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NEWTONIAN AERODYNAMICS FOR BLUNTED RAKED-OFF CIRCULAR CONES AND RAKED-OFF ELLIPTICAL CONES

by Edward E. Mayo, Robert H. Lamb, and Paul O. Romere

Manned Spacecraft Center
Houston, Texas

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION • WASHINGTON, D. C. • MAY 1965

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SUMMARY

Aerodynamic coefficients and stability characteristics of a proposed vehicular concept suitable for earth entry at hyperbolic speeds are discussed. The configurations considered were blunted raked-off circular cones and raked-off elliptical cones, and are envisioned trimming at zero angle of attack. The elliptical-cone configurations were confined to those which were raked off to produce a circular base. An afterbody will be added to the configurations to form a complete entry vehicle; therefore, the aerodynamics presented do not include the effects of the base.

A comparison of the two configurations revealed that the raked-off circular-cone configuration has a slightly higher lift-to-drag ratio than the elliptical-cone configuration at the same rake-off angle. For zero nose bluntness, the lift-to-drag ratio at zero angle of attack is independent of the cone half-angle for the raked-off circular-cone configurations and nearly independent of the cone half-angle for the raked-off elliptical-cone configurations. Furthermore, the lift-to-drag ratio of the raked-off circular-cone configuration is the flat-plate value corresponding to the rake-off angle. The center-of-gravity location required for static stability for the raked-off circular-cone configuration is always dictated by the directional stability limit, whereas, the center-of-gravity location for the raked-off elliptical-cone configuration is always dictated by the longitudinal stability limit. The center-of-gravity location of the raked-off circular-cone configuration is unrealistic for configurations having lift-to-drag ratios greater than 0.6. This limit does not exist for the raked-off elliptical-cone configurations.

INTRODUCTION

The investigation reported herein was prompted by a new vehicular concept, discussed in reference 1, for earth entry at hyperbolic speeds. The concept employs a conical heat shield raked off to produce a desired lift-to-drag ratio at zero angle of attack. The heat shield will be combined with an afterbody to form a complete entry vehicle. The vehicle is designed to fly at zero angle of attack by proper center-of-gravity location; thus, appendages are unnecessary. Trajectory is controlled by rolling the vehicle about the velocity vector. In addition to the configuration being made amenable

to flow-field analysis by trimming at zero angle of attack, it appears that the concept can be developed very rapidly by utilizing existing Apollo techniques and technology.

The investigation reported herein presents the Newtonian aerodynamic static stability characteristics of blunted raked-off circular cones and raked-off elliptical cones, which will form the vehicle heat shield. The raked-off elliptical cones were confined to those raked off to produce a circular base so that a right circular-cone afterbody may be used. Also presented are the Newtonian aerodynamic static stability coefficients for right circular cones and right elliptical cones with no rake off, which could be used as afterbodies. The effects of nose bluntness on the lift-to-drag ratio of the circular-cone configurations and a comparison of lift-to-drag ratios of the raked-off circular cones and the raked-off elliptical cones are presented. For the convenience of the user, the predicted aerodynamics are presented in both tabular and graphical form.

SYMBOLS

a base semiheight of the elliptical-cone configuration

b base semiwidth of the elliptical-cone configuration

C_A axial-force coefficient, $\frac{-F_X}{qS}$

C_D drag coefficient, $\frac{F_D}{qS}$

C_L lift coefficient, $\frac{F_L}{qS}$

C_l rolling-moment coefficient, $\frac{M_X}{qSl}$

C_m pitching-moment coefficient, $\frac{M_Y}{qSl}$

C_{m_α} pitching-moment coefficient derivative, $\frac{\partial C_m}{\partial \alpha}$

C_N normal-force coefficient, $\frac{-F_Z}{qS}$

C_n yawing-moment coefficient, $\frac{M_Z}{qSl}$

C_p pressure coefficient, $\frac{p - p_\infty}{q}$

C_Y side-force coefficient, $\frac{F_Y}{qS}$

C_{l_β} $\left.\frac{\Delta C_l}{\Delta\beta}\right|_{\beta=0^\circ}$, per deg

C_{n_β} $\left.\frac{\Delta C_n}{\Delta\beta}\right|_{\beta=0^\circ}$, per deg

C_{Y_β} $\left.\frac{\Delta C_Y}{\Delta\beta}\right|_{\beta=0^\circ}$, per deg

d reference diameter

F_D drag force

F_L lift force

F_X force along X-axis

F_Y force along Y-axis

F_Z force along Z-axis

l reference length

L/D lift-drag ratio, C_L/C_D

M_X rolling moment

M_Y pitching moment

M_Z yawing moment

p	pressure
p_∞	free-stream pressure
q	dynamic pressure
r	nose radius
S	reference area
X, Y, Z	Cartesian body coordinate axes
x, y, z	distance along X-, Y-, and Z-axis, respectively
α	angle of attack, deg
β	angle of sideslip, deg
δ	rake-off angle, deg
θ	cone half-angle, deg
θ_{XY}	cone half-angle measured in horizontal plane, deg
θ_{XZ}	cone half-angle measured in vertical plane, deg

CONFIGURATIONS

Circular-Cone Configuration

The circular-cone configuration investigated is shown in figure 1. The nose bluntness ratio r/d varied from 0 to 0.5 in 0.1 increments while the cone half-angle θ varied from 10° to 60° in 10° increments.

Raked-Off Circular-Cone Configuration

The raked-off circular-cone configuration investigated is shown in figure 2. The nose bluntness ratio r/d varied from 0 to 0.5 in 0.1 increments while the cone half-angle θ varied from 20° to 60°. The rake-off angle δ varied from $(\theta + 10°)$ to 80° in 10° increments.

Elliptical-Cone Configuration

The elliptical-cone configuration investigated is shown in figure 3. The cone half-angle measured in the vertical plane θ_{XZ} and the cone half-angle

measured in the horizontal plane θ_{XY} both varied from 20° to 60° in 10° increments.

Raked-Off Elliptical-Cone Configuration

The raked-off elliptical-cone configuration investigated is shown in figure 4. The cone half-angle measured in the vertical plane θ_{XZ} varied from 20° to 60° in 10° increments, whereas the rake-off angle δ varied from $\left(\theta_{XZ} + 10°\right)$ to 80°. The cone half-angle measured in the horizontal plane θ_{XY} was specified to produce a circular base for a given θ_{XZ} and δ. The equation for θ_{XY} is given by

$$\theta_{XY} = \tan^{-1}\left[\frac{\sqrt{1 - \left\{1 - \left[\frac{\sin\left(\delta - \theta_{XZ}\right)}{\cos\theta_{XZ}\sin\delta}\right]\right\}^2}}{2\left\{\frac{\sin\left(\delta - \theta_{XZ}\right)}{\sin\left(2\theta_{XZ}\right)}\frac{\sin\left[180° - \left(\delta + \theta_{XZ}\right)\right]}{\sin\delta}\right\}}\right]$$

where $\theta_{XZ} < \delta < 90°$.

METHOD OF COMPUTATION

All aerodynamic coefficients presented were determined by numerically integrating the Newtonian force and moment equations on an IBM 7094 digital computer. All longitudinal coefficients were computed for every 10° of angle of attack. The directional and lateral characteristics were determined by computing the coefficients at an angle of sideslip of 5°, and assuming linearity. The derivative C_{m_α}, which was used in determining the longitudinal stability limits, was calculated by assuming C_m to be linear from $\alpha = 0°$ to $\alpha = 10°$. All coefficients correspond to a maximum stagnation point pressure coefficient of 2.

The aerodynamics of the circular-cone and raked-off circular-cone configurations were determined by the methods shown in appendix A. The aerodynamics of the elliptical-cone and raked-off elliptical-cone configurations were determined by double integration of the basic integral relations for the force and moment coefficients as shown in appendix B. It should be noted that the reference areas and reference lengths are different for each configuration, as seen in figures 1 to 4. Since an afterbody will be added to the raked-off configuration to form a complete entry vehicle, the aerodynamics presented do not include the effects of the base.

RESULTS AND DISCUSSION

For convenience of the user, the coefficients are presented in both tabular and graphical form. The longitudinal aerodynamics for the circular-cone configuration are given in table I and figure 5. Because different methods (appendix A) were used for calculating the coefficients for the angle-of-attack ranges of 0° to 180° and 180° to 360°, the coefficients at $\alpha = 0°$ are slightly different from those at $\alpha = 360°$, this difference being less than 1 percent. The longitudinal aerodynamics for the raked-off circular-cone configuration are given in table II and figure 6 for $\theta = 20°$, table III and figure 7 for $\theta = 30°$, table IV and figure 8 for $\theta = 40°$, table V and figure 9 for $\theta = 50°$, and table VI and figure 10 for $\theta = 60°$. The aerodynamics for the elliptical-cone configuration are given in table VII and figure 11 and aerodynamics for the raked-off elliptical-cone configuration are in table VIII and figure 12.

The lift-to-drag ratios at an angle of attack of 0° for the raked-off circular-cone and raked-off elliptical-cone configurations are summarized in figures 13 and 14, respectively. Figure 13(a) and figure 14 show that for a nose radius of 0, the lift-to-drag ratio at $\alpha = 0°$ is independent of the cone half-angle for the raked-off circular-cone configuration and nearly independent of the cone half-angle for the raked-off elliptical-cone configuration. Therefore, a freedom to optimize the cone half-angle based on other factors for a given lift-to-drag ratio exists. In reference 1, for example, it was found advantageous to reduce the cone half-angle from 45° to 35° to reduce the radiative heat input. Figures 13(b) to 13(f) show that lift-to-drag ratio at $\alpha = 0°$ is not independent of cone half-angle for raked-off circular cones with nose bluntness. The effects of nose bluntness on lift-to-drag ratio for the circular-cone configuration are shown in figure 13(g). As expected, the effect of moderate nose bluntness is small and diminishes as the cone opening and rake-off angles increase. The variations of lift-to-drag ratio with θ and δ for a nose radius of 0 are summarized in figure 15. It should be noted that for the raked-off circular-cone configuration the L/D is the flat-plate value, $L/D = \cot \delta$, corresponding to the rake-off angle δ. The L/D ratios for the raked-off elliptical-cone configurations considered are slightly lower than for the raked-off circular-cone configurations at the same rake-off angle. However, for example at $L/D = 0.5$, a change in δ of about 1° would compensate for the L/D difference.

The directional and lateral stability characteristics for the raked-off circular-cone and raked-off elliptical-cone configurations are shown in tables IX and X and figures 16 and 17. The lateral stability derivative C_{l_β} is not shown for the raked-off circular-cone configuration in figure 16 since its value is zero for the reference moment center location. Figures 16(b) to 16(f) show the effects of nose bluntness on the directional stability. Further consideration to the directional as well as the longitudinal stability characteristics of the configurations is given in figures 18 and 19. Figure 18 shows the loci of the centers of gravity for trim at zero angle of attack and the limits on the center-of-gravity location for longitudinal and directional static stability for the raked-off circular cone. (The locations of the centers of

gravity presented in figure 18 are for zero nose bluntness; however, the effect of moderate nose bluntness on the center-of-gravity location is small.) In all cases the required center-of-gravity location is dictated by the directional stability limit which was determined by C_{n_β}/C_{Y_β}. The locations of the center of gravity for stability are unrealistic for configurations having $L/D > 0.6$. At L/D of about 0.6 the center-of-gravity locations are realistic for the larger cone half-angles and unrealistic for the smaller cone half-angles. For $L/D < 0.6$ configurations, the center-of-gravity locations appear realistic. The raked-off elliptical cone in which the cone half-angle measured in the horizontal plane is always greater than the cone half-angle measured in the vertical plane alleviates the aforementioned directional instabilities. (See fig. 19.) From figure 19 the center-of-gravity location is always dictated by the longitudinal stability limit which was determined as the location at which $C_{m_\alpha} = 0$. In addition, the longitudinal stability limit is improved.

CONCLUDING REMARKS

Newtonian impact theory was used to predict the aerodynamic characteristics of the configurations considered in this study. The results at zero angle of attack and zero angle of sideslip are summarized as follows:

1. A comparison of the two raked-off configurations revealed that the circular cone has a slightly higher lift-to-drag ratio than the elliptical cone at the same rake-off angle.

2. For nose bluntness of zero, the lift-to-drag ratio is independent of the cone half-angle for the raked-off circular-cone configuration and nearly independent of the cone half-angle for the raked-off elliptical-cone configuration. Furthermore, the lift-to-drag ratio of the raked-off circular-cone configuration is the flat-plate value corresponding to the rake-off angle.

3. The center-of-gravity location for the raked-off circular-cone configuration is always dictated by the directional stability limit, whereas, the center-of-gravity location for the raked-off elliptical-cone configuration is always dictated by the longitudinal stability limit.

4. The center-of-gravity location required for static stability for the raked-off circular-cone configuration is unrealistic for configurations with lift-to-drag ratios greater than 0.6. This limit does not exist for the raked-off elliptical-cone configurations.

Manned Spacecraft Center
National Aeronautics and Space Administration
Houston, Texas, October 26, 1964

APPENDIX A

METHOD FOR DETERMINING THE NEWTONIAN AERODYNAMIC COEFFICIENTS FOR RAKED-OFF CIRCULAR CONES

This appendix describes the method used to determine the Newtonian aerodynamic coefficients for raked-off circular cones. In reference 2, integrals to determine the aerodynamic coefficients are functions of $\frac{x}{d}$ and θ where θ is the cylindrical coordinate angle and equal to the ξ used in this appendix. Also α in this appendix is 180° out of phase of the α used in reference 2. The rake-off puts an additional restriction on ξ, the effect of the body geometry. Therefore, the cylindrical coordinate integration limits ξ_L and ξ_U are functions of the flow-see boundary and the body geometry. The body coordinates, reference system, and all symbols used are the same as those found in reference 2 unless otherwise stated. All new symbols are defined as they are used.

The integration limits of ξ determined by the flow-see boundary may be determined by setting the equation for C_p equal to zero. These equations for $\xi 1$ and $\xi 2$ along with these limits are given in reference 2. The integration limit of ξ determined by body geometry may be expressed from sketch (a) as follows:

$$\xi S1 = -\frac{\pi}{2}$$

$$\xi S2 = \frac{3\pi}{2}$$

for $x \geq x_U$.

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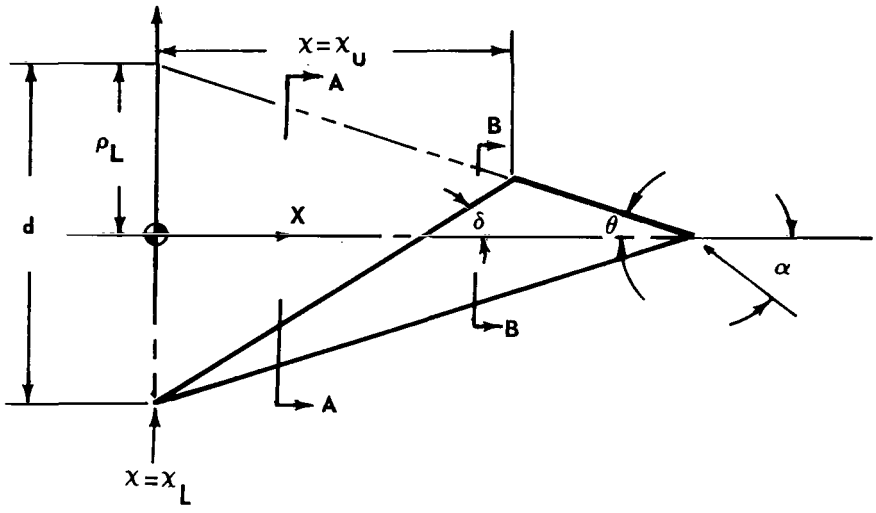
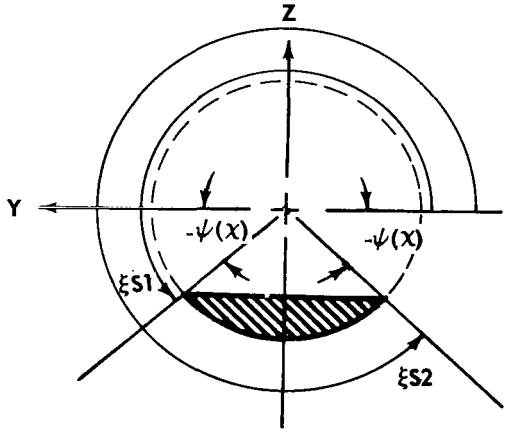
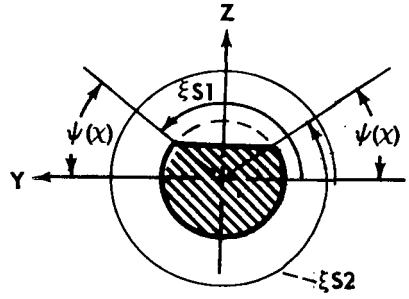




Section A-A



Section B-B

Sketch (a)

Otherwise

$$\xi S1 = 180° - \psi(x)$$

$$\xi S2 = 360° + \psi(x)$$

where

$$\psi(x) = \sin^{-1}\left(\frac{\tan\delta\,\frac{x}{d} - \frac{1}{2}}{\frac{\rho}{d}}\right) \qquad (A1)$$

$$90° \geq \psi(x) \geq -90°$$

For all cases presented in this report, either $\beta = 0°$ while α varied from 0° to 360° or $\alpha = 0°$ while β varied from 0° to $|\beta| < \theta$. For the second case, the flow sees the entire body, or

$$\xi_L = \xi_{S1}$$

$$\xi_U = \xi_{S2}$$

For $\beta = 0°$ and $\alpha < \theta$

$$\xi_L = \xi_{S1}$$

$$\xi_U = \xi_{S2}$$

For $\beta = 0°$ and $(180° - \theta) > \alpha > \theta$

ξ_L = the greater of ξ_1 and ξ_{S1}

ξ_U = the lesser of ξ_2 and ξ_{S2}

as seen in sketch (b).

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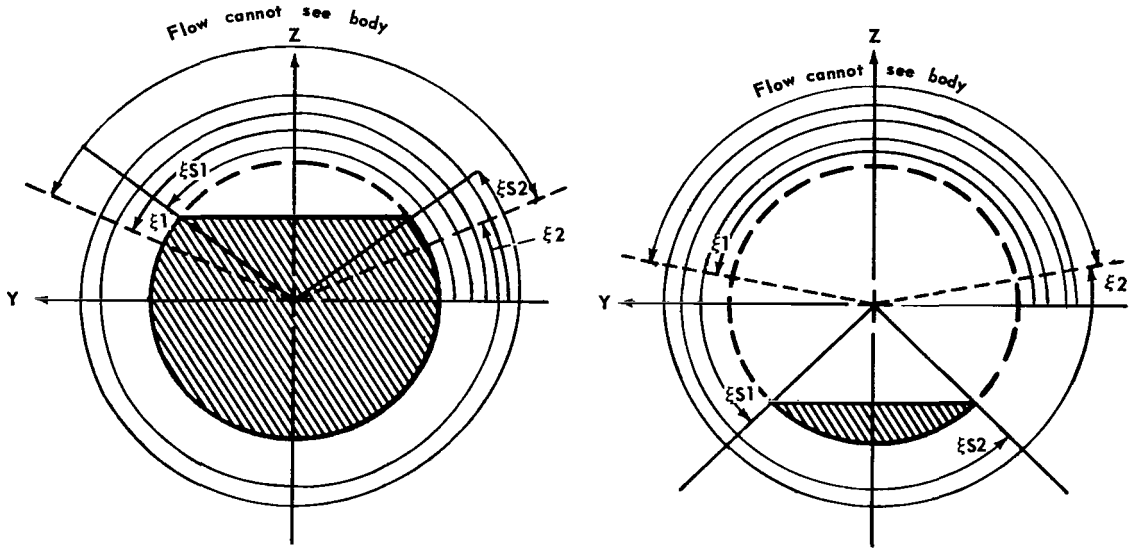

Sketch (b)

For $\beta = 0°$ and $(360° - \theta) > \alpha > (180° + \theta)$, the procedure in appendix B can be applied. However, because of an existing computer program resulting from reference 2 which would permit α to be varied only from 0° to 180°, the body was reoriented as shown in sketch (c). Equation (A1) now reads:

$$\psi(x) = \sin^{-1}\left(\frac{-\tan\delta\,\frac{x}{d} + \frac{1}{2}}{\frac{\rho}{d}}\right)$$

$$90° \geq \psi(x) \geq -90°$$

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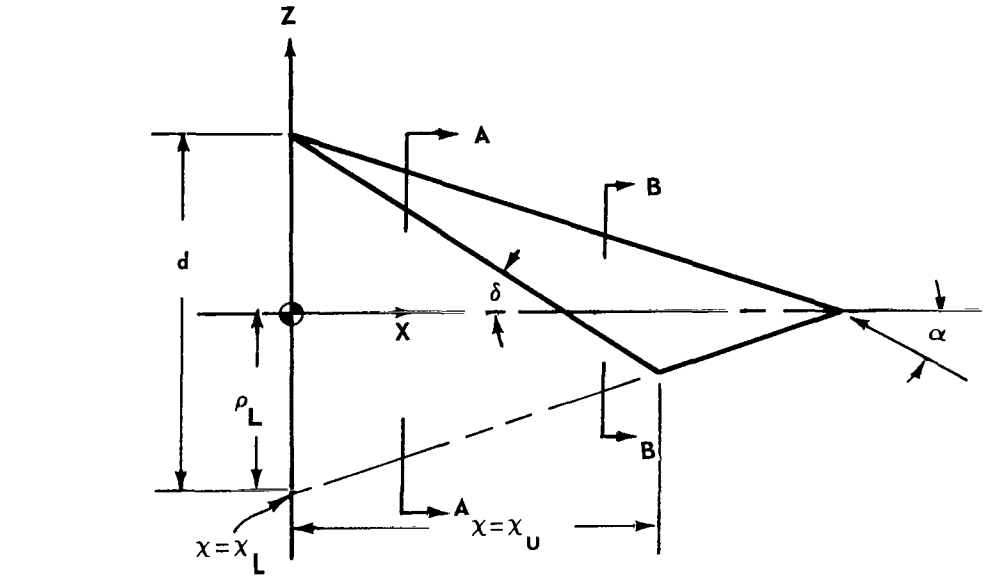
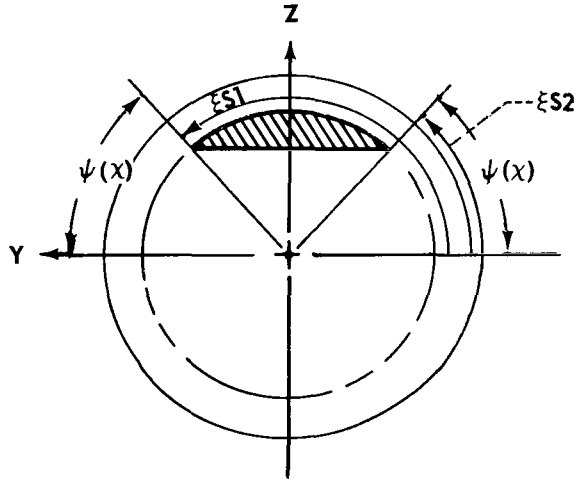
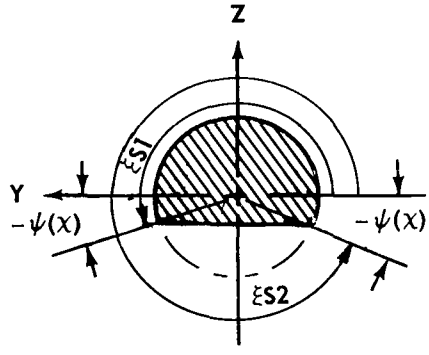




Section A-A



Section B-B

Sketch (c)

If $\xi S1 \leq \xi 1$ and $\xi 2 \leq \xi S2$, then $\xi_L = \xi_U$ since the flow sees no body. However, if $\xi S1 > \xi 1$ and $\xi 2 > \xi S2$, the equations from reference 2 are integrated from $\xi 1$ to $\xi S1$ and added to the same equations integrated from $\xi S2$ to $\xi 2$. (See sketch (d).)

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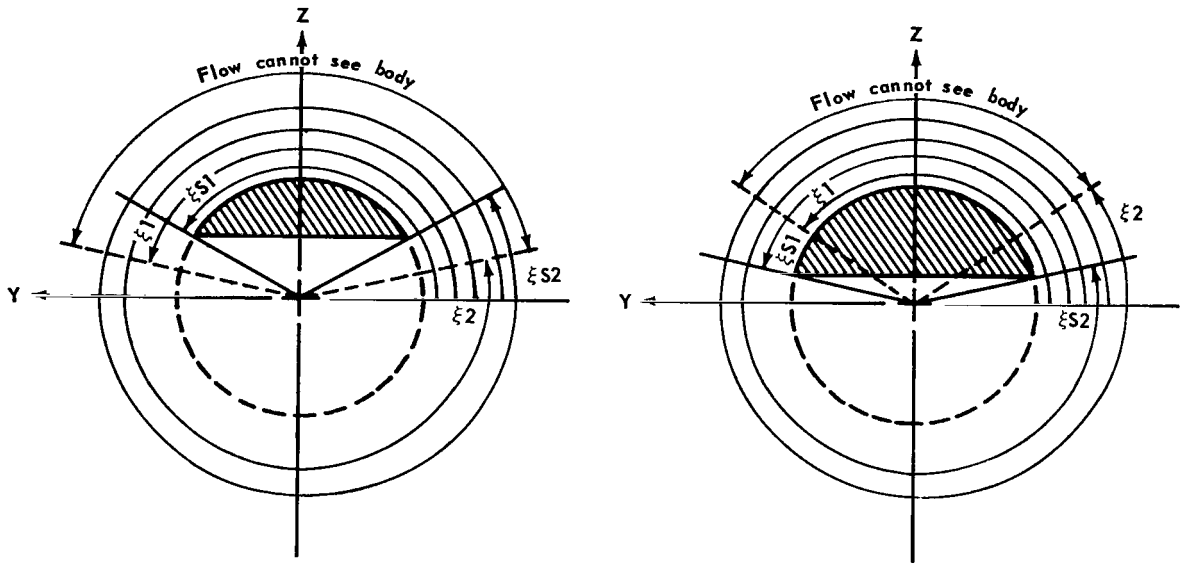

Sketch (d)

For $\beta = 0°$ and $360° \geq \alpha \geq (360° - \theta)$, the equations in reference 2 are integrated from $\frac{\pi}{2}$ to $\xi S1$ and added to equations integrated from $\xi S2$ to $\frac{5\pi}{2}$.

The above integration limits were used with the integrals presented in reference 2 to determine the aerodynamic coefficients. The integrals were numerically integrated on an IBM 7094 digital computer.

APPENDIX B

METHOD FOR DETERMINING THE NEWTONIAN AERODYNAMIC COEFFICIENTS FOR ELLIPTICAL AND RAKED-OFF ELLIPTICAL CONES

This appendix presents the equations used to determine the Newtonian aerodynamic coefficients for elliptical and raked-off elliptical cones. The coordinate and reference systems for the elliptical cone presented in sketch (e), along with the basic equations, are identical to those used in reference 3.

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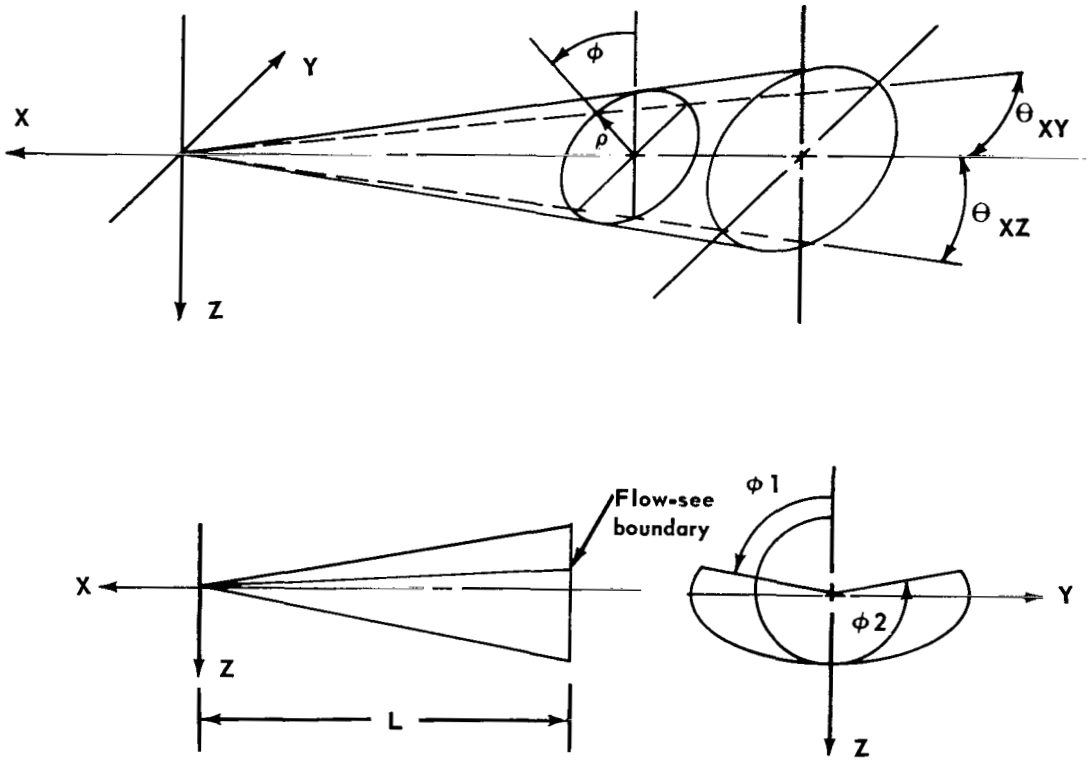


Sketch (e)

The following equations were taken from reference 3, and the independent variables were changed to ϕ and x throughout.

$$C_N = \frac{1}{S} \int_{-l}^{0} \int_{\phi_L}^{\phi_U} \frac{C_p \, x \tan \theta_{XZ} \cos \phi}{\left(m^2 \sin^2 \phi + \cos^2 \phi\right)^{3/2}} \, d\phi dx \tag{B1}$$

$$C_A = - \frac{1}{S} \int_{-l}^{0} \int_{\phi_L}^{\phi_U} \frac{C_p \, x \tan^2 \theta_{XZ}}{m^2 \sin^2 \phi + \cos^2 \phi} \, d\phi dx \tag{B2}$$

$$C_m = \frac{\sec^2 \theta_{XZ}}{Sl} \int_{-l}^{0} \int_{\phi_L}^{\phi_U} \frac{C_p \, x^2 \tan \theta_{XZ} \cos \phi}{\left(m^2 \sin^2 \phi + \cos^2 \phi\right)^{3/2}} \, d\phi dx \tag{B3}$$

$$C_Y = - \frac{1}{S} \int_{-l}^{0} \int_{\phi_L}^{\phi_U} \frac{C_p \, x \, m^2 \tan \theta_{XZ} \sin \phi}{\left(m^2 \sin^2 \phi + \cos^2 \phi\right)^{3/2}} \, d\phi dx \tag{B4}$$

$$C_n = - \frac{m^2 + \tan^2 \theta_{XZ}}{Sl} \int_{-l}^{0} \int_{\phi_L}^{\phi_U} \frac{C_p \, x^2 \tan \theta_{XZ} \sin \phi}{\left(m^2 \sin^2 \phi + \cos^2 \phi\right)^{3/2}} \, d\phi dx \tag{B5}$$

$$C_l = \frac{m^2 - 1}{Sl} \int_{-l}^{0} \int_{\phi_L}^{\phi_U} \frac{C_p \, x^2 \tan^2 \theta_{XZ} \cos \phi \sin \phi}{\left(m^2 \sin^2 \phi + \cos^2 \phi\right)^{2}} \, d\phi dx \tag{B6}$$

where

$$C_p = \frac{2}{m^2 s^2 \sin^2 \phi + \cos^2 \phi} \left(\lambda \sin \theta_{XZ} \sqrt{m^2 \sin^2 \phi + \cos^2 \phi} \right.$$

$$\left. + ms\nu \cos \theta_{XY} \sin \phi - \omega \cos \theta_{XZ} \cos \phi \right)^2$$

and

$$m = \frac{\tan \theta_{XZ}}{\tan \theta_{XY}}, \qquad s = \frac{\sin \theta_{XZ}}{\sin \theta_{XY}}, \qquad \lambda = \cos \alpha \cos \beta,$$

$$\omega = \sin \alpha \cos \beta, \qquad \nu = - \sin \beta$$

The reference area and reference length for the elliptical cones were chosen as $S = \pi ab$ and $l = L$, respectively, (see fig. 3) where

$$a = L \tan \theta_{XZ} \qquad \text{and} \qquad b = L \tan \theta_{XZ}$$

The reference area and reference length for the raked-off elliptical cones were chosen as $S = \frac{\pi d^2}{4}$ and $l = d$, respectively (see fig. 4).

The cylindrical coordinate integration limits ϕ_L and ϕ_U are functions of the flow-see boundary and the body geometry. The limits of ϕ, determined by the flow-see boundary, may be determined by setting the equation for C_p equal to zero. This yields

$$\phi_1 = \cot^{-1}\left[\frac{-s^2 \nu\omega \cos^2 \theta_{XY} - \lambda m \sin \theta_{XZ} \sqrt{s^2\nu^2 \cos^2 \theta_{XY} - \left(\lambda^2 \sin^2 \theta_{XZ} - \omega^2 \cos^2 \theta_{XZ}\right)}}{\lambda^2 \sin^2 \theta_{XZ} - \omega^2 \cos^2 \theta_{XZ}}\right] \tag{B7}$$

$$\phi_2 = \cot^{-1}\left[\frac{-s^2 \nu\omega \cos^2 \theta_{XY} + \lambda m \sin \theta_{XZ} \sqrt{s^2\nu^2 \cos^2 \theta_{XY} - \left(\lambda^2 \sin^2 \theta_{XZ} - \omega^2 \cos^2 \theta_{XZ}\right)}}{\lambda^2 \sin^2 \theta_{XZ} - \omega^2 \cos^2 \theta_{XZ}}\right] \tag{B8}$$

for $$s^2\nu^2 \cos^2 \theta_{XY} - \left(\lambda^2 \sin^2 \theta_{XZ} - \omega^2 \cos^2 \theta_{XZ}\right) > 0.$$

Otherwise, the flow sees the entire body and $\phi_1 = 0°$, $\phi_2 = 360°$.

The limits of ϕ, determined by body geometry, may be expressed from sketch (f), section A-A:

$$\phi_{S1} = 0°$$

$$\phi_{S2} = 360°$$

for

$$|x| \leq \frac{d \sin\left(\delta - \theta_{XZ}\right)}{2 \sin \theta_{XZ}}$$

From sketch (f), sections B-B and C-C:

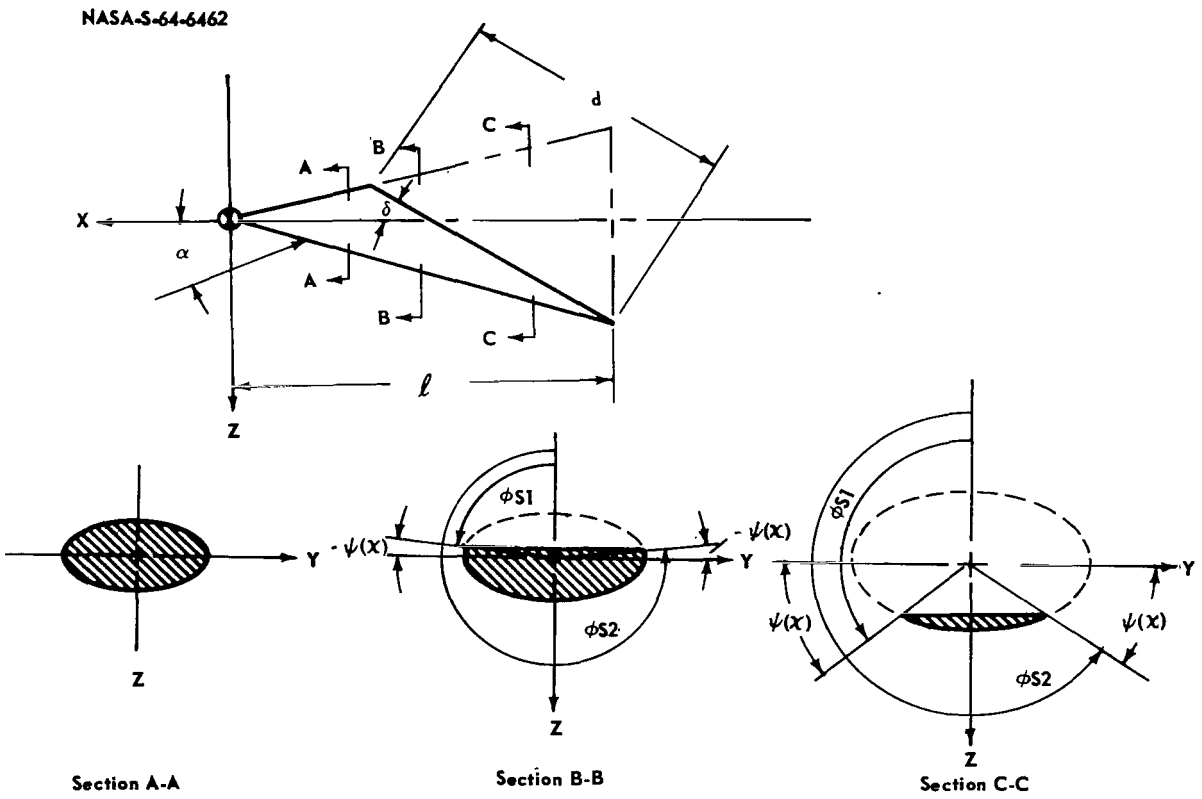
$$\phi S1 = 90° + \psi(x)$$

$$\phi S2 = 270° - \psi(x)$$

where

$$\psi(x) = \tan^{-1}\left[\frac{- \tan\delta\left[\frac{1}{2}\frac{\sin\left(\delta - \theta_{XZ}\right)}{\sin\theta_{XZ}} + \frac{x}{d}\right] - \frac{1}{2}\frac{\sin\left(\delta - \theta_{XZ}\right)}{\cos\theta_{XZ}}}{\frac{1}{m}\sqrt{\left(\frac{x}{d}\right)^2 \tan^2\theta_{XZ} - \left\{- \tan\delta\left[\frac{1}{2}\frac{\sin\left(\delta - \theta_{XZ}\right)}{\sin\theta_{XZ}} + \frac{x}{d}\right] - \frac{1}{2}\frac{\sin\left(\delta - \theta_{XZ}\right)}{\cos\theta_{XZ}}\right\}^2}}\right]$$

$$90° \geq \psi(x) \geq -90°$$



Sketch (f)

The quantities $\phi 1$, $\phi 2$, $\phi S1$, and $\phi S2$ as defined are then used to determine ϕ_L and ϕ_U. For all cases presented in this report, either $\beta = 0°$ while α varied between 0° and 360°, or $\alpha = 0°$ while β varied from 0° to $|\beta| < \theta_{XY}$. For the second case, the flow sees the entire body, or

$$\phi_L = \phi S1$$

$$\phi_U = \phi S2$$

For $\beta = 0°$ and $|\alpha| < \theta_{XZ}$

$$\phi_L = \phi S1$$

$$\phi_U = \phi S2$$

For $\beta = 0°$ and $\left(180° - \theta_{XZ}\right) > \alpha > \theta_{XZ}$

ϕ_L = the greater of $\phi 1$ and $\phi S1$

ϕ_U = the lesser of $\phi 2$ and $\phi S2$

See sketch (g).

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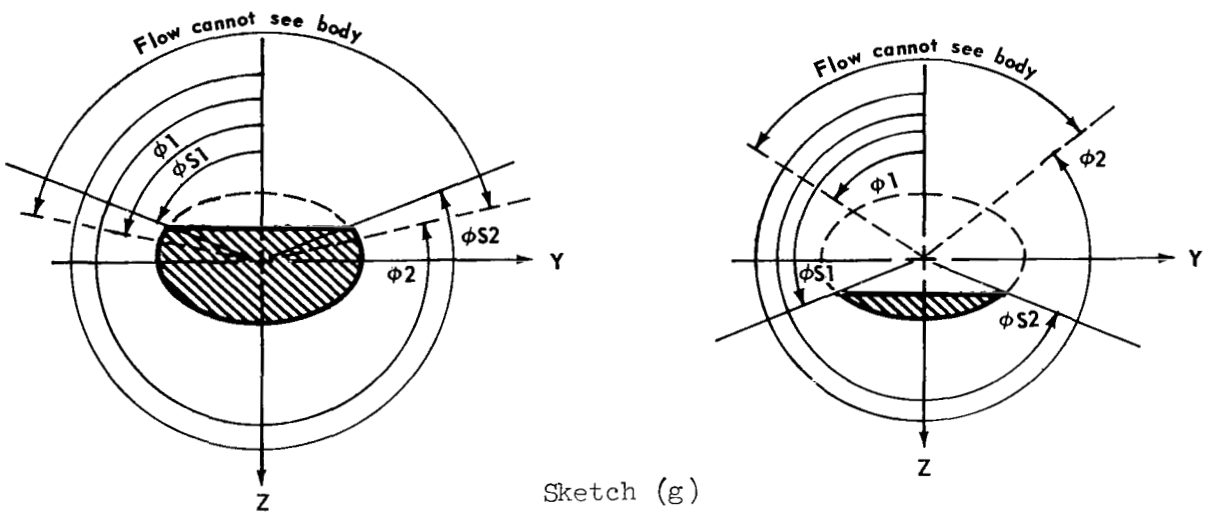
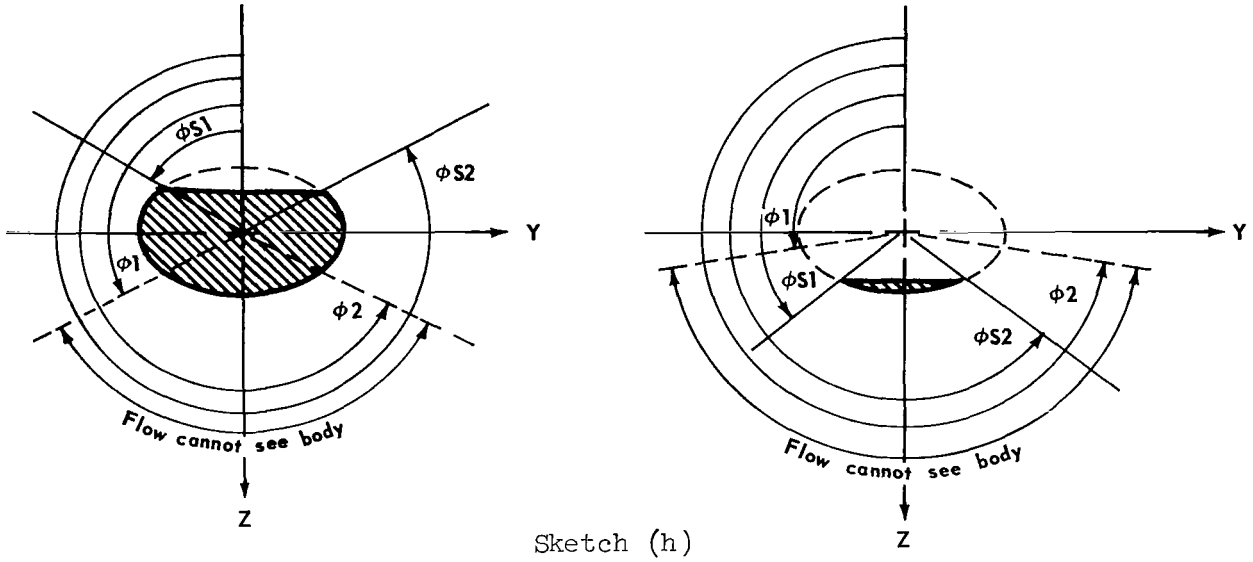


Sketch (g)

However, for $\beta = 0°$ and $\left(360° - \theta_{XZ}\right) > \alpha > \left(180° + \theta_{XZ}\right)$ the following ϕ integration limits are used. If $\phi 1 > \phi S1$ and $\phi S2 > \phi 2$, equations (B1) to (B6) must be integrated from $\phi S1$ to $\phi 1$ and added to the same equations (B1) to (B6) now integrated from $\phi 2$ to $\phi S2$. (See sketch (h).)



Sketch (h)

If $\phi 1 < \phi S1$ and $\phi S2 < \phi 2$, then $\phi_L = \phi_U$ which means the value of that integral is zero at that $\frac{x}{d}$ location.

The above integration limits were used with equations (B1) to (B6) to determine the aerodynamic coefficients. The equations were numerically integrated on an IBM 7094 digital computer.

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TABLE I.- CIRCULAR-CONE CONFIGURATION LONGITUDINAL AERODYNAMICS.

(a) r/d = 0.

θ = 10°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	0.060	0.	0.060	0.
10	-0.647	0.332	0.088	0.312	0.144	2.164
20	-1.323	0.679	0.156	0.585	0.379	1.543
30	-2.136	1.096	0.240	0.824	0.753	1.094
40	-2.962	1.510	0.326	0.947	1.220	0.776
50	-3.679	1.890	0.405	0.905	1.708	0.530
60	-4.288	2.200	0.466	0.696	2.138	0.326
70	-4.657	2.390	0.502	0.346	2.418	0.143
80	-4.731	2.430	0.509	-0.079	2.481	-0.032
90	-4.537	2.330	0.485	-0.485	2.330	-0.208
100	-4.095	2.100	0.434	-0.792	1.993	-0.397
110	-3.431	1.760	0.362	-0.942	1.530	-0.616
120	-2.636	1.360	0.277	-0.920	1.039	-0.885
130	-1.826	0.937	0.190	-0.748	0.596	-1.255
140	-1.074	0.551	0.110	-0.493	0.270	-1.827
150	-0.478	0.245	0.048	-0.236	0.081	-2.926
160	-0.108	0.056	0.011	-0.056	0.009	-6.368
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

θ = 20°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	0.234	0.	0.234	0.
10	-0.313	0.302	0.254	0.253	0.318	0.837
20	-0.589	0.568	0.310	0.428	0.466	0.881
30	-0.817	0.788	0.387	0.489	0.729	0.671
40	-1.014	0.978	0.459	0.454	0.986	0.463
50	-1.160	1.120	0.512	0.328	1.187	0.276
60	-1.256	1.210	0.539	0.158	1.317	0.105
70	-1.266	1.220	0.536	-0.086	1.356	-0.065
80	-1.204	1.160	0.502	-0.293	1.256	-0.234
90	-1.068	1.030	0.442	-0.442	1.056	-0.429
100	-0.886	0.854	0.362	-0.505	0.778	-0.649
110	-0.672	0.649	0.279	-0.478	0.517	-0.924
120	-0.458	0.441	0.182	-0.378	0.291	-1.305
130	-0.262	0.253	0.103	-0.242	0.128	-1.893
140	-0.113	0.109	0.043	-0.111	0.037	-3.018
150	-0.024	0.023	0.009	-0.025	0.004	-6.626
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

θ = 30°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	0.500	0.	0.500	0.
10	-0.198	0.257	0.508	0.169	0.545	0.309
20	-0.371	0.482	0.529	0.272	0.662	0.411
30	-0.506	0.656	0.563	0.281	0.813	0.346
40	-0.579	0.752	0.595	0.194	0.939	0.206
50	-0.626	0.805	0.606	0.053	1.006	0.053
60	-0.621	0.807	0.587	-0.105	0.992	-0.106
70	-0.585	0.760	0.539	-0.247	0.899	-0.274
80	-0.516	0.671	0.466	-0.342	0.742	-0.462
90	-0.424	0.551	0.375	-0.375	0.551	-0.681
100	-0.319	0.415	0.277	-0.345	0.361	-0.956
110	-0.214	0.278	0.182	-0.266	0.199	-1.337
120	-0.121	0.157	0.101	-0.166	0.085	-1.942
130	-0.051	0.066	0.041	-0.074	0.024	-3.080
140	-0.010	0.013	0.008	-0.016	0.002	-6.759
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

θ = 40°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	0.826	0.	0.826	0.
10	-0.136	0.201	0.819	0.056	0.841	0.066
20	-0.255	0.377	0.798	0.081	0.879	0.093
30	-0.344	0.508	0.767	0.056	0.918	0.061
40	-0.391	0.578	0.727	-0.025	0.928	-0.026
50	-0.397	0.587	0.678	-0.142	0.885	-0.160
60	-0.375	0.554	0.606	-0.248	0.783	-0.317
70	-0.330	0.487	0.512	-0.315	0.653	-0.497
80	-0.269	0.398	0.405	-0.330	0.502	-0.713
90	-0.201	0.297	0.293	-0.293	0.297	-0.987
100	-0.133	0.197	0.189	-0.220	0.161	-1.367
110	-0.074	0.110	0.103	-0.134	0.066	-1.973
120	-0.031	0.045	0.041	-0.058	0.019	-3.131
130	-0.006	0.009	0.008	-0.012	0.002	-6.350
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

θ = 50°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	1.170	0.	1.170	0.
10	-0.095	0.141	1.150	-0.061	1.157	-0.053
20	-0.180	0.266	1.080	-0.119	1.106	-0.108
30	-0.242	0.358	0.983	-0.182	1.031	-0.176
40	-0.276	0.407	0.859	-0.240	0.920	-0.261
50	-0.276	0.407	0.727	-0.295	0.779	-0.379
60	-0.246	0.364	0.595	-0.333	0.613	-0.544
70	-0.202	0.299	0.459	-0.329	0.438	-0.751
80	-0.151	0.223	0.326	-0.282	0.276	-1.022
90	-0.099	0.147	0.207	-0.207	0.147	-1.408
100	-0.055	0.081	0.115	-0.122	0.061	-2.003
110	-0.029	0.033	0.043	-0.052	0.016	-3.139
120	-0.004	0.007	0.009	-0.010	0.002	-5.961
130	0.	0.	0.	-0.	-0.	
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

θ = 60°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	1.500	0.	1.500	0.
10	-0.066	0.085	1.469	-0.169	1.493	-0.117
20	-0.124	0.161	1.356	-0.310	1.324	-0.235
30	-0.166	0.216	1.190	-0.408	1.139	-0.358
40	-0.189	0.246	0.984	-0.444	0.912	-0.487
50	-0.189	0.246	0.766	-0.429	0.681	-0.625
60	-0.166	0.216	0.562	-0.379	0.468	-0.809
70	-0.128	0.166	0.387	-0.307	0.288	-1.064
80	-0.085	0.110	0.240	-0.217	0.156	-1.448
90	-0.047	0.061	0.125	-0.125	0.061	-2.039
100	-0.019	0.025	0.048	-0.052	0.016	-3.197
110	-0.004	0.005	0.009	-0.010	0.002	-6.433
120	0.	0.	0.	-0.	-0.	
130	0.	0.	0.	-0.	-0.	
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

TABLE I.- Continued.

(b) r/d = 0.1.

θ = 10°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	0.098	0.	0.098	0.
10	-0.644	0.325	0.123	0.299	0.178	1.682
20	-1.321	0.665	0.187	0.561	0.403	1.391
30	-2.110	1.060	0.265	0.785	0.759	1.034
40	-2.928	1.470	0.344	0.905	1.208	0.749
50	-3.667	1.840	0.415	0.865	1.676	0.516
60	-4.250	2.150	0.470	0.658	2.080	0.316
70	-4.620	2.310	0.500	0.320	2.342	0.137
80	-4.722	2.360	0.502	-0.085	2.411	-0.035
90	-4.528	2.260	0.476	-0.476	2.260	-0.211
100	-4.066	2.030	0.423	-0.769	1.926	-0.399
110	-3.410	1.700	0.352	-0.912	1.477	-0.618
120	-2.625	1.310	0.269	-0.888	1.000	-0.888
130	-1.815	0.904	0.183	-0.721	0.575	-1.255
140	-1.065	0.530	0.106	-0.474	0.259	-1.827
150	-0.475	0.236	0.046	-0.228	0.078	-2.929
160	-0.108	0.053	0.010	-0.054	0.009	-6.314
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

θ = 20°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.	0.	0.265	0.	0.265	0.
10	-0.313	0.297	0.283	0.243	0.330	0.736
20	-0.588	0.558	0.335	0.409	0.506	0.809
30	-0.816	0.774	0.407	0.467	0.739	0.631
40	-1.012	0.959	0.472	0.432	0.976	0.441
50	-1.162	1.100	0.519	0.309	1.176	0.264
60	-1.247	1.179	0.540	0.122	1.291	0.094
70	-1.258	1.188	0.532	-0.094	1.298	-0.072
80	-1.194	1.127	0.495	-0.292	1.196	-0.244
90	-1.063	1.002	0.434	-0.434	1.002	-0.433
100	-0.881	0.830	0.354	-0.493	0.756	-0.652
110	-0.670	0.630	0.265	-0.464	0.502	-0.926
120	-0.455	0.427	0.177	-0.367	0.282	-1.302
130	-0.261	0.245	0.100	-0.234	0.124	-1.890
140	-0.112	0.105	0.042	-0.108	0.036	-3.027
150	-0.024	0.022	0.009	-0.024	0.004	-6.660
160	-0.	0.	-0.	-0.	0.	
170	-0.	0.	-0.	-0.	0.	
180	-0.	0.	-0.	-0.	0.	

θ = 30°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	0.522	0.	0.522	0.
10	-0.197	0.253	0.529	0.157	0.565	0.278
20	-0.371	0.475	0.548	0.259	0.677	0.382
30	-0.499	0.640	0.576	0.266	0.819	0.325
40	-0.578	0.741	0.604	0.179	0.939	0.191
50	-0.618	0.792	0.609	0.043	0.998	0.043
60	-0.620	0.793	0.587	-0.112	0.980	-0.114
70	-0.584	0.746	0.535	-0.248	0.884	-0.280
80	-0.515	0.658	0.461	-0.340	0.728	-0.467
90	-0.423	0.540	0.369	-0.369	0.540	-0.683
100	-0.319	0.406	0.272	-0.338	0.353	-0.960
110	-0.213	0.271	0.178	-0.260	0.194	-1.342
120	-0.120	0.153	0.098	-0.162	0.083	-1.937
130	-0.050	0.064	0.040	-0.072	0.023	-3.083
140	-0.010	0.013	0.008	-0.015	0.002	-6.719
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

θ = 40°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	0.840	0.	0.840	0.
10	-0.135	0.198	0.852	0.051	0.854	0.059
20	-0.255	0.373	0.810	0.073	0.889	0.083
30	-0.344	0.502	0.775	0.047	0.922	0.051
40	-0.391	0.571	0.733	-0.034	0.929	-0.036
50	-0.397	0.580	0.680	-0.148	0.881	-0.168
60	-0.374	0.547	0.606	-0.251	0.777	-0.324
70	-0.329	0.481	0.509	-0.314	0.626	-0.501
80	-0.269	0.392	0.401	-0.327	0.456	-0.717
90	-0.200	0.292	0.290	-0.290	0.292	-0.993
100	-0.133	0.194	0.187	-0.218	0.159	-1.374
110	-0.074	0.108	0.101	-0.132	0.067	-1.970
120	-0.030	0.044	0.040	-0.057	0.018	-3.133
130	-0.006	0.009	0.008	-0.012	0.002	-6.767
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

θ = 50°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	1.180	0.	1.180	0.
10	-0.095	0.140	1.160	-0.064	1.167	-0.054
20	-0.179	0.263	1.090	-0.126	1.114	-0.113
30	-0.242	0.355	0.988	-0.187	1.033	-0.181
40	-0.275	0.404	0.862	-0.245	0.920	-0.266
50	-0.275	0.404	0.728	-0.298	0.777	-0.383
60	-0.246	0.361	0.594	-0.334	0.610	-0.548
70	-0.202	0.296	0.457	-0.328	0.434	-0.755
80	-0.151	0.221	0.324	-0.281	0.274	-1.025
90	-0.100	0.146	0.205	-0.205	0.146	-1.404
100	-0.055	0.080	0.109	-0.121	0.060	-2.010
110	-0.022	0.033	0.043	-0.051	0.016	-3.166
120	-0.004	0.006	0.008	-0.010	0.002	-6.500
130	0.	0.	0.	-0.	-0.	
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

θ = 60°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	1.500	0.	1.500	0.
10	-0.066	0.085	1.460	-0.170	1.453	-0.117
20	-0.124	0.160	1.360	-0.315	1.333	-0.236
30	-0.166	0.215	1.190	-0.409	1.138	-0.359
40	-0.190	0.245	0.984	-0.445	0.911	-0.488
50	-0.190	0.245	0.767	-0.430	0.681	-0.632
60	-0.166	0.215	0.562	-0.379	0.467	-0.812
70	-0.127	0.165	0.386	-0.306	0.287	-1.067
80	-0.085	0.110	0.259	-0.216	0.150	-1.443
90	-0.047	0.061	0.124	-0.124	0.061	-2.038
100	-0.019	0.025	0.048	-0.051	0.016	-3.205
110	-0.004	0.005	0.009	-0.010	0.001	-6.822
120	0.	0.	0.	-0.	-0.	
130	0.	0.	0.	-0.	-0.	
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

TABLE I.- Continued.

(c) r/d = 0.2.

θ = 10°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	0.210	0.	0.210	0.
10	-0.637	0.306	0.231	0.261	0.281	0.931
20	-1.298	0.622	0.281	0.488	0.477	1.024
30	-2.062	0.983	0.340	0.681	0.786	0.867
40	-2.844	1.350	0.399	0.778	1.173	0.663
50	-3.554	1.680	0.448	0.737	1.575	0.468
60	-4.111	1.940	0.481	0.553	1.921	0.288
70	-4.446	2.090	0.494	0.251	2.133	0.117
80	-4.550	2.130	0.482	-0.105	2.181	-0.048
90	-4.336	2.030	0.447	-0.447	2.030	-0.220
100	-3.901	1.820	0.392	-0.702	1.724	-0.407
110	-3.260	1.520	0.321	-0.822	1.319	-0.623
120	-2.518	1.170	0.242	-0.795	0.892	-0.891
130	-1.726	0.802	0.164	-0.641	0.509	-1.260
140	-1.014	0.470	0.095	-0.421	0.230	-1.833
150	-0.449	0.208	0.041	-0.201	0.068	-2.938
160	-0.102	0.047	0.009	-0.047	0.007	-6.351
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

θ = 20°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	0.358	0.	0.358	0.
10	-0.309	0.281	0.372	0.212	0.415	0.511
20	-0.577	0.528	0.412	0.355	0.568	0.626
30	-0.806	0.731	0.466	0.400	0.769	0.520
40	-0.997	0.903	0.512	0.363	0.973	0.373
50	-1.142	1.030	0.539	0.249	1.135	0.219
60	-1.223	1.100	0.545	0.080	1.224	0.065
70	-1.226	1.100	0.522	-0.114	1.212	-0.094
80	-1.164	1.040	0.477	-0.289	1.107	-0.261
90	-1.032	0.920	0.410	-0.410	0.920	-0.446
100	-0.854	0.759	0.330	-0.457	0.690	-0.662
110	-0.647	0.574	0.244	-0.426	0.456	-0.933
120	-0.458	0.387	0.162	-0.334	0.254	-1.313
130	-0.250	0.221	0.090	-0.211	0.111	-1.900
140	-0.107	0.094	0.038	-0.097	0.032	-3.032
150	-0.023	0.020	0.008	-0.021	0.003	-6.735
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

θ = 30°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	0.590	0.	0.590	0.
10	-0.195	0.241	0.593	0.134	0.626	0.215
20	-0.367	0.453	0.603	0.219	0.722	0.304
30	-0.495	0.611	0.619	0.220	0.842	0.261
40	-0.572	0.706	0.630	0.136	0.936	0.145
50	-0.611	0.753	0.621	0.008	0.976	0.009
60	-0.612	0.752	0.585	-0.131	0.944	-0.138
70	-0.575	0.705	0.525	-0.252	0.842	-0.300
80	-0.506	0.619	0.445	-0.331	0.687	-0.482
90	-0.414	0.505	0.353	-0.353	0.505	-0.699
100	-0.311	0.378	0.257	-0.319	0.328	-0.973
110	-0.208	0.252	0.166	-0.242	0.180	-1.345
120	-0.117	0.141	0.091	-0.149	0.077	-1.949
130	-0.049	0.059	0.037	-0.066	0.021	-3.098
140	-0.010	0.012	0.007	-0.014	0.002	-6.822
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

θ = 40°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	0.881	0.	0.881	0.
10	-0.135	0.191	0.871	0.037	0.891	0.041
20	-0.254	0.360	0.843	0.050	0.915	0.055
30	-0.341	0.484	0.801	0.019	0.936	0.020
40	-0.388	0.551	0.748	-0.059	0.927	-0.063
50	-0.394	0.559	0.685	-0.165	0.869	-0.190
60	-0.371	0.526	0.602	-0.258	0.757	-0.341
70	-0.326	0.461	0.501	-0.313	0.605	-0.518
80	-0.266	0.375	0.391	-0.320	0.457	-0.732
90	-0.198	0.279	0.280	-0.280	0.279	-1.004
100	-0.131	0.184	0.179	-0.208	0.150	-1.387
110	-0.073	0.102	0.096	-0.125	0.063	-1.980
120	-0.030	0.042	0.038	-0.054	0.017	-3.141
130	-0.006	0.008	0.007	-0.011	0.002	-6.871
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

θ = 50°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	1.200	0.	1.200	0.
10	-0.095	0.137	1.170	-0.068	1.176	-0.058
20	-0.179	0.257	1.110	-0.138	1.131	-0.122
30	-0.241	0.346	1.000	-0.200	1.039	-0.193
40	-0.274	0.393	0.870	-0.258	0.919	-0.281
50	-0.274	0.393	0.730	-0.307	0.770	-0.398
60	-0.245	0.352	0.592	-0.337	0.601	-0.560
70	-0.201	0.288	0.452	-0.326	0.425	-0.767
80	-0.150	0.214	0.318	-0.276	0.266	-1.038
90	-0.099	0.141	0.200	-0.200	0.141	-1.418
100	-0.054	0.078	0.106	-0.118	0.058	-2.029
110	-0.022	0.031	0.410	-0.396	-0.111	3.580
120	-0.004	0.006	0.008	-0.010	0.001	-6.707
130	0.	0.	0.	-0.	-0.	
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

θ = 60°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	1.510	0.	1.510	0.
10	-0.066	0.084	1.470	-0.173	1.462	-0.118
20	-0.124	0.158	1.360	-0.317	1.332	-0.238
30	-0.166	0.212	1.190	-0.411	1.137	-0.362
40	-0.189	0.241	0.987	-0.450	0.911	-0.494
50	-0.189	0.241	0.768	-0.433	0.678	-0.639
60	-0.166	0.212	0.561	-0.380	0.464	-0.818
70	-0.127	0.162	0.384	-0.305	0.284	-1.077
80	-0.085	0.108	0.236	-0.214	0.147	-1.450
90	-0.047	0.060	0.122	-0.122	0.060	-2.044
100	-0.019	0.024	0.047	-0.050	0.016	-3.202
110	-0.004	0.005	0.009	-0.010	0.001	-6.789
120	0.	0.	0.	-0.	-0.	
130	0.	0.	0.	-0.	-0.	
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

TABLE I.- Continued.

(d) $r/a = 0.3$.

$\theta = 10°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	0.398	0.	0.398	0.
10	-0.614	0.274	0.411	0.198	0.452	0.439
20	-1.238	0.551	0.439	0.368	0.601	0.612
30	-1.937	0.856	0.467	0.508	0.832	0.610
40	-2.643	1.160	0.490	0.574	1.121	0.512
50	-3.261	1.420	0.502	0.528	1.410	0.374
60	-3.728	1.620	0.501	0.376	1.653	0.227
70	-3.997	1.730	0.483	0.138	1.791	0.077
80	-4.035	1.740	0.449	-0.140	1.792	-0.078
90	-3.841	1.650	0.400	-0.400	1.650	-0.242
100	-3.432	1.470	0.338	-0.588	1.389	-0.423
110	-2.857	1.220	0.270	-0.671	1.054	-0.637
120	-2.176	0.927	0.199	-0.636	0.703	-0.904
130	-1.492	0.634	0.132	-0.509	0.401	-1.269
140	-0.870	0.369	0.075	-0.331	0.180	-1.842
150	-0.383	0.162	0.032	-0.156	0.053	-2.950
160	-0.086	0.036	0.007	-0.037	0.006	-6.429
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

$\theta = 20°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	0.514	0.	0.514	0.
10	-0.299	0.254	0.521	0.160	0.557	0.287
20	-0.562	0.477	0.541	0.263	0.672	0.392
30	-0.777	0.659	0.565	0.288	0.819	0.352
40	-0.956	0.808	0.578	0.247	0.962	0.257
50	-1.085	0.913	0.573	0.148	1.068	0.139
60	-1.150	0.964	0.549	0.007	1.109	0.006
70	-1.148	0.957	0.506	-0.148	1.072	-0.138
80	-1.076	0.894	0.445	-0.283	0.958	-0.296
90	-0.948	0.784	0.371	-0.371	0.784	-0.473
100	-0.777	0.640	0.291	-0.398	0.580	-0.686
110	-0.584	0.479	0.210	-0.361	0.378	-0.955
120	-0.393	0.321	0.136	-0.278	0.210	-1.325
130	-0.223	0.181	0.075	-0.174	0.091	-1.919
140	-0.095	0.077	0.031	-0.079	0.026	-3.056
150	-0.020	0.016	0.006	-0.017	0.003	-6.589
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

$\theta = 30°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	0.702	0.	0.702	0.
10	-0.191	0.222	0.700	0.097	0.728	0.133
20	-0.358	0.417	0.696	0.154	0.797	0.193
30	-0.483	0.562	0.689	0.142	0.878	0.162
40	-0.558	0.649	0.674	0.064	0.933	0.068
50	-0.593	0.689	0.639	-0.047	0.939	-0.050
60	-0.590	0.683	0.583	-0.163	0.883	-0.185
70	-0.552	0.636	0.508	-0.260	0.771	-0.337
80	-0.483	0.554	0.419	-0.316	0.618	-0.512
90	-0.392	0.448	0.324	-0.324	0.448	-0.723
100	-0.292	0.332	0.231	-0.285	0.287	-0.994
110	-0.194	0.219	0.147	-0.213	0.156	-1.370
120	-0.108	0.122	0.079	-0.129	0.066	-1.956
130	-0.045	0.050	0.031	-0.056	0.018	-3.117
140	-0.009	0.010	0.006	-0.012	0.002	-6.939
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

$\theta = 40°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	0.950	0.	0.950	0.
10	-0.133	0.180	0.937	0.015	0.954	0.015
20	-0.249	0.337	0.900	0.009	0.961	0.009
30	-0.336	0.455	0.843	-0.027	0.958	-0.029
40	-0.382	0.517	0.774	-0.101	0.925	-0.110
50	-0.387	0.524	0.694	-0.195	0.848	-0.230
60	-0.364	0.492	0.597	-0.271	0.725	-0.374
70	-0.319	0.429	0.488	-0.312	0.570	-0.547
80	-0.259	0.347	0.373	-0.307	0.406	-0.755
90	-0.192	0.256	0.262	-0.262	0.256	-1.023
100	-0.126	0.167	0.165	-0.191	0.136	-1.410
110	-0.070	0.092	0.087	-0.113	0.056	-2.005
120	-0.028	0.037	0.034	-0.048	0.015	-3.158
130	-0.006	0.007	0.006	-0.010	0.001	-6.840
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

$\theta = 50°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	1.240	0.	1.240	0.
10	-0.094	0.131	1.210	-0.081	1.214	-0.067
20	-0.178	0.247	1.140	-0.158	1.156	-0.137
30	-0.239	0.332	1.020	-0.222	1.049	-0.212
40	-0.271	0.378	0.885	-0.279	0.921	-0.303
50	-0.271	0.378	0.737	-0.322	0.763	-0.421
60	-0.244	0.338	0.590	-0.342	0.588	-0.582
70	-0.199	0.276	0.445	-0.324	0.412	-0.787
80	-0.148	0.204	0.309	-0.269	0.255	-1.056
90	-0.097	0.134	0.192	-0.192	0.134	-1.433
100	-0.053	0.073	0.100	-0.111	0.055	-2.032
110	-0.022	0.029	0.038	-0.046	0.014	-3.198
120	-0.004	0.006	0.007	-0.009	0.001	-6.799
130	0.	0.	0.	-0.	-0.	
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

$\theta = 60°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	1.520	0.	1.520	0.
10	-0.065	0.082	1.480	-0.177	1.472	-0.120
20	-0.123	0.154	1.370	-0.324	1.340	-0.242
30	-0.166	0.207	1.200	-0.421	1.143	-0.368
40	-0.188	0.235	0.992	-0.458	0.911	-0.502
50	-0.188	0.235	0.769	-0.438	0.674	-0.650
60	-0.166	0.207	0.560	-0.381	0.459	-0.831
70	-0.126	0.158	0.381	-0.304	0.279	-1.090
80	-0.084	0.105	0.232	-0.210	0.144	-1.463
90	-0.047	0.058	0.119	-0.119	0.058	-2.055
100	-0.019	0.023	0.045	-0.049	0.015	-3.216
110	-0.004	0.004	0.008	-0.009	0.001	-6.719
120	0.	0.	0.	-0.	-0.	
130	0.	0.	0.	-0.	-0.	
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

TABLE I.- Continued.

(e) r/d = 0.4.

θ = 10°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	0.661	0.	0.661	0.
10	-0.568	0.229	0.662	0.111	0.692	0.160
20	-1.125	0.452	0.658	0.200	0.773	0.258
30	-1.692	0.677	0.644	0.264	0.896	0.295
40	-2.225	0.886	0.617	0.282	1.042	0.271
50	-2.675	1.060	0.578	0.239	1.184	0.202
60	-2.964	1.170	0.528	0.128	1.277	0.100
70	-3.101	1.220	0.469	-0.023	1.307	-0.018
80	-3.062	1.200	0.404	-0.189	1.252	-0.151
90	-2.840	1.110	0.334	-0.334	1.110	-0.301
100	-2.493	0.971	0.265	-0.430	0.910	-0.472
110	-2.035	0.790	0.199	-0.457	0.674	-0.678
120	-1.530	0.592	0.139	-0.416	0.443	-0.940
130	-1.029	0.397	0.088	-0.323	0.248	-1.303
140	-0.590	0.227	0.048	-0.205	0.109	-1.874
150	-0.256	0.098	0.020	-0.095	0.032	-2.981
160	-0.057	0.022	0.004	-0.022	0.003	-6.466
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

θ = 20°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	0.732	0.	0.732	0.
10	-0.280	0.217	0.729	0.087	0.756	0.115
20	-0.526	0.407	0.721	0.136	0.817	0.166
30	-0.723	0.559	0.703	0.133	0.888	0.149
40	-0.877	0.676	0.671	0.087	0.949	0.091
50	-0.975	0.749	0.621	0.006	0.973	0.006
60	-1.014	0.776	0.558	-0.095	0.951	-0.100
70	-0.989	0.754	0.483	-0.196	0.874	-0.224
80	-0.908	0.690	0.401	-0.275	0.749	-0.367
90	-0.784	0.593	0.317	-0.317	0.593	-0.535
100	-0.629	0.474	0.236	-0.315	0.426	-0.739
110	-0.463	0.347	0.163	-0.272	0.270	-1.006
120	-0.304	0.227	0.101	-0.201	0.146	-1.376
130	-0.168	0.125	0.053	-0.121	0.062	-1.964
140	-0.070	0.052	0.021	-0.053	0.017	-3.097
150	-0.014	0.011	0.004	-0.011	0.002	-6.784
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

θ = 30°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	0.859	0.	0.859	0.
10	-0.181	0.195	0.851	0.044	0.872	0.051
20	-0.340	0.366	0.825	0.062	0.900	0.069
30	-0.459	0.494	0.787	0.034	0.929	0.037
40	-0.529	0.569	0.735	-0.037	0.929	-0.039
50	-0.558	0.599	0.666	-0.125	0.887	-0.141
60	-0.549	0.588	0.580	-0.208	0.799	-0.261
70	-0.505	0.539	0.484	-0.270	0.672	-0.402
80	-0.435	0.462	0.383	-0.297	0.521	-0.569
90	-0.348	0.368	0.285	-0.285	0.368	-0.774
100	-0.254	0.267	0.195	-0.238	0.229	-1.041
110	-0.166	0.173	0.120	-0.172	0.122	-1.415
120	-0.090	0.094	0.062	-0.101	0.050	-2.010
130	-0.037	0.038	0.024	-0.043	0.013	-3.168
140	-0.007	0.007	0.005	-0.009	0.001	-6.997
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

θ = 40°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	1.050	0.	1.050	0.
10	-0.128	0.163	1.030	-0.018	1.043	-0.018
20	-0.240	0.306	0.979	-0.047	1.025	-0.046
30	-0.324	0.413	0.903	-0.094	0.989	-0.095
40	-0.368	0.469	0.811	-0.162	0.923	-0.176
50	-0.373	0.475	0.707	-0.236	0.818	-0.289
60	-0.350	0.444	0.590	-0.289	0.680	-0.425
70	-0.303	0.384	0.468	-0.308	0.521	-0.592
80	-0.244	0.307	0.348	-0.289	0.363	-0.798
90	-0.179	0.224	0.238	-0.238	0.224	-1.063
100	-0.116	0.144	0.146	-0.169	0.116	-1.449
110	-0.063	0.078	0.075	-0.097	0.047	-2.042
120	-0.025	0.031	0.028	-0.040	0.013	-3.208
130	-0.005	0.006	0.005	-0.008	0.001	-6.656
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

θ = 50°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	1.280	0.	1.280	0.
10	-0.093	0.123	1.250	-0.096	1.252	-0.077
20	-0.174	0.231	1.170	-0.183	1.178	-0.155
30	-0.234	0.311	1.050	-0.256	1.065	-0.240
40	-0.266	0.353	0.900	-0.308	0.916	-0.336
50	-0.118	0.	-0.740	0.567	-0.476	-1.192
60	-0.238	0.316	0.583	-0.347	0.565	-0.614
70	-0.194	0.257	0.432	-0.318	0.389	-0.817
80	-0.143	0.189	0.295	-0.258	0.237	-1.086
90	-0.093	0.122	0.179	-0.179	0.122	-1.467
100	-0.051	0.066	0.092	-0.102	0.049	-2.062
110	-0.020	0.026	0.035	-0.042	0.013	-3.223
120	-0.004	0.005	0.006	-0.008	0.001	-6.742
130	0.	0.	0.	-0.	-0.	
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

θ = 60°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	1.540	0.	1.540	0.
10	-0.065	0.079	1.500	-0.183	1.491	-0.123
20	-0.122	0.148	1.390	-0.336	1.357	-0.248
30	-0.163	0.199	1.210	-0.433	1.147	-0.377
40	-0.186	0.226	0.998	-0.468	0.916	-0.515
50	-0.186	0.226	0.771	-0.445	0.669	-0.666
60	-0.163	0.199	0.557	-0.383	0.451	-0.849
70	-0.125	0.152	0.375	-0.300	0.271	-1.108
80	-0.083	0.101	0.226	-0.205	0.159	-1.478
90	-0.046	0.055	0.115	-0.115	0.055	-2.083
100	-0.018	0.022	0.045	-0.046	0.014	-3.230
110	-0.004	0.004	0.008	-0.009	0.001	-6.854
120	0.	0.	0.	-0.	-0.	
130	0.	0.	0.	-0.	-0.	
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

TABLE I.- Concluded.

(f) r/a = 0.5.

θ = 10°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	1.000	0.	1.000	0.
10	-0.492	0.171	0.985	-0.003	1.000	-0.003
20	-0.933	0.324	0.941	-0.017	0.995	-0.017
30	-1.291	0.448	0.871	-0.048	0.978	-0.049
40	-1.547	0.537	0.780	-0.090	0.943	-0.095
50	-1.688	0.586	0.675	-0.140	0.883	-0.159
60	-1.712	0.594	0.563	-0.191	0.796	-0.239
70	-1.626	0.564	0.451	-0.231	0.684	-0.337
80	-1.456	0.505	0.344	-0.251	0.557	-0.451
90	-1.225	0.425	0.250	-0.250	0.425	-0.588
100	-0.963	0.334	0.170	-0.225	0.299	-0.753
110	-0.701	0.243	0.107	-0.184	0.192	-0.958
120	-0.464	0.161	0.062	-0.134	0.109	-1.232
130	-0.270	0.094	0.031	-0.084	0.052	-1.621
140	-0.130	0.045	0.013	-0.043	0.019	-2.242
150	-0.046	0.016	0.004	-0.016	0.004	-3.536
160	-0.007	0.003	0.001	-0.003	0.000	-11.590
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

θ = 20°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	1.010	0.	1.010	0.
10	-0.249	0.169	0.997	-0.007	1.011	-0.007
20	-0.466	0.317	0.952	-0.028	1.003	-0.028
30	-0.634	0.431	0.881	-0.067	0.978	-0.069
40	-0.744	0.505	0.790	-0.121	0.930	-0.130
50	-0.794	0.539	0.683	-0.177	0.852	-0.207
60	-0.786	0.533	0.568	-0.225	0.746	-0.302
70	-0.729	0.494	0.453	-0.257	0.619	-0.415
80	-0.632	0.428	0.344	-0.264	0.481	-0.550
90	-0.513	0.347	0.247	-0.247	0.347	-0.712
100	-0.385	0.260	0.165	-0.208	0.227	-0.913
110	-0.262	0.177	0.101	-0.155	0.132	-1.180
120	-0.157	0.106	0.055	-0.101	0.064	-1.568
130	-0.079	0.053	0.025	-0.054	0.025	-2.162
140	-0.029	0.020	0.008	-0.020	0.006	-3.364
150	-0.005	0.003	0.001	-0.004	0.000	-9.214
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

θ = 30°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	1.060	0.	1.060	0.
10	-0.165	0.160	1.040	-0.023	1.052	-0.022
20	-0.310	0.301	0.992	-0.056	1.035	-0.055
30	-0.419	0.406	0.913	-0.105	0.994	-0.106
40	-0.481	0.466	0.814	-0.166	0.923	-0.180
50	-0.500	0.484	0.699	-0.224	0.820	-0.274
60	-0.480	0.464	0.576	-0.267	0.690	-0.387
70	-0.430	0.415	0.453	-0.284	0.545	-0.521
80	-0.358	0.345	0.337	-0.272	0.398	-0.683
90	-0.275	0.264	0.234	-0.234	0.264	-0.886
100	-0.192	0.184	0.150	-0.180	0.155	-1.158
110	-0.119	0.114	0.085	-0.119	0.078	-1.523
120	-0.061	0.058	0.041	-0.064	0.030	-2.130
130	-0.023	0.022	0.014	-0.025	0.008	-3.300
140	-0.004	0.004	0.002	-0.005	0.001	-7.120
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

θ = 40°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	1.170	0.	1.170	0.
10	-0.121	0.142	1.150	-0.060	1.157	-0.052
20	-0.226	0.266	1.080	-0.119	1.106	-0.108
30	-0.305	0.359	0.981	-0.180	1.029	-0.175
40	-0.347	0.408	0.858	-0.239	0.920	-0.260
50	-0.350	0.412	0.723	-0.289	0.780	-0.370
60	-0.325	0.382	0.582	-0.313	0.622	-0.503
70	-0.278	0.326	0.444	-0.306	0.458	-0.667
80	-0.219	0.256	0.317	-0.268	0.307	-0.872
90	-0.157	0.182	0.207	-0.207	0.182	-1.137
100	-0.099	0.114	0.121	-0.139	0.091	-1.523
110	-0.052	0.060	0.059	-0.076	0.036	-2.112
120	-0.020	0.023	0.021	-0.030	0.009	-3.281
130	-0.004	0.004	0.004	-0.006	0.001	-7.242
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

θ = 50°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	1.340	0.	1.340	0.
10	-0.089	0.112	1.310	-0.117	1.310	-0.089
20	-0.168	0.211	1.220	-0.219	1.219	-0.180
30	-0.226	0.284	1.090	-0.299	1.086	-0.275
40	-0.257	0.323	0.924	-0.347	0.915	-0.379
50	-0.257	0.323	0.747	-0.365	0.728	-0.501
60	-0.230	0.288	0.576	-0.355	0.537	-0.660
70	-0.182	0.223	0.417	-0.316	0.352	-0.896
80	-0.136	0.170	0.277	-0.243	0.216	-1.129
90	-0.088	0.109	0.164	-0.164	0.109	-1.505
100	-0.047	0.058	0.081	-0.090	0.043	-2.113
110	-0.018	0.022	0.030	-0.036	0.011	-3.266
120	-0.003	0.004	0.005	-0.007	0.001	-6.366
130	0.	0.	0.	-0.	-0.	
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

θ = 60°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	1.560	0.	1.560	0.
10	-0.064	0.075	1.520	-0.190	1.516	-0.126
20	-0.120	0.141	1.400	-0.346	1.384	-0.254
30	-0.161	0.189	1.230	-0.451	1.161	-0.389
40	-0.183	0.215	1.010	-0.485	0.912	-0.531
50	-0.183	0.215	0.774	-0.455	0.682	-0.667
60	-0.161	0.189	0.554	-0.385	0.441	-0.874
70	-0.123	0.144	0.369	-0.297	0.262	-1.138
80	-0.082	0.095	0.219	-0.199	0.132	-1.510
90	-0.045	0.052	0.109	-0.109	0.052	-2.104
100	-0.018	0.020	0.040	-0.043	0.013	-3.278
110	-0.003	0.004	0.007	-0.008	0.001	-6.977
120	0.	0.	0.	-0.	-0.	
130	0.	0.	0.	-0.	-0.	
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

TABLE II.- RAKED-OFF CIRCULAR-CONE CONFIGURATION LONGITUDINAL AERODYNAMICS. $\theta = 20^\circ$.

(a) $r/d = 0$.

$\delta = 30^\circ$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-9.698	2.306	1.330	2.306	1.330	1.734
10	-19.912	4.929	2.278	4.458	3.100	1.438
20	-32.003	7.946	3.433	6.292	5.944	1.059
30	-44.554	11.017	4.643	7.219	9.529	0.758
40	-56.082	13.817	5.745	6.892	13.282	0.519
50	-65.221	16.018	6.600	5.240	16.513	0.317
60	-70.865	17.356	7.104	2.525	18.583	0.136
70	-72.339	17.671	7.192	-0.714	19.065	-0.037
80	-69.471	16.927	6.853	-3.810	17.860	-0.213
90	-62.593	15.212	6.129	-6.129	15.212	-0.403
100	-52.572	12.736	5.104	-7.238	11.657	-0.621
110	-40.552	9.794	3.905	-7.019	7.868	-0.892
120	-28.021	6.740	2.670	-5.682	4.502	-1.262
130	-16.502	3.943	1.550	-3.724	2.026	-1.838
140	-7.361	1.743	0.678	-1.771	0.601	-2.945
150	-1.685	0.391	0.150	-0.414	0.066	-6.292
160	-0.	0.	0.	-0.	-0.	
170	-0.	0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.024	-0.023	0.009	0.025	0.004	6.626
220	0.126	-0.117	0.047	0.120	0.039	3.078
230	0.294	-0.272	0.115	0.263	0.135	1.948
240	0.522	-0.480	0.201	0.414	0.315	1.316
250	0.775	-0.711	0.307	0.532	0.563	0.944
260	1.027	-0.940	0.413	0.570	0.854	0.667
270	1.271	-1.143	0.508	0.508	1.143	0.445
280	1.423	-1.292	0.584	0.351	1.374	0.255
290	1.504	-1.364	0.629	0.125	1.497	0.083
300	1.507	-1.362	0.644	-0.123	1.502	-0.082
310	1.422	-1.268	0.625	-0.336	1.373	-0.245
320	1.253	-1.110	0.576	-0.481	1.155	-0.416
330	0.971	-0.893	0.512	-0.518	0.890	-0.582
340	0.512	-0.584	0.470	-0.388	0.641	-0.605
350	-2.618	0.391	0.702	0.507	0.625	0.814
360	-9.716	2.306	1.328	2.306	1.329	1.736

$\delta = 40^\circ$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-2.152	0.783	0.657	0.783	0.657	1.193
10	-4.609	1.869	0.990	1.669	1.300	1.284
20	-7.415	3.054	1.416	2.385	2.375	1.004
30	-10.256	4.217	1.872	2.716	3.730	0.728
40	-12.835	5.264	2.285	2.564	5.134	0.499
50	-14.853	6.078	2.599	1.916	6.327	0.303
60	-16.063	6.560	2.776	0.876	7.069	0.124
70	-16.330	6.656	2.792	-0.348	7.209	-0.048
80	-15.631	6.357	2.645	-1.501	6.720	-0.223
90	-14.028	5.694	2.352	-2.352	5.694	-0.413
100	-11.725	4.749	1.947	-2.742	4.338	-0.632
110	-8.998	3.635	1.478	-2.633	2.910	-0.905
120	-6.180	2.489	1.003	-2.113	1.654	-1.278
130	-3.605	1.446	0.576	-1.371	0.737	-1.859
140	-1.584	0.631	0.248	-0.643	0.216	-2.980
150	-0.351	0.138	0.053	-0.146	0.023	-6.333
160	-0.	0.	0.	-0.	-0.	
170	-0.	0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.028	-0.024	0.010	0.026	0.003	8.145
220	0.121	-0.114	0.046	0.117	0.038	3.062
230	0.286	-0.268	0.111	0.257	0.134	1.914
240	0.505	-0.470	0.197	0.406	0.309	1.316
250	0.745	-0.695	0.296	0.516	0.552	0.935
260	0.993	-0.919	0.398	0.551	0.836	0.659
270	1.205	-1.113	0.491	0.491	1.113	0.441
280	1.366	-1.259	0.561	0.334	1.337	0.250
290	1.447	-1.329	0.605	0.114	1.456	0.078
300	1.444	-1.323	0.615	-0.129	1.453	-0.089
310	1.338	-1.229	0.591	-0.337	1.322	-0.255
320	1.176	-1.077	0.541	-0.477	1.107	-0.431
330	0.948	-0.867	0.472	-0.515	0.842	-0.612
340	0.619	-0.600	0.410	-0.424	0.590	-0.718
350	-0.337	-0.074	0.455	0.006	0.461	0.014
360	-2.151	0.783	0.657	0.783	0.657	1.192

TABLE II.- Continued.

(a) r/d = 0 - Continued.

$\delta = 50°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.870	0.389	0.461	0.389	0.461	0.843
10	-2.050	1.081	0.636	0.954	0.814	1.172
20	-3.339	1.802	0.875	1.394	1.438	0.969
30	-4.608	2.487	1.139	1.584	2.230	0.710
40	-5.749	3.098	1.378	1.487	3.047	0.488
50	-6.636	3.569	1.559	1.100	3.737	0.294
60	-7.157	3.845	1.657	0.487	4.158	0.117
70	-7.260	3.894	1.660	-0.228	4.227	-0.054
80	-6.936	3.714	1.568	-0.899	3.930	-0.229
90	-6.207	3.319	1.389	-1.389	3.319	-0.418
100	-5.174	2.763	1.146	-1.608	2.522	-0.638
110	-3.960	2.110	0.867	-1.537	1.686	-0.911
120	-2.709	1.440	0.585	-1.227	0.955	-1.285
130	-1.572	0.834	0.334	-0.792	0.424	-1.870
140	-0.685	0.361	0.143	-0.369	0.123	-2.993
150	-0.150	0.078	0.030	-0.083	0.013	-6.455
160	-0.	0.	0.	-0.	-0.	
170	-0.	0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.026	-0.024	0.010	0.026	0.003	7.392
220	0.120	-0.113	0.045	0.116	0.038	3.051
230	0.281	-0.264	0.109	0.253	0.133	1.908
240	0.493	-0.463	0.193	0.399	0.304	1.311
250	0.729	-0.684	0.290	0.507	0.544	0.932
260	0.964	-0.903	0.389	0.540	0.821	0.657
270	1.169	-1.092	0.477	0.477	1.092	0.437
280	1.324	-1.233	0.546	0.323	1.309	0.247
290	1.397	-1.300	0.586	0.106	1.423	0.074
300	1.392	-1.293	0.594	-0.132	1.417	-0.093
310	1.293	-1.201	0.570	-0.336	1.286	-0.261
320	1.134	-1.051	0.518	-0.472	1.073	-0.440
330	0.914	-0.847	0.447	-0.510	0.811	-0.629
340	0.630	-0.598	0.377	-0.433	0.559	-0.774
350	0.061	-0.195	0.372	-0.128	0.400	-0.319
360	-0.868	0.388	0.461	0.388	0.461	0.840

$\delta = 60°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.418	0.212	0.366	0.212	0.366	0.580
10	-1.153	0.731	0.471	0.638	0.591	1.080
20	-1.919	1.247	0.627	0.958	1.016	0.943
30	-2.647	1.722	0.807	1.088	1.560	0.698
40	-3.296	2.143	0.970	1.018	2.120	0.480
50	-3.795	2.464	1.092	0.747	2.590	0.289
60	-4.089	2.652	1.158	0.324	2.876	0.113
70	-4.145	2.685	1.157	-0.169	2.919	-0.058
80	-3.949	2.556	1.089	-0.629	2.706	-0.232
90	-3.529	2.281	0.963	-0.963	2.281	-0.422
100	-2.936	1.896	0.792	-1.110	1.730	-0.641
110	-2.243	1.446	0.598	-1.057	1.155	-0.915
120	-1.530	0.985	0.402	-0.841	0.652	-1.290
130	-0.885	0.569	0.229	-0.541	0.288	-1.876
140	-0.384	0.246	0.097	-0.251	0.084	-3.006
150	-0.083	0.053	0.020	-0.056	0.009	-6.351
160	-0.	0.	0.	-0.	-0.	
170	-0.	0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.025	-0.024	0.010	0.025	0.004	7.162
220	0.118	-0.112	0.045	0.114	0.038	3.040
230	0.275	-0.261	0.107	0.250	0.131	1.907
240	0.483	-0.457	0.190	0.393	0.301	1.307
250	0.713	-0.674	0.285	0.499	0.536	0.930
260	0.942	-0.889	0.381	0.530	0.809	0.654
270	1.140	-1.075	0.467	0.467	1.075	0.435
280	1.289	-1.213	0.533	0.315	1.287	0.245
290	1.359	-1.278	0.572	0.100	1.397	0.072
300	1.352	-1.270	0.578	-0.134	1.389	-0.097
310	1.254	-1.178	0.553	-0.334	1.258	-0.265
320	1.098	-1.031	0.500	-0.468	1.046	-0.447
330	0.886	-0.831	0.428	-0.505	0.786	-0.643
340	0.624	-0.591	0.355	-0.434	0.536	-0.810
350	0.200	-0.247	0.327	-0.187	0.365	-0.513
360	-0.417	0.212	0.367	0.212	0.367	0.577

TABLE II.- Continued.

(a) r/d = 0 - Concluded.

δ = 70°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.201	0.112	0.308	0.112	0.308	0.365
10	-0.721	0.531	0.372	0.458	0.459	0.998
20	-1.235	0.930	0.482	0.710	0.771	0.920
30	-1.706	1.286	0.613	0.807	1.174	0.687
40	-2.122	1.599	0.734	0.753	1.590	0.474
50	-2.440	1.838	0.823	0.550	1.937	0.284
60	-2.625	1.975	0.870	0.234	2.146	0.109
70	-2.657	1.998	0.868	-0.132	2.174	-0.061
80	-2.529	1.901	0.816	-0.473	2.013	-0.235
90	-2.257	1.695	0.720	-0.720	1.695	-0.425
100	-1.875	1.407	0.591	-0.827	1.283	-0.644
110	-1.430	1.072	0.445	-0.785	0.855	-0.918
120	-0.973	0.729	0.299	-0.624	0.482	-1.294
130	-0.562	0.420	0.170	-0.400	0.213	-1.881
140	-0.243	0.181	0.071	-0.185	0.062	-2.990
150	-0.052	0.039	0.015	-0.041	0.006	-6.607
160	-0.	0.	0.	-0.	-0.	
170	-0.	0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.025	-0.023	0.009	0.025	0.004	6.941
220	0.116	-0.111	0.044	0.114	0.037	3.034
230	0.271	-0.258	0.106	0.247	0.130	1.900
240	0.474	-0.452	0.187	0.388	0.297	1.305
250	0.699	-0.666	0.281	0.492	0.529	0.929
260	0.923	-0.877	0.375	0.521	0.799	0.652
270	1.115	-1.060	0.459	0.459	1.060	0.433
280	1.260	-1.195	0.522	0.307	1.267	0.242
290	1.326	-1.258	0.559	0.095	1.373	0.069
300	1.318	-1.249	0.564	-0.136	1.364	-0.100
310	1.221	-1.158	0.538	-0.332	1.233	-0.269
320	1.069	-1.012	0.486	-0.463	1.023	-0.453
330	0.862	-0.816	0.413	-0.500	0.766	-0.653
340	0.614	-0.584	0.338	-0.433	0.517	-0.838
350	0.262	-0.275	0.297	-0.219	0.340	-0.646
360	-0.201	0.112	0.308	0.112	0.308	0.364

δ = 80°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.071	0.048	0.266	0.048	0.266	0.181
10	-0.474	0.399	0.305	0.340	0.370	0.920
20	-0.843	0.721	0.384	0.546	0.607	0.900
30	-1.167	0.999	0.484	0.623	0.919	0.679
40	-1.450	1.241	0.576	0.580	1.239	0.468
50	-1.667	1.426	0.645	0.423	1.507	0.281
60	-1.791	1.532	0.680	0.177	1.666	0.106
70	-1.808	1.546	0.676	-0.107	1.684	-0.063
80	-1.720	1.470	0.635	-0.370	1.558	-0.238
90	-1.534	1.311	0.559	-0.559	1.311	-0.427
100	-1.276	1.087	0.459	-0.641	0.991	-0.646
110	-0.969	0.828	0.345	-0.607	0.660	-0.921
120	-0.659	0.562	0.231	-0.482	0.371	-1.297
130	-0.379	0.324	0.131	-0.308	0.164	-1.885
140	-0.163	0.139	0.055	-0.142	0.047	-3.018
150	-0.035	0.030	0.011	-0.031	0.005	-6.435
160	-0.	0.	0.	-0.	-0.	
170	-0.	0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.024	-0.023	0.009	0.025	0.004	6.941
220	0.115	-0.110	0.044	0.112	0.037	3.026
230	0.267	-0.256	0.104	0.244	0.129	1.895
240	0.466	-0.446	0.185	0.383	0.294	1.302
250	0.685	-0.657	0.276	0.485	0.523	0.926
260	0.904	-0.866	0.368	0.513	0.789	0.650
270	1.091	-1.045	0.450	0.450	1.045	0.431
280	1.232	-1.177	0.512	0.300	1.248	0.240
290	1.296	-1.239	0.548	0.091	1.352	0.067
300	1.287	-1.230	0.552	-0.137	1.341	-0.102
310	1.191	-1.139	0.525	-0.330	1.210	-0.273
320	1.042	-0.995	0.472	-0.459	1.001	-0.459
330	0.840	-0.802	0.400	-0.495	0.747	-0.662
340	0.602	-0.576	0.323	-0.431	0.501	-0.860
350	0.295	-0.292	0.273	-0.240	0.320	-0.750
360	-0.078	0.047	0.267	0.047	0.267	0.177

TABLE II.- Continued.

(b) r/d = 0.1.

$\delta = 30°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-9.704	2.304	1.361	2.304	1.361	1.692
10	-19.911	4.923	2.308	4.448	3.128	1.422
20	-32.016	7.938	3.459	6.276	5.965	1.052
30	-44.549	11.003	4.662	7.198	9.539	0.755
40	-56.079	13.800	5.759	6.870	13.282	0.517
50	-65.220	15.996	6.608	5.220	16.561	0.316
60	-70.809	17.332	7.104	2.514	18.562	0.135
70	-72.349	17.646	7.188	-0.719	19.040	-0.038
80	-69.461	16.902	6.847	-3.808	17.834	-0.214
90	-62.598	15.188	6.121	-6.121	15.188	-0.403
100	-52.503	12.715	5.096	-7.227	11.637	-0.621
110	-40.548	9.776	3.897	-7.006	7.654	-0.892
120	-28.028	6.728	2.666	-5.673	4.494	-1.262
130	-16.510	3.940	1.548	-3.718	2.026	-1.838
140	-7.366	1.741	0.678	-1.769	0.600	-2.949
150	-1.665	0.391	0.150	-0.414	0.066	-6.292
160	-0.	0.	-0.	-0.	0.	
170	-0.	0.	-0.	-0.	0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.024	-0.022	0.009	0.024	0.004	6.650
220	0.125	-0.113	0.046	0.116	0.038	3.089
230	0.295	-0.265	0.111	0.256	0.131	1.947
240	0.519	-0.466	0.196	0.403	0.306	1.319
250	0.773	-0.693	0.300	0.519	0.548	0.946
260	1.023	-0.916	0.404	0.557	0.832	0.670
270	1.267	-1.115	0.500	0.500	1.115	0.448
280	1.413	-1.259	0.577	0.350	1.340	0.261
290	1.496	-1.332	0.626	0.132	1.466	0.090
300	1.497	-1.331	0.645	-0.107	1.475	-0.072
310	1.425	-1.249	0.632	-0.318	1.362	-0.233
320	1.231	-1.092	0.589	-0.458	1.153	-0.397
330	0.989	-0.879	0.531	-0.495	0.900	-0.551
340	0.516	-0.573	0.495	-0.369	0.661	-0.558
350	-2.618	0.397	0.731	0.518	0.651	0.795
360	-9.716	2.306	1.359	2.306	1.359	1.696

$\delta = 40°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-2.148	0.781	0.689	0.781	0.689	1.133
10	-4.608	1.863	1.020	1.658	1.329	1.248
20	-7.414	3.043	1.441	2.367	2.395	0.988
30	-10.254	4.203	1.892	2.694	3.740	0.720
40	-12.834	5.246	2.298	2.541	5.133	0.495
50	-14.851	6.055	2.607	1.895	6.314	0.300
60	-16.066	6.535	2.778	0.862	7.049	0.122
70	-16.338	6.631	2.789	-0.353	7.185	-0.049
80	-15.627	6.329	2.639	-1.500	6.691	-0.224
90	-14.024	5.667	2.344	-2.344	5.667	-0.414
100	-11.722	4.726	1.939	-2.730	4.317	-0.632
110	-8.798	3.617	1.472	-2.621	2.896	-0.905
120	-6.176	2.475	0.998	-2.102	1.645	-1.278
130	-3.604	1.438	0.573	-1.364	0.733	-1.860
140	-1.584	0.628	0.246	-0.639	0.215	-2.971
150	-0.352	0.138	0.053	-0.146	0.023	-6.403
160	-0.	0.	-0.	-0.	0.	
170	-0.	0.	-0.	-0.	0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.028	-0.024	0.010	0.026	0.003	8.241
220	0.120	-0.110	0.044	0.113	0.037	3.072
230	0.286	-0.261	0.107	0.250	0.131	1.912
240	0.502	-0.457	0.192	0.395	0.300	1.318
250	0.743	-0.676	0.289	0.503	0.537	0.937
260	0.989	-0.895	0.390	0.539	0.814	0.662
270	1.200	-1.086	0.482	0.482	1.086	0.444
280	1.356	-1.225	0.554	0.333	1.303	0.256
290	1.439	-1.297	0.601	0.121	1.424	0.085
300	1.434	-1.291	0.616	-0.113	1.426	-0.079
310	1.339	-1.208	0.598	-0.319	1.310	-0.245
320	1.174	-1.058	0.554	-0.454	1.105	-0.411
330	0.946	-0.853	0.491	-0.493	0.852	-0.579
340	0.618	-0.590	0.435	-0.405	0.611	-0.663
350	-0.337	-0.069	0.484	0.017	0.489	0.034
360	-2.151	0.783	0.688	0.783	0.688	1.138

TABLE II.- Continued.

(b) r/d = 0.1 - Continued.

$\delta = 50°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.868	0.388	0.492	0.388	0.492	0.788
10	-2.048	1.076	0.666	0.944	0.843	1.120
20	-3.358	1.792	0.901	1.376	1.459	0.943
30	-4.606	2.473	1.159	1.562	2.240	0.697
40	-5.748	3.079	1.391	1.465	3.045	0.481
50	-6.632	3.546	1.566	1.080	3.723	0.290
60	-7.158	3.820	1.659	0.473	4.137	0.114
70	-7.266	3.867	1.657	-0.235	4.201	-0.056
80	-6.929	3.684	1.561	-0.898	3.899	-0.230
90	-6.203	3.293	1.381	-1.381	3.293	-0.419
100	-5.170	2.739	1.138	-1.596	2.500	-0.638
110	-3.957	2.092	0.860	-1.524	1.672	-0.912
120	-2.707	1.427	0.580	-1.216	0.946	-1.286
130	-1.570	0.825	0.331	-0.785	0.419	-1.871
140	-0.685	0.358	0.141	-0.365	0.122	-2.989
150	-0.149	0.078	0.030	-0.082	0.013	-6.394
160	-0.	0.	-0.	-0.	0.	
170	-0.	0.	-0.	-0.	0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.026	-0.023	0.009	0.025	0.003	7.450
220	0.119	-0.109	0.044	0.112	0.037	3.061
230	0.280	-0.257	0.105	0.246	0.129	1.906
240	0.490	-0.449	0.188	0.388	0.295	1.314
250	0.727	-0.666	0.283	0.494	0.529	0.934
260	0.959	-0.879	0.381	0.527	0.799	0.660
270	1.164	-1.064	0.469	0.469	1.064	0.441
280	1.313	-1.200	0.539	0.323	1.275	0.253
290	1.389	-1.268	0.582	0.113	1.391	0.081
300	1.382	-1.262	0.595	-0.116	1.390	-0.083
310	1.294	-1.181	0.577	-0.317	1.275	-0.249
320	1.132	-1.033	0.531	-0.450	1.071	-0.420
330	0.912	-0.833	0.467	-0.488	0.821	-0.594
340	0.628	-0.537	0.402	-0.414	0.579	-0.715
350	0.061	-0.190	0.401	-0.118	0.428	-0.275
360	-0.868	0.388	0.492	0.388	0.492	0.788

$\delta = 60°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.417	0.212	0.398	0.212	0.398	0.532
10	-1.152	0.725	0.501	0.627	0.619	1.013
20	-1.917	1.237	0.653	0.939	1.036	0.906
30	-2.646	1.708	0.826	1.066	1.570	0.679
40	-3.294	2.124	0.983	0.995	2.118	0.470
50	-3.794	2.442	1.096	0.728	2.577	0.282
60	-4.087	2.627	1.158	0.310	2.854	0.109
70	-4.139	2.655	1.153	-0.175	2.890	-0.061
80	-3.944	2.526	1.083	-0.628	2.676	-0.235
90	-3.524	2.255	0.955	-0.955	2.255	-0.424
100	-2.932	1.873	0.785	-1.098	1.708	-0.643
110	2.239	1.428	0.591	-1.044	1.139	-0.916
120	-1.676	1.043	0.398	-0.866	0.704	-1.229
130	0.884	0.561	0.226	-0.534	0.284	-1.876
140	-0.383	0.242	0.096	-0.247	0.082	-3.007
150	-0.083	0.052	0.020	-0.055	0.009	-6.399
160	-0.	0.	-0.	-0.	0.	
170	-0.	0.	-0.	-0.	0.	
180	-0.	0.	-0.	-0.	0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.025	-0.023	0.009	0.024	0.003	7.209
220	0.117	-0.108	0.043	0.111	0.036	3.050
230	0.274	-0.253	0.104	0.242	0.127	1.905
240	0.481	-0.443	0.185	0.382	0.292	1.309
250	0.710	-0.656	0.278	0.485	0.521	0.931
260	0.938	-0.865	0.373	0.518	0.787	0.657
270	1.135	-1.047	0.459	0.459	1.047	0.438
280	1.279	-1.180	0.527	0.314	1.253	0.251
290	1.351	-1.246	0.568	0.107	1.365	0.079
300	1.343	-1.239	0.579	-0.118	1.362	-0.087
310	1.255	-1.158	0.560	-0.316	1.247	-0.253
320	1.096	-1.012	0.513	-0.445	1.044	-0.427
330	0.884	-0.816	0.448	-0.483	0.796	-0.606
340	0.623	-0.581	0.380	-0.416	0.556	-0.748
350	0.200	-0.242	0.356	-0.177	0.393	-0.450
360	-0.417	0.212	0.398	0.212	0.398	0.532

TABLE II.- Continued.

(b) r/d = 0.1 - Concluded.

δ = 70°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.201	0.112	0.339	0.112	0.339	0.332
10	-0.721	0.525	0.402	0.448	0.487	0.919
20	-1.234	0.920	0.507	0.691	0.791	0.874
30	-1.705	1.272	0.633	0.785	1.184	0.663
40	-2.126	1.580	0.747	0.730	1.588	0.460
50	-2.459	1.815	0.830	0.531	1.924	0.276
60	-2.623	1.950	0.871	0.220	2.124	0.104
70	-2.652	1.969	0.864	-0.139	2.146	-0.065
80	-2.525	1.872	0.809	-0.472	1.984	-0.238
90	-2.253	1.668	0.712	-0.712	1.668	-0.427
100	-1.871	1.384	0.583	-0.815	1.262	-0.646
110	-1.427	1.053	0.439	-0.773	0.840	-0.920
120	-0.972	0.716	0.294	-0.613	0.473	-1.296
130	-0.560	0.412	0.167	-0.393	0.209	-1.882
140	-0.242	0.178	0.070	-0.181	0.060	-3.015
150	-0.052	0.038	0.015	-0.045	0.006	-6.520
160	-0.	0.	-0.	-0.	0.	
170	-0.	0.	-0.	-0.	0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.024	-0.023	0.009	0.024	0.003	8.978
220	0.115	-0.107	0.043	0.110	0.036	3.043
230	0.270	-0.251	0.102	0.240	0.126	1.898
240	0.472	-0.438	0.182	0.377	0.269	1.398
250	0.696	-0.647	0.274	0.479	0.514	0.930
260	0.918	-0.853	0.366	0.509	0.777	0.655
270	1.110	-1.032	0.450	0.450	1.032	0.436
280	1.249	-1.161	0.516	0.306	1.233	0.248
290	1.318	-1.226	0.555	0.102	1.342	0.076
300	1.309	-1.218	0.565	-0.119	1.337	-0.089
310	1.222	-1.138	0.545	-0.314	1.222	-0.257
320	1.067	-0.994	0.499	-0.441	1.021	-0.432
330	0.861	-0.802	0.433	-0.478	0.776	-0.616
340	0.613	-0.574	0.363	-0.415	0.536	-0.772
350	0.282	-0.270	0.326	-0.209	0.368	-0.569
360	-0.201	0.112	0.339	0.112	0.339	0.330

δ = 80°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.078	0.047	0.298	0.047	0.298	0.157
10	-0.473	0.393	0.335	0.329	0.396	0.827
20	-0.842	0.711	0.409	0.528	0.626	0.841
30	-1.166	0.985	0.504	0.601	0.929	0.647
40	-1.448	1.222	0.589	0.557	1.237	0.451
50	-1.664	1.403	0.651	0.403	1.493	0.270
60	-1.787	1.505	0.681	0.163	1.644	0.099
70	-1.804	1.518	0.673	-0.113	1.656	-0.068
80	-1.716	1.441	0.626	-0.369	1.529	-0.241
90	-1.529	1.283	0.552	-0.552	1.283	-0.430
100	-1.269	1.064	0.451	-0.629	0.969	-0.649
110	-0.966	0.809	0.338	-0.595	0.644	-0.923
120	-0.657	0.549	0.226	-0.471	0.362	-1.299
130	-0.378	0.316	0.128	-0.301	0.160	-1.885
140	-0.163	0.136	0.054	-0.139	0.046	-3.017
150	-0.035	0.029	0.011	-0.031	0.005	-6.396
160	-0.	0.	-0.	-0.	0.	
170	-0.	0.	-0.	-0.	0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.024	-0.023	0.009	0.024	0.003	8.978
220	0.114	-0.106	0.042	0.109	0.036	3.035
230	0.266	-0.248	0.101	0.237	0.125	1.893
240	0.463	-0.433	0.179	0.372	0.285	1.305
250	0.685	-0.639	0.269	0.471	0.508	0.928
260	0.900	-0.842	0.360	0.501	0.766	0.654
270	1.086	-1.017	0.442	0.442	1.017	0.435
280	1.221	-1.144	0.505	0.299	1.214	0.246
290	1.288	-1.207	0.544	0.098	1.320	0.074
300	1.278	-1.198	0.553	-0.121	1.314	-0.092
310	1.192	-1.119	0.532	-0.312	1.199	-0.260
320	1.040	-0.977	0.485	-0.437	0.999	-0.437
330	0.838	-0.788	0.420	-0.472	0.757	-0.624
340	0.601	-0.566	0.349	-0.413	0.521	-0.791
350	0.295	0.286	0.302	-0.230	0.348	-0.660
360	-0.078	0.047	0.297	0.047	0.298	0.158

TABLE II.- Continued.

(c) r/d = 0.2.

δ = 30°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-9.707	2.306	1.455	2.306	1.455	1.585
10	-19.911	4.908	2.397	4.417	3.213	1.375
20	-31.999	7.907	3.535	6.221	6.026	1.032
30	-44.538	10.960	4.723	7.131	9.570	0.745
40	-56.072	13.743	5.799	6.800	13.277	0.512
50	-65.199	15.926	6.629	5.159	16.461	0.313
60	-70.838	17.251	7.108	2.469	18.494	0.134
70	-72.316	17.558	7.178	-0.740	18.955	-0.039
80	-69.448	16.814	6.828	-3.804	17.744	-0.214
90	-62.566	15.106	6.097	-6.098	15.106	-0.404
100	-52.530	12.643	5.073	-7.191	11.570	-0.622
110	-40.533	9.720	3.877	-6.968	7.807	-0.892
120	-28.015	6.689	2.650	-5.640	4.468	-1.262
130	-16.494	3.914	1.538	-3.695	2.010	-1.838
140	-7.355	1.729	0.672	-1.757	0.597	-2.943
150	-1.691	0.389	0.150	-0.412	0.065	-6.358
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.023	-0.020	0.008	0.021	0.003	6.735
220	0.120	-0.102	0.042	0.105	0.034	3.101
230	0.282	-0.240	0.102	0.233	0.119	1.963
240	0.502	-0.426	0.181	0.370	0.278	1.331
250	0.750	-0.636	0.279	0.480	0.502	0.955
260	0.995	-0.845	0.381	0.521	0.766	0.681
270	1.235	-1.033	0.476	0.476	1.033	0.461
280	1.382	-1.172	0.559	0.347	1.252	0.277
290	1.464	-1.244	0.615	0.153	1.380	0.111
300	1.474	-1.252	0.648	-0.065	1.408	-0.046
310	1.403	-1.178	0.652	-0.258	1.321	-0.195
320	1.216	-1.035	0.629	-0.389	1.147	-0.339
330	0.980	-0.836	0.591	-0.429	0.930	-0.461
340	0.500	-0.544	0.572	-0.315	0.723	-0.436
350	-2.621	0.412	0.820	0.548	0.736	0.745
360	-9.716	2.306	1.452	2.306	1.453	1.587

δ = 40°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-2.146	0.781	0.782	0.781	0.782	0.998
10	-4.604	1.847	1.109	1.627	1.413	1.151
20	-7.406	3.013	1.518	2.312	2.457	0.941
30	-10.244	4.160	1.951	2.627	3.769	0.697
40	-12.817	5.189	2.337	2.472	5.126	0.482
50	-14.830	5.985	2.627	1.835	6.274	0.292
60	-16.042	6.455	2.781	0.819	6.981	0.117
70	-16.305	6.544	2.779	-0.374	7.100	-0.053
80	-15.597	6.242	2.620	-1.496	6.602	-0.227
90	-13.993	5.585	2.321	-2.321	5.585	-0.416
100	-11.692	4.654	1.915	-2.694	4.251	-0.634
110	-8.973	3.560	1.452	-2.582	2.849	-0.906
120	-6.161	2.435	0.983	-2.069	1.618	-1.279
130	-3.593	1.414	0.564	-1.341	0.721	-1.860
140	-1.579	0.617	0.242	-0.628	0.211	-2.976
150	-0.350	0.135	0.052	-0.143	0.022	-6.476
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.027	-0.021	0.009	0.023	0.003	8.591
220	0.115	-0.100	0.040	0.102	0.033	3.083
230	0.275	-0.236	0.098	0.227	0.118	1.924
240	0.485	-0.416	0.177	0.362	0.272	1.330
250	0.720	-0.620	0.268	0.464	0.491	0.946
260	0.961	-0.824	0.366	0.503	0.748	0.673
270	1.169	-1.003	0.459	0.459	1.003	0.457
280	1.325	-1.139	0.536	0.330	1.214	0.272
290	1.407	-1.209	0.591	0.142	1.338	0.106
300	1.411	-1.213	0.619	-0.071	1.360	-0.052
310	1.319	-1.139	0.618	-0.258	1.270	-0.203
320	1.159	-1.002	0.594	-0.386	1.099	-0.351
330	0.936	-0.810	0.551	-0.427	0.882	-0.484
340	0.608	-0.560	0.512	-0.351	0.673	-0.522
350	-0.341	-0.053	0.573	0.047	0.574	0.083
360	-2.151	0.783	0.781	0.783	0.781	1.003

TABLE II.- Continued.

(c) r/d = 0.2 - Continued.

$\delta = 50°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.866	0.387	0.586	0.387	0.586	0.659
10	-2.044	1.059	0.756	0.912	0.928	0.983
20	-3.332	1.762	0.978	1.321	1.521	0.869
30	-4.596	2.430	1.218	1.495	2.270	0.659
40	-5.732	3.023	1.431	1.395	3.039	0.459
50	-6.611	3.476	1.586	1.019	3.683	0.277
60	-7.131	3.739	1.662	0.430	4.069	0.106
70	-7.230	3.781	1.647	-0.255	4.116	-0.062
80	-6.897	3.597	1.542	-0.894	3.810	-0.235
90	-6.171	3.210	1.358	-1.358	3.210	-0.423
100	-5.142	2.668	1.114	-1.561	2.434	-0.641
110	-3.933	2.035	0.840	-1.485	1.625	-0.914
120	-2.690	1.387	0.565	-1.183	0.919	-1.288
130	-1.561	0.802	0.322	-0.762	0.407	-1.871
140	-0.680	0.347	0.137	-0.354	0.118	-3.000
150	-0.149	0.076	0.029	-0.080	0.012	-6.448
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.024	-0.021	0.009	0.022	0.003	7.659
220	0.114	-0.099	0.040	0.101	0.033	3.071
230	0.269	-0.232	0.096	0.223	0.116	1.917
240	0.473	-0.409	0.173	0.355	0.267	1.326
250	0.704	-0.609	0.262	0.455	0.483	0.942
260	0.932	-0.808	0.357	0.492	0.733	0.670
270	1.132	-0.982	0.445	0.445	0.982	0.453
280	1.283	-1.113	0.521	0.320	1.187	0.269
290	1.357	-1.180	0.572	0.134	1.305	0.103
300	1.359	-1.183	0.598	-0.074	1.324	-0.056
310	1.275	-1.111	0.597	-0.257	1.235	-0.208
320	1.117	-0.976	0.571	-0.381	1.065	-0.357
330	0.902	-0.790	0.526	-0.421	0.851	-0.495
340	0.618	-0.558	0.479	-0.360	0.641	-0.562
350	0.058	-0.174	0.490	-0.087	0.513	-0.169
360	-0.868	0.388	0.585	0.388	0.585	0.662

$\delta = 60°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.418	0.212	0.491	0.212	0.491	0.432
10	-1.149	0.709	0.590	0.596	0.704	0.847
20	-1.911	1.207	0.730	0.885	1.099	0.805
30	-2.635	1.665	0.886	0.999	1.600	0.625
40	-3.279	2.067	1.023	0.926	2.112	0.438
50	-3.774	2.372	1.119	0.667	2.537	0.263
60	-4.061	2.546	1.162	0.267	2.786	0.096
70	-4.109	2.569	1.143	-0.196	2.805	-0.070
80	-3.912	2.439	1.064	-0.624	2.587	-0.241
90	-3.493	2.173	0.931	-0.932	2.173	-0.429
100	-2.905	1.802	0.761	-1.062	1.642	-0.647
110	-2.216	1.371	0.571	-1.005	1.093	-0.920
120	-1.511	0.932	0.383	-0.797	0.616	-1.295
130	-0.873	0.537	0.217	-0.511	0.272	-1.880
140	-0.379	0.232	0.092	-0.237	0.079	-3.008
150	-0.082	0.050	0.019	-0.053	0.008	-6.319
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.024	-0.020	0.008	0.022	0.003	7.378
220	0.112	-0.097	0.039	0.100	0.033	3.058
230	0.263	-0.229	0.095	0.220	0.115	1.917
240	0.463	-0.403	0.170	0.349	0.264	1.321
250	0.688	-0.599	0.257	0.447	0.475	0.940
260	0.910	-0.794	0.349	0.482	0.721	0.668
270	1.104	-0.965	0.435	0.435	0.965	0.451
280	1.249	-1.093	0.508	0.311	1.165	0.267
290	1.319	-1.158	0.558	0.128	1.279	0.100
300	1.319	-1.160	0.582	-0.076	1.296	-0.059
310	1.236	-1.088	0.580	-0.255	1.206	-0.212
320	1.081	-0.956	0.553	-0.376	1.038	-0.363
330	0.874	-0.774	0.507	-0.416	0.826	-0.504
340	0.612	-0.551	0.457	-0.362	0.618	-0.585
350	0.196	-0.226	0.445	-0.146	0.477	-0.305
360	-0.417	0.212	0.491	0.212	0.491	0.431

TABLE II.- Continued.

(c) r/d = 0.2 - Concluded.

$\delta = 70°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.202	0.113	0.432	0.113	0.432	0.260
10	-0.717	0.509	0.491	0.416	0.573	0.727
20	-1.228	0.890	0.584	0.637	0.854	0.746
30	-1.695	1.229	0.692	0.718	1.214	0.592
40	-2.105	1.523	0.787	0.661	1.582	0.418
50	-2.417	1.745	0.851	0.470	1.883	0.249
60	-2.596	1.869	0.875	0.177	2.056	0.086
70	-2.622	1.882	0.855	-0.159	2.061	-0.077
80	-2.492	1.784	0.790	-0.469	1.894	-0.247
90	-2.221	1.586	0.688	-0.689	1.586	-0.434
100	-1.844	1.313	0.560	-0.779	1.196	-0.652
110	-1.404	0.997	0.418	-0.734	0.794	-0.925
120	-0.955	0.676	0.279	-0.580	0.446	-1.300
130	-0.550	0.388	0.157	-0.370	0.196	-1.886
140	-0.237	0.167	0.066	-0.171	0.057	-3.008
150	-0.051	0.036	0.014	-0.038	0.006	-6.372
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.023	-0.020	0.008	0.022	0.003	7.112
220	0.111	-0.096	0.039	0.079	0.032	3.051
230	0.259	-0.226	0.093	0.217	0.114	1.909
240	0.454	-0.398	0.167	0.344	0.261	1.319
250	0.674	-0.591	0.253	0.440	0.469	0.938
260	0.890	-0.782	0.343	0.473	0.711	0.666
270	1.079	-0.950	0.427	0.427	0.950	0.449
280	1.219	-1.075	0.497	0.303	1.145	0.265
290	1.286	-1.138	0.545	0.123	1.256	0.098
300	1.285	-1.139	0.568	-0.078	1.271	-0.061
310	1.202	-1.068	0.565	-0.254	1.182	-0.215
320	1.052	-0.937	0.539	-0.372	1.015	-0.366
330	0.851	-0.759	0.492	-0.411	0.806	-0.511
340	0.602	-0.544	0.440	-0.361	0.600	-0.602
350	0.259	-0.254	0.415	-0.178	0.452	-0.394
360	-0.201	0.112	0.432	0.112	0.432	0.259

$\delta = 80°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.078	0.047	0.391	0.047	0.391	0.120
10	-0.469	0.377	0.424	0.298	0.483	0.617
20	-0.835	0.681	0.486	0.474	0.690	0.686
30	-1.155	0.942	0.563	0.534	0.959	0.557
40	-1.433	1.165	0.629	0.488	1.231	0.397
50	-1.642	1.332	0.672	0.341	1.452	0.235
60	-1.761	1.424	0.684	0.119	1.575	0.076
70	-1.775	1.431	0.663	-0.134	1.572	-0.085
80	-1.684	1.354	0.609	-0.365	1.439	-0.254
90	-1.498	1.201	0.528	-0.528	1.201	-0.440
100	-1.241	0.992	0.427	-0.593	0.903	-0.657
110	-0.943	0.752	0.318	-0.556	0.598	-0.930
120	-0.640	0.509	0.211	-0.437	0.335	-1.305
130	-0.368	0.292	0.119	-0.278	0.147	-1.893
140	-0.158	0.125	0.050	-0.128	0.042	-3.028
150	-0.034	0.027	0.010	-0.028	0.004	-6.435
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.023	-0.020	0.008	0.022	0.003	7.112
220	0.109	-0.095	0.038	0.098	0.032	3.042
230	0.255	-0.224	0.092	0.214	0.112	1.903
240	0.446	-0.392	0.165	0.339	0.257	1.316
250	0.660	-0.582	0.248	0.433	0.462	0.936
260	0.872	-0.771	0.336	0.465	0.701	0.664
270	1.055	-0.935	0.418	0.418	0.935	0.448
280	1.191	-1.057	0.487	0.296	1.126	0.263
290	1.256	-1.119	0.534	0.119	1.234	0.096
300	1.254	-1.120	0.556	-0.079	1.248	-0.063
310	1.172	-1.049	0.552	-0.252	1.158	-0.217
320	1.025	-0.920	0.525	-0.368	0.994	-0.370
330	0.828	-0.745	0.479	-0.406	0.787	-0.516
340	0.591	-0.536	0.425	-0.359	0.583	-0.615
350	0.292	-0.271	0.391	-0.199	0.432	-0.459
360	-0.078	0.047	0.391	0.047	0.391	0.121

TABLE II.- Continued.

(d) $r/d = 0.3$.

$\delta = 30°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-9.704	2.304	1.610	2.304	1.610	1.430
10	-19.900	4.880	2.545	4.364	3.354	1.301
20	-31.976	7.856	3.663	6.129	6.129	1.000
30	-44.517	10.890	4.820	7.021	9.619	0.730
40	-56.026	13.648	5.864	6.686	13.265	0.504
50	-65.144	15.809	6.662	5.059	16.393	0.309
60	-70.771	17.116	7.114	2.397	18.380	0.130
70	-72.233	17.414	7.163	-0.775	18.814	-0.041
80	-69.353	16.668	6.797	-3.799	17.595	-0.216
90	-62.487	14.970	6.058	-6.059	14.970	-0.405
100	-52.454	12.524	5.034	-7.133	11.460	-0.622
110	-40.461	9.624	3.842	-6.902	7.730	-0.893
120	-27.963	6.621	2.625	-5.584	4.422	-1.263
130	-16.473	3.875	1.523	-3.658	1.990	-1.838
140	-7.344	1.712	0.666	-1.739	0.590	-2.947
150	-1.684	0.386	0.148	-0.408	0.065	-6.312
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.020	-0.016	0.006	0.017	0.003	6.589
220	0.107	-0.084	0.035	0.087	0.028	3.138
230	0.255	-0.200	0.087	0.195	0.098	1.994
240	0.457	-0.360	0.155	0.315	0.234	1.345
250	0.687	-0.541	0.245	0.415	0.425	0.978
260	0.918	-0.726	0.342	0.462	0.655	0.706
270	1.131	-0.897	0.437	0.437	0.897	0.487
280	1.294	-1.026	0.527	0.341	1.102	0.309
290	1.385	-1.101	0.599	0.187	1.240	0.151
300	1.401	-1.116	0.654	0.009	1.293	0.007
310	1.346	-1.061	0.686	-0.156	1.254	-0.125
320	1.174	-0.940	0.695	-0.274	1.137	-0.241
330	0.951	-0.764	0.690	-0.317	0.979	-0.324
340	0.484	-0.493	0.701	-0.223	0.827	-0.270
350	-2.632	0.439	0.969	0.601	0.878	0.684
360	-9.716	2.306	1.608	2.306	1.609	1.434

$\delta = 40°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-2.152	0.783	0.937	0.783	0.937	0.836
10	-4.594	1.821	1.258	1.575	1.555	1.013
20	-7.388	2.963	1.647	2.221	2.561	0.867
30	-10.215	4.088	2.050	2.516	3.819	0.659
40	-12.777	5.095	2.404	2.357	5.117	0.461
50	-14.775	5.868	2.662	1.733	6.206	0.279
60	-15.971	6.321	2.787	0.747	6.868	0.109
70	-16.226	6.400	2.763	-0.407	6.959	-0.059
80	-15.510	6.097	2.589	-1.491	6.453	-0.231
90	-13.908	5.449	2.282	-2.282	5.449	-0.419
100	-11.617	4.535	1.876	-2.635	4.141	-0.636
110	-8.911	3.466	1.418	-2.518	2.772	-0.908
120	-6.116	2.369	0.958	-2.014	1.573	-1.281
130	-3.566	1.374	0.548	-1.303	0.700	-1.862
140	-1.565	0.599	0.235	-0.610	0.205	-2.976
150	-0.348	0.131	0.051	-0.139	0.022	-6.368
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.024	-0.017	0.008	0.019	0.002	8.908
220	0.103	-0.082	0.033	0.084	0.027	3.117
230	0.247	-0.196	0.083	0.190	0.097	1.947
240	0.441	-0.350	0.151	0.306	0.228	1.345
250	0.657	-0.525	0.234	0.400	0.413	0.967
260	0.884	-0.705	0.327	0.444	0.638	0.697
270	1.085	-0.867	0.420	0.420	0.867	0.484
280	1.237	-0.993	0.504	0.324	1.065	0.304
290	1.328	-1.066	0.575	0.176	1.198	0.147
300	1.338	-1.077	0.625	0.003	1.245	0.002
310	1.263	-1.022	0.652	-0.157	1.202	-0.131
320	1.117	-0.907	0.660	-0.270	1.088	-0.248
330	0.907	-0.738	0.650	-0.315	0.932	-0.338
340	0.592	-0.509	0.641	-0.259	0.776	-0.334
350	-0.351	-0.026	0.722	0.100	0.716	0.140
360	-2.151	0.783	0.937	0.783	0.937	0.836

TABLE II.- Continued.

(d) r/d = 0.3 - Continued.

δ = 50°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.868	0.388	0.742	0.388	0.742	0.523
10	-2.034	1.033	0.904	0.860	1.070	0.804
20	-3.313	1.712	1.106	1.230	1.625	0.757
30	-4.569	2.359	1.317	1.384	2.320	0.597
40	-5.690	2.928	1.497	1.281	3.029	0.423
50	-6.554	3.359	1.621	0.918	3.615	0.254
60	-7.061	3.605	1.668	0.358	3.956	0.090
70	-7.149	3.636	1.631	-0.289	3.975	-0.073
80	-6.810	3.452	1.511	-0.888	3.662	-0.243
90	-6.087	3.074	1.319	-1.319	3.074	-0.429
100	-5.066	2.549	1.075	-1.501	2.324	-0.646
110	-3.871	1.941	0.806	-1.421	1.548	-0.918
120	-2.645	1.320	0.540	-1.128	0.874	-1.291
130	-1.533	0.762	0.306	-0.725	0.387	-1.874
150	-0.146	0.071	0.027	-0.075	0.012	-6.380
140	-0.667	0.330	0.130	-0.336	0.112	-2.999
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.022	-0.017	0.007	0.018	0.002	7.720
220	0.102	-0.081	0.033	0.083	0.027	3.102
230	0.241	-0.192	0.080	0.185	0.096	1.939
240	0.429	-0.343	0.147	0.299	0.223	1.339
250	0.641	-0.514	0.228	0.391	0.405	0.964
260	0.855	-0.689	0.318	0.433	0.623	0.694
270	1.049	-0.846	0.406	0.406	0.846	0.480
280	1.195	-0.967	0.489	0.313	1.038	0.302
290	1.278	-1.037	0.556	0.168	1.165	0.144
300	1.286	-1.047	0.604	-0.000	1.209	-0.000
310	1.218	-0.994	0.631	-0.156	1.167	-0.133
320	1.075	-0.881	0.637	-0.266	1.055	-0.252
330	0.873	-0.718	0.625	-0.310	0.900	-0.344
340	0.602	-0.507	0.608	-0.268	0.745	-0.360
350	0.048	-0.147	0.639	-0.034	0.655	-0.052
360	-0.868	0.388	0.741	0.388	0.741	0.523

δ = 60°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.418	0.212	0.647	0.212	0.647	0.328
10	-1.138	0.683	0.739	0.544	0.846	0.643
20	-1.892	1.157	0.858	0.794	1.202	0.660
30	-2.608	1.594	0.985	0.888	1.650	0.538
40	-3.238	1.972	1.089	0.811	2.102	0.386
50	-3.717	2.255	1.154	0.566	2.469	0.229
60	-3.991	2.412	1.168	0.194	2.673	0.073
70	-4.028	2.424	1.127	-0.230	2.663	-0.086
80	-3.826	2.294	1.032	-0.618	2.438	-0.254
90	-3.409	2.036	0.893	-0.893	2.036	-0.438
100	-2.829	1.683	0.722	-1.003	1.532	-0.655
110	-2.154	1.277	0.537	-0.941	1.016	-0.926
120	-1.466	0.865	0.357	-0.742	0.571	-1.299
130	-0.846	0.497	0.201	-0.474	0.251	-1.885
140	-0.366	0.214	0.085	-0.218	0.073	-3.008
150	-0.079	0.046	0.018	-0.049	0.008	-6.426
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.021	-0.017	0.007	0.018	0.002	7.373
220	0.099	-0.079	0.032	0.082	0.026	3.087
230	0.235	-0.189	0.079	0.182	0.094	1.938
240	0.419	-0.337	0.144	0.293	0.220	1.334
250	0.625	-0.504	0.223	0.382	0.398	0.961
260	0.833	-0.675	0.310	0.423	0.611	0.692
270	1.020	-0.829	0.396	0.396	0.829	0.478
280	1.161	-0.947	0.476	0.305	1.015	0.300
290	1.241	-1.015	0.542	0.162	1.139	0.142
300	1.246	-1.024	0.588	-0.003	1.181	-0.002
310	1.179	-0.971	0.614	-0.154	1.139	-0.135
320	1.040	-0.861	0.619	-0.261	1.028	-0.254
330	0.845	-0.702	0.606	-0.305	0.876	-0.348
340	0.597	-0.500	0.586	-0.270	0.722	-0.374
350	0.186	-0.199	0.594	-0.093	0.619	-0.151
360	-0.417	0.212	0.647	0.212	0.647	0.327

TABLE II.- Continued.

(d) r/d = 0.3 - Concluded.

$\delta = 70°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.201	0.112	0.589	0.112	0.589	0.190
10	-0.707	0.483	0.640	0.364	0.714	0.510
20	-1.209	0.840	0.713	0.546	0.957	0.570
30	-1.667	1.158	0.791	0.607	1.264	0.480
40	-2.063	1.429	0.853	0.546	1.572	0.348
50	-2.361	1.628	0.885	0.369	1.816	0.203
60	-2.526	1.734	0.881	0.104	1.943	0.054
70	-2.541	1.738	0.838	-0.193	1.919	-0.101
80	-2.406	1.638	0.759	-0.463	1.745	-0.265
90	-2.137	1.449	0.649	-0.650	1.449	-0.448
100	-1.767	1.194	0.521	-0.720	1.085	-0.663
110	-1.341	0.902	0.384	-0.669	0.717	-0.934
120	-0.909	0.609	0.254	-0.524	0.401	-1.308
130	-0.522	0.348	0.142	-0.333	0.176	-1.894
140	-0.225	0.149	0.059	-0.152	0.050	-3.019
150	-0.048	0.032	0.012	-0.034	0.005	-6.537
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.021	-0.016	0.007	0.018	0.002	7.045
220	0.098	-0.079	0.032	0.081	0.026	3.078
230	0.231	-0.186	0.078	0.179	0.093	1.929
240	0.410	-0.332	0.141	0.288	0.216	1.332
250	0.611	-0.496	0.219	0.375	0.391	0.960
260	0.814	-0.663	0.304	0.414	0.600	0.690
270	0.995	-0.814	0.388	0.388	0.814	0.477
280	1.131	-0.929	0.465	0.297	0.995	0.298
290	1.208	-0.995	0.529	0.157	1.116	0.141
300	1.212	-1.003	0.574	-0.004	1.156	-0.004
310	1.146	-0.951	0.599	-0.152	1.114	-0.137
320	1.010	-0.842	0.605	-0.257	1.005	-0.256
330	0.822	-0.687	0.591	-0.300	0.856	-0.350
340	0.587	-0.493	0.569	-0.269	0.703	-0.382
350	0.249	-0.227	0.564	-0.126	0.594	-0.212
360	-0.201	0.112	0.588	0.112	0.588	0.191

$\delta = 80°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.079	0.047	0.547	0.047	0.547	0.086
10	-0.460	0.351	0.573	0.246	0.625	0.394
20	-0.817	0.631	0.615	0.383	0.794	0.482
30	-1.127	0.870	0.662	0.423	1.008	0.419
40	-1.391	1.071	0.695	0.373	1.221	0.306
50	-1.586	1.215	0.706	0.240	1.385	0.173
60	-1.690	1.289	0.690	0.047	1.462	0.032
70	-1.694	1.287	0.647	-0.168	1.430	-0.117
80	-1.598	1.208	0.578	-0.359	1.290	-0.279
90	-1.414	1.065	0.489	-0.489	1.065	-0.459
100	-1.165	0.874	0.388	-0.534	0.793	-0.673
110	-0.881	0.658	0.284	-0.492	0.521	-0.944
120	-0.594	0.442	0.186	-0.382	0.290	-1.317
130	-0.340	0.252	0.103	-0.241	0.126	-1.904
140	-0.145	0.107	0.043	-0.110	0.036	-3.035
150	-0.031	0.023	0.009	-0.024	0.004	-6.516
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.020	-0.016	0.007	0.018	0.002	7.045
220	0.096	-0.078	0.031	0.080	0.026	3.067
230	0.227	-0.184	0.076	0.177	0.092	1.922
240	0.401	-0.326	0.139	0.283	0.213	1.328
250	0.597	-0.487	0.214	0.368	0.385	0.957
260	0.795	-0.652	0.297	0.406	0.590	0.688
270	0.971	-0.799	0.379	0.379	0.799	0.475
280	1.103	-0.911	0.455	0.290	0.976	0.297
290	1.178	-0.976	0.518	0.153	1.094	0.139
300	1.181	-0.984	0.562	-0.005	1.133	-0.005
310	1.115	-0.932	0.586	-0.150	1.091	-0.138
320	0.983	-0.825	0.591	-0.252	0.983	-0.257
330	0.799	-0.673	0.578	-0.294	0.837	-0.351
340	0.575	-0.485	0.554	-0.267	0.687	-0.388
350	0.281	-0.244	0.540	-0.146	0.575	-0.254
360	-0.078	0.047	0.547	0.047	0.547	0.086

TABLE II.- Continued.

(e) r/d = 0.4.

$\delta = 30°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-9.707	2.306	1.827	2.306	1.827	1.262
10	-19.874	4.843	2.754	4.292	3.553	1.208
20	-31.946	7.786	3.842	6.002	6.274	0.957
30	-44.453	10.789	4.958	6.864	9.688	0.709
40	-55.946	13.515	5.957	6.524	13.251	0.492
50	-65.037	15.646	6.711	4.916	16.299	0.302
60	-70.643	16.929	7.122	2.297	18.222	0.126
70	-72.071	17.212	7.139	-0.822	18.615	-0.044
80	-69.191	16.466	6.752	-3.790	17.388	-0.218
90	-62.319	14.779	6.004	-6.004	14.779	-0.406
100	-52.310	12.359	4.980	-7.050	11.306	-0.624
110	-40.349	9.494	3.796	-6.814	7.623	-0.894
120	-27.877	6.528	2.590	-5.507	4.358	-1.264
130	-16.414	3.819	1.501	-3.605	1.960	-1.839
140	-7.319	1.686	0.656	-1.714	0.581	-2.948
150	-1.683	0.380	0.146	-0.402	0.063	-6.343
160	0.	-0.	0.	0.	-0.	
170	0.	-0.	0.	0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.014	-0.011	0.004	0.011	0.002	6.784
220	0.083	-0.059	0.025	0.062	0.019	3.212
230	0.200	-0.144	0.065	0.143	0.069	2.064
240	0.368	-0.266	0.120	0.237	0.170	1.396
250	0.566	-0.409	0.198	0.326	0.317	1.029
260	0.771	-0.560	0.287	0.379	0.501	0.757
270	0.988	-0.706	0.383	0.383	0.706	0.543
280	1.127	-0.822	0.483	0.333	0.894	0.372
290	1.226	-0.898	0.576	0.235	1.041	0.225
300	1.264	-0.928	0.663	0.110	1.135	0.097
310	1.236	-0.897	0.734	-0.014	1.159	-0.012
320	1.095	-0.808	0.788	-0.113	1.123	-0.101
330	0.896	-0.664	0.828	-0.161	1.049	-0.154
340	0.448	-0.423	0.881	-0.096	0.972	-0.099
350	-2.651	0.476	1.177	0.673	1.076	0.626
360	-9.716	2.306	1.826	2.306	1.827	1.262

$\delta = 40°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-2.150	0.783	1.156	0.783	1.156	0.678
10	-4.575	1.784	1.467	1.502	1.755	0.856
20	-7.351	2.893	1.827	2.094	2.706	0.774
30	-10.161	3.988	2.188	2.360	3.889	0.607
40	-12.697	4.962	2.497	2.196	5.102	0.430
50	-14.662	5.704	2.709	1.591	6.111	0.260
60	-15.832	6.132	2.796	0.645	6.709	0.096
70	-16.068	6.197	2.740	-0.455	6.760	-0.067
80	-15.343	5.893	2.544	-1.482	6.245	-0.237
90	-13.745	5.258	2.227	-2.227	5.258	-0.424
100	-11.470	4.369	1.821	-2.552	3.987	-0.640
110	-8.788	3.334	1.370	-2.427	2.664	-0.911
120	-6.027	2.275	0.922	-1.936	1.510	-1.282
130	-3.512	1.318	0.527	-1.251	0.671	-1.863
140	-1.542	0.574	0.225	-0.585	0.196	-2.980
150	-0.343	0.126	0.049	-0.134	0.021	-6.387
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.019	-0.012	0.005	0.013	0.001	11.000
220	0.078	-0.057	0.024	0.059	0.018	3.184
230	0.193	-0.140	0.061	0.137	0.068	1.998
240	0.351	-0.256	0.116	0.229	0.164	1.397
250	0.536	-0.393	0.187	0.310	0.305	1.017
260	0.737	-0.539	0.272	0.361	0.484	0.747
270	0.921	-0.676	0.366	0.366	0.676	0.541
280	1.070	-0.789	0.460	0.316	0.857	0.369
290	1.169	-0.863	0.552	0.224	1.000	0.224
300	1.201	-0.889	0.634	0.104	1.086	0.096
310	1.152	-0.858	0.700	-0.015	1.107	-0.013
320	1.038	-0.775	0.753	-0.109	1.075	-0.102
330	0.853	-0.638	0.788	-0.159	1.001	-0.159
340	0.556	-0.439	0.821	-0.132	0.922	-0.143
350	-0.370	0.011	0.930	0.172	0.914	0.189
360	-2.151	0.783	1.155	0.783	1.155	0.678

TABLE II.- Continued.

(e) r/d = 0.4 - Continued.

$\delta = 50°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.867	0.387	0.961	0.387	0.961	0.403
10	-2.015	0.996	1.113	0.787	1.269	0.620
20	-3.276	1.642	1.287	1.103	1.771	0.623
30	-4.514	2.259	1.456	1.228	2.390	0.514
40	-5.611	2.796	1.591	1.119	3.015	0.371
50	-6.445	3.196	1.669	0.776	3.521	0.220
60	-6.924	3.417	1.676	0.257	3.797	0.068
70	-6.992	3.434	1.608	-0.336	3.777	-0.089
80	-6.643	3.248	1.467	-0.880	3.453	-0.255
90	-5.923	2.883	1.264	-1.264	2.883	-0.439
100	-4.918	2.383	1.020	-1.418	2.170	-0.654
110	-3.749	1.808	0.758	-1.331	1.440	-0.924
120	-2.557	1.227	0.504	-1.050	0.810	-1.296
130	-1.479	0.706	0.285	-0.672	0.358	-1.879
140	-0.642	0.305	0.120	-0.311	0.104	-2.999
150	-0.141	0.066	0.025	-0.070	0.011	-6.349
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.016	-0.011	0.005	0.012	0.001	8.700
220	0.077	-0.056	0.023	0.058	0.018	3.162
230	0.187	-0.136	0.059	0.133	0.067	1.988
240	0.339	-0.249	0.112	0.222	0.159	1.391
250	0.519	-0.382	0.181	0.301	0.297	1.013
260	0.707	-0.523	0.263	0.350	0.469	0.745
270	0.885	-0.655	0.352	0.352	0.655	0.538
280	1.028	-0.763	0.445	0.305	0.829	0.368
290	1.119	-0.834	0.533	0.216	0.967	0.223
300	1.149	-0.859	0.613	0.101	1.051	0.096
310	1.107	-0.830	0.679	-0.014	1.072	-0.013
320	0.996	-0.749	0.730	-0.105	1.041	-0.101
330	0.819	-0.618	0.763	-0.154	0.970	-0.159
340	0.566	-0.437	0.788	-0.141	0.890	-0.158
350	0.029	-0.110	0.847	0.038	0.853	0.045
360	-0.868	0.388	0.959	0.388	0.959	0.404

$\delta = 60°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.416	0.211	0.865	0.211	0.865	0.244
10	-1.119	0.645	0.947	0.471	1.045	0.451
20	-1.856	1.08	1.038	0.666	1.347	0.495
30	-2.553	1.494	1.123	0.732	1.719	0.426
40	-3.158	1.840	1.181	0.650	2.088	0.311
50	-3.608	2.092	1.201	0.424	2.375	0.179
60	-3.854	2.223	1.176	0.093	2.513	0.037
70	-3.870	2.222	1.104	-0.277	2.465	-0.112
80	-3.658	2.090	0.988	-0.610	2.230	-0.274
90	-3.245	1.845	0.838	-0.838	1.845	-0.454
100	-2.680	1.517	0.667	-0.920	1.378	-0.668
110	-2.032	1.144	0.489	-0.851	0.908	-0.937
120	-1.377	0.772	0.321	-0.664	0.508	-1.309
130	-0.791	0.441	0.179	-0.421	0.222	-1.892
140	-0.341	0.189	0.075	-0.193	0.064	-3.020
150	-0.073	0.040	0.016	-0.043	0.007	-6.487
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.015	-0.011	0.005	0.012	0.001	8.085
220	0.074	-0.054	0.022	0.056	0.018	3.142
230	0.181	-0.133	0.057	0.129	0.065	1.989
240	0.330	-0.243	0.109	0.216	0.156	1.384
250	0.503	-0.372	0.176	0.293	0.290	1.011
260	0.686	-0.509	0.255	0.340	0.457	0.743
270	0.856	-0.638	0.342	0.342	0.638	0.536
280	0.993	-0.743	0.432	0.297	0.807	0.368
290	1.082	-0.812	0.519	0.210	0.941	0.223
300	1.110	-0.836	0.597	0.099	1.023	0.097
310	1.068	-0.807	0.662	-0.012	1.044	-0.011
320	0.961	-0.729	0.712	-0.100	1.014	-0.099
330	0.791	-0.602	0.744	-0.149	0.945	-0.158
340	0.561	-0.430	0.766	-0.143	0.867	-0.164
350	0.167	-0.162	0.802	-0.021	0.818	-0.025
360	-0.417	0.212	0.865	0.212	0.865	0.245

TABLE II.- Continued.

(e) r/d = 0.4 - Concluded.

δ = 70°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.201	0.112	0.807	0.112	0.807	0.139
10	-0.688	0.445	0.849	0.291	0.913	0.319
20	-1.173	0.770	0.893	0.418	1.102	0.379
30	-1.612	1.058	0.930	0.451	1.334	0.338
40	-1.984	1.296	0.945	0.385	1.558	0.247
50	-2.251	1.465	0.933	0.227	1.721	0.132
60	-2.389	1.546	0.889	0.003	1.784	0.002
70	-2.384	1.535	0.815	-0.241	1.721	-0.140
80	-2.239	1.435	0.715	-0.455	1.537	-0.296
90	-1.973	1.258	0.595	-0.595	1.258	-0.473
100	-1.619	1.028	0.466	-0.637	0.931	-0.684
110	-1.220	0.770	0.336	-0.579	0.609	-0.952
120	-0.821	0.516	0.218	-0.447	0.338	-1.324
130	-0.468	0.293	0.120	-0.280	0.147	-1.907
140	-0.200	0.124	0.050	-0.127	0.042	-3.036
150	-0.043	0.026	0.010	-0.028	0.004	-6.513
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.015	-0.011	0.004	0.012	0.002	7.528
220	0.073	-0.054	0.022	0.055	0.018	3.129
230	0.177	-0.130	0.056	0.127	0.064	1.977
240	0.321	-0.238	0.106	0.211	0.153	1.383
250	0.489	-0.364	0.172	0.286	0.283	1.010
260	0.666	-0.497	0.249	0.331	0.446	0.742
270	0.831	-0.623	0.334	0.334	0.623	0.536
280	0.964	-0.725	0.421	0.289	0.787	0.367
290	1.049	-0.792	0.506	0.205	0.917	0.223
300	1.076	-0.815	0.583	0.097	0.998	0.098
310	1.035	-0.787	0.647	-0.010	1.019	-0.010
320	0.931	-0.710	0.698	-0.096	0.991	-0.097
330	0.768	-0.587	0.729	-0.144	0.925	-0.156
340	0.551	-0.423	0.749	-0.142	0.849	-0.167
350	0.230	-0.190	0.772	-0.053	0.793	-0.067
360	-0.201	0.112	0.806	0.112	0.806	0.139

δ = 80°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.078	0.047	0.765	0.047	0.765	0.062
10	-0.446	0.313	0.781	0.173	0.824	0.210
20	-0.781	0.561	0.795	0.255	0.939	0.272
30	-1.073	0.770	0.803	0.267	1.078	0.247
40	-1.311	0.938	0.788	0.212	1.207	0.176
50	-1.476	1.052	0.754	0.098	1.290	0.076
60	-1.553	1.101	0.698	-0.054	1.303	-0.042
70	-1.536	1.084	0.624	-0.215	1.232	-0.175
80	-1.436	1.005	0.534	-0.351	1.082	-0.325
90	-1.249	0.873	0.435	-0.435	0.873	-0.498
100	-1.016	0.707	0.333	-0.451	0.639	-0.706
110	-0.759	0.525	0.236	-0.402	0.413	-0.972
120	-0.504	0.023	0.025	-0.033	0.008	-4.183
130	-0.286	0.196	0.081	-0.188	0.098	-1.926
140	-0.121	0.082	0.033	-0.084	0.028	-3.055
150	-0.025	0.017	0.007	-0.018	0.003	-6.522
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.015	-0.011	0.004	0.012	0.002	7.528
220	0.072	-0.053	0.021	0.054	0.017	3.113
230	0.173	-0.128	0.054	0.124	0.063	1.968
240	0.312	-0.232	0.104	0.206	0.149	1.379
250	0.476	-0.355	0.167	0.279	0.277	1.008
260	0.648	-0.486	0.242	0.323	0.436	0.740
270	0.807	-0.608	0.325	0.325	0.608	0.535
280	0.936	-0.707	0.411	0.282	0.768	0.367
290	1.019	-0.773	0.495	0.200	0.896	0.224
300	1.045	-0.796	0.571	0.096	0.974	0.099
310	1.005	-0.768	0.634	-0.008	0.996	-0.008
320	0.904	-0.693	0.684	-0.091	0.970	-0.094
330	0.745	-0.573	0.716	-0.138	0.907	-0.153
340	0.539	-0.415	0.734	-0.139	0.832	-0.167
350	0.263	-0.207	0.748	-0.074	0.773	-0.095
360	-0.078	0.047	0.765	0.047	0.765	0.062

TABLE II.- Continued.

(f) r/d = 0.5.

$\delta = 30°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-9.704	2.304	2.107	2.304	2.107	1.093
10	-19.857	4.797	3.020	4.199	3.808	1.103
20	-31.884	7.696	4.072	5.839	6.459	0.904
30	-44.370	10.660	5.135	6.664	9.778	0.682
40	-55.821	13.346	6.076	6.318	13.233	0.477
50	-64.853	15.435	6.771	4.735	16.177	0.293
60	-70.405	16.686	7.132	2.167	18.016	0.120
70	-71.824	16.953	7.108	-0.881	18.361	-0.048
80	-68.912	16.203	6.695	-3.780	17.119	-0.221
90	-62.051	14.534	5.934	-5.934	14.534	-0.408
100	-52.060	12.144	4.908	-6.942	11.108	-0.625
110	-40.135	9.322	3.733	-6.697	7.483	-0.895
120	-27.742	6.409	2.543	-5.407	4.279	-1.264
130	-16.321	3.747	1.474	-3.538	1.923	-1.840
140	-7.285	1.655	0.643	-1.681	0.572	-2.941
150	-1.662	0.372	0.144	-0.394	0.061	-6.441
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.005	-0.003	0.001	0.004	0.000	9.214
220	0.042	-0.027	0.012	0.029	0.008	3.569
230	0.111	-0.073	0.037	0.075	0.032	2.331
240	0.222	-0.145	0.075	0.137	0.088	1.554
250	0.365	-0.239	0.136	0.210	0.178	1.176
260	0.526	-0.346	0.216	0.272	0.303	0.899
270	0.716	-0.460	0.313	0.313	0.460	0.681
280	0.850	-0.560	0.426	0.322	0.626	0.515
290	0.967	-0.638	0.546	0.295	0.787	0.375
300	1.036	-0.685	0.673	0.241	0.930	0.259
310	1.055	-0.687	0.796	0.168	1.038	0.162
320	0.962	-0.637	0.907	0.095	1.104	0.086
330	0.808	-0.536	1.006	0.038	1.139	0.034
340	0.389	-0.333	1.112	0.068	1.158	0.058
350	-2.682	0.524	1.445	0.767	1.332	0.576
360	-9.716	2.306	2.104	2.306	2.105	1.096

$\delta = 40°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-2.151	0.783	1.435	0.783	1.435	0.546
10	-4.544	1.736	1.733	1.409	2.008	0.702
20	-7.294	2.803	2.057	1.931	2.892	0.668
30	-10.070	3.860	2.365	2.160	3.978	0.543
40	-12.565	4.792	2.615	1.990	5.083	0.391
50	-14.483	5.494	2.770	1.410	5.989	0.235
60	-15.609	5.891	2.805	0.516	6.504	0.079
70	-15.808	5.937	2.710	-0.516	6.506	-0.079
80	-15.066	5.631	2.487	-1.472	5.977	-0.246
90	-13.474	5.012	2.157	-2.157	5.012	-0.430
100	-11.225	4.155	1.750	-2.445	3.788	-0.645
110	-8.588	3.164	1.308	-2.311	2.526	-0.915
120	-5.881	2.155	0.876	-1.836	1.428	-1.286
130	-3.422	1.246	0.498	-1.183	0.634	-1.865
140	-1.500	0.542	0.213	-0.552	0.185	-2.986
150	-0.335	0.119	0.046	-0.126	0.020	-6.418
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.009	-0.005	0.003	0.005	-0.000	-73.071
220	0.037	-0.025	0.011	0.026	0.007	3.534
230	0.104	-0.069	0.033	0.069	0.032	2.193
240	0.205	-0.135	0.070	0.129	0.082	1.569
250	0.335	-0.223	0.125	0.194	0.167	1.163
260	0.492	-0.325	0.201	0.254	0.285	0.891
270	0.650	-0.430	0.296	0.296	0.430	0.687
280	0.795	-0.527	0.403	0.305	0.589	0.519
290	0.910	-0.603	0.522	0.285	0.745	0.382
300	0.974	-0.646	0.644	0.235	0.881	0.266
310	0.972	-0.648	0.762	0.168	0.986	0.170
320	0.905	-0.604	0.872	0.098	1.056	0.093
330	0.765	-0.510	0.966	0.041	1.091	0.037
340	0.497	-0.349	1.052	0.032	1.108	0.029
350	-0.402	0.059	1.198	0.266	1.170	0.228
360	-2.151	0.783	1.433	0.783	1.433	0.546

TABLE II.- Continued.

(f) r/d = 0.5 - Continued.

$\delta = 50°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.868	0.387	1.236	0.387	1.236	0.313
10	-1.984	0.948	1.376	0.695	1.520	0.457
20	-3.219	1.553	1.514	0.942	1.954	0.482
30	-4.428	2.132	1.631	1.031	2.479	0.416
40	-5.481	2.627	1.707	0.915	2.997	0.305
50	-6.268	2.968	1.729	0.596	3.401	0.175
60	-6.701	3.177	1.687	0.128	3.595	0.036
70	-6.735	3.176	1.579	-0.398	3.525	-0.113
80	-6.370	2.988	1.411	-0.871	3.188	-0.273
90	-5.654	2.639	1.195	-1.195	2.639	-0.453
100	-4.675	2.171	0.950	-1.313	1.973	-0.665
110	-3.550	1.639	0.697	-1.216	1.302	-0.934
120	-2.411	1.107	0.459	-0.951	0.729	-1.304
130	-1.389	0.634	0.257	-0.604	0.321	-1.886
140	-0.601	0.273	0.103	-0.278	0.092	-3.008
150	-0.132	0.059	0.023	-0.063	0.010	-6.469
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.007	-0.004	0.002	0.005	0.000	32.129
220	0.036	-0.024	0.011	0.025	0.007	3.489
230	0.098	-0.065	0.031	0.065	0.030	2.183
240	0.193	-0.128	0.066	0.121	0.078	1.566
250	0.319	-0.212	0.119	0.185	0.159	1.165
260	0.463	-0.309	0.192	0.242	0.271	0.896
270	0.614	-0.409	0.282	0.282	0.409	0.690
280	0.751	-0.501	0.388	0.295	0.561	0.525
290	0.860	-0.574	0.503	0.276	0.712	0.388
300	0.921	-0.616	0.623	0.231	0.845	0.274
310	0.927	-0.620	0.741	0.169	0.951	0.178
320	0.863	-0.578	0.849	0.103	1.022	0.101
330	0.730	-0.490	0.941	0.046	1.060	0.043
340	0.507	-0.347	1.019	0.023	1.076	0.021
350	-0.003	-0.062	1.115	0.132	1.109	0.119
360	-0.868	0.388	1.237	0.388	1.237	0.313

$\delta = 60°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.417	0.212	1.145	0.212	1.145	0.185
10	-1.088	0.598	1.214	0.378	1.299	0.291
20	-1.796	0.997	1.269	0.503	1.533	0.328
30	-2.464	1.365	1.300	0.532	1.809	0.294
40	-3.026	1.670	1.300	0.443	2.069	0.214
50	-3.427	1.882	1.263	0.242	2.253	0.108
60	-3.627	1.982	1.186	-0.037	2.309	-0.016
70	-3.610	1.962	1.074	-0.338	2.211	-0.153
80	-3.382	1.828	0.931	-0.600	1.962	-0.306
90	-2.974	1.539	0.768	-0.768	1.599	-0.480
100	-2.436	1.303	0.596	-0.813	1.180	-0.689
110	-1.831	0.974	0.428	-0.735	0.769	-0.955
120	-1.231	0.651	0.276	-0.565	0.426	-1.325
130	-0.702	0.369	0.152	-0.353	0.185	-1.907
140	-0.300	0.157	0.062	-0.160	0.053	-3.024
150	-0.064	0.033	0.013	-0.035	0.005	-6.442
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.006	-0.004	0.002	0.004	0.000	20.084
220	0.034	-0.022	0.010	0.024	0.007	3.452
230	0.092	-0.061	0.029	0.062	0.028	2.195
240	0.183	-0.122	0.063	0.116	0.074	1.561
250	0.303	-0.202	0.114	0.176	0.151	1.168
260	0.441	-0.295	0.184	0.233	0.259	0.899
270	0.585	-0.392	0.272	0.272	0.392	0.694
280	0.717	-0.481	0.375	0.286	0.539	0.531
290	0.822	-0.552	0.489	0.270	0.686	0.394
300	0.882	-0.593	0.607	0.229	0.817	0.280
310	0.888	-0.597	0.724	0.171	0.923	0.185
320	0.828	-0.558	0.831	0.107	0.995	0.108
330	0.703	-0.474	0.922	0.051	1.036	0.049
340	0.501	-0.340	0.997	0.021	1.053	0.020
350	0.135	-0.114	1.070	0.073	1.073	0.068
360	-0.417	0.212	1.143	0.212	1.143	0.185

TABLE II.- Concluded.

(f) r/d = 0.5 - Concluded.

$\delta = 70°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.201	0.112	1.087	0.112	1.087	0.103
10	-0.656	0.397	1.116	0.198	1.168	0.169
20	-1.113	0.680	1.124	0.254	1.289	0.197
30	-1.523	0.929	1.108	0.251	1.424	0.176
40	-1.851	1.126	1.065	0.178	1.539	0.116
50	-2.071	1.254	0.994	0.045	1.600	0.028
60	-2.163	1.305	0.899	-0.127	1.580	-0.080
70	-2.123	1.275	0.785	-0.302	1.467	-0.206
80	-1.962	1.173	0.658	-0.444	1.269	-0.350
90	-1.702	1.013	0.525	-0.525	1.013	-0.518
100	-1.375	0.814	0.395	-0.530	0.733	-0.723
110	-1.019	0.600	0.275	-0.464	0.470	-0.987
120	-0.675	0.395	0.172	-0.347	0.256	-1.355
130	-0.379	0.220	0.092	-0.212	0.110	-1.935
140	-0.159	0.092	0.037	-0.094	0.031	-3.067
150	-0.034	0.019	0.007	-0.020	0.003	-6.563
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.006	-0.004	0.002	0.004	0.000	14.096
220	0.032	-0.022	0.009	0.023	0.007	3.429
230	0.088	-0.059	0.028	0.059	0.027	2.175
240	0.174	-0.117	0.060	0.111	0.071	1.565
250	0.289	-0.194	0.110	0.170	0.144	1.174
260	0.421	-0.283	0.178	0.224	0.248	0.903
270	0.560	-0.377	0.264	0.264	0.377	0.700
280	0.687	-0.463	0.364	0.279	0.519	0.537
290	0.789	-0.532	0.476	0.265	0.663	0.401
300	0.848	-0.572	0.593	0.228	0.792	0.287
310	0.855	-0.577	0.709	0.172	0.898	0.192
320	0.798	-0.539	0.817	0.112	0.972	0.115
330	0.679	-0.459	0.907	0.056	1.015	0.055
340	0.491	-0.333	0.980	0.022	1.035	0.021
350	0.198	-0.142	1.040	0.041	1.048	0.039
360	-0.201	0.112	1.084	0.112	1.084	0.103

$\delta = 80°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.078	0.047	1.046	0.047	1.046	0.045
10	-0.408	0.265	1.049	0.079	1.079	0.073
20	-0.721	0.471	1.026	0.091	1.125	0.081
30	-0.983	0.642	0.978	0.067	1.168	0.057
40	-1.179	0.768	0.907	0.005	1.188	0.004
50	-1.296	0.842	0.815	-0.084	1.169	-0.072
60	-1.327	0.859	0.709	-0.184	1.099	-0.168
70	-1.276	0.824	0.594	-0.276	0.978	-0.283
80	-1.154	0.743	0.477	-0.341	0.814	-0.418
90	-0.978	0.628	0.364	-0.364	0.628	-0.580
100	-0.772	0.493	0.262	-0.344	0.440	-0.781
110	-0.558	0.355	0.175	-0.286	0.274	-1.042
120	-0.360	0.228	0.105	-0.205	0.145	-1.408
130	-0.196	0.124	0.053	-0.120	0.060	-1.993
140	-0.080	0.050	0.020	-0.051	0.017	-3.114
150	-0.016	0.010	0.004	-0.011	0.002	-6.777
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	0.005	-0.004	0.002	0.004	0.000	14.096
220	0.031	-0.021	0.009	0.022	0.006	3.398
230	0.084	-0.056	0.026	0.056	0.026	2.160
240	0.165	-0.111	0.058	0.106	0.067	1.565
250	0.275	-0.185	0.105	0.162	0.138	1.176
260	0.403	-0.272	0.171	0.216	0.238	0.908
270	0.536	-0.362	0.255	0.255	0.362	0.706
280	0.659	-0.445	0.354	0.271	0.500	0.543
290	0.759	-0.513	0.465	0.261	0.641	0.407
300	0.817	-0.553	0.581	0.227	0.769	0.295
310	0.824	-0.558	0.696	0.174	0.875	0.199
320	0.771	-0.522	0.803	0.116	0.951	0.122
330	0.656	-0.445	0.894	0.061	0.997	0.062
340	0.480	-0.325	0.965	0.024	1.019	0.024
350	0.231	-0.159	1.016	0.020	1.029	0.020
360	-0.078	0.047	1.043	0.047	1.043	0.045

TABLE III.- RAKED-OFF CIRCULAR-CONE CONFIGURATION LONGITUDINAL AERODYNAMICS. $\theta = 30°$.

(a) $r/d = 0$.

$\delta = 40°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-16.430	4.443	3.726	4.443	3.726	1.192
10	-26.395	7.296	5.368	6.254	6.553	0.954
20	-36.705	10.200	7.054	7.172	10.117	0.709
30	-46.124	12.802	8.584	6.795	13.835	0.491
40	-53.525	14.804	9.761	5.066	16.993	0.298
50	-58.047	15.992	10.428	2.291	18.954	0.121
60	-59.138	16.235	10.495	-0.972	19.308	-0.050
70	-56.675	15.503	9.948	-4.046	17.971	-0.225
80	-50.974	13.888	8.851	-6.305	15.214	-0.414
90	-42.686	11.581	7.335	-7.335	11.581	-0.633
100	-32.841	8.868	5.578	-7.034	7.765	-0.906
110	-22.627	6.073	3.787	-5.636	4.412	-1.278
120	-13.260	3.530	2.183	-3.656	1.965	-1.860
130	-5.865	1.542	0.942	-1.713	0.576	-2.976
140	-1.321	0.339	0.205	-0.392	0.061	-6.395
150	-0.	0.	0.	-0.	-0.	
160	-0.	0.	0.	-0.	-0.	
170	-0.	0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.010	-0.013	0.008	0.016	0.002	6.759
230	0.078	-0.072	0.047	0.082	0.025	3.326
240	0.144	-0.169	0.113	0.182	0.090	2.027
250	0.229	-0.301	0.205	0.296	0.213	1.391
260	0.353	-0.456	0.312	0.387	0.395	0.979
270	0.504	-0.616	0.434	0.434	0.616	0.705
280	0.616	-0.753	0.548	0.409	0.837	0.489
290	0.703	-0.860	0.650	0.317	1.030	0.308
300	0.790	-0.924	0.728	0.168	1.165	0.144
310	0.757	-0.922	0.782	0.006	1.209	0.005
320	0.697	-0.852	0.818	-0.127	1.174	-0.108
330	0.369	-0.656	0.892	-0.122	1.100	-0.111
340	-2.178	0.210	1.345	0.658	1.192	0.552
350	-8.062	1.985	2.333	2.360	1.955	1.208
360	-16.510	4.454	3.734	4.454	3.734	1.193

$\delta = 50°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-3.092	1.378	1.648	1.378	1.648	0.836
10	-5.075	2.435	2.158	2.023	2.548	0.794
20	-7.086	3.478	2.684	2.350	3.712	0.633
30	-8.874	4.379	3.162	2.211	4.927	0.449
40	-10.235	5.043	3.526	1.597	5.943	0.269
50	-11.032	5.421	3.713	0.641	6.539	0.098
60	-11.174	5.475	3.693	-0.460	6.588	-0.070
70	-10.646	5.201	3.464	-1.476	6.072	-0.243
80	-9.516	4.634	3.051	-2.200	5.094	-0.432
90	-7.917	3.843	2.503	-2.503	3.843	-0.651
100	-6.044	2.922	1.883	-2.362	2.551	-0.926
110	-4.122	1.984	1.263	-1.866	1.432	-1.303
120	-2.384	1.140	0.716	-1.190	0.629	-1.891
130	-1.032	0.489	0.302	-0.546	0.181	-3.018
140	-0.225	0.104	0.063	-0.121	0.019	-6.375
150	-0.	0.	0.	-0.	-0.	
160	-0.	0.	0.	-0.	-0.	
170	-0.	0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.010	-0.013	0.008	0.016	0.002	6.759
230	0.054	-0.069	0.044	0.079	0.024	3.219
240	0.131	-0.167	0.109	0.178	0.090	1.980
250	0.240	-0.298	0.199	0.289	0.212	1.361
260	0.359	-0.448	0.305	0.379	0.388	0.974
270	0.482	-0.599	0.420	0.420	0.599	0.701
280	0.597	-0.736	0.529	0.393	0.817	0.482
290	0.680	-0.838	0.622	0.298	1.001	0.298
300	0.727	-0.894	0.692	0.152	1.120	0.136
310	0.729	-0.895	0.734	-0.013	1.158	-0.011
320	0.673	-0.832	0.752	-0.154	1.111	-0.139
330	0.516	-0.685	0.770	-0.208	1.009	-0.207
340	-0.123	-0.279	0.909	0.049	0.950	0.052
350	-1.385	0.441	1.216	0.646	1.121	0.576
360	-3.120	1.389	1.652	1.389	1.652	0.841

TABLE III.- Continued.

(a) r/d = 0 - Continued.

$\delta = 60^\circ$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-1.062	0.614	1.060	0.614	1.060	0.579
10	-1.871	1.227	1.290	0.985	1.484	0.664
20	-2.668	1.815	1.532	1.181	2.060	0.573
30	-3.350	2.306	1.757	1.116	2.675	0.418
40	-3.862	2.654	1.930	0.792	3.184	0.249
50	-4.148	2.846	2.012	0.288	3.473	0.083
60	-4.185	2.866	1.984	-0.285	3.474	-0.082
70	-3.975	2.714	1.848	-0.808	3.183	-0.254
80	-3.536	2.411	1.618	-1.174	2.655	-0.442
90	-2.929	1.992	1.318	-1.318	1.992	-0.662
100	-2.225	1.509	0.985	-1.232	1.315	-0.937
110	-1.508	1.019	0.656	-0.965	0.733	-1.316
120	-0.863	0.582	0.368	-0.610	0.320	-1.907
130	-0.373	0.248	0.154	-0.277	0.091	-3.044
140	-0.079	0.052	0.032	-0.060	0.009	-6.525
150	-0.	0.	0.	-0.	-0.	
160	-0.	0.	0.	-0.	-0.	
170	-0.	0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	—
220	0.010	-0.013	0.009	0.016	0.002	9.487
230	0.053	-0.068	0.043	0.077	0.025	3.091
240	0.130	-0.164	0.107	0.174	0.089	1.961
250	0.232	-0.293	0.194	0.283	0.209	1.351
260	0.350	-0.440	0.298	0.370	0.382	0.969
270	0.468	-0.587	0.408	0.408	0.587	0.695
280	0.575	-0.718	0.512	0.379	0.796	0.476
290	0.654	-0.817	0.599	0.284	0.973	0.292
300	0.699	-0.871	0.662	0.138	1.086	0.127
310	0.701	-0.871	0.695	-0.027	1.114	-0.024
320	0.651	-0.812	0.702	-0.171	1.060	-0.161
330	0.554	-0.685	0.698	-0.244	0.947	-0.258
340	0.217	-0.404	0.746	-0.124	0.840	-0.148
350	-0.340	0.047	0.875	0.199	0.853	0.233
360	-1.071	0.616	1.065	0.616	1.065	0.579

$\delta = 70^\circ$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.416	0.286	0.782	0.286	0.782	0.365
10	-0.858	0.711	0.893	0.545	1.002	0.544
20	-1.278	1.107	1.016	0.692	1.333	0.519
30	-1.626	1.425	1.137	0.666	1.697	0.393
40	-1.871	1.642	1.232	0.466	2.000	0.233
50	-2.006	1.758	1.273	0.155	2.165	0.072
60	-2.019	1.768	1.248	-0.197	2.155	-0.091
70	-1.911	1.670	1.156	-0.515	1.965	-0.262
80	-1.695	1.480	1.007	-0.734	1.633	-0.450
90	-1.400	1.220	0.817	-0.817	1.220	-0.669
100	-1.059	0.922	0.607	-0.758	0.802	-0.945
110	-0.715	0.620	0.402	-0.590	0.445	-1.325
120	-0.407	0.353	0.225	-0.371	0.193	-1.919
130	-0.173	0.149	0.093	-0.167	0.055	-3.059
140	-0.036	0.031	0.019	-0.036	0.005	-6.548
150	-0.	0.	0.000	-0.	-0.	
160	-0.	0.	0.000	-0.	-0.	
170	-0.	0.	0.000	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.010	-0.013	0.009	0.016	0.002	8.262
230	0.053	-0.067	0.043	0.076	0.024	3.140
240	0.126	-0.162	0.105	0.172	0.088	1.958
250	0.226	-0.288	0.190	0.277	0.205	1.348
260	0.339	-0.431	0.291	0.362	0.374	0.966
270	0.452	-0.575	0.397	0.397	0.575	0.690
280	0.554	-0.702	0.496	0.366	0.778	0.471
290	0.630	-0.798	0.578	0.270	0.948	0.285
300	0.671	-0.849	0.635	0.126	1.053	0.119
310	0.672	-0.849	0.663	-0.037	1.076	-0.035
320	0.626	-0.792	0.662	-0.182	1.016	-0.179
330	0.530	-0.677	0.645	-0.264	0.897	-0.294
340	0.322	-0.453	0.650	-0.204	0.766	-0.266
350	-0.006	-0.120	0.699	0.003	0.710	0.004
360	-0.416	0.285	0.783	0.285	0.783	0.363

TABLE III.- Continued.

(a) r/d = 0 - Concluded.

$\delta = 80°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.139	0.108	0.616	0.108	0.616	0.175
10	-0.421	0.431	0.663	0.309	0.727	0.425
20	-0.679	0.723	0.723	0.432	0.926	0.466
30	-0.865	0.949	0.789	0.428	1.156	0.369
40	-1.018	1.095	0.845	0.276	1.351	0.219
50	-1.090	1.172	0.866	0.090	1.455	0.062
60	-1.094	1.176	0.844	-0.143	1.441	-0.099
70	-1.033	1.110	0.778	-0.351	1.309	-0.268
80	-0.915	0.982	0.675	-0.494	1.084	-0.456
90	-0.755	0.808	0.545	-0.546	0.808	-0.675
100	-0.568	0.609	0.404	-0.534	0.529	-0.951
110	-0.382	0.409	0.266	-0.390	0.293	-1.331
120	-0.217	0.232	0.148	-0.244	0.127	-1.926
130	-0.091	0.097	0.061	-0.109	0.035	-3.081
140	-0.019	0.020	0.012	-0.023	0.003	-6.003
150	-0.	0.	0.	-0.	-0.	
160	-0.	0.	0.	-0.	-0.	
170	-0.	0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.010	-0.013	0.009	0.016	0.002	7.594
230	0.052	-0.067	0.042	0.075	0.024	3.084
240	0.124	-0.159	0.103	0.169	0.087	1.947
250	0.220	-0.283	0.186	0.272	0.202	1.343
260	0.329	-0.423	0.284	0.353	0.368	0.961
270	0.439	-0.563	0.386	0.386	0.565	0.685
280	0.535	-0.687	0.481	0.355	0.760	0.467
290	0.608	-0.779	0.558	0.258	0.923	0.280
300	0.646	-0.829	0.611	0.115	1.023	0.112
310	0.646	-0.827	0.634	-0.046	1.041	-0.044
320	0.603	-0.773	0.627	-0.189	0.977	-0.193
330	0.517	-0.665	0.602	-0.275	0.854	-0.322
340	0.360	-0.474	0.583	-0.246	0.710	-0.347
350	0.152	-0.206	0.589	-0.101	0.616	-0.164
360	-0.139	0.108	0.616	0.108	0.616	0.176

TABLE III.- Continued.

(b) r/d = 0.1.

$\delta = 40°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-16.443	4.446	3.746	4.446	3.746	1.187
10	-26.397	7.294	5.388	6.247	6.573	0.950
20	-36.711	10.191	7.071	7.158	10.130	0.707
30	-46.117	12.790	8.596	6.779	13.859	0.490
40	-53.533	14.792	9.770	5.052	16.992	0.297
50	-58.055	15.980	10.431	2.281	18.947	0.120
60	-59.152	16.220	10.493	-0.977	19.294	-0.051
70	-56.666	15.489	9.945	-4.048	17.956	-0.225
80	-50.969	13.873	8.845	-6.301	15.198	-0.415
90	-42.693	11.573	7.329	-7.329	11.573	-0.633
100	-32.847	8.859	5.573	-7.026	7.757	-0.906
110	-22.651	6.067	3.787	-5.634	4.406	-1.279
120	-13.202	3.527	2.180	-3.652	1.964	-1.859
130	-5.867	1.559	0.942	-1.711	0.574	-2.984
140	-1.321	0.339	0.205	-0.392	0.061	-6.395
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.010	-0.013	0.008	0.015	0.002	6.719
230	0.078	-0.070	0.046	0.080	0.024	3.335
240	0.144	-0.165	0.110	0.178	0.088	2.025
250	0.248	-0.294	0.201	0.290	0.208	1.396
260	0.352	-0.447	0.307	0.380	0.387	0.982
270	0.504	-0.605	0.428	0.428	0.605	0.707
280	0.614	-0.740	0.543	0.406	0.823	0.494
290	0.702	-0.846	0.646	0.318	1.016	0.313
300	0.769	-0.910	0.728	0.175	1.152	0.152
310	0.756	-0.909	0.785	0.017	1.201	0.014
320	0.697	-0.841	0.827	-0.113	1.174	-0.096
330	0.368	-0.046	0.905	-0.107	1.106	-0.097
340	-2.179	0.217	1.364	0.671	1.207	0.556
350	-8.062	1.989	2.354	2.367	1.973	1.200
360	-16.510	4.454	3.756	4.454	3.756	1.186

$\delta = 50°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-3.099	1.384	1.667	1.384	1.667	0.830
10	-5.082	2.435	2.178	2.020	2.568	0.787
20	-7.086	3.471	2.702	2.338	3.727	0.627
30	-8.873	4.369	3.176	2.195	4.935	0.445
40	-10.234	5.031	3.535	1.582	5.942	0.266
50	-11.032	5.409	3.717	0.630	6.532	0.096
60	-11.174	5.462	3.692	-0.466	6.576	-0.071
70	-10.647	5.188	3.460	-1.477	6.059	-0.244
80	-9.516	4.622	3.046	-2.198	5.080	-0.433
90	-7.914	3.831	2.497	-2.497	3.831	-0.652
100	-6.042	2.913	1.878	-2.355	2.543	-0.926
110	-4.122	1.977	1.259	-1.859	1.428	-1.303
120	-2.383	1.135	0.713	-1.185	0.627	-1.892
130	-1.032	0.488	0.301	-0.544	0.180	-3.022
140	-0.223	0.104	0.063	-0.120	0.018	-6.520
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.010	-0.013	0.008	0.015	0.002	6.719
230	0.054	-0.067	0.043	0.077	0.024	3.226
240	0.131	-0.163	0.106	0.174	0.088	1.976
250	0.239	-0.291	0.195	0.282	0.207	1.366
260	0.359	-0.439	0.300	0.372	0.380	0.978
270	0.482	-0.588	0.414	0.414	0.588	0.704
280	0.596	-0.723	0.524	0.391	0.803	0.487
290	0.678	-0.824	0.618	0.299	0.986	0.303
300	0.726	-0.880	0.692	0.159	1.108	0.144
310	0.728	-0.882	0.737	-0.002	1.150	-0.002
320	0.673	-0.821	0.761	-0.140	1.110	-0.126
330	0.515	-0.675	0.783	-0.193	1.015	-0.190
340	-0.123	-0.272	0.928	0.062	0.965	0.064
350	-1.385	0.445	1.237	0.654	1.141	0.573
360	-3.120	1.389	1.674	1.389	1.674	0.830

TABLE III.- Continued.

(b) r/d = 0.1 - Continued.

$\delta = 60°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-1.061	0.613	1.083	0.613	1.083	0.566
10	-1.871	1.223	1.312	0.977	1.504	0.649
20	-2.608	1.808	1.551	1.168	2.076	0.563
30	-3.354	2.296	1.772	1.102	2.682	0.411
40	-3.861	2.642	1.939	0.777	3.184	0.244
50	-4.147	2.833	2.015	0.277	3.465	0.080
60	-4.185	2.852	1.984	-0.292	3.462	-0.084
70	-3.972	2.700	1.845	-0.810	3.169	-0.256
80	-3.535	2.398	1.612	-1.172	2.641	-0.444
90	-2.928	1.980	1.313	-1.313	1.980	-0.663
100	-2.224	1.500	0.980	-1.226	1.307	-0.938
110	-1.508	1.013	0.652	-0.959	0.729	-1.316
120	-0.864	0.578	0.366	-0.606	0.318	-1.908
130	-0.369	0.246	0.152	-0.275	0.090	-3.045
140	-0.078	0.052	0.031	-0.060	0.009	-6.429
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.010	-0.013	0.009	0.016	0.002	9.498
230	0.053	-0.066	0.042	0.075	0.024	3.094
240	0.130	-0.160	0.104	0.170	0.087	1.956
250	0.231	-0.286	0.190	0.277	0.204	1.356
260	0.349	-0.431	0.293	0.363	0.374	0.972
270	0.467	-0.576	0.402	0.402	0.576	0.698
280	0.574	-0.705	0.507	0.377	0.783	0.481
290	0.652	-0.803	0.595	0.285	0.958	0.297
300	0.698	-0.857	0.662	0.145	1.073	0.135
310	0.699	-0.858	0.698	-0.017	1.106	-0.015
320	0.651	-0.801	0.711	-0.157	1.060	-0.148
330	0.564	-0.675	0.711	-0.229	0.954	-0.240
340	0.217	-0.397	0.765	-0.111	0.855	-0.130
350	-0.340	0.051	0.896	0.206	0.873	0.236
360	-1.071	0.616	1.087	0.616	1.087	0.567

$\delta = 70°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.417	0.285	0.804	0.285	0.804	0.355
10	-0.858	0.707	0.914	0.537	1.023	0.525
20	-1.278	1.100	1.034	0.680	1.348	0.504
30	-1.626	1.416	1.151	0.651	1.704	0.382
40	-1.871	1.631	1.241	0.451	1.999	0.226
50	-2.005	1.745	1.277	0.144	2.158	0.067
60	-2.017	1.754	1.247	-0.203	2.143	-0.095
70	-1.909	1.657	1.152	-0.516	1.951	-0.265
80	-1.694	1.467	1.002	-0.732	1.619	-0.452
90	-1.398	1.209	0.811	-0.811	1.209	-0.671
100	-1.058	0.912	0.602	-0.752	0.794	-0.946
110	-0.714	0.614	0.398	-0.584	0.441	-1.325
120	-0.407	0.349	0.222	-0.367	0.191	-1.919
130	-0.173	0.147	0.092	-0.165	0.054	-3.067
140	-0.036	0.031	0.019	-0.036	0.005	-6.677
150	0.	-0.	0.	-0	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.010	-0.013	0.009	0.016	0.002	8.245
230	0.052	-0.065	0.041	0.074	0.024	3.144
240	0.126	-0.158	0.102	0.167	0.086	1.954
250	0.224	-0.281	0.186	0.271	0.200	1.352
260	0.338	-0.422	0.286	0.355	0.366	0.969
270	0.451	-0.564	0.391	0.391	0.564	0.693
280	0.552	-0.689	0.491	0.364	0.764	0.476
290	0.629	-0.784	0.574	0.271	0.933	0.291
300	0.670	-0.835	0.635	0.133	1.041	0.127
310	0.671	-0.836	0.666	-0.027	1.068	-0.025
320	0.626	-0.781	0.671	-0.167	1.016	-0.165
330	0.529	-0.667	0.658	-0.249	0.903	-0.275
340	0.322	-0.446	0.669	-0.191	0.782	-0.244
350	-0.006	-0.116	0.720	0.011	0.730	0.015
360	-0.416	0.285	0.805	0.285	0.805	0.353

TABLE III.- Continued.

(b) r/d = 0.1 - Concluded.

$\delta = 80°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.140	0.109	0.638	0.109	0.638	0.171
10	-0.421	0.427	0.684	0.302	0.748	0.404
20	-0.679	0.716	0.741	0.419	0.941	0.445
30	-0.862	0.939	0.803	0.412	1.165	0.354
40	-1.017	1.064	0.854	0.282	1.351	0.209
50	-1.088	1.159	0.870	0.079	1.447	0.054
60	-1.093	1.163	0.843	-0.149	1.429	-0.104
70	-1.032	1.096	0.775	-0.353	1.295	-0.273
80	-0.913	0.969	0.670	-0.491	1.071	-0.459
90	-0.752	0.796	0.540	-0.540	0.796	-0.678
100	-0.567	0.600	0.399	-0.497	0.521	-0.953
110	-0.381	0.402	0.263	-0.384	0.288	-1.333
120	-0.216	0.228	0.145	-0.240	0.124	-1.927
130	-0.091	0.096	0.060	-0.107	0.035	-3.078
140	-0.019	0.020	0.012	-0.023	0.003	-6.571
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.010	-0.013	0.008	0.016	0.002	7.566
230	0.051	-0.065	0.041	0.073	0.024	3.087
240	0.123	-0.155	0.100	0.164	0.065	1.943
250	0.219	-0.276	0.182	0.266	0.197	1.348
260	0.328	-0.414	0.279	0.347	0.360	0.965
270	0.438	-0.552	0.380	0.380	0.552	0.688
280	0.534	-0.674	0.476	0.352	0.746	0.472
290	0.606	-0.765	0.554	0.259	0.909	0.285
300	0.645	-0.815	0.611	0.122	1.011	0.121
310	0.645	-0.814	0.637	-0.035	1.033	-0.034
320	0.603	-0.762	0.636	-0.174	0.977	-0.178
330	0.516	-0.655	0.615	-0.260	0.860	-0.302
340	0.359	-0.467	0.602	-0.233	0.726	-0.322
350	0.152	-0.202	0.610	-0.093	0.636	-0.147
360	-0.139	0.108	0.638	0.108	0.638	0.170

TABLE III.- Continued.

(c) r/d = 0.2.

$\delta = 40°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-16.443	4.446	3.817	4.446	3.817	1.165
10	-26.390	7.282	5.453	6.224	6.634	0.938
20	-36.710	10.171	7.130	7.119	10.178	0.699
30	-46.122	12.761	8.640	6.731	13.863	0.486
40	-53.527	14.757	9.799	5.006	16.992	0.295
50	-58.038	15.939	10.443	2.246	18.923	0.119
60	-59.130	16.179	10.493	-0.997	19.258	-0.052
70	-56.668	15.448	9.934	-4.051	17.914	-0.226
80	-50.965	13.835	8.830	-6.294	15.158	-0.415
90	-42.687	11.537	7.311	-7.311	11.537	-0.634
100	-32.834	8.833	5.558	-7.007	7.734	-0.906
110	-22.614	6.047	3.776	-5.616	4.391	-1.279
120	-13.257	3.512	2.172	-3.637	1.956	-1.860
130	-5.869	1.537	0.939	-1.707	0.573	-2.979
140	-1.324	0.337	0.205	-0.390	0.059	-6.558
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.010	-0.012	0.007	0.014	0.002	6.822
230	0.076	-0.065	0.043	0.074	0.022	3.373
240	0.140	-0.153	0.103	0.165	0.081	2.043
250	0.223	-0.275	0.189	0.272	0.194	1.403
260	0.345	-0.419	0.292	0.361	0.362	0.996
270	0.495	-0.570	0.412	0.412	0.570	0.723
280	0.606	-0.701	0.527	0.397	0.782	0.508
290	0.694	-0.805	0.636	0.323	0.974	0.331
300	0.781	-0.869	0.726	0.194	1.116	0.174
310	0.749	-0.870	0.797	0.051	1.179	0.043
320	0.691	-0.806	0.853	-0.069	1.171	-0.059
330	0.364	-0.617	0.948	-0.060	1.129	-0.053
340	-2.182	0.239	1.419	0.710	1.251	0.568
350	-8.065	2.001	2.418	2.390	2.034	1.175
360	-16.510	4.454	3.824	4.454	3.824	1.165

$\delta = 50°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-3.090	1.377	1.739	1.377	1.739	0.792
10	-5.076	2.420	2.245	1.994	2.631	0.758
20	-7.083	3.449	2.759	2.297	3.772	0.609
30	-8.868	4.339	3.219	2.148	4.957	0.433
40	-10.231	4.997	3.562	1.539	5.941	0.259
50	-11.026	5.370	3.728	0.596	6.510	0.091
60	-11.164	5.420	3.691	-0.486	6.540	-0.074
70	-10.639	5.147	3.450	-1.481	6.016	-0.246
80	-9.505	4.582	3.031	-2.189	5.038	-0.434
90	-7.908	3.797	2.481	-2.481	3.797	-0.653
100	-6.036	2.886	1.862	-2.335	2.518	-0.927
110	-4.115	1.957	1.247	-1.842	1.413	-1.304
120	-2.380	1.124	0.706	-1.173	0.620	-1.891
130	-1.030	0.482	0.298	-0.538	0.178	-3.026
140	-0.223	0.103	0.062	-0.119	0.018	-6.424
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.010	-0.012	0.007	0.014	0.002	6.822
230	0.052	-0.062	0.040	0.071	0.022	3.254
240	0.127	-0.151	0.099	0.161	0.081	1.991
250	0.234	-0.272	0.183	0.265	0.193	1.371
260	0.351	-0.411	0.285	0.352	0.356	0.991
270	0.473	-0.553	0.398	0.398	0.553	0.719
280	0.587	-0.684	0.508	0.382	0.762	0.501
290	0.670	-0.783	0.608	0.304	0.944	0.322
300	0.718	-0.839	0.690	0.178	1.071	0.166
310	0.721	-0.843	0.749	0.032	1.127	0.029
320	0.667	-0.786	0.787	-0.096	1.108	-0.087
330	0.510	-0.646	0.826	-0.147	1.038	-0.141
340	-0.127	-0.250	0.983	0.102	1.009	0.101
350	-1.387	0.457	1.301	0.677	1.202	0.563
360	-3.120	1.389	1.742	1.389	1.742	0.797

TABLE III.- Continued.

(c) r/d = 0.2 - Continued.

$\delta = 60°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-1.061	0.613	1.150	0.613	1.150	0.533
10	-1.870	1.212	1.376	0.954	1.565	0.610
20	-2.664	1.786	1.606	1.128	2.120	0.532
30	-3.350	2.266	1.814	1.056	2.704	0.391
40	-2.875	1.486	1.778	-0.005	2.317	-0.002
50	-4.139	2.794	2.026	0.244	3.443	0.071
60	-4.176	2.811	1.982	-0.311	3.425	-0.091
70	-3.963	2.659	1.834	-0.814	3.126	-0.260
80	-3.526	2.358	1.597	-1.163	2.600	-0.447
90	-2.919	1.946	1.296	-1.296	1.946	-0.666
100	-2.217	1.472	0.965	-1.206	1.282	-0.940
110	-1.502	0.993	0.640	-0.941	0.714	-1.319
120	-0.861	0.566	0.359	-0.594	0.311	-1.911
130	-0.368	0.240	0.149	-0.269	0.088	-3.046
140	-0.078	0.050	0.031	-0.058	0.009	-6.635
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.010	-0.012	0.008	0.014	0.001	10.101
230	0.051	-0.061	0.038	0.069	0.022	3.110
240	0.126	-0.148	0.097	0.158	0.080	1.969
250	0.227	-0.267	0.178	0.259	0.190	1.360
260	0.342	-0.403	0.278	0.344	0.349	0.986
270	0.458	-0.541	0.386	0.386	0.541	0.713
280	0.565	-0.666	0.491	0.368	0.742	0.496
290	0.644	-0.762	0.585	0.289	0.916	0.316
300	0.690	-0.816	0.660	0.163	1.037	0.157
310	0.692	-0.819	0.710	0.018	1.084	0.016
320	0.645	-0.766	0.737	-0.113	1.057	-0.107
330	0.529	-0.646	0.754	-0.183	0.976	-0.187
340	0.213	-0.375	0.820	-0.072	0.899	-0.080
350	-0.342	0.063	0.960	0.229	0.934	0.245
360	-1.071	0.616	1.155	0.616	1.155	0.534

$\delta = 70°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.416	0.285	0.873	0.285	0.873	0.326
10	-0.855	0.695	0.979	0.514	1.085	0.474
20	-1.274	1.078	1.090	0.640	1.393	0.459
30	-1.621	1.386	1.193	0.604	1.727	0.350
40	-1.865	1.596	1.268	0.408	1.997	0.204
50	-1.998	1.707	1.288	0.110	2.136	0.052
60	-2.010	1.713	1.246	-0.223	2.106	-0.106
70	-1.901	1.615	1.142	-0.521	1.909	-0.273
80	-1.685	1.428	0.986	-0.723	1.578	-0.458
90	-1.390	1.174	0.794	-0.794	1.174	-0.676
100	-1.051	0.885	0.587	-0.732	0.769	-0.951
110	-0.708	0.594	0.387	-0.567	0.426	-1.330
120	-0.403	0.337	0.215	-0.355	0.184	-1.924
130	-0.171	0.142	0.089	-0.159	0.052	-3.071
140	-0.036	0.029	0.018	-0.034	0.005	-6.605
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.010	-0.012	0.008	0.014	0.002	8.588
230	0.051	-0.060	0.038	0.068	0.021	3.165
240	0.122	-0.146	0.095	0.155	0.079	1.967
250	0.220	-0.262	0.174	0.253	0.187	1.357
260	0.331	-0.394	0.271	0.335	0.341	0.983
270	0.443	-0.529	0.375	0.375	0.529	0.708
280	0.544	-0.650	0.475	0.355	0.723	0.491
290	0.621	-0.743	0.564	0.276	0.891	0.309
300	0.662	-0.794	0.633	0.151	1.004	0.151
310	0.664	-0.797	0.678	0.007	1.046	0.007
320	0.620	-0.746	0.697	-0.124	1.013	-0.122
330	0.525	-0.638	0.701	-0.202	0.926	-0.218
340	0.318	-0.424	0.724	-0.151	0.826	-0.183
350	-0.008	-0.104	0.784	0.034	0.790	0.043
360	-0.416	0.285	0.873	0.285	0.873	0.326

TABLE III.- Continued.

(c) r/d = 0.2 - Concluded.

$\delta = 80°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.139	0.108	0.706	0.108	0.706	0.153
10	-0.419	0.416	0.749	0.279	0.809	0.345
20	-0.675	0.694	0.797	0.380	0.986	0.385
30	-0.878	0.910	0.845	0.366	1.187	0.308
40	-1.012	1.050	0.880	0.238	1.349	0.177
50	-1.082	1.121	0.881	0.045	1.425	0.032
60	-1.085	1.122	0.842	-0.169	1.392	-0.121
70	-1.023	1.055	0.764	-0.358	1.253	-0.285
80	-0.904	0.930	0.654	-0.483	1.029	-0.469
90	-0.743	0.762	0.523	-0.523	0.762	-0.686
100	-0.560	0.572	0.384	-0.477	0.497	-0.960
110	-0.376	0.382	0.251	-0.367	0.274	-1.340
120	-0.213	0.216	0.138	-0.228	0.119	-1.935
130	-0.090	0.090	0.056	-0.101	0.033	-3.073
140	-0.018	0.019	0.011	-0.022	0.003	-6.520
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.010	-0.012	0.008	0.014	0.002	7.792
230	0.050	-0.060	0.037	0.067	0.022	3.102
240	0.120	-0.143	0.093	0.152	0.078	1.955
250	0.214	-0.257	0.170	0.248	0.183	1.352
260	0.321	-0.386	0.264	0.327	0.335	0.978
270	0.429	-0.517	0.364	0.364	0.517	0.704
280	0.525	-0.635	0.460	0.343	0.705	0.486
290	0.598	-0.724	0.544	0.264	0.867	0.305
300	0.637	-0.774	0.609	0.141	0.974	0.144
310	0.638	-0.775	0.649	-0.001	1.011	-0.001
320	0.597	-0.727	0.662	-0.131	0.975	-0.134
330	0.512	-0.626	0.658	-0.213	0.883	-0.241
340	0.356	-0.445	0.657	-0.194	0.770	-0.252
350	0.129	-0.190	0.674	-0.071	0.697	-0.101
360	-0.139	0.108	0.706	0.108	0.706	0.154

TABLE III.- Continued.

(d) $r/d = 0.3$.

$\delta = 40°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-16.430	4.443	3.928	4.443	3.928	1.131
10	-26.389	7.261	5.561	6.185	6.737	0.918
20	-36.690	10.133	7.223	7.051	10.253	0.688
30	-46.109	12.714	8.710	6.656	13.900	0.479
40	-53.506	14.698	9.843	4.933	16.988	0.290
50	-58.005	15.875	10.463	2.189	18.887	0.116
60	-59.102	16.109	10.490	-1.030	19.196	-0.054
70	-56.640	15.377	9.916	-4.059	17.842	-0.227
80	-50.919	13.768	8.804	-6.279	15.087	-0.416
90	-42.650	11.479	7.285	-7.285	11.479	-0.635
100	-32.821	8.786	5.532	-6.973	7.692	-0.90
110	-22.606	6.015	3.755	-5.586	4.368	-1.279
120	-13.254	3.495	2.160	-3.618	1.946	-1.859
130	-5.862	1.525	0.934	-1.695	0.568	-2.985
140	-1.324	0.337	0.202	-0.388	0.062	-6.283
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.009	-0.010	0.006	0.012	0.002	6.939
230	0.072	-0.056	0.037	0.065	0.019	3.439
240	0.132	-0.134	0.091	0.145	0.070	2.064
250	0.208	-0.242	0.170	0.243	0.170	1.434
260	0.326	-0.373	0.266	0.327	0.321	1.018
270	0.472	-0.513	0.383	0.383	0.513	0.747
280	0.582	-0.636	0.501	0.383	0.714	0.537
290	0.670	-0.736	0.619	0.330	0.903	0.366
300	0.759	-0.800	0.724	0.227	1.055	0.215
310	0.731	-0.806	0.815	0.106	1.142	0.093
320	0.676	-0.749	0.897	0.003	1.168	0.003
330	0.351	-0.568	1.018	0.017	1.165	0.015
340	-2.191	0.275	1.512	0.176	1.326	0.585
350	-8.069	2.020	2.525	2.428	2.136	1.137
360	-16.510	4.454	3.936	4.454	3.936	1.132

$\delta = 50°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-3.093	1.381	1.850	1.381	1.850	0.747
10	-5.073	2.403	2.351	1.958	2.733	0.716
20	-7.072	3.413	2.852	2.232	3.847	0.580
30	-8.855	4.291	3.289	2.072	4.993	0.415
40	-10.215	4.940	3.606	1.467	5.937	0.247
50	-11.007	5.306	3.747	0.541	6.473	0.084
60	-11.145	5.352	3.688	-0.518	6.480	-0.080
70	-10.613	5.077	3.433	-1.490	5.945	-0.251
80	-9.482	4.517	3.005	-2.175	4.970	-0.438
90	-7.883	3.739	2.453	-2.453	3.739	-0.656
100	-6.016	2.859	1.837	-2.302	2.477	-0.929
110	-4.102	1.924	1.228	-1.812	1.388	-1.306
120	-2.369	1.104	0.694	-1.153	0.609	-1.894
130	-1.026	0.474	0.293	-0.529	0.175	-3.028
140	-0.224	0.101	0.061	-0.117	0.018	-6.494
150	0.	-0.	0.001	-0.	-0.	
160	0.	-0.	0.001	-0.	-0.	
170	0.	-0.	0.001	-0.	-0.	
180	0.	-0.	0.001	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.009	-0.010	0.006	0.012	0.002	6.939
230	0.048	-0.053	0.035	0.061	0.018	3.300
240	0.119	-0.132	0.087	0.142	0.071	2.004
250	0.220	-0.239	0.164	0.236	0.169	1.397
260	0.332	-0.365	0.259	0.319	0.315	1.013
270	0.450	-0.496	0.369	0.369	0.496	0.743
280	0.563	-0.619	0.482	0.367	0.693	0.530
290	0.646	-0.714	0.591	0.311	0.873	0.356
300	0.696	-0.770	0.688	0.211	1.011	0.209
310	0.703	-0.779	0.767	0.087	1.090	0.080
320	0.652	-0.729	0.831	-0.024	1.105	-0.022
330	0.498	-0.597	0.896	-0.069	1.074	-0.064
340	-0.136	-0.214	1.076	0.167	1.084	0.154
350	-1.392	0.476	1.408	0.714	1.304	0.547
360	-3.120	1.389	1.854	1.389	1.854	0.749

TABLE III.- Continued.

(d) r/d = 0.3 - Continued.

$\delta = 60^{\circ}$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-1.061	0.612	1.263	0.612	1.263	0.485
10	-1.864	1.192	1.484	0.916	1.668	0.549
20	-2.655	1.750	1.699	1.063	2.195	0.484
30	-3.338	2.218	1.864	0.978	2.740	0.357
40	-3.841	2.550	2.010	0.662	3.179	0.208
50	-4.122	2.730	2.046	0.188	3.406	0.055
60	-4.155	2.742	1.980	-0.344	3.365	-0.102
70	-3.939	2.590	1.817	-0.822	3.055	-0.269
80	-3.502	2.293	1.571	-1.149	2.531	-0.454
90	-2.896	1.888	1.268	-1.268	1.888	-0.671
100	-2.197	1.426	0.939	-1.172	1.241	-0.945
110	-1.488	0.960	0.621	-0.912	0.690	-1.323
120	-0.852	0.546	0.347	-0.574	0.300	-1.913
130	-0.364	0.232	0.144	-0.259	0.085	-3.054
140	-0.077	0.048	0.030	-0.056	0.008	-6.650
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.009	-0.010	0.007	0.012	0.001	11.412
230	0.047	-0.052	0.033	0.059	0.019	3.130
240	0.118	-0.129	0.085	0.138	0.070	1.979
250	0.212	-0.234	0.159	0.230	0.166	1.385
260	0.323	-0.357	0.252	0.310	0.308	1.007
270	0.436	-0.484	0.357	0.357	0.484	0.737
280	0.541	-0.601	0.465	0.353	0.673	0.525
290	0.620	-0.693	0.568	0.297	0.846	0.351
300	0.668	-0.747	0.658	0.196	0.976	0.201
310	0.674	-0.755	0.728	0.073	1.047	0.069
320	0.630	-0.709	0.781	-0.041	1.054	-0.039
330	0.517	-0.597	0.824	-0.105	1.013	-0.104
340	0.204	-0.339	0.913	-0.006	0.974	-0.006
350	-0.347	0.082	1.067	0.266	1.036	0.257
360	-1.071	0.616	1.267	0.616	1.267	0.487

$\delta = 70^{\circ}$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.417	0.286	0.985	0.286	0.985	0.290
10	-0.851	0.676	1.086	0.477	1.187	0.402
20	-1.265	1.042	1.183	0.574	1.468	0.391
30	-1.609	1.338	1.263	0.527	1.763	0.299
40	-1.850	1.539	1.312	0.336	1.994	0.168
50	-1.950	1.643	1.307	0.055	2.099	0.026
60	-1.988	1.644	1.244	-0.255	2.046	-0.125
70	-1.877	1.546	1.125	-0.528	1.838	-0.288
80	-1.661	1.363	0.961	-0.709	1.509	-0.470
90	-1.367	1.117	0.766	-0.766	1.117	-0.686
100	-1.032	0.839	0.562	-0.699	0.728	-0.959
110	-0.694	0.561	0.367	-0.537	0.402	-1.336
120	-0.394	0.317	0.203	-0.334	0.173	-1.929
130	-0.167	0.133	0.083	-0.149	0.049	-3.069
140	-0.035	0.028	0.017	-0.032	0.005	-6.603
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.009	-0.010	0.007	0.012	0.001	9.238
230	0.047	-0.051	0.033	0.058	0.018	3.195
240	0.114	-0.127	0.083	0.135	0.068	1.977
250	0.205	-0.229	0.155	0.224	0.162	1.382
260	0.312	-0.348	0.245	0.302	0.301	1.004
270	0.420	-0.472	0.346	0.346	0.472	0.732
280	0.520	-0.585	0.449	0.341	0.654	0.520
290	0.597	-0.674	0.547	0.283	0.820	0.345
300	0.640	-0.725	0.631	0.184	0.944	0.195
310	0.645	-0.733	0.696	0.062	1.009	0.062
320	0.605	-0.689	0.741	-0.052	1.010	-0.051
330	0.512	-0.589	0.771	-0.125	0.962	-0.129
340	0.309	-0.388	0.817	-0.085	0.901	-0.095
350	-0.013	-0.085	0.891	0.071	0.893	0.080
360	-0.416	0.285	0.985	0.285	0.985	0.289

TABLE III.- Continued.

(d) r/d = 0.3 - Concluded.

$\delta = 80°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.140	0.109	0.818	0.109	0.818	0.134
10	-0.414	0.397	0.856	0.242	0.912	0.266
20	-0.666	0.658	0.889	0.314	1.061	0.296
30	-0.865	0.861	0.915	0.288	1.223	0.236
40	-0.997	0.992	0.924	0.166	1.346	0.124
50	-1.063	1.056	0.900	-0.010	1.388	-0.007
60	-1.064	1.053	0.840	-0.201	1.332	-0.151
70	-1.000	0.986	0.747	-0.365	1.182	-0.309
80	-0.880	0.865	0.629	-0.469	0.961	-0.488
90	-0.721	0.705	0.495	-0.495	0.705	-0.702
100	-0.541	0.526	0.358	-0.444	0.456	-0.974
110	-0.361	0.350	0.232	-0.337	0.249	-1.352
120	-0.204	0.196	0.126	-0.208	0.107	-1.945
130	-0.085	0.082	0.051	-0.092	0.030	-3.095
140	-0.017	0.017	0.010	-0.019	0.003	-6.625
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.009	-0.010	0.006	0.012	0.001	8.172
230	0.046	-0.051	0.032	0.057	0.018	3.122
240	0.111	-0.124	0.081	0.132	0.067	1.963
250	0.199	-0.224	0.151	0.219	0.159	1.377
260	0.302	-0.340	0.238	0.294	0.294	0.999
270	0.407	-0.460	0.335	0.335	0.460	0.728
280	0.501	-0.570	0.434	0.329	0.637	0.516
290	0.574	-0.655	0.527	0.272	0.796	0.341
300	0.615	-0.705	0.607	0.173	0.914	0.190
310	0.620	-0.711	0.667	0.054	0.974	0.055
320	0.582	-0.670	0.706	-0.059	0.972	-0.061
330	0.499	-0.577	0.728	-0.136	0.919	-0.148
340	0.347	-0.409	0.750	-0.128	0.845	-0.152
350	0.125	-0.171	0.781	-0.033	0.799	-0.042
360	-0.139	0.108	0.818	0.108	0.818	0.133

TABLE III.- Continued.

(e) r/d = 0.4.

$\delta = 40°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-16.432	4.440	4.086	4.440	4.086	1.087
10	-26.379	7.232	5.710	6.131	6.879	0.891
20	-53.780	13.337	11.889	8.467	15.733	0.538
30	-46.081	12.644	8.807	6.546	13.949	0.469
40	-53.484	14.619	9.901	4.835	16.982	0.285
50	-57.990	15.787	10.490	2.112	18.836	0.112
60	-59.075	16.015	10.487	-1.074	19.113	-0.056
70	-56.599	15.281	9.893	-4.070	17.743	-0.229
80	-50.874	13.677	8.769	-6.261	14.992	-0.418
90	-42.612	11.400	7.244	-7.244	11.400	-0.635
100	-32.788	8.722	5.496	-6.928	7.635	-0.907
110	-22.577	5.968	3.729	-5.545	4.333	-1.280
120	-13.227	3.465	2.145	-3.591	1.928	-1.862
130	-5.854	1.513	0.925	-1.681	0.565	-2.977
140	-1.326	0.334	0.202	-0.385	0.060	-6.441
150	0.	-0.	0.	-0.	0.	
160	0.	-0.	0.	-0.	0.	
170	0.	-0.	0.	-0.	0.	
180	0.	-0.	0.	0.	0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.007	-0.007	0.005	0.009	0.001	6.997
230	0.064	-0.044	0.030	0.051	0.014	3.592
240	0.114	-0.105	0.074	0.117	0.054	2.145
250	0.180	-0.196	0.143	0.202	0.136	1.490
260	0.288	-0.308	0.230	0.280	0.263	1.064
270	0.428	-0.433	0.344	0.344	0.433	0.794
280	0.535	-0.544	0.465	0.364	0.617	0.590
290	0.624	-0.639	0.595	0.341	0.804	0.424
300	0.718	-0.705	0.721	0.272	0.971	0.280
310	0.695	-0.716	0.842	0.185	1.090	0.169
320	0.647	-0.669	0.958	0.103	1.164	0.089
330	0.327	-0.500	1.116	0.125	1.216	0.103
340	-2.209	0.326	1.641	0.868	1.430	0.607
350	-8.079	2.047	2.676	2.481	2.280	1.088
360	-16.510	4.454	4.093	4.454	4.093	1.088

$\delta = 50°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-3.097	1.383	2.005	1.383	2.005	0.690
10	-5.065	2.376	2.500	1.906	2.875	0.663
20	-7.056	3.362	2.979	2.141	3.950	0.542
30	-8.831	4.223	3.386	1.964	5.044	0.389
40	-10.186	4.860	3.666	1.366	5.932	0.230
50	-10.971	5.215	3.772	0.463	6.420	0.072
60	-11.101	5.256	3.685	-0.563	6.395	-0.088
70	-10.567	4.981	3.409	-1.500	5.846	-0.257
80	-9.436	4.426	2.969	-2.156	4.874	-0.442
90	-7.842	3.659	2.413	-2.413	3.659	-0.659
100	-5.981	2.775	1.801	-2.256	2.420	-0.932
110	-4.074	1.879	1.201	-1.771	1.355	-1.307
120	-2.353	1.077	0.678	-1.125	0.594	-1.896
130	-1.019	0.461	0.285	-0.515	0.170	-3.031
140	-0.220	0.098	0.060	-0.113	0.017	-6.593
150	0.	-0.	0.	-0.	0.	
160	0.	-0.	0.	0.	0.	
170	0.	-0.	0.	0.	0.	
180	0.	-0.	0.	0.	0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.007	-0.007	0.005	0.009	0.001	6.997
230	0.040	-0.041	0.027	0.047	0.014	3.410
240	0.101	-0.104	0.070	0.113	0.055	2.067
250	0.192	-0.193	0.137	0.194	0.135	1.445
260	0.294	-0.300	0.223	0.272	0.257	1.059
270	0.406	-0.416	0.330	0.330	0.416	0.793
280	0.516	-0.527	0.446	0.348	0.596	0.583
290	0.600	-0.617	0.567	0.322	0.774	0.416
300	0.655	-0.675	0.685	0.256	0.927	0.276
310	0.667	-0.689	0.794	0.166	1.038	0.160
320	0.623	-0.649	0.892	0.076	1.100	0.069
330	0.474	-0.529	0.994	0.039	1.125	0.034
340	-0.154	-0.163	1.205	0.259	1.188	0.218
350	-1.402	0.503	1.559	0.767	1.448	0.529
360	-3.120	1.389	2.011	1.389	2.011	0.691

TABLE III.- Continued.

(e) r/d = 0.4 - Continued.

$\delta = 60°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-1.060	0.612	1.421	0.612	1.421	0.430
10	-1.854	1.165	1.634	0.863	1.811	0.477
20	-2.637	1.699	1.829	0.971	2.300	0.422
30	-3.314	2.150	1.982	0.870	2.792	0.312
40	-3.811	2.470	2.071	0.561	3.174	0.177
50	-4.086	2.640	2.072	0.110	3.354	0.033
60	-4.113	2.646	1.978	-0.389	3.281	-0.119
70	-3.893	2.493	1.793	-0.832	2.956	-0.282
80	-3.455	2.202	1.535	-1.130	2.435	-0.464
90	-2.853	1.808	1.228	-1.228	1.808	-0.679
100	-2.160	1.361	0.904	-1.126	1.184	-0.952
110	-1.459	0.914	0.594	-0.871	0.656	-1.328
120	-0.834	0.518	0.330	-0.545	0.284	-1.919
130	-0.356	0.219	0.136	-0.245	0.080	-3.058
140	-0.076	0.046	0.028	-0.053	0.008	-6.557
150	0.	-0.	0.	0.	-0.	
160	0.	-0.	0.	0.	-0.	
170	0.	-0.	0.	0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.007	-0.007	0.005	0.009	0.001	14.742
230	0.039	-0.040	0.026	0.045	0.014	3.182
240	0.100	-0.101	0.068	0.109	0.054	2.036
250	0.184	-0.188	0.132	0.189	0.132	1.431
260	0.285	-0.292	0.216	0.263	0.250	1.053
270	0.392	-0.404	0.318	0.318	0.404	0.787
280	0.494	-0.509	0.429	0.334	0.576	0.579
290	0.574	-0.596	0.544	0.308	0.746	0.412
300	0.627	-0.652	0.655	0.241	0.892	0.270
310	0.639	-0.665	0.755	0.151	0.995	0.152
320	0.601	-0.629	0.842	0.059	1.050	0.056
330	0.493	-0.529	0.922	0.003	1.063	0.003
340	0.186	-0.288	1.042	0.086	1.078	0.080
350	-0.356	0.109	1.218	0.319	1.180	0.271
360	-1.071	0.616	1.424	0.616	1.424	0.433

$\delta = 70°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.416	0.285	1.142	0.285	1.142	0.250
10	-0.841	0.649	1.236	0.425	1.330	0.319
20	-1.247	0.991	1.312	0.482	1.572	0.307
30	-1.585	1.270	1.361	0.419	1.814	0.231
40	-1.821	1.459	1.373	0.235	1.989	0.118
50	-1.944	1.553	1.333	-0.023	2.047	-0.011
60	-1.947	1.549	1.241	-0.300	1.962	-0.153
70	-1.831	1.450	1.101	-0.539	1.739	-0.310
80	-1.614	1.272	0.924	-0.690	1.413	-0.488
90	-1.323	1.037	0.727	-0.727	1.037	-0.701
100	-0.994	0.774	0.526	-0.652	0.671	-0.972
110	-0.666	0.515	0.340	-0.496	0.368	-1.348
120	-0.377	0.289	0.186	-0.306	0.158	-1.940
130	-0.159	0.121	0.076	-0.136	0.044	-3.087
140	-0.033	0.025	0.015	-0.029	0.004	-6.695
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.007	-0.007	0.005	0.009	0.001	10.528
230	0.038	-0.039	0.025	0.045	0.014	3.273
240	0.096	-0.098	0.066	0.106	0.052	2.034
250	0.177	-0.183	0.128	0.183	0.128	1.428
260	0.274	-0.283	0.209	0.255	0.243	1.051
270	0.376	-0.392	0.307	0.307	0.392	0.782
280	0.473	-0.493	0.413	0.321	0.558	0.576
290	0.551	-0.577	0.523	0.294	0.721	0.408
300	0.599	-0.630	0.628	0.229	0.860	0.266
310	0.610	-0.643	0.723	0.141	0.957	0.147
320	0.576	-0.609	0.802	0.049	1.006	0.048
330	0.488	-0.521	0.869	-0.017	1.013	-0.016
340	0.291	-0.337	0.946	0.007	1.005	0.007
350	-0.023	-0.058	1.042	0.124	1.037	0.119
360	-0.416	0.285	1.142	0.285	1.142	0.249

TABLE III.- Continued.

(e) r/d = 0.4 - Concluded.

$\delta = 80°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.139	0.108	0.975	0.108	C.975	0.111
10	-0.405	0.370	1.005	0.189	1.054	0.180
20	-0.648	0.607	1.018	0.222	1.165	0.191
30	-0.841	0.793	1.013	0.180	1.274	0.142
40	-0.968	0.912	0.985	0.066	1.341	0.049
50	-1.028	0.967	0.926	-0.088	1.336	-0.066
60	-1.022	0.958	0.837	-0.246	1.248	-0.197
70	-0.902	0.851	0.686	-0.354	1.034	-0.342
80	-0.833	0.773	0.593	-0.449	0.864	-0.520
90	-0.677	0.624	0.456	-0.456	0.624	-0.730
100	-0.503	0.462	0.323	-0.398	0.399	-0.999
110	-0.333	0.304	0.205	-0.296	0.216	-1.374
120	-0.186	0.168	0.110	-0.179	0.091	-1.966
130	-0.077	0.069	0.044	-0.078	0.025	-3.114
140	-0.016	0.014	0.009	-0.016	0.002	-6.741
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.007	-0.007	0.005	0.009	0.001	8.792
230	0.038	-0.039	0.025	0.044	0.014	3.173
240	0.093	-0.096	0.064	0.104	0.051	2.018
250	0.171	-0.178	0.124	0.178	0.125	1.422
260	0.264	-0.275	0.202	0.247	0.236	1.046
270	0.363	-0.380	0.296	0.296	0.380	0.779
280	0.454	-0.478	0.398	0.309	0.540	0.573
290	0.528	-0.558	0.503	0.282	0.697	0.405
300	0.574	-0.610	0.604	0.218	0.830	0.263
310	0.584	-0.621	0.694	0.133	0.922	0.144
320	0.553	-0.590	0.767	0.042	0.967	0.043
330	0.475	-0.509	0.826	-0.028	0.970	-0.029
340	0.329	-0.358	0.879	-0.036	0.949	-0.038
350	0.115	-0.144	0.932	0.020	0.943	0.021
360	-0.139	0.108	0.975	0.108	0.975	0.111

TABLE III.- Continued.

(f) r/d = 0.5.

$\delta = 40°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-16.446	4.443	4.288	4.443	4.288	1.036
10	-26.370	7.200	5.903	6.066	7.064	0.859
20	-36.646	10.018	7.519	6.843	10.492	0.652
30	-46.033	12.556	8.936	6.406	14.016	0.457
40	-53.432	14.517	9.980	4.705	16.977	0.277
50	-57.916	15.670	10.522	2.012	18.767	0.107
60	-59.006	15.893	10.484	-1.133	19.005	-0.060
70	-56.530	15.158	9.863	-4.084	17.617	-0.232
80	-50.800	13.560	8.722	-6.235	14.868	-0.419
90	-42.544	11.297	7.194	-7.194	11.297	-0.637
100	-32.721	8.640	5.450	-6.867	7.562	-0.908
110	-22.540	5.909	3.694	-5.492	4.290	-1.280
120	-13.205	3.430	2.122	-3.553	1.910	-1.860
130	-5.849	1.498	0.916	-1.665	0.559	-2.978
140	-1.328	0.331	0.199	-0.381	0.060	-6.341
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.004	-0.004	0.002	0.005	0.001	7.120
230	0.051	-0.028	0.020	0.033	0.008	4.012
240	0.085	-0.070	0.052	0.080	0.034	2.329
250	0.134	-0.137	0.108	0.149	0.092	1.618
260	0.226	-0.225	0.185	0.221	0.190	1.169
270	0.355	-0.329	0.293	0.293	0.329	0.891
280	0.457	-0.427	0.419	0.339	0.494	0.686
290	0.548	-0.515	0.564	0.354	0.677	0.524
300	0.649	-0.581	0.717	0.330	0.862	0.383
310	0.637	-0.601	0.875	0.284	1.023	0.277
320	0.599	-0.566	1.037	0.233	1.158	0.201
330	0.287	-0.412	1.242	0.264	1.281	0.206
340	-2.239	0.391	1.808	0.986	1.565	0.630
350	-8.095	2.082	2.865	2.548	2.460	1.036
360	-16.510	4.454	4.294	4.454	4.294	1.037

$\delta = 50°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-3.095	1.382	2.213	1.382	2.213	0.624
10	-5.047	2.341	2.698	1.837	3.064	0.599
20	-7.024	3.296	3.151	2.020	4.088	0.494
30	-8.790	4.132	3.516	1.821	5.111	0.356
40	-10.136	4.754	3.747	1.233	5.927	0.208
50	-10.909	5.098	3.807	0.360	6.352	0.057
60	-11.032	5.131	3.682	-0.623	6.284	-0.099
70	-10.491	4.855	3.377	-1.513	5.717	-0.265
80	-9.355	4.306	2.921	-2.129	4.748	-0.448
90	-7.768	3.555	2.361	-2.361	3.555	-0.664
100	-5.916	2.691	1.755	-2.196	2.345	-0.936
110	-4.028	1.819	1.166	-1.718	1.310	-1.311
120	-2.324	1.041	0.655	-1.088	0.574	-1.896
130	-1.006	0.445	0.275	-0.497	0.164	-3.029
140	-0.217	0.095	0.057	-0.109	0.017	-6.429
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.004	-0.004	0.002	0.005	0.001	7.120
230	0.027	-0.025	0.018	0.030	0.008	3.714
240	0.072	-0.068	0.049	0.076	0.035	2.205
250	0.145	-0.134	0.102	0.141	0.091	1.552
260	0.232	-0.217	0.178	0.213	0.183	1.165
270	0.333	-0.312	0.279	0.279	0.312	0.893
280	0.439	-0.410	0.400	0.323	0.473	0.683
290	0.525	-0.493	0.536	0.335	0.647	0.518
300	0.586	-0.551	0.681	0.314	0.817	0.385
310	0.609	-0.574	0.827	0.265	0.972	0.273
320	0.575	-0.546	0.971	0.206	1.095	0.188
330	0.434	-0.441	1.120	0.178	1.190	0.149
340	-0.183	-0.098	1.372	0.378	1.323	0.285
350	-1.418	0.538	1.748	0.834	1.628	0.512
360	-3.120	1.389	2.212	1.389	2.212	0.628

TABLE III.- Continued.

(f) r/d = 0.5 - Continued.

δ = 60°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-1.059	0.611	1.624	0.611	1.624	0.376
10	-1.838	1.130	1.828	0.795	1.996	0.399
20	-2.607	1.634	1.996	0.852	2.434	0.350
30	-3.274	2.062	2.109	0.731	2.857	0.256
40	-3.763	2.367	2.150	0.431	3.168	0.136
50	-4.028	2.524	2.106	0.010	3.287	0.003
60	-4.045	2.523	1.974	-0.448	3.172	-0.141
70	-3.817	2.369	1.762	-0.846	2.829	-0.299
80	-3.378	2.084	1.489	-1.104	2.311	-0.478
90	-2.780	1.705	1.178	-1.178	1.705	-0.691
100	-2.098	1.278	0.858	-1.067	1.110	-0.961
110	-1.413	0.855	0.559	-0.818	0.612	-1.336
120	-0.806	0.483	0.308	-0.509	0.264	-1.925
130	-0.343	0.204	0.127	-0.228	0.074	-3.062
140	-0.073	0.042	0.026	-0.049	0.007	-6.705
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.004	-0.004	0.003	0.005	0.000	119.999
230	0.026	-0.024	0.016	0.028	0.008	3.312
240	0.071	-0.066	0.046	0.073	0.034	2.160
250	0.138	-0.129	0.097	0.135	0.088	1.534
260	0.223	-0.209	0.171	0.205	0.176	1.161
270	0.318	-0.300	0.267	0.267	0.300	0.889
280	0.417	-0.392	0.383	0.309	0.453	0.682
290	0.499	-0.472	0.513	0.321	0.619	0.518
300	0.558	-0.528	0.651	0.299	0.783	0.382
310	0.581	-0.550	0.788	0.250	0.928	0.270
320	0.553	-0.526	0.921	0.189	1.044	0.181
330	0.453	-0.441	1.048	0.142	1.129	0.126
340	0.157	-0.223	1.209	0.204	1.213	0.168
350	-0.372	0.144	1.407	0.387	1.360	0.284
360	-1.071	0.616	1.625	0.616	1.625	0.379

δ = 70°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.416	0.285	1.344	0.285	1.344	0.212
10	-0.825	0.614	1.429	0.357	1.514	0.236
20	-1.217	0.926	1.479	0.364	1.706	0.213
30	-1.545	1.182	1.488	0.280	1.879	0.149
40	-1.773	1.356	1.452	0.105	1.984	0.053
50	-1.886	1.438	1.367	-0.123	1.980	-0.062
60	-1.878	1.425	1.237	-0.359	1.853	-0.194
70	-1.755	1.325	1.070	-0.552	1.612	-0.343
80	-1.537	1.154	0.878	-0.665	1.289	-0.516
90	-1.251	0.934	0.676	-0.676	0.934	-0.724
100	-0.933	0.691	0.480	-0.593	0.598	-0.992
110	-0.620	0.456	0.305	-0.443	0.324	-1.366
120	-0.348	0.254	0.164	-0.270	0.138	-1.956
130	-0.145	0.105	0.066	-0.118	0.038	-3.104
140	-0.030	0.022	0.013	-0.025	0.004	-6.487
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.004	-0.004	0.003	0.005	0.000	18.286
230	0.025	-0.023	0.016	0.027	0.008	3.481
240	0.067	-0.063	0.044	0.070	0.032	2.162
250	0.131	-0.124	0.093	0.130	0.085	1.535
260	0.212	-0.200	0.164	0.196	0.169	1.163
270	0.303	-0.288	0.256	0.256	0.288	0.888
280	0.395	-0.376	0.367	0.296	0.434	0.682
290	0.475	-0.453	0.492	0.307	0.594	0.517
300	0.530	-0.506	0.624	0.288	0.751	0.383
310	0.552	-0.528	0.756	0.240	0.890	0.270
320	0.528	-0.506	0.881	0.178	1.000	0.178
330	0.448	-0.433	0.995	0.123	1.078	0.114
340	0.262	-0.272	1.113	0.125	1.139	0.110
350	-0.039	-0.023	1.231	0.191	1.217	0.157
360	-0.416	0.285	1.343	0.285	1.343	0.212

TABLE III.- Concluded.

(f) r/d = 0.5 - Concluded.

$\delta = 80°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.139	0.108	1.178	0.108	1.178	0.092
10	-0.389	0.335	1.199	0.122	1.239	0.098
20	-0.619	0.542	1.186	0.104	1.300	0.080
30	-0.802	0.705	1.140	0.041	1.340	0.031
40	-0.919	0.809	1.064	-0.064	1.335	-0.048
50	-0.970	0.851	0.960	-0.188	1.269	-0.148
60	-0.954	0.834	0.834	-0.305	1.139	-0.267
70	-0.878	0.765	0.692	-0.389	0.956	-0.407
80	-0.756	0.656	0.546	-0.424	0.741	-0.573
90	-0.604	0.521	0.405	-0.405	0.521	-0.777
100	-0.441	0.379	0.277	-0.338	0.325	-1.042
110	-0.287	0.245	0.170	-0.243	0.172	-1.415
120	-0.157	0.133	0.088	-0.143	0.071	-2.002
130	-0.064	0.054	0.034	-0.061	0.019	-3.141
140	-0.013	0.010	0.006	-0.012	0.002	-6.905
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	0.004	-0.004	0.003	0.005	0.000	11.412
230	0.024	-0.023	0.015	0.026	0.008	3.305
240	0.064	-0.061	0.042	0.067	0.031	2.138
250	0.125	-0.119	0.089	0.125	0.081	1.530
260	0.202	-0.192	0.157	0.188	0.162	1.161
270	0.289	-0.276	0.245	0.245	0.276	0.887
280	0.377	-0.361	0.352	0.284	0.417	0.682
290	0.453	-0.434	0.472	0.295	0.570	0.519
300	0.505	-0.486	0.600	0.277	0.721	0.384
310	0.526	-0.506	0.727	0.232	0.855	0.271
320	0.505	-0.487	0.846	0.171	0.961	0.178
330	0.435	-0.421	0.952	0.112	1.035	0.108
340	0.299	-0.293	1.046	0.082	1.083	0.076
350	0.099	-0.109	1.121	0.087	1.123	0.077
360	-0.139	0.108	1.176	0.108	1.176	0.092

TABLE IV.- RAKED-OFF CIRCULAR-CONE CONFIGURATION LONGITUDINAL AERODYNAMICS. $\theta = 40°$.

(a) $r/d = 0$.

$\delta = 50°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-19.358	5.640	6.702	5.640	6.702	0.842
10	-26.890	7.963	8.626	6.344	9.878	0.642
20	-33.739	10.053	10.318	5.918	13.134	0.451
30	-39.147	11.678	11.579	4.324	15.867	0.273
40	-42.430	12.641	12.242	1.814	17.504	0.104
50	-43.247	12.840	12.242	-1.125	17.705	-0.064
60	-41.493	12.242	11.546	-3.878	16.375	-0.237
70	-37.196	10.949	10.219	-5.858	13.783	-0.425
80	-31.029	9.091	8.427	-6.721	10.416	-0.645
90	-23.819	6.934	6.370	-6.370	6.934	-0.919
100	-16.418	4.744	4.313	-5.071	3.923	-1.293
110	-9.566	2.737	2.462	-3.249	1.730	-1.878
120	-4.210	1.188	1.052	-1.505	0.503	2.993
130	-0.945	0.259	0.226	-0.339	0.053	-6.379
140	0.	0.	0.	-0.	-0.	—
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0.	-0.	
230	0.006	0.009	0.008	0.012	0.002	6.550
240	0.031	-0.045	0.048	0.064	0.015	4.178
250	0.059	-0.117	0.116	0.149	0.070	2.137
260	0.163	-0.217	0.215	0.250	0.176	1.418
270	0.238	-0.330	0.339	0.339	0.330	1.028
280	0.337	-0.451	0.485	0.399	0.528	0.755
290	0.404	-0.553	0.638	0.410	0.738	0.556
300	0.457	-0.634	0.785	0.363	0.941	0.386
310	0.479	-0.667	0.943	0.294	1.117	0.263
320	0.277	-0.578	1.165	0.306	1.264	0.242
330	-1.592	0.055	1.835	0.966	1.561	0.619
340	-5.863	1.428	3.387	2.398	2.413	0.994
350	-12.018	3.362	4.760	4.141	4.124	1.004
360	-19.313	5.627	6.735	5.627	6.705	0.839

$\delta = 60°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-3.085	1.565	2.717	1.565	2.717	0.576
10	-4.370	2.352	3.247	1.753	3.606	0.486
20	-5.550	3.056	3.678	1.614	4.501	0.359
30	-6.410	3.586	3.967	1.122	5.229	0.215
40	-6.934	3.893	4.083	0.357	5.630	0.063
50	-7.062	3.926	4.001	-0.541	5.579	-0.097
60	-6.666	3.727	3.711	-1.350	5.083	-0.266
70	-5.932	3.305	3.230	-1.905	4.210	-0.453
80	-4.926	2.733	2.626	-2.111	3.148	-0.671
90	-3.735	2.062	1.955	-1.955	2.062	-0.948
100	-2.534	1.391	1.300	-1.522	1.145	-1.330
110	-1.456	0.793	0.726	-0.954	0.497	-1.919
120	-0.624	0.336	0.301	-0.429	0.140	-3.055
130	-0.133	0.070	0.061	-0.092	0.015	-6.315
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0.	-0.	
230	0.006	-0.009	0.008	0.012	0.002	6.550
240	0.033	-0.047	0.043	0.061	0.019	3.150
250	0.061	-0.117	0.111	0.144	0.072	2.020
260	0.149	-0.212	0.207	0.241	0.173	1.395
270	0.227	-0.323	0.328	0.328	0.324	1.013
280	0.314	-0.438	0.463	0.380	0.512	0.743
290	0.384	-0.536	0.600	0.379	0.711	0.534
300	0.442	-0.615	0.734	0.328	0.900	0.364
310	0.459	-0.648	0.857	0.240	1.047	0.229
320	0.402	-0.609	0.994	0.172	1.153	0.149
330	0.028	-0.365	1.251	0.309	1.266	0.244
340	-0.748	0.122	1.658	0.681	1.516	0.449
350	-1.851	0.793	2.167	1.157	1.997	0.580
360	-3.086	1.569	2.718	1.569	2.718	0.577

TABLE IV.- Continued.

(a) r/d = 0 - Concluded.

$\delta = 70°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.870	0.596	1.626	0.596	1.626	0.367
10	-1.327	1.019	1.820	0.686	1.969	0.349
20	-1.736	1.397	1.964	0.641	2.324	0.276
30	-2.045	1.679	2.045	0.431	2.611	0.165
40	-2.216	1.834	2.053	0.085	2.751	0.031
50	-2.237	1.852	1.975	-0.323	2.688	-0.120
60	-2.116	1.749	1.806	-0.689	2.418	-0.285
70	-1.877	1.548	1.559	-0.935	1.988	-0.470
80	-1.544	1.270	1.252	-1.013	1.468	-0.690
90	-1.166	0.955	0.924	-0.924	0.956	-0.967
100	-0.786	0.642	0.607	-0.709	0.627	-1.346
110	-0.443	0.360	0.334	-0.437	0.224	-1.952
120	-0.187	0.151	0.136	-0.194	0.063	-3.084
130	-0.069	0.031	0.027	-0.041	0.006	-6.430
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0.	-0.	
230	0.006	-0.009	0.008	0.012	0.002	6.550
240	0.032	-0.047	0.043	0.060	0.019	3.147
250	0.080	-0.115	0.109	0.141	0.071	1.996
260	0.144	-0.208	0.202	0.235	0.169	1.385
270	0.219	-0.315	0.317	0.317	0.315	1.008
280	0.298	-0.425	0.444	0.363	0.495	0.733
290	0.366	-0.522	0.570	0.357	0.686	0.520
300	0.419	-0.595	0.688	0.298	0.860	0.346
310	0.441	-0.630	0.790	0.200	0.991	0.202
320	0.418	-0.608	0.884	0.103	1.068	0.096
330	0.272	-0.468	1.019	0.104	1.117	0.093
340	-0.017	-0.198	1.203	0.226	1.198	0.188
350	-0.410	0.170	1.415	0.413	1.364	0.303
360	-0.866	0.592	1.629	0.592	1.629	0.364

$\delta = 80°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.256	0.198	1.125	0.198	1.125	0.176
10	-0.464	0.477	1.185	0.264	1.250	0.211
20	-0.664	0.722	1.216	0.263	1.389	0.189
30	-0.814	0.905	1.219	0.174	1.509	0.116
40	-0.895	1.003	1.192	0.002	1.558	0.002
50	-0.905	1.016	1.128	-0.211	1.504	-0.141
60	-0.854	0.958	1.020	-0.404	1.339	-0.302
70	-0.754	0.845	0.871	-0.529	1.092	-0.484
80	-0.618	0.691	0.693	-0.563	0.801	-0.702
90	-0.464	0.519	0.506	-0.506	0.519	-0.976
100	-0.309	0.345	0.328	-0.383	0.282	-1.357
110	-0.174	0.194	0.180	-0.256	0.121	-1.951
120	-0.072	0.080	0.073	-0.103	0.033	-3.106
130	-0.015	0.016	0.014	-0.021	0.003	-6.505
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0.	-0.	
230	0.006	-0.009	0.008	0.012	0.002	6.550
240	0.031	-0.046	0.042	0.059	0.019	3.139
250	0.077	-0.112	0.106	0.138	0.069	1.986
260	0.139	-0.202	0.195	0.228	0.165	1.377
270	0.210	-0.306	0.305	0.305	0.306	0.996
280	0.284	-0.412	0.425	0.347	0.479	0.724
290	0.349	-0.505	0.541	0.336	0.660	0.509
300	0.398	-0.576	0.647	0.272	0.822	0.331
310	0.421	-0.610	0.732	0.169	0.938	0.180
320	0.409	-0.596	0.800	0.058	0.996	0.058
330	0.353	-0.501	0.876	0.004	1.009	0.004
340	0.188	-0.322	0.961	0.026	1.013	0.026
350	-0.010	-0.079	1.048	0.104	1.046	0.099
360	-0.257	0.198	1.125	0.198	1.125	0.176

TABLE IV.- Continued.

(b) r/d = 0.1.

$\delta = 50°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-19.302	5.624	6.722	5.624	6.722	0.837
10	-26.864	7.949	8.643	6.328	9.892	0.640
20	-33.758	10.053	10.335	5.912	13.150	0.450
30	-39.178	11.682	11.589	4.322	15.877	0.272
40	-42.438	12.637	12.252	1.805	17.509	0.103
50	-43.198	12.820	12.242	-1.138	17.690	-0.064
60	-41.359	12.223	11.539	-3.882	16.355	-0.237
70	-37.136	10.925	10.212	-5.860	13.759	-0.426
80	-31.048	9.091	8.420	-6.714	10.415	-0.645
90	-23.861	6.941	6.370	-6.370	6.941	-0.918
100	-16.384	4.734	4.303	-5.060	3.915	-1.292
110	-9.567	2.737	2.458	-3.246	1.731	-1.875
120	-4.199	1.184	1.052	-1.503	0.500	-3.007
130	-0.945	0.259	0.226	-0.339	0.053	-6.371
140	0.	-0.	0.	-0.	-0.	
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0.	-0.	
230	0.006	-0.009	0.008	0.012	0.002	6.767
240	0.030	-0.044	0.047	0.063	0.015	4.207
250	0.059	-0.115	0.114	0.147	0.069	2.137
260	0.163	-0.214	0.213	0.247	0.174	1.425
270	0.238	-0.325	0.336	0.336	0.325	1.034
280	0.336	-0.445	0.481	0.396	0.522	0.759
290	0.404	-0.547	0.635	0.410	0.732	0.560
300	0.457	-0.627	0.785	0.367	0.935	0.392
310	0.479	-0.660	0.945	0.300	1.113	0.270
320	0.276	-0.571	1.171	0.315	1.264	0.249
330	-1.592	0.062	1.843	0.975	1.565	0.623
340	-5.863	1.432	3.099	2.406	2.423	0.993
350	-12.018	3.365	4.793	4.147	4.136	1.002
360	-19.313	5.627	6.719	5.627	6.719	0.837

$\delta = 60°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-3.090	1.571	2.729	1.571	2.729	0.576
10	-4.375	2.354	3.253	1.753	3.613	0.485
20	-5.530	3.054	3.686	1.609	4.508	0.357
30	-6.417	3.585	3.977	1.116	5.236	0.213
40	-6.926	3.883	4.088	0.347	5.628	0.062
50	-7.009	3.923	4.001	-0.544	5.577	-0.098
60	-6.662	3.718	3.707	-1.351	5.073	-0.266
70	-5.936	3.302	3.229	-1.906	4.207	-0.453
80	-4.919	2.725	2.622	-2.109	3.139	-0.672
90	-3.740	2.062	1.952	-1.952	2.062	-0.947
100	-2.536	1.390	1.295	-1.517	1.144	-1.326
110	-1.454	0.791	0.725	-0.952	0.495	-1.921
120	-0.623	0.335	0.301	-0.428	0.140	-3.054
130	-0.133	0.070	0.061	-0.092	0.015	-6.348
140	0.	-0.	0.	-0.	-0.	
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0.	-0.	
230	0.006	-0.009	0.008	0.012	0.002	6.767
240	0.033	-0.046	0.042	0.060	0.019	3.153
250	0.081	-0.115	0.109	0.142	0.070	2.018
260	0.149	-0.209	0.205	0.238	0.170	1.401
270	0.227	-0.318	0.325	0.325	0.319	1.020
280	0.313	-0.432	0.459	0.377	0.505	0.747
290	0.384	-0.532	0.597	0.379	0.704	0.538
300	0.441	-0.608	0.734	0.331	0.894	0.371
310	0.459	-0.641	0.859	0.246	1.043	0.236
320	0.402	-0.602	1.000	0.181	1.153	0.157
330	0.028	-0.359	1.259	0.318	1.270	0.250
340	-0.748	0.126	1.670	0.689	1.526	0.452
350	-1.851	0.796	2.180	1.162	2.009	0.579
360	-3.086	1.569	2.732	1.569	2.732	0.574

TABLE IV.- Continued.

(b) r/d = 0.1 - Concluded.

δ = 70°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.864	0.591	1.644	0.591	1.644	0.360
10	-1.324	1.014	1.834	0.680	1.982	0.343
20	-1.734	1.390	1.776	0.630	2.332	0.270
30	-2.043	1.672	2.053	0.421	2.614	0.161
40	-2.215	1.826	2.056	0.077	2.749	0.028
50	-2.235	1.843	1.977	-0.330	2.683	-0.123
60	-2.116	1.742	1.806	-0.693	2.412	-0.287
70	-1.875	1.540	1.555	-0.934	1.979	-0.472
80	-1.545	1.265	1.248	-1.009	1.463	-0.690
90	-1.166	0.952	0.919	-0.919	0.952	-0.966
100	-0.784	0.637	0.602	-0.704	0.523	-1.347
110	-0.445	0.359	0.332	-0.435	0.224	-1.941
120	-0.187	0.150	0.136	-0.193	0.062	-3.099
130	-0.038	0.031	0.027	-0.041	0.006	-6.724
140	0.	-0.	0.	-0.	-0.	
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0.	-0.	
230	0.006	-0.009	0.008	0.012	0.002	6.767
240	0.032	-0.046	0.042	0.059	0.019	3.150
250	0.080	-0.113	0.107	0.139	0.070	1.993
260	0.144	-0.205	0.200	0.232	0.167	1.392
270	0.219	-0.310	0.314	0.314	0.310	1.014
280	0.297	-0.419	0.440	0.360	0.489	0.737
290	0.366	-0.516	0.567	0.356	0.679	0.524
300	0.418	-0.589	0.688	0.301	0.854	0.353
310	0.441	-0.623	0.792	0.206	0.986	0.209
320	0.417	-0.601	0.890	0.112	1.068	0.105
330	0.272	-0.462	1.027	0.113	1.121	0.101
340	-0.017	-0.194	1.215	0.233	1.208	0.193
350	-0.411	0.173	1.428	0.418	1.376	0.304
360	-0.866	0.592	1.643	0.592	1.643	0.361

δ = 80°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.238	0.230	1.138	0.200	1.138	0.176
10	-0.464	0.475	1.196	0.260	1.260	0.206
20	-0.664	0.718	1.227	0.255	1.299	0.182
30	-0.814	0.899	1.227	0.165	1.513	0.109
40	-0.895	0.997	1.197	-0.005	1.558	-0.003
50	-0.905	1.009	1.131	-0.218	1.499	-0.145
60	-0.854	0.951	1.019	-0.407	1.334	-0.305
70	-0.754	0.839	0.868	-0.529	1.085	-0.488
80	-0.618	0.686	0.690	-0.561	0.796	-0.705
90	-0.464	0.514	0.503	-0.503	0.514	-0.980
100	-0.309	0.342	0.327	-0.381	0.280	-1.361
110	-0.174	0.192	0.178	-0.233	0.119	-1.960
120	-0.072	0.079	0.072	-0.102	0.033	-3.108
130	-0.015	0.016	0.014	-0.021	0.004	-6.622
140	0.	-0.	0.	-0.	-0.	
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0.	-0.	
230	0.006	-0.009	0.008	0.012	0.002	6.767
240	0.031	-0.045	0.041	0.058	0.019	3.142
250	0.077	-0.110	0.104	0.135	0.068	1.983
260	0.139	-0.199	0.193	0.225	0.163	1.383
270	0.210	-0.301	0.302	0.302	0.301	1.003
280	0.283	-0.406	0.421	0.344	0.473	0.728
290	0.348	-0.499	0.538	0.335	0.653	0.513
300	0.397	-0.569	0.647	0.276	0.816	0.338
310	0.421	-0.603	0.734	0.175	0.954	0.187
320	0.409	-0.589	0.806	0.067	0.996	0.067
330	0.333	-0.495	0.884	0.013	1.013	0.013
340	0.188	-0.318	0.973	0.034	1.023	0.033
350	-0.010	-0.076	1.061	0.109	1.058	0.103
360	-0.237	0.198	1.139	0.198	1.139	0.174

TABLE IV.- Continued.

(c) r/d = 0.2.

$\delta = 50°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-19.313	5.627	6.758	5.627	6.758	0.833
10	-26.860	7.943	8.679	6.315	9.927	0.636
20	-33.751	10.039	10.365	5.889	13.173	0.447
30	-39.167	11.662	11.612	4.293	15.887	0.270
40	-42.446	12.617	12.269	1.779	17.509	0.102
50	-43.206	12.800	12.249	-1.156	17.679	-0.065
60	-41.367	12.203	11.536	-3.889	16.336	-0.238
70	-37.125	10.905	10.205	-5.860	13.738	-0.427
80	-31.049	9.074	8.410	-6.707	10.397	-0.645
90	-23.853	6.927	6.360	-6.360	6.927	-0.918
100	-16.388	4.724	4.293	-5.048	3.907	-1.292
110	-9.563	2.730	2.455	-3.241	1.726	-1.878
120	-4.218	1.184	1.048	-1.500	0.502	-2.991
130	-0.934	0.255	0.226	-0.337	0.051	-6.647
140	0.	-0.	0.	-0.	-0.	
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0.	-0.	
230	0.006	-0.008	0.007	0.011	0.002	6.871
240	0.030	-0.042	0.045	0.059	0.014	4.306
250	0.058	-0.109	0.109	0.140	0.065	2.157
260	0.161	-0.204	0.205	0.238	0.165	1.440
270	0.236	-0.312	0.326	0.326	0.312	1.045
280	0.333	-0.428	0.471	0.389	0.503	0.773
290	0.401	-0.527	0.627	0.409	0.710	0.576
300	0.454	-0.606	0.781	0.374	0.915	0.408
310	0.476	-0.639	0.950	0.318	1.100	0.289
320	0.274	-0.551	1.186	0.340	1.263	0.269
330	-1.595	0.080	1.869	1.004	1.579	0.636
340	-5.864	1.445	3.132	2.429	2.449	0.992
350	-12.019	3.372	4.832	4.160	4.173	0.997
360	-19.313	5.627	6.760	5.627	6.760	0.832

$\delta = 60°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-3.091	1.570	2.771	1.570	2.771	0.567
10	-4.375	2.346	3.293	1.739	3.651	0.476
20	-5.528	3.040	3.721	1.584	4.536	0.349
30	-6.414	3.567	4.002	1.088	5.249	0.207
40	-6.925	3.863	4.104	0.321	5.627	0.057
50	-7.006	3.902	4.007	-0.562	5.565	-0.101
60	-6.658	3.697	3.704	-1.359	5.054	-0.269
70	-5.933	3.282	3.222	-1.905	4.186	-0.455
80	-4.919	2.708	2.612	-2.102	3.121	-0.673
90	-3.738	2.047	1.942	-1.942	2.047	-0.949
100	-2.536	1.380	1.287	-1.507	1.135	-1.327
110	-1.454	0.785	0.719	-0.944	0.492	-1.919
120	-0.623	0.333	0.298	-0.425	0.139	-3.049
130	-0.134	0.070	0.061	-0.092	0.014	-6.590
140	0.	-0.	0.	-0.	-0.	
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0.	-0.	
230	0.006	-0.008	0.007	0.011	0.002	6.871
240	0.033	-0.043	0.040	0.056	0.018	3.162
250	0.080	-0.109	0.104	0.135	0.066	2.031
260	0.147	-0.199	0.197	0.229	0.162	1.415
270	0.225	-0.305	0.315	0.315	0.306	1.030
280	0.310	-0.415	0.449	0.370	0.486	0.761
290	0.381	-0.512	0.589	0.378	0.683	0.554
300	0.438	-0.587	0.730	0.338	0.873	0.387
310	0.456	-0.620	0.864	0.263	1.030	0.255
320	0.400	-0.582	1.015	0.206	1.152	0.179
330	0.025	-0.341	1.285	0.347	1.283	0.270
340	-0.749	0.139	1.703	0.713	1.553	0.459
350	-1.832	0.803	2.219	1.176	2.046	0.575
360	-3.086	1.569	2.773	1.569	2.773	0.566

TABLE IV.- Continued.

(c) r/d = 0.2 - Concluded.

$\delta = 70°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.866	0.593	1.683	0.593	1.683	0.352
10	-1.325	1.009	1.872	0.668	2.018	0.331
20	-1.733	1.377	2.009	0.607	2.359	0.257
30	-2.041	1.654	2.079	0.393	2.627	0.150
40	-2.213	1.806	2.072	0.051	2.748	0.019
50	-2.233	1.823	1.983	-0.347	2.671	-0.130
60	-2.112	1.721	1.803	-0.701	2.393	-0.293
70	-1.872	1.521	1.546	-0.933	1.958	-0.476
80	-1.542	1.248	1.238	-1.002	1.444	-0.694
90	-1.163	0.938	0.908	-0.908	0.938	-0.968
100	-0.782	0.627	0.594	-0.694	0.514	-1.349
110	-0.443	0.353	0.327	-0.428	0.220	-1.943
120	-0.187	0.148	0.133	-0.189	0.061	-3.086
130	-0.039	0.030	0.026	-0.040	0.006	-6.439
140	0.	-0.	0.	-0.	-0.	
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0.	-0.	
230	0.006	-0.008	0.007	0.011	0.002	6.871
240	0.031	-0.043	0.039	0.056	0.018	3.159
250	0.078	-0.107	0.101	0.132	0.066	2.005
260	0.142	-0.195	0.192	0.223	0.158	1.406
270	0.217	-0.297	0.304	0.304	0.297	1.025
280	0.295	-0.402	0.430	0.353	0.470	0.752
290	0.363	-0.496	0.559	0.355	0.657	0.540
300	0.415	-0.568	0.684	0.308	0.833	0.370
310	0.438	-0.602	0.797	0.224	0.974	0.230
320	0.415	-0.581	0.905	0.137	1.067	0.129
330	0.269	-0.444	1.053	0.142	1.135	0.125
340	-0.018	-0.181	1.248	0.257	1.234	0.208
350	-0.412	0.180	1.467	0.432	1.413	0.306
360	-0.866	0.592	1.684	0.592	1.684	0.352

$\delta = 80°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.237	0.198	1.180	0.198	1.180	0.168
10	-0.462	0.467	1.236	0.245	1.299	0.189
20	-0.662	0.704	1.262	0.230	1.427	0.162
30	-0.812	0.881	1.253	0.137	1.526	0.090
40	-0.893	0.977	1.212	-0.031	1.557	-0.020
50	-0.902	0.988	1.136	-0.236	1.467	-0.159
60	-0.851	0.931	1.017	-0.415	1.314	-0.316
70	-0.751	0.819	0.860	-0.528	1.064	-0.496
80	-0.615	0.669	0.679	-0.553	0.777	-0.712
90	-0.461	0.500	0.493	-0.493	0.500	-0.986
100	-0.308	0.332	0.319	-0.371	0.272	1.367
110	-0.173	0.186	0.173	-0.226	0.115	-1.966
120	-0.072	0.077	0.070	-0.099	0.032	-3.126
130	-0.015	0.015	0.014	-0.020	0.003	-6.650
140	0.	-0.	0.	-0.	-0.	
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	-0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0.	-0.	
230	0.006	-0.008	0.007	0.011	0.002	6.871
240	0.030	-0.042	0.039	0.055	0.017	3.150
250	0.075	-0.104	0.099	0.128	0.064	1.994
260	0.137	-0.189	0.185	0.216	0.154	1.397
270	0.208	-0.288	0.292	0.292	0.288	1.014
280	0.280	-0.389	0.411	0.337	0.454	0.742
290	0.345	-0.479	0.530	0.335	0.632	0.530
300	0.394	-0.548	0.643	0.283	0.796	0.355
310	0.418	-0.582	0.739	0.192	0.921	0.209
320	0.406	-0.569	0.821	0.092	0.995	0.092
330	0.331	-0.477	0.910	0.041	1.027	0.040
340	0.186	-0.305	1.006	0.057	1.050	0.055
350	-0.011	-0.069	1.100	0.123	1.096	0.112
360	-0.237	0.198	1.180	0.198	1.180	0.168

TABLE IV.- Continued.

(d) r/d = 0.3.

$\delta = 50°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-19.317	5.634	6.821	5.634	6.821	0.826
10	-26.856	7.936	8.742	6.297	9.988	0.631
20	-33.759	10.020	10.421	5.851	13.220	0.443
30	-39.171	11.635	11.655	4.249	15.911	0.267
40	-42.447	12.584	12.296	1.737	17.508	0.099
50	-43.196	12.763	12.259	-1.187	17.657	-0.067
60	-41.337	12.166	11.532	-3.904	16.302	-0.239
70	-37.125	10.872	10.192	-5.859	13.703	-0.428
80	-31.042	9.044	8.391	-6.693	10.364	-0.646
90	-23.850	6.904	6.344	-6.344	6.904	-0.919
100	-16.388	4.708	4.280	-5.032	3.893	-1.293
110	-9.567	2.721	2.445	-3.228	1.720	-1.877
120	-4.195	1.178	1.045	-1.494	0.497	-3.003
130	-0.934	0.255	0.222	-0.335	0.053	-6.332
140	0.	-0.	0.	-0.	-0.	
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0.	-0.	
230	0.006	-0.007	0.006	0.010	0.001	6.840
240	0.028	-0.037	0.041	0.054	0.012	4.512
250	0.054	-0.098	0.100	0.128	0.058	2.202
260	0.156	-0.187	0.191	0.221	0.151	1.466
270	0.229	-0.289	0.308	0.308	0.289	1.066
280	0.326	-0.400	0.453	0.376	0.473	0.796
290	0.393	-0.495	0.614	0.408	0.676	0.603
300	0.446	-0.572	0.776	0.386	0.883	0.438
310	0.469	-0.604	0.959	0.347	1.079	0.322
320	0.267	-0.517	1.212	0.383	1.261	0.304
330	-1.600	0.109	1.911	1.050	1.601	0.656
340	-5.869	1.468	3.189	2.470	2.495	0.990
350	-12.021	3.383	4.898	4.182	4.236	0.987
360	-19.313	5.627	6.829	5.627	6.829	0.824

$\delta = 60°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-3.091	1.570	2.839	1.570	2.839	0.553
10	-4.371	2.335	3.358	1.716	3.712	0.462
20	-5.523	3.017	3.777	1.544	4.581	0.337
30	-6.409	3.537	4.044	1.041	5.271	0.197
40	-6.920	3.829	4.130	0.279	5.625	0.050
50	-6.998	3.866	4.016	-0.591	5.544	-0.107
60	-6.651	3.663	3.699	-1.372	5.022	-0.273
70	-5.925	3.249	3.208	-1.903	4.151	-0.459
80	-4.911	2.680	2.594	-2.089	3.090	-0.676
90	-3.729	2.024	1.925	-1.925	2.024	-0.951
100	-2.529	1.363	1.273	-1.491	1.122	-1.329
110	-1.451	0.775	0.711	-0.933	0.485	-1.922
120	-0.622	0.328	0.295	-0.419	0.137	-3.070
130	-0.132	0.069	0.060	-0.091	0.014	-6.588
140	0.	-0.	0.	-0.	-0.	
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0.	-0.	
230	0.006	-0.007	0.006	0.010	0.001	6.840
240	0.031	-0.039	0.036	0.050	0.016	3.180
250	0.076	-0.098	0.095	0.123	0.060	2.061
260	0.142	-0.182	0.183	0.212	0.147	1.439
270	0.218	-0.282	0.297	0.297	0.283	1.051
280	0.303	-0.387	0.431	0.357	0.456	0.784
290	0.373	-0.480	0.576	0.377	0.648	0.581
300	0.431	-0.553	0.725	0.351	0.841	0.417
310	0.449	-0.585	0.873	0.292	1.009	0.290
320	0.393	-0.548	1.041	0.249	1.150	0.216
330	0.020	-0.312	1.327	0.393	1.305	0.301
340	-0.754	0.162	1.760	0.754	1.598	0.472
350	-1.834	0.814	2.285	1.198	2.109	0.568
360	-3.086	1.569	2.842	1.569	2.842	0.552

TABLE IV.- Continued.

(d) r/d = 0.3 - Concluded.

δ = 70°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.867	0.594	1.751	0.594	1.751	0.339
10	-1.322	0.997	1.937	0.646	2.081	0.310
20	-1.728	1.355	2.065	0.567	2.404	0.236
30	-2.035	1.624	2.121	0.346	2.649	0.131
40	-2.206	1.772	2.098	0.009	2.746	0.003
50	-2.226	1.788	1.992	-0.376	2.650	-0.142
60	-2.105	1.687	1.798	-0.714	2.360	-0.302
70	-1.864	1.489	1.533	-0.931	1.924	-0.484
80	-1.535	1.220	1.220	-0.990	1.413	-0.700
90	-1.157	0.915	0.891	-0.891	0.915	-0.974
100	-0.777	0.610	0.580	-0.677	0.500	-1.354
110	-0.440	0.343	0.318	-0.417	0.214	-1.951
120	-0.185	0.143	0.129	-0.184	0.059	-3.096
130	-0.038	0.029	0.026	-0.039	0.006	-6.501
140	0.	-0.	0.	-0.	-0.	
150	0.	-0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0.	-0.	
230	0.006	-0.007	0.006	0.010	0.001	6.840
240	0.030	-0.039	0.035	0.050	0.016	3.176
250	0.075	-0.097	0.093	0.120	0.059	2.031
260	0.136	-0.178	0.178	0.206	0.144	1.429
270	0.210	-0.274	0.286	0.286	0.274	1.045
280	0.287	-0.374	0.412	0.341	0.440	0.775
290	0.355	-0.464	0.546	0.354	0.623	0.568
300	0.408	-0.534	0.679	0.321	0.802	0.401
310	0.431	-0.567	0.806	0.253	0.953	0.266
320	0.408	-0.547	0.931	0.180	1.065	0.169
330	0.264	-0.415	1.095	0.188	1.156	0.162
340	-0.023	-0.158	1.305	0.296	1.280	0.233
350	-0.413	0.191	1.533	0.454	1.477	0.308
360	-0.866	0.592	1.753	0.592	1.753	0.338

δ = 80°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.237	0.199	1.249	0.199	1.249	0.159
10	-0.460	0.456	1.301	0.223	1.361	0.164
20	-0.658	0.682	1.318	0.190	1.472	0.129
30	-0.806	0.852	1.296	0.090	1.548	0.058
40	-0.886	0.943	1.238	-0.074	1.555	-0.047
50	-0.895	0.953	1.145	-0.265	1.466	-0.181
60	-0.844	0.896	1.012	-0.428	1.282	-0.334
70	-0.743	0.787	0.846	-0.526	1.029	-0.511
80	-0.608	0.641	0.662	-0.541	0.746	-0.724
90	-0.454	0.477	0.476	-0.476	0.477	-0.997
100	-0.302	0.315	0.305	-0.355	0.258	-1.377
110	-0.169	0.176	0.165	-0.215	0.109	-1.975
120	-0.070	0.072	0.066	-0.093	0.030	-3.134
130	-0.014	0.014	0.013	-0.019	0.003	-6.470
140	0.	-0.	0.	-0.	-0.	
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0.	-0.	
230	0.006	-0.007	0.006	0.010	0.001	6.840
240	0.029	-0.038	0.035	0.049	0.015	3.167
250	0.072	-0.094	0.090	0.117	0.058	2.020
260	0.132	-0.172	0.171	0.199	0.140	1.420
270	0.201	-0.265	0.274	0.274	0.265	1.034
280	0.273	-0.361	0.393	0.324	0.424	0.766
290	0.338	-0.447	0.517	0.333	0.597	0.558
300	0.387	-0.514	0.638	0.295	0.764	0.387
310	0.411	-0.547	0.748	0.222	0.900	0.246
320	0.400	-0.535	0.847	0.135	0.993	0.136
330	0.325	-0.448	0.952	0.088	1.049	0.083
340	0.181	-0.282	1.063	0.098	1.095	0.090
350	-0.013	-0.058	1.166	0.145	1.159	0.125
360	-0.237	0.198	1.249	0.198	1.249	0.159

TABLE IV.- Continued.

(e) r/d = 0.4.

δ = 50°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-19.317	5.634	6.921	5.634	6.921	0.814
10	-26.857	7.919	8.838	6.264	10.079	0.622
20	-33.741	9.986	10.504	5.792	13.286	0.436
30	-39.157	11.592	11.718	4.180	15.944	0.262
40	-42.440	12.538	12.332	1.678	17.506	0.096
50	-43.178	12.714	12.272	-1.229	17.628	-0.070
60	-41.331	12.120	11.526	-3.922	16.259	-0.241
70	-37.111	10.829	10.172	-5.855	13.655	-0.429
80	-31.020	9.004	8.367	-6.677	10.321	-0.647
90	-23.632	6.871	6.317	-6.317	6.871	-0.919
100	-16.366	4.685	4.260	-5.009	3.874	-1.293
110	-9.560	2.707	2.435	-3.214	1.711	-1.878
120	-4.192	1.171	1.042	-1.488	0.493	-3.016
130	-0.934	0.255	0.222	-0.335	0.053	-6.332
140	0.	-0.	0.	-0.	-0.	
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0.	-0.	
230	0.005	-0.006	0.005	0.008	0.001	6.656
240	0.025	-0.031	0.035	0.046	0.009	4.978
250	0.047	-0.084	0.088	0.112	0.049	2.274
260	0.146	-0.164	0.17?	0.198	0.131	1.509
270	0.216	-0.257	0.284	0.284	0.257	1.106
280	0.311	-0.360	0.428	0.359	0.429	0.836
290	0.378	-0.450	0.594	0.404	0.626	0.645
300	0.432	-0.524	0.769	0.404	0.838	0.482
310	0.456	-0.555	0.972	0.388	1.050	0.370
320	0.254	-0.469	1.249	0.443	1.258	0.352
330	-1.612	0.151	1.971	1.116	1.632	0.684
340	-5.878	1.499	3.268	2.526	2.559	0.987
350	-12.026	3.400	4.991	4.215	4.325	0.975
360	-19.313	5.627	6.929	5.627	6.929	0.812

δ = 60°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-3.088	1.567	2.938	1.567	2.938	0.533
10	-4.366	2.317	3.451	1.682	3.801	0.443
20	-5.514	2.986	3.856	1.487	4.645	0.320
30	-6.396	3.494	4.105	0.974	5.302	0.184
40	-6.905	3.782	4.166	0.219	5.623	0.039
50	-6.985	3.818	4.029	-0.632	5.515	-0.115
60	-6.636	3.615	3.692	-1.390	4.977	-0.279
70	-5.910	3.205	3.189	-1.901	4.102	-0.463
80	-4.895	2.641	2.569	-2.072	3.047	-0.680
90	-3.718	1.993	1.901	-1.901	1.993	-0.954
100	-2.520	1.340	1.254	-1.468	1.102	-1.332
110	-1.444	0.761	0.698	-0.916	0.476	-1.923
120	-0.619	0.322	0.289	-0.411	0.134	-3.060
130	-0.132	0.067	0.059	-0.088	0.014	-6.481
140	0.	-0.	0.	-0.	-0.	
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0.	-0.	
230	0.005	-0.006	0.005	0.008	0.001	6.656
240	0.028	-0.033	0.030	0.042	0.013	3.233
250	0.069	-0.084	0.083	0.107	0.051	2.105
260	0.132	-0.159	0.164	0.189	0.128	1.479
270	0.205	-0.250	0.273	0.273	0.251	1.089
280	0.288	-0.347	0.406	0.340	0.412	0.824
290	0.358	-0.435	0.556	0.373	0.599	0.623
300	0.417	-0.505	0.718	0.369	0.796	0.463
310	0.436	-0.536	0.886	0.334	0.980	0.341
320	0.379	-0.500	1.078	0.309	1.147	0.270
330	0.008	-0.270	1.387	0.459	1.336	0.344
340	-0.762	0.193	1.839	0.810	1.662	0.487
350	-1.839	0.831	2.378	1.231	2.198	0.560
360	-3.086	1.569	2.942	1.569	2.942	0.533

TABLE IV.- Continued.

(e) r/d = 0.4 - Concluded.

$\delta = 70°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.867	0.594	1.848	0.594	1.848	0.321
10	-1.319	0.981	2.029	0.614	2.169	0.283
20	-1.720	1.324	2.145	0.511	2.469	0.207
30	-2.024	1.582	2.182	0.279	2.681	0.104
40	-2.192	1.724	2.135	-0.052	2.744	-0.019
50	-2.212	1.739	2.005	-0.418	2.621	-0.159
60	-2.091	1.639	1.792	-0.732	2.316	-0.316
70	-1.850	1.444	1.514	-0.929	1.875	-0.495
80	-1.520	1.180	1.195	-0.972	1.370	-0.710
90	-1.143	0.883	0.867	-0.867	0.883	-0.982
100	-0.766	0.587	0.561	-0.655	0.481	-1.361
110	-0.433	0.329	0.306	-0.400	0.205	-1.956
120	-0.182	0.137	0.124	-0.176	0.057	-3.104
130	-0.038	0.028	0.024	-0.037	0.006	-6.353
140	0.	-0.	0.	-0.	-0.	
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0.	-0.	
230	0.005	-0.006	0.005	0.008	0.001	6.656
240	0.027	-0.032	0.030	0.042	0.013	3.229
250	0.068	-0.083	0.080	0.104	0.050	2.071
260	0.126	-0.155	0.159	0.183	0.125	1.469
270	0.197	-0.242	0.262	0.262	0.242	1.084
280	0.272	-0.334	0.387	0.323	0.396	0.816
290	0.340	-0.419	0.526	0.351	0.574	0.611
300	0.393	-0.486	0.672	0.339	0.756	0.448
310	0.418	-0.518	0.819	0.295	0.923	0.319
320	0.395	-0.499	0.968	0.240	1.062	0.226
330	0.252	-0.373	1.155	0.254	1.187	0.214
340	-0.032	-0.127	1.384	0.354	1.344	0.264
350	-0.418	0.208	1.626	0.487	1.565	0.311
360	-0.866	0.592	1.853	0.592	1.853	0.320

$\delta = 80°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.237	0.199	1.345	0.199	1.345	0.148
10	-0.456	0.439	1.394	0.190	1.449	0.131
20	-0.650	0.651	1.398	0.134	1.536	0.087
30	-0.795	0.810	1.357	0.023	1.580	0.015
40	-0.873	0.896	1.275	-0.134	1.553	-0.086
50	-0.881	0.904	1.158	-0.306	1.437	-0.213
60	-0.829	0.848	1.005	-0.447	1.237	-0.361
70	-0.728	0.742	0.827	-0.523	0.980	-0.534
80	-0.593	0.601	0.637	-0.523	0.703	-0.744
90	-0.442	0.445	0.452	-0.452	0.445	-1.015
100	-0.292	0.292	0.286	-0.332	0.238	-1.392
110	-0.163	0.161	0.152	-0.198	0.100	-1.988
120	-0.067	0.066	0.060	-0.085	0.027	-3.137
130	-0.013	0.013	0.012	-0.017	0.003	-6.711
140	0.	-0.	0.	-0.	-0.	
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0.	-0.	
230	0.005	-0.006	0.005	0.008	0.001	6.656
240	0.026	-0.032	0.029	0.041	0.013	3.218
250	0.065	-0.080	0.078	0.101	0.049	2.059
260	0.121	-0.149	0.152	0.176	0.121	1.460
270	0.188	-0.233	0.250	0.250	0.233	1.072
280	0.258	-0.321	0.368	0.307	0.380	0.807
290	0.322	-0.402	0.497	0.330	0.548	0.602
300	0.372	-0.466	0.631	0.313	0.719	0.436
310	0.397	-0.498	0.761	0.263	0.871	0.302
320	0.386	-0.487	0.884	0.195	0.991	0.197
330	0.314	-0.406	1.012	0.154	1.080	0.143
340	0.173	-0.251	1.142	0.154	1.159	0.133
350	-0.018	-0.041	1.259	0.178	1.247	0.143
360	-0.237	0.198	1.349	0.198	1.349	0.147

TABLE IV.- Continued.

(f) r/d = 0.5.

δ = 50°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-19.305	5.630	7.044	5.630	7.044	0.799
10	-26.853	7.896	8.955	6.221	10.190	0.611
20	-33.719	9.947	10.604	5.720	13.366	0.428
30	-39.147	11.539	11.795	4.096	15.984	0.256
40	-42.396	12.475	12.379	1.599	17.501	0.091
50	-43.152	12.651	12.286	-1.280	17.588	-0.073
60	-41.305	12.057	11.516	-3.945	16.199	-0.244
70	-37.078	10.769	10.149	-5.854	13.591	-0.431
80	-31.002	8.955	8.334	-6.653	10.266	-0.648
90	-23.810	6.831	6.287	-6.287	6.831	-0.920
100	-16.359	4.655	4.237	-4.981	3.848	-1.294
110	-9.549	2.687	2.419	-3.192	1.698	-1.880
120	-4.207	1.164	1.032	-1.476	0.493	-2.996
130	-0.942	0.252	0.222	-0.332	0.050	-6.617
140	0.	-0.	0.	-0.	-0.	
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0	-0.	
230	0.004	-0.004	0.004	0.006	0.001	7.241
240	0.020	-0.023	0.028	0.036	0.006	6.136
250	0.037	-0.066	0.072	0.091	0.038	2.411
260	0.129	-0.134	0.147	0.169	0.106	1.586
270	0.194	-0.215	0.253	0.253	0.215	1.178
280	0.287	-0.309	0.397	0.337	0.373	0.903
290	0.353	-0.392	0.570	0.402	0.564	0.712
300	0.408	-0.462	0.761	0.428	0.780	0.549
310	0.433	-0.492	0.988	0.441	1.012	0.436
320	0.232	-0.408	1.296	0.520	1.255	0.415
330	-1.631	0.205	2.049	1.202	1.672	0.719
340	-5.892	1.539	3.369	2.598	2.640	0.984
350	-12.033	3.421	5.111	4.257	4.440	0.959
360	-19.313	5.627	7.049	5.627	7.049	0.798

δ = 60°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-3.091	1.570	3.060	1.570	3.060	0.513
10	-4.358	2.297	3.568	1.642	3.913	0.420
20	-5.502	2.947	3.958	1.416	4.728	0.299
30	-6.379	3.441	4.183	0.889	5.343	0.166
40	-6.884	3.721	4.214	0.141	5.620	0.025
50	-6.962	3.755	4.045	-0.685	5.477	-0.125
60	-6.613	3.553	3.684	-1.414	4.919	-0.287
70	-5.885	3.147	3.164	-1.897	4.039	-0.470
80	-4.872	2.589	2.538	-2.050	2.991	-0.685
90	-3.697	1.951	1.869	-1.869	1.951	-0.958
100	-2.502	1.310	1.229	-1.438	1.077	-1.335
110	-1.434	0.743	0.682	-0.895	0.465	-1.927
120	-0.612	0.314	0.282	-0.401	0.131	-3.059
130	-0.131	0.065	0.057	-0.086	0.013	-6.440
140	0.	-0.	0.	-0.	-0.	
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0.	-0.	
230	0.004	-0.004	0.004	0.006	0.001	7.241
240	0.023	-0.024	0.023	0.032	0.010	3.310
250	0.059	-0.066	0.067	0.086	0.039	2.187
260	0.115	-0.129	0.139	0.159	0.103	1.552
270	0.183	-0.208	0.242	0.242	0.209	1.160
280	0.264	0.296	0.375	0.318	0.356	0.892
290	0.333	-0.377	0.532	0.371	0.537	0.691
300	0.392	-0.443	0.710	0.393	0.739	0.532
310	0.413	-0.473	0.902	0.387	0.942	0.410
320	0.358	-0.439	1.125	0.386	1.144	0.338
330	-0.010	-0.216	1.465	0.545	1.377	0.396
340	-0.777	0.233	1.940	0.882	1.743	0.506
350	-1.846	0.852	2.498	1.273	2.313	0.550
360	-3.086	1.569	3.062	1.569	3.062	0.512

TABLE VI.- Continued.

(d) r/d = 0.3.

δ = 70°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-9.673	3.095	8.545	3.095	8.545	0.362
10	-11.272	3.664	9.403	1.976	9.896	0.200
20	-12.268	4.030	9.755	0.451	10.545	0.043
30	-12.520	4.146	9.556	-1.187	10.349	-0.115
40	-12.015	3.999	8.833	-2.615	9.337	-0.280
50	-10.803	3.606	7.675	-3.561	7.695	-0.463
60	-9.034	3.017	6.217	-3.875	5.721	-0.677
70	-6.926	2.304	4.628	-3.561	3.748	-0.950
80	-4.745	1.567	3.075	-2.757	2.077	-1.327
90	-2.757	0.900	1.726	-1.726	0.900	-1.918
100	-1.201	0.385	0.721	-0.777	0.254	-3.062
110	-0.258	0.082	0.148	-0.167	0.026	-6.372
120	0.	-0.	0.	0.	-0.	
130	0.	-0.	0.	0.	-0.	
140	0.	-0.	0.	-0.	-0.	
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0.	-0.	
230	-0.	-0.	0.	0.	-0.	
240	-0.	-0.	0.	0.	-0.	
250	0.004	-0.004	0.008	0.009	0.001	6.719
260	0.019	-0.023	0.049	0.052	0.014	3.634
270	0.056	-0.066	0.138	0.138	0.066	2.107
280	0.104	-0.121	0.282	0.257	0.168	1.533
290	0.156	-0.181	0.505	0.413	0.343	1.203
300	0.141	-0.215	0.848	0.627	0.610	1.028
310	-0.373	-0.064	1.570	1.162	1.058	1.098
320	-1.575	0.329	2.730	2.007	1.880	1.067
330	-3.343	0.920	4.182	2.888	3.161	0.914
340	-5.444	1.634	5.763	3.507	4.857	0.722
350	-7.664	2.395	7.273	3.621	6.747	0.537
360	-9.669	3.099	8.534	3.099	8.534	0.363

δ = 80°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.866	0.522	2.978	0.522	2.978	0.175
10	-1.068	0.687	3.082	0.141	3.154	0.045
20	-1.207	0.808	3.025	-0.275	3.119	-0.088
30	-1.265	0.871	2.814	-0.653	2.873	-0.227
40	-1.236	0.869	2.475	-0.925	2.455	-0.377
50	-1.125	0.802	2.047	-1.053	1.930	-0.546
60	-0.942	0.677	1.584	-1.033	1.378	-0.750
70	-0.717	0.515	1.131	-0.887	0.870	-1.019
80	-0.483	0.345	0.721	-0.650	0.465	-1.398
90	-0.273	0.194	0.387	-0.387	0.194	-1.996
100	-0.114	0.080	0.153	-0.165	0.053	-3.141
110	-0.023	0.016	0.030	-0.033	0.005	-6.541
120	0.	-0.	0.	0.	-0.	
130	0.	-0.	0.	0.	-0.	
140	0.	-0.	0.	-0.	-0.	
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0.	-0.	
230	-0.	-0.	0.	0.	-0.	
240	-0.	-0.	0.	0.	-0.	
250	0.004	-0.004	0.008	0.009	0.001	6.719
260	0.021	-0.025	0.048	0.052	0.016	3.225
270	0.051	-0.061	0.129	0.129	0.061	2.099
280	0.094	-0.113	0.259	0.235	0.156	1.508
290	0.141	-0.171	0.441	0.356	0.311	1.144
300	0.177	-0.218	0.682	0.481	0.530	0.908
310	0.148	-0.216	1.021	0.644	0.822	0.783
320	0.036	-0.148	1.449	0.818	1.205	0.679
330	-0.144	-0.024	1.912	0.935	1.667	0.561
340	-0.374	0.143	2.355	0.940	2.164	0.434
350	-0.626	0.333	2.724	0.801	2.625	0.305
360	-0.865	0.521	2.978	0.521	2.978	0.175

TABLE VI.- Continued.

(e) r/d = 0.4.

δ = 70°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-9.675	3.097	8.559	3.097	8.559	0.362
10	-11.280	3.664	9.416	1.973	9.910	0.199
20	-12.263	4.026	9.764	0.443	10.552	0.042
30	-12.518	4.139	9.564	-1.198	10.352	-0.116
40	-12.013	3.991	8.839	-2.624	9.336	-0.281
50	-10.802	3.598	7.675	-3.566	7.690	-0.464
60	-9.032	3.009	6.215	-3.877	5.713	-0.679
70	-6.927	2.298	4.623	-3.558	3.740	-0.951
80	-4.749	1.563	3.069	-2.751	2.072	-1.328
90	-2.754	0.898	1.722	-1.722	0.898	-1.918
100	-1.201	0.385	0.719	-0.775	0.254	-3.050
110	-0.258	0.082	0.148	-0.167	0.026	-6.372
120	0.	-0.	0.	0.	-0.	
130	0.	-0.	0.	0.	-0.	
140	0.	-0.	0.	-0.	-0.	
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0.	-0.	
230	-0.	-0.	0.	0.	-0.	
240	-0.	-0.	0.	0.	-0.	
250	0.004	-0.004	0.008	0.009	0.001	6.854
260	0.018	-0.022	0.047	0.050	0.014	3.673
270	0.056	-0.063	0.134	0.134	0.063	2.133
280	0.103	-0.117	0.276	0.252	0.163	1.548
290	0.155	-0.175	0.499	0.409	0.336	1.220
300	0.139	-0.207	0.845	0.628	0.601	1.044
310	-0.374	-0.055	1.572	1.169	1.052	1.111
320	-1.577	0.338	2.736	2.017	1.879	1.074
330	-3.346	0.928	4.192	2.900	3.166	0.916
340	-5.446	1.640	5.783	3.519	4.873	0.722
350	-7.664	2.398	7.293	3.628	6.766	0.536
360	-9.669	3.099	8.554	3.099	8.554	0.362

δ = 80°

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.866	0.521	2.903	0.521	2.903	0.180
10	-1.067	0.683	3.009	0.150	3.082	0.049
20	-1.204	0.801	2.958	-0.259	3.053	-0.085
30	-1.262	0.862	2.755	-0.631	2.817	-0.224
40	-1.234	0.859	2.426	-0.901	2.410	-0.374
50	-1.122	0.791	2.010	-1.031	1.898	-0.543
60	-0.940	0.668	1.557	-1.014	1.357	-0.748
70	-0.715	0.507	1.113	-0.873	0.858	-1.017
80	-0.481	0.340	0.711	-0.641	0.459	-1.398
90	-0.272	0.191	0.382	-0.382	0.191	-1.998
100	-0.114	0.079	0.151	-0.163	0.052	-3.158
110	-0.023	0.016	0.029	-0.033	0.005	-6.446
120	0.	-0.	0.	0.	-0.	
130	0.	-0.	0.	0.	-0.	
140	0.	-0.	0.	-0.	-0.	
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0.	-0.	
230	-0.	-0.	0.	0.	-0.	
240	-0.	-0.	0.	0.	-0.	
250	0.004	-0.004	0.008	0.009	0.001	6.854
260	0.020	-0.023	0.046	0.049	0.015	3.238
270	0.050	-0.059	0.125	0.125	0.059	2.128
280	0.093	-0.109	0.253	0.230	0.151	1.523
290	0.140	-0.165	0.435	0.352	0.304	1.161
300	0.175	-0.210	0.679	0.483	0.522	0.926
310	0.147	-0.207	1.023	0.651	0.816	0.797
320	0.034	-0.139	1.455	0.829	1.204	0.688
330	-0.147	-0.016	1.922	0.947	1.672	0.567
340	-0.376	0.149	2.375	0.952	2.181	0.437
350	-0.626	0.336	2.744	0.807	2.644	0.305
360	-0.865	0.521	2.998	0.521	2.998	0.174

TABLE VI.- Concluded.

(f) r/d = 0.5.

$\delta = 70°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-9.680	3.101	8.573	3.101	8.573	0.362
10	-11.278	3.662	9.432	1.969	9.925	0.198
20	-12.265	4.020	9.780	0.433	10.565	0.041
30	-12.517	4.131	9.576	-1.211	10.358	-0.117
40	-12.009	3.981	8.847	-2.637	9.336	-0.282
50	-10.796	3.586	7.678	-3.577	7.683	-0.466
60	-9.037	2.999	6.211	-3.879	5.703	-0.680
70	-6.926	2.290	4.617	-3.555	3.731	-0.953
80	-4.742	1.557	3.062	-2.745	2.065	-1.329
90	-2.758	0.894	1.716	-1.717	0.894	-1.920
100	-1.199	0.383	0.715	-0.771	0.253	-3.048
110	-0.267	0.082	0.148	-0.167	0.026	-6.372
120	0.	-0.	0.	0.	-0.	
130	0.	-0.	0.	0.	-0.	
140	0.	-0.	0.	-0.	-0.	
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0.	-0.	
230	-0.	-0.	0.	0.	-0.	
240	-0.	-0.	0.	0.	-0.	
250	0.003	-0.004	0.007	0.008	0.001	6.977
260	0.018	-0.020	0.044	0.047	0.012	3.765
270	0.054	-0.060	0.128	0.128	0.060	2.154
280	0.101	-0.111	0.269	0.246	0.156	1.578
290	0.153	-0.167	0.493	0.406	0.326	1.247
300	0.137	-0.197	0.842	0.631	0.591	1.066
310	-0.378	-0.044	1.575	1.178	1.046	1.126
320	-1.580	0.349	2.748	2.033	1.881	1.081
330	-3.348	0.938	4.212	2.919	3.178	0.918
340	-5.447	1.647	5.793	3.529	4.880	0.723
350	-7.665	2.402	7.313	3.635	6.785	0.536
360	-9.669	3.099	8.574	3.099	8.574	0.361

$\delta = 80°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.867	0.522	3.017	0.522	3.017	0.173
10	-1.067	0.680	3.120	0.128	3.191	0.040
20	-1.203	0.795	3.058	-0.298	3.145	-0.095
30	-1.261	0.854	2.839	-0.680	2.886	-0.236
40	-1.232	0.850	2.490	-0.949	2.453	-0.387
50	-1.120	0.782	2.052	-1.069	1.918	-0.558
60	-0.938	0.659	1.579	-1.037	1.360	-0.763
70	-0.713	0.501	1.119	-0.880	0.854	-1.031
80	-0.480	0.335	0.708	-0.639	0.453	-1.410
90	-0.271	0.188	0.377	-0.377	0.188	-2.007
100	-0.114	0.078	0.148	-0.160	0.051	-3.154
110	-0.023	0.015	0.028	-0.032	0.005	-6.463
120	0.	-0.	0.	0.	-0.	
130	0.	-0.	0.	0.	-0.	
140	0.	-0.	0.	-0.	-0.	
150	0.	-0.	0.	-0.	-0.	
160	0.	-0.	0.	-0.	-0.	
170	0.	-0.	0.	-0.	-0.	
180	0.	-0.	0.	0.	-0.	
190	-0.	-0.	0.	0.	-0.	
200	-0.	-0.	0.	0.	-0.	
210	-0.	-0.	0.	0.	-0.	
220	-0.	-0.	0.	0.	-0.	
230	-0.	-0.	0.	0.	-0.	
240	-0.	-0.	0.	0.	-0.	
250	0.003	-0.004	0.007	0.008	0.001	6.977
260	0.020	-0.022	0.043	0.046	0.014	3.284
270	0.049	-0.055	0.119	0.119	0.055	2.150
280	0.091	-0.103	0.246	0.224	0.144	1.554
290	0.138	-0.157	0.429	0.350	0.294	1.189
300	0.173	-0.200	0.676	0.485	0.511	0.949
310	0.143	-0.196	1.026	0.660	0.810	0.815
320	0.031	-0.128	1.467	0.845	1.206	0.700
330	-0.149	-0.006	1.942	0.966	1.684	0.574
340	-0.378	0.156	2.385	0.962	2.188	0.440
350	-0.627	0.340	2.764	0.815	2.663	0.306
360	-0.867	0.522	3.017	0.522	3.017	0.173

TABLE VII.- ELLIPTICAL-CONE CONFIGURATION LONGITUDINAL AERODYNAMICS.

(a) $\theta_{XZ} = 20°$

$\theta_{XY} = 20°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.	0.	0.234	0.	0.234	0.
10	-0.228	0.302	0.253	0.253	0.302	0.839
20	-0.428	0.568	0.310	0.427	0.485	0.881
30	-0.595	0.788	0.387	0.469	0.729	0.670
40	-0.739	0.978	0.459	0.455	0.980	0.464
50	-0.848	1.123	0.512	0.329	1.189	0.277
60	-0.910	1.206	0.539	0.136	1.314	0.104
70	-0.919	1.217	0.535	-0.087	1.327	-0.066
80	-0.873	1.156	0.502	-0.293	1.225	-0.239
90	-0.777	1.030	0.441	-0.442	1.030	-0.429
100	-0.645	0.854	0.362	-0.504	0.778	-0.648
110	-0.490	0.649	0.272	-0.477	0.517	-0.923
120	-0.333	0.441	0.182	-0.378	0.291	-1.300
130	-0.191	0.253	0.103	-0.242	0.128	-1.888
140	-0.082	0.109	0.043	-0.111	0.037	-3.016
150	-0.017	0.023	0.009	-0.025	0.004	-6.305
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

$\theta_{XY} = 30°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.	0.	0.342	0.	0.342	0.
10	-0.271	0.359	0.363	0.290	0.420	0.691
20	-0.509	0.674	0.425	0.488	0.630	0.775
30	-0.704	0.933	0.509	0.553	0.907	0.610
40	-0.869	1.151	0.587	0.505	1.189	0.424
50	-0.991	1.312	0.641	0.352	1.418	0.249
60	-1.057	1.400	0.664	0.125	1.545	0.081
70	-1.061	1.405	0.651	-0.131	1.543	-0.085
80	-1.002	1.327	0.603	-0.363	1.412	-0.257
90	-0.888	1.176	0.524	-0.524	1.176	-0.446
100	-0.731	0.969	0.425	-0.586	0.880	-0.666
110	-0.552	0.731	0.315	-0.546	0.580	-0.942
120	-0.372	0.492	0.208	-0.426	0.322	-1.322
130	-0.211	0.280	0.115	-0.268	0.140	-1.916
140	-0.089	0.118	0.047	-0.121	0.040	-3.054
150	-0.018	0.024	0.009	-0.026	0.004	-6.455
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

$\theta_{XY} = 40°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.	0.	0.440	0.	0.440	0.
10	-0.298	0.394	0.461	0.308	0.523	0.590
20	-0.559	0.741	0.523	0.517	0.745	0.694
30	-0.773	1.023	0.608	0.582	1.038	0.561
40	-0.949	1.258	0.685	0.523	1.333	0.393
50	-1.078	1.428	0.736	0.354	1.567	0.226
60	-1.145	1.517	0.752	0.107	1.690	0.063
70	-1.145	1.516	0.729	-0.167	1.674	-0.100
80	-1.077	1.426	0.669	-0.411	1.521	-0.270
90	-0.950	1.258	0.576	-0.576	1.258	-0.458
100	-0.779	1.032	0.463	-0.635	0.936	-0.678
110	-0.585	0.775	0.340	-0.585	0.612	-0.955
120	-0.392	0.519	0.222	-0.452	0.338	-1.336
130	-0.221	0.293	0.122	-0.282	0.146	-1.933
140	-0.092	0.122	0.049	-0.126	0.041	-3.074
150	-0.019	0.025	0.010	-0.027	0.004	-6.407
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

$\theta_{XY} = 50°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.	0.	0.524	0.	0.524	0.
10	-0.315	0.418	0.545	0.317	0.609	0.520
20	-0.592	0.785	0.605	0.530	0.837	0.633
30	-0.817	1.083	0.688	0.593	1.138	0.522
40	-1.002	1.327	0.761	0.527	1.436	0.367
50	-1.134	1.502	0.807	0.347	1.670	0.208
60	-1.201	1.591	0.816	0.089	1.786	0.050
70	-1.197	1.586	0.784	-0.194	1.758	-0.111
80	-1.123	1.487	0.713	-0.444	1.588	-0.280
90	-0.987	1.308	0.610	-0.611	1.308	-0.467
100	-0.807	1.070	0.487	-0.665	0.969	-0.686
110	-0.605	0.801	0.355	-0.608	0.631	-0.963
120	-0.403	0.534	0.231	-0.467	0.347	-1.345
130	-0.226	0.300	0.126	-0.289	0.149	-1.942
140	-0.094	0.125	0.050	-0.128	0.041	-3.086
150	-0.019	0.025	0.010	-0.027	0.004	-6.440
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

$\theta_{XY} = 60°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.	0.	0.592	0.	0.592	0.
10	-0.327	0.433	0.613	0.320	0.679	0.472
20	-0.614	0.814	0.671	0.535	0.909	0.589
30	-0.847	1.122	0.751	0.596	1.211	0.492
40	-1.036	1.373	0.820	0.525	1.510	0.347
50	-1.171	1.551	0.860	0.338	1.740	0.194
60	-1.238	1.639	0.862	0.073	1.851	0.040
70	-1.231	1.630	0.822	-0.215	1.813	-0.119
80	-1.152	1.526	0.744	-0.467	1.632	-0.286
90	-1.011	1.339	0.633	-0.633	1.339	-0.473
100	-0.825	1.093	0.502	-0.684	0.989	-0.692
110	-0.616	0.816	0.365	-0.622	0.642	-0.969
120	-0.410	0.543	0.236	-0.476	0.352	-1.350
130	-0.229	0.304	0.128	-0.293	0.151	-1.948
140	-0.095	0.126	0.051	-0.129	0.042	-3.094
150	-0.019	0.025	0.010	-0.027	0.004	-6.473
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

TABLE VII.- Continued.

(b) $\theta_{XZ} = 30°$.

$\theta_{XY} = 20°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.	0.	0.342	0.	0.342	0.
10	-0.185	0.208	0.350	0.144	0.381	0.379
20	-0.348	0.392	0.373	0.240	0.485	0.496
30	-0.469	0.528	0.409	0.253	0.618	0.409
40	-0.544	0.612	0.445	0.183	0.735	0.249
50	-0.585	0.659	0.463	0.069	0.802	0.086
60	-0.591	0.665	0.456	-0.063	0.804	-0.078
70	-0.560	0.630	0.425	-0.184	0.738	-0.250
80	-0.498	0.561	0.373	-0.270	0.617	-0.437
90	-0.413	0.464	0.305	-0.305	0.464	-0.656
100	-0.313	0.352	0.228	-0.286	0.307	-0.930
110	-0.212	0.239	0.153	-0.225	0.172	-1.307
120	-0.122	0.137	0.086	-0.143	0.076	-1.894
130	-0.052	0.059	0.036	-0.065	0.022	-3.017
140	-0.011	0.012	0.007	-0.014	0.002	-6.288
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0	-0.	
180	0.	0.	0.	-0.	-0.	

$\theta_{XY} = 30°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.	0.	0.500	0.	0.500	0.
10	-0.228	0.256	0.507	0.164	0.544	0.302
20	-0.428	0.482	0.529	0.272	0.662	0.411
30	-0.577	0.649	0.562	0.281	0.812	0.346
40	-0.669	0.752	0.595	0.194	0.939	0.206
50	-0.715	0.804	0.606	0.053	1.006	0.053
60	-0.717	0.806	0.587	-0.105	0.992	-0.106
70	-0.676	0.760	0.539	-0.246	0.898	-0.274
80	-0.597	0.671	0.466	-0.342	0.742	-0.461
90	-0.490	0.551	0.375	-0.375	0.551	-0.680
100	-0.369	0.415	0.277	-0.345	0.360	-0.956
110	-0.247	0.278	0.182	-0.266	0.199	-1.337
120	-0.140	0.157	0.101	-0.166	0.086	-1.933
130	-0.058	0.066	0.041	-0.074	0.024	-3.076
140	-0.012	0.013	0.008	-0.016	0.002	-6.516
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

$\theta_{XY} = 40°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	0.643	0.	0.643	0.
10	-0.256	0.289	0.649	0.172	0.689	0.249
20	-0.482	0.542	0.666	0.282	0.812	0.347
30	-0.649	0.731	0.693	0.286	0.966	0.297
40	-0.751	0.845	0.717	0.186	1.093	0.170
50	-0.800	0.900	0.717	0.030	1.151	0.026
60	-0.799	0.899	0.685	-0.144	1.121	-0.128
70	-0.749	0.843	0.621	-0.295	1.004	-0.294
80	-0.658	0.740	0.530	-0.393	0.821	-0.479
90	-0.537	0.604	0.422	-0.422	0.604	-0.698
100	-0.401	0.452	0.308	-0.381	0.391	-0.975
110	-0.267	0.300	0.200	-0.290	0.214	-1.357
120	-0.149	0.168	0.109	-0.178	0.091	-1.957
130	-0.062	0.069	0.044	-0.078	0.025	-3.107
140	-0.012	0.014	0.008	-0.016	0.002	-6.508
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

$\theta_{XY} = 50°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.	0.	0.766	0.	0.766	0.
10	-0.276	0.310	0.770	0.172	0.812	0.212
20	-0.519	0.583	0.783	0.281	0.935	0.300
30	-0.699	0.786	0.801	0.280	1.087	0.258
40	-0.807	0.908	0.816	0.171	1.209	0.142
50	-0.858	0.965	0.804	0.005	1.256	0.004
60	-0.854	0.960	0.758	-0.177	1.211	-0.146
70	-0.797	0.897	0.680	-0.332	1.076	-0.309
80	-0.698	0.785	0.575	-0.430	0.873	-0.493
90	-0.567	0.638	0.454	-0.454	0.638	-0.711
100	-0.422	0.475	0.328	-0.405	0.410	-0.988
110	-0.279	0.314	0.211	-0.305	0.223	-1.371
120	-0.155	0.174	0.114	-0.186	0.094	-1.973
130	-0.064	0.071	0.045	-0.081	0.026	-3.123
140	-0.013	0.014	0.009	-0.016	0.003	-6.460
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

$\theta_{XY} = 60°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.	0.	0.866	0.	0.866	0.
10	-0.289	0.325	0.869	0.169	0.912	0.186
20	-0.543	0.611	0.876	0.275	1.032	0.266
30	-0.732	0.824	0.887	0.270	1.180	0.228
40	-0.845	0.951	0.892	0.155	1.295	0.120
50	-0.897	1.009	0.870	-0.018	1.332	-0.013
60	-0.890	1.002	0.813	-0.203	1.274	-0.160
70	-0.830	0.933	0.723	-0.360	1.124	-0.320
80	-0.724	0.814	0.607	-0.456	0.907	-0.503
90	-0.587	0.660	0.475	-0.476	0.660	-0.720
100	-0.435	0.489	0.341	-0.421	0.422	-0.997
110	-0.286	0.322	0.218	-0.315	0.228	-1.380
120	-0.158	0.178	0.117	-0.190	0.096	-1.983
130	-0.065	0.073	0.046	-0.082	0.026	-3.127
140	-0.013	0.014	0.009	-0.017	0.003	-6.414
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

TABLE VII.- Continued.

(c) $\theta_{XZ} = 40°$

$\theta_{XY} = 20°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.	0.	0.440	0.	0.440	0.
10	-0.158	0.139	0.439	0.061	0.456	0.134
20	-0.298	0.262	0.436	0.097	0.499	0.195
30	-0.401	0.353	0.432	0.090	0.550	0.163
40	-0.456	0.401	0.426	0.033	0.585	0.057
50	-0.465	0.409	0.414	-0.054	0.580	-0.093
60	-0.442	0.389	0.383	-0.137	0.529	-0.259
70	-0.394	0.347	0.334	-0.196	0.440	-0.444
80	-0.326	0.287	0.272	-0.218	0.330	-0.661
90	-0.248	0.218	0.204	-0.204	0.218	-0.934
100	-0.168	0.148	0.136	-0.160	0.122	-1.308
110	-0.096	0.085	0.077	-0.101	0.053	-1.894
120	-0.041	0.036	0.032	-0.046	0.015	-3.005
130	-0.009	0.008	0.007	-0.010	0.002	-6.373
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

$\theta_{XY} = 30°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	0.	0.	0.643	0.	0.643	0.
10	-0.199	0.176	0.639	0.062	0.660	0.094
20	-0.375	0.330	0.628	0.096	0.703	0.136
30	-0.505	0.445	0.610	0.080	0.751	0.106
40	-0.574	0.506	0.589	0.009	0.777	0.011
50	-0.584	0.514	0.559	-0.098	0.754	-0.130
60	-0.553	0.487	0.508	-0.196	0.676	-0.291
70	-0.489	0.431	0.436	-0.262	0.554	-0.473
80	-0.402	0.354	0.349	-0.282	0.409	-0.690
90	-0.302	0.266	0.257	-0.257	0.266	-0.965
100	-0.202	0.178	0.168	-0.197	0.146	-1.345
110	-0.114	0.101	0.093	-0.122	0.063	-1.939
120	-0.048	0.042	0.038	-0.054	0.018	-3.078
130	-0.010	0.009	0.008	-0.011	0.002	-6.415
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

$\theta_{XY} = 40°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.	0.	0.826	0.	0.826	0.
10	-0.228	0.201	0.819	0.055	0.842	0.066
20	-0.428	0.377	0.798	0.081	0.879	0.093
30	-0.577	0.508	0.766	0.057	0.918	0.062
40	-0.656	0.578	0.727	-0.025	0.929	-0.027
50	-0.667	0.587	0.678	-0.142	0.885	-0.160
60	-0.629	0.553	0.606	-0.248	0.782	-0.317
70	-0.553	0.487	0.512	-0.315	0.633	-0.497
80	-0.452	0.398	0.405	-0.329	0.462	-0.713
90	-0.337	0.297	0.293	-0.293	0.297	-0.989
100	-0.224	0.197	0.189	-0.221	0.161	-1.371
110	-0.125	0.110	0.103	-0.134	0.068	-1.970
120	-0.051	0.045	0.041	-0.058	0.019	-3.118
130	-0.010	0.009	0.008	-0.012	0.002	-6.550
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

$\theta_{XY} = 50°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.	0.	0.985	0.	0.985	0.
10	-0.248	0.218	0.974	0.046	0.998	0.046
20	-0.466	0.410	0.944	0.062	1.028	0.061
30	-0.628	0.553	0.898	0.030	1.054	0.028
40	-0.714	0.628	0.842	-0.060	1.049	-0.057
50	-0.724	0.638	0.773	-0.182	0.986	-0.185
60	-0.681	0.600	0.682	-0.291	0.860	-0.338
70	-0.597	0.526	0.570	-0.356	0.689	-0.516
80	-0.485	0.427	0.445	-0.364	0.498	-0.731
90	-0.360	0.317	0.319	-0.319	0.317	-1.006
100	-0.237	0.209	0.204	-0.237	0.170	-1.390
110	-0.131	0.116	0.109	-0.142	0.071	-1.990
120	-0.053	0.047	0.043	-0.061	0.019	-3.151
130	-0.011	0.009	0.008	-0.012	0.002	-6.615
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

$\theta_{XY} = 60°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.	0.	1.113	0.	1.113	0.
10	-0.262	0.230	1.100	0.036	1.123	0.032
20	-0.492	0.433	1.062	0.044	1.146	0.038
30	-0.663	0.583	1.003	0.004	1.161	0.003
40	-0.754	0.663	0.932	-0.091	1.140	-0.080
50	-0.764	0.673	0.847	-0.216	1.060	-0.204
60	-0.717	0.632	0.739	-0.325	0.917	-0.354
70	-0.627	0.552	0.612	-0.386	0.728	-0.531
80	-0.508	0.447	0.474	-0.389	0.523	-0.744
90	-0.375	0.330	0.337	-0.337	0.330	-1.019
100	-0.246	0.217	0.213	-0.247	0.176	-1.402
110	-0.135	0.119	0.113	-0.147	0.073	-2.005
120	-0.055	0.048	0.044	-0.062	0.020	-3.163
130	-0.011	0.009	0.008	-0.012	0.002	-6.647
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

TABLE VII.- Continued.

(d) $\theta_{XZ} = 50°$

$\theta_{XY} = 20°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.	0.	0.524	0.	0.524	0.
10	-0.141	0.087	0.516	-0.004	0.523	-0.007
20	-0.264	0.164	0.492	-0.014	0.519	-0.028
30	-0.356	0.221	0.457	-0.037	0.506	-0.073
40	-0.405	0.251	0.413	-0.073	0.478	-0.153
50	-0.405	0.251	0.366	-0.119	0.428	-0.278
60	-0.365	0.226	0.316	-0.160	0.354	-0.454
70	-0.304	0.188	0.256	-0.176	0.264	-0.666
80	-0.231	0.143	0.191	-0.163	0.174	-0.936
90	-0.157	0.097	0.127	-0.128	0.097	-1.309
100	-0.090	0.056	0.072	-0.081	0.043	-1.893
110	-0.039	0.024	0.031	-0.037	0.012	-3.017
120	-0.008	0.005	0.006	-0.008	0.001	-6.179
130	0.	0.	0.	-0.	-0.	
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

$\theta_{XY} = 30°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.	0.	0.766	0.	0.766	0.
10	-0.180	0.112	0.753	-0.021	0.761	-0.027
20	-0.338	0.210	0.715	-0.047	0.743	-0.064
30	-0.456	0.283	0.656	-0.083	0.709	-0.117
40	-0.519	0.321	0.584	-0.129	0.654	-0.198
50	-0.519	0.321	0.508	-0.183	0.573	-0.319
60	-0.466	0.289	0.429	-0.227	0.464	-0.489
70	-0.385	0.239	0.341	-0.239	0.341	-0.701
80	-0.291	0.180	0.249	-0.214	0.221	-0.972
90	-0.195	0.121	0.163	-0.163	0.121	-1.349
100	-0.110	0.068	0.090	-0.101	0.052	-1.942
110	-0.046	0.029	0.037	-0.045	0.014	-3.083
120	-0.010	0.006	0.007	-0.009	0.001	-6.289
130	0.	0.	0.	-0.	-0.	
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

$\theta_{XY} = 40°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.	0.	0.985	0.	0.985	0.
10	-0.208	0.129	0.966	-0.041	0.974	-0.042
20	-0.391	0.242	0.914	-0.085	0.941	-0.090
30	-0.527	0.326	0.833	-0.134	0.885	-0.151
40	-0.599	0.371	0.734	-0.187	0.801	-0.234
50	-0.599	0.371	0.628	-0.242	0.688	-0.352
60	-0.537	0.333	0.521	-0.285	0.549	-0.519
70	-0.442	0.274	0.407	-0.289	0.397	-0.729
80	-0.331	0.205	0.293	-0.253	0.253	-1.001
90	-0.220	0.137	0.188	-0.189	0.137	-1.380
100	-0.123	0.076	0.102	-0.114	0.058	-1.977
110	-0.051	0.032	0.041	-0.049	0.016	-3.122
120	-0.010	0.006	0.008	-0.010	0.002	-6.635
130	0.	0.	0.	-0.	-0.	
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

$\theta_{XY} = 50°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.	0.	1.174	0.	1.174	0.
10	-0.228	0.141	1.151	-0.061	1.158	-0.052
20	-0.428	0.266	1.085	-0.121	1.110	-0.109
30	-0.577	0.358	0.983	-0.182	1.031	-0.176
40	-0.656	0.407	0.859	-0.241	0.920	-0.262
50	-0.656	0.407	0.727	-0.296	0.779	-0.379
60	-0.588	0.364	0.595	-0.333	0.613	-0.543
70	-0.482	0.299	0.459	-0.329	0.438	-0.752
80	-0.359	0.223	0.326	-0.282	0.276	-1.023
90	-0.237	0.147	0.207	-0.207	0.147	-1.404
100	-0.131	0.081	0.110	-0.122	0.061	-2.003
110	-0.054	0.033	0.043	-0.052	0.016	-3.163
120	-0.011	0.007	0.008	-0.010	0.002	-6.437
130	0.	0.	0.	-0.	-0.	
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

$\theta_{XY} = 60°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.	0.	1.327	0.	1.327	0.
10	-0.242	0.150	1.300	-0.078	1.306	-0.060
20	-0.455	0.282	1.223	-0.153	1.246	-0.123
30	-0.613	0.380	1.105	-0.224	1.147	-0.195
40	-0.697	0.432	0.960	-0.286	1.013	-0.283
50	-0.697	0.432	0.805	-0.339	0.849	-0.400
60	-0.623	0.386	0.652	-0.372	0.661	-0.562
70	-0.510	0.316	0.498	-0.360	0.467	-0.770
80	-0.379	0.235	0.350	-0.304	0.292	-1.040
90	-0.249	0.154	0.219	-0.219	0.154	-1.422
100	-0.137	0.085	0.115	-0.128	0.063	-2.022
110	-0.055	0.034	0.045	-0.054	0.017	-3.172
120	-0.011	0.007	0.008	-0.011	0.002	-6.378
130	0.	0.	0.	-0.	-0.	
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

TABLE VII.- Concluded.

(e) $\theta_{XZ} = 60°$.

$\theta_{XY} = 20°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.	0.	0.592	0.	0.592	0.
10	-0.129	0.048	0.579	-0.053	0.578	-0.091
20	-0.243	0.091	0.540	-0.099	0.538	-0.184
30	-0.327	0.123	0.480	-0.134	0.477	-0.280
40	-0.372	0.139	0.406	-0.154	0.401	-0.385
50	-0.372	0.139	0.328	-0.162	0.317	-0.509
60	-0.327	0.123	0.254	-0.159	0.233	-0.681
70	-0.252	0.095	0.188	-0.144	0.153	-0.941
80	-0.173	0.065	0.125	-0.112	0.086	-1.308
90	-0.100	0.037	0.071	-0.071	0.037	-1.888
100	-0.044	0.016	0.030	-0.032	0.011	-3.000
110	-0.010	0.004	0.006	-0.007	0.001	-6.328
120	0.	0.	0.	-0.	-0.	
130	0.	0.	0.	-0.	-0.	
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

$\theta_{XY} = 30°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.	0.	0.866	0.	0.866	0.
10	-0.167	0.063	0.845	-0.085	0.843	-0.101
20	-0.314	0.118	0.786	-0.158	0.779	-0.203
30	-0.423	0.158	0.695	-0.210	0.681	-0.309
40	-0.481	0.180	0.584	-0.237	0.563	-0.421
50	-0.481	0.180	0.465	-0.241	0.437	-0.550
60	-0.423	0.158	0.354	-0.227	0.314	-0.723
70	-0.325	0.122	0.255	-0.198	0.202	-0.982
80	-0.220	0.083	0.166	-0.149	0.110	-1.354
90	-0.126	0.047	0.091	-0.092	0.047	-1.939
100	-0.053	0.020	0.038	-0.041	0.013	-3.076
110	-0.011	0.004	0.008	-0.009	0.001	-6.367
120	0.	0.	0.	-0.	-0.	
130	0.	0.	0.	-0.	-0.	
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

$\theta_{XY} = 40°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.	0.	1.113	0.	1.113	0.
10	-0.194	0.073	1.086	-0.117	1.082	-0.108
20	-0.365	0.137	1.008	-0.216	0.994	-0.217
30	-0.492	0.184	0.888	-0.284	0.862	-0.330
40	-0.559	0.210	0.741	-0.316	0.703	-0.449
50	-0.559	0.210	0.585	-0.313	0.537	-0.584
60	-0.492	0.184	0.438	-0.287	0.379	-0.758
70	-0.377	0.141	0.310	-0.243	0.239	-1.016
80	-0.254	0.095	0.198	-0.178	0.128	-1.390
90	-0.143	0.054	0.106	-0.107	0.054	-1.983
100	-0.060	0.022	0.043	-0.046	0.015	-3.127
110	-0.012	0.005	0.008	-0.009	0.001	-6.317
120	0.	0.	0.	-0.	-0.	
130	0.	0.	0.	-0.	-0.	
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

$\theta_{XY} = 50°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.	0.	1.327	0.	1.327	0.
10	-0.214	0.080	1.294	-0.146	1.288	-0.113
20	-0.402	0.151	1.199	-0.268	1.178	-0.228
30	-0.542	0.203	1.054	-0.351	1.014	-0.346
40	-0.616	0.231	0.876	-0.386	0.819	-0.471
50	-0.616	0.231	0.686	-0.377	0.618	-0.610
60	-0.542	0.203	0.508	-0.338	0.430	-0.787
70	-0.415	0.156	0.354	-0.279	0.267	-1.045
80	-0.278	0.104	0.222	-0.200	0.141	-1.419
90	-0.155	0.058	0.117	-0.117	0.058	-2.015
100	-0.064	0.024	0.046	-0.049	0.016	-3.170
110	-0.013	0.005	0.009	-0.010	0.002	-6.396
120	0.	0.	0.	-0.	-0.	
130	0.	0.	0.	-0.	-0.	
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

$\theta_{XY} = 60°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.	0.	1.500	0.	1.500	0.
10	-0.228	0.085	1.462	-0.170	1.455	-0.117
20	-0.428	0.161	1.354	-0.312	1.327	-0.235
30	-0.577	0.216	1.187	-0.406	1.137	-0.357
40	-0.656	0.246	0.983	-0.444	0.912	-0.487
50	-0.656	0.246	0.766	-0.429	0.681	-0.630
60	-0.577	0.216	0.562	-0.379	0.469	-0.808
70	-0.441	0.166	0.387	-0.307	0.288	-1.067
80	-0.294	0.110	0.240	-0.217	0.150	-1.442
90	-0.163	0.061	0.125	-0.125	0.061	-2.039
100	-0.066	0.025	0.048	-0.052	0.016	-3.197
110	-0.013	0.005	0.009	-0.010	0.002	-6.433
120	0.	0.	0.	-0.	-0.	
130	0.	0.	0.	-0.	-0.	
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	

TABLE VIII.- RAKED-OFF ELLIPTICAL-CONE CONFIGURATION LONGITUDINAL AERODYNAMICS.

(a) $\theta_{XZ} = 20^{\circ}$.

$\delta = 30^{\circ}$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.188	0.251	0.190	0.251	0.190	1.318
10	-0.380	0.526	0.291	0.467	0.378	1.236
20	-0.606	0.839	0.411	0.648	0.673	0.963
30	-0.840	1.155	0.534	0.734	1.040	0.706
40	-1.052	1.441	0.643	0.690	1.419	0.486
50	-1.220	1.662	0.725	0.512	1.739	0.295
60	-1.321	1.792	0.770	0.229	1.937	0.118
70	-1.345	1.817	0.771	-0.103	1.971	-0.052
80	-1.288	1.732	0.727	-0.416	1.833	-0.227
90	-1.157	1.550	0.645	-0.645	1.550	-0.416
100	-0.968	1.291	0.533	-0.749	1.179	-0.635
110	-0.744	0.987	0.404	-0.717	0.790	-0.908
120	-0.512	0.675	0.273	-0.574	0.448	-1.282
130	-0.299	0.391	0.157	-0.372	0.199	-1.866
140	-0.132	0.170	0.067	-0.174	0.058	-2.985
150	-0.029	0.037	0.014	-0.039	0.006	-6.311
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	
190	0.	0.	0.	-0.	-0.	
200	0.	0.	0.	-0.	-0.	
210	0.000	-0.002	0.001	0.002	0.000	7.347
220	0.002	-0.011	0.004	0.011	0.004	3.108
230	0.005	-0.026	0.011	0.025	0.013	1.941
240	0.009	-0.046	0.020	0.040	0.030	1.342
250	0.013	-0.069	0.031	0.053	0.055	0.966
260	0.018	-0.093	0.043	0.058	0.084	0.695
270	0.022	-0.114	0.055	0.055	0.114	0.484
280	0.026	-0.131	0.066	0.043	0.140	0.305
290	0.028	-0.140	0.076	0.023	0.158	0.147
300	0.028	-0.142	0.082	0.000	0.164	0.003
310	0.027	-0.135	0.086	-0.021	0.159	-0.131
320	0.024	-0.119	0.087	-0.036	0.144	-0.248
330	0.019	-0.096	0.086	-0.040	0.123	-0.327
340	0.009	-0.061	0.089	-0.027	0.104	-0.258
350	-0.053	0.047	0.120	0.067	0.110	0.609
360	-0.188	0.251	0.190	0.251	0.190	1.318

$\delta = 40^{\circ}$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.212	0.214	0.219	0.214	0.219	0.977
10	-0.450	0.507	0.309	0.445	0.393	1.135
20	-0.719	0.823	0.421	0.630	0.678	0.929
30	-0.989	1.131	0.540	0.710	1.034	0.687
40	-1.232	1.405	0.646	0.661	1.398	0.472
50	-1.420	1.613	0.726	0.481	1.702	0.283
60	-1.530	1.733	0.767	0.203	1.885	0.108
70	-1.550	1.751	0.764	-0.119	1.907	-0.063
80	-1.477	1.664	0.718	-0.418	1.764	-0.237
90	-1.320	1.484	0.633	-0.633	1.484	-0.427
100	-1.099	1.231	0.520	-0.726	1.122	-0.647
110	-0.839	0.937	0.391	-0.688	0.747	-0.921
120	-0.573	0.636	0.262	-0.545	0.420	-1.298
130	-0.331	0.366	0.148	-0.349	0.185	-1.885
140	-0.144	0.157	0.062	-0.161	0.053	-3.007
150	-0.031	0.034	0.013	-0.036	0.006	-6.341
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	
190	0.	0.	0.	-0.	-0.	
200	0.	0.	0.	-0.	-0.	
210	0.002	-0.006	0.002	0.006	0.001	6.650
220	0.010	-0.027	0.011	0.028	0.009	3.068
230	0.025	-0.065	0.027	0.063	0.033	1.934
240	0.045	-0.116	0.050	0.102	0.076	1.344
250	0.067	-0.175	0.078	0.133	0.138	0.966
260	0.091	-0.234	0.107	0.146	0.212	0.691
270	0.112	-0.287	0.135	0.135	0.287	0.472
280	0.128	-0.327	0.159	0.100	0.350	0.286
290	0.138	-0.349	0.176	0.046	0.388	0.118
300	0.139	-0.351	0.184	-0.017	0.396	-0.042
310	0.133	-0.332	0.182	-0.074	0.372	-0.198
320	0.118	-0.294	0.173	-0.114	0.322	-0.355
330	0.096	-0.240	0.158	-0.128	0.257	-0.500
340	0.062	-0.165	0.146	-0.105	0.194	-0.543
350	-0.034	-0.019	0.163	0.010	0.164	0.058
360	-0.212	0.214	0.219	0.214	0.219	0.977

TABLE VIII.- Continued.

(a) $\theta_{XZ} = 20^\circ$ - Continued.

$\delta = 50^\circ$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.203	0.171	0.230	0.171	0.230	0.744
10	-0.475	0.473	0.306	0.412	0.383	1.077
20	-0.771	0.785	0.408	0.598	0.652	0.918
30	-1.060	1.080	0.520	0.675	0.990	0.682
40	-1.318	1.340	0.621	0.627	1.337	0.469
50	-1.516	1.538	0.696	0.455	1.625	0.280
60	-1.631	1.651	0.734	0.190	1.797	0.105
70	-1.650	1.667	0.731	-0.117	1.817	-0.064
80	-1.570	1.584	0.686	-0.401	1.679	-0.239
90	-1.401	1.411	0.604	-0.604	1.411	-0.428
100	-1.165	1.170	0.495	-0.691	1.067	-0.648
110	-0.888	0.890	0.372	-0.654	0.709	-0.922
120	-0.605	0.605	0.249	-0.518	0.399	-1.298
130	-0.349	0.347	0.141	-0.331	0.176	-1.884
140	-0.151	0.149	0.059	-0.153	0.051	-3.007
150	-0.033	0.032	0.012	-0.034	0.005	-6.289
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	
190	0.	0.	0.	-0.	-0.	
200	0.	0.	0.	-0.	-0.	
210	0.005	-0.009	0.004	0.010	0.002	6.282
220	0.025	-0.045	0.018	0.046	0.015	3.046
230	0.060	-0.107	0.045	0.103	0.054	1.924
240	0.107	-0.190	0.081	0.165	0.124	1.332
250	0.160	-0.284	0.124	0.214	0.224	0.952
260	0.213	-0.377	0.168	0.231	0.343	0.675
270	0.261	-0.460	0.209	0.209	0.460	0.455
280	0.296	-0.521	0.242	0.148	0.555	0.267
290	0.315	-0.553	0.263	0.058	0.610	0.096
300	0.316	-0.553	0.270	-0.042	0.614	-0.069
310	0.298	-0.520	0.263	-0.132	0.567	-0.233
320	0.263	-0.457	0.243	-0.194	0.480	-0.404
330	0.213	-0.371	0.215	-0.213	0.372	-0.574
340	0.146	-0.261	0.188	-0.181	0.266	-0.680
350	0.013	-0.084	0.189	-0.050	0.200	-0.248
360	-0.203	0.171	0.230	0.171	0.230	0.744

$\delta = 60^\circ$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.170	0.127	0.233	0.127	0.233	0.544
10	-0.468	0.433	0.295	0.376	0.365	1.028
20	-0.777	0.738	0.386	0.562	0.615	0.913
30	-1.069	1.018	0.490	0.636	0.934	0.681
40	-1.329	1.263	0.585	0.591	1.260	0.469
50	-1.527	1.450	0.656	0.430	1.532	0.280
60	-1.643	1.557	0.692	0.179	1.695	0.106
70	-1.661	1.573	0.689	-0.109	1.713	-0.064
80	-1.580	1.494	0.646	-0.377	1.584	-0.238
90	-1.410	1.332	0.569	-0.569	1.332	-0.427
100	-1.171	1.105	0.467	-0.651	1.007	-0.647
110	-0.893	0.841	0.351	-0.617	0.670	-0.921
120	-0.608	0.571	0.235	-0.489	0.377	-1.297
130	-0.351	0.329	0.133	-0.313	0.166	-1.883
140	-0.152	0.141	0.056	-0.144	0.048	-3.011
150	-0.033	0.030	0.012	-0.032	0.005	-6.350
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	
190	0.	0.		-0.	-0.	
200	0.	0.		-0.	-0.	
210	0.009	-0.013	0.005	0.014	0.002	6.513
220	0.045	-0.063	0.025	0.064	0.021	3.039
230	0.106	-0.148	0.061	0.142	0.074	1.912
240	0.187	-0.261	0.110	0.225	0.171	1.319
250	0.279	-0.387	0.166	0.289	0.307	0.940
260	0.370	-0.512	0.224	0.309	0.466	0.664
270	0.449	-0.621	0.276	0.276	0.621	0.444
280	0.508	-0.701	0.317	0.190	0.745	0.255
290	0.538	-0.742	0.341	0.067	0.814	0.082
300	0.537	-0.739	0.347	-0.068	0.813	-0.084
310	0.503	-0.692	0.334	-0.188	0.745	-0.253
320	0.442	-0.606	0.305	-0.268	0.623	-0.430
330	0.357	-0.490	0.264	-0.292	0.474	-0.616
340	0.251	-0.348	0.223	-0.251	0.329	-0.763
350	0.079	-0.145	0.208	-0.106	0.230	-0.463
360	-0.170	0.127	0.233	0.127	0.233	0.544

TABLE VIII.- Continued.

(a) $\theta_{XZ} = 20^{\circ}$ - Concluded.

$\delta = 70^{\circ}$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.122	0.083	0.234	0.083	0.234	0.357
10	-0.434	0.392	0.281	0.337	0.345	0.976
20	-0.743	0.686	0.361	0.521	0.574	0.907
30	-1.026	0.948	0.458	0.592	0.870	0.680
40	-1.275	1.177	0.546	0.551	1.175	0.469
50	-1.465	1.351	0.611	0.401	1.428	0.281
60	-1.575	1.452	0.644	0.168	1.580	0.106
70	-1.592	1.466	0.641	-0.101	1.597	-0.063
80	-1.514	1.394	0.602	-0.351	1.477	-0.238
90	-1.351	1.242	0.530	-0.530	1.242	-0.427
100	-1.122	1.031	0.435	-0.607	0.940	-0.646
110	-0.855	0.785	0.327	-0.576	0.626	-0.920
120	-0.582	0.533	0.219	-0.457	0.352	-1.296
130	-0.335	0.307	0.124	-0.292	0.155	-1.883
140	-0.145	0.132	0.052	-0.135	0.045	-3.010
150	-0.031	0.028	0.011	-0.030	0.005	-6.360
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	
190	0.	0.	0.	-0.	-0.	
200	0.	0.	0.	-0.	-0.	
210	0.014	-0.017	0.006	0.018	0.003	6.291
220	0.067	-0.079	0.032	0.081	0.027	3.035
230	0.159	-0.186	0.076	0.178	0.094	1.902
240	0.278	-0.326	0.136	0.281	0.214	1.310
250	0.412	-0.482	0.205	0.357	0.383	0.932
260	0.544	-0.636	0.274	0.380	0.579	0.657
270	0.659	-0.770	0.336	0.336	0.770	0.437
280	0.742	-0.866	0.384	0.228	0.920	0.247
290	0.784	-0.915	0.412	0.074	1.000	0.074
300	0.780	-0.908	0.417	-0.093	0.995	-0.094
310	0.729	-0.848	0.399	-0.240	0.906	-0.265
320	0.637	-0.741	0.361	-0.336	0.753	-0.446
330	0.514	-0.598	0.309	-0.364	0.566	-0.642
340	0.366	-0.428	0.254	-0.315	0.385	-0.818
350	0.156	-0.201	0.224	-0.159	0.256	-0.622
360	-0.122	0.083	0.234	0.083	0.234	0.357

$\delta = 80^{\circ}$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.063	0.041	0.234	0.041	0.234	0.177
10	-0.381	0.348	0.268	0.296	0.324	0.914
20	-0.678	0.629	0.336	0.476	0.531	0.897
30	-0.939	0.871	0.423	0.543	0.802	0.677
40	-1.166	1.082	0.504	0.505	1.081	0.467
50	-1.340	1.243	0.563	0.367	1.314	0.280
60	-1.439	1.335	0.593	0.153	1.453	0.106
70	-1.454	1.348	0.590	-0.094	1.469	-0.064
80	-1.382	1.281	0.554	-0.323	1.358	-0.238
90	-1.233	1.142	0.488	-0.488	1.142	-0.427
100	-1.023	0.947	0.400	-0.558	0.863	-0.647
110	-0.779	0.721	0.301	-0.529	0.575	-0.921
120	-0.530	0.490	0.202	-0.420	0.323	-1.297
130	-0.305	0.282	0.114	-0.269	0.143	-1.884
140	-0.131	0.121	0.048	-0.124	0.041	-3.011
150	-0.028	0.026	0.010	-0.027	0.004	-6.394
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	
190	0.	0.	0.	-0.	-0.	
200	0.	0.	0.	-0.	-0.	
210	0.019	-0.020	0.008	0.021	0.003	6.286
220	0.091	-0.095	0.038	0.097	0.032	3.021
230	0.212	-0.221	0.090	0.211	0.112	1.893
240	0.371	-0.386	0.160	0.332	0.254	1.304
250	0.547	-0.570	0.240	0.420	0.454	0.926
260	0.721	-0.750	0.320	0.445	0.683	0.652
270	0.871	-0.906	0.391	0.391	0.906	0.432
280	0.979	-1.018	0.445	0.262	1.080	0.242
290	1.032	-1.073	0.476	0.081	1.171	0.069
300	1.024	-1.064	0.480	-0.116	1.161	-0.100
310	0.955	-0.992	0.457	-0.287	1.054	-0.272
320	0.833	-0.865	0.411	-0.398	0.871	-0.457
330	0.672	-0.697	0.349	-0.429	0.651	-0.659
340	0.482	-0.501	0.283	-0.374	0.437	-0.856
350	0.236	-0.253	0.239	-0.208	0.280	-0.744
360	-0.063	0.041	0.234	0.041	0.234	0.177

TABLE VIII.- Continued.

(b) $\theta_{XZ} = 30^\circ$

$\delta = 40^\circ$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.319	0.443	0.423	0.443	0.423	1.047
10	-0.509	0.718	0.585	0.606	0.701	0.865
20	-0.705	0.996	0.746	0.681	1.042	0.653
30	-0.883	1.245	0.889	0.633	1.392	0.455
40	-1.022	1.434	0.994	0.459	1.683	0.273
50	-1.106	1.544	1.048	0.190	1.856	0.102
60	-1.125	1.562	1.043	-0.122	1.874	-0.065
70	-1.076	1.487	0.979	-0.411	1.732	-0.238
80	-0.965	1.328	0.864	-0.620	1.458	-0.426
90	-0.807	1.103	0.711	-0.711	1.103	-0.644
100	-0.619	0.842	0.537	-0.675	0.736	-0.917
110	-0.425	0.573	0.362	-0.536	0.415	-1.293
120	-0.248	0.331	0.207	-0.345	0.183	-1.879
130	-0.109	0.143	0.088	-0.159	0.053	-3.007
140	-0.024	0.031	0.018	-0.035	0.006	-6.269
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	
190	0.	0.	0.	-0.	-0.	
200	0.	0.	0.	-0.	-0.	
210	0.	0.	0.	-0.	-0.	
220	0.000	-0.001	0.001	0.001	0.000	5.824
230	0.001	-0.006	0.004	0.007	0.002	3.109
240	0.002	-0.015	0.010	0.016	0.008	1.961
250	0.004	-0.027	0.018	0.026	0.019	1.371
260	0.006	-0.041	0.028	0.035	0.036	0.991
270	0.009	-0.055	0.040	0.040	0.055	0.724
280	0.011	-0.068	0.053	0.040	0.077	0.522
290	0.012	-0.079	0.066	0.035	0.096	0.361
300	0.013	-0.084	0.079	0.026	0.112	0.230
310	0.013	-0.084	0.091	0.016	0.123	0.127
320	0.012	-0.077	0.104	0.008	0.129	0.060
330	0.005	-0.056	0.121	0.012	0.133	0.093
340	-0.046	0.031	0.177	0.090	0.156	0.577
350	-0.158	0.204	0.282	0.250	0.242	1.035
360	-0.319	0.443	0.423	0.443	0.423	1.047

$\delta = 50^\circ$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.317	0.361	0.476	0.361	0.476	0.758
10	-0.517	0.632	0.608	0.517	0.709	0.729
20	-0.718	0.899	0.741	0.591	1.003	0.589
30	-0.897	1.128	0.858	0.548	1.307	0.419
40	-1.032	1.297	0.944	0.387	1.557	0.249
50	-1.110	1.391	0.983	0.141	1.698	0.083
60	-1.122	1.400	0.970	-0.140	1.698	-0.082
70	-1.066	1.326	0.904	-0.396	1.555	-0.254
80	-0.950	1.177	0.791	-0.575	1.297	-0.443
90	-0.788	0.973	0.645	-0.645	0.973	-0.663
100	-0.599	0.736	0.482	-0.603	0.641	-0.939
110	-0.407	0.497	0.321	-0.471	0.357	-1.319
120	-0.234	0.283	0.179	-0.297	0.156	-1.910
130	-0.100	0.120	0.074	-0.134	0.044	-3.038
140	-0.022	0.025	0.015	-0.029	0.005	-6.359
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	
190	0.	0.	0.	-0.	-0.	
200	0.	0.	0.	-0.	-0.	
210	0.	0.	0.	-0.	-0.	
220	0.001	-0.003	0.002	0.004	0.001	6.473
230	0.005	-0.016	0.010	0.018	0.006	3.114
240	0.012	-0.039	0.026	0.042	0.021	1.969
250	0.022	-0.071	0.048	0.069	0.050	1.374
260	0.033	-0.108	0.076	0.093	0.093	1.001
270	0.046	-0.146	0.107	0.107	0.146	0.730
280	0.057	-0.181	0.138	0.105	0.202	0.517
290	0.066	-0.208	0.167	0.086	0.253	0.339
300	0.072	-0.224	0.191	0.053	0.290	0.184
310	0.073	-0.226	0.208	0.014	0.307	0.045
320	0.068	-0.212	0.219	-0.022	0.305	-0.071
330	0.051	-0.174	0.233	-0.034	0.288	-0.118
340	-0.015	-0.068	0.277	0.031	0.283	0.109
350	-0.142	0.118	0.361	0.179	0.335	0.533
360	-0.317	0.361	0.476	0.361	0.477	0.758

TABLE VIII.- Continued.

(b) $\theta_{XZ} = 30°$ - Continued.

$\delta = 60°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.269	0.270	0.494	0.270	0.494	0.546
10	-0.473	0.537	0.594	0.426	0.678	0.628
20	-0.672	0.792	0.697	0.506	0.926	0.546
30	-0.844	1.005	0.792	0.475	1.188	0.399
40	-0.970	1.156	0.862	0.331	1.404	0.236
50	-1.040	1.237	0.893	0.111	1.522	0.073
60	-1.048	1.243	0.876	-0.137	1.515	-0.091
70	-0.992	1.175	0.813	-0.362	1.382	-0.262
80	-0.882	1.041	0.708	-0.517	1.148	-0.450
90	-0.729	0.858	0.575	-0.575	0.858	-0.670
100	-0.552	0.648	0.427	-0.533	0.564	-0.946
110	-0.373	0.436	0.283	-0.415	0.313	-1.325
120	-0.213	0.248	0.157	-0.260	0.136	-1.916
130	-0.091	0.105	0.065	-0.117	0.039	-3.046
140	-0.019	0.022	0.013	-0.025	0.004	-6.426
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	
190	0.	0.	0.	-0.	-0.	
200	0.	0.	0.	-0.	-0.	
210	0.	0.	0.	-0.	-0.	
220	0.002	-0.006	0.003	0.006	0.001	6.507
230	0.012	-0.028	0.017	0.031	0.010	3.113
240	0.030	-0.067	0.044	0.072	0.037	1.961
250	0.055	-0.121	0.081	0.118	0.086	1.368
260	0.083	-0.184	0.127	0.157	0.159	0.988
270	0.112	-0.247	0.176	0.176	0.247	0.713
280	0.139	-0.304	0.223	0.167	0.338	0.495
290	0.160	-0.348	0.265	0.130	0.417	0.311
300	0.172	-0.372	0.295	0.070	0.470	0.148
310	0.173	-0.374	0.314	-0.000	0.488	-0.000
320	0.162	-0.351	0.321	-0.062	0.471	-0.132
330	0.132	-0.295	0.324	-0.093	0.429	-0.218
340	0.052	-0.173	0.351	-0.042	0.389	-0.109
350	-0.087	0.023	0.409	0.094	0.399	0.236
360	-0.269	0.270	0.494	0.270	0.494	0.546

$\delta = 70°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.193	0.178	0.499	0.178	0.499	0.358
10	-0.397	0.442	0.568	0.337	0.636	0.529
20	-0.590	0.687	0.643	0.426	0.839	0.507
30	-0.750	0.884	0.716	0.408	1.062	0.384
40	-0.863	1.018	0.773	0.283	1.247	0.227
50	-0.924	1.089	0.797	0.090	1.347	0.067
60	-0.929	1.094	0.779	-0.128	1.337	-0.096
70	-0.878	1.033	0.720	-0.323	1.217	-0.266
80	-0.779	0.914	0.626	-0.458	1.009	-0.454
90	-0.642	0.753	0.506	-0.506	0.753	-0.673
100	-0.486	0.568	0.375	-0.468	0.494	-0.948
110	-0.327	0.382	0.248	-0.363	0.274	-1.327
120	-0.186	0.217	0.138	-0.228	0.119	-1.919
130	-0.079	0.091	0.057	-0.102	0.034	-3.055
140	-0.017	0.019	0.011	-0.022	0.003	-6.351
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	
190	0.	0.	0.	-0.	-0.	
200	0.	0.	0.	-0.	-0.	
210	0.	0.	0.	-0.	-0.	
220	0.005	-0.008	0.005	0.009	0.001	6.591
230	0.023	-0.040	0.025	0.045	0.015	3.081
240	0.056	-0.097	0.063	0.103	0.053	1.954
250	0.100	-0.174	0.115	0.168	0.124	1.356
260	0.151	-0.261	0.178	0.220	0.226	0.975
270	0.203	-0.349	0.244	0.244	0.349	0.698
280	0.249	-0.428	0.306	0.227	0.474	0.479
290	0.284	-0.487	0.358	0.170	0.580	0.293
300	0.304	-0.519	0.395	0.082	0.647	0.127
310	0.305	-0.520	0.414	-0.017	0.664	-0.026
320	0.285	-0.486	0.415	-0.106	0.631	-0.167
330	0.240	-0.415	0.407	-0.156	0.560	-0.278
340	0.145	-0.277	0.414	-0.119	0.484	-0.246
350	-0.005	-0.071	0.445	0.007	0.451	0.016
360	-0.193	0.178	0.499	0.178	0.499	0.358

TABLE VIII.- Continued.

(b) $\theta_{XZ} = 30^\circ$ - Concluded.

$\delta = 80^\circ$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.101	0.089	0.500	0.089	0.500	0.177
10	-0.302	0.348	0.538	0.250	0.590	0.423
20	-0.486	0.584	0.586	0.348	0.751	0.464
30	-0.632	0.766	0.639	0.344	0.937	0.367
40	-0.728	0.884	0.684	0.238	1.092	0.218
50	-0.779	0.946	0.701	0.071	1.175	0.061
60	-0.782	0.949	0.682	-0.116	1.163	-0.100
70	-0.739	0.895	0.629	-0.285	1.057	-0.269
80	-0.654	0.792	0.545	-0.399	0.875	-0.457
90	-0.538	0.651	0.440	-0.440	0.651	-0.676
100	-0.406	0.491	0.326	-0.406	0.427	-0.951
110	-0.273	0.330	0.215	-0.314	0.236	-1.331
120	-0.155	0.187	0.119	-0.197	0.102	-1.924
130	-0.065	0.079	0.049	-0.088	0.029	-3.061
140	-0.014	0.016	0.010	-0.019	0.003	-6.325
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	
190	0.	0.	0.	-0.	-0.	
200	0.	0.	0.	-0.	-0.	
210	0.	0.	0.	-0.	-0.	
220	0.007	-0.011	0.007	0.013	0.002	6.635
230	0.036	-0.053	0.033	0.060	0.019	3.089
240	0.087	-0.127	0.082	0.134	0.069	1.943
250	0.155	-0.226	0.149	0.217	0.161	1.345
260	0.232	-0.338	0.228	0.283	0.294	0.964
270	0.310	-0.451	0.310	0.310	0.451	0.687
280	0.378	-0.550	0.386	0.285	0.609	0.468
290	0.430	-0.624	0.449	0.208	0.740	0.282
300	0.457	-0.664	0.491	0.094	0.821	0.114
310	0.457	-0.663	0.510	-0.035	0.836	-0.042
320	0.427	-0.620	0.506	-0.150	0.786	-0.190
330	0.366	-0.533	0.486	-0.219	0.687	-0.318
340	0.255	-0.380	0.472	-0.196	0.574	-0.341
350	0.092	-0.164	0.477	-0.079	0.499	-0.159
360	-0.101	0.089	0.500	0.089	0.500	0.177

TABLE VIII.- Continued.

(c) $\theta_{XZ} = 40°$.

$\delta = 50°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.447	0.585	0.743	0.585	0.743	0.788
10	-0.619	0.820	0.941	0.645	1.069	0.603
20	-0.776	1.032	1.112	0.590	1.398	0.422
30	-0.899	1.196	1.234	0.419	1.667	0.251
40	-0.973	1.290	1.293	0.157	1.820	0.086
50	-0.989	1.306	1.282	-0.142	1.824	-0.078
60	-0.946	1.243	1.199	-0.417	1.676	-0.249
70	-0.848	1.109	1.053	-0.611	1.402	-0.436
80	-0.708	0.920	0.863	-0.690	1.056	-0.653
90	-0.543	0.701	0.649	-0.649	0.701	-0.926
100	-0.372	0.476	0.436	-0.512	0.394	-1.302
110	-0.217	0.274	0.248	-0.327	0.173	-1.891
120	-0.095	0.118	0.105	-0.150	0.050	-3.023
130	-0.021	0.025	0.022	-0.033	0.005	-6.390
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	
190	0.	0.	0.	-0.	-0.	
200	0.	0.	0.	-0.	-0.	
210	0.	0.	0.	-0.	-0.	
220	0.	0.	0.	-0.	-0.	
230	0.000	-0.001	0.001	0.001	0.000	6.799
240	0.001	-0.004	0.004	0.006	0.002	3.140
250	0.002	-0.011	0.011	0.014	0.007	1.999
260	0.003	-0.020	0.020	0.023	0.017	1.398
270	0.005	-0.031	0.032	0.032	0.031	1.026
280	0.006	-0.042	0.046	0.038	0.049	0.775
290	0.008	-0.052	0.064	0.042	0.071	0.598
300	0.009	-0.059	0.084	0.044	0.093	0.469
310	0.009	-0.061	0.108	0.044	0.116	0.379
320	0.004	-0.050	0.141	0.052	0.140	0.372
330	-0.040	0.017	0.221	0.125	0.183	0.684
340	-0.138	0.157	0.359	0.271	0.284	0.954
350	-0.280	0.355	0.541	0.443	0.471	0.941
360	-0.447	0.585	0.743	0.585	0.743	0.788

$\delta = 60°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.388	0.444	0.805	0.444	0.805	0.551
10	-0.548	0.662	0.952	0.487	1.053	0.463
20	-0.692	0.858	1.071	0.440	1.239	0.338
30	-0.801	1.005	1.147	0.297	1.496	0.199
40	-0.864	1.088	1.172	0.080	1.598	0.050
50	-0.874	1.098	1.141	-0.168	1.575	-0.107
60	-0.830	1.040	1.051	-0.391	1.426	-0.274
70	-0.738	0.922	0.912	-0.542	1.178	-0.460
80	-0.611	0.759	0.738	-0.595	0.876	-0.679
90	-0.463	0.573	0.547	-0.548	0.573	-0.956
100	-0.313	0.385	0.361	-0.423	0.316	-1.337
110	-0.179	0.218	0.201	-0.263	0.136	-1.933
120	-0.076	0.092	0.082	-0.117	0.038	-3.067
130	-0.016	0.019	0.017	-0.025	0.004	-6.310
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	
190	0.	0.	0.	-0.	-0.	
200	0.	0.	0.	-0.	-0.	
210	0.	0.	0.	-0.	-0.	
220	0.	0.	0.	-0.	-0.	
230	0.001	-0.002	0.002	0.003	0.000	6.449
240	0.004	-0.012	0.011	0.016	0.005	3.137
250	0.009	-0.030	0.029	0.037	0.019	1.992
260	0.017	-0.055	0.055	0.063	0.045	1.414
270	0.026	-0.085	0.088	0.088	0.085	1.041
280	0.036	-0.116	0.128	0.106	0.136	0.777
290	0.045	-0.144	0.170	0.110	0.193	0.570
300	0.052	-0.165	0.212	0.101	0.249	0.404
310	0.055	-0.176	0.252	0.080	0.297	0.271
320	0.048	-0.164	0.298	0.066	0.334	0.197
330	0.001	-0.096	0.379	0.106	0.376	0.283
340	-0.096	0.040	0.500	0.209	0.456	0.457
350	-0.231	0.227	0.648	0.337	0.599	0.562
360	-0.388	0.444	0.805	0.444	0.805	0.551

TABLE VIII.- Continued.

(c) $\theta_{XZ} = 40°$ - Concluded.

$\delta = 70°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.281	0.295	0.823	0.295	0.823	0.358
10	-0.428	0.503	0.917	0.336	0.991	0.339
20	-0.560	0.688	0.987	0.309	1.163	0.266
30	-0.659	0.827	1.024	0.204	1.300	0.157
40	-0.714	0.903	1.024	0.033	1.365	0.024
50	-0.720	0.911	0.983	-0.167	1.330	-0.126
60	-0.681	0.860	0.896	-0.346	1.193	-0.290
70	-0.603	0.760	0.771	-0.465	0.978	-0.475
80	-0.496	0.624	0.618	-0.501	0.722	-0.694
90	-0.374	0.468	0.454	-0.454	0.468	-0.970
100	-0.251	0.313	0.297	-0.347	0.257	-1.350
110	-0.142	0.176	0.163	-0.214	0.110	-1.945
120	-0.060	0.074	0.066	-0.094	0.031	-3.081
130	-0.012	0.015	0.013	-0.020	0.003	-6.429
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	
190	0.	0.	0.	-0.	-0.	
200	0.	0.	0.	-0.	-0.	
210	0.	0.	0.	-0.	-0.	
220	0.	0.	0.	-0.	-0.	
230	0.002	-0.004	0.004	0.006	0.001	6.184
240	0.010	-0.022	0.020	0.028	0.009	3.153
250	0.024	-0.054	0.051	0.066	0.033	1.999
260	0.044	-0.098	0.097	0.112	0.080	1.403
270	0.068	-0.150	0.153	0.153	0.150	1.022
280	0.092	-0.203	0.216	0.178	0.238	0.749
290	0.115	-0.251	0.280	0.178	0.332	0.535
300	0.131	-0.287	0.340	0.151	0.419	0.360
310	0.139	-0.305	0.393	0.105	0.486	0.216
320	0.131	-0.294	0.444	0.060	0.529	0.114
330	0.084	-0.226	0.514	0.062	0.558	0.110
340	-0.008	-0.093	0.608	0.121	0.603	0.200
350	-0.135	0.088	0.716	0.211	0.690	0.305
360	-0.281	0.295	0.823	0.295	0.823	0.358

$\delta = 80°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.146	0.146	0.826	0.146	0.826	0.177
10	-0.285	0.349	0.869	0.193	0.917	0.211
20	-0.408	0.528	0.893	0.191	1.020	0.187
30	-0.500	0.662	0.894	0.126	1.105	0.114
40	-0.550	0.734	0.874	0.001	1.141	0.001
50	-0.556	0.742	0.827	-0.157	1.100	-0.142
60	-0.525	0.700	0.747	-0.297	0.980	-0.303
70	-0.463	0.617	0.637	-0.388	0.798	-0.486
80	-0.380	0.505	0.507	-0.412	0.586	-0.703
90	-0.285	0.378	0.370	-0.370	0.378	-0.979
100	-0.190	0.252	0.240	-0.281	0.206	-1.359
110	-0.107	0.141	0.131	-0.172	0.088	-1.956
120	-0.045	0.059	0.053	-0.075	0.024	-3.102
130	-0.009	0.012	0.010	-0.016	0.002	-6.424
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	
190	0.	0.	0.	-0.	-0.	
200	0.	0.	0.	-0.	-0.	
210	0.	0.	0.	-0.	-0.	
220	0.	0.	0.	-0.	-0.	
230	0.004	-0.007	0.006	0.009	0.001	6.542
240	0.019	-0.033	0.030	0.043	0.014	3.146
250	0.046	-0.081	0.076	0.099	0.050	1.987
260	0.084	-0.146	0.142	0.165	0.119	1.386
270	0.127	-0.221	0.222	0.222	0.221	1.003
280	0.171	-0.297	0.308	0.252	0.346	0.728
290	0.211	-0.366	0.394	0.245	0.478	0.512
300	0.241	-0.417	0.470	0.199	0.596	0.334
310	0.255	-0.442	0.534	0.125	0.682	0.183
320	0.248	-0.432	0.585	0.045	0.726	0.062
330	0.202	-0.363	0.641	0.006	0.737	0.008
340	0.113	-0.233	0.705	0.022	0.742	0.030
350	-0.008	-0.056	0.769	0.079	0.767	0.103
360	-0.146	0.146	0.826	0.146	0.826	0.177

TABLE VIII.- Continued.

(d) $\theta_{XZ} = 50°$.

$\delta = 60°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.543	0.624	1.112	0.624	1.112	0.561
10	-0.683	0.793	1.307	0.554	1.425	0.389
20	-0.792	0.926	1.443	0.376	1.673	0.225
30	-0.858	1.006	1.504	0.119	1.805	0.066
40	-0.873	1.024	1.481	-0.168	1.792	-0.094
50	-0.835	0.977	1.378	-0.427	1.634	-0.261
60	-0.749	0.873	1.206	-0.608	1.359	-0.447
70	-0.626	0.725	0.983	-0.676	1.018	-0.664
80	-0.479	0.552	0.736	-0.629	0.671	-0.937
90	-0.328	0.375	0.492	-0.492	0.375	-1.312
100	-0.191	0.215	0.278	-0.312	0.164	-1.903
110	-0.083	0.092	0.117	-0.142	0.047	-3.041
120	-0.018	0.020	0.024	-0.031	0.005	-6.310
130	0.	0.	0.	-0.	-0.	
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	
190	0.	0.	0.	-0.	-0.	
200	0.	0.	0.	-0.	-0.	
210	0.	0.	0.	-0.	-0.	
220	0.	0.	0.	-0.	-0.	
230	0.	0.	0.	-0.	-0.	
240	0.000	-0.001	0.001	0.001	0.000	6.566
250	0.001	-0.004	0.005	0.006	0.002	3.158
260	0.002	-0.010	0.013	0.015	0.007	2.027
270	0.003	-0.018	0.026	0.026	0.018	1.436
280	0.005	-0.028	0.044	0.039	0.035	1.105
290	0.007	-0.037	0.069	0.052	0.059	0.889
300	0.008	-0.045	0.102	0.066	0.090	0.737
310	0.005	-0.043	0.149	0.087	0.129	0.672
320	-0.033	0.003	0.252	0.165	0.191	0.862
330	-0.119	0.108	0.423	0.305	0.312	0.979
340	-0.243	0.260	0.641	0.463	0.514	0.902
350	-0.391	0.439	0.880	0.585	0.791	0.739
360	-0.543	0.624	1.112	0.624	1.112	0.561

$\delta = 70°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.398	0.418	1.163	0.418	1.163	0.359
10	-0.512	0.568	1.285	0.336	1.364	0.247
20	-0.602	0.689	1.349	0.186	1.504	0.124
30	-0.657	0.765	1.348	-0.011	1.551	-0.007
40	-0.670	0.789	1.283	-0.220	1.490	-0.148
50	-0.639	0.756	1.160	-0.403	1.324	-0.304
60	-0.569	0.673	0.992	-0.523	1.079	-0.485
70	-0.471	0.555	0.793	-0.555	0.792	-0.701
80	-0.356	0.418	0.582	-0.500	0.513	-0.976
90	-0.240	0.280	0.380	-0.380	0.280	-1.359
100	-0.136	0.158	0.209	-0.233	0.119	-1.957
110	-0.058	0.066	0.085	-0.102	0.033	-3.101
120	-0.012	0.013	0.017	-0.021	0.003	-6.471
130	0.	0.	0.	-0.	-0.	
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	
190	0.	0.	0.	-0.	-0.	
200	0.	0.	0.	-0.	-0.	
210	0.	0.	0.	-0.	-0.	
220	0.	0.	0.	-0.	-0.	
230	0.	0.	0.	-0.	-0.	
240	0.001	-0.002	0.003	0.004	0.001	6.976
250	0.004	-0.011	0.015	0.018	0.006	3.162
260	0.010	-0.028	0.039	0.043	0.021	2.043
270	0.019	-0.052	0.076	0.076	0.052	1.462
280	0.030	-0.080	0.126	0.110	0.101	1.091
290	0.041	-0.109	0.186	0.138	0.166	0.828
300	0.050	-0.133	0.254	0.154	0.243	0.633
310	0.051	-0.143	0.337	0.166	0.326	0.510
320	0.020	-0.110	0.460	0.211	0.423	0.499
330	-0.051	-0.025	0.625	0.291	0.554	0.525
340	-0.152	0.102	0.812	0.374	0.728	0.513
350	-0.273	0.256	0.999	0.426	0.940	0.453
360	-0.398	0.418	1.163	0.418	1.164	0.359

TABLE VIII.- Continued.

(d) $\theta_{XZ} = 50°$ - Concluded.

$\delta = 80°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.208	0.208	1.173	0.208	1.173	0.177
10	-0.307	0.350	1.222	0.132	1.264	0.105
20	-0.388	0.469	1.219	0.024	1.306	0.018
30	-0.442	0.551	1.166	-0.106	1.285	-0.083
40	-0.461	0.585	1.068	-0.238	1.194	-0.200
50	-0.445	0.568	0.938	-0.353	1.038	-0.340
60	-0.396	0.506	0.786	-0.427	0.831	-0.514
70	-0.325	0.416	0.617	-0.438	0.602	-0.727
80	-0.244	0.311	0.446	-0.385	0.384	-1.002
90	-0.163	0.207	0.286	-0.286	0.207	-1.383
100	-0.091	0.116	0.154	-0.172	0.087	-1.979
110	-0.038	0.048	0.062	-0.074	0.024	-3.132
120	-0.008	0.010	0.012	-0.015	0.007	-6.566
130	0.	0.	0.	-0.	-0.	
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	
190	0.	0.	0.	-0.	-0.	
200	0.	0.	0.	-0.	-0.	
210	0.	0.	0.	-0.	-0.	
220	0.	0.	0.	-0.	-0.	
230	0.	0.	0.	-0.	-0.	
240	0.002	-0.004	0.005	0.007	0.001	6.893
250	0.011	-0.021	0.027	0.033	0.010	3.172
260	0.028	-0.052	0.072	0.080	0.039	2.031
270	0.051	-0.096	0.137	0.137	0.096	1.432
280	0.079	-0.146	0.220	0.192	0.182	1.051
290	0.106	-0.197	0.316	0.229	0.294	0.781
300	0.130	-0.241	0.419	0.242	0.418	0.579
310	0.142	-0.266	0.528	0.234	0.543	0.430
320	0.125	-0.249	0.659	0.233	0.665	0.350
330	0.074	-0.183	0.806	0.244	0.789	0.310
340	-0.005	-0.075	0.952	0.255	0.920	0.277
350	-0.103	0.060	1.079	0.247	1.053	0.234
360	-0.208	0.208	1.173	0.208	1.173	0.177

TABLE VIII.- Concluded.

(e) $\theta_{XZ} = 60°$.

$\delta = 70°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.575	0.532	1.472	0.532	1.472	0.361
10	-0.670	0.628	1.619	0.338	1.704	0.198
20	-0.728	0.690	1.679	0.074	1.813	0.041
30	-0.743	0.709	1.644	-0.208	1.778	-0.117
40	-0.712	0.683	1.518	-0.453	1.602	-0.283
50	-0.640	0.615	1.318	-0.614	1.318	-0.466
60	-0.535	0.514	1.066	-0.666	0.978	-0.681
70	-0.410	0.393	0.792	-0.610	0.640	-0.953
80	-0.281	0.267	0.525	-0.471	0.354	-1.329
90	-0.163	0.153	0.295	-0.295	0.153	-1.919
100	-0.071	0.066	0.123	-0.133	0.043	-3.061
110	-0.015	0.014	0.025	-0.028	0.004	-6.458
120	0.	0.	0.	-0.	-0.	
130	0.	0.	0.	-0.	-0.	
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	
190	0.	0.	0.	-0.	-0.	
200	0.	0.	0.	-0.	-0.	
210	0.	0.	0.	-0.	-0.	
220	0.	0.	0.	-0.	-0.	
230	0.	0.	0.	-0.	-0.	
240	0.	0.	0.	-0.	-0.	
250	0.000	-0.001	0.001	0.002	0.000	7.051
260	0.001	-0.004	0.008	0.009	0.003	3.190
270	0.003	-0.010	0.022	0.022	0.011	2.086
280	0.005	-0.019	0.046	0.042	0.027	1.568
290	0.008	-0.029	0.085	0.070	0.056	1.245
300	0.007	-0.034	0.145	0.109	0.102	1.067
310	-0.023	-0.008	0.270	0.202	0.180	1.123
320	-0.095	0.059	0.471	0.348	0.322	1.080
330	-0.200	0.161	0.722	0.500	0.545	0.917
340	-0.325	0.283	0.995	0.606	0.838	0.723
350	-0.455	0.412	1.255	0.624	1.165	0.535
360	-0.575	0.532	1.472	0.532	1.472	0.361

$\delta = 80°$

α	C_m	C_N	C_A	C_L	C_D	L/D
0	-0.302	0.266	1.499	0.266	1.499	0.177
10	-0.372	0.351	1.552	0.076	1.590	0.048
20	-0.420	0.413	1.525	-0.133	1.575	-0.085
30	-0.440	0.446	1.420	-0.324	1.453	-0.223
40	-0.430	0.445	1.251	-0.463	1.245	-0.372
50	-0.391	0.411	1.037	-0.530	0.981	-0.540
60	-0.328	0.347	0.804	-0.523	0.703	-0.744
70	-0.249	0.264	0.576	-0.451	0.445	-1.013
80	-0.168	0.177	0.369	-0.333	0.239	-1.393
90	-0.095	0.100	0.199	-0.199	0.100	-1.994
100	-0.040	0.041	0.079	-0.085	0.027	-3.141
110	-0.008	0.008	0.015	-0.017	0.003	-6.484
120	0.	0.	0.	-0.	-0.	
130	0.	0.	0.	-0.	-0.	
140	0.	0.	0.	-0.	-0.	
150	0.	0.	0.	-0.	-0.	
160	0.	0.	0.	-0.	-0.	
170	0.	0.	0.	-0.	-0.	
180	0.	0.	0.	-0.	-0.	
190	0.	0.	0.	-0.	-0.	
200	0.	0.	0.	-0.	-0.	
210	0.	0.	0.	-0.	-0.	
220	0.	0.	0.	-0.	-0.	
230	0.	0.	0.	-0.	-0.	
240	0.	0.	0.	-0.	-0.	
250	0.001	-0.002	0.004	0.005	0.001	7.051
260	0.007	-0.013	0.025	0.026	0.008	3.246
270	0.017	-0.032	0.067	0.067	0.032	2.097
280	0.032	-0.058	0.133	0.121	0.080	1.500
290	0.048	-0.088	0.224	0.180	0.159	1.131
300	0.060	-0.112	0.344	0.241	0.269	0.896
310	0.050	-0.112	0.513	0.321	0.416	0.773
320	0.011	-0.077	0.727	0.408	0.607	0.673
330	-0.052	-0.014	0.960	0.468	0.838	0.559
340	-0.132	0.072	1.183	0.472	1.088	0.434
350	-0.219	0.169	1.370	0.404	1.320	0.306
360	-0.302	0.266	1.499	0.266	1.499	0.177

TABLE IX.- RAKED-OFF CIRCULAR-CONE CONFIGURATION

DIRECTIONAL STABILITY CHARACTERISTICS. $\alpha = 0^{\circ}$.

(a) $r/d = 0$.

θ_{XZ}, deg	Derivative	δ, deg					
		30	40	50	60	70	80
20	C_{Y_β}	-0.11828	-0.07354	-0.05620	-0.04644	-0.03982	-0.03482
	C_{n_β}	.29428	.12794	.08194	.06028	.04738	.03856
30	C_{Y_β}		-0.11824	-0.07000	-0.05056	-0.03942	-0.03184
	C_{n_β}		.24998	.09816	.05670	.03800	.02720
40	C_{Y_β}			-0.09754	-0.05466	-0.03732	-0.02728
	C_{n_β}			.18956	.06700	.03554	.02156
50	C_{Y_β}				-0.06558	-0.03444	-0.02170
	C_{n_β}				.12354	.03914	.01840
60	C_{Y_β}					-0.03330	-0.01588
	C_{n_β}					.06104	.01722

TABLE IX.- Continued.

(b) r/d = 0.1.

θ_{XZ}, deg	Derivative	δ, deg 30	40	50	60	70	80
20	C_{Y_β}	-0.11778	-0.07300	-0.05566	-0.04590	-0.03928	-0.03430
	C_{n_β}	.29498	.12794	.08186	.06026	.04734	.03852
30	C_{Y_β}		-0.11806	-0.06964	-0.05018	-0.03902	-0.03144
	C_{n_β}		.25200	.09802	.05670	.03792	.02718
40	C_{Y_β}			-0.09728	-0.05448	-0.03706	-0.02706
	C_{n_β}			.19094	.06732	.03546	.02156
50	C_{Y_β}				-0.06518	-0.03428	-0.02158
	C_{n_β}				.12230	.03904	.01838
60	C_{Y_β}					-0.03340	-0.01594
	C_{n_β}					.06188	.01718

TABLE IX.- Continued.

(c) r/d = 0.2.

θ_{XZ}, deg	Derivative	δ, deg					
		30	40	50	60	70	80
20	C_{Y_β}	-0.11614	-0.07138	-0.05404	-0.04428	0.03766	-0.03266
	C_{n_β}	.29452	.12754	.08146	.05988	.04696	.03812
30	C_{Y_β}		-0.11496	-0.06846	-0.04900	-0.03784	-0.03028
	C_{n_β}		.25172	.09784	.05650	.03774	.02700
40	C_{Y_β}			-0.09654	-0.05376	-0.03636	-0.02634
	C_{n_β}			.19072	.06720	.03538	.02146
50	C_{Y_β}				-0.06482	-0.03392	-0.02124
	C_{n_β}				.12212	.03900	.01834
60	C_{Y_β}					-0.03338	-0.01572
	C_{n_β}					.06190	.01718

TABLE IX.- Continued.

(d) $r/d = 0.3$.

θ_{XZ}, deg	Derivative	δ, deg					
		30	40	50	60	70	80
20	C_{Y_β}	-0.11346	-0.06868	-0.05132	-0.04158	-0.03496	-0.02996
	C_{n_β}	.29340	.12654	.08046	.05888	.04596	.03712
30	C_{Y_β}		-0.11496	-0.06650	-0.04704	-0.03588	-0.02832
	C_{n_β}		.25172	.09732	.05600	.03724	.02650
40	C_{Y_β}			-0.09536	-0.05256	-0.03516	-0.02514
	C_{n_β}			.19044	.06698	.03512	.02122
50	C_{Y_β}				-0.06424	-0.03332	-0.02064
	C_{n_β}				.12206	.03890	.01824
60	C_{Y_β}					-0.03304	-0.01550
	C_{n_β}					.06178	.01714

TABLE IX.- Continued.

(e) r/d = 0.4.

θ_{XZ}, deg	Derivative	δ, deg					
		30	40	50	60	70	80
20	C_{Y_β}	-0.10964	-0.06490	-0.04754	-0.03778	-0.03118	-0.02616
	C_{n_β}	.29152	.12464	.07850	.05694	.04402	.03516
30	C_{Y_β}		-0.11222	-0.06378	-0.04432	-0.03316	-0.02560
	C_{n_β}		.25054	.09640	.05506	.03628	.02554
40	C_{Y_β}			-0.09370	-0.05090	-0.03348	-0.02346
	C_{n_β}			.19010	.06654	.03468	.02076
50	C_{Y_β}				-0.06342	-0.03250	-0.01982
	C_{n_β}				.12180	.03870	.01806
60	C_{Y_β}					-0.03274	-0.01514
	C_{n_β}					.06172	.01704

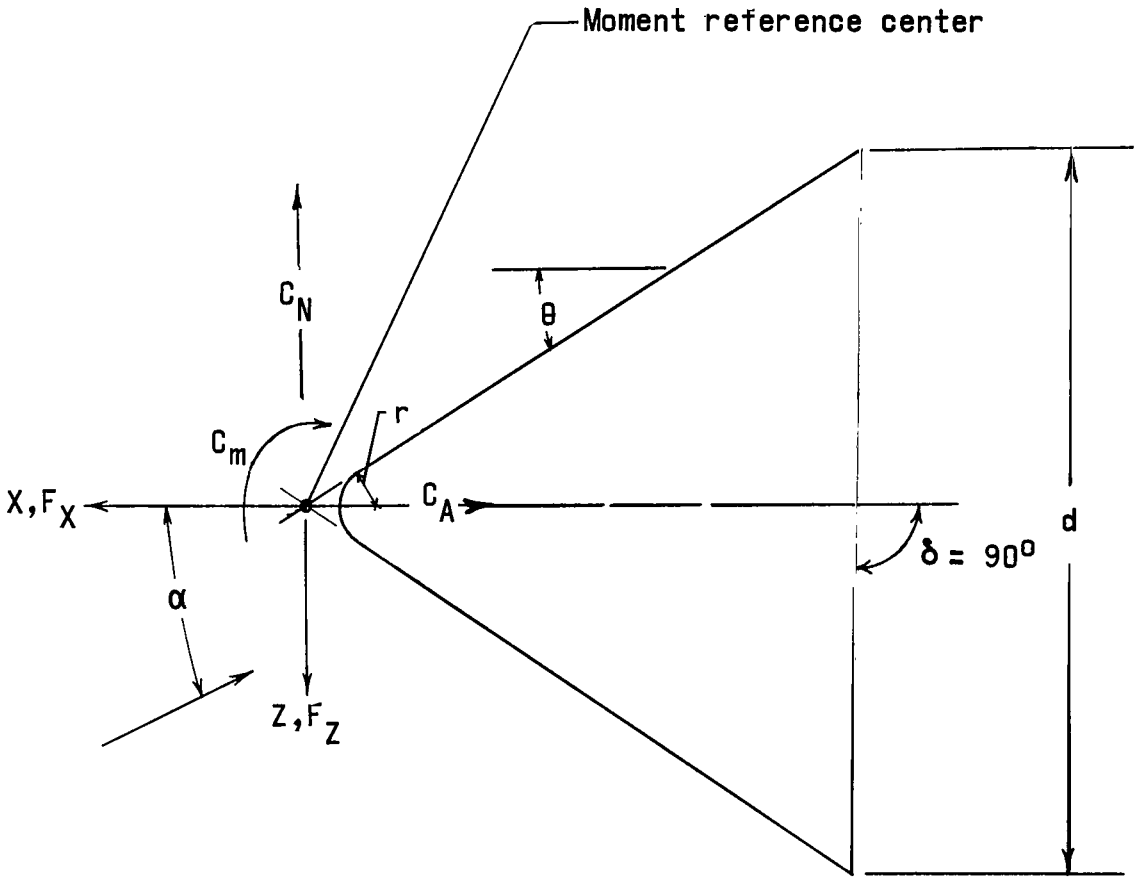
TABLE IX.- Concluded.

(f) $r/d = 0.5$.

θ_{XZ}, deg	Derivative	δ, deg					
		30	40	50	60	70	80
20	C_{Y_β}	-0.10478	-0.06002	-0.04274	-0.03292	-0.02630	-0.02130
	C_{n_β}	.28830	.12140	.07542	.05372	.04080	.03196
30	C_{Y_β}		-0.10870	-0.06016	-0.04080	-0.02964	-0.02208
	C_{n_β}		.24898	.09470	.05346	.03470	.02394
40	C_{Y_β}			-0.09150	-0.04874	-0.03134	-0.02132
	C_{n_β}			.18908	.06574	.03392	.02002
50	C_{Y_β}				-0.06230	-0.03142	-0.01874
	C_{n_β}				.12148	.03842	.01774
60	C_{Y_β}					-0.03234	-0.01480
	C_{n_β}					.06156	.01696

TABLE X.- RAKED-OFF ELLIPTICAL-CONE CONFIGURATION DIRECTIONAL AND LATERAL STABILITY CHARACTERISTICS. $\alpha = 0^\circ$

θ_{XZ}, deg	Derivative	δ, deg					
		30	40	50	60	70	80
20	C_{Y_β}	-0.00384	-0.01034	-0.01699	-0.02272	-0.02706	-0.02975
	C_{n_β}	.00258	.00777	.01438	.02106	.02671	.03048
	C_{l_β}	-.00098	-.00106	-.00074	-.00038	-.00012	-.00002
30	C_{Y_β}		-0.00392	-0.01057	-0.01693	-0.02189	-0.02499
	C_{n_β}		.00287	.00742	.01225	.01636	.01910
	C_{l_β}		-.00109	-.00099	-.00056	-.00019	-.00003
40	C_{Y_β}			-0.00385	-0.01012	-0.01560	-0.01916
	C_{n_β}			.00317	.00715	.01066	.01299
	C_{l_β}			-.00097	-.00070	-.00027	-.00004
50	C_{Y_β}				-0.00363	-0.00904	-0.01296
	C_{n_β}				.00336	.00669	.00893
	C_{l_β}				-.00071	-.00034	-.00005
60	C_{Y_β}					-0.00322	-0.00715
	C_{n_β}					.00338	.00583
	C_{l_β}					-.00038	-.00007



Range of variables

$0^o \leq \alpha \leq 180.0^o$

$10^o \leq \theta \leq 60.0^o$

$0 \leq \frac{r}{d} \leq 0.5$

$S = \frac{\pi d^2}{4}$

$l = d$

Figure 1.- Circular-cone configuration.

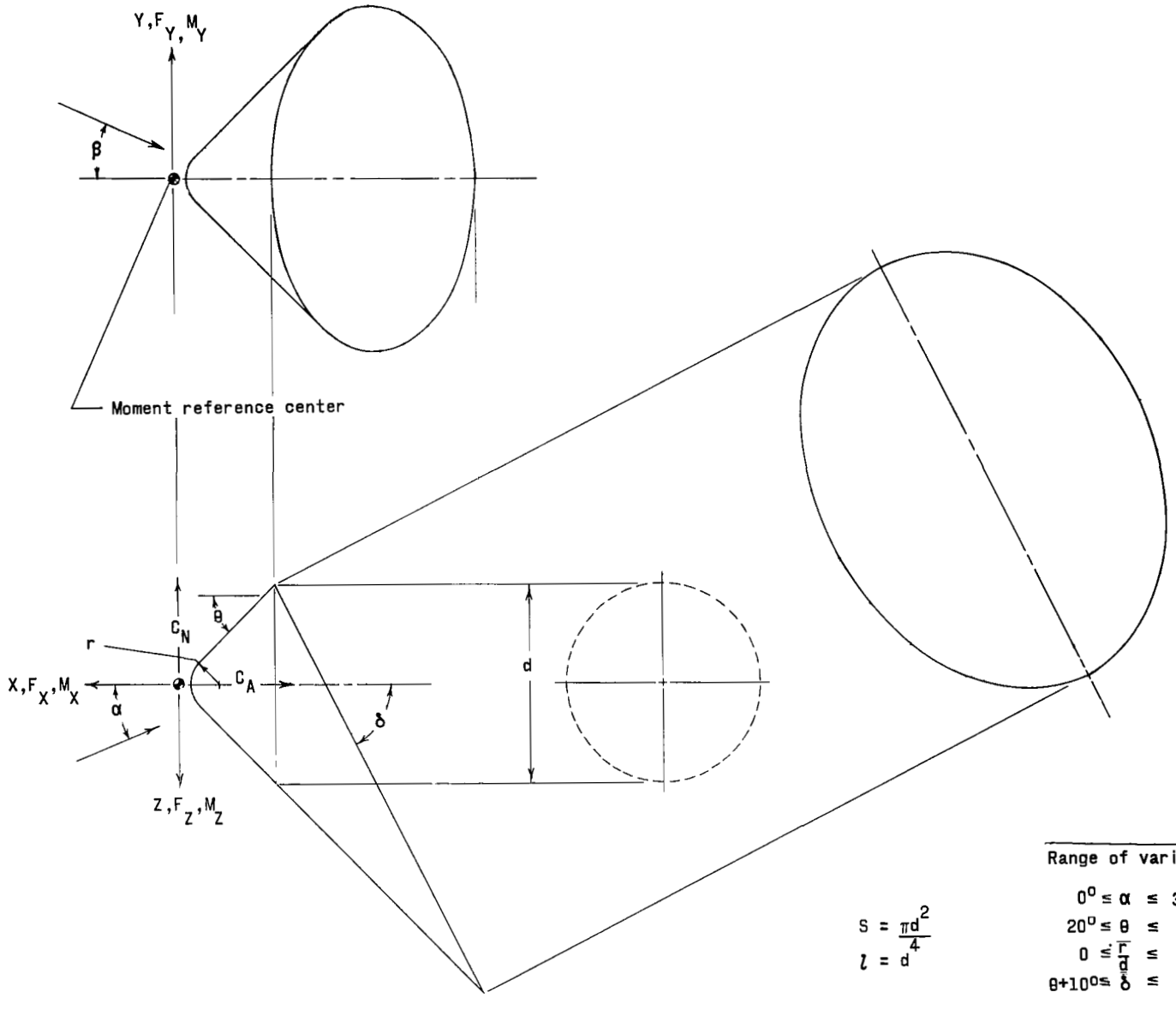
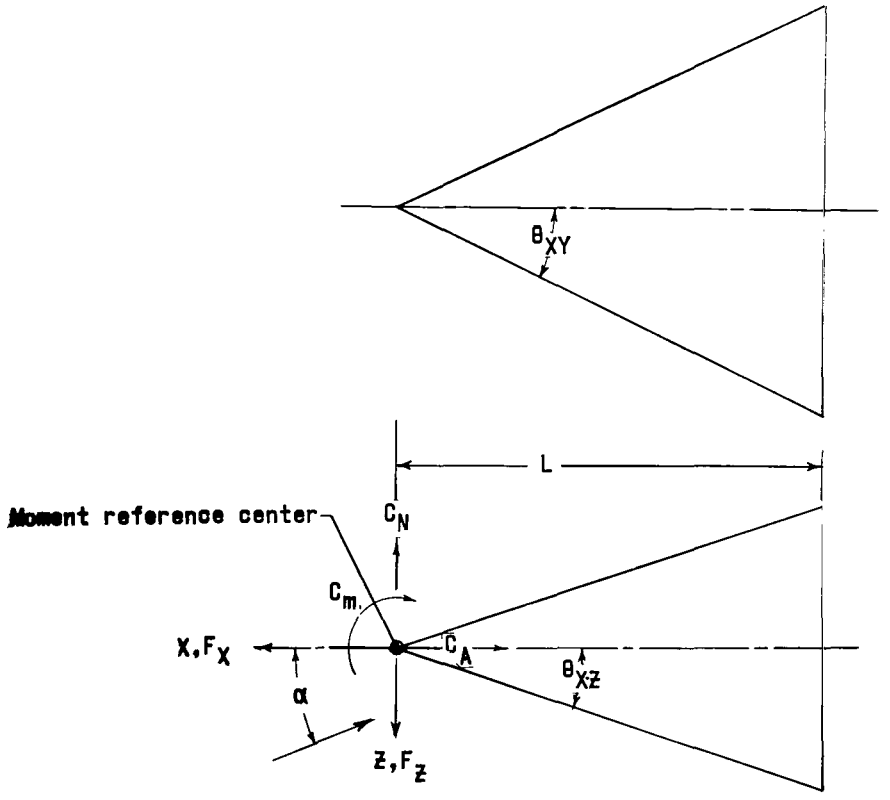


Figure 2.- Raked-off circular-cone configuration.



$S = \pi ab$

$l = L$

Range of variables

$0^0 \leq \alpha \leq 180^0$

$20^0 \leq \theta_{XZ} \leq 60^0$

$20^0 \leq \theta_{XY} \leq 60^0$

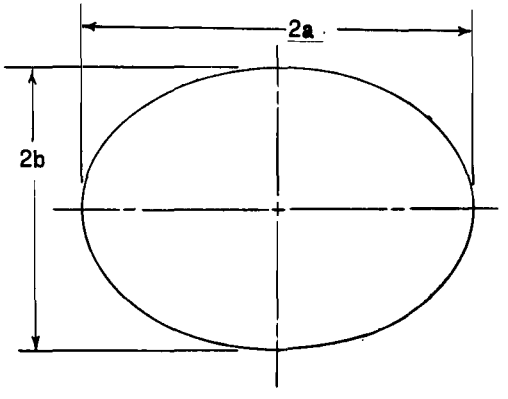
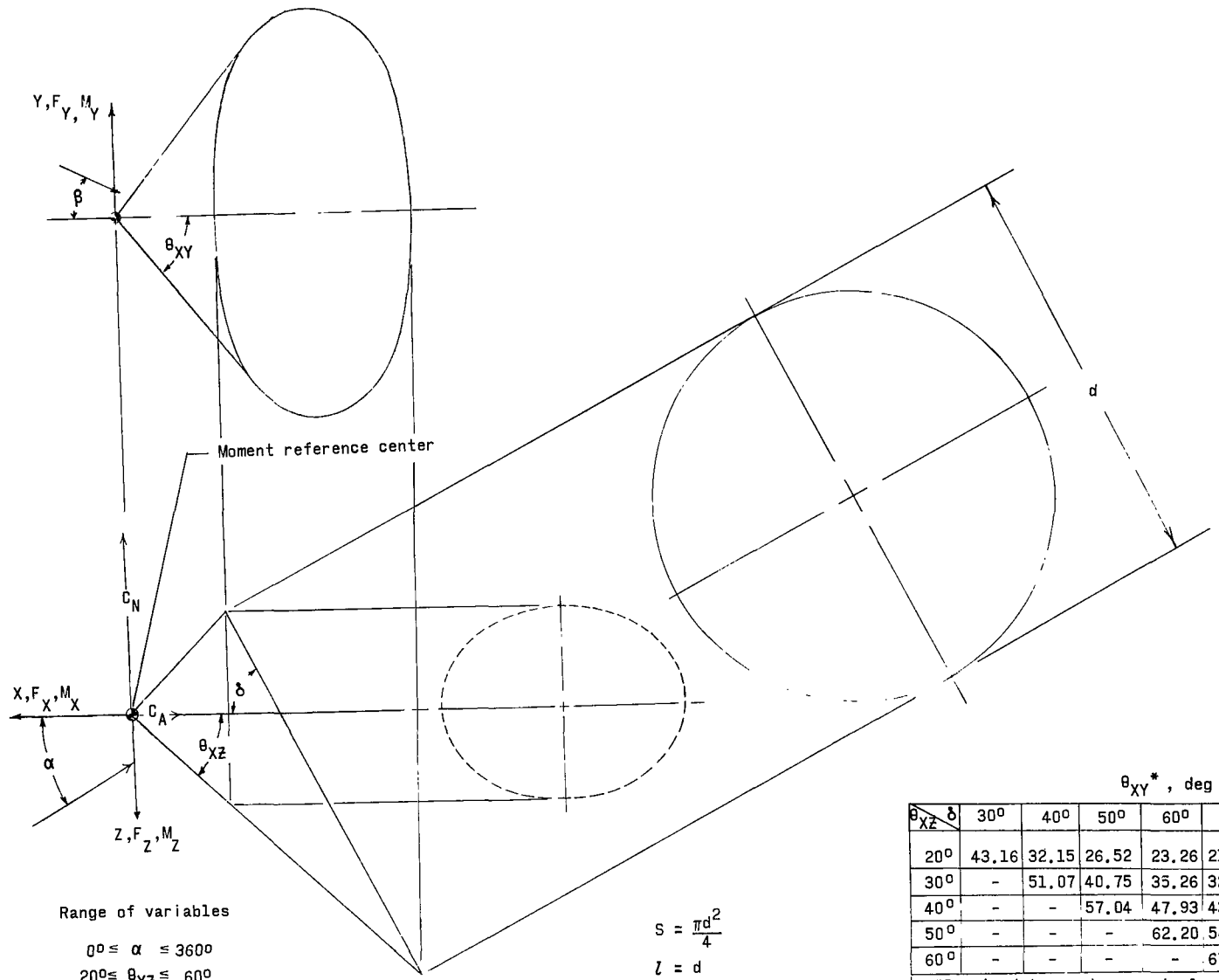


Figure 3.- Elliptical-cone configuration.



Range of variables

$0^o \leq \alpha \leq 360^o$

$20^o \leq \theta_{XZ} \leq 60^o$

$\theta_{XZ}+10^o \leq \delta \leq 80^o$

$S = \frac{\pi d^2}{4}$

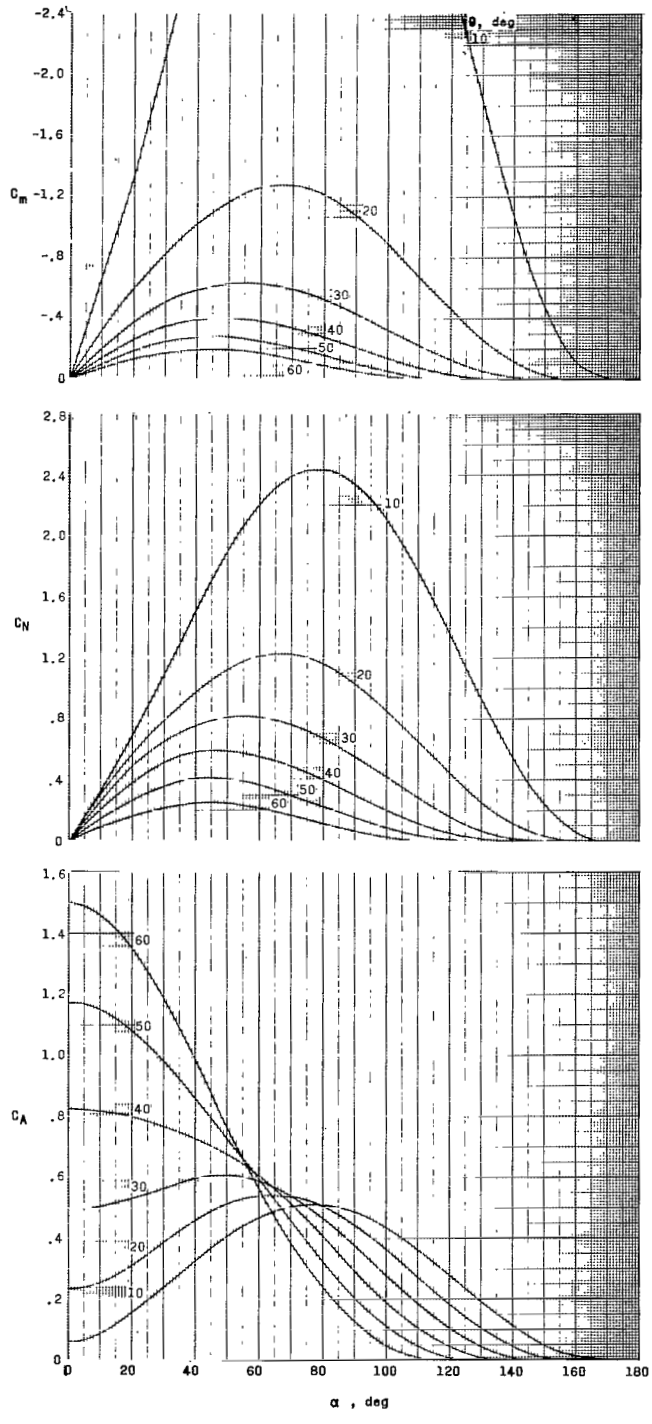
$l = d$

θ_{XY}^*, deg

θ_{XZ} \ δ	30°	40°	50°	60°	70°	80°
20°	43.16	32.15	26.52	23.26	21.35	20.32
30°	-	51.07	40.75	35.26	32.15	30.51
40°	-	-	57.04	47.93	43.16	40.74
50°	-	-	-	62.20	54.61	51.07
60°	-	-	-	-	67.16	61.57

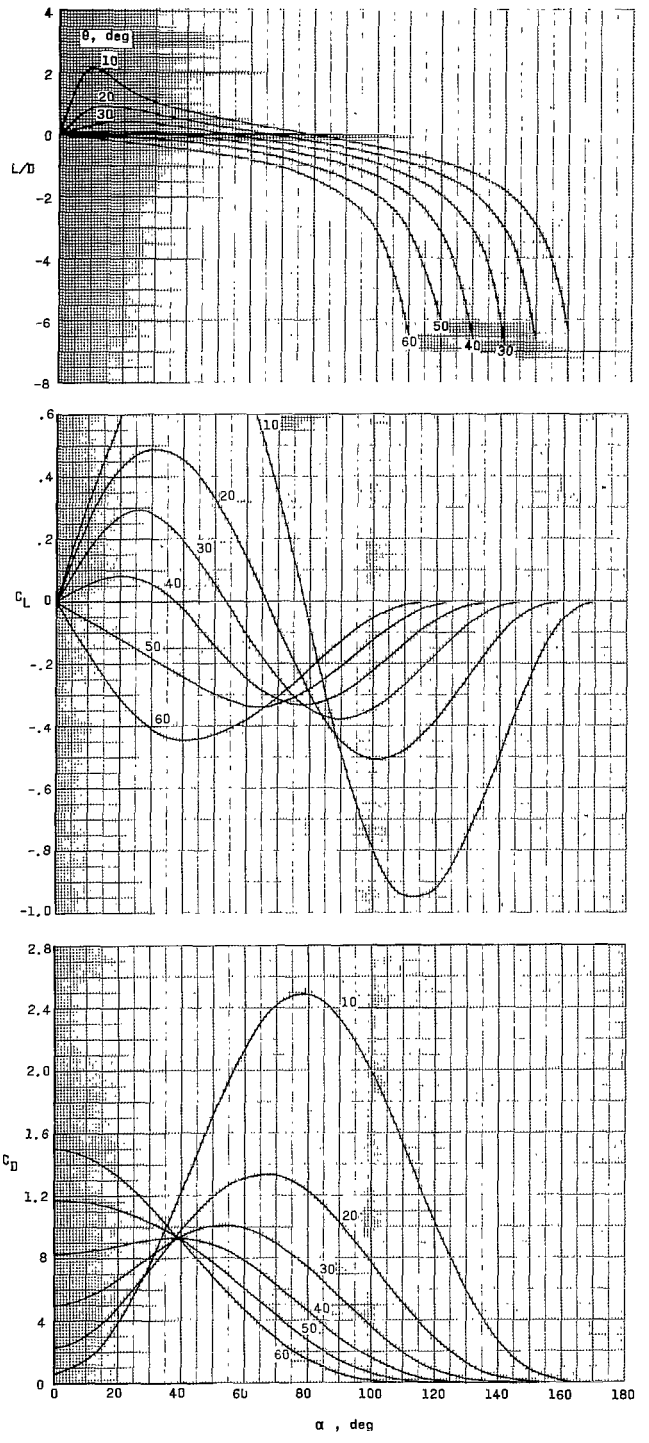
*Required to produce a circle for a given θ_{XZ} and δ.

Figure 4.- Raked-off elliptical-cone configuration.



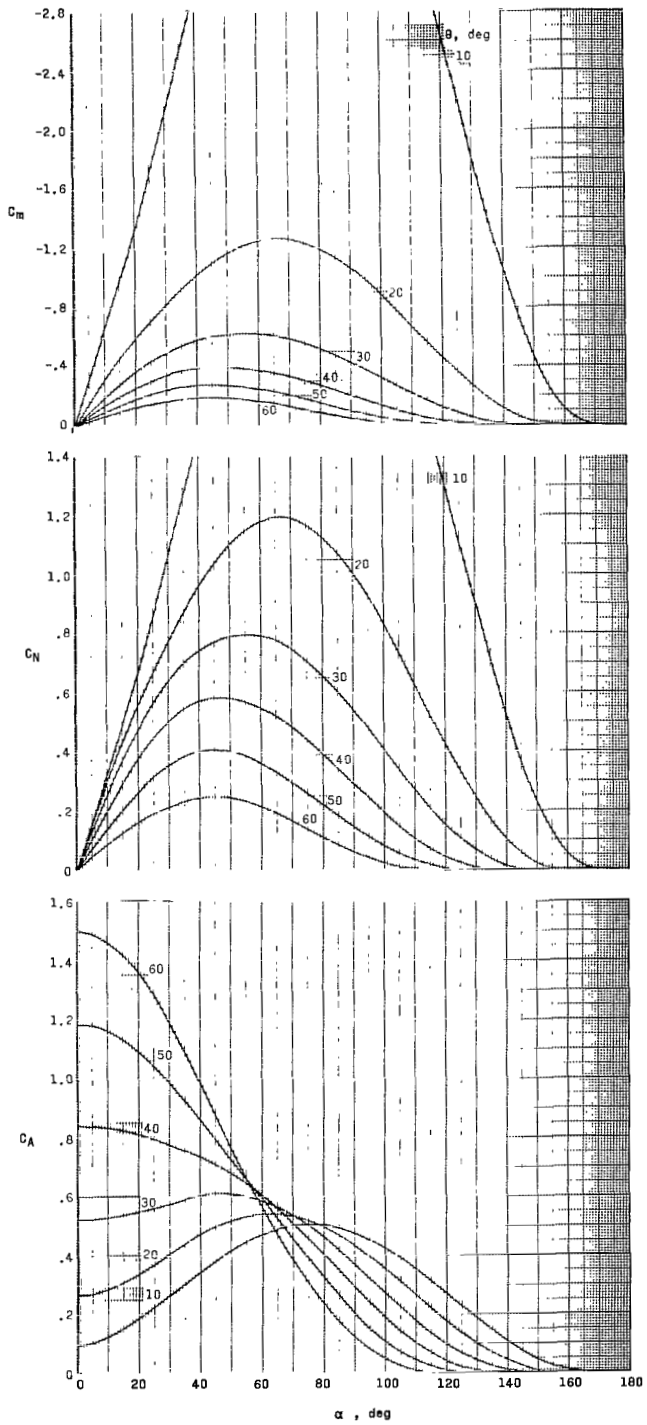
(a) r/d = 0.

Figure 5.- Circular-cone-configuration longitudinal aerodynamics.



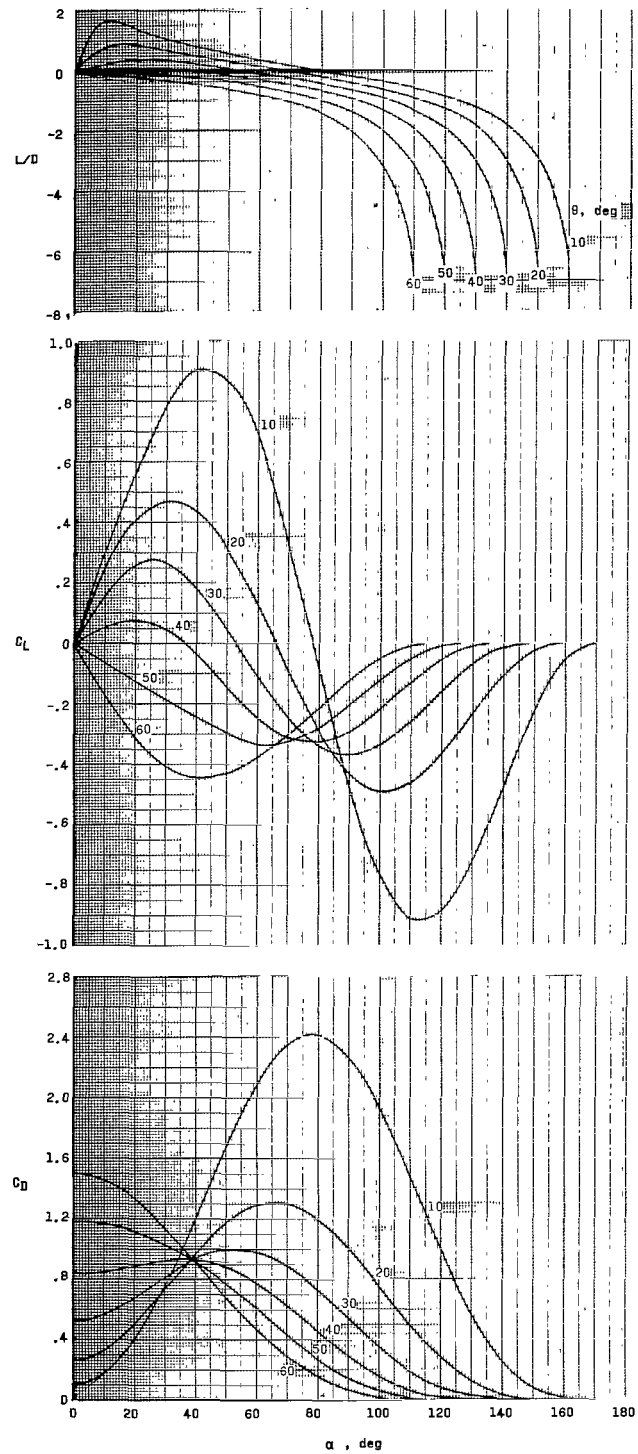
(a) r/d = 0.- Concluded.

Figure 5.- Continued.



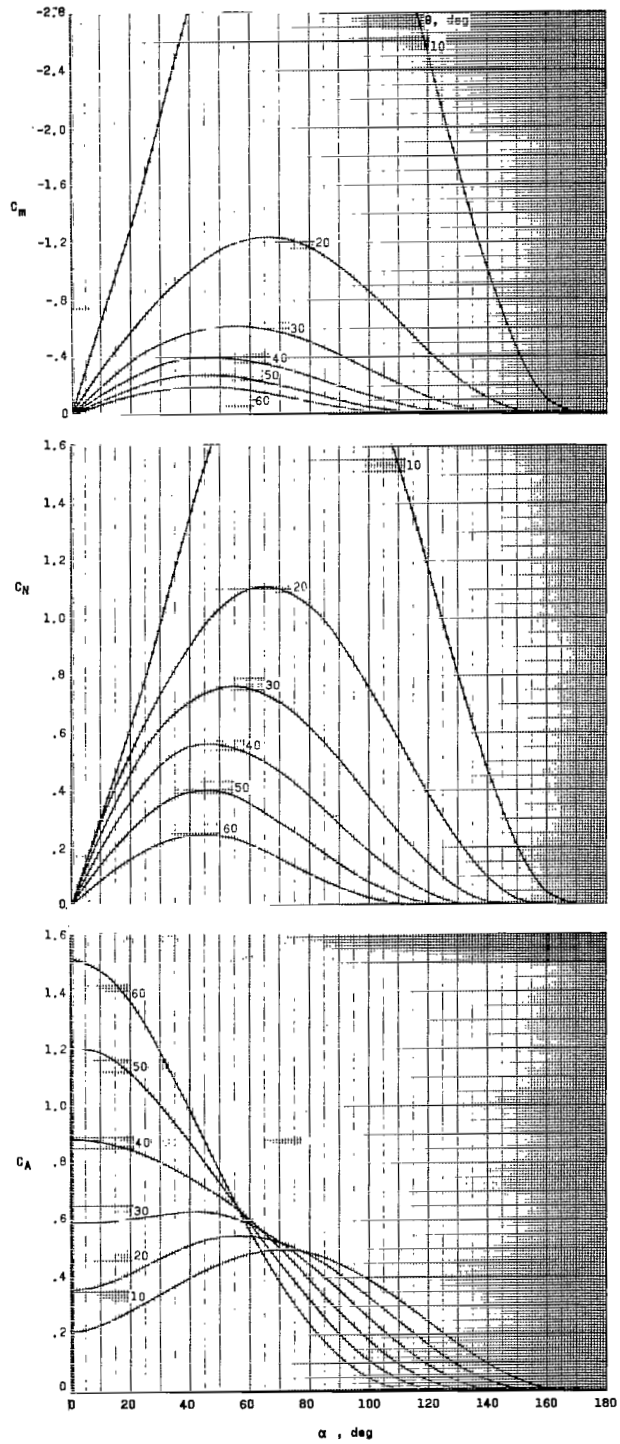
(b) r/d = 0.1.

Figure 5.- Continued.



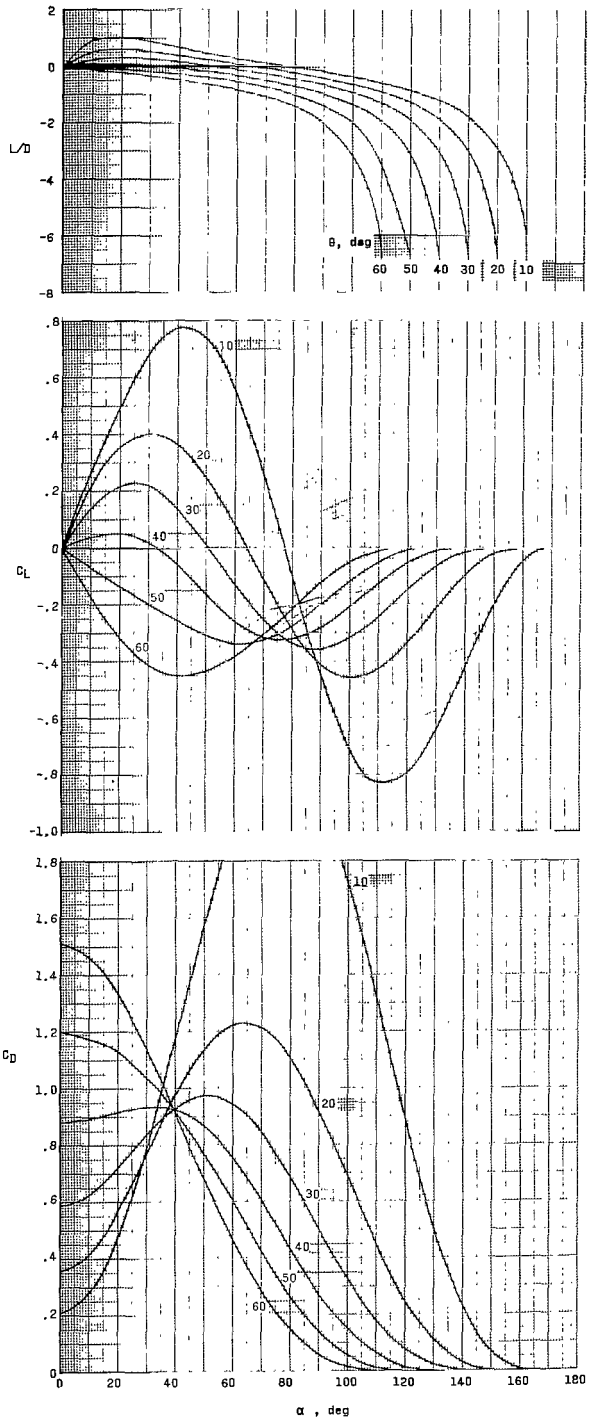
(b) r/d = 0.1.- Concluded.

Figure 5.- Continued.



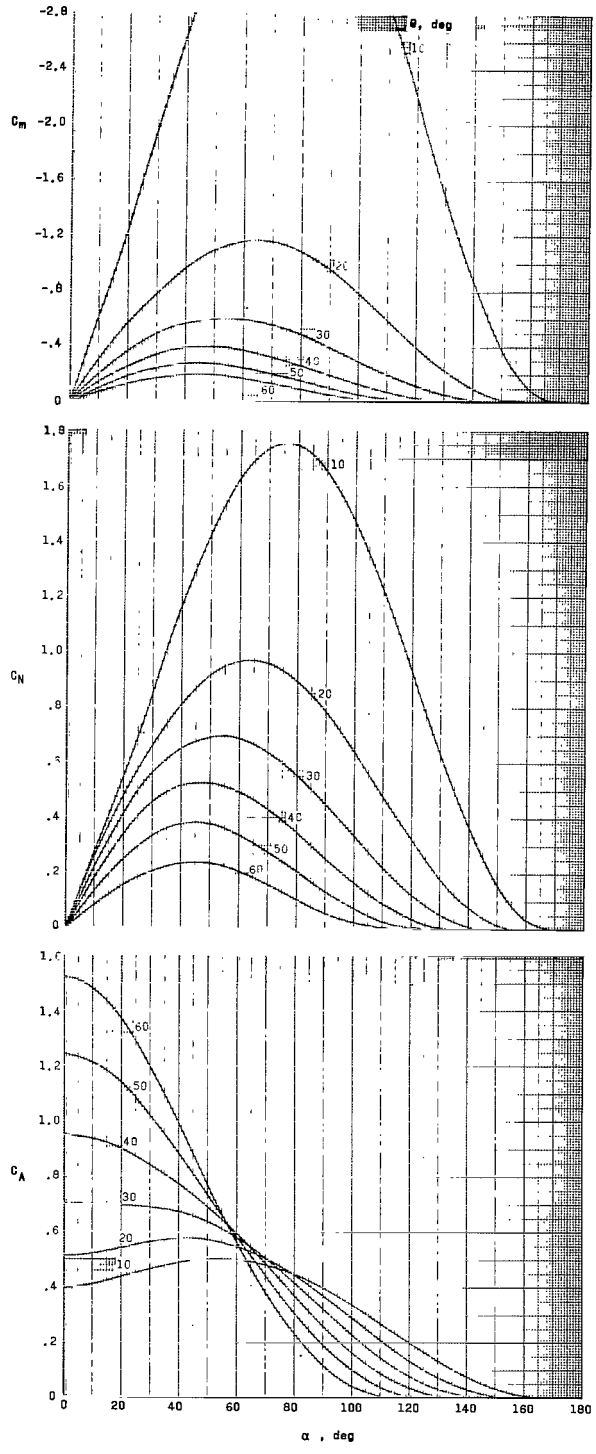
(c) r/d = 0.2.

Figure 5.- Continued.



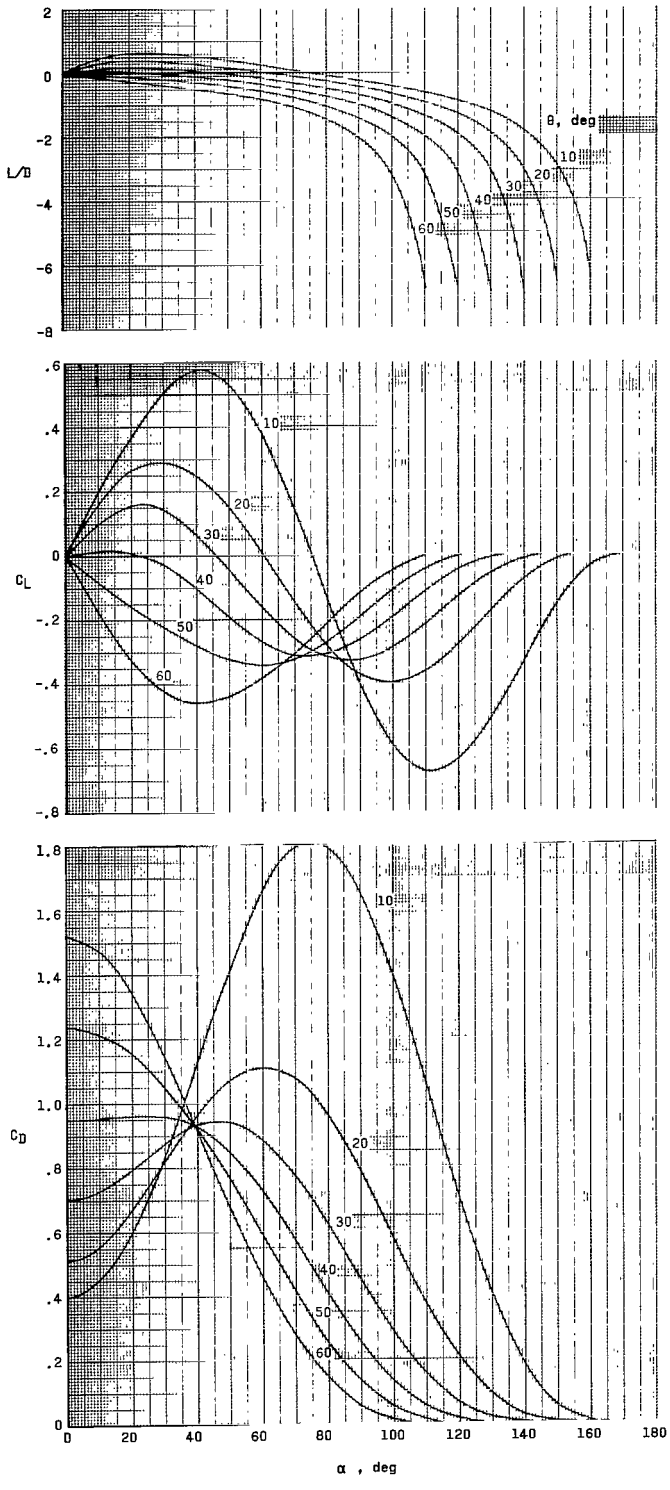
(c) r/d = 0.2.- Concluded.

Figure 5.- Continued.



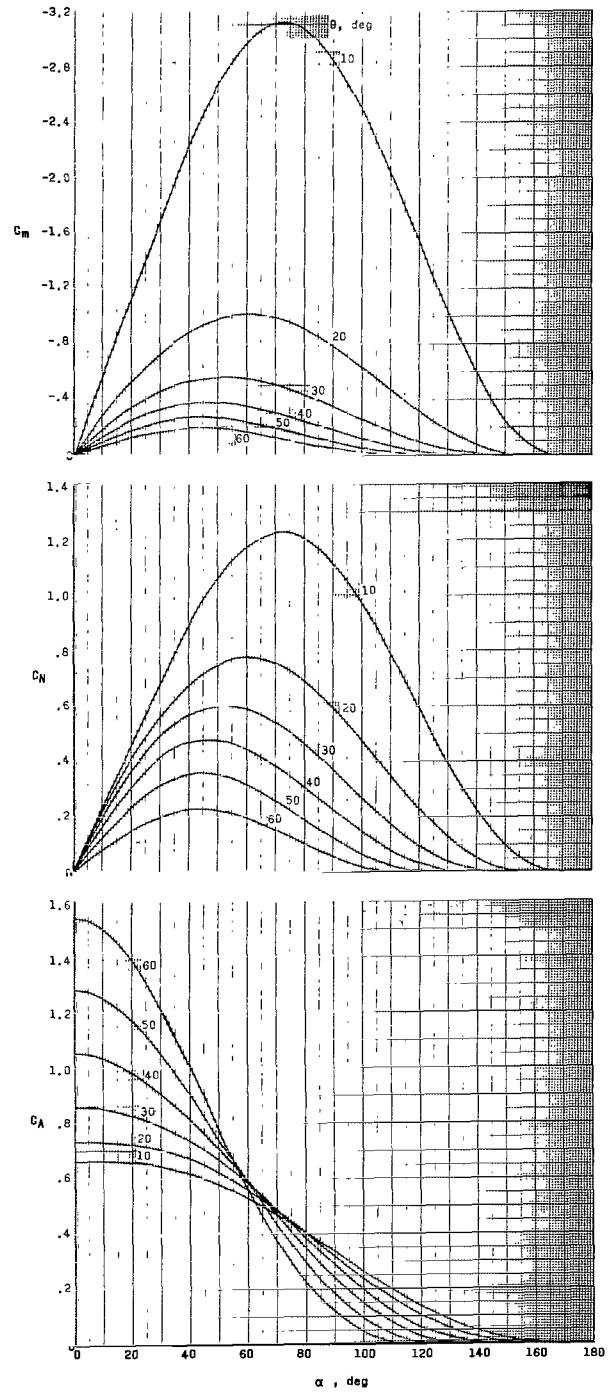
(d) r/d = 0.3.

Figure 5.- Continued.



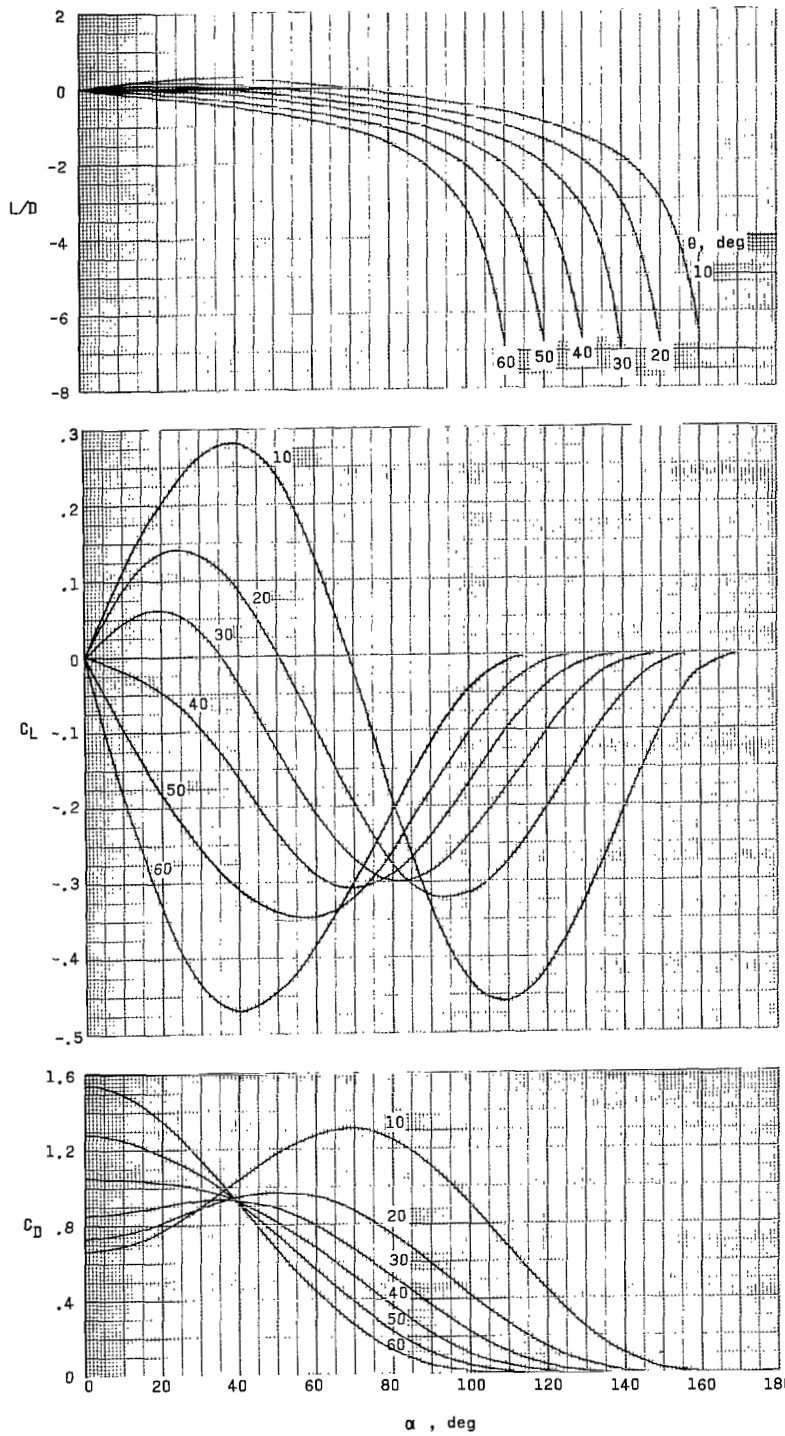
(d) r/d = 0.3.- Concluded.

Figure 5.- Continued.



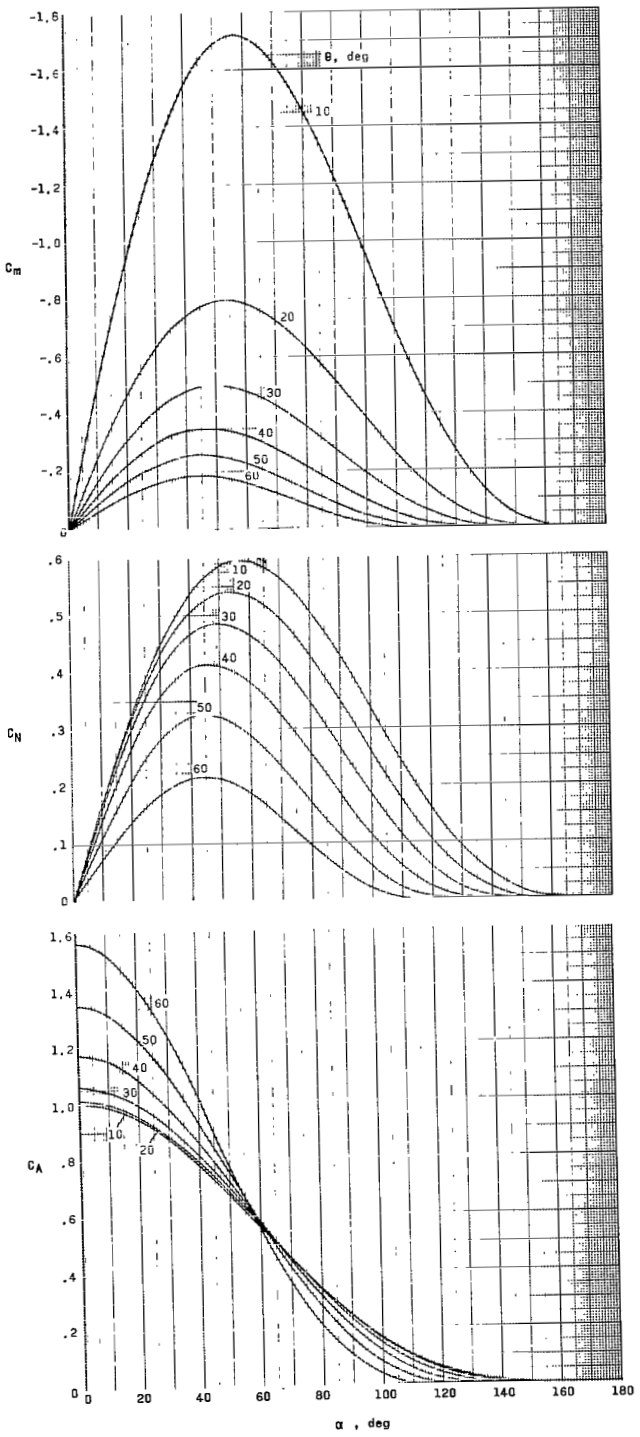
(e) r/d = 0.4.

Figure 5.- Continued.



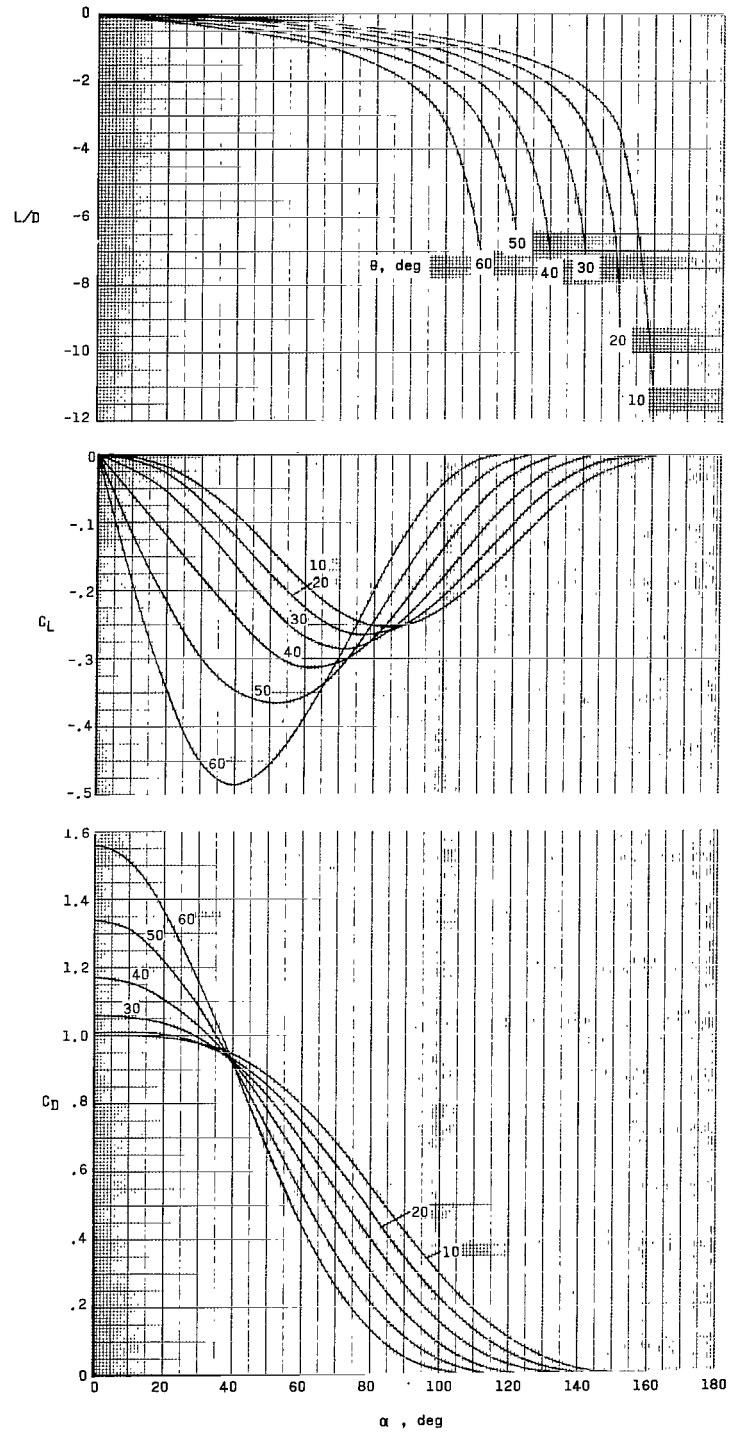
(e) r/d = 0.4.- Concluded.

Figure 5.- Continued.



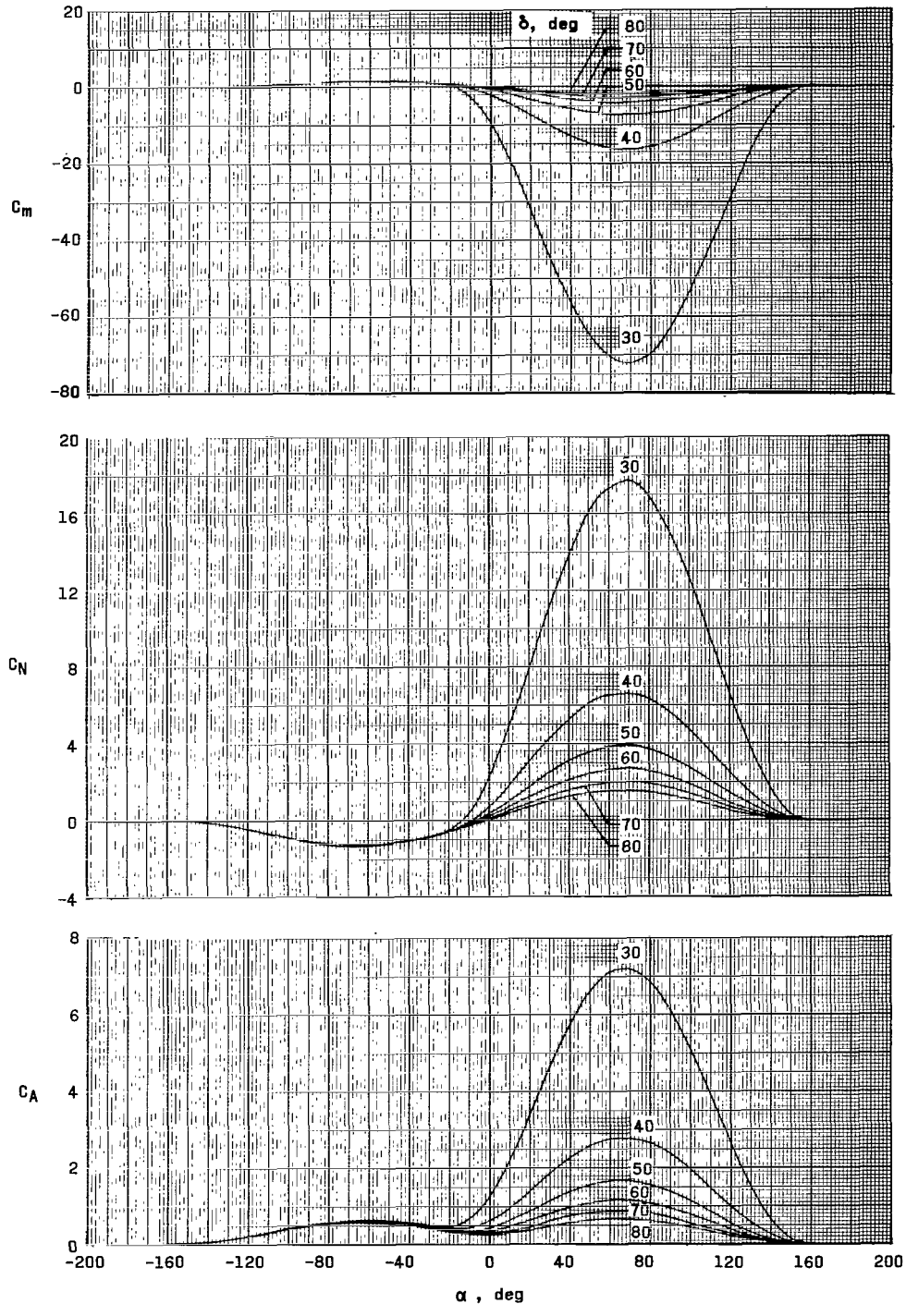
(f) r/d = 0.5.

Figure 5.- Continued.



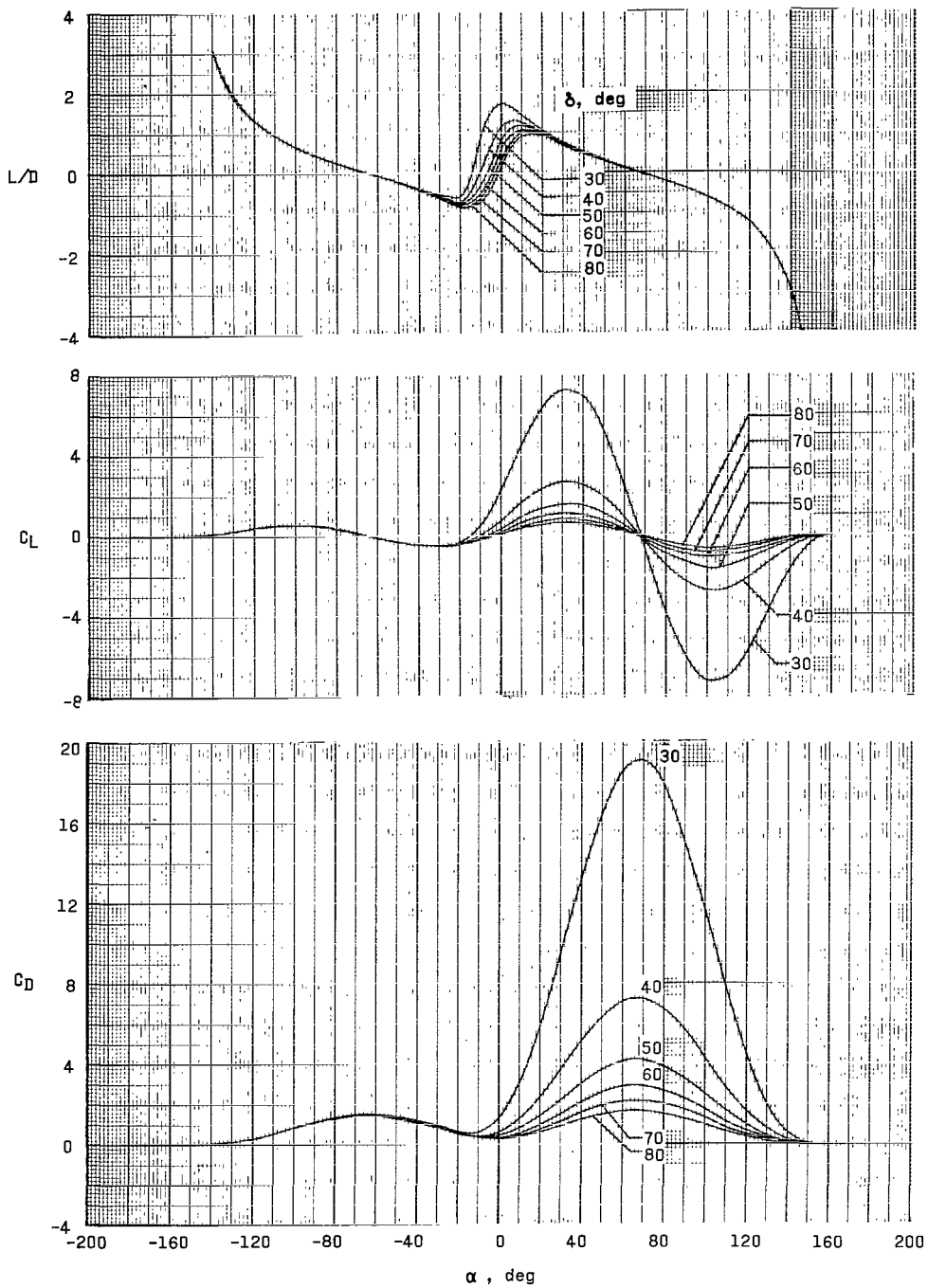
(f) r/d = 0.5.- Concluded.

Figure 5.- Concluded.



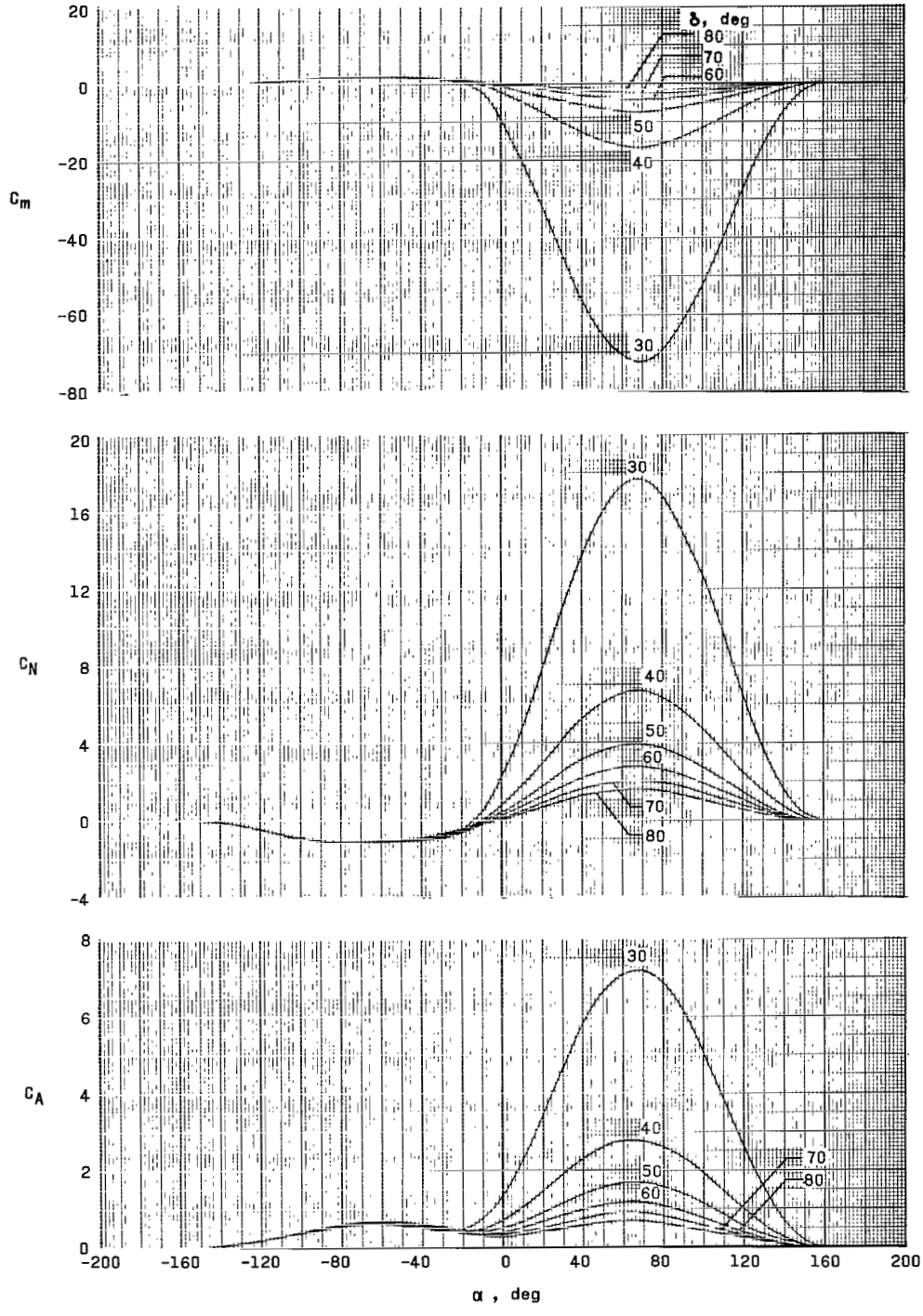
(a) r/d = 0.

Figure 6.- Raked-off circular-cone configuration longitudinal aerodynamics. θ = 20°.



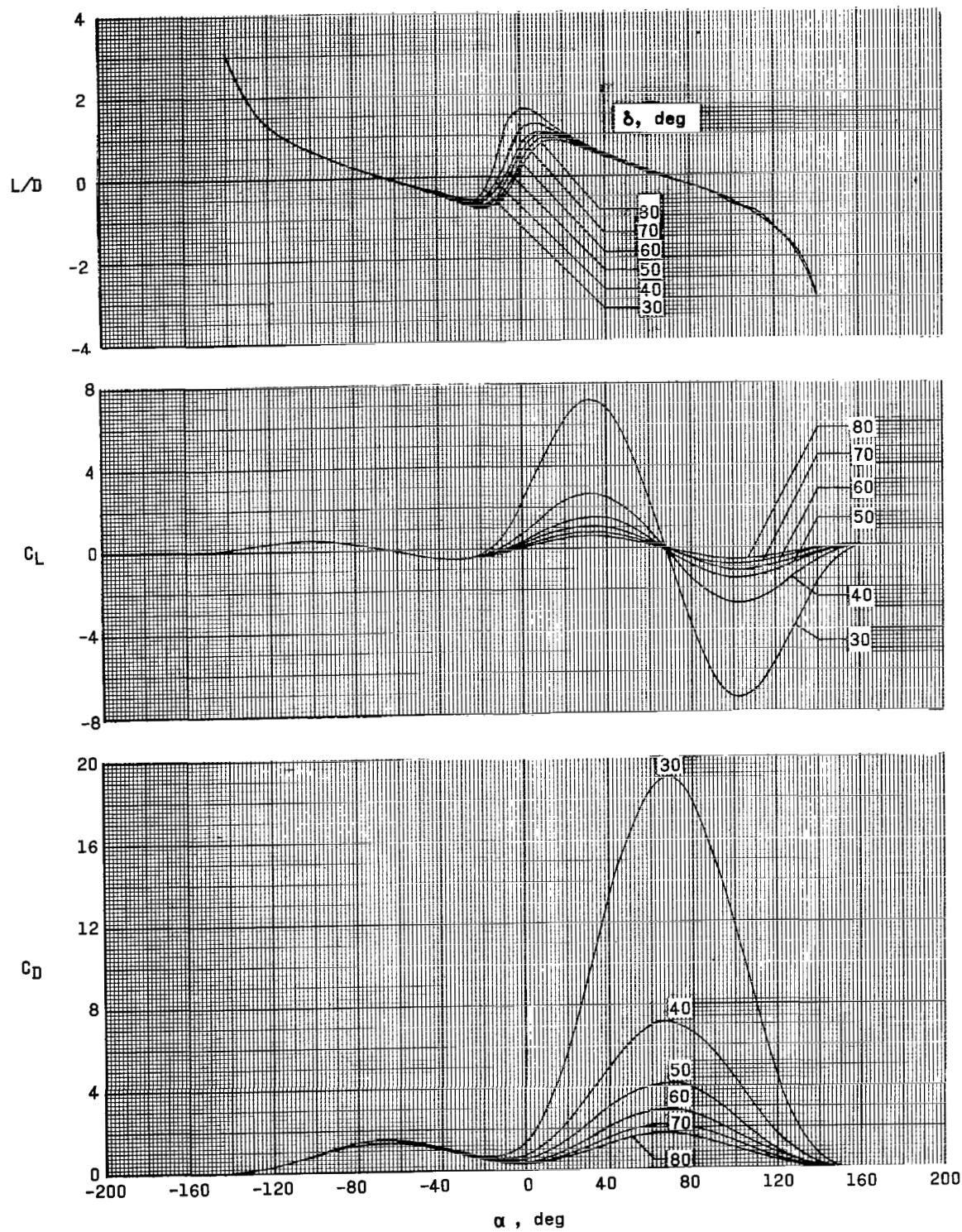
(a) r/d = 0.- Concluded.

Figure 6.- Continued.



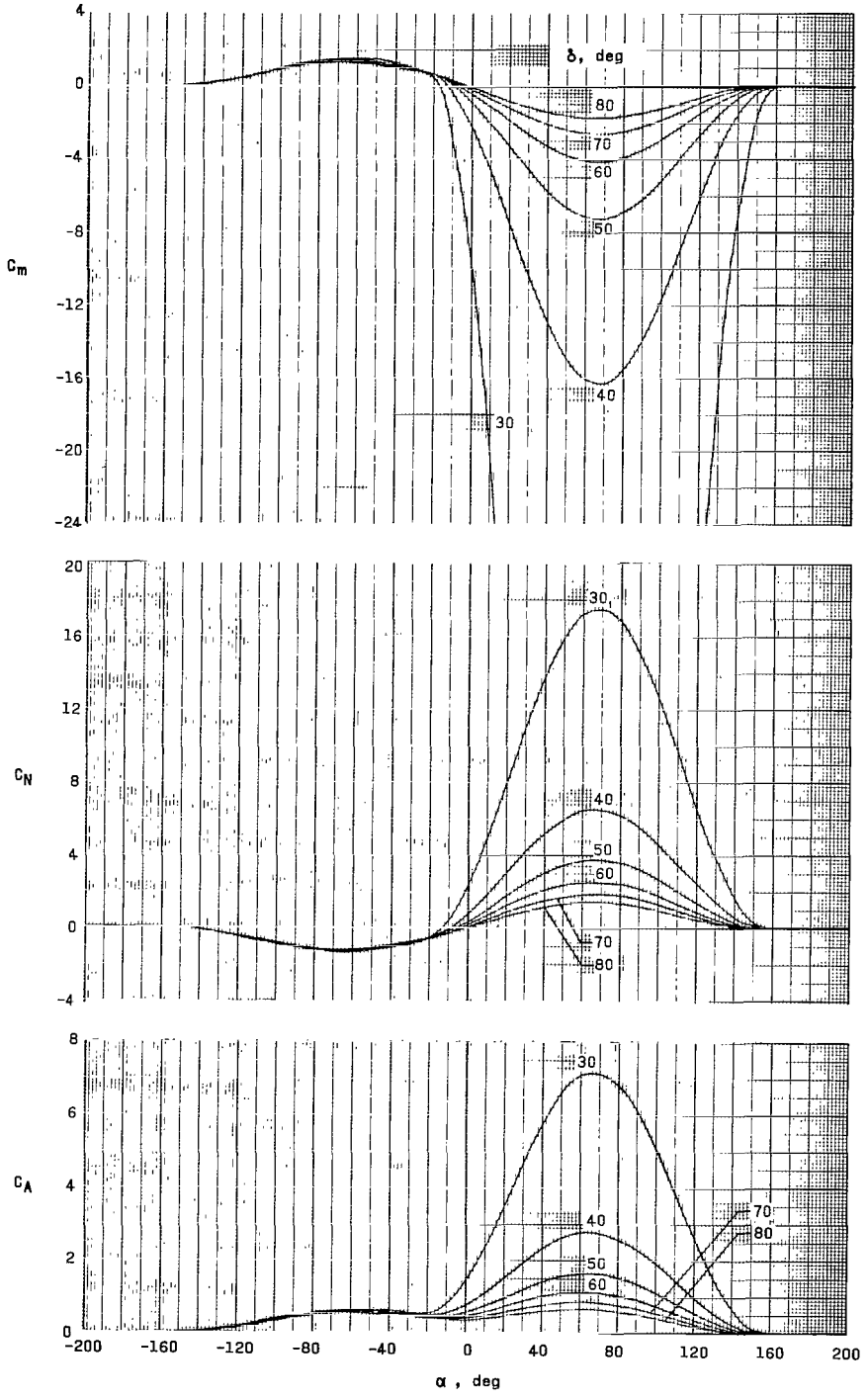
(b) $r/d = 0.1$.

Figure 6.- Continued.



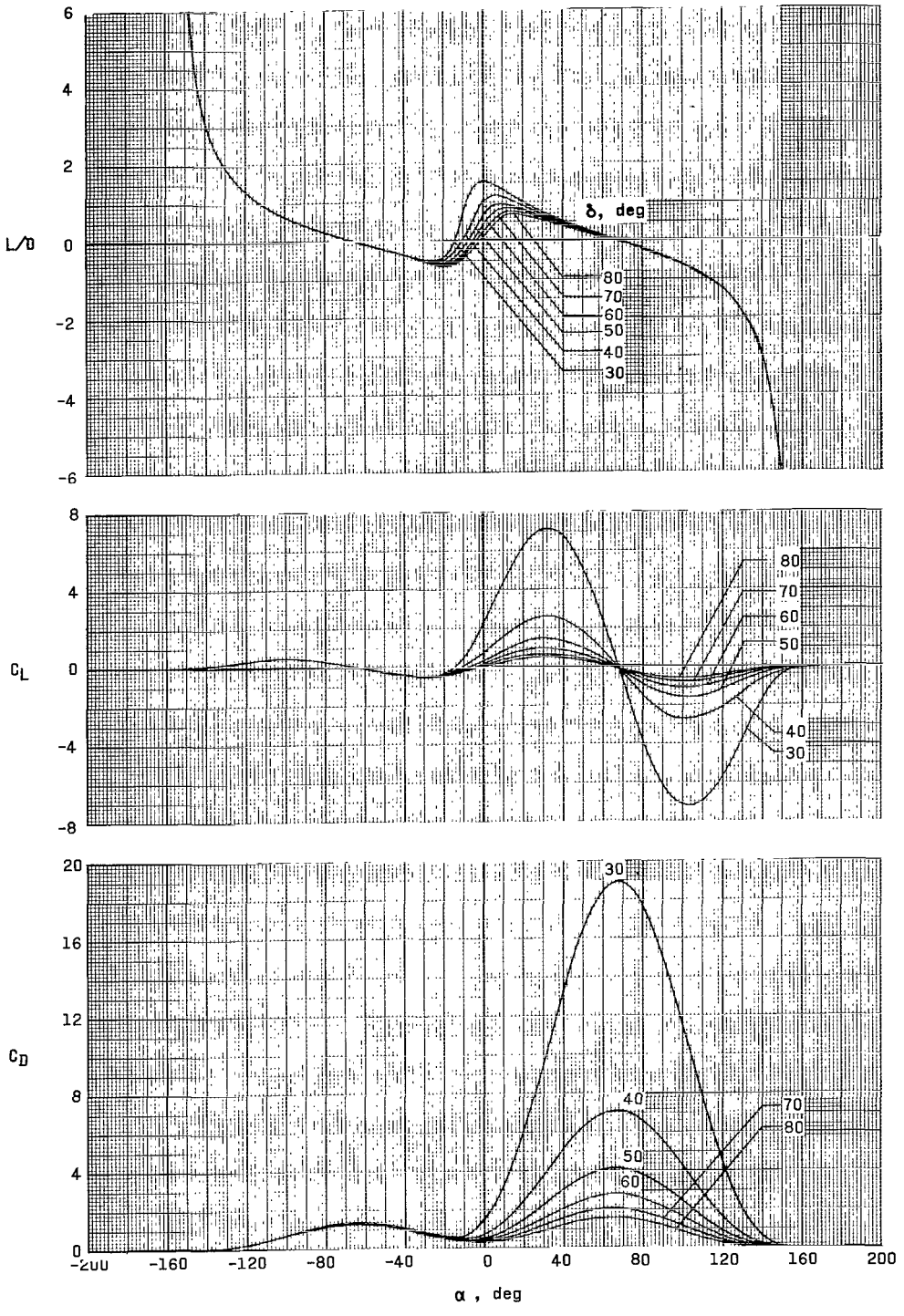
(b) r/d = 0.1.- Concluded.

Figure 6.- Continued.



(c) r/d = 0.2.

Figure 6.- Continued.



(c) r/d = 0.2.- Concluded.

Figure 6.- Continued.

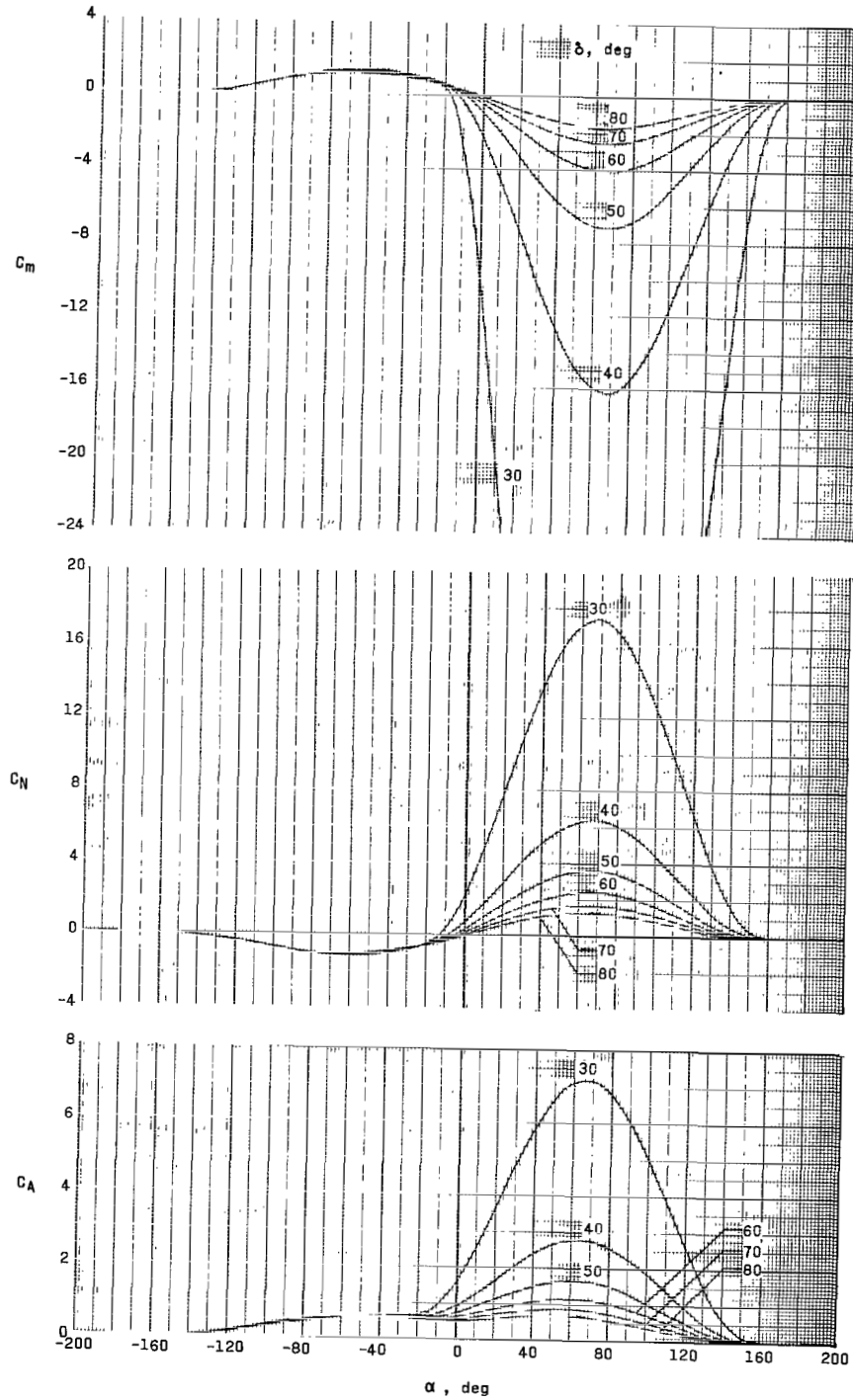
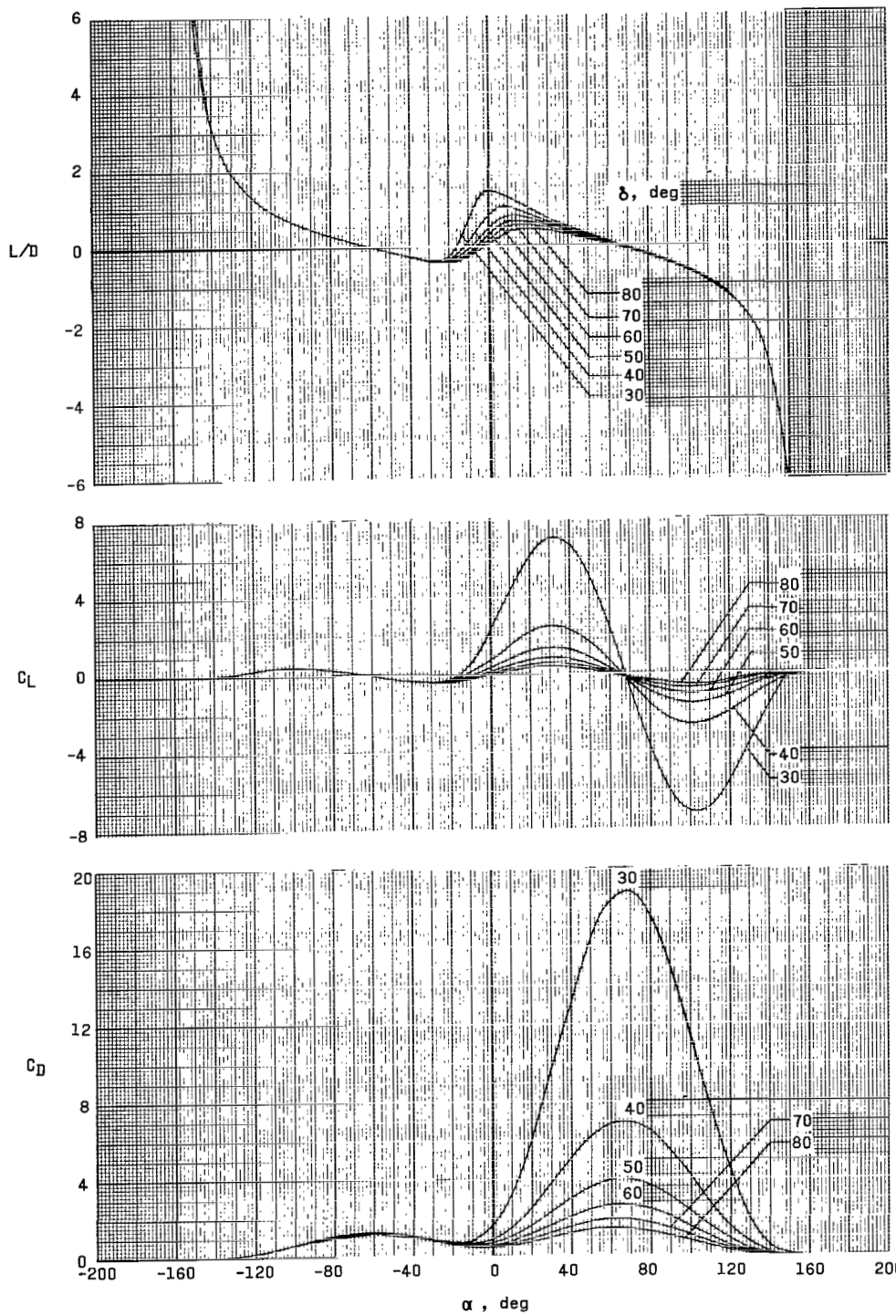
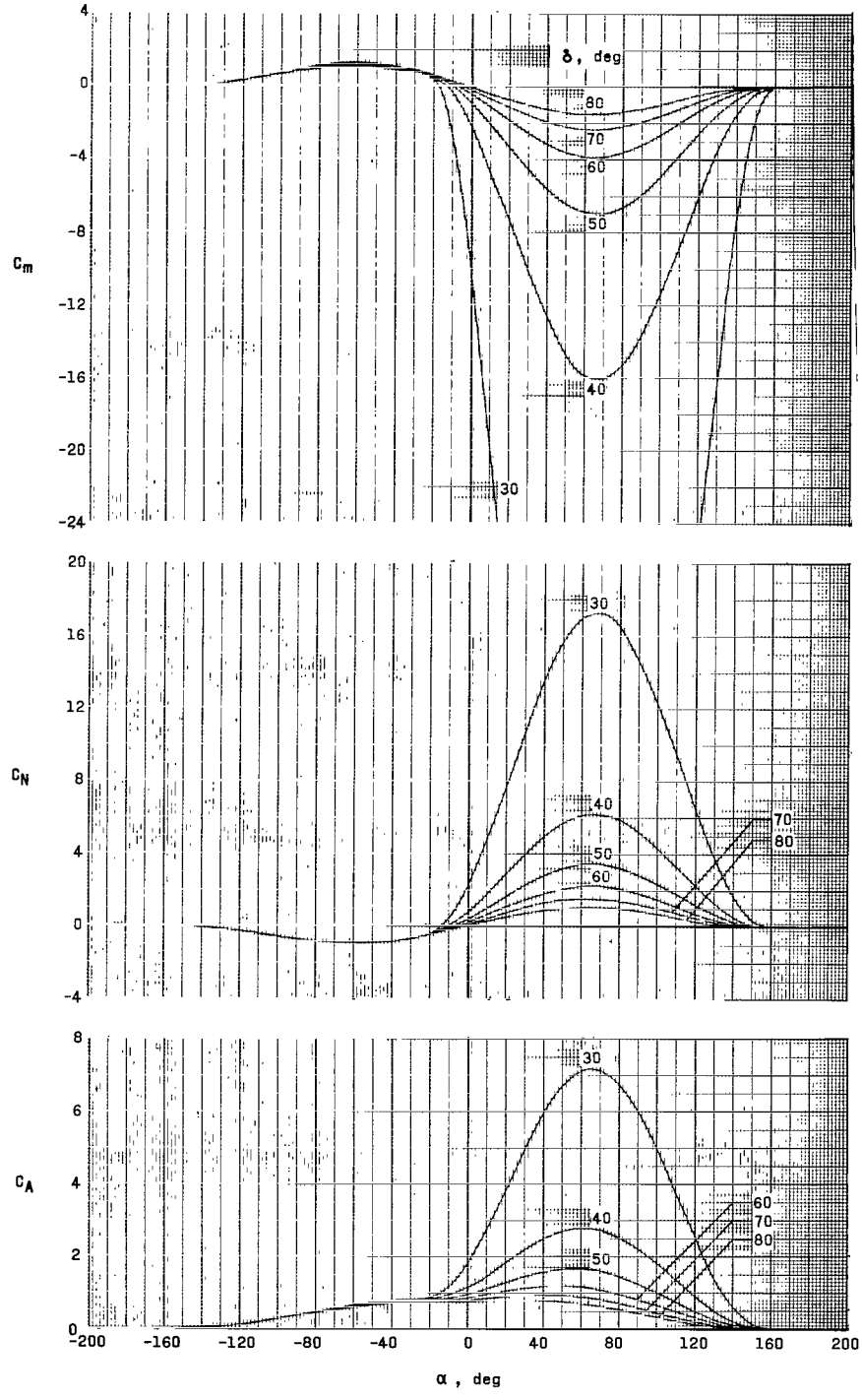


Figure 6.- Continued.



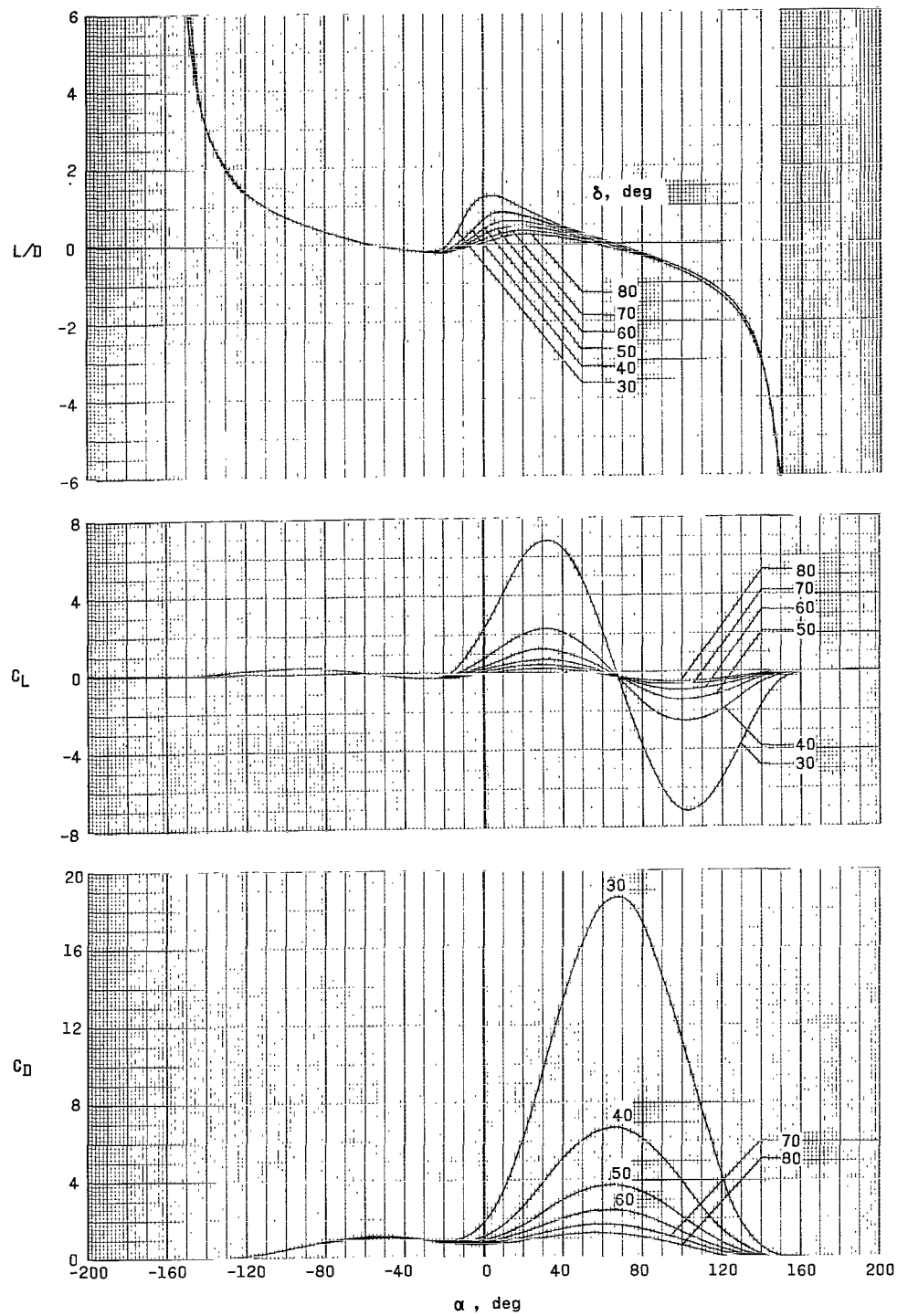
(d) r/d = 0.3.- Concluded.

Figure 6.- Continued.



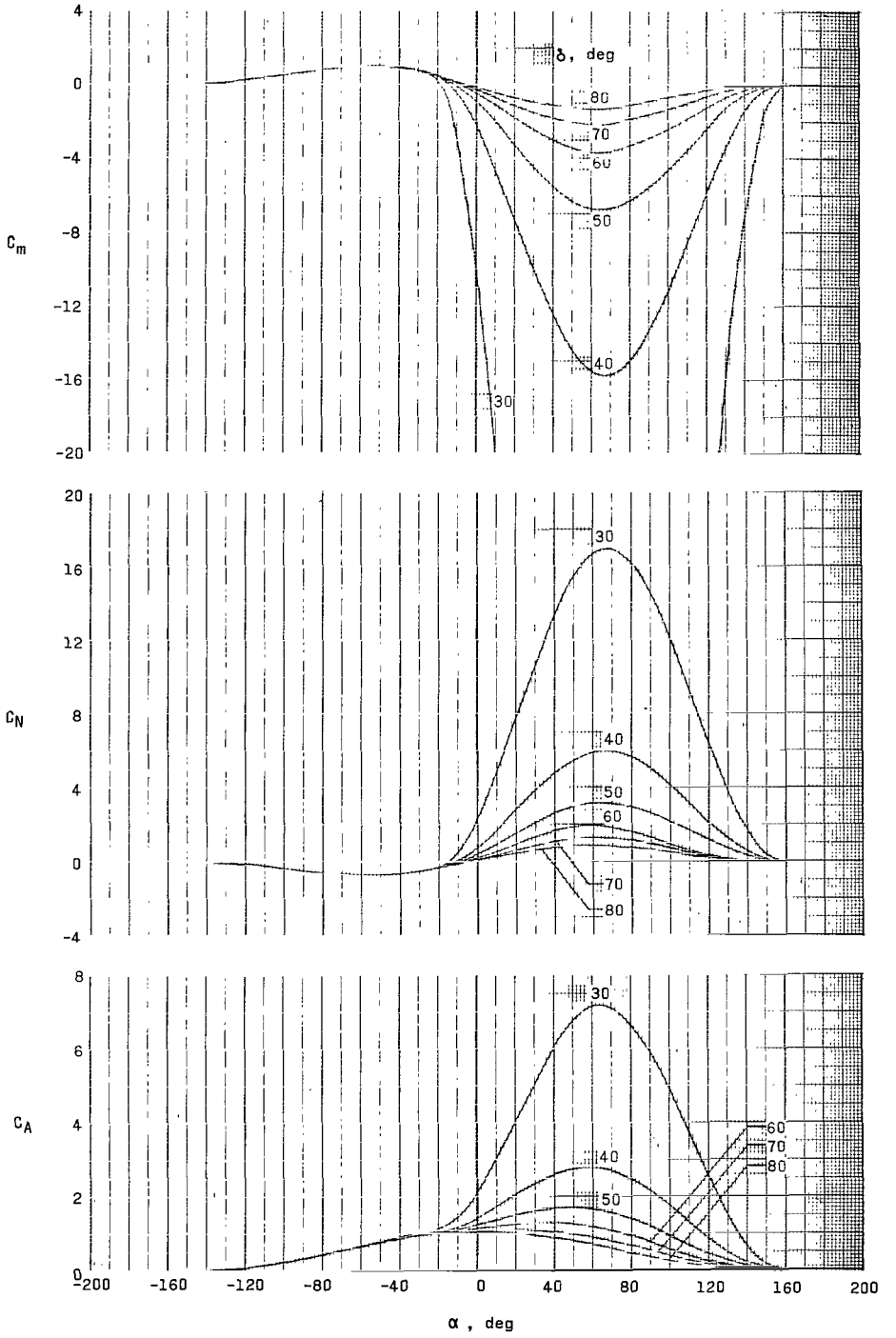
(e) r/d = 0.4.

Figure 6.- Continued.



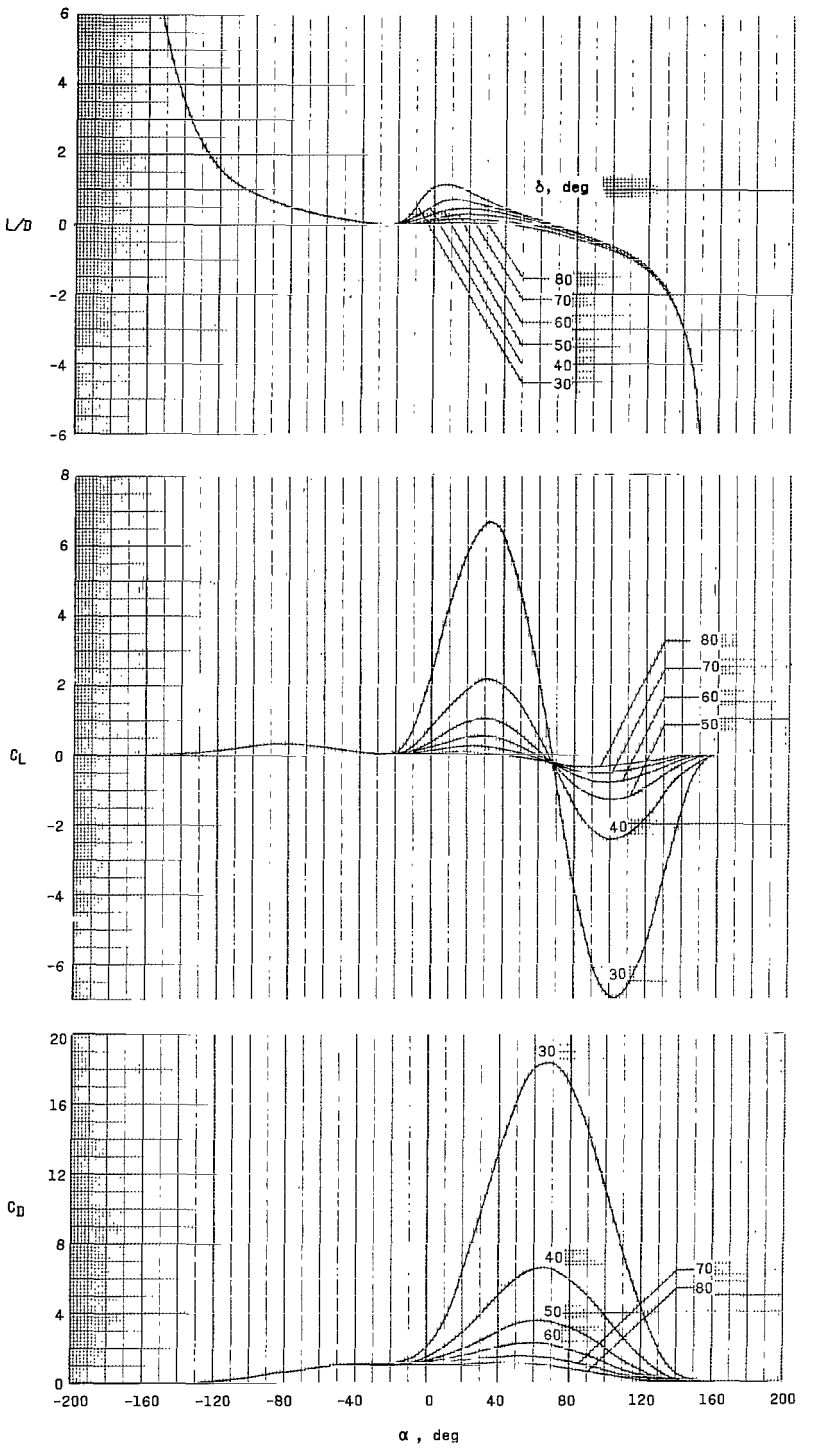
(e) r/d = 0.4.- Concluded.

Figure 6.- Continued.



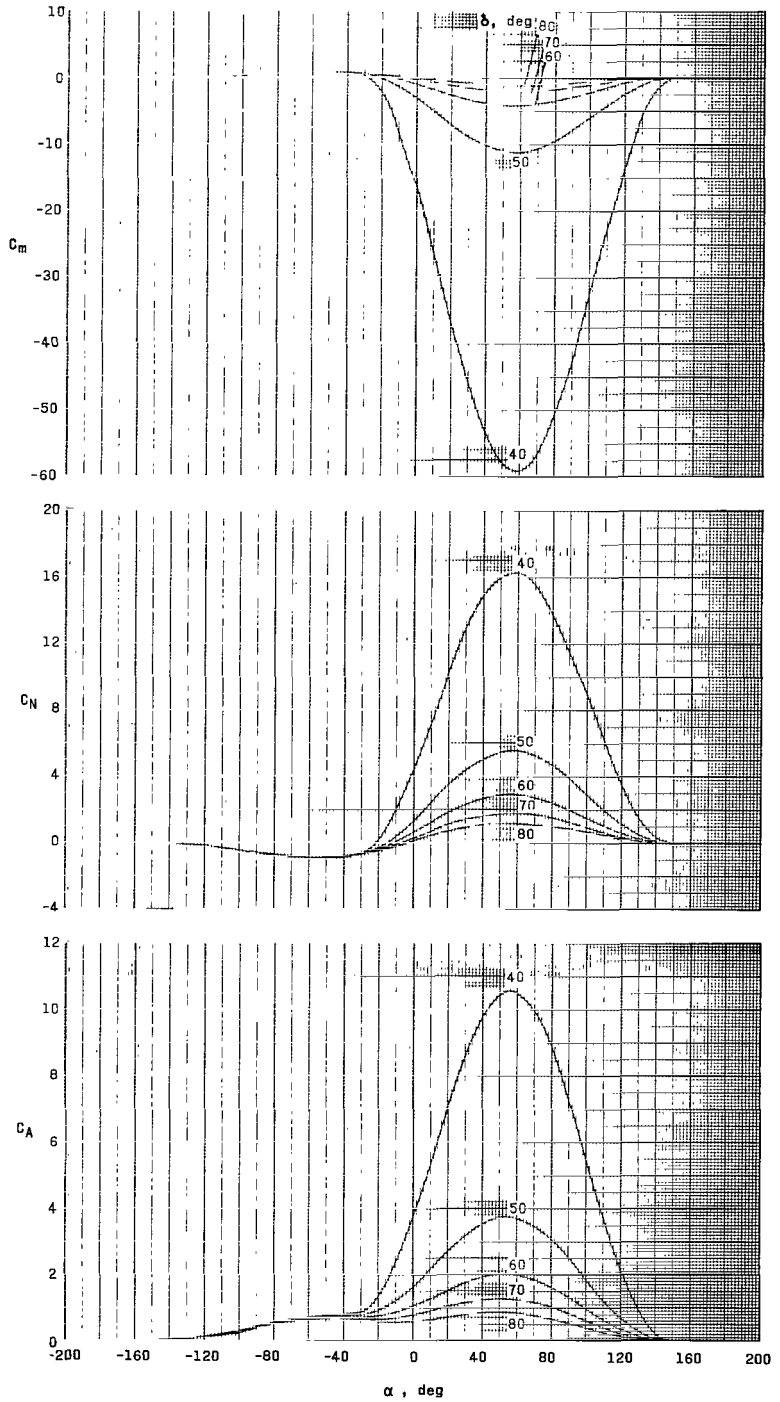
(f) r/d = 0.5.

Figure 6.- Continued.



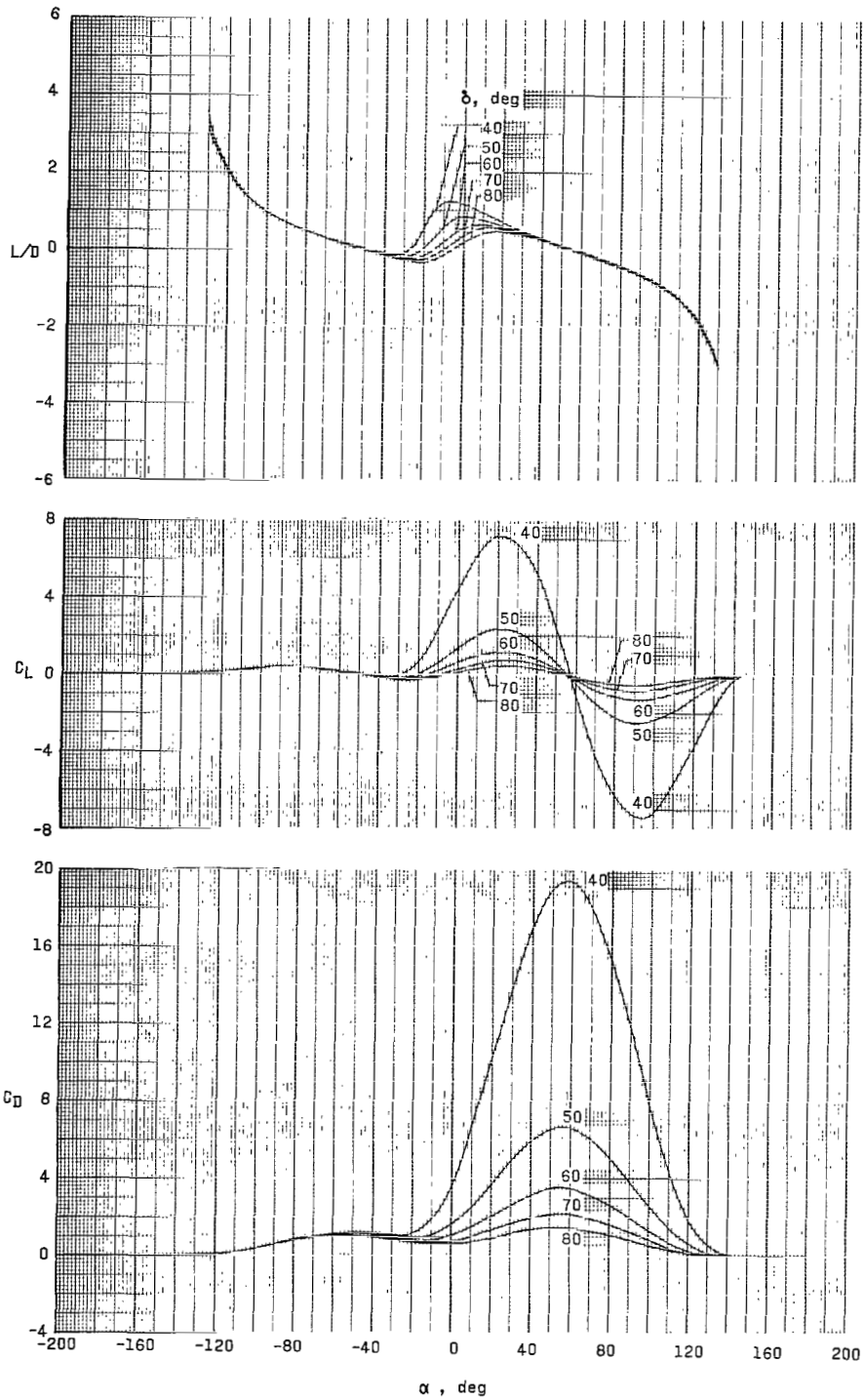
(f) r/d = 0.5.- Concluded.

Figure 6.- Concluded.



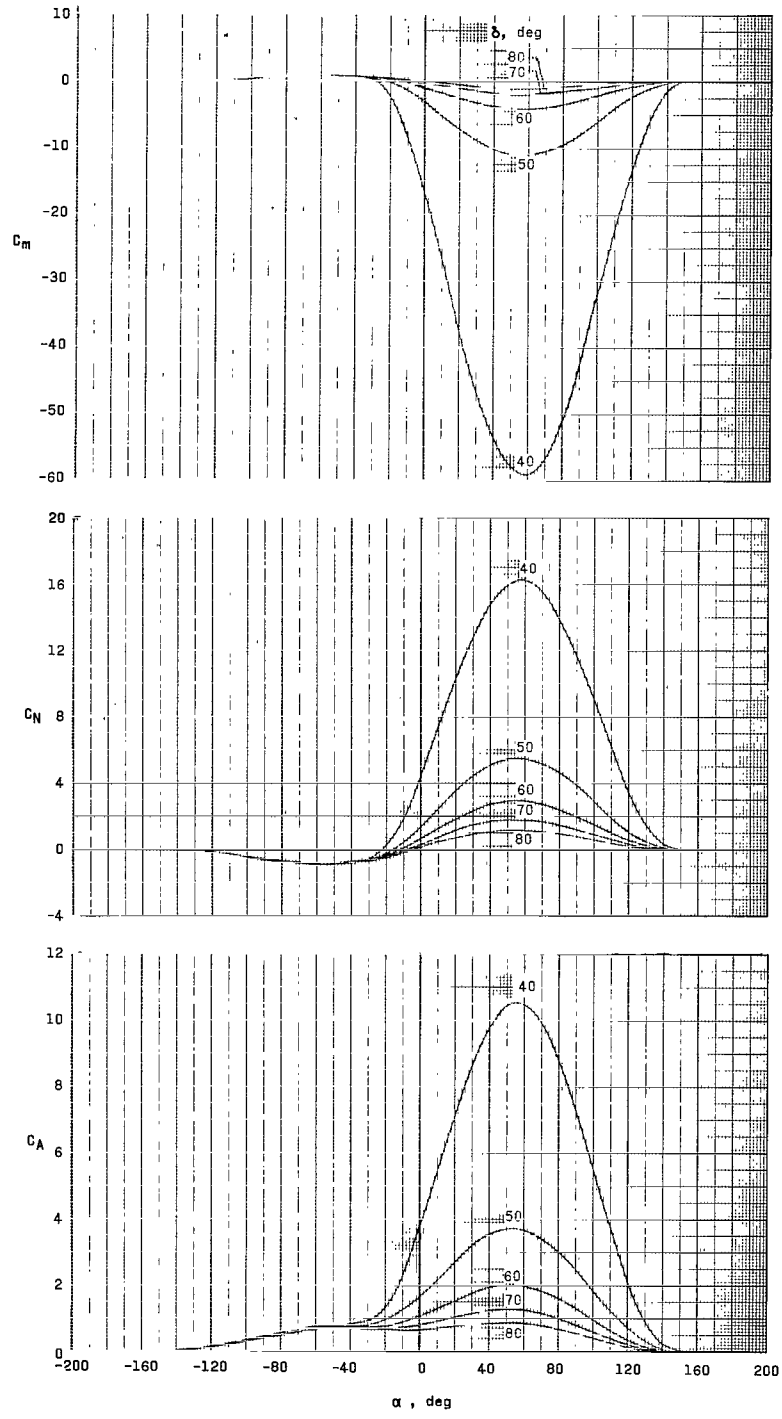
(a) r/d = 0.

Figure 7.- Raked-off circular-cone configuration longitudinal aerodynamics. $\theta = 30^\circ$.



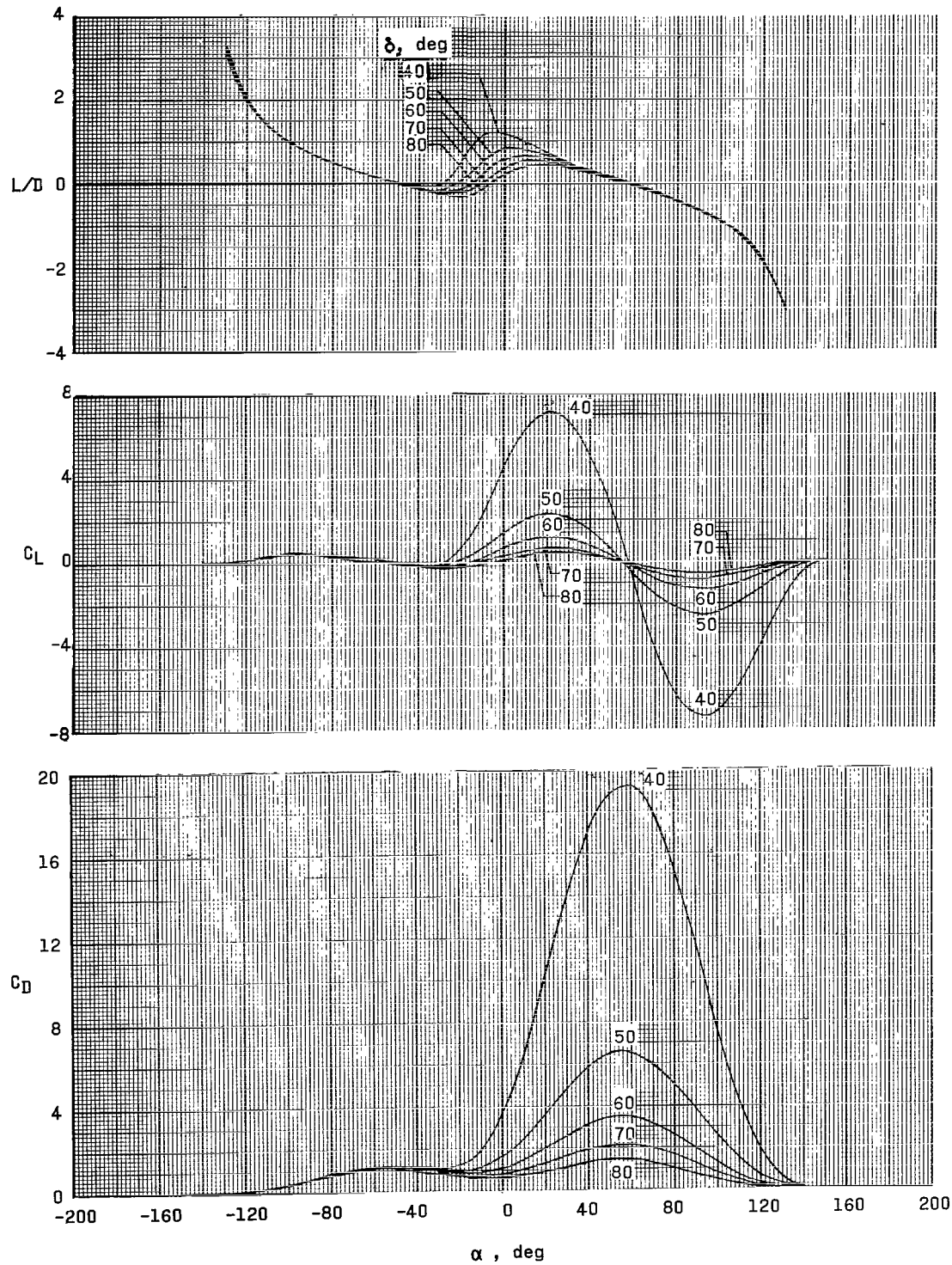
(a) r/d = 0.- Concluded.

Figure 7.- Continued.



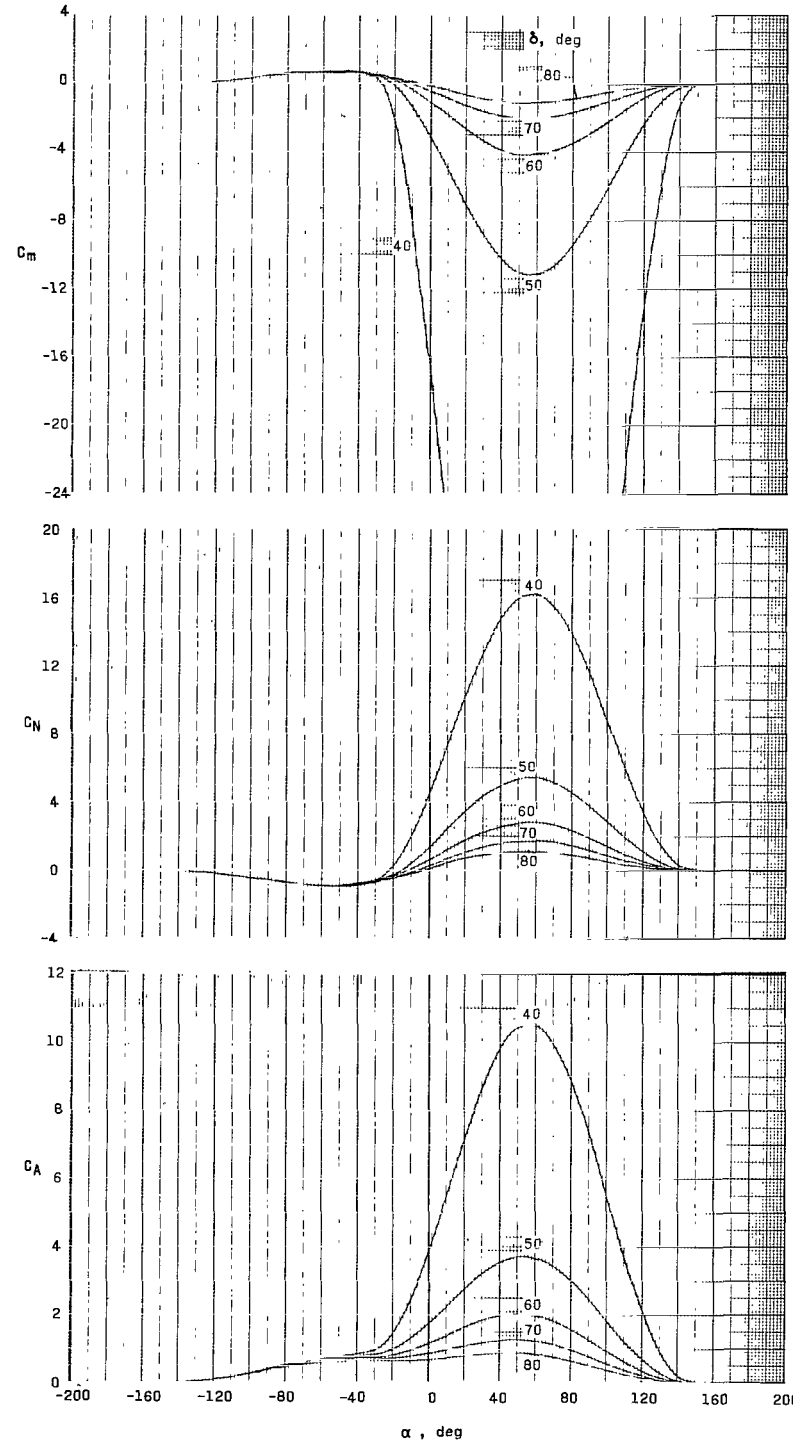
(b) r/d = 0.1.

Figure 7.- Continued.



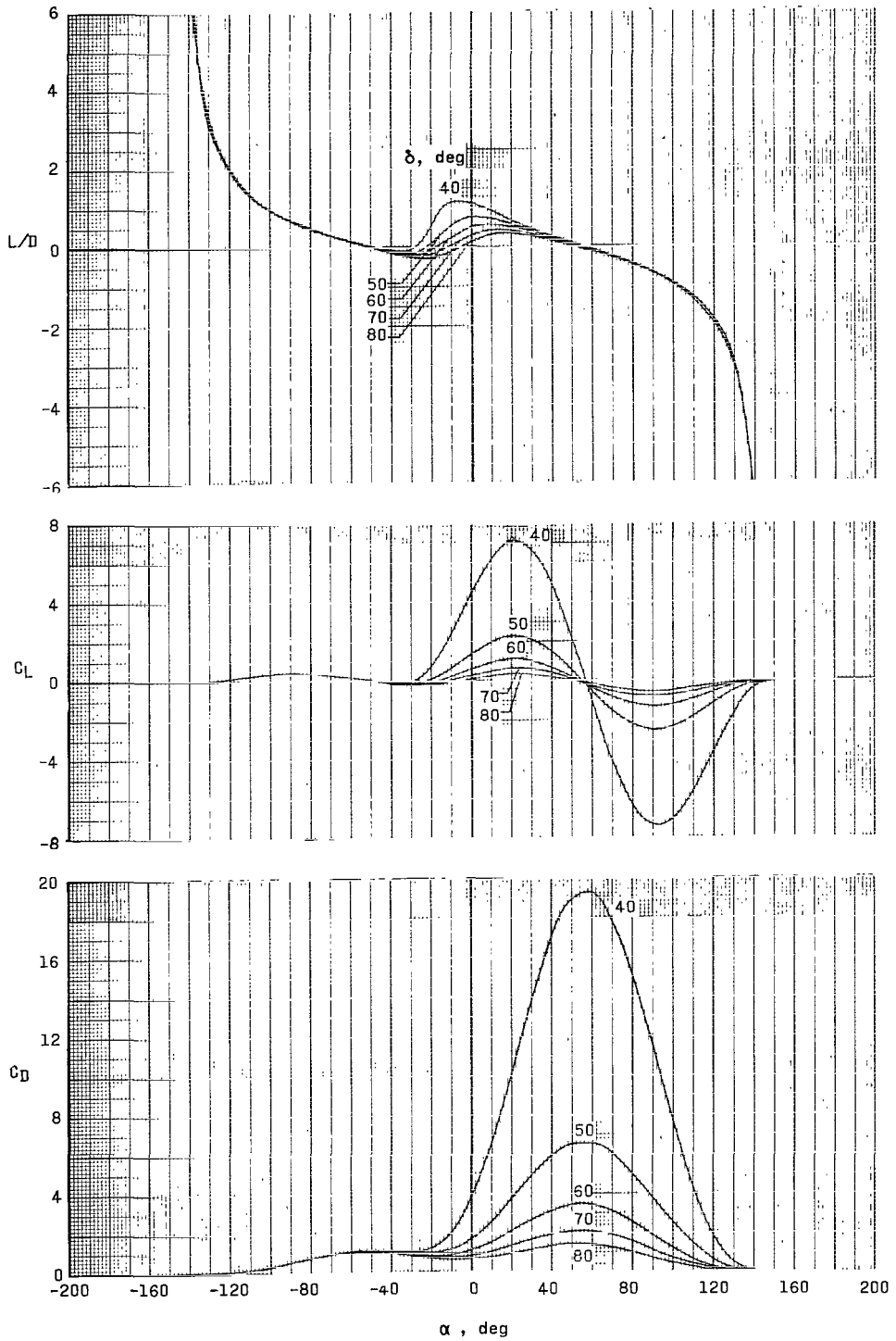
(b) r/d = 0.1.- Concluded.

Figure 7.- Continued.



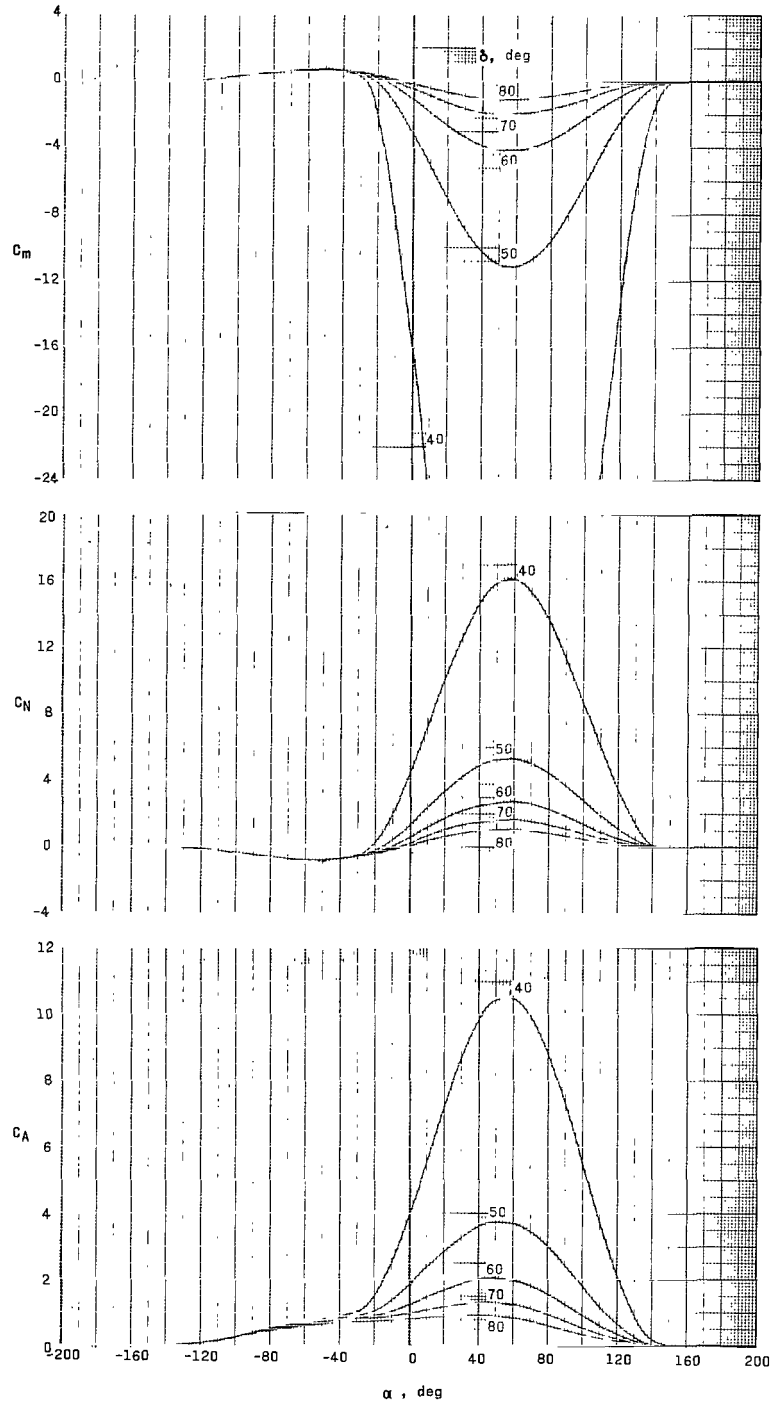
(c) r/d = 0.2.

Figure 7.- Continued.



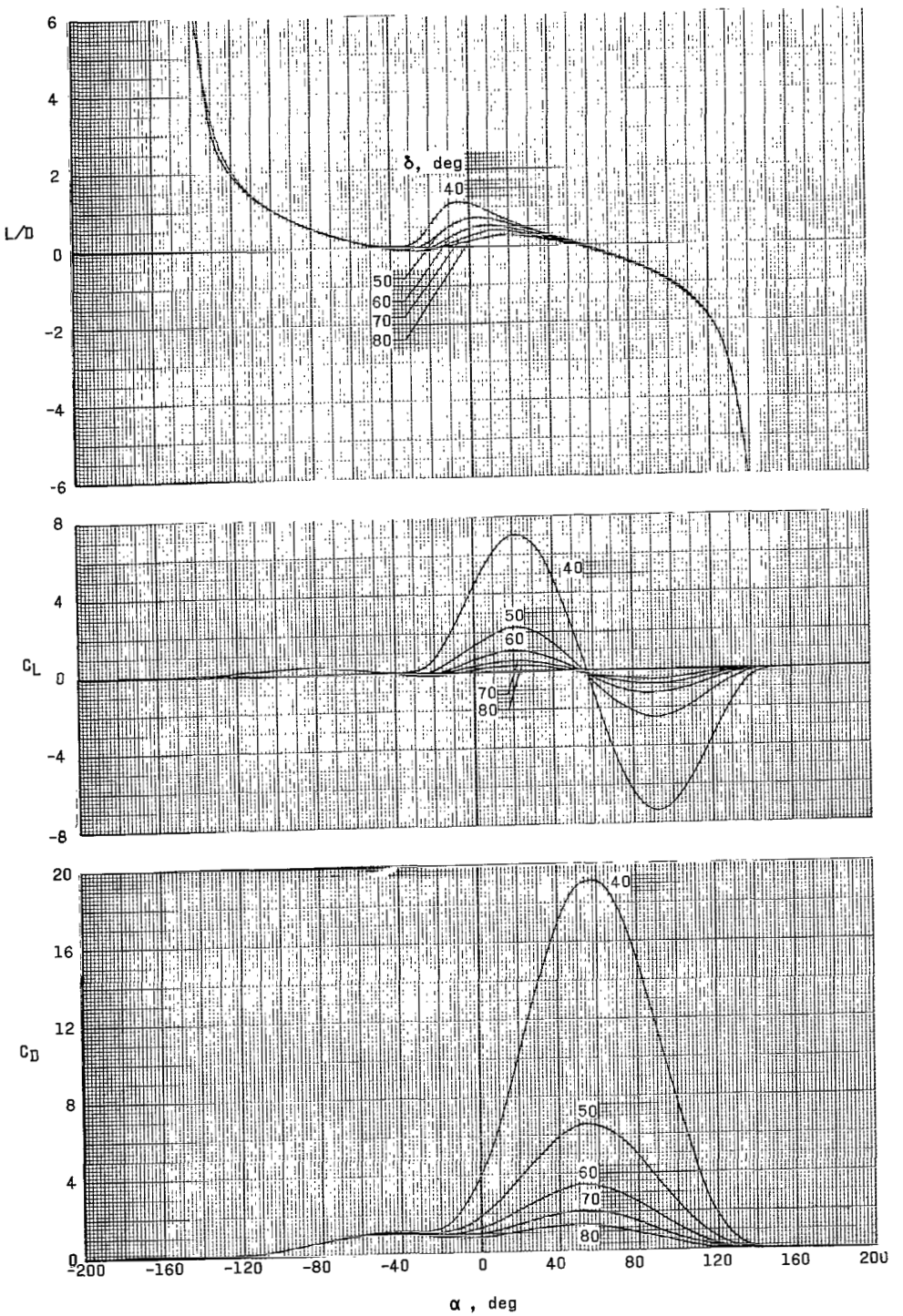
(c) r/d = 0.2.- Concluded

Figure 7.- Continued.



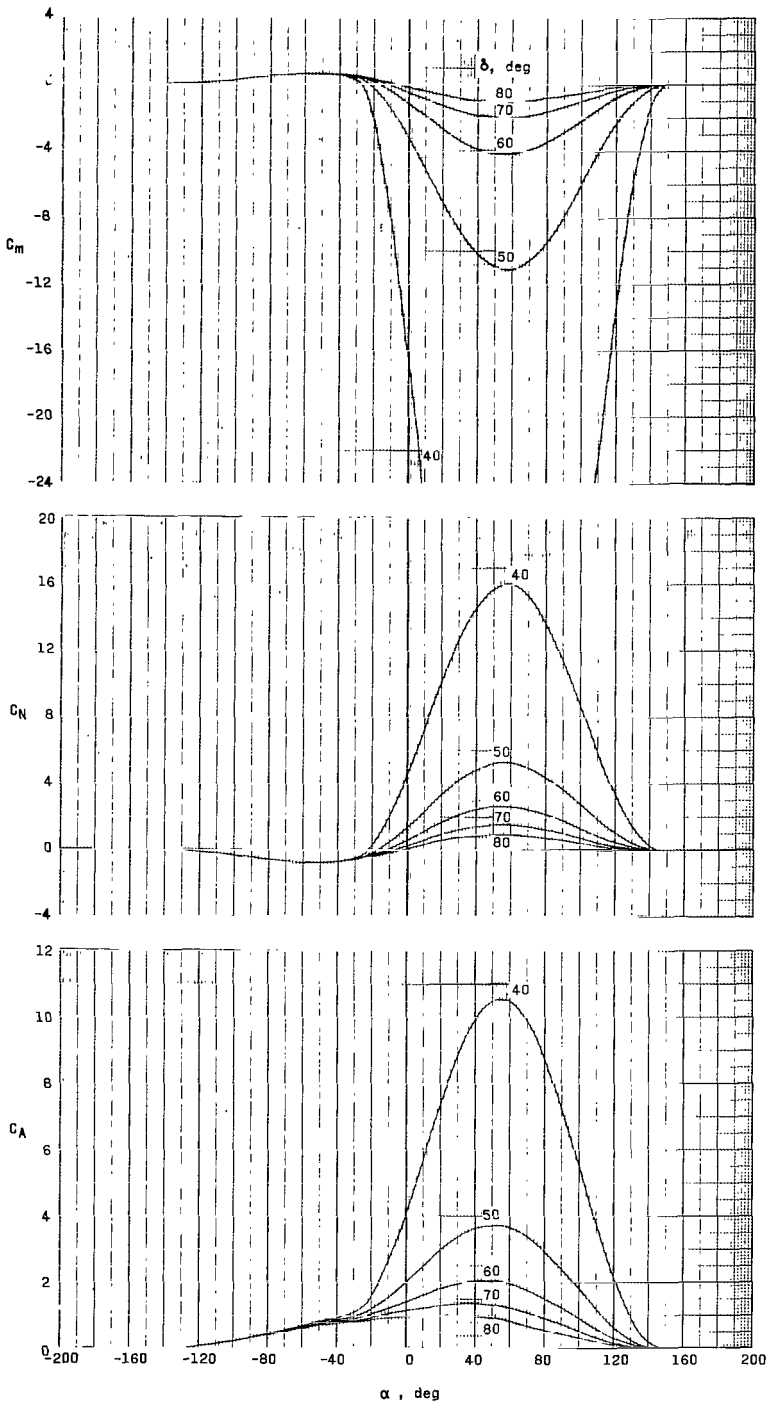
(d) r/d = 0.3.

Figure 7.- Continued.



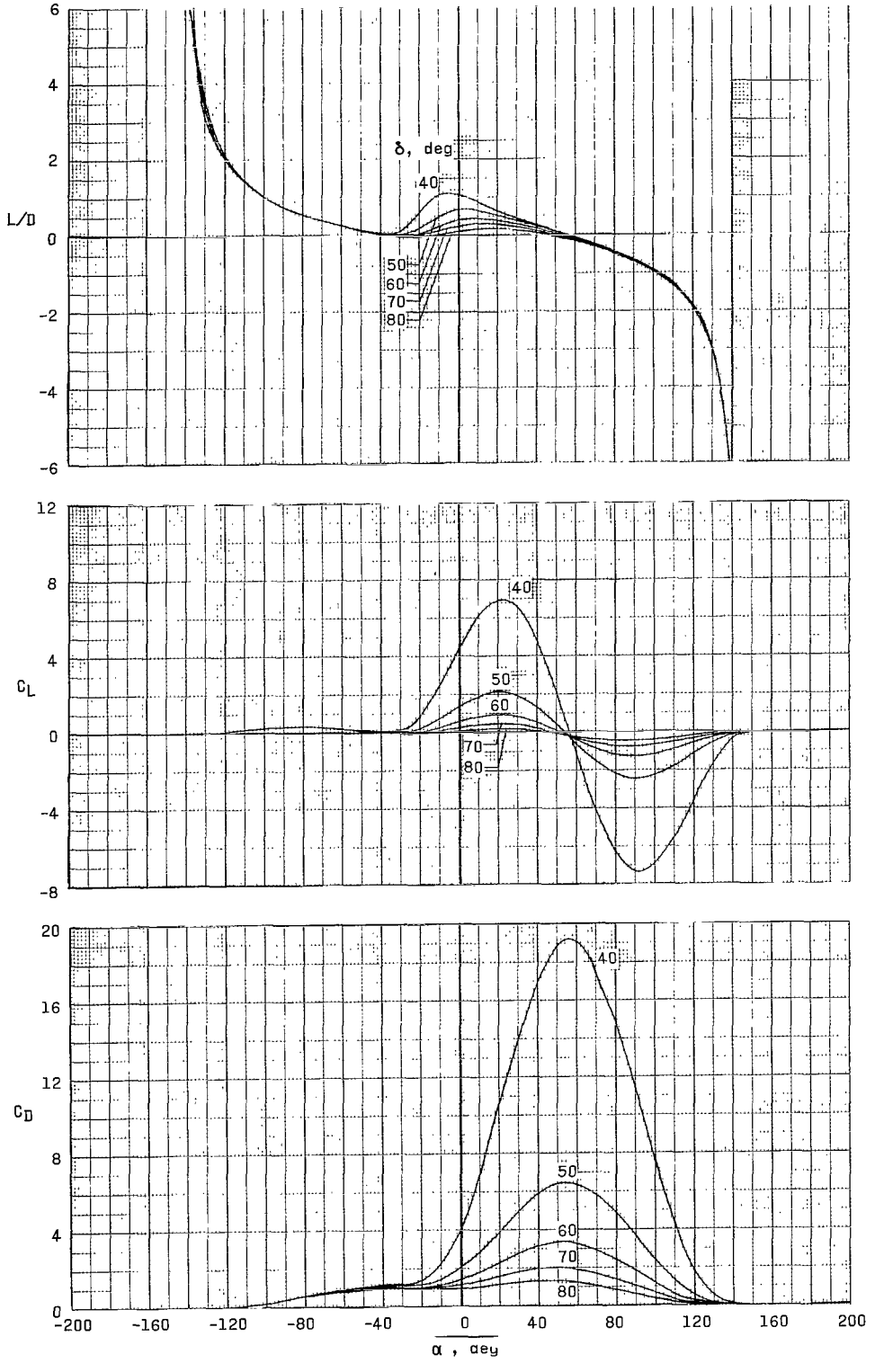
(d) r/d = 0.3.- Concluded.

Figure 7.- Continued.



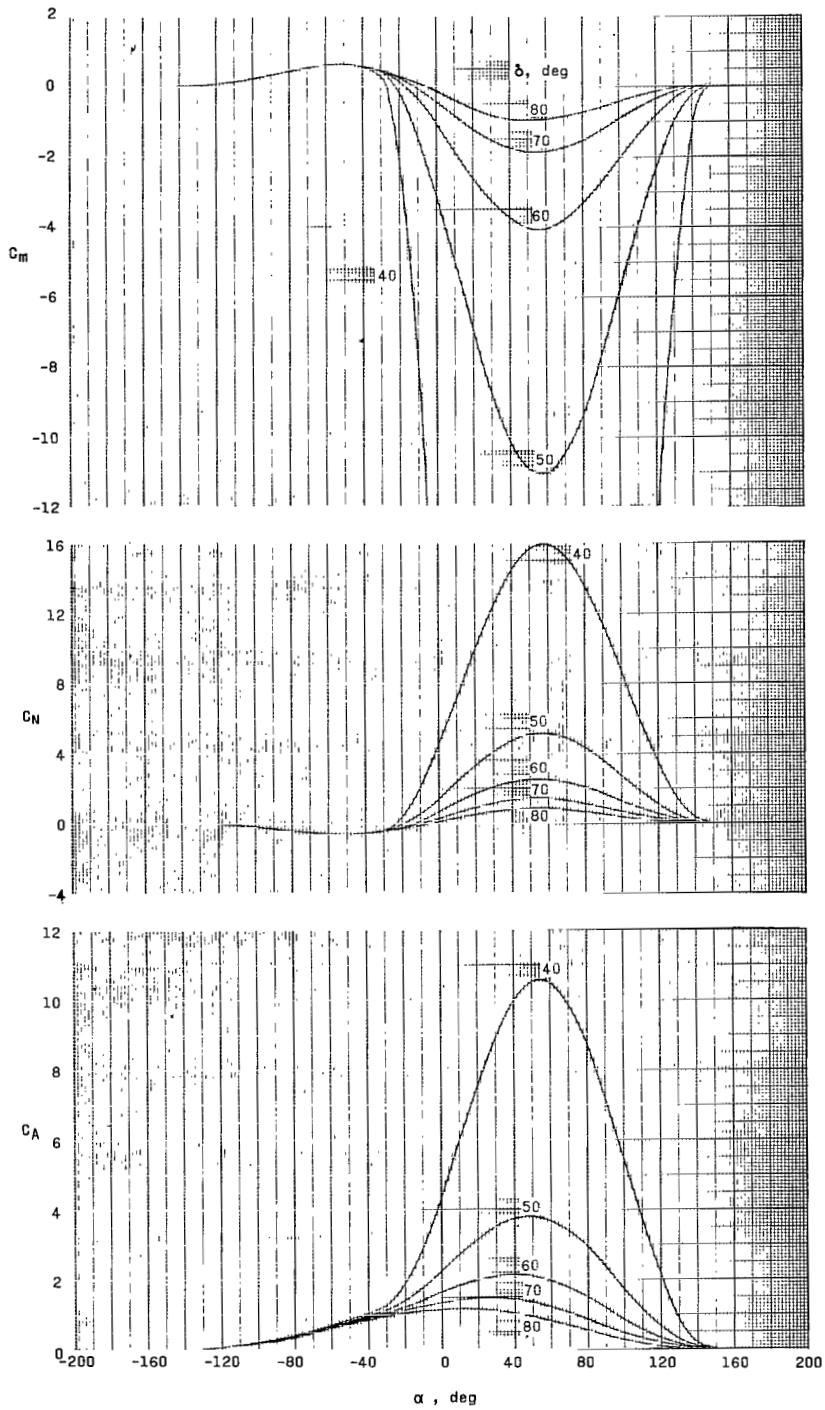
(e) r/d = 0.4.

Figure 7.- Continued.



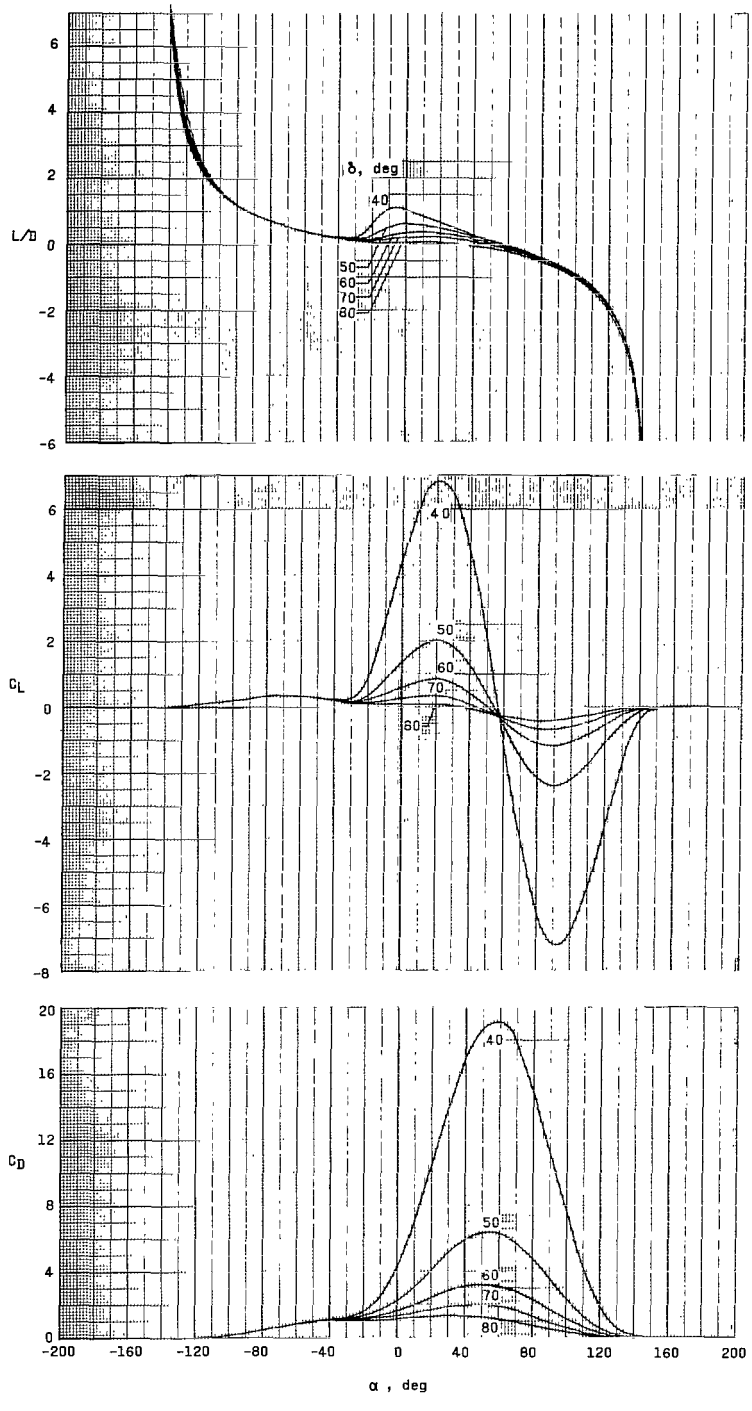
(e) r/d = 0.4.- Concluded.

Figure 7.- Continued.



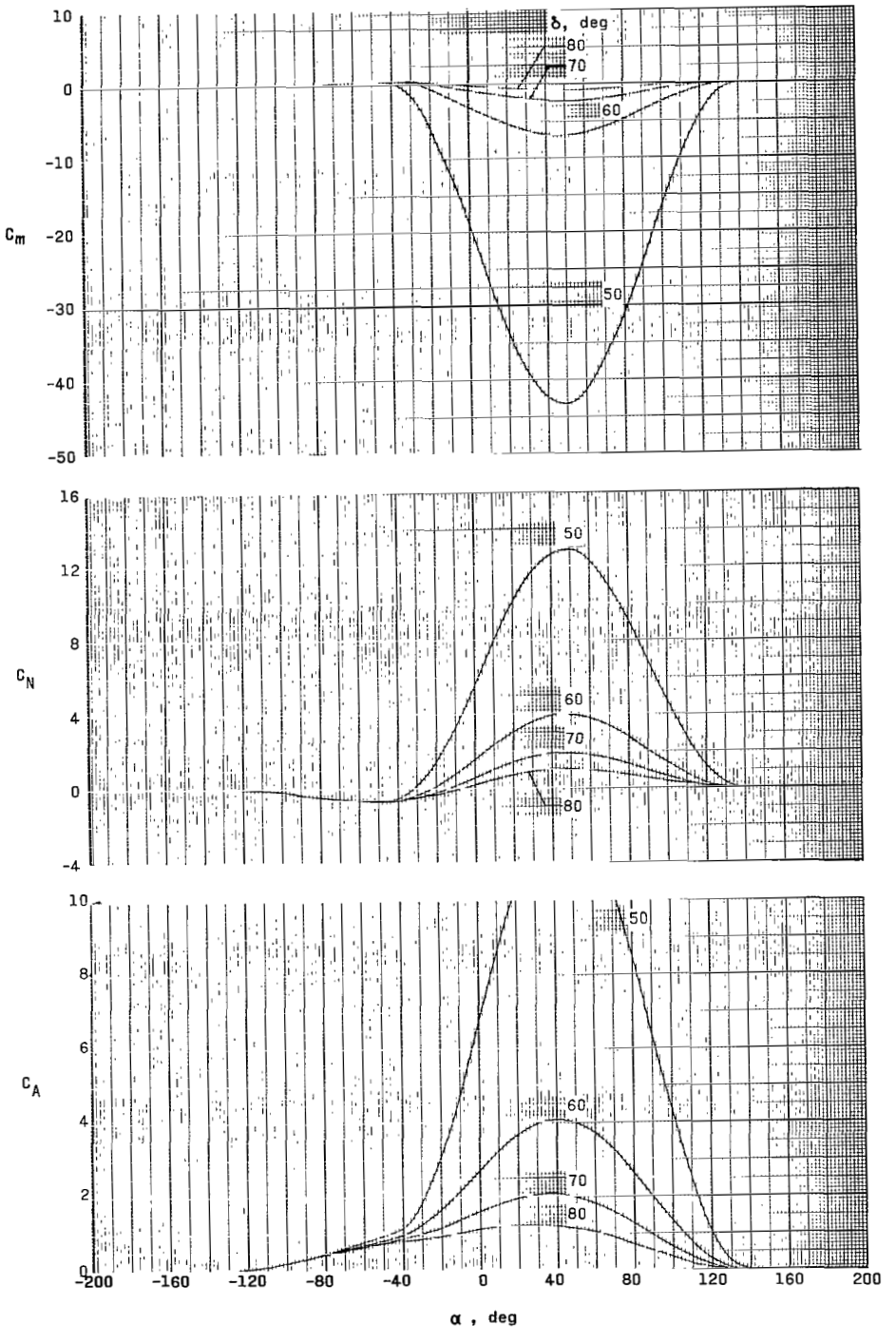
(f) r/d = 0.5.

Figure 7.- Continued.



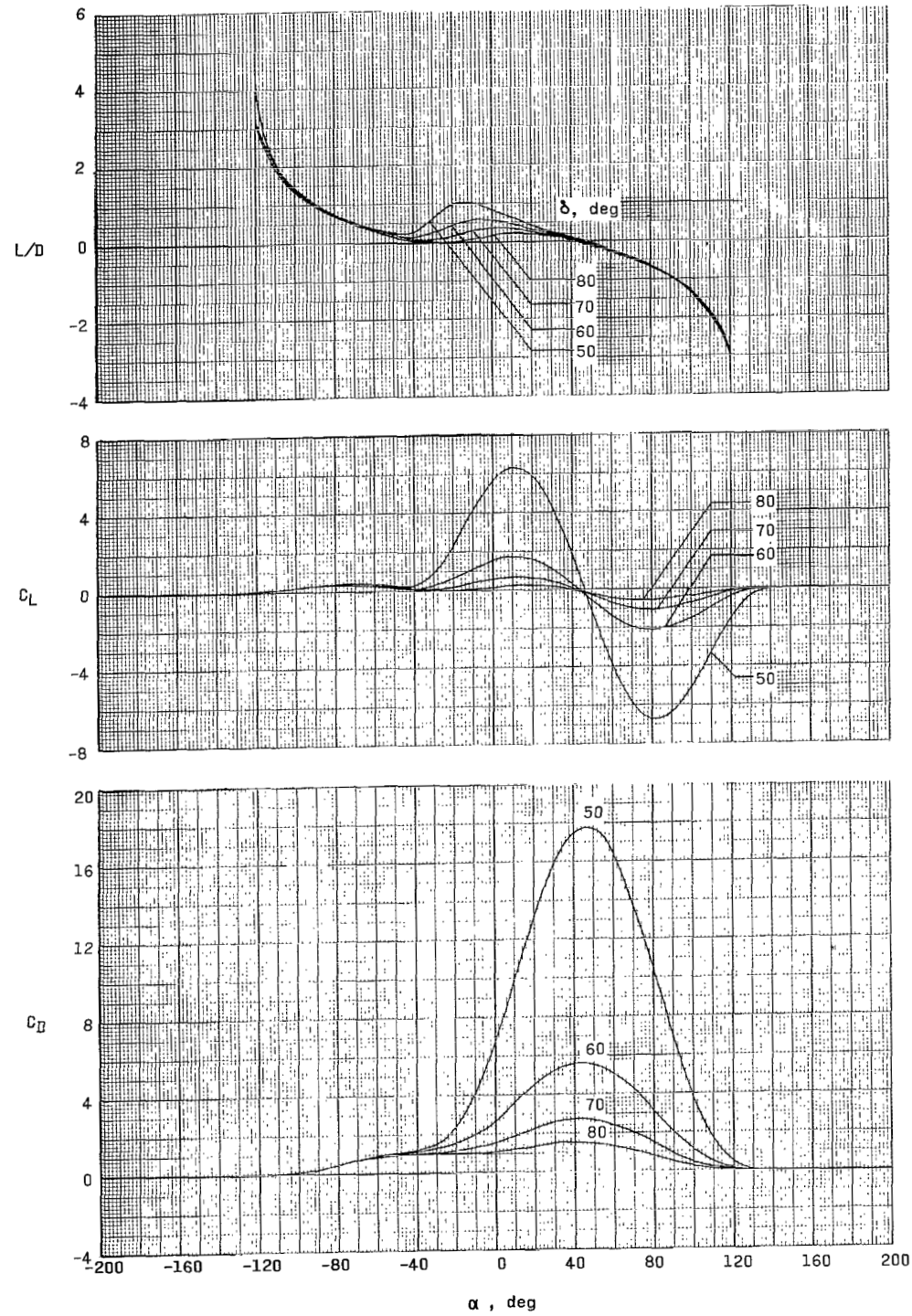
(f) r/d = 0.5.- Concluded.

Figure 7.- Concluded.



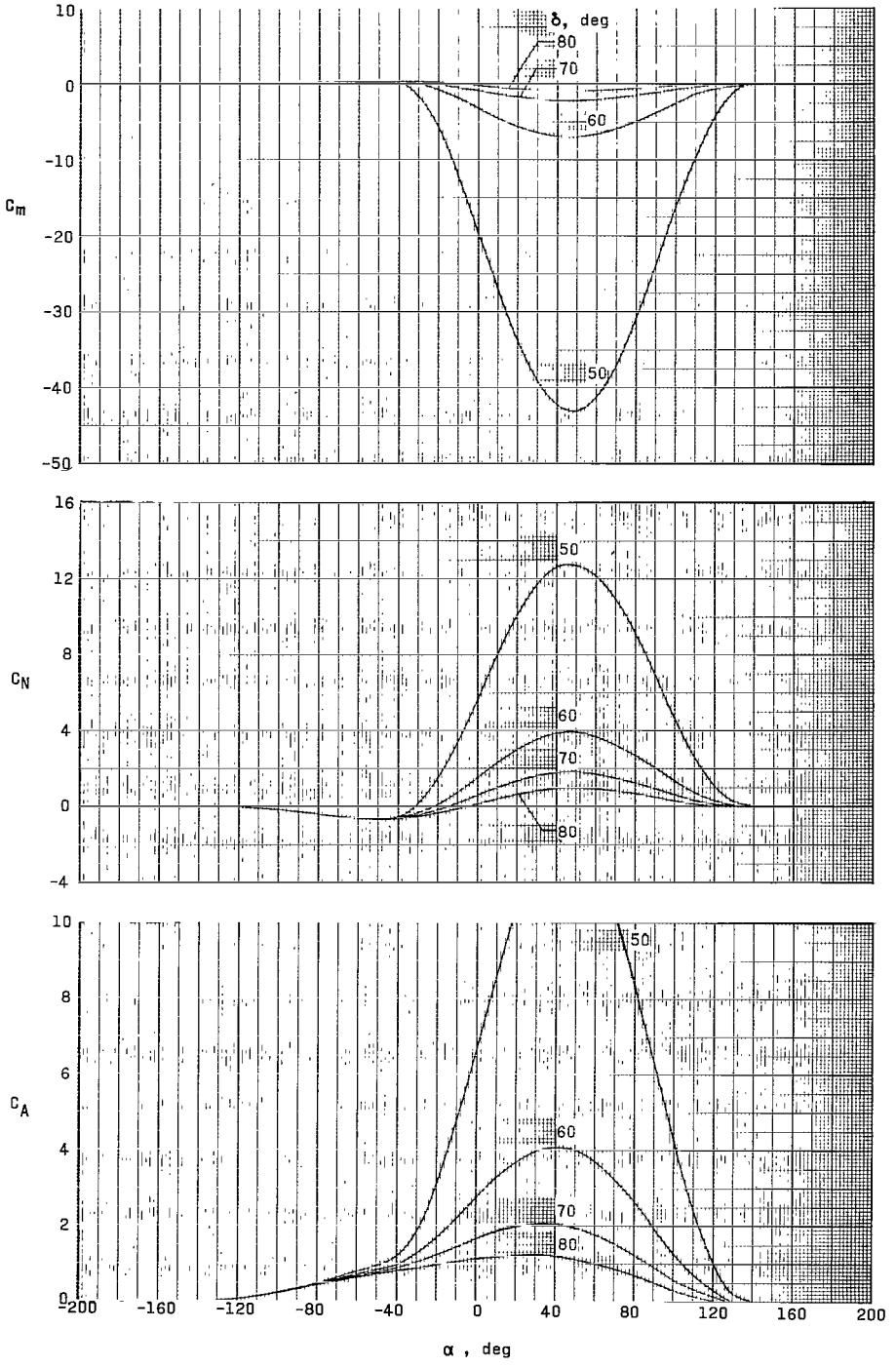
(a) r/d = 0.

Figure 8.- Raked-off circular-cone configuration longitudinal aerodynamics. $\theta = 40^\circ$



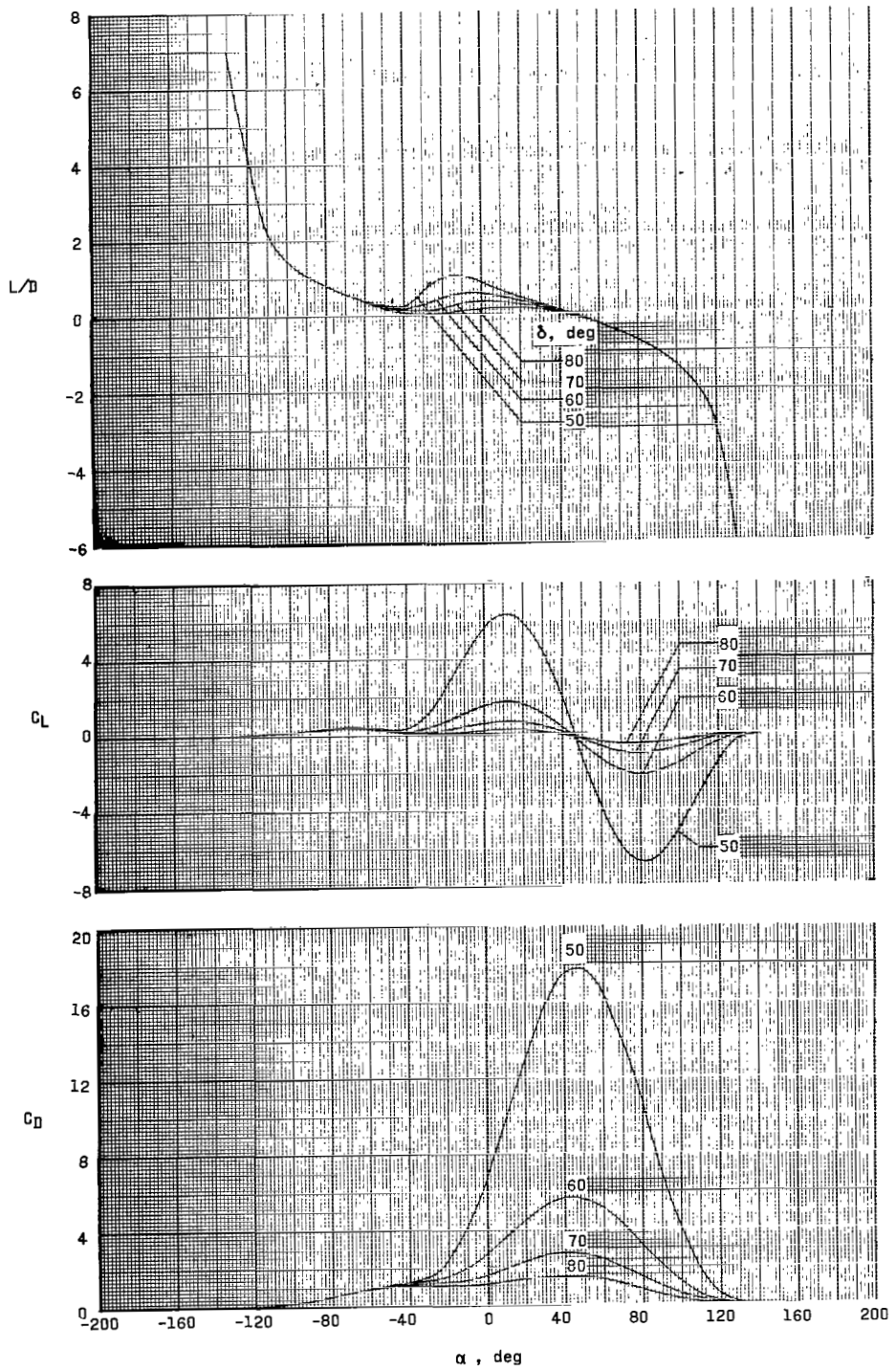
(a) r/d = 0.- Concluded.

Figure 8.- Continued.



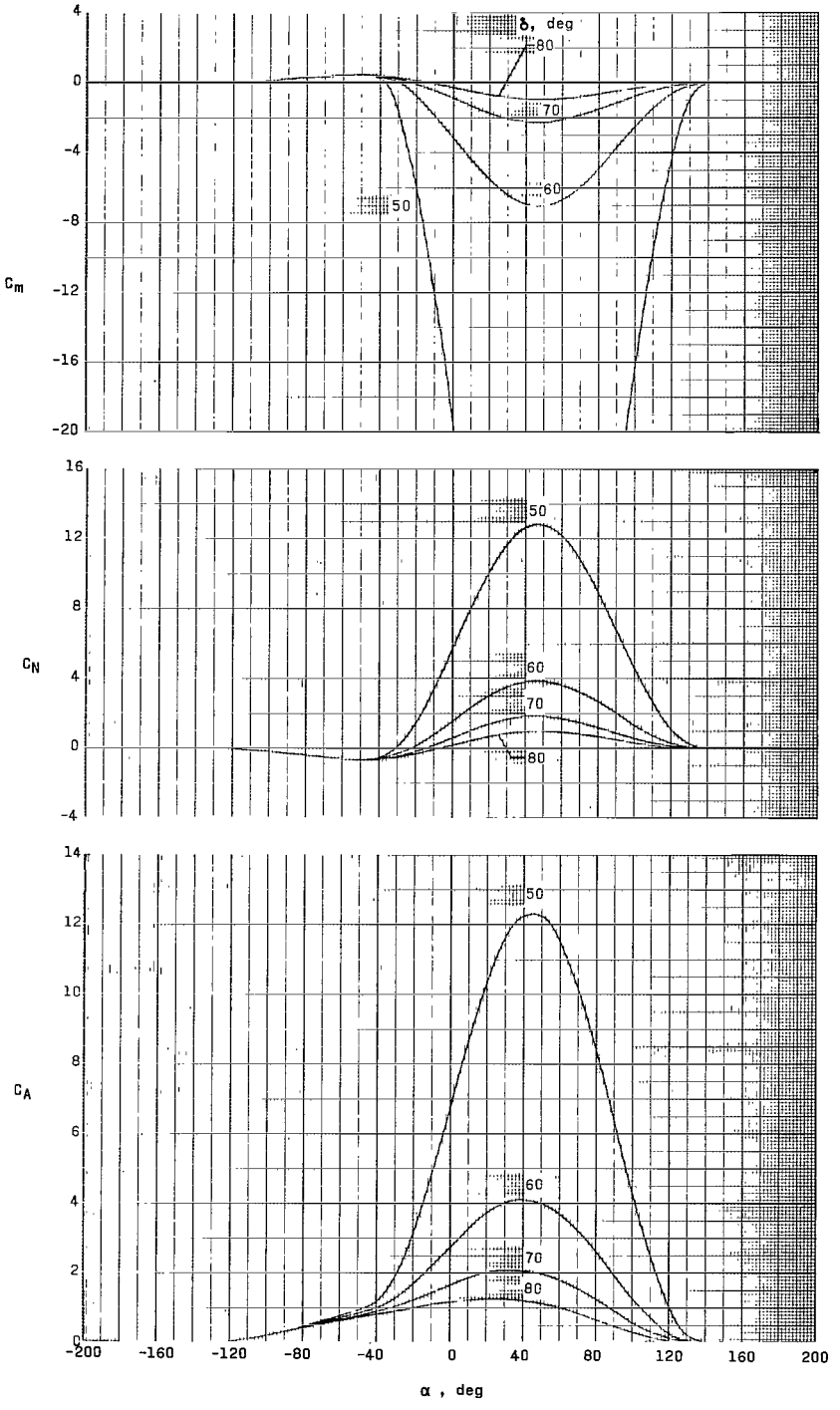
(b) r/d = 0.1.

Figure 8.- Continued.



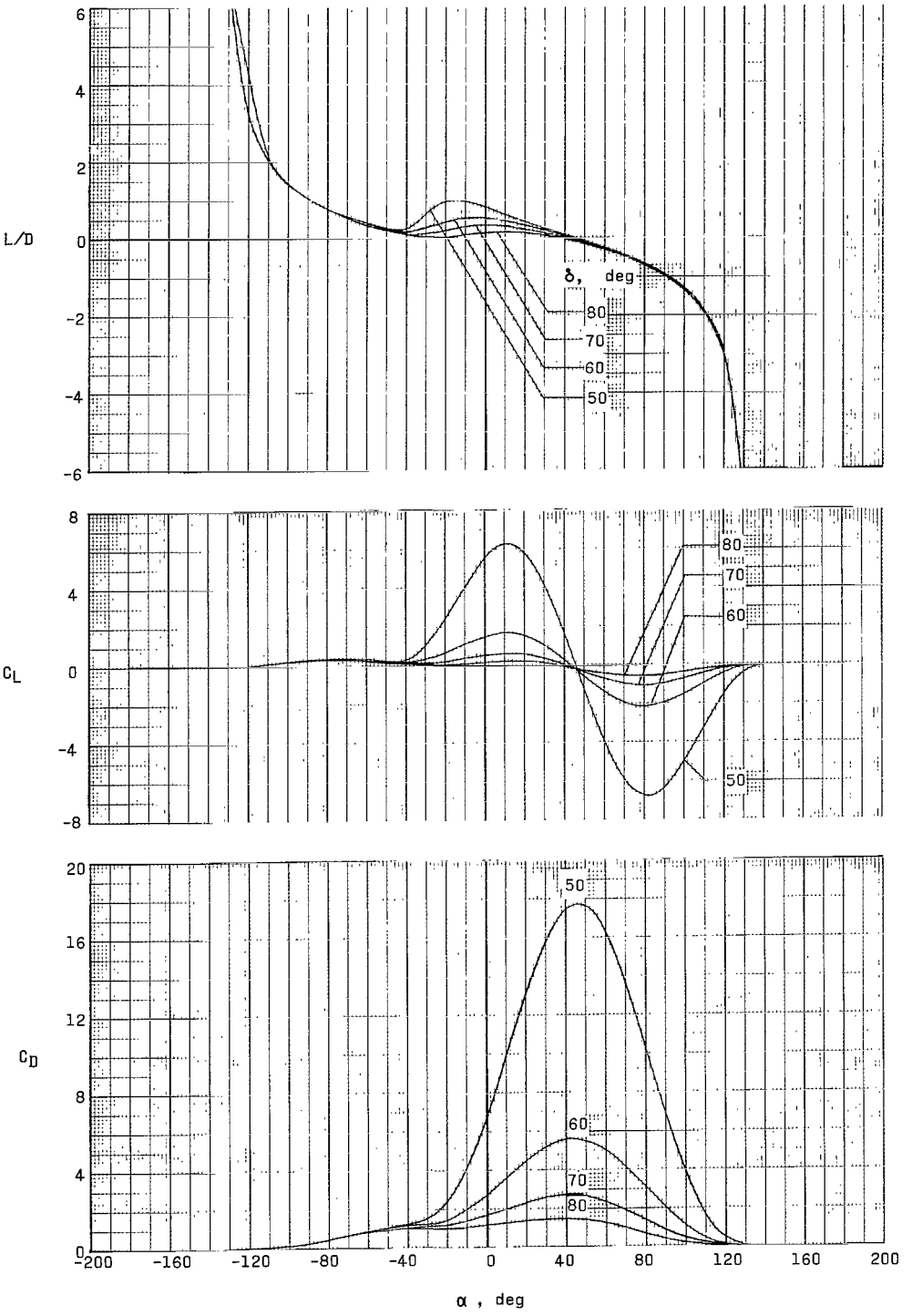
(b) r/d = 0.1.- Concluded.

Figure 8.- Continued.



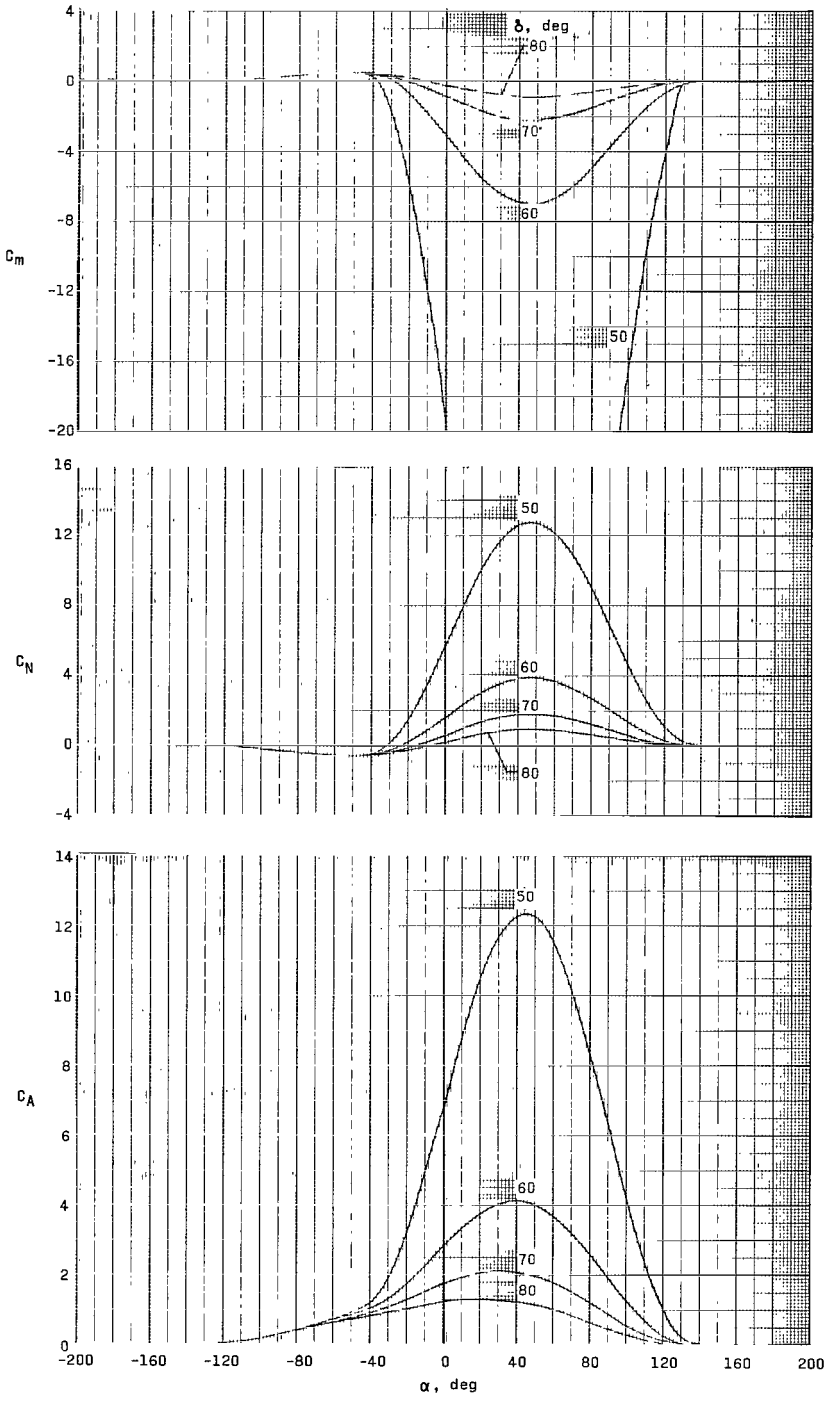
(c) r/d = 0.2.

Figure 8.- Continued.



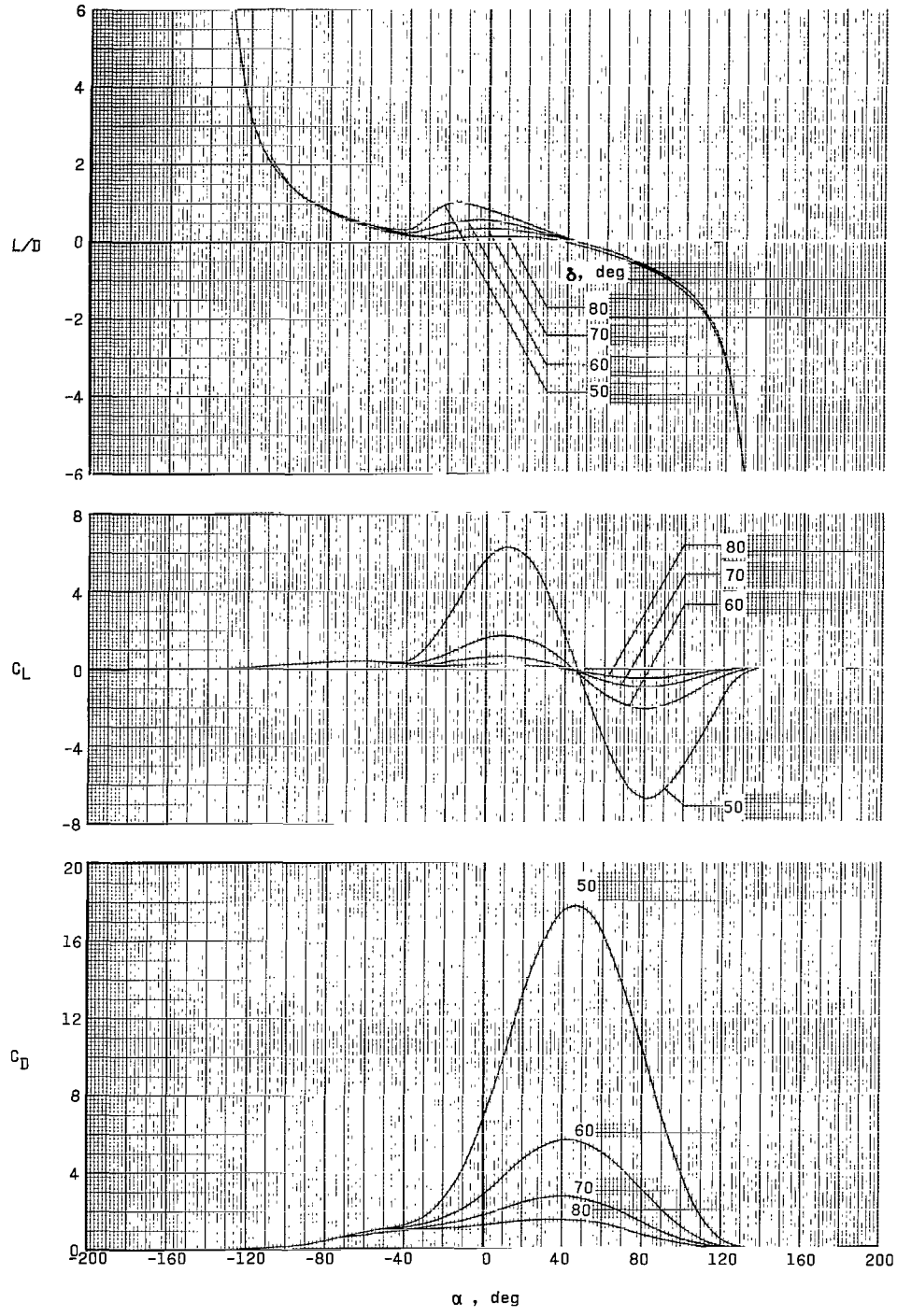
(c) r/d = 0.2.- Concluded.

Figure 8.- Continued.



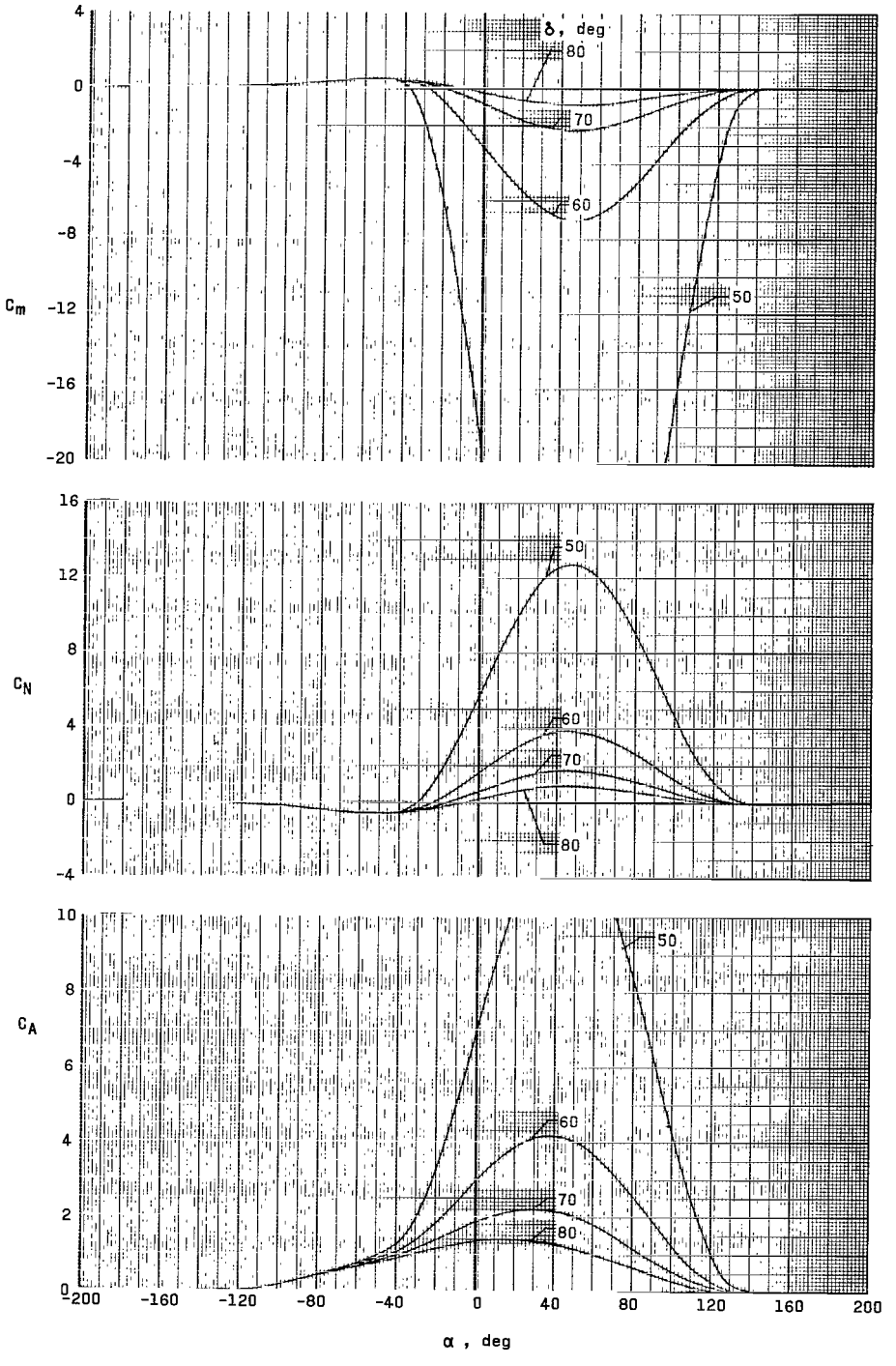
(d) r/d = 0.3.

Figure 8.- Continued.



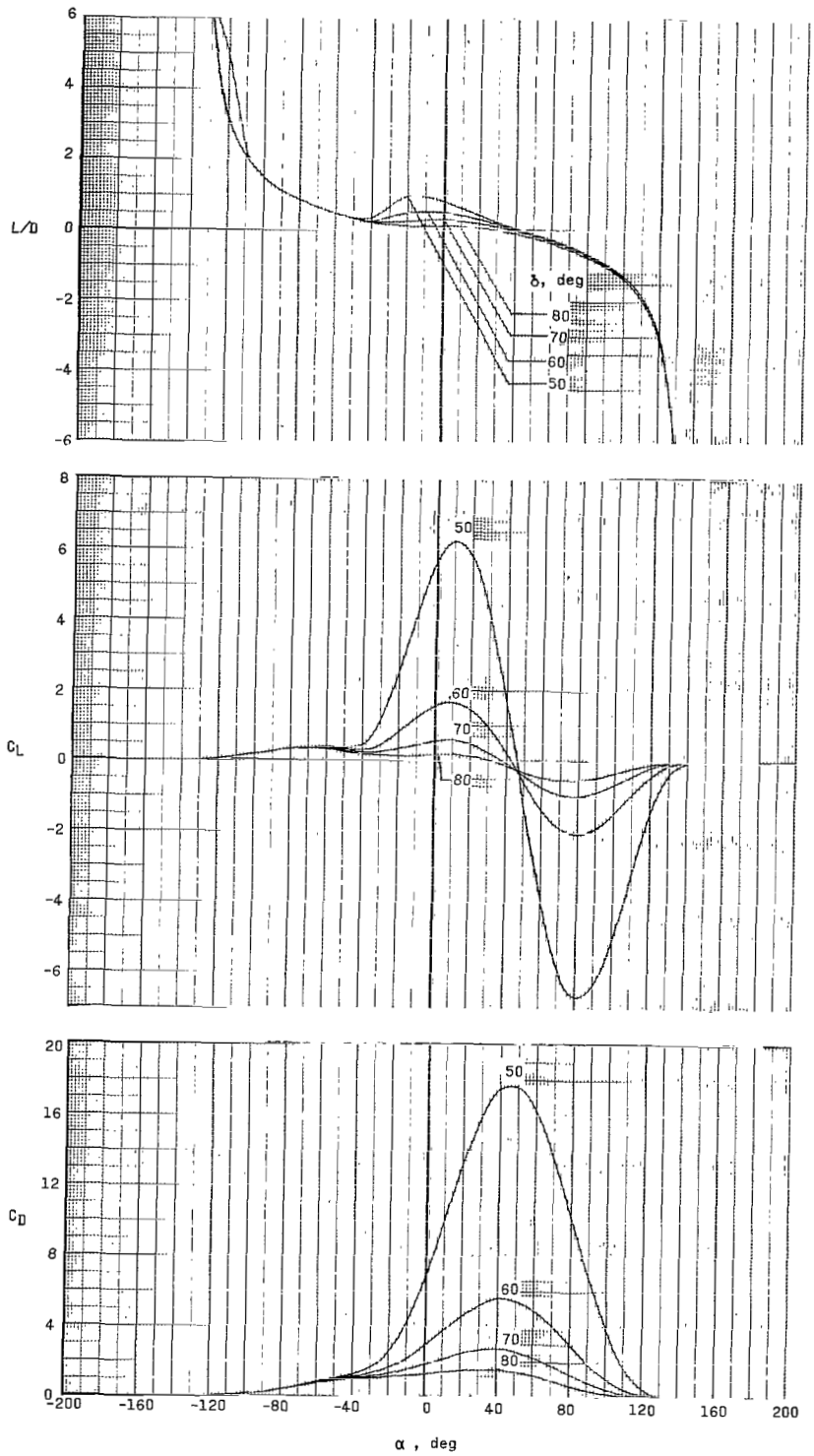
(d) r/d = 0.3.- Concluded.

Figure 8.- Continued.



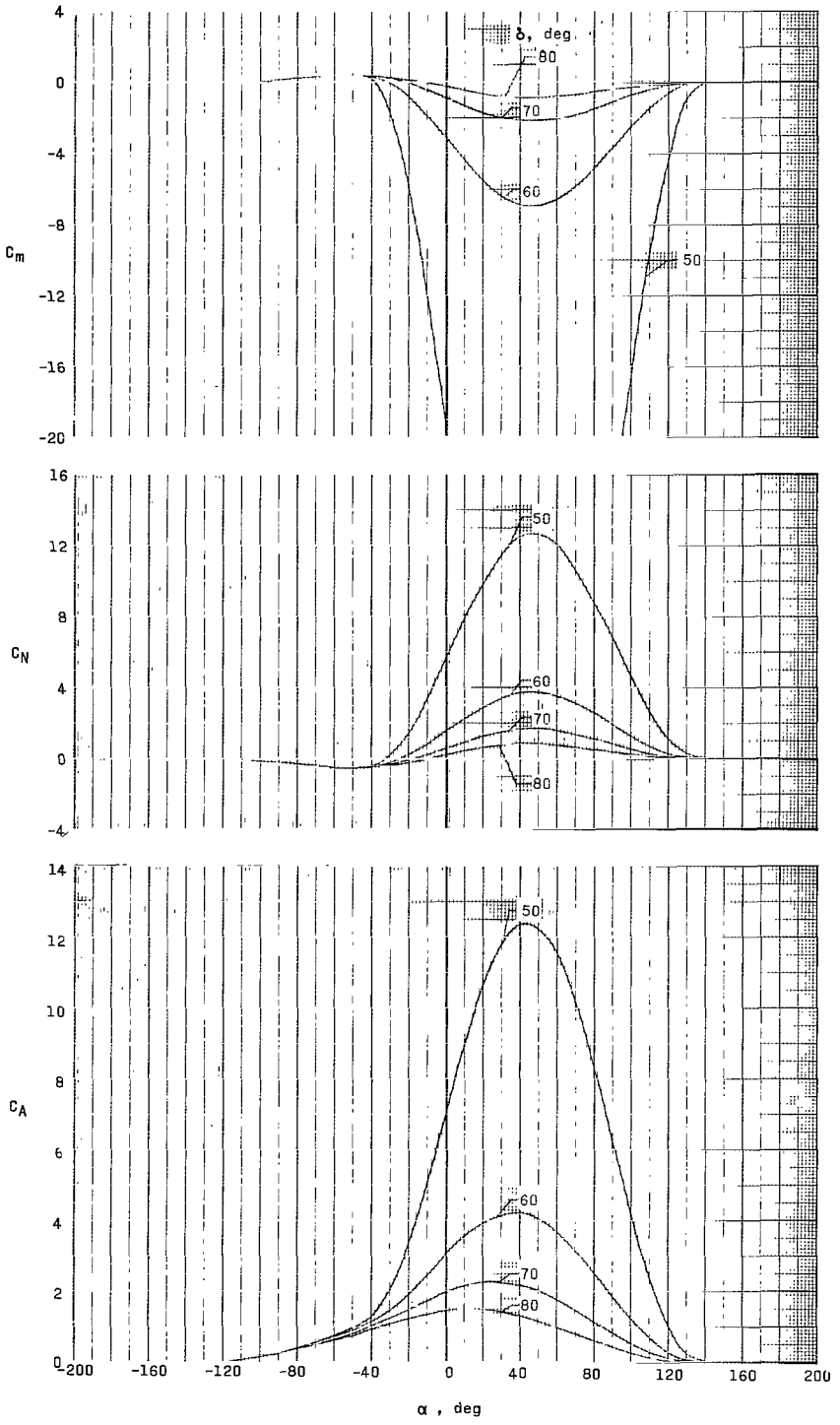
(e) r/d = 0.4.

Figure 8.- Continued.



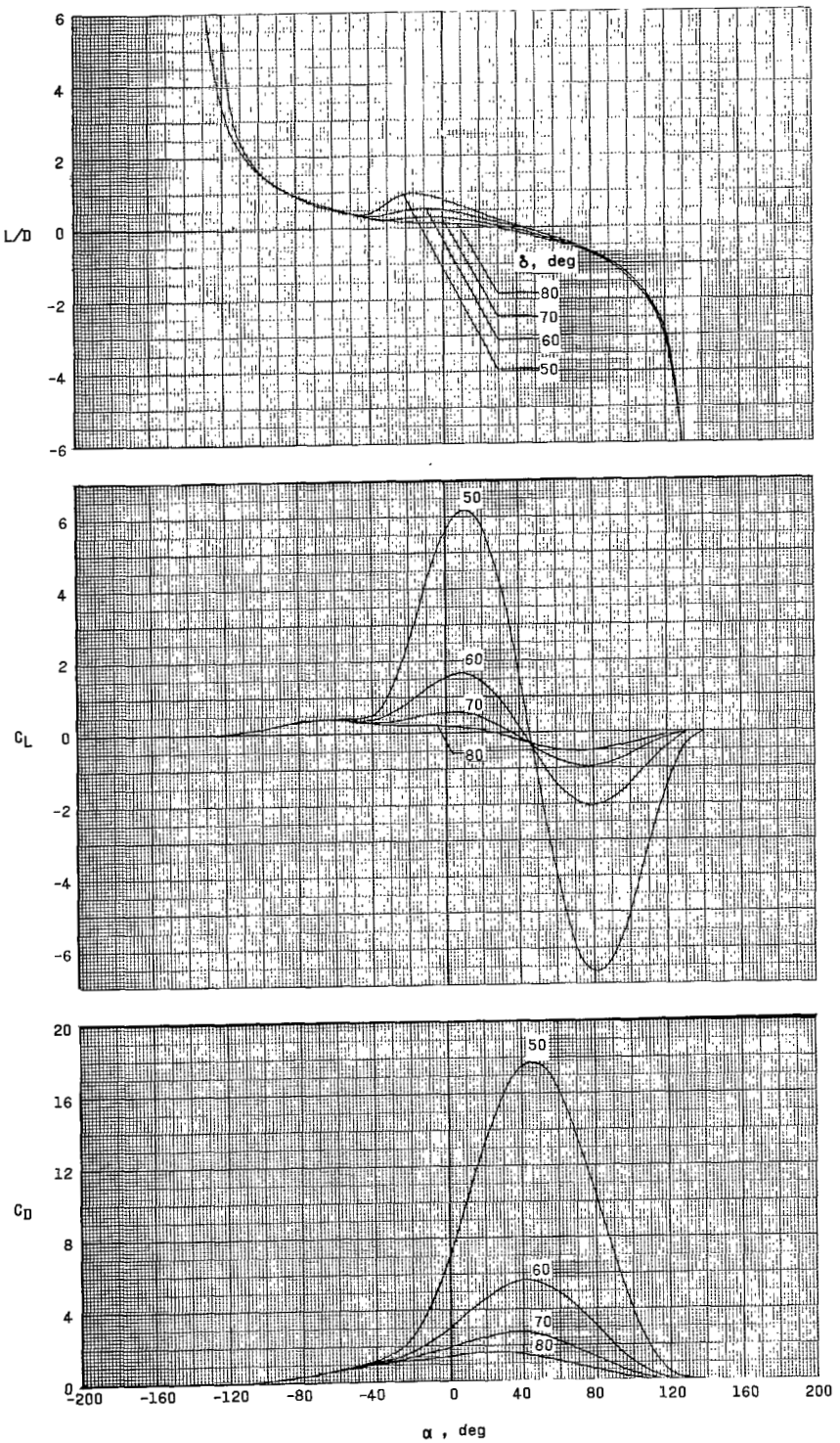
(e) r/d = 0.4.- Concluded.

Figure 8.- Continued.



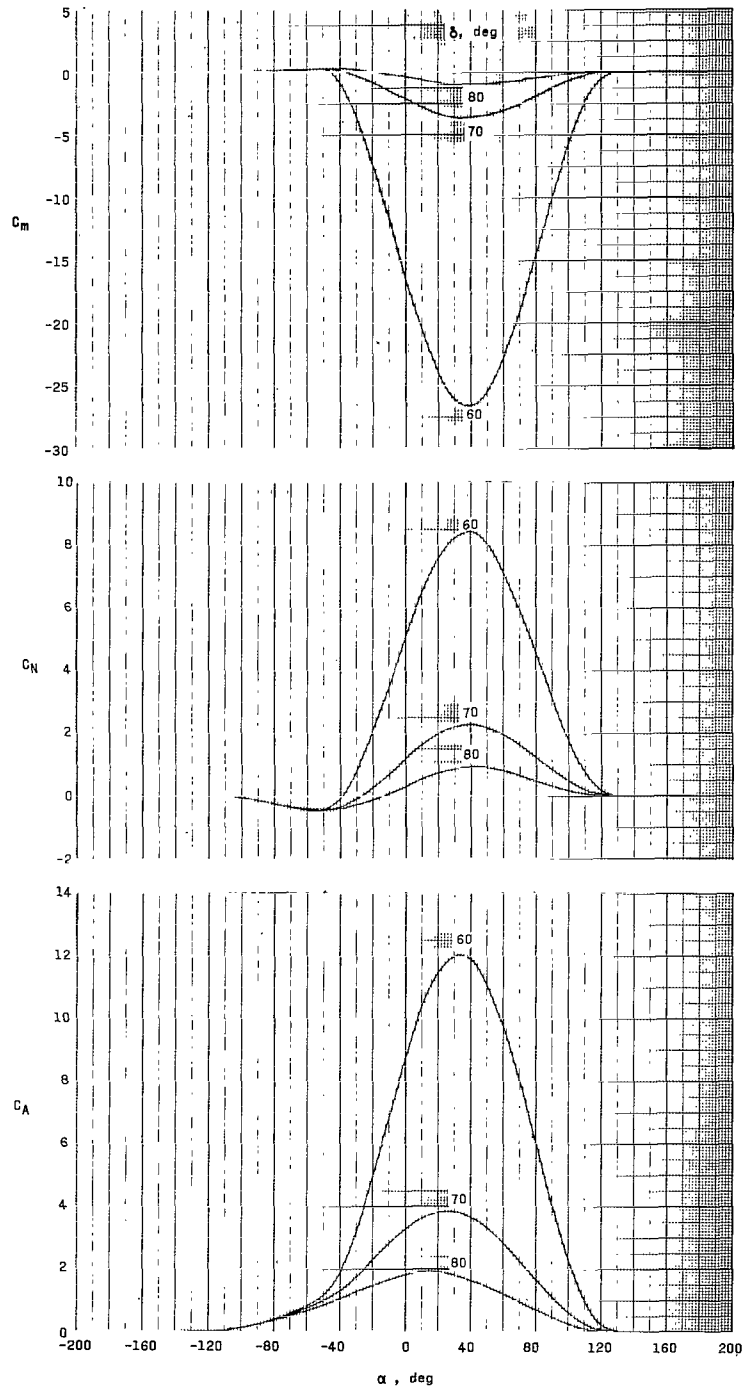
(f) r/d = 0.5.

Figure 8.- Continued.



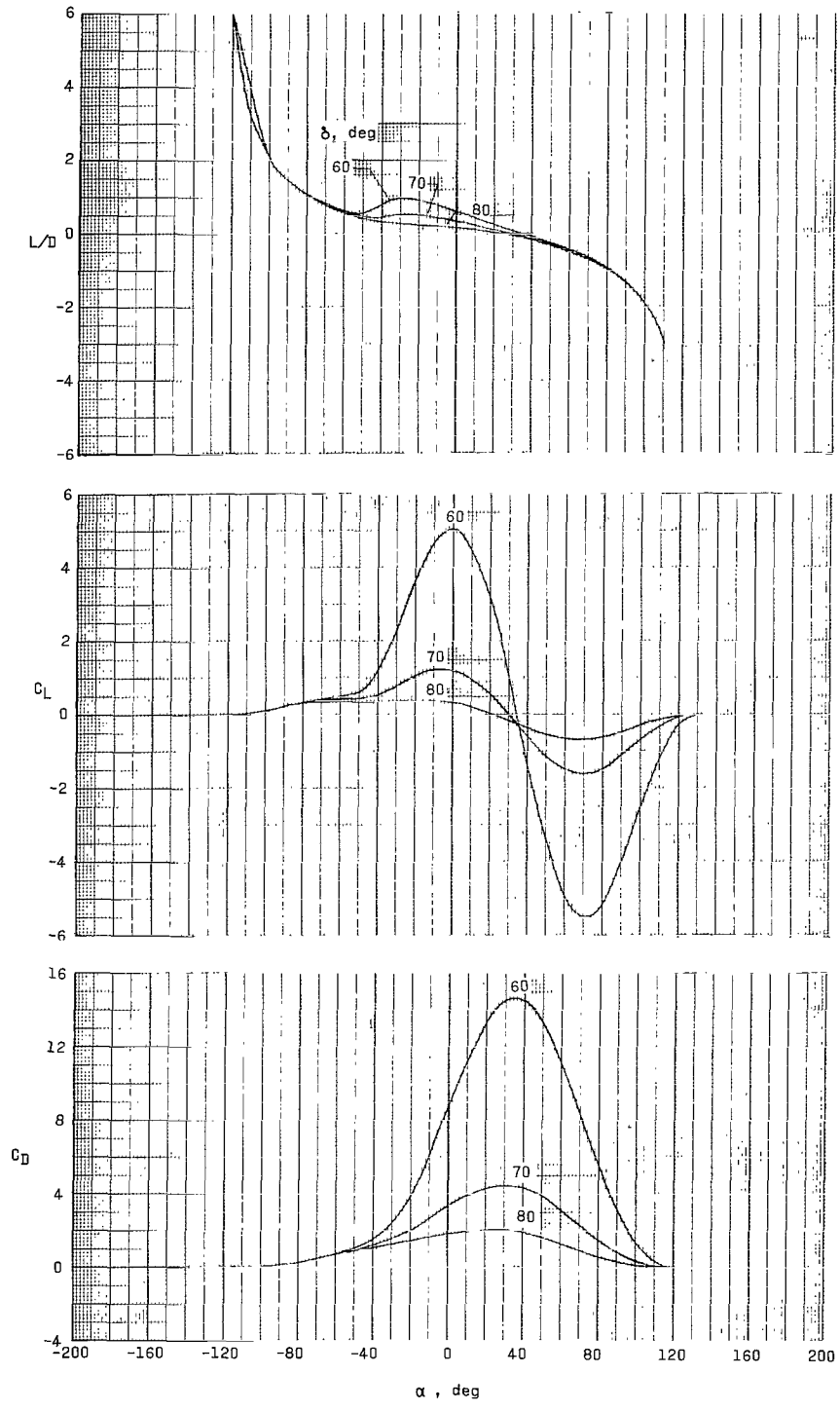
(f) r/d = 0.5.- Concluded.

Figure 8.- Concluded.



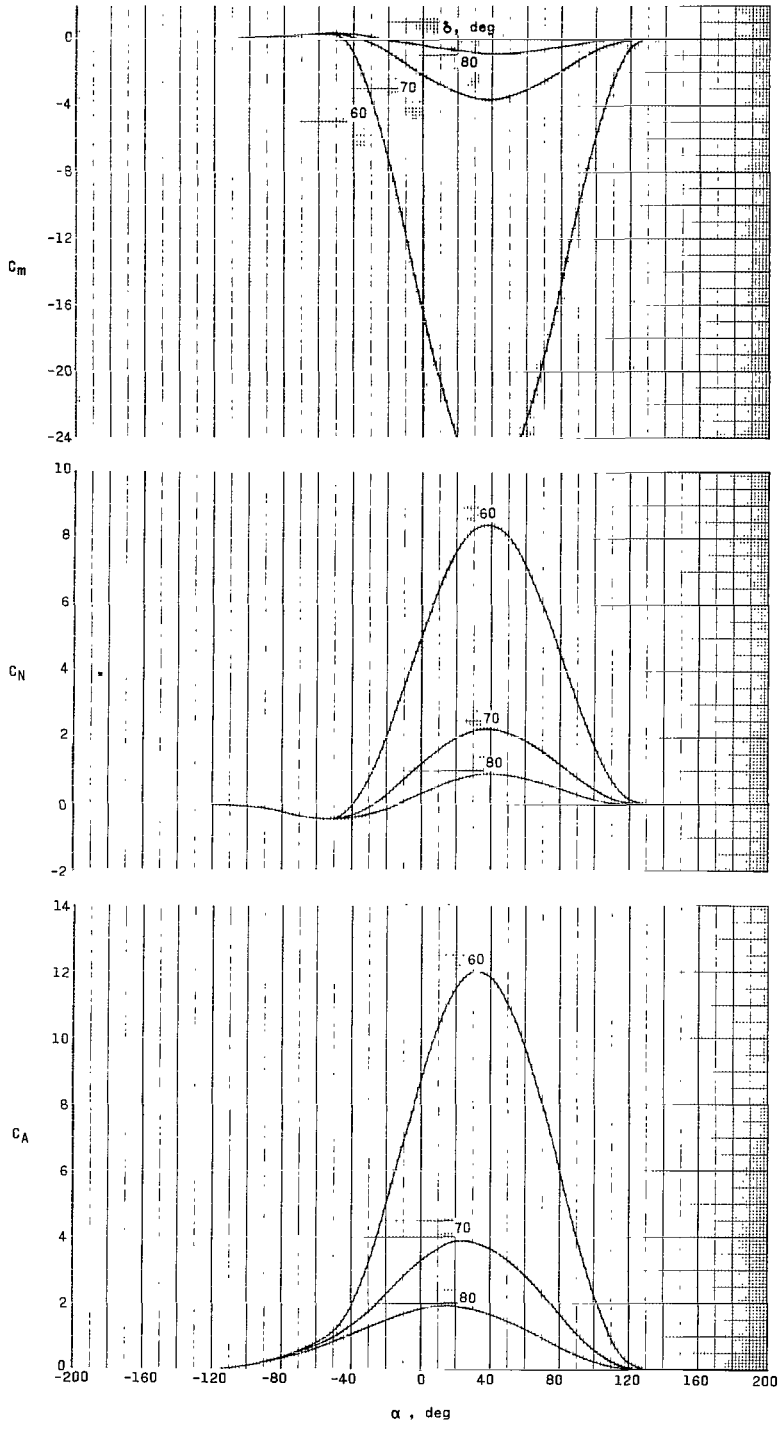
(a) r/d = 0

Figure 9.- Raked-off circular-cone configuration longitudinal aerodynamics. $\theta = 50^{\circ}$.



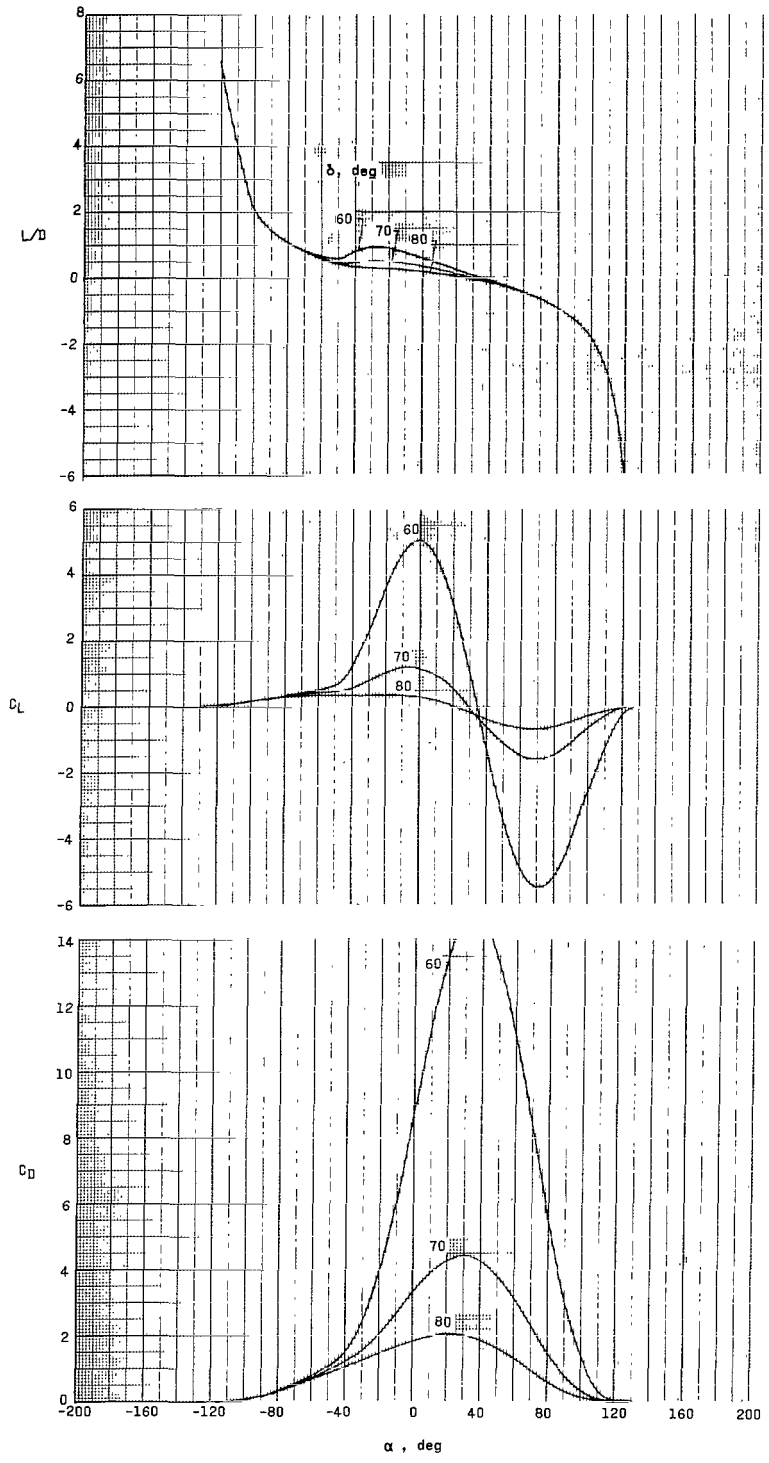
(a) r/d = 0.- Concluded.

Figure 9.- Continued.



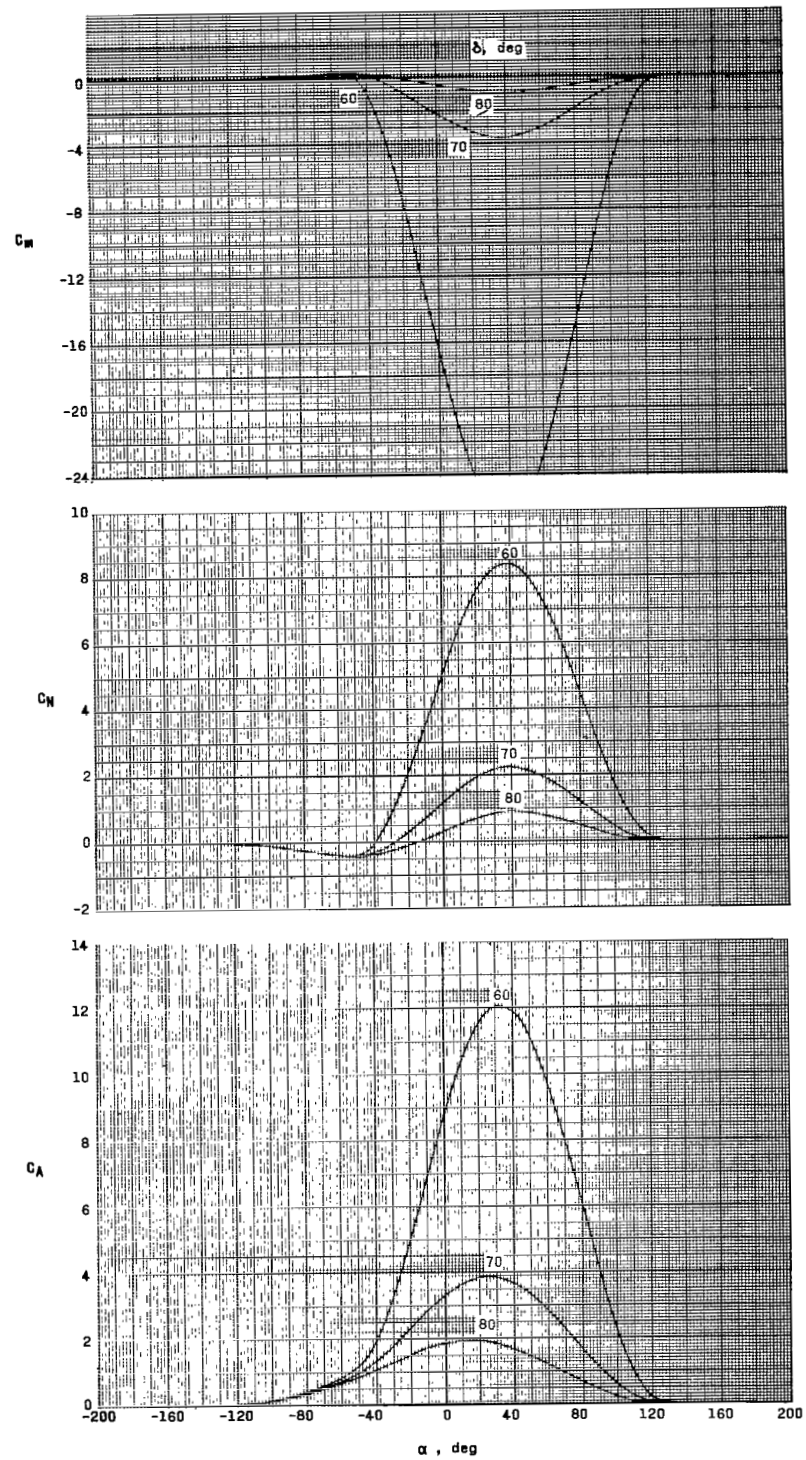
(b) r/d = 0.1.

Figure 9.- Continued.



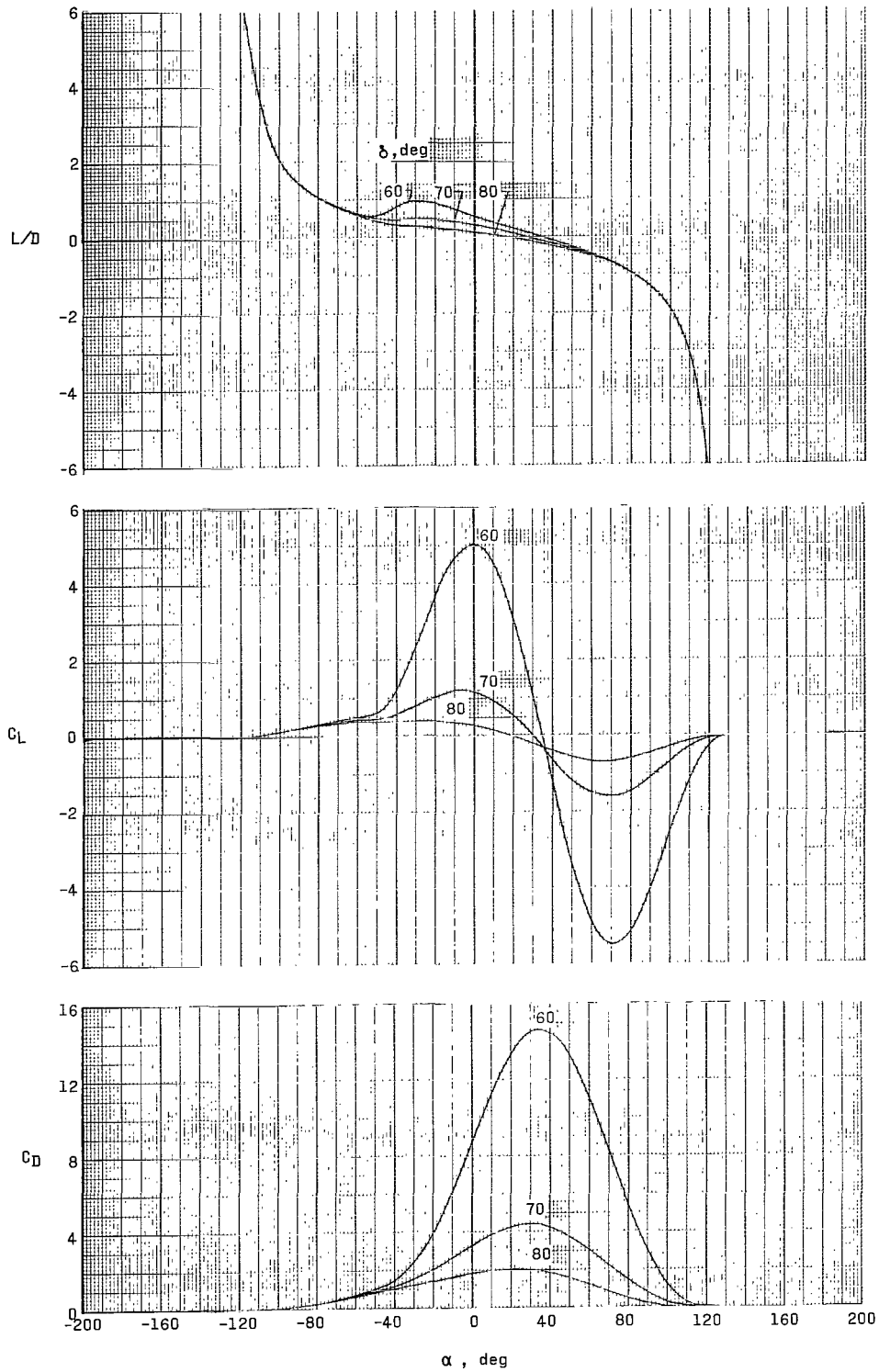
(b) r/d = 0.1.- Concluded.

Figure 9.- Continued.



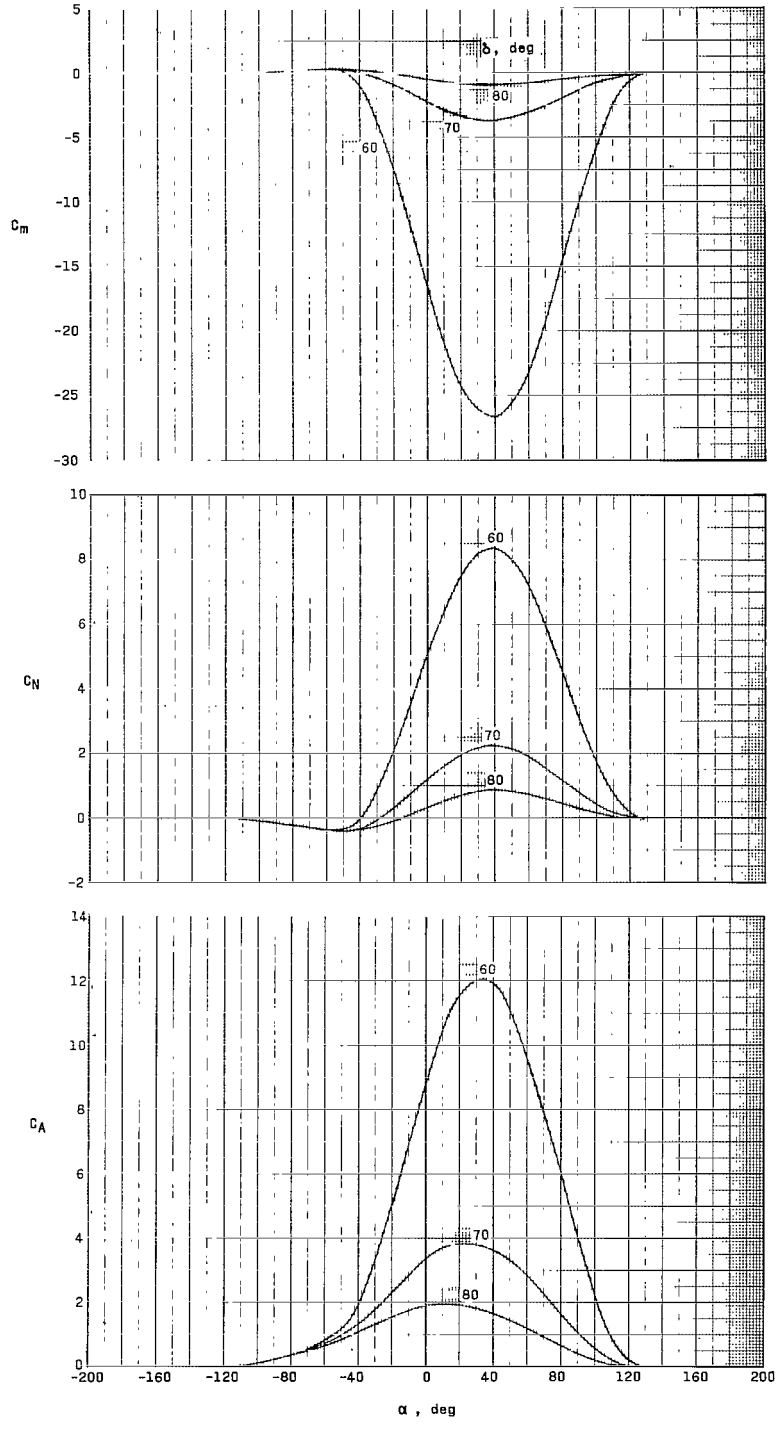
(c) r/d = 0.2.

Figure 9.- Continued.



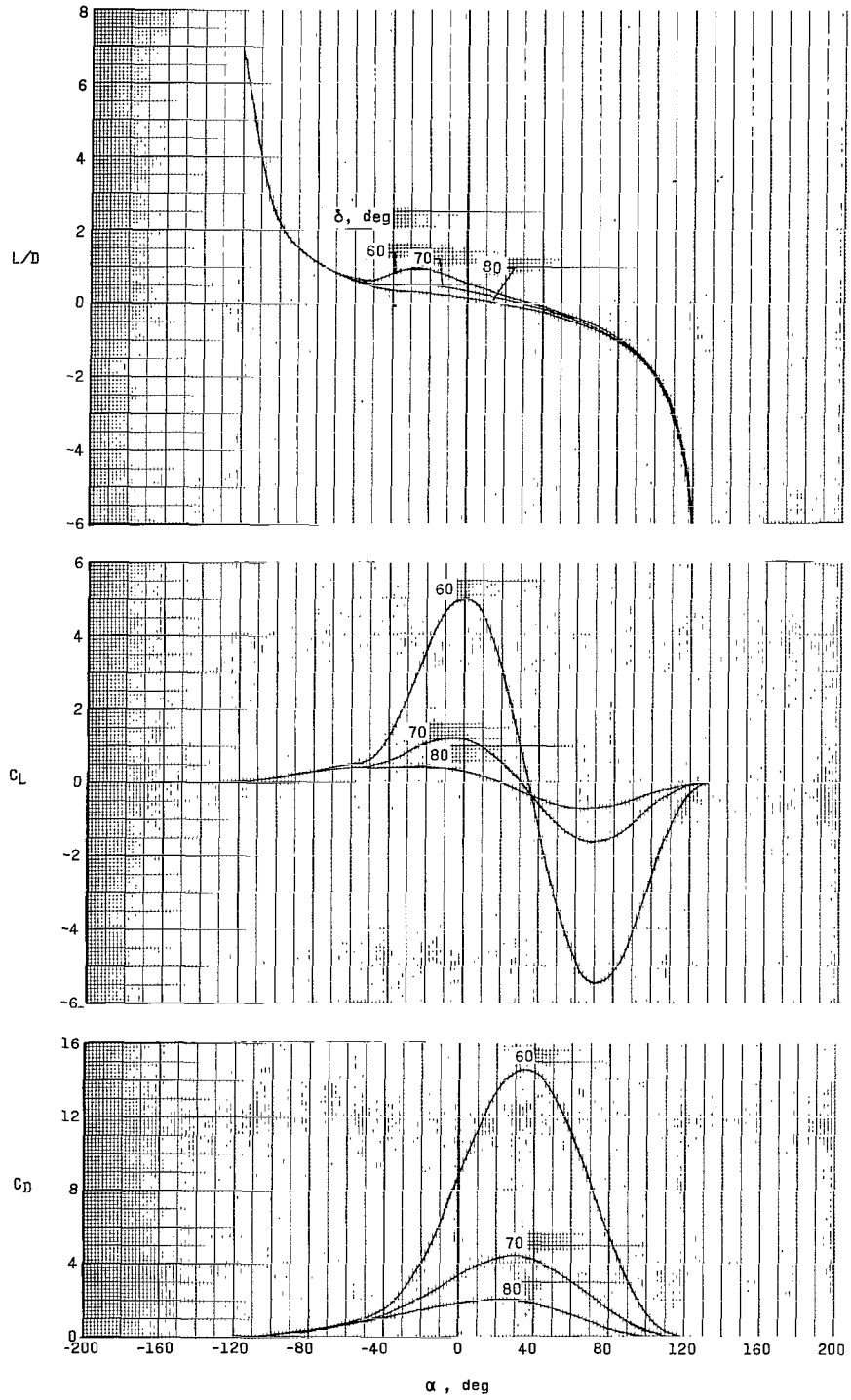
(c) r/d = 0.2.- Concluded.

Figure 9.- Continued.



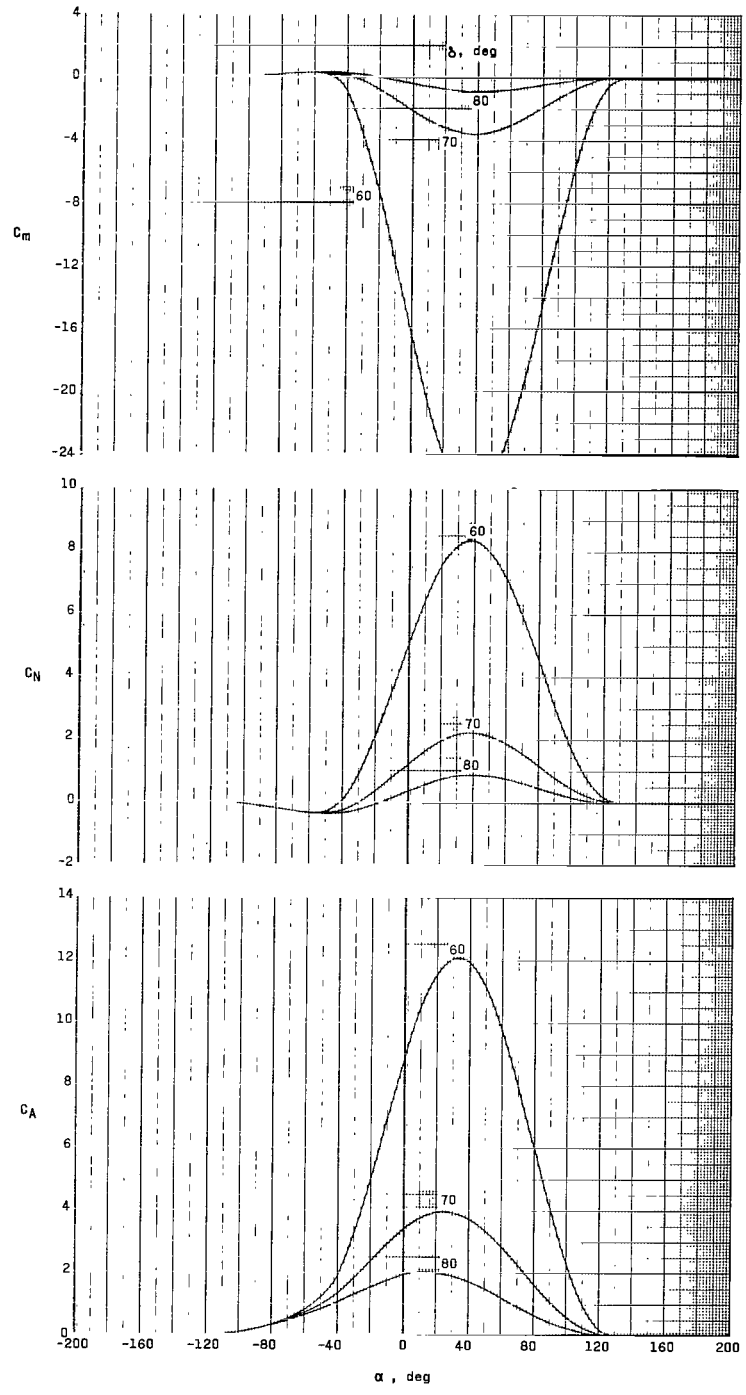
(d) r/d = 0.3.

Figure 9.- Continued.



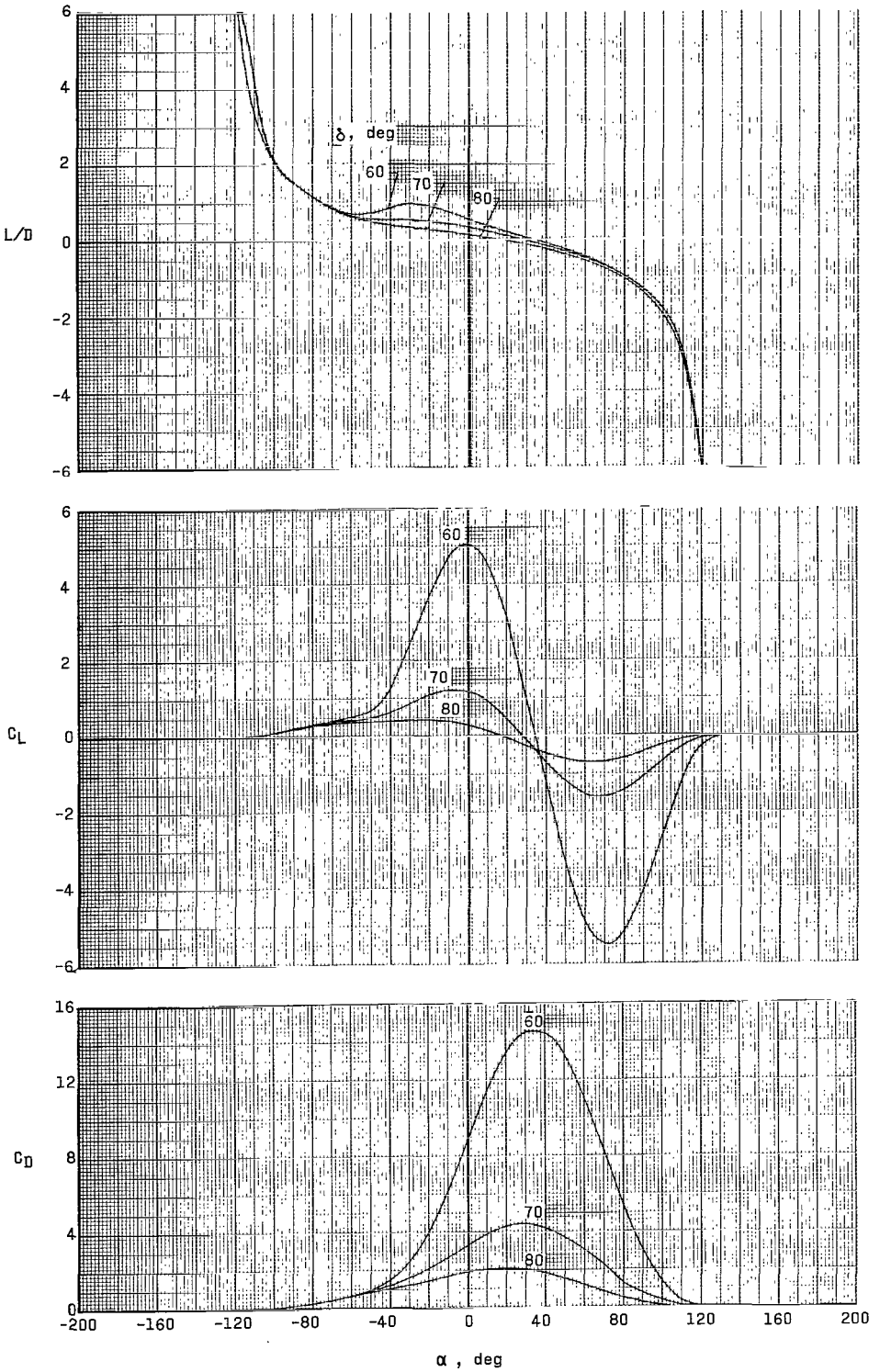
(d) r/d = 0.3.- Concluded.

Figure 9.- Continued.



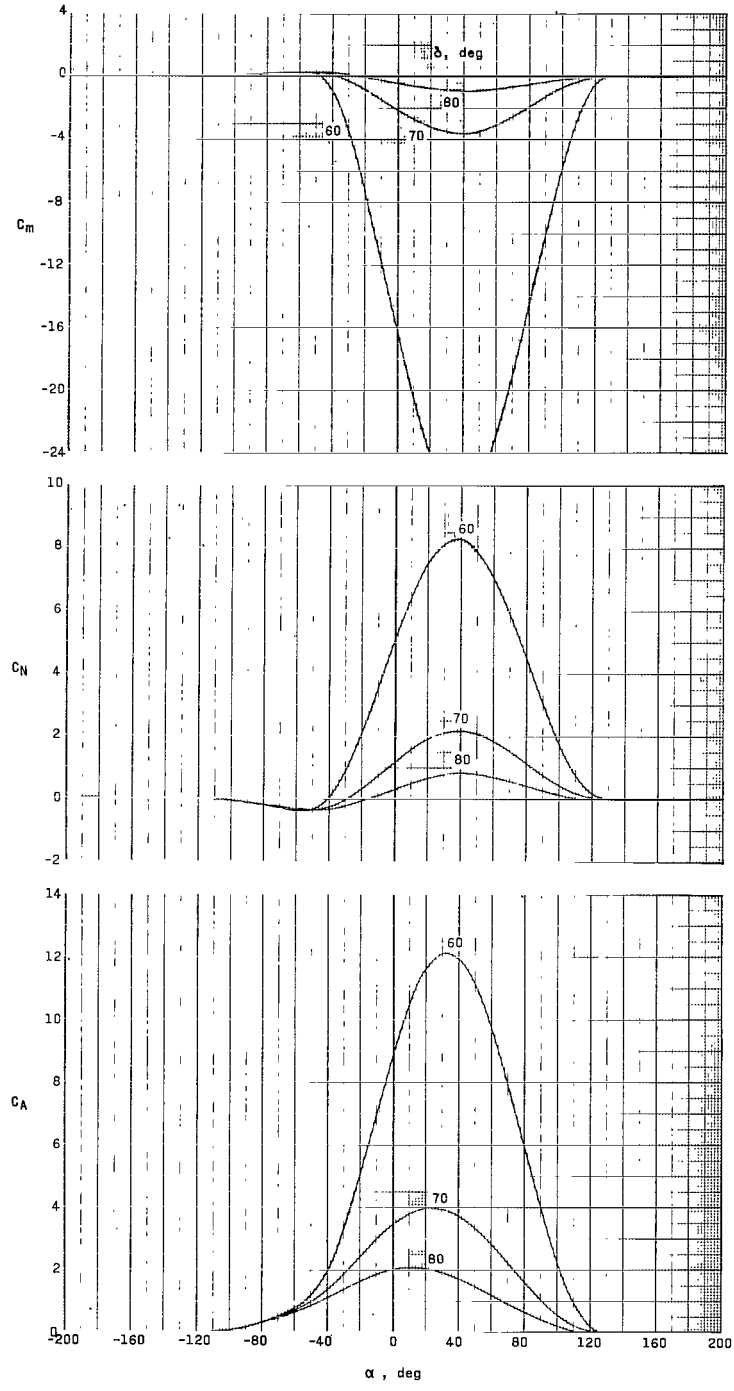
(e) r/d = 0.4.

Figure 9.- Continued.



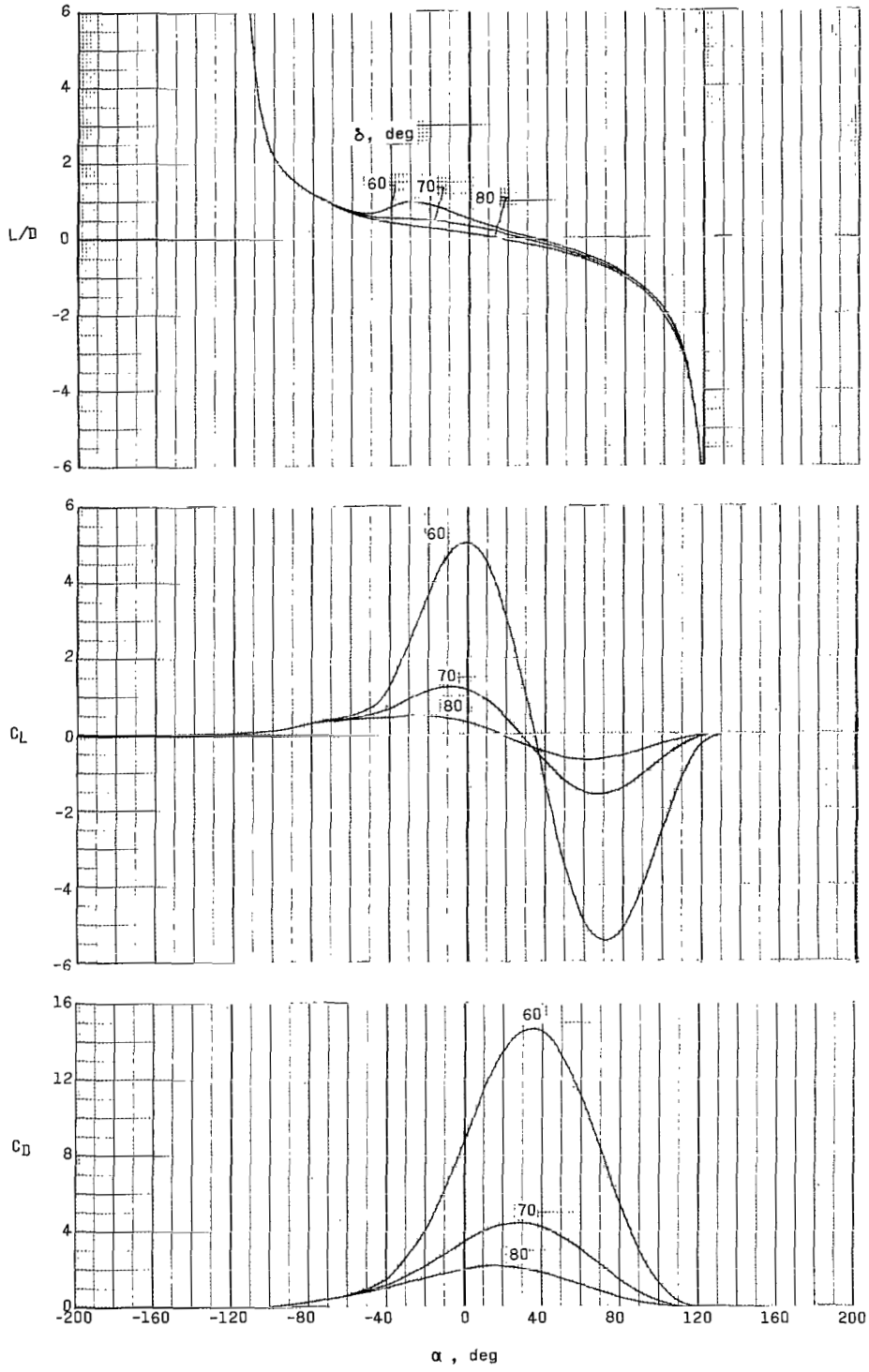
(e) r/d = 0.4.- Concluded.

Figure 9.- Continued.



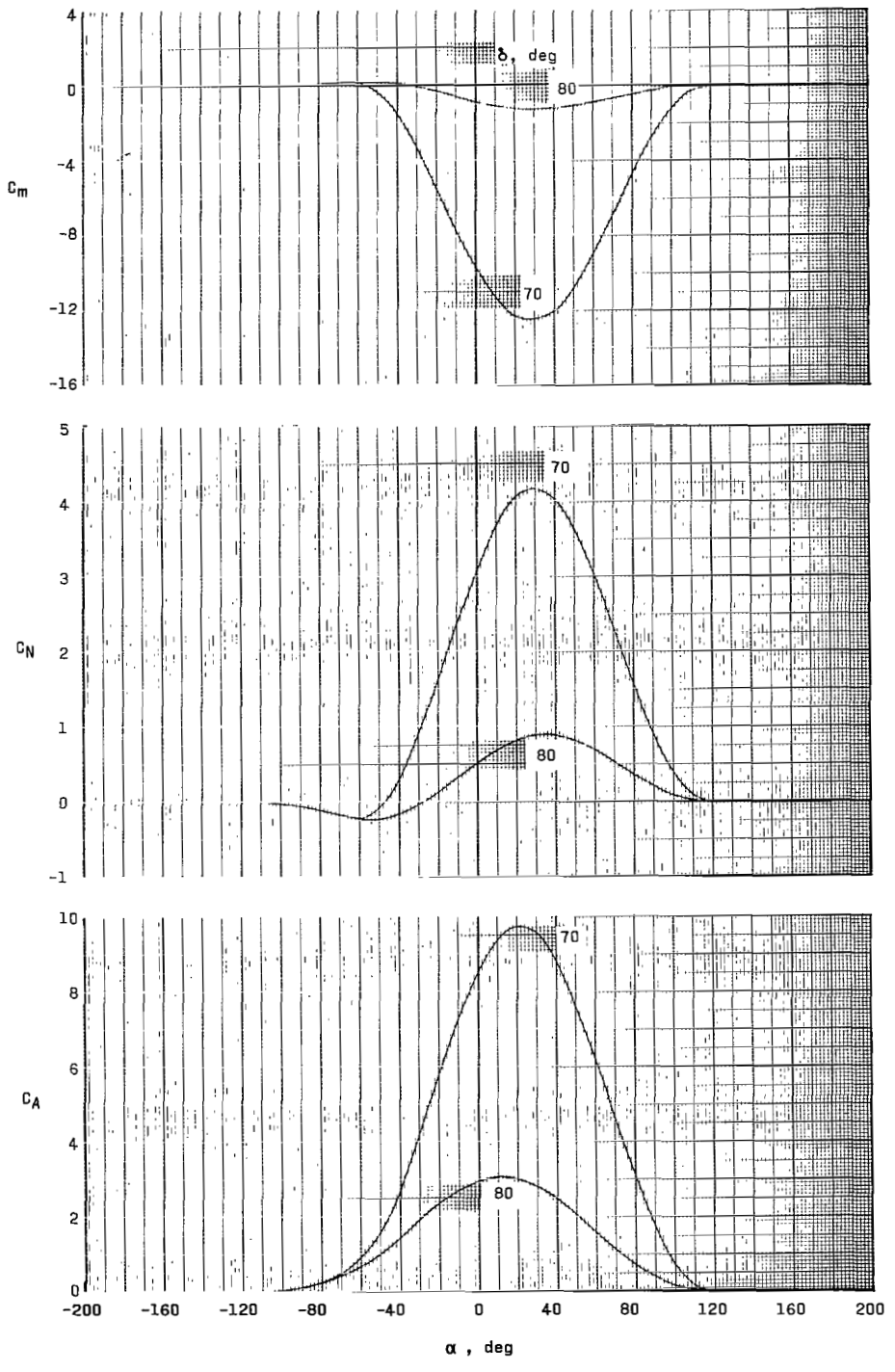
(f) r/d = 0.5.

Figure 9.- Continued.



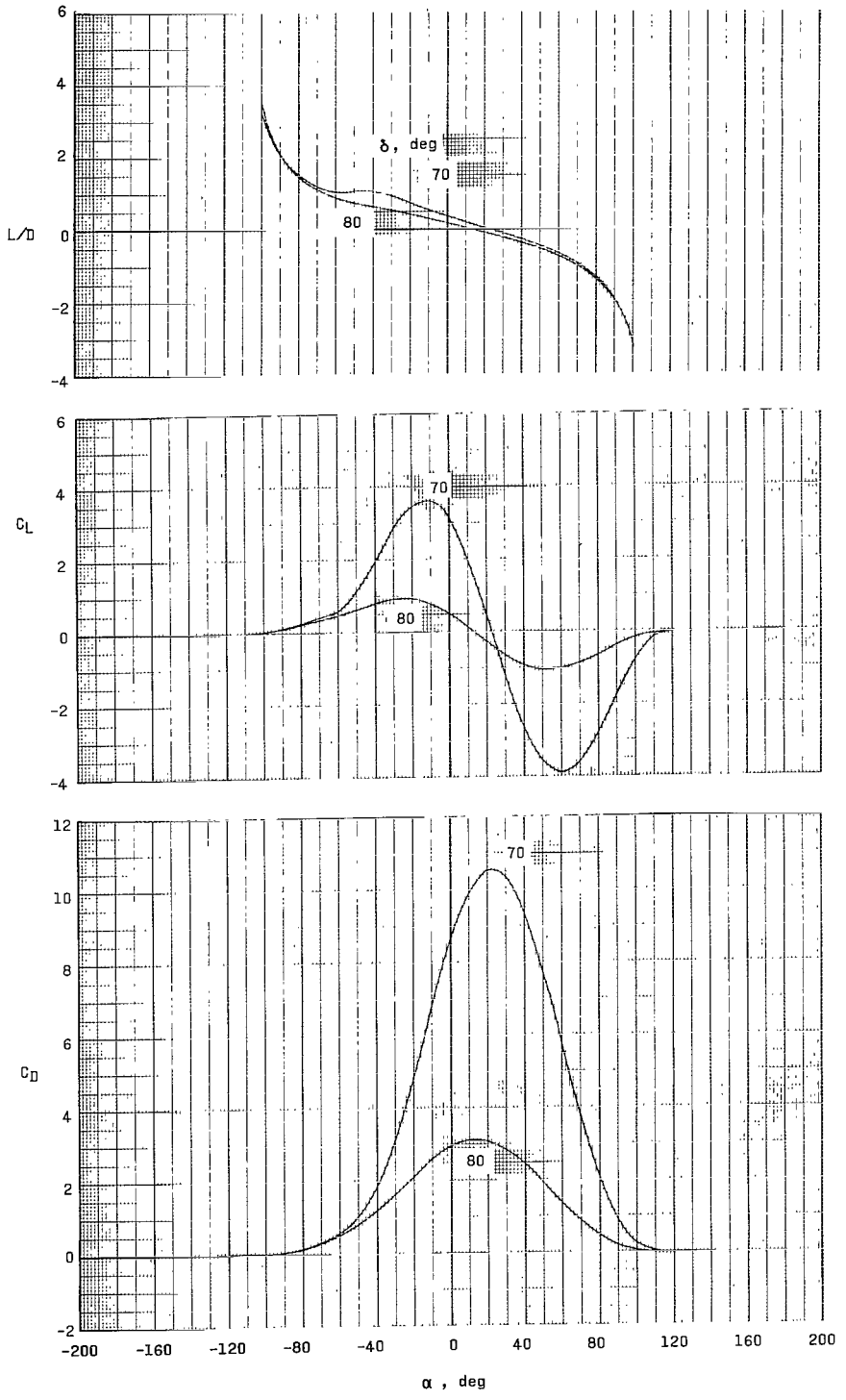
(f) r/d = 0.5.- Concluded.

Figure 9.- Concluded.



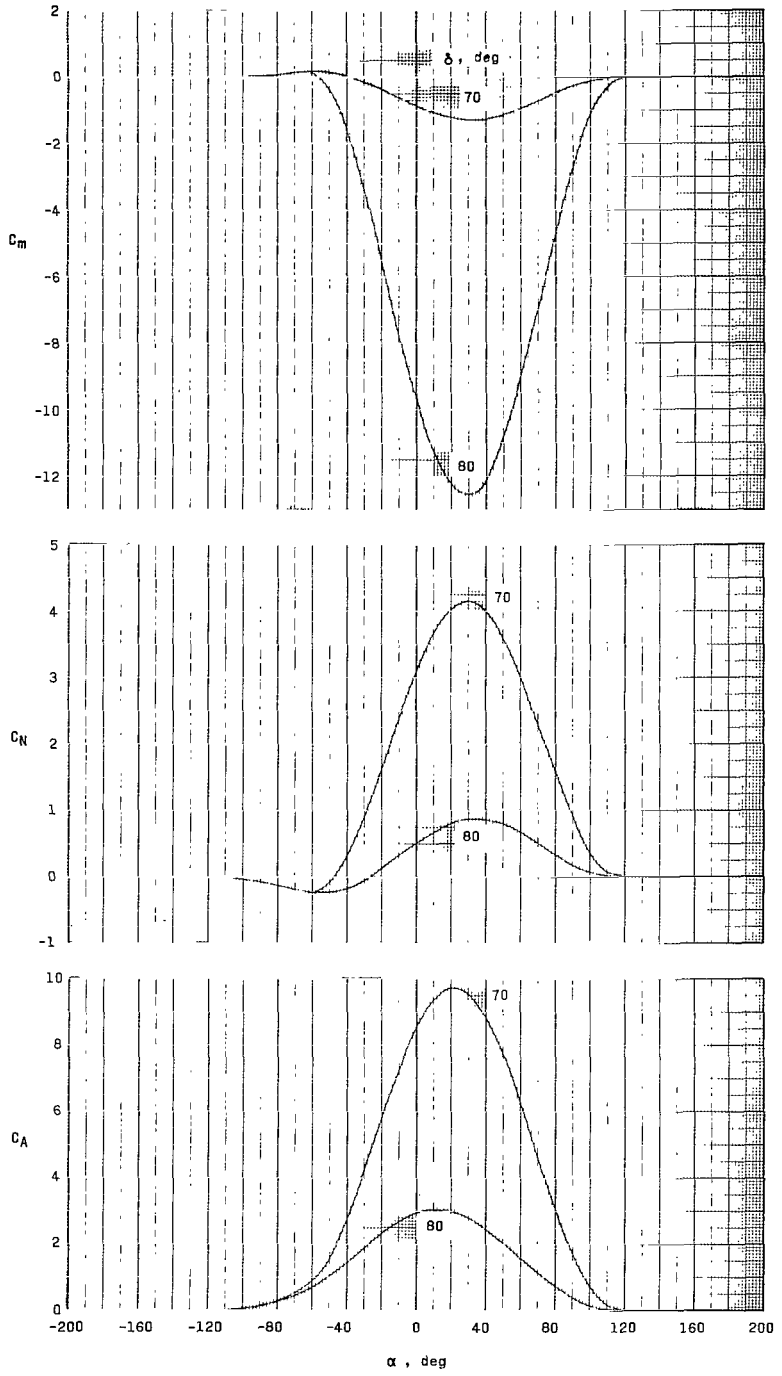
(a) r/d = 0.

Figure 10.- Raked-off circular-cone configuration longitudinal aerodynamics. $\theta = 60^\circ$.



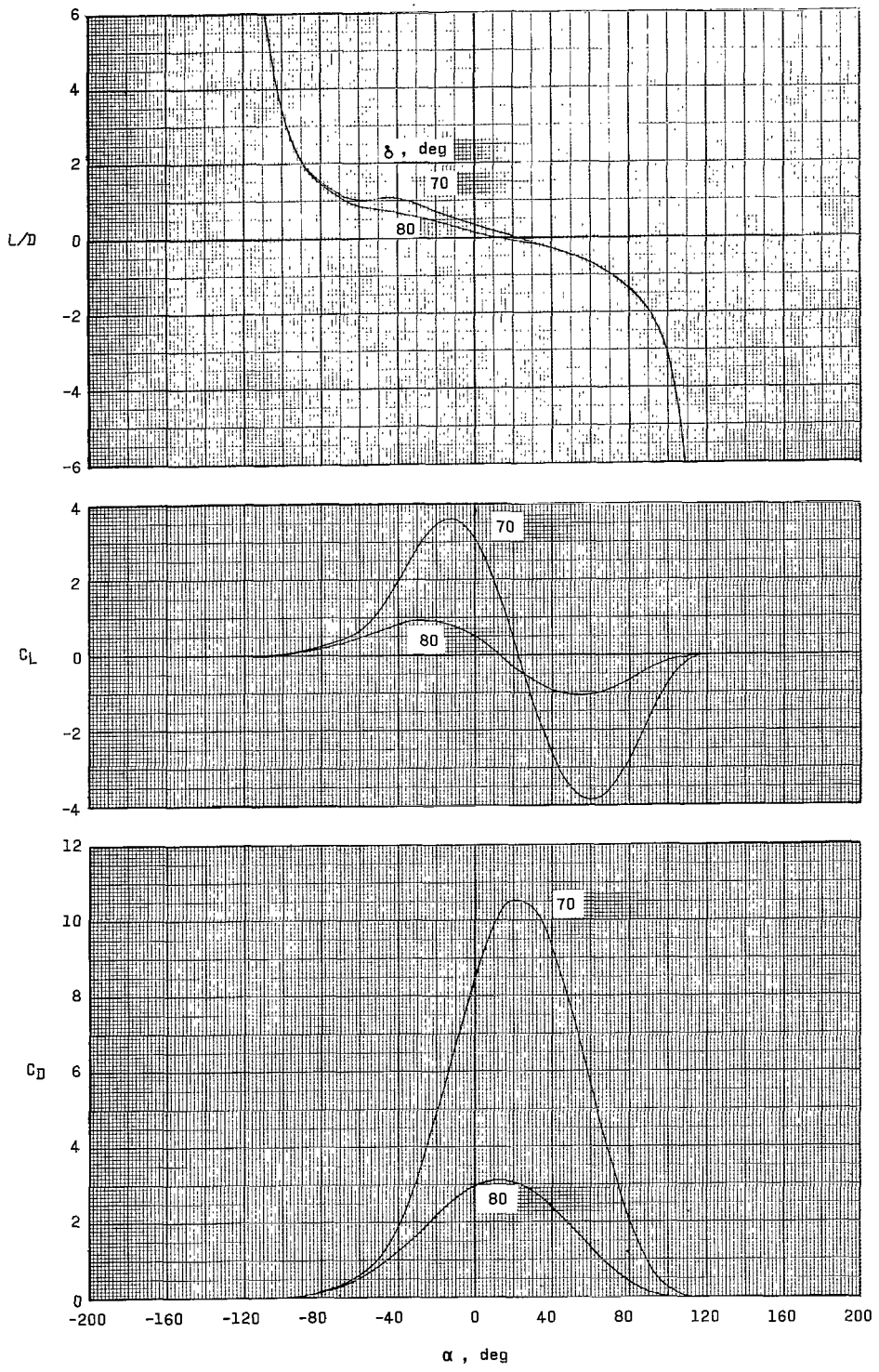
(a) r/d = 0.- Concluded.

Figure 10.- Continued.



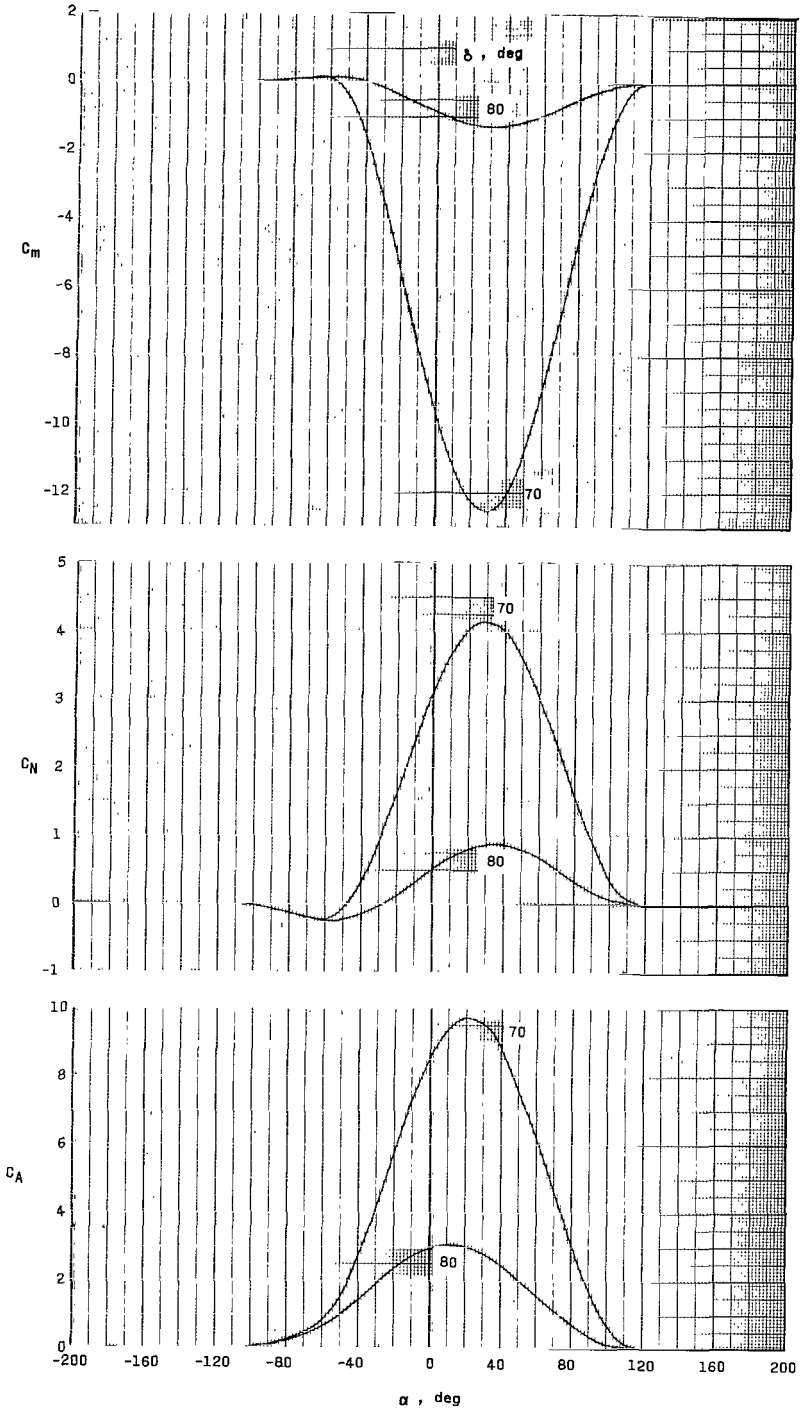
(b) r/d = 0.1.

Figure 10.- Continued.



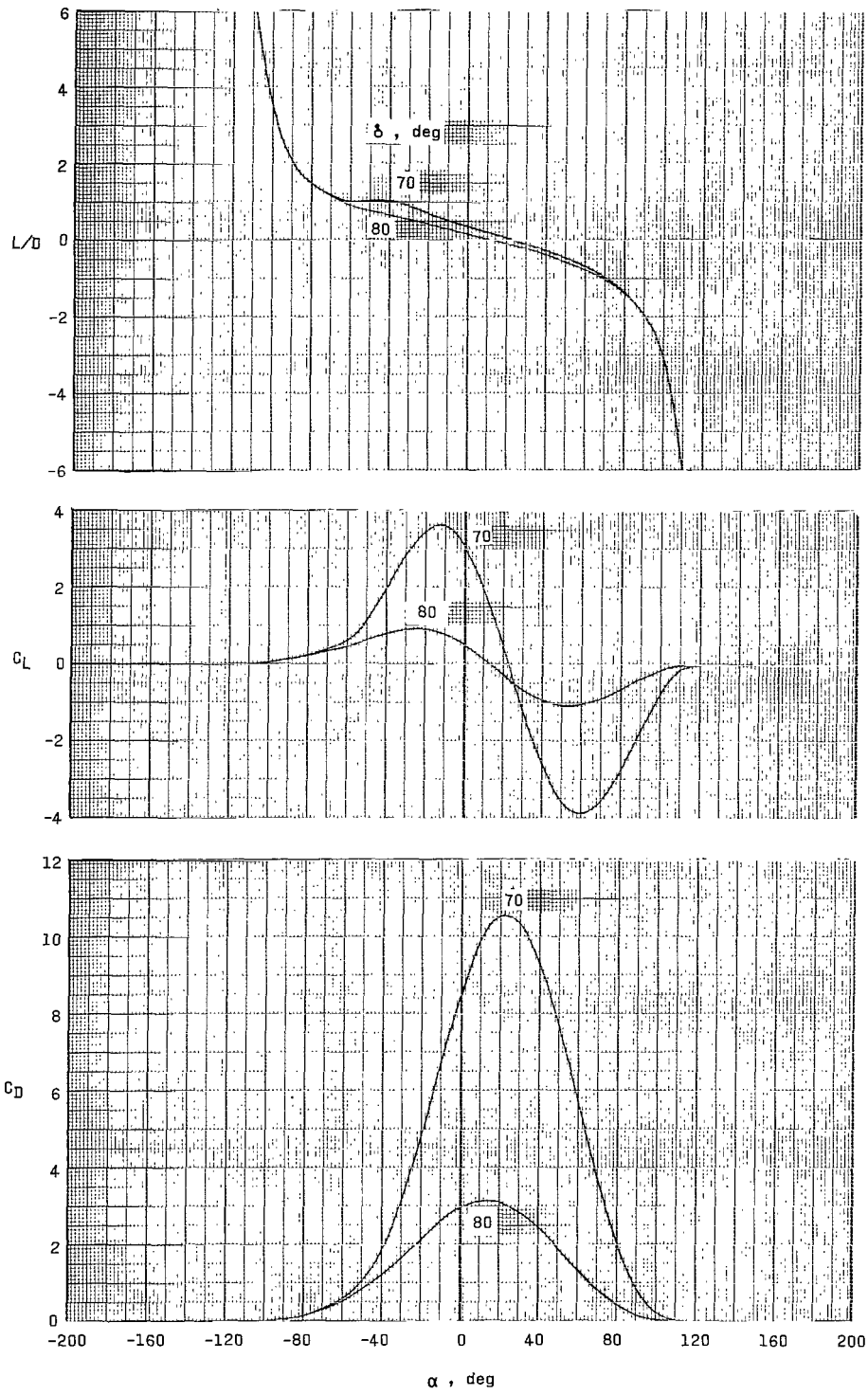
(b) r/d = 0.1.- Concluded.

Figure 10.- Continued.



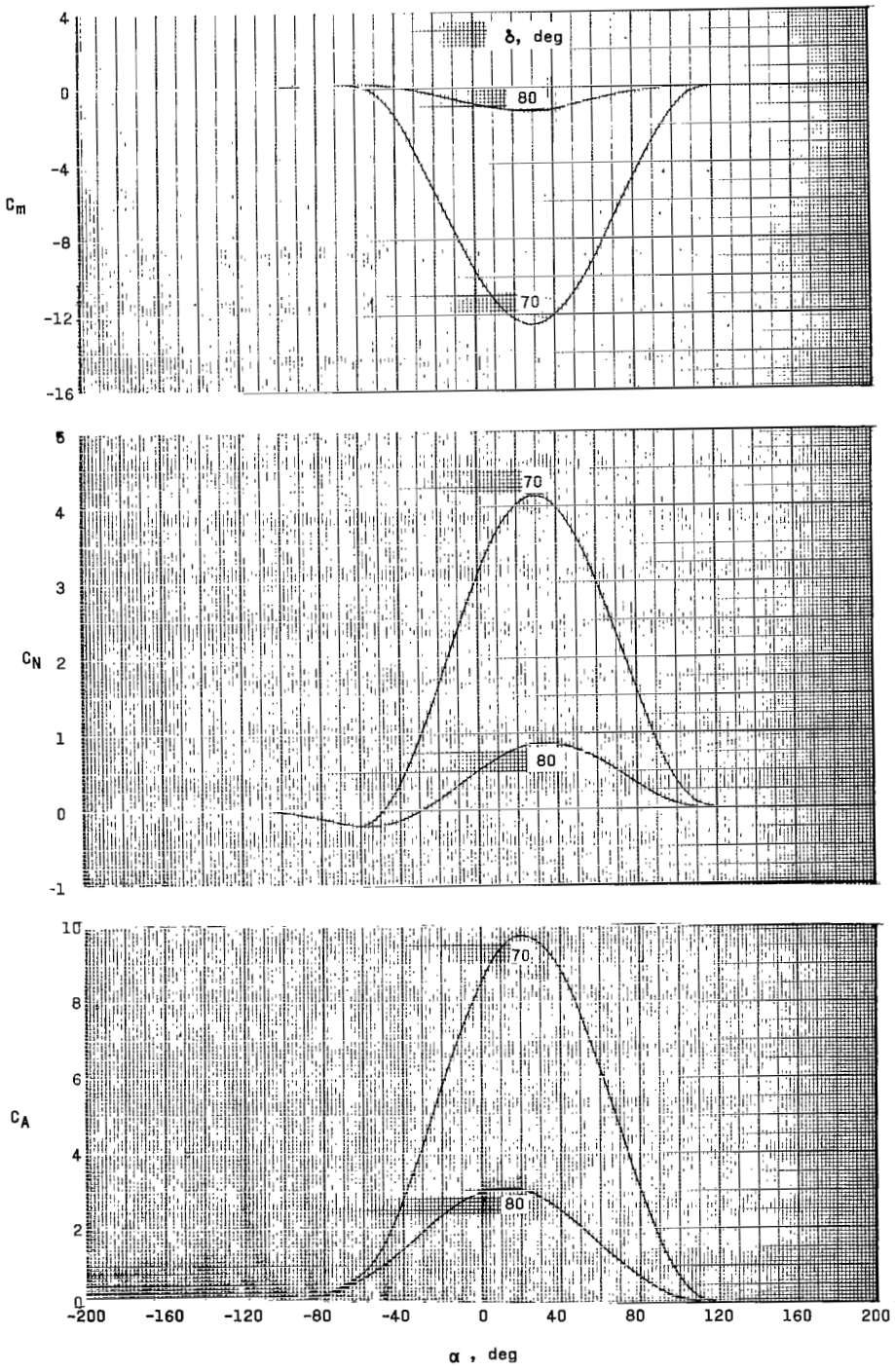
(c) r/d = 0.2.

Figure 10.- Continued.



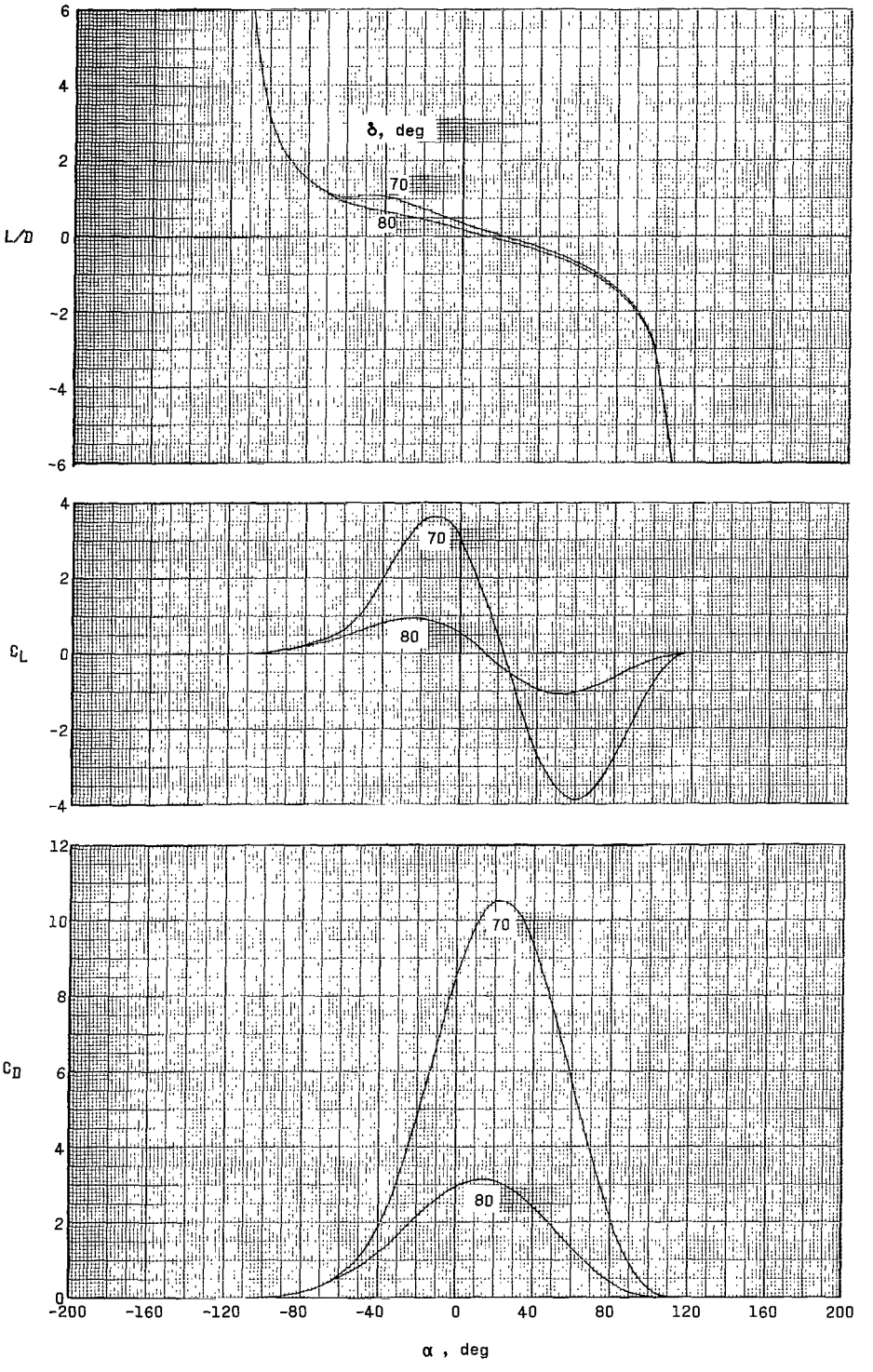
(c) r/d = 0.2.- Concluded.

Figure 10.- Continued.



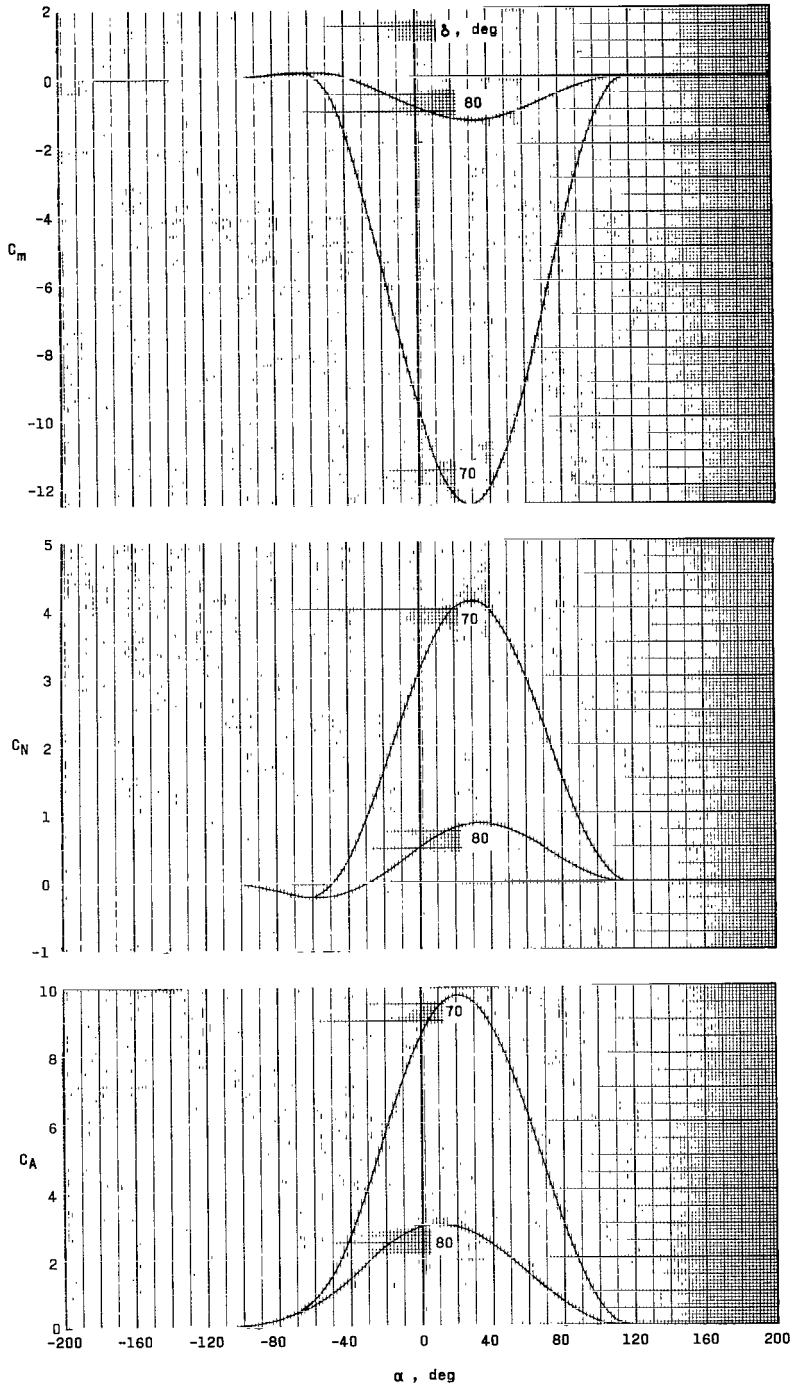
(d) r/d = 0.3.

Figure 10.- Continued.



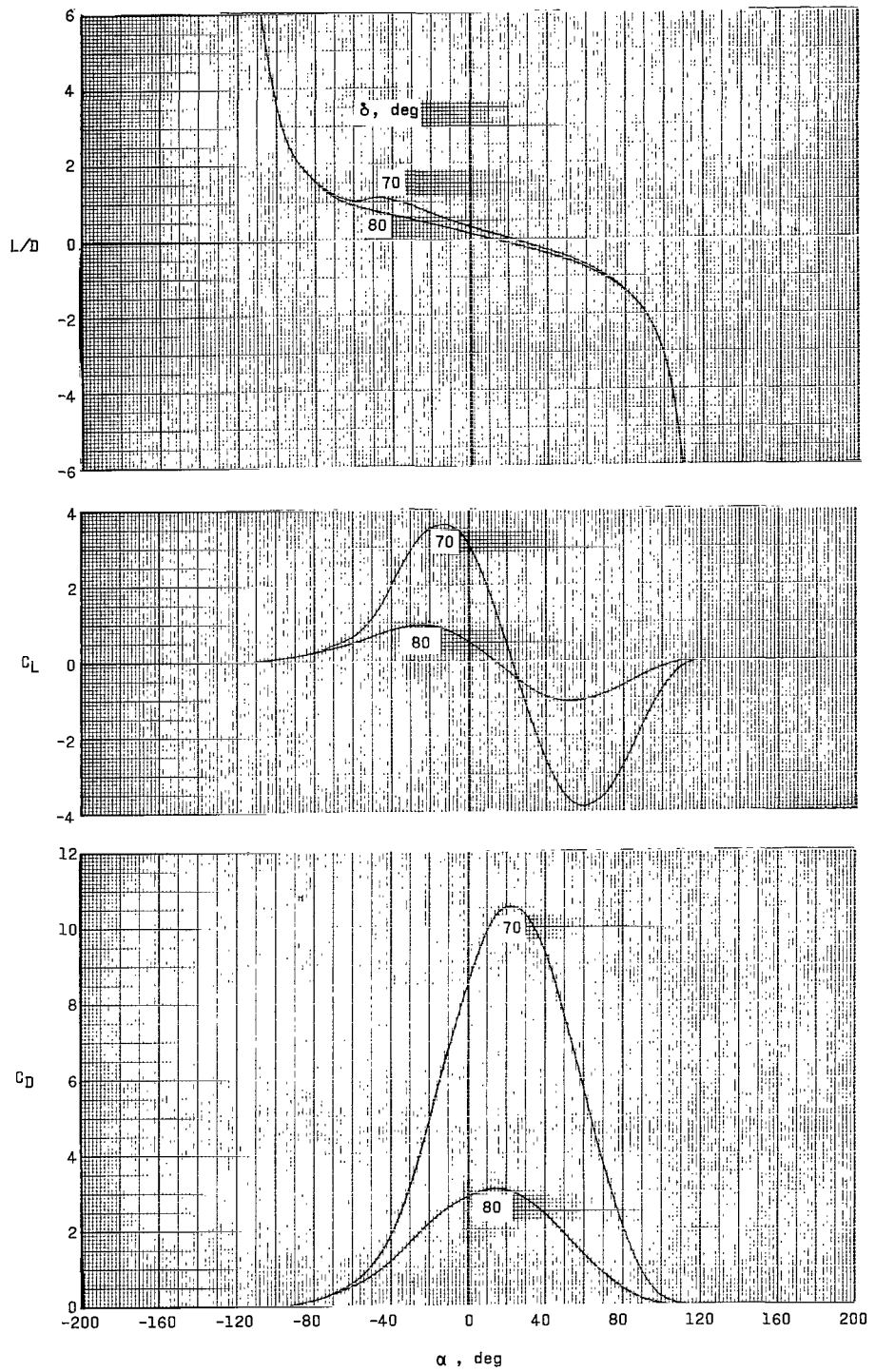
(d) r/d = 0.3.- Concluded.

Figure 10.- Continued.



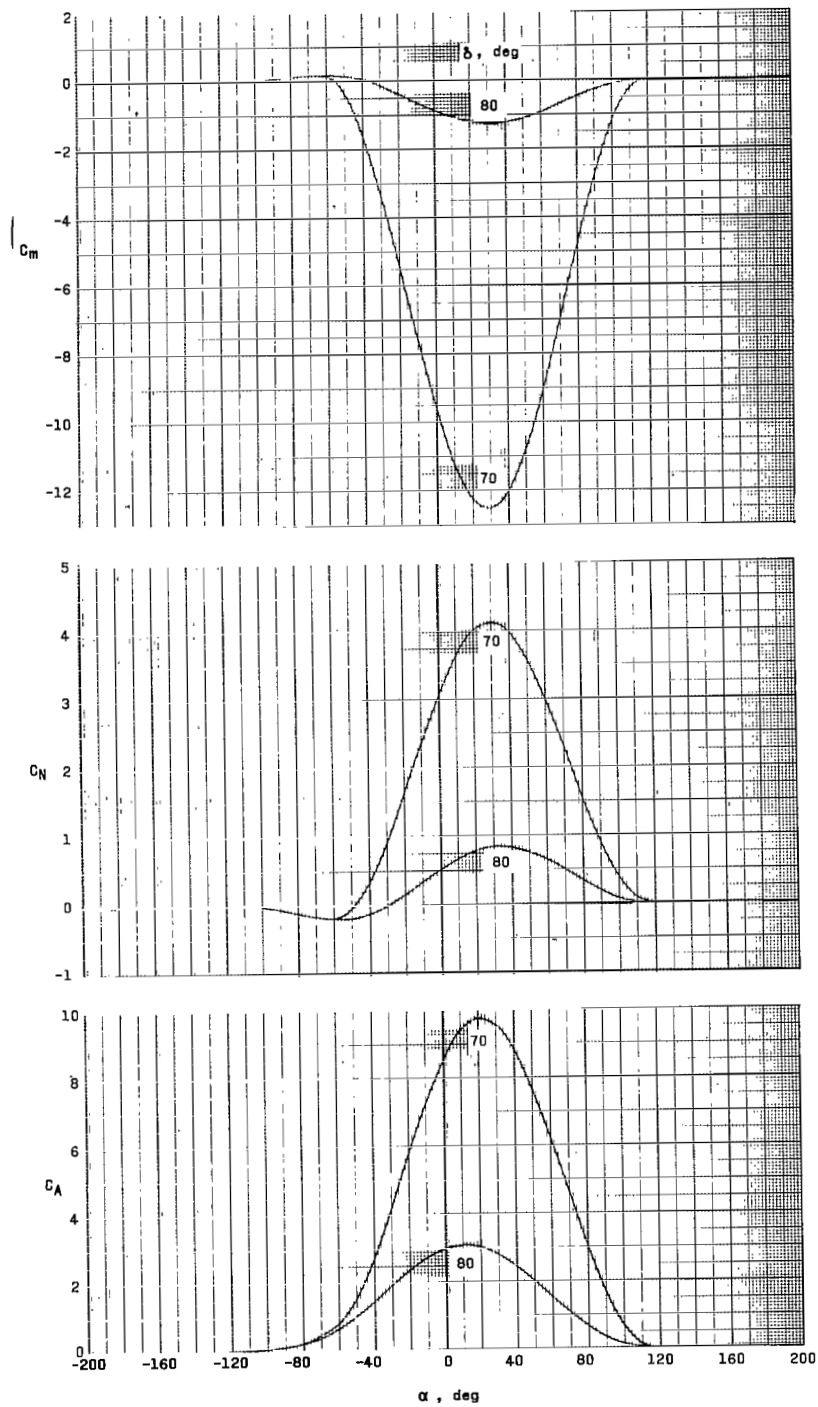
(e) r/d = 0.4.

Figure 10.- Continued.



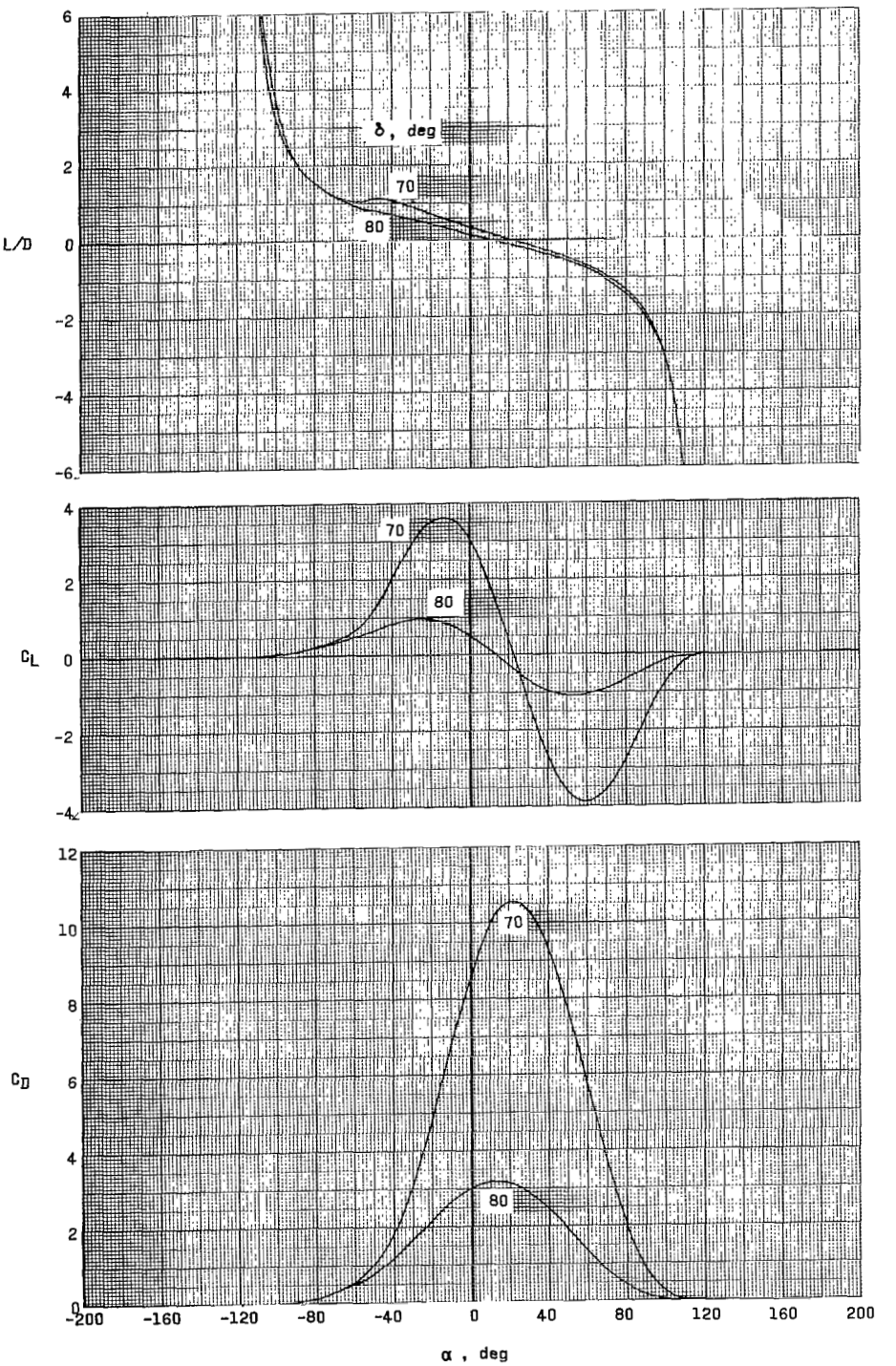
(e) r/d = 0.4.- Concluded.

Figure 10.- Continued.



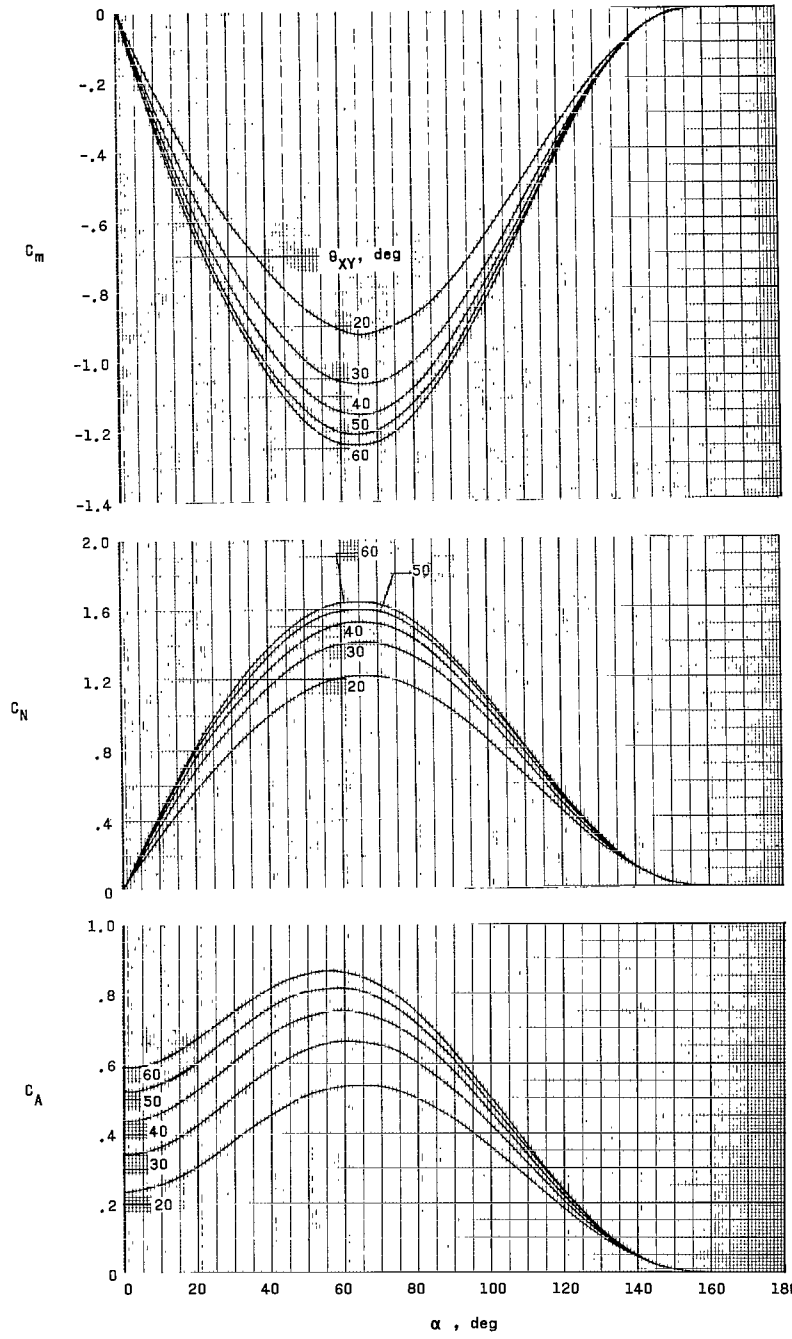
(f) r/d = 0.5.

Figure 10.- Continued.



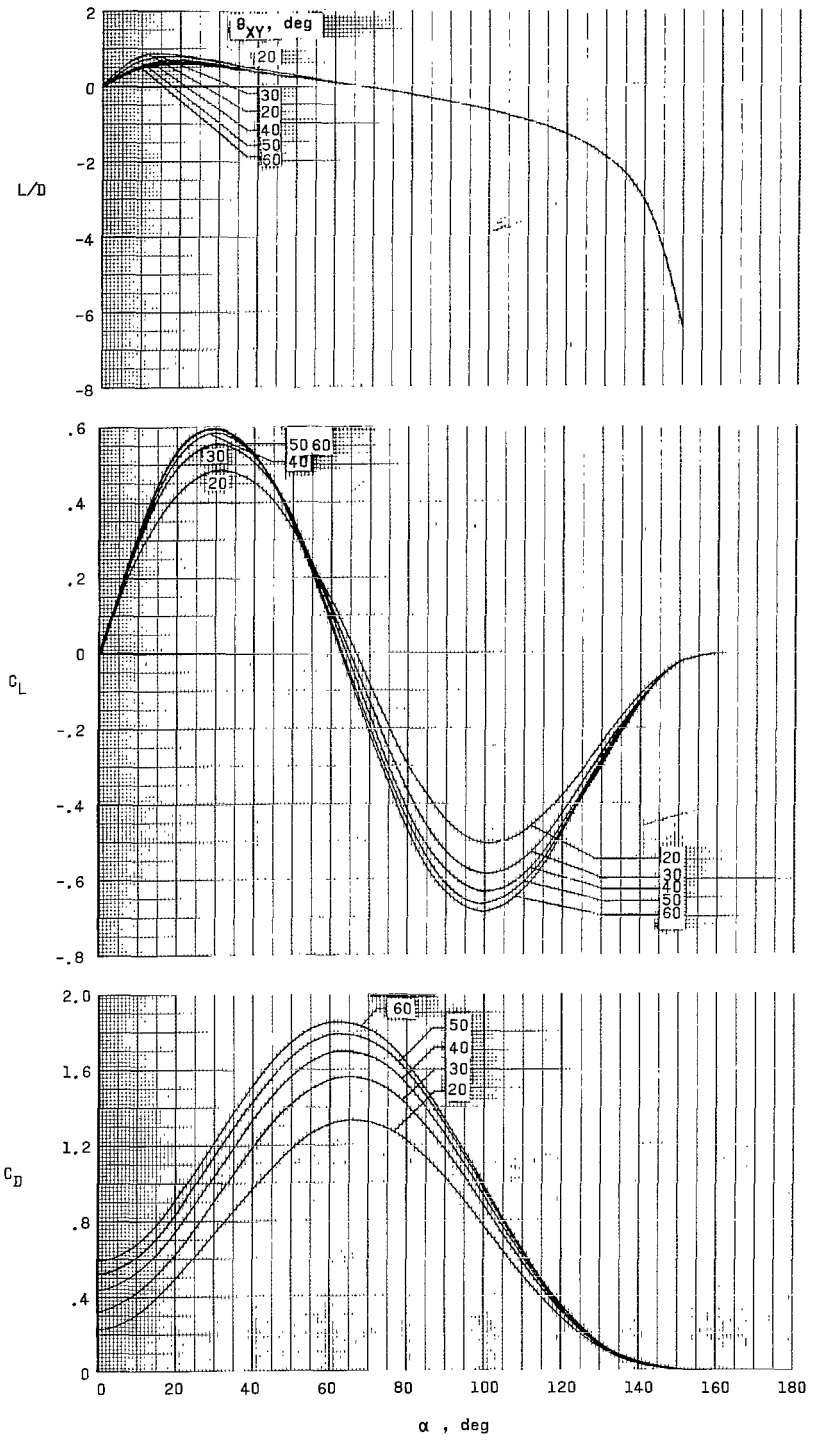
(f) r/d = 0.5.- Concluded.

Figure 10.- Concluded.



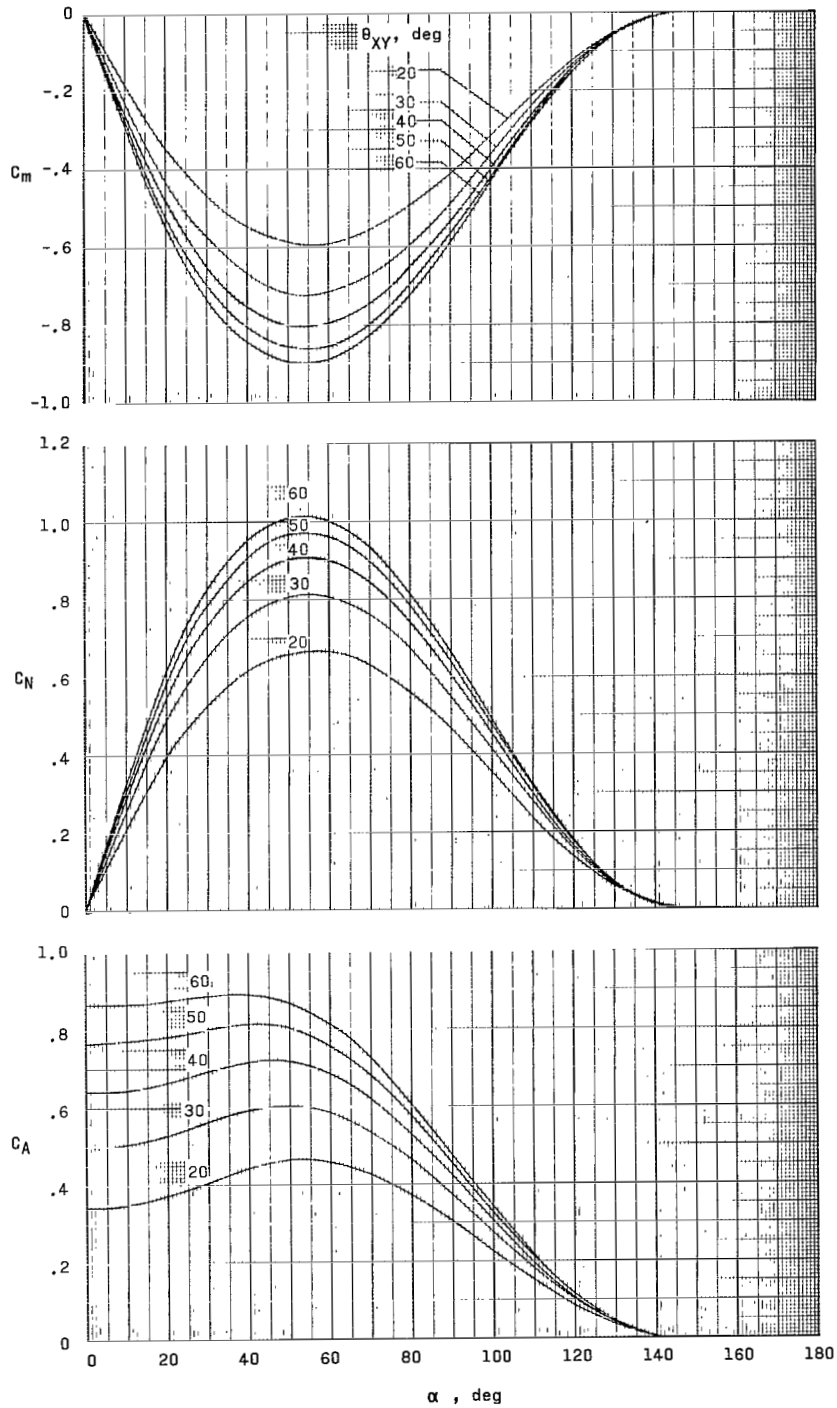
(a) $\theta_{XZ} = 20°$

Figure 11.- Elliptical-cone configuration longitudinal aerodynamics.



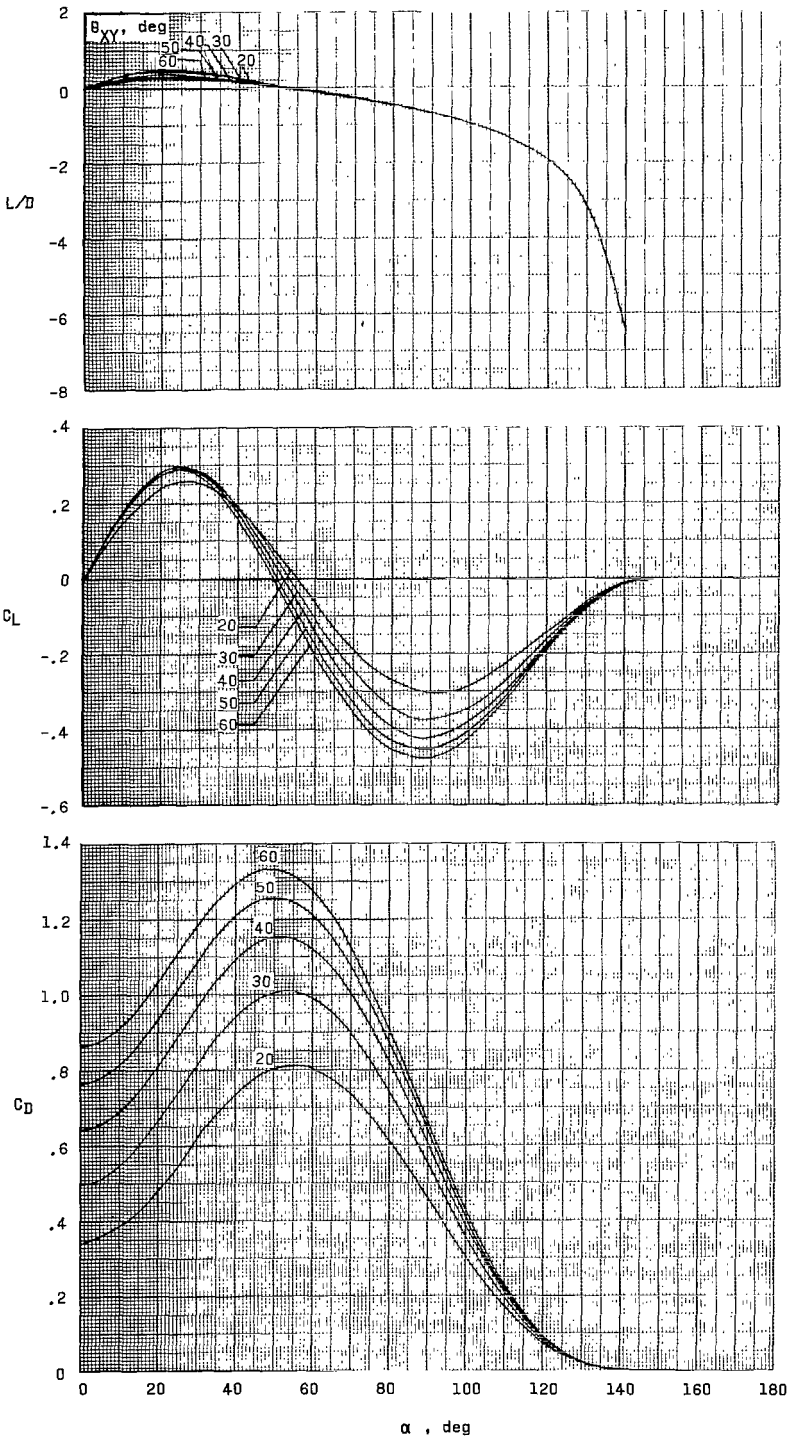
(a) $\theta_{XZ} = 20°$.- Concluded.

Figure 11.- Continued.



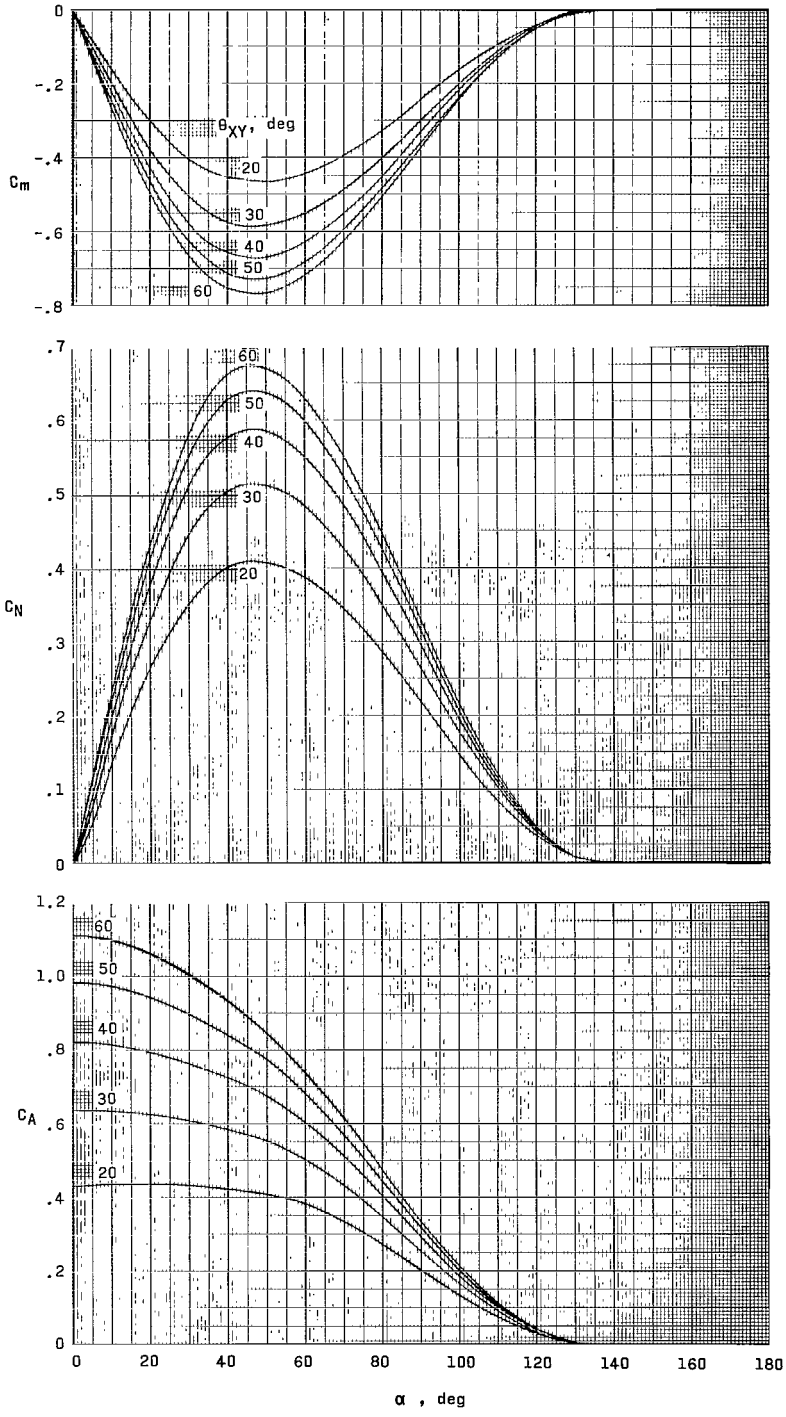
(b) $\theta_{XZ} = 30°$.

Figure 11.- Continued.



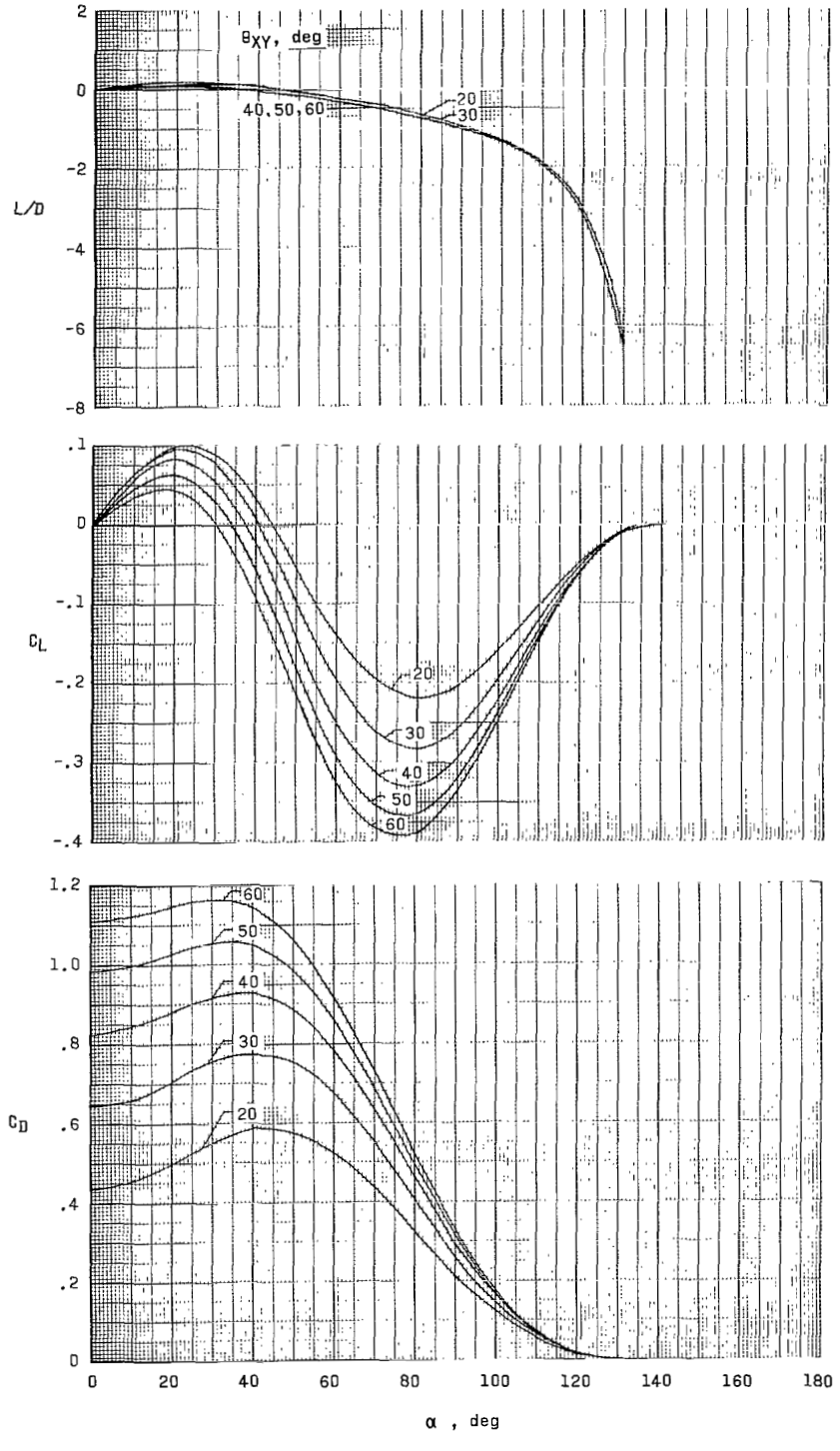
(b) $\theta_{XZ} = 30^{\circ}$.- Concluded.

Figure 11.- Continued.



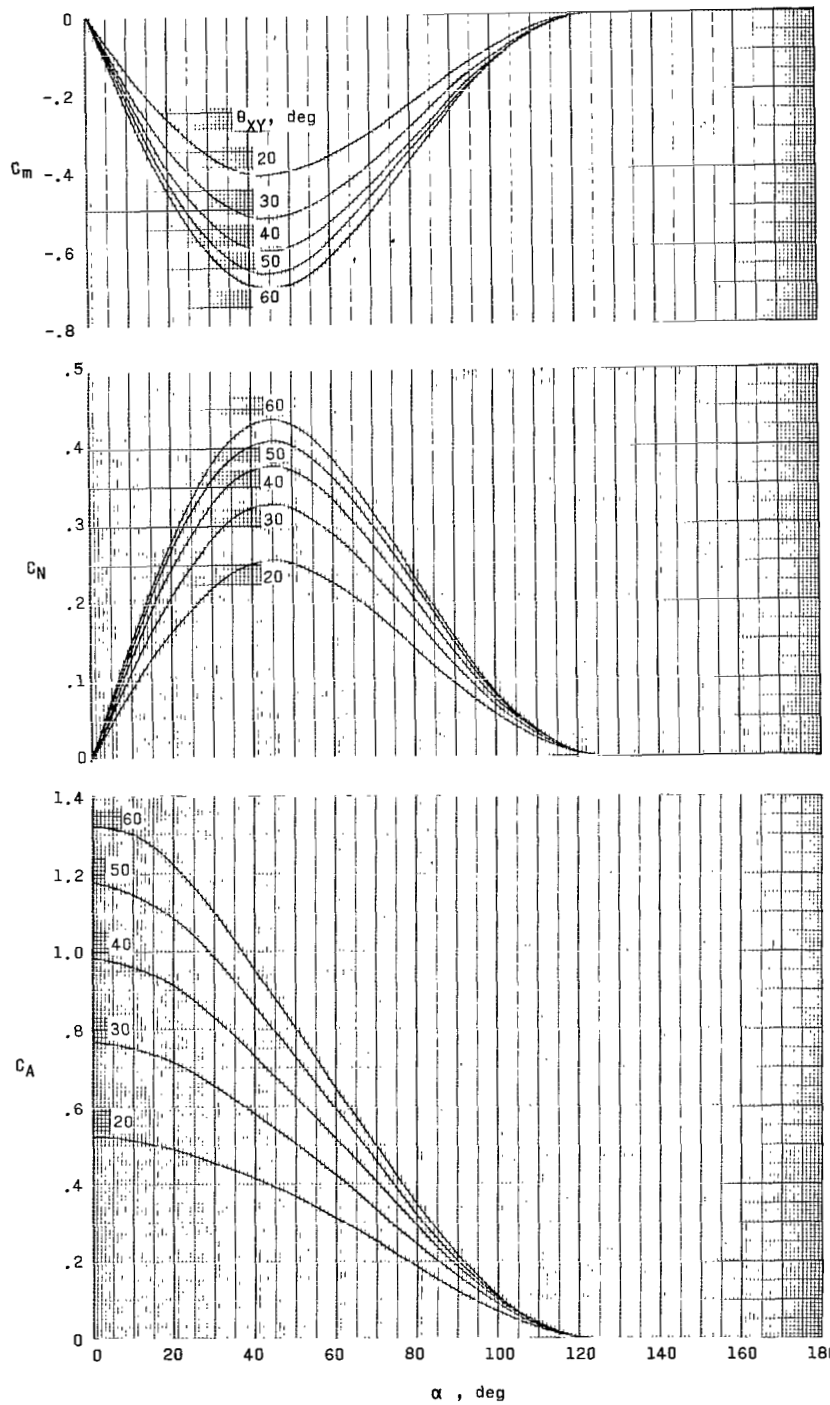
(c) $\theta_{XZ} = 40°$.

Figure 11.- Continued.



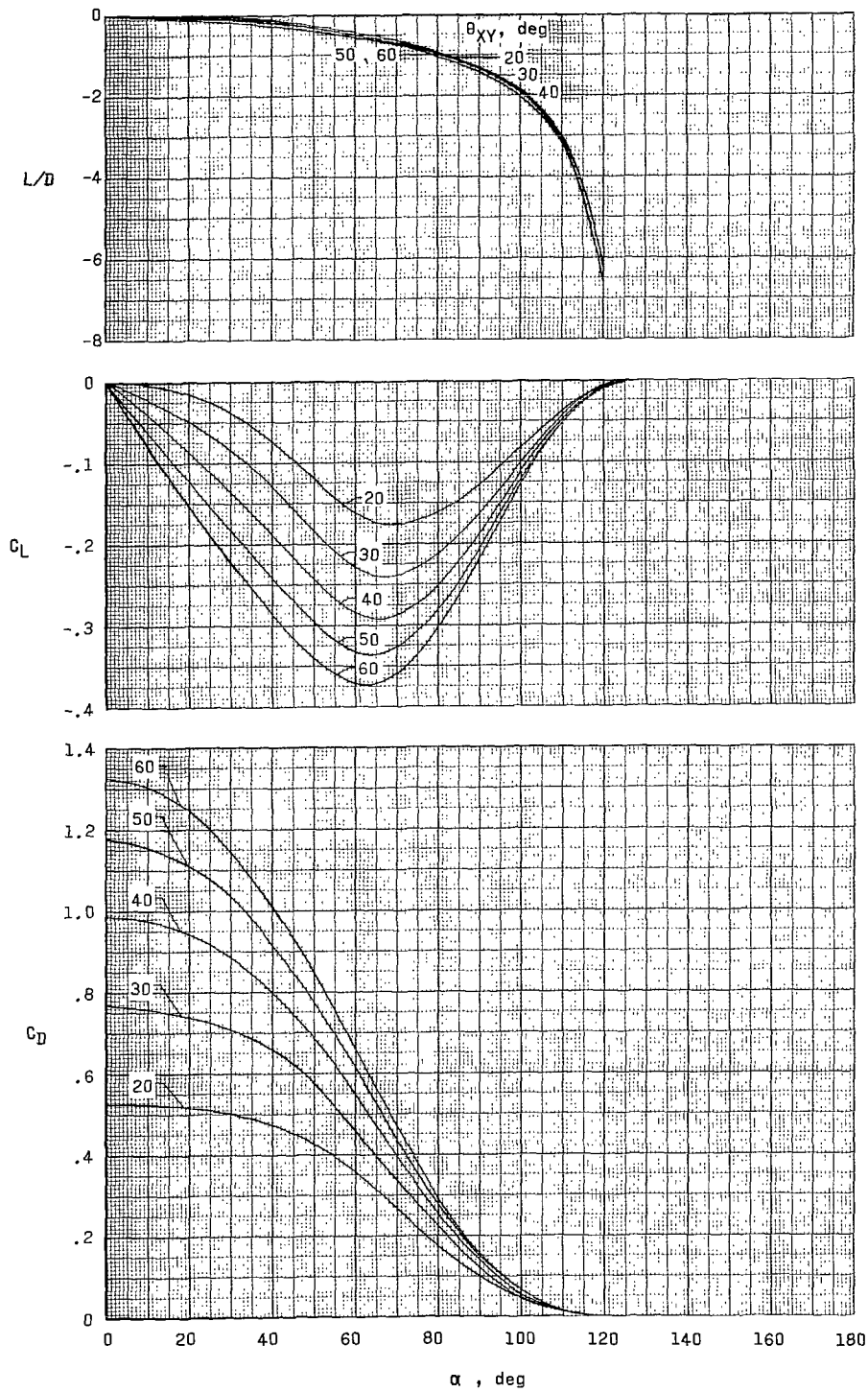
(c) $\theta_{XZ} = 40^\circ$.- Concluded.

Figure 11.- Continued.



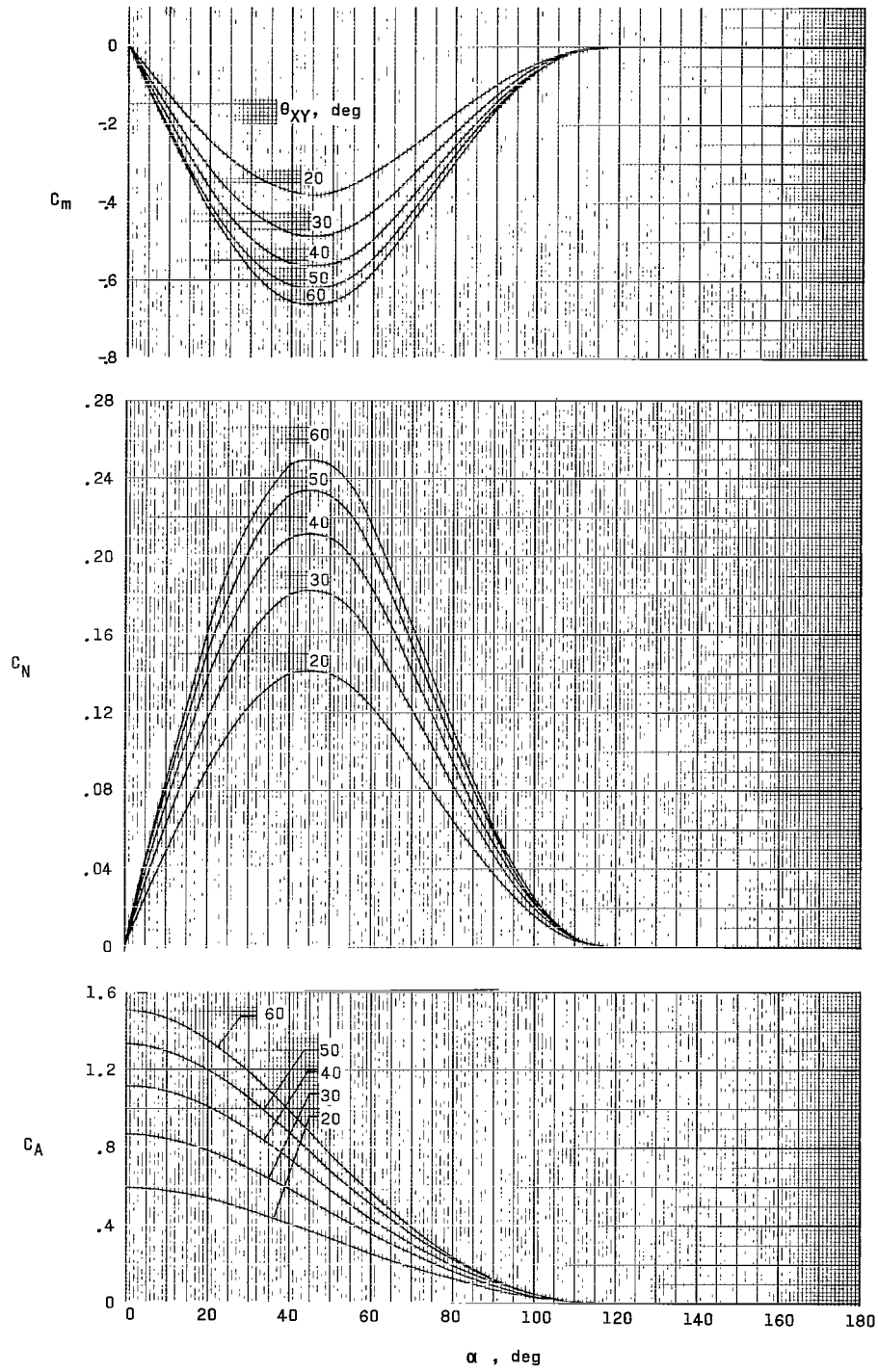
(d) $\theta_{XZ} = 50°$.

Figure 11.- Continued.



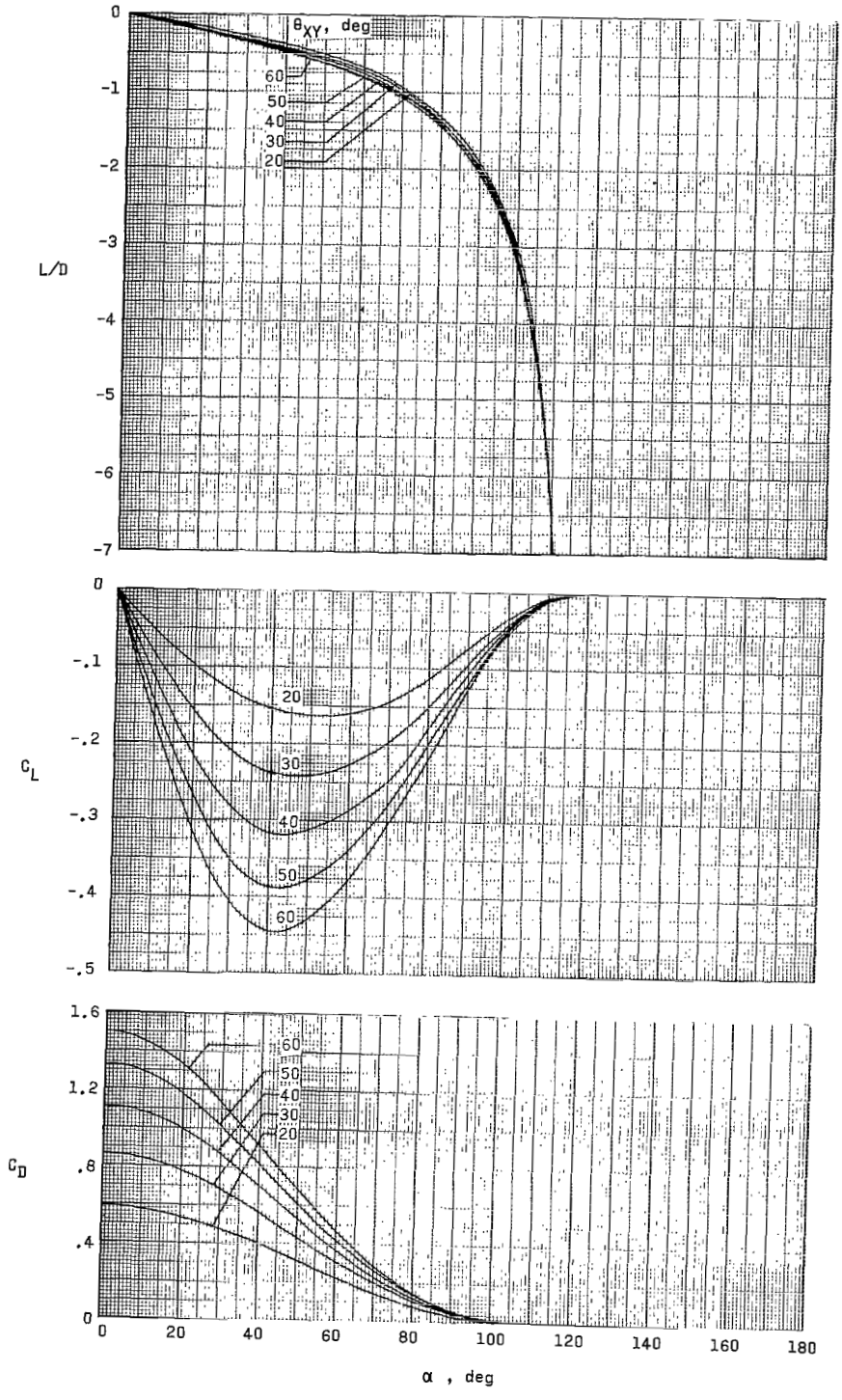
(d) $\theta_{XZ} = 50°$.- Concluded.

Figure 11.- Continued.



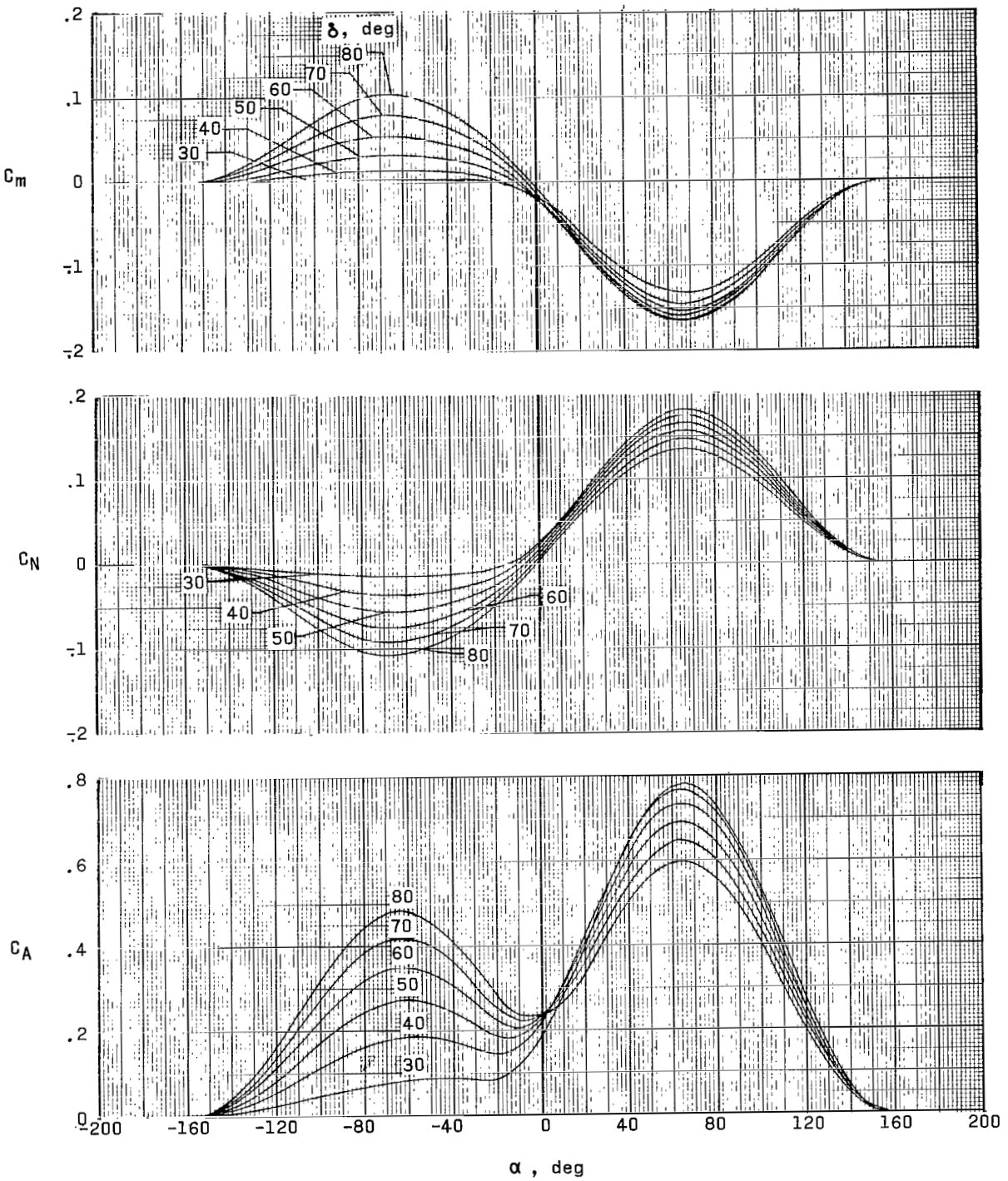
(e) $\theta_{XZ} = 60°$.

Figure 11.- Continued.



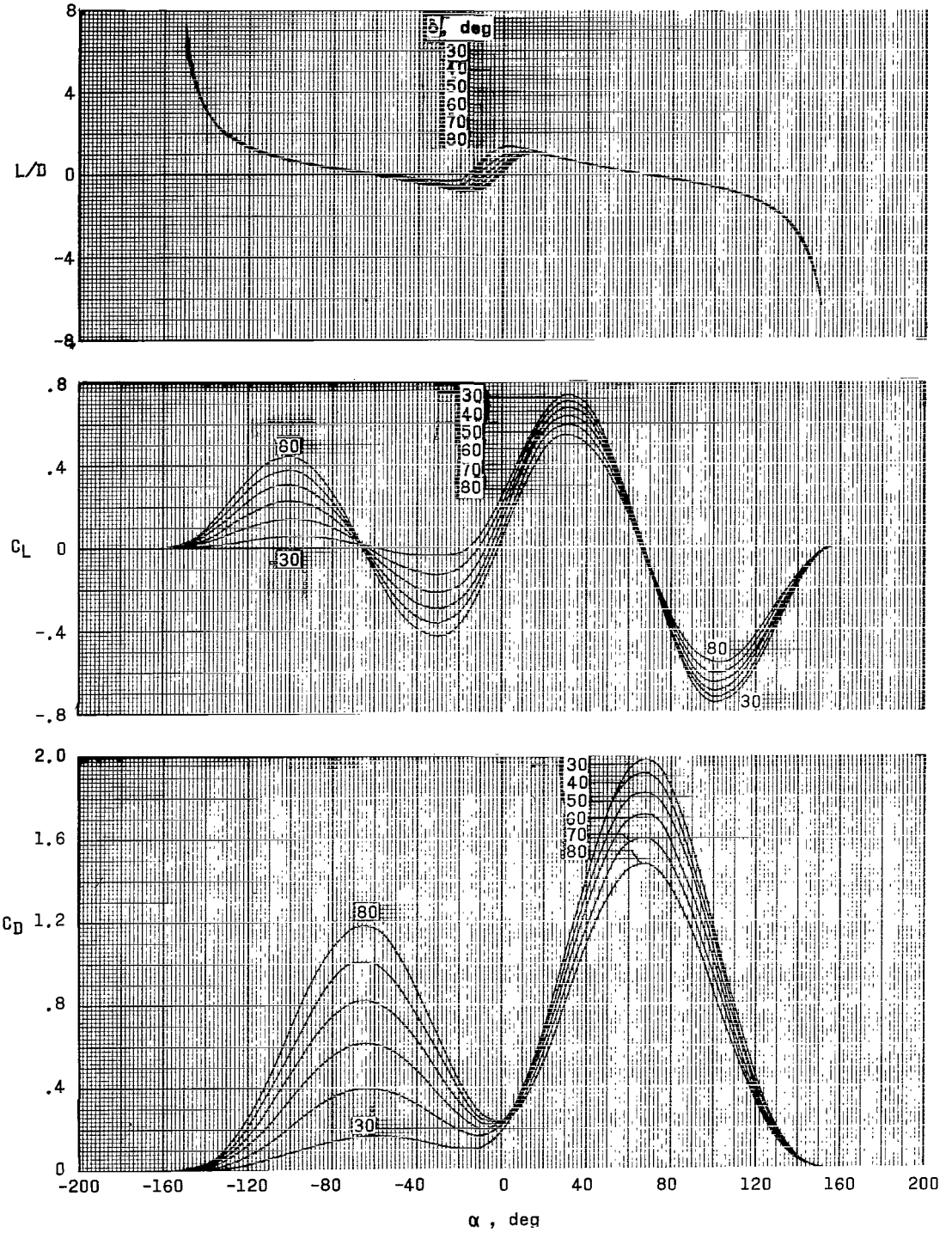
(e) $\theta_{XZ} = 60°$.- Concluded.

Figure 11.- Concluded.



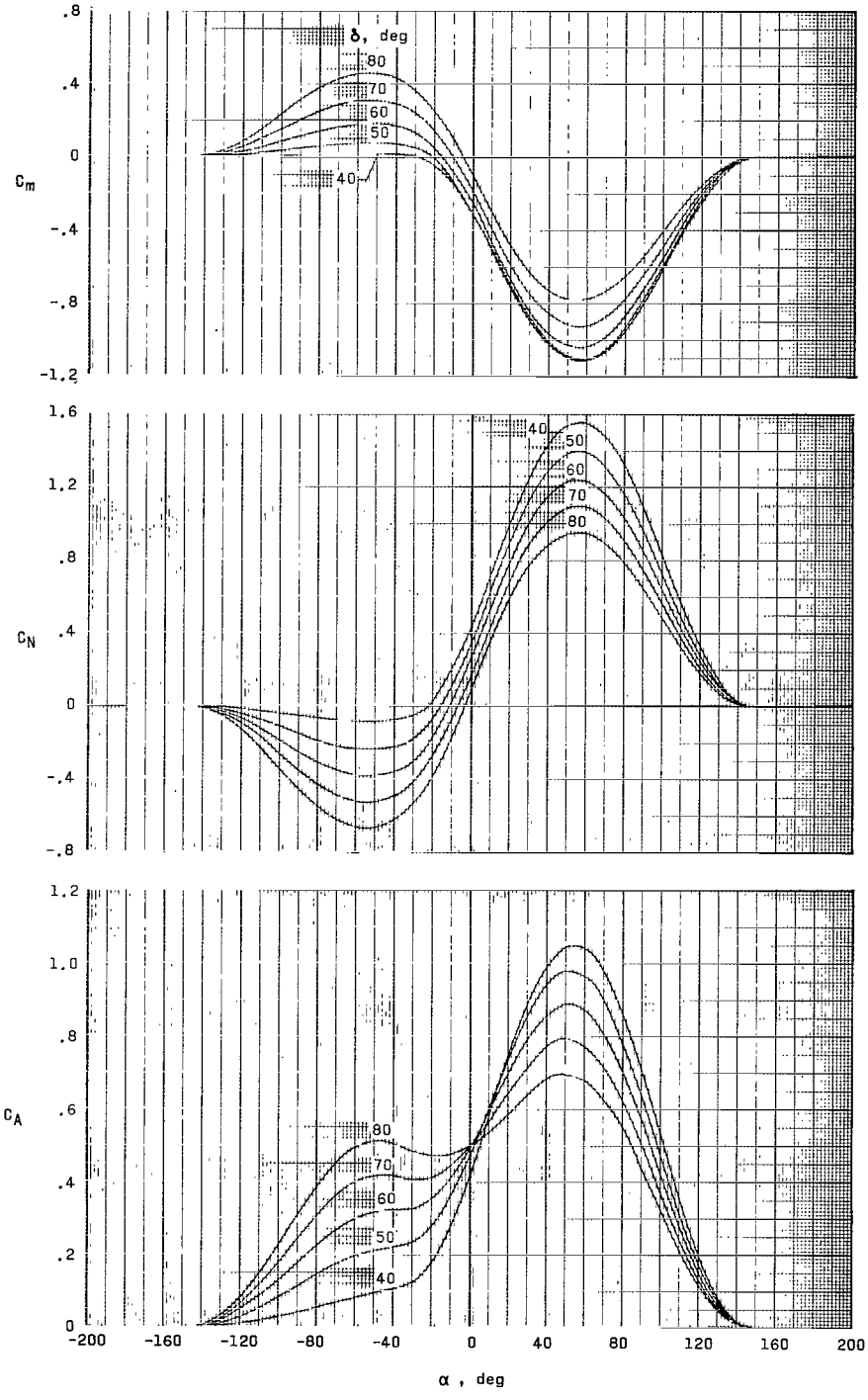
(a) $\theta_{XZ} = 20°$.

Figure 12.- Raked-off elliptical-cone configuration longitudinal aerodynamics.



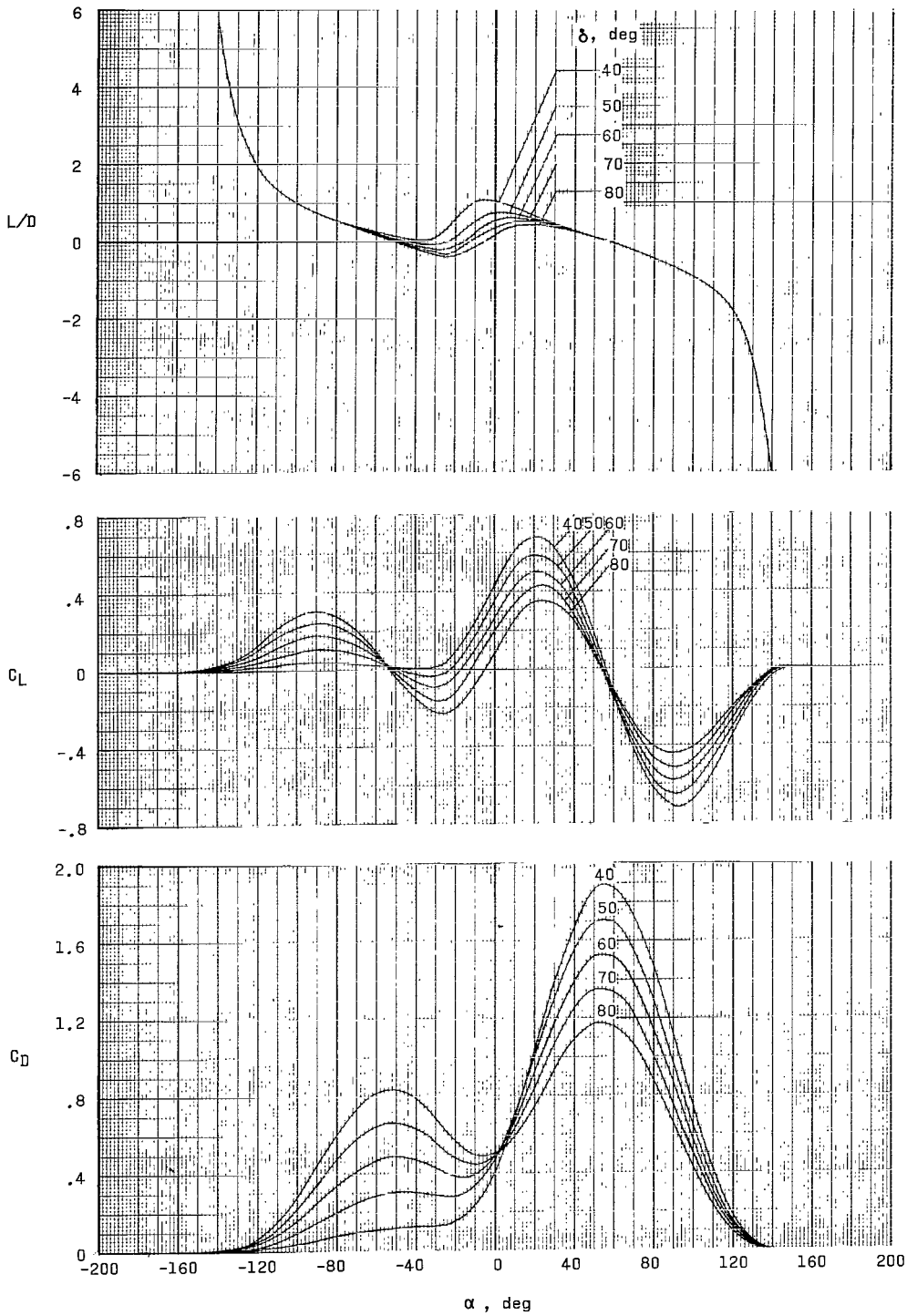
(a) $\theta_{XZ} = 20^{\circ}$.- Concluded.

Figure 12.- Continued.



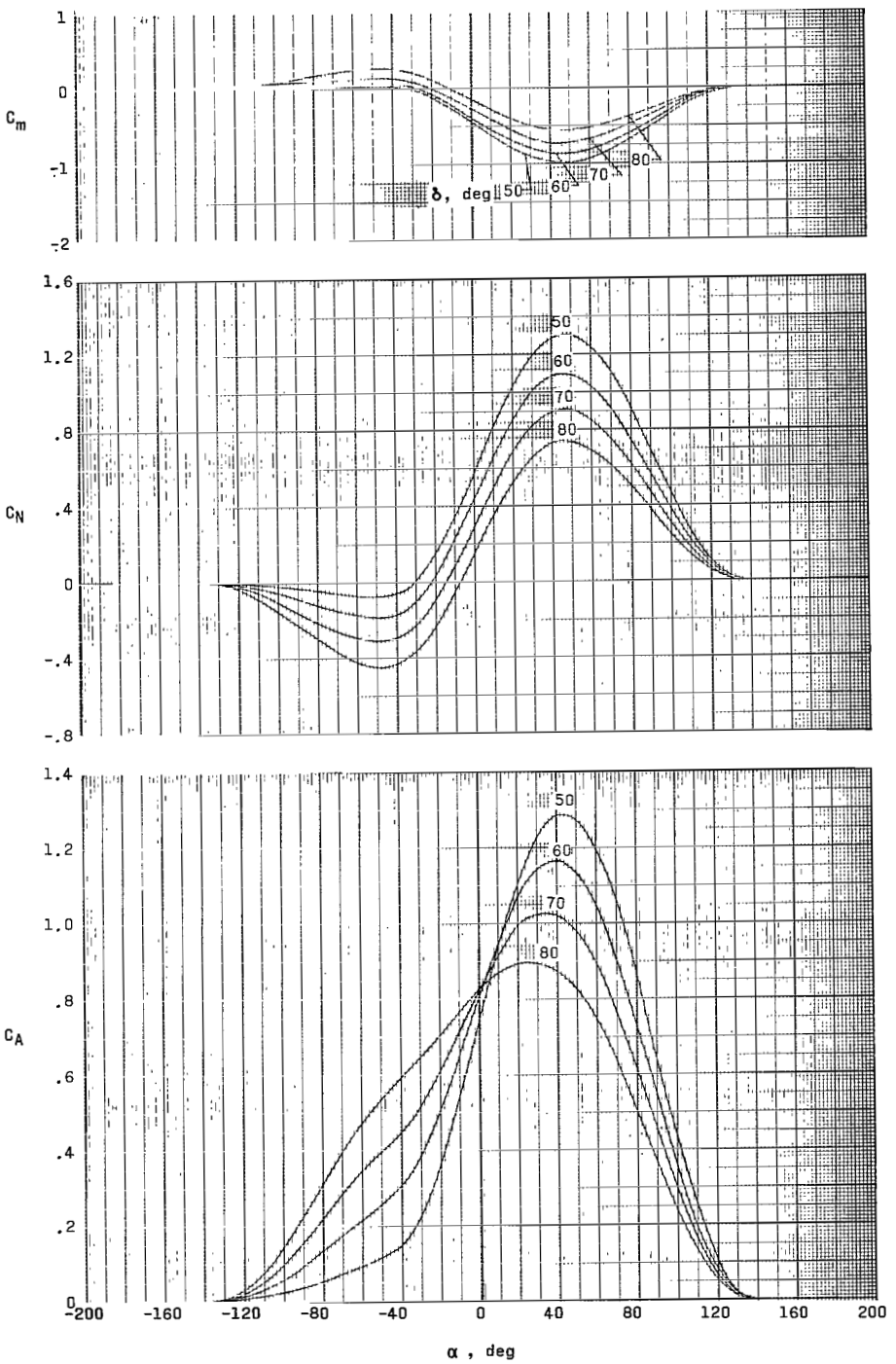
(b) $\theta_{XZ} = 30°$.

Figure 12.- Continued.



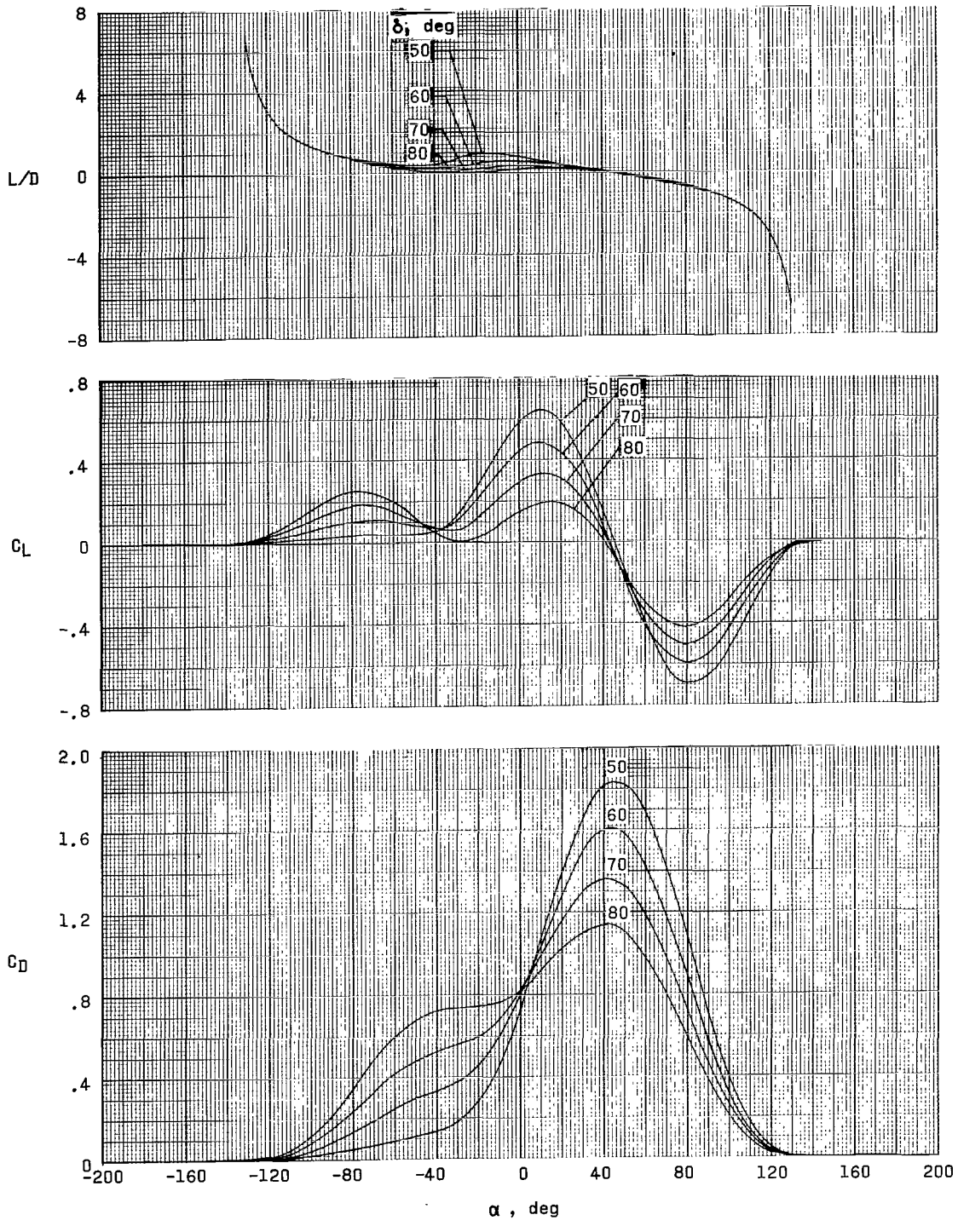
(b) $\theta_{XZ} = 30^{\circ}$.- Concluded.

Figure 12.- Continued.



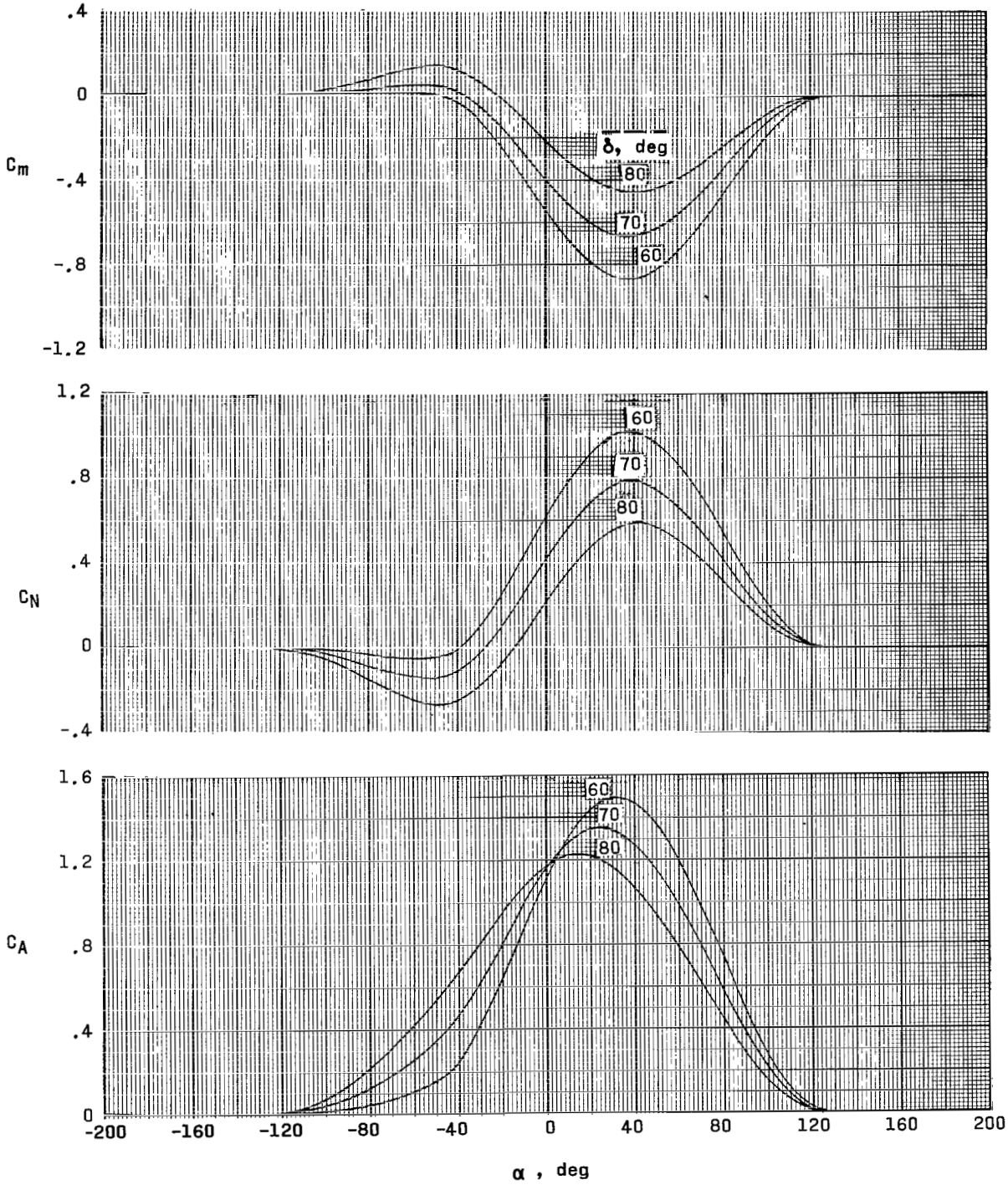
(c) $\theta_{XZ} = 40°$.

Figure 12.- Continued.



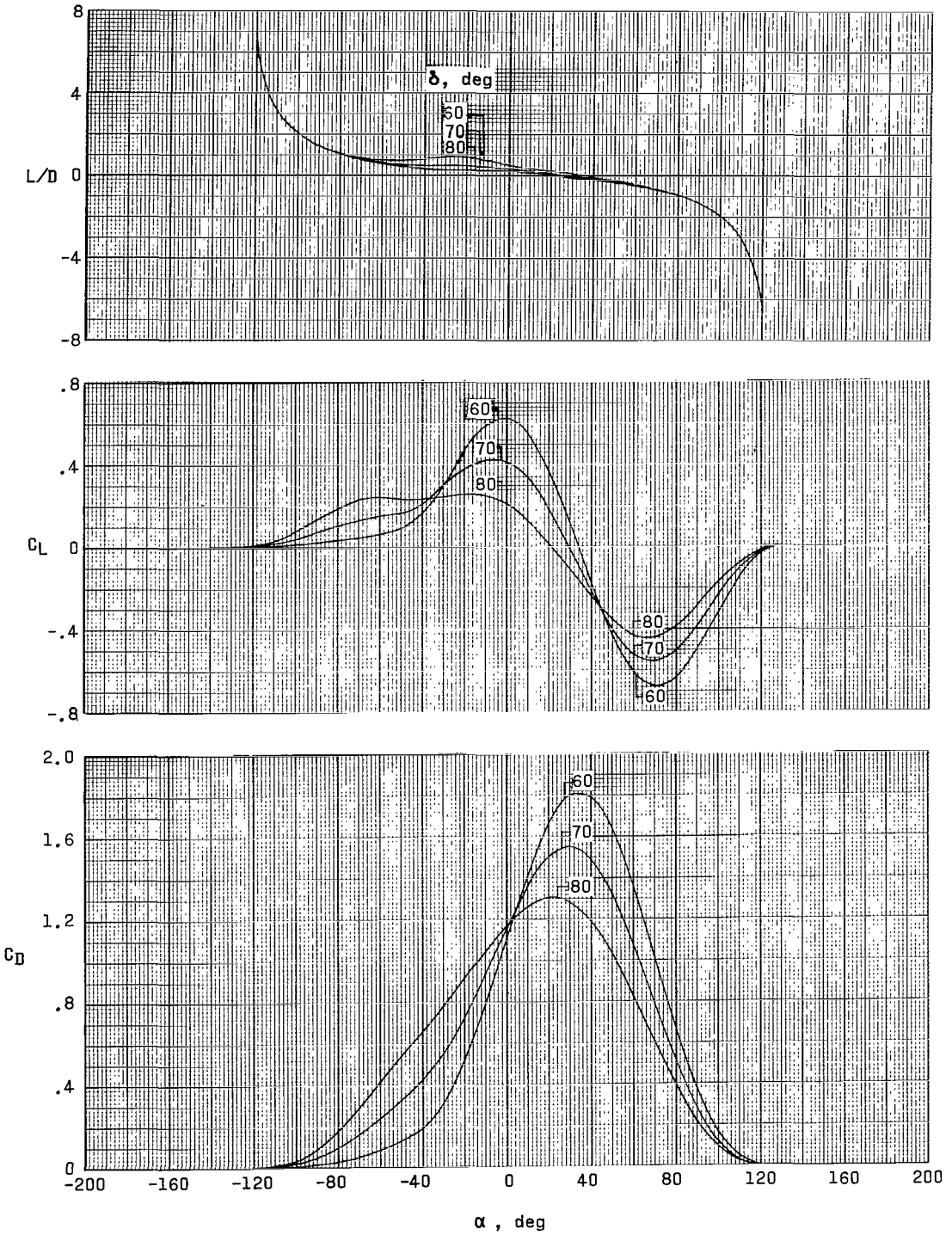
(c) $\theta_{XZ} = 40°$.- Concluded.

Figure 12.- Continued.



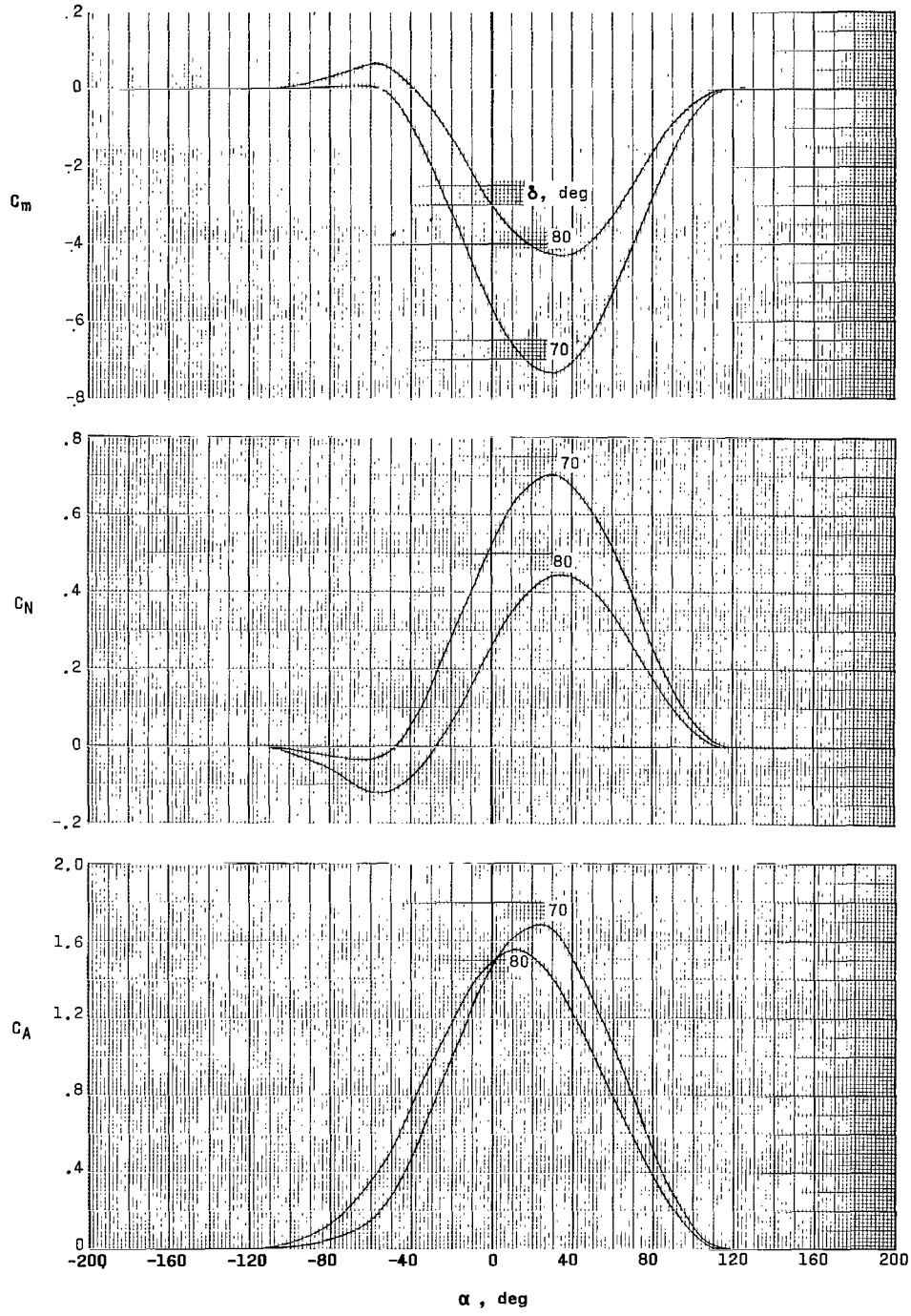
(d) $\theta_{XZ} = 50°$.

Figure 12.- Continued.



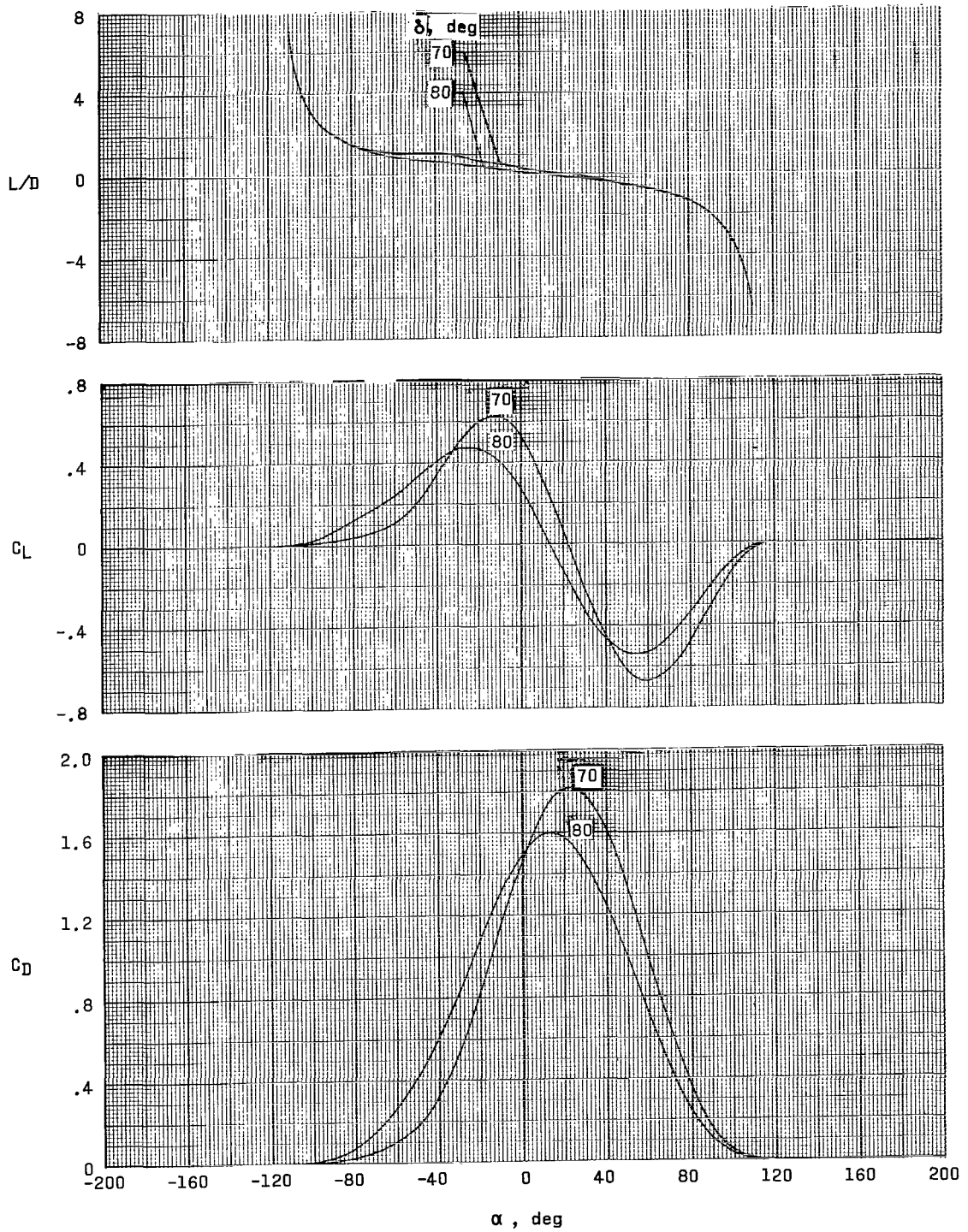
(d) $\theta_{XZ} = 50^\circ$.- Concluded.

Figure 12.- Continued.



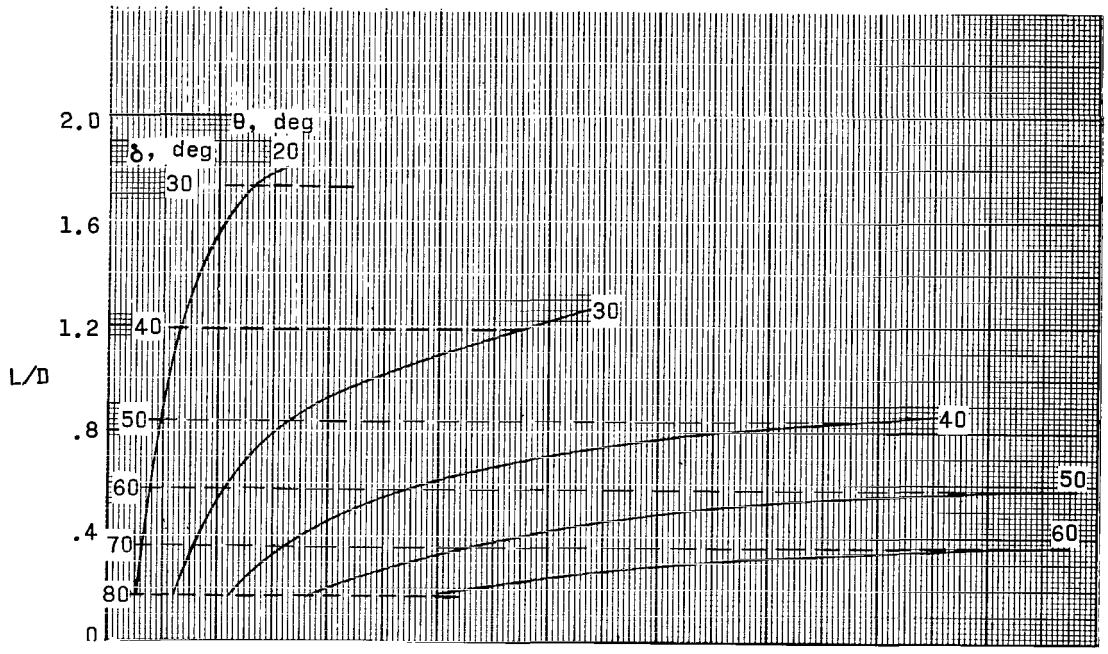
(e) $\theta_{XZ} = 60°$.

Figure 12.- Continued.

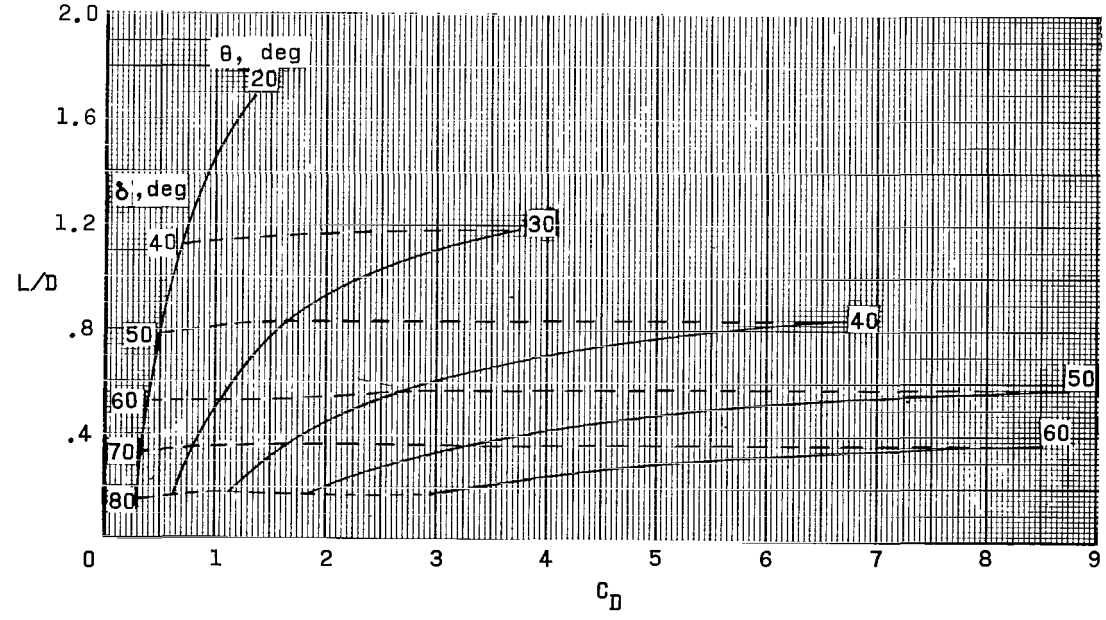


(e) $\theta_{XZ} = 60°$.- Concluded.

Figure 12.- Concluded.

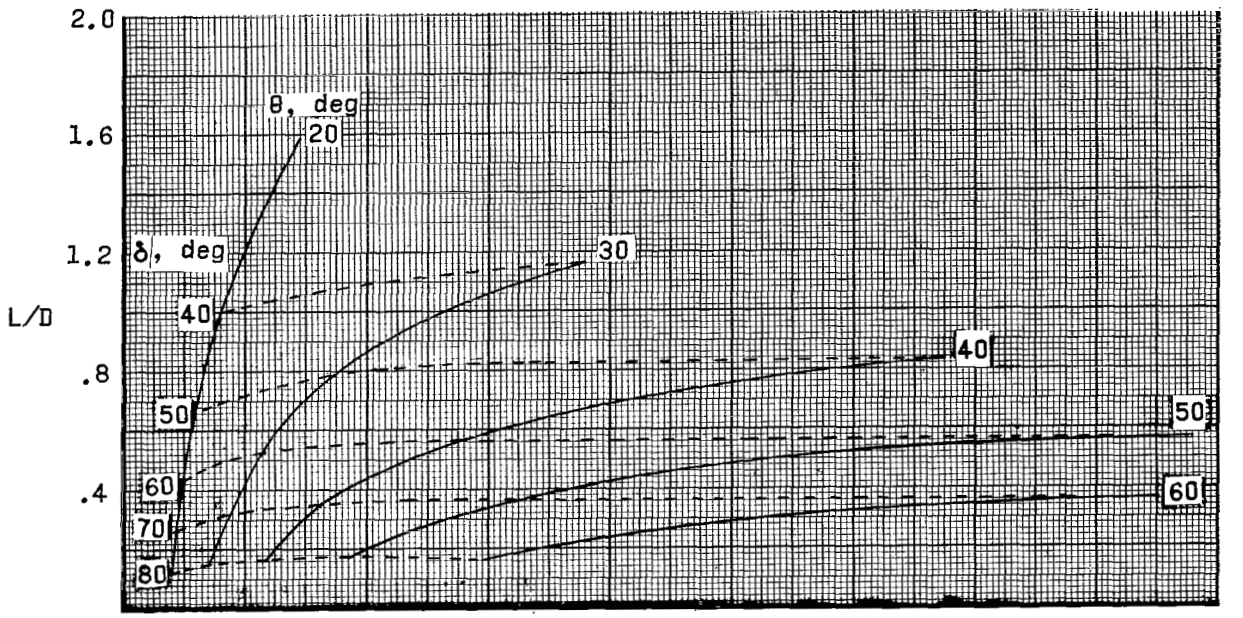


(a) r/d = 0.

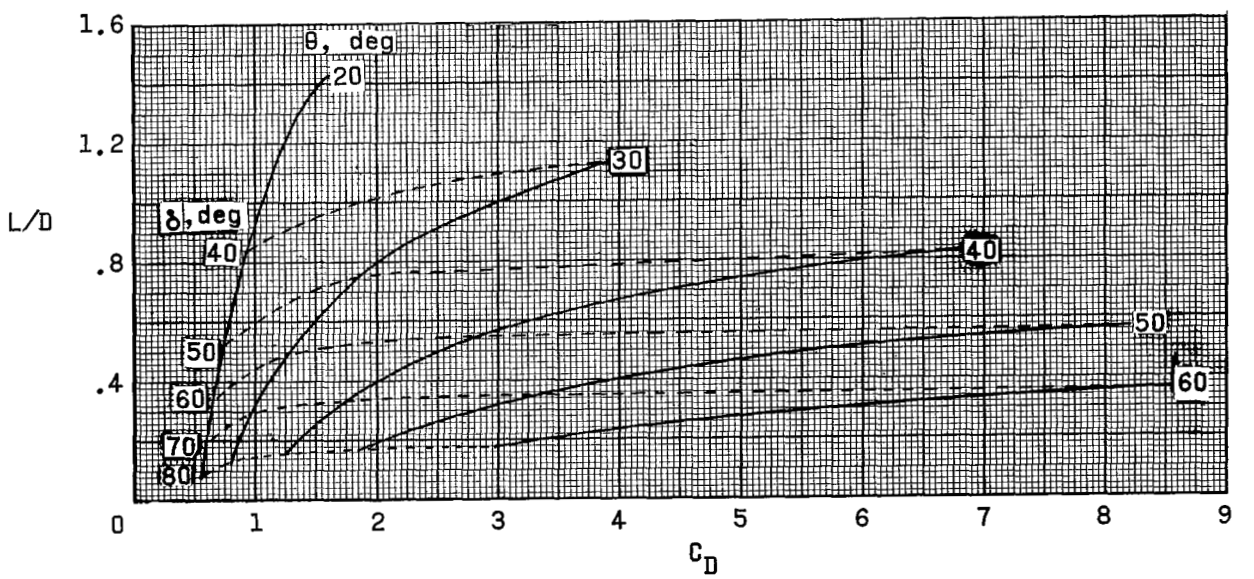


(b) r/d = 0.1.

Figure 13.- Summary of the raked-off circular-cone configuration lift-to-drag ratio. $\alpha = 0^\circ$.

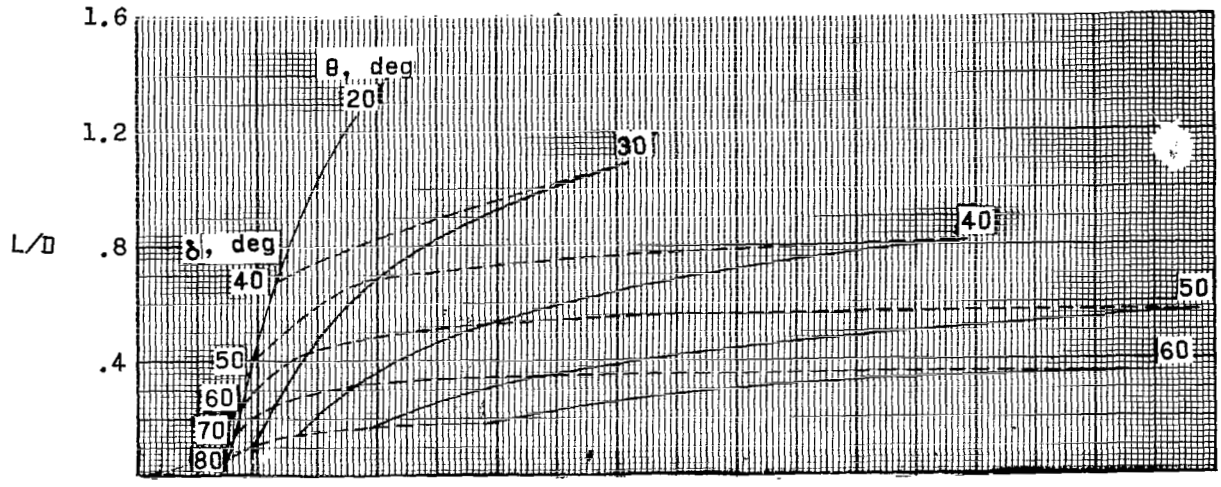


(c) r/d = 0.2.

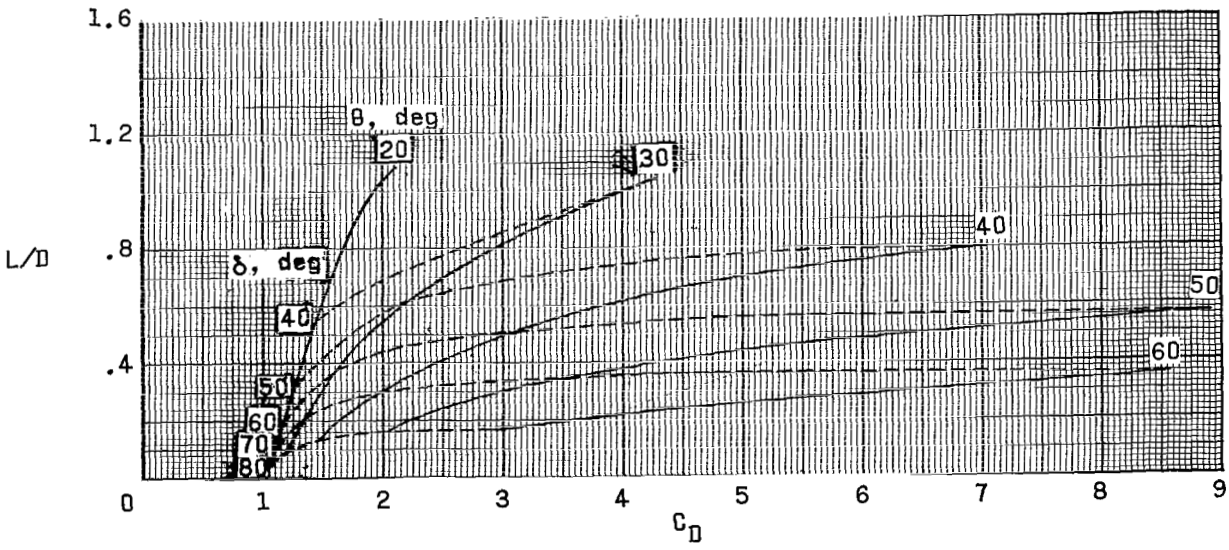


(d) r/d = 0.3.

Figure 13.- Continued.

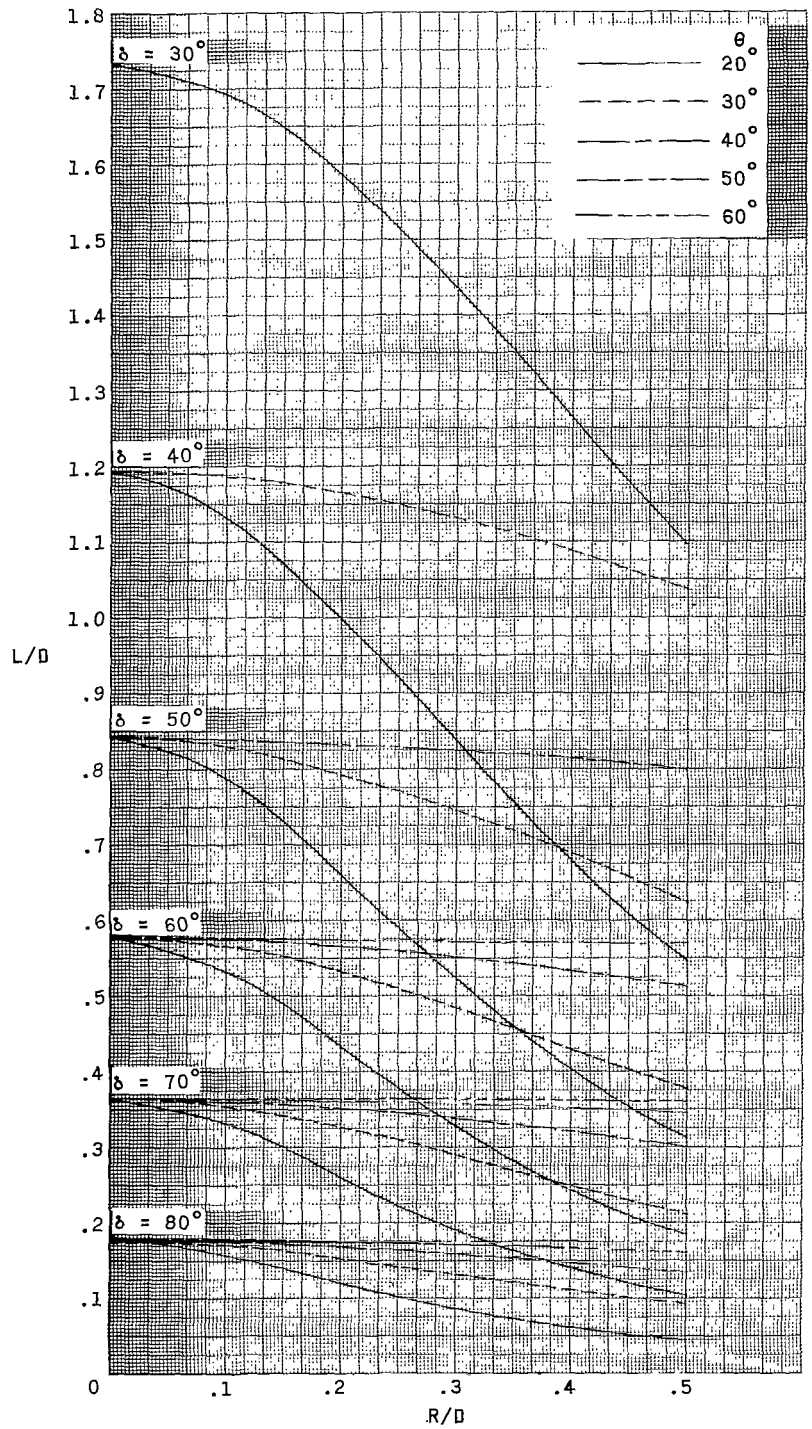


(e) r/d = 0.4.



(f) r/d = 0.5.

Figure 13.- Continued.



(g) Effects of nose bluntness.

Figure 13.- Concluded.

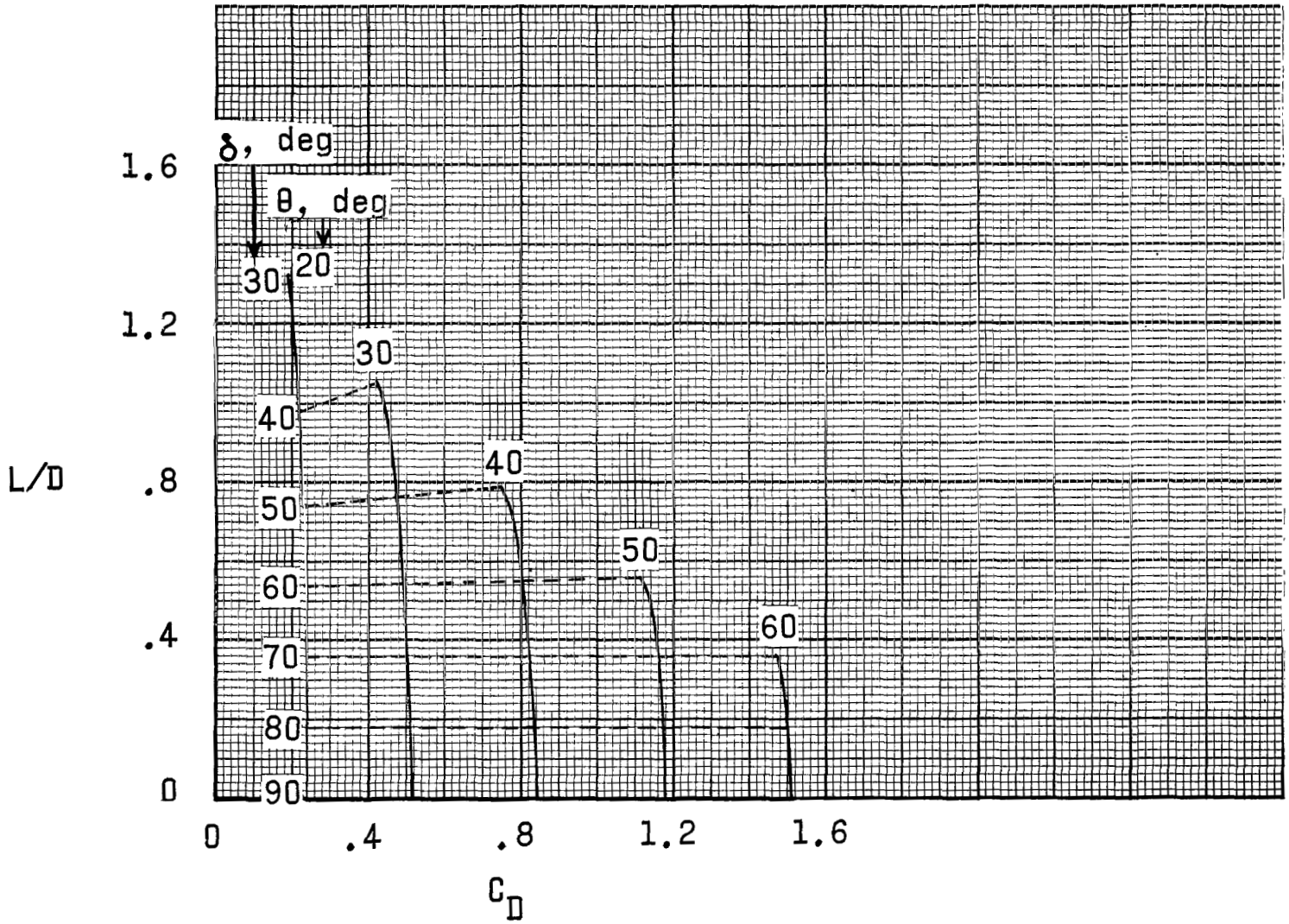


Figure 14.- Summary of raked-off elliptical-cone configuration lift-to-drag ratio. $\alpha = 0^{\circ}$.

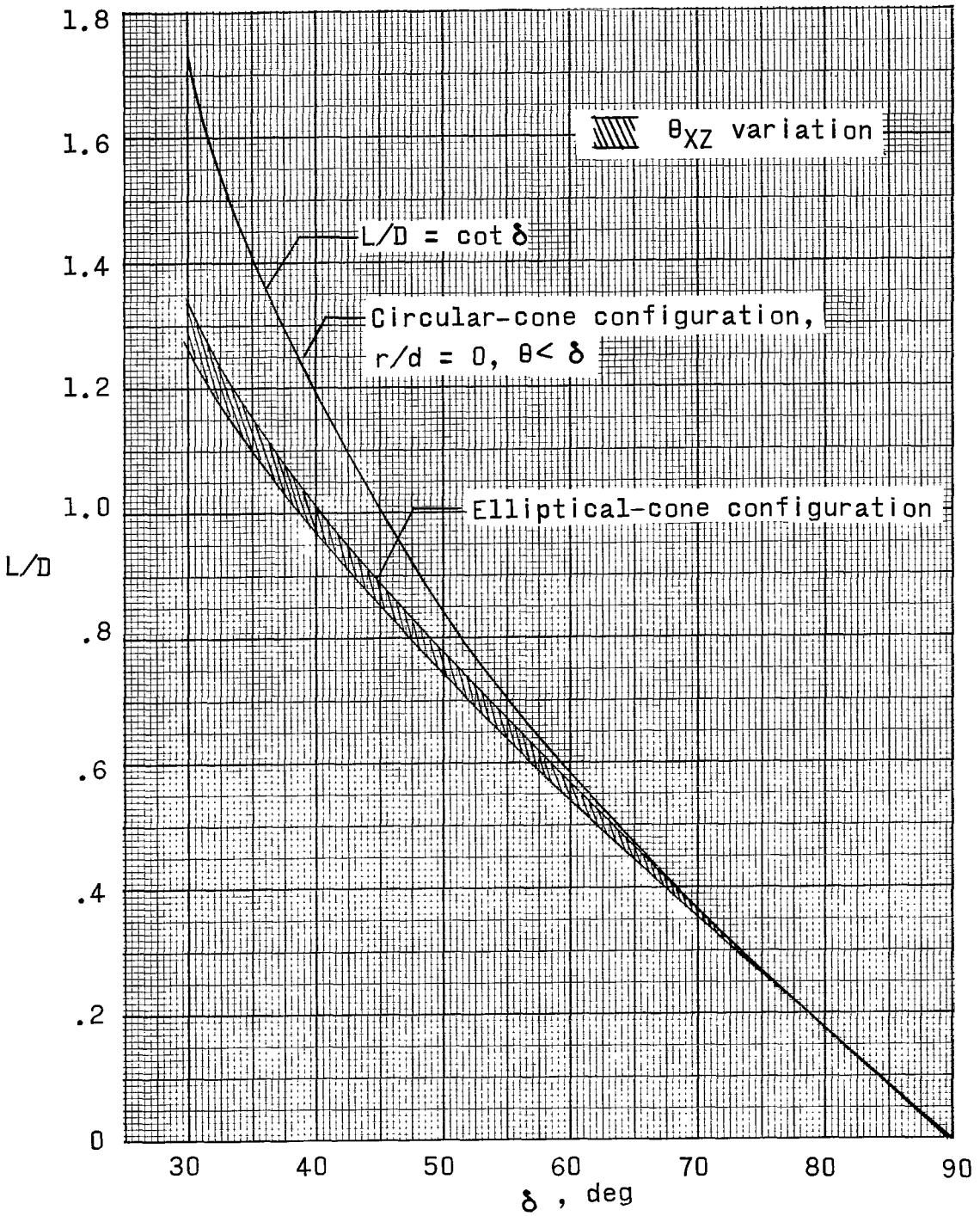
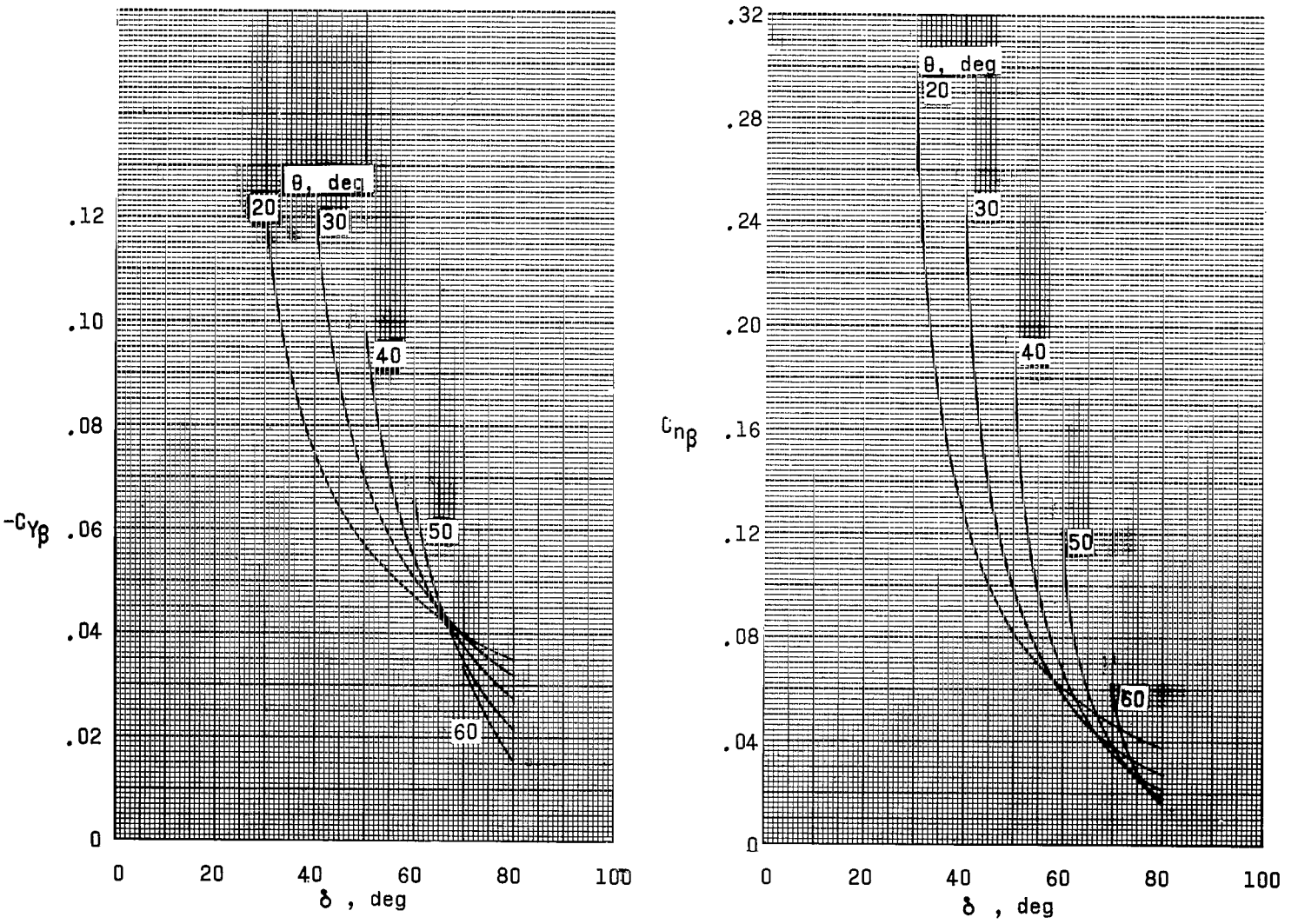
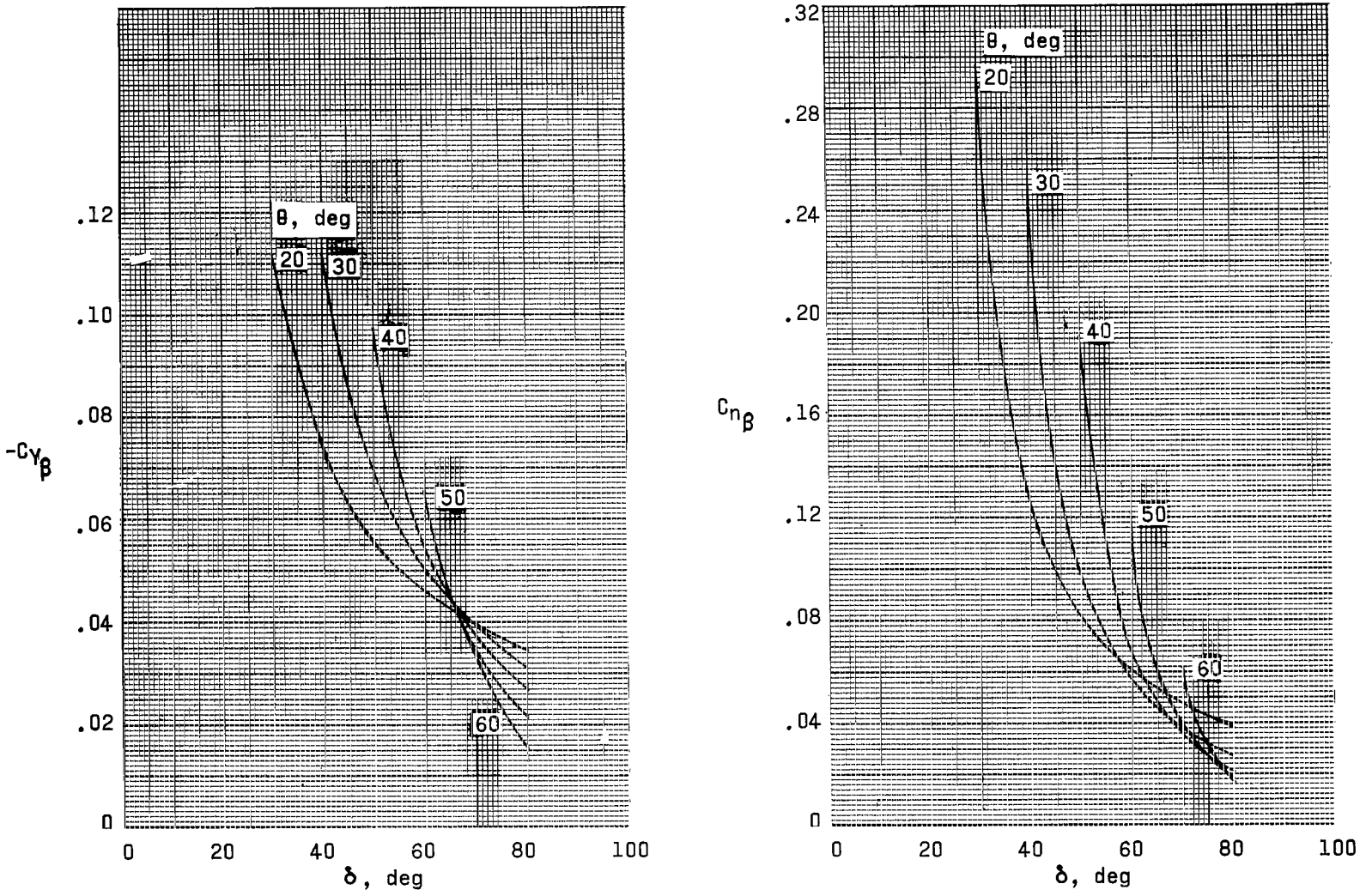


Figure 15.- Comparison of raked-off circular and elliptical-cone configuration lift-to-drag ratio. $\alpha = 0^{\circ}$.



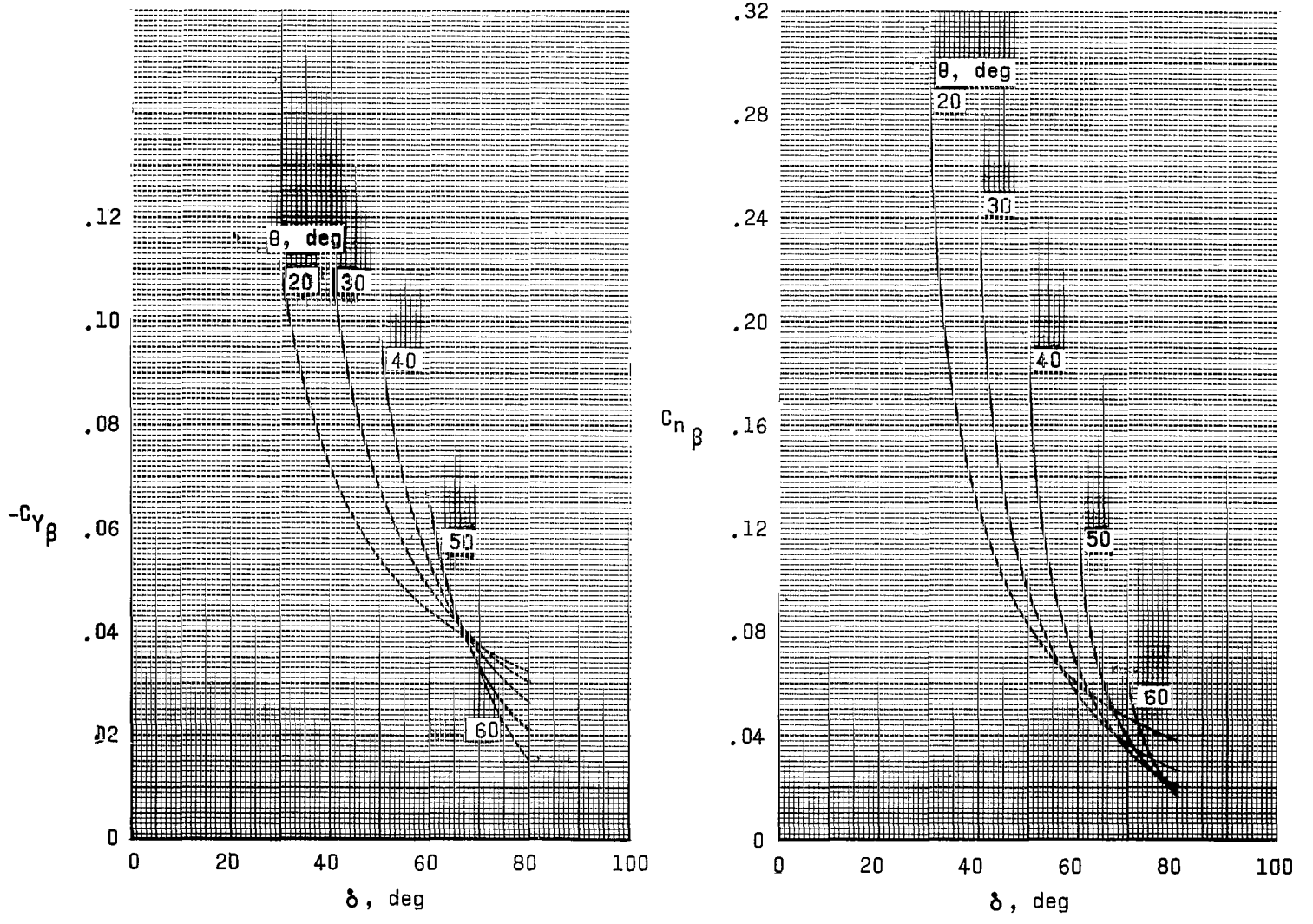
(a) r/d = 0.

Figure 16.- Raked-off circular-cone configuration directional stability characteristics. $\alpha = 0°$.



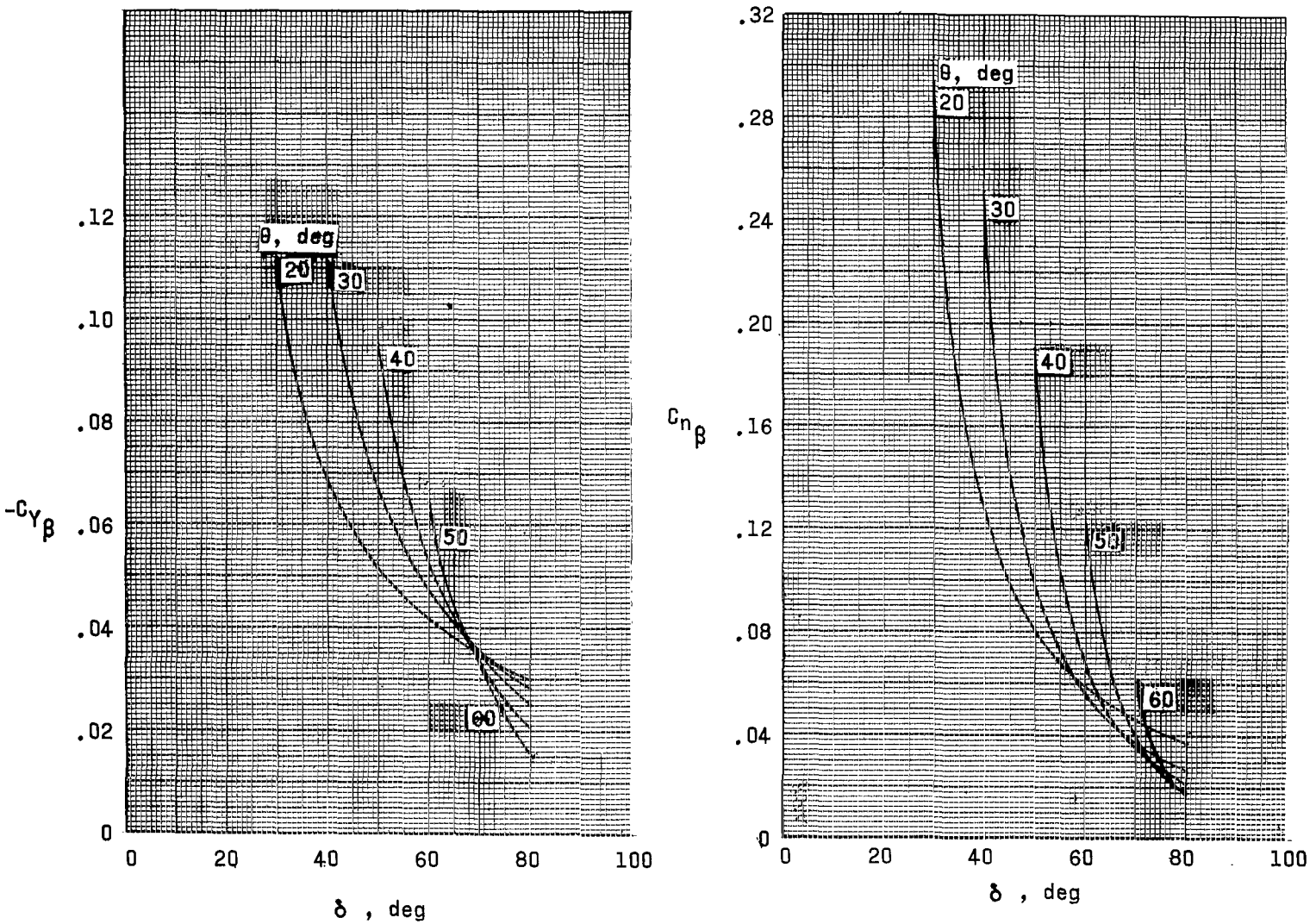
(b) r/d = 0.1

Figure 16.- Continued.



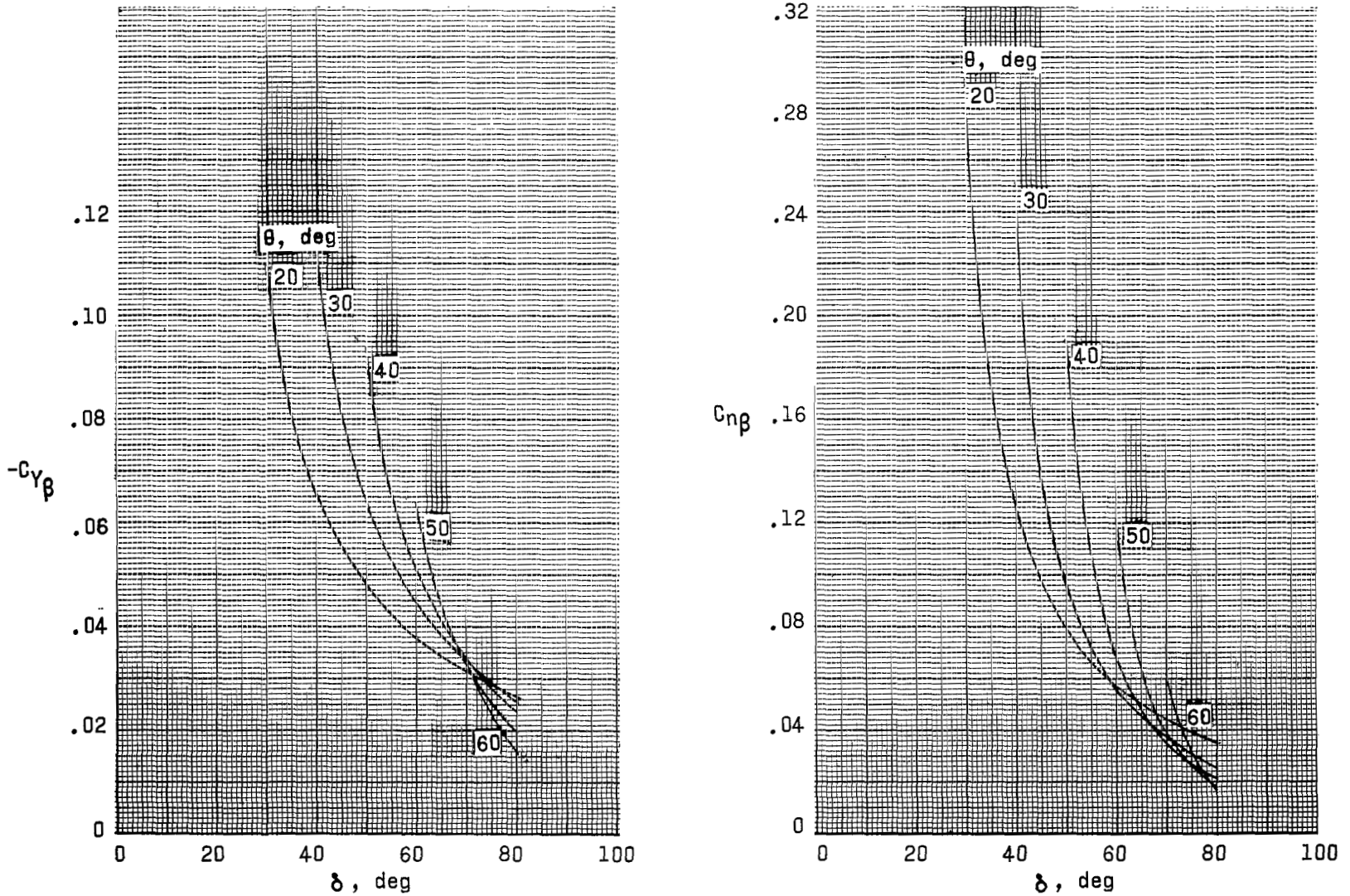
(c) r/d = 0.2.

Figure 16.- Continued.



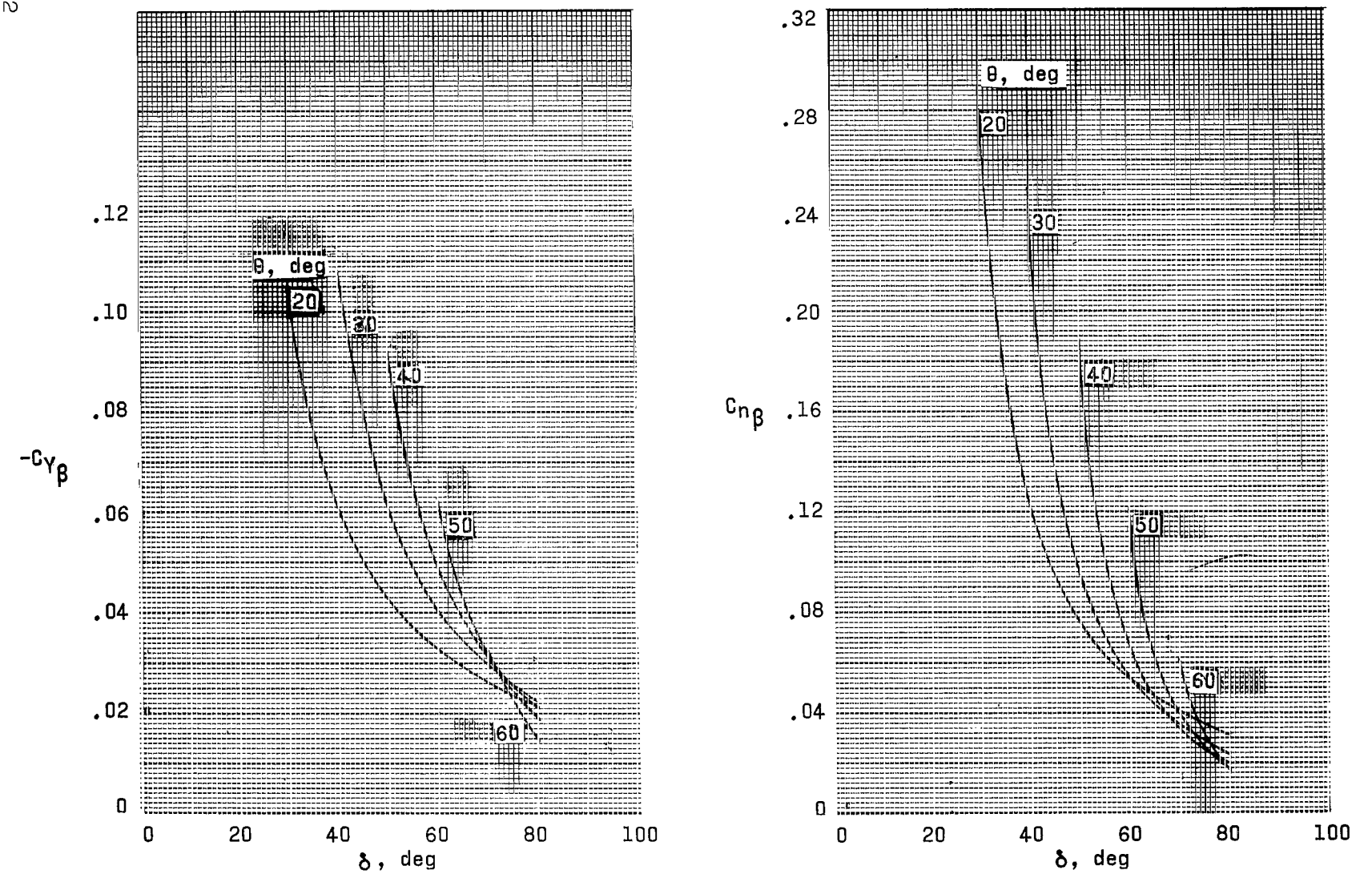
(d) r/d = 0.3.

Figure 16.- Continued.



(e) r/d = 0.4.

Figure 16.- Continued.



(f) r/d = 0.5.

Figure 16.- Concluded.

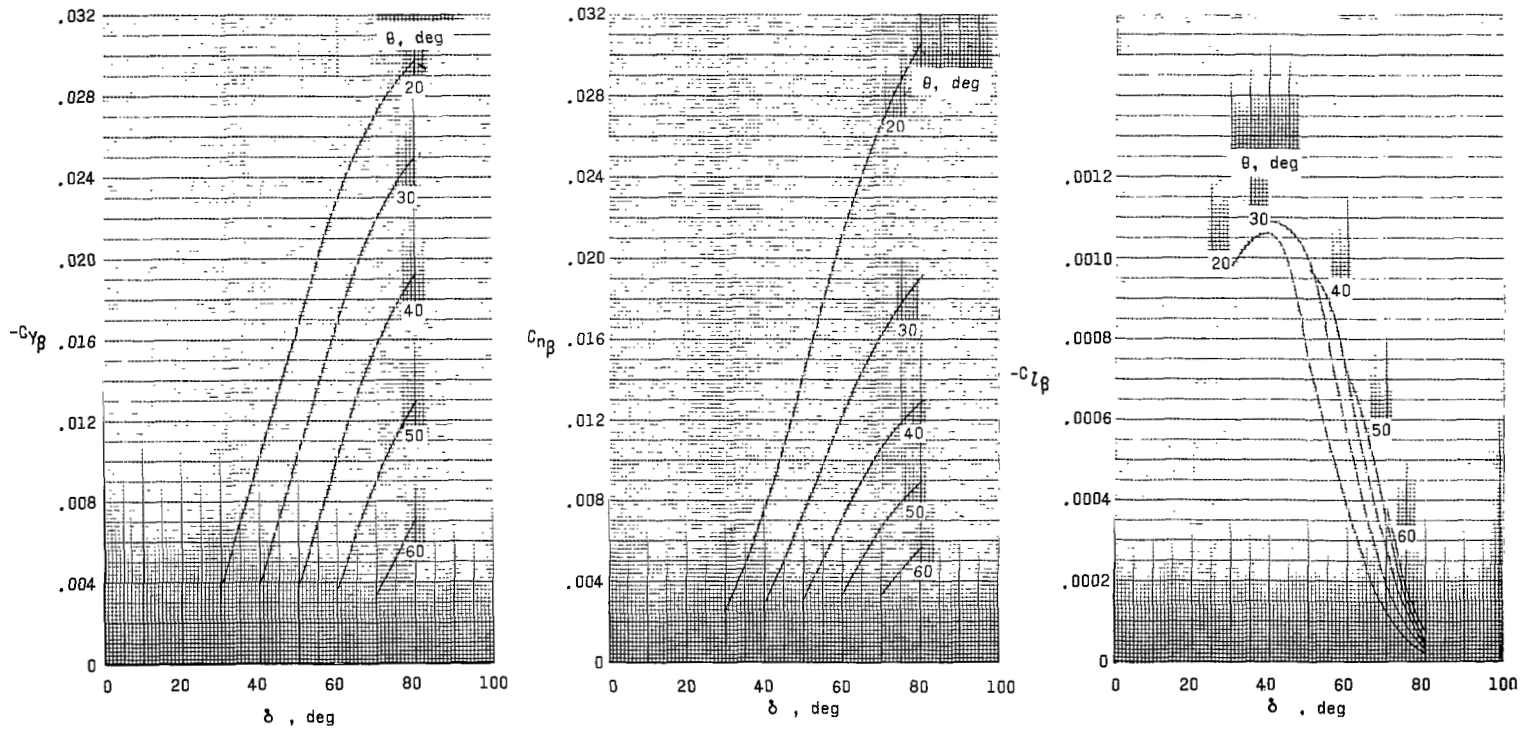
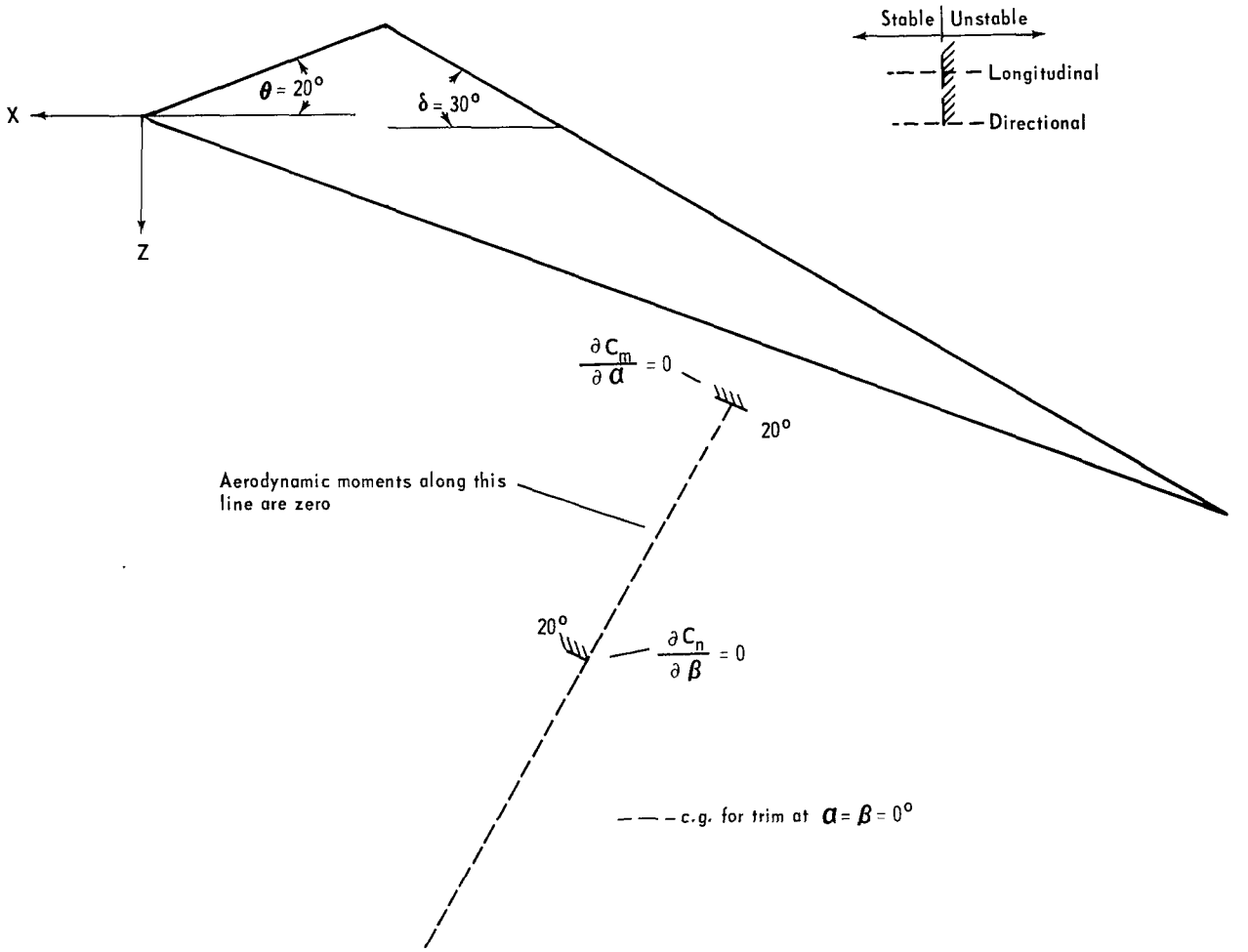


Figure 17.- Raked-off elliptical-cone configuration directional and lateral stability characteristics. $\alpha = 0^\circ$.

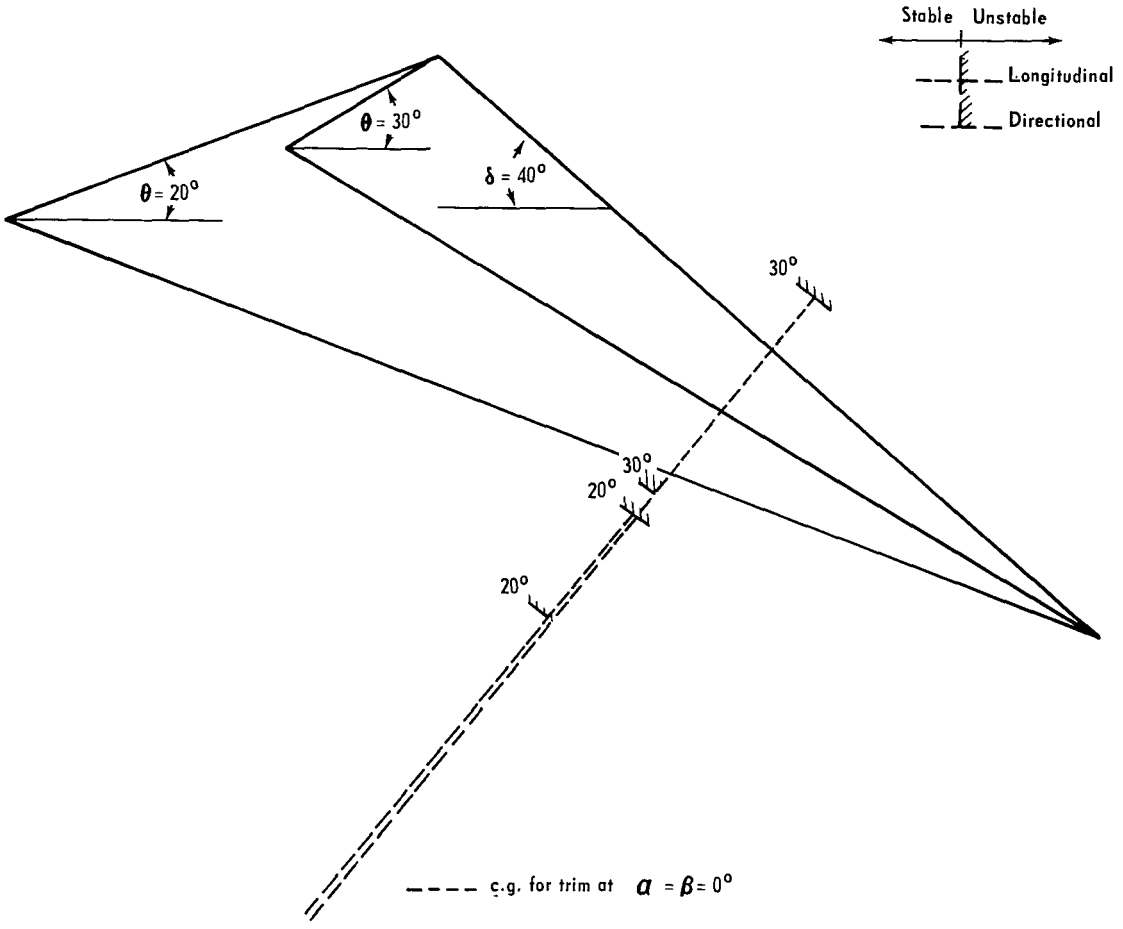
NASA-S-64-4885



(a) $\delta = 30°$, L/D = 1.73.

Figure 18.- Raked-off circular-cone configuration center-of-gravity location requirements.

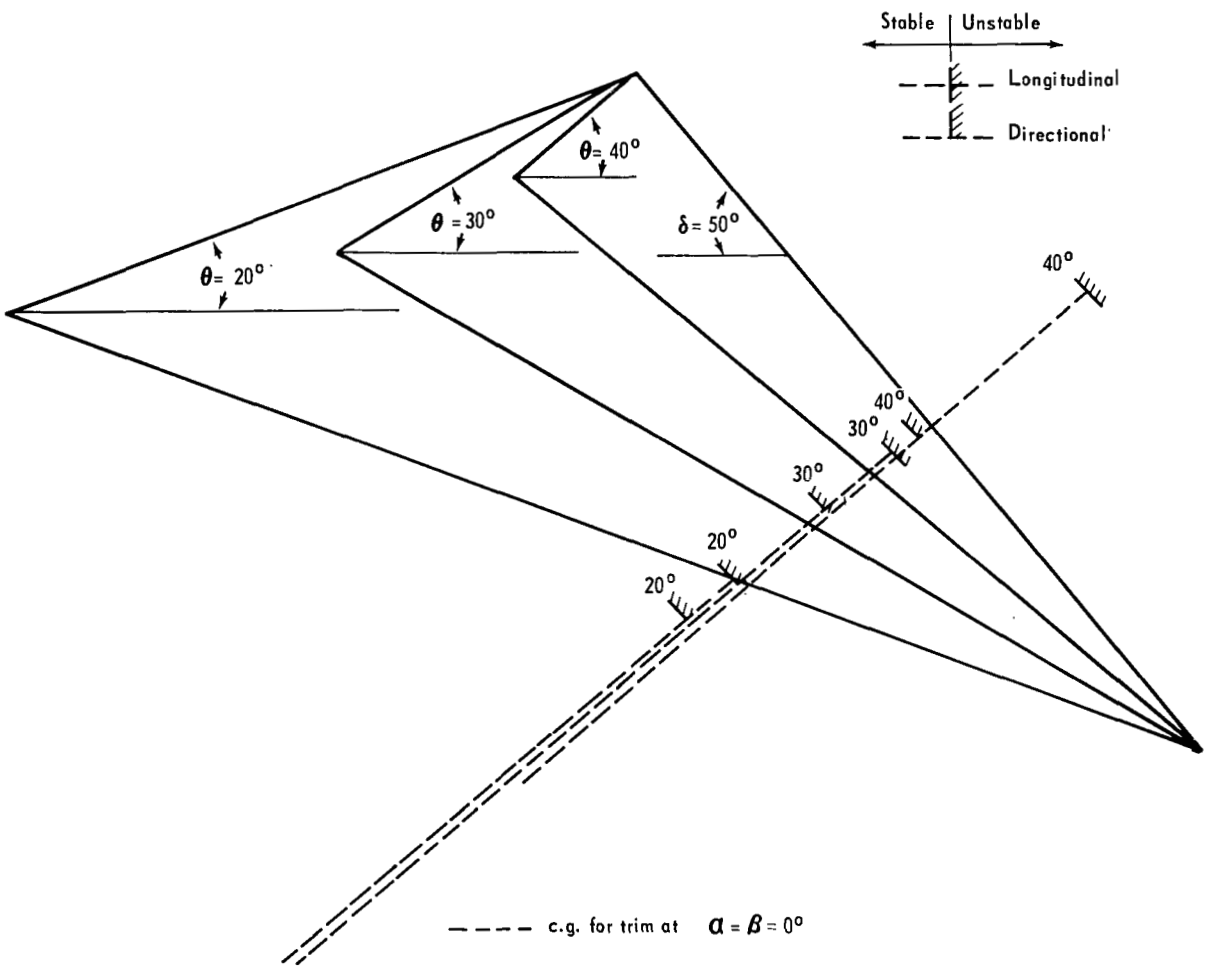
NASA-S-64-4886



(b) $\delta = 40°$, L/D = 1.19.

Figure 18.- Continued.

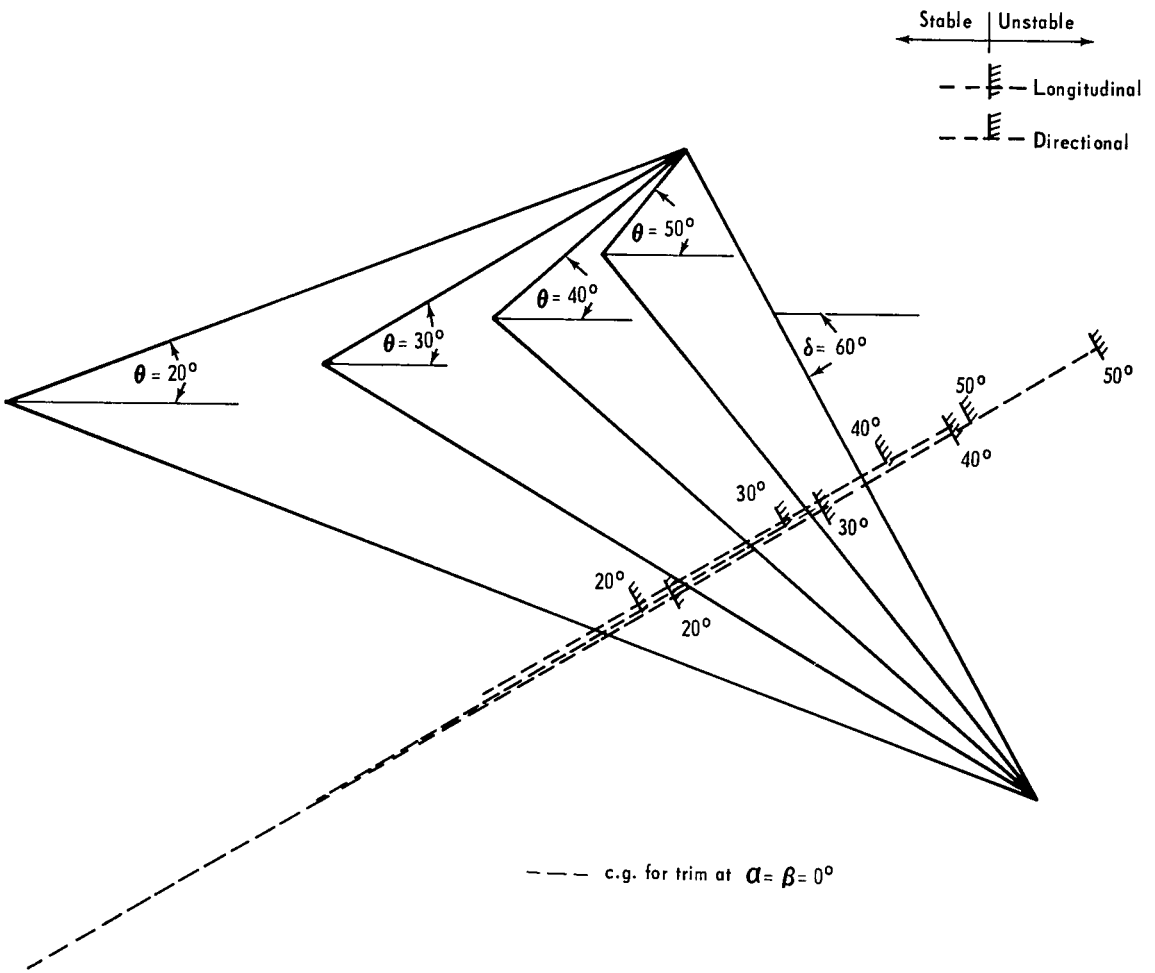
NASA-S-64-4887



(c) $\delta = 50°$, L/D = 0.84.

Figure 18.- Continued.

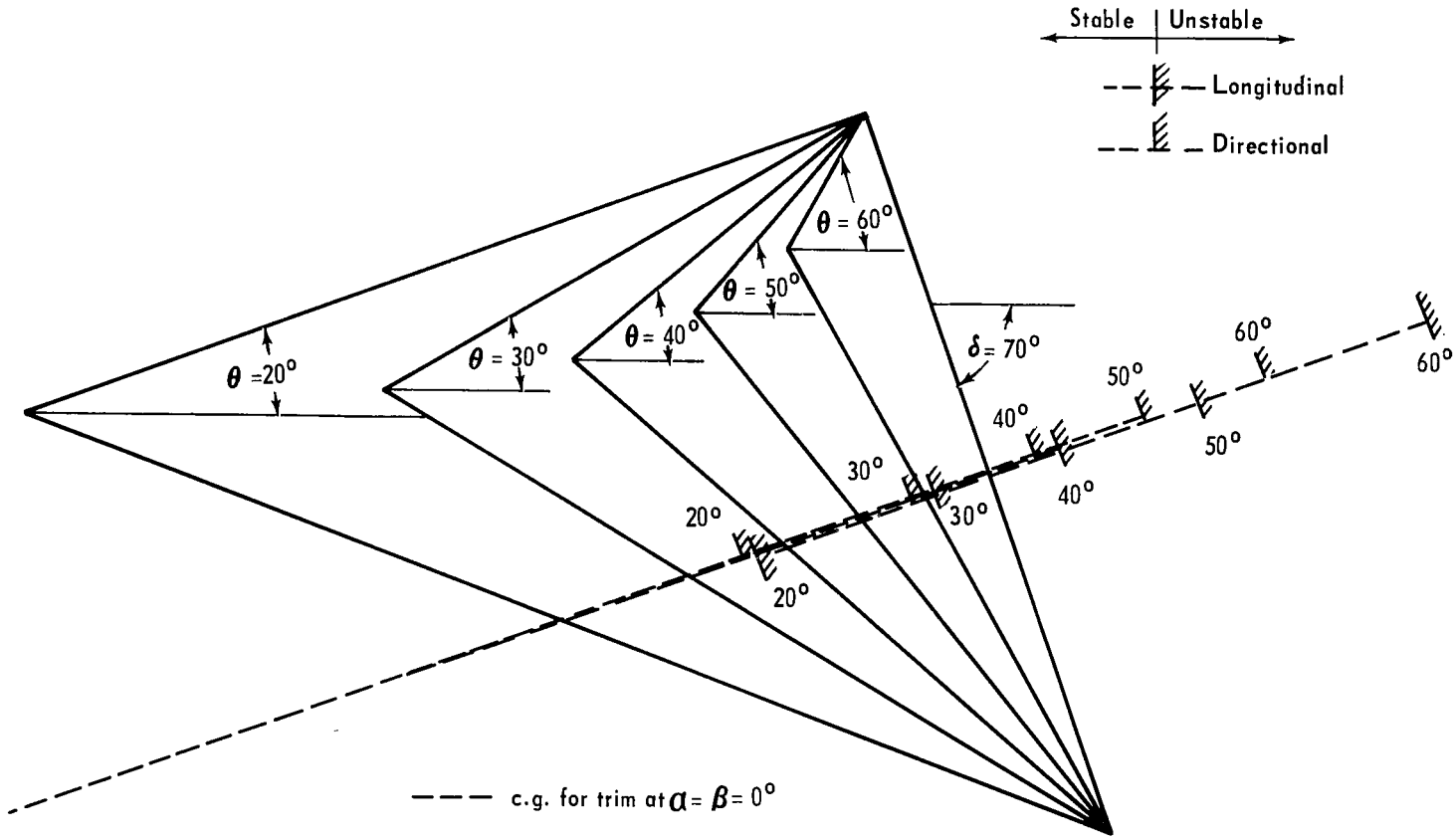
NASA-S-64-4888



(d) $\delta = 60°$, L/D = 0.58.

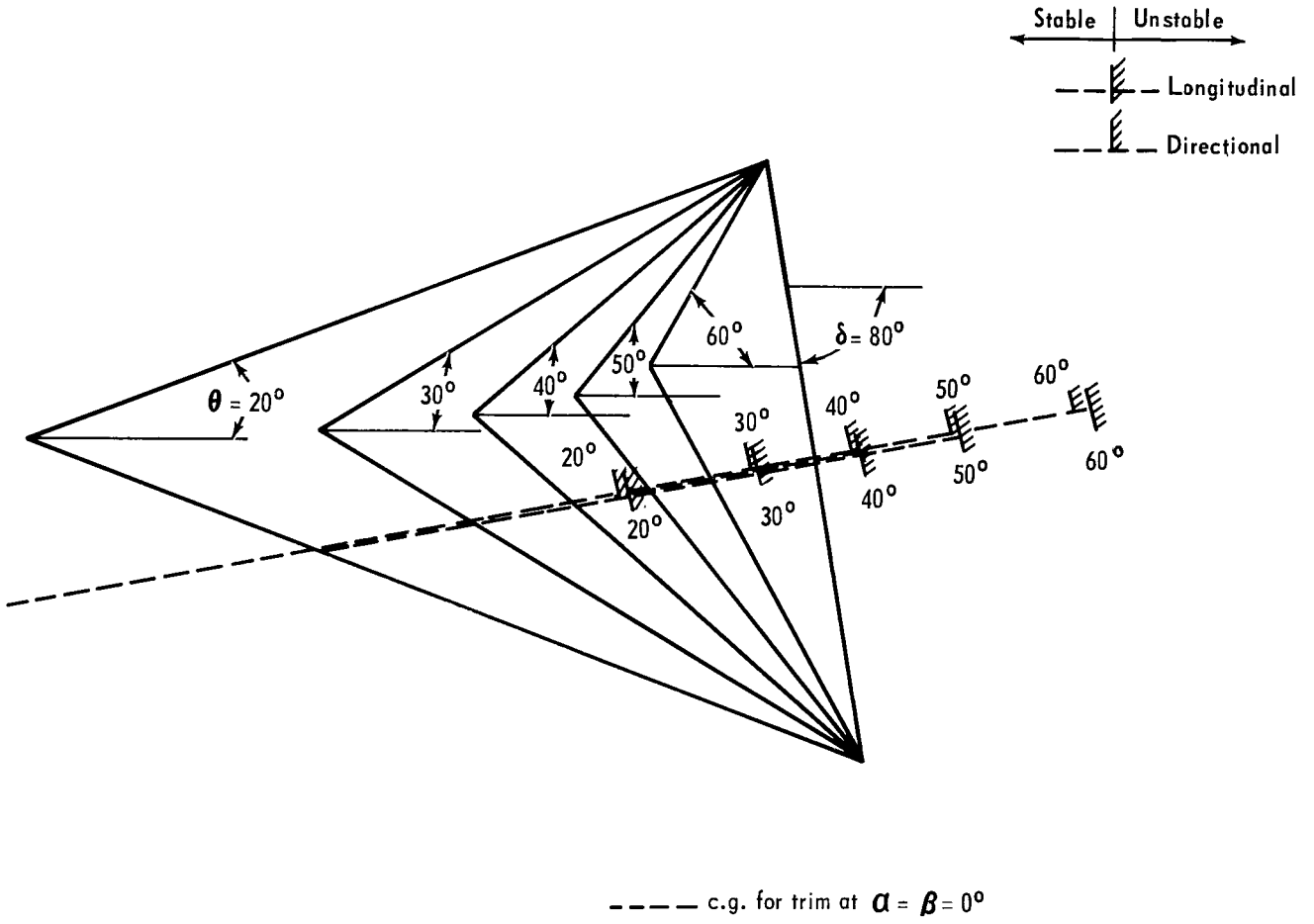
Figure 18.- Continued.

NASA-S-64-4889



(e) $\delta = 70°$, L/D = 0.37.

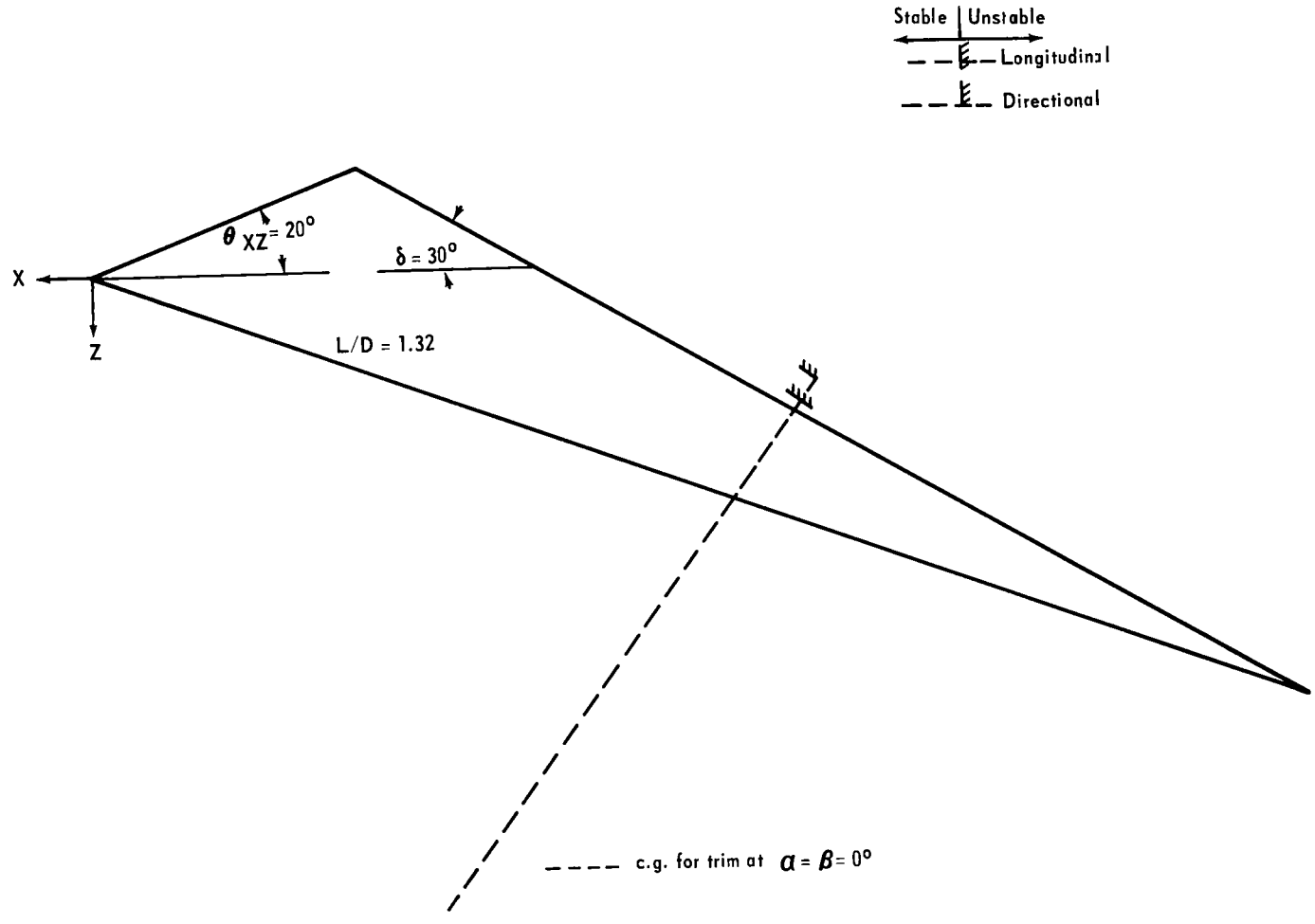
Figure 18.- Continued.



(f) $\delta = 80°$, L/D = 0.18.

Figure 18.- Concluded.

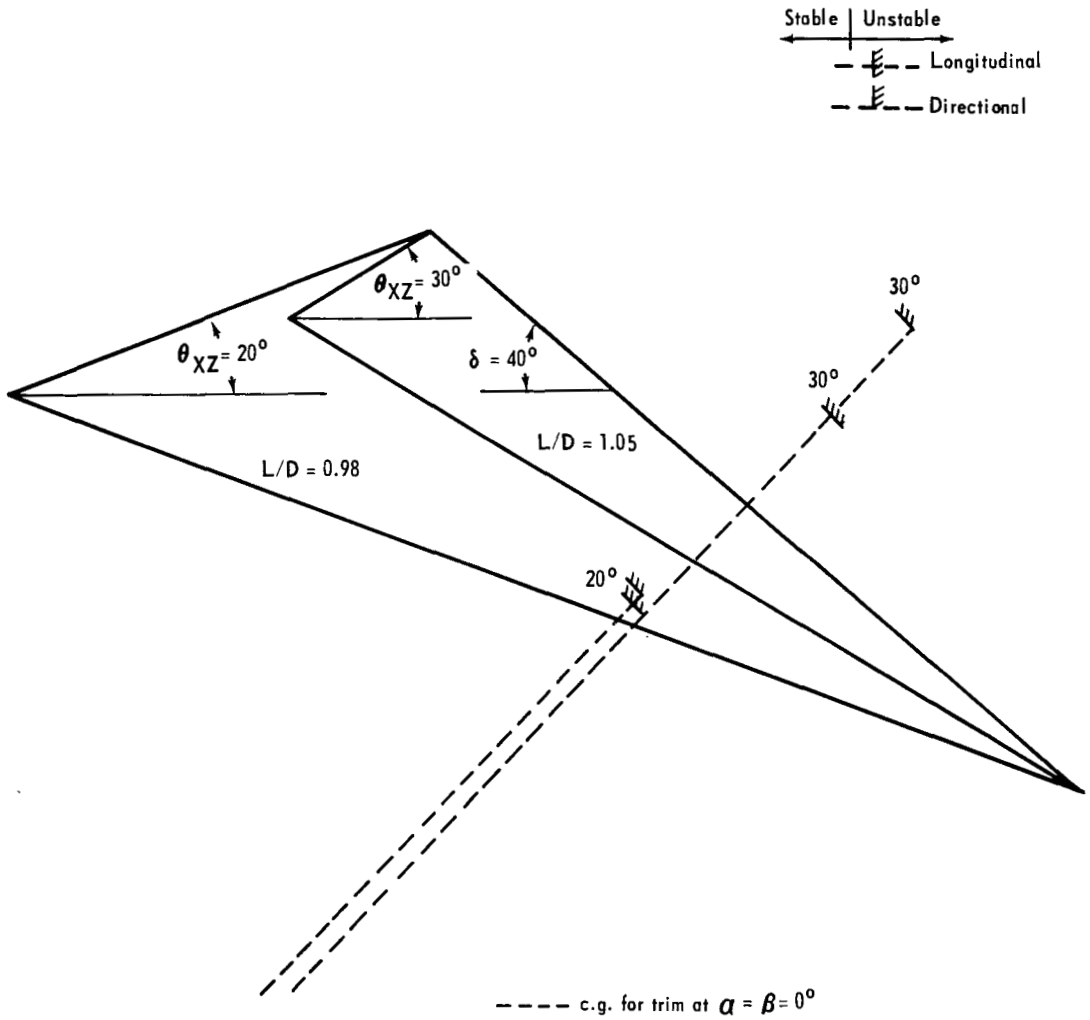
NASA-S-64-4891



(a) $\delta = 30°$.

Figure 19.- Raked-off elliptical-cone configurations center-of-gravity location requirements.

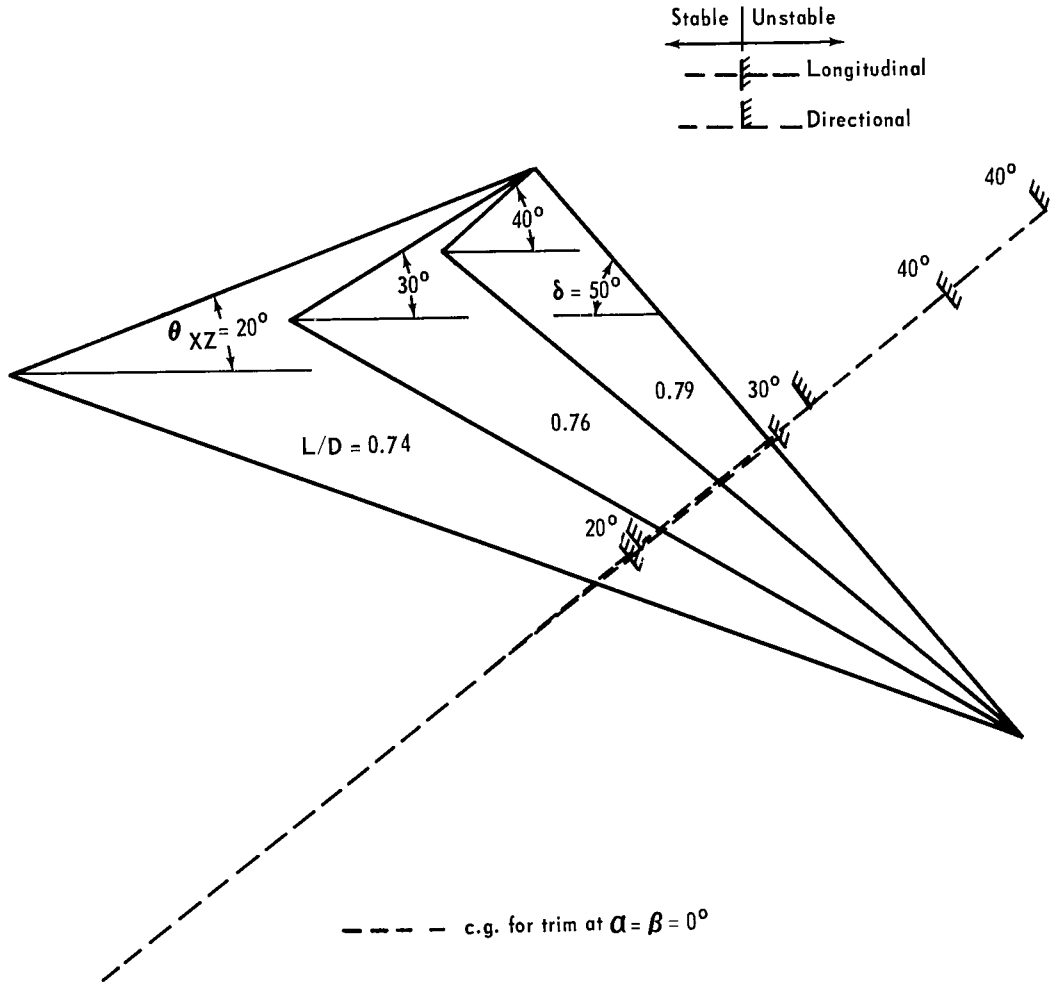
NASA-S-64-4892



(b) $\delta = 40°$.

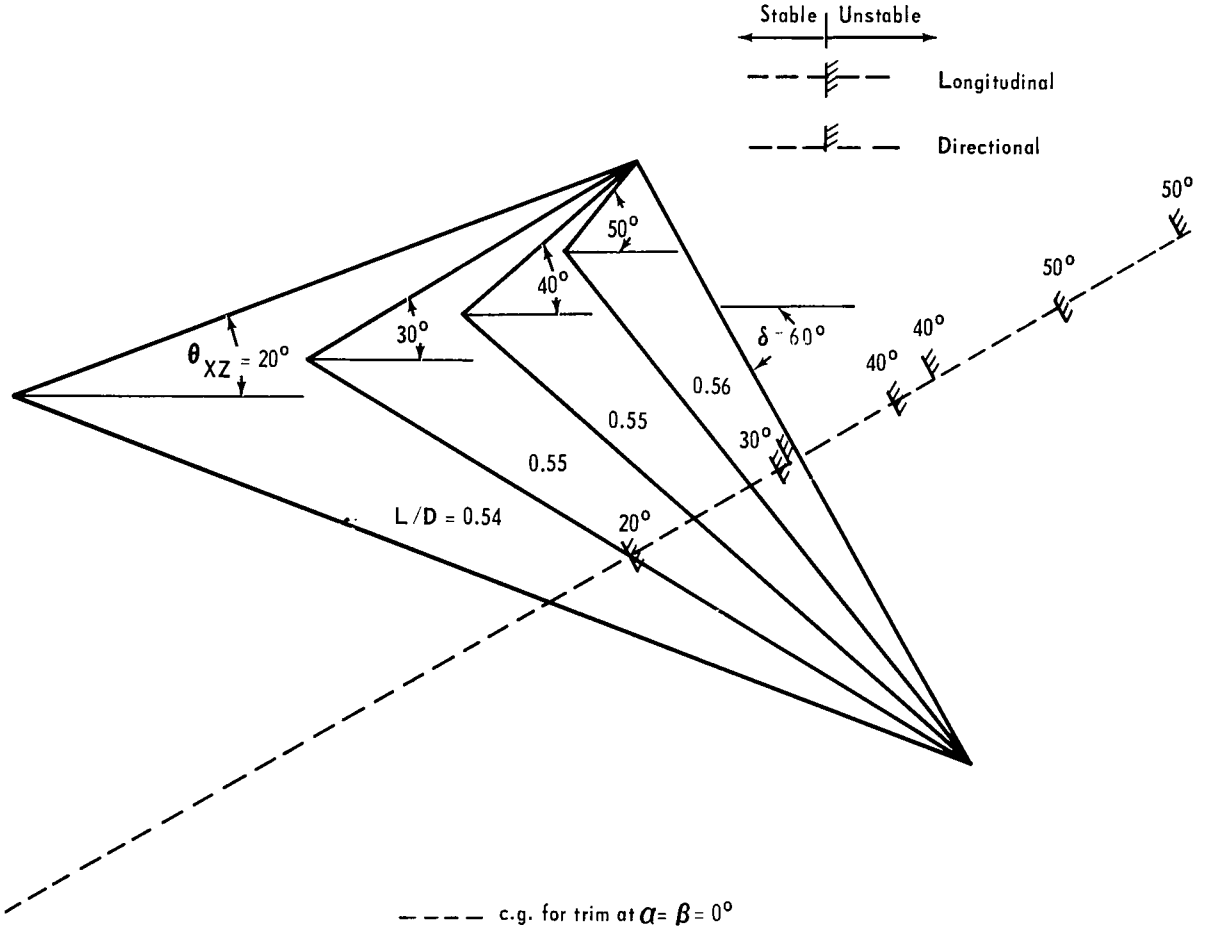
Figure 19.- Continued.

NASA-S-64-4893



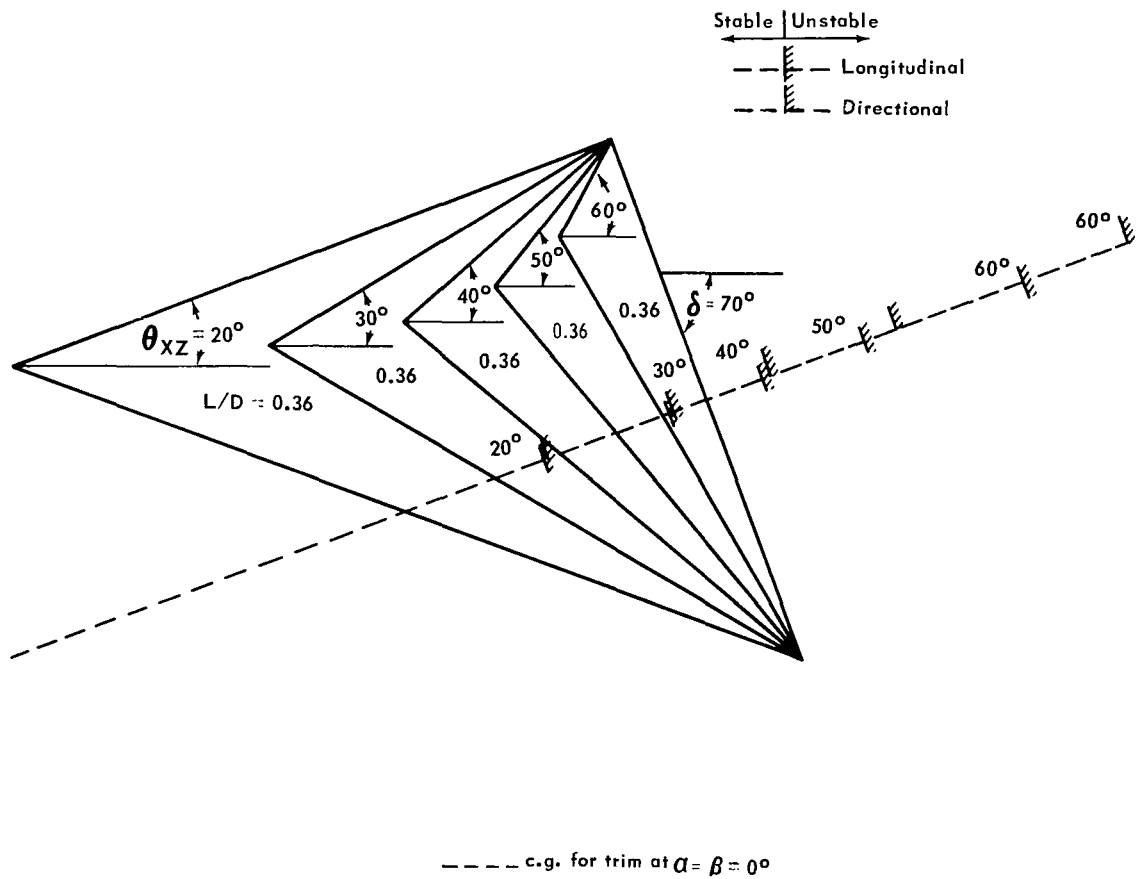
(c) $\delta = 50°$.

Figure 19.- Continued.



(d) $\delta = 60°$.

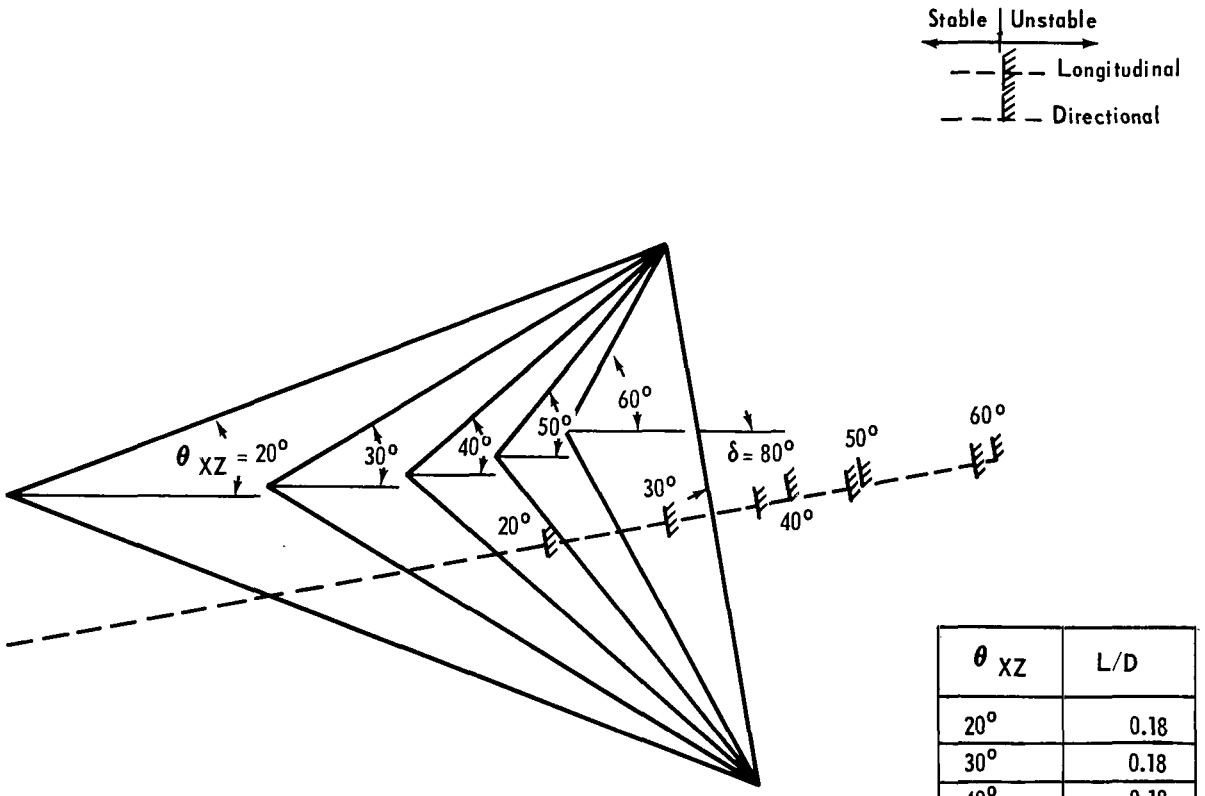
Figure 19.- Continued.



(e) $\delta = 70°$.

Figure 19.- Continued.

NASA-S-64-4896



θ_{XZ}	L/D
20°	0.18
30°	0.18
40°	0.18
50°	0.18
60°	0.18

– – – – – c.g. for trim at $\alpha = \beta = 0°$

(f) $\delta = 80°$.

Figure 19.- Concluded.

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—NATIONAL AERONAUTICS AND SPACE ACT OF 1958

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