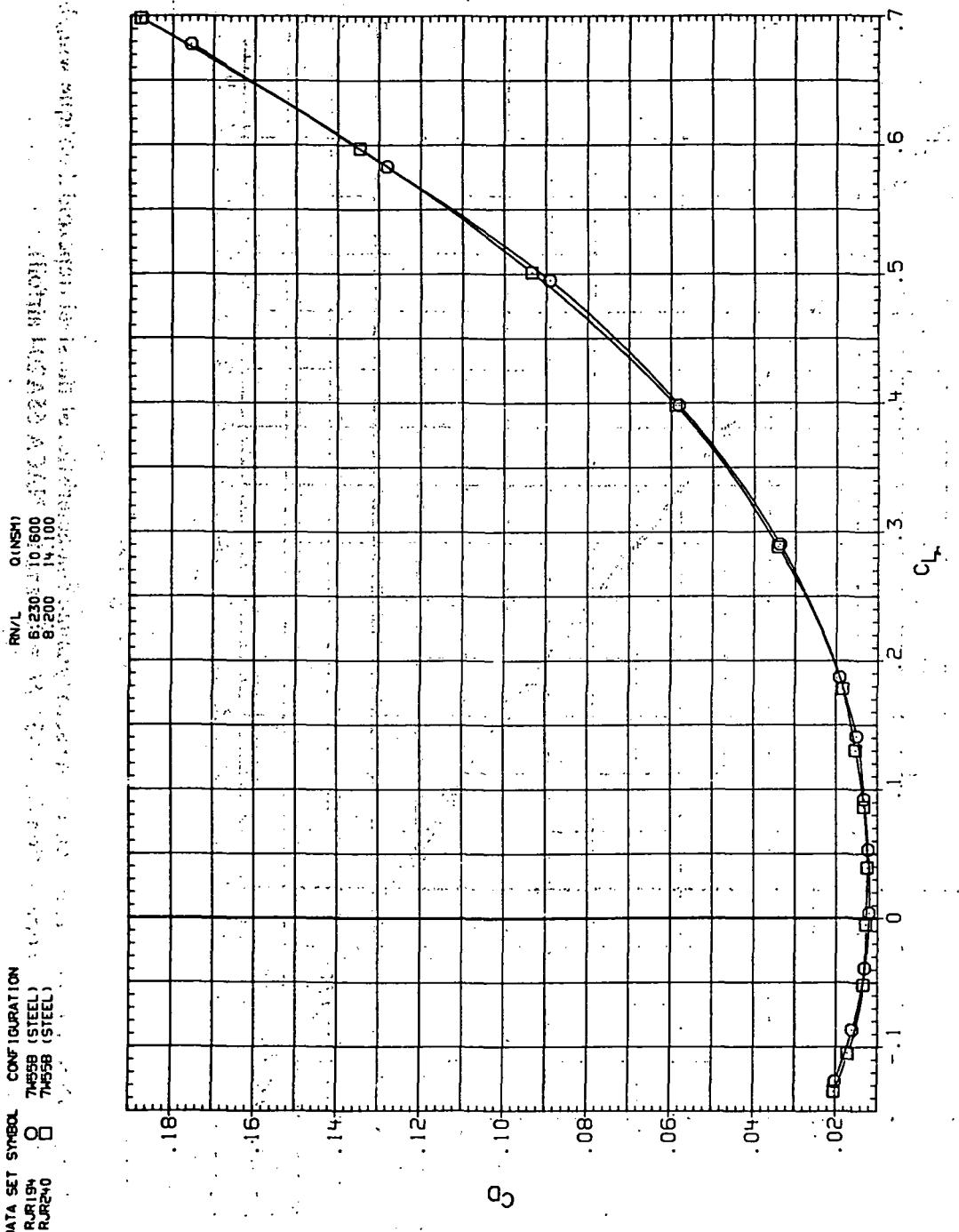


Figure 68. (b)  $C_D$  vs  $C_L$ . Continued.

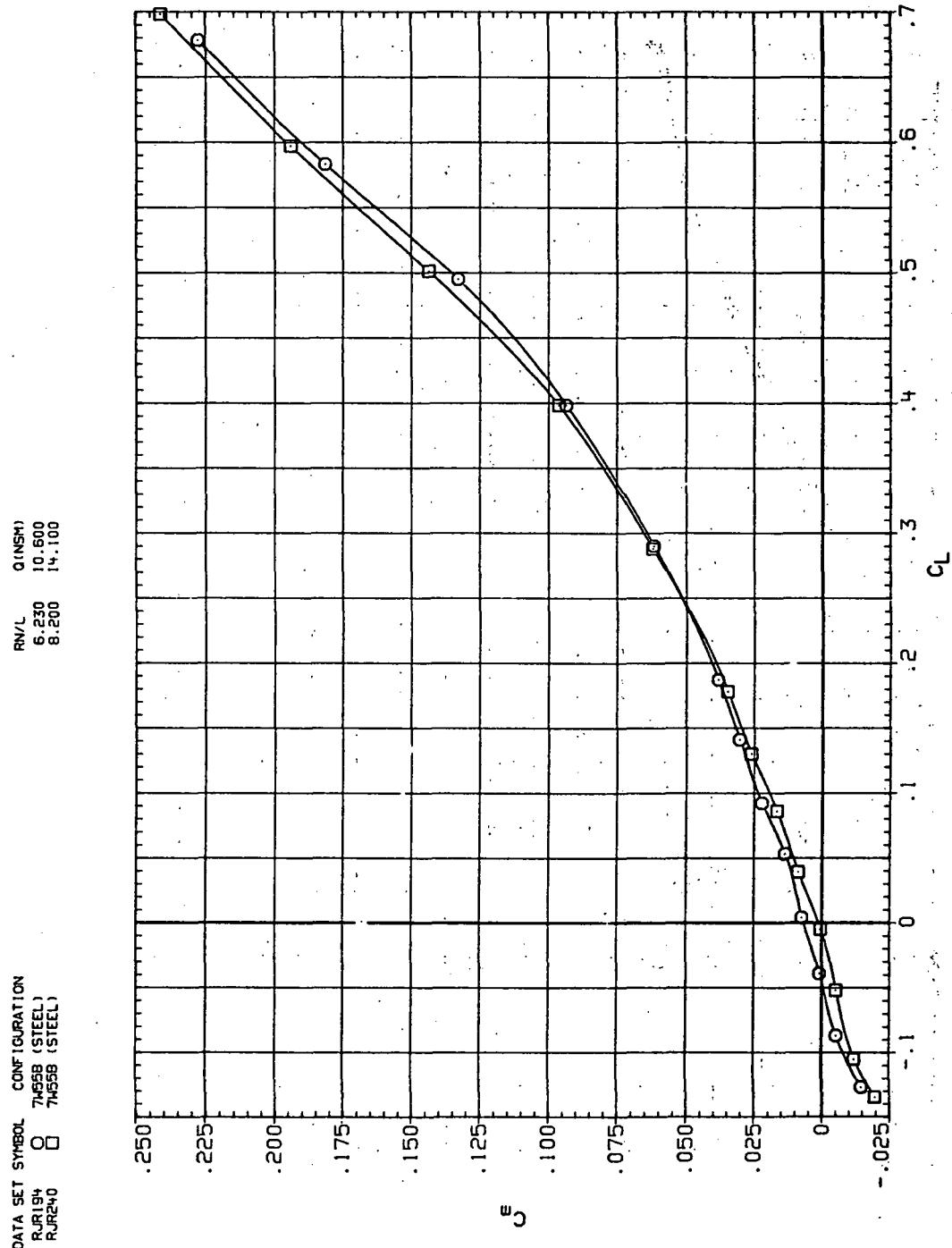
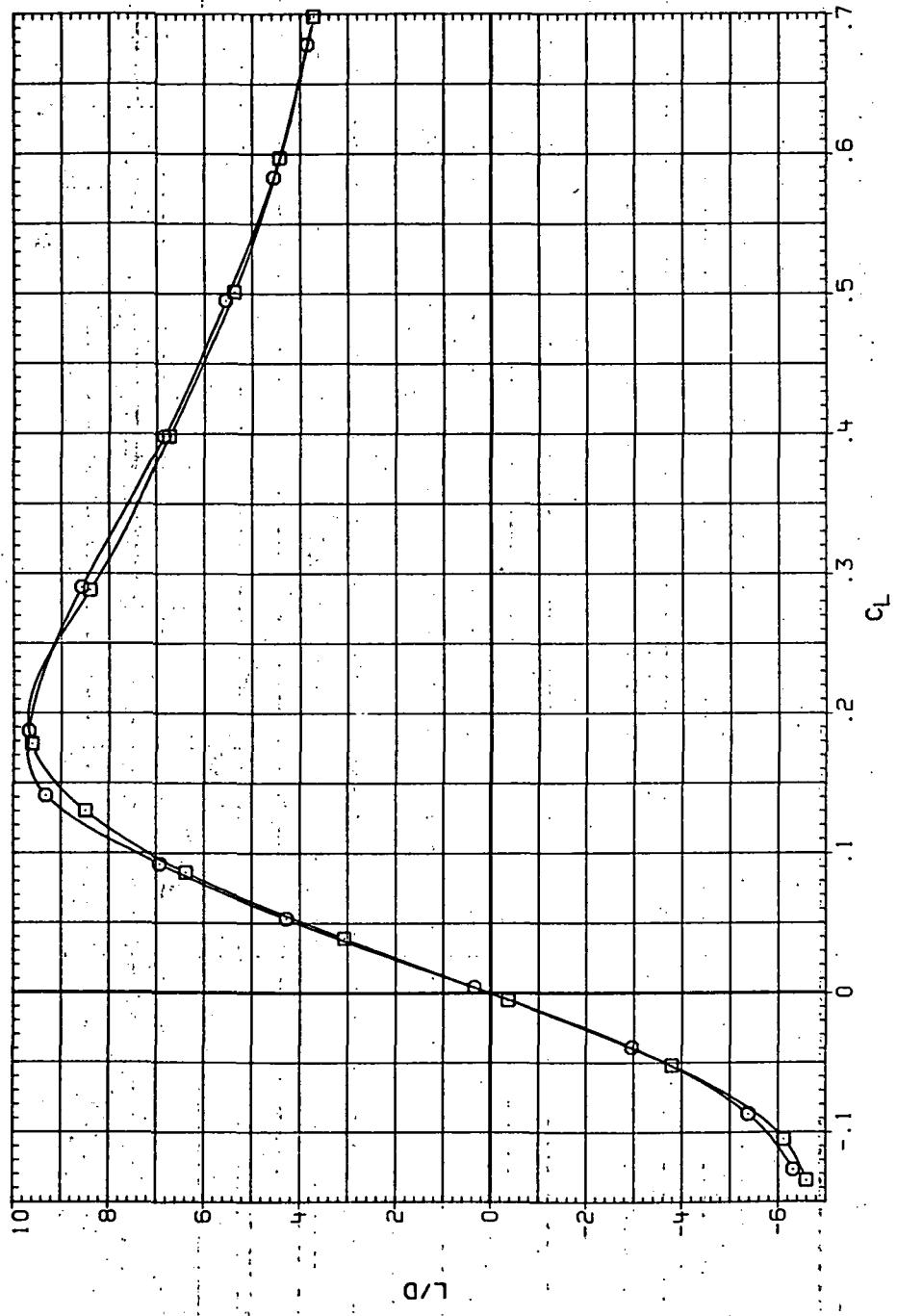
(c)  $C_m$  vs  $C_L$ .

Figure 68.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR154 O 74558 (STEEL)  
 RJR240 □ 74558 (STEEL)

Q(NISHI)  
 6.230 10.600  
 8.200 14.100

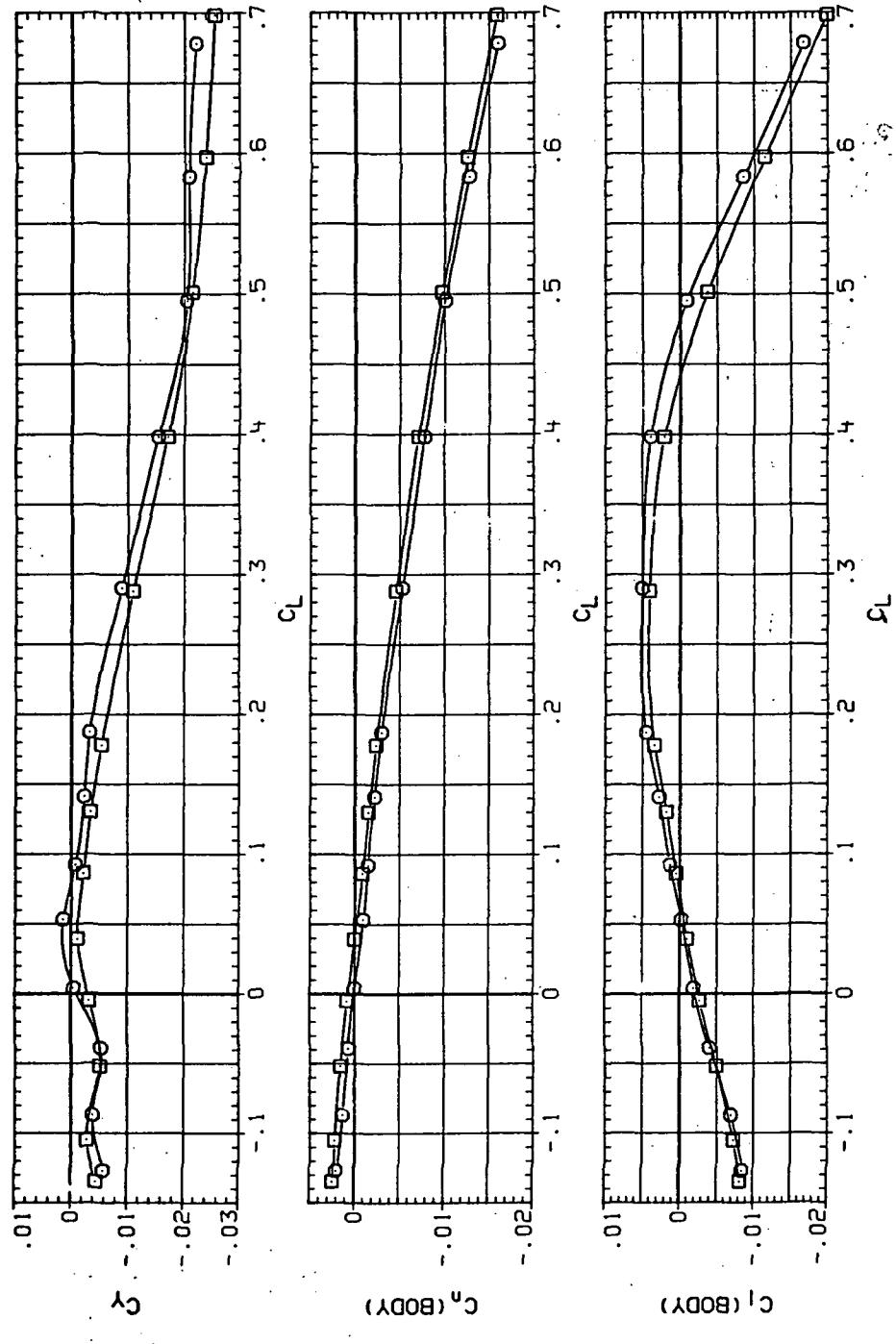


(d)  $L/D$  vs  $C_L$ .

Figure 68.—Continued.

DATA SET SYMBOL CONFIGURATION  
RORSH O 74558 (STEEL)  
RR240 □ 74558 (STEEL)

$R^2/L$   
6.230  
8.200  
Q (NSM)  
10.600  
14.100



(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$

Figure 68.— Concluded.

DATA SET SYMBOL CONFIGURATION  
 RJR195 O 74558 (STEEL)  
 RJR241 □ 74558 (STEEL)

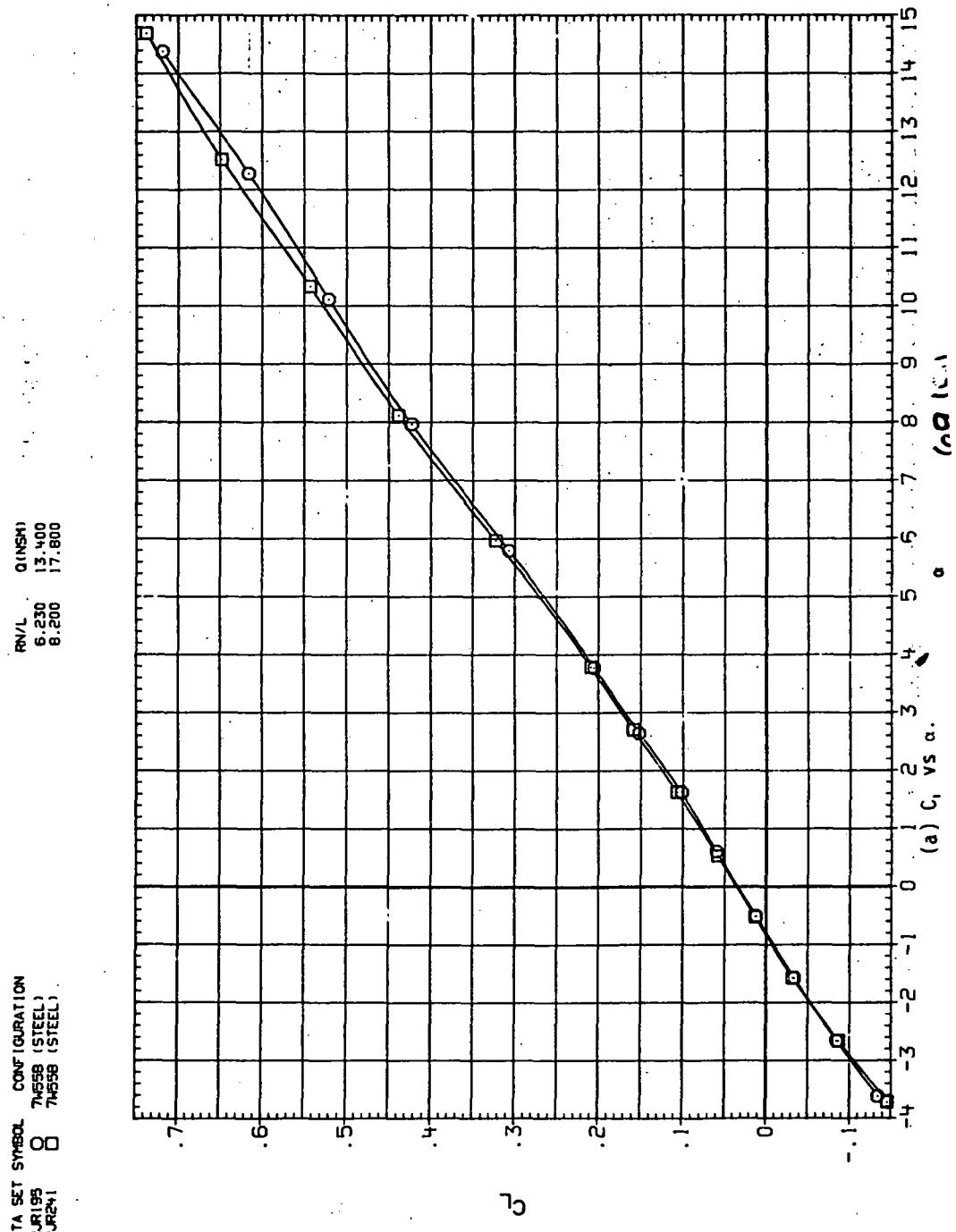
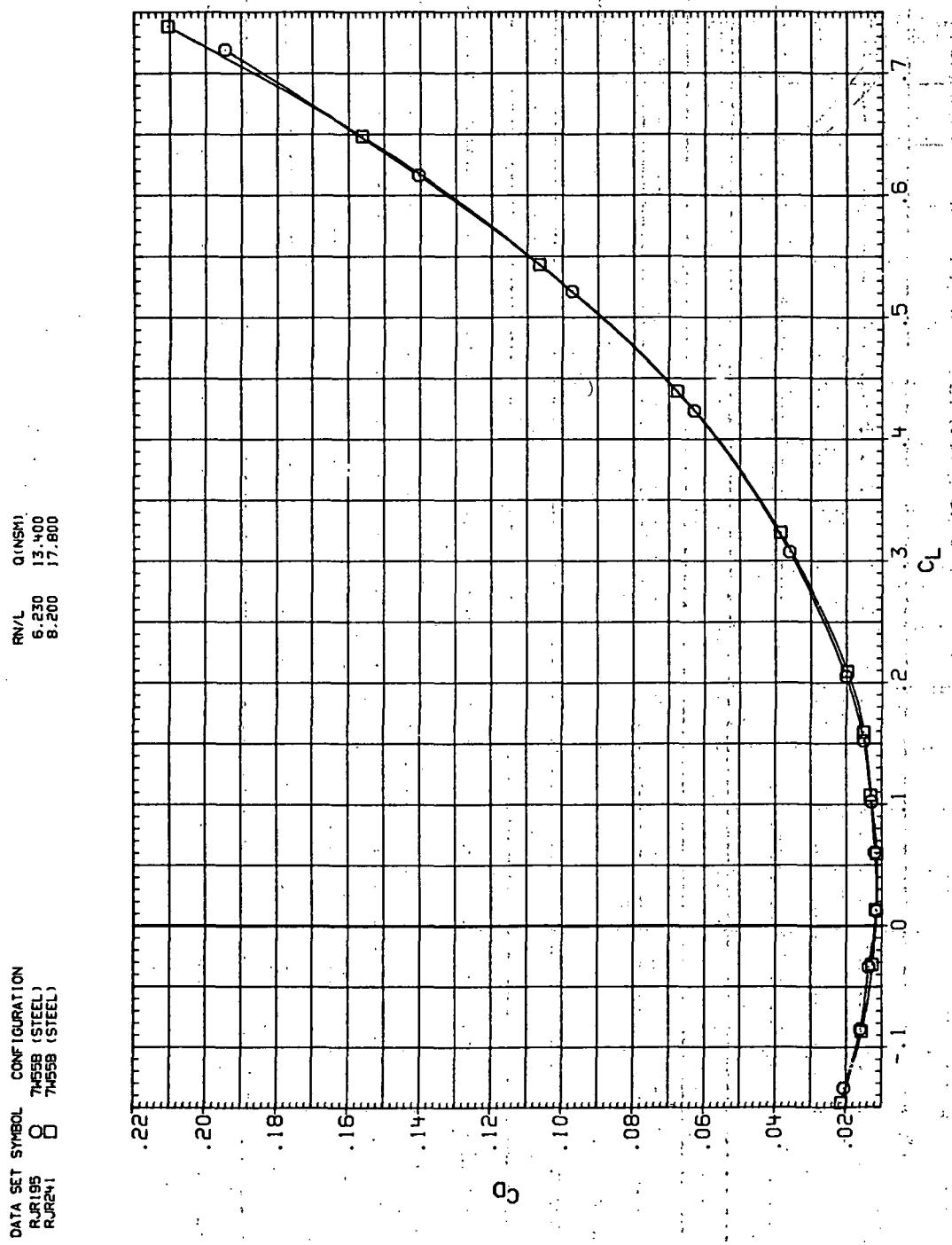


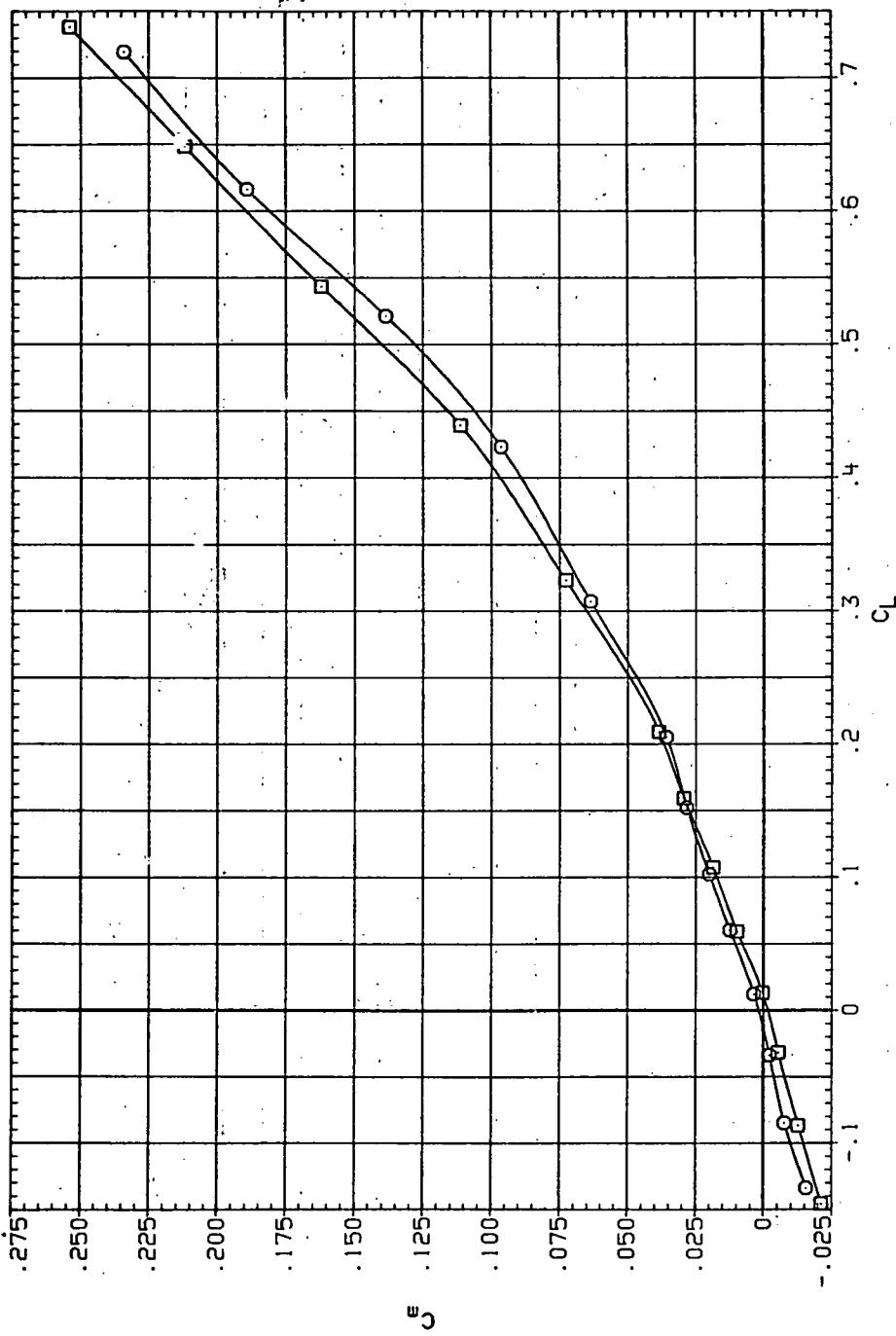
Figure 69.— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 55^\circ$ ,  $M = 0.8$  and the NACA 65A204 airfoil).

(b)  $C_D$  vs  $C_L$ .

Figure 69.—Continued.



DATA SET SYMBOL CONFIGURATION  
 RJR195 O 7455B (STEEL)  
 RJR241 □ 7455B (STEEL)

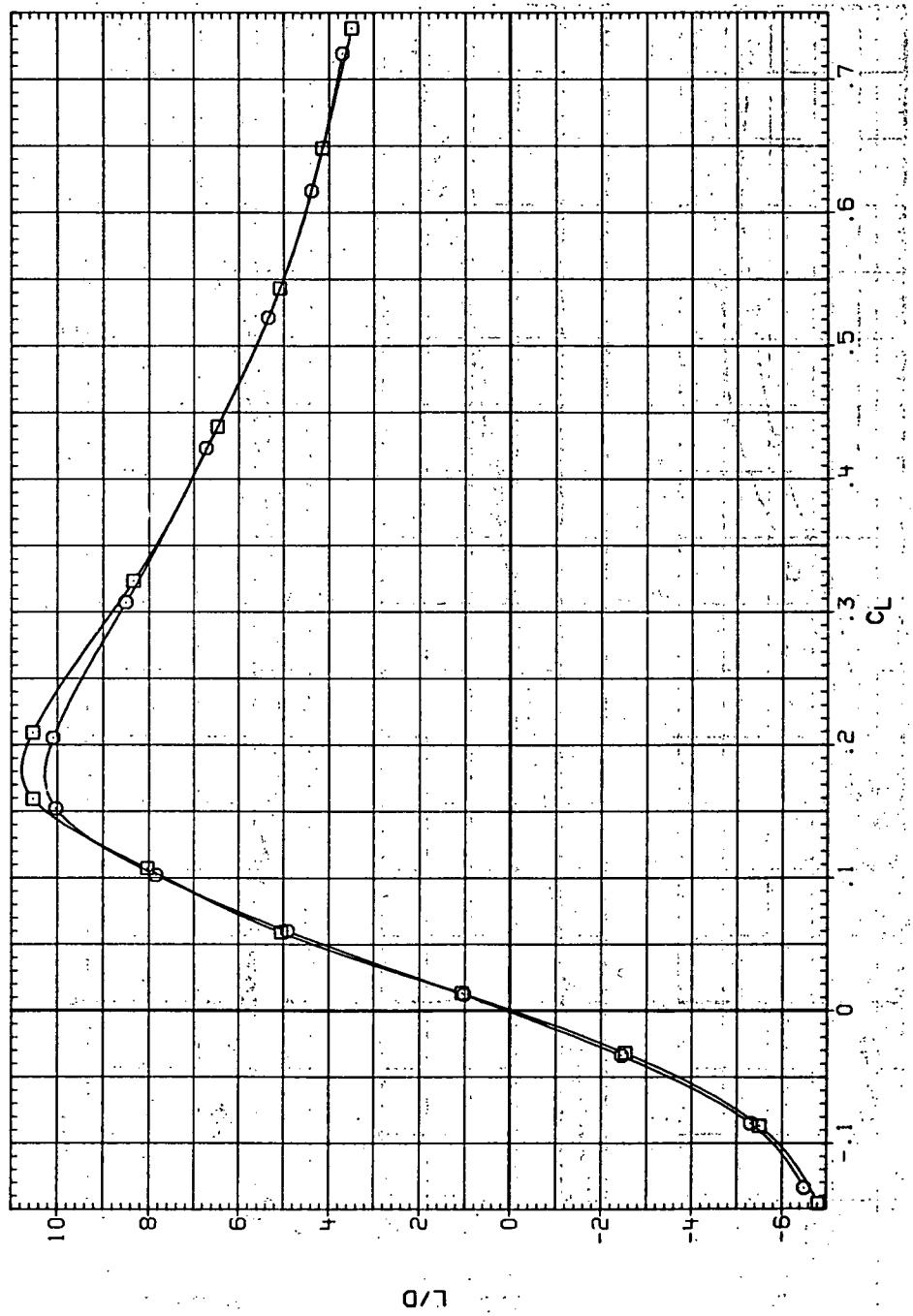


(c)  $C_m$  vs  $C_L$ .

Figure 69.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR195 O 7455B (STEEL)  
 RJR241 □ 7455B (STEEL)

RNL Q(NSM)  
 6.230 13.400  
 8.200 17.800

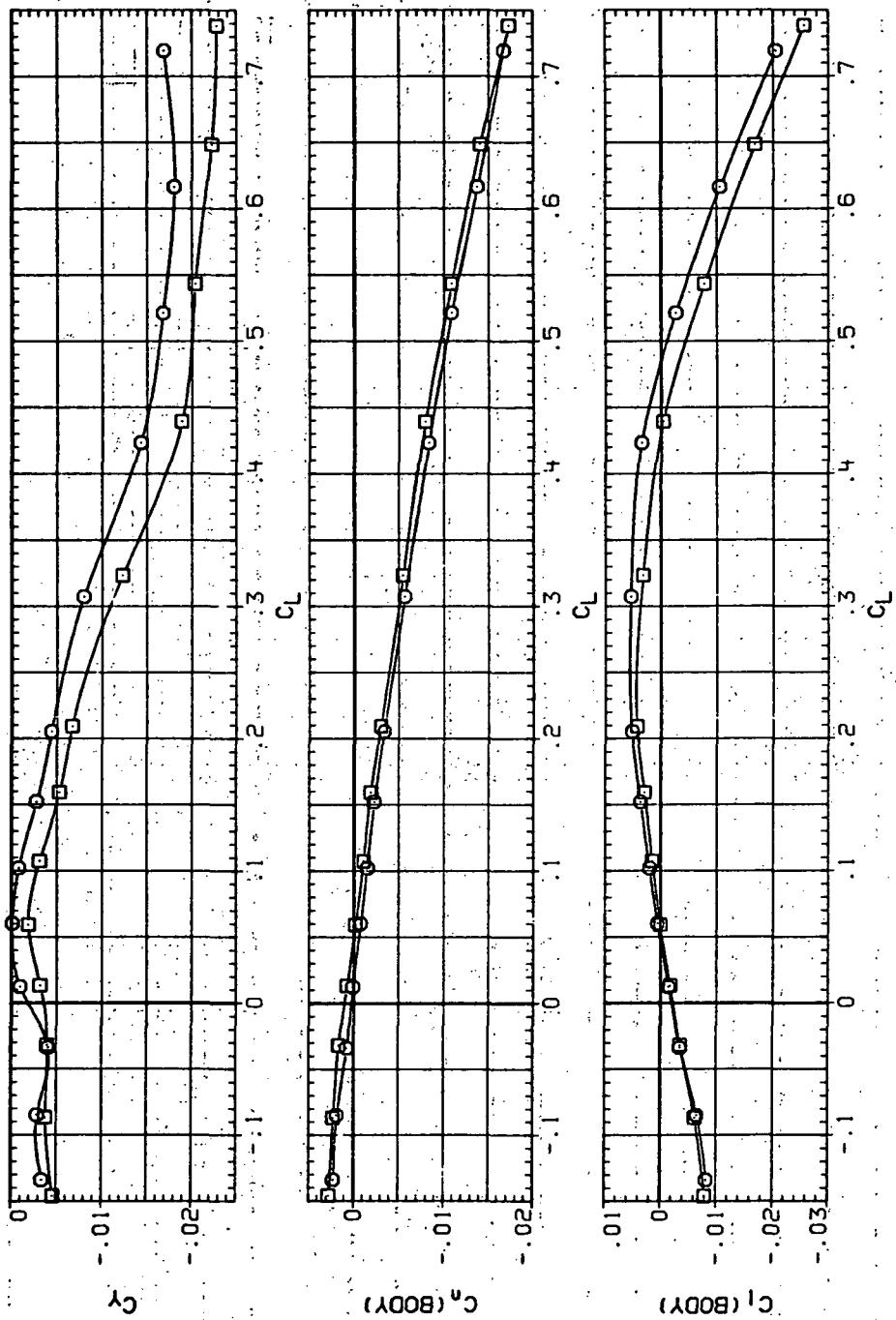


(d)  $L/D$  vs  $C_L$ .

Figure 69.—Continued.

DATA SET SYMBOL CONFIGURATION  
R1195 7455B (STEEL)  
R1241 7455B (STEEL)

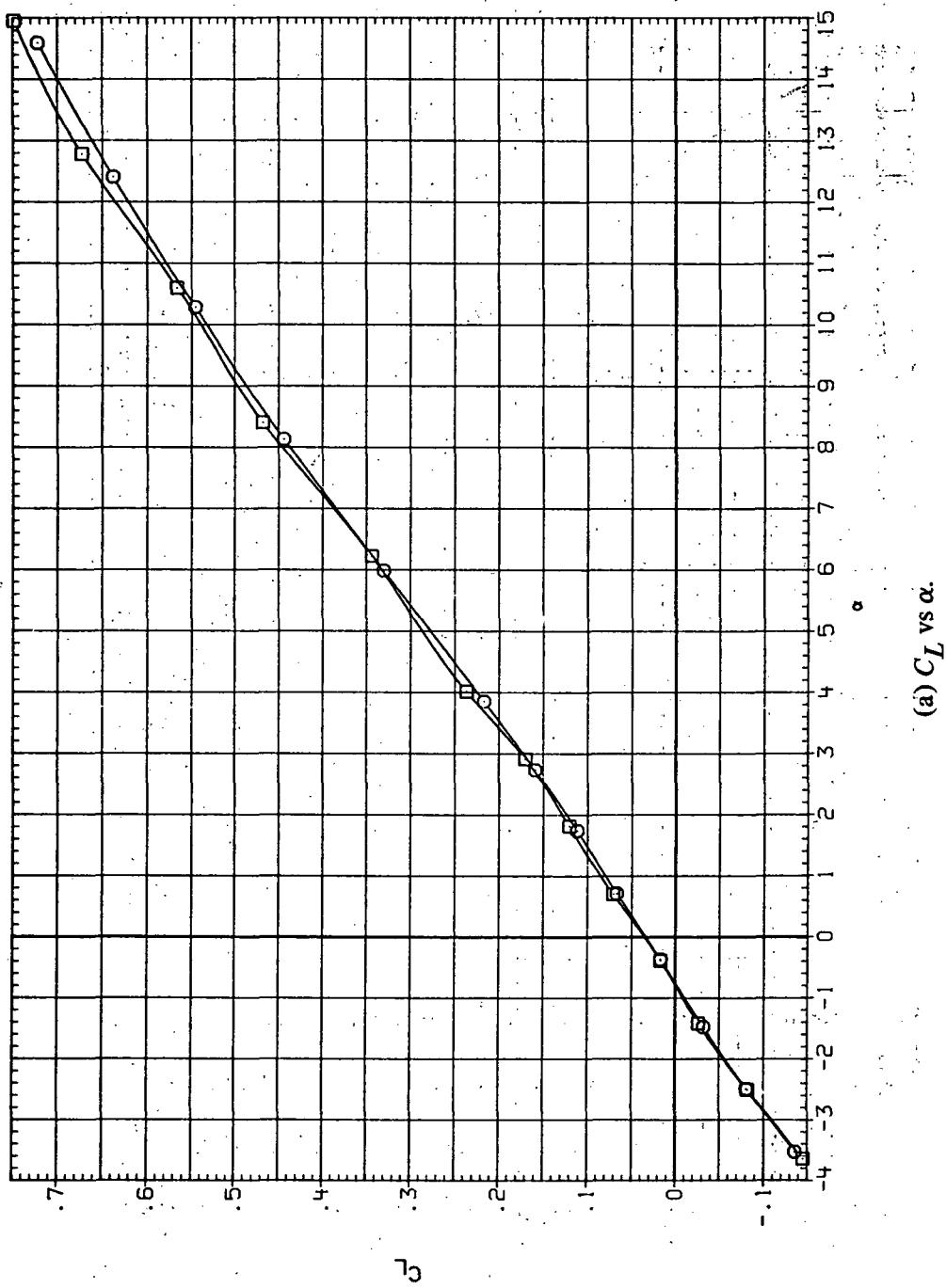
INFL. QINSHI  
6.230 13.400  
8.200 17.900



(e)  $C_Y$ ,  $C_a$  and  $C_l$  vs  $C_L$

Figure 69.—Concluded.

DATA SET SYMBOL	CONFIGURATION
RJ196	74558 (STEEL)
RJR242	74558 (STEEL)



(a)  $C_L$  vs  $\alpha$ .

Figure 70.— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 55^\circ$ ,  $M = 0.9$  and the NACA 65A204 airfoil).

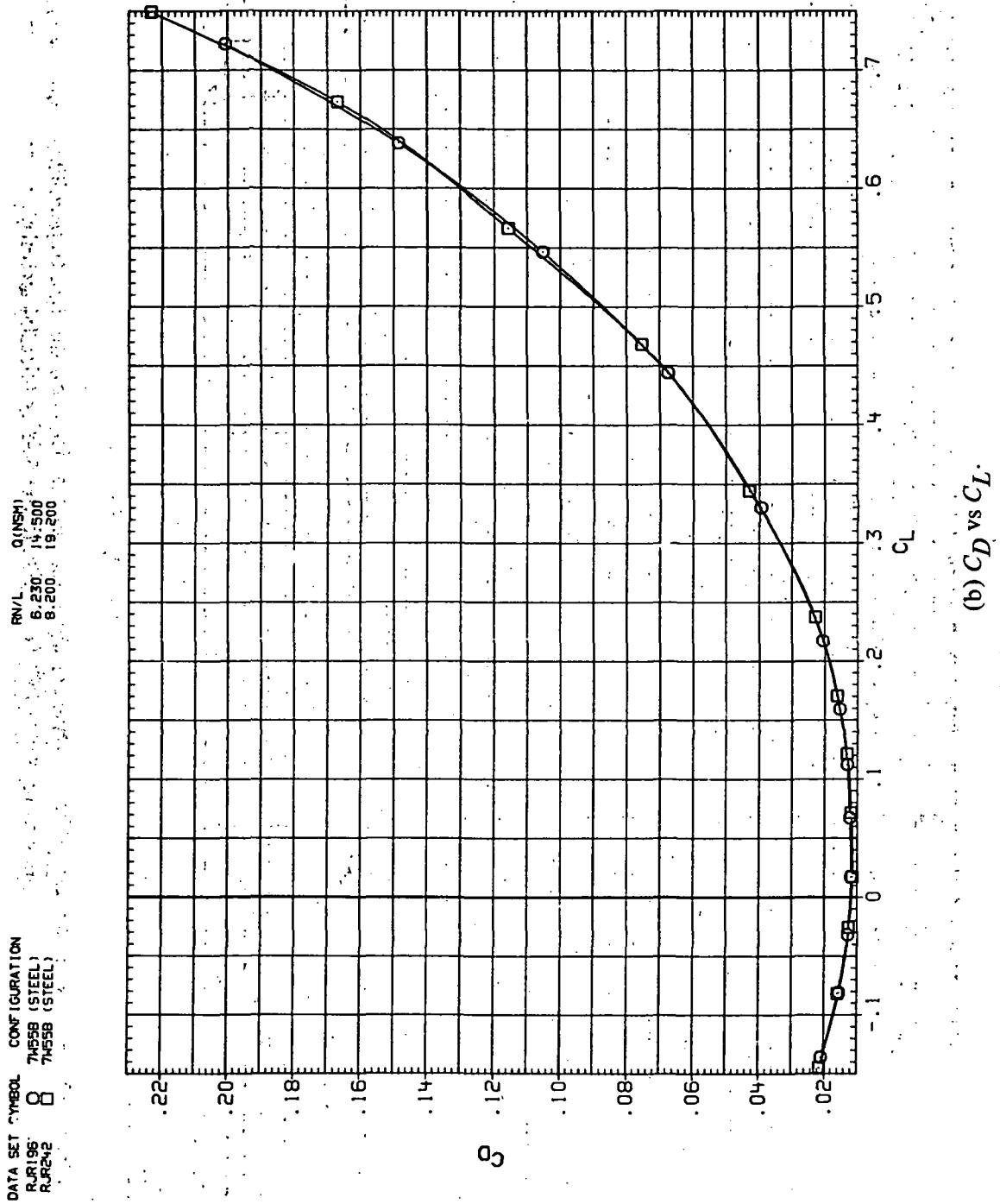
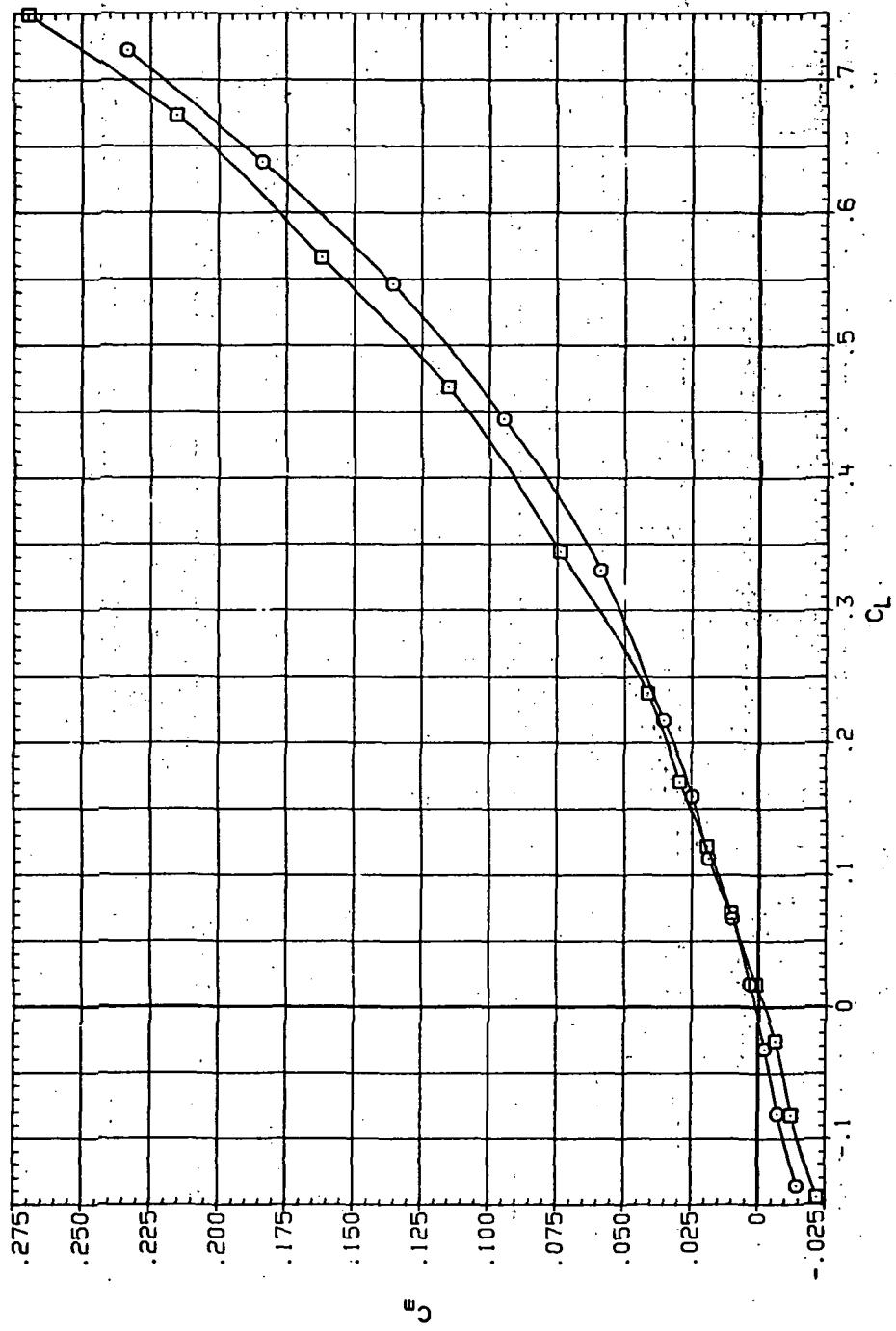


Figure 70.— Continued.

DATA SET SYMBOL CONFIGURATION  
 RUR196 O 7455B (STEEL)  
 RUR292 □ 7455B (STEEL)

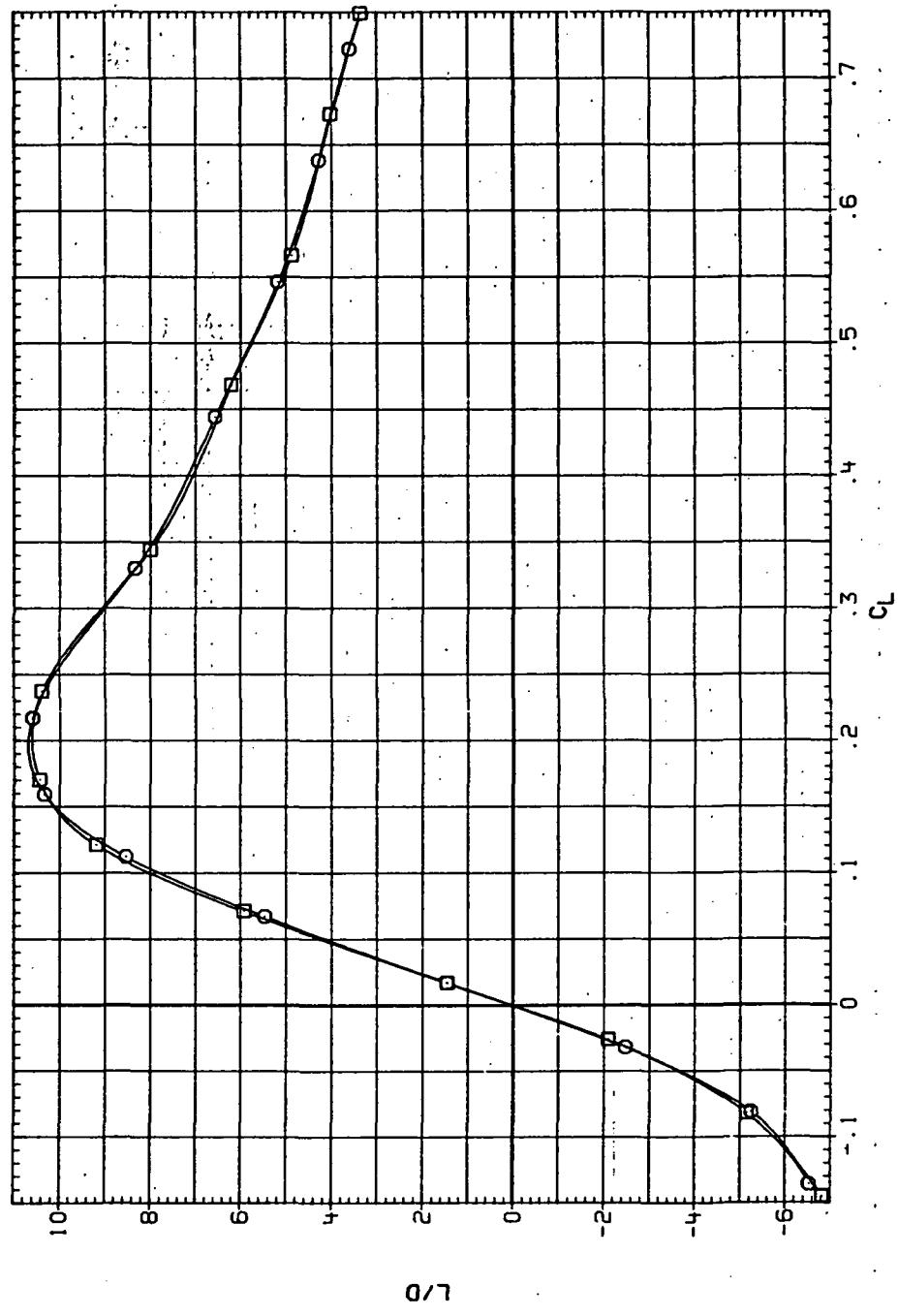
RN/L QINSHI  
 6.230 14.500  
 8.200 19.200



(c)  $C_m$  vs  $C_L$ .

Figure 70.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR196 74558 (STEEL)  
 RJR242 74558 (STEEL)



(d)  $L/D$  vs  $C_L$ .

Figure 70.—Continued.

DATA SET SYMBOL: "CONFIGURATION"  
 RUR196      O      7H55B (STEEL)  
 RUR242      □      7H55B (STEEL)

6.230 14:300 19:200  
 8.200

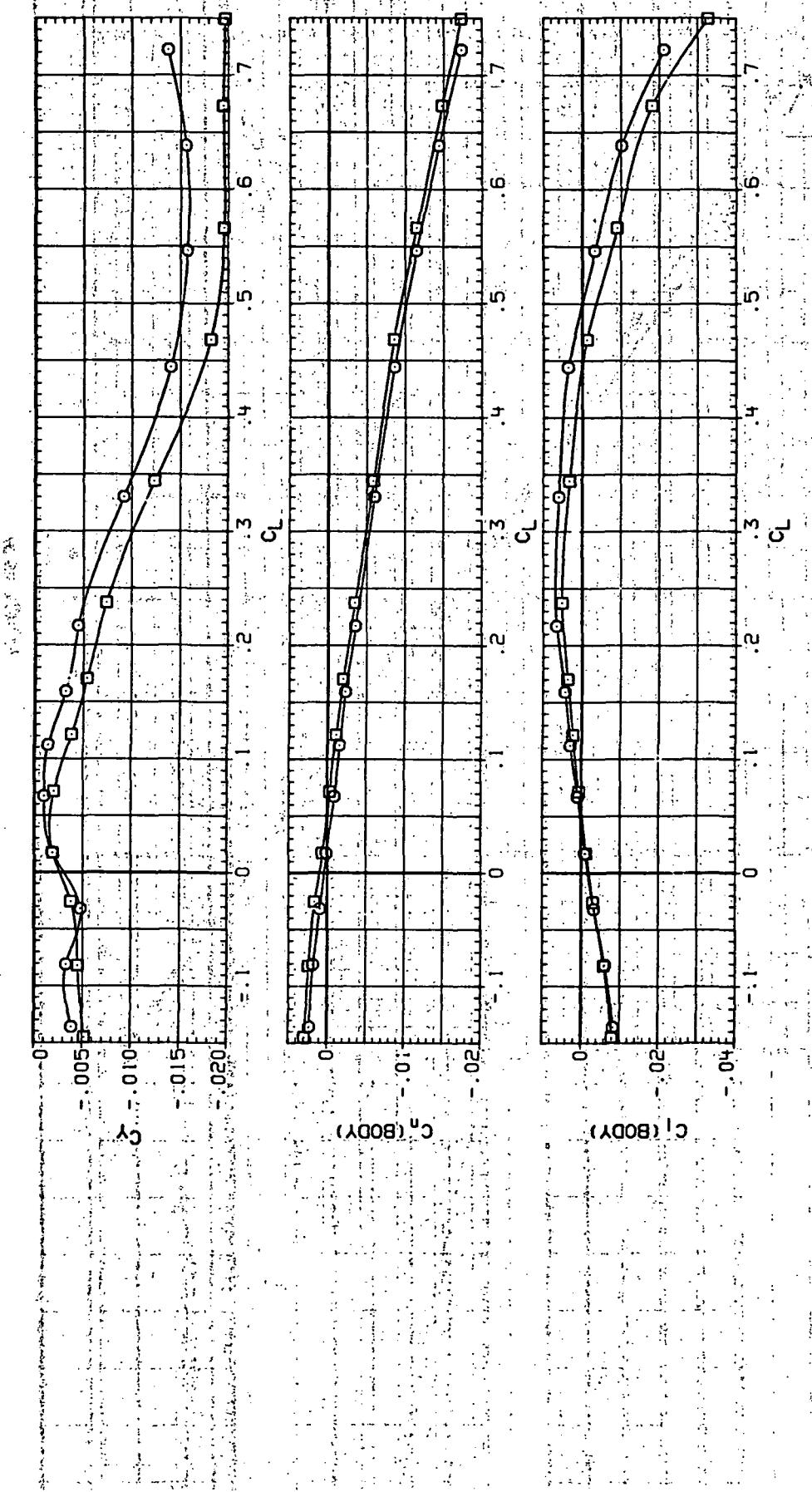
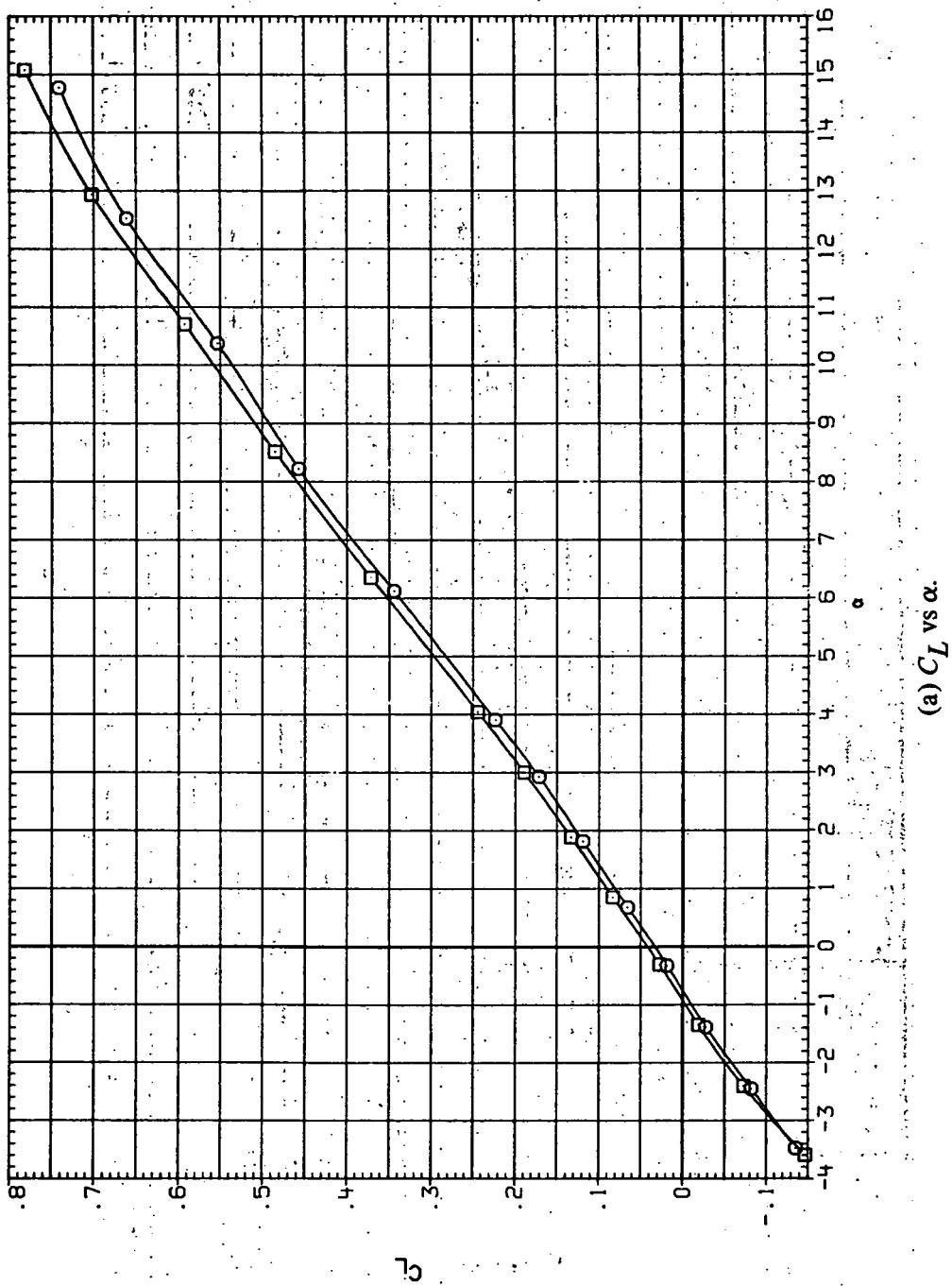
(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ 

Figure 70. Concluded.

DATA SET SYMBOL CONFIGURATION  
 RJR197 THE58 (STEEL)  
 RGP243 THE58 (STEEL)

RN/L Q (INSR)  
 6.230 15,000  
 6.200 19,500

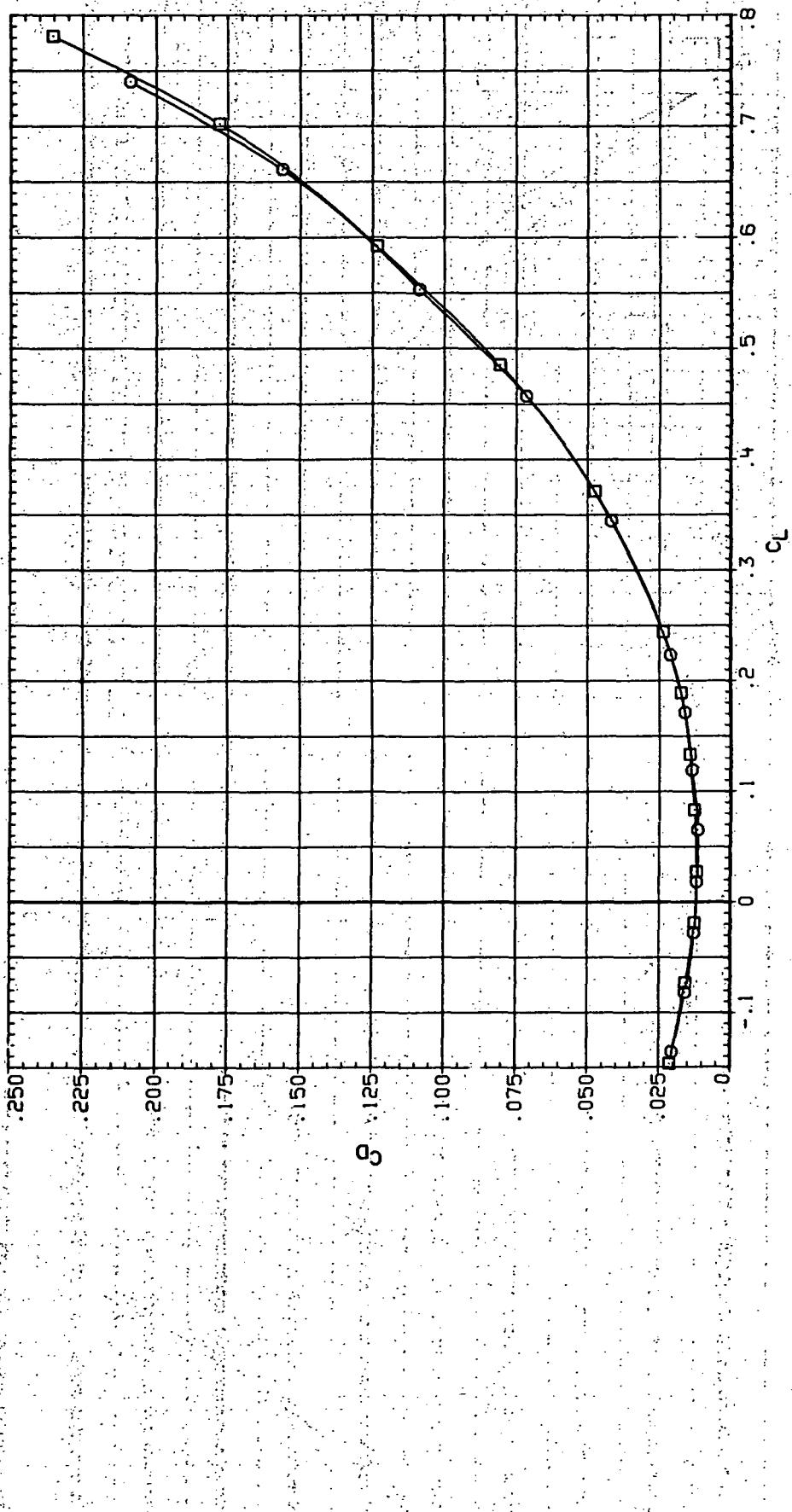


(a)  $C_L$  vs  $\alpha$ .

Figure 7.1.— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 55^\circ$ ,  $M = 0.95$  and the NACA 65A204 airfoil).

DATA SET street. CONFIGURATION  
 RUR197 O 7455B (STEEL)  
 RJR243 □ 7455B (STEEL)

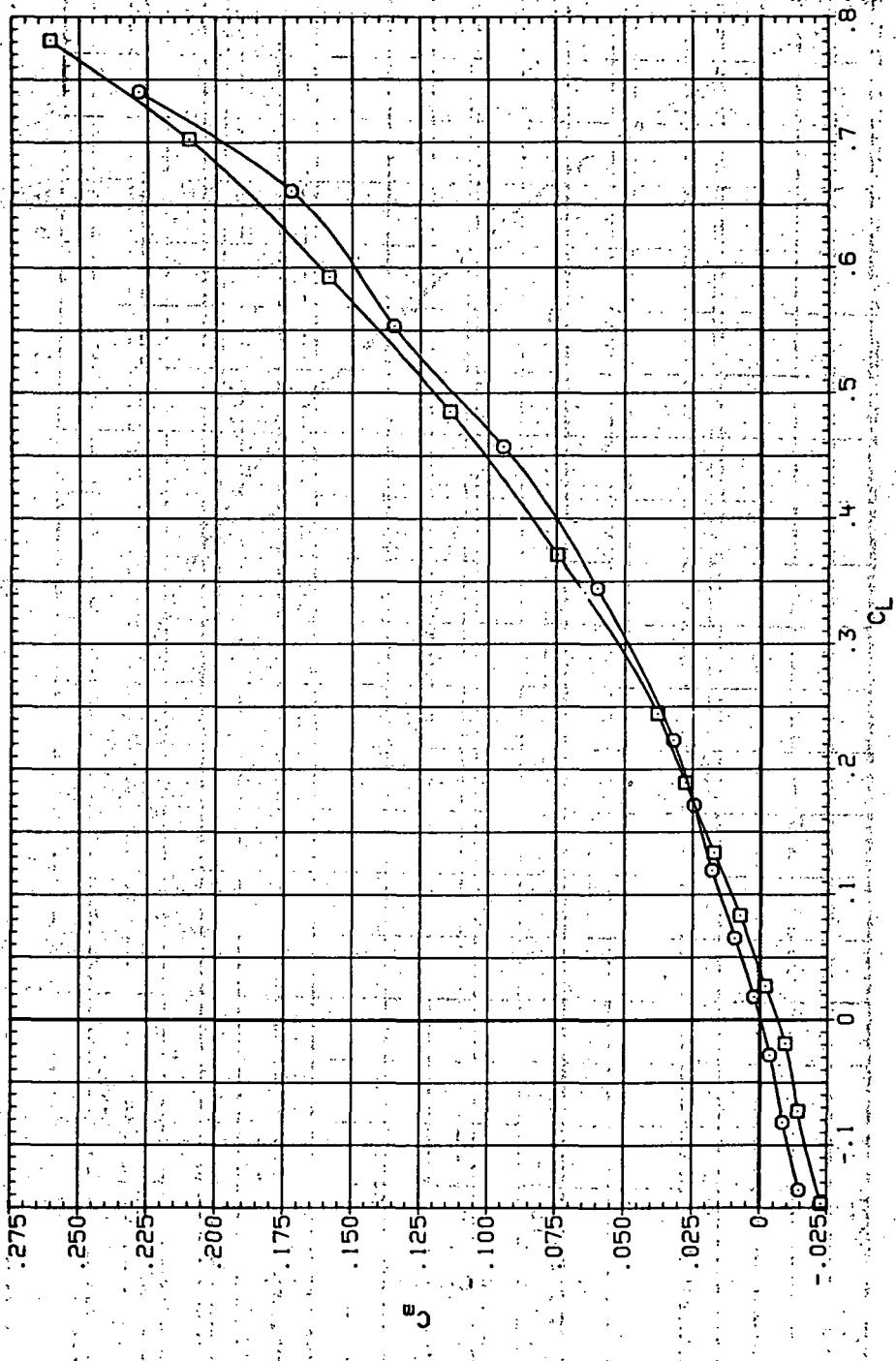
RW/L QINSII  
 6.230 15,000  
 8.200 19,500



(b)  $C_D$  vs  $C_L$ .

Figure 7.1.—Continued.

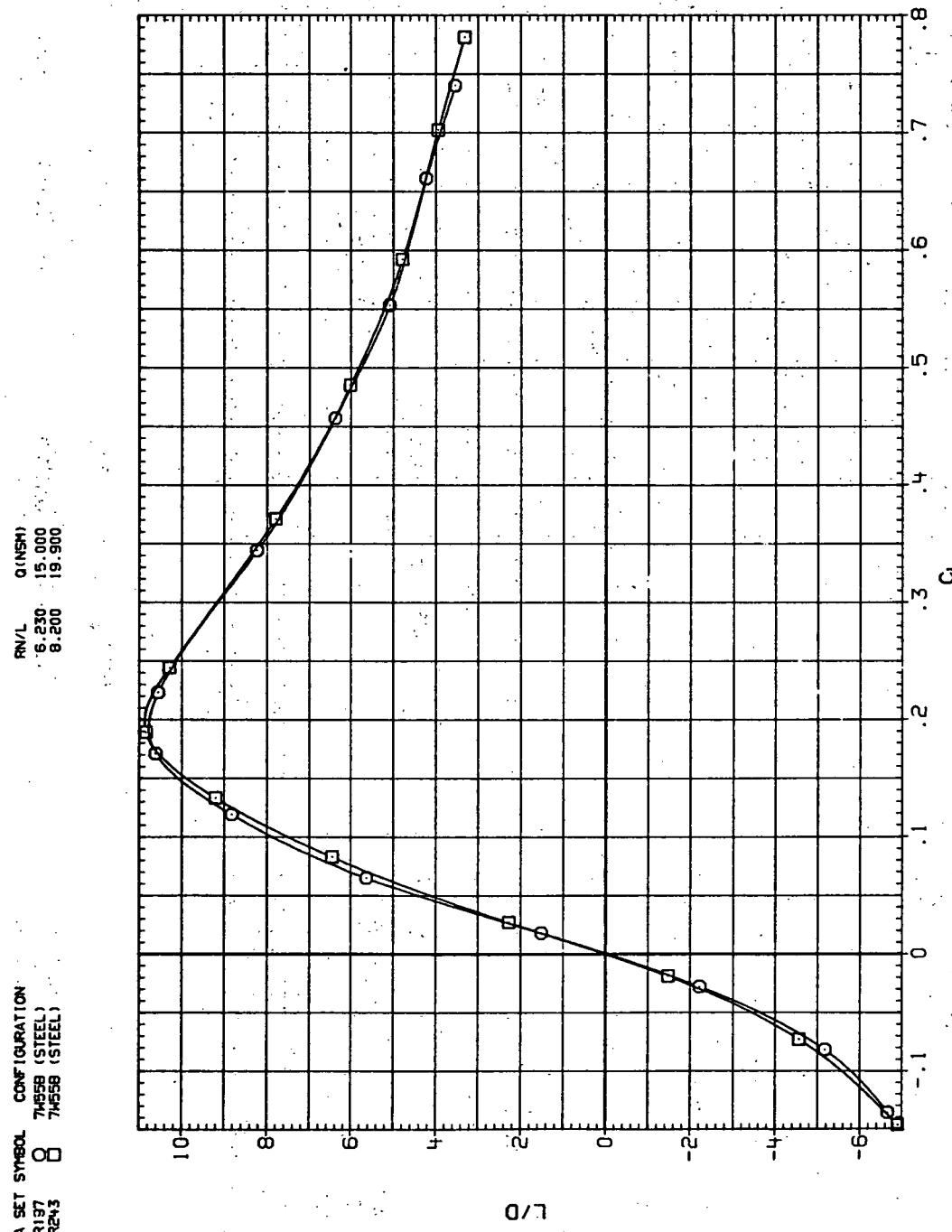
DATA SET SYMBOL CONFIGURATION  
 RJR197 755B (STEEL)  
 RJR243 7455B (STEEL)



(c)  $C_m$  vs  $C_L$ .

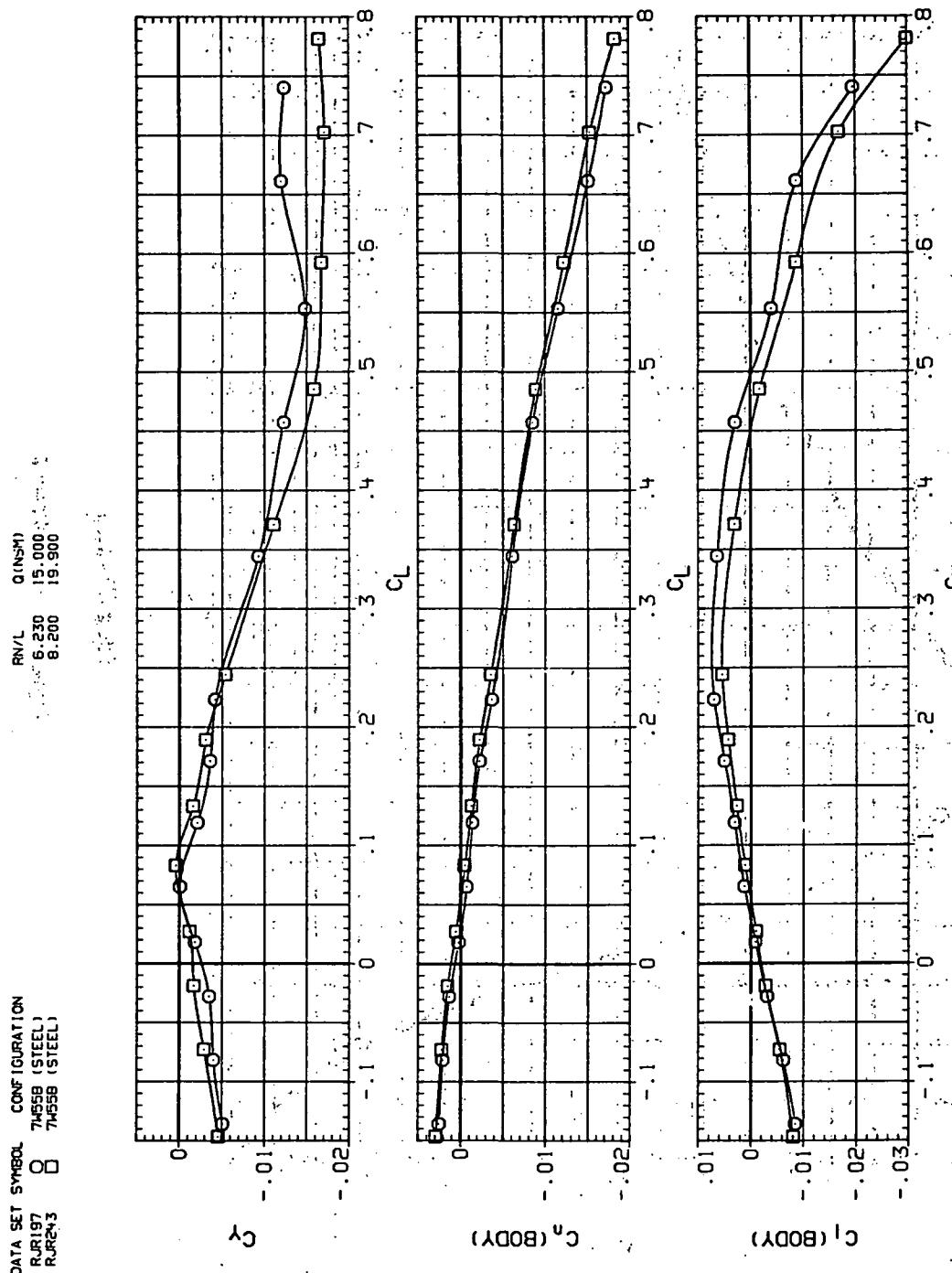
Figure 71.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR197 7455B (STEEL)  
 RJR243 7455B (STEEL)



(d)  $L/D$  vs  $C_L$ .

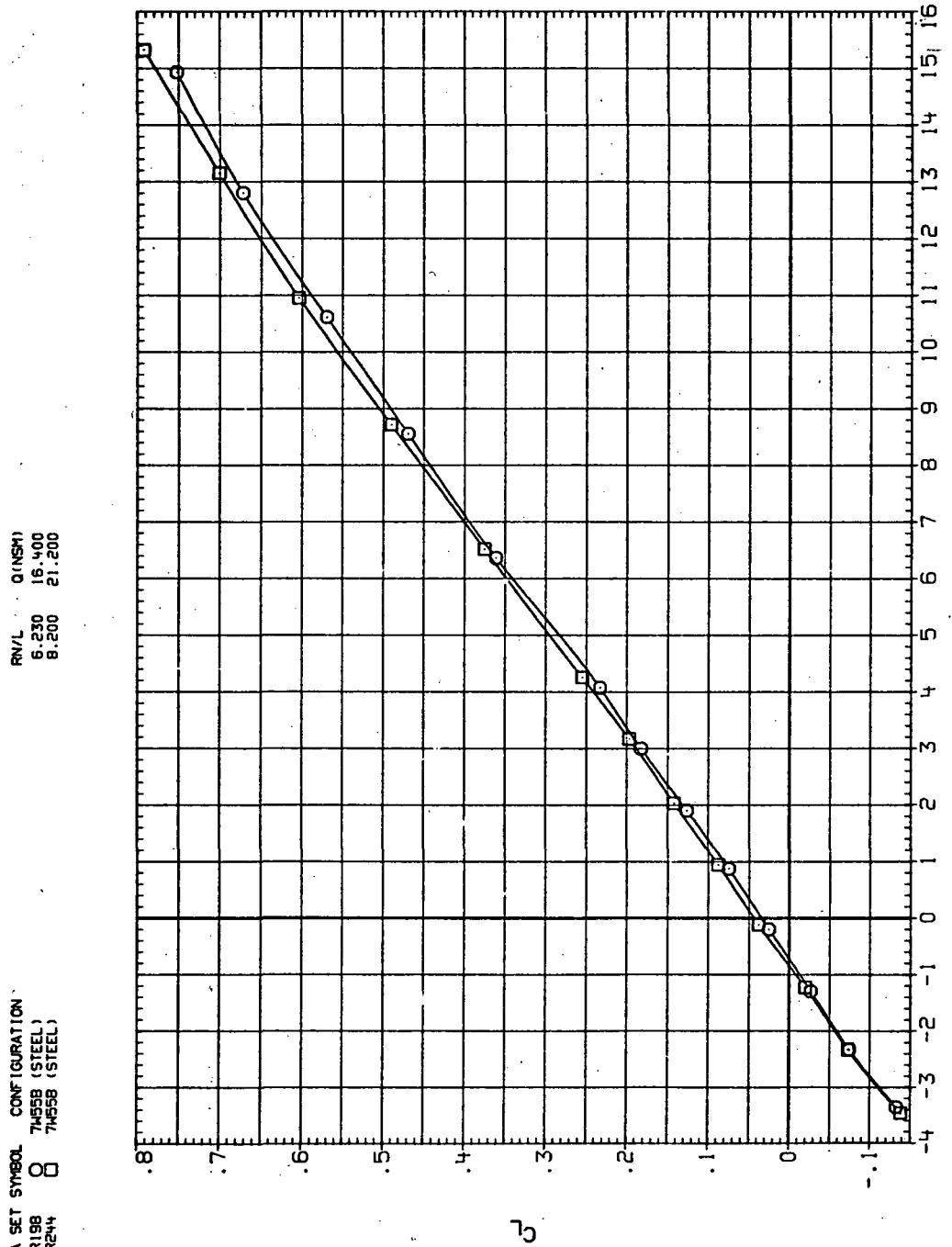
Figure 71.— Continued.



(e)  $C_x$ ,  $C_y$  and  $C_z$  vs  $C_L$ .

Figure 71 Concluded.

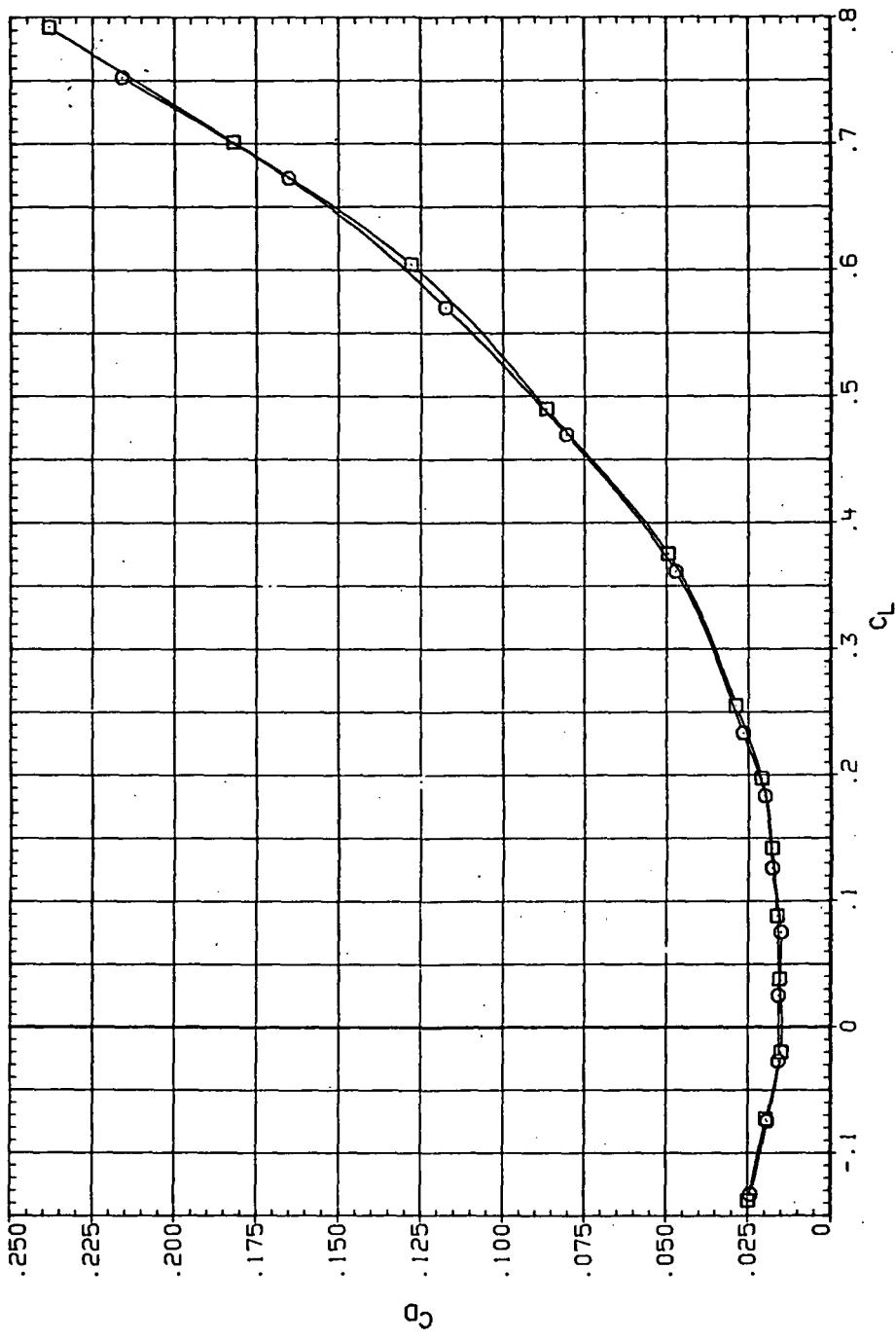
DATA SET SYMBOL CONFIGURATION  
 RUR19B 7455B (STEEL)  
 RR24 7455B (STEEL)



(a)  $C_L$  vs  $\alpha$ .

Figure 72.— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal-oblique wing-body combination ( $\Lambda = 55^\circ$ ,  $M = 1.1$  and the NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 RJR168 O 74558 (STEEL)  
 RJR244 □ 74558 (STEEL)

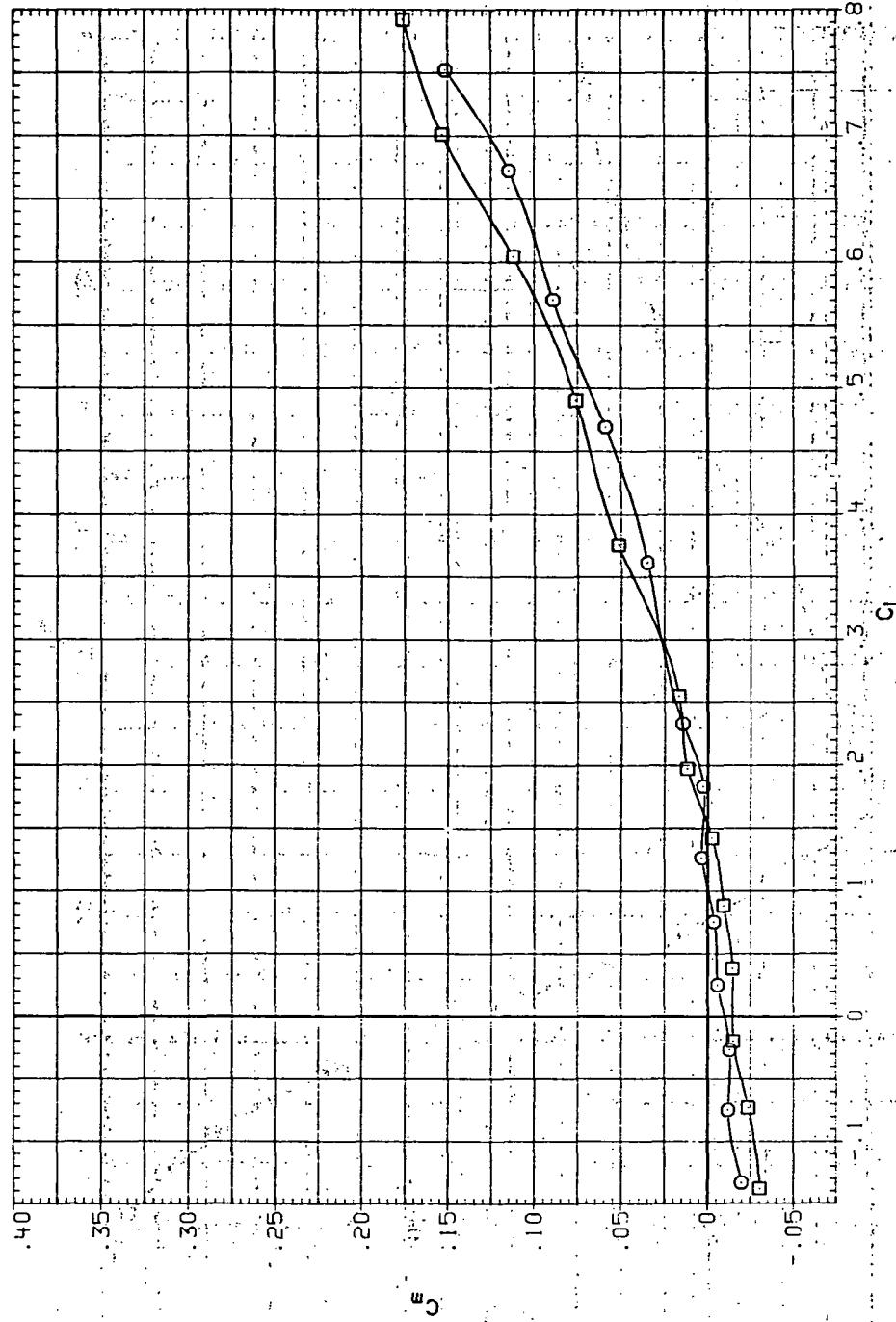


(b)  $C_D$  vs  $C_L$ .

Figure 72.— Continued.

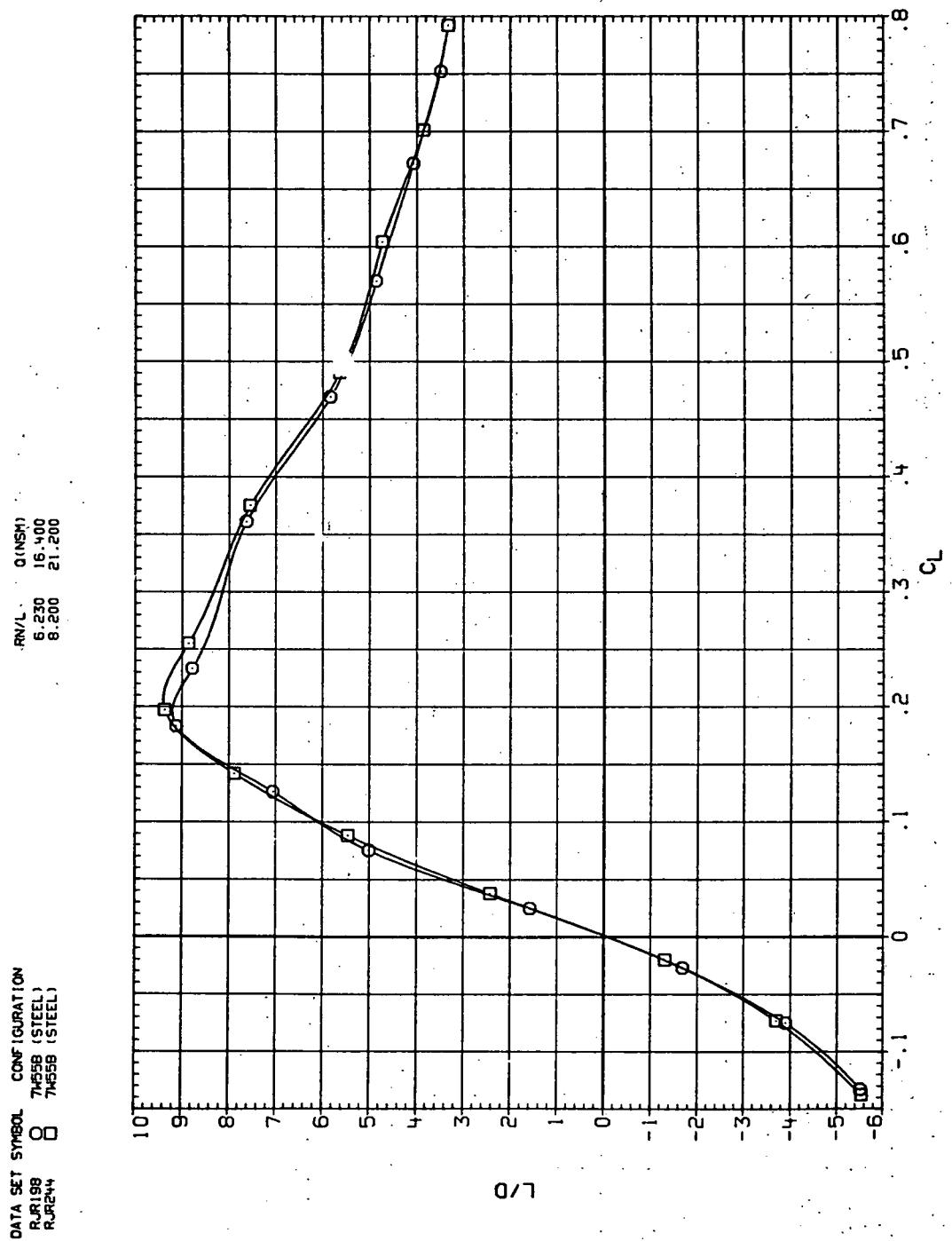
DATA SET SYMBOL CONFIGURATION  
RJR198 O 7455B (STEEL)  
RJR244 □ 7455B (STEEL)

RNL QINSM  
6.230 16400  
8.200 21200



(c)  $C_m$  vs  $C_L$

Figure 72.—Continued.

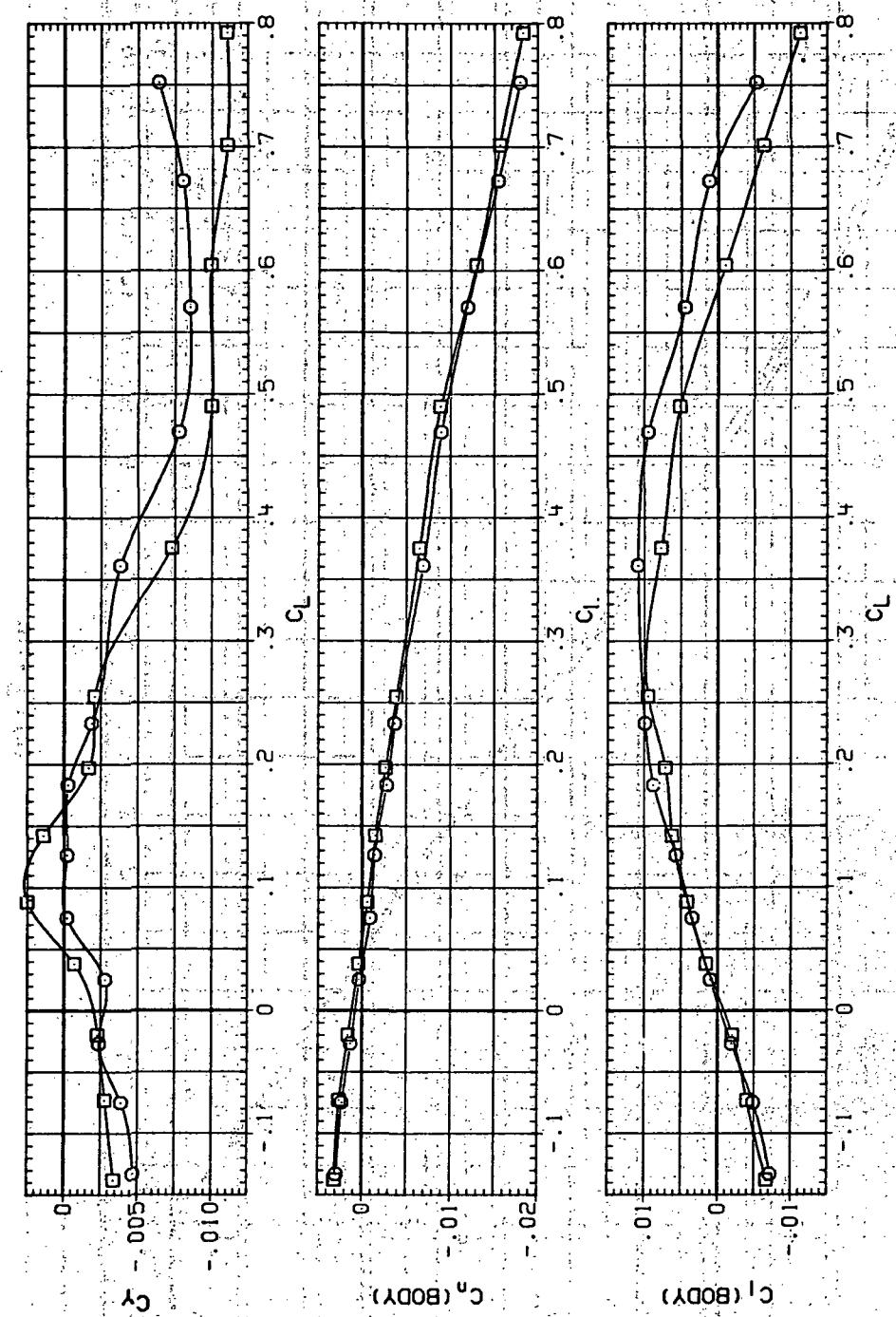


(d)  $L/D$  vs  $C_L$ .

Figure 72.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RUR198 RUR55B (STEEL)  
 RURPWH 7W55B (STEEL)

RN/L (INCH) 6.230 16.400  
 8.200 21.200

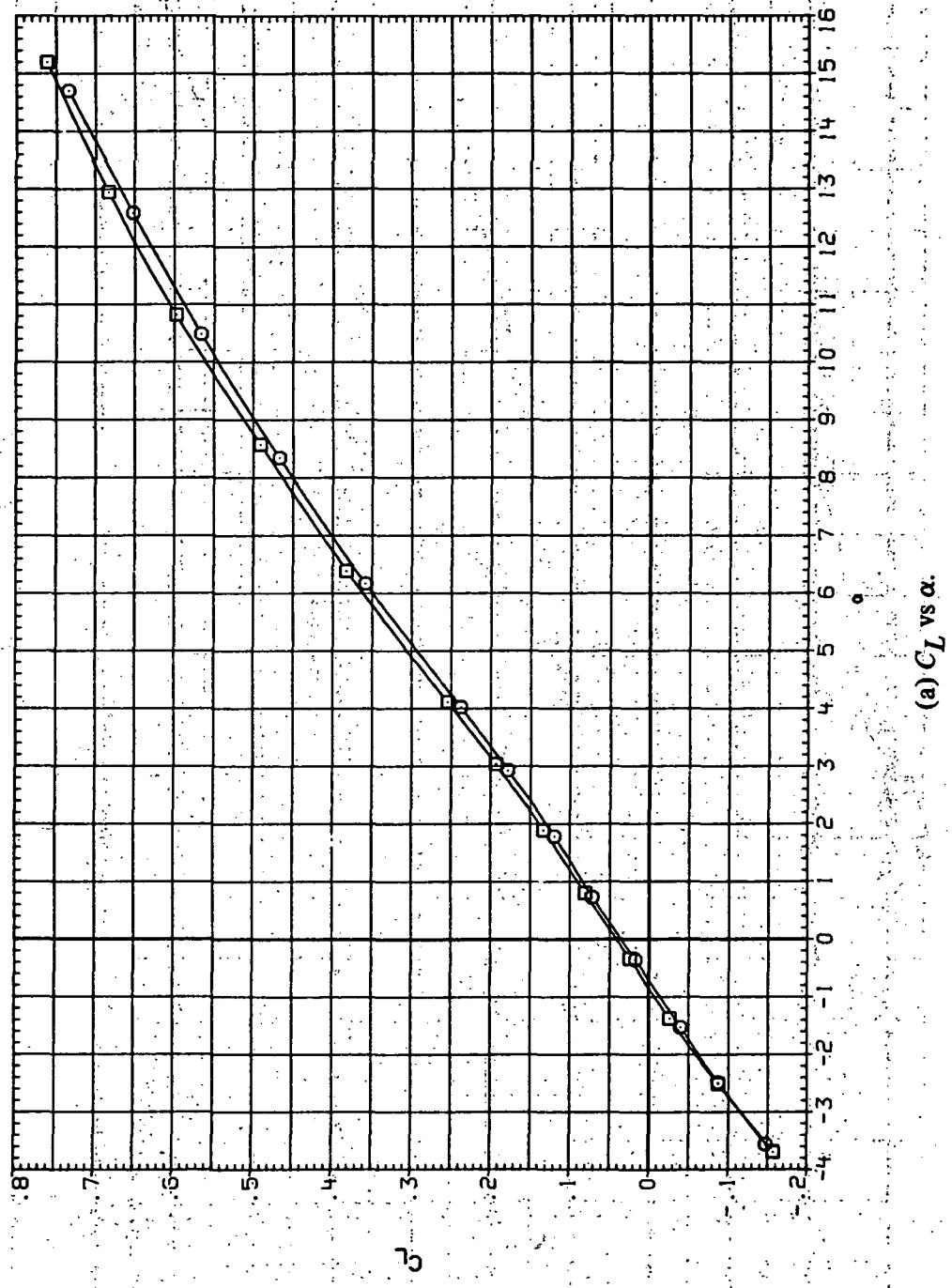


(e)  $C_Y$ ,  $C_n$  and  $C_\ell$  vs  $C_L$

Figure 72.—Concluded.

DATA SET SYMBOL CONFIGURATION  
 ROR199 O 74358 (STEEL)  
 RUR255 O 74358 (STEEL)

R/V/L Q(NSM)  
 6.230 17,000  
 8.200 22,800

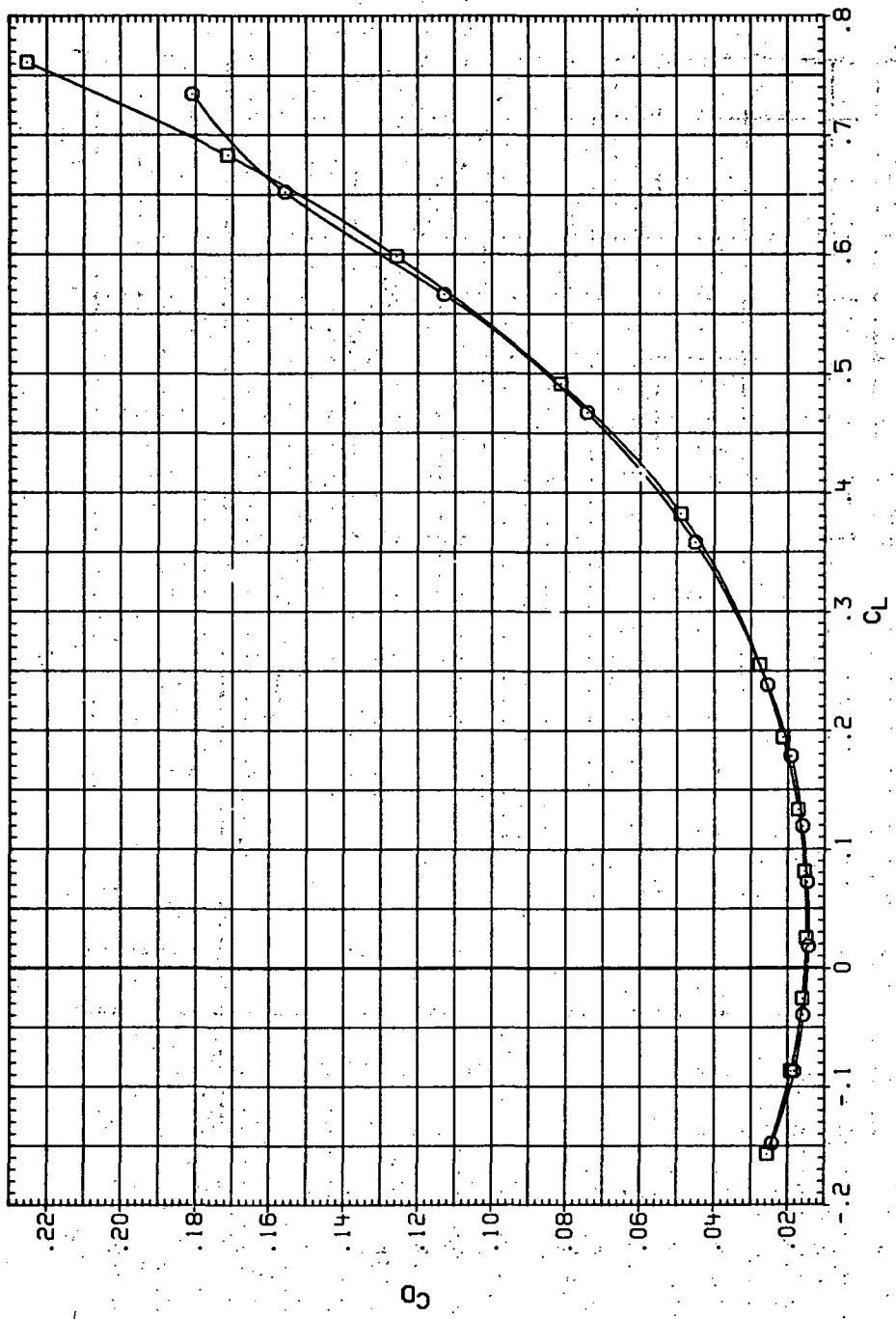


(a)  $C_L$  vs  $\alpha$ .

Figure 73.— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 55^\circ$ ,  $M = 1.2$  and the NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 RJR199 O 74558 (STEEL)  
 RJR245 □ 74558 (STEEL)

RN/L Q (NSM)  
 6.230 17.000  
 8.200 22.800

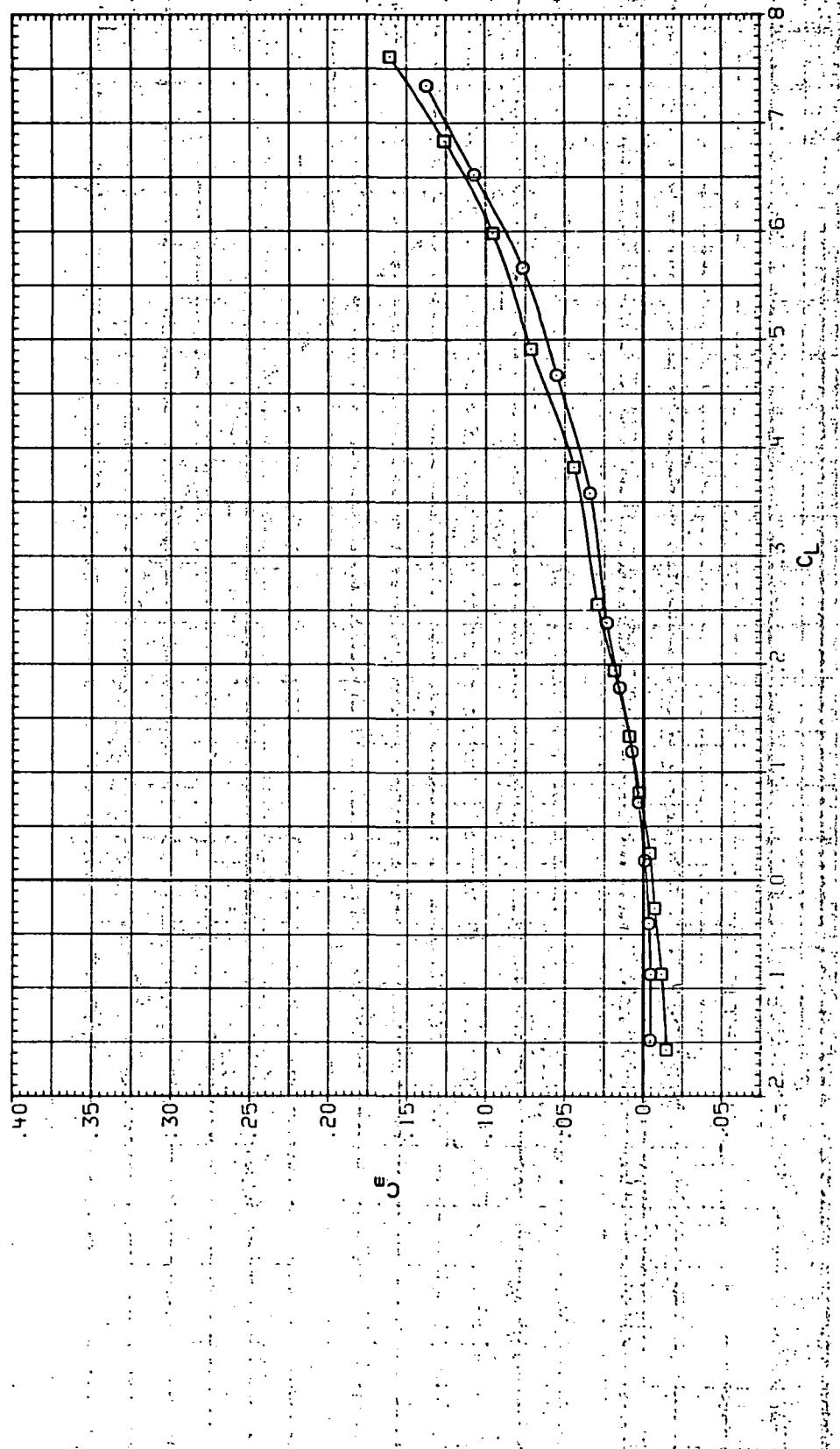


(b)  $C_D$  vs  $C_L$ .

Figure 73.—Continued.

DATA SET SYMBOL CONFIGURATION  
RJR199 O 74558 (STEEL)  
RJR295 □ 74559 (STEEL)

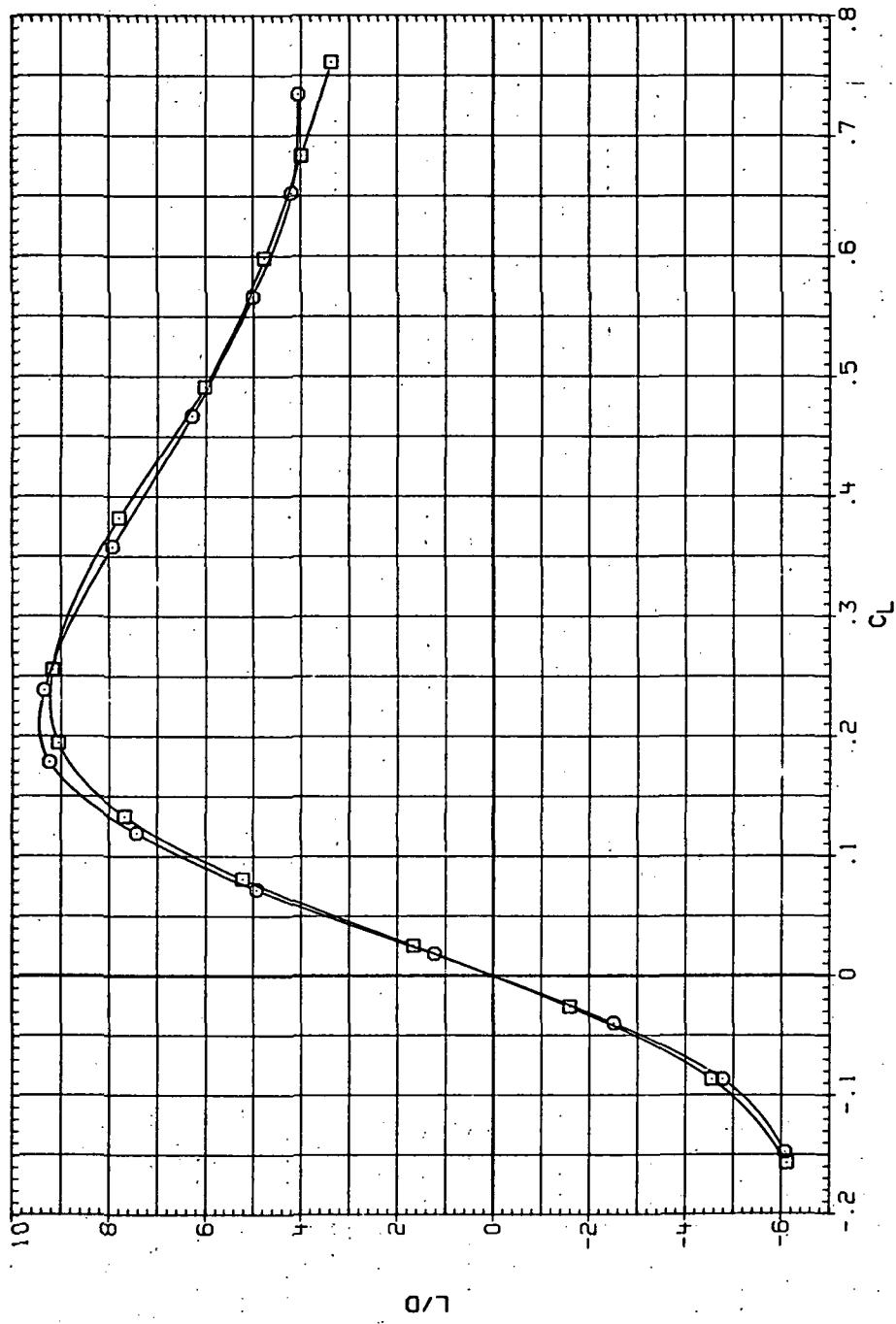
R/V/L QINSHI  
6.230 17,000  
8.200 22,800



(c)  $C_m$  vs  $C_L$ .

Figure 73.—Continued.

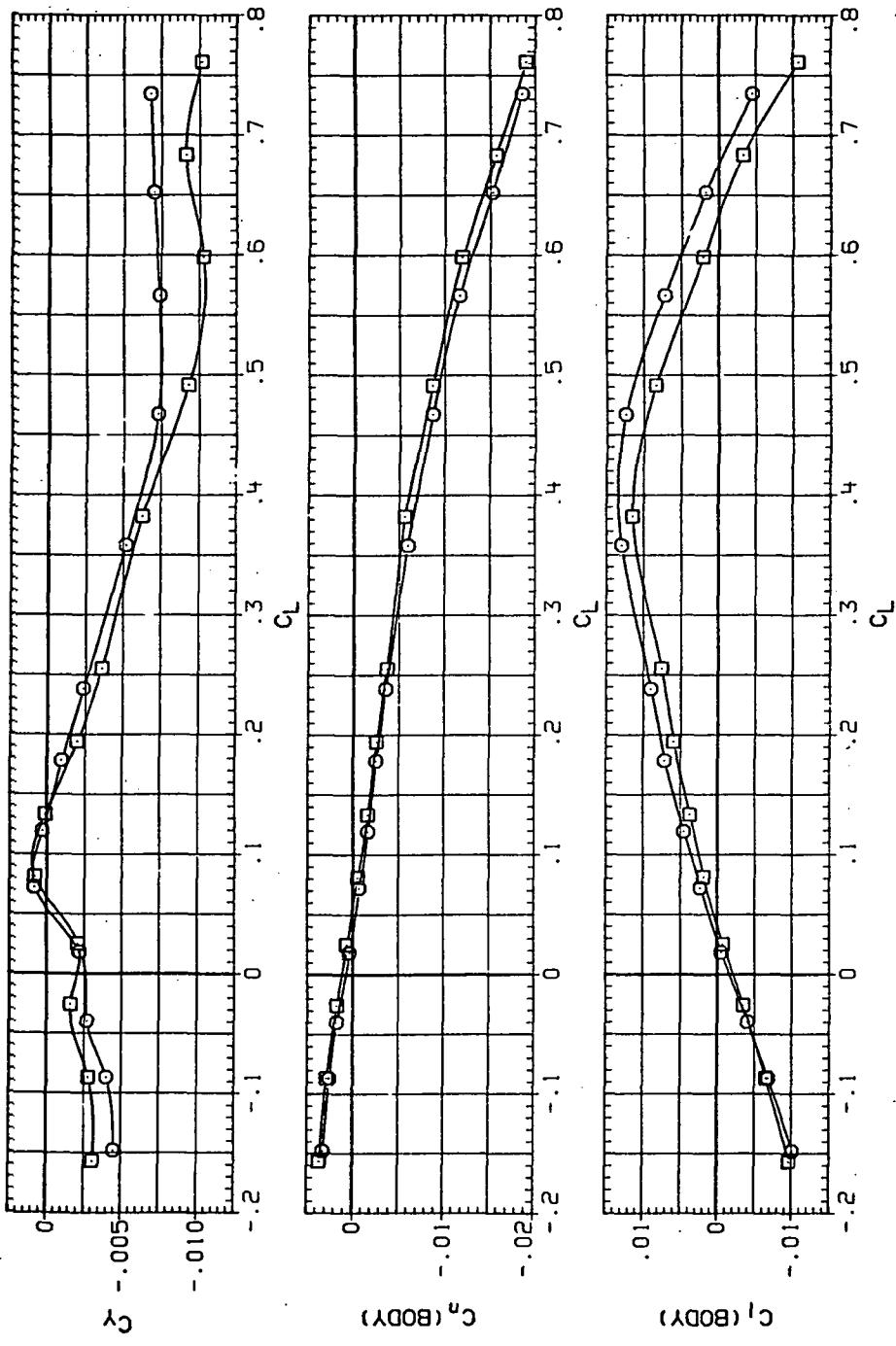
DATA SET SYMBOL CONFIGURATION  
 RJR199 O 7455B (STEEL)  
 RJR245 □ 7455B (STEEL)



(d)  $L/D$  vs  $C_L$ .

Figure 73.—Continued.

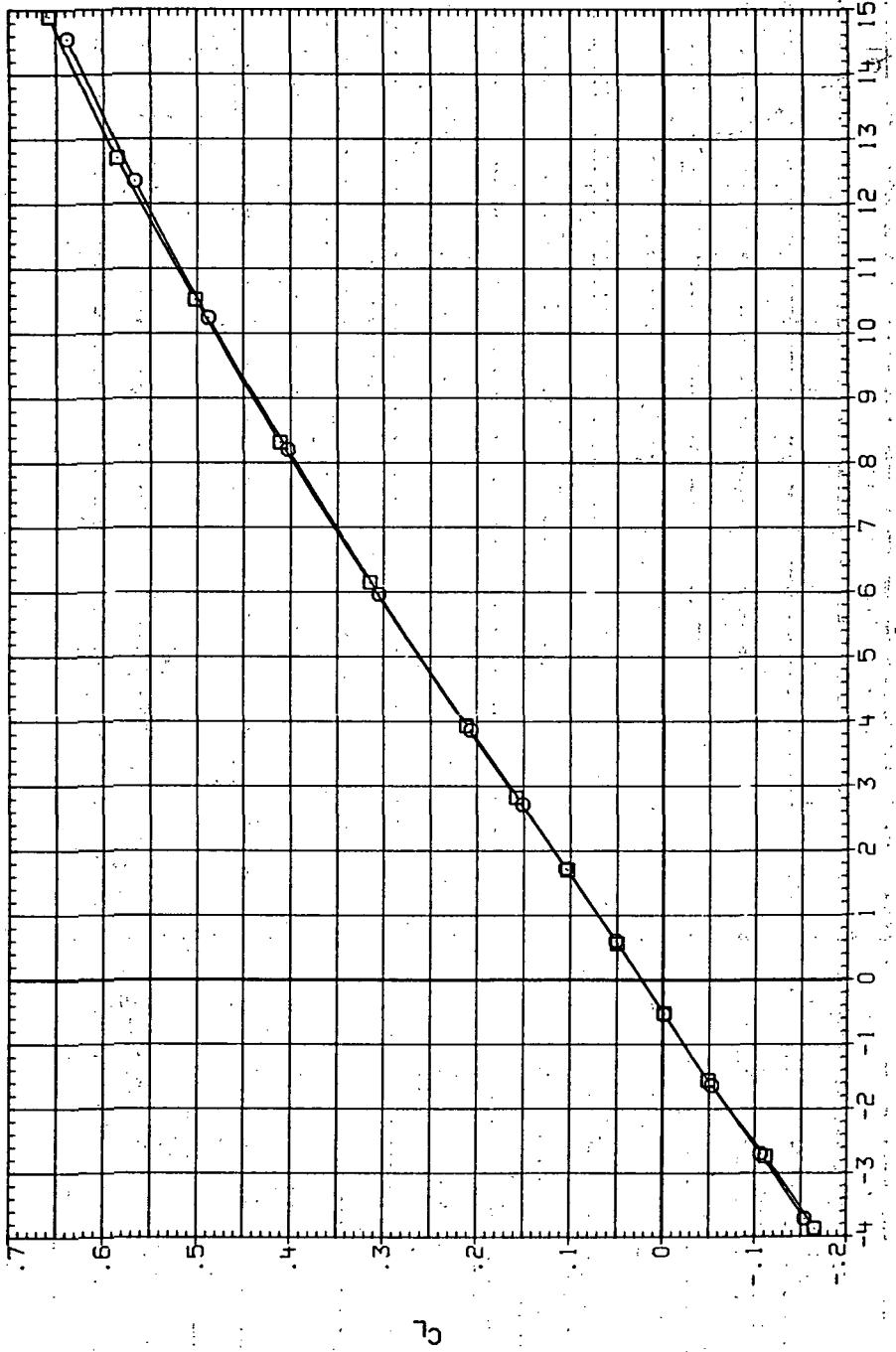
DATA SET SYMBOL CONFIGURATION  
 RJR199 O 7455B (STEEL)  
 RJR245 □ 7455B (STEEL)



(e)  $C_Y$ ,  $C_n$  and  $C_I$  vs  $C_L$ .

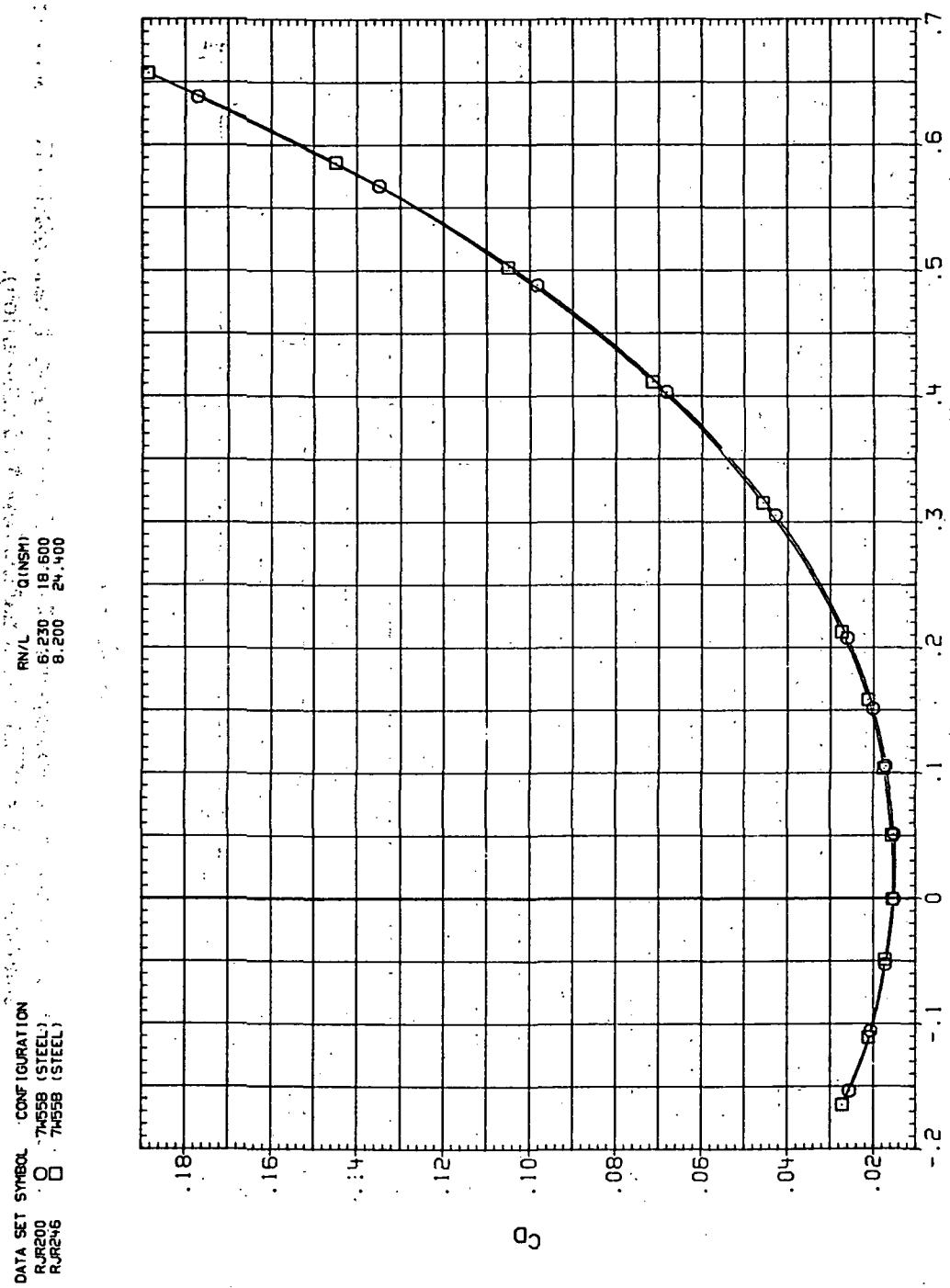
Figure 73.— Concluded.

DATA SET SYMBOL	CONFIGURATION
RJF200	7455B (STEEL)
RJF246	7455B (STEEL)



(a)  $C_L$  vs  $\alpha$ .

Figure 74.—Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 55^\circ$ ,  $M = 1.6$  and the NACA 65A204 airfoil).

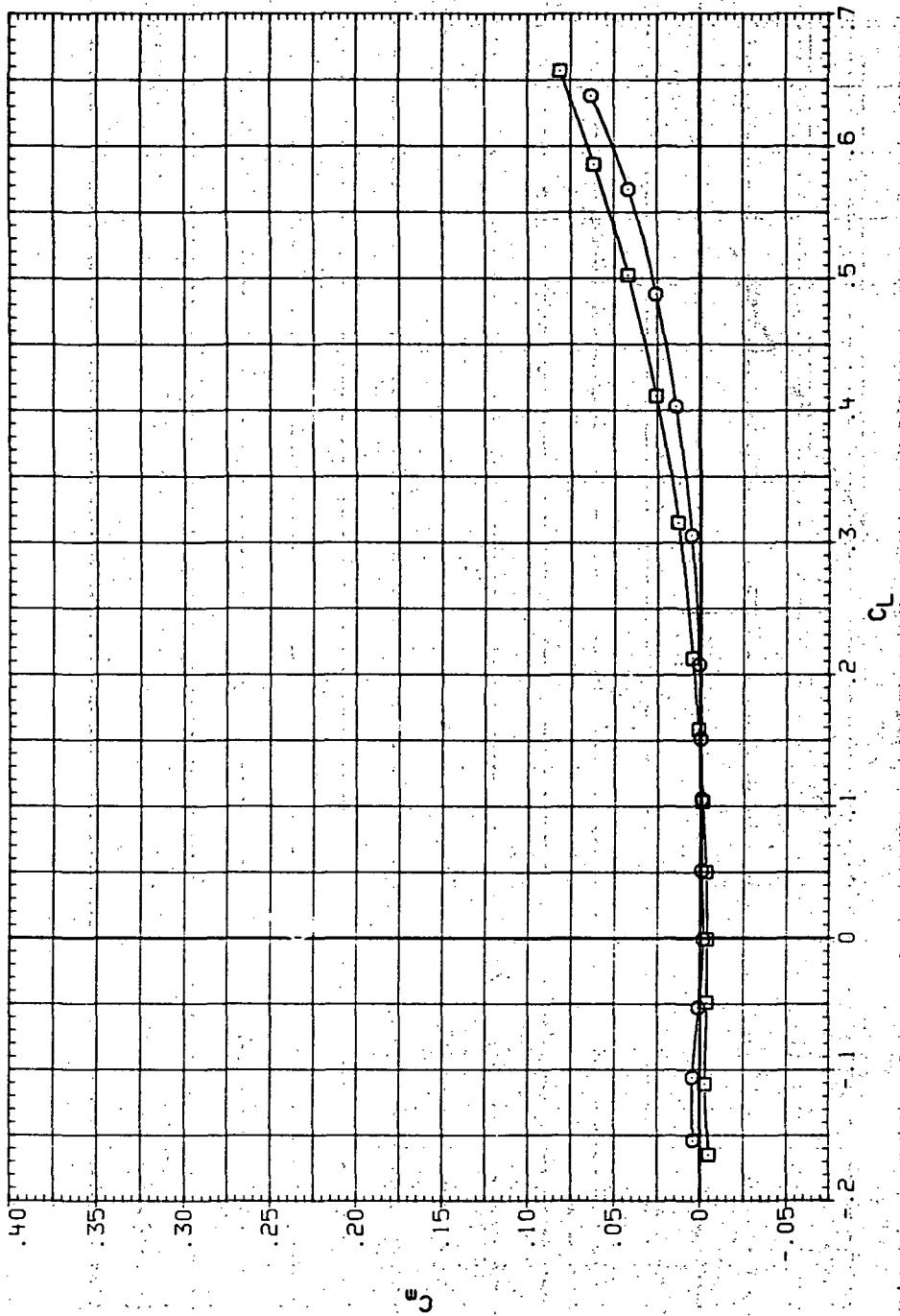


(b)  $C_D$  vs  $C_L$ .

Figure 74.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR200 O 7455B (STEEL)  
 RJR216 □ 7455B (STEEL)

RNL Q (NSM)  
 6.230 18.600  
 8.200 24.400



(c)  $C_m$  vs  $C_L$

Figure 74.—Continued.

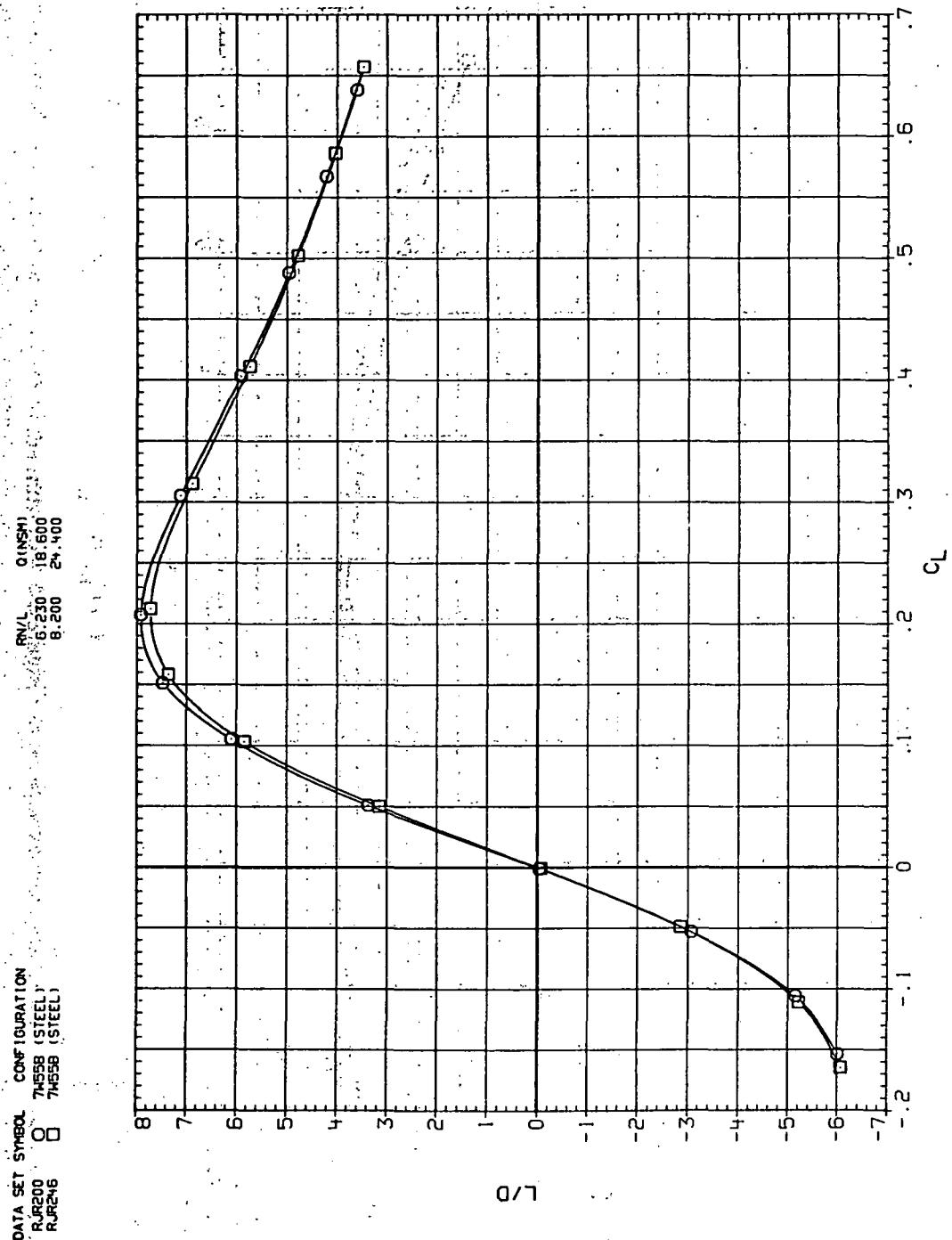
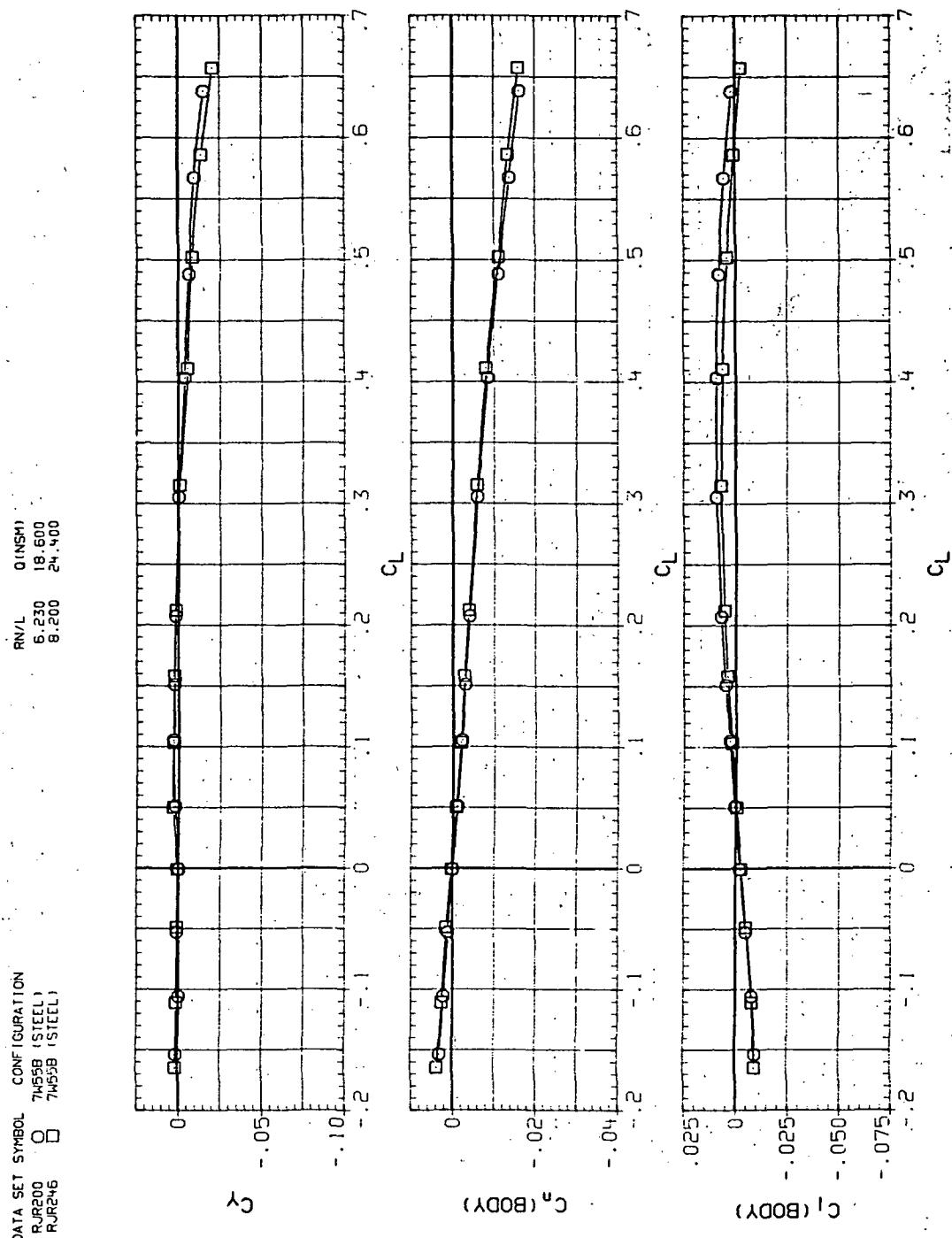


Figure 74.—Continued.

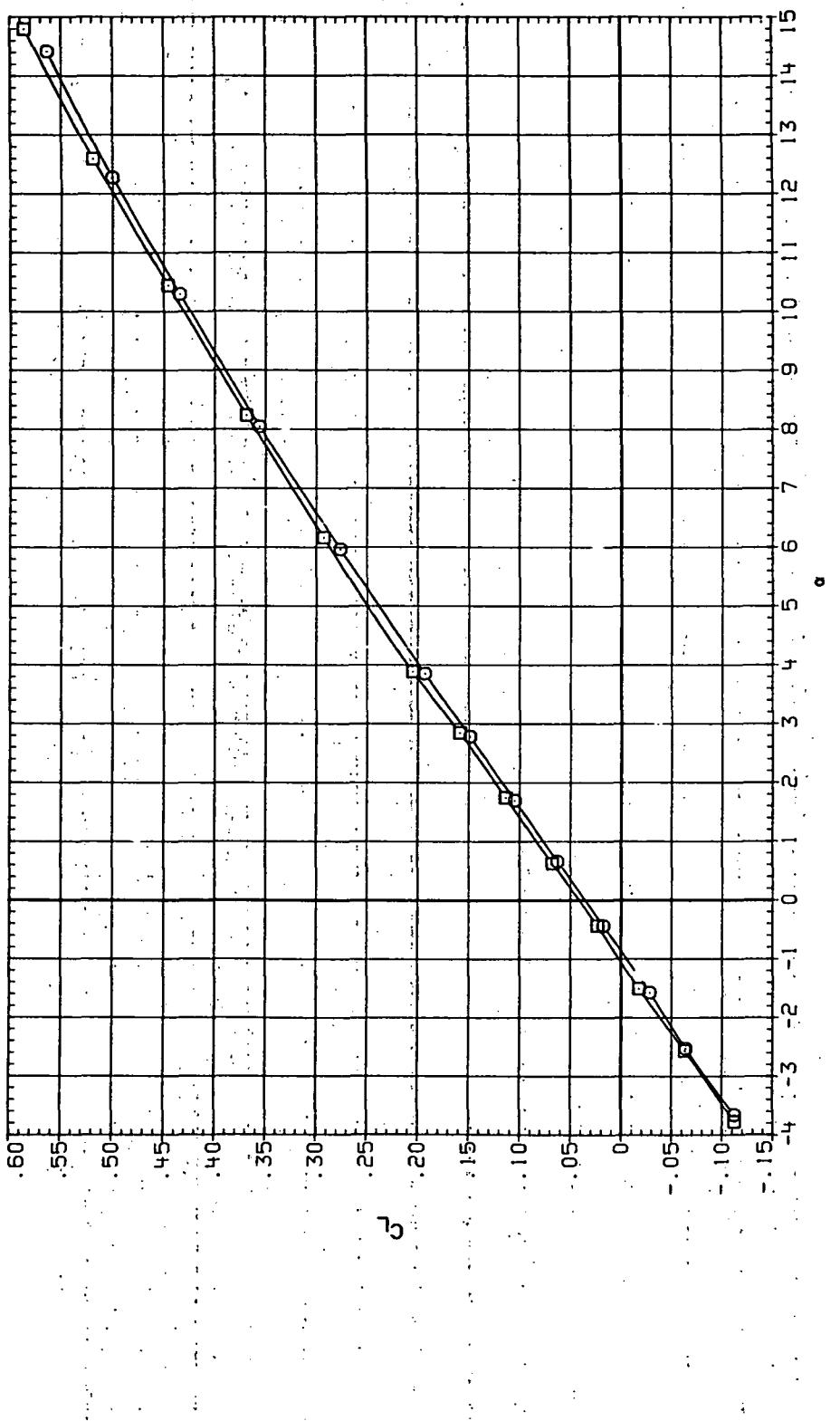


(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

Figure 74.—Concluded.

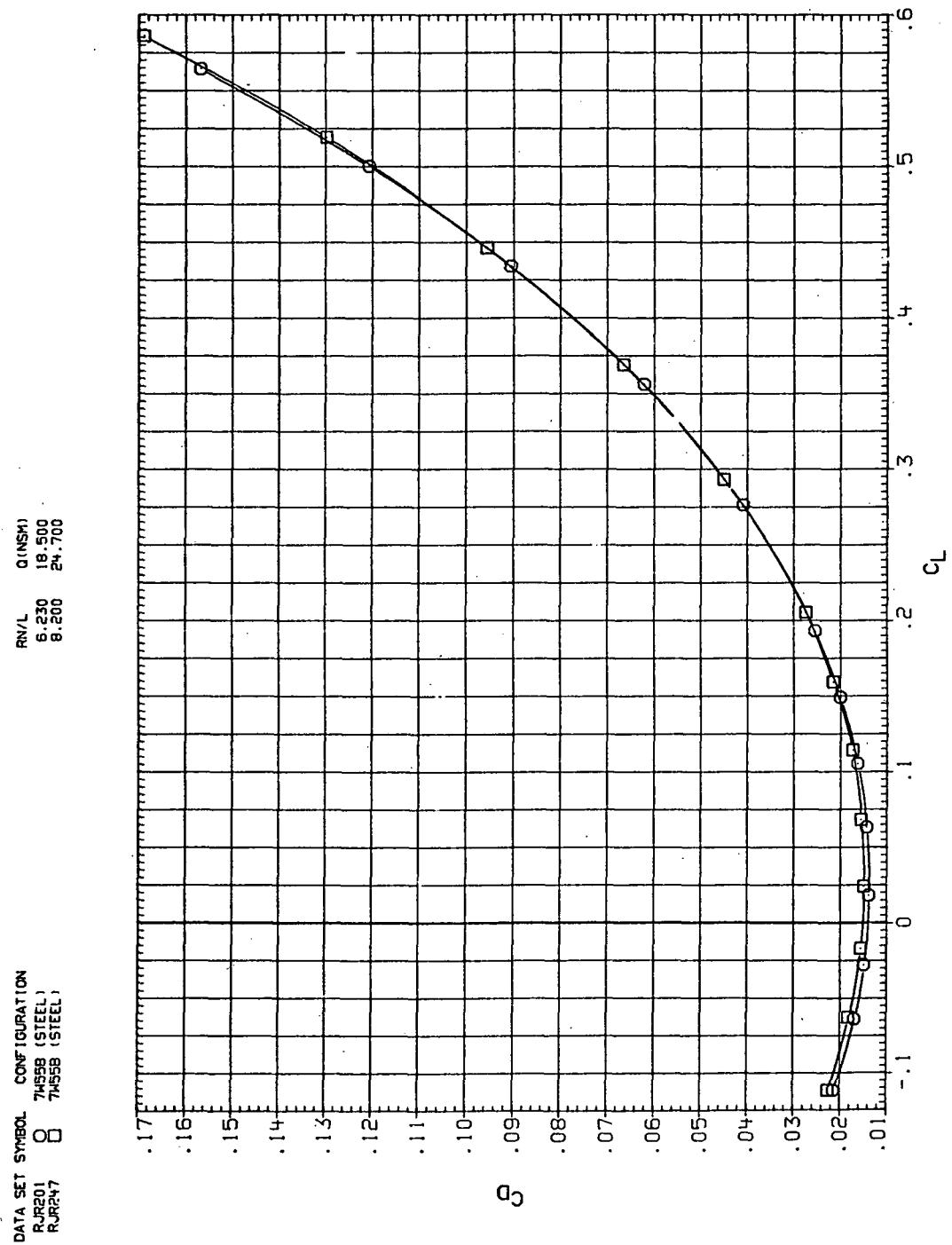
DATA SET SYMBOL CONFIGURATION  
 RJR01 C 7455B (STEEL)  
 RJR247 □ 7455B (STEEL)

RNL: OINSHI  
 6.230 18.500  
 8.200 24.700



(a)  $C_L$  vs  $\alpha$ .

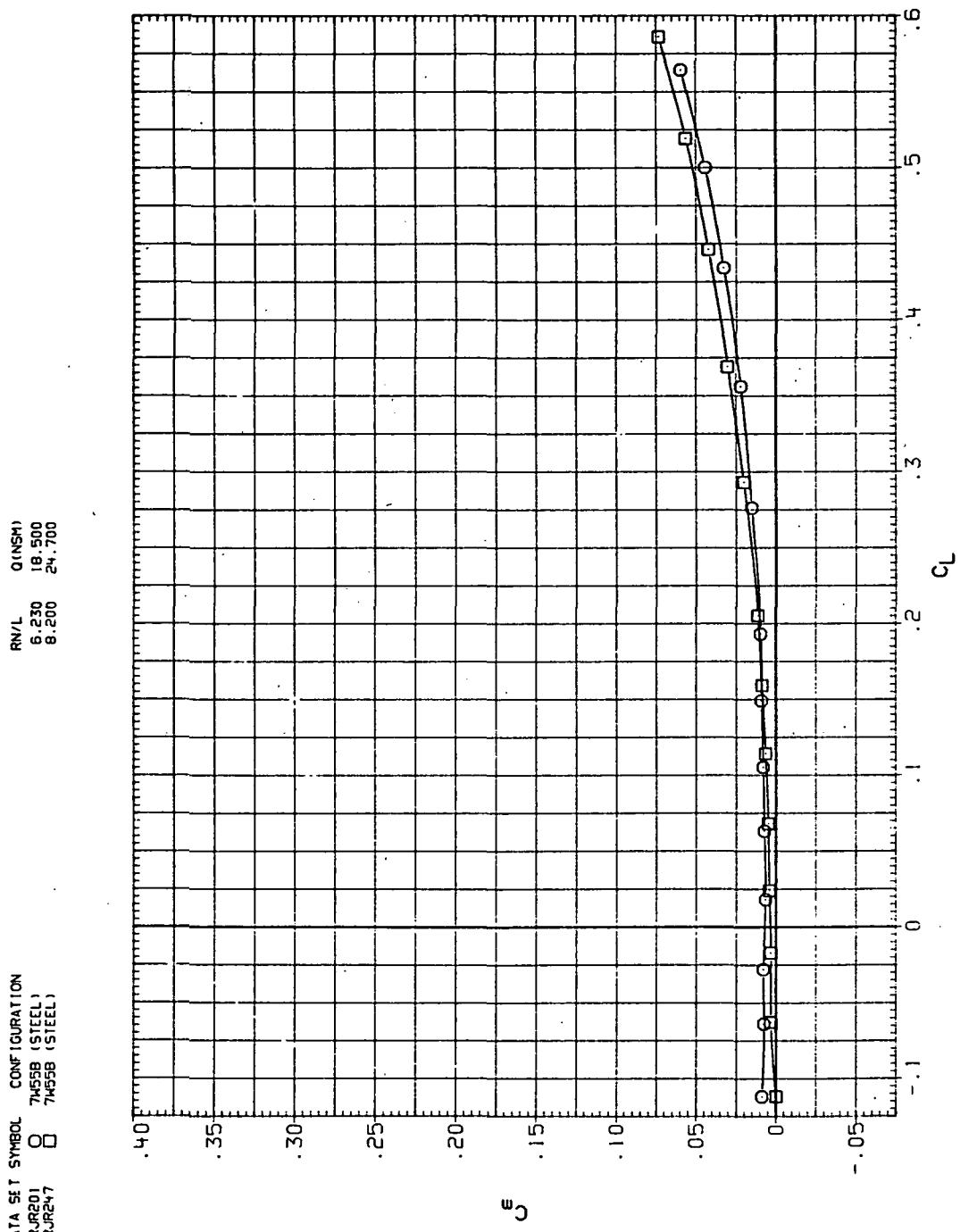
Figure 75.— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 55^\circ$ ,  $M = 2.0$  and the NACA 65A204 airfoil).



(b)  $C_D$  vs  $C_L$ .

Figure 75.—Continued.

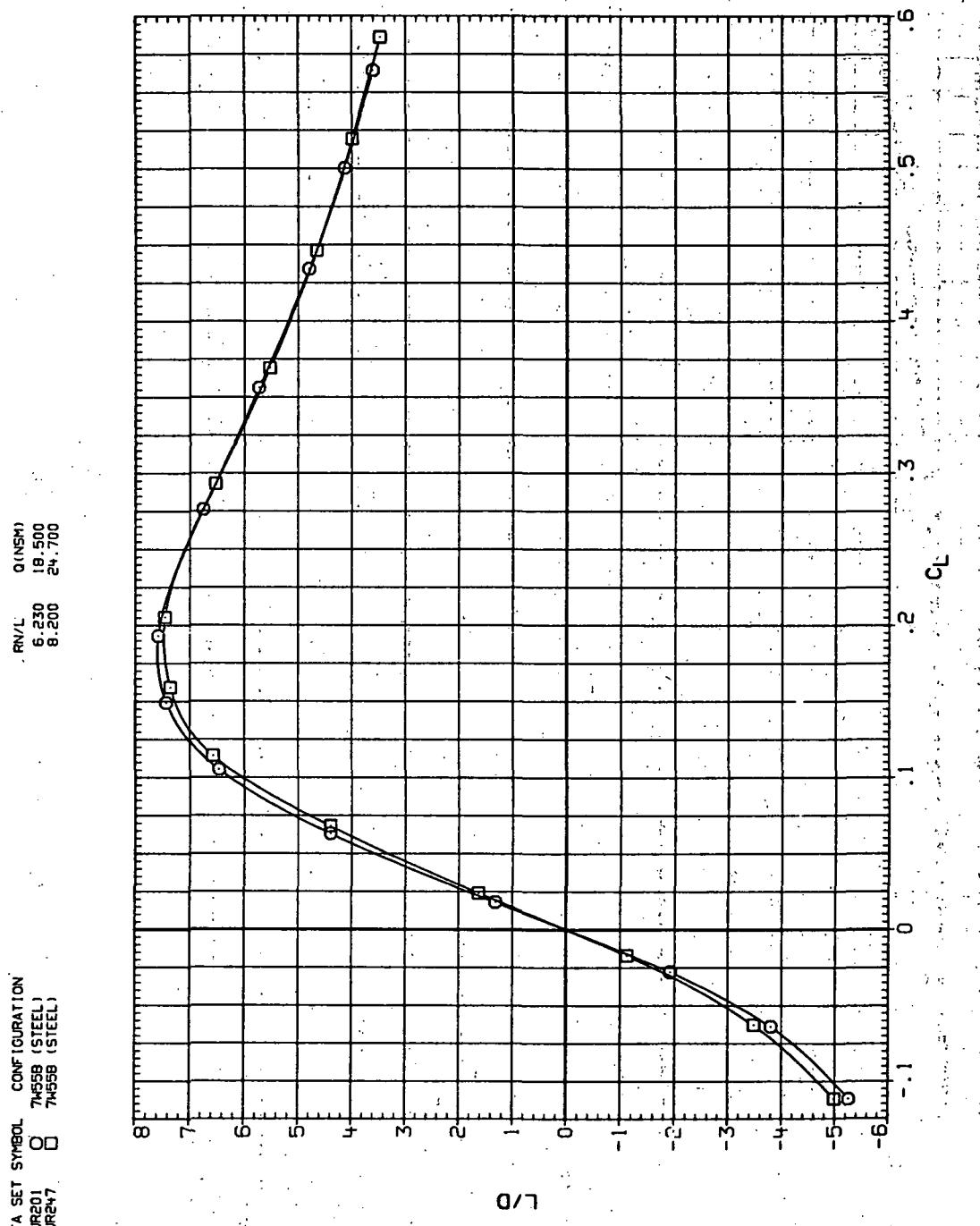
DATA SET SYMBOL CONFIGURATION  
 RJR201 O 7455B (STEEL)  
 RJR247 □ 7455B (STEEL)



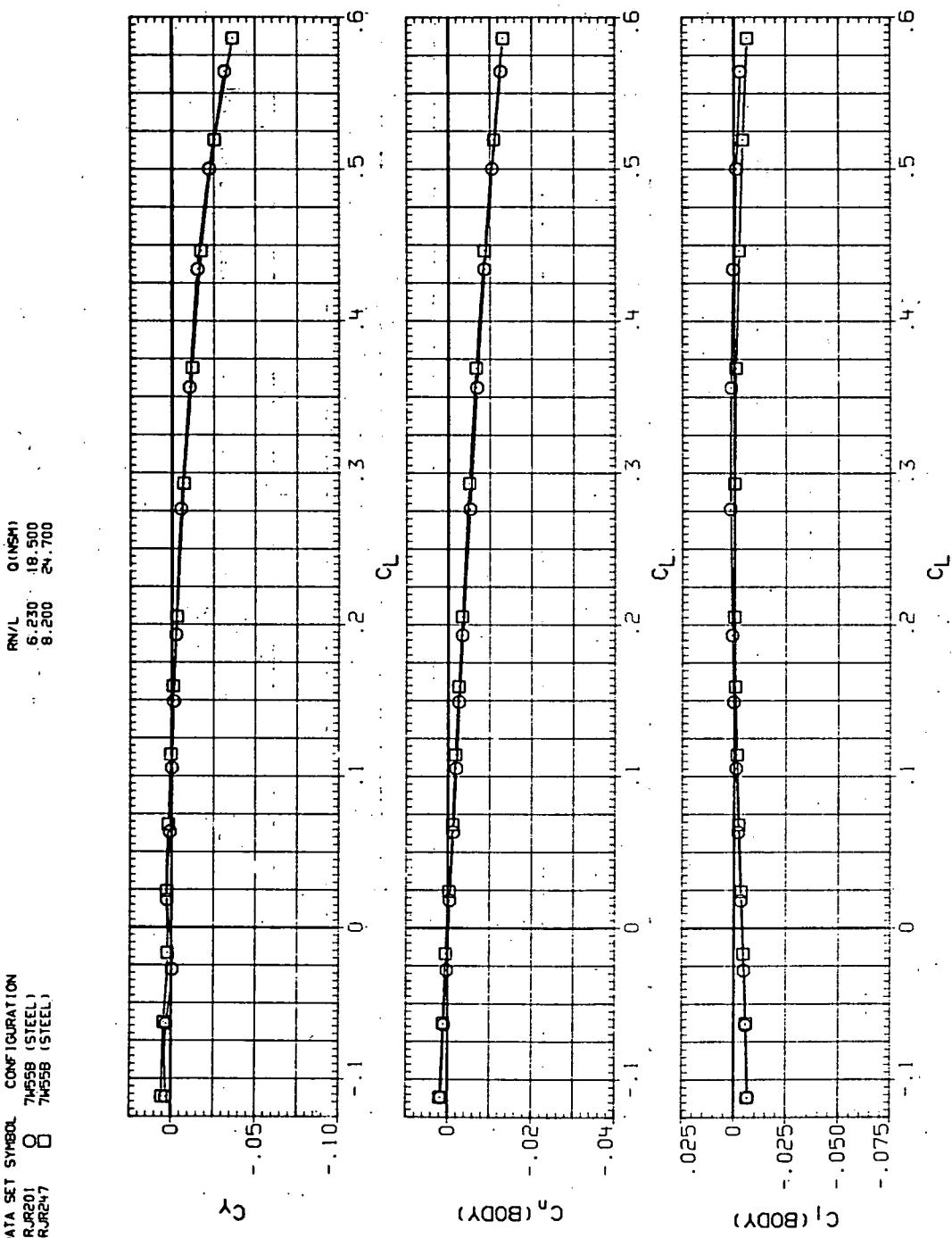
(c)  $C_m$  vs  $C_L$ .

Figure 75.- Continued.

Figure 75.—Continued.  
(d)  $L/D$  vs  $C_L$ .



DATA SET SYMBOL CONFIGURATION  
 RJR01 O 7455B (STEEL)  
 RJR47 □ 7455B (STEEL)

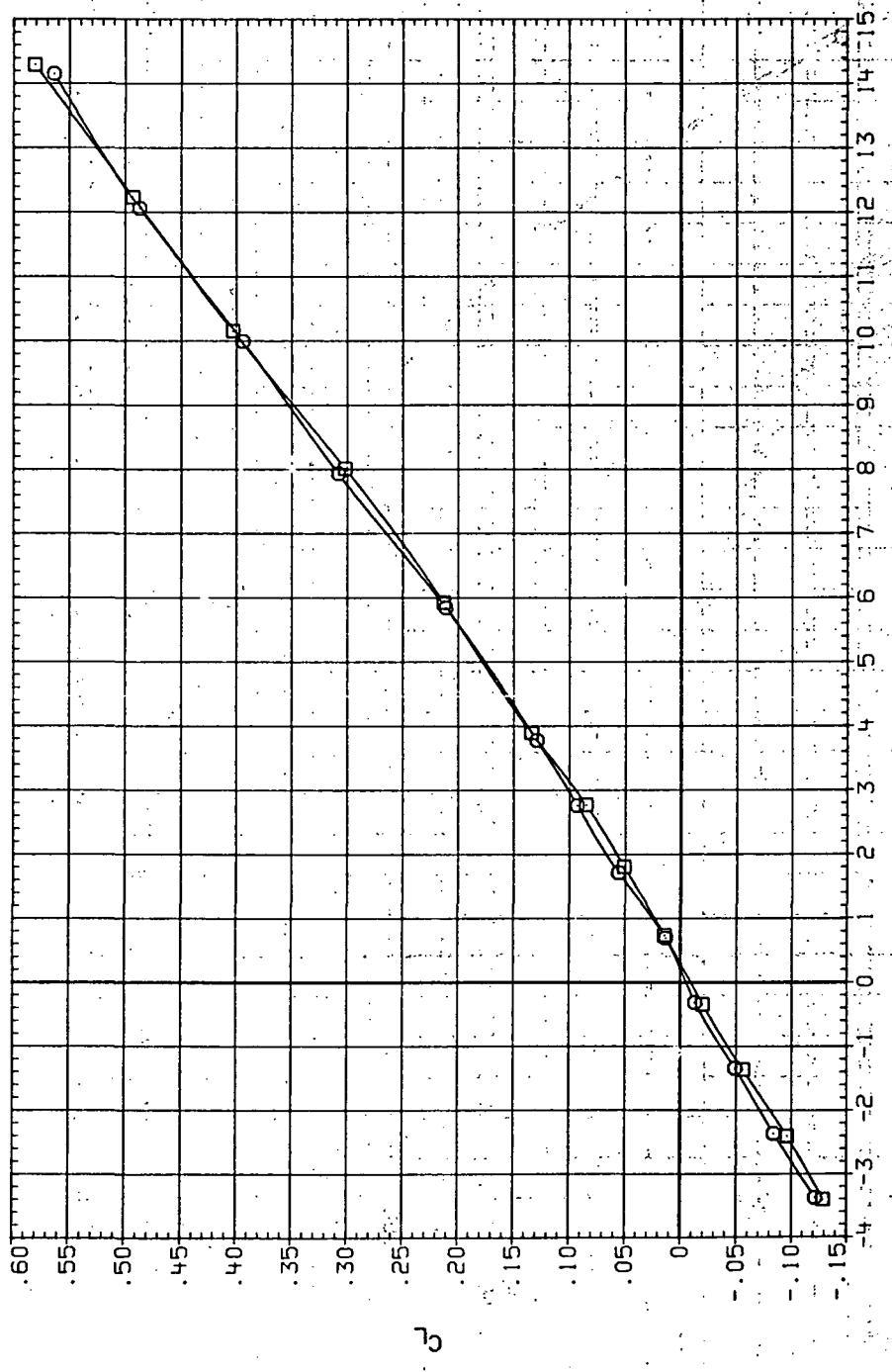


(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

Figure 75.— Concluded.

DATA SET SYMBOL CONFIGURATION  
 RJR203 O 7460B (STEEL)  
 RJR219 □ 7460B (STEEL)

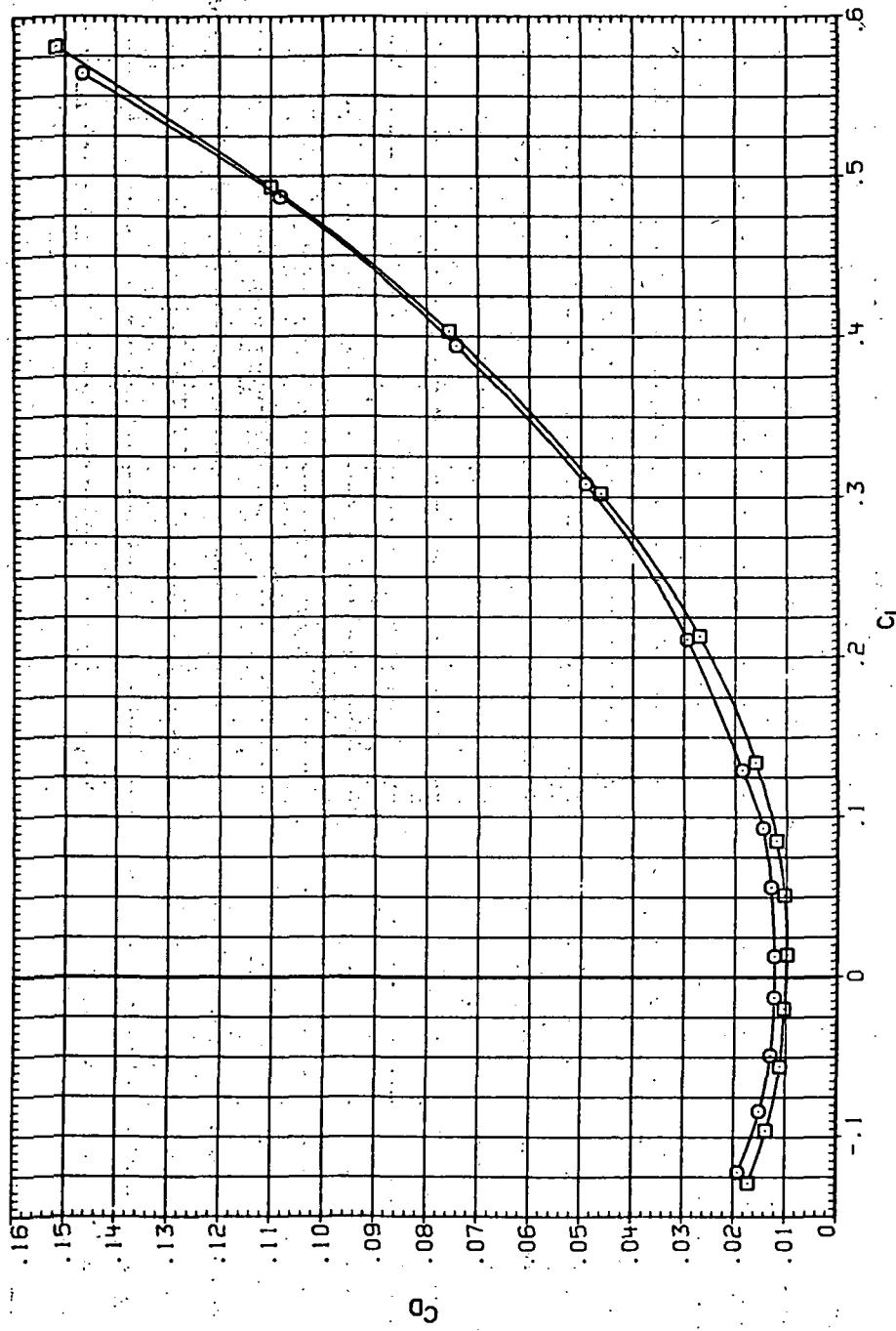
R/V/L Q(NSM)  
 6.230 7.980  
 8.200 9.900



(a)  $C_L$  vs  $\alpha$ .

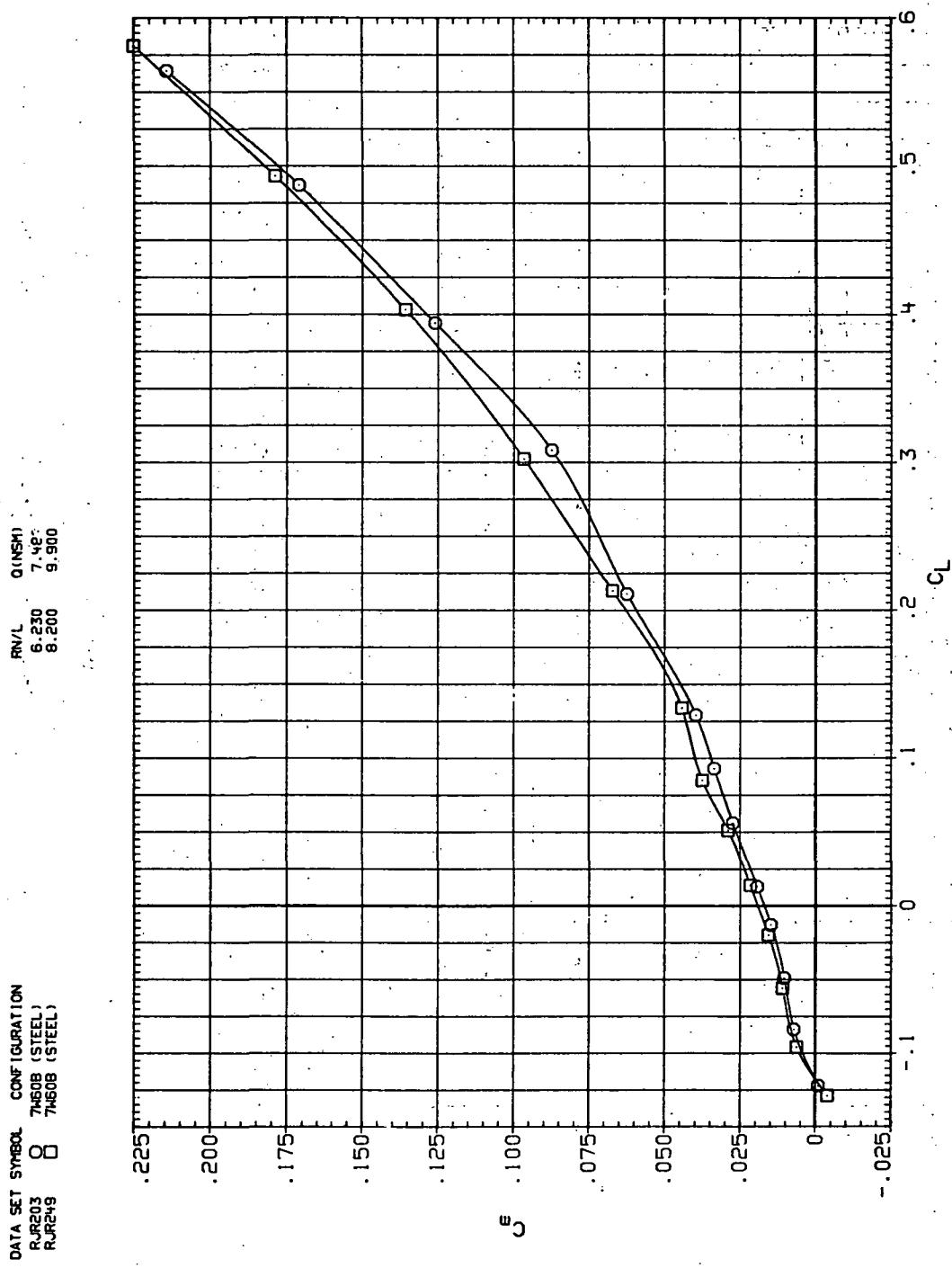
Figure 76 - Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 60^\circ$ ,  $M = 0.4$  and the NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 RJR203 O QINSHI  
 RJR249 □ 7460B (STEEL)  
 RJR249 □ 7460B (STEEL)



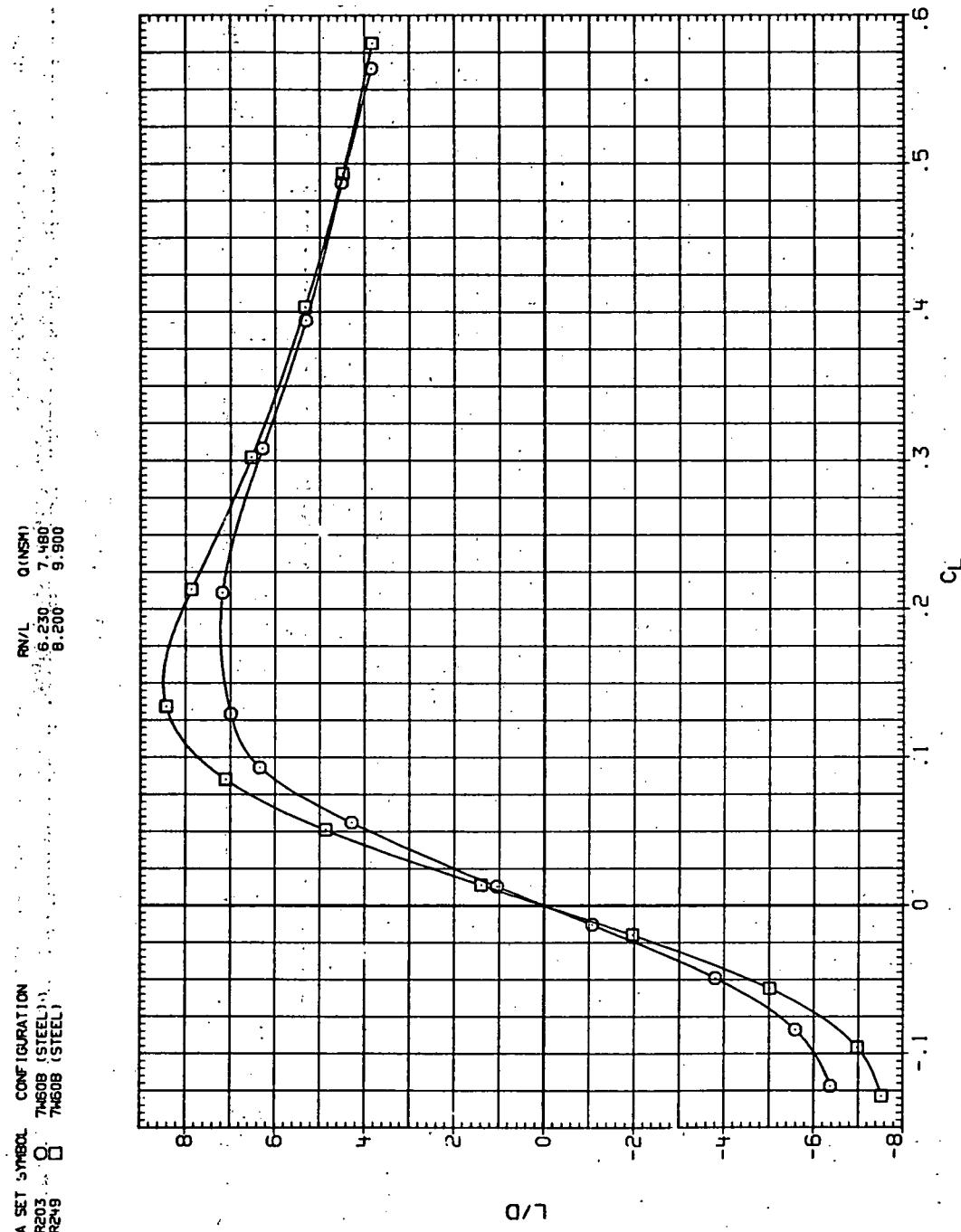
(b)  $C_D$  vs  $C_L$ .

Figure 76.—Continued.



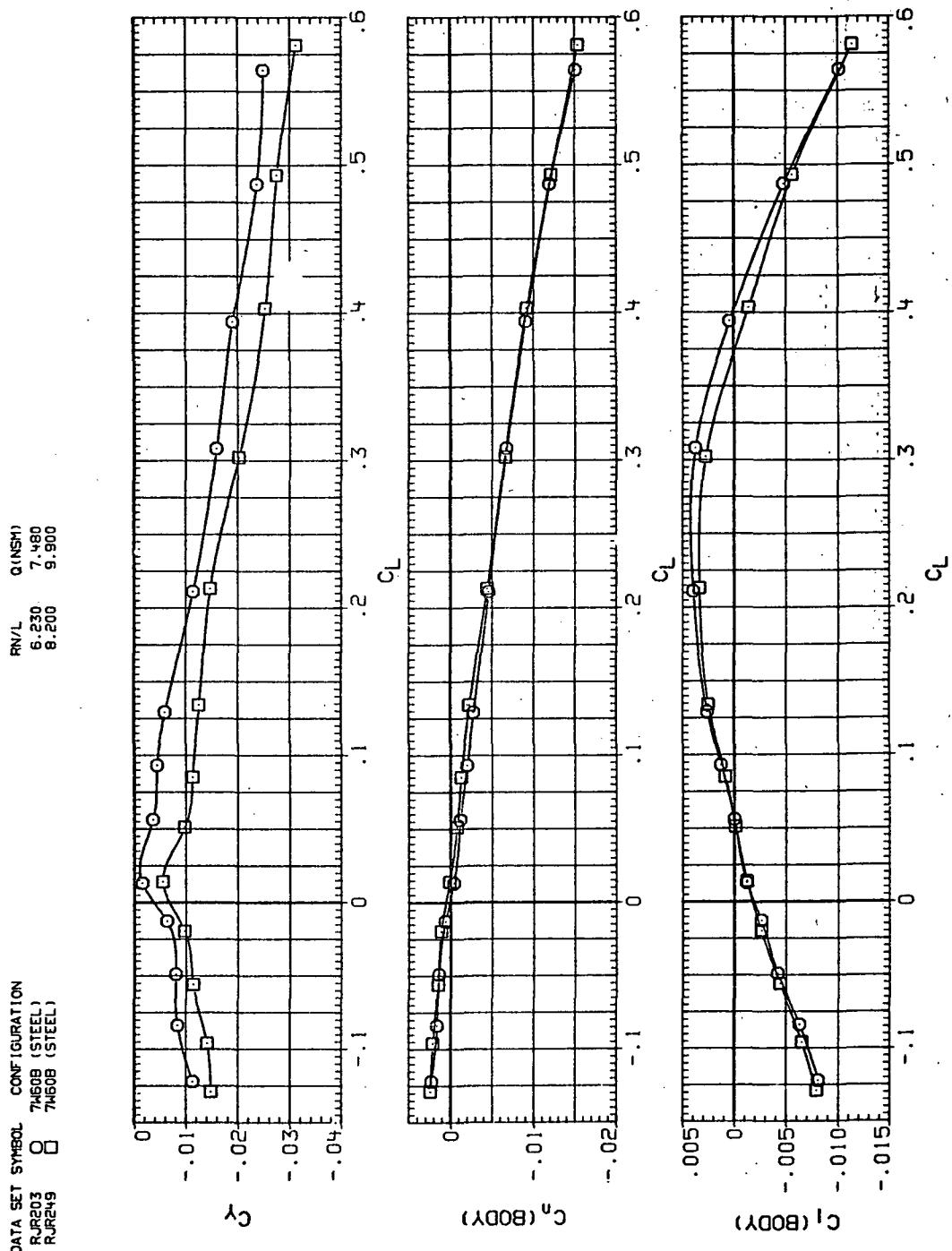
(c)  $C_m$  vs  $C_L$

Figure 76.—Continued.



(d)  $L/D$  vs  $C_L$ .

Figure 76.—Continued.

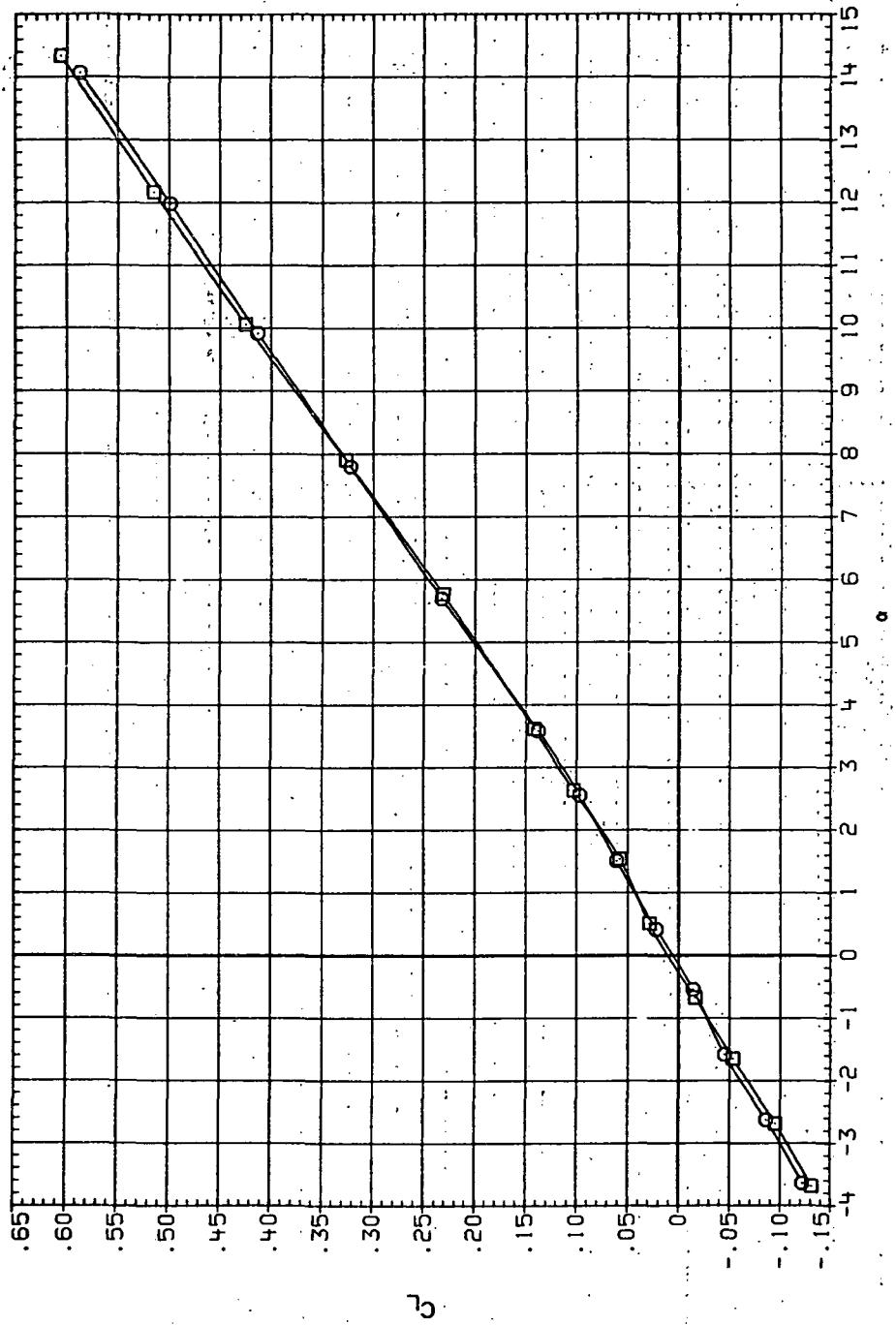


(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

Figure 76.— Concluded.

DATA SET SYMBOL CONFIGURATION  
 RJ60B  $\square$  7460B (STEEL)  
 RJ65B  $\circ$  7465B (STEEL)

RN/L: 6.230 0.600  
 8.200 14.100



(a)  $C_L$  vs  $\alpha$ .

Figure 77.— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 60^\circ$ ,  $M = 0.6$  and the NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 RJR204 O 74608 (STEEL)  
 RJR250 □ 74608 (STEEL)

QINSHI RAIL 6.230 10.600  
 8.200 14.100

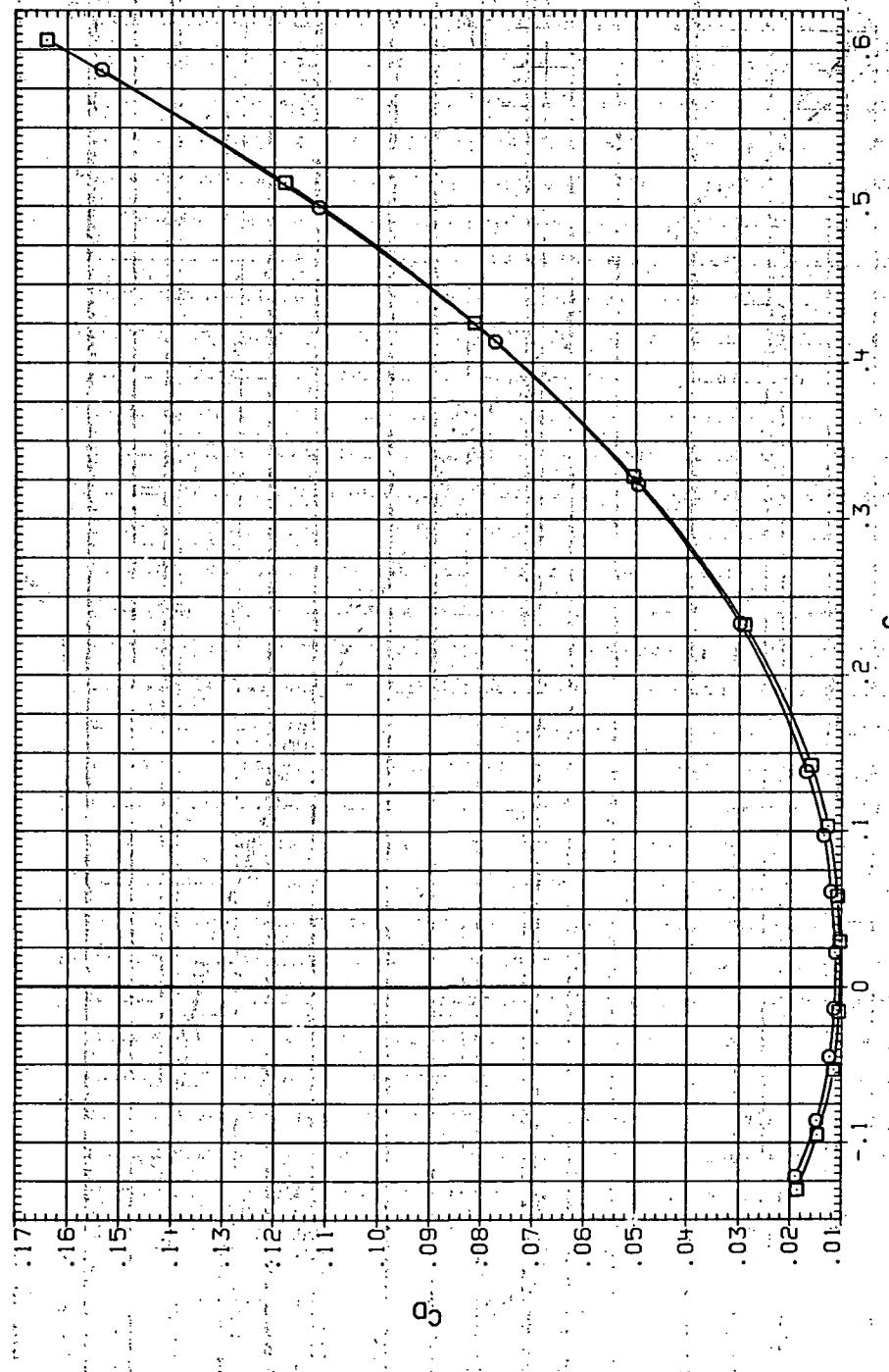
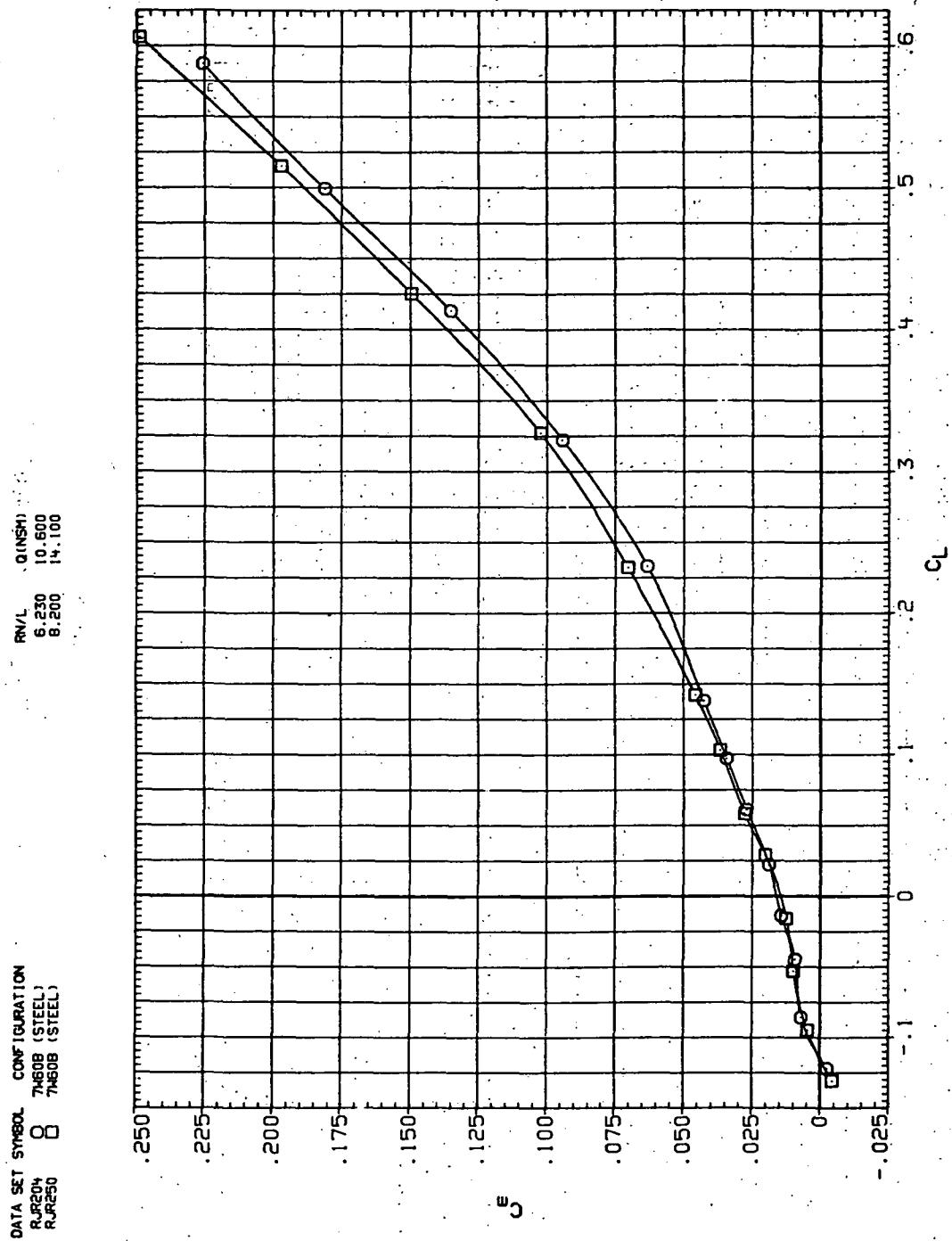
(b)  $C_D$  vs  $C_L$ .

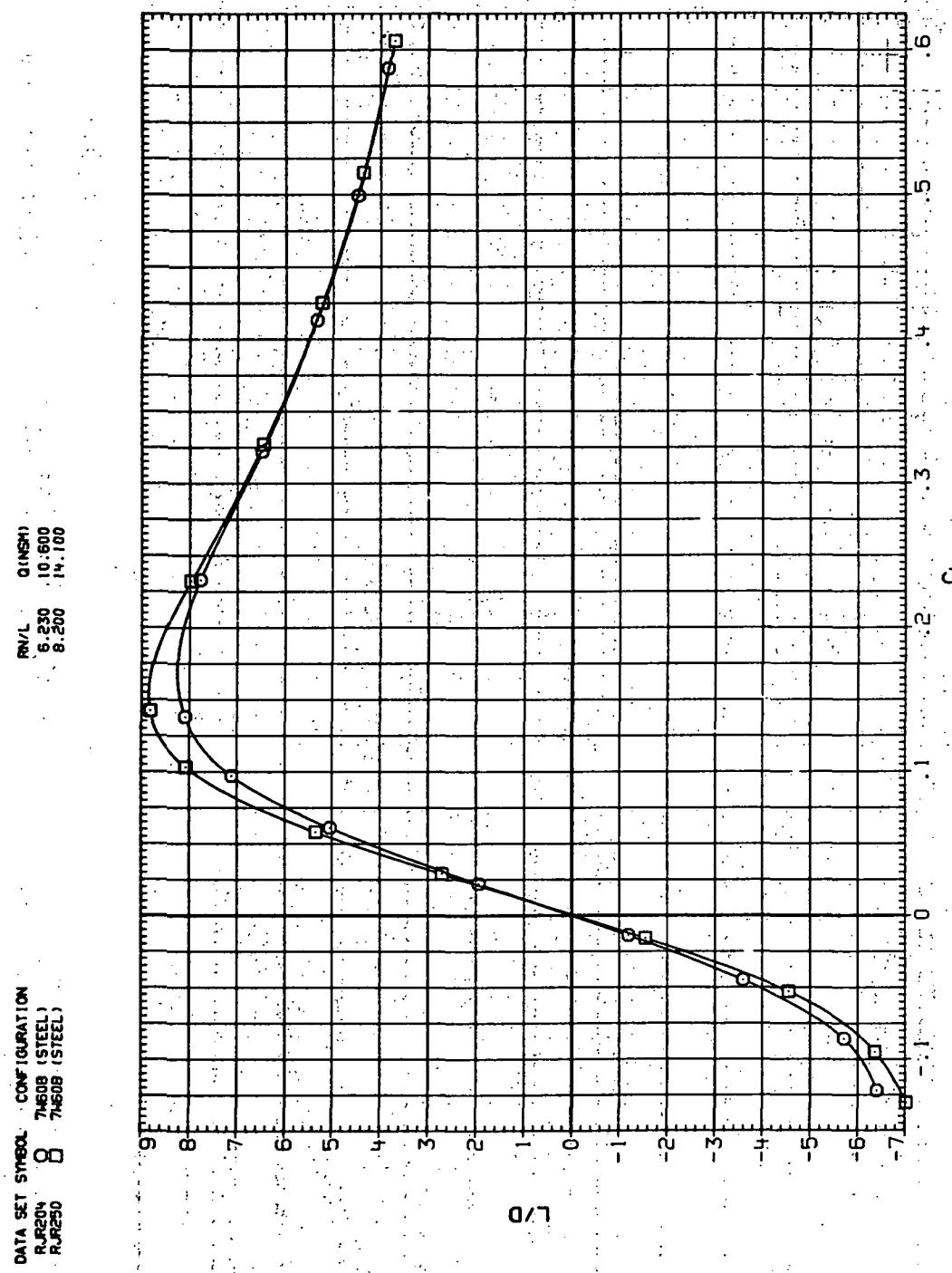
Figure 77.—Continued.



(c)  $C_m$  vs  $C_L$ .

Figure 77.—Continued.

Figure 77.—Continued.

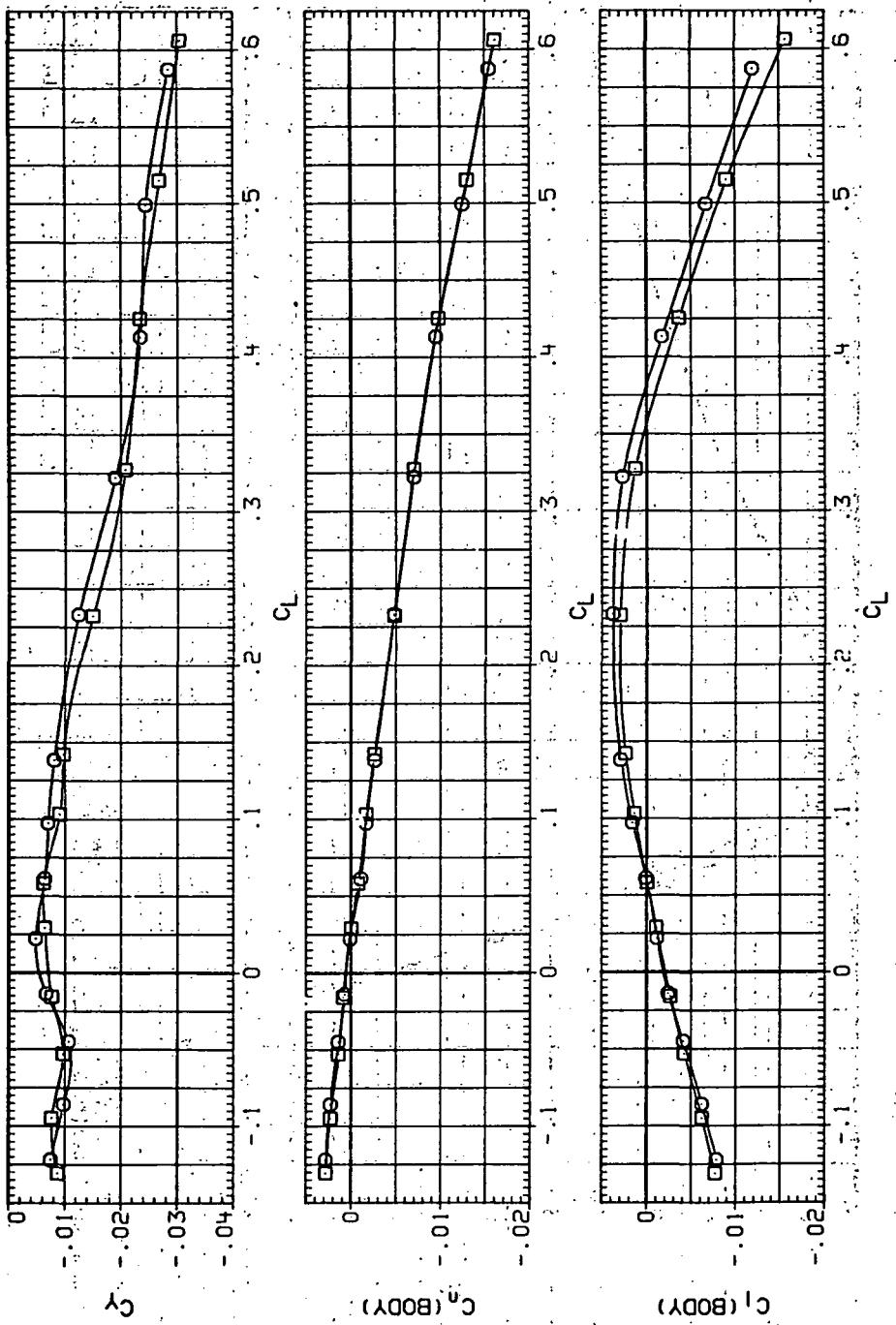


DATA SET SYMBOL CONFIGURATION

RJR204	O	7460B (STEEL)
RJR250	□	7460B (STEEL)

RN/L Q (NSM)

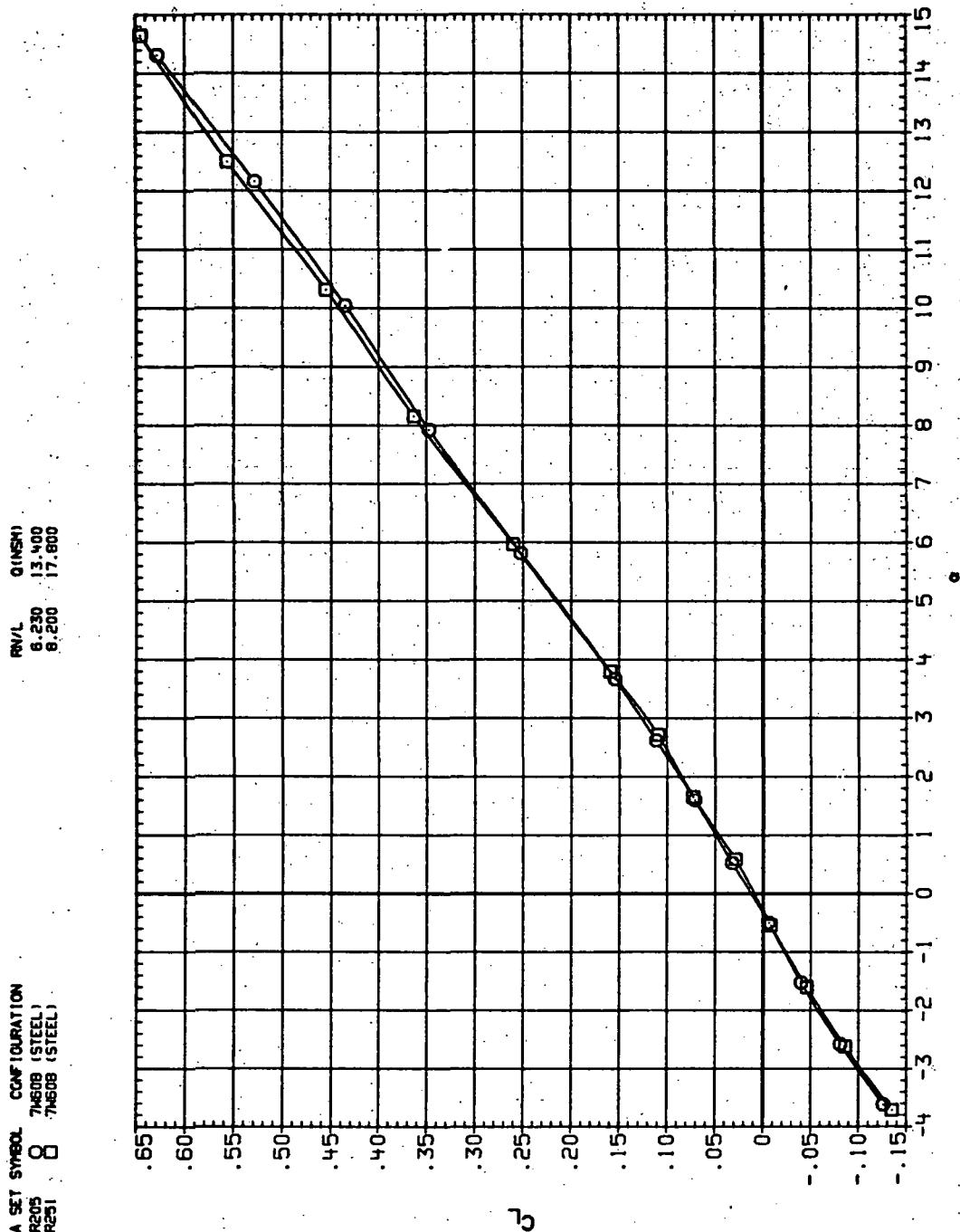
6.230	10.600
8.200	14.100



(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

Figure 77.—Concluded.

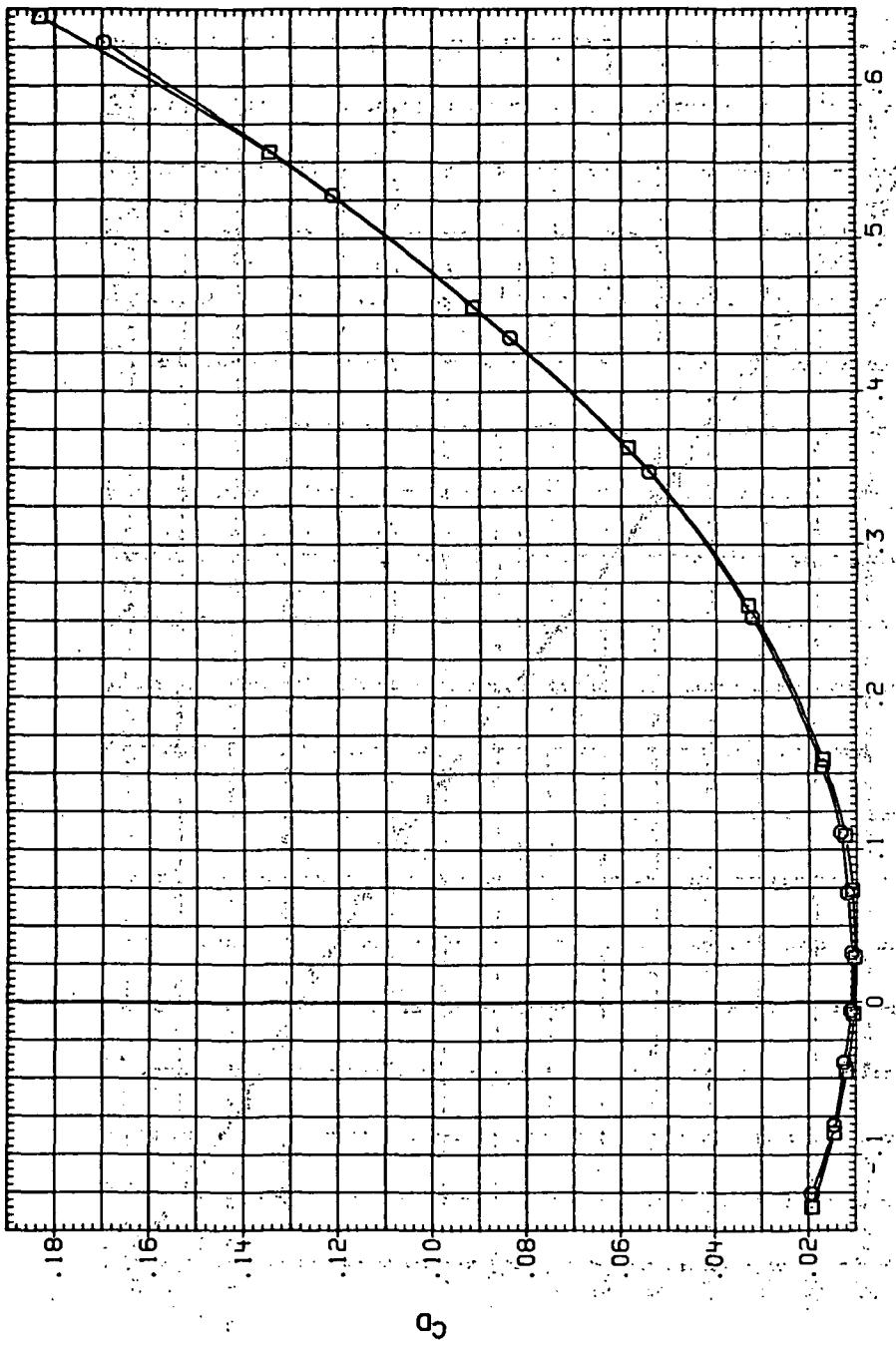
DATA SET SYMBOL CCONF (URATION  
 RJR205 O 76508 (STEEL)  
 RJR251 □ 76508 (STEEL)



(a)  $C_L$  vs  $\alpha$ .

Figure 78.— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 60^\circ, M = 0.8$  and the NACA 65A204 airfoil).

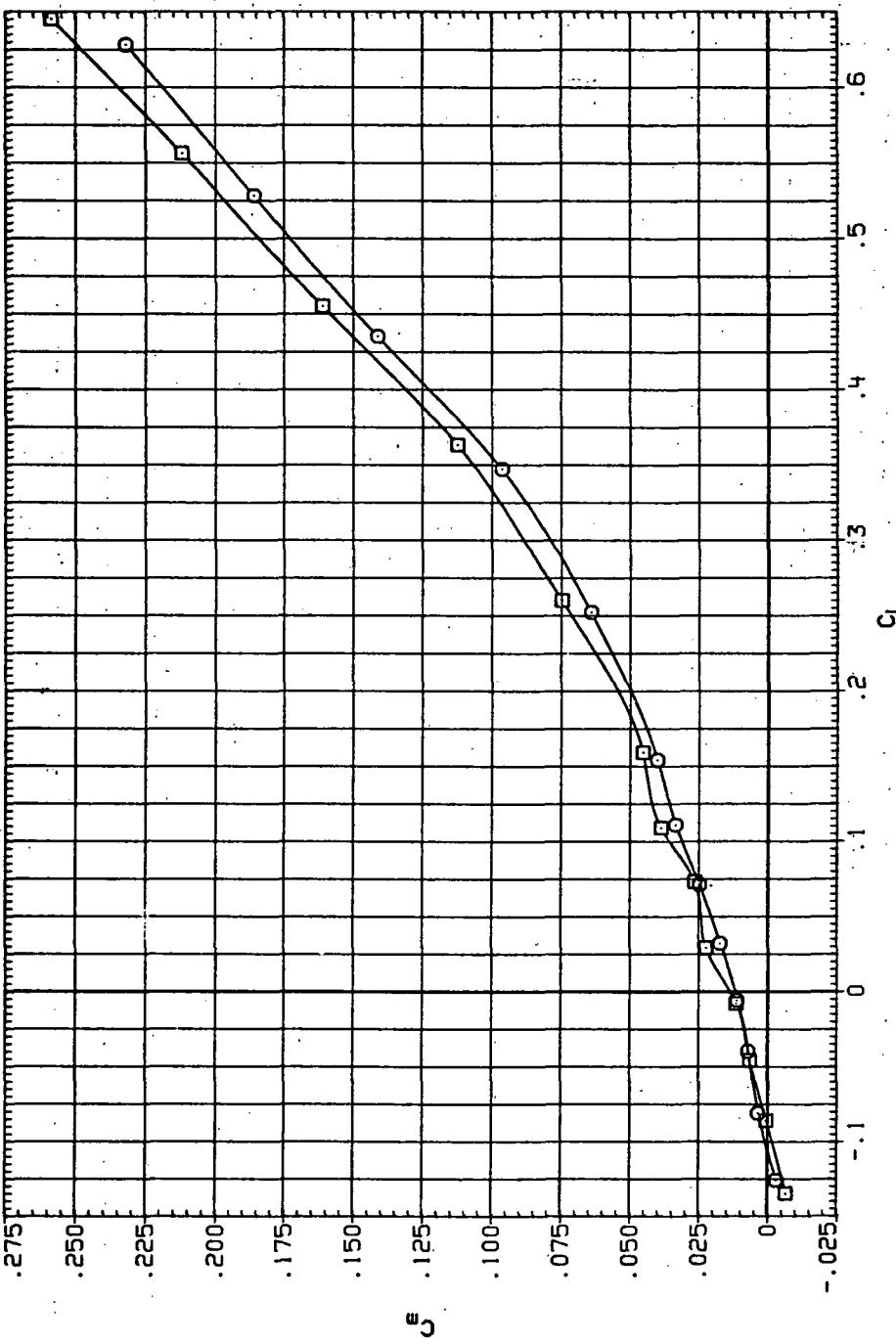
DATA SET SYMBOL CONFIGURATION  
 RUR205 T460B (STEEL)  
 RUR251 T460B (STEEL)



(b)  $C_D$  vs  $C_L$ .

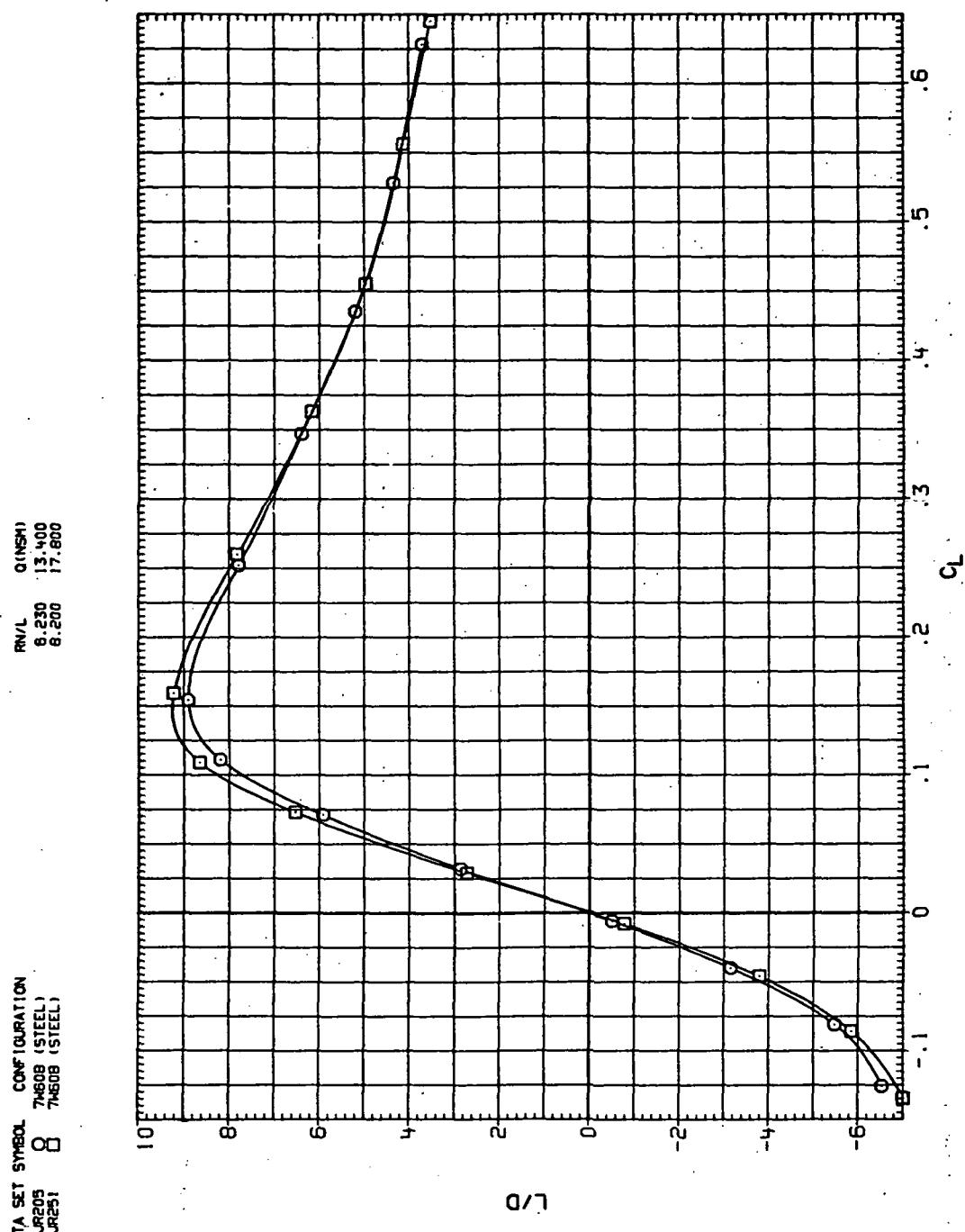
Figure 78, Continued.

DATA SET SYMBOL CONFIGURATION  
 RJS205 7608 (STEEL)  
 RJR251 7608 (STEEL)



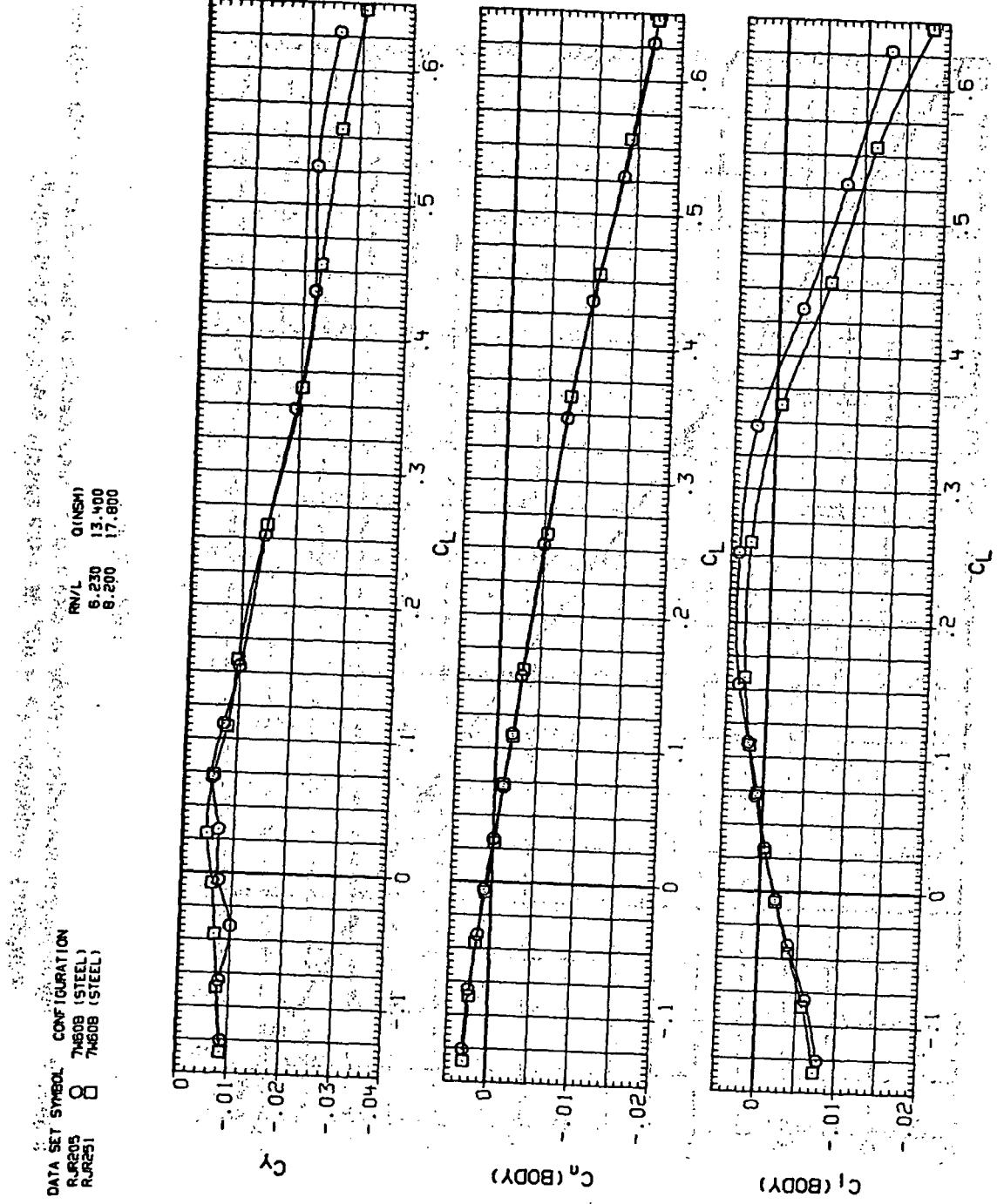
(c)  $C_m$  vs  $C_L$ .

Figure 78.— Continued.



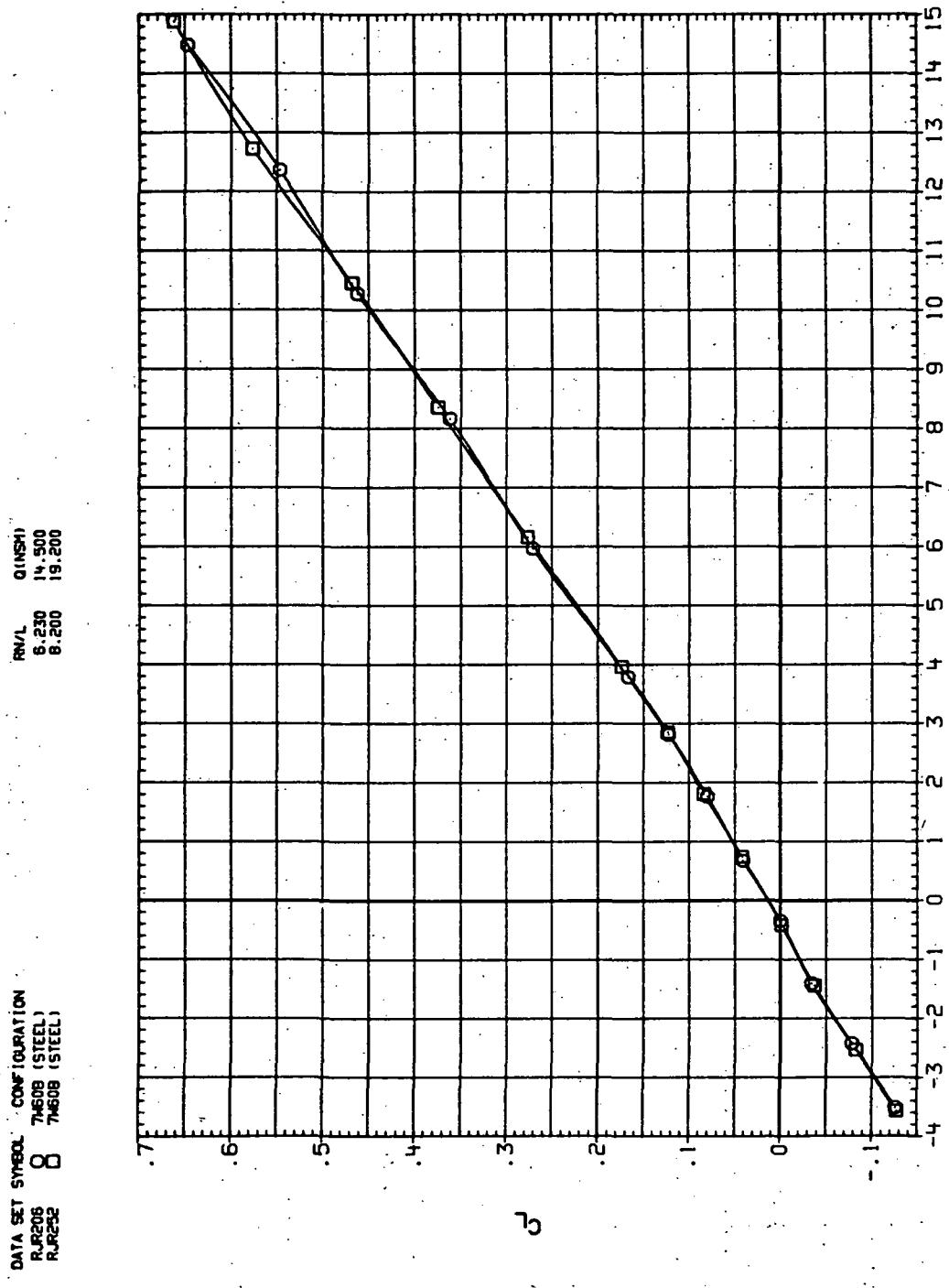
(d)  $L/D$  vs  $C_L$ .

Figure 78.—Continued.



(e)  $C_D$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

Figure 78.—Concluded.

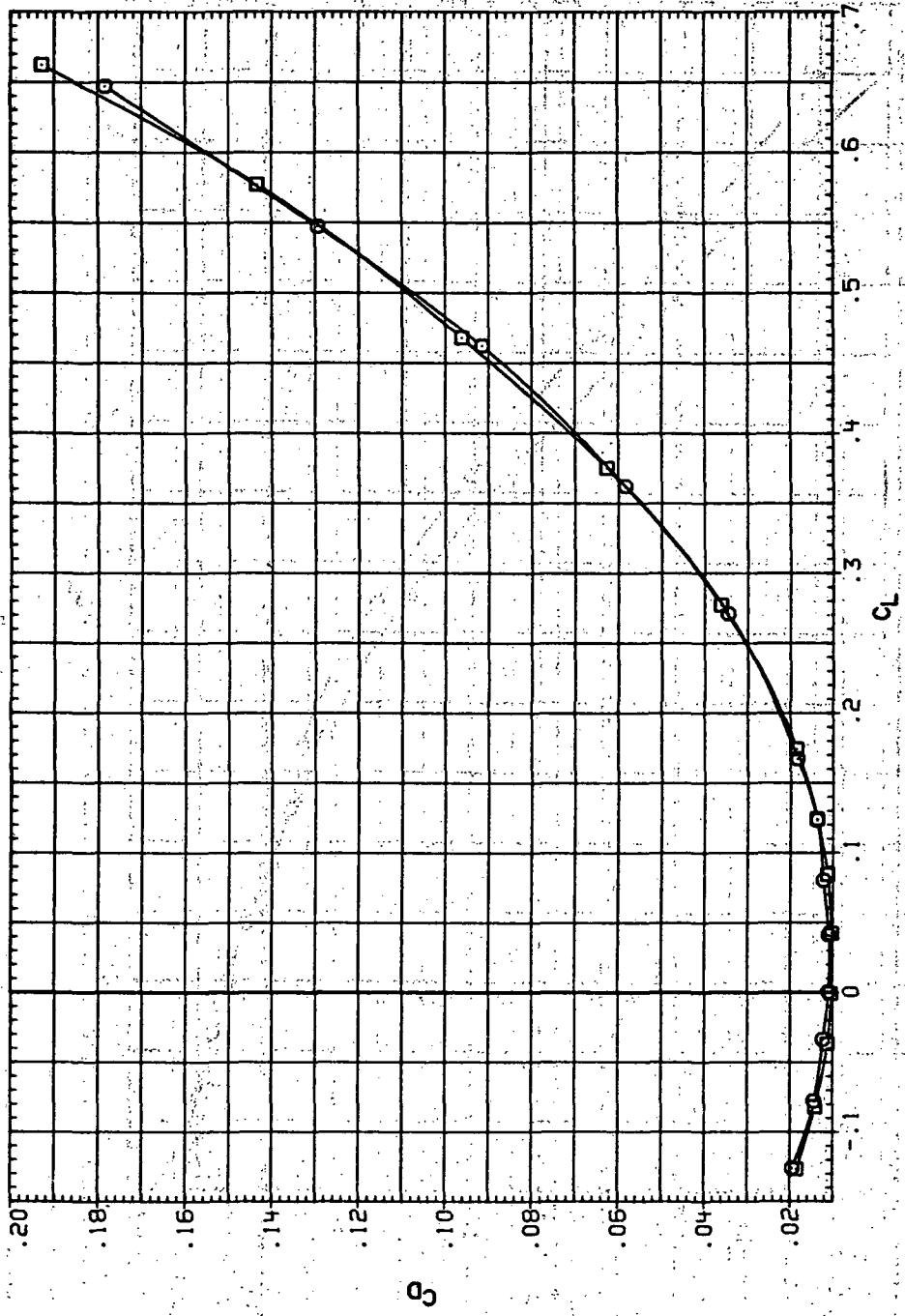


(a)  $C_L$  vs  $\alpha$ .

Figure 79.— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 60^\circ$ ,  $M = 0.9$  and the NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 R.R206 O 7H50B (STEEL)  
 R.R232 □ 7H50B (STEEL)

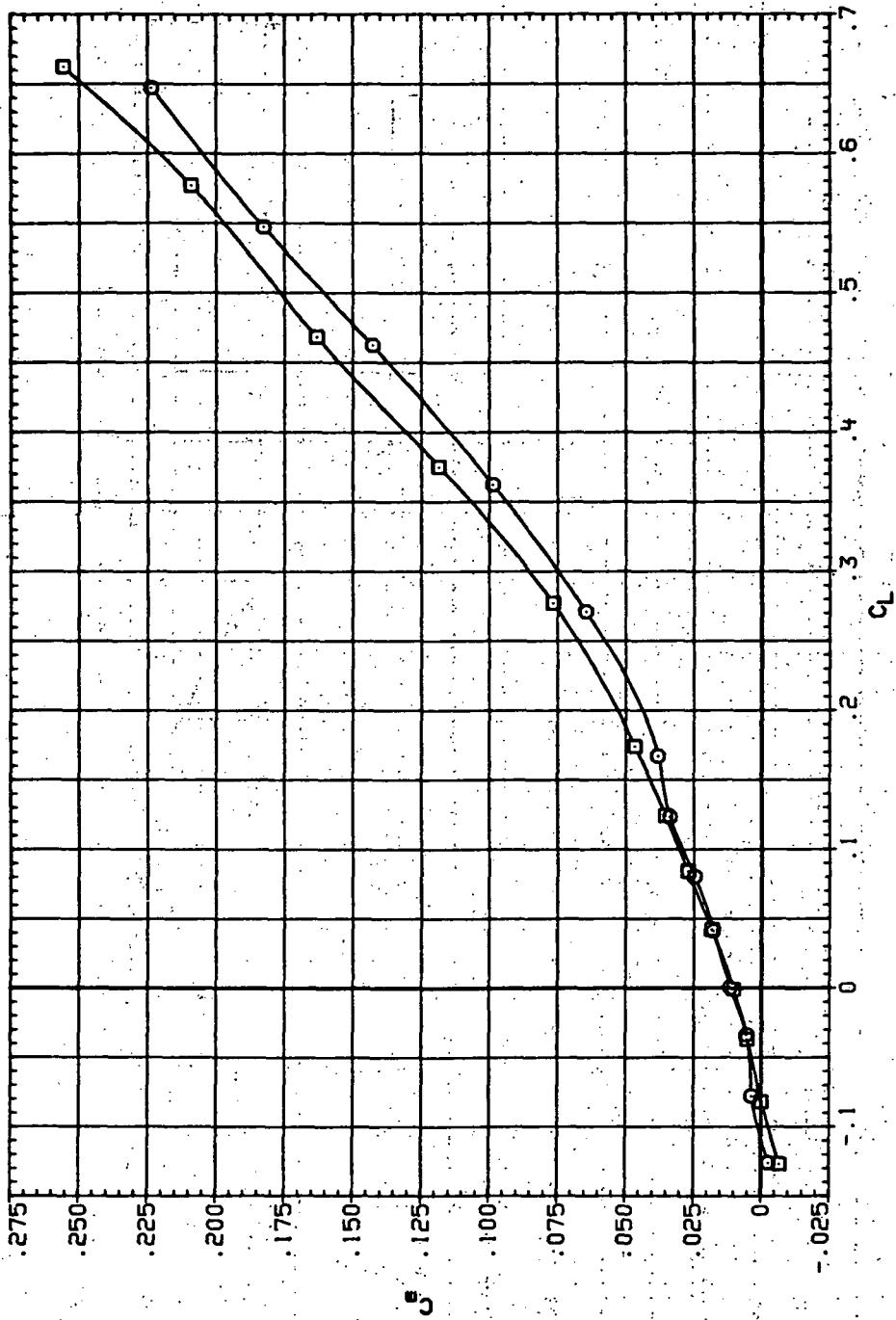
R/V/L QINSHI  
 6.230 14.500  
 8.200 19.200



(b)  $C_D$  vs  $C_L$ .

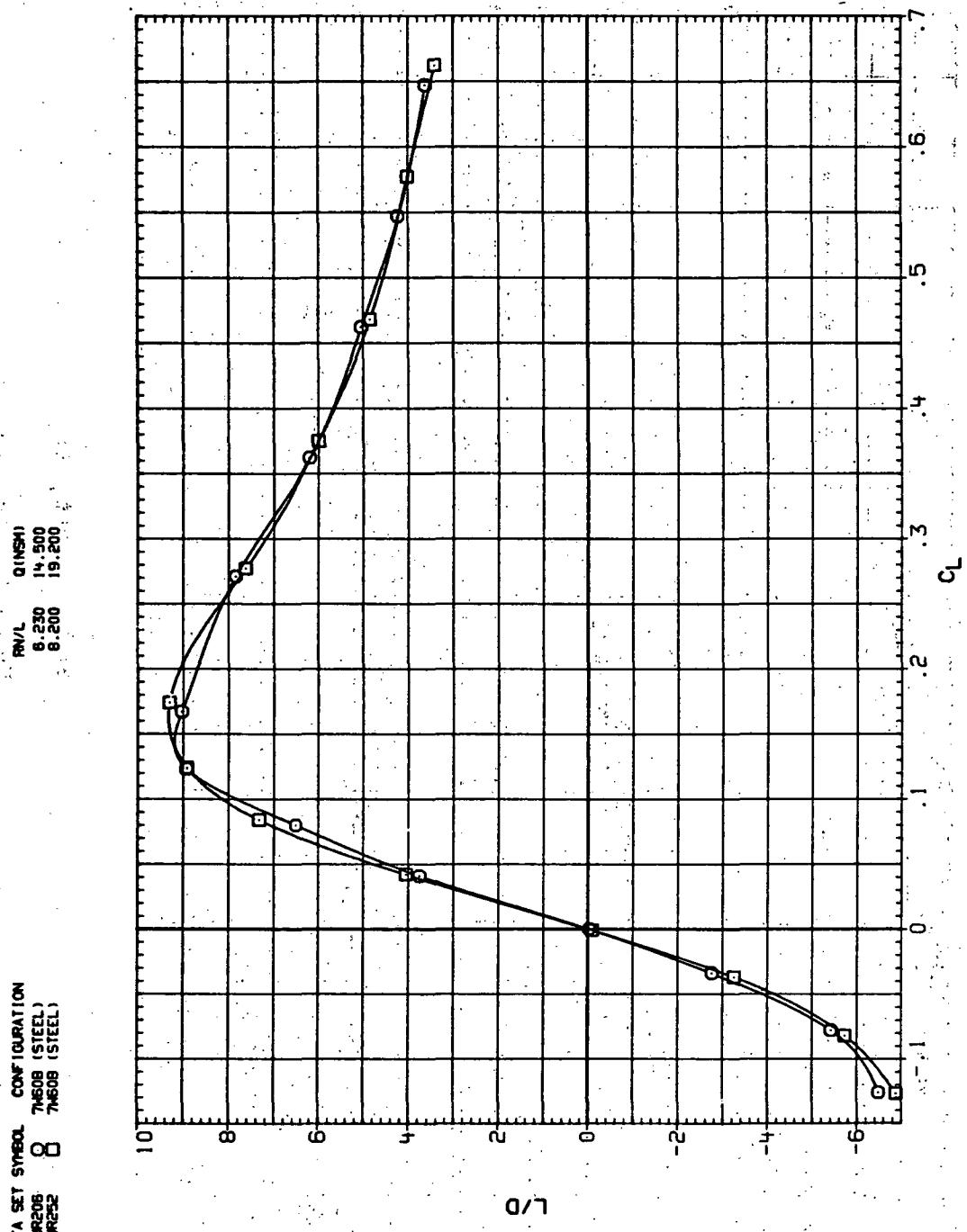
Figure 79.—Continued.

DATA SET SYMBOL CONFIGURATION  
 R2208 8 74508 (STEEL)  
 R2208 8 74508 (STEEL)



(c)  $C_m$  vs  $C_L$

Figure 79.—Continued.



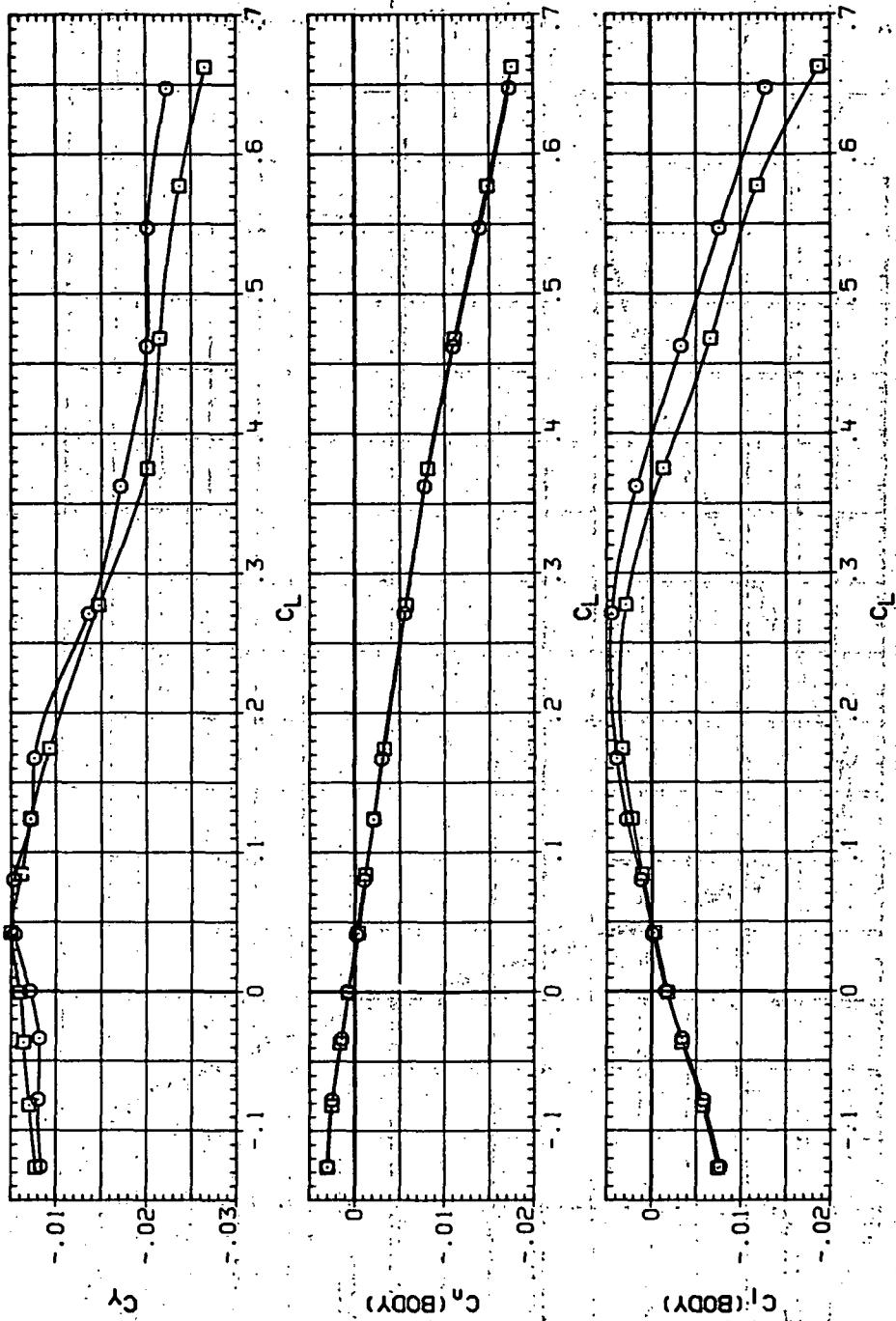
(d)  $L/D$  vs  $C_L$ .

Figure 79.- Continued.

DATA SET SYMBOL CONFIGURATION

RUR208	Q	74608 (STEEL)
RUR232	O	74608 (STEEL)

RNVL Q (NSF)  
6.230 14,500  
8.200 19,200



(e)  $C_D$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

Figure 79.—Concluded.

DATA SET SYMBOL	CONFIGURATION	R <sub>NVL</sub>	$\alpha$ (deg)
RJF207	74608 (STEEL)	8.230	15.000
RJF253	74608 (STEEL)	8.200	19.800

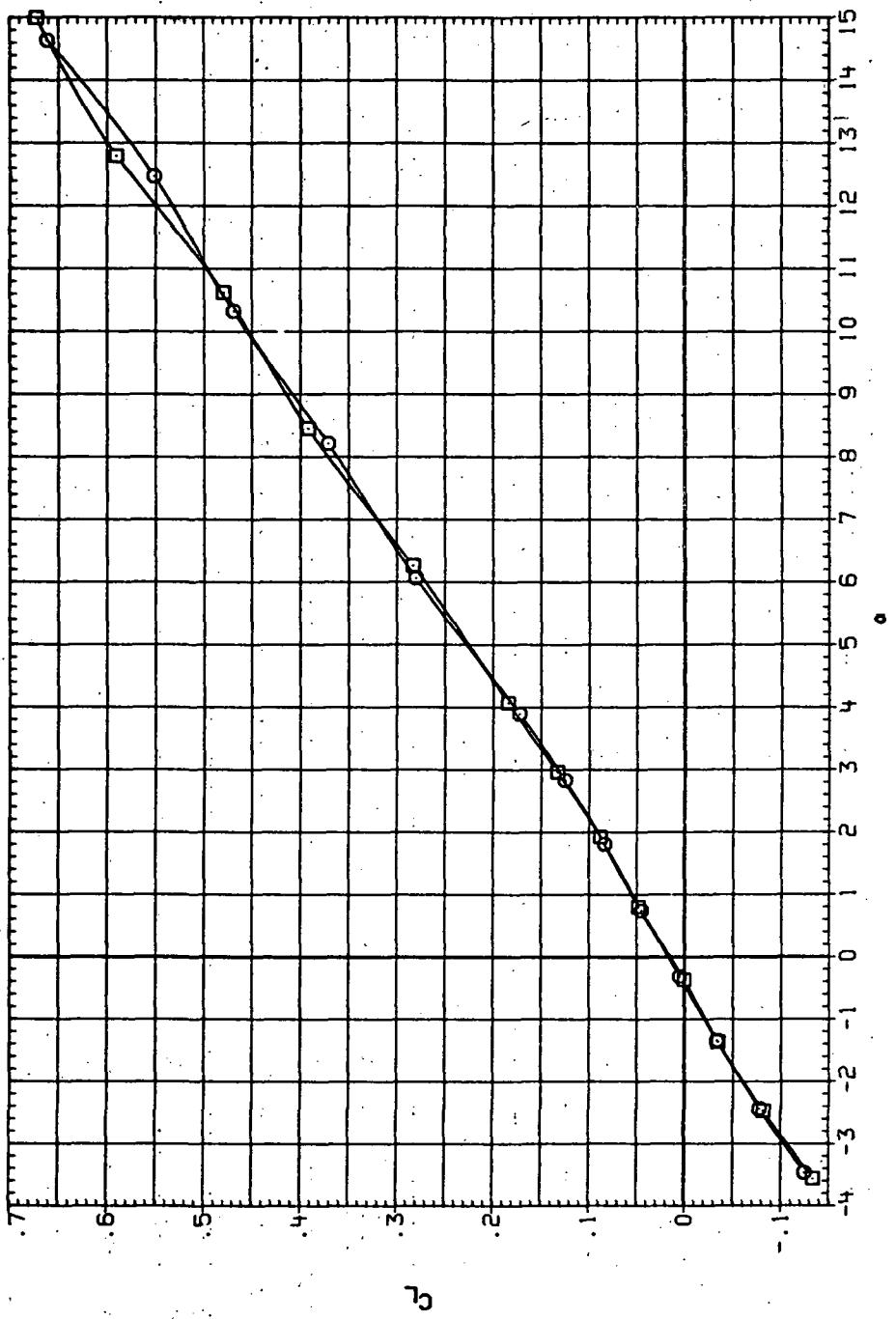
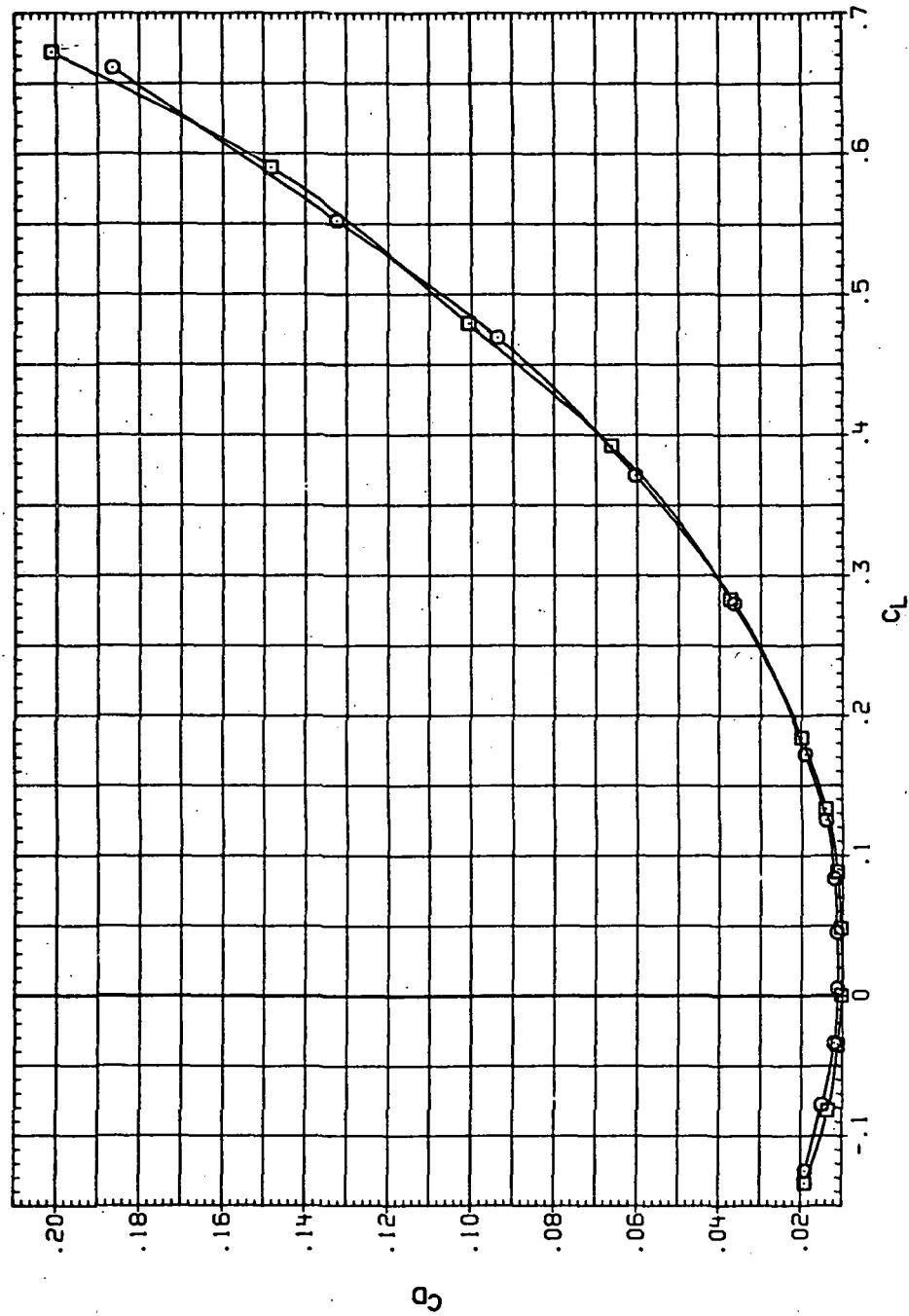
(a)  $C_L$  vs  $\alpha$ .

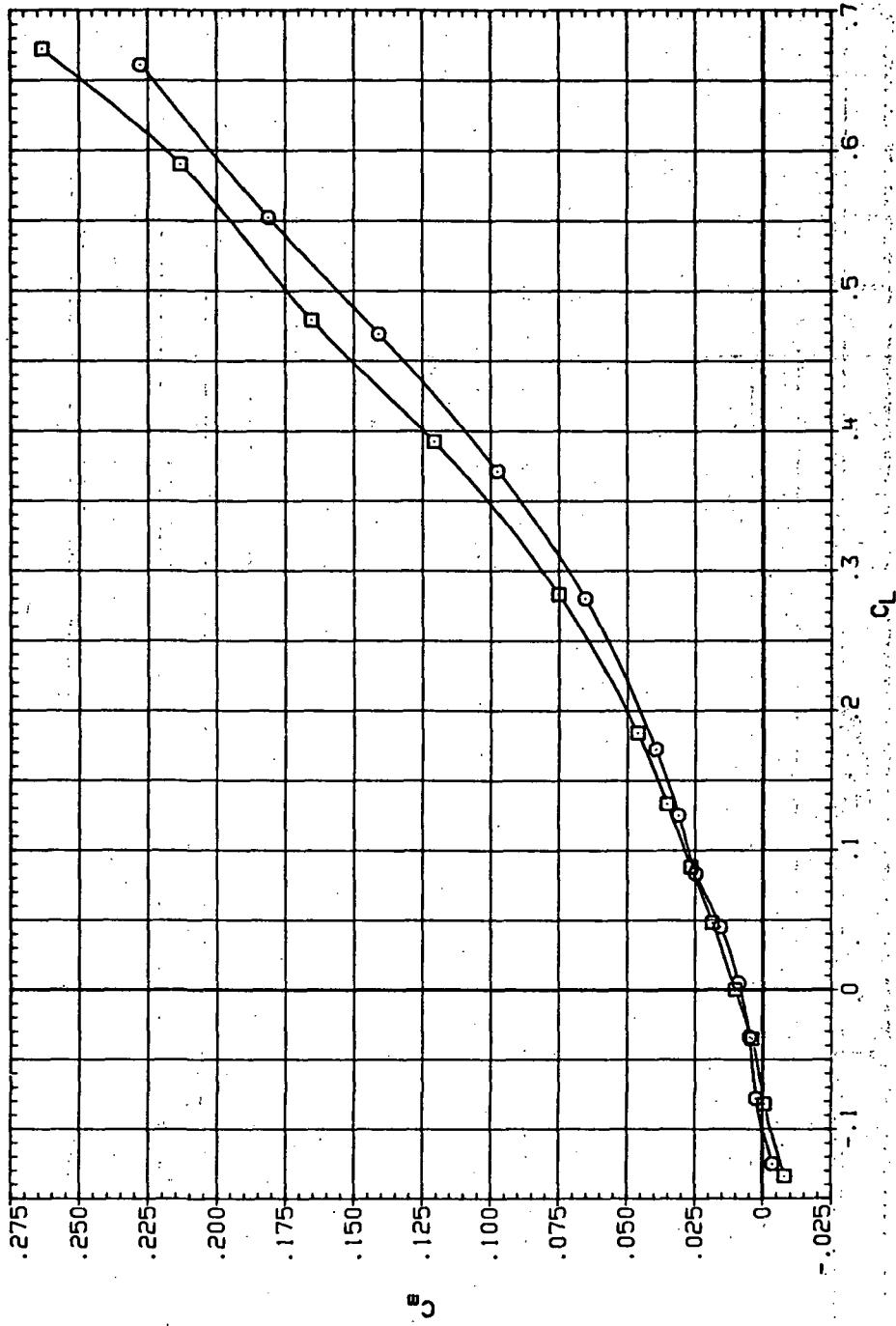
Figure 80.— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 60^\circ$ ,  $M = 0.95$  and the NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 RJR207 O 7H60B (STEEL)  
 RJR253 □ 7H60B (STEEL)



(b)  $C_D$  vs  $C_L$ .

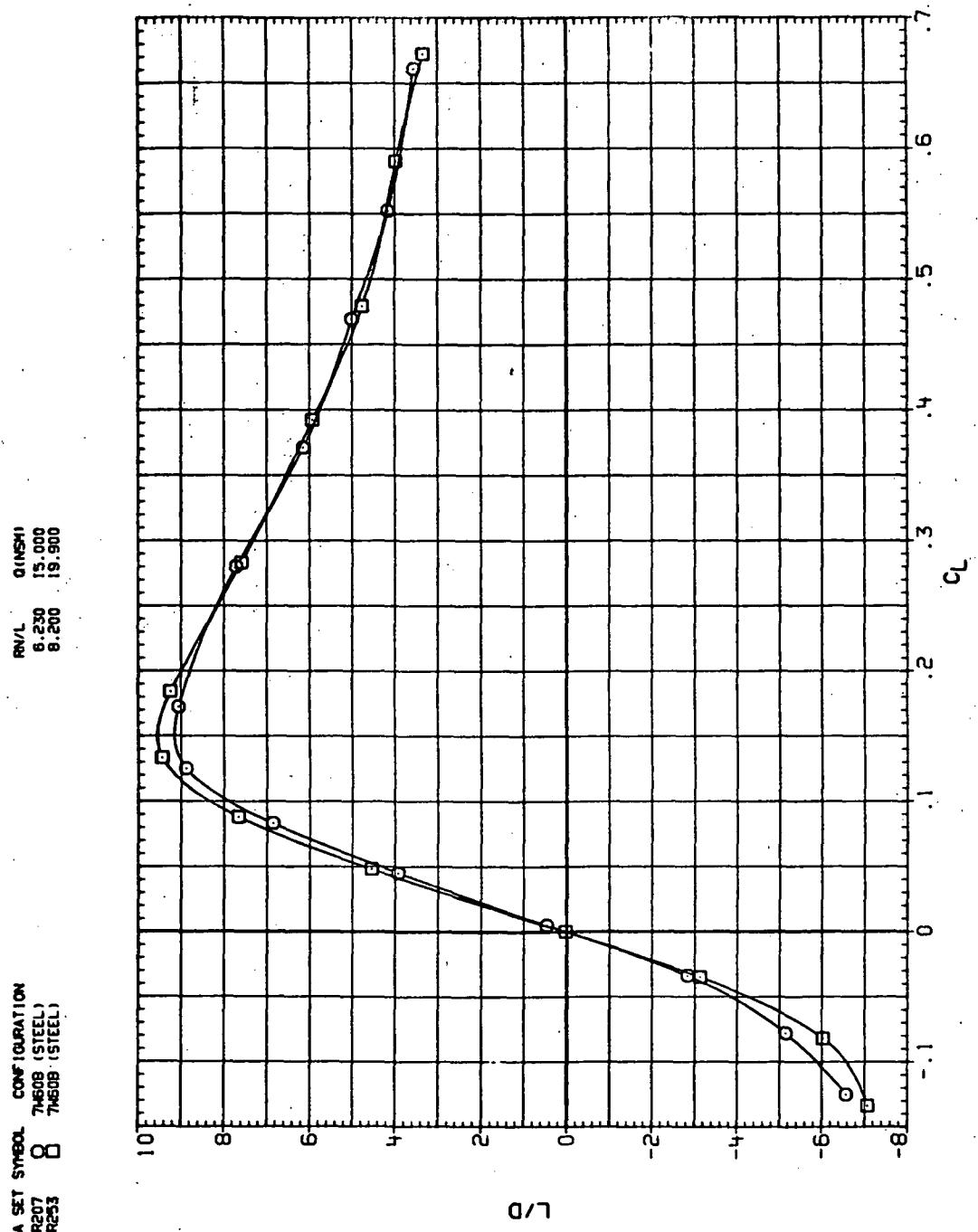
Figure 80.—Continued.



(c)  $C_m$  vs  $CL$

Figure 80.—Continued.

DATA SET SYMBOL CONFIGURATION  
 R.R207 74609 (STEEL)  
 R.R253 74609 (STEEL)

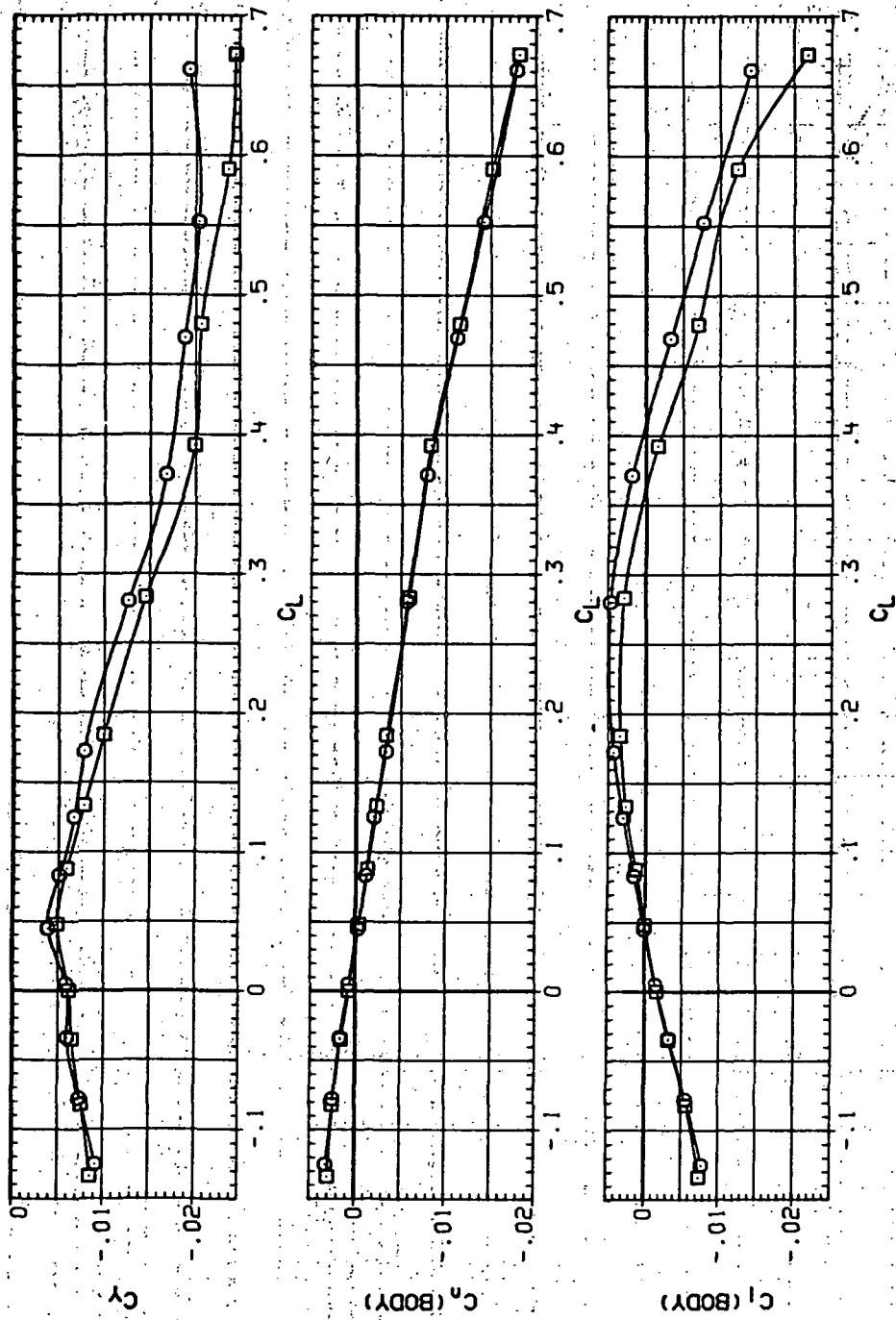


(d)  $L/D$  vs  $C_L$ .

Figure 80.—Continued.

DATA SET SYMBOL: CONFIGURATION  
 R.R207      7460B (STEEL)  
 R.R253      7460B (STEEL)

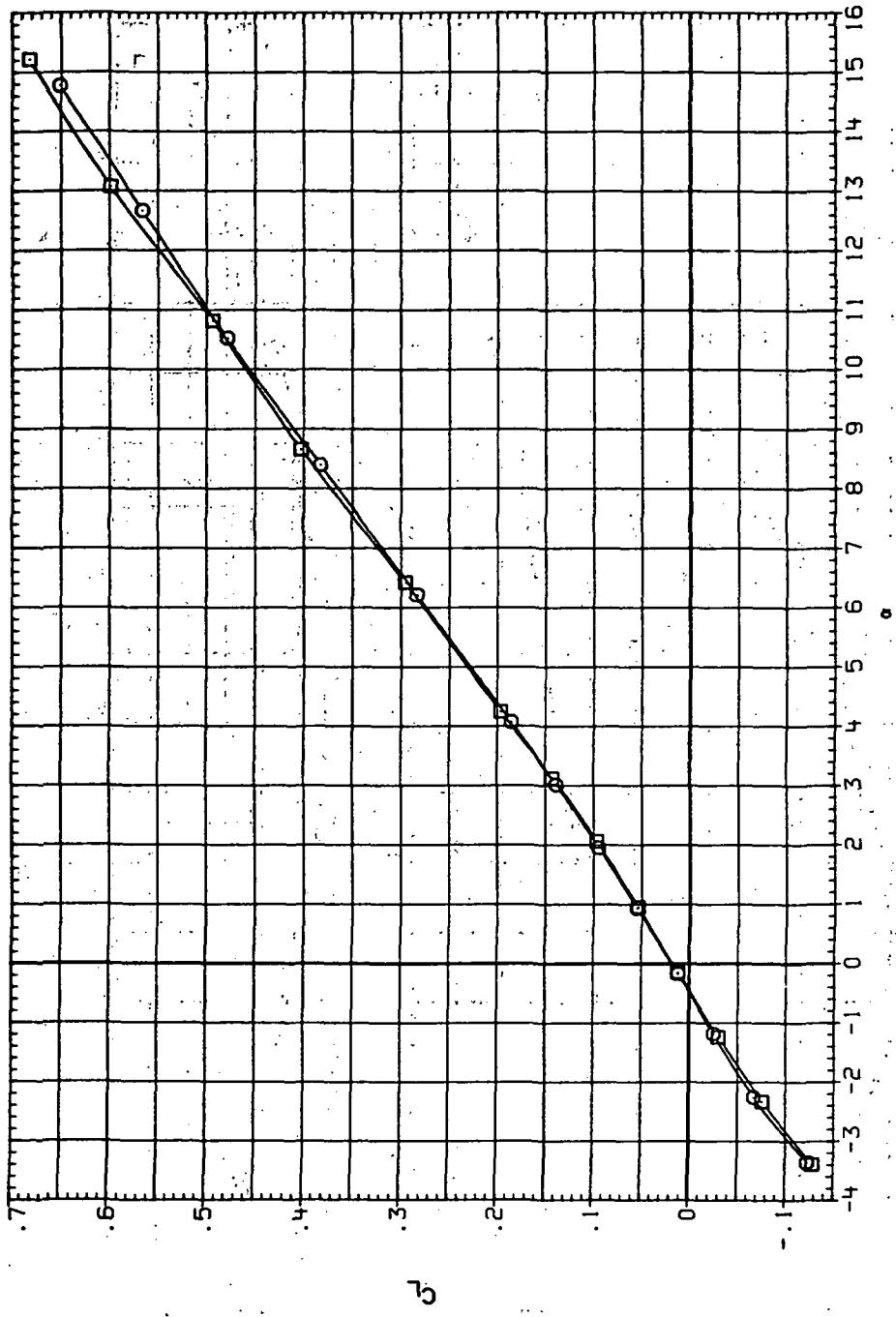
PROJ.      QINSHI  
 6.230      15,000  
 8.200      19,900



(e)  $C_Y$ ,  $C_\eta$  and  $C_l$  vs  $C_L$ .

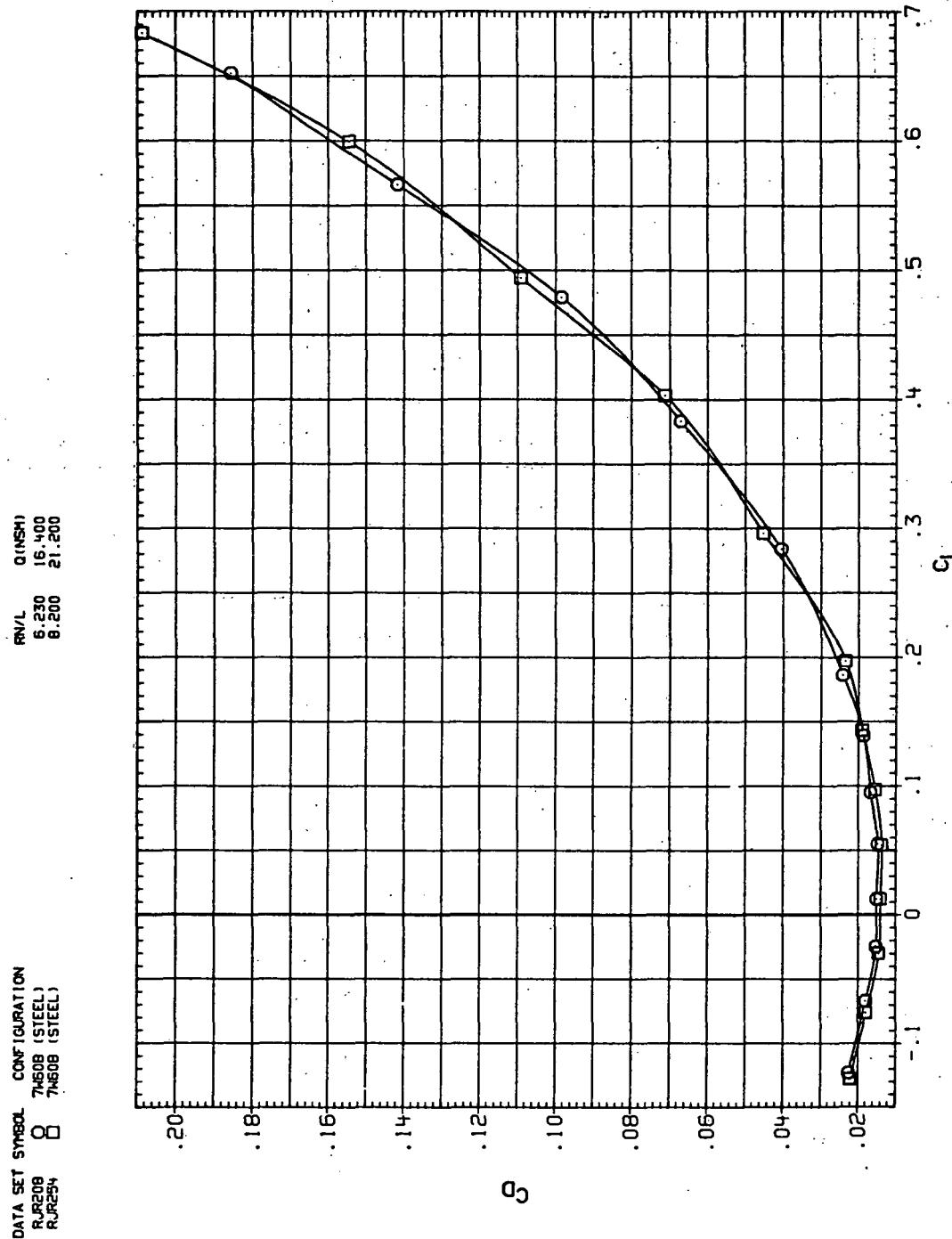
Figure 80.—Concluded.

DATA SET SYMBOL CONFIGURATION  
 R.R208 7N60B (STEEL)  
 R.R254 7N60B (STEEL)



(a)  $C_L$  vs  $\alpha$ .

Figure 81.— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 60^\circ, M = 1.1$  and the NACA 65A204 airfoil).

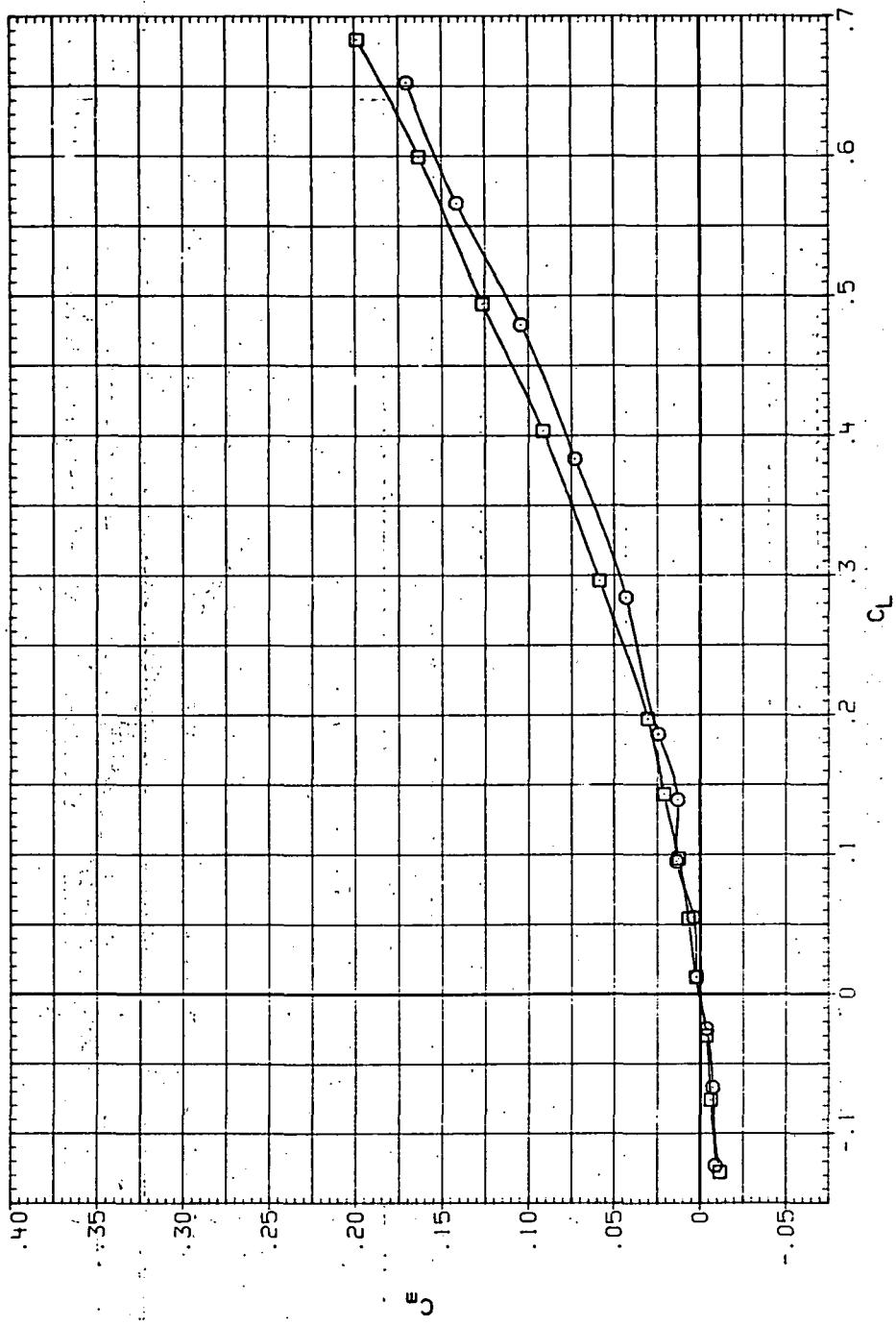


(b)  $C_D$  vs  $C_L$ .

Figure 81.— Continued.

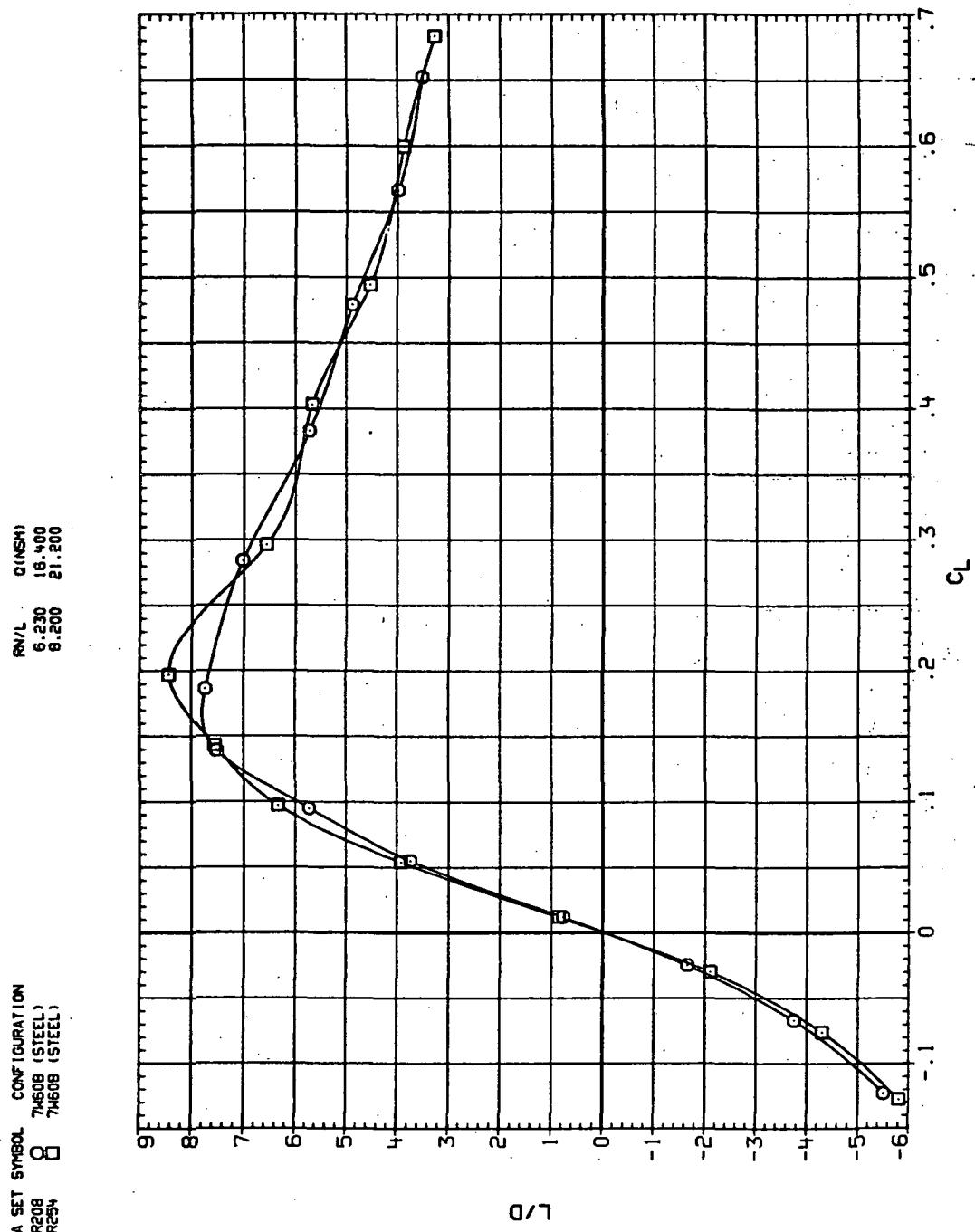
DATA SET SYMBOL CONFIGURATION  
 RJR208 O 74608 (STEEL)  
 RJR254 □ 74608 (STEEL)

RNL: QNSM 16,400  
 6,230 21,200



(c)  $C_m$  vs  $C_L$ .

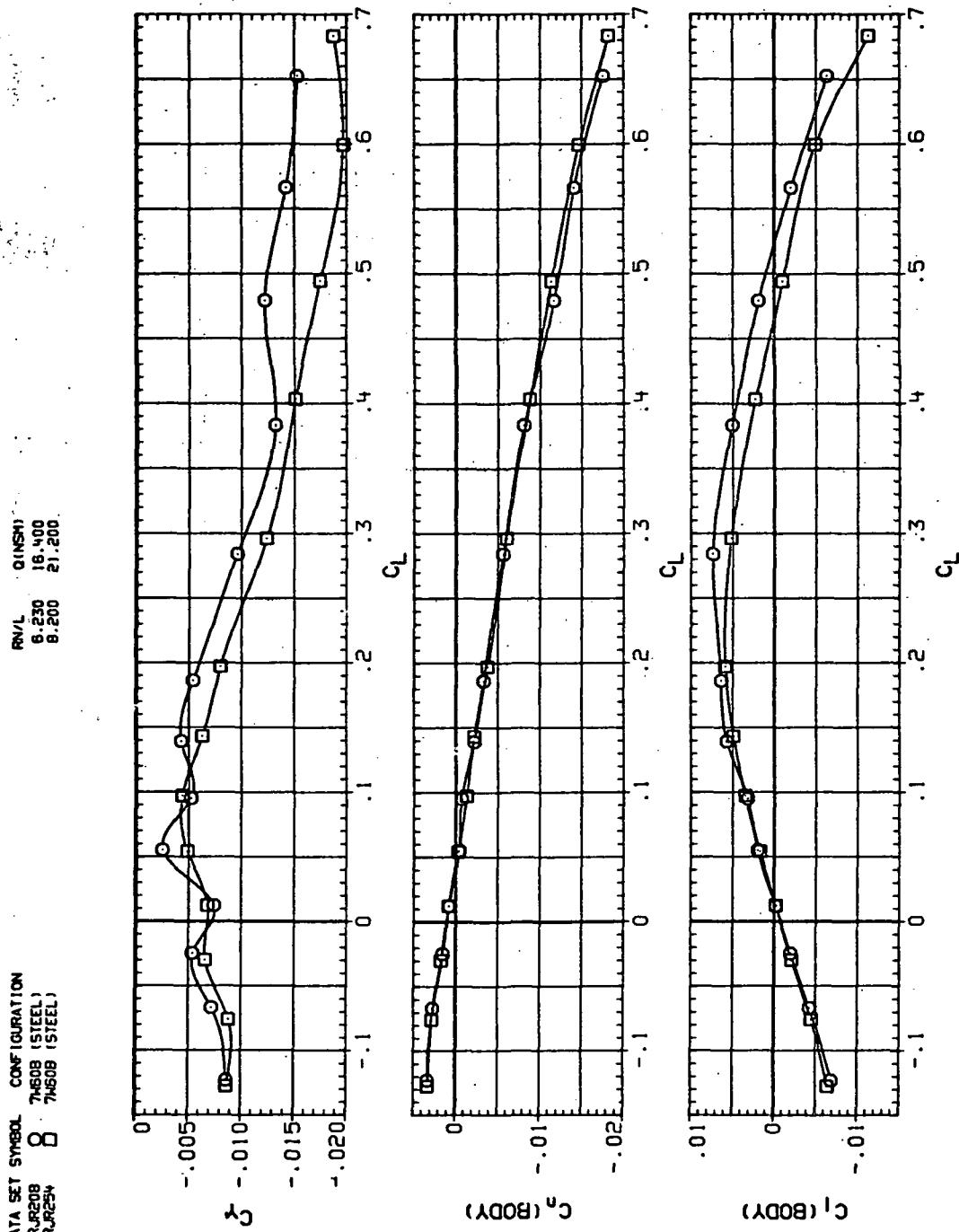
Figure 81.—Continued.



(d)  $L/D$  vs  $C_L$ .

Figure 81.—Continued.

DATA SET SYMBOL CONFIGURATION  
 R222B O 74608 (STEEL)  
 R2234 □ 74609 (STEEL)

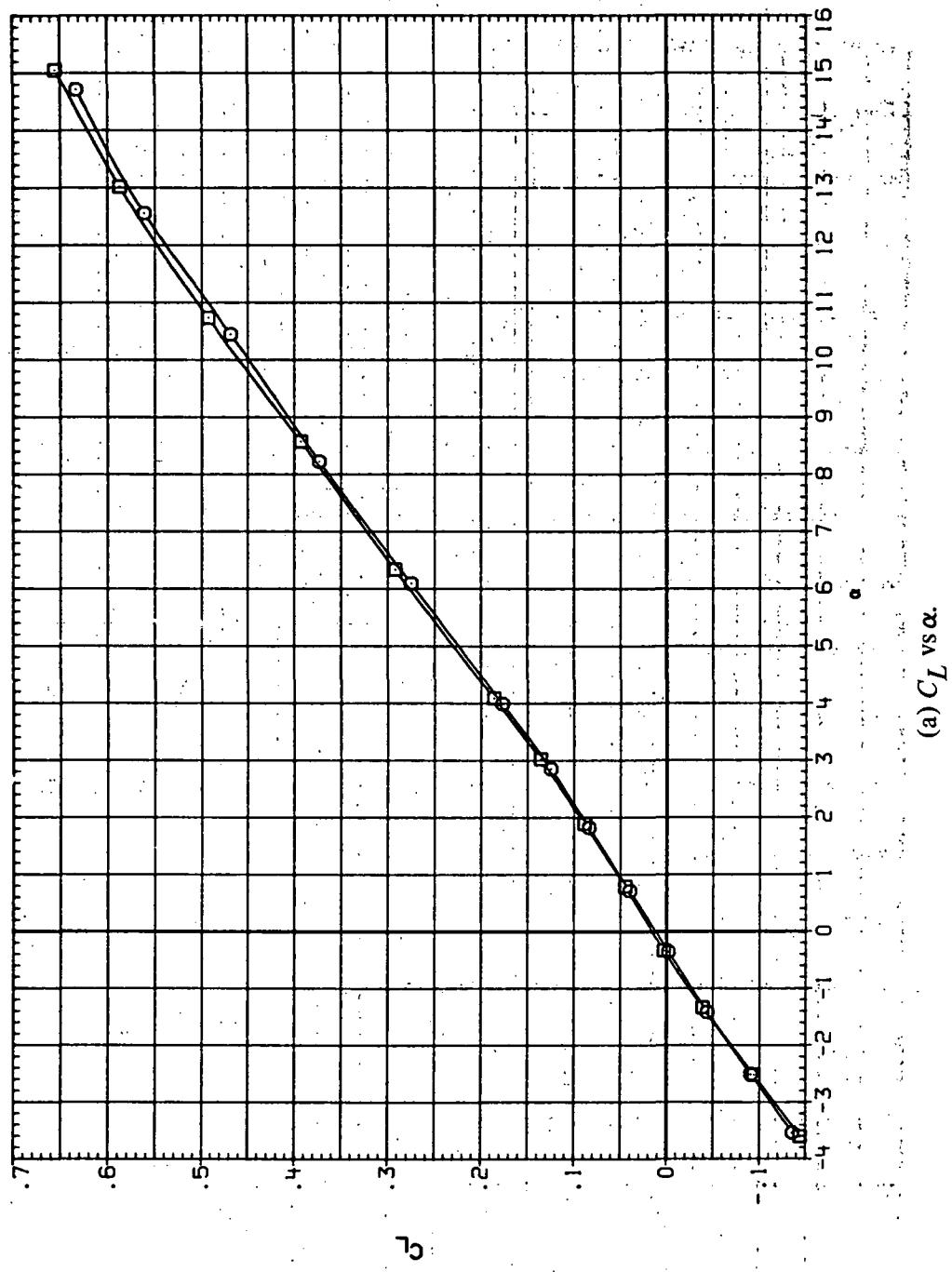


(e)  $C_Y$ ,  $C_n$  and  $C_I$  vs  $C_L$ .

Figure 81.— Concluded.

DATA SET SYMBOL CONFIGURATION  
RJR209 7460B (STEEL)  
RJR255 7460B (STEEL)

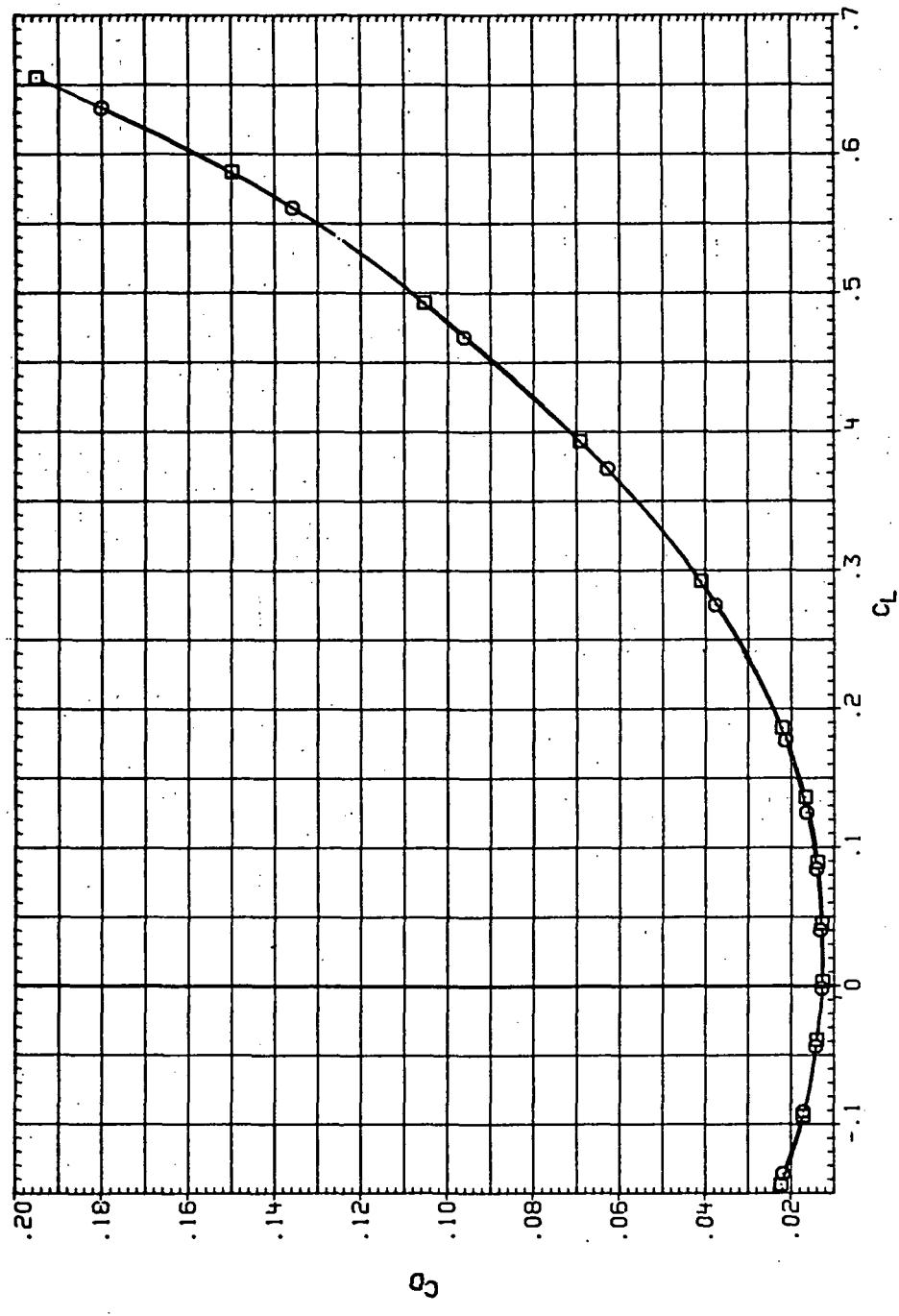
RNL Q (INSM)  
6.230 17.000  
8.200 22.800



(a)  $C_L$  vs  $\alpha$ .

Figure 82: Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 60^\circ, M = 1.2$  and the NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 R/R/L Q(NSM)  
 R0209 8 7480B (STEEL)  
 RUR255 8 7480B (STEEL)



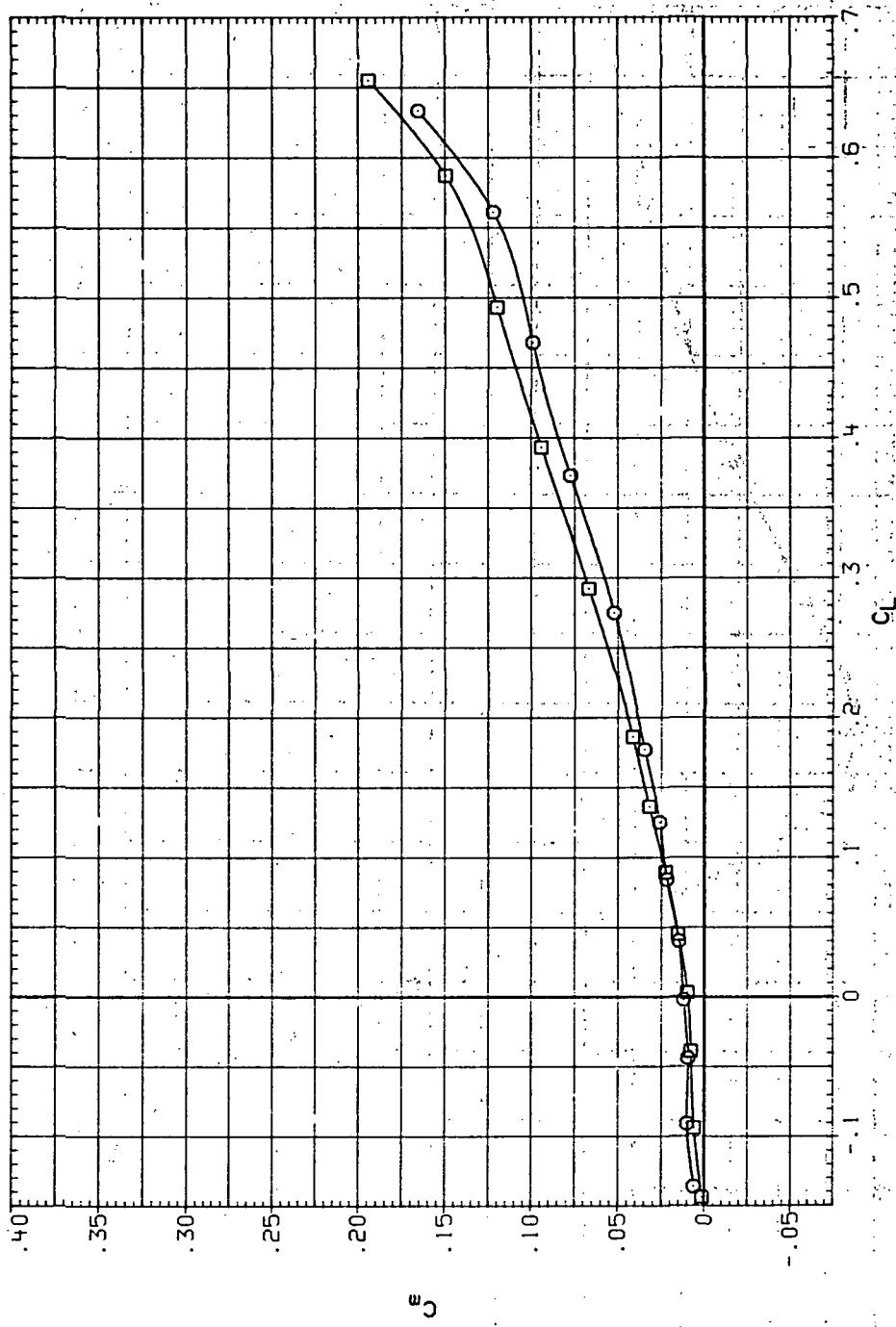
(b)  $C_D$  vs  $C_L$ .

Figure 82.— Continued.

(c)  $C_m$  vs  $C_L$ .

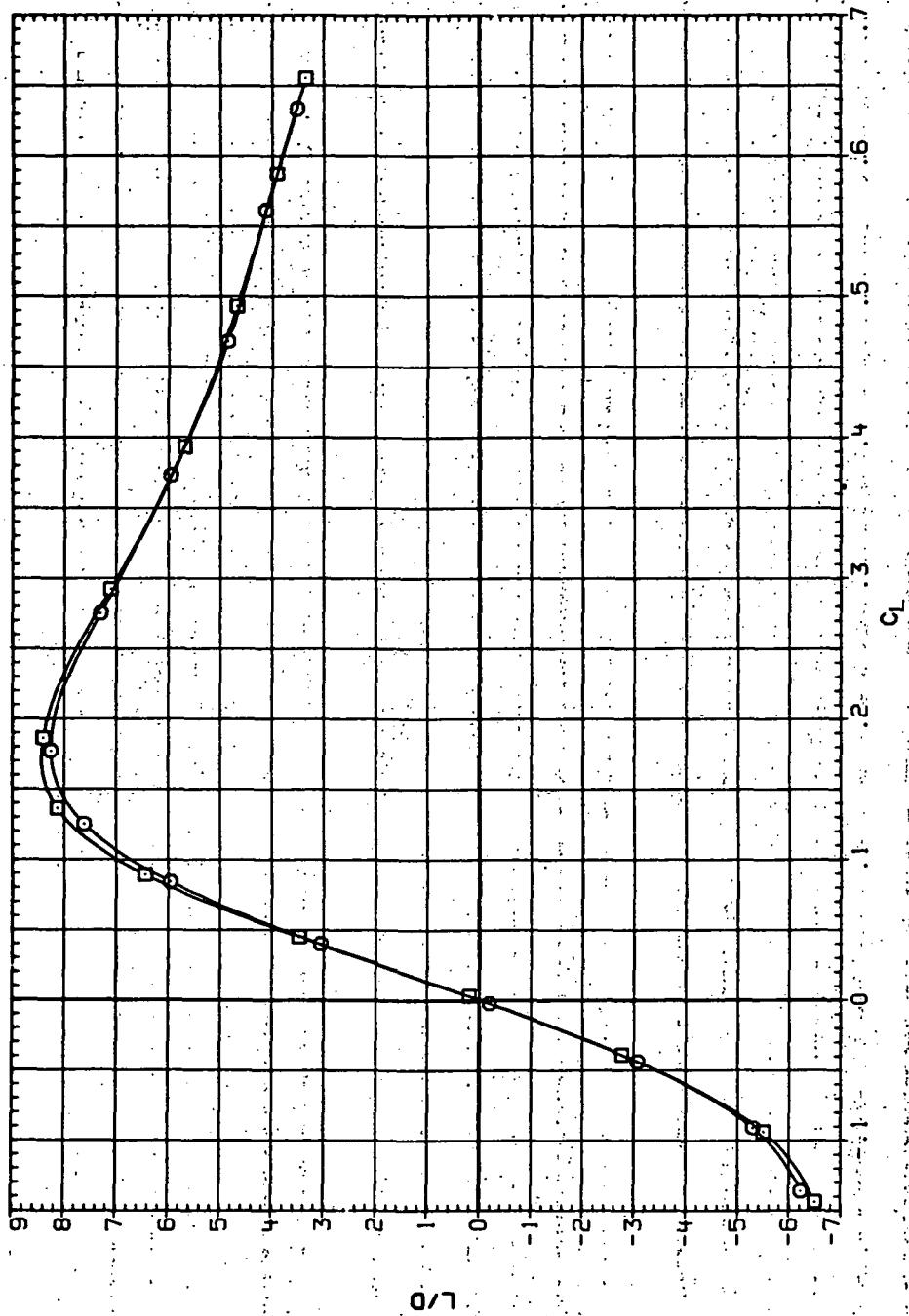
Figure 82.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR209 O 74608 (STEEL)  
 RJR255 □ 74608 (STEEL)



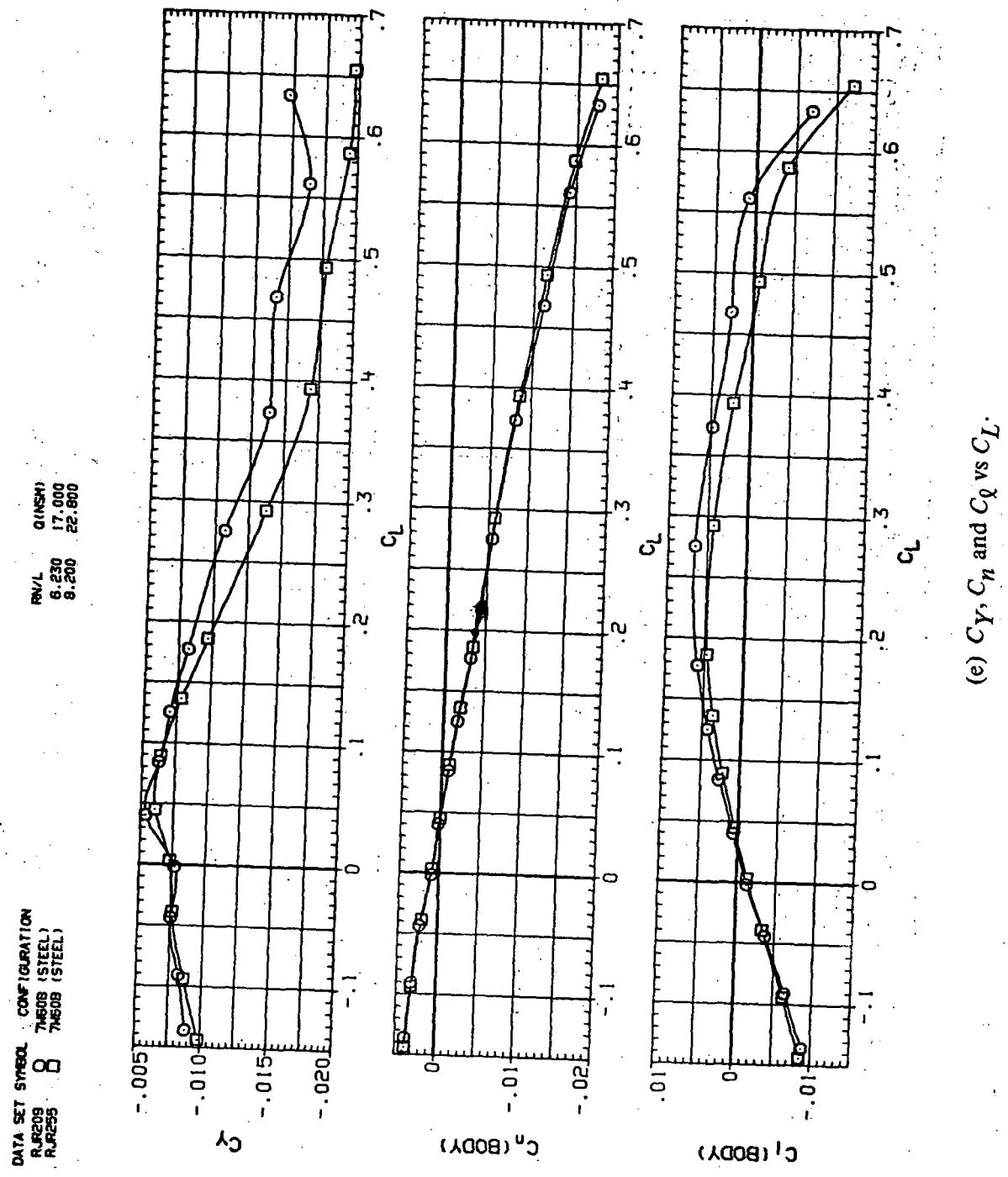
DATA SET SYMBOL CONFIGURATION  
 RJE208 7608 (STEEL)  
 RJE255 7608 (STEEL)

RN/L QNSH  
 6.230 17.000  
 8.200 22.800



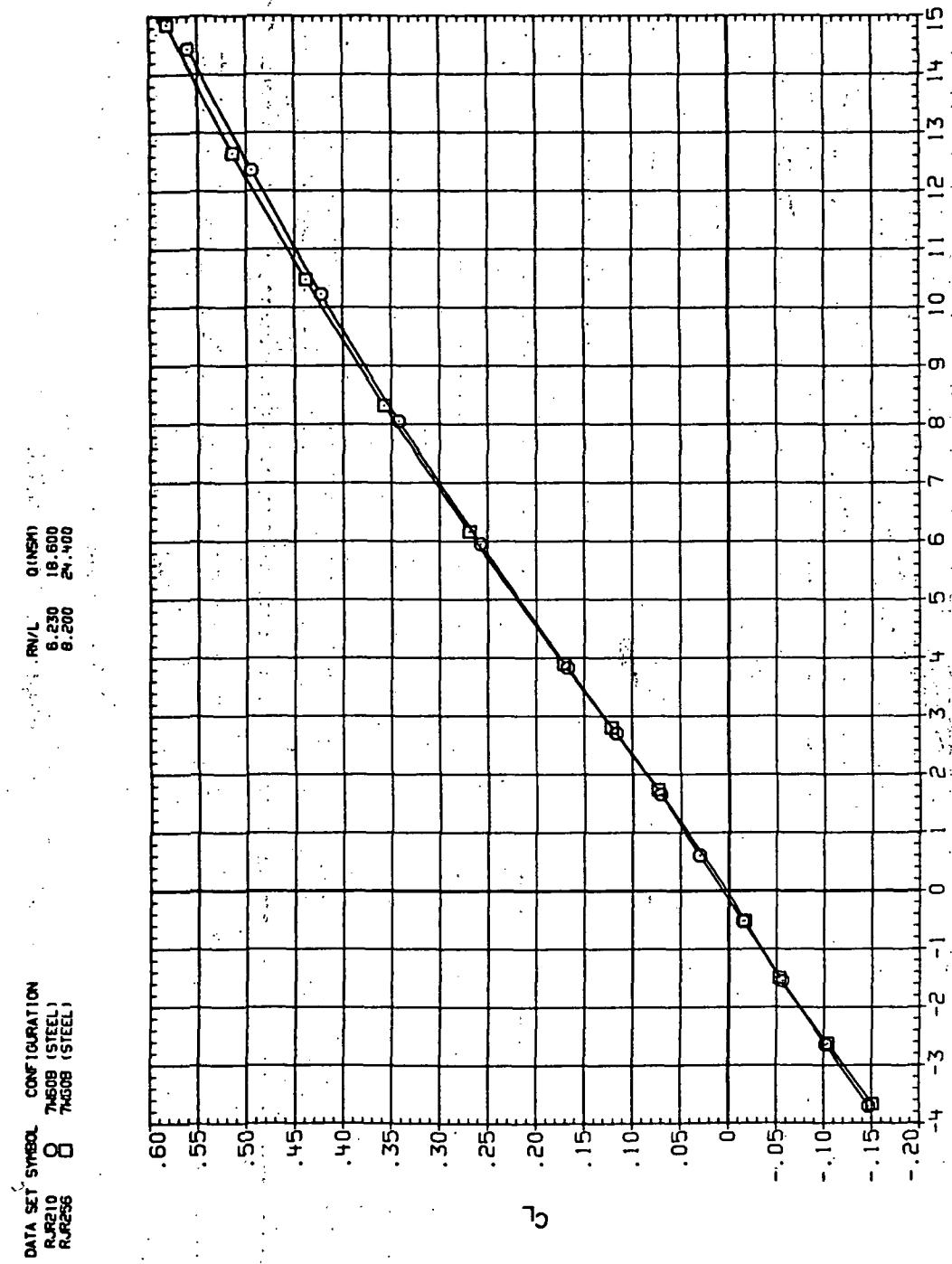
(d)  $L/D$  vs  $C_L$ .

Figure 82.— Continued.



(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

Figure 82.— Concluded.

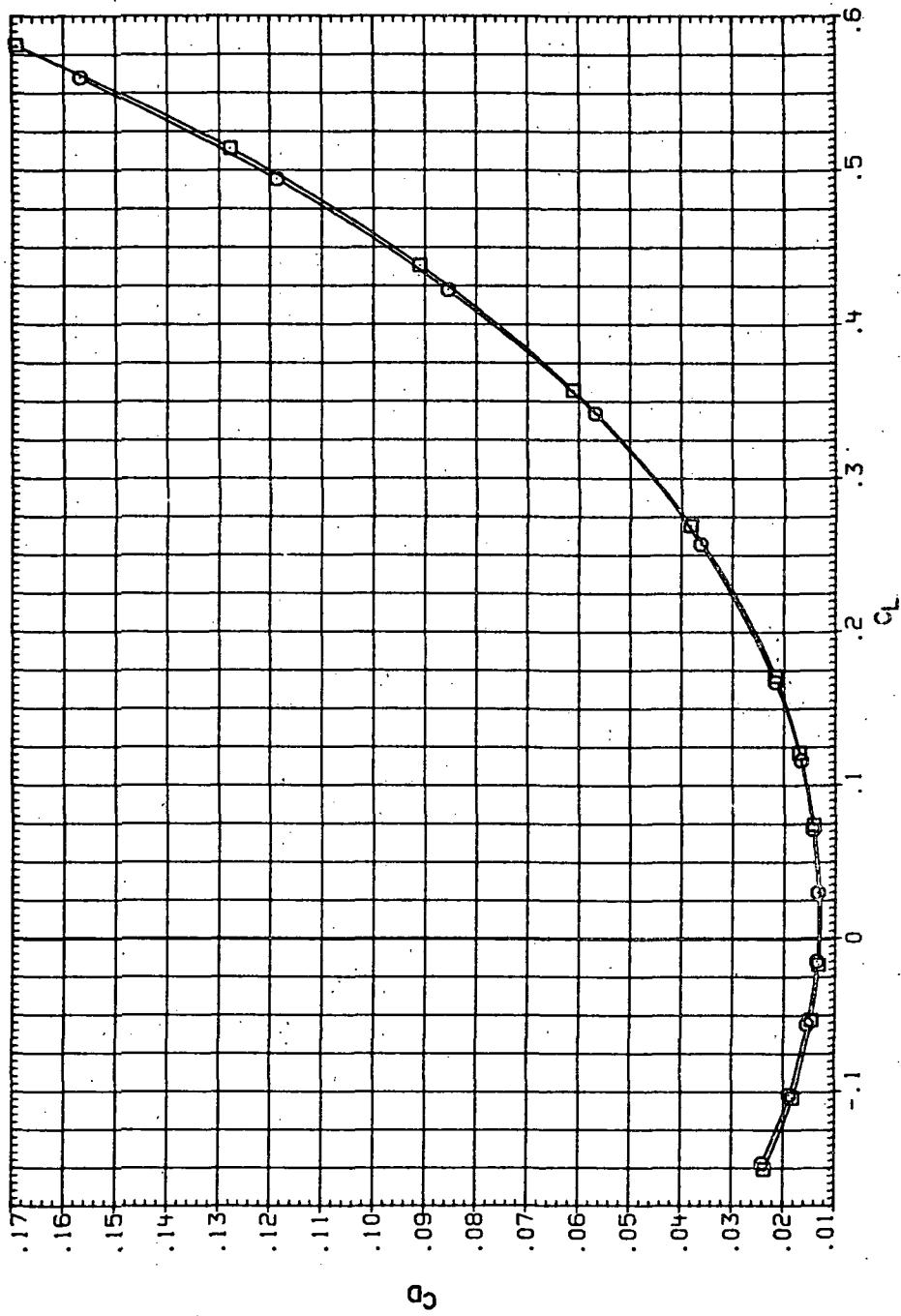


(a)  $C_L$  vs  $\alpha$ .

Figure 8.3.— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 60^\circ$ ,  $M = 1.6$  and the NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 RUR210 O 7450B (STEEL)  
 RUR256 □ 7450B (STEEL)

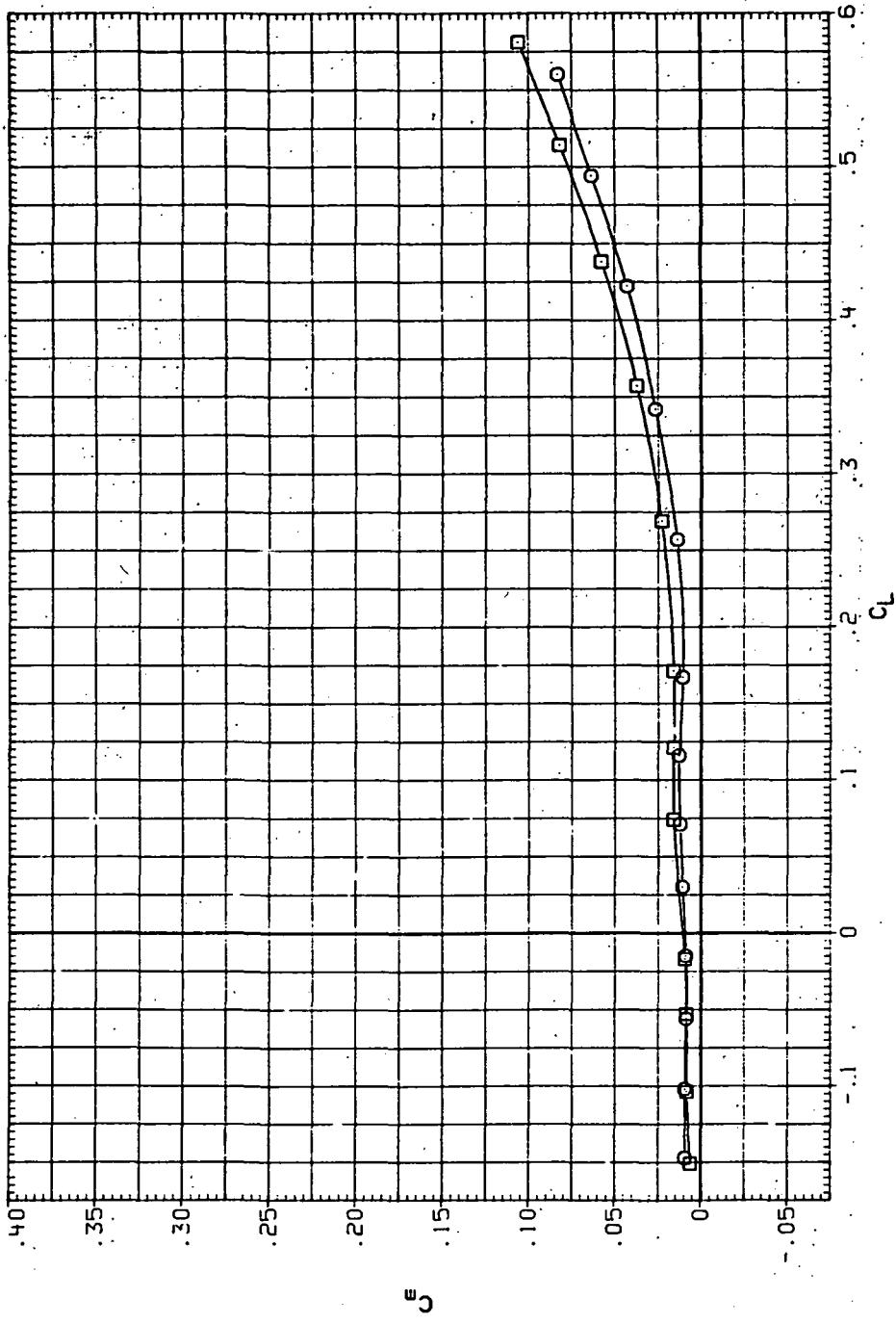
R/V/L 0.1NSH  
 6.230 18.600  
 8.200 24.400



(b)  $C_D$  vs  $C_L$ .

Figure 83.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR210 O 7460B (STEEL)  
 RJR235 □ 7460A (STEEL)



(c)  $C_m$  vs  $C_L$ .

Figure 83.—Continued.

DATA SET INDEX CONFIGURATION  
RJ210 7460B (STEEL)  
RJ256 7460B (STEEL)

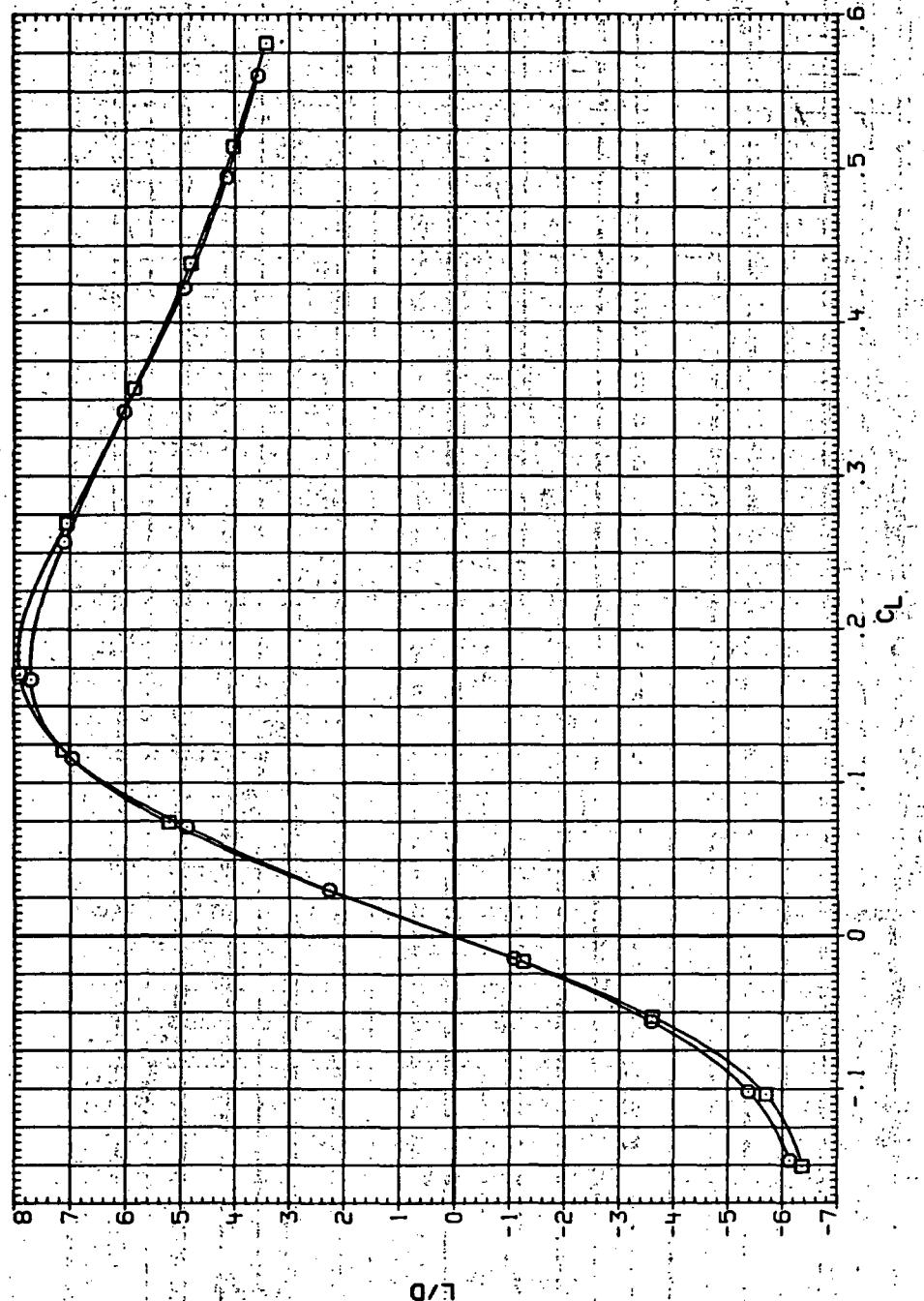
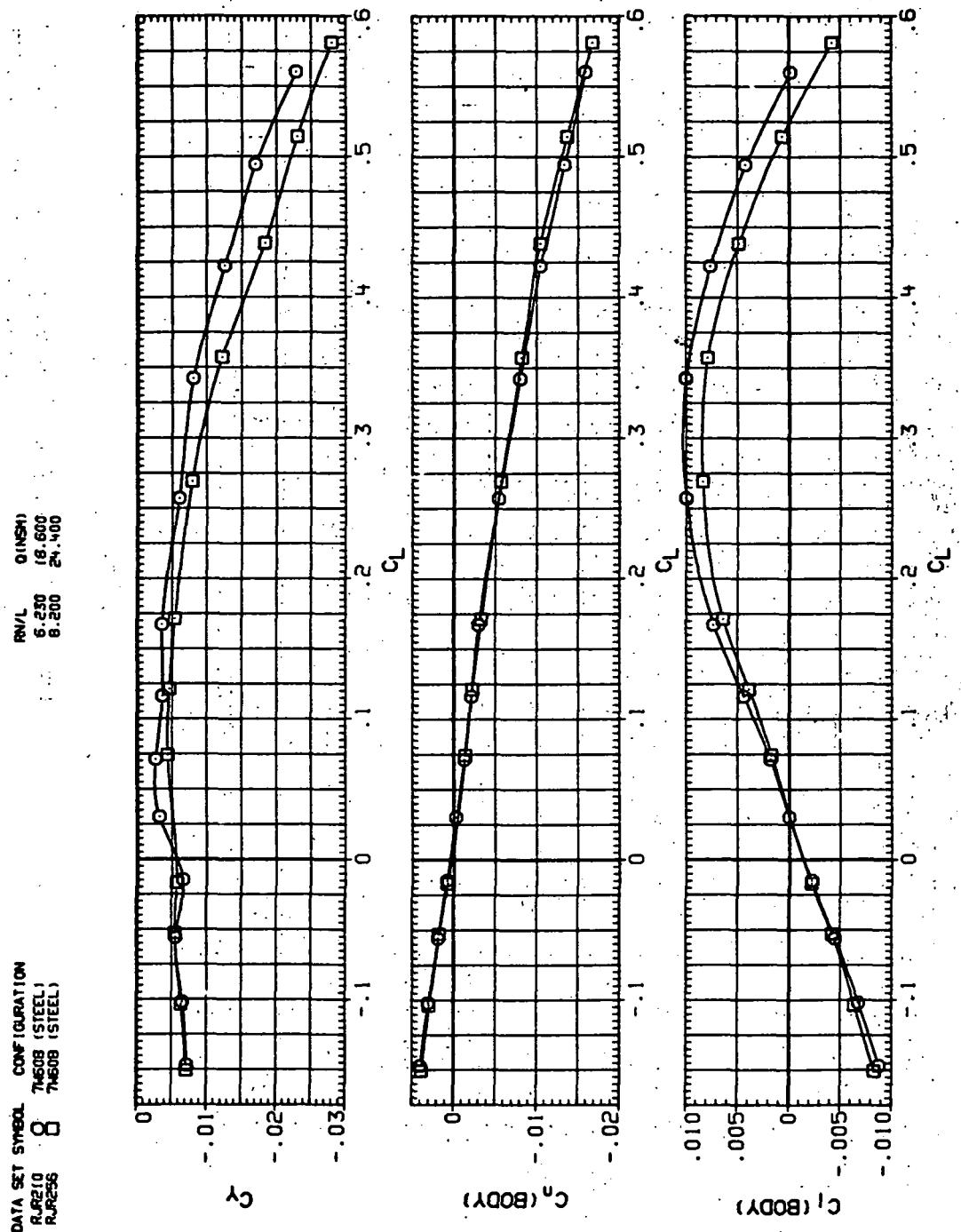
(d)  $L/D$  vs  $C_L$ .

Figure 83.—Continued.



(e)  $C_Y$ ,  $C_n$  and  $C_d$  vs  $C_L$ .

Figure 83. Concluded.

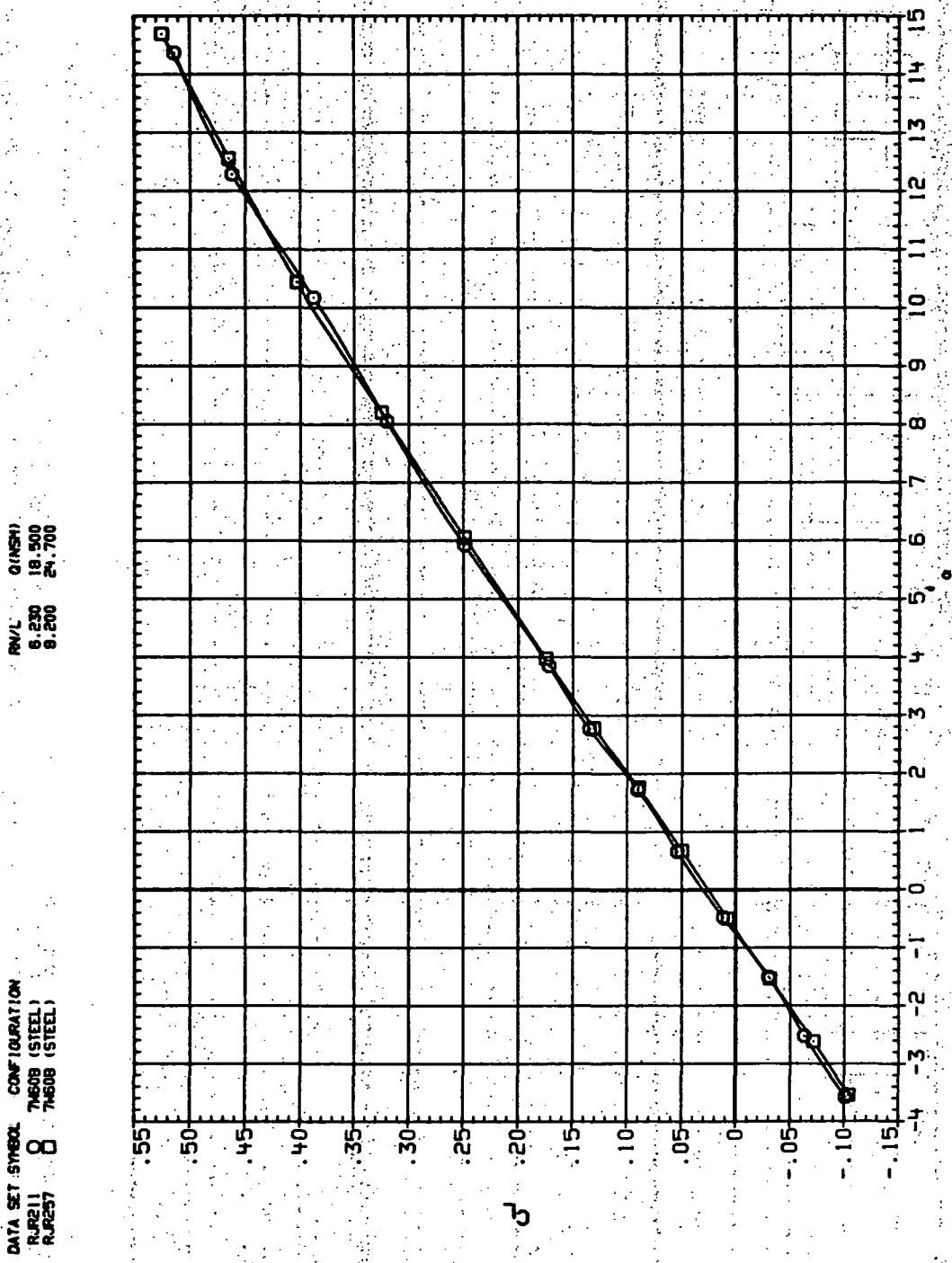
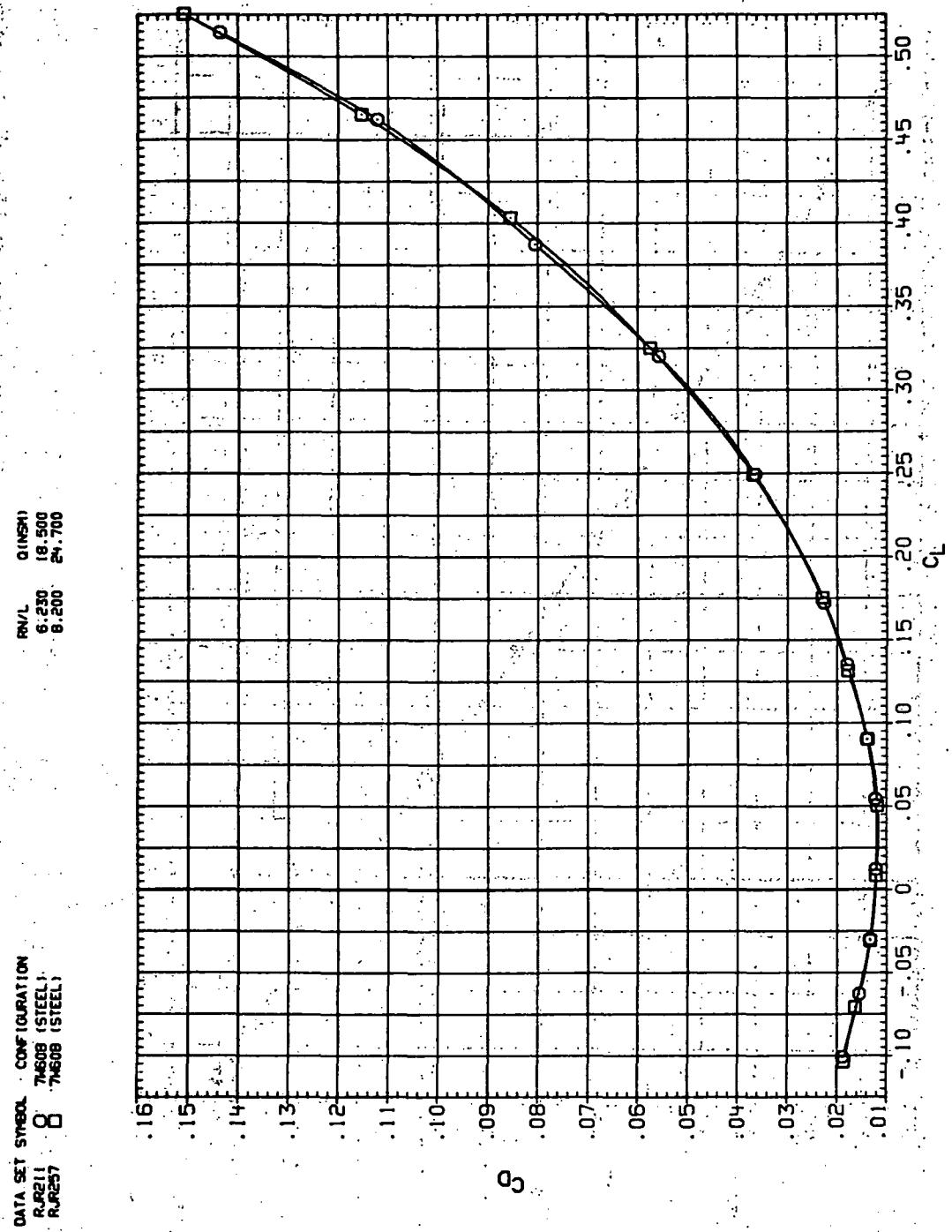
(a)  $C_L$  vs  $\alpha$ .

Figure 84.— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 60^\circ$ ,  $M = 2.0$  and the NACA 65A204 airfoil).

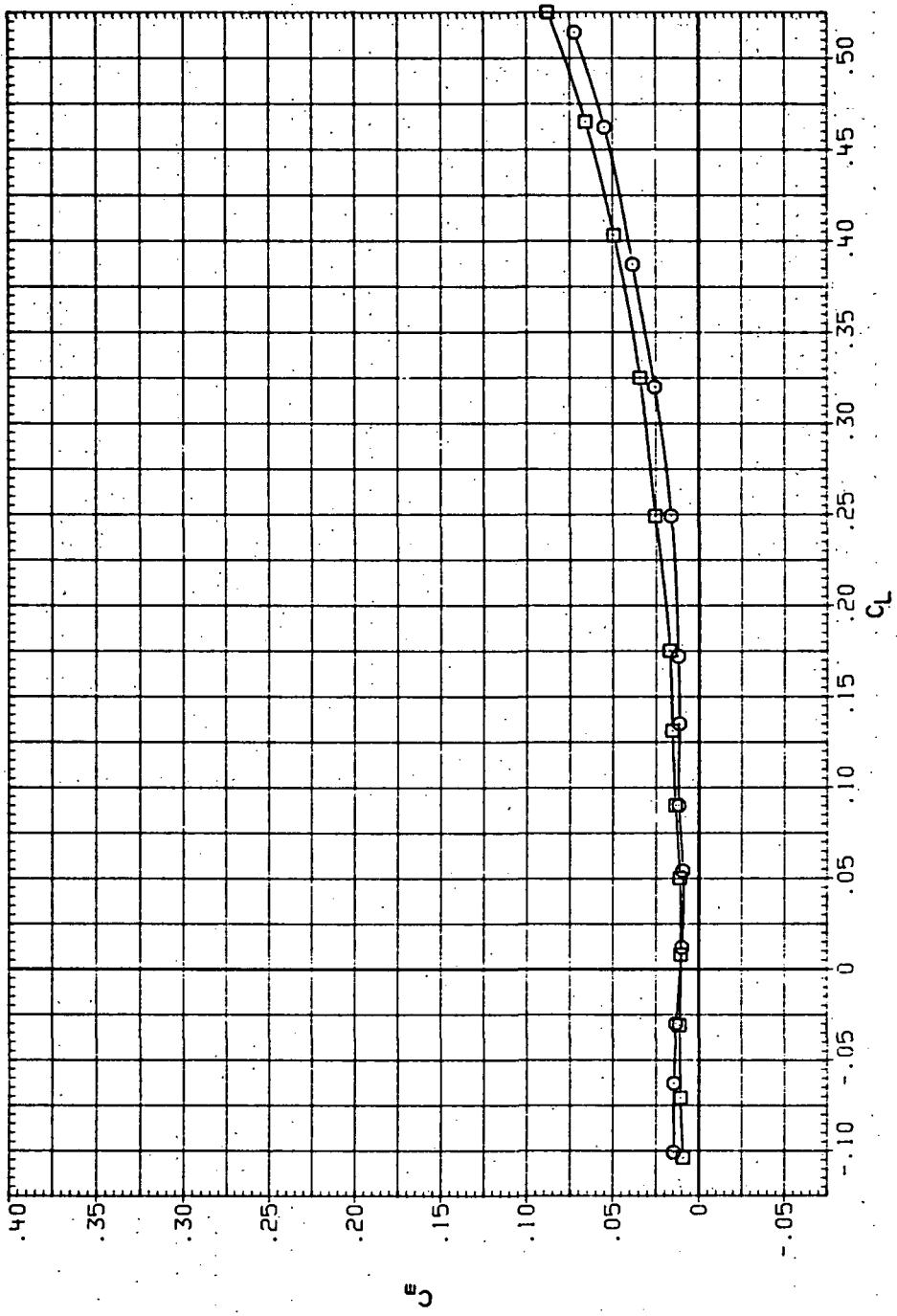


(b)  $C_D$  vs  $C_L$ .

Figure 84.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR211 O T460B (STEEL)  
 RJR257 □ T460B (STEEL)

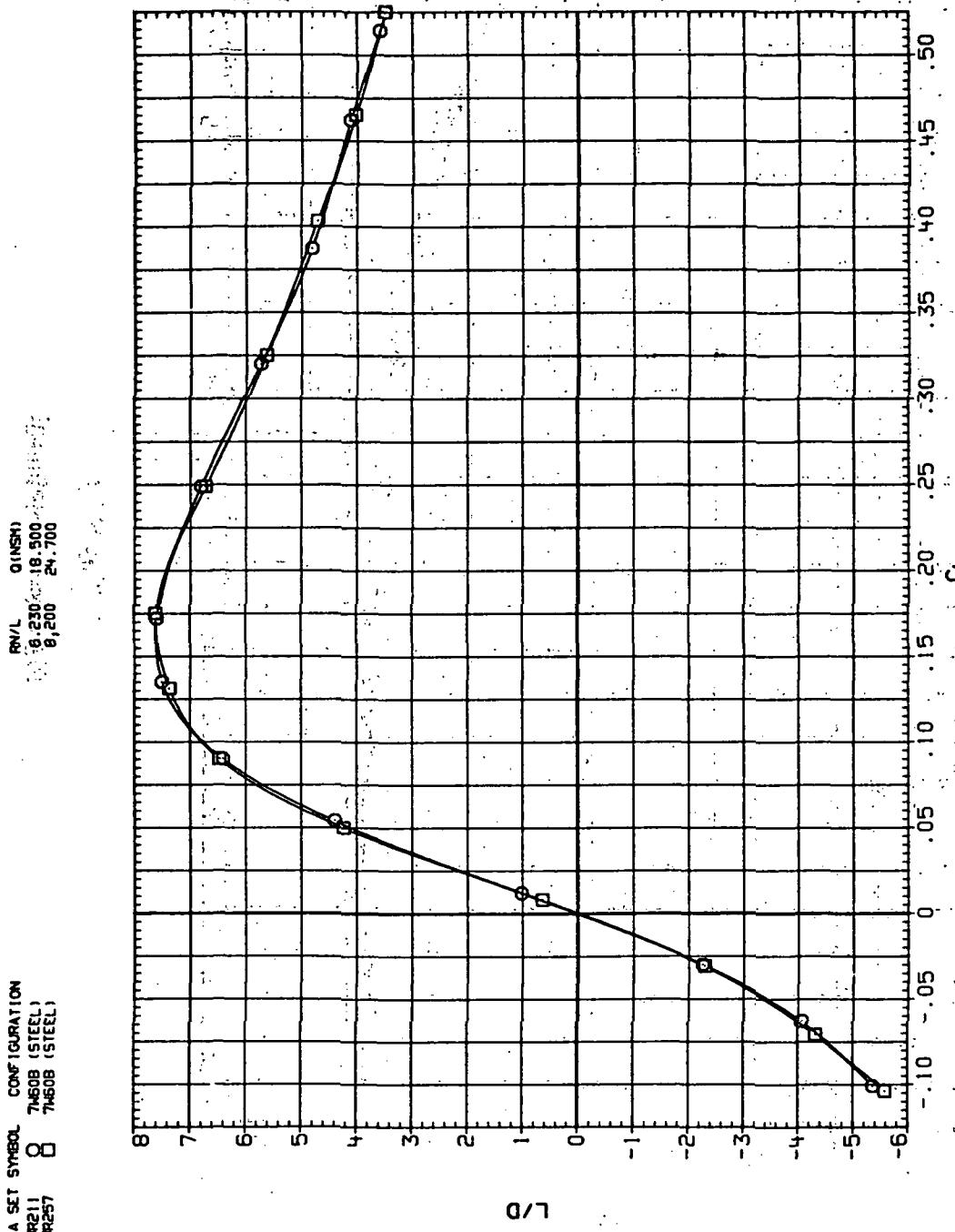
RN/L 0 (NSH)  
 6.230 18.500  
 8.200 24.700



(c)  $C_m$  vs  $C_L$ .

Figure 84.—Continued.

DATA SET SYMBOL CONFIGURATION  
 R.R211 7460B (STEEL)  
 R.R257 7460B (STEEL)

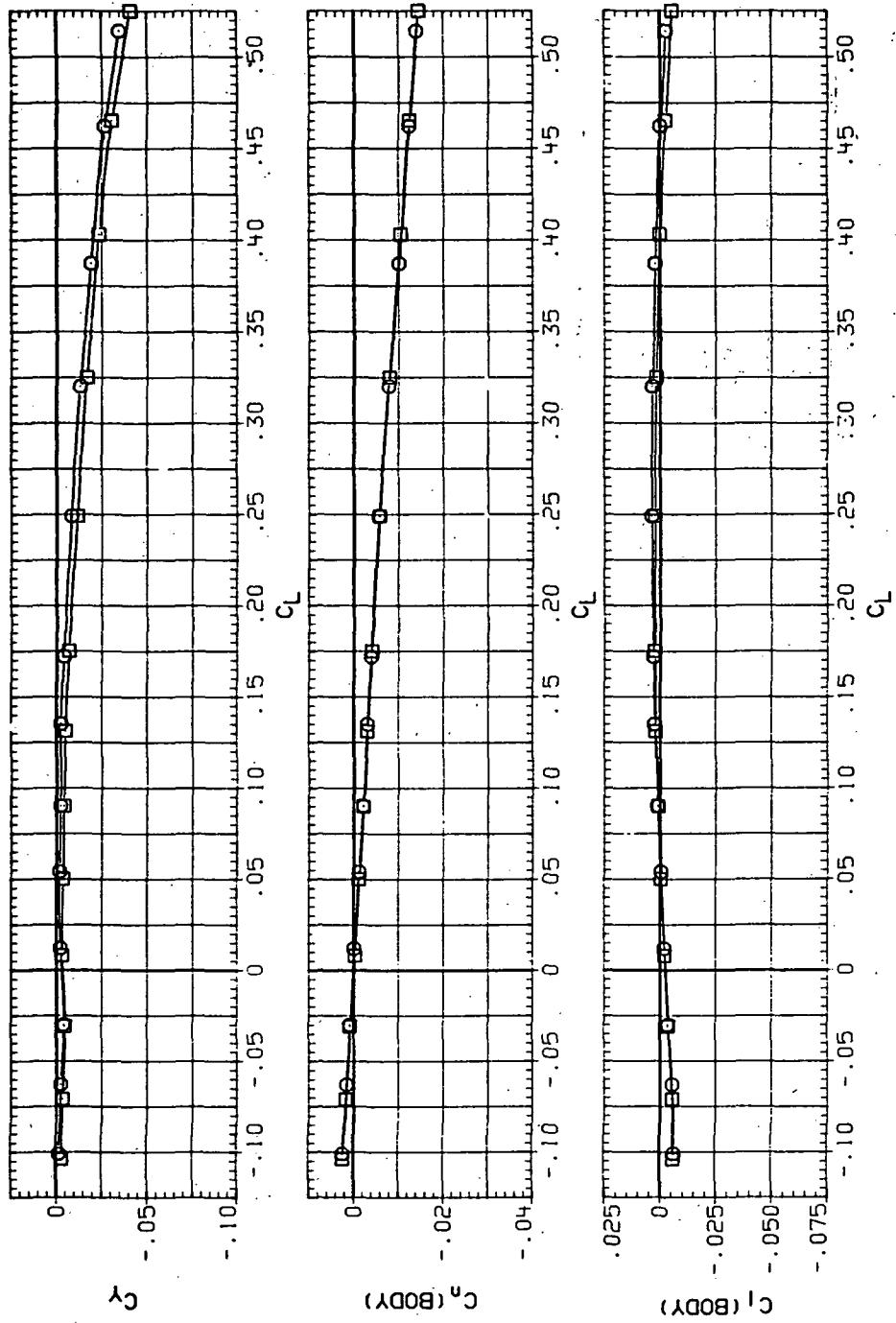


(d)  $L/D$  vs  $C_L$ .

Figure 84.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR211 7160B (STEEL)  
 RJR257 7160B (STEEL)

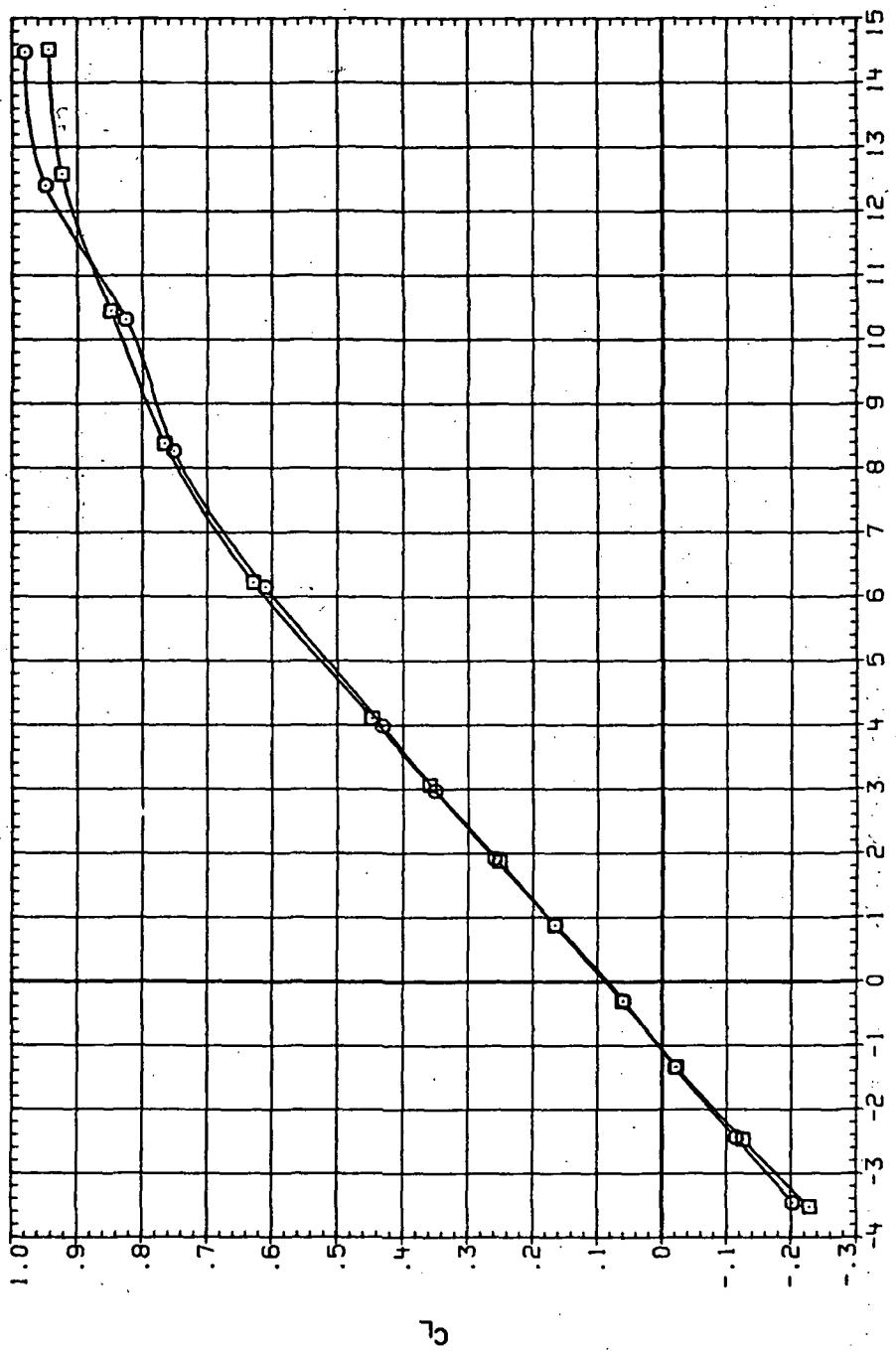
RN/L 0 (NSM)  
 6.230 18.500  
 8.200 24.700



(e)  $C_Y$ ,  $C_n$  and  $C_I$  vs  $C_L$ .

Figure 84.— Concluded.

DATA SET	SYMBOL	CONFIGURATION	R/V/L	$\alpha$ (INSM)
RPI167	O	740B (STEEL)	6.230	7.480
RJR213	□	740B (STEEL)	8.200	9.900

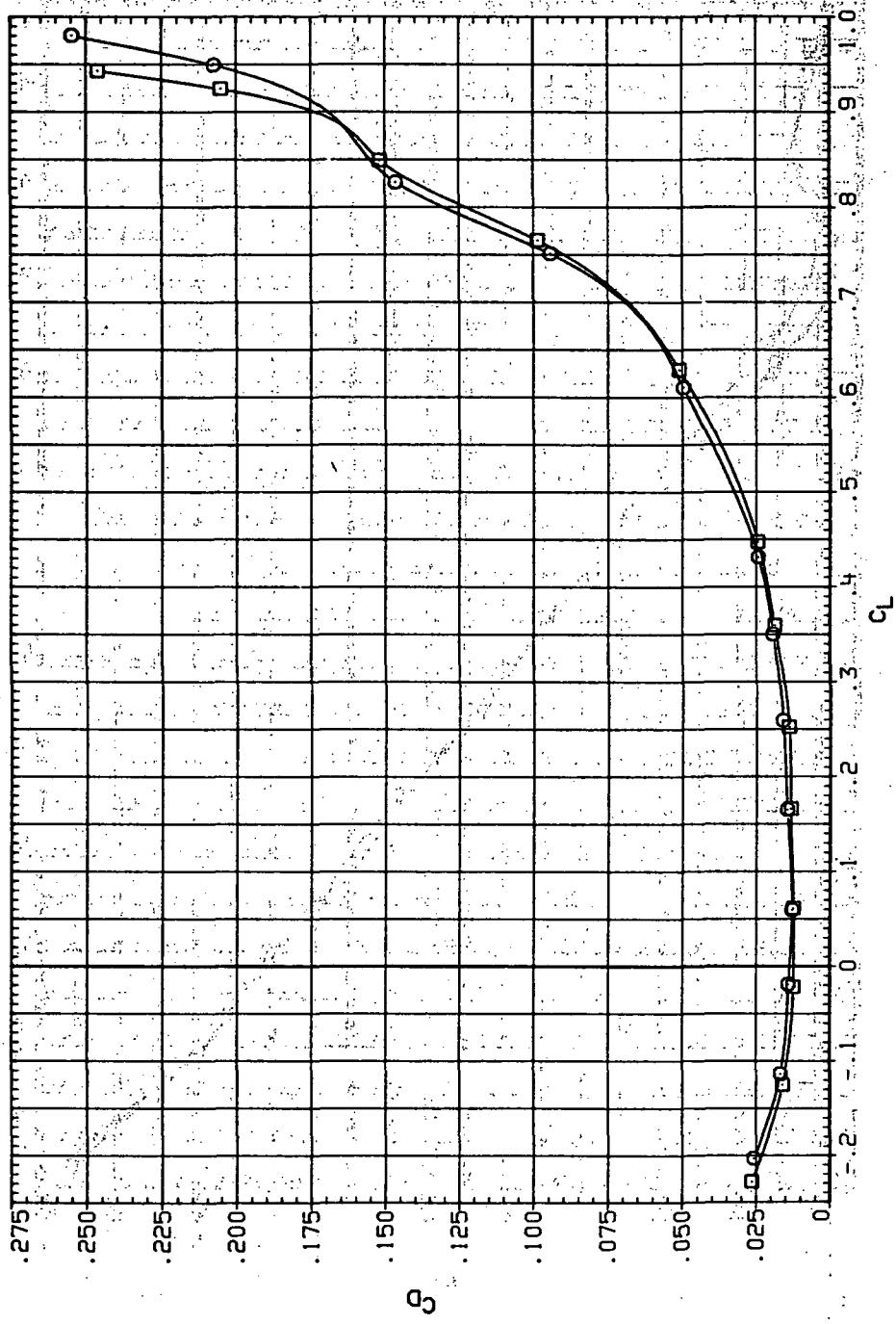


(a)  $C_L$  vs  $\alpha$ .

Figure 85.— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 0, M = 0.4$  and the NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
RJR167 740B (STEEL)  
RJR213 740B (STEEL)

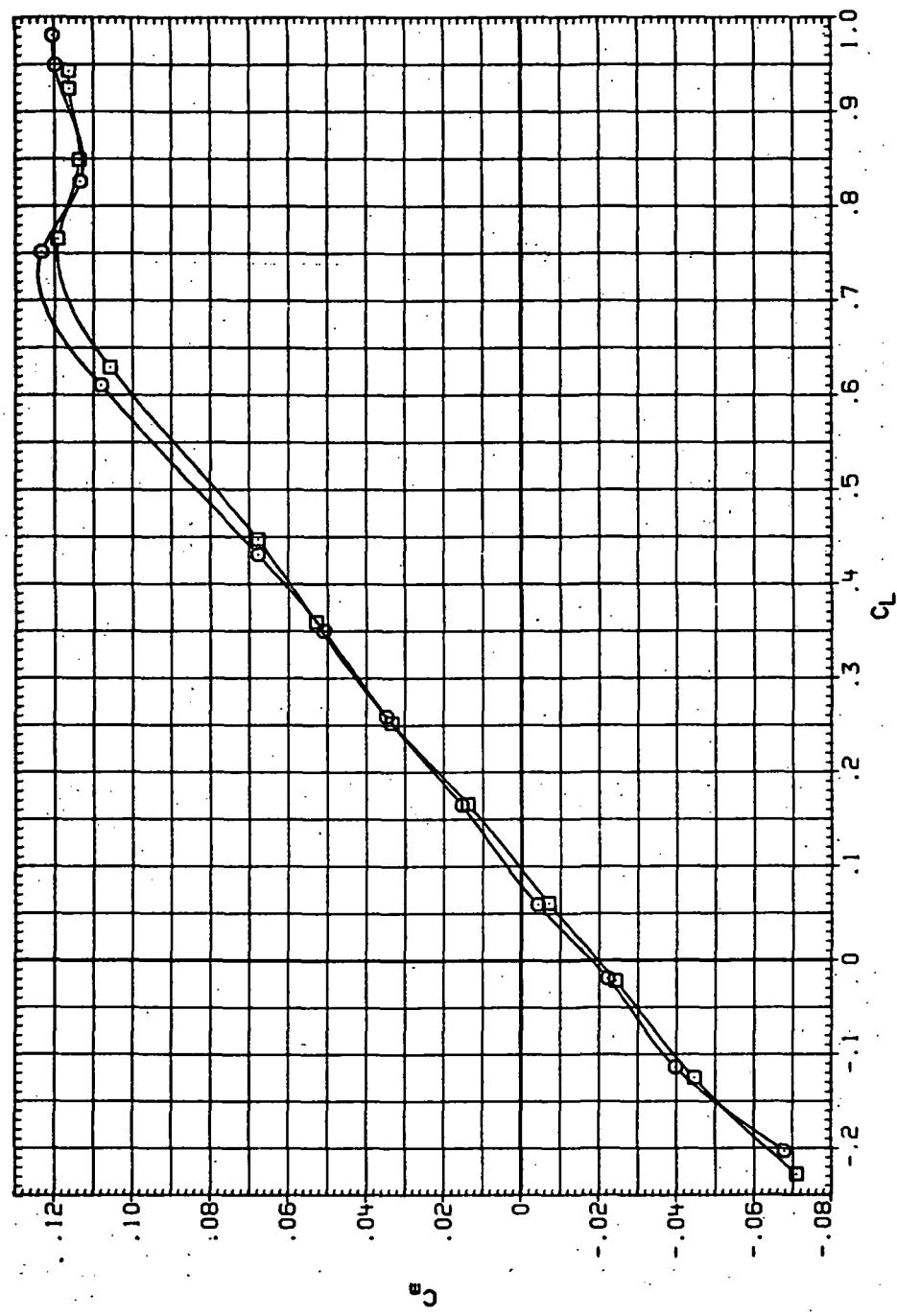
RNL Q(NSM)  
6.230 7.480  
8.200 9.900



(b)  $C_D$  vs  $C_L$ .

Figure 85.— Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR167 7408 (STEEL)  
 RJR213 7408 (STEEL)



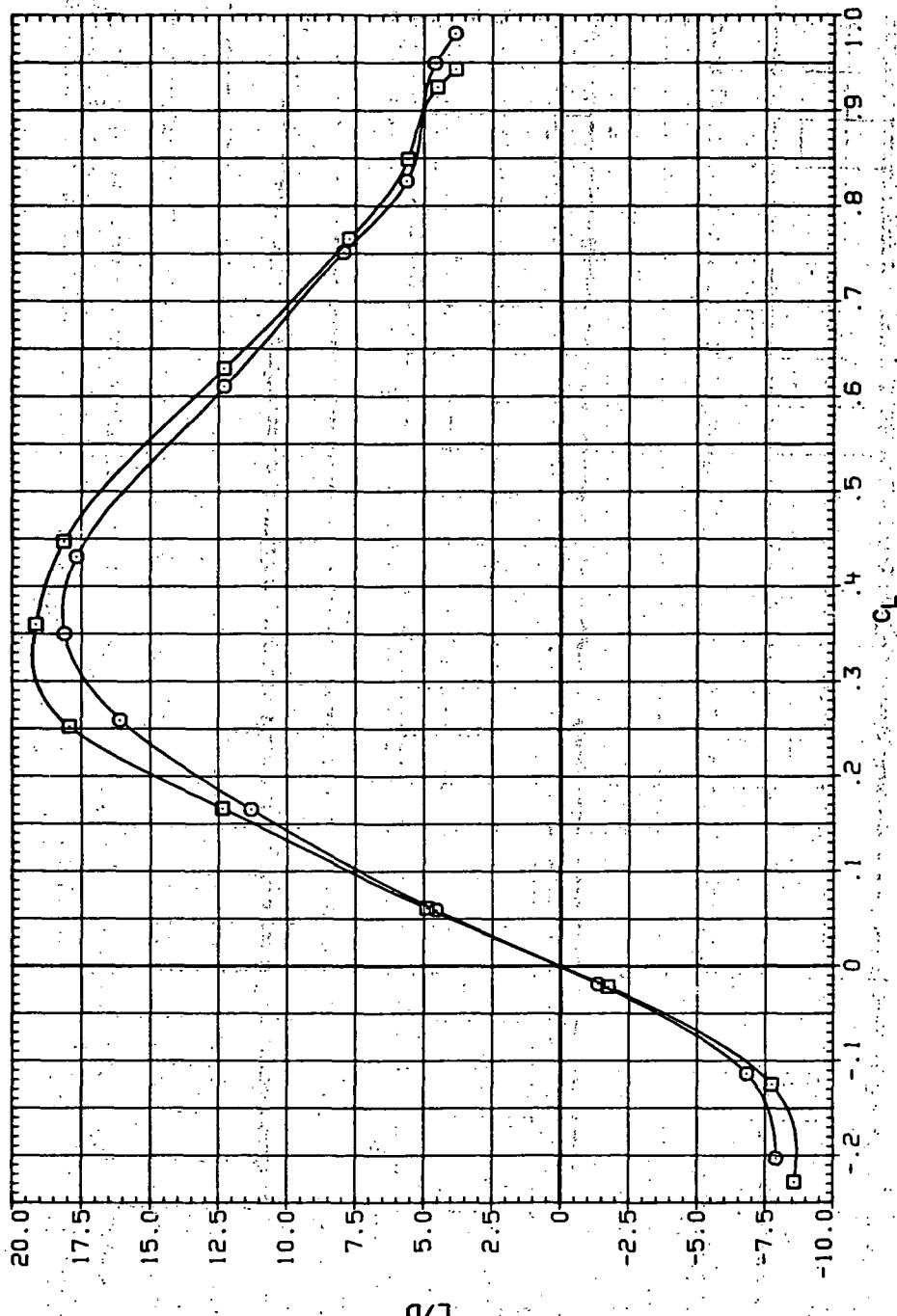
(c)  $C_m$  vs  $C_L$ .

Figure 85.—Continued.

DATA SET SYMBOL CONFIGURATION

RJ167	$\square$	7WB (STEEL)
RJ213	$\circ$	7WB (STEEL)

QINSHI  
6.230  
6.200  
7.480  
9.900

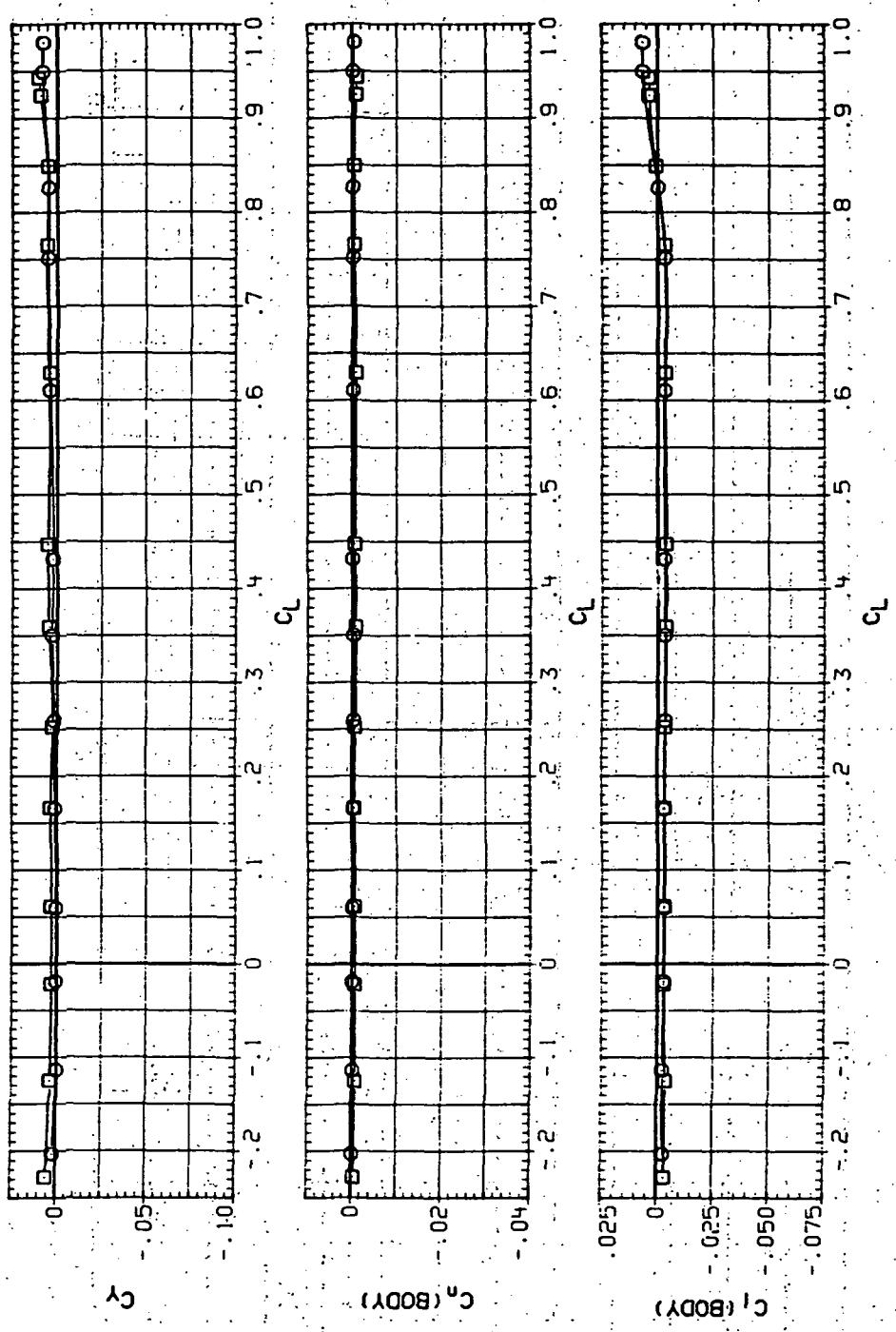


(d)  $L/D$  vs  $C_L$ .

Figure 85.—Continued.

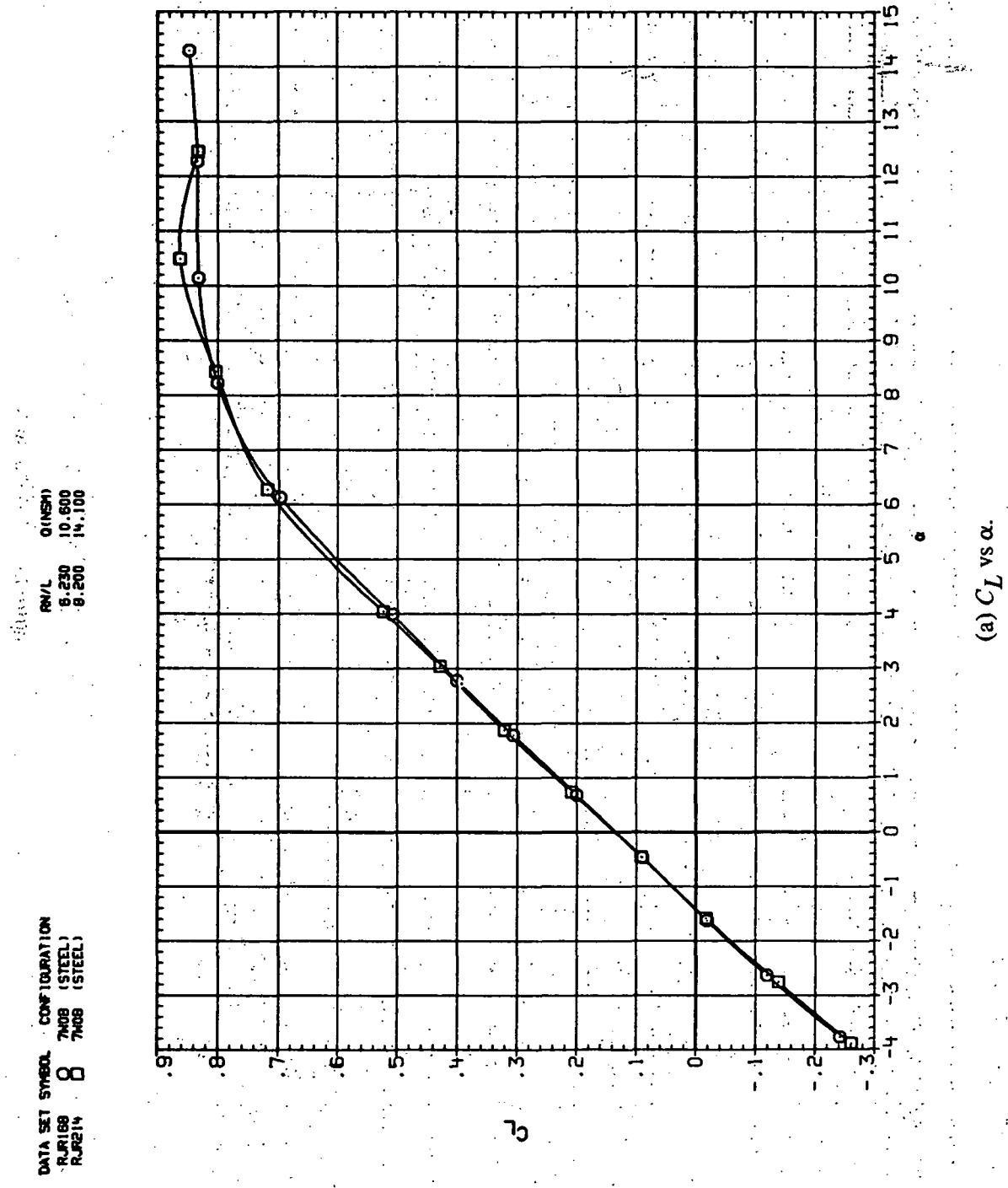
DATA SET SYMBOL CONFIGURATION  
 R16167 O 7N08 (STEEL)  
 R3213 O 7N08 (STEEL)

Q(NESM)  
 6.230 7.460  
 8.200 9.900



(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

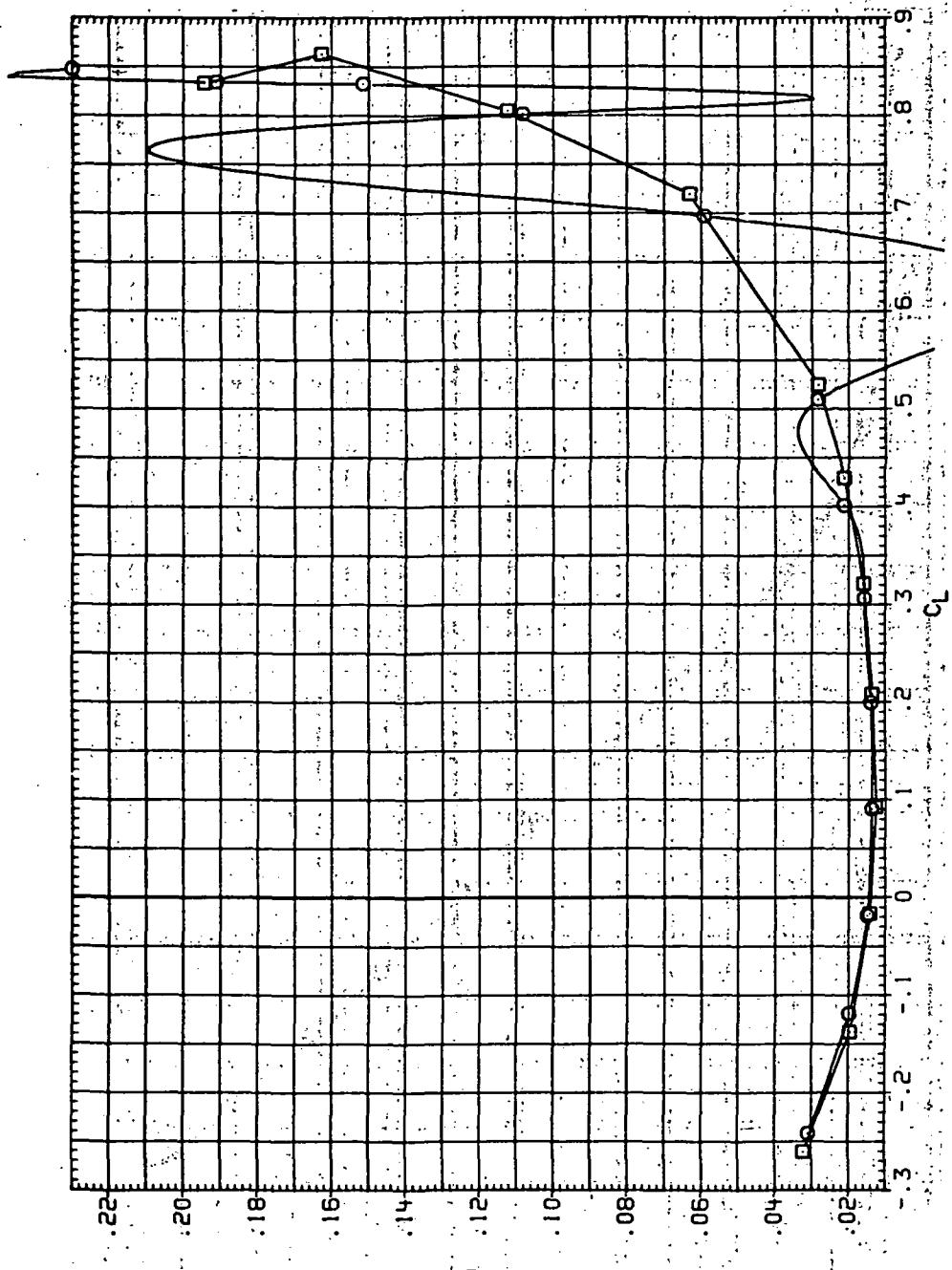
Figure 85.—Concluded.



(a)  $C_L$  vs  $\alpha$ .

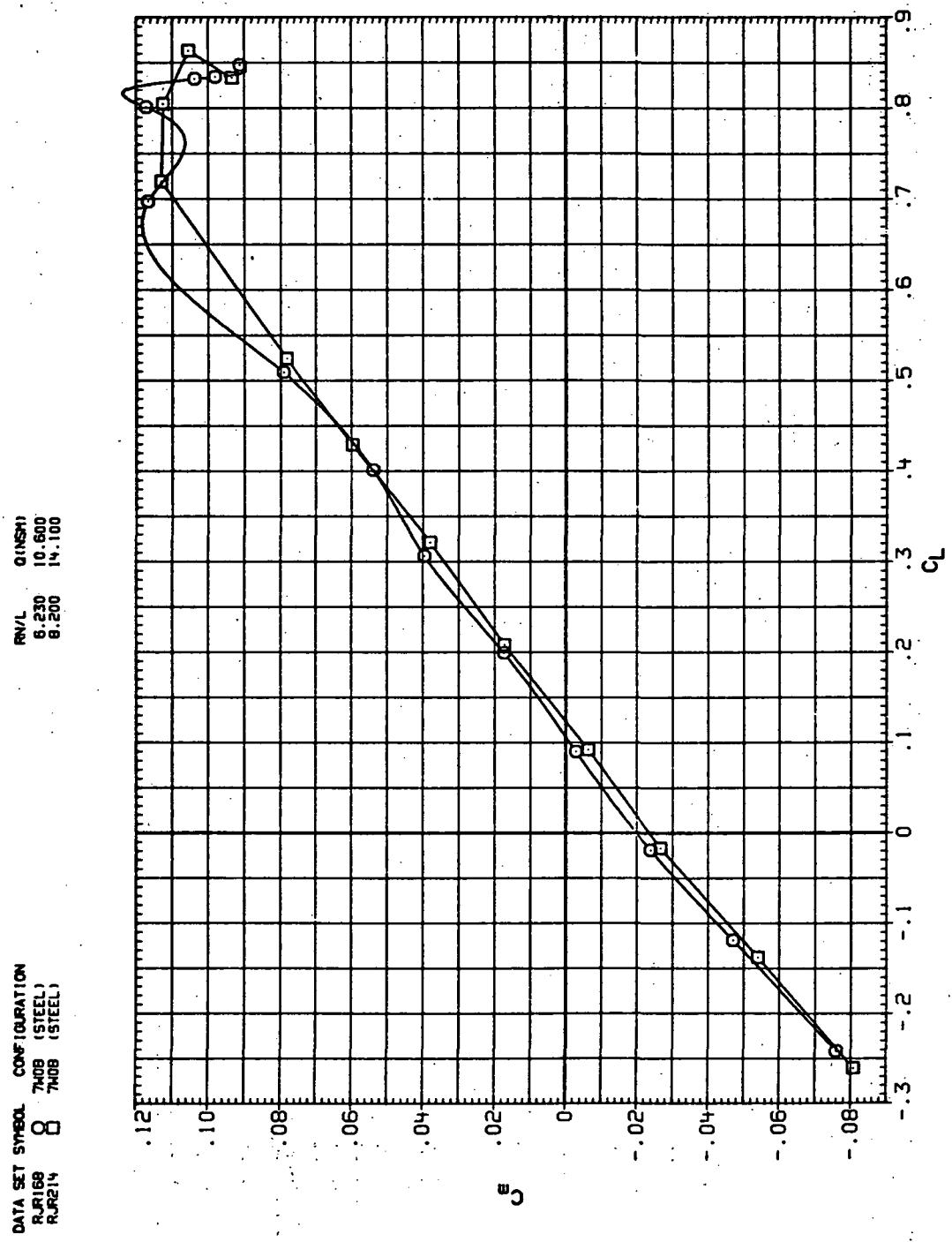
Figure 86. — Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 0$ ,  $M = 0.6$  and the NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 RUR168 O 7H08 (STEEL)  
 RUR214 □ 7H08 (STEEL)



(b)  $C_D$  vs  $C_L$ .

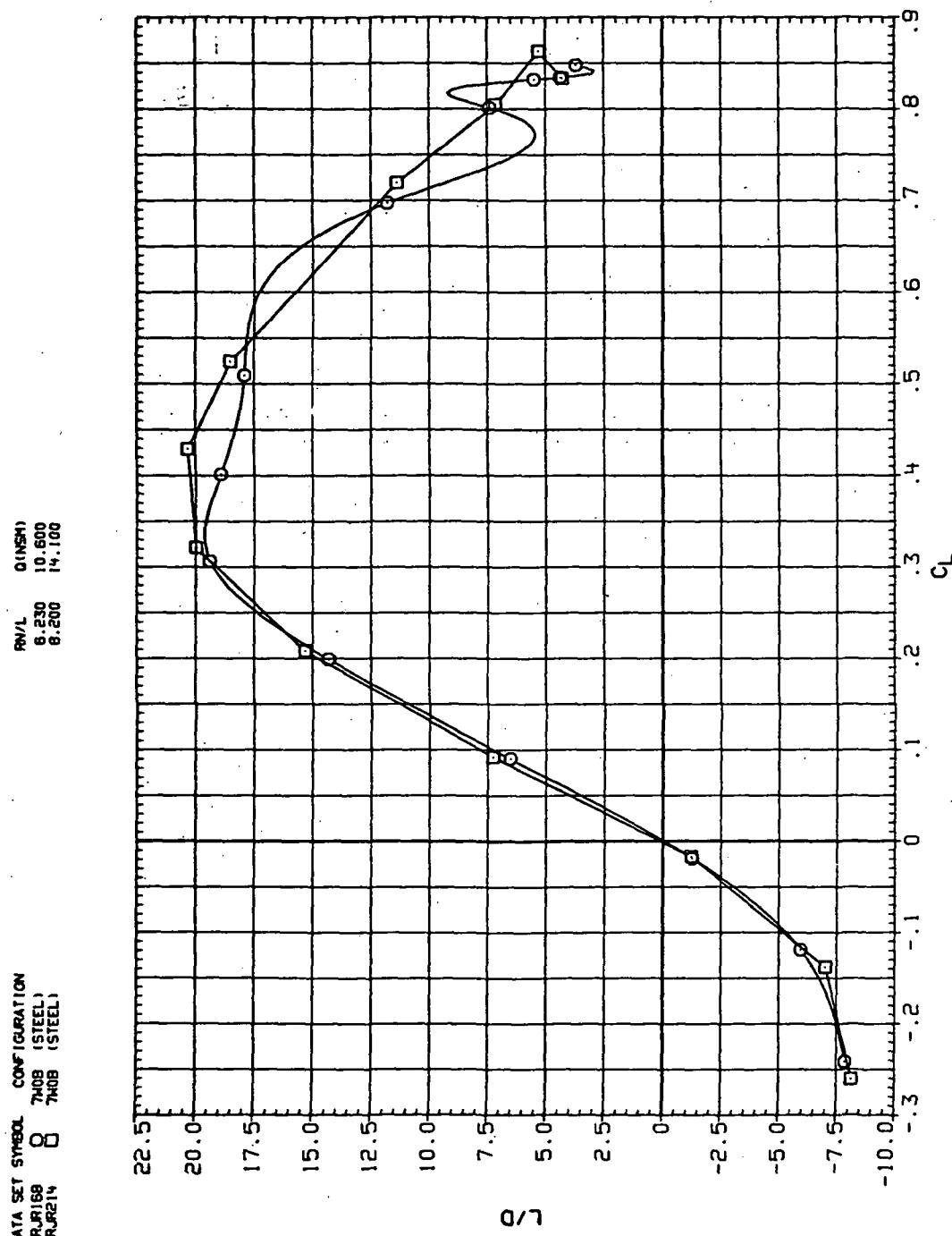
Figure 86.—Continued.



(c)  $C_m$  vs  $C_L$ .

Figure 86.—Continued.

DATA SET symbol CONFIGURATION  
 RJR169 O 740B (STEEL)  
 RJR214 □ 740B (STEEL)

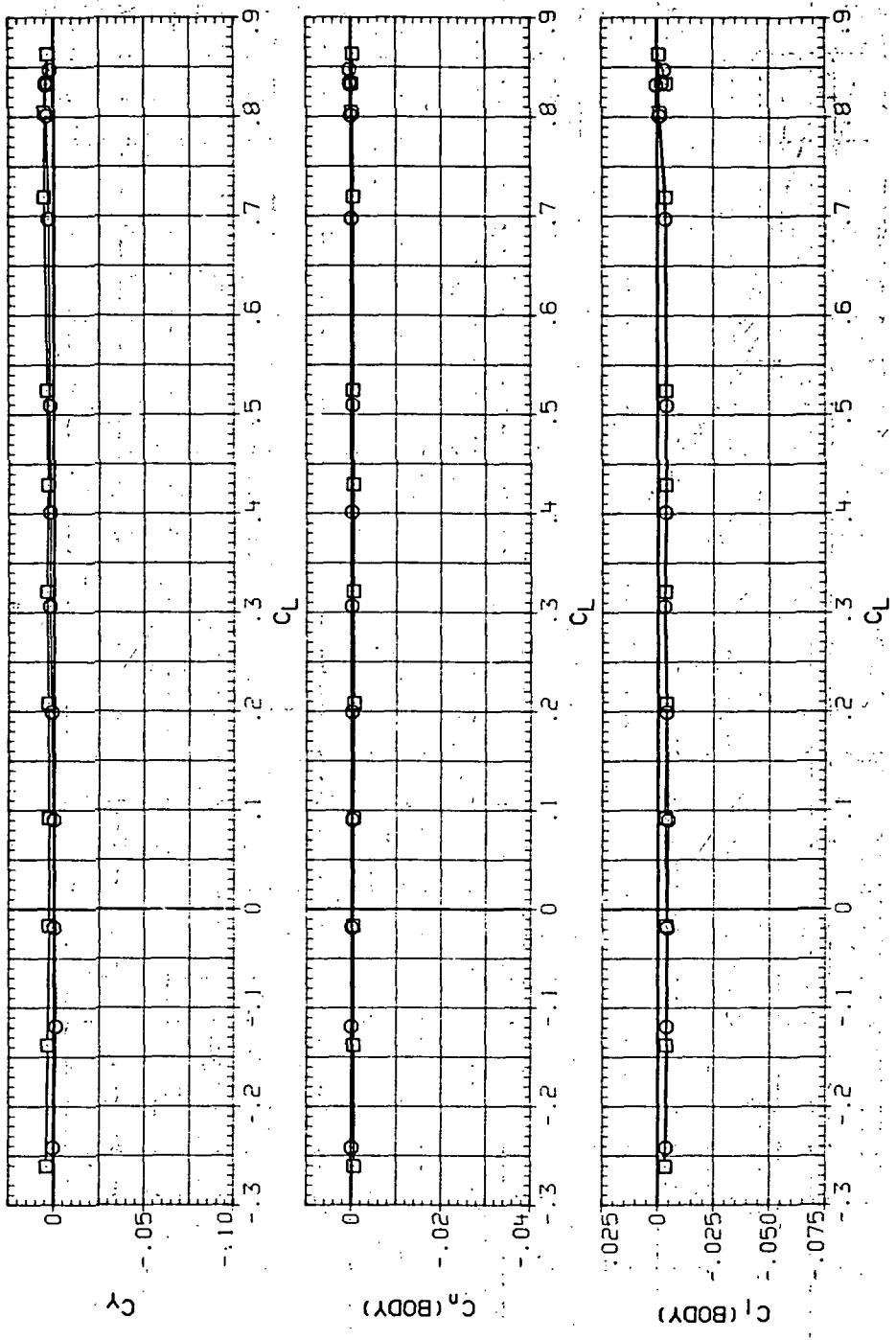


(d)  $L/D$  vs  $C_L$ .

Figure 86.— Continued.

DATA SET SYMBOL CONFIGURATION (STEEL) QINSHI (STEEL) 6.230 10.600 8.200 14, 100

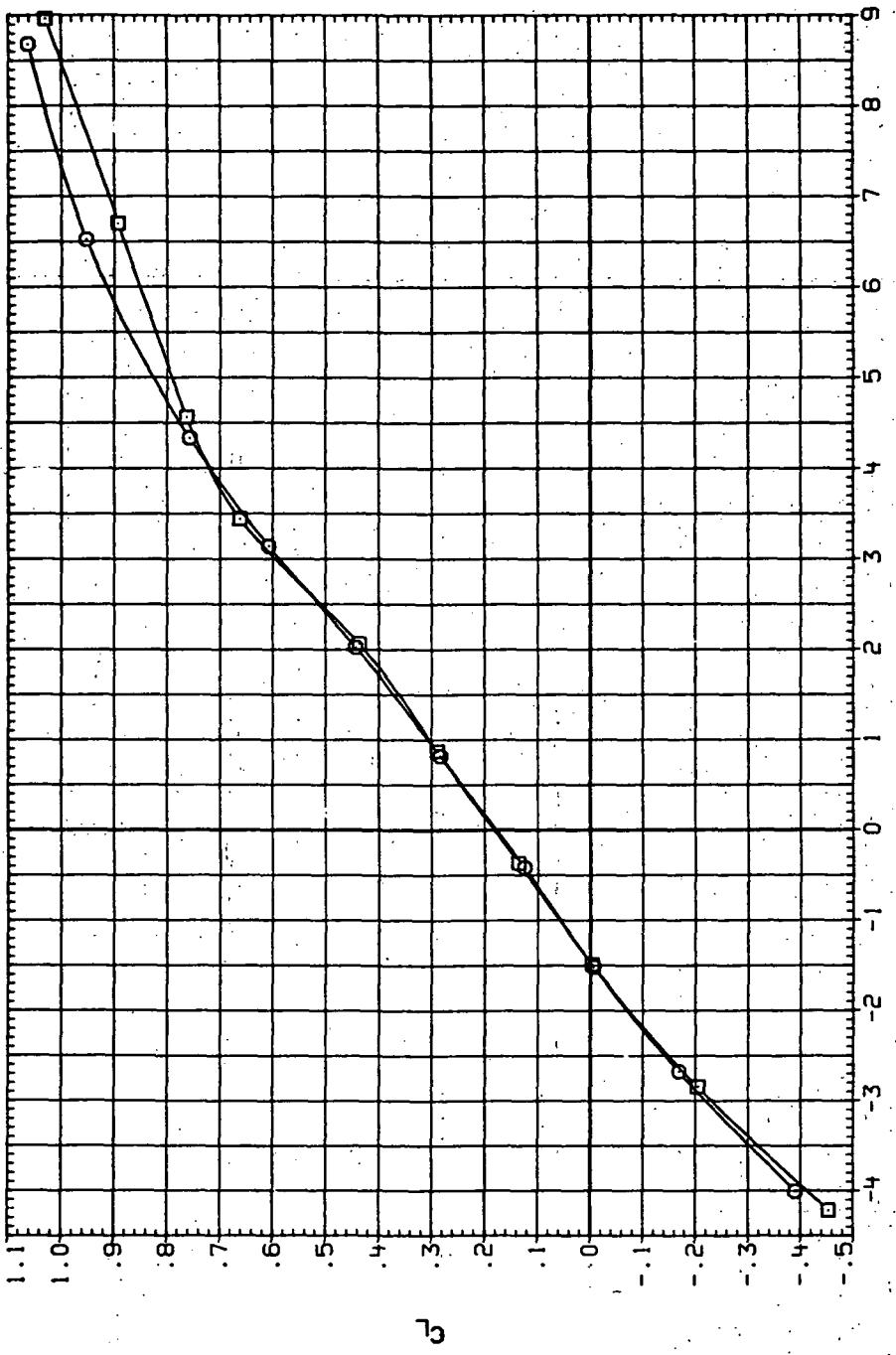
RJ168 O 7408 (STEEL)  
RJR214 □ 7408 (STEEL)



(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$

Figure 86.—Concluded.

DATA SET SYMBOL CONFIGURATION  
 R.R169 7408 (STEEL)  
 RR215 7408 (STEEL)



(a)  $C_L$  vs  $\alpha$ .

Figure 87.— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 0$ ,  $M = 0.8$  and the NACA 65A204 airfoil).

DATA SET SYMBOL: CONFIGURATION: RNL (QNSPI) 6.230 13.400  
RJ169 708 (STEEL) 6.200 17.800  
RJ215 708 (STEEL)

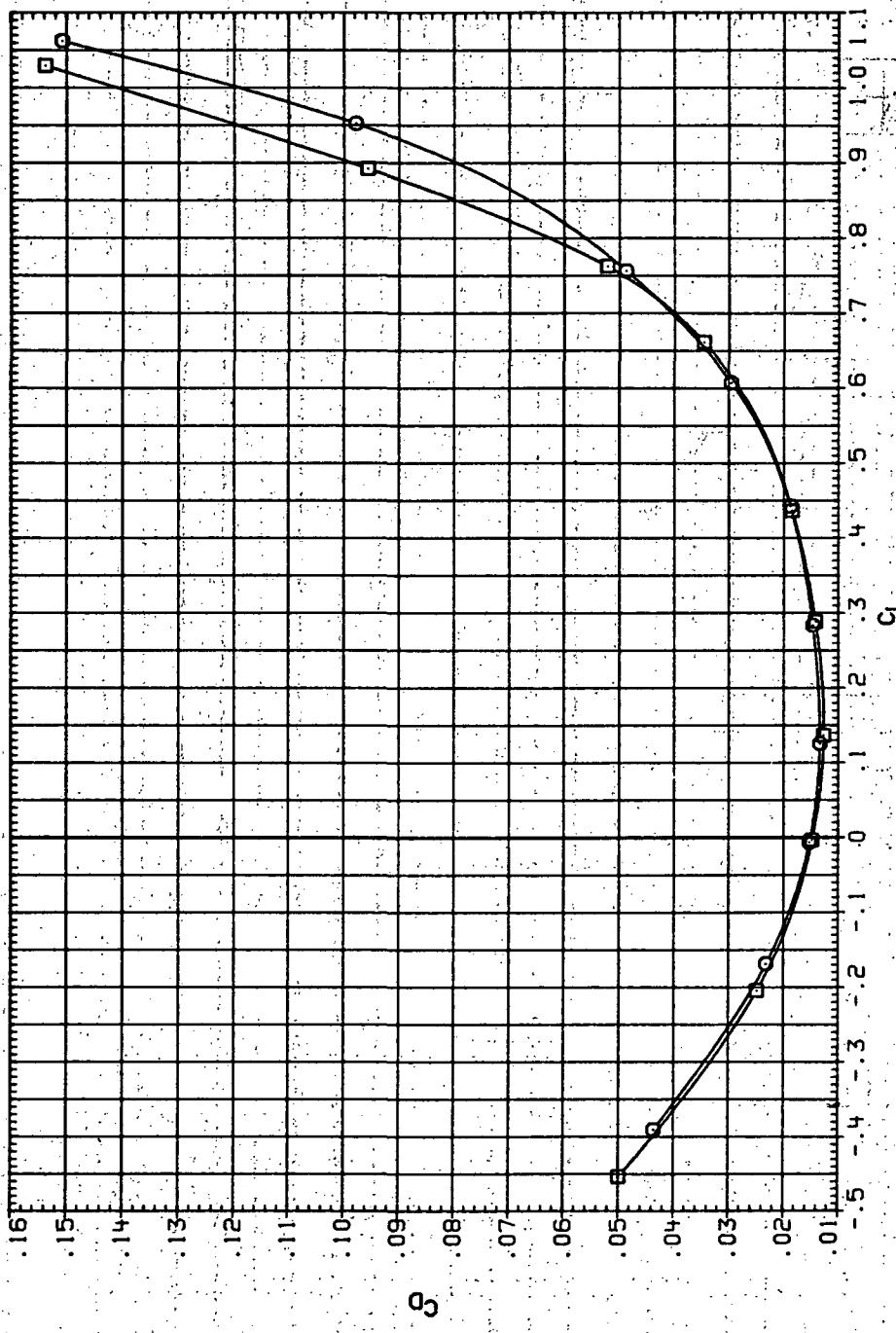
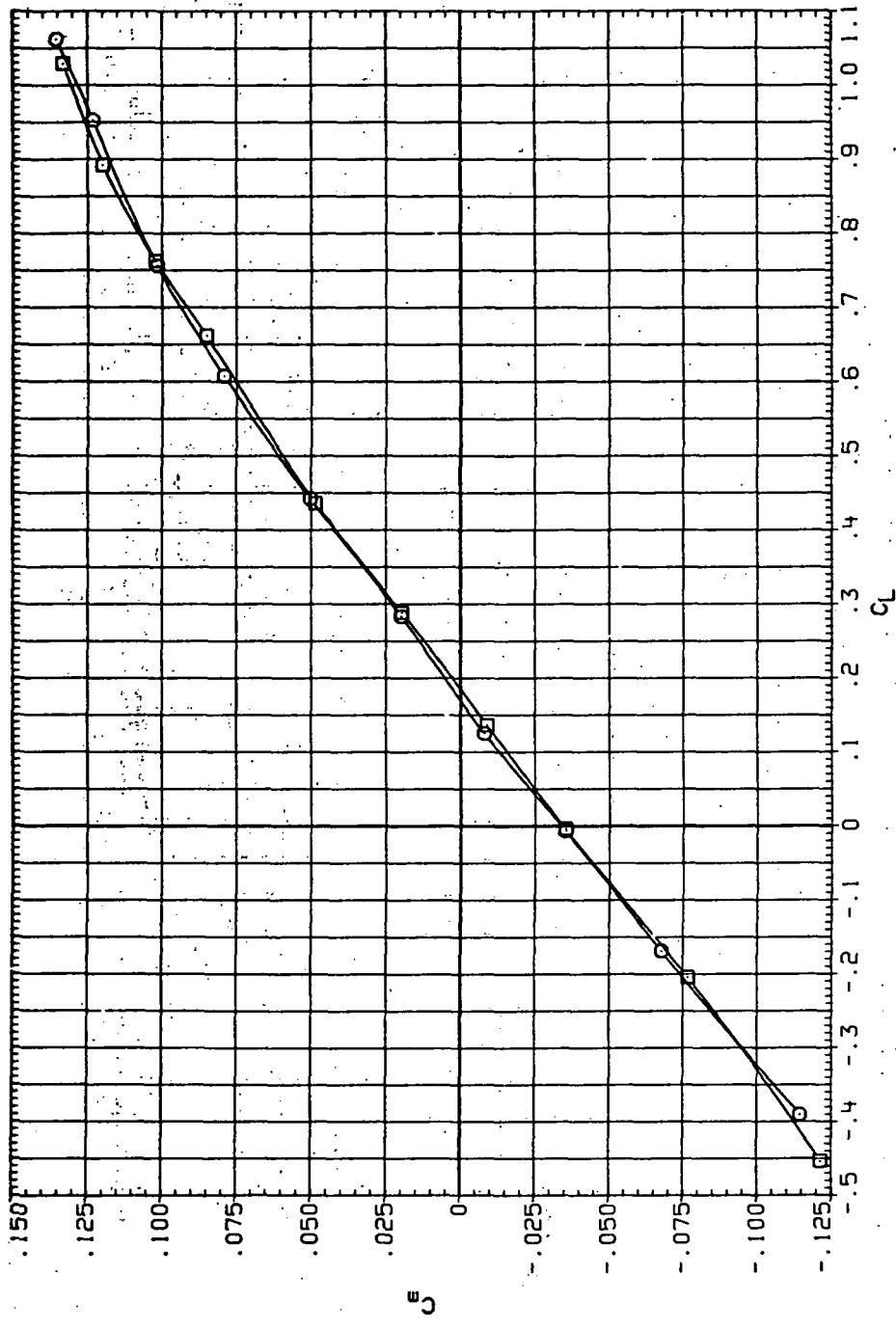
(b)  $C_D$  vs  $C_L$ .

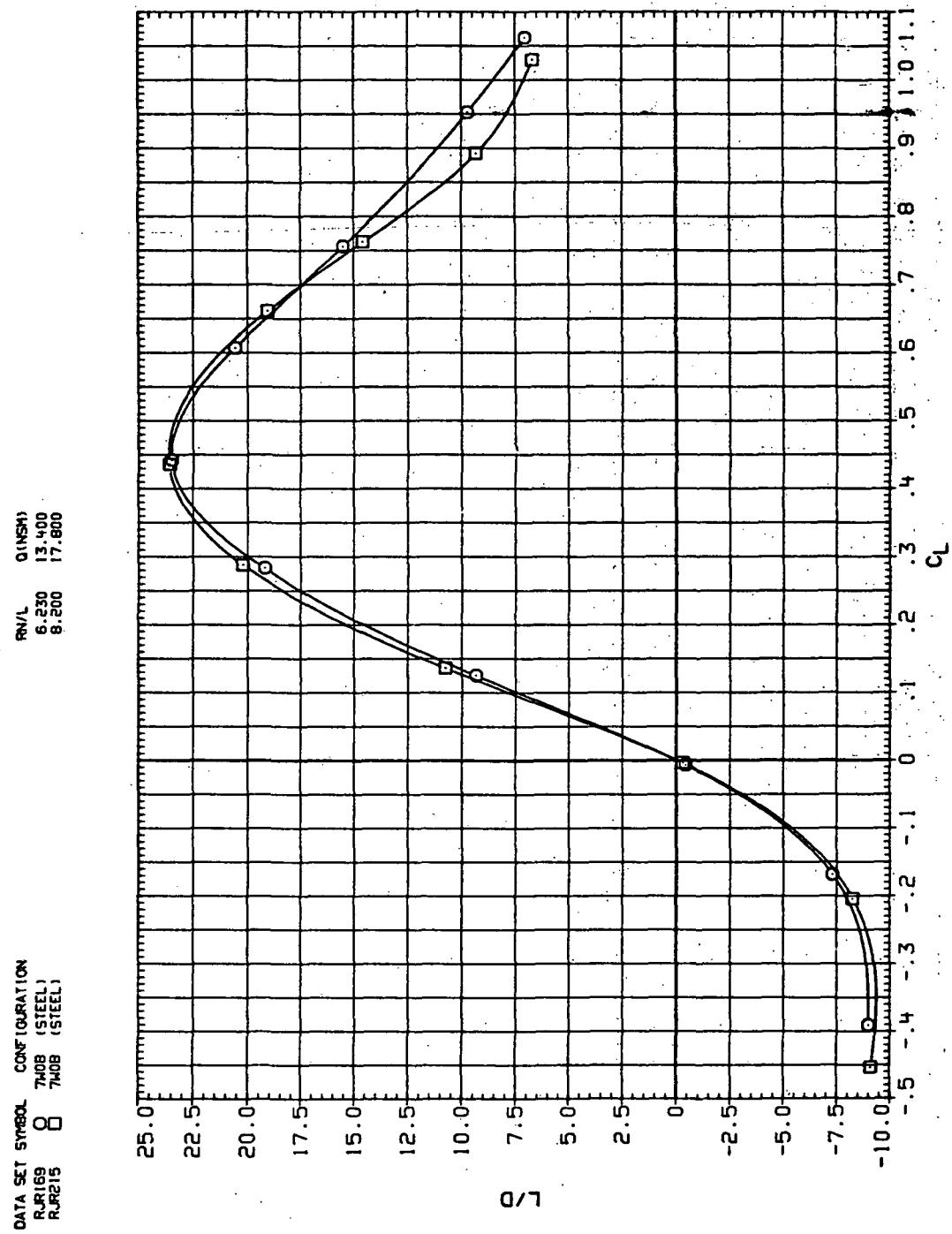
Figure 87.—Continued.

DATA SET SYMBOL: CONFIGURATION  
 R.R169 8 7408 (STEEL)  
 R.R215 8 7408 (STEEL)



(c)  $C_m$  vs  $C_L$ .

Figure 87.—Continued.

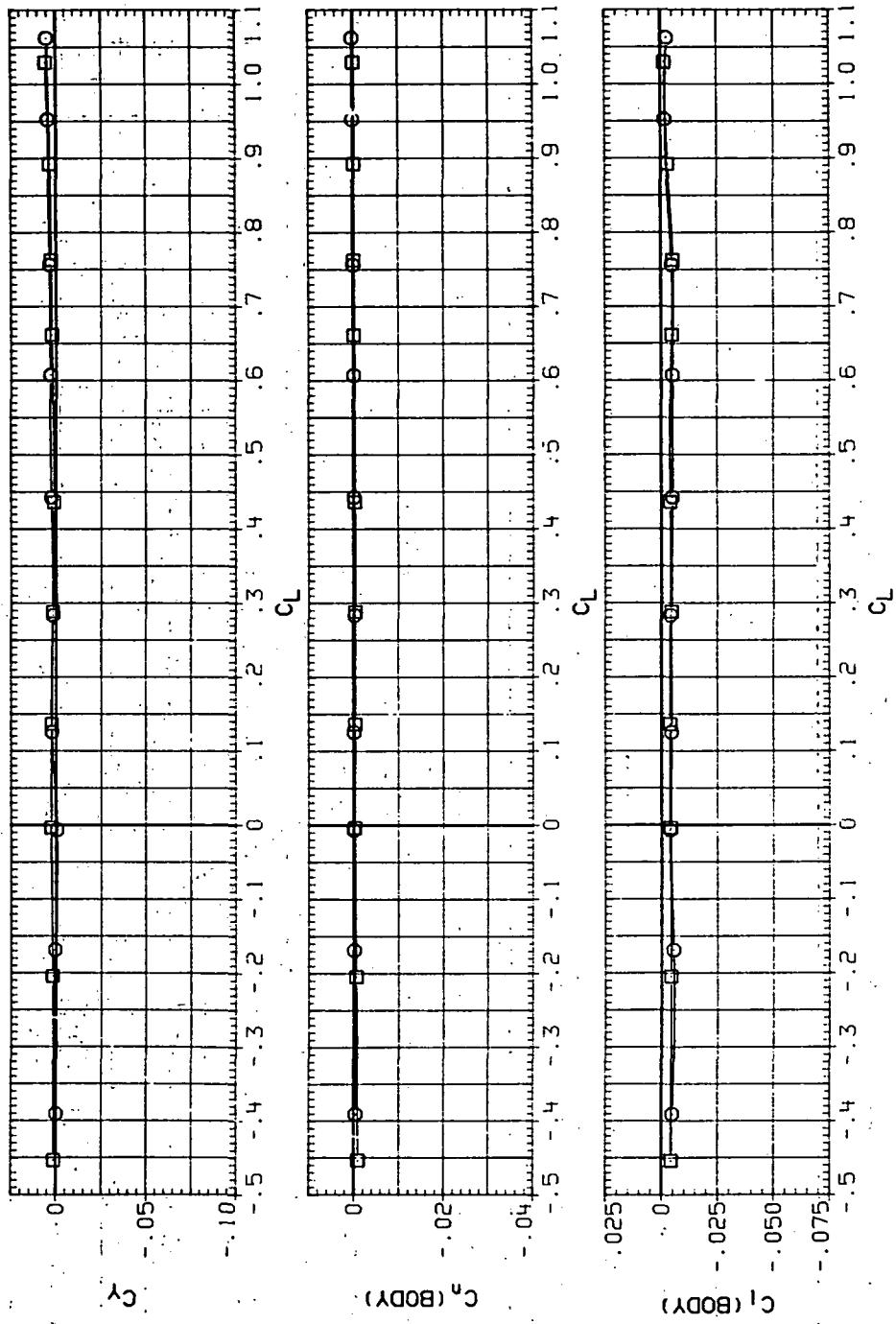


(d)  $L/D$  vs  $C_L$ .

Figure 87.— Continued.

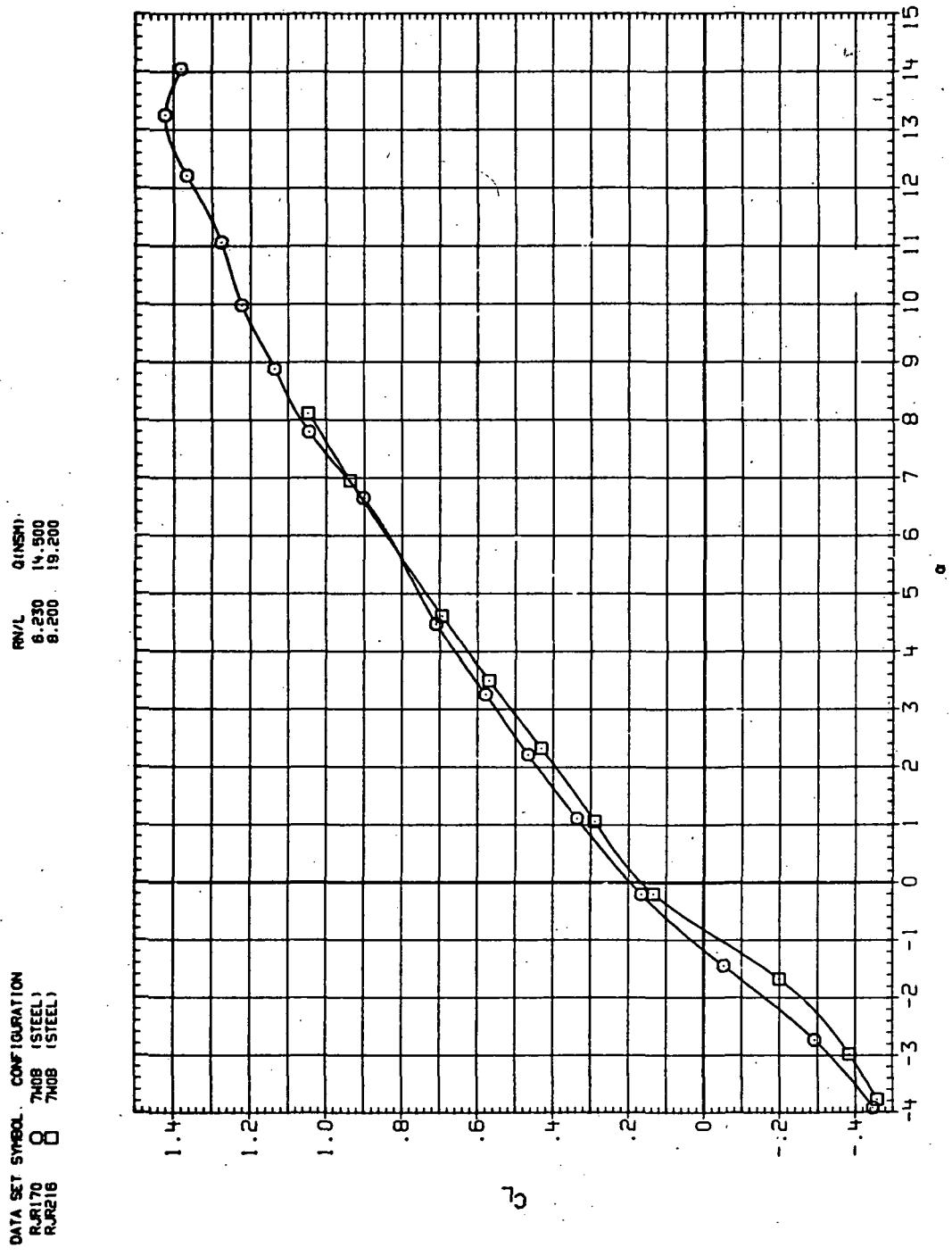
DATA SET SYMBOL CONFIGURATION  
 RRI169 O 7W08 (STEEL)  
 RRI215 □ 7W08 (STEEL)

RN/L Q(NM)  
 6.230 13,400  
 8.200 17,800



(e)  $C_y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

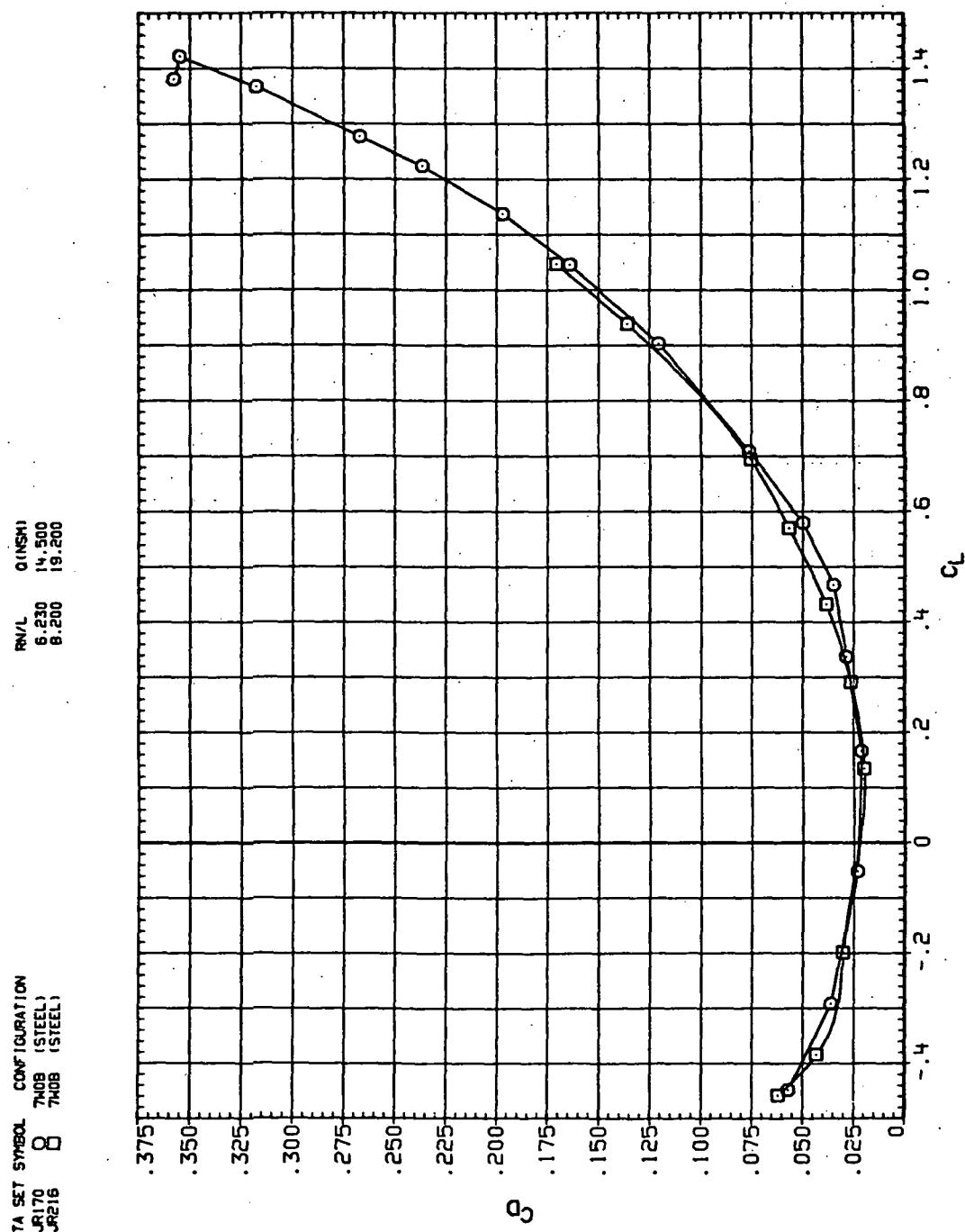
Figure 87.—Concluded.



(a)  $C_L$  vs  $\alpha$ .

Figure 88.— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 0, M = 0.9$  and the NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 RUR170 O 7HOB (STEEL)  
 RUR216 □ 7HOB (STEEL)

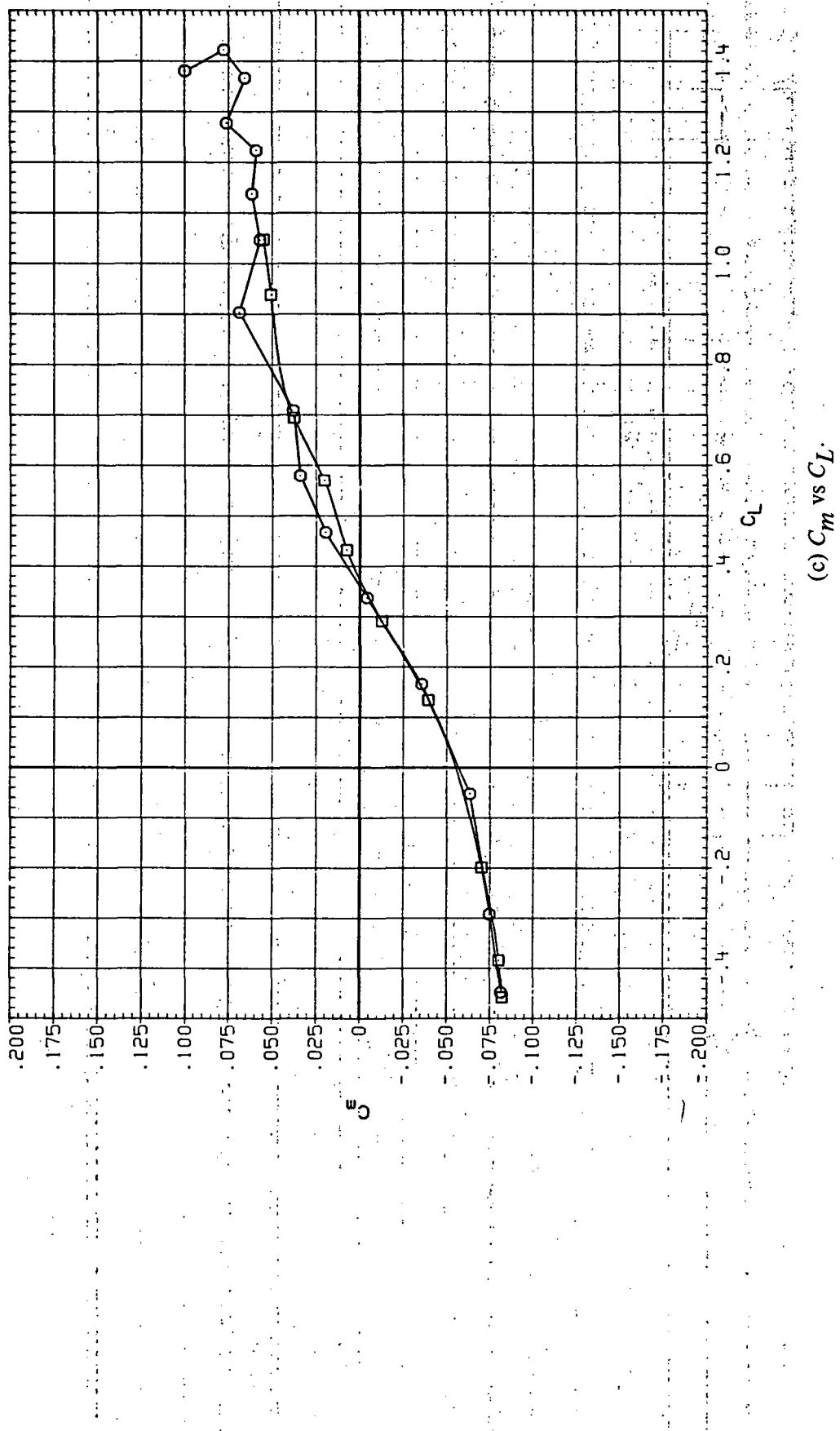


(b)  $C_D$  vs  $C_L$

Figure 88.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RUR170 O 7WOB (STEEL)  
 RR216 □ 7WOB (STEEL)

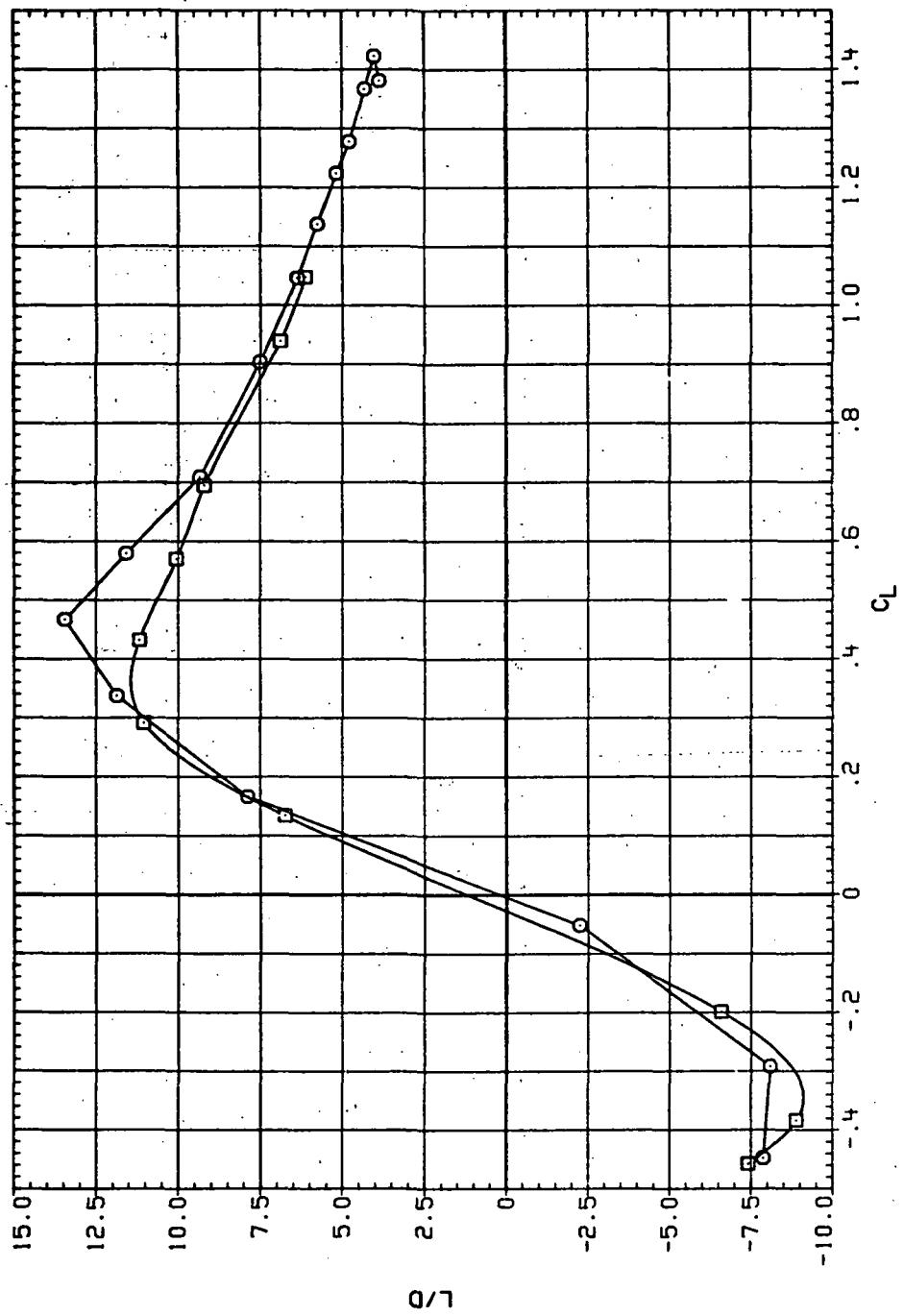
RN/L Q (NSM)  
 6.230 14.500  
 8.200 19.200



(c)  $C_m$  vs  $C_L$

Figure 88. (Continued.)

DATA SET SYMBOL CONFIGURATION  
 RRP170 8 TACB (STEEL)  
 RRP218 7ACB (STEEL)



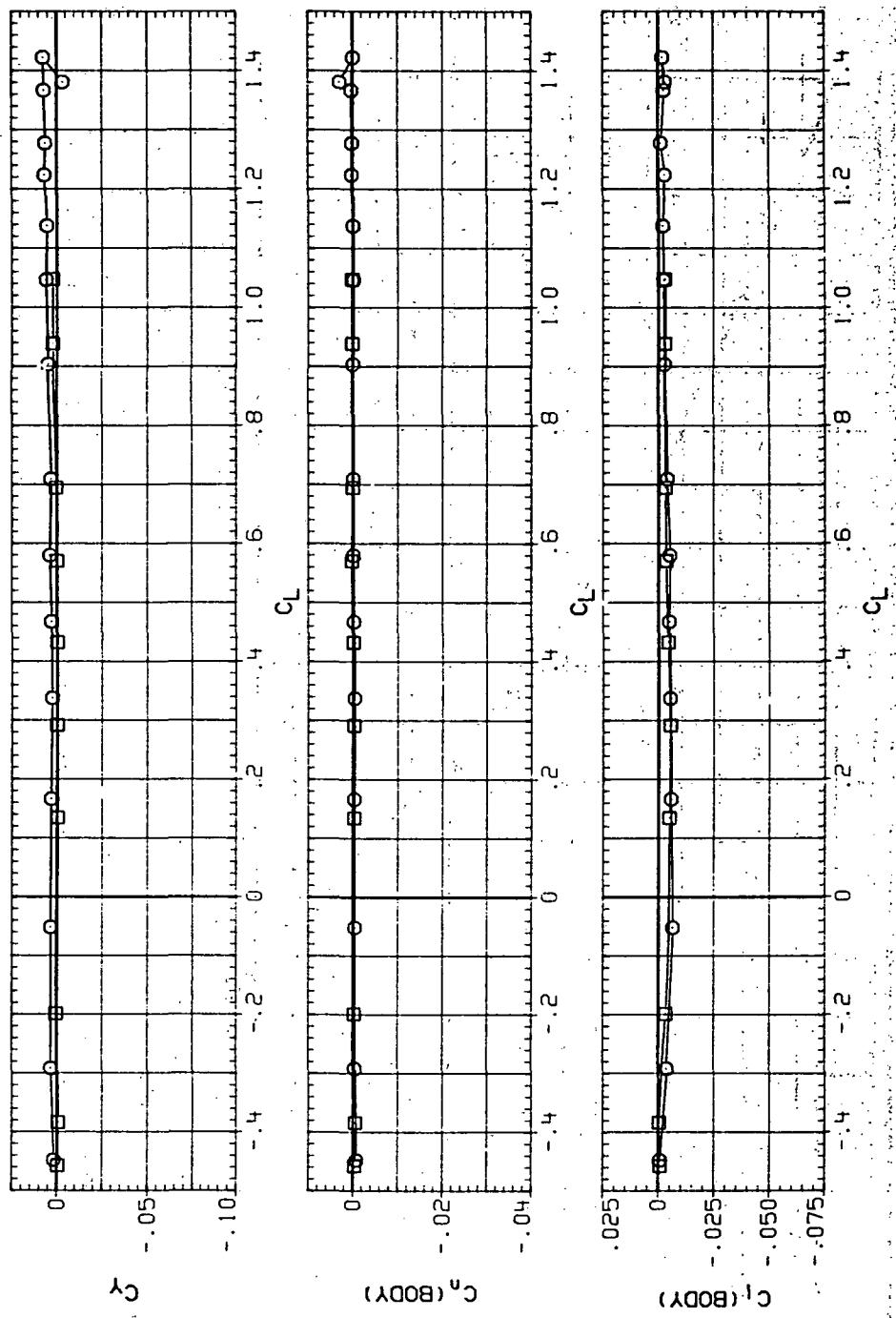
(d)  $L/D$  vs  $C_L$ .

Figure 88.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RUR170 O (STEEL)  
 RJR216 □ (STEEL)

RNL  
 6.230 14.500  
 8.200 19.200

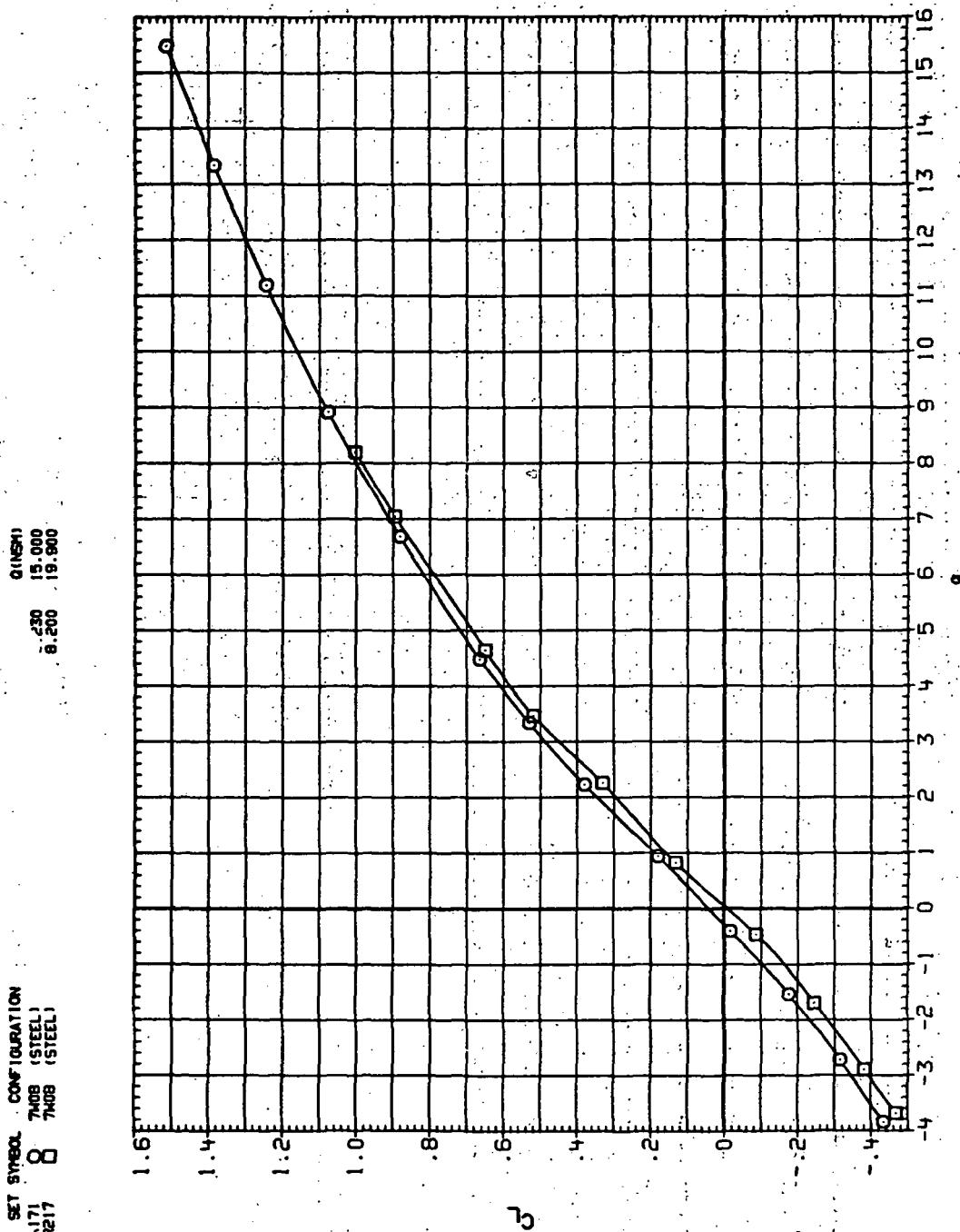
0 (INSI)



(e)  $C_Y$ ,  $C_n$  and  $C_q$  vs  $C_L$ .

Figure 88.—Concluded.

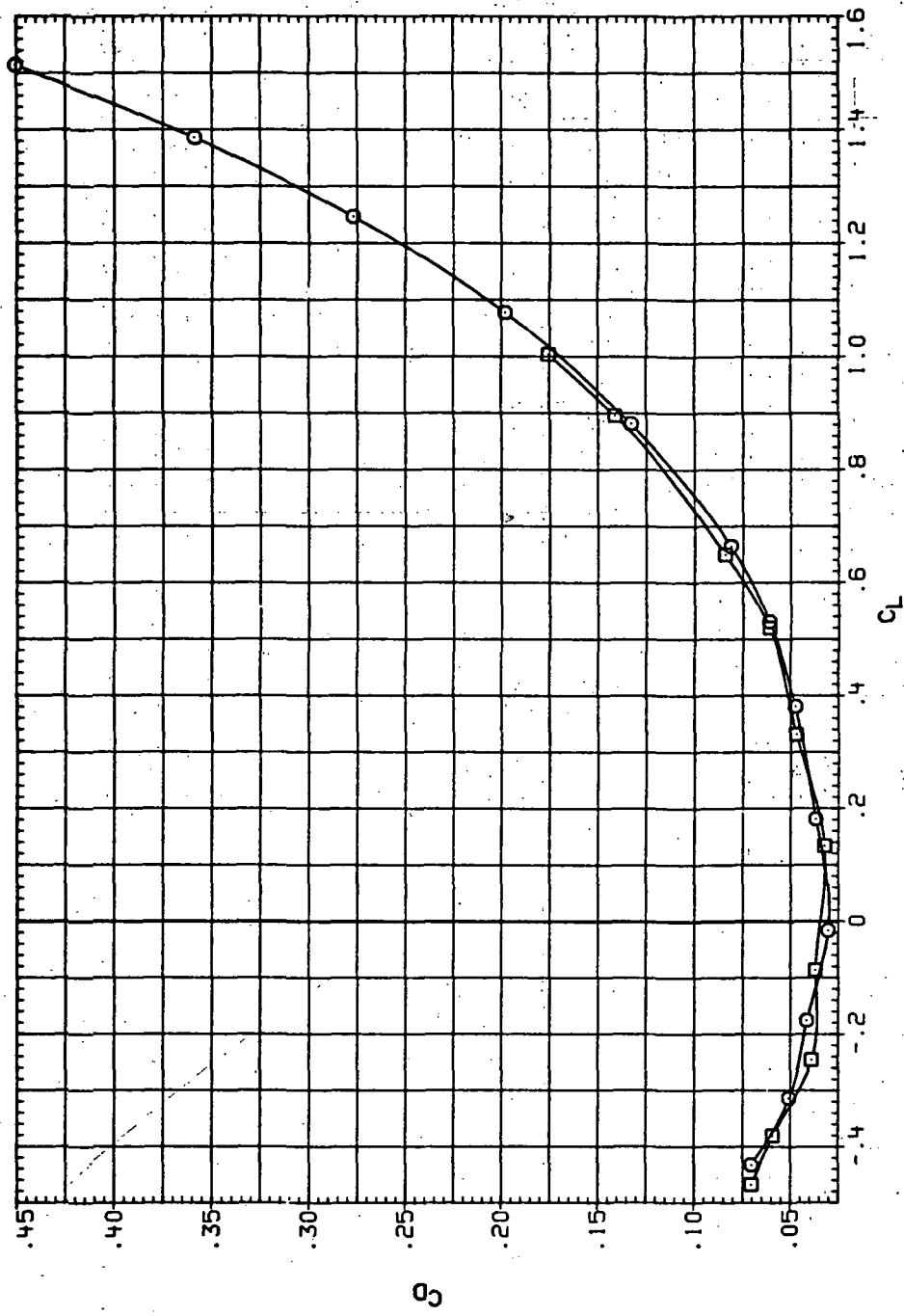
SET 8  
 $b = 17$   
 R.R. 7408 (STEEL)  
 7408 (STEEL)



(a)  $C_L$  vs  $\alpha$

Figure 89.— Dynamic-pressure effects on the aerodynamic characteristics of the steel trapezoidal oblique wing-body combination ( $\Lambda = 0$ ;  $M = 0.95$  and the NACA 65A204 airfoil).

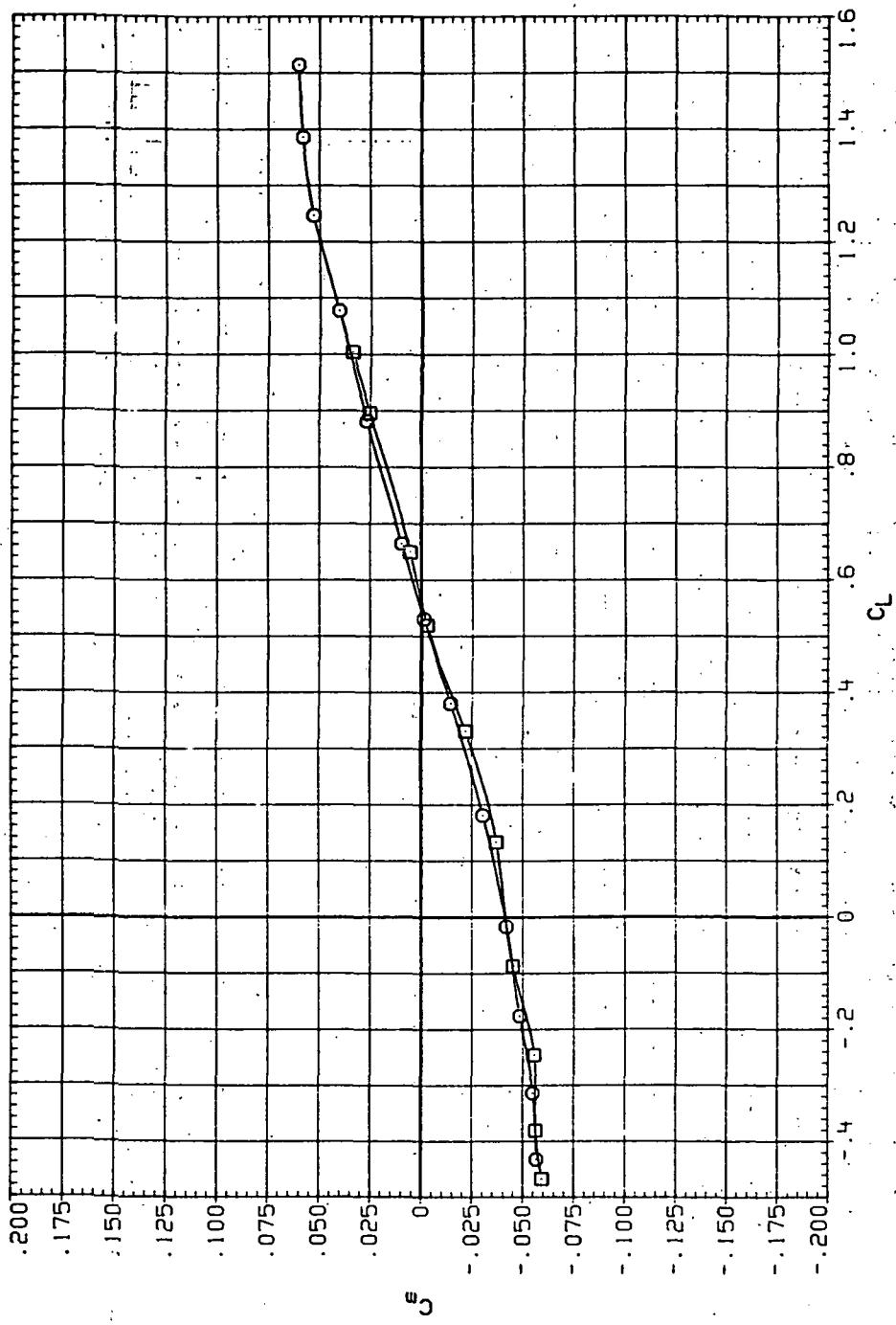
DATA SET SYMBOL CONFIGURATION  
 T 71 8 THDS (STEEL)  
 F .17 8 THDS (STEEL)



(b)  $C_D$  vs  $C_L$ .

Figure 89.—Continued.

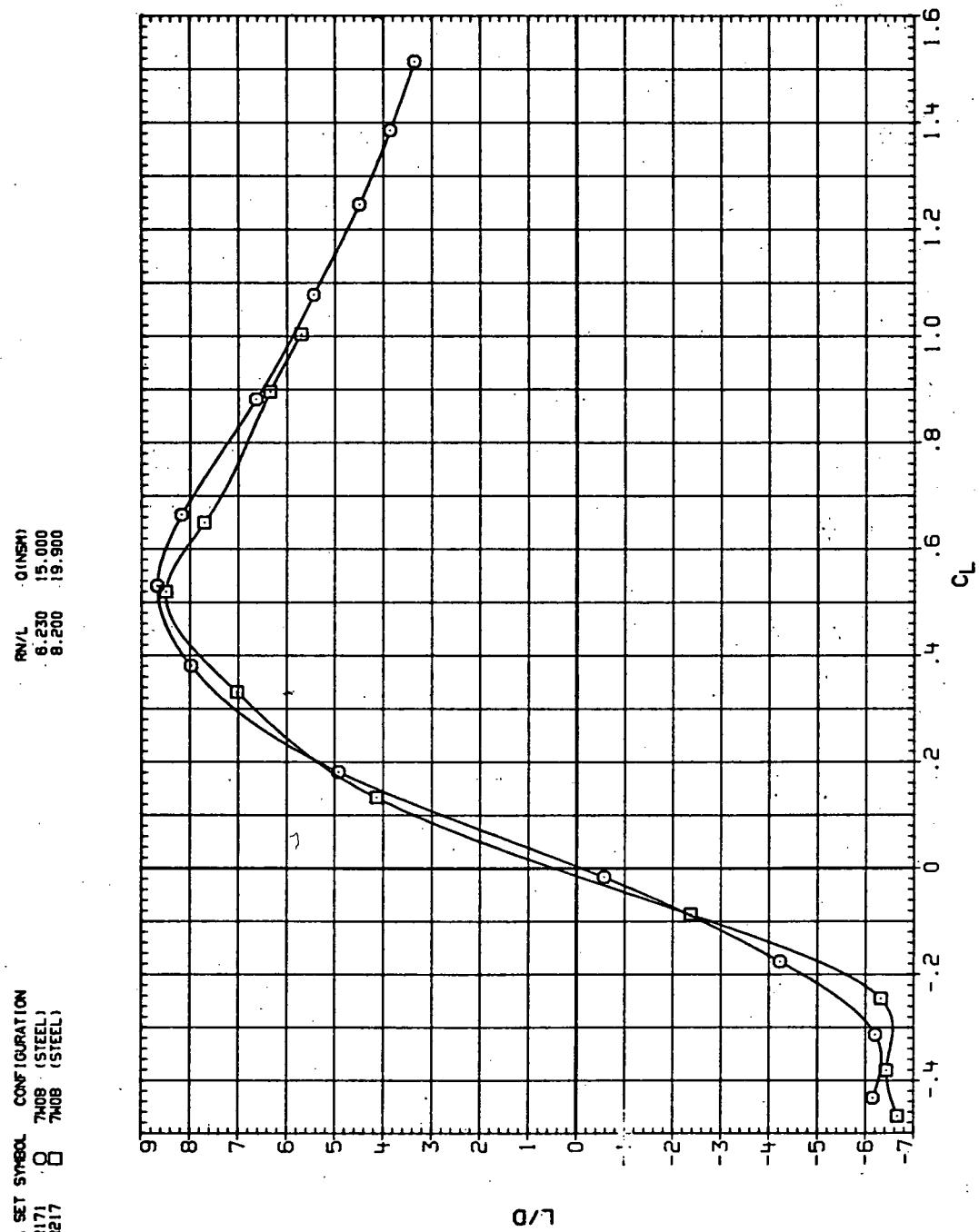
DATA SET SYMBOL CONFIGURATION  
 RIR171 O 7M08 (STEEL)  
 RR217 □ 7M08 (STEEL)



(c)  $C_m$  vs  $C_L$ .

Figure 89.—Continued.

DATA SET SYMBOL CONFIGURATION  
 R.R171 O 7M08 (STEEL)  
 R.R217 □ 7M08 (STEEL)

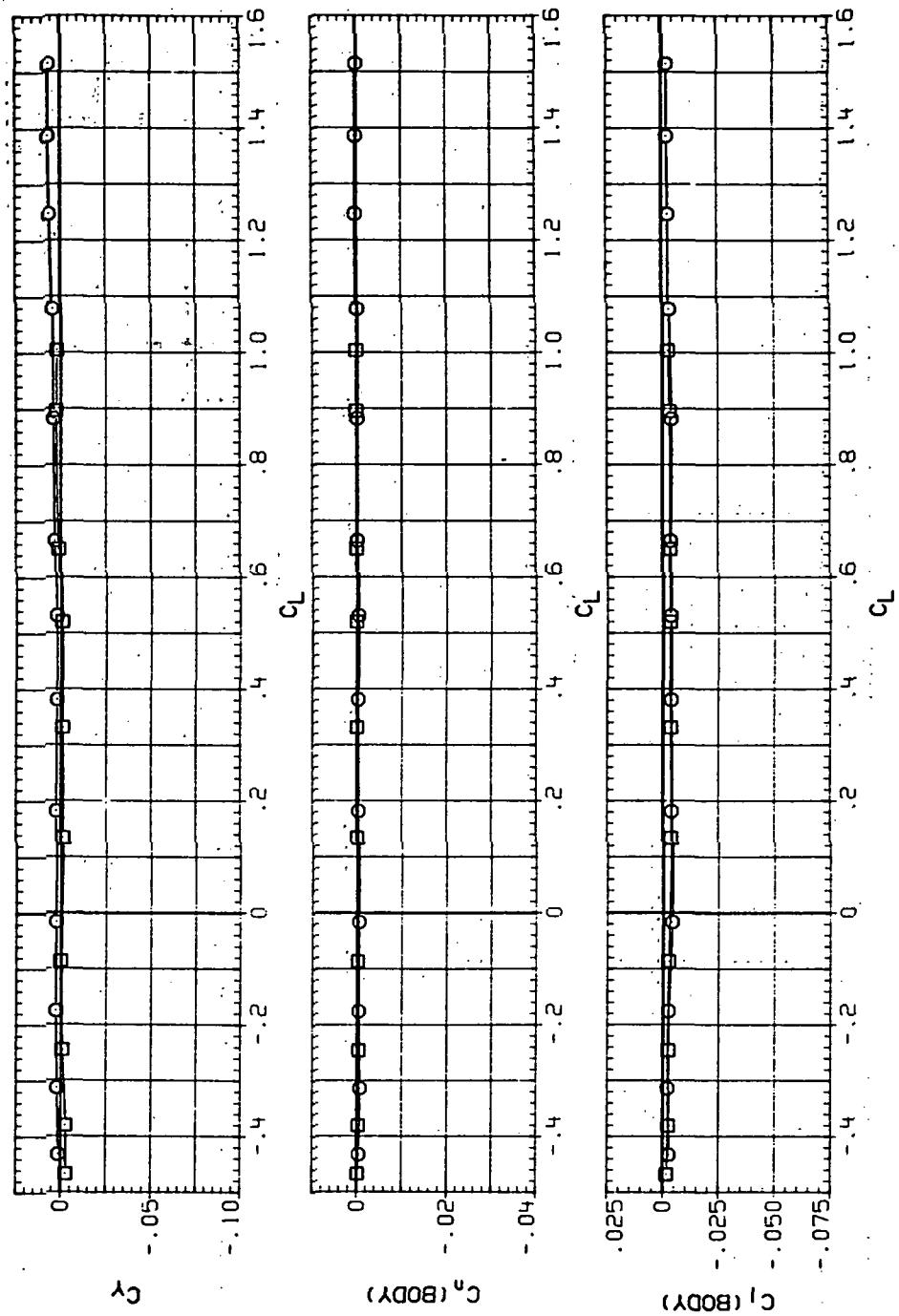


(d)  $L/D$  vs  $C_L$ .

Figure 89.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RUR171 O 740B (STEEL)  
 RUR217 □ 740B (STEEL)

RNL Q (INCH)  
 6.230 15.000  
 8.200 19.900



(e)  $C_Y$ ,  $C_n$  and  $C_\ell$  vs  $C_L$ .

Figure 89.— Concluded.

DATA SET SYMBOL CONFIGURATION  
RJ259 G445B (STEEL)  
RS258 G445B (STEEL)

TEST CONDITIONS: TPN/L  
6.230  
6.200

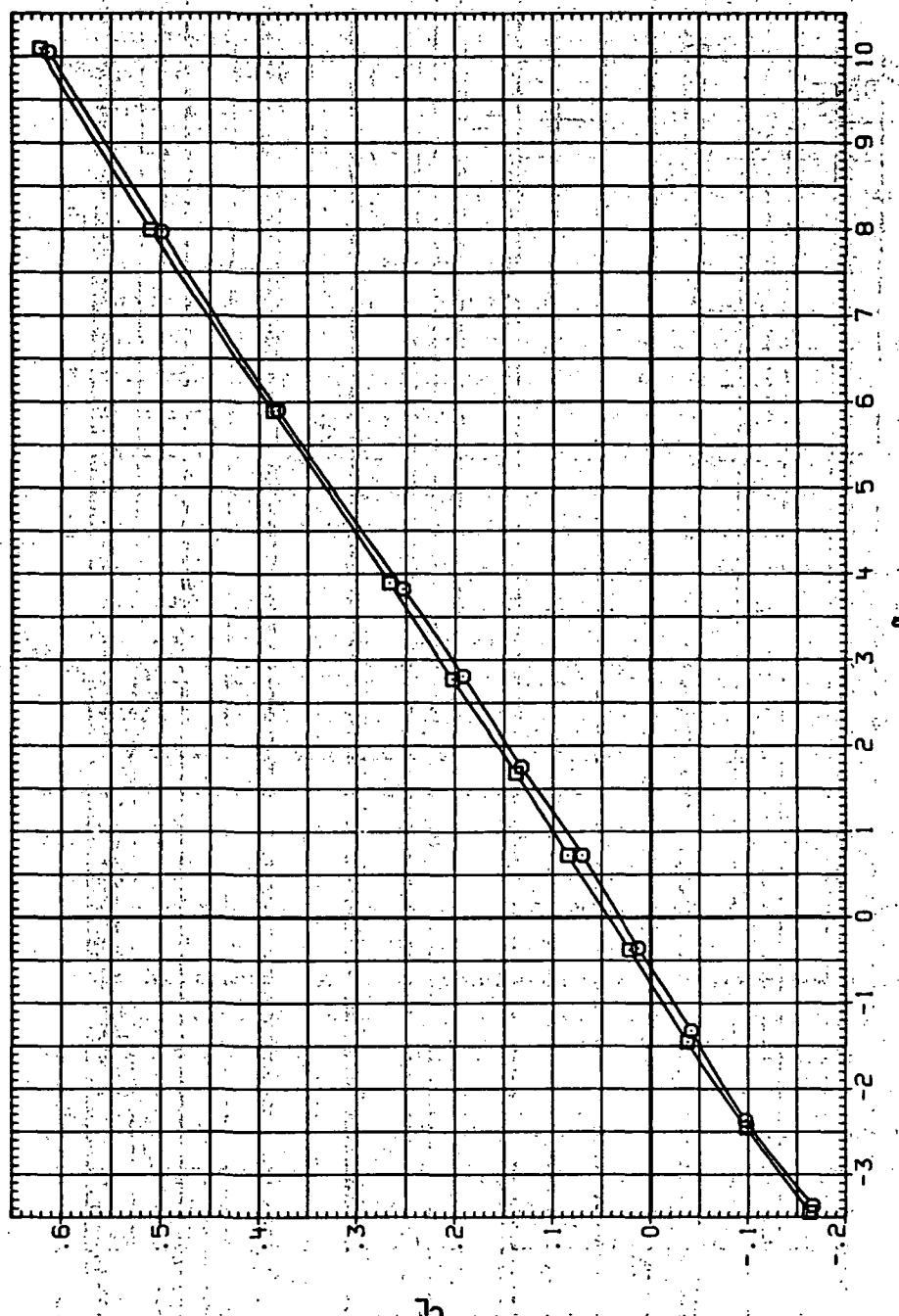
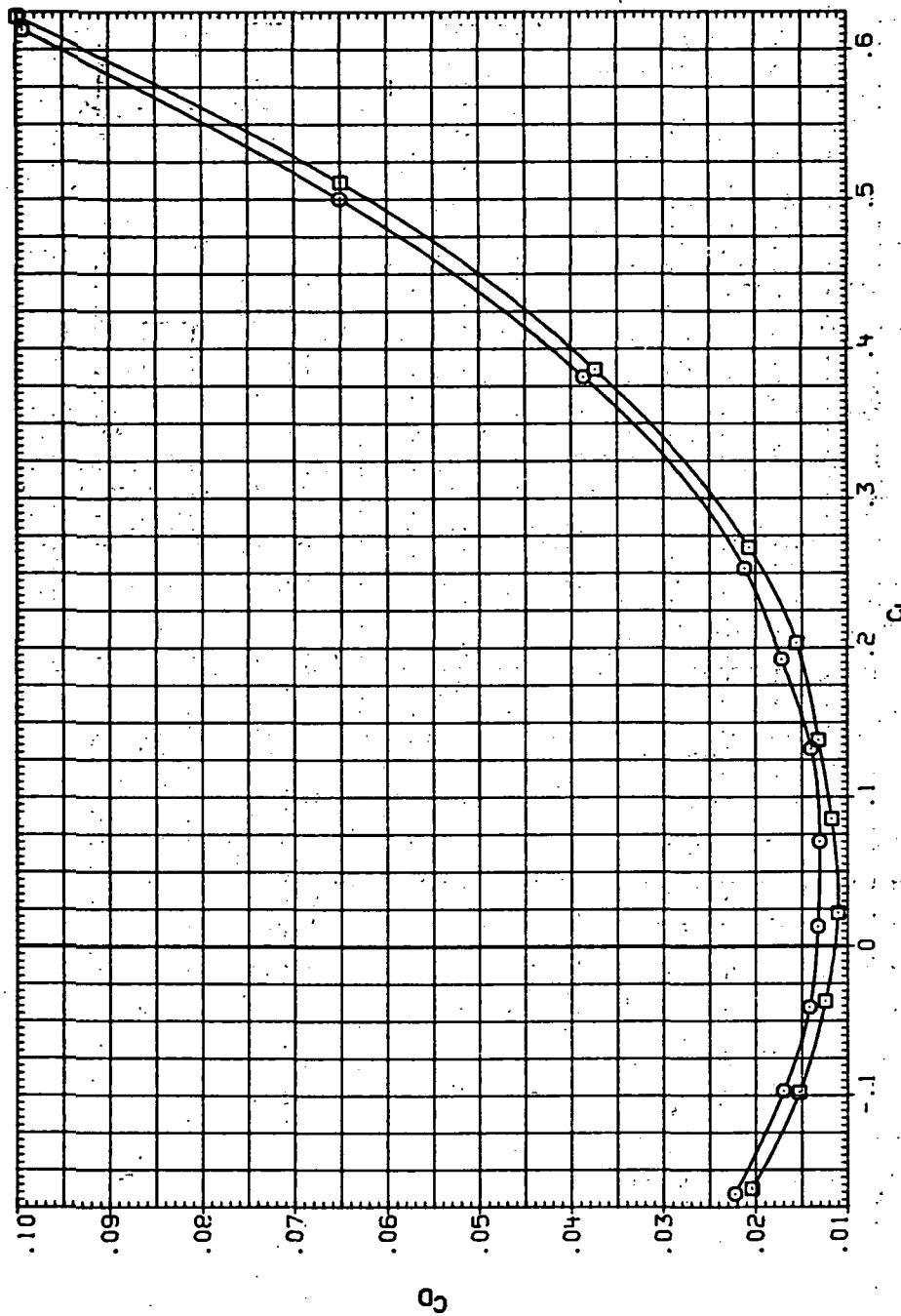
(a)  $C_L$  vs  $\alpha$ .

figure 90.— Reynolds-number effects on the aerodynamic characteristics of the steel swept wing-body combination ( $M = 0.4$  and the NACA 65A204 airfoil).

C SET SYMBOL CONFIGURATION  
 R.R259 8 84458 (STEEL)  
 R.R258 8 84458 (STEEL)

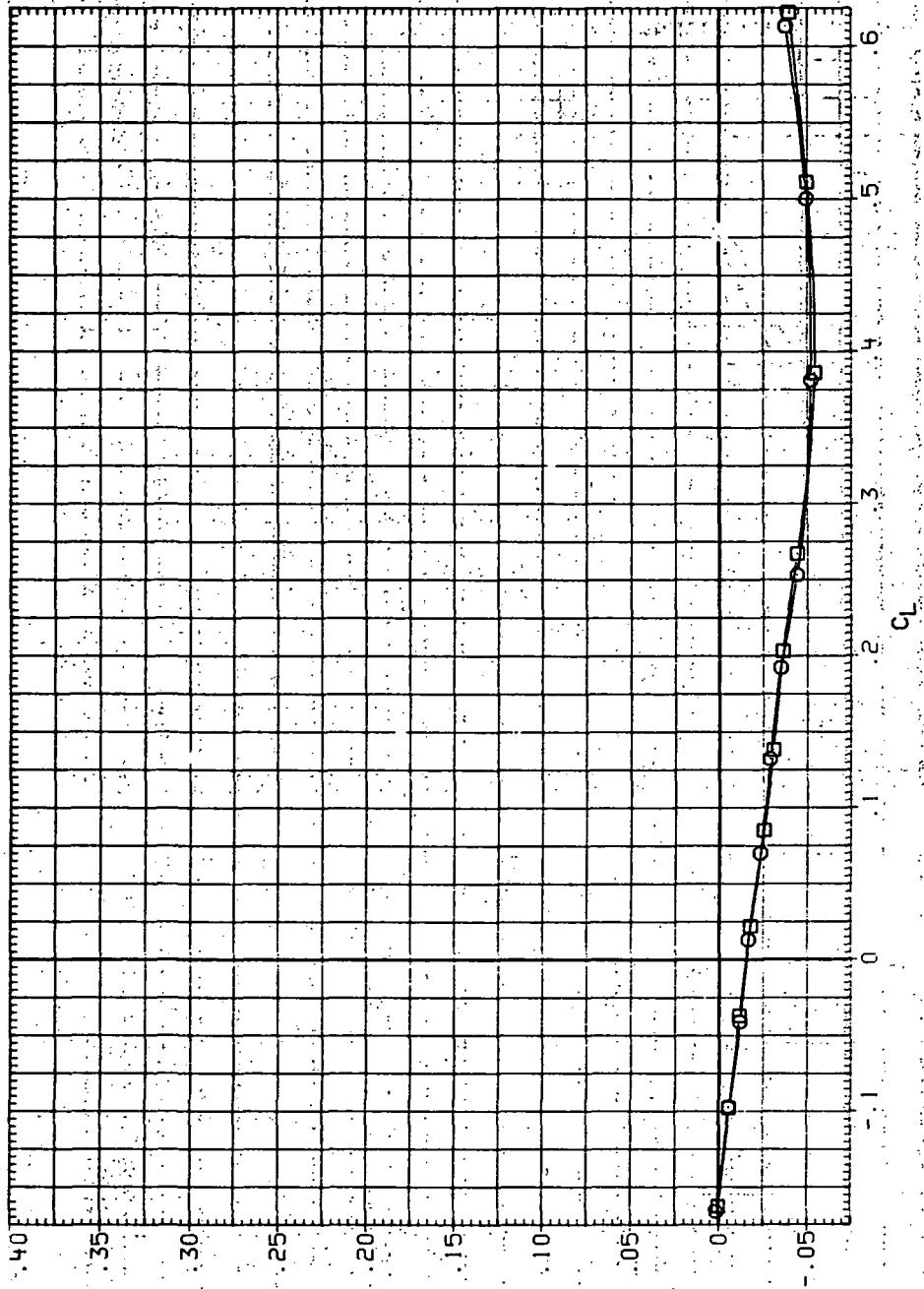


(b)  $C_D$  vs  $C_L$ .

Figure 90.—Continued.

DATA SET SYMBOL: CONFIGURATION  
 RJR259 B445B (STEEL)  
 RJR258 B445E (STEEL)

RJL: RNL  
 6.230  
 8.200

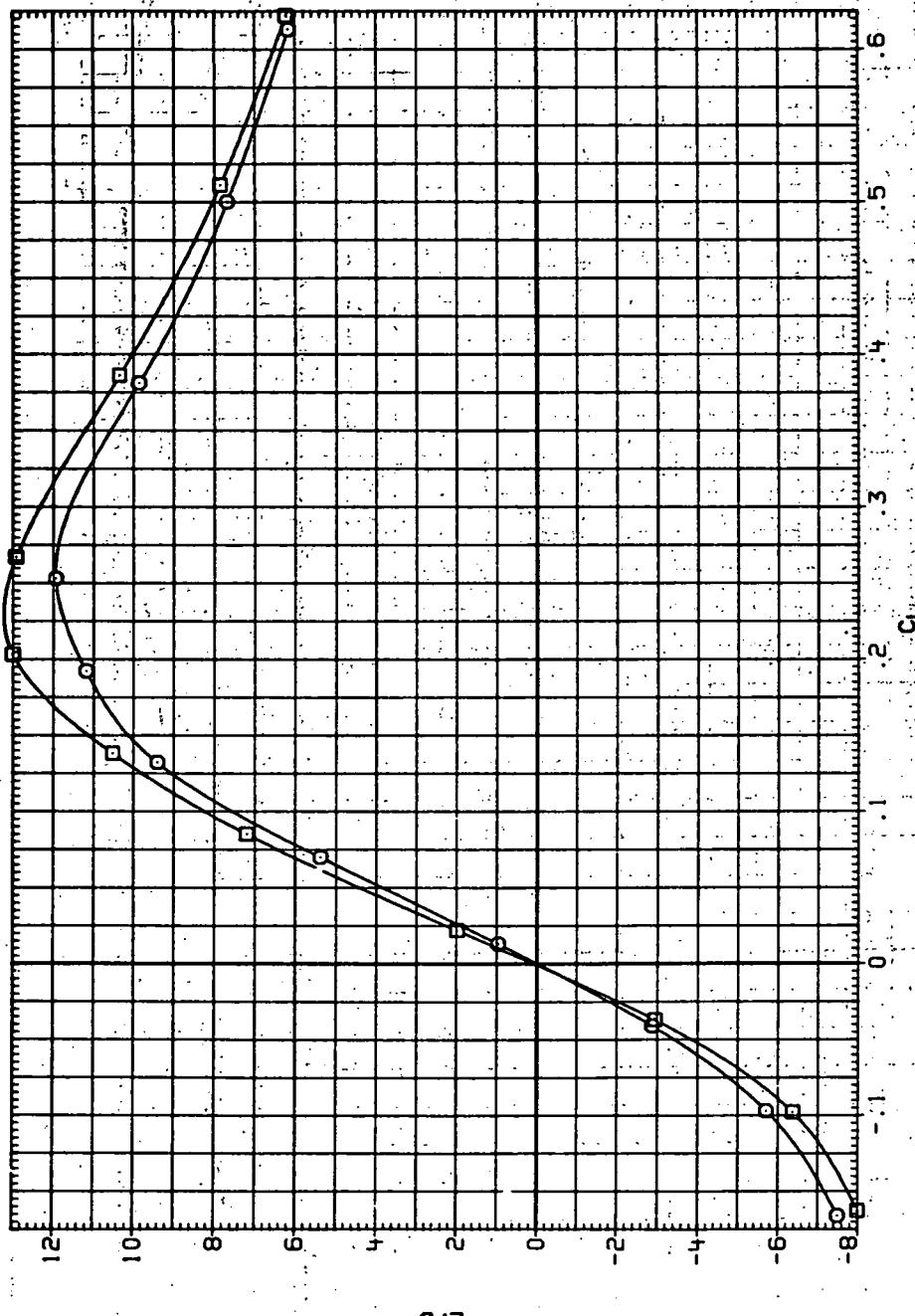


(c)  $C_m$  vs  $C_L$ .

Figure 90.— Continued.

DATA SET SYMBOL CONFIGURATION  
 59 O 8M58 (STEEL)  
 R=238 84458 (STEEL)

INV.  
 30  
 200

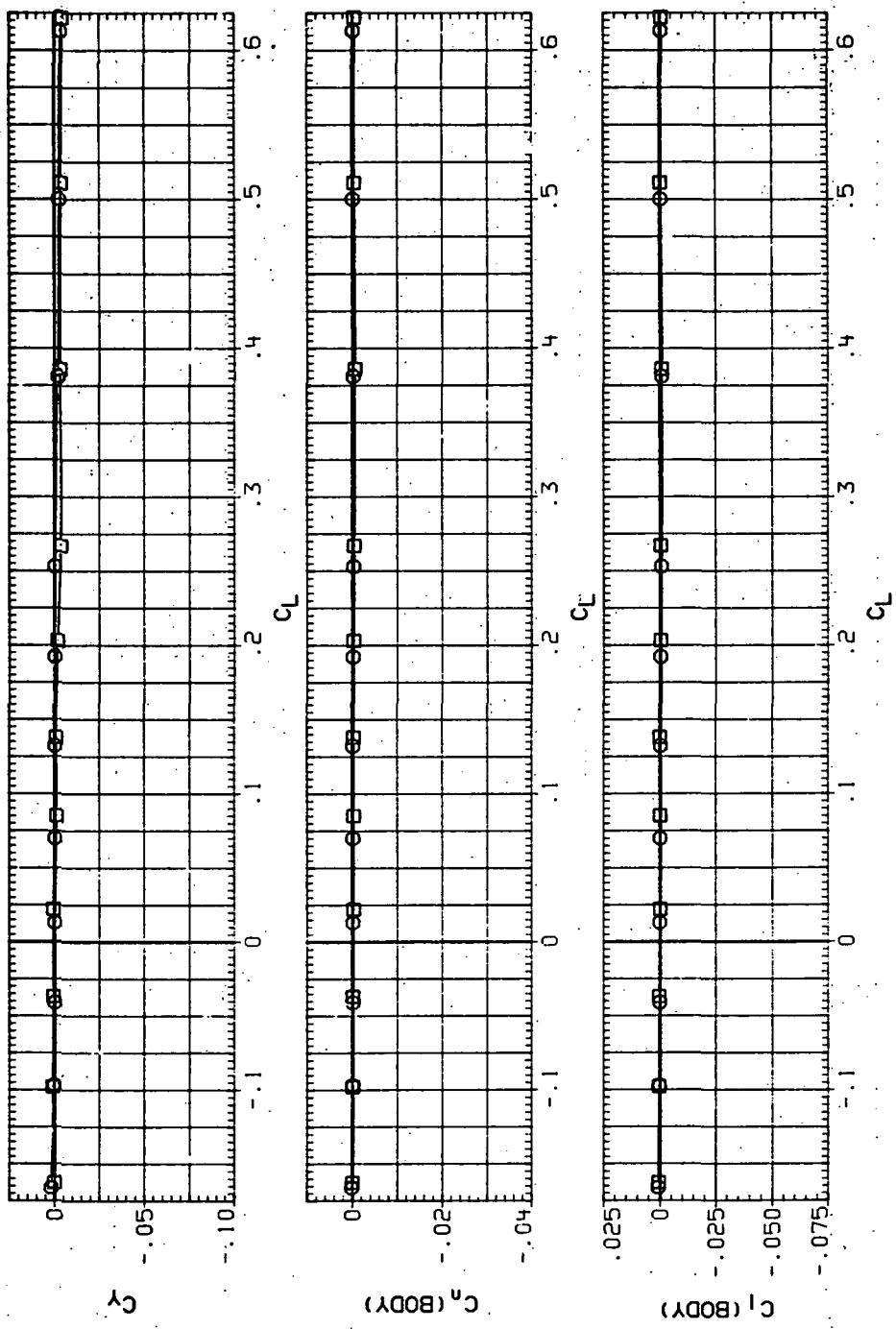


(d)  $L/D$  vs  $C_L$ .

Figure 90.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RUR259 8A458 (STEEL)  
 RJR258 8A458 (STEEL)

RNL  
 6.230  
 8.200



(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

Figure 90.— Concluded.

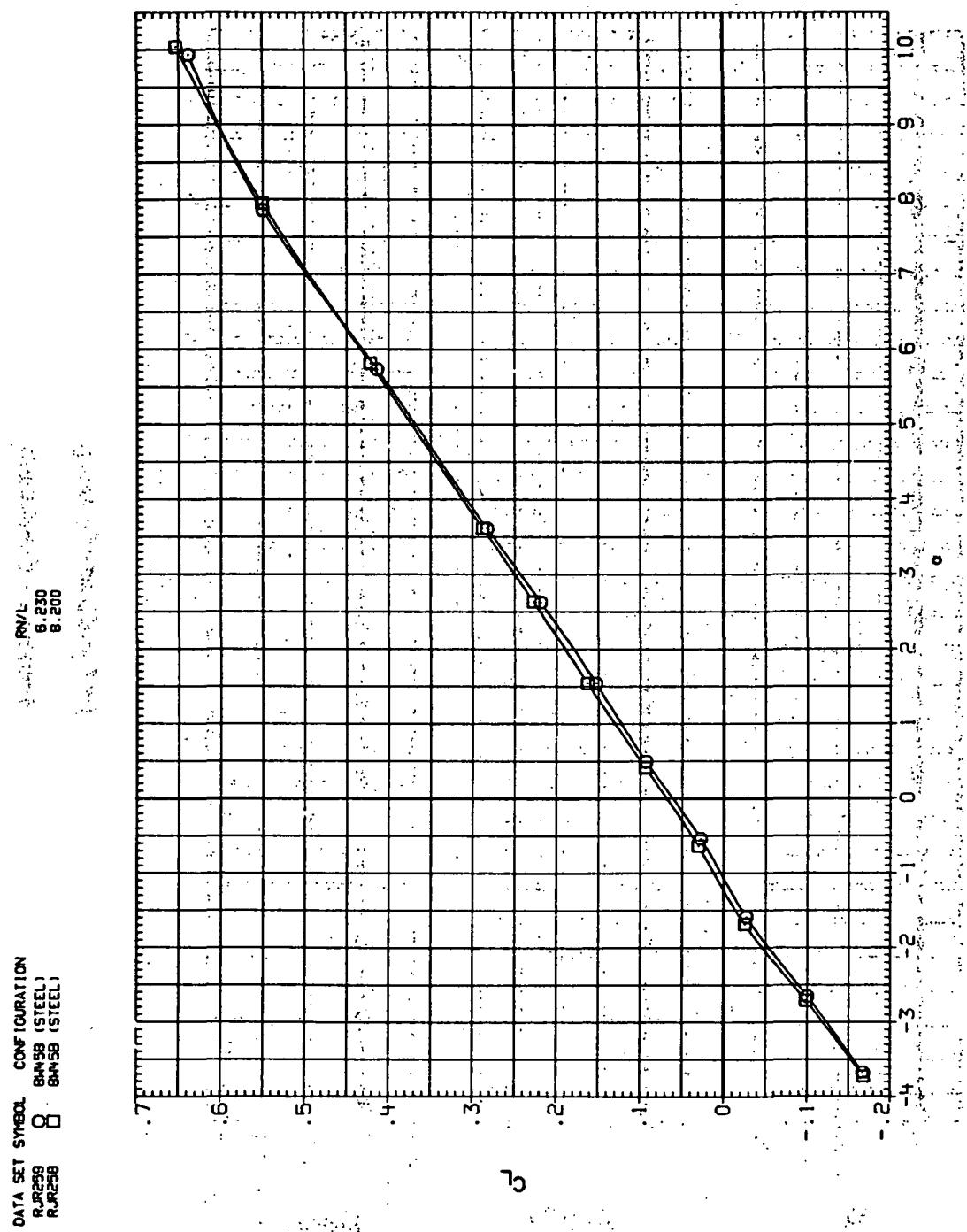
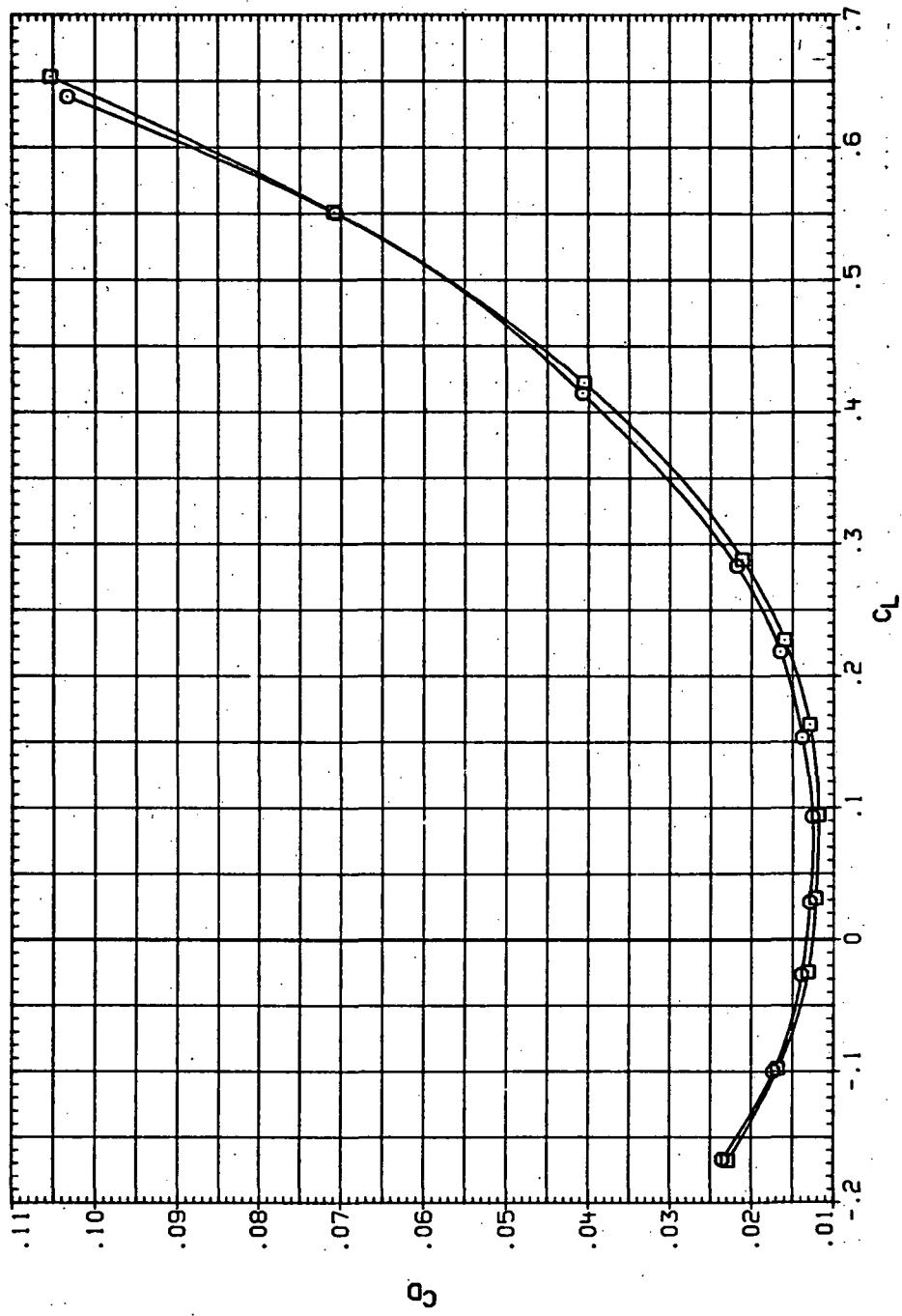


Figure 91.—Reynolds-number effects on the aerodynamic characteristics of the steel swept wing-body combination ( $M = 0.6$  and the NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 RJR259 O BAH5B (STEEL)  
 RJR258 □ BMH5B (STEEL)

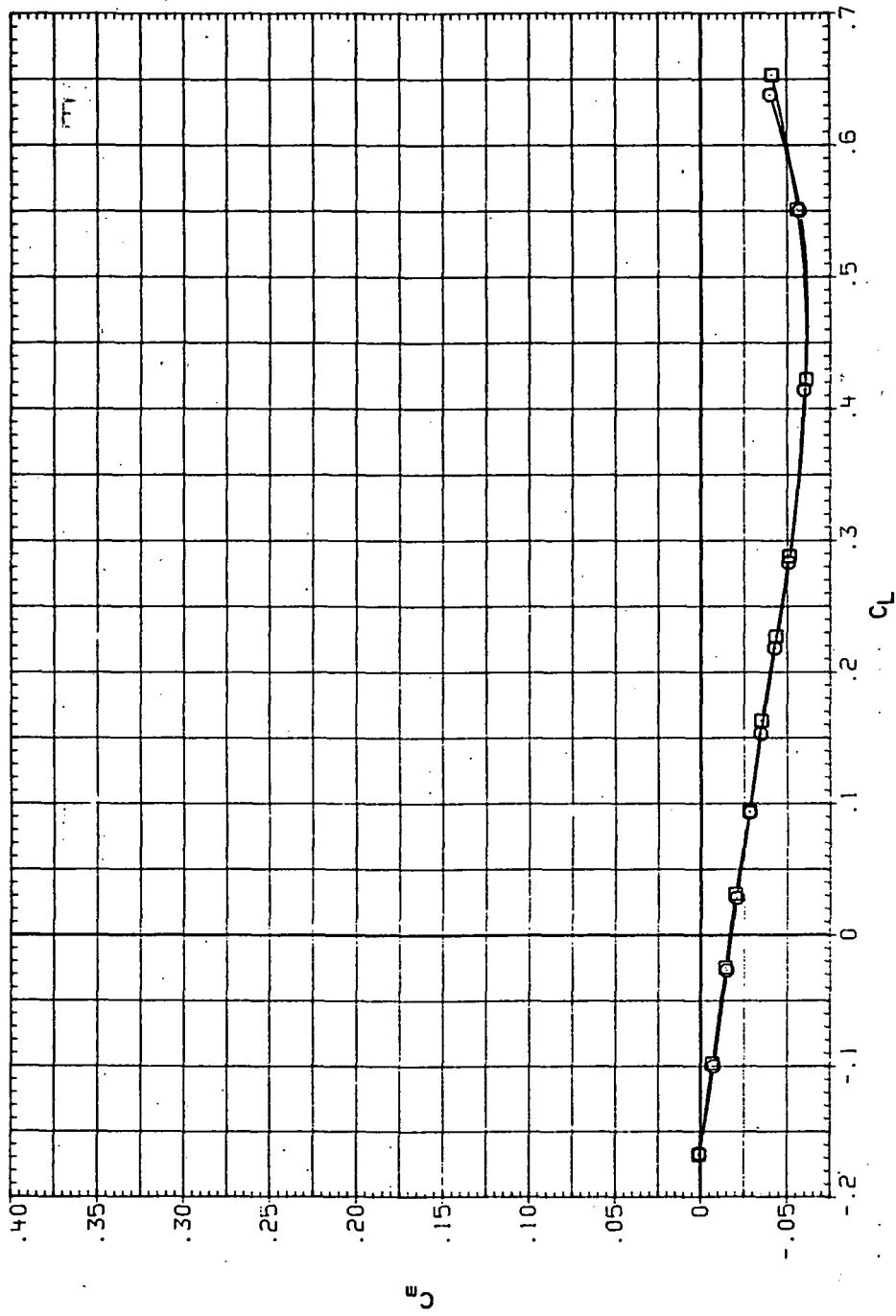
RN/L  
 6.230  
 6.200



(b)  $C_D$  vs  $C_L$ .

Figure 91.—Continued.

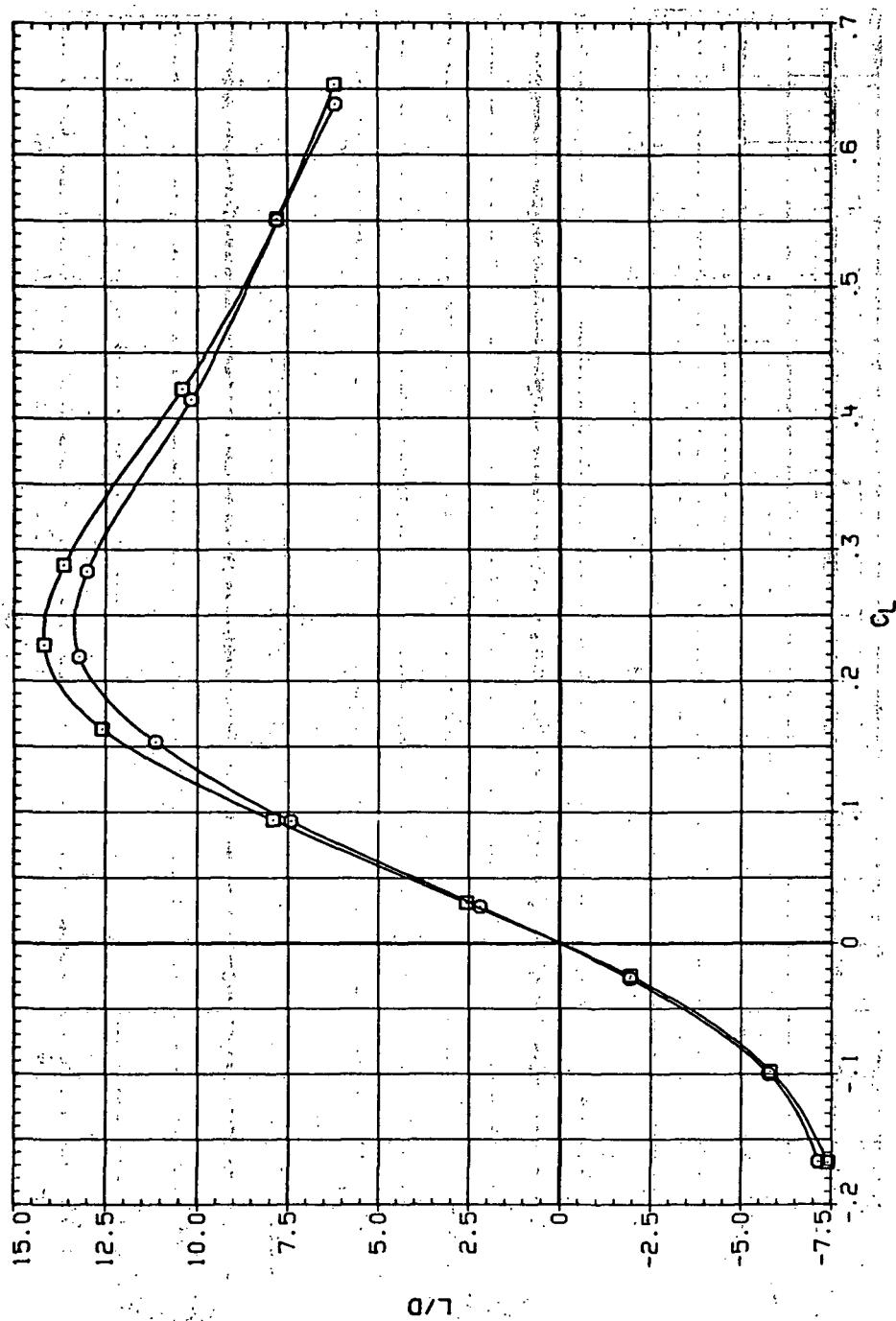
DATA SET SYMBOL CONFIGURATION  
 RUR259 O 8W4SB (STEEL)  
 RJR259 □ 8W4SB (STEEL)



(c)  $C_m$  vs  $C_L$ .

Figure 91.— Continued.

DA. SET SYMBOL CONFIGURATION  
 RUR259 BAN5B (STEEL)  
 RUR258 BAN5B (STEEL)

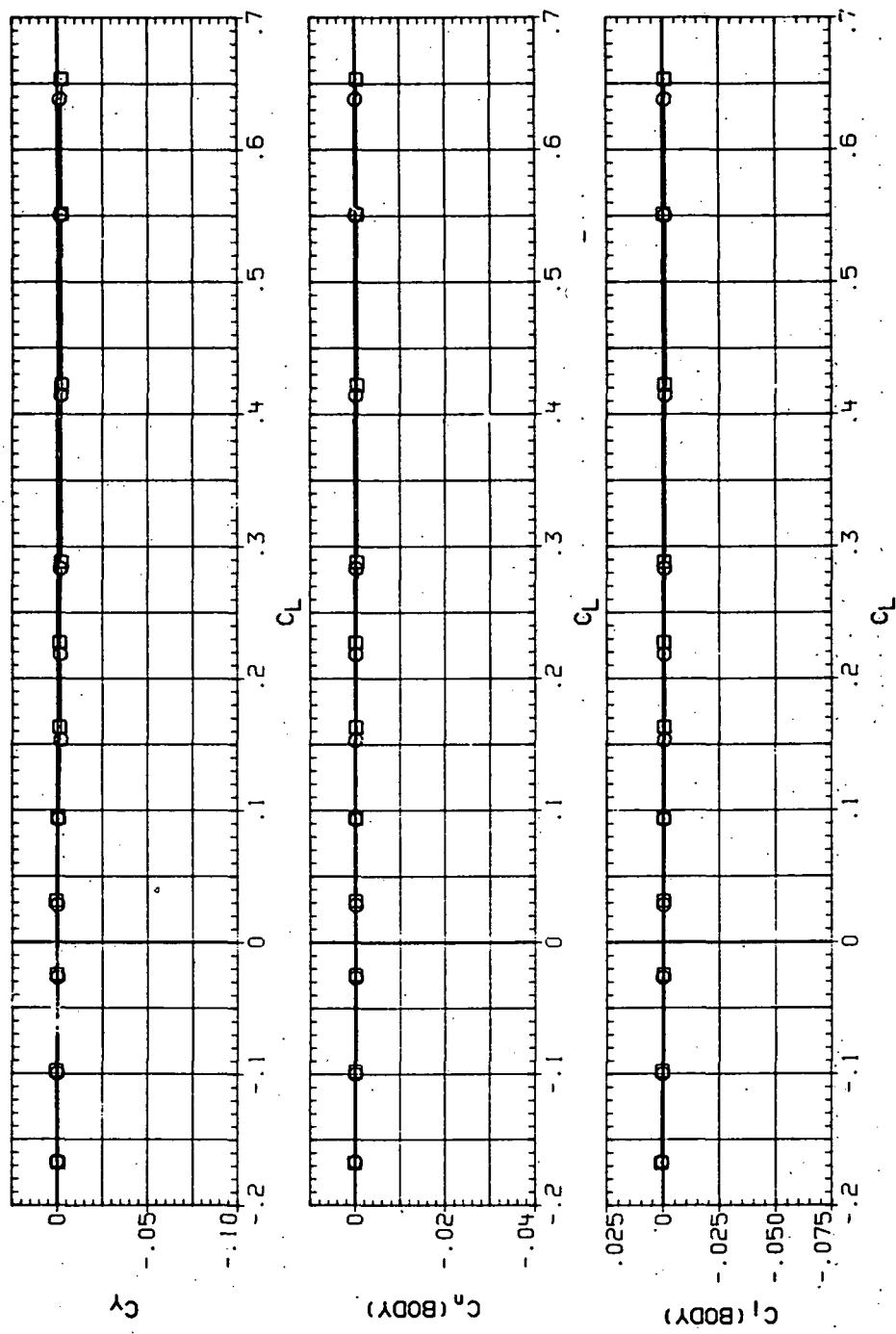


(d)  $L/D$  vs  $C_L$

Figure 91.—Continued.

DATA SET SYMBOL CONFIGURATION  
 R,R259 O 8R45B (STEEL)  
 R,R258 □ 8R45B (STEEL)

RN/L  
 6.230  
 8.200

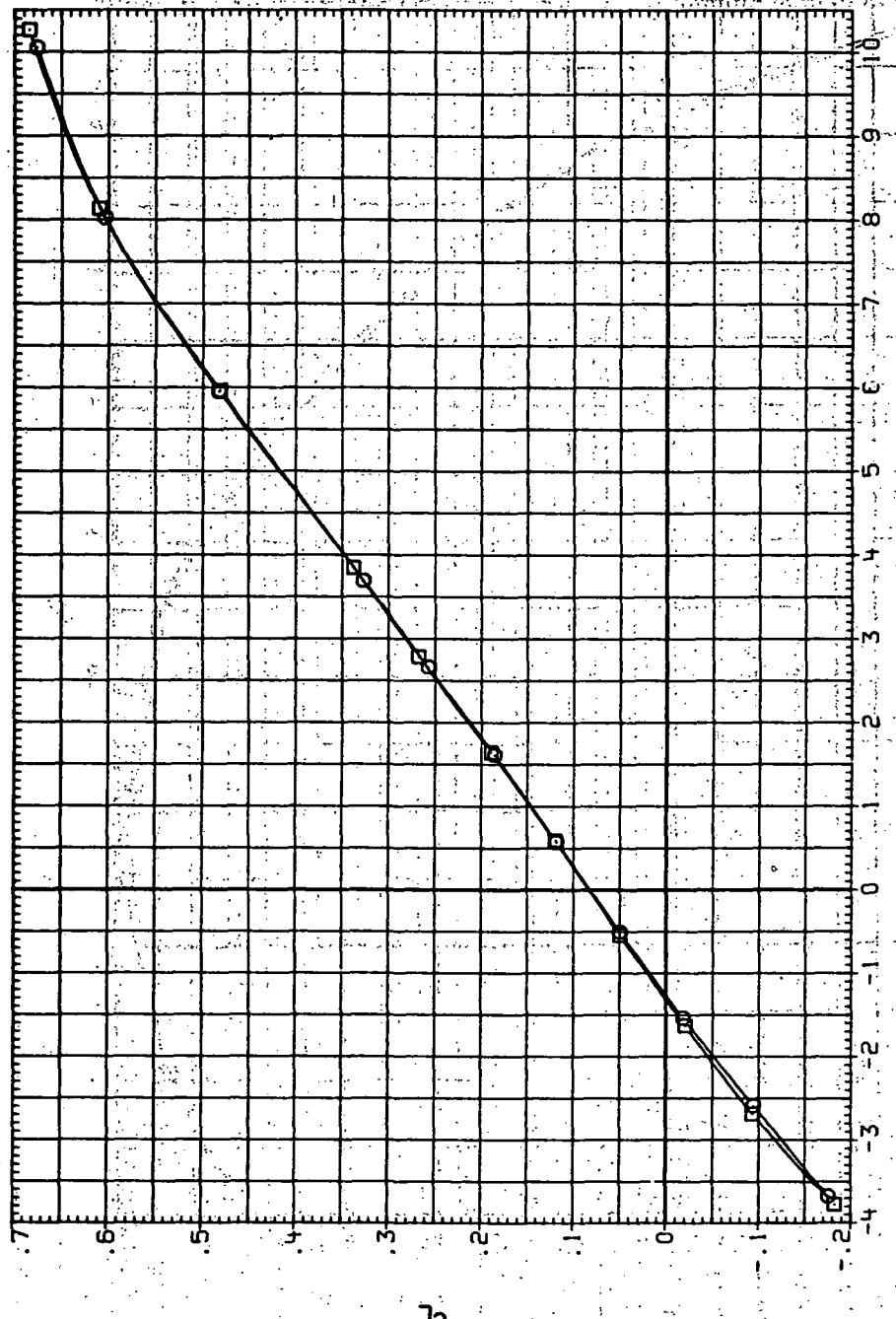


(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

Figure 91.— Concluded.

DAY SET SYMBOL CONFIGURATION  
15 39 64-59 (STEEL)  
Runc59

Reynolds Number  
6.000



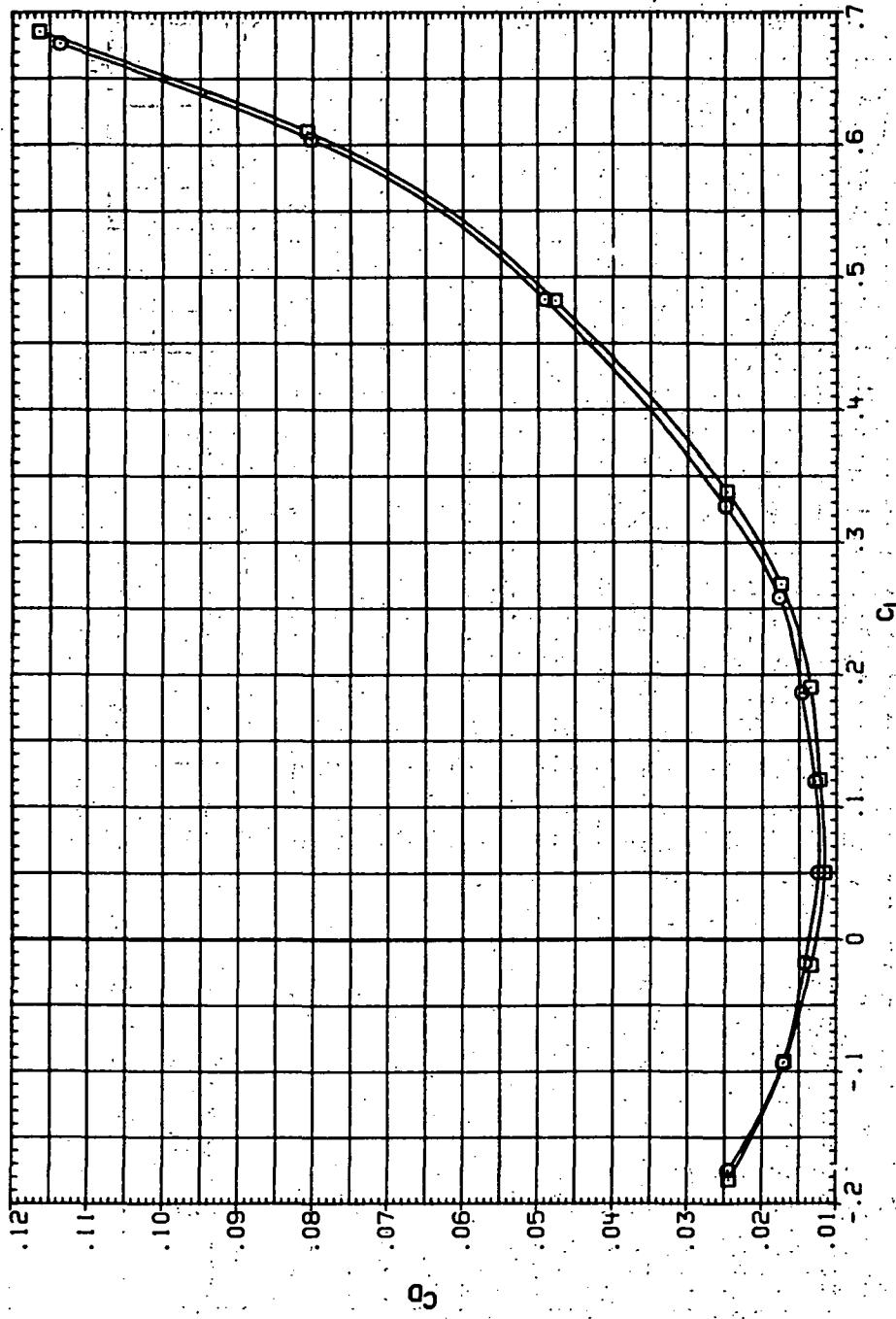
(a)  $C_L$  vs  $\alpha$ .

Figure 92.— Reynolds-number effects on the aerodynamic characteristics of the steel swept-wing-body combination ( $M = 0.8$  and the NACA 65A204 airfoil).

DATA SET SYMBOL      CONFIGURATION  
 R.RC29      8      BMSS (STEEL)  
 R.RC38      8      BMSS (STEEL)

RN/L

8.230  
8.200



(b)  $C_D$  vs  $C_L$ .

Figure 92.—Continued.

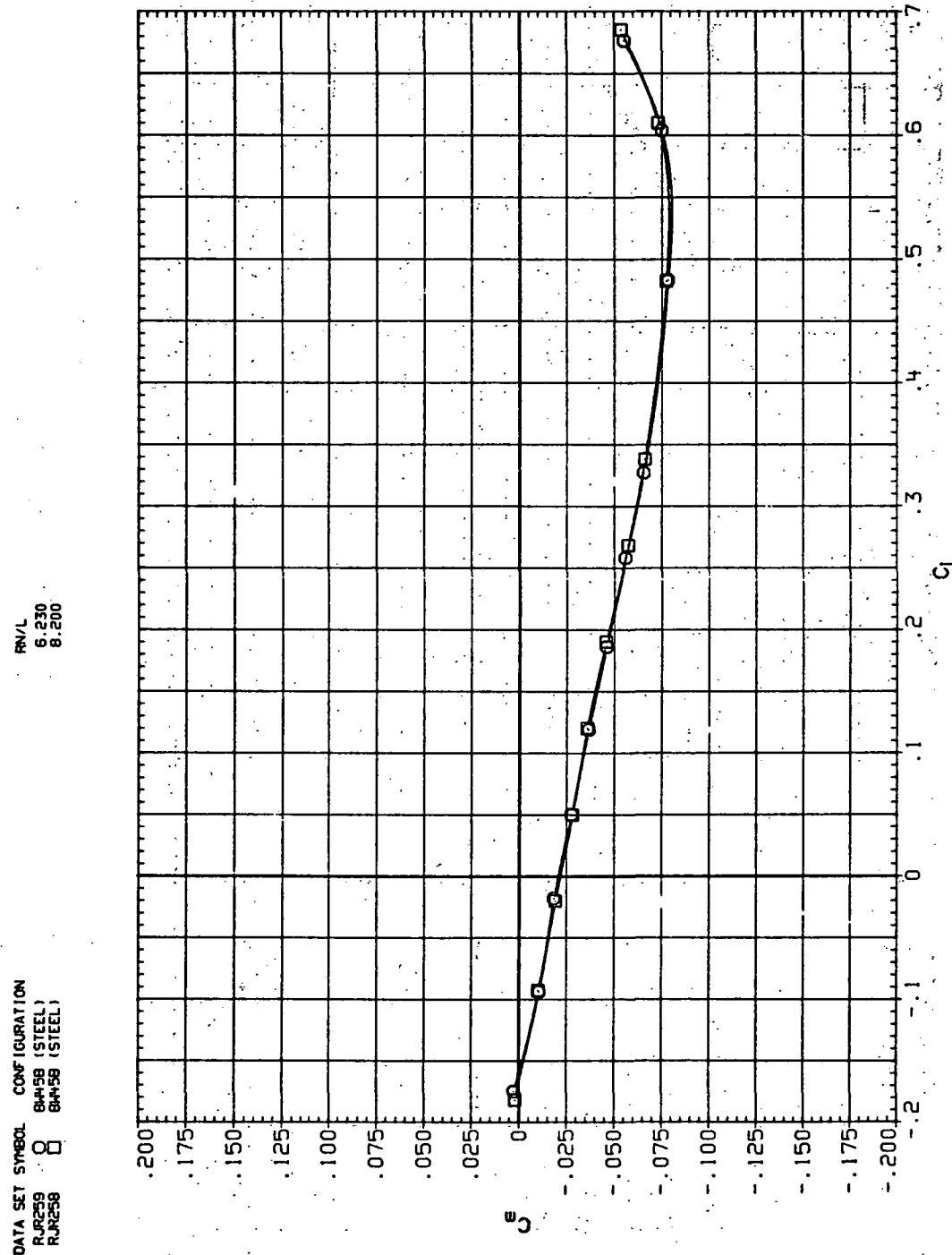
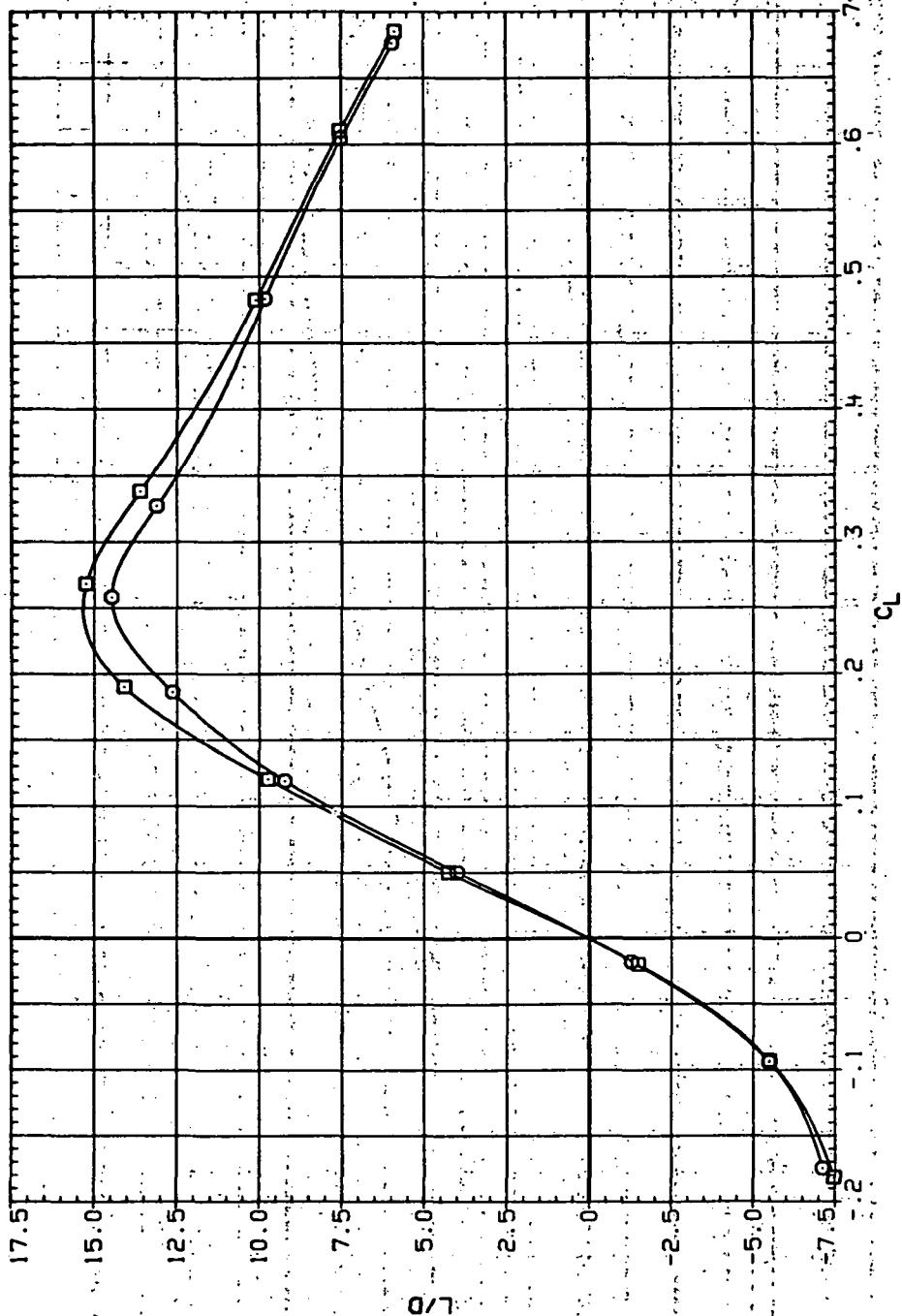
(c)  $C_m$  vs  $C_L$ .

Figure 92.—Continued.

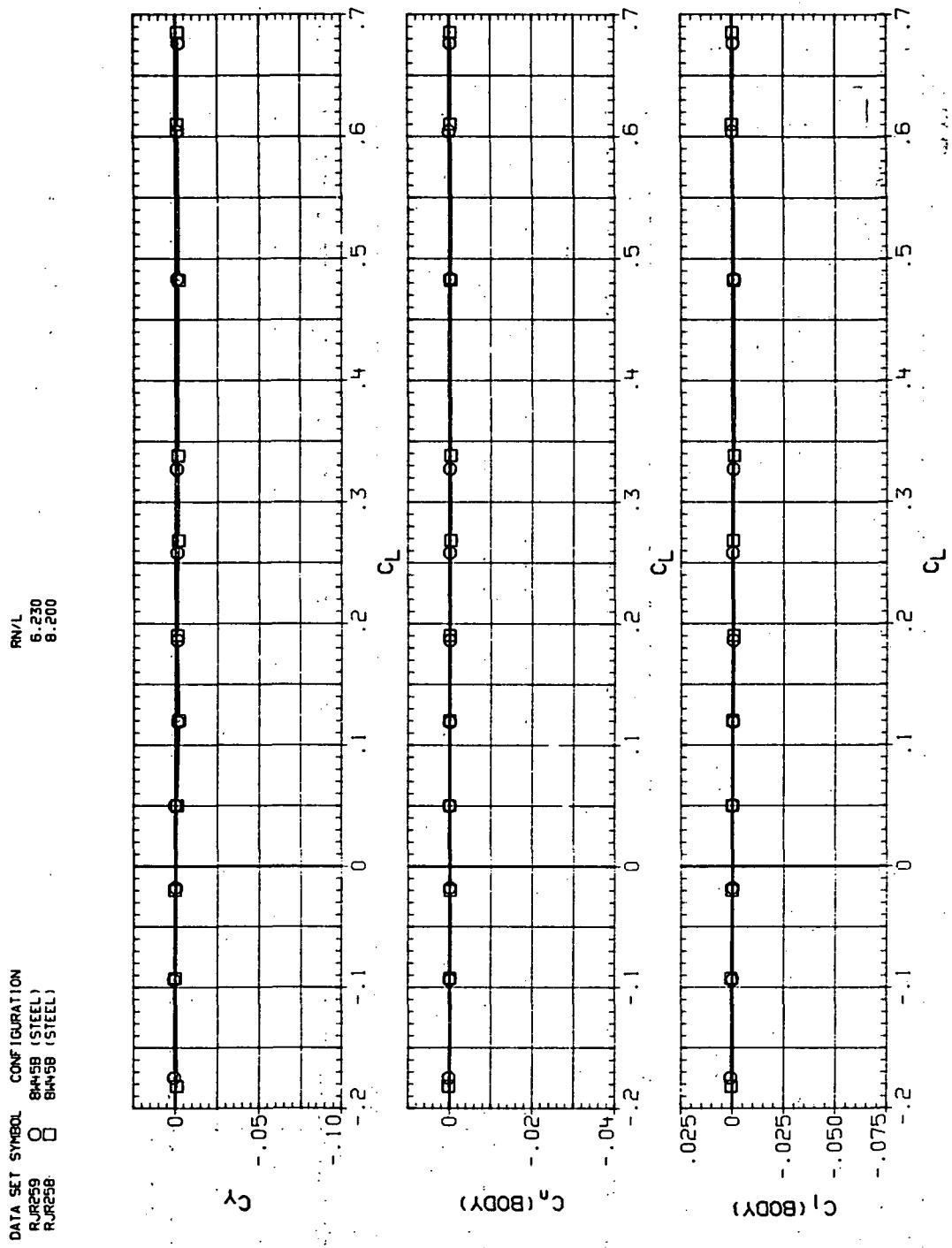
DATA SET SYMBOL CONFIGURATION  
 RJR259  $\square$  845SB (STEEL)  
 RJR258  $\circ$  845SB (STEEL)

RNL  
 6.230  
 8.200



(d)  $L/D$  vs  $C_L$ .

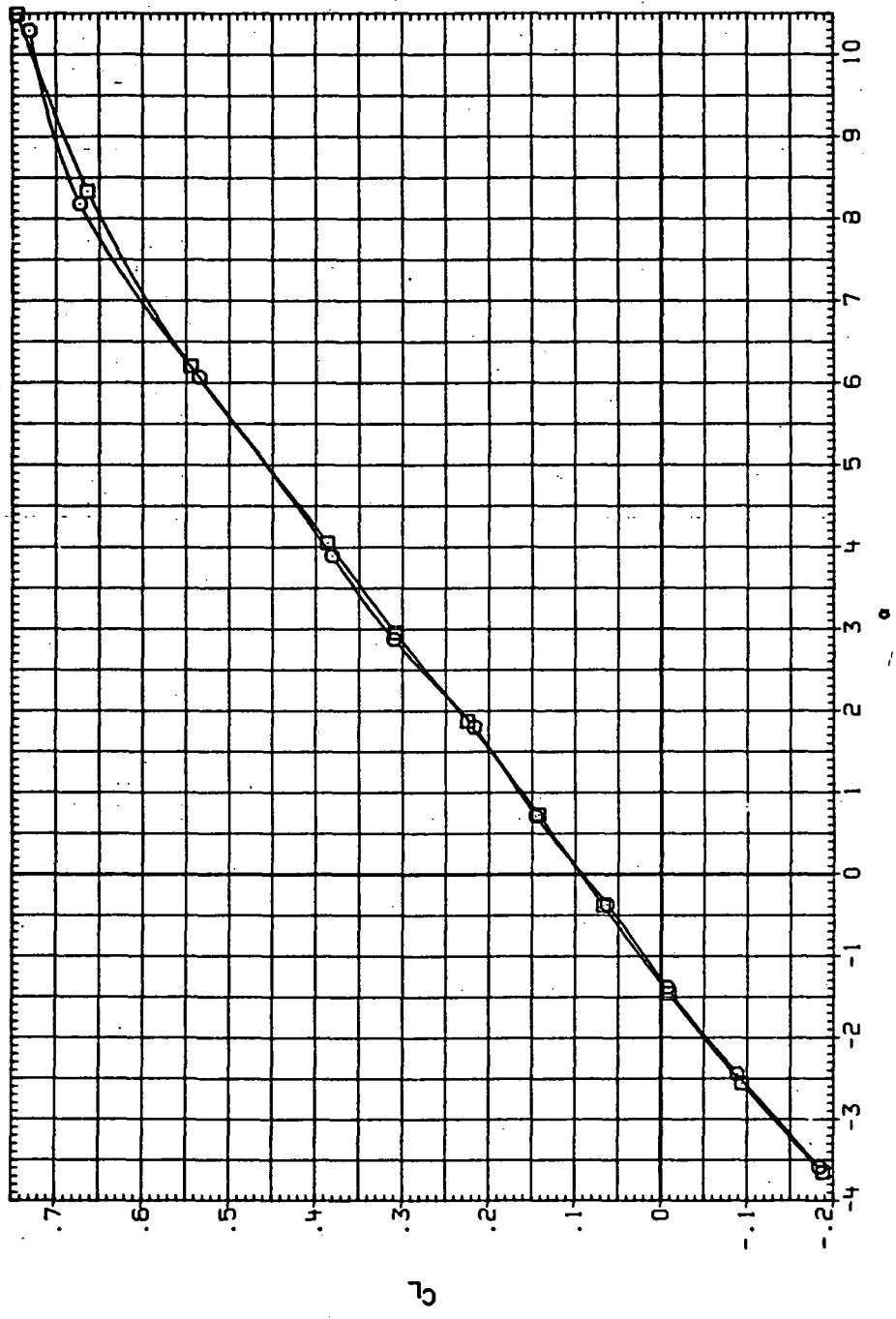
Figure 92.—Continued.



(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

Figure 92.— Concluded.

DA...	SET SYMBOL	CONFIGURATION
RJRC9	O	84459 (STEEL)
RJRC9	□	84459 (STEEL)

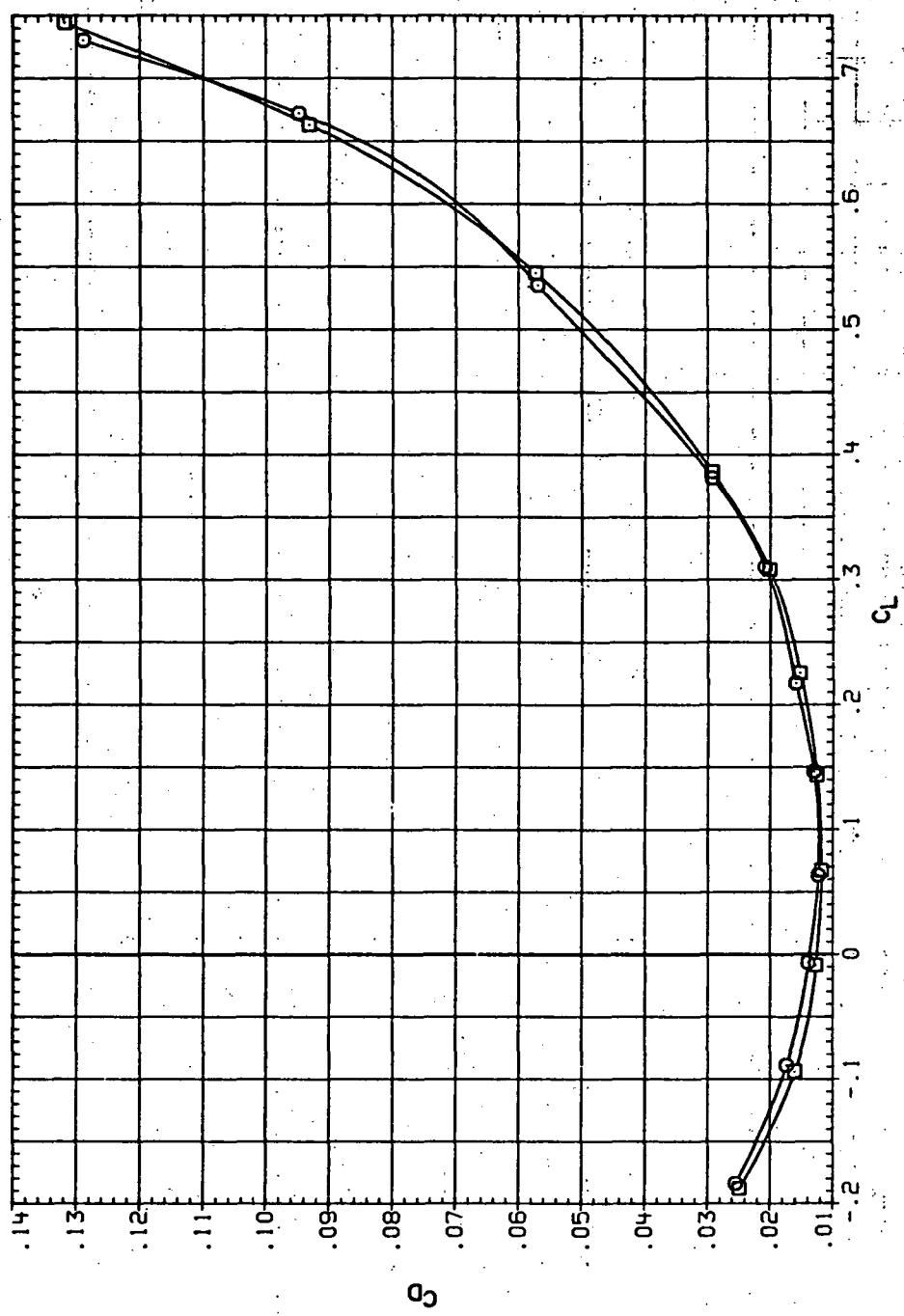


(a)  $C_L$  vs  $\alpha$ .

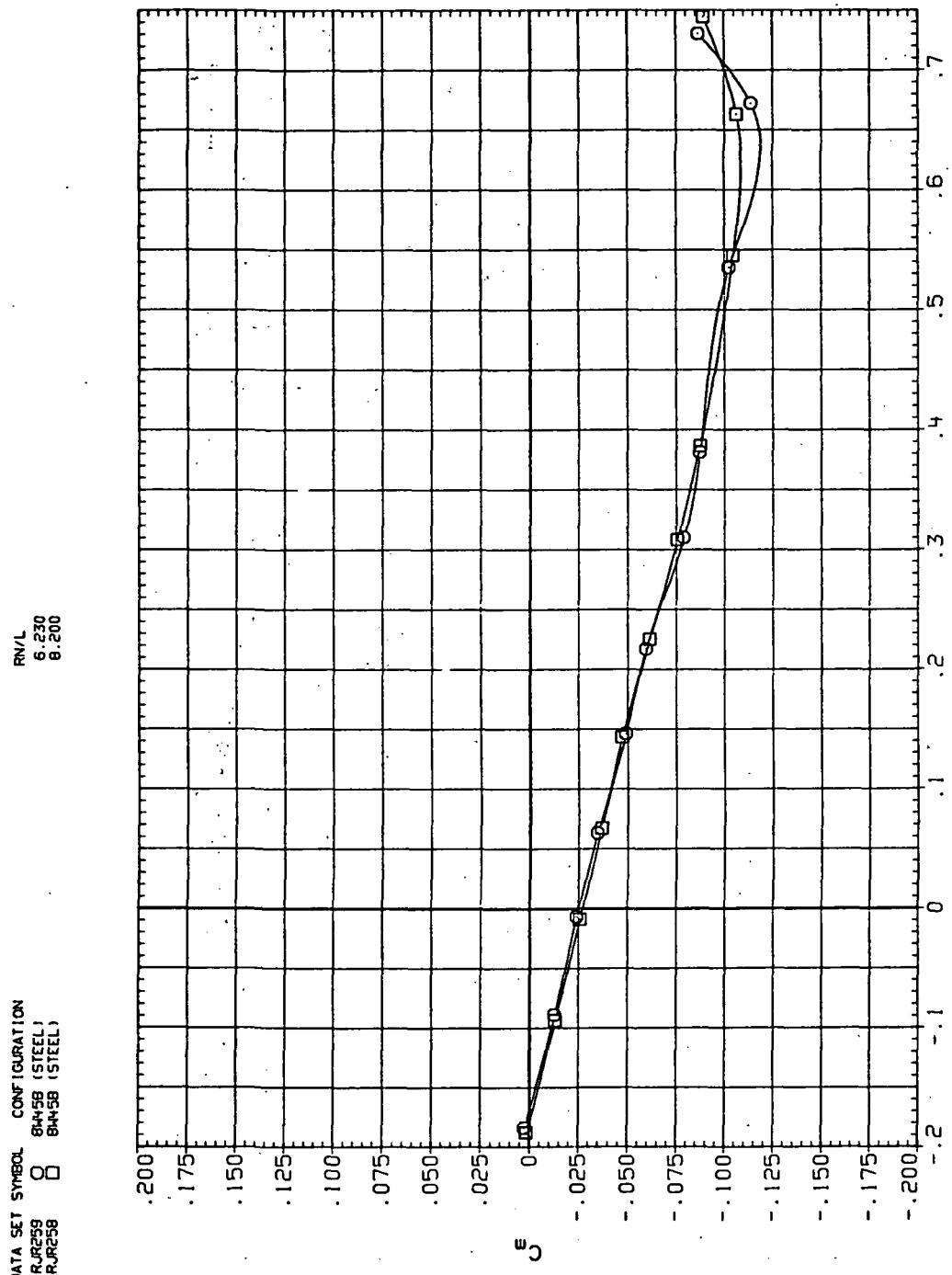
Figure 93.— Reynolds-number effects on the aerodynamic characteristics of the steel swept wing-body combination ( $M = 0.9$  and the NACA 65A204 airfoil).

DA  $\epsilon_f$  symbol configuration  
RJc59 8 845B (STEEL)  
RJR58

RJc59  
8.200

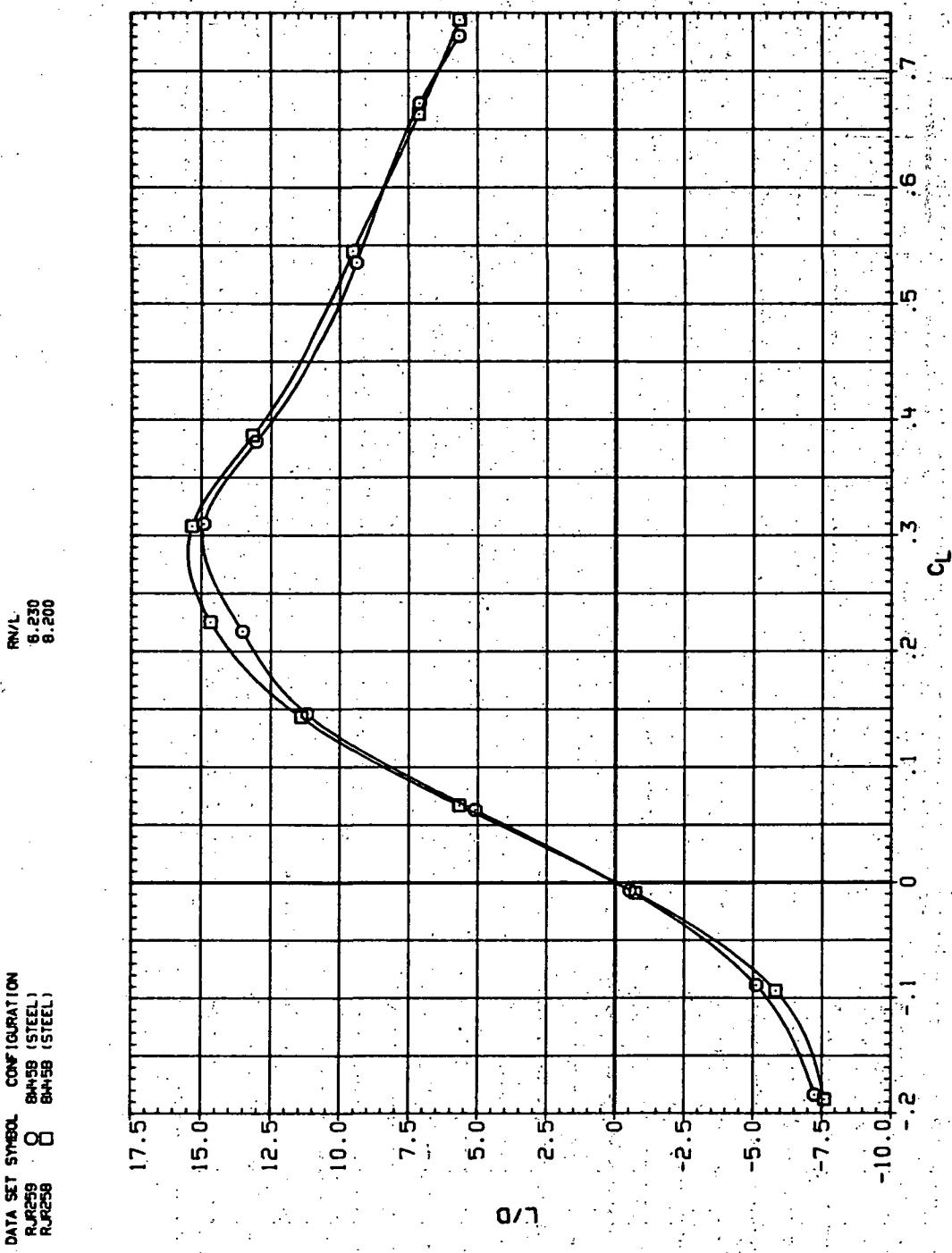


DATA SET SYMBOL CONFIGURATION  
 RJR59 O 8458 (STEEL)  
 RJR58 □ 8458 (STEEL)



(c)  $C_m$  vs  $C_L$ .

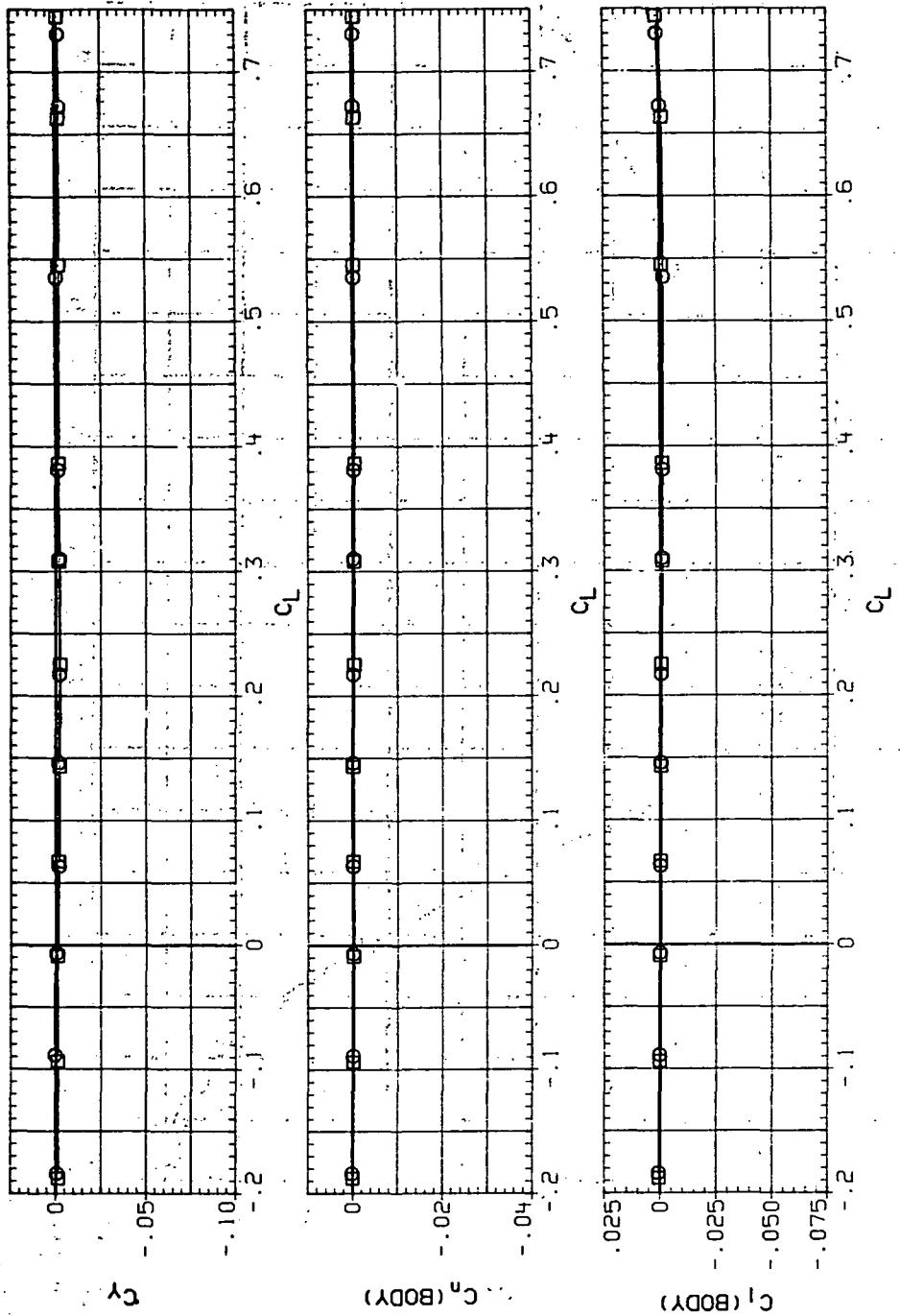
Figure 93.—Continued.



(d)  $L/D$  vs  $C_L$ .

Figure 93.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR259  $\square$  B4458 (STEEL)  
 RJR258  $\blacksquare$  B4458 (STEEL)

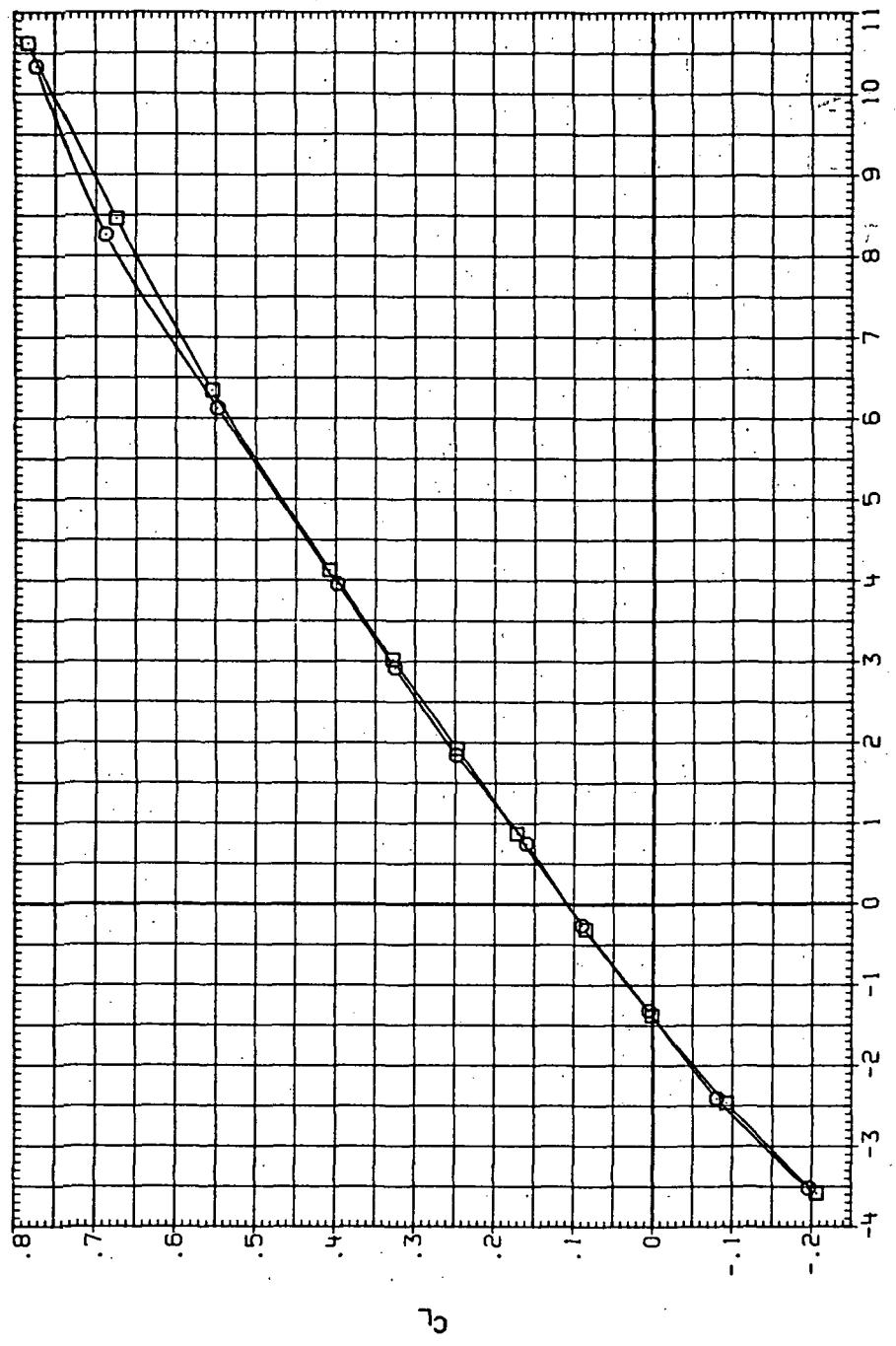


(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

Figure 93.— Concluded.

DATA SET SYMBOL CONFIGURATION  
 RJR259 O 8A45B (STEEL)  
 RJR258 □ 8A45B (STEEL)

R/N/L  
 6.230  
 8.200

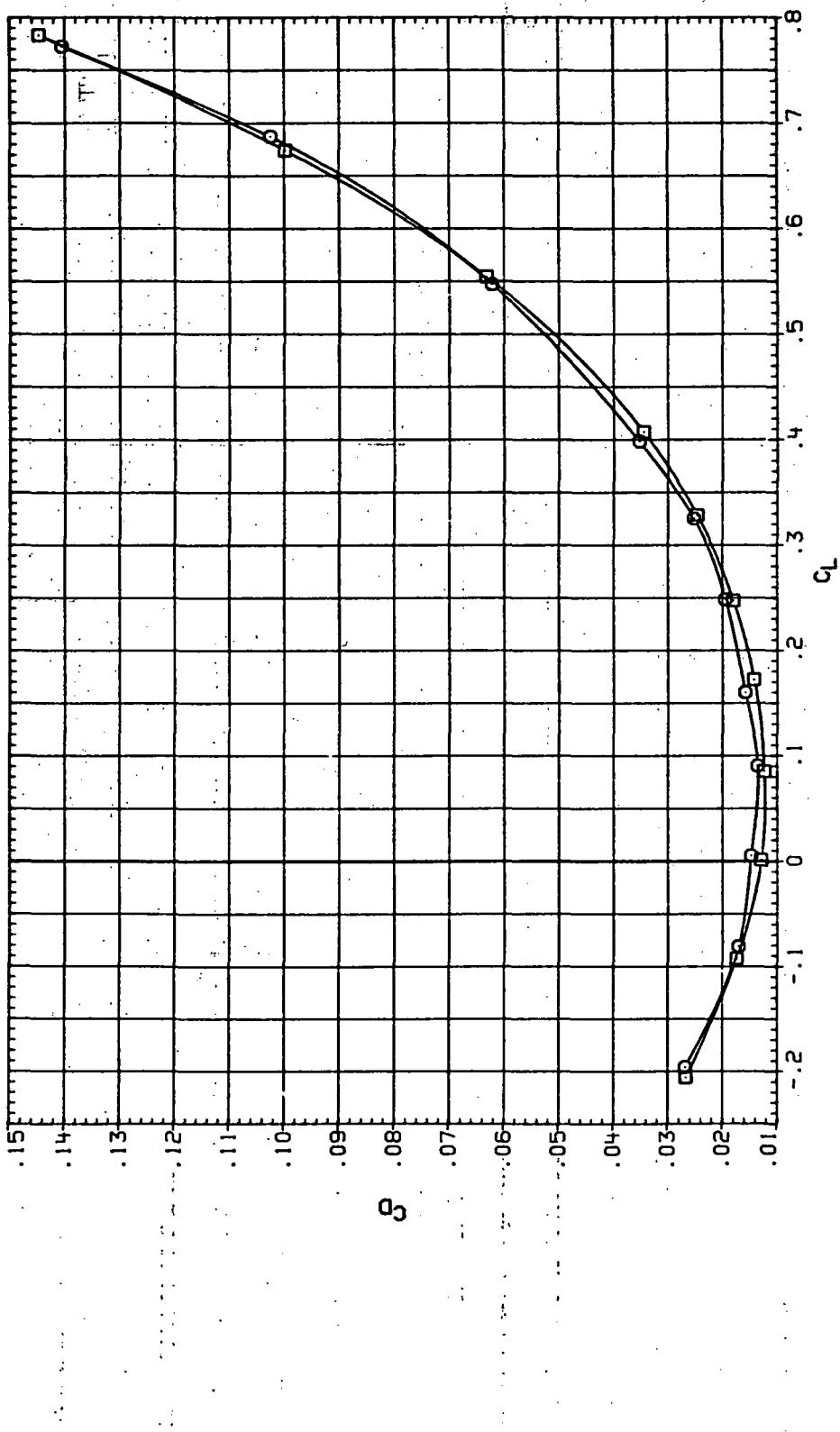


(a)  $C_L$  vs  $\alpha$ .

Figure 94.— Reynolds-number effects on the aerodynamic characteristics of the steel swept wing-body combination ( $M = 0.95$  and the NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 RJR259 O 6H45B (STEEL)  
 RJR258 □ 8H45B (STEEL)

RW/L 6.230  
 8.200

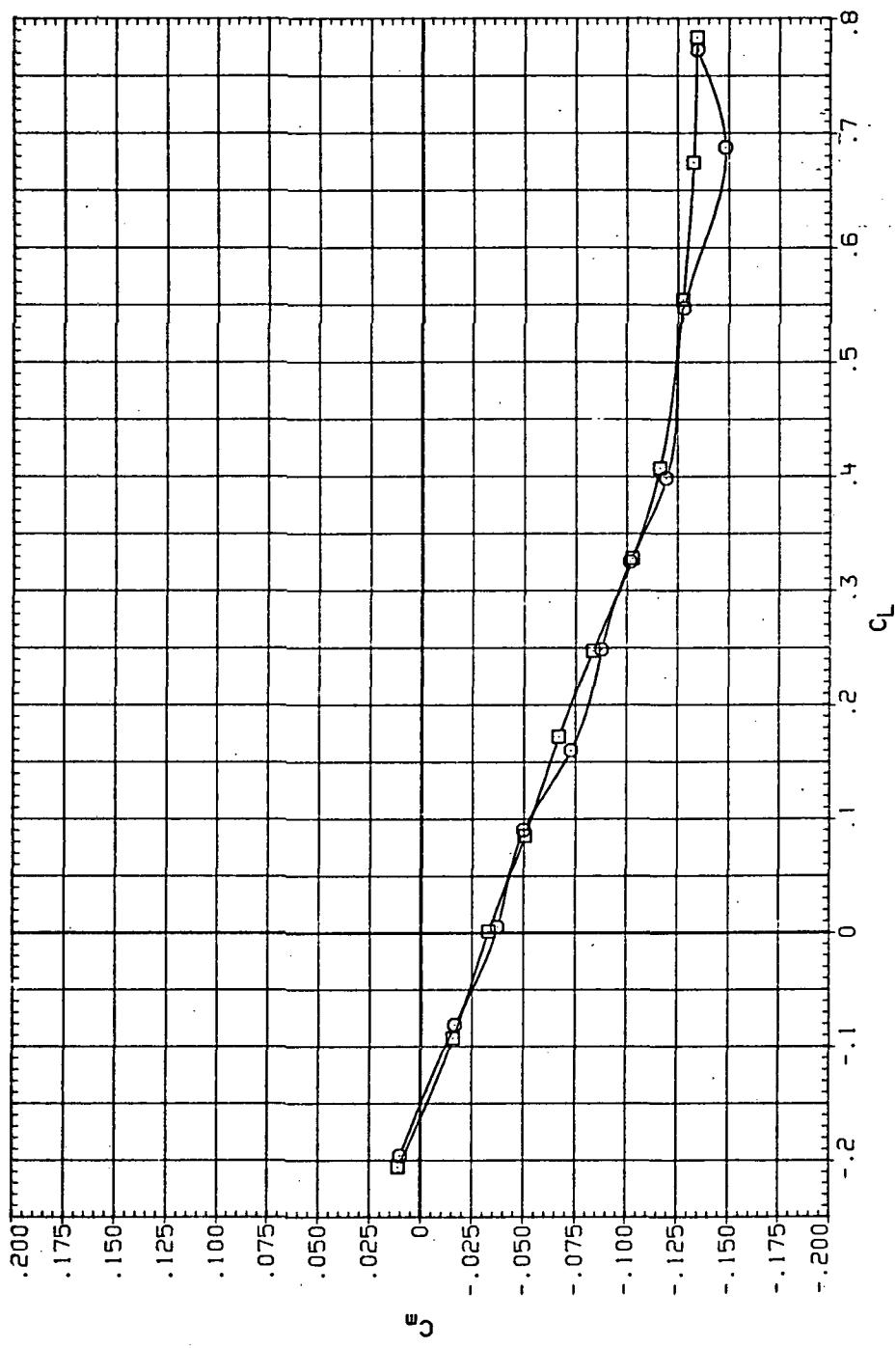


(b)  $C_D$  vs  $C_L$ .

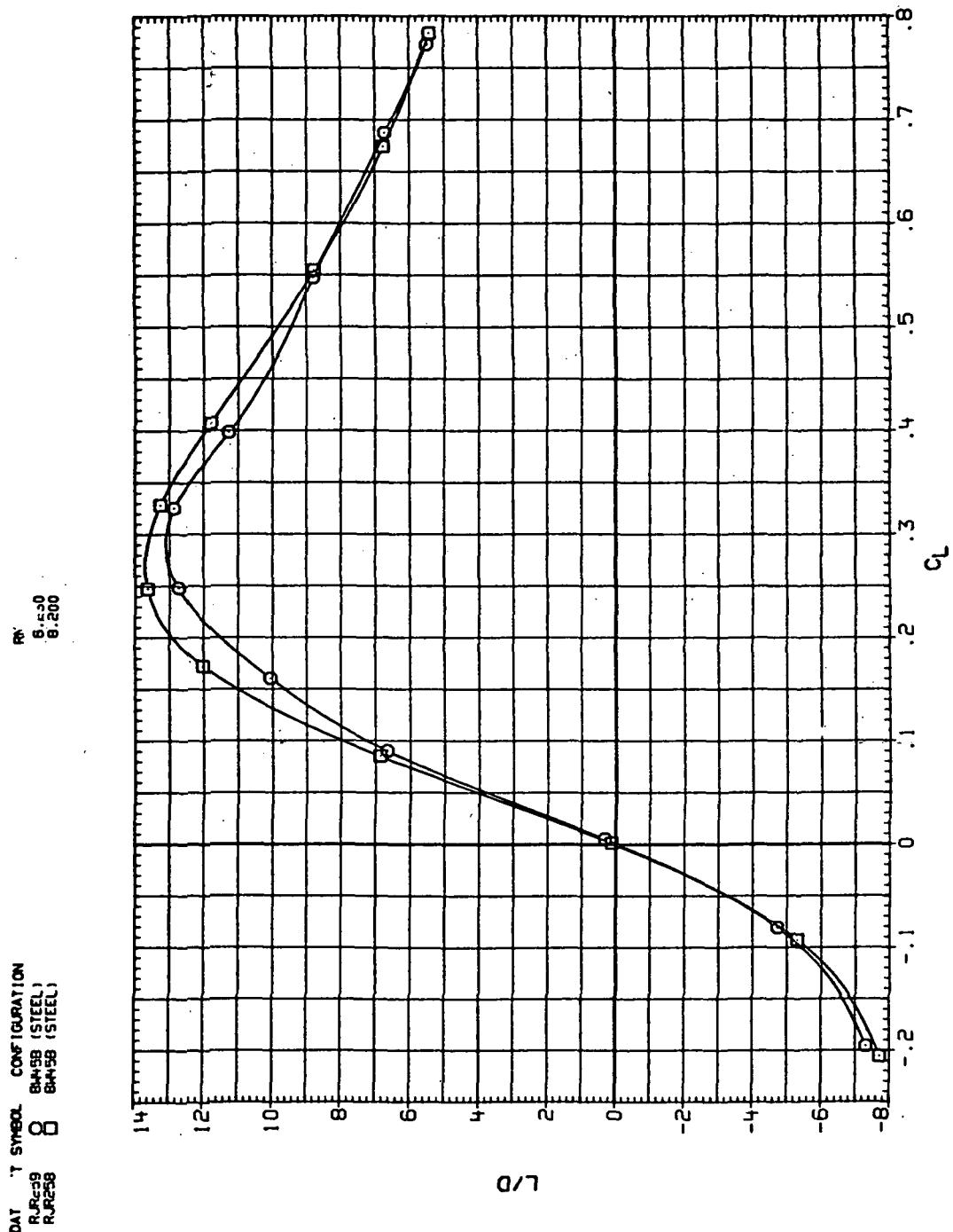
Figure 94.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RUR259 O 84459 (STEEL)  
 RJR259 □ 84459 (STEEL)

RNL  
 6.230  
 8.200



(c)  $C_m$  vs  $C_L$ .  
 Figure 94.— Continued.



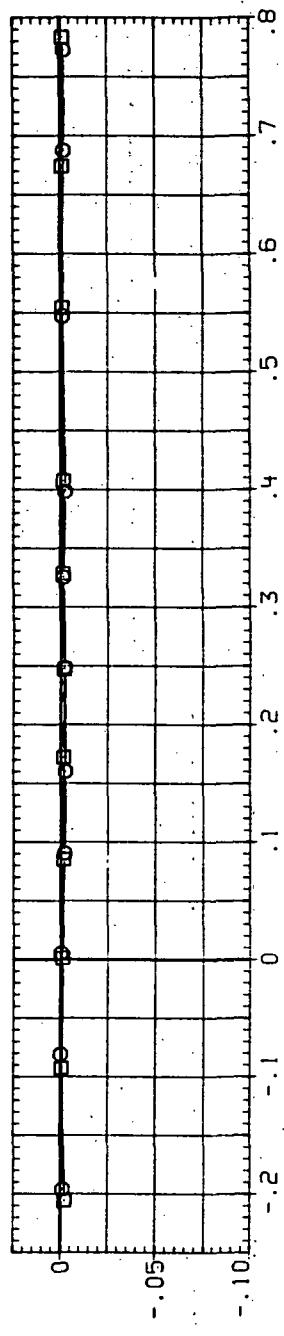
(d)  $L/D$  vs  $C_L$ .

Figure 94.—Continued.

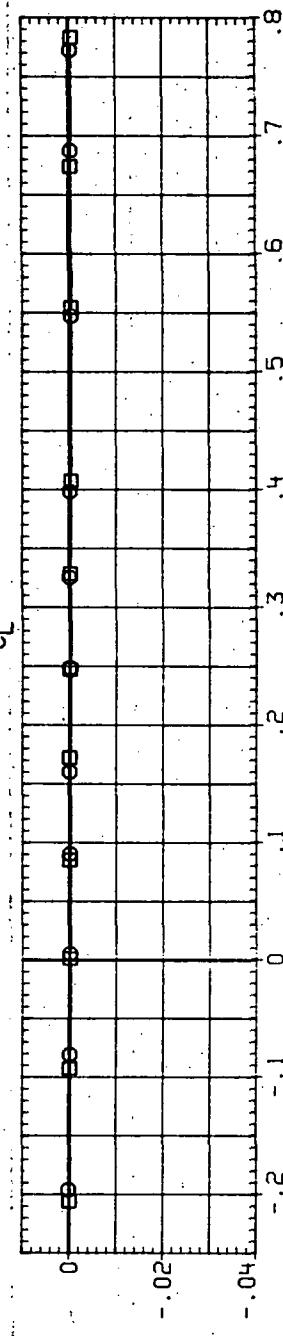
DATA SET SYMBOL CONFIGURATION  
 RUR259  $\square$  B445B (STEEL)  
 RR258  $\circ$  B445B (STEEL)

RN/L  
 6.230  
 8.200

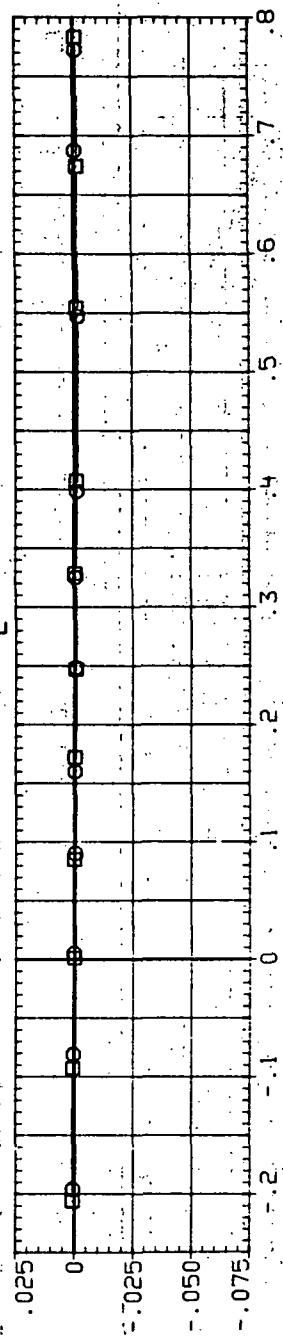
$C_Y$



$C_n$  (BODY)



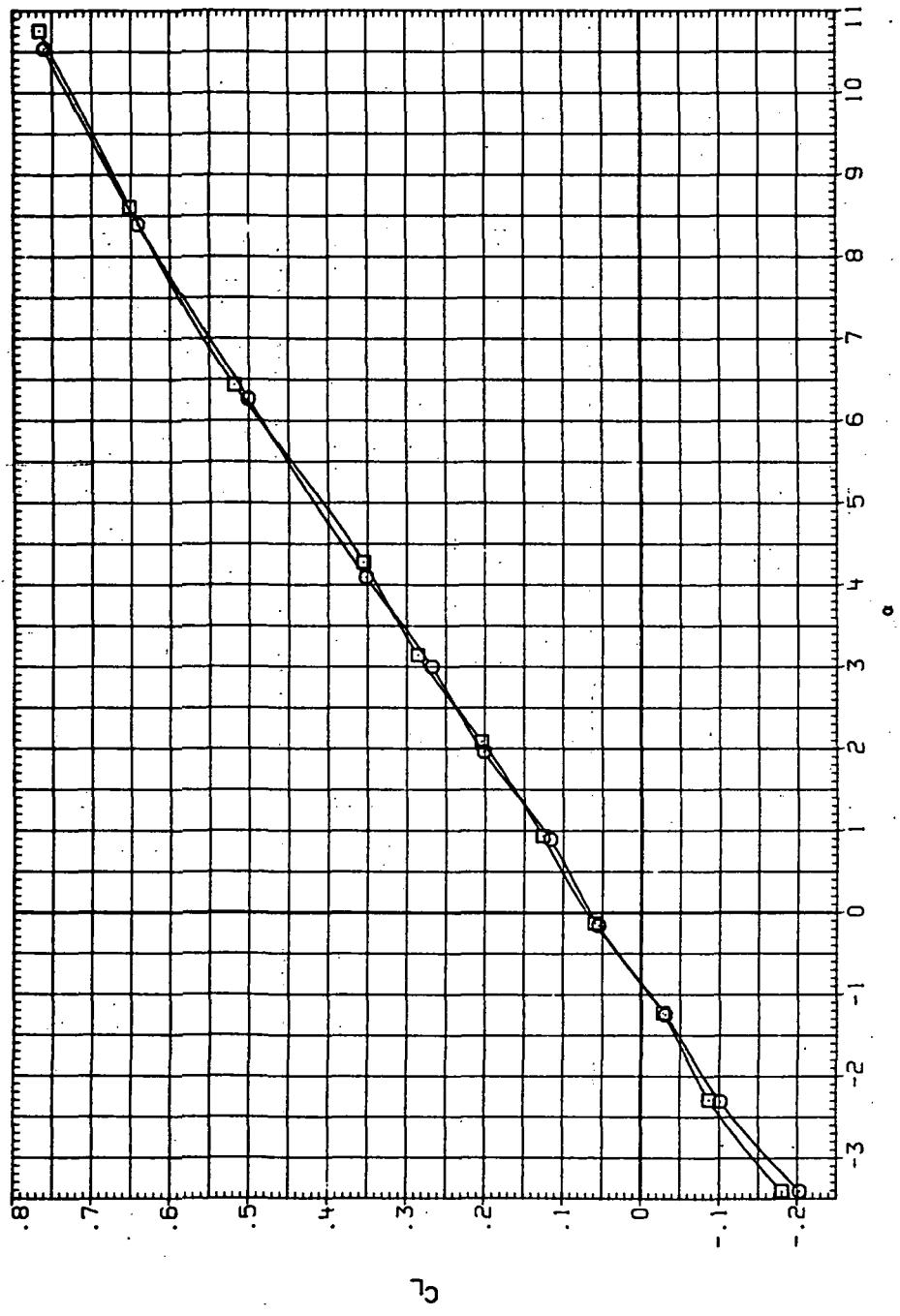
$C_l$  (BODY)



(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

Figure 94.— Concluded.

DATA SET SYMBOL CONFIGURATION  
 RUR259 6A45B (STEEL)  
 RUR258 6A45B (STEEL)

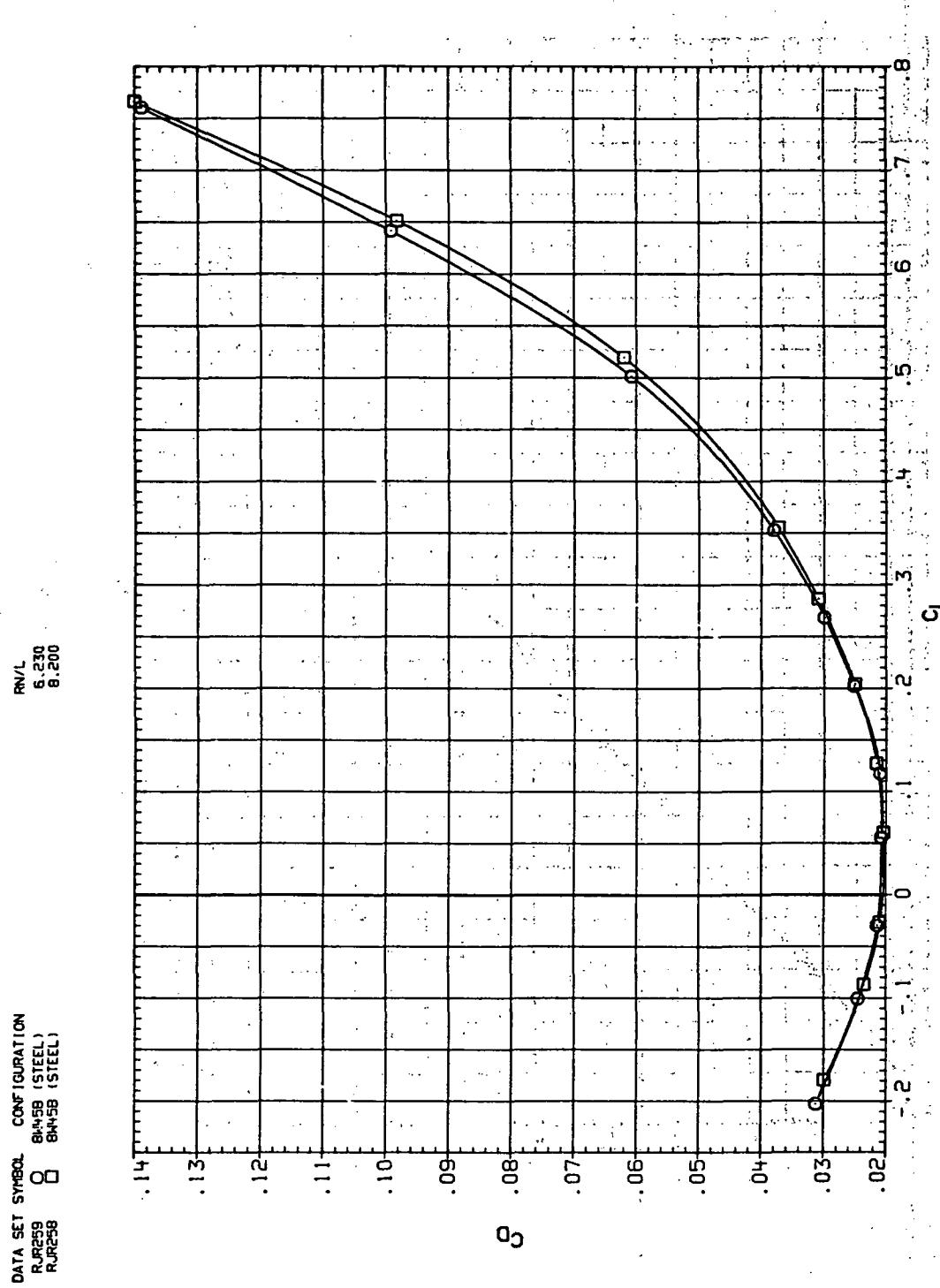


(a)  $C_L$  vs  $\alpha$ .

Figure 95.— Reynolds-number effects on the aerodynamic characteristics of the steel swept wing-body combination ( $M = 1.1$  and the NACA 65A204 airfoil).

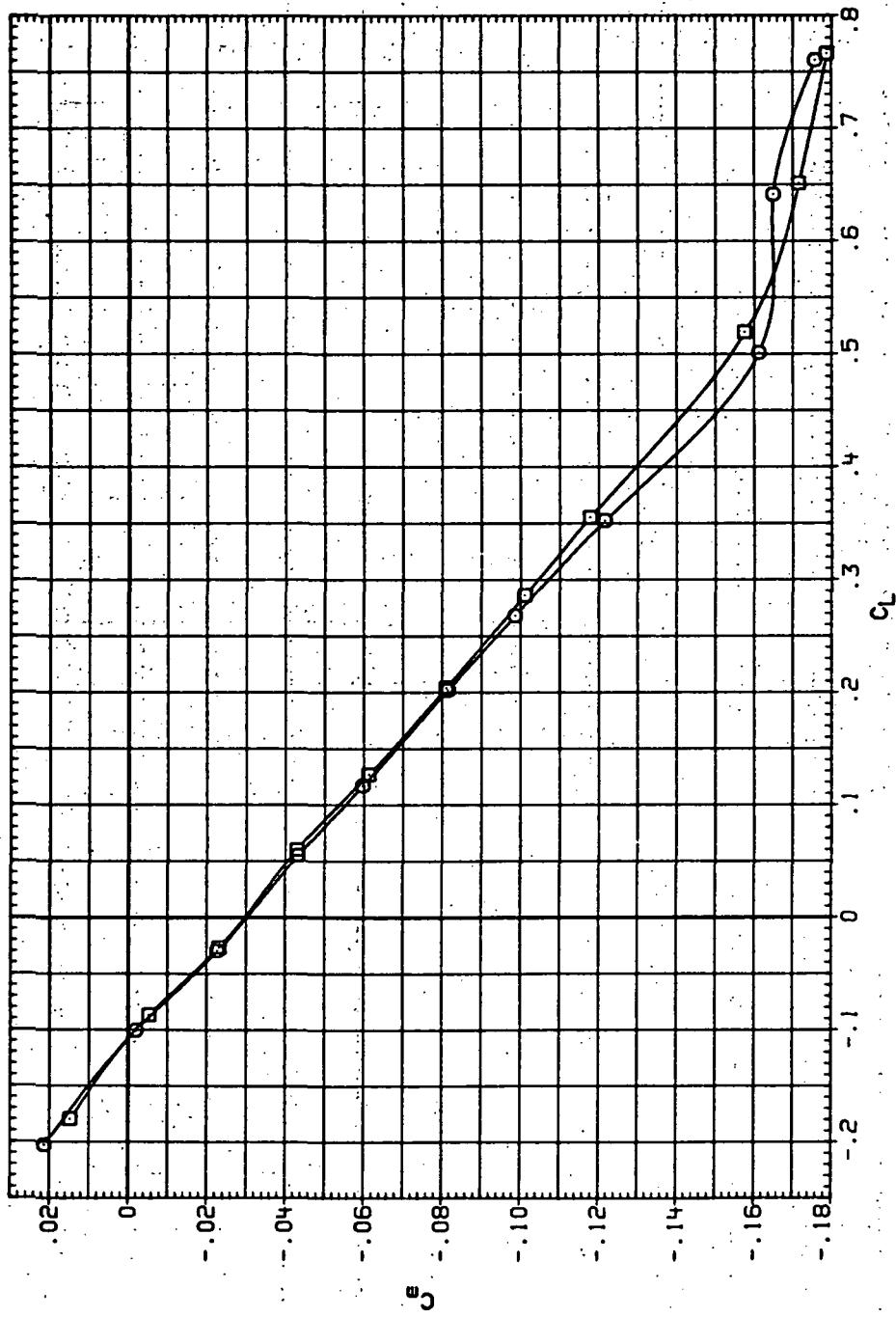
(b)  $C_D$  vs  $C_L$ .

Figure 95.—Continued.



DATA SET SYMBOL CONFIGURATION  
 RUR299 8M+9B (STEEL)  
 RUR298 8M+9B (STEEL)

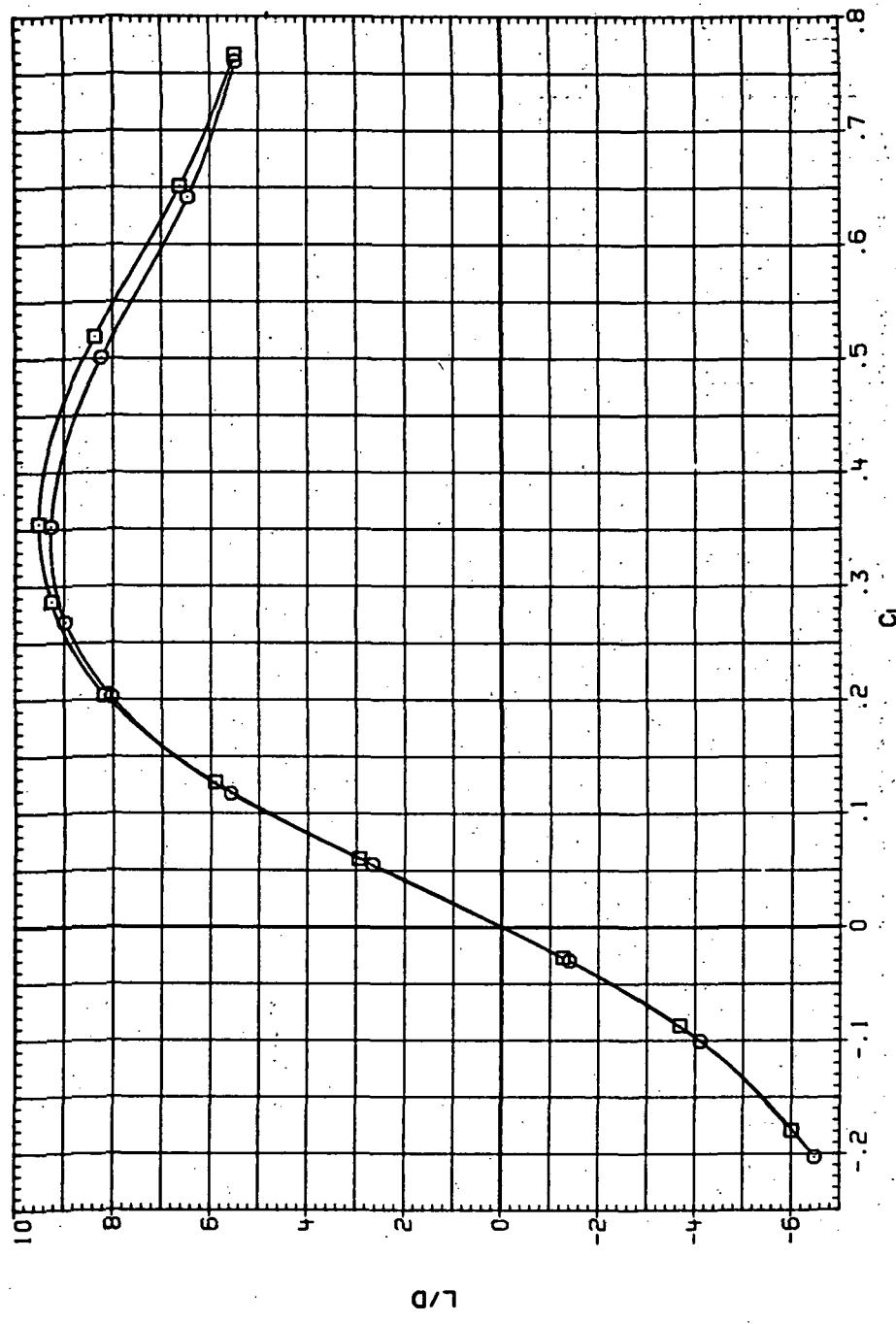
R/V/L  
 6.230  
 6.200



(c)  $C_m$  vs  $C_L$

Figure 95.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RUE259 8M159 (STEEL)  
 RUE258 8M158 (STEEL)

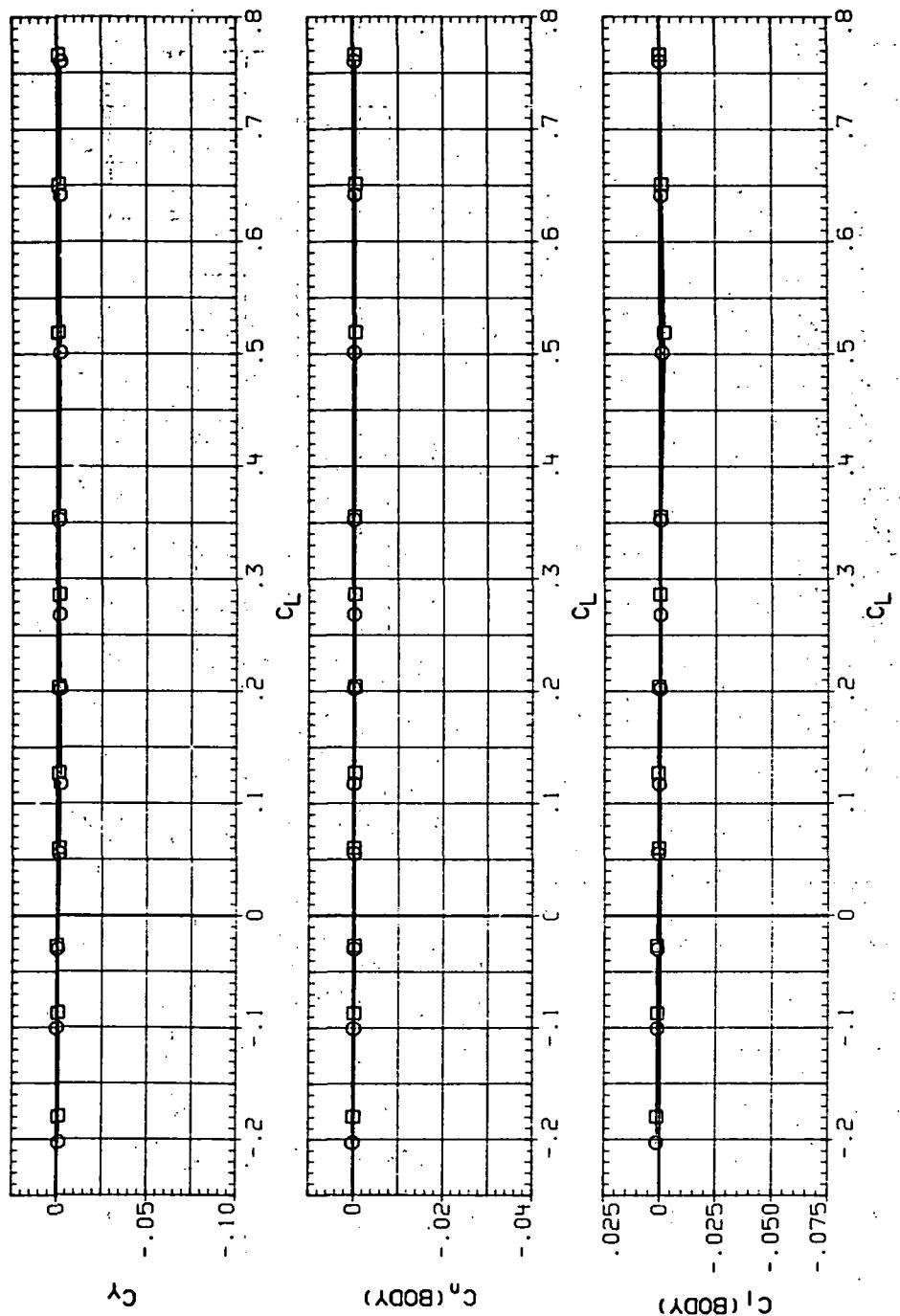


(d)  $L/D$  vs  $C_L$ .

Figure 95.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJR259 8H45B (STEEL)  
 RJR258 8H45B (STEEL)

RN/L 6.230  
 8.200

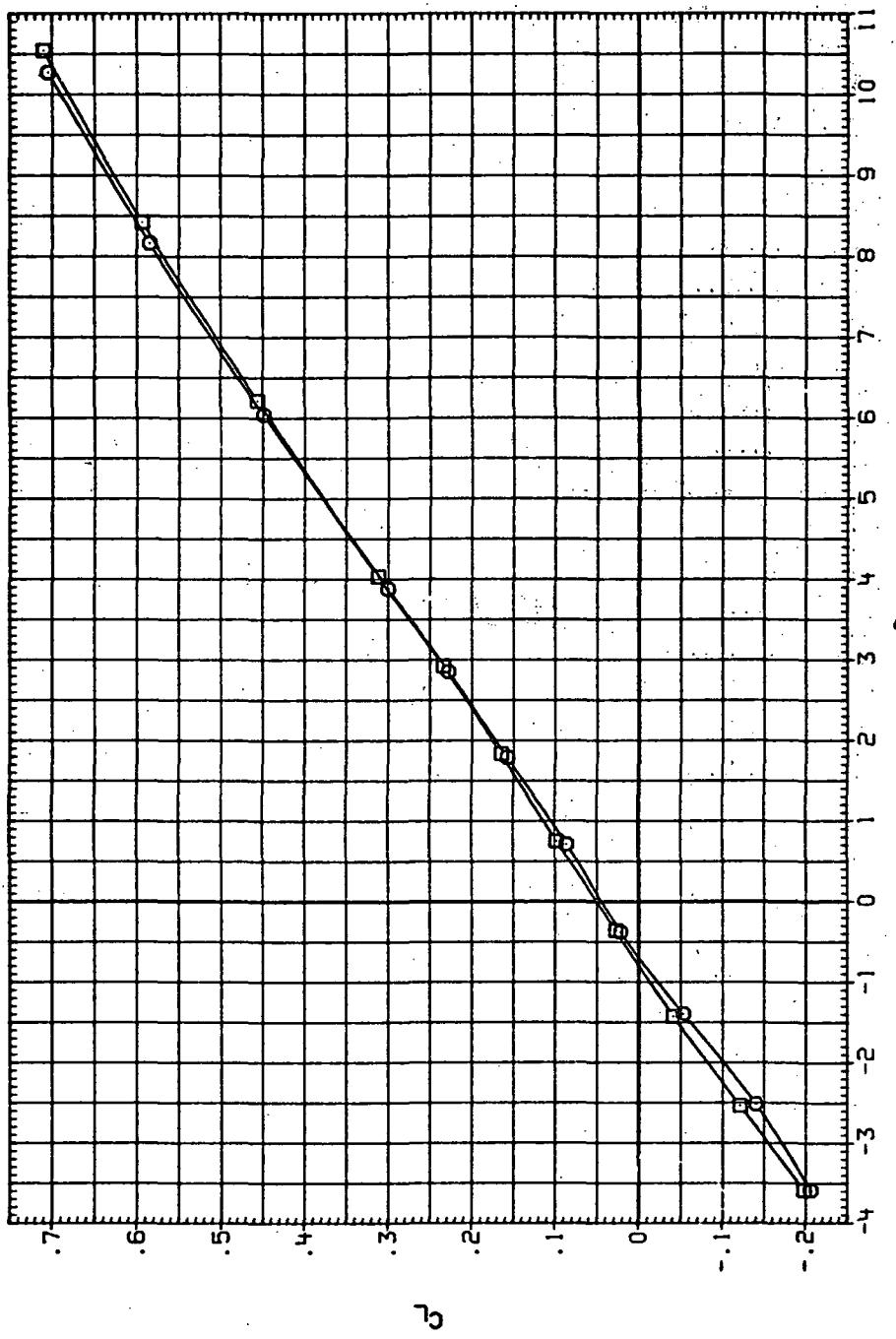


(e)  $C_y$ ,  $C_n$  and  $C_i$  vs  $C_L$ .

Figure 95.— Concluded.

DATA      SYMBOL      CONFIGURATION  
 RJR259      O      65A204 (STEEL)  
 RJR258      □      65A204 (STEEL)

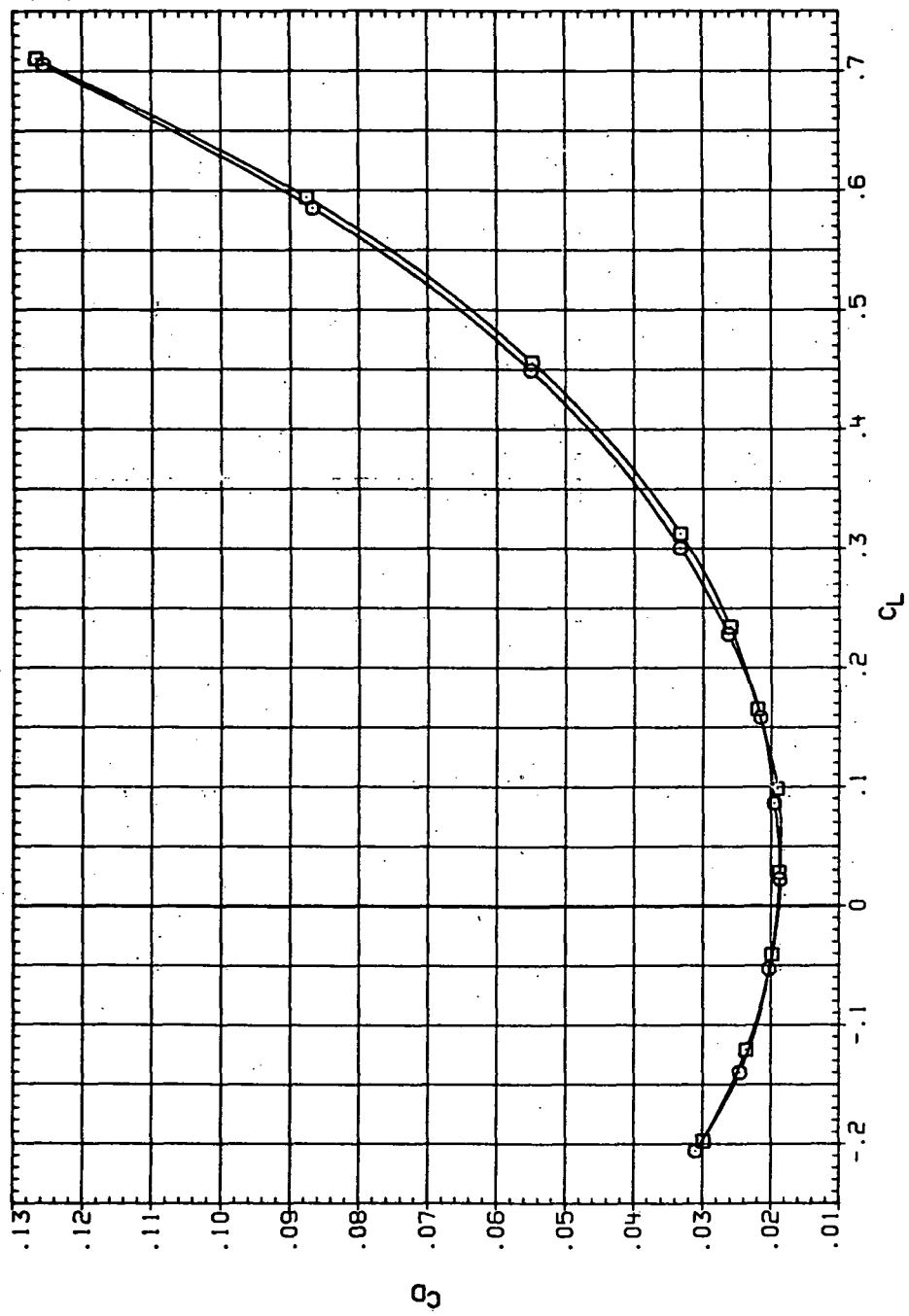
REYN.  
 6,230  
 8,200



(a)  $C_L$  vs  $\alpha$ .

Figure 96.— Reynolds-number effects on the aerodynamic characteristics of the steel swept wing-body combination ( $M = 1.2$  and the NACA 65A204 airfoil).

DATA ---- SYMBOL CONFIGURATION  
 R.R.E. 8 84+58 (STEEL)  
 R.R.E. 8 84+58 (STEEL)

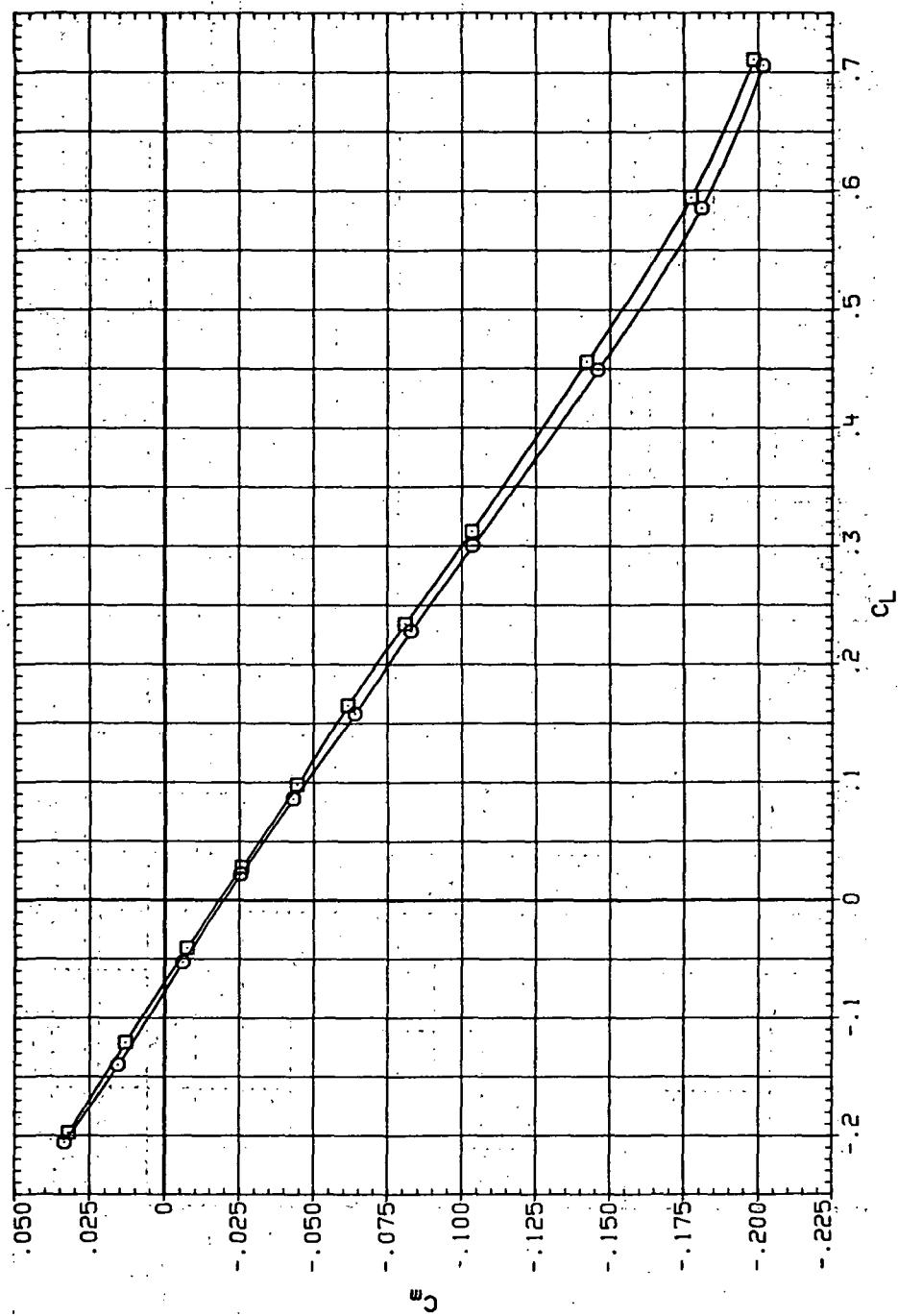


(b)  $C_D$  vs  $C_L$ .

Figure 96.—Continued.

DATA SET SYMBOL CONFIGURATION  
 R.R259 O 8+4+5B (STEEL)  
 R.R258 □ 8+4+5B (STEEL)

RN/L  
 6.230  
 8.200



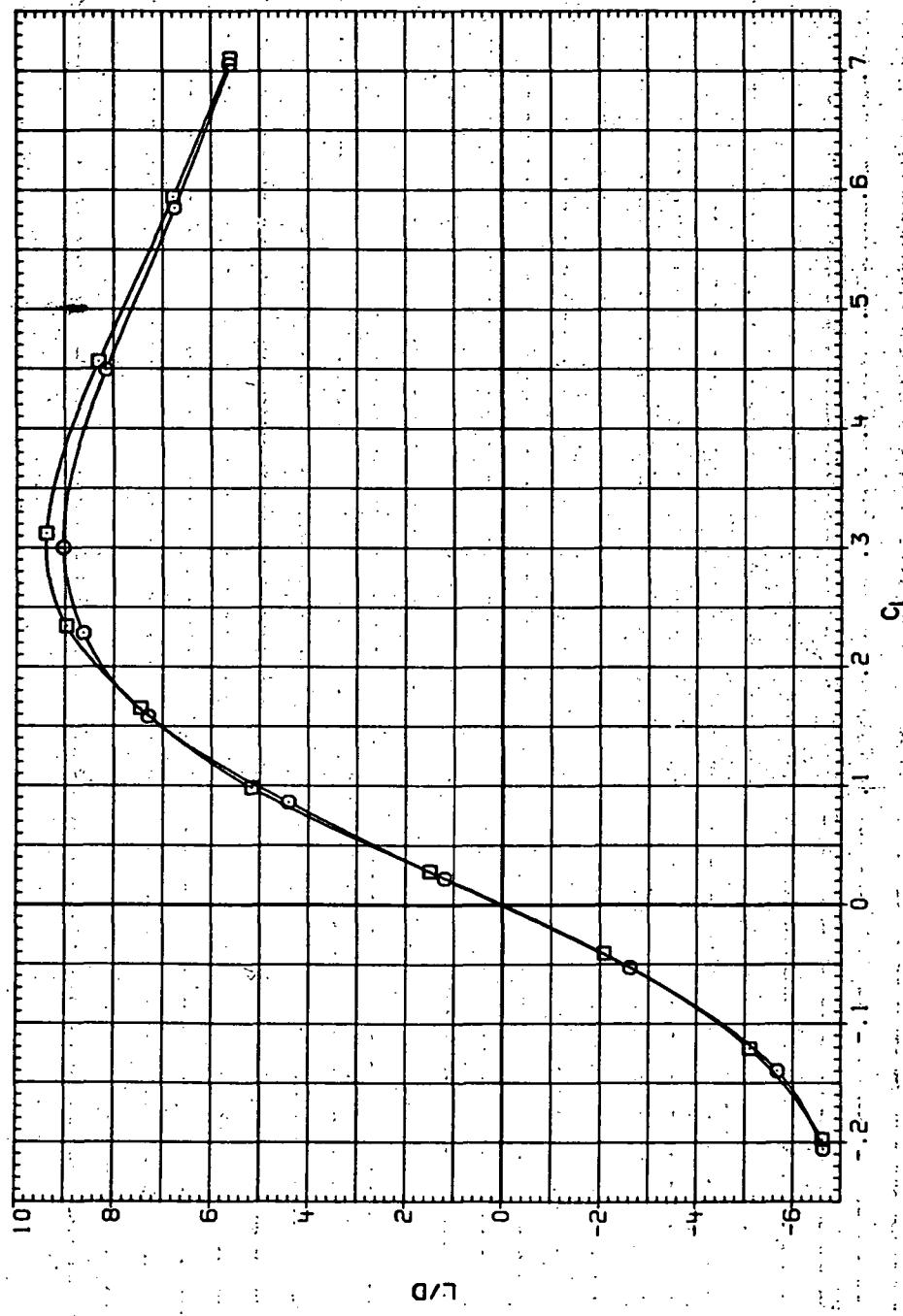
(c)  $C_m$  vs  $C_L$ .

Figure 96.—Continued.

DATA SET SYMBOL CONFIGURATION

R,R259 8M458 (STEEL)  
R,R258 8M458 (STEEL)

RN/L  
6.230  
8.200

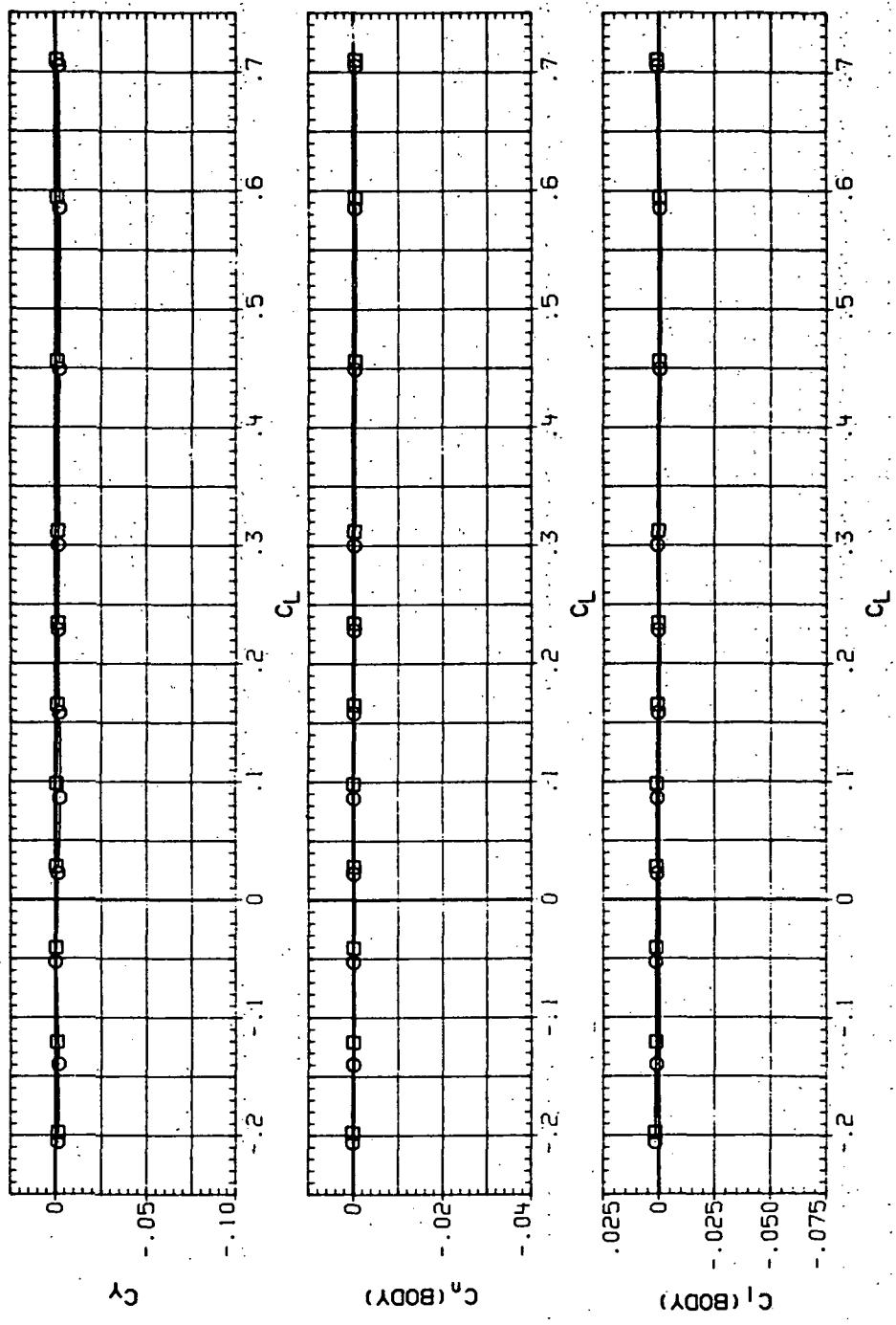


(d)  $L/D$  vs  $C_L$ .

Figure 96.—Continued.

DATA SET SYMBOL CONFIGURATION  
 RJ259 O BH45B (STEEL)  
 RJ258 □ BH45B (STEEL)

R/N/L  
 6.230  
 8.200



(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$

Figure 96.—Concluded

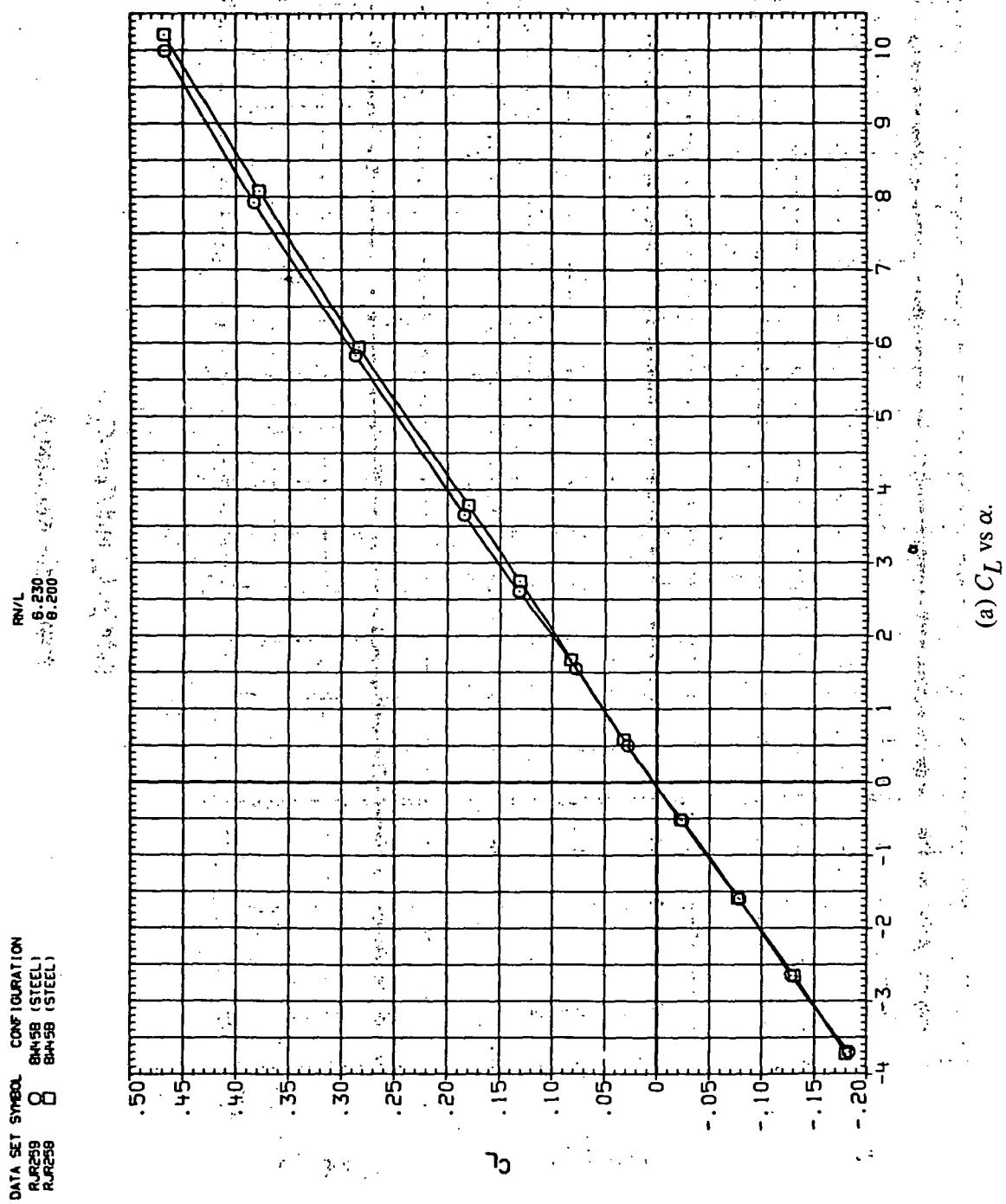
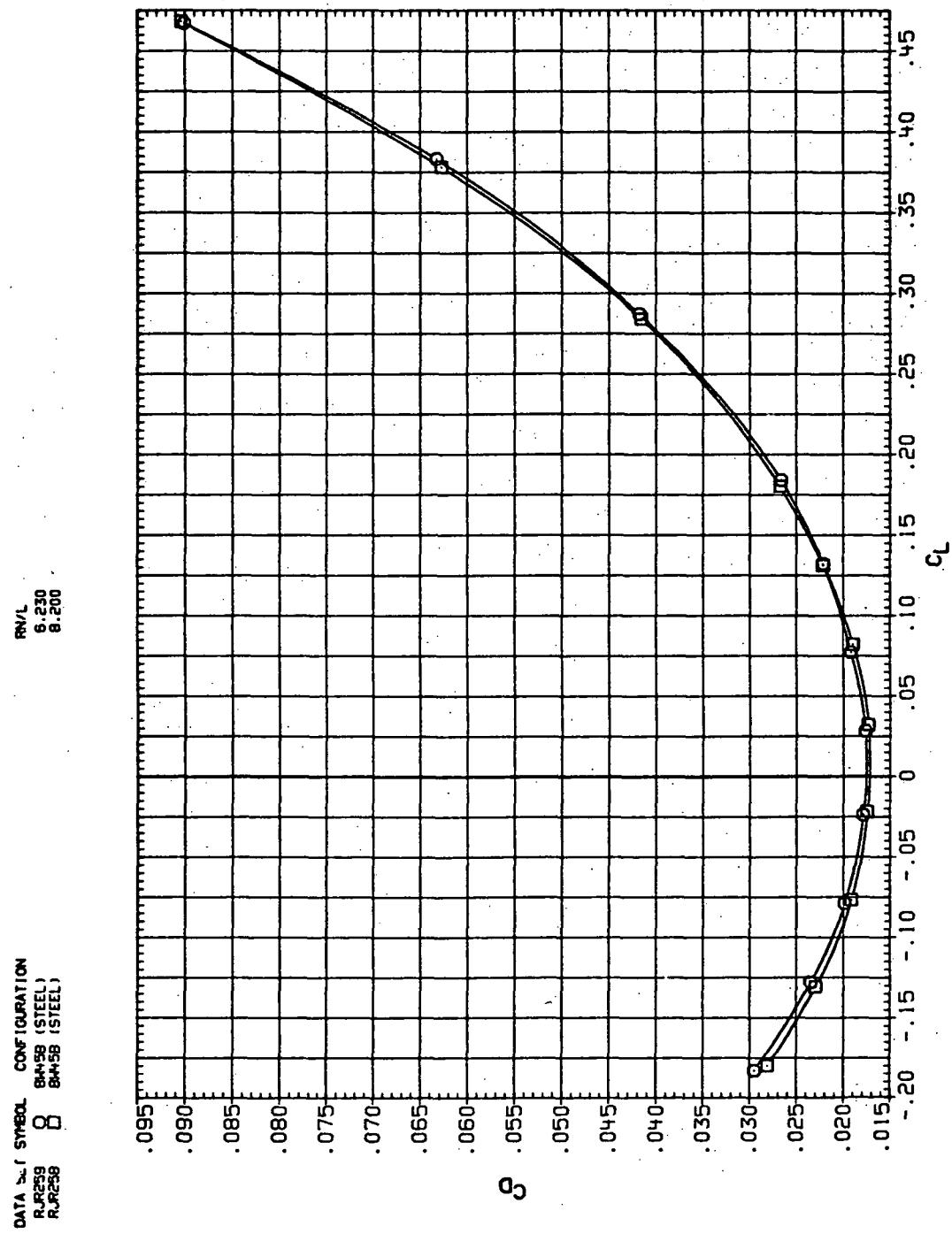


Figure 97.—Reynolds-number effects on the aerodynamic characteristics of the steel swept wing-body combination ( $M = 1.6$  and the NACA 65A204 airfoil).

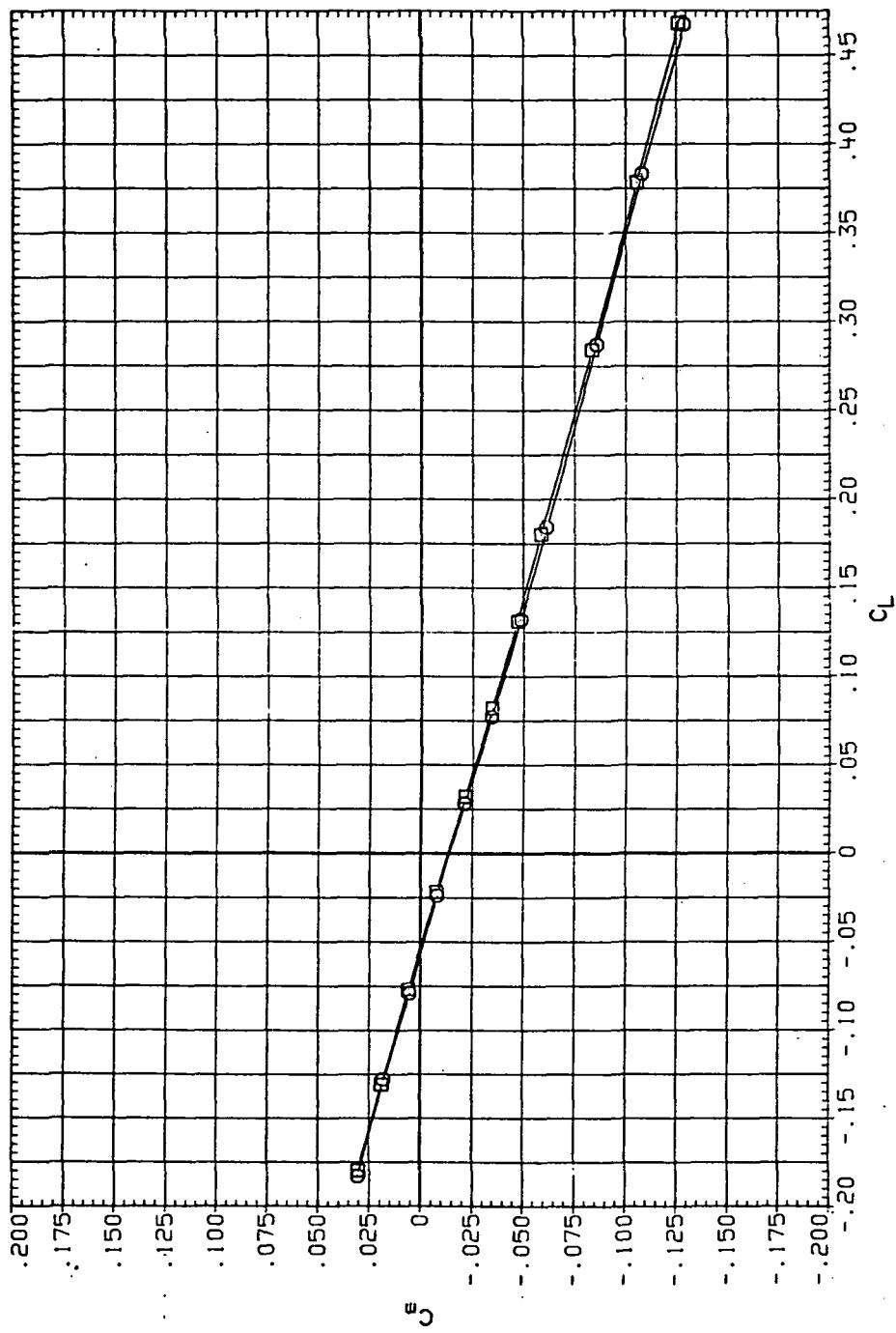


(b)  $C_D$  vs  $C_L$ .

Figure 97.—Continued.

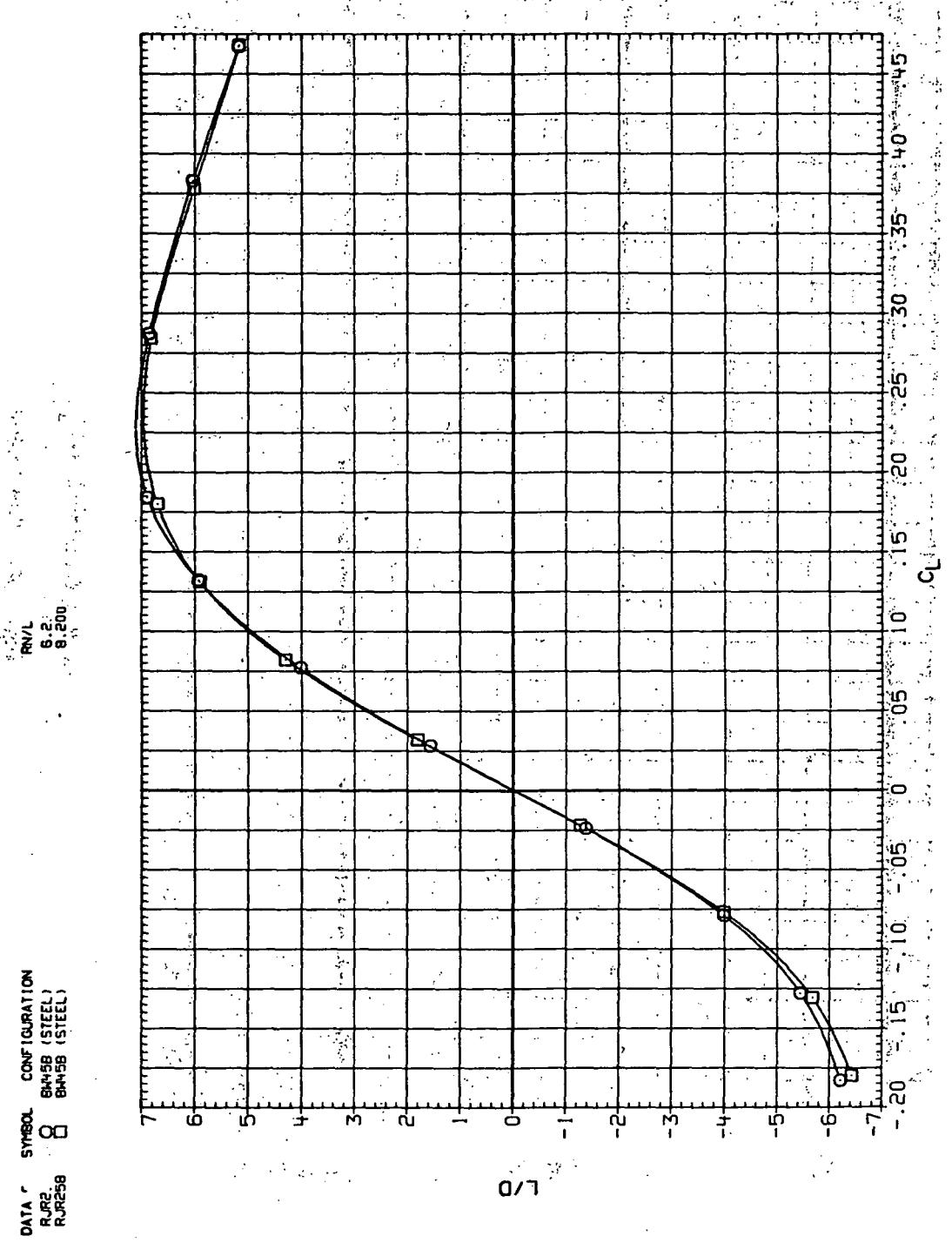
DATA SET SYMBOL CONFIGURATION  
 RJR259 O 8445B (STEEL)  
 RJR258 □ 8445B (STEEL)

RNL  
6.230  
8.200



(c)  $C_m$  vs  $C_L$ .

Figure 97.—Continued.

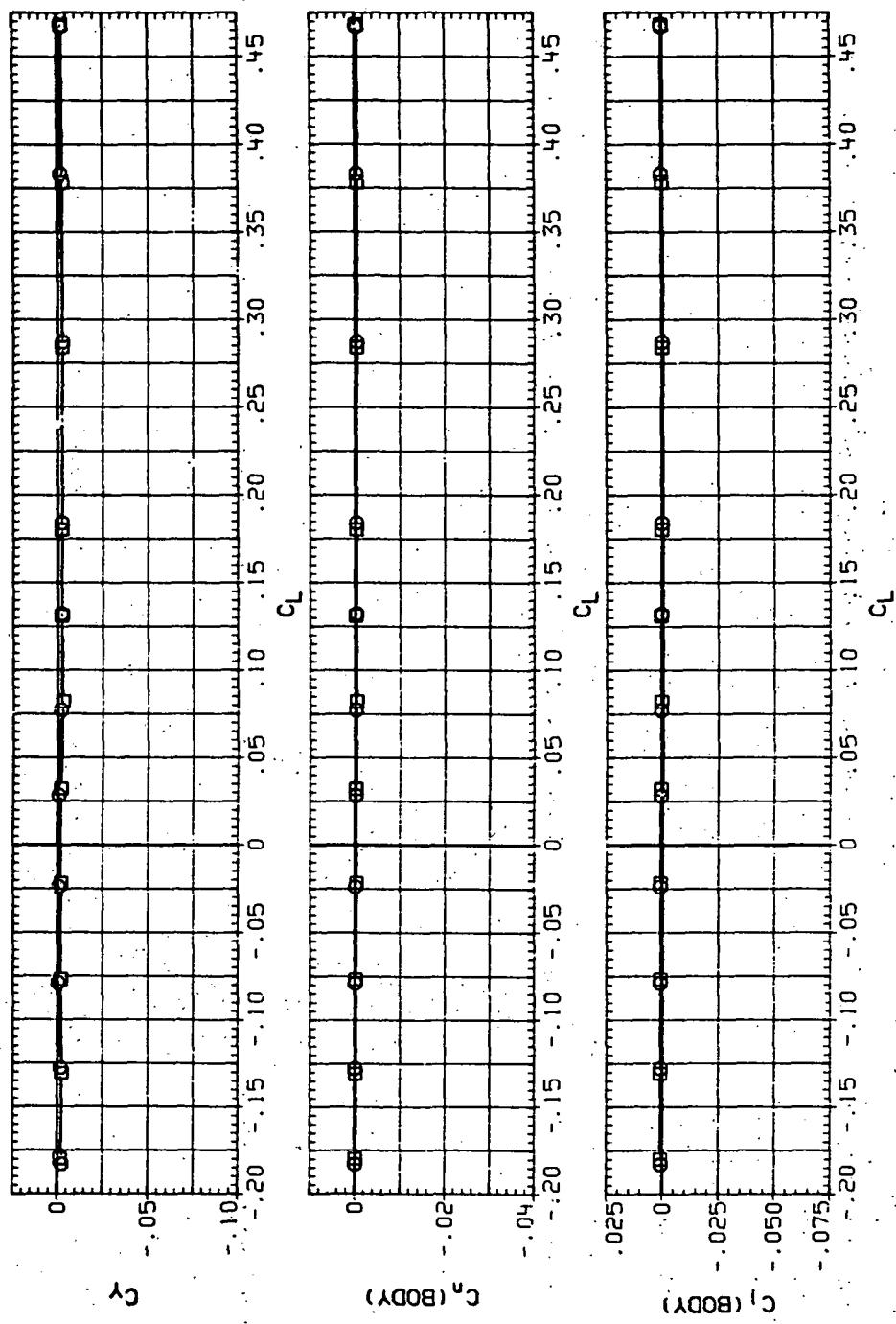


(d)  $L/D$  vs  $C_L$ .

Figure 97.—Continued.

DATA SET SYMBOL: CONFIGURATION:  
 RJR299 8A45B (STEEL)  
 RJR298 8A45B (STEEL)

R/N/L  
 6.230  
 6.200

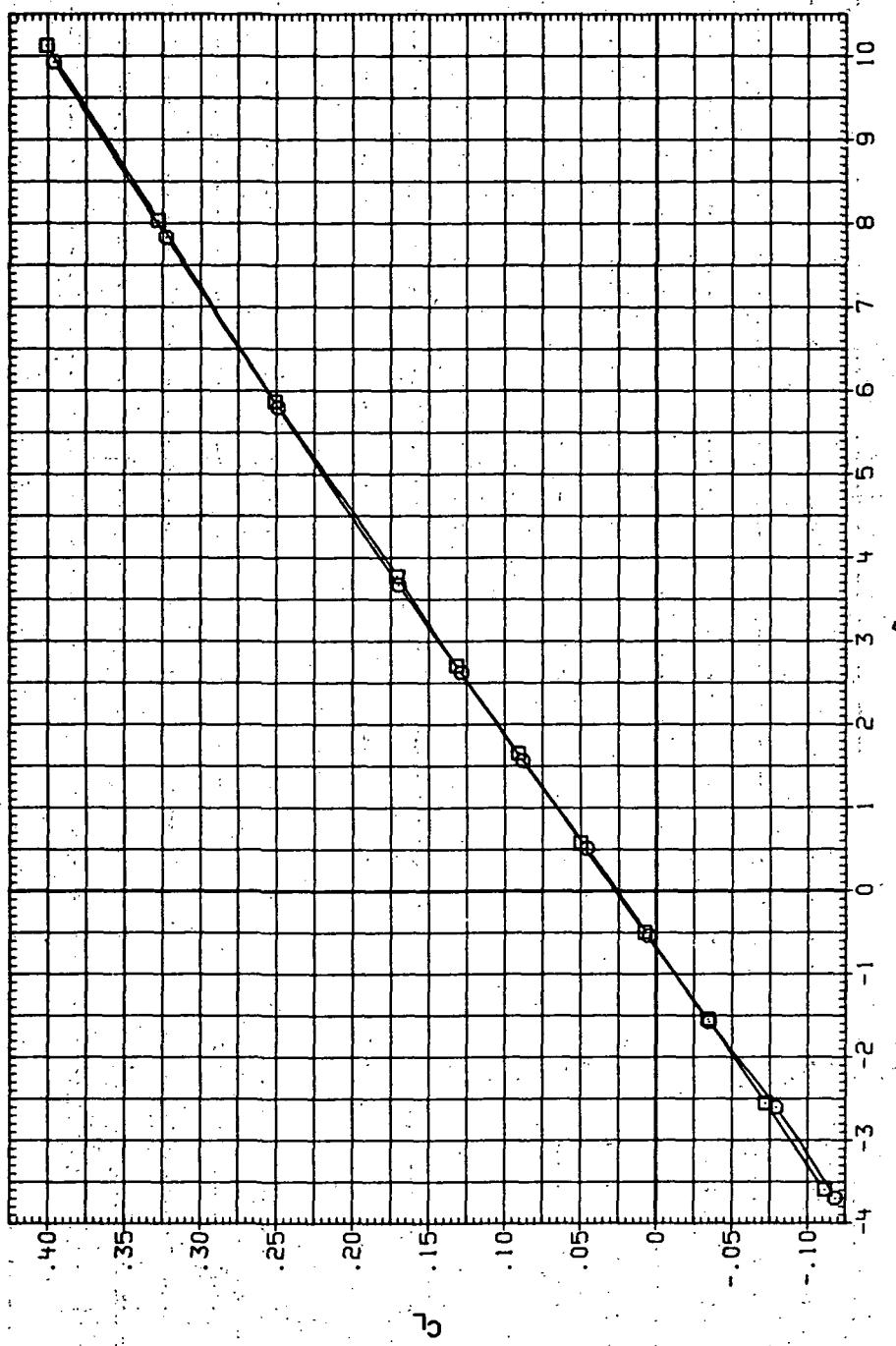


(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

Figure 97.—Concluded.

DATA SET SYMBOL CONFIGURATION  
 RUR259 8 BH+SB (STEEL)  
 RUR258 8 BH+SB (STEEL)

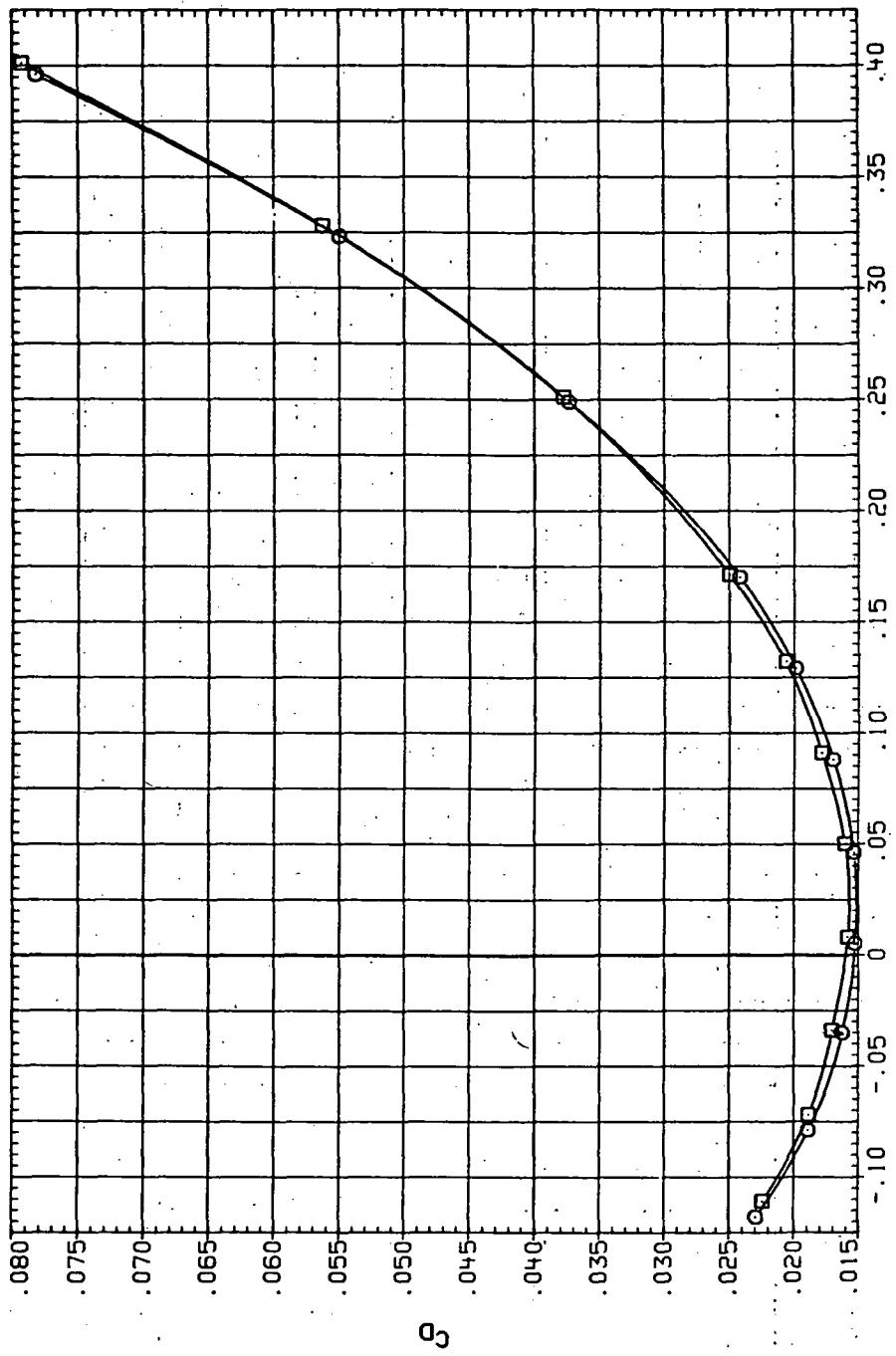
RNL  
 8.230  
 8.200



(a)  $C_L$  vs  $\alpha$ .

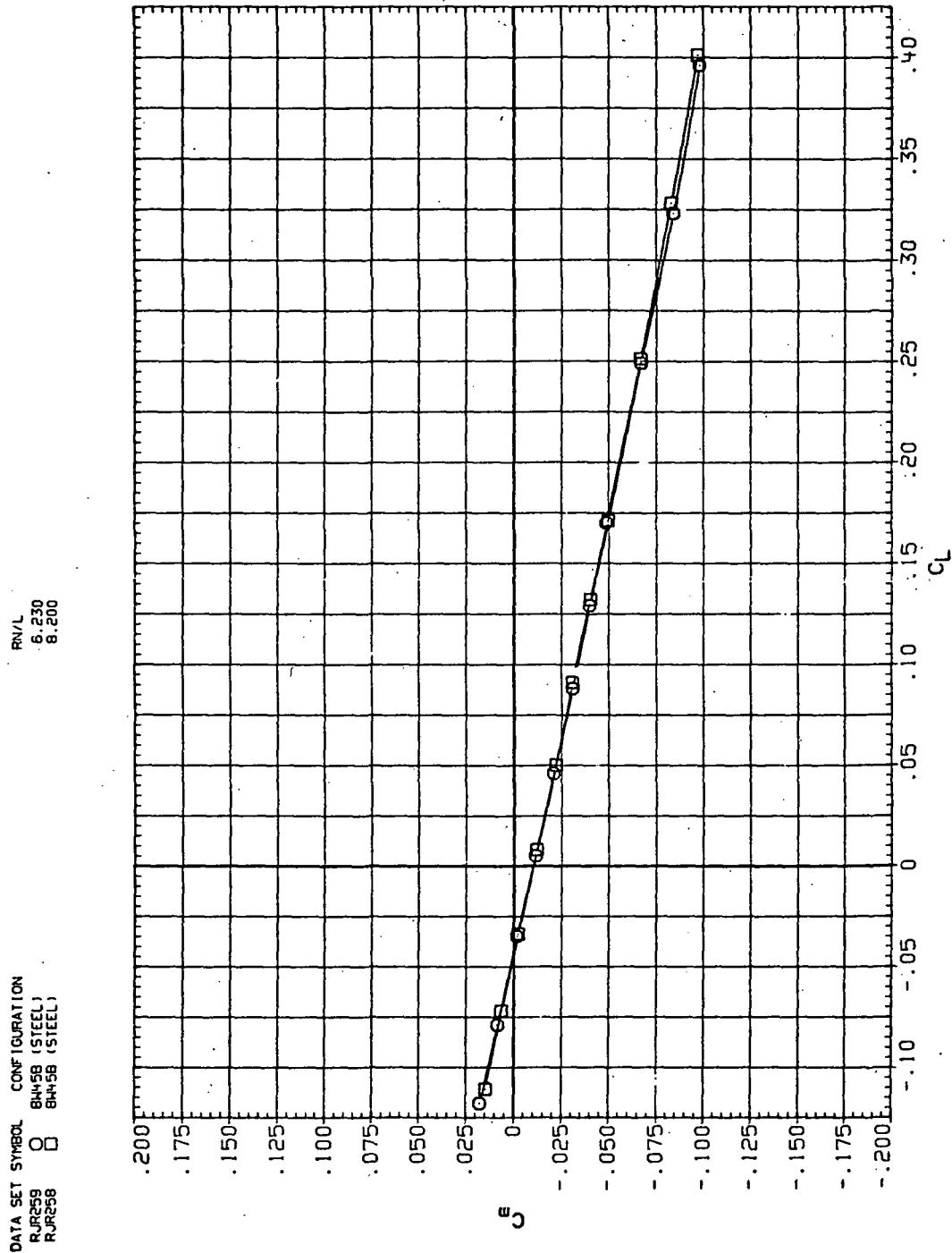
Figure 98.—Reynolds-number effects on the aerodynamic characteristics of the steel swept wing-body combination ( $M = 2.0$  and the NACA 65A204 airfoil).

DATA SET SYMBOL CONFIGURATION  
 RIR259 O BM459 (STEEL)  
 RIR258 □ BM458 (STEEL)



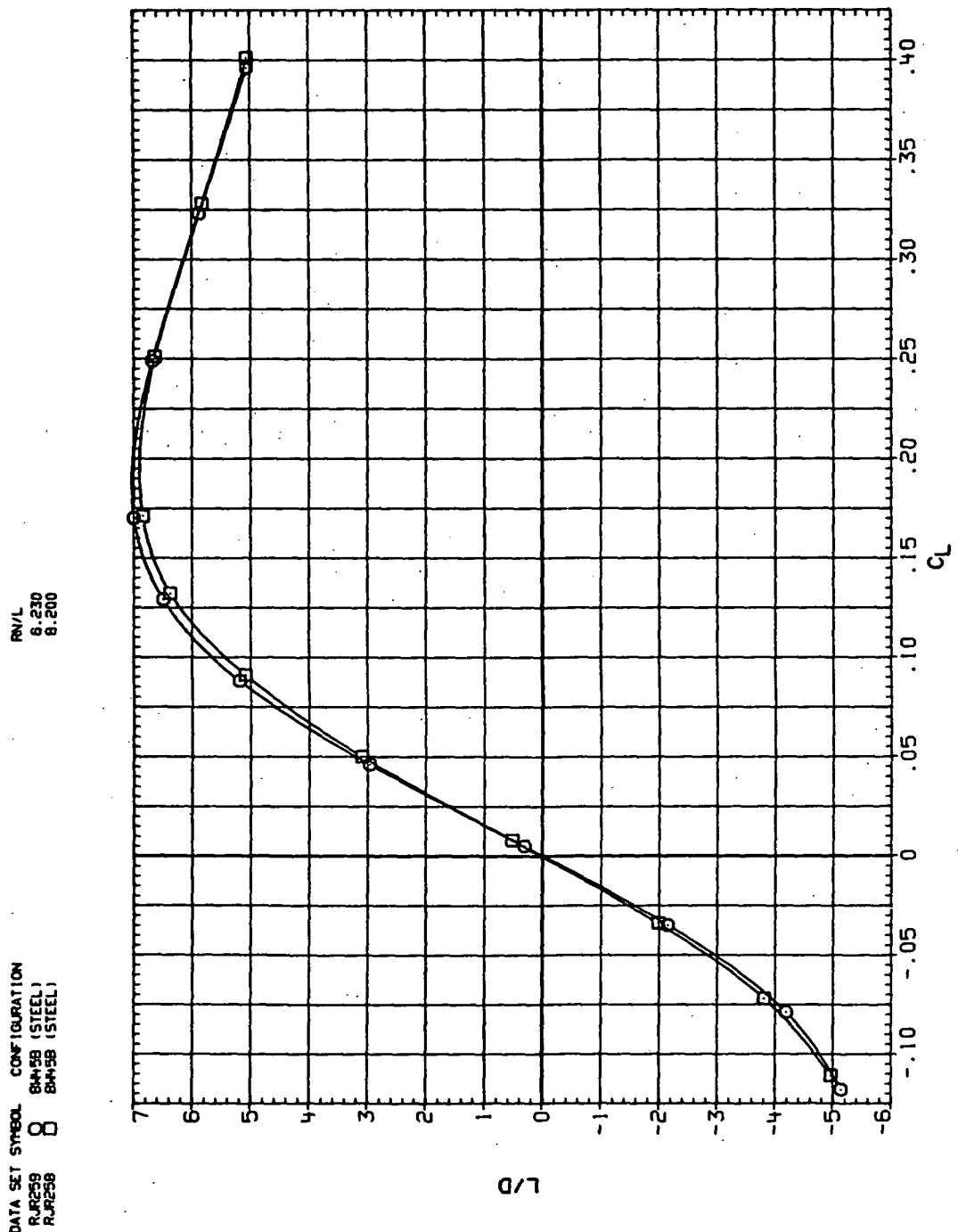
(b)  $C_D$  vs  $C_L$ .

Figure 98.—Continued.



(c)  $C_m$  vs  $C_L$ .

Figure 98.— Continued.

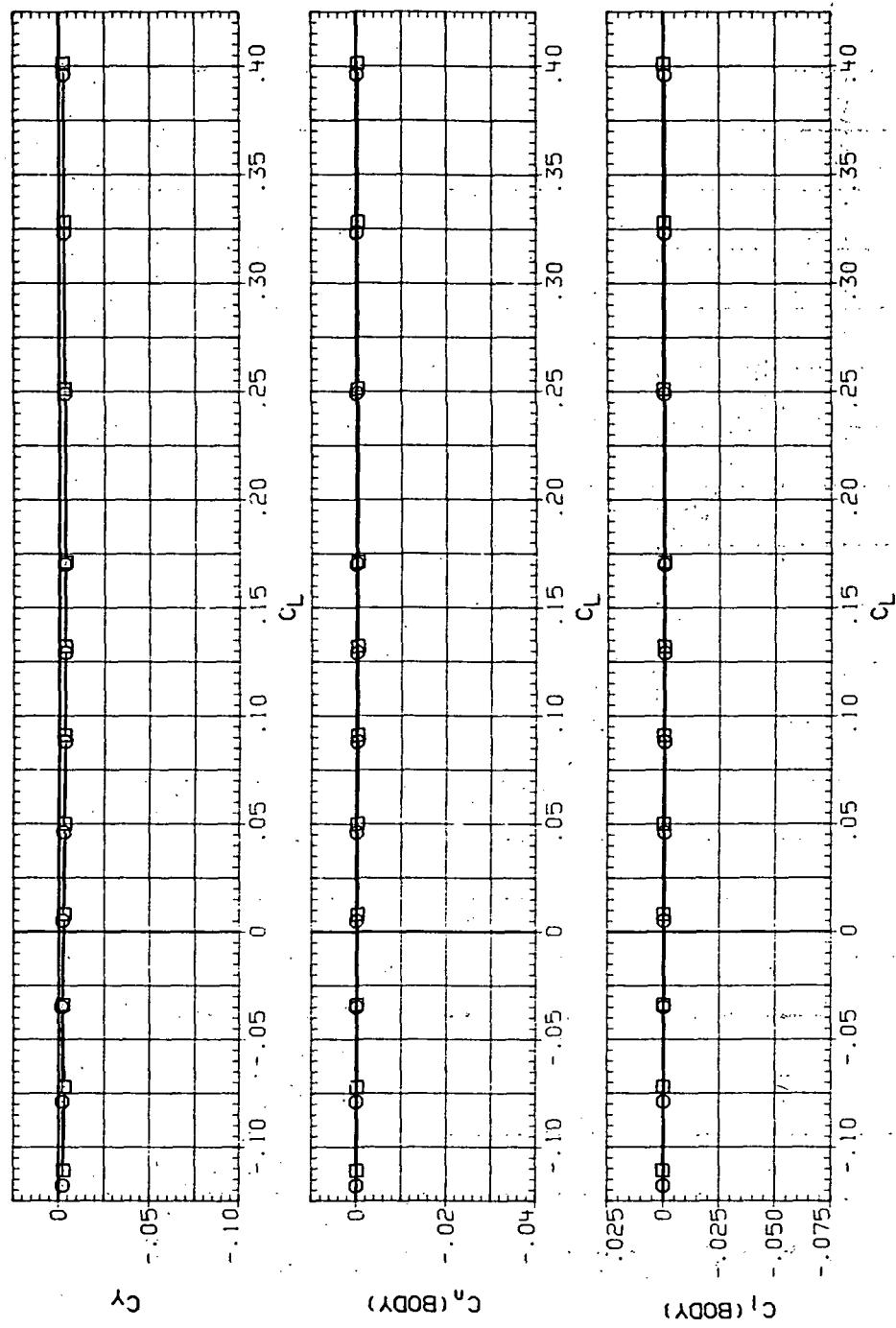


(d)  $L/D$  vs  $C_L$ .

Figure 98.—Continued.

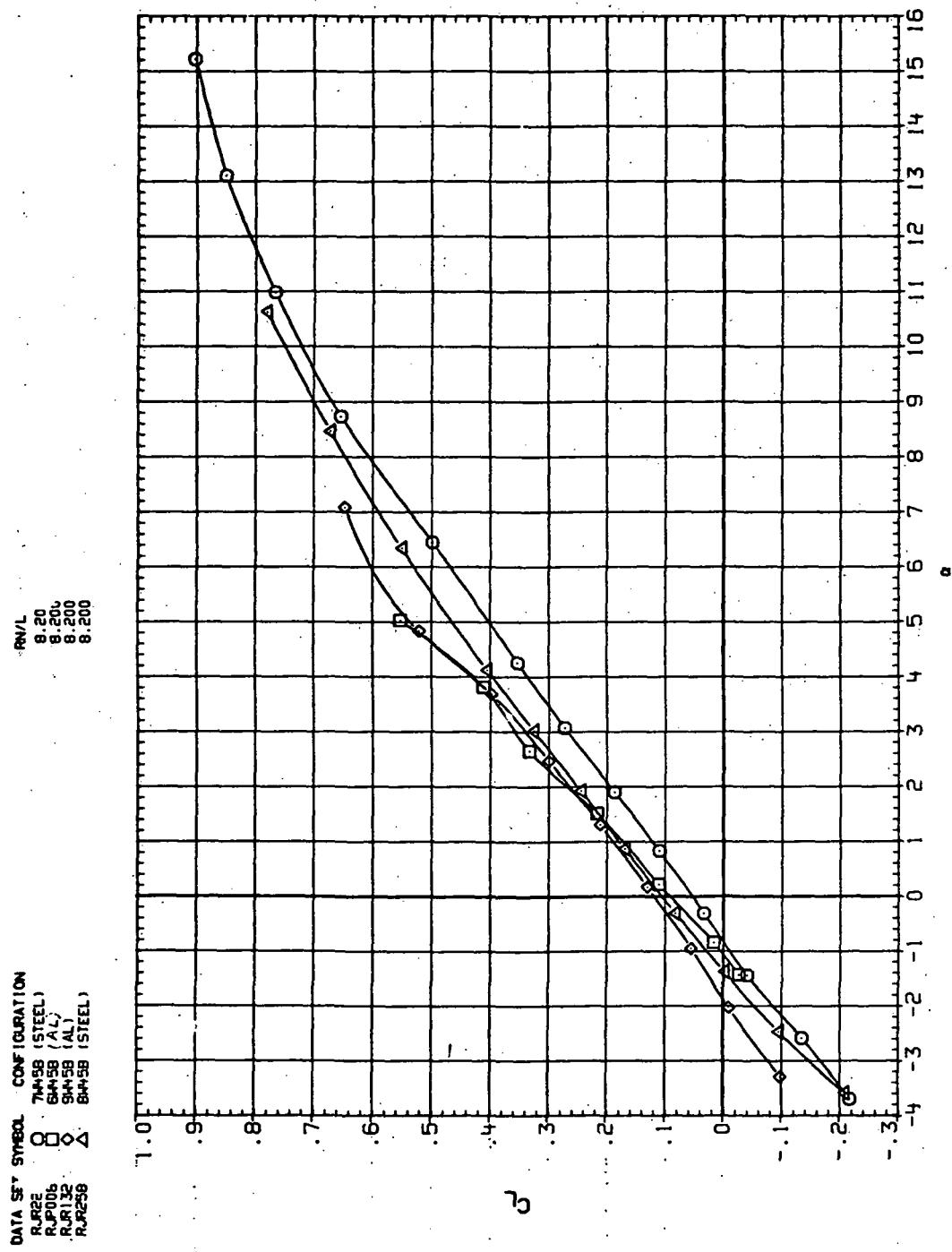
DATA SET SYMBOL CONFIGURATION  
 RUR259 O BM4SB (STEEL)  
 RJR259 □ BM4SB (STEEL)

RN/L  
 6.230  
 8.200



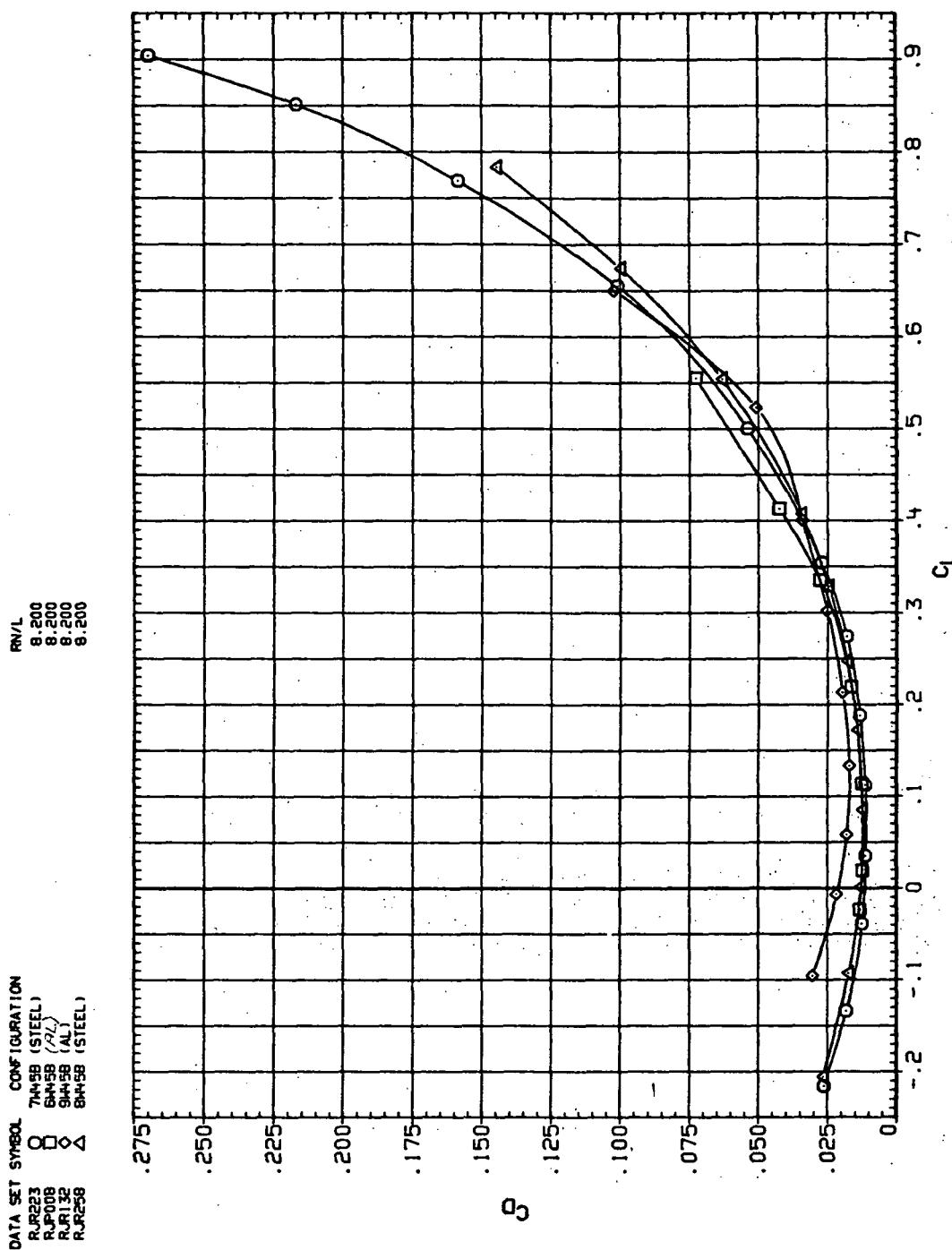
(e)  $C_Y$ ,  $C_n$  and  $C_l$  vs  $C_L$ .

Figure 98.— Concluded.



(a)  $C_L$  vs  $\alpha$ .

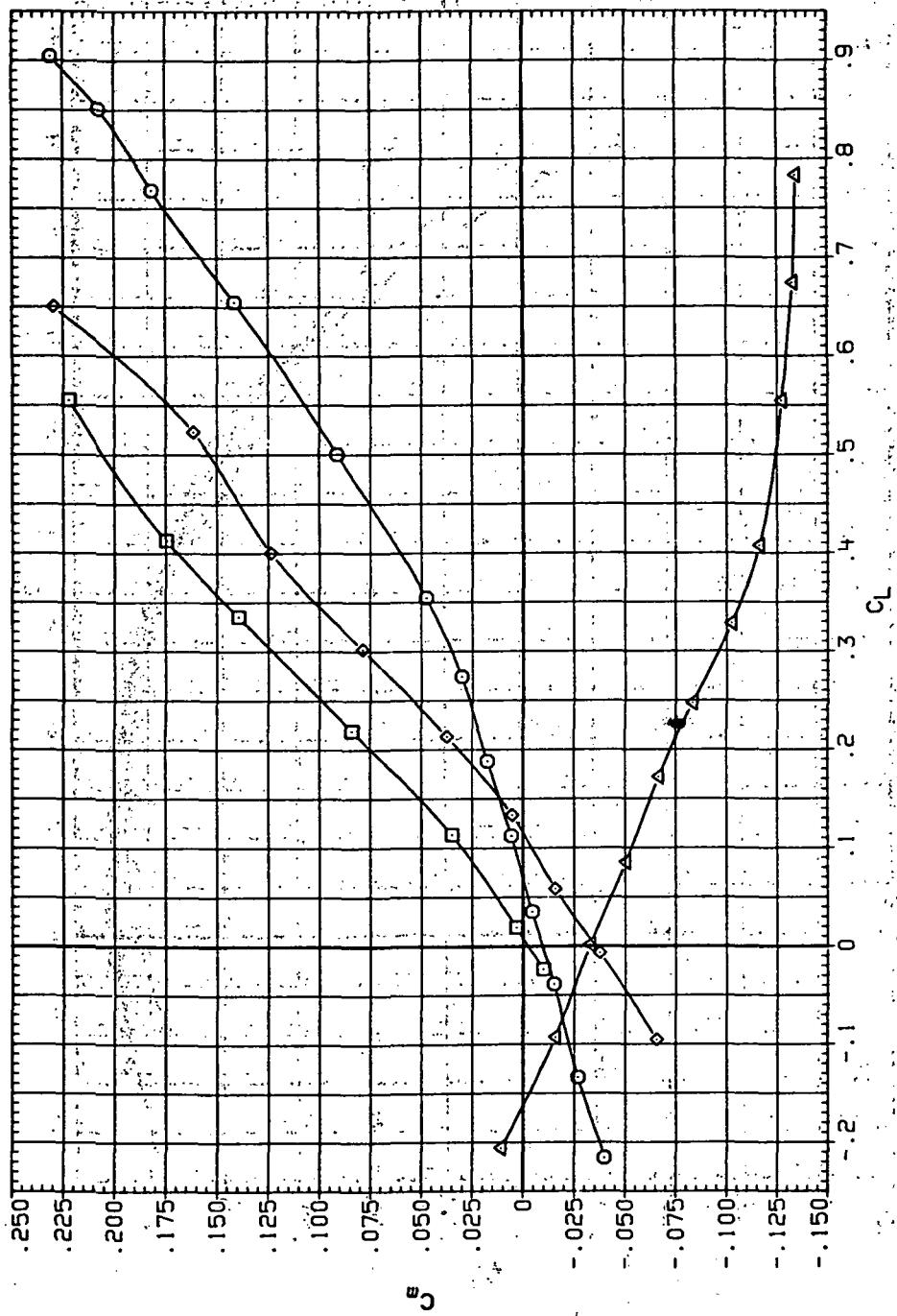
Figure 99.—Flexibility effects, airfoil modification effects and planform effects on the aerodynamic characteristics ( $\Lambda = 45^\circ$  and  $M = 0.95$ ).



(b)  $C_D$  vs  $C_L$ .

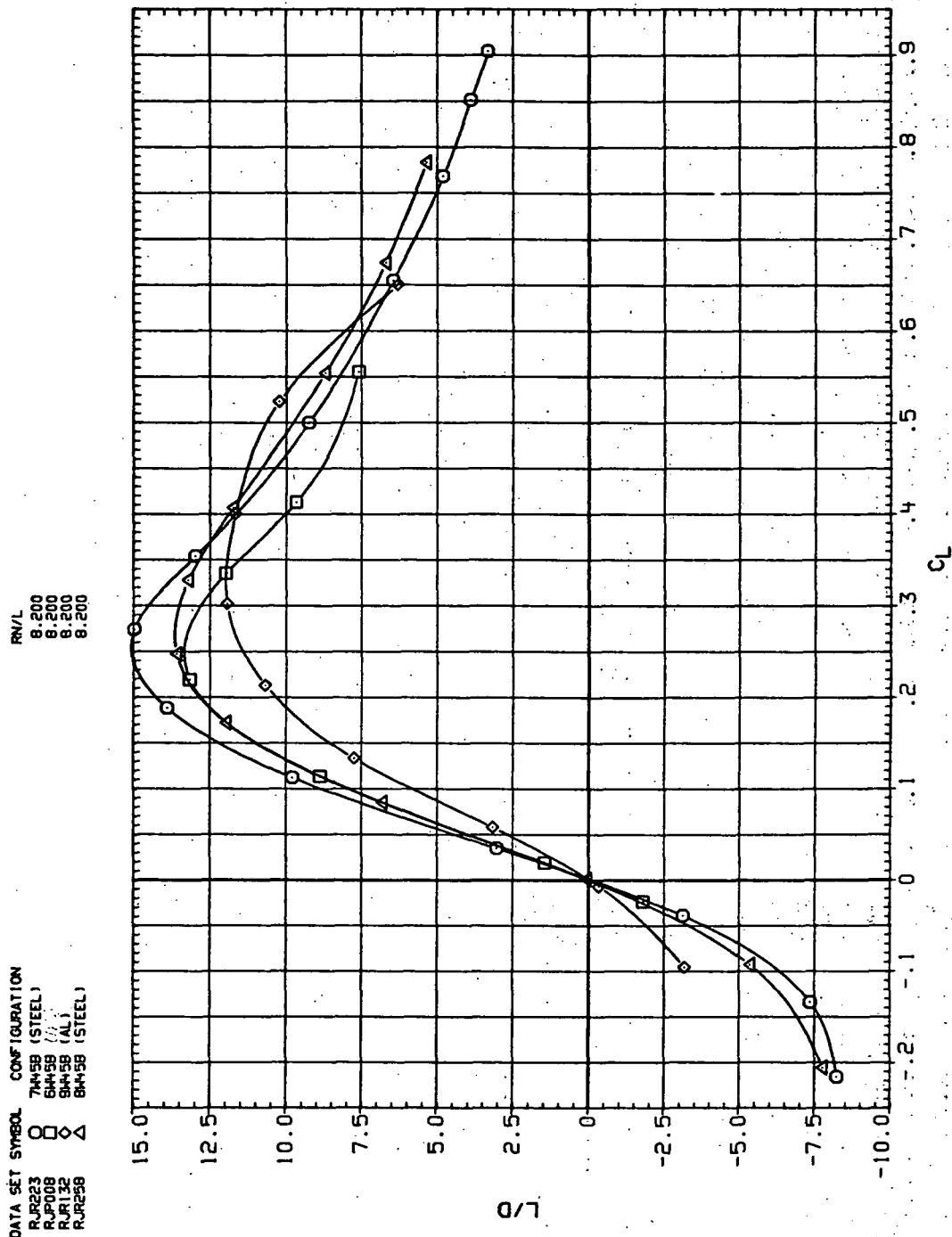
Figure 99.—Continued.

DATA SET	SYMBOL	CONFIGURATION	RN/L (3)
RJF223	O	7445B (STEEL)	8.200
RJF008	□	6445B (AL)	8.200
RJF32	◊	9445B (AL)	8.200
RJF258	△	8445B (STEEL)	8.200



(c)  $C_D$  vs  $C_L$ .

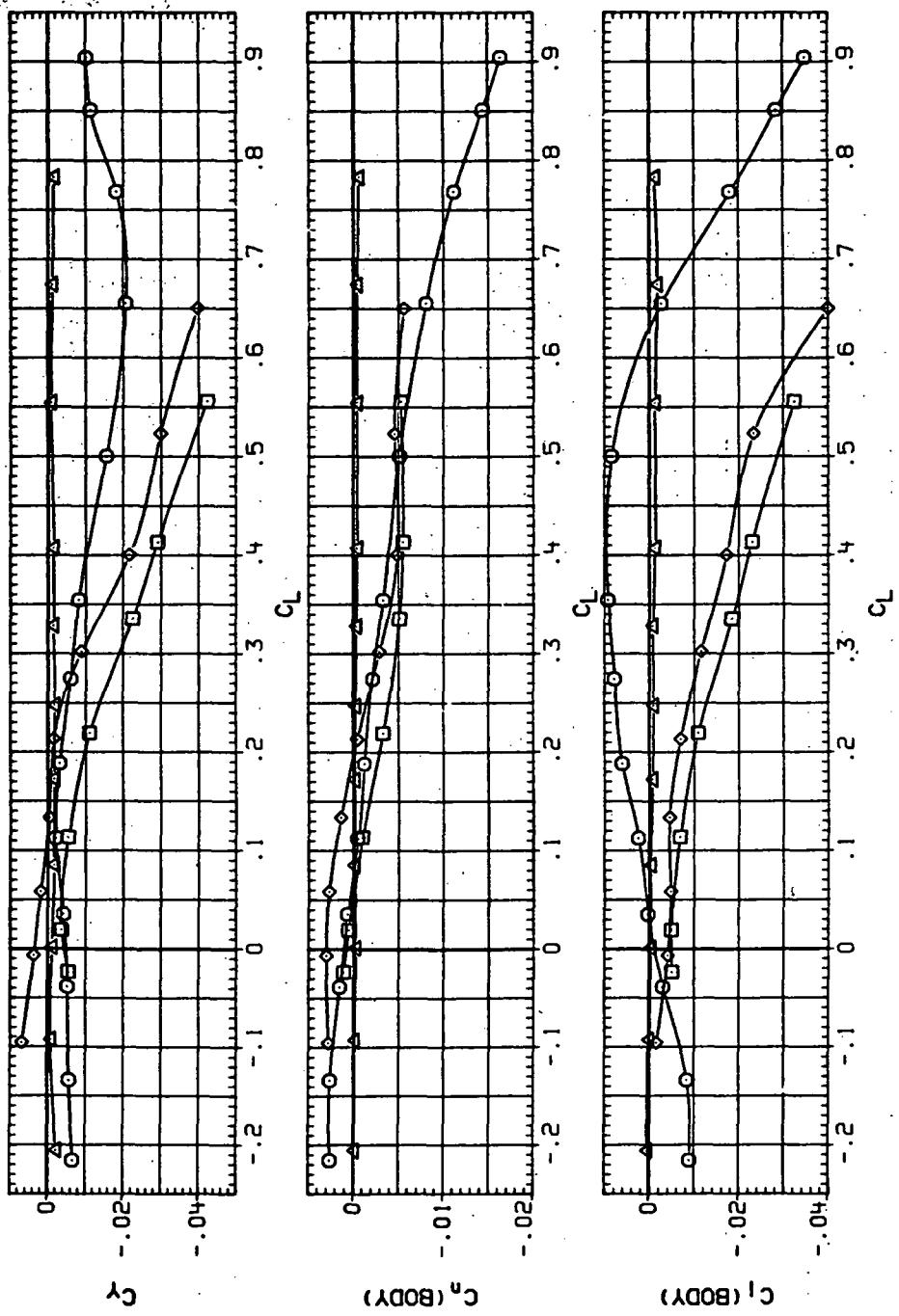
Figure 99.—Continued.



(d)  $L/D$  vs  $C_L$ .

Figure 99.—Continued.

DATA SET	SYMBOL	CONFIGURATION
RJ223	○	TAN58 (STEEL)
RJ708	□	BAN58 (AL)
RJ132	◇	SHH58 (AL)
RJ258	△	BH58 (STEEL)



(e)  $C_Y$ ,  $C_n$  and  $C_i$  vs  $C_L$ .

Figure 99.—Concluded.

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