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Wing Planform Effects at Supersonic Speeds for an Advanced Fighter Configuration

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NASA
National Aeronautics
and Space Administration

**Scientific and Technical
Information Branch**

SUMMARY

An experimental investigation of four advanced fighter configurations, which differed in wing planform and airfoil shape, has been conducted in the Langley Unitary Plan Wind Tunnel at Mach numbers of 1.60, 1.80, 2.00, and 2.16. Supersonic data were obtained on the four uncambered wings, which were each attached to a single fighter fuselage. The fuselage geometry varied in cross-sectional shape and had two side-mounted, flow-through, half-axisymmetric inlets. Twin vertical tails were attached to the fuselage. The four planforms tested were a 65° delta wing, a combination of a 20° trapezoidal wing and a 45° horizontal tail, a 70°/30° cranked wing, and a 70°/66° cranked wing, where the angle values refer to the leading-edge sweep angle of the lifting-surface planform. The purpose of this investigation was to evaluate planform effects on a single fuselage representative of an advanced fighter aircraft. Results from the test showed that the highly swept cranked wings exceeded the aerodynamic performance levels, at low lift coefficients, of the 65° delta wing and the 20° trapezoidal wing at trimmed and untrimmed conditions.

INTRODUCTION

Historically, fighter aircraft have been designed for efficient transonic cruise and maneuvering with little emphasis on efficient supersonic cruise capability. These configurations characteristically require partial afterburning to dash at supersonic speeds. Forecasts of an increasingly hostile air combat environment suggest that sustained supersonic cruise and maneuvering capabilities are needed for survival (refs. 1 and 2). As a result, military aircraft designers are placing more emphasis on efficient supersonic performance, while retaining superior transonic cruise and maneuvering capability and mission versatility. The aerodynamic requirements within this expanded operational envelope are significant, and the combination of these capabilities into an efficient airframe poses a challenging problem.

Previous aircraft wing-design studies have had limited success because the approach emphasized aerodynamic efficiency in one speed regime without consideration of the performance in others. This has been especially true for supersonic wing designs (refs. 3 through 5). These designs, although supersonically attractive, had highly cambered wings and fuselages tailored to a very specific supersonic cruise flight condition. Off-design performance or evaluation criteria other than aerodynamics were not considered. In an attempt to incorporate more realism into the supersonic wing-design process, a more recent study (ref. 6) employed the fuselage of the wind-tunnel model of the F-16 fighter aircraft. The restrictions imposed on the supersonic wing-design process by the realistic fuselage geometry constituted a major improvement in obtaining realism compared with previous efforts; however, consideration of overall mission performance, airframe weight, propulsion, or airframe integration was not addressed.

The present supersonic experimental investigation is part of a cooperative fighter wing-design study of the National Aeronautics and Space Administration (NASA) and the McDonnell Aircraft Company. As discussed in reference 7, the four wings were sized to perform a preselected mission profile and were located on the fuselage for neutral longitudinal stability at $M = 0.60$. The supersonic wind-tunnnel model

geometry consisted of a single fighter fuselage with two side-mounted, flow-through inlets, twin vertical tails, and four interchangeable uncambered wings of various planforms. The four planform shapes were a 65° delta wing, a combination of a 20° trapezoidal wing and a 45° horizontal tail, a 70°/30° cranked wing, and a 70°/66° cranked wing, where the angle values refer to the leading-edge sweep angle of the lifting-surface planforms. The purpose of this experimental investigation was to evaluate the planform effects on a single fighter fuselage at supersonic speeds. The models were tested at Mach numbers of 1.60, 1.80, 2.00, and 2.16 in the Langley Unitary Plan Wind Tunnel. This paper contains the results of the supersonic tests.

SYMBOLS

A axial force, $A_{unc} - A_b - A_c - A_{int}$, lb

A_b base axial force, $(p_\infty - p_b)S_b$, lb

A_c chamber axial force, $(p_\infty - p_c)S_c$, lb

A_{int} internal-duct axial force,
$$2\frac{m_e}{m_\infty} q_\infty S_{cap} \cos(\alpha) - S_e \cos(\varepsilon)\left[1.4 p_e M_e^2 + (p_e - p_\infty)\right], \text{ lb}$$

A_{unc} uncorrected axial force, lb

b wing reference span, 1 ft

C_A corrected axial-force coefficient, $C_{A,unc} - C_{A,b} - C_{A,c} - C_{A,int}$

C_D corrected drag coefficient, $C_{D,unc} - C_{D,b} - C_{D,c} - C_{D,int}$

C_L lift coefficient, $\frac{\text{Lift}}{qS}$

C_l rolling-moment coefficient, $\frac{\text{Rolling moment}}{qSb}$

C_{l_β} effective dihedral parameter, $\left(C_{l|\beta=0} - C_{l|\beta=3}\right)/-3$, per deg

C_m pitching-moment coefficient, $\frac{\text{Pitching moment}}{qSc}$

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

C_n yawing-moment coefficient, $\frac{\text{Yawing moment}}{qSb}$

C_{n_β} directional-stability parameter, $\left(C_{n|\beta=0} - C_{n|\beta=3}\right)/-3$, per deg

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

c wing chord, in.

$\bar{c}$ wing reference chord, 1 ft

L/D	lift-drag ratio
M	Mach number
MFR	duct mass-flow ratio (see eq. (B1))
m	mass flow, lb/sec
p	static pressure, psi
q	dynamic pressure, psf
R	Reynolds number
S	wing reference area, 1 ft^2
S_b	base area, 1.118 in^2 (see fig. B2)
S_c	chamber area, 2.667 in^2 (see fig. B2)
S_{cap}	capture area, 2.401 in^2 (see fig. B2)
S_e	exit area, 2.074 in^2 (see fig. B2)
x	longitudinal distance from nose of model, in.
y	spanwise distance from centerline, in.
z	vertical distance from model reference line, in.
α	angle of attack, deg
β	angle of sideslip, deg
δ_h	horizontal tail deflection, positive trailing edge down, deg
Λ	sweep angle, deg
ε	duct misalignment angle in pitch, deg

Subscripts:

b	base
c	chamber
cap	inlet capture
e	exit
i	inlet
int	internal
ι_e	leading edge

m	moment reference
max	maximum
min	minimum
r	theoretical root chord
te	trailing edge
unc	uncorrected
∞	free stream

Model components:

B	body
H	horizontal tail
V	vertical tail
W_1	20° trapezoidal wing
W_2	65° delta wing
W_3	70°/30° cranked wing
W_4	70°/66° cranked wing

DISCUSSION

Model Description

The four configurations tested were approximately 4-percent-scale representations of an advanced fighter aircraft. The models consisted of a single fighter fuselage with side-mounted, flow-through, half-axisymmetric inlets; twin vertical tails; and four uncambered wings. The wings varied in planform shape, wing area, control-surface size and location, and airfoil section. The four planform shapes tested were a 65° delta wing, a combination of a 20° trapezoidal wing and a 45° horizontal tail, a 70°/30° cranked wing, and a 70°/66° cranked wing. Selections of the four configurations were based upon an aircraft sizing procedure discussed in reference 7.

Photographs of the four advanced fighter configuration models installed in test section 1 of the Langley Unitary Plan Wind Tunnel are shown in figure 1, and figure 2 is a three-view sketch of the 65° delta-wing configuration. Details of the model vertical tail are shown in figure 3, and details of the four planforms are contained in figures 4 through 8. The geometric characteristics of the four models are given in table I. Tables II through V are listings of the wave-drag input geometry (ref. 8) of the four wind-tunnel models tested.

Tests and Conditions

The tests were conducted in the Unitary Plan Wind Tunnel. A detailed description of the test conditions and a tabulation of the force data are presented in appendix A. Appendix B contains details of the inlet and internal-duct geometry, a discussion of the internal-flow test procedure, and a presentation of the internal-flow measurements.

Experimental Results

The supersonic wind-tunnel testing was conducted in the Unitary Plan Wind Tunnel (ref. 9). The objectives of this test were to experimentally determine the supersonic aerodynamic characteristics of the four selected configurations and to compare their longitudinal and lateral-directional aerodynamic characteristics.

High-speed wind-tunnel tests were performed over a Mach number range from 1.60 to 2.16, at a Reynolds number of 2×10^6 per ft, at angles of attack from 0° to 20°, at various angles of sideslip, and at control-surface deflection. Test results for the four configurations are presented over the Mach number range with a special emphasis at $M = 1.80$, the design condition. All data presented are based on a wing reference area S of 1 ft^2, a wing reference span b of 1 ft, and a wing reference chord $\bar{c}$ of 1 ft.

Presented in figure 9 are the trimmed and untrimmed drag characteristics for the four selected configurations at $M = 1.80$. The trimmed drag characteristics for the four configurations were obtained with full-span, trailing-edge flap deflections for the delta and cranked wings and with horizontal-tail deflections for the trapezoidal wing. A look at the untrimmed drag characteristics at low lift coefficients ($C_L \leq 0.12$) reveals that both cranked-wing geometries exhibited better performance than either the delta or the trapezoidal configuration. At high lift coefficients ($C_L > 0.20$), the reverse is true; the delta and trapezoidal geometries outperform the cranked wings. Figure 10 shows that the degraded performance for the 70°/66° cranked wing is the result of a strong spanwise flow region along the wing trailing edge, which results in significant amounts of flow separation at moderate angles of attack. The trimmed drag characteristics also show that both the cranked-wing configurations outperform the conventional designs at low lift coefficients. At high lift coefficients, the delta-wing performance again exceeds that of the 70°/30° cranked wing, but not that of the 70°/66° cranked-wing geometry.

Lift and pitching-moment characteristics at $M = 1.80$ are presented in figure 11. These data lead to a better understanding of the effect trailing-edge separation has on the longitudinal-stability characteristics of the 70°/66° cranked-wing configuration. The separated flow conditions which were observed in the oil flows occurred at moderate values of lift coefficient and resulted in a loss of lift and a break in the pitching-moment curve. Despite these significant separation effects observed for the 70°/66° cranked-wing geometry, its performance level equals or exceeds those of the trapezoidal and delta planforms at low lift coefficients.

The lateral-directional stability characteristics of the four test geometries are shown in figure 12 at a Mach number of 1.80. The data indicate that all geometries are stable both laterally and directionally at low angles of attack; however, the trapezoidal and cranked-wing data show a significant reduction in directional stability with increasing angle of attack, and the delta-wing data had high levels of directional stability throughout the range of angle of attack tested.

Figure 13 shows the variation with Mach number of maximum lift-drag ratio $(L/D)_{max}$ and the value of lift at which $(L/D)_{max}$ occurs. Similar values for the M = 1.80 trim condition are also shown. Maximum untrimmed L/D is similar for all aircraft, with values ranging from 5.0 to 5.3 at M = 1.80. These values compare favorably with an untrimmed maximum L/D of 5.5 for the F-16 wing redesign study (ref. 6). The untrimmed data for the trapezoidal, delta, and 70°/30° cranked wings show an 8-percent reduction in $(L/D)_{max}$ and a 20-percent reduction in the value of lift at which $(L/D)_{max}$ occurs from M = 1.60 to M = 2.16. However, data for the 70°/66° cranked-wing configuration reflect a different situation; the variation in $(L/D)_{max}$ from M = 1.60 to M = 2.16 is only 1.5 percent. This variation experienced by the 70°/66° cranked-wing configuration at untrimmed conditions is carried over to the trimmed conditions. Going from untrimmed to trimmed conditions at M = 1.80, the 70°/66° geometry experiences a negligible reduction in both $(L/D)_{max}$ and the lift value at $(L/D)_{max}$ compared with the other geometries. The tendency of the 70°/66° cranked-wing configuration to maintain a consistent performance level can be attributed to its low zero-lift drag characteristics.

Variations of lift-curve slope and longitudinal stability with Mach number are shown in figure 14. The data indicate that all geometries experience a reduction in lift-curve slope and a similar increase in longitudinal stability with increasing Mach number.

Figure 15 is a drag breakdown for each wing of the study. The fuselage-alone data show a minimum drag level that varies from 0.0177 at M = 1.60 to 0.0160 at M = 2.16. The effect of adding the individual model conponents results in a 0.002 drag penalty for the vertical tails and an additional 0.005 to 0.0125 drag penalty with the addition of the wings. The 70°/66° cranked-wing geometry produces the smallest drag penalty, and the trapezoidal wing produces the largest drag penalty. The severe minimum-drag penalty associated with both the trapezoidal and the delta wing is typical of these designs and is the major reason for their poor supersonic performance at low lift coefficients.

CONCLUDING REMARKS

An experimental investigation of four advanced fighter configurations, differing in wing planform and airfoil shape, has been conducted in the Langley Unitary Plan Wind Tunnel at Mach numbers of 1.60, 1.80, 2.00, and 2.16. Supersonic data were obtained on the four uncambered wings, which were each attached to a single fighter fuselage. The wing geometries consisted of a trapezoidal wing, a delta wing, and two cranked-wing designs (70°/66° and 70°/30° leading-edge sweep). Supersonic performance levels of the cranked-wing configurations exceed those of the traditional designs at low lift coefficients for both the trimmed and untrimmed cases. These results can be directly attributed to the low minimum-drag levels associated with the highly swept configurations. The supersonic data indicate that all configurations are laterally, directionally, and longitudinally stable at low angles of attack; however, at high angles of attack, only the delta wing maintains high levels of directional stability.

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TABLE I.- GEOMETRY CHARACTERISTICS OF MODELS

Fuselage:	
Length, in.	32.200
Base area, in^2	1.118
Chamber area, in^2	2.667
Capture area, in^2	2.401
Exit area, in^2	2.074
Inlet area, in^2	1.997
Vertical tail (each):	
Area, in^2	12.211
Λ_{le}, deg	60
Λ_{te}, deg	30
Aspect ratio	1.1
Semispan, in.	3.664
Airfoil section	64A005
Horizontal tail (each):	
Area, in^2	24.336
Λ_{le}, deg	45
Λ_{te}, deg	21
Aspect ratio	3.00
Semispan, in.	4.30
Airfoil section (inboard)	5-percent biconvex
Airfoil section (outboard)	3-percent biconvex
Delta wing:	
Area (reference), in^2	200.747
Λ_{le}, deg	65
Λ_{te}, deg	-6
Aspect ratio	1.49
Span, in.	17.270
Wing reference chord, in.	14.327
Airfoil section	64A005
Moment reference center, in.	18.930
Theoretical root chord (leading edge), in.	6.946

TABLE I.- Concluded

Trapezoidal wing:	
Area (reference), in^2	149.760
Λ_{le}, deg	20
Λ_{te}, deg	-9
Aspect ratio	3.50
Span, in.	22.894
Wing reference chord, in.	6.981
Airfoil section (inboard)	4-percent biconvex
Airfoil section (outboard)	3-percent biconvex
Moment reference center, in.	19.680
Theoretical root chord (leading edge), in.	16.373
70°/30° cranked wing:	
Area (reference), in^2	165.600
Λ_{le} (inboard), deg	70
Λ_{le} (outboard), deg	30
Λ_{te} (inboard), deg	0
Λ_{te} (outboard), deg	-26
Aspect ratio	1.90
Span, in.	17.618
Wing reference chord, in.	12.340
Airfoil section (0.25 semispan)	65A005.7
Airfoil section (0.30 semispan)	65A004
Airfoil section (outboard)	4-percent biconvex
Moment reference center, in.	19.980
Theoretical root chord (leading edge), in.	6.868
70°/66° cranked wing:	
Area (reference), in^2	165.600
Λ_{le} (inboard), deg	70
Λ_{le} (outboard), deg	66
Λ_{te} (inboard), deg	0
Λ_{te} (outboard), deg	50
Aspect ratio	1.90
Span, in.	17.618
Wing reference chord, in.	12.340
Airfoil section (0.25 semispan)	65A005.7
Airfoil section (0.30 semispan)	65A004
Airfoil section (outboard)	4-percent biconvex
Moment reference center, in.	20.510
Theoretical root chord (leading edge), in.	6.868

TABLE II.- WAVE-DRAG INPUT GEOMETRY OF 65° DELTA-WING MODEL

```
65 DEGREE LEADING-EDGE SWEEP DELTA WING    DIMENSIONS IN INCHES
  1 -1  1      1          2 17  3 17  7 30  4 26 10                  1  6
200.75 14.327 18.93                                                          REFAR
0.0     .50     .75     1.25    2.5     5.0     7.5     10.     20.     30.   XAF 10
40.     50.     60.     70.     80.     90.     100.                          XAF 17
11.668 2.202  1.112   16.386                                                 WORG 1
25.464 8.635  1.112   1.9200                                                 WORG 2
0.0     .385    .467    .595    0.815   1.094   1.326   1.519   2.059   2.367 WORD1
2.496  2.440  2.173   1.746   1.203   .609    0.0                           WORD1
0.0     .385    .467    .595    0.815   1.094   1.326   1.519   2.059   2.367 WORD1
2.496  2.440  2.173   1.746   1.203   .609    0.0                           WORD1
  0.000  2.400  4.920   7.360   9.202  10.632  10.960                        XFUS
  -.000  -.000  -.000   -.000   -.000   -.000   -.000   -.000   -.000   -.000 Y
  -.000  -.000  -.000   -.000   -.000   -.000   -.000                        Y
  -.088  -.088  -.088   -.088   -.088   -.088   -.088   -.088   -.088   -.088 Z
  -.088  -.088  -.088   -.088   -.088   -.088   -.088                        Z
   .002   .159   .328    .453    .534    .598    .619    .619    .619    .619 Y
   .592   .540   .452    .380    .280    .140   -.008                        Y
  -.369  -.350  -.270   -.156   -.046    .086    .262    .262    .262    .262 Z
   .435   .572   .684    .745    .814    .866    .887                        Z
   .003   .220   .453    .631    .736    .785    .793    .793    .793    .793 Y
   .738   .658   .538    .398    .286    .130   -.007                        Y
  -.213  -.173  -.054    .122    .339    .587    .816    .816    .816    .816 Z
 1.025  1.202  1.343   1.447   1.496   1.545   1.577                        Z
  -.000   .269   .515    .660    .750    .795    .796    .796    .796    .796 Y
   .777   .707   .616    .513    .341    .165   -.007                        Y
  -.028   .011   .174    .398    .655    .907   1.152   1.152   1.152   1.152 Z
 1.421  1.726  2.004   2.229   2.451   2.556   2.593                        Z
  -.004   .269   .451    .616    .706    .788    .813    .946    .946    .818 Y
   .803   .760   .689    .554    .411    .219   -.014                        Y
   .000   .083   .198    .410    .638    .882   1.175   1.187   1.187   1.223 Z
 1.436  1.673  1.927   2.204   2.378   2.495   2.529                        Z
  -.004   .201   .398    .555    .664    .721    .766    .955    .954    .798 Y
   .754   .695   .620    .492    .352    .176   -.005                        Y
   .004   .019   .119    .258    .447    .651    .863    .863   1.597   1.602 Z
 1.783  1.963  2.116   2.261   2.370   2.455   2.488                        Z
  -.008   .177   .350    .499    .612    .701    .758    .962    .950    .758 Y
   .698   .639   .563    .467    .323    .159   -.010                        Y
   .008   .035   .119    .247    .391    .563    .747    .751   1.698   1.703 Z
 1.883  2.028  2.149   2.246   2.367   2.444   2.464                        Z
10.960 13.000 13.800  15.000                                                 XFUS 4
  -.000   .184   .360    .508    .612    .704    .755    .964    .966   1.198 Y
 1.411  1.575  1.739   1.898   2.006   2.077   2.080   1.951   1.781   1.556 Y
 1.271   .970   .972    .780    .662    .585    .469    .340    .175   -.005 Y
   .012   .037   .118    .255    .395    .572    .749    .749    .112    .133 Z
   .210   .287   .432    .641    .870   1.155   1.339   1.692   1.940   2.147 Z
 2.258  2.313  1.700   1.699   2.011   2.136   2.263   2.363   2.443   2.466 Z
  -.008   .104   .244    .348    .424    .488    .717    .894    .886   1.151 Y
 1.387  1.611  1.791   1.899   2.200   2.200   2.200   2.200   1.929   1.602 Y
 1.245   .872   .872    .644    .419    .371    .295    .198    .086   -.007 Y
  -.008   .000   .037    .094    .162    .247    .284    .156    .008    .009 Z
   .062   .168   .285    .393    .830   1.041   1.202   1.540   1.845   2.173 Z
 2.319  2.354  2.201   2.140   2.195   2.227   2.275   2.315   2.346   2.366 Z
   .000   .088   .180    .297    .385    .449    .750   1.038   1.062   1.359 Y
 1.615  1.831  1.967   2.200   2.200   2.200   2.200   2.200   1.881   1.555 Y
 1.238   .969   .953    .680    .416    .364    .307    .223    .115   -.006 Y
  -.012  -.012  -.007    .013    .034    .054    .055    .056    .052    .118 Z
   .231   .376   .513    .785    .915   1.112   1.265   1.545   1.864   2.124 Z
```

TABLE II.- Continued

2.251	2.282	2.282	2.292	2.295	2.316	2.316	2.316	2.316	2.316	Z
-.004	.136	.277	.409	.549	.650	.758	.866	.994	1.215	Y
1.459	1.703	1.923	2.200	2.200	2.200	2.200	2.200	2.121	1.912	Y
1.676	1.374	1.105	.813	.640	.528	.419	.271	.130	-.010	Y
-.012	-.020	-.031	-.031	-.035	-.027	-.026	-.010	.010	.071	Z
.196	.369	.550	.805	.924	1.044	1.201	1.585	1.637	1.789	Z
1.937	2.109	2.184	2.211	2.243	2.243	2.243	2.243	2.243	2.243	Z
15.0	16.840	18.600	20.360	22.320	24.240	25.800	28.096	30.132	32.200	XFUS 10
-.004	.136	.277	.409	.549	.650	.758	.866	.994	1.215	Y
1.459	1.703	1.923	2.200	2.200	2.200	2.200	2.200	2.200	1.912	Y
1.676	1.374	1.105	.813	.640	0.0					Y
-.012	-.020	-.031	-.031	-.035	-.027	-.026	-.010	.010	.071	Z
.196	.369	.550	.805	.924	1.044	1.201	1.529	1.585	1.789	Z
1.937	2.109	2.184	2.211	2.243	2.243					Z
-.008	.104	.221	.345	.481	.606	.738	.854	.954	1.183	Y
1.383	1.607	1.791	2.019	2.200	2.200	2.200	2.053	1.892	1.747	Y
1.563	1.386	1.205	1.029	.856	0.0					Y
-.016	-.008	-.003	-.003	-.007	.002	-.006	-.006	.011	.063	Z
.148	.265	.426	.611	.755	.828	1.595	1.662	1.729	1.801	Z
1.889	1.977	2.056	2.108	2.132	2.132					Z
-.008	.136	.277	.425	.589	.742	.878	1.007	1.143	1.311	Y
1.532	1.732	1.896	2.040	2.200	2.200	2.200	2.079	1.898	1.734	Y
1.597	1.421	1.268	1.072	.879	0.0					Y
.004	.000	-.004	-.007	-.011	-.011	-.011	-.019	.014	.078	Z
.199	.347	.468	.576	.685	.809	1.570	1.639	1.719	1.795	Z
1.875	1.971	2.015	2.071	2.082	2.082					Z
-.008	.168	.329	.481	.654	.798	.918	1.047	1.199	1.339	Y
1.527	1.735	1.891	2.067	2.200	2.200	2.200	2.200	2.051	1.874	Y
1.702	1.517	1.336	1.103	.879	0.0					Y
-.016	-.015	-.003	-.006	.002	-.001	-.005	-.006	.024	.077	Z
.178	.335	.448	.581	.685	.871	1.099	1.595	1.647	1.723	Z
1.799	1.870	1.950	2.025	2.064	2.064					Z
-.004	.128	.245	.365	.505	.650	.806	.942	1.119	1.279	Y
1.499	1.708	1.908	2.080	2.200	2.200	2.200	2.200	2.059	1.863	Y
1.698	1.506	1.273	1.056	.824	0.0					Y
-.012	-.012	-.012	-.012	-.011	-.011	-.011	-.003	.025	.086	Z
.214	.371	.520	.644	.735	.929	1.106	1.516	1.574	1.666	Z
1.750	1.842	1.942	2.014	2.030	2.030					Z
0.000	.120	.245	.369	.533	.666	.798	.914	1.139	1.303	Y
1.531	1.747	1.935	2.079	2.200	2.200	2.200	2.200	2.061	1.888	Y
1.708	1.527	1.338	1.077	.797	0.0					Y
0.000	.000	-.007	-.007	-.007	-.002	-.002	.002	.043	.092	Z
.225	.398	.579	.739	.870	1.053	1.189	1.450	1.525	1.609	Z
1.701	1.797	1.896	1.984	2.023	2.023					Z
.004	.152	.305	.457	.597	.742	.870	.974	1.199	1.391	Y
1.579	1.746	1.878	2.009	2.200	2.200	2.200	2.200	2.038	1.889	Y
1.740	1.575	1.390	1.117	.820	0.0					Y
.000	-.003	.002	-.002	-.001	-.000	.000	.005	.046	.115	Z
.216	.378	.551	.720	.980	1.098	1.190	1.260	1.426	1.513	Z
1.613	1.728	1.836	1.946	1.977	1.977					Z
.004	.152	.305	.457	.597	.742	.870	.974	1.199	1.391	Y
1.579	1.746	1.878	2.009	2.200	2.200	2.200	2.200	2.038	1.889	Y
1.740	1.575	1.390	1.117	.820	0.0					Y
.000	-.003	.002	-.002	-.001	-.000	.000	.005	.046	.115	Z
.216	.378	.551	.720	.980	1.098	1.190	1.260	1.426	1.513	Z
1.613	1.728	1.836	1.946	1.977	1.977					Z
.004	.152	.305	.457	.597	.742	.870	.974	1.199	1.391	Y
1.579	1.746	1.878	2.009	2.200	2.200	2.200	2.200	2.038	1.889	Y

TABLE II.- Concluded

1.740	1.575	1.390	1.117	.820	0.0					Y
.000	-.003	.002	-.002	-.001	-.000	.000	.005	.046	.115	Z
.216	.378	.551	.720	.980	1.098	1.190	1.260	1.426	1.513	Z
1.613	1.728	1.836	1.946	1.977	1.977					Z
.004	.152	.305	.457	.597	.742	.870	.974	1.199	1.391	Y
1.579	1.746	1.878	2.009	2.200	2.200	2.200	2.200	2.038	1.889	Y
1.740	1.575	1.390	1.117	.820	0.0					Y
.000	-.003	.002	-.002	-.001	-.000	.000	.005	.046	.115	Z
.216	.378	.551	.720	.980	1.098	1.190	1.260	1.426	1.513	Z
1.613	1.728	1.836	1.946	1.977	1.977					Z
26.8355	2.093	1.126	5.494	33.225	1.443	4.814	1.201			
0.0	20.0	40.0	60.0	80.0	100.0					
0.0	1.28	1.92	1.92	1.28	0.0					

TABLE III.- WAVE-DRAG INPUT GEOMETRY OF 20° TRAPEZOIDAL-WING MODEL

20 DEGREE LEADING-EDGE SWEEP TRAPEZOIDAL WING							DIMENSIONS IN INCHES			
1 -1 1		1 1	2 10	3 17	7 30	4 26 10			1 6 1 6	
149.76	6.98	19.68								REFAR
0.0	10.	20.	30.	40.	50.	60.	70.	80.	100.	XAF 10
17.174	2.202	1.112	8.350							WORG 1
20.539	11.447	1.112	3.603							WORG 2
0.0	.727	1.28	1.68	1.920	2.000	1.920	1.680	1.280	0.000	TCCIRC
0.000	.5400	.9600	1.260	1.440	1.500	1.440	1.260	.960	0.000	TCCIRC
0.000	2.400	4.920	7.360	9.202	10.632	10.960				XFUS
-.000	-.000	-.000	-.000	-.000	-.000	-.000	-.000	-.000	-.000	Y
-.000	-.000	-.000	-.000	-.000	-.000	-.000				Y
-.088	-.088	-.088	-.088	-.088	-.088	-.088	-.088	-.088	-.088	Z
-.088	-.088	-.088	-.088	-.088	-.088	-.088				Z
.002	.159	.328	.453	.534	.598	.619	.619	.619	.619	Y
.592	.540	.452	.380	.280	.140	-.008				Y
-.369	-.350	-.270	-.158	-.046	.086	.262	.262	.262	.262	Z
.435	.572	.684	.745	.814	.866	.887				Z
.003	.220	.453	.631	.736	.785	.793	.793	.793	.793	Y
.738	.658	.538	.398	.286	.130	-.007				Y
-.213	-.173	-.054	.122	.339	.587	.816	.816	.816	.816	Z
1.025	1.202	1.343	1.447	1.496	1.545	1.577				Z
-.000	.269	.515	.660	.750	.795	.796	.796	.796	.796	Y
.777	.707	.616	.513	.341	.165	-.007				Y
-.028	.011	.174	.398	.655	.907	1.152	1.152	1.152	1.152	Z
1.421	1.726	2.004	2.229	2.451	2.556	2.593				Z
-.004	.269	.451	.616	.706	.788	.813	.946	.946	.818	Y
.803	.760	.689	.554	.411	.219	-.014				Y
.000	.083	.198	.410	.638	.882	1.175	1.187	1.187	1.223	Z
1.436	1.673	1.927	2.204	2.378	2.495	2.529				Z
-.004	.201	.398	.555	.664	.721	.766	.955	.954	.798	Y
.754	.695	.620	.492	.352	.176	-.005				Y
.004	.019	.119	.258	.447	.651	.863	.863	1.597	1.602	Z
1.783	1.963	2.116	2.261	2.370	2.455	2.488				Z
-.008	.177	.350	.499	.612	.701	.758	.962	.950	.758	Y
.698	.639	.563	.467	.323	.159	-.010				Y
.008	.035	.119	.247	.391	.563	.747	.751	1.698	1.703	Z
1.883	2.028	2.149	2.246	2.367	2.444	2.464				Z
10.960	13.000	13.800	15.000							XFUS 4
-.000	.184	.360	.508	.612	.704	.755	.964	.966	1.198	Y
1.411	1.575	1.739	1.898	2.006	2.077	2.080	1.951	1.781	1.556	Y
1.271	.970	.972	.780	.662	.585	.469	.340	.175	-.005	Y
.012	.037	.118	.255	.395	.572	.749	.749	.112	.133	Z
.210	.287	.432	.641	.870	1.155	1.339	1.692	1.940	2.147	Z
2.258	2.313	1.700	1.699	2.011	2.136	2.263	2.363	2.443	2.466	Z
-.008	.104	.244	.348	.424	.488	.717	.894	.886	1.151	Y
1.387	1.611	1.791	1.899	2.200	2.200	2.200	2.200	1.929	1.602	Y
1.245	.872	.872	.644	.419	.371	.295	.198	.086	-.007	Y
-.008	.000	.037	.094	.162	.247	.284	.156	.008	.009	Z
.062	.168	.285	.393	.830	1.041	1.202	1.540	1.845	2.173	Z
2.319	2.354	2.201	2.140	2.195	2.227	2.275	2.315	2.346	2.366	Z
.000	.088	.180	.297	.385	.449	.750	1.038	1.062	1.359	Y
1.615	1.831	1.967	2.200	2.200	2.200	2.200	2.200	1.881	1.555	Y
1.238	.969	.953	.680	.416	.364	.307	.223	.115	-.006	Y
-.012	-.012	-.007	.013	.034	.054	.055	.056	.052	.118	Z
.231	.376	.513	.765	.915	1.112	1.265	1.545	1.864	2.124	Z
2.251	2.282	2.282	2.292	2.295	2.316	2.316	2.316	2.316	2.316	Z
-.004	.136	.277	.409	.549	.650	.758	.866	.994	1.215	Y
1.459	1.703	1.923	2.200	2.200	2.200	2.200	2.200	2.121	1.912	Y

TABLE III.- Continued

1.676	1.374	1.105	.813	.640	.528	.419	.271	.130	-.010	Y
-.012	-.020	-.031	-.031	-.035	-.027	-.026	-.010	.010	.071	Z
.195	.369	.550	.805	.924	1.044	1.201	1.585	1.637	1.789	Z
1.937	2.109	2.184	2.211	2.243	2.243	2.243	2.243	2.243	2.243	Z
15.0	16.840	18.600	20.360	22.320	24.240	25.800	28.096	30.132	32.200	XFUS 10
-.004	.136	.277	.409	.549	.650	.758	.866	.994	1.215	Y
1.459	1.703	1.923	2.200	2.200	2.200	2.200	2.200	2.200	1.912	Y
1.676	1.374	1.105	.813	.640	0.0					Y
-.012	-.020	-.031	-.031	-.035	-.027	-.026	-.010	.010	.071	Z
.196	.369	.550	.805	.924	1.044	1.201	1.529	1.585	1.789	Z
1.937	2.109	2.184	2.211	2.243	2.243					Z
-.008	.104	.221	.345	.481	.606	.738	.854	.954	1.183	Y
1.383	1.607	1.791	2.019	2.200	2.200	2.200	2.053	1.892	1.747	Y
1.563	1.386	1.205	1.029	.856	0.0					Y
-.016	-.008	-.003	-.003	-.007	.002	-.006	-.006	.011	.063	Z
.148	.265	.426	.611	.755	.828	1.595	1.662	1.729	1.801	Z
1.889	1.977	2.056	2.108	2.132	2.132					Z
-.008	.136	.277	.425	.589	.742	.878	1.007	1.143	1.311	Y
1.532	1.732	1.896	2.040	2.200	2.200	2.200	2.079	1.898	1.734	Y
1.597	1.421	1.268	1.072	.879	0.0					Y
.004	.000	-.004	-.007	-.011	-.011	-.011	-.019	.014	.078	Z
.199	.347	.468	.576	.685	.809	1.570	1.639	1.719	1.795	Z
1.875	1.971	2.015	2.071	2.082	2.082					Z
-.008	.168	.329	.481	.654	.798	.918	1.047	1.199	1.339	Y
1.527	1.735	1.891	2.067	2.200	2.200	2.200	2.200	2.051	1.874	Y
1.702	1.517	1.336	1.103	.879	0.0					Y
-.016	-.015	-.003	-.006	.002	-.001	-.005	-.000	.024	.077	Z
.178	.335	.448	.581	.685	.871	1.099	1.595	1.647	1.723	Z
1.799	1.870	1.950	2.025	2.064	2.064					Z
-.004	.128	.245	.365	.505	.650	.806	.942	1.119	1.279	Y
1.499	1.708	1.908	2.080	2.200	2.200	2.200	2.200	2.059	1.863	Y
1.698	1.506	1.273	1.056	.824	0.0					Y
-.012	-.012	-.012	-.012	-.011	-.011	-.011	-.003	.025	.086	Z
.214	.371	.520	.644	.735	.929	1.106	1.516	1.574	1.666	Z
1.750	1.842	1.942	2.014	2.030	2.030					Z
0.000	.120	.245	.369	.533	.666	.798	.914	1.139	1.303	Y
1.531	1.747	1.935	2.079	2.200	2.200	2.200	2.200	2.061	1.888	Y
1.708	1.527	1.338	1.077	.797	0.0					Y
0.000	.000	-.007	-.007	-.007	-.002	-.002	.002	.043	.092	Z
.225	.398	.579	.739	.870	1.053	1.189	1.450	1.525	1.609	Z
1.701	1.797	1.896	1.984	2.023	2.023					Z
.004	.152	.305	.457	.597	.742	.870	.974	1.199	1.391	Y
1.579	1.746	1.878	2.009	2.200	2.200	2.200	2.200	2.038	1.889	Y
1.740	1.575	1.390	1.117	.820	0.0					Y
.000	-.003	.002	-.002	-.001	-.000	.000	.005	.046	.115	Z
.216	.378	.551	.720	.980	1.098	1.190	1.260	1.426	1.513	Z
1.613	1.728	1.836	1.946	1.977	1.977					Z
.004	.152	.305	.457	.597	.742	.870	.974	1.199	1.391	Y
1.579	1.746	1.878	2.009	2.200	2.200	2.200	2.200	2.038	1.889	Y
1.740	1.575	1.390	1.117	.820	0.0					Y
.000	-.003	.002	-.002	-.001	-.000	.000	.005	.046	.115	Z
.216	.378	.551	.720	.980	1.098	1.190	1.260	1.426	1.513	Z
1.613	1.728	1.836	1.946	1.977	1.977					Z
.004	.152	.305	.457	.597	.742	.870	.974	1.199	1.391	Y
1.579	1.746	1.878	2.009	2.200	2.200	2.200	2.200	2.038	1.889	Y
1.740	1.575	1.390	1.117	.820	0.0					Y
.000	-.003	.002	-.002	-.001	-.000	.000	.005	.046	.115	Z
.216	.378	.551	.720	.980	1.098	1.190	1.260	1.426	1.513	Z

TABLE III.- Concluded

1.613	1.728	1.836	1.946	1.977	1.977					Z
.004	.152	.305	.457	.597	.742	.870	.974	1.199	1.391	Y
1.579	1.746	1.878	2.009	2.200	2.200	2.200	2.200	2.038	1.889	Y
1.740	1.575	1.390	1.117	.820	0.0					Y
.000	-.003	.002	-.002	-.001	-.000	.000	.005	.046	.115	Z
.216	.378	.551	.720	.980	1.098	1.190	1.260	1.426	1.513	Z
1.613	1.728	1.836	1.946	1.977	1.977					Z
26.8355	2.093	1.126	5.494	33.225	1.443	4.814	1.201			
0.0	20.0	40.0	60.0	80.0	100.0					
0.0	1.28	1.92	1.92	1.28	0.0					
17.174	2.202	1.112	8.350	20.539	11.447	1.112	3.603			
0.0	20.0	40.0	60.0	80.0	100.0					
0.0	1.28	1.92	1.92	1.28	0.0					

TABLE IV.- WAVE-DRAG INPUT GEOMETRY OF 70°/30° CRANKED-WING MODEL

```
70/30  DEGREE LEADING-EDGE SWEEP CRANKED WING     DIMENSIONS IN INCHES
  1 -1  1      1         5 17  3 17  7 30  4 26 10                1  6
165.6  12.34  19.98                                                      REFAR
0.0    .50    .75     1.25   2.5    5.0    7.5    10.    20.    30.     XAF 10
40.    50.    60.     70.    80.    90.    100.                         XAF 17
12.917 2.202  1.112   14.299                                             WORG 1
14.129 2.643  1.112   13.086                                             WORG 2
18.817 4.349  1.112    8.400                                             WORG 3
21.564 5.349  1.112   5.652                                              WORG 4
23.560 8.807  1.112   2.047                                              WORG 5
0.0    .556   .645    .827   1.190  1.581  1.815  1.980  2.271  2.425   WORD1
2.554  2.554  2.183   1.641  .728   .314   0.0                          WORD1
0.0    .304   .368    .469   .647   .875   1.059  1.213  1.645  1.892   TC 65A
1.997  1.954  1.743   1.402  .967   .490   0.0                          TC 65A
0.0    .304   .368    .469   .647   .875   1.059  1.213  1.645  1.892   TC 65A
1.997  1.954  1.743   1.402  .967   .490   0.0                          TC 65A
0.0    .0398  .0596   .0988  .1950  .3800  .5550  .7200  1.28   1.68    TC CIR
1.920  2.0    1.920   1.680  1.280  .72    0.0                          TC CIR
0.0    .0398  .0596   .0988  .1950  .3800  .5550  .7200  1.28   1.68    TC CIR
1.920  2.0    1.920   1.680  1.280  .72    0.0                          TC CIR
  0.000  2.400  4.920  7.360  9.202 10.632 10.960                        XFUS
  -.000  -.000  -.000  -.000  -.000  -.000  -.000  -.000  -.000  -.000   Y
  -.000  -.000  -.000  -.000  -.000  -.000  -.000                        Y
  -.088  -.088  -.088  -.088  -.088  -.088  -.088  -.088  -.088  -.088   Z
  -.088  -.088  -.088  -.088  -.088  -.088  -.088                        Z
   .002   .159   .328   .453   .534   .598   .619   .619   .619   .619   Y
   .592   .540   .452   .380   .280   .140  -.008                        Y
  -.369  -.350  -.270  -.158  -.046   .086   .262   .262   .262   .262   Z
   .435   .572   .684   .745   .814   .866   .887                        Z
   .003   .220   .453   .631   .736   .785   .793   .793   .793   .793   Y
   .738   .658   .538   .398   .286   .130  -.007                        Y
  -.213  -.173  -.054   .122   .339   .587   .816   .816   .816   .816   Z
  1.025  1.202  1.343  1.447  1.496  1.545  1.577                        Z
  -.000   .269   .515   .660   .750   .795   .796   .796   .796   .796   Y
   .777   .707   .616   .513   .341   .165  -.007                        Y
  -.028   .011   .174   .398   .655   .907  1.152  1.152  1.152  1.152   Z
  1.421  1.726  2.004  2.229  2.451  2.556  2.593                        Z
  -.004   .269   .451   .616   .706   .788   .813   .946   .946   .818   Y
   .803   .760   .689   .554   .411   .219  -.014                        Y
   .000   .083   .198   .410   .638   .882  1.175  1.187  1.187  1.223   Z
  1.436  1.673  1.927  2.204  2.378  2.495  2.529                        Z
  -.004   .201   .398   .555   .664   .721   .766   .955   .954   .798   Y
   .754   .695   .620   .492   .352   .176  -.005                        Y
   .004   .019   .119   .258   .447   .651   .863   .863  1.597  1.602   Z
  1.783  1.963  2.116  2.261  2.370  2.455  2.488                        Z
  -.008   .177   .350   .499   .612   .701   .758   .962   .950   .758   Y
   .698   .639   .563   .467   .323   .159  -.010                        Y
   .008   .035   .119   .247   .391   .563   .747   .751  1.698  1.703   Z
  1.883  2.028  2.149  2.246  2.367  2.444  2.464                        Z
 10.960 13.000 13.800 15.000                                            XFUS 4
  -.000   .184   .360   .508   .612   .704   .755   .964   .966  1.198   Y
  1.411  1.575  1.739  1.898  2.006  2.077  2.080  1.951  1.781  1.556   Y
  1.271   .970   .972   .780   .662   .585   .469   .340   .175  -.005   Y
   .012   .037   .118   .255   .395   .572   .749   .749   .112   .133   Z
   .210   .287   .432   .641   .870  1.155  1.339  1.692  1.940  2.147   Z
  2.258  2.313  1.700  1.699  2.011  2.136  2.263  2.363  2.443  2.466   Z
  -.008   .104   .244   .346   .424   .488   .717   .894   .886  1.151   Y
  1.387  1.611  1.791  1.899  2.200  2.200  2.200  2.200  1.929  1.602   Y
```

TABLE IV.- Continued

1.245	.872	.872	.644	.419	.371	.295	.198	.086	-.007	Y
-.008	.000	.037	.094	.162	.247	.284	.156	.008	.009	Z
.062	.168	.285	.393	.830	1.041	1.202	1.540	1.845	2.173	Z
2.319	2.354	2.201	2.140	2.195	2.227	2.275	2.315	2.346	2.366	Z
.000	.088	.180	.297	.385	.449	.750	1.038	1.062	1.359	Y
1.615	1.831	1.967	2.200	2.200	2.200	2.200	2.200	1.881	1.555	Y
1.238	.969	.953	.680	.416	.364	.307	.223	.115	-.006	Y
-.012	-.012	-.007	.013	.034	.054	.055	.056	.052	.118	Z
.231	.376	.513	.785	.915	1.112	1.265	1.545	1.864	2.124	Z
2.251	2.282	2.282	2.292	2.295	2.316	2.316	2.316	2.316	2.316	Z
-.004	.136	.277	.409	.549	.650	.758	.866	.994	1.215	Y
1.459	1.703	1.923	2.200	2.200	2.200	2.200	2.200	2.121	1.912	Y
1.676	1.374	1.105	.813	.640	.528	.419	.271	.130	-.010	Y
-.012	-.020	-.031	-.031	-.035	-.027	-.026	-.010	.010	.071	Z
.196	.369	.550	.805	.924	1.044	1.201	1.585	1.637	1.789	Z
1.937	2.109	2.184	2.211	2.243	2.243	2.243	2.243	2.243	2.243	Z
15.0	15.840	18.600	20.360	22.320	24.240	25.800	28.096	30.132	32.200	XFUS 10
-.004	.136	.277	.409	.549	.650	.758	.866	.994	1.215	Y
1.459	1.703	1.923	2.200	2.200	2.200	2.200	2.200	2.200	1.912	Y
1.676	1.374	1.105	.813	.640	0.0					Y
-.012	-.020	-.031	-.031	-.035	-.027	-.026	-.010	.010	.071	Z
.196	.369	.550	.805	.924	1.044	1.201	1.529	1.585	1.789	Z
1.937	2.109	2.184	2.211	2.243	2.243					Z
-.008	.104	.221	.345	.481	.606	.738	.854	.954	1.183	Y
1.383	1.607	1.791	2.019	2.200	2.200	2.200	2.053	1.892	1.747	Y
1.563	1.386	1.205	1.029	.856	0.0					Y
-.016	-.008	-.003	-.003	-.007	.002	-.006	-.006	.011	.063	Z
.148	.265	.426	.611	.755	.828	1.595	1.662	1.729	1.801	Z
1.889	1.977	2.056	2.108	2.132	2.132					Z
-.008	.136	.277	.425	.589	.742	.878	1.007	1.143	1.311	Y
1.532	1.732	1.896	2.040	2.200	2.200	2.200	2.079	1.898	1.734	Y
1.597	1.421	1.268	1.072	.879	0.0					Y
.004	.000	-.004	-.007	-.011	-.011	-.011	-.019	.014	.078	Z
.199	.347	.468	.576	.685	.809	1.570	1.639	1.719	1.795	Z
1.875	1.971	2.015	2.071	2.082	2.082					Z
-.008	.168	.329	.481	.654	.798	.918	1.047	1.199	1.339	Y
1.527	1.735	1.891	2.067	2.200	2.200	2.200	2.200	2.051	1.874	Y
1.702	1.517	1.336	1.103	.879	0.0					Y
-.016	-.015	-.003	-.006	.002	-.001	-.005	-.000	.024	.077	Z
.178	.335	.448	.581	.685	.871	1.099	1.595	1.647	1.723	Z
1.799	1.870	1.950	2.025	2.064	2.064					Z
-.004	.128	.245	.365	.505	.650	.806	.942	1.119	1.279	Y
1.499	1.708	1.908	2.080	2.200	2.200	2.200	2.200	2.059	1.863	Y
1.698	1.506	1.273	1.056	.824	0.0					Y
-.012	-.012	-.012	-.012	-.011	-.011	-.011	-.003	.025	.086	Z
.214	.371	.520	.644	.735	.929	1.106	1.516	1.574	1.666	Z
1.750	1.842	1.942	2.014	2.030	2.030					Z
0.000	.120	.245	.369	.533	.666	.798	.914	1.139	1.303	Y
1.531	1.747	1.935	2.079	2.200	2.200	2.200	2.200	2.061	1.888	Y
1.709	1.527	1.338	1.077	.797	0.0					Y
0.000	.000	-.007	-.007	-.007	-.002	-.002	.002	.043	.092	Z
.225	.398	.579	.739	.870	1.053	1.189	1.450	1.525	1.609	Z
1.701	1.797	1.896	1.984	2.023	2.023					Z
.004	.152	.305	.457	.597	.742	.870	.974	1.199	1.391	Y
1.579	1.746	1.878	2.009	2.200	2.200	2.200	2.200	2.038	1.889	Y
1.740	1.575	1.390	1.117	.820	0.0					Y
.000	-.003	.002	-.002	-.001	-.000	.000	.005	.046	.115	Z
.215	.378	.551	.720	.980	1.098	1.190	1.260	1.426	1.513	Z

TABLE IV.- Concluded

1.613	1.728	1.836	1.946	1.977	1.977					Z
.004	.152	.305	.457	.597	.742	.870	.974	1.199	1.391	Y
1.579	1.746	1.878	2.009	2.200	2.200	2.200	2.200	2.038	1.889	Y
1.740	1.575	1.390	1.117	.820	0.0					Y
.000	-.003	.002	-.002	-.001	-.000	.000	.005	.046	.115	Z
.216	.378	.551	.720	.980	1.098	1.190	1.260	1.426	1.513	Z
1.613	1.728	1.836	1.946	1.977	1.977					Z
.004	.152	.305	.457	.597	.742	.870	.974	1.199	1.391	Y
1.579	1.746	1.878	2.009	2.200	2.200	2.200	2.200	2.038	1.889	Y
1.740	1.575	1.390	1.117	.820	0.0					Y
.000	-.003	.002	-.002	-.001	-.000	.000	.005	.046	.115	Z
.216	.378	.551	.720	.980	1.098	1.190	1.260	1.426	1.513	Z
1.613	1.728	1.836	1.946	1.977	1.977					Z
.004	.152	.305	.457	.597	.742	.870	.974	1.199	1.391	Y
1.579	1.746	1.878	2.009	2.200	2.200	2.200	2.200	2.038	1.889	Y
1.740	1.575	1.390	1.117	.820	0.0					Y
.000	-.003	.002	-.002	-.001	-.000	.000	.005	.046	.115	Z
.216	.378	.551	.720	.980	1.098	1.190	1.260	1.426	1.513	Z
1.613	1.728	1.836	1.946	1.977	1.977					Z
26.8355	2.093	1.126	5.494	33.225	1.443	4.814	1.201			
0.0	20.0	40.0	60.0	80.0	100.0					
0.0	1.28	1.92	1.92	1.28	0.0					

TABLE V.- WAVE-DRAG INPUT GEOMETRY OF 70°/66° CRANKED-WING MODEL

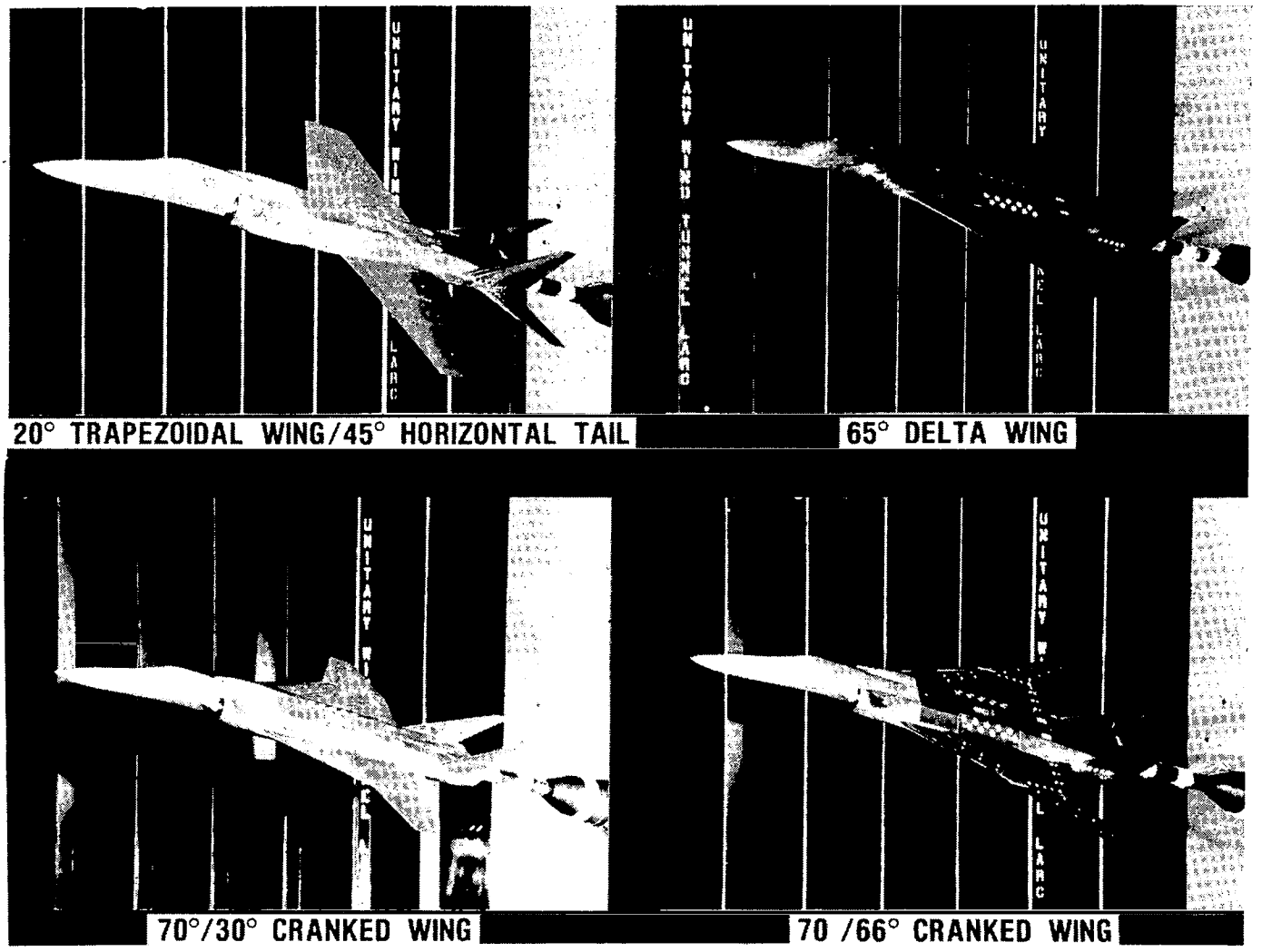
70/66	DEGREE	LEADING-EDGE	SWEEP	CRANKED	WING		DIMENSIONS	IN	INCHES	
1 -1	1	1	5 17	3 17	7 30	4 26 10			1 6	
165.6	12.34	20.51								REFAR
0.0	.50	.75	1.25	2.5	5.0	7.5	10.	20.	30.	XAF 10
40.	50.	60.	70.	80.	90.	100.				XAF 17
12.917	2.202	1.112	14.299							WORG 1
14.129	2.643	1.112	13.066							WORG 2
18.817	4.349	1.112	8.400							WORG 3
21.564	5.349	1.112	5.652							WORG 4
29.331	8.807	1.112	2.047							WORG 5
0.0	.556	.645	.827	1.190	1.581	1.815	1.980	2.271	2.425	WORD1
2.554	2.554	2.183	1.641	.728	.314	0.0				WORD1
0.0	.304	.368	.469	.647	.875	1.059	1.213	1.645	1.892	TC 65A
1.997	1.954	1.743	1.402	.967	.490	0.0				TC 65A
0.0	.304	.368	.469	.647	.875	1.059	1.213	1.645	1.892	TC 65A
1.997	1.954	1.743	1.402	.967	.490	0.0				TC 65A
0.0	.0398	.0596	.0988	.1950	.3800	.5550	.7200	1.28	1.68	TC CIR
1.920	2.0	1.920	1.680	1.280	.72	0.0				TC CIR
0.0	.0398	.0596	.0988	.1950	.3800	.5550	.7200	1.28	1.68	TC CIR
1.920	2.0	1.920	1.680	1.280	.72	0.0				TC CIR
0.000	2.400	4.920	7.360	9.202	10.632	10.960				XFUS
-.000	-.000	-.000	-.000	-.000	-.000	-.000	-.000	-.000	-.000	Y
-.000	-.000	-.000	-.000	-.000	-.000	-.000				Y
-.088	-.088	-.088	-.088	-.088	-.088	-.088	-.088	-.088	-.088	Z
-.088	-.088	-.088	-.088	-.088	-.088	-.088				Z
.002	.159	.328	.453	.534	.598	.619	.619	.619	.619	Y
.592	.540	.452	.380	.280	.140	-.008				Y
-.369	-.350	-.270	-.158	-.046	.086	.262	.262	.262	.262	Z
.435	.572	.684	.745	.814	.866	.887				Z
.003	.220	.453	.631	.736	.785	.793	.793	.793	.793	Y
.738	.658	.538	.398	.286	.130	-.007				Y
-.213	-.173	-.054	.122	.339	.587	.816	.816	.816	.816	Z
1.025	1.202	1.343	1.447	1.496	1.545	1.577				Z
-.000	.269	.515	.660	.750	.795	.796	.796	.796	.796	Y
.777	.707	.616	.513	.341	.165	-.007				Y
-.028	.011	.174	.398	.655	.907	1.152	1.152	1.152	1.152	Z
1.421	1.726	2.004	2.229	2.451	2.556	2.593				Z
-.004	.269	.451	.616	.706	.788	.813	.946	.946	.818	Y
.803	.760	.689	.554	.411	.219	-.014				Y
.000	.083	.198	.410	.638	.882	1.175	1.187	1.187	1.223	Z
1.436	1.673	1.927	2.204	2.378	2.495	2.529				Z
-.004	.201	.398	.555	.664	.721	.766	.955	.954	.798	Y
.754	.695	.620	.492	.352	.176	-.005				Y
.004	.019	.119	.258	.447	.651	.863	.863	1.597	1.602	Z
1.783	1.963	2.116	2.261	2.370	2.455	2.488				Z
-.008	.177	.350	.499	.612	.701	.758	.962	.950	.758	Y
.698	.639	.563	.467	.323	.159	-.010				Y
.008	.035	.119	.247	.391	.563	.747	.751	1.698	1.703	Z
1.883	2.028	2.149	2.246	2.367	2.444	2.464				Z
10.960	13.000	13.800	15.000							XFUS 4
-.000	.184	.360	.508	.612	.704	.755	.964	.966	1.198	Y
1.411	1.575	1.739	1.898	2.006	2.077	2.080	1.951	1.781	1.556	Y
1.271	.970	.972	.780	.662	.585	.469	.340	.175	-.005	Y
.012	.037	.118	.255	.395	.572	.749	.749	.112	.133	Z
.210	.287	.432	.641	.870	1.155	1.339	1.692	1.940	2.147	Z
2.258	2.313	1.700	1.699	2.011	2.136	2.263	2.363	2.443	2.466	Z
-.008	.104	.244	.348	.424	.488	.717	.894	.886	1.151	Y
1.387	1.611	1.791	1.899	2.200	2.200	2.200	2.200	1.929	1.602	Y

TABLE V.- Continued

1.245	.872	.872	.644	.419	.371	.295	.198	.086	-.007	Y
-.008	.000	.037	.094	.162	.247	.284	.156	.008	.009	Z
.062	.168	.285	.393	.830	1.041	1.202	1.540	1.845	2.173	Z
2.319	2.354	2.201	2.140	2.195	2.227	2.275	2.315	2.346	2.366	Z
.000	.088	.180	.297	.385	.449	.750	1.038	1.062	1.359	Y
1.615	1.831	1.967	2.200	2.200	2.200	2.200	2.200	1.881	1.555	Y
1.238	.969	.953	.680	.416	.364	.307	.223	.115	-.006	Y
-.012	-.012	-.007	.013	.034	.054	.055	.056	.052	.118	Z
.231	.376	.513	.785	.915	1.112	1.265	1.545	1.864	2.124	Z
2.251	2.282	2.282	2.292	2.295	2.316	2.316	2.316	2.316	2.316	Z
-.004	.136	.277	.409	.549	.650	.758	.866	.994	1.215	Y
1.459	1.703	1.923	2.200	2.200	2.200	2.200	2.200	2.121	1.912	Y
1.676	1.374	1.105	.813	.640	.528	.419	.271	.130	-.010	Y
-.012	-.020	-.031	-.031	-.035	-.027	-.026	-.010	.010	.071	Z
.196	.369	.550	.805	.924	1.044	1.201	1.585	1.637	1.789	Z
1.937	2.109	2.184	2.211	2.243	2.243	2.243	2.243	2.243	2.243	Z
15.0	15.840	18.600	20.360	22.320	24.240	25.800	28.096	30.132	32.200	XFUS 10
-.004	.136	.277	.409	.549	.650	.758	.866	.994	1.215	Y
1.459	1.703	1.923	2.200	2.200	2.200	2.200	2.200	2.200	1.912	Y
1.676	1.374	1.105	.813	.640	0.0					Y
-.012	-.020	-.031	-.031	-.035	-.027	-.026	-.010	.010	.071	Z
.196	.369	.550	.805	.924	1.044	1.201	1.529	1.585	1.789	Z
1.937	2.109	2.184	2.211	2.243	2.243					Z
-.008	.104	.221	.345	.481	.606	.738	.854	.954	1.183	Y
1.383	1.607	1.791	2.019	2.200	2.200	2.200	2.053	1.892	1.747	Y
1.563	1.386	1.205	1.029	.856	0.0					Y
-.016	-.008	-.003	-.003	-.007	.002	-.006	-.006	.011	.063	Z
.148	.265	.426	.611	.755	.828	1.595	1.662	1.729	1.801	Z
1.889	1.977	2.056	2.108	2.132	2.132					Z
-.008	.136	.277	.425	.589	.742	.878	1.007	1.143	1.311	Y
1.532	1.732	1.896	2.040	2.200	2.200	2.200	2.079	1.898	1.734	Y
1.597	1.421	1.268	1.072	.879	0.0					Y
.004	.000	-.004	-.007	-.011	-.011	-.011	-.019	.014	.078	Z
.199	.347	.468	.576	.685	.809	1.570	1.639	1.719	1.795	Z
1.875	1.971	2.015	2.071	2.082	2.082					Z
-.008	.168	.329	.481	.654	.798	.918	1.047	1.199	1.339	Y
1.527	1.735	1.891	2.067	2.200	2.200	2.200	2.200	2.051	1.874	Y
1.702	1.517	1.336	1.103	.879	0.0					Y
-.016	-.015	-.003	-.006	.002	-.001	-.005	-.000	.024	.077	Z
.178	.335	.448	.581	.685	.871	1.099	1.595	1.647	1.723	Z
1.799	1.870	1.950	2.025	2.064	2.064					Z
-.004	.128	.245	.365	.505	.650	.806	.942	1.119	1.279	Y
1.499	1.708	1.908	2.080	2.200	2.200	2.200	2.200	2.059	1.863	Y
1.698	1.506	1.273	1.056	.824	0.0					Y
-.012	-.012	-.012	-.012	-.011	-.011	-.011	-.003	.025	.086	Z
.214	.371	.520	.644	.735	.929	1.106	1.516	1.574	1.666	Z
1.750	1.842	1.942	2.014	2.030	2.030					Z
0.000	.120	.245	.369	.533	.666	.798	.914	1.139	1.303	Y
1.531	1.747	1.935	2.079	2.200	2.200	2.200	2.200	2.061	1.888	Y
1.708	1.527	1.338	1.077	.797	0.0					Y
0.000	.000	-.007	-.007	-.007	-.002	-.002	.002	.043	.092	Z
.225	.398	.579	.739	.870	1.053	1.189	1.450	1.525	1.609	Z
1.701	1.797	1.896	1.984	2.023	2.023					Z
.004	.152	.305	.457	.597	.742	.870	.974	1.199	1.391	Y
1.579	1.746	1.878	2.009	2.200	2.200	2.200	2.200	2.038	1.889	Y
1.740	1.575	1.390	1.117	.820	0.0					Y
.000	-.003	.002	-.002	-.001	-.000	.000	.005	.046	.115	Z
.216	.378	.551	.720	.980	1.098	1.190	1.260	1.426	1.513	Z

TABLE V.- Concluded

1.613	1.728	1.836	1.946	1.977	1.977					Z
.004	.152	.305	.457	.597	.742	.870	.974	1.199	1.391	Y
1.579	1.746	1.878	2.009	2.200	2.200	2.200	2.200	2.038	1.889	Y
1.740	1.575	1.390	1.117	.820	0.0					Y
.000	-.003	.002	-.002	-.001	-.000	.000	.005	.046	.115	Z
.216	.378	.551	.720	.980	1.098	1.190	1.260	1.426	1.513	Z
1.613	1.728	1.836	1.946	1.977	1.977					Z
.004	.152	.305	.457	.597	.742	.870	.974	1.199	1.391	Y
1.579	1.746	1.878	2.009	2.200	2.200	2.200	2.200	2.038	1.889	Y
1.740	1.575	1.390	1.117	.820	0.0					Y
.000	-.003	.002	-.002	-.001	-.000	.000	.005	.046	.115	Z
.216	.378	.551	.720	.980	1.098	1.190	1.260	1.426	1.513	Z
1.613	1.728	1.836	1.946	1.977	1.977					Z
.004	.152	.305	.457	.597	.742	.870	.974	1.199	1.391	Y
1.579	1.746	1.878	2.009	2.200	2.200	2.200	2.200	2.038	1.889	Y
1.740	1.575	1.390	1.117	.820	0.0					Y
.000	-.003	.002	-.002	-.001	-.000	.000	.005	.046	.115	Z
.216	.378	.551	.720	.980	1.098	1.190	1.260	1.426	1.513	Z
1.613	1.728	1.836	1.946	1.977	1.977					Z
26.8355	2.093	1.126	5.494	33.225	1.443	4.814	1.201			
0.0	20.0	40.0	60.0	80.0	100.0					
0.0	1.28	1.92	1.92	1.28	0.0					



L-83-5667

Figure 1.- Photographs of wind-tunnel models.

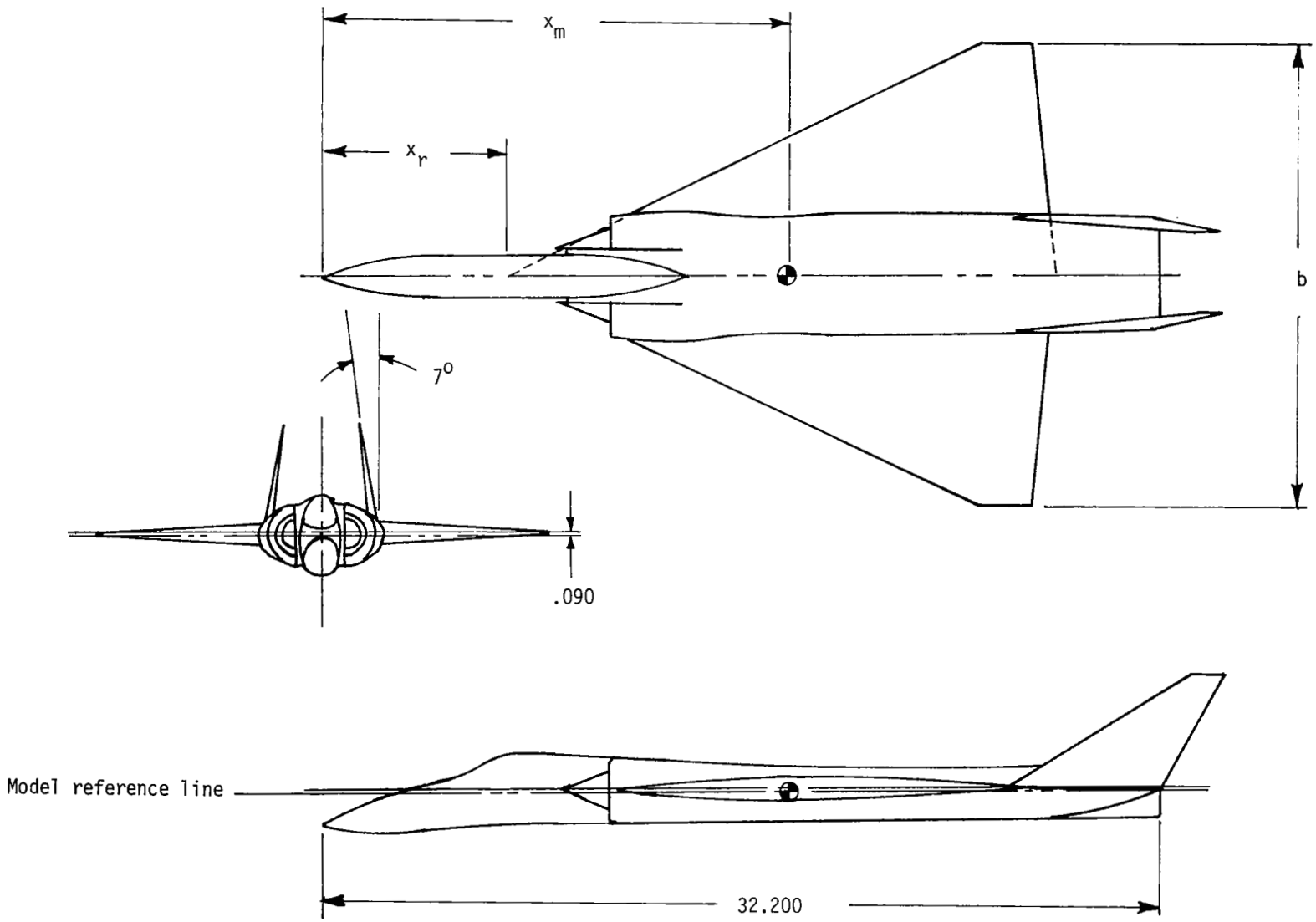


Figure 2.- Three-view sketch of delta-wing model. Linear dimensions are in inches.

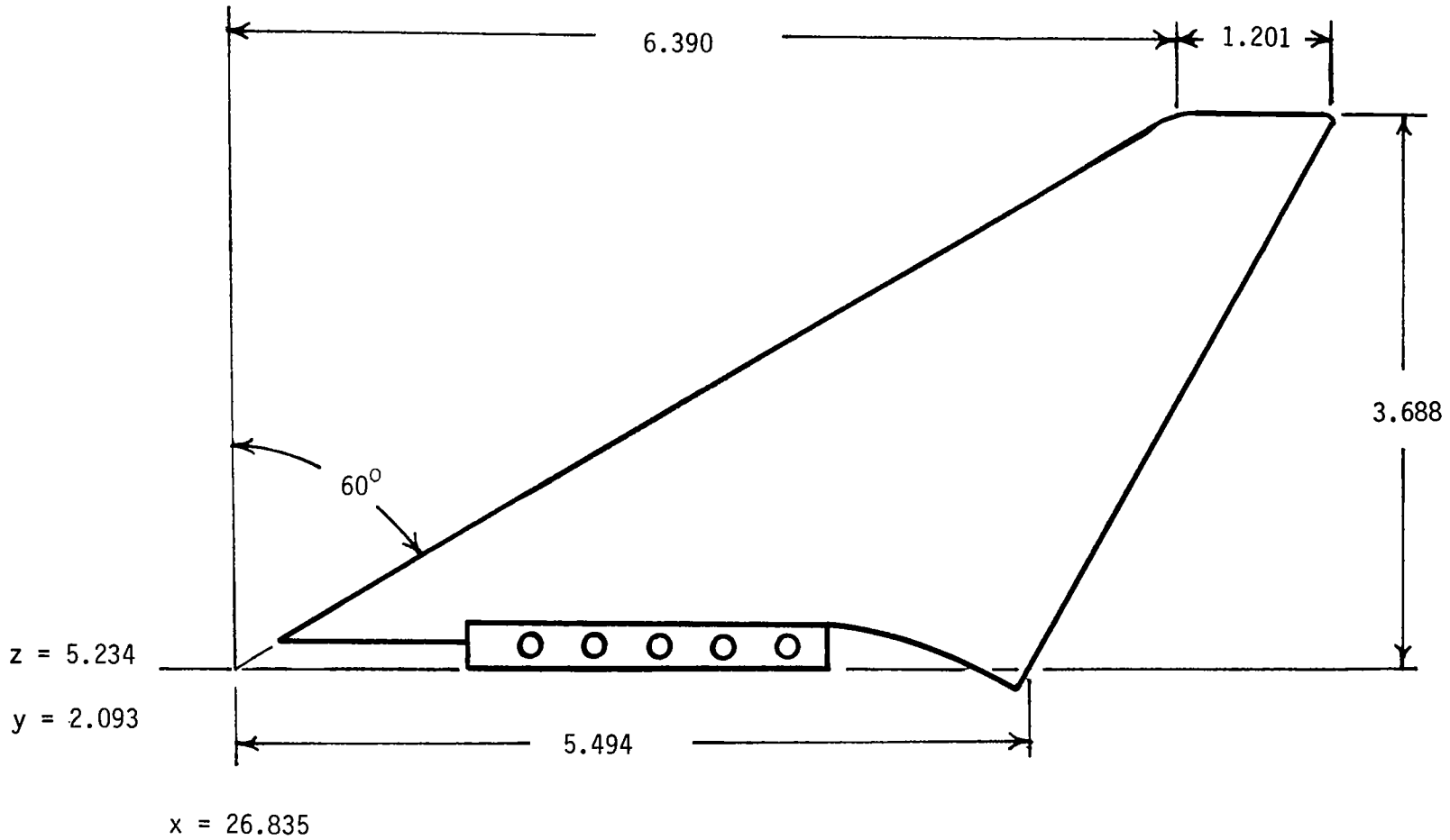


Figure 3.- Details of model vertical tail. Linear dimensions are in inches.

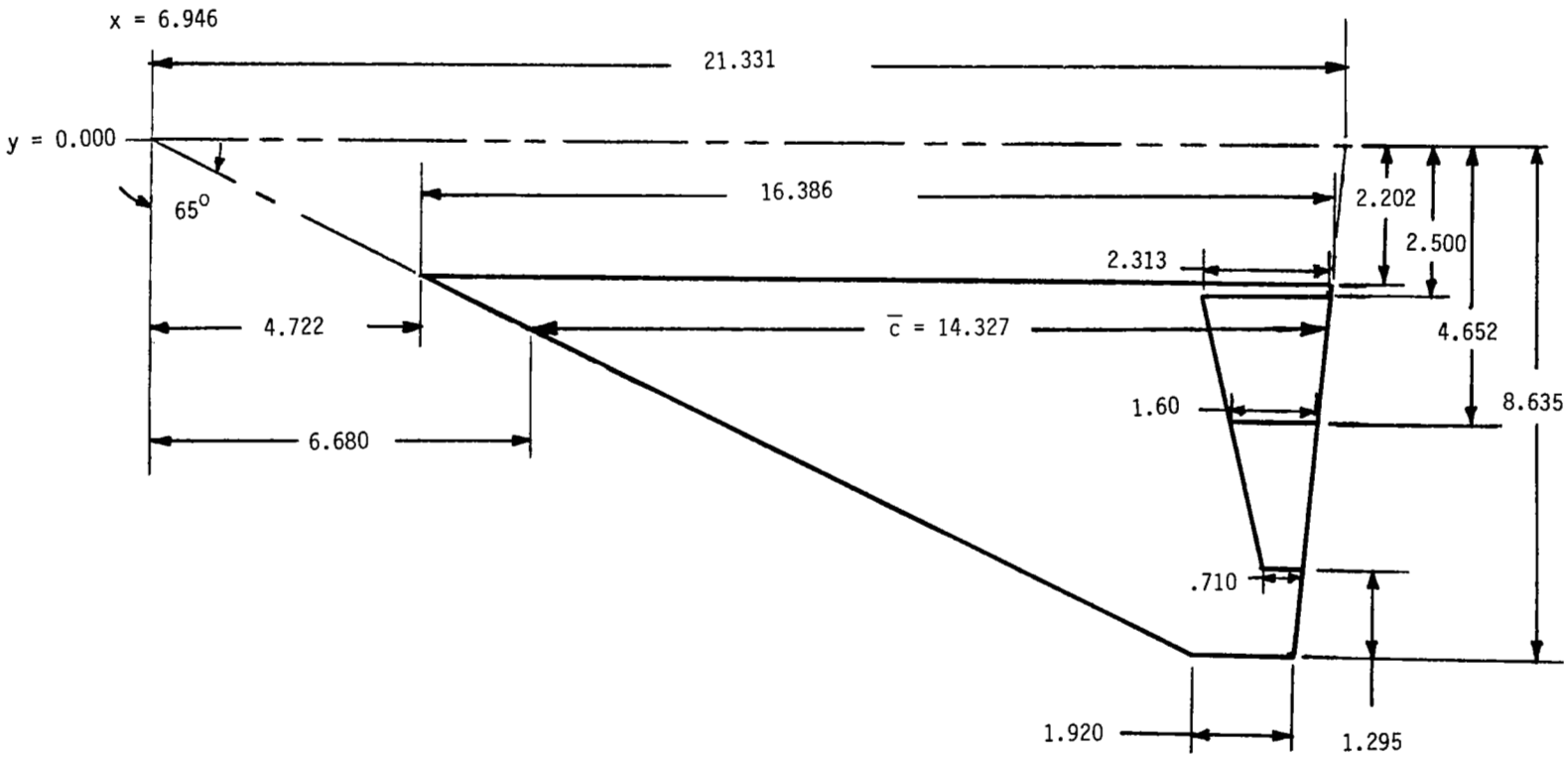


Figure 4.- Details of delta wing with 65° leading-edge sweep. Linear dimensions are in inches.

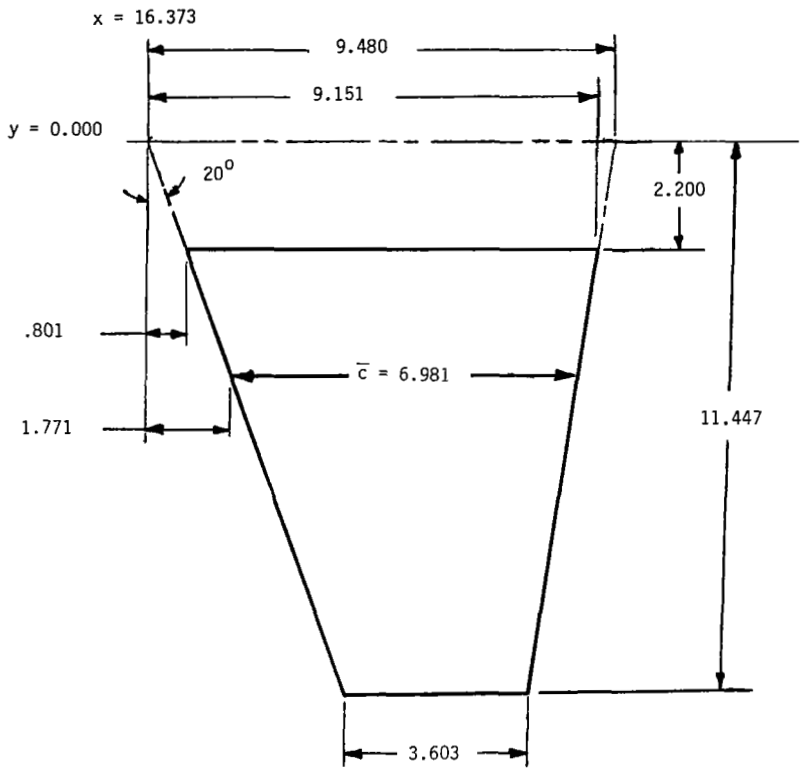


Figure 5.- Details of trapezoidal wing with 20° leading-edge sweep. Linear dimensions are in inches.

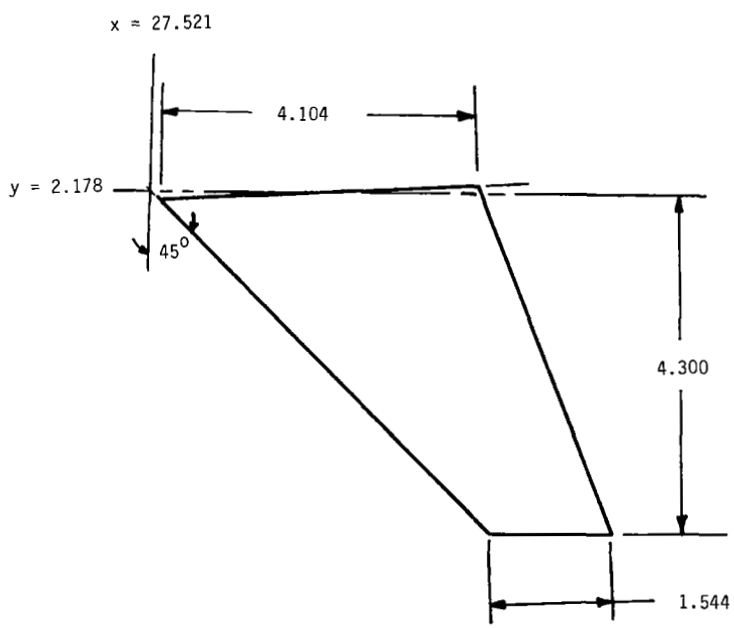


Figure 6.- Details of horizontal tail with 45° leading-edge sweep. Linear dimensions are in inches.

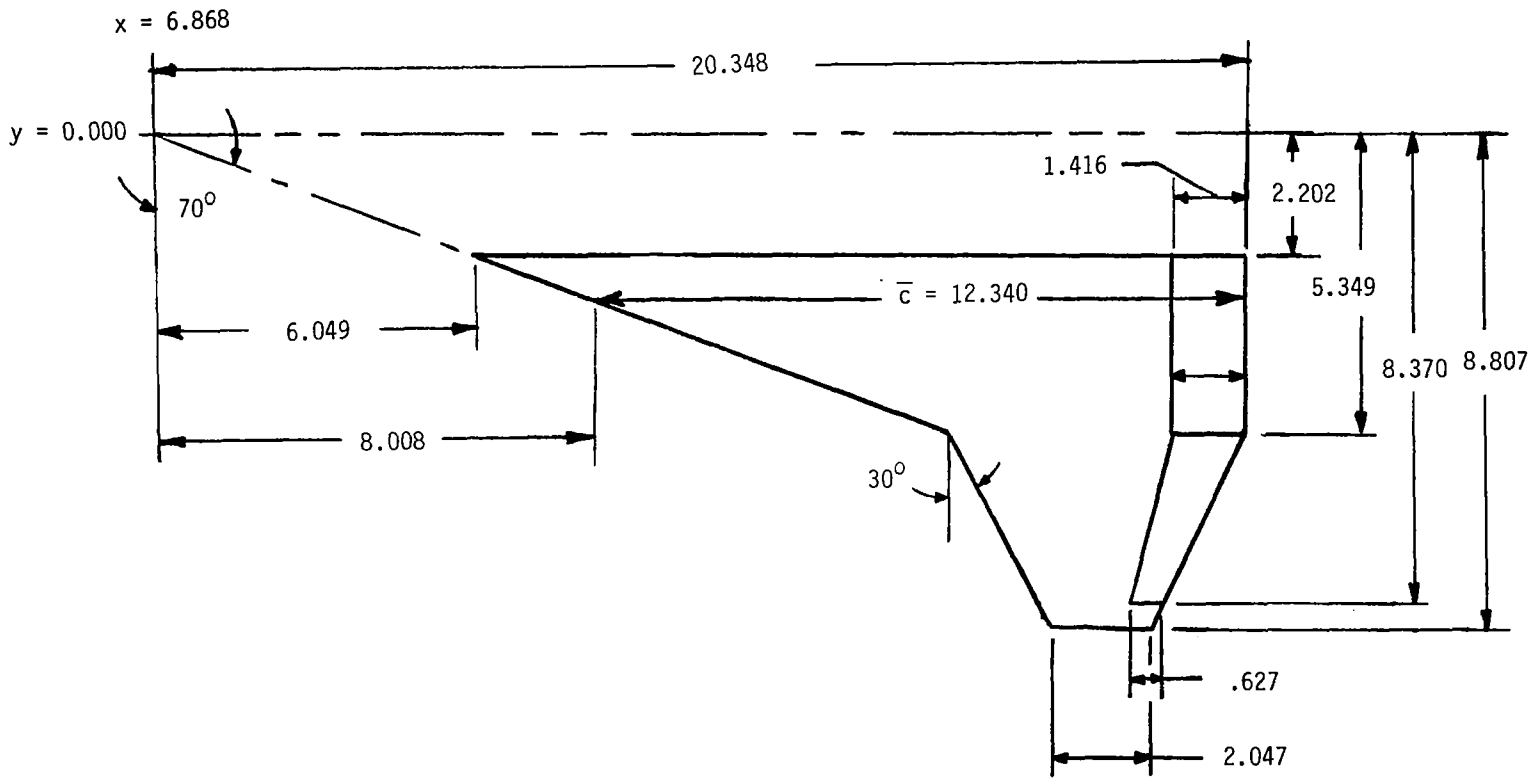


Figure 7.- Details of cranked wing with 70°/30° leading-edge sweep. Linear dimensions are in inches.

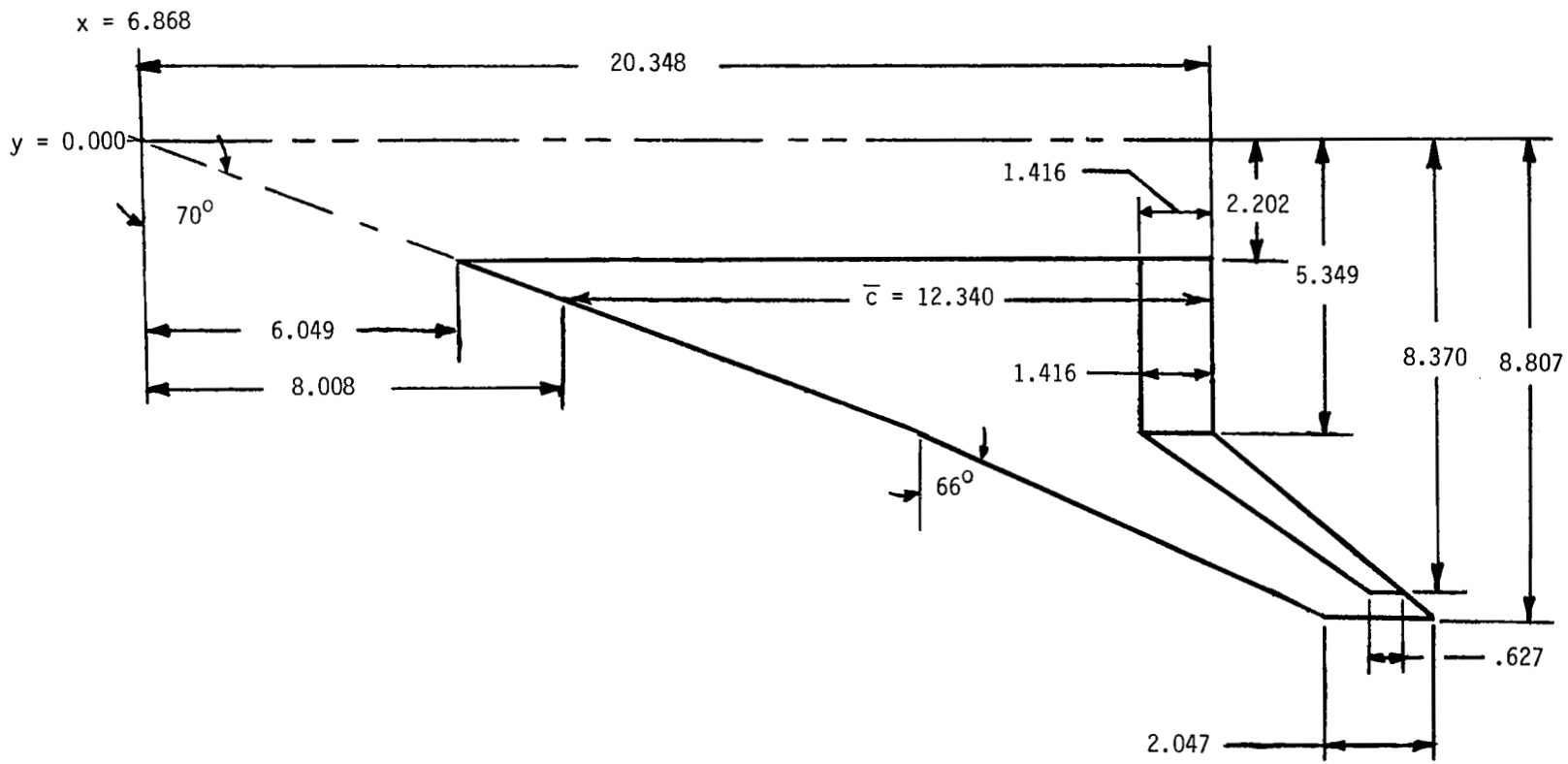


Figure 8.- Details of cranked wing with 70°/66° leading-edge sweep. Linear dimensions are in inches.

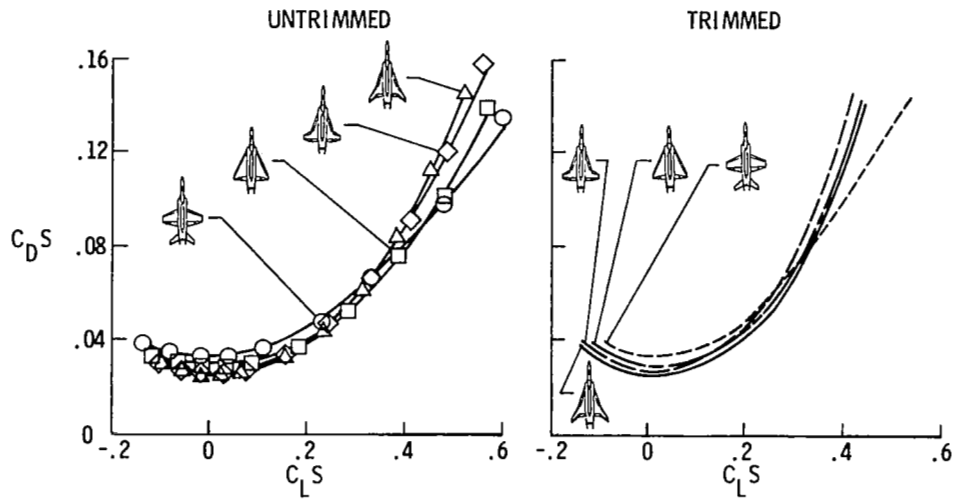
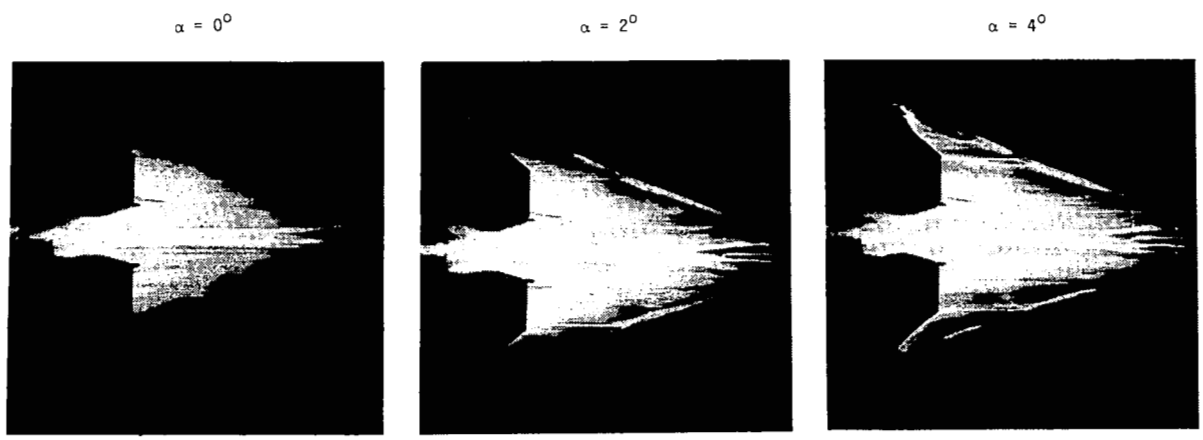


Figure 9.- Effect of planform shape on experimentally-measured drag characteristics at M = 1.80.



L-84-06

Figure 10.- Oil-flow photographs of 70°/66° cranked-wing configuration at M = 1.80.

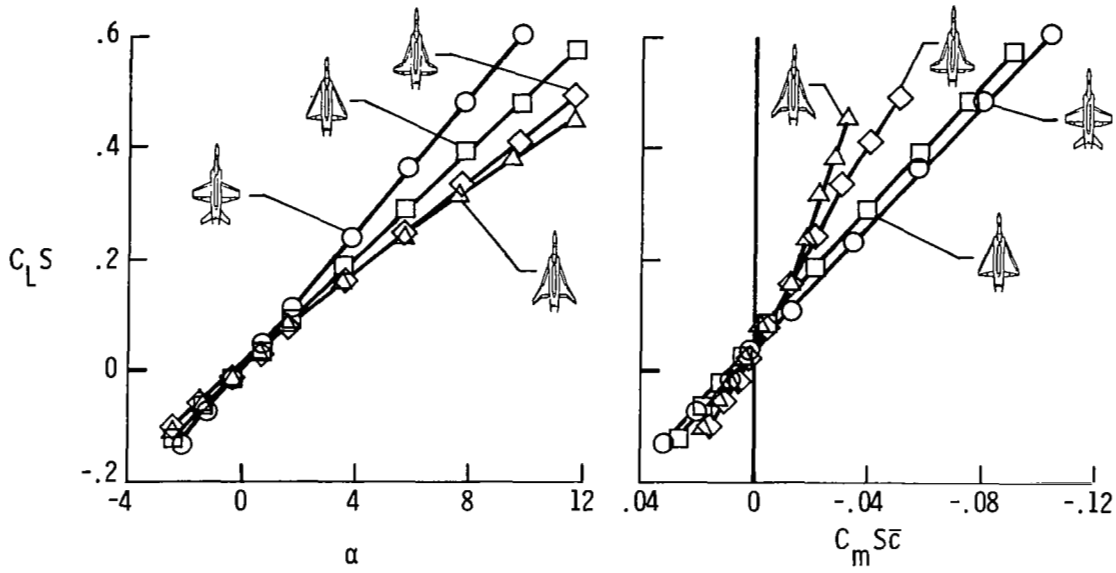


Figure 11.- Effect of planform shape on experimentally measured lift and pitching-moment characteristics at M = 1.80.

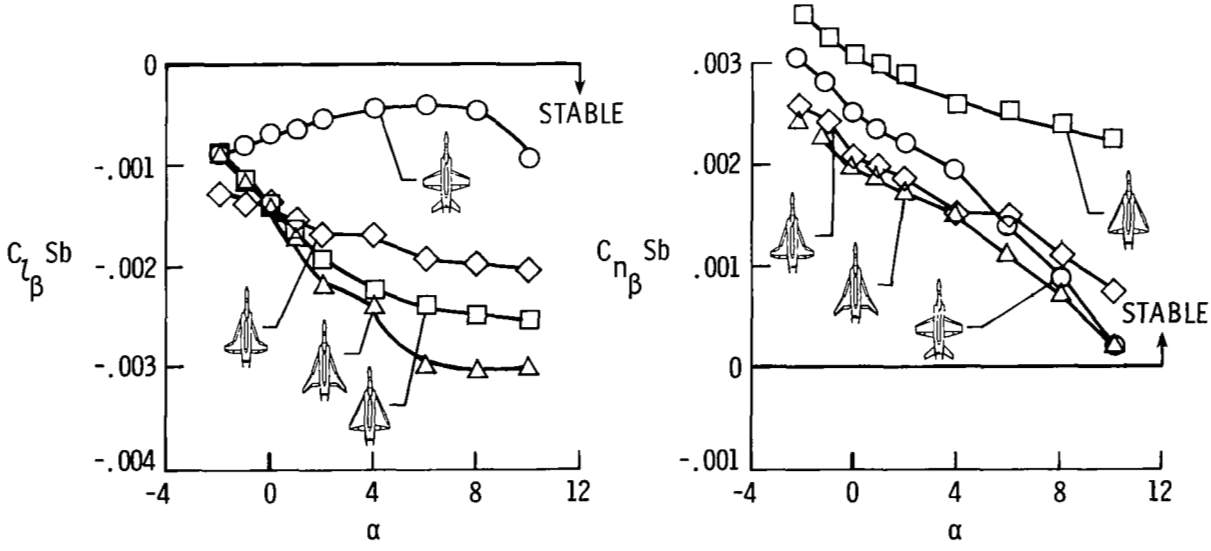


Figure 12.- Effect of planform shape on experimentally measured lateral-directional stability characteristics at M = 1.80.

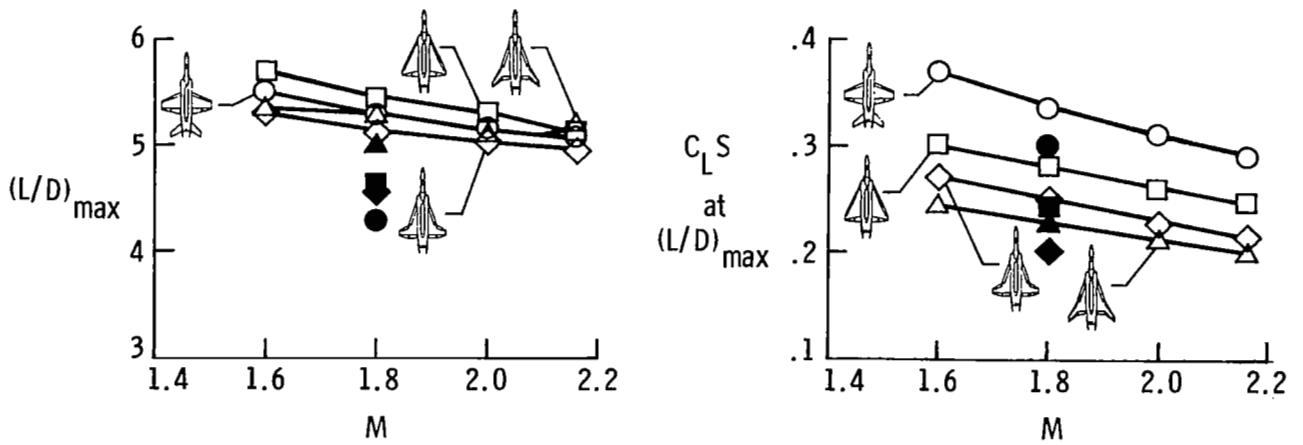


Figure 13.- Effect of planform shape and Mach number on maximum lift-drag ratio and value of lift at $(L/D)_{max}$. Solid symbols represent trim points.

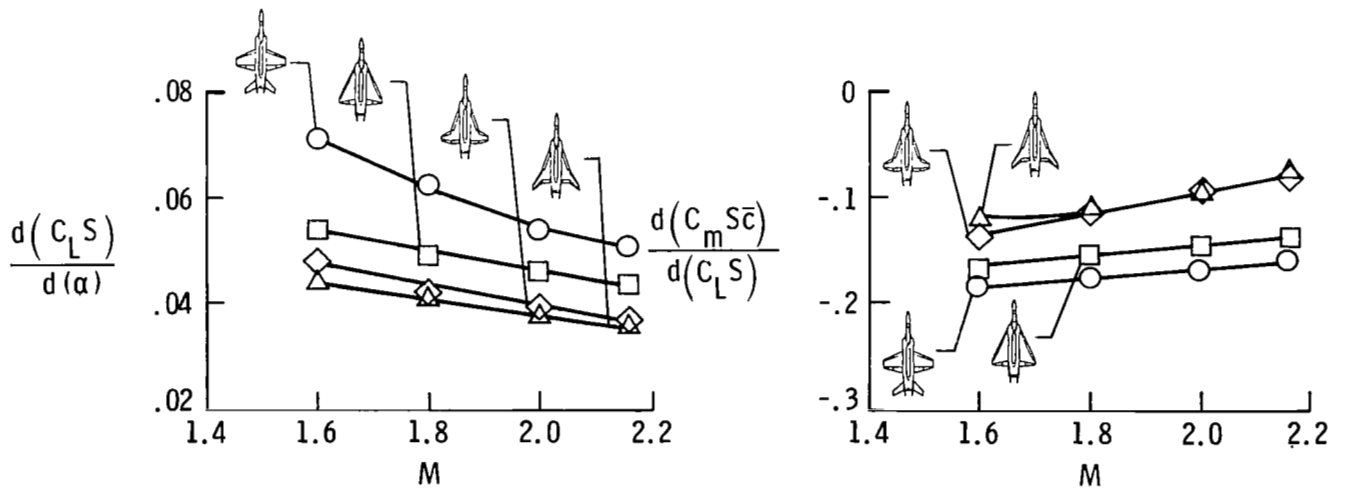


Figure 14.- Effect of planform shape and Mach number on lift-curve slope and longitudinal stability.

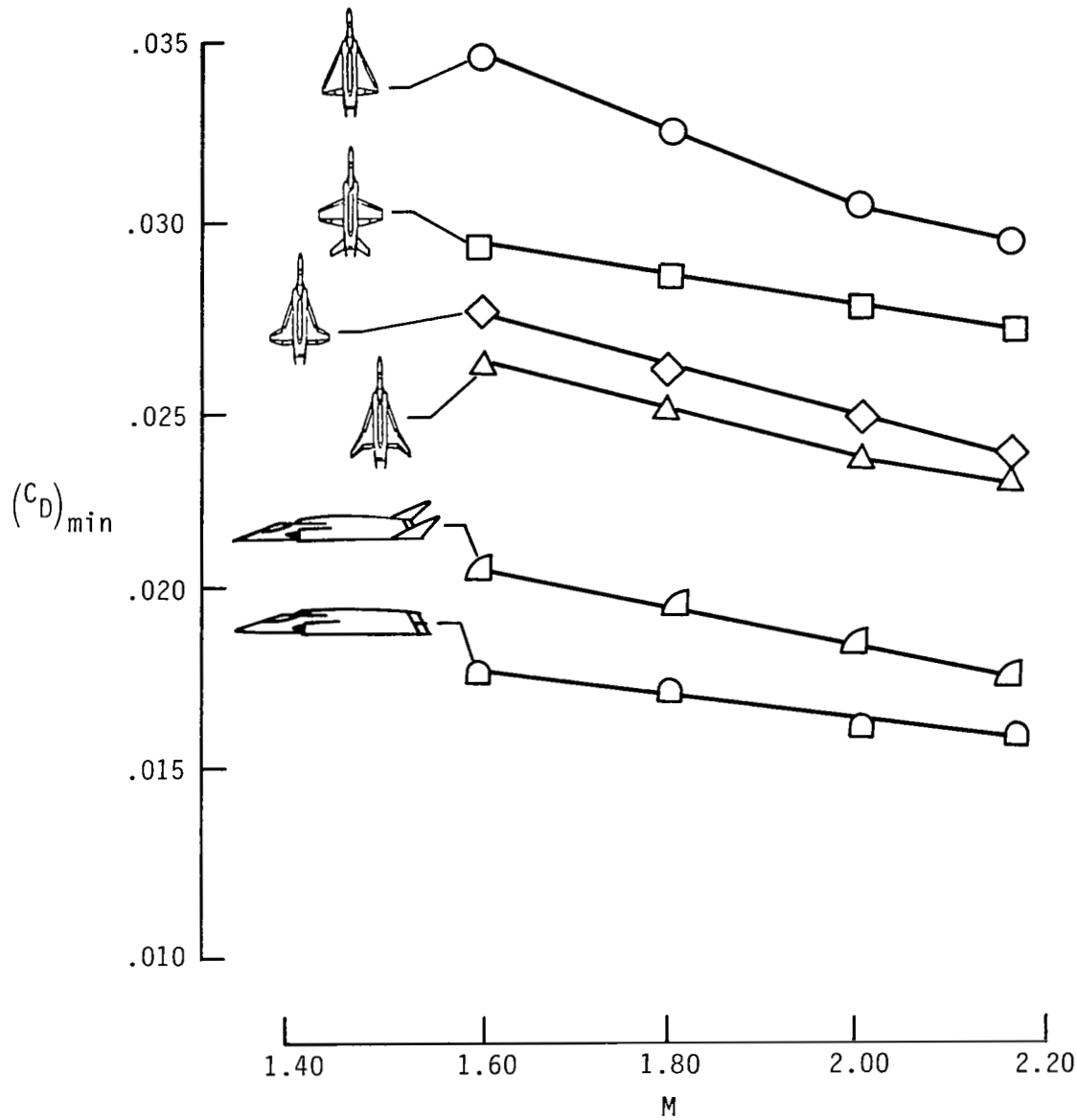


Figure 15.- Minimum-drag values for combinations of configuration components.

APPENDIX A

TEST DESCRIPTION

The wind-tunnel test program was conducted in test section 1 of the Langley Unitary Plan Wind Tunnel (ref. 9) at Mach numbers of 1.60, 1.80, 2.00, and 2.16. The tests were conducted under the following conditions:

Mach number	Stagnation pressure, lb/ft^2	Stagnation temperature, °F	Reynolds number, per foot
1.60	1079	125	2×10^6
1.80	1154	125	2×10^6
2.00	1253	125	2×10^6
2.16	1349	125	2×10^6

The dew point was maintained sufficiently low to prevent condensation effects in the tunnel. Strips of No. 60 sand grit to induce boundary-layer transition were applied at 0.2 in. (normal to leading edge) aft of the leading edge of all airfoil surfaces, 1.2 in. aft of the fuselage nose, 0.8 in. aft of the inlet compression spike, and 0.2 in. aft of the inlet-lip leading edge. The grit size was selected according to the method of reference 10 to ensure fully turbulent flow over the model and inside the inlet duct.

Wind-tunnel data were obtained with two separate entries. During the first tunnel entry, inlet internal-flow and base drag data were obtained for the isolated fuselage. External-flow force and moment data were collected during the second tunnel entry with the internal-flow measuring apparatus removed.

Internal-flow data were measured for the isolated fuselage with a pressure survey rake assembly which mounted to the left-side, aft-portion, upper surface of the wind-tunnel model. Base drag data were obtained with six pressure tubes that were an integral part of the duct-exit choke ring. Pressure tubing from the exit survey rake and the duct-exit choke ring was attached to an external pressure transducer scanning valve. Geometric details of the inlet and duct systems, a discussion of the internal-flow test, and a presentation of results are contained in appendix B.

The external-flow force and moment data were obtained at angles of attack from -4° to 20° and at angles of sideslip of 0° and 3°. The data were measured by means of a six-component, electrical, strain-gauge balance contained within the model and connected through a supporting sting to the permanent model-support system in the wind tunnel.

Balance chamber pressure was measured throughout the test with a pressure transducer mounted external to the model and connected to pressure tubing located in the balance cavity. Force and moment data were corrected to free-stream static pressure at the model base and balance chamber. Corrections were also made for internal-duct drag. All angles of attack were adjusted for tunnel flow misalignment and sting deflections.

APPENDIX A

Table AI contains a listing of the headings which appear in the tabulated data and their corresponding symbols. Table AII is an index to the data which are presented in table AIII.

APPENDIX A

TABLE AI.- TABULATED DATA SYMBOLS

Tabulated data heading	Definition
Both axes:	
ALPHA	α
BETA	β
CM	C_m
CY	C_Y
MACH	M
Body axis:	
CA	C_A
CAB	$C_{A,b}$
CAC	$C_{A,c}$
CAI	$C_{A,i}$
CA UNC	$C_{A,unc}$
CLB	C_l
CN	C_N
CNB	C_n
R/FT	R
Stability axis:	
CD	C_D
CDB	$C_{D,b}$
CDC	$C_{D,c}$
CDI	$C_{D,i}$
CD UNC	$C_{D,unc}$
CL	C_L
CLS	C_l
CNS	C_n
L/D	L/D

APPENDIX A

TABLE AII.- INDEX TO TABULATED DATA

Page	Run	Configuration	δ_{te}, deg		δ_h, deg	Mach number	β, deg
			In	Out			
37	45	$BVHW_1$	0	0	0	1.60	0
38	48		0	0	0	1.80	0
39	49		0	0	0	1.80	3
40	50		0	0	0	2.00	0
41	53		0	0	0	2.16	0
42	54		0	0	-10	1.60	0
43	55		0	0	-10	1.80	0
44	56		0	0	-10	2.00	0
45	57		0	0	-10	2.16	0
46	58		0	0	-20	1.60	0
47	59		0	0	-20	1.80	0
48	60		0	0	-20	2.00	0
49	61		0	0	-20	2.16	0
50	62	BVW_2	0	0		1.60	0
51	65		0	0		1.80	0
52	66		0	0		1.80	3
53	67		0	0		2.00	0
54	70		0	0		2.16	0
55	71		-5	-5		1.60	0
56	72		-5	-5		1.80	0
57	73		-5	-5		2.00	0
58	74		-5	-5		2.16	0
59	75		-10	-10		1.60	0
60	76		-10	-10		1.80	0
61	77		-10	-10		2.00	0
62	78		-10	-10		2.16	0
63	79	BVW_3	0	0		1.60	0
64	82		0	0		1.80	0
65	83		0	0		1.80	3
66	84		0	0		2.00	0
67	87		0	0		2.16	0
68	88		-10	0		1.60	0
69	89		-10	0		1.80	0
70	90		-10	0		2.00	0
71	91		-10	0		2.16	0
72	92		10	10		1.80	0
73	93		10	10		1.80	0
74	94		10	10		2.00	0
75	95		10	10		2.16	0
76	96		20	20		1.60	0
77	97		20	20		1.80	0
78	98		20	20		2.00	0
79	99		20	20		2.16	0
80	112	BVW_4	0	0		1.60	0
81	115		0	0		1.80	0
82	116		0	0		1.80	3
83	117		0	0		2.00	0
84	121		0	0		2.16	0
85	122		-10	0		1.60	0
86	123		-10	0		1.80	0
87	124		-10	0		2.00	0
88	125		-10	0		2.16	0
89	126		10	10		1.60	0
90	127		10	10		1.80	0
91	128		10	10		2.00	0
92	129		10	10		2.16	0
93	130		20	20		1.60	0
94	131		20	20		1.80	0
95	132		20	20		2.00	0
96	133		20	20		2.16	0
97	150	BV	0	0		1.60	0
98	153		0	0		1.80	0
99	154		0	0		2.00	0
100	157		0	0		2.16	0
101	158	B	0	0		1.60	0
102	159		0	0		1.80	0
103	160		0	0		2.00	0
104	161		0	0		2.16	0

TABLE AIII.- TABULATED FORCE DATA

UPWT PROJECT 1424 RUN 45 MACH 1.60

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.006	-.01	-4.27	-.3064	.0351	.0653	-.0006	-.0006	-.0002	.0028	.0011	.0017	.0411
2.005	-.02	-2.25	-.1551	.0345	.0372	-.0010	-.0005	-.0001	.0028	.0011	.0017	.0405
2.005	-.02	-1.33	-.0896	.0344	.0250	.0001	-.0003	.0002	.0029	.0011	.0017	.0405
2.003	-.02	-.38	-.0230	.0344	.0128	-.0015	-.0011	.0015	.0030	.0010	.0017	.0406
2.001	-.02	.73	.0579	.0345	-.0019	-.0017	-.0009	.0014	.0030	.0011	.0017	.0407
2.000	-.02	1.74	.1313	.0345	-.0150	-.0010	-.0009	.0015	.0031	.0010	.0017	.0407
2.000	-.02	3.66	.2718	.0343	-.0405	-.0009	-.0011	.0025	.0031	.0010	.0016	.0406
2.000	-.02	5.71	.4191	.0340	-.0667	-.0016	-.0011	.0026	.0031	.0010	.0017	.0403
2.000	-.03	7.70	.5592	.0336	-.0918	-.0011	-.0008	.0027	.0030	.0011	.0016	.0398
2.000	-.03	9.73	.7047	.0331	-.1172	-.0010	-.0007	.0030	.0029	.0012	.0016	.0391
2.002	-.03	11.74	.8425	.0326	-.1417	-.0012	-.0007	.0035	.0028	.0012	.0015	.0385
2.001	-.03	13.66	.9688	.0318	-.1631	-.0017	-.0009	.0044	.0028	.0012	.0015	.0377
2.001	-.03	15.81	1.1096	.0308	-.1876	-.0023	-.0008	.0047	.0027	.0012	.0015	.0367
2.001	-.04	17.73	1.2311	.0299	-.2094	-.0015	-.0008	.0057	.0026	.0006	.0015	.0357
1.996	-.02	-.30	-.0150	.0344	.0117	-.0011	-.0008	.0013	.0031	.0000	.0017	.0406

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-5.2474	-.01	-4.27	-.3027	.0577	.0653	-.0006	-.0006	-.0002	.0028	.0011	.0018	.0638
-3.7935	-.02	-2.25	-.1535	.0405	.0372	-.0010	-.0005	-.0001	.0028	.0011	.0017	.0465
-2.4334	-.02	-1.33	-.0887	.0365	.0250	.0002	-.0003	.0002	.0029	.0011	.0017	.0425
-.6567	-.02	-.38	-.0227	.0346	.0128	-.0014	-.0011	.0015	.0030	.0010	.0017	.0408
1.6277	-.02	.73	.0574	.0352	-.0019	-.0017	-.0009	.0014	.0030	.0011	.0017	.0415
3.3850	-.02	1.74	.1301	.0384	-.0150	-.0010	-.0009	.0015	.0031	.0010	.0017	.0447
5.2245	-.02	3.66	.2688	.0515	-.0405	-.0010	-.0010	.0025	.0031	.0010	.0018	.0578
5.4896	-.02	5.71	.4133	.0753	-.0667	-.0017	-.0009	.0026	.0031	.0010	.0019	.0818
5.0996	-.03	7.70	.5493	.1077	-.0918	-.0012	-.0006	.0027	.0030	.0011	.0021	.1143
4.5621	-.03	9.73	.6884	.1509	-.1172	-.0011	-.0006	.0030	.0028	.0011	.0023	.1576
4.0428	-.03	11.74	.8176	.2022	-.1417	-.0013	-.0004	.0035	.0027	.0012	.0027	.2092
3.6132	-.03	13.66	.9332	.2583	-.1631	-.0019	-.0005	.0044	.0027	.0012	.0030	.2655
3.2075	-.03	15.81	1.0585	.3300	-.1876	-.0024	-.0001	.0047	.0026	.0012	.0034	.3375
2.8990	-.04	17.73	1.1627	.4010	-.2094	-.0017	-.0003	.0057	.0025	.0005	.0037	.4089
-.4308	-.02	-.30	-.0148	.0345	.0117	-.0011	-.0008	.0013	.0031	.0000	.0017	.0407

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 48 MACH 1.80

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.003	-.02	-4.25	-.2670	.0333	.0539	.0002	-.0004	.0001	.0027	.0001	.0022	.0392
2.003	-.02	-2.22	-.1380	.0326	.0309	-.0000	-.0005	.0006	.0027	.0001	.0022	.0384
2.003	-.02	-1.29	-.0800	.0324	.0203	-.0003	-.0005	.0009	.0028	.0001	.0022	.0383
2.003	-.02	-.26	-.0154	.0324	.0093	-.0002	-.0005	.0005	.0028	.0001	.0022	.0384
2.003	-.02	.69	.0432	.0325	-.0009	-.0003	-.0005	.0008	.0028	.0001	.0022	.0384
2.003	-.02	1.74	.1114	.0325	-.0127	-.0005	-.0007	.0012	.0029	.0001	.0022	.0385
2.003	-.02	3.70	.2334	.0322	-.0339	-.0007	-.0008	.0014	.0029	.0001	.0022	.0382
2.003	-.02	5.69	.3611	.0320	-.0566	-.0010	-.0009	.0016	.0028	.0002	.0022	.0379
2.003	-.02	7.68	.4896	.0320	-.0797	-.0016	-.0009	.0019	.0027	.0002	.0021	.0378
2.003	-.02	9.67	.6160	.0322	-.1033	-.0013	-.0004	.0017	.0027	.0003	.0020	.0378
2.003	-.03	11.71	.7420	.0322	-.1271	-.0015	-.0002	.0020	.0026	.0004	.0019	.0376
2.002	-.02	13.69	.8611	.0320	-.1500	-.0013	.0001	.0012	.0025	.0004	.0018	.0373
2.002	-.03	15.70	.9808	.0319	-.1730	-.0020	-.0005	.0022	.0024	.0004	.0017	.0370
2.001	-.03	17.70	1.0956	.0315	-.1934	-.0018	-.0007	.0029	.0022	.0004	.0016	.0363
2.003	-.03	19.66	1.2105	.0302	-.2133	-.0017	-.0011	.0038	.0021	.0003	.0016	.0348
2.004	-.02	-.28	-.0154	.0325	.0094	-.0005	-.0005	.0006	.0029	-.0003	.0022	.0385

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.9850	-.02	-4.25	-.2635	.0529	.0539	.0002	-.0004	.0001	.0027	.0001	.0024	.0589
-3.5977	-.02	-2.22	-.1364	.0379	.0309	-.0000	-.0005	.0006	.0027	.0001	.0023	.0438
-2.3185	-.02	-1.29	-.0792	.0342	.0203	-.0003	-.0005	.0009	.0028	.0001	.0022	.0401
-.4686	-.02	-.26	-.0152	.0325	.0093	-.0002	-.0005	.0005	.0028	.0001	.0022	.0385
1.2967	-.02	.69	.0427	.0330	-.0009	-.0003	-.0005	.0008	.0028	.0001	.0022	.0389
3.0807	-.02	1.74	.1103	.0358	-.0127	-.0005	-.0007	.0012	.0029	.0001	.0023	.0419
4.9043	-.02	3.70	.2306	.0470	-.0339	-.0008	-.0008	.0014	.0029	.0001	.0023	.0532
5.2818	-.02	5.69	.3557	.0673	-.0566	-.0011	-.0008	.0016	.0028	.0002	.0025	.0736
4.9714	-.02	7.68	.4804	.0966	-.0797	-.0017	-.0007	.0019	.0027	.0002	.0027	.1029
4.4748	-.02	9.67	.6012	.1344	-.1033	-.0013	-.0002	.0017	.0026	.0003	.0029	.1408
3.9769	-.03	11.71	.7193	.1809	-.1271	-.0015	.0001	.0020	.0025	.0004	.0031	.1874
3.5516	-.02	13.69	.8282	.2332	-.1500	-.0012	.0004	.0012	.0024	.0004	.0034	.2399
3.1780	-.03	15.70	.9347	.2941	-.1730	-.0021	.0001	.0022	.0023	.0004	.0037	.3011
2.8652	-.03	17.70	1.0332	.3606	-.1934	-.0020	-.0001	.0029	.0021	.0004	.0040	.3677
2.6086	-.03	19.66	1.1288	.4327	-.2133	-.0020	-.0005	.0038	.0020	.0003	.0043	.4400
-.4669	-.02	-.28	-.0152	.0325	.0094	-.0005	-.0005	.0006	.0029	-.0003	.0022	.0386

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 49 MACH 1.80

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.003	5.02	-4.34	-.2712	.0332	.0543	-.0048	.0163	-.0434	.0026	-.0002	.0022	.0390
2.003	5.02	-2.29	-.1421	.0327	.0316	-.0046	.0145	-.0408	.0027	-.0002	.0022	.0385
2.003	5.02	-1.29	-.0806	.0325	.0205	-.0045	.0136	-.0400	.0027	-.0001	.0022	.0384
2.003	5.02	-.27	-.0172	.0324	.0097	-.0040	.0128	-.0395	.0028	-.0001	.0022	.0384
2.003	5.03	.66	.0393	.0324	-.0001	-.0038	.0117	-.0384	.0028	-.0002	.0022	.0383
2.003	5.03	1.73	.1059	.0324	-.0119	-.0035	.0107	-.0373	.0029	-.0001	.0022	.0385
2.003	5.04	3.73	.2342	.0324	-.0347	-.0030	.0091	-.0372	.0030	-.0001	.0022	.0386
2.002	5.05	5.80	.3620	.0321	-.0579	-.0030	.0066	-.0360	.0030	.0000	.0022	.0383
2.003	5.06	7.76	.4879	.0323	-.0808	-.0038	.0041	-.0348	.0029	.0000	.0021	.0383
2.003	5.07	9.73	.6125	.0321	-.1035	-.0061	.0011	-.0329	.0028	.0001	.0020	.0379
2.003	5.09	11.72	.7349	.0320	-.1263	-.0084	-.0034	-.0288	.0028	.0002	.0019	.0377
2.004	5.10	13.71	.8545	.0316	-.1490	-.0107	-.0084	-.0245	.0027	.0003	.0018	.0373
2.002	5.13	15.74	.9766	.0313	-.1724	-.0108	-.0153	-.0203	.0025	.0003	.0017	.0366
2.003	5.16	17.72	1.0921	.0303	-.1959	-.0114	-.0201	-.0175	.0025	.0004	.0016	.0354
2.003	5.17	19.69	1.2056	.0292	-.2169	-.0129	-.0220	-.0181	.0025	.0003	.0016	.0343
2.002	5.02	-.29	-.0196	.0324	.0102	-.0039	.0127	-.0392	.0028	-.0002	.0022	.0384

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-5.0086	5.02	-4.34	-.2676	.0534	.0543	-.0060	.0159	-.0434	.0025	-.0002	.0024	.0594
-3.6666	5.02	-2.29	-.1405	.0383	.0316	-.0052	.0143	-.0408	.0027	-.0002	.0023	.0441
-2.3259	5.02	-1.29	-.0797	.0343	.0205	-.0048	.0135	-.0400	.0027	-.0001	.0022	.0402
-.5247	5.02	-.27	-.0170	.0325	.0097	-.0041	.0128	-.0395	.0028	-.0001	.0022	.0384
1.1864	5.03	.66	.0389	.0328	-.0001	-.0037	.0118	-.0384	.0028	-.0002	.0022	.0388
2.9436	5.03	1.73	.1048	.0356	-.0119	-.0032	.0108	-.0373	.0029	-.0001	.0023	.0417
4.8770	5.04	3.73	.2313	.0474	-.0347	-.0025	.0092	-.0372	.0030	-.0001	.0023	.0537
5.2245	5.05	5.80	.3564	.0682	-.0579	-.0023	.0068	-.0360	.0029	.0000	.0025	.0746
4.9152	5.06	7.76	.4785	.0974	-.0808	-.0032	.0046	-.0348	.0029	.0000	.0027	.1038
4.4486	5.07	9.73	.5975	.1343	-.1035	-.0058	.0021	-.0329	.0028	.0001	.0029	.1409
3.9699	5.09	11.72	.7123	.1794	-.1263	-.0089	-.0016	-.0288	.0027	.0002	.0031	.1862
3.5454	5.10	13.71	.8217	.2318	-.1490	-.0124	-.0057	-.0245	.0026	.0003	.0034	.2388
3.1750	5.13	15.74	.9305	.2931	-.1724	-.0146	-.0118	-.0203	.0024	.0003	.0037	.3002
2.8703	5.16	17.72	1.0300	.3589	-.1959	-.0169	-.0157	-.0175	.0024	.0003	.0040	.3662
2.6093	5.17	19.69	1.1242	.4308	-.2169	-.0196	-.0164	-.0181	.0024	.0003	.0043	.4385
-.5983	5.02	-.29	-.0194	.0325	.0102	-.0039	.0127	-.0392	.0028	-.0002	.0022	.0385

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 50 MACH 2.00

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.005	-.02	-4.48	-.2488	.0315	.0471	-.0004	-.0001	-.0006	.0022	-.0003	.0029	.0373
2.010	-.02	-2.48	-.1341	.0308	.0276	.0003	-.0001	-.0002	.0021	-.0002	.0029	.0365
2.010	-.02	-1.42	-.0746	.0306	.0173	-.0004	-.0004	.0004	.0021	-.0001	.0029	.0363
2.009	-.02	-.50	-.0247	.0306	.0089	-.0002	-.0002	.0004	.0022	-.0001	.0029	.0363
2.008	-.02	.58	.0372	.0304	-.0011	-.0005	-.0003	.0008	.0022	-.0001	.0029	.0362
1.992	-.02	1.55	.0852	.0303	-.0091	-.0005	-.0001	.0007	.0022	-.0001	.0029	.0360
2.002	-.02	3.58	.2008	.0302	-.0292	-.0009	-.0003	.0012	.0021	-.0001	.0029	.0359
2.010	-.02	5.57	.3150	.0299	-.0493	-.0007	-.0004	.0014	.0021	-.0001	.0029	.0355
2.005	-.02	7.53	.4284	.0300	-.0698	-.0004	-.0006	.0015	.0021	-.0000	.0028	.0354
2.004	-.02	9.57	.5483	.0301	-.0923	-.0005	-.0002	.0016	.0021	.0001	.0027	.0354
2.004	-.02	11.55	.6618	.0305	-.1141	-.0008	-.0001	.0014	.0020	.0002	.0025	.0357
2.004	-.03	13.60	.7793	.0311	-.1366	-.0011	-.0002	.0018	.0019	.0002	.0024	.0360
2.004	-.03	15.57	.8866	.0314	-.1561	-.0007	-.0013	.0036	.0017	.0002	.0022	.0360
2.004	-.03	17.56	.9961	.0310	-.1773	-.0013	-.0013	.0043	.0016	.0001	.0021	.0352
2.004	-.03	19.56	1.1079	.0297	-.1995	-.0016	-.0016	.0043	.0014	.0000	.0019	.0336
2.004	-.02	-.46	-.0259	.0307	.0082	-.0005	-.0001	.0002	.0021	-.0001	.0029	.0364

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.8391	-.02	-4.48	-.2451	.0507	.0471	-.0004	-.0001	-.0006	.0022	-.0003	.0031	.0566
-3.6259	-.02	-2.48	-.1324	.0365	.0276	.0003	-.0001	-.0002	.0021	-.0002	.0029	.0423
-2.2765	-.02	-1.42	-.0737	.0324	.0173	-.0004	-.0004	.0004	.0021	-.0001	.0029	.0381
-.7936	-.02	-.50	-.0244	.0308	.0089	-.0002	-.0002	.0004	.0022	-.0001	.0029	.0365
1.1977	-.02	.58	.0368	.0308	-.0011	-.0005	-.0003	.0008	.0022	-.0001	.0029	.0365
2.5876	-.02	1.55	.0842	.0325	-.0091	-.0005	-.0001	.0007	.0022	-.0001	.0029	.0383
4.6555	-.02	3.58	.1982	.0426	-.0292	-.0009	-.0003	.0012	.0021	-.0001	.0030	.0484
5.1648	-.02	5.57	.3101	.0600	-.0493	-.0007	-.0003	.0014	.0021	-.0001	.0032	.0659
4.9246	-.02	7.53	.4201	.0853	-.0698	-.0005	-.0005	.0015	.0021	-.0000	.0033	.0913
4.4586	-.02	9.57	.5348	.1199	-.0923	-.0005	-.0001	.0016	.0021	.0001	.0035	.1261
3.9813	-.02	11.55	.6413	.1611	-.1141	-.0008	.0001	.0014	.0020	.0002	.0038	.1674
3.5369	-.03	13.60	.7490	.2118	-.1366	-.0011	.0001	.0018	.0018	.0002	.0040	.2182
3.1736	-.03	15.57	.8444	.2661	-.1561	-.0010	-.0010	.0036	.0017	.0002	.0043	.2726
2.8668	-.03	17.56	.9390	.3276	-.1773	-.0016	-.0009	.0043	.0015	.0001	.0045	.3342
2.6079	-.03	19.56	1.0327	.3960	-.1995	-.0021	-.0010	.0043	.0013	.0000	.0048	.4027
-.8302	-.02	-.46	-.0256	.0309	.0082	-.0005	-.0001	.0002	.0021	-.0001	.0029	.0366

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 53 MACH 2.16

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.001	-.01	-4.33	-.2255	.0305	.0403	.0001	-.0001	-.0012	.0018	-.0000	.0035	.0363
2.001	-.01	-2.37	-.1219	.0297	.0239	-.0002	-.0003	-.0008	.0017	.0000	.0035	.0355
2.001	-.02	-1.35	-.0689	.0295	.0154	-.0003	-.0003	-.0003	.0017	-.0000	.0036	.0353
2.002	-.02	-.34	-.0171	.0295	.0073	-.0002	-.0002	-.0004	.0017	-.0000	.0036	.0353
2.001	-.02	.70	.0361	.0294	-.0007	-.0003	-.0001	-.0003	.0017	-.0001	.0036	.0352
2.001	-.02	1.66	.0852	.0292	-.0086	-.0005	-.0001	-.0001	.0017	-.0001	.0036	.0350
2.001	-.02	3.68	.1923	.0288	-.0264	-.0003	-.0002	-.0000	.0017	-.0000	.0035	.0344
2.001	-.02	5.68	.2969	.0287	-.0442	-.0005	-.0002	.0002	.0016	.0001	.0034	.0341
2.001	-.02	7.70	.4051	.0284	-.0633	-.0004	-.0002	.0002	.0016	.0001	.0034	.0338
2.002	-.02	9.67	.5112	.0284	-.0835	-.0003	-.0003	.0000	.0016	.0001	.0033	.0337
2.001	-.02	11.65	.6188	.0288	-.1041	-.0004	-.0001	.0002	.0015	.0002	.0031	.0338
2.002	-.02	13.72	.7300	.0296	-.1240	-.0006	-.0011	.0016	.0014	.0002	.0029	.0344
2.001	-.02	15.69	.8360	.0299	-.1439	-.0006	-.0010	.0019	.0013	.0001	.0027	.0344
2.002	-.02	17.68	.9438	.0293	-.1661	-.0011	-.0008	.0019	.0011	.0000	.0025	.0335
2.001	-.02	19.61	1.0503	.0283	-.1885	-.0012	-.0002	.0015	.0010	-.0001	.0023	.0321
2.001	-.02	-.41	-.0190	.0296	.0076	-.0005	-.0004	.0001	.0017	-.0001	.0036	.0354

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.7003	-.01	-4.33	-.2221	.0472	.0403	.0002	-.0001	-.0012	.0018	-.0000	.0037	.0533
-3.4682	-.01	-2.37	-.1203	.0347	.0239	-.0002	-.0003	-.0008	.0017	.0000	.0036	.0405
-2.1857	-.02	-1.35	-.0680	.0311	.0154	-.0003	-.0003	-.0003	.0017	-.0000	.0036	.0369
-.5699	-.02	-.34	-.0169	.0296	.0073	-.0002	-.0002	-.0004	.0017	-.0000	.0036	.0354
1.1944	-.02	.70	.0356	.0298	-.0007	-.0003	-.0001	-.0003	.0017	-.0001	.0036	.0356
2.6570	-.02	1.66	.0841	.0316	-.0086	-.0005	-.0001	-.0001	.0017	-.0001	.0036	.0374
4.6315	-.02	3.68	.1896	.0409	-.0264	-.0004	-.0002	-.0000	.0017	-.0000	.0037	.0467
5.0698	-.02	5.68	.2919	.0576	-.0442	-.0005	-.0001	.0002	.0016	.0001	.0037	.0633
4.8492	-.02	7.70	.3968	.0818	-.0633	-.0004	-.0002	.0002	.0016	.0001	.0040	.0878
4.4122	-.02	9.67	.4981	.1129	-.0835	-.0003	-.0003	.0000	.0016	.0001	.0042	.1191
3.9468	-.02	11.65	.5990	.1518	-.1041	-.0004	.0000	.0002	.0015	.0002	.0044	.1581
3.5002	-.02	13.72	.7007	.2002	-.1240	-.0008	-.0009	.0016	.0013	.0002	.0046	.2066
3.1486	-.02	15.69	.7954	.2526	-.1439	-.0008	-.0008	.0019	.0013	.0001	.0048	.2591
2.8491	-.02	17.68	.8887	.3119	-.1661	-.0012	-.0004	.0019	.0011	.0000	.0050	.3185
2.6011	-.02	19.61	.9783	.3761	-.1885	-.0012	.0002	.0015	.0010	-.0001	.0052	.3828
-.6297	-.02	-.41	-.0187	.0297	.0076	-.0005	-.0004	.0001	.0017	-.0001	.0036	.0355

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 54 MACH 1.60

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.000	-.02	-4.27	-.3759	.0511	.1325	-.0005	-.0002	.0002	.0036	.0016	.0017	.0579
2.002	-.02	-2.27	-.2313	.0487	.1068	-.0005	-.0003	.0006	.0036	.0016	.0017	.0555
2.003	-.02	-1.21	-.1525	.0476	.0933	.0000	-.0004	.0010	.0037	.0016	.0017	.0544
2.002	-.02	-.34	-.0953	.0467	.0826	-.0008	-.0006	.0009	.0038	.0016	.0017	.0537
2.002	-.02	.69	-.0209	.0458	.0690	-.0011	-.0009	.0017	.0038	.0016	.0017	.0527
2.003	-.02	1.74	.0554	.0448	.0557	-.0007	-.0007	.0018	.0038	.0016	.0017	.0517
2.002	-.02	3.71	.1993	.0428	.0304	-.0006	-.0004	.0018	.0038	.0017	.0016	.0498
2.002	-.03	5.69	.3420	.0407	.0054	-.0006	-.0005	.0027	.0038	.0017	.0017	.0476
2.002	-.03	7.70	.4862	.0362	-.0203	-.0008	-.0001	.0025	.0037	.0017	.0016	.0450
2.003	-.03	9.71	.6252	.0356	-.0449	-.0005	.0002	.0026	.0036	.0017	.0016	.0423
2.002	-.03	11.75	.7668	.0328	-.0707	-.0010	-.0001	.0036	.0035	.0016	.0015	.0394
2.003	-.03	13.76	.9019	.0296	-.0952	-.0010	.0000	.0022	.0034	.0016	.0015	.0361
2.003	-.03	15.74	1.0352	.0258	-.1221	-.0007	.0002	.0028	.0034	.0017	.0015	.0323
2.004	-.04	17.68	1.1652	.0218	-.1489	-.0015	.0005	.0030	.0033	.0018	.0015	.0283
2.003	-.04	19.66	1.2968	.0186	-.1734	-.0019	.0004	.0039	.0034	.0018	.0015	.0252
2.002	-.02	-.33	-.0920	.0466	.0821	-.0001	-.0002	-.0003	.0037	.0016	.0017	.0535

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.7035	-.02	-4.27	-.3708	.0786	.1325	-.0005	-.0002	.0002	.0036	.0016	.0018	.0857
-3.9650	-.02	-2.27	-.2291	.0578	.1068	-.0005	-.0003	.0006	.0036	.0016	.0017	.0646
-2.9829	-.02	-1.21	-.1514	.0508	.0933	.0000	-.0004	.0010	.0037	.0016	.0017	.0576
-2.0100	-.02	-.34	-.0950	.0473	.0826	-.0008	-.0006	.0009	.0038	.0016	.0017	.0542
-.4728	-.02	.69	-.0215	.0455	.0690	-.0011	-.0008	.0017	.0038	.0016	.0017	.0524
1.1628	-.02	1.74	.0539	.0464	.0557	-.0007	-.0006	.0018	.0038	.0016	.0017	.0534
3.5278	-.02	3.71	.1959	.0555	.0304	-.0006	-.0004	.0018	.0038	.0017	.0018	.0626
4.5334	-.03	5.69	.3359	.0741	.0054	-.0007	-.0004	.0027	.0037	.0017	.0019	.0813
4.6483	-.03	7.70	.4763	.1025	-.0203	-.0008	.0000	.0025	.0037	.0016	.0021	.1098
4.3636	-.03	9.71	.6097	.1397	-.0449	-.0005	.0002	.0026	.0036	.0016	.0023	.1472
3.9721	-.03	11.75	.7434	.1872	-.0707	-.0010	.0001	.0036	.0034	.0016	.0027	.1947
3.5930	-.03	13.76	.8683	.2417	-.0952	-.0009	.0003	.0022	.0033	.0016	.0030	.2495
3.2549	-.03	15.74	.9886	.3037	-.1221	-.0007	.0004	.0028	.0033	.0016	.0033	.3119
2.9613	-.04	17.68	1.1026	.3723	-.1489	-.0012	.0009	.0030	.0031	.0017	.0037	.3808
2.6915	-.04	19.66	1.2140	.4510	-.1734	-.0017	.0010	.0039	.0032	.0017	.0041	.4599
-1.9459	-.02	-.33	-.0917	.0471	.0821	-.0001	-.0002	-.0003	.0037	.0016	.0017	.0541

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 55 MACH 1.80

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.003	.02	-4.28	-.3259	.0482	.1121	.0001	-.0003	.0008	.0026	.0010	.0022	.0540
2.002	.02	-2.26	-.1993	.0461	.0909	-.0001	-.0005	.0009	.0026	.0010	.0022	.0518
2.002	.02	-1.27	-.1387	.0451	.0809	.0002	-.0005	.0011	.0027	.0010	.0022	.0509
2.001	.02	-.23	-.0737	.0440	.0695	-.0003	-.0005	.0014	.0027	.0010	.0022	.0499
2.003	.02	.67	-.0186	.0433	.0599	-.0002	-.0005	.0013	.0027	.0010	.0022	.0492
2.002	.02	1.70	.0452	.0423	.0490	-.0004	-.0007	.0016	.0027	.0010	.0022	.0482
2.003	.02	3.73	.1735	.0404	.0276	-.0005	-.0005	.0017	.0027	.0010	.0022	.0463
2.002	.01	5.72	.2995	.0383	.0058	-.0004	-.0005	.0020	.0027	.0009	.0022	.0442
2.002	.01	7.74	.4284	.0364	-.0172	-.0007	-.0006	.0028	.0026	.0010	.0021	.0420
2.003	.01	9.74	.5557	.0346	-.0411	-.0009	-.0002	.0028	.0026	.0010	.0020	.0401
2.003	.01	11.82	.6870	.0322	-.0672	-.0011	.0002	.0024	.0025	.0010	.0019	.0376
2.003	.01	13.72	.8046	.0296	-.0919	-.0017	.0003	.0026	.0023	.0010	.0018	.0347
2.002	.01	15.71	.9287	.0268	-.1187	-.0016	-.0002	.0028	.0023	.0011	.0017	.0318
2.002	.01	17.74	1.0501	.0244	-.1424	-.0018	-.0004	.0039	.0023	.0011	.0016	.0293
2.003	.01	19.75	1.1679	.0215	-.1642	-.0010	-.0008	.0044	.0022	.0012	.0016	.0263
2.004	.02	-.29	-.0757	.0441	.0702	-.0003	-.0003	.0003	.0027	.0010	.0022	.0500

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.4469	.02	-4.28	-.3210	.0722	.1121	.0002	-.0003	.0008	.0026	.0010	.0024	.0782
-3.6599	.02	-2.26	-.1971	.0539	.0909	-.0000	-.0005	.0009	.0026	.0010	.0023	.0596
-2.8571	.02	-1.27	-.1376	.0461	.0809	.0002	-.0005	.0011	.0027	.0010	.0022	.0540
-1.6585	.02	-.23	-.0735	.0443	.0695	-.0003	-.0005	.0014	.0027	.0010	.0022	.0502
-.4451	.02	.67	-.0192	.0431	.0599	-.0002	-.0005	.0013	.0027	.0010	.0022	.0489
1.0043	.02	1.70	.0438	.0436	.0490	-.0004	-.0006	.0016	.0027	.0010	.0022	.0495
3.3085	.02	3.73	.1702	.0515	.0276	-.0005	-.0005	.0017	.0027	.0010	.0023	.0575
4.3383	.01	5.72	.2937	.0677	.0058	-.0005	-.0005	.0020	.0026	.0009	.0025	.0738
4.4995	.01	7.74	.4190	.0931	-.0172	-.0008	-.0005	.0028	.0026	.0010	.0027	.0993
4.2526	.01	9.74	.5411	.1272	-.0411	-.0009	-.0001	.0028	.0025	.0010	.0029	.1336
3.8888	.01	11.82	.6651	.1710	-.0672	-.0010	.0004	.0024	.0024	.0010	.0031	.1775
3.5508	.01	13.72	.7738	.2179	-.0919	-.0015	.0007	.0026	.0023	.0010	.0034	.2246
3.2183	.01	15.71	.8858	.2753	-.1187	-.0016	.0003	.0028	.0022	.0010	.0037	.2821
2.9109	.01	17.74	.9917	.3407	-.1424	-.0019	.0001	.0039	.0022	.0011	.0040	.3479
2.6472	.01	19.75	1.0908	.4121	-.1642	-.0012	-.0005	.0044	.0021	.0011	.0044	.4195
-1.6960	.02	-.29	-.0755	.0445	.0702	-.0003	-.0003	.0003	.0027	.0010	.0022	.0504

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 56 MACH 2.00

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.002	.02	-4.51	-.3094	.0453	.0981	.0004	.0003	-.0003	.0020	.0007	.0029	.0508
2.002	.02	-2.42	-.1909	.0434	.0793	.0007	.0006	-.0006	.0019	.0007	.0029	.0488
2.002	.02	-1.44	-.1366	.0426	.0709	.0003	.0005	-.0006	.0019	.0007	.0029	.0481
2.002	.02	-.39	-.0801	.0416	.0617	.0001	.0003	-.0000	.0019	.0007	.0029	.0472
2.002	.02	.53	-.0271	.0407	.0527	.0000	.0004	-.0001	.0019	.0007	.0029	.0462
2.002	.02	1.57	.0307	.0399	.0434	-.0003	.0002	.0005	.0019	.0007	.0029	.0454
2.002	.01	3.56	.1421	.0379	.0257	-.0001	.0005	.0007	.0019	.0007	.0029	.0434
2.002	.01	5.57	.2572	.0361	.0068	-.0003	.0002	.0015	.0018	.0006	.0029	.0414
2.002	.01	7.61	.3761	.0342	-.0145	.0004	-.0000	.0015	.0018	.0007	.0028	.0394
2.001	.01	9.53	.4895	.0324	-.0360	-.0003	.0001	.0018	.0018	.0007	.0027	.0374
2.001	.01	11.52	.6053	.0306	-.0593	-.0004	.0004	.0016	.0017	.0007	.0025	.0355
2.002	.01	13.57	.7243	.0287	-.0841	-.0013	.0002	.0023	.0016	.0007	.0024	.0332
2.002	.01	15.59	.8383	.0266	-.1075	-.0015	-.0006	.0035	.0015	.0008	.0022	.0311
2.002	.01	17.62	.9515	.0246	-.1300	-.0010	-.0008	.0044	.0014	.0008	.0021	.0288
2.001	.01	19.51	1.0574	.0217	-.1523	-.0013	-.0011	.0042	.0013	.0007	.0019	.0256
2.001	.02	-.43	-.0803	.0416	.0619	.0007	.0004	-.0004	.0019	.0007	.0029	.0472

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.3971	.02	-4.51	-.3044	.0692	.0981	.0004	.0003	-.0003	.0020	.0007	.0031	.0750
-3.6746	.02	-2.42	-.1887	.0513	.0793	.0007	.0006	-.0006	.0019	.0007	.0029	.0569
-2.9436	.02	-1.44	-.1353	.0460	.0709	.0003	.0005	-.0006	.0019	.0007	.0029	.0515
-1.8910	.02	-.39	-.0798	.0422	.0617	.0001	.0003	-.0000	.0019	.0007	.0029	.0477
-.6806	.02	.53	-.0276	.0405	.0527	.0000	.0004	-.0001	.0019	.0007	.0029	.0460
.7240	.02	1.57	.0295	.0407	.0434	-.0003	.0002	.0005	.0019	.0007	.0029	.0462
2.9866	.01	3.56	.1391	.0466	.0257	-.0000	.0005	.0007	.0019	.0007	.0030	.0522
4.1631	.01	5.57	.2520	.0605	.0068	-.0003	.0002	.0015	.0018	.0006	.0032	.0662
4.4189	.01	7.61	.3675	.0832	-.0145	.0004	-.0001	.0015	.0018	.0007	.0034	.0889
4.2526	.01	9.53	.4765	.1120	-.0360	-.0003	.0001	.0018	.0018	.0007	.0035	.1179
3.9160	.01	11.52	.5860	.1496	-.0593	-.0003	.0005	.0016	.0017	.0007	.0038	.1557
3.5509	.01	13.57	.6963	.1961	-.0841	-.0013	.0005	.0023	.0015	.0007	.0040	.2022
3.2095	.01	15.59	.7991	.2490	-.1075	-.0016	-.0002	.0035	.0014	.0007	.0043	.2552
2.9059	.01	17.62	.8981	.3091	-.1300	-.0012	-.0004	.0044	.0013	.0007	.0045	.3155
2.6666	.01	19.51	.9882	.3706	-.1523	-.0016	-.0006	.0042	.0012	.0007	.0048	.3772
-1.8928	.02	-.43	-.0800	.0422	.0619	.0007	.0004	-.0004	.0019	.0007	.0029	.0478

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 57 MACH 2.16

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.001	.02	-4.36	-.2737	.0428	.0877	.0001	-.0002	-.0000	.0015	.0006	.0035	.0483
1.999	.02	-2.35	-.1696	.0410	.0724	.0003	-.0001	-.0004	.0014	.0005	.0035	.0464
1.999	.02	-1.36	-.1195	.0401	.0652	.0000	-.0001	.0001	.0014	.0005	.0036	.0456
2.001	.02	-.38	-.0689	.0393	.0572	.0000	-.0001	-.0001	.0014	.0005	.0036	.0448
2.000	.02	.68	-.0163	.0385	.0490	.0001	-.0001	.0003	.0014	.0005	.0036	.0439
2.000	.02	1.63	.0321	.0376	.0417	.0001	-.0000	.0004	.0014	.0005	.0036	.0430
2.000	.02	3.66	.1377	.0357	.0252	-.0000	.0002	.0007	.0013	.0004	.0035	.0410
2.000	.01	5.71	.2460	.0338	.0074	-.0002	.0000	.0012	.0013	.0004	.0034	.0389
2.001	.01	7.73	.3537	.0317	-.0119	-.0001	.0001	.0013	.0012	.0005	.0034	.0368
2.000	.02	9.65	.4579	.0298	-.0324	-.0002	-.0003	.0014	.0012	.0005	.0033	.0347
2.001	.01	11.62	.5676	.0279	-.0549	-.0000	.0001	.0014	.0012	.0005	.0031	.0326
2.001	.01	13.62	.6776	.0266	-.0775	-.0001	-.0008	.0026	.0010	.0005	.0029	.0310
2.000	.01	15.60	.7865	.0253	-.0986	-.0004	-.0008	.0032	.0009	.0005	.0027	.0295
2.000	.01	17.65	.8981	.0231	-.1219	-.0006	-.0009	.0034	.0008	.0005	.0025	.0270
2.002	.01	19.67	1.0092	.0201	-.1461	-.0009	-.0004	.0033	.0008	.0005	.0023	.0237
1.999	.02	-.34	-.0655	.0393	.0567	.0004	-.0001	-.0000	.0014	.0005	.0036	.0448

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.2553	.02	-4.36	-.2691	.0632	.0877	.0001	-.0002	-.0000	.0015	.0005	.0037	.0689
-3.5033	.02	-2.35	-.1675	.0478	.0724	.0003	-.0001	-.0004	.0014	.0005	.0036	.0533
-2.7556	.02	-1.36	-.1183	.0429	.0652	.0000	-.0001	.0001	.0014	.0005	.0036	.0484
-1.7257	.02	-.38	-.0686	.0397	.0572	.0000	-.0001	-.0001	.0014	.0005	.0036	.0452
-.4392	.02	.68	-.0168	.0383	.0490	.0001	-.0001	.0003	.0014	.0005	.0036	.0437
.8019	.02	1.63	.0308	.0384	.0417	.0001	-.0000	.0004	.0014	.0005	.0036	.0439
3.0420	.02	3.66	.1347	.0443	.0252	.0000	.0002	.0007	.0013	.0004	.0037	.0497
4.1664	.01	5.71	.2407	.0578	.0074	-.0002	.0001	.0012	.0013	.0004	.0037	.0632
4.4051	.01	7.73	.3453	.0784	-.0119	-.0001	.0001	.0013	.0012	.0005	.0040	.0840
4.2353	.02	9.65	.4453	.1052	-.0324	-.0003	-.0003	.0014	.0012	.0005	.0042	.1109
3.9130	.01	11.62	.5491	.1403	-.0549	-.0000	.0001	.0014	.0011	.0005	.0044	.1463
3.5458	.01	13.62	.6510	.1836	-.0775	-.0003	-.0008	.0026	.0010	.0005	.0046	.1896
3.2065	.01	15.60	.7493	.2337	-.0986	-.0006	-.0006	.0032	.0009	.0005	.0048	.2398
2.9044	.01	17.65	.8473	.2917	-.1219	-.0009	-.0007	.0034	.0008	.0005	.0050	.2980
2.6490	.01	19.67	.9419	.3556	-.1461	-.0010	-.0001	.0033	.0007	.0004	.0052	.3620
-1.6435	.02	-.34	-.0652	.0397	.0567	.0004	-.0001	-.0000	.0014	.0005	.0036	.0452

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 58 MACH 1.60

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAT	CA UNC
2.000	.02	-4.24	-.4282	.0863	.1853	-.0003	.0003	-.0009	.0037	.0016	.0017	.0932
2.004	.02	-2.27	-.2920	.0834	.1655	-.0001	.0006	-.0008	.0037	.0015	.0017	.0903
2.004	.02	-1.25	-.2208	.0820	.1547	-.0000	.0009	-.0008	.0038	.0016	.0017	.0890
2.003	.02	-.30	-.1536	.0803	.1437	-.0003	.0004	.0002	.0039	.0016	.0017	.0875
2.003	.02	.77	-.0771	.0785	.1307	-.0002	.0004	.0003	.0039	.0016	.0017	.0857
2.004	.02	1.72	-.0119	.0769	.1197	-.0012	-.0000	.0009	.0040	.0016	.0017	.0842
2.004	.01	3.75	.1337	.0733	.0951	-.0002	.0001	.0014	.0041	.0016	.0016	.0806
2.004	.01	5.76	.2789	.0695	.0712	-.0000	.0000	.0020	.0041	.0017	.0017	.0770
2.004	.01	7.72	.4155	.0655	.0487	-.0004	.0001	.0020	.0041	.0017	.0016	.0729
2.004	.01	9.75	.5578	.0608	.0245	-.0003	.0001	.0030	.0041	.0017	.0016	.0682
2.004	.00	11.75	.6947	.0555	-.0006	-.0009	.0003	.0031	.0039	.0018	.0015	.0627
2.003	.00	13.72	.8277	.0495	-.0263	-.0006	.0004	.0038	.0039	.0018	.0015	.0567
2.004	-.00	15.70	.9624	.0425	-.0546	-.0011	.0000	.0048	.0038	.0018	.0015	.0496
2.005	-.00	17.72	1.1000	.0351	-.0840	-.0008	.0001	.0054	.0036	.0019	.0015	.0421
2.005	.02	-.27	-.1483	.0803	.1429	-.0005	.0006	-.0000	.0039	.0016	.0017	.0874

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-3.5749	.02	-4.24	-.4204	.1176	.1853	-.0003	.0003	-.0009	.0036	.0016	.0018	.1246
-3.0389	.02	-2.27	-.2883	.0949	.1655	-.0001	.0006	-.0008	.0037	.0015	.0017	.1018
-2.5216	.02	-1.25	-.2188	.0868	.1547	-.0001	.0009	-.0008	.0038	.0016	.0017	.0938
-1.8873	.02	-.30	-.1532	.0811	.1437	-.0003	.0004	.0002	.0039	.0016	.0017	.0883
-1.0099	.02	.77	-.0782	.0775	.1307	-.0002	.0004	.0003	.0039	.0016	.0017	.0847
-.1874	.02	1.72	-.0143	.0765	.1197	-.0012	.0000	.0008	.0040	.0016	.0017	.0838
1.5708	.01	3.75	.1284	.0817	.0951	-.0002	.0001	.0014	.0041	.0016	.0018	.0892
2.7895	.01	5.76	.2702	.0968	.0712	-.0000	.0000	.0020	.0041	.0017	.0019	.1046
3.3499	.01	7.72	.4025	.1202	.0487	-.0004	.0002	.0020	.0041	.0017	.0021	.1281
3.5098	.01	9.75	.5390	.1536	.0245	-.0003	.0001	.0030	.0040	.0017	.0023	.1616
3.4334	.00	11.75	.6682	.1946	-.0006	-.0008	.0004	.0031	.0039	.0017	.0027	.2029
3.2586	.00	13.72	.7916	.2429	-.0263	-.0005	.0006	.0038	.0038	.0017	.0030	.2514
3.0529	-.00	15.70	.9142	.2994	-.0546	-.0011	.0003	.0048	.0037	.0018	.0033	.3082
2.8319	-.00	17.72	1.0363	.3659	-.0840	-.0008	.0003	.0054	.0035	.0018	.0037	.3749
-1.8270	.02	-.27	-.1479	.0810	.1429	-.0005	.0006	-.0000	.0039	.0016	.0017	.0881

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 59 MACH 1.80

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.005	.02	-4.23	-.3774	.0803	.1639	-.0002	.0003	-.0010	.0032	.0012	.0022	.0869
2.001	.02	-2.27	-.2571	.0769	.1456	.0005	.0009	-.0006	.0033	.0012	.0022	.0836
2.001	.02	-1.35	-.2014	.0755	.1370	-.0005	.0006	-.0001	.0033	.0012	.0022	.0823
2.002	.01	-.26	-.1332	.0738	.1262	.0000	.0005	.0004	.0033	.0012	.0022	.0806
2.002	.01	.71	-.0752	.0723	.1167	-.0002	.0004	.0007	.0033	.0012	.0022	.0791
2.001	.01	1.79	-.0092	.0705	.1058	.0002	.0004	.0007	.0033	.0012	.0022	.0773
2.001	.01	3.72	.1142	.0670	.0853	-.0005	.0000	.0015	.0033	.0013	.0022	.0739
2.001	.01	5.71	.2378	.0635	.0641	.0002	.0000	.0018	.0033	.0013	.0022	.0703
2.001	.01	7.71	.3626	.0600	.0431	-.0004	-.0001	.0028	.0033	.0013	.0021	.0667
2.001	.00	9.70	.4889	.0559	.0203	.0001	.0008	.0022	.0033	.0013	.0020	.0625
2.001	.00	11.74	.6176	.0510	-.0056	-.0009	.0006	.0030	.0032	.0013	.0019	.0575
2.002	-.00	13.80	.7432	.0458	-.0312	-.0018	.0011	.0030	.0031	.0013	.0018	.0521
2.001	.00	15.73	.8620	.0402	-.0572	-.0016	-.0001	.0041	.0029	.0014	.0017	.0463
2.001	.00	17.76	.9872	.0341	-.0848	-.0013	-.0011	.0060	.0030	.0015	.0016	.0402
2.001	-.00	19.70	1.1008	.0290	-.1078	-.0006	-.0015	.0071	.0029	.0016	.0016	.0350
2.002	.02	-.27	-.1365	.0739	.1268	.0006	.0010	-.0006	.0033	.0012	.0022	.0806

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-3.4366	.02	-4.23	-.3701	.1077	.1639	-.0003	.0003	-.0010	.0032	.0012	.0024	.1145
-2.9177	.02	-2.27	-.2537	.0870	.1456	.0004	.0010	-.0006	.0033	.0012	.0023	.0937
-2.4868	.02	-1.35	-.1995	.0602	.1370	-.0005	.0005	-.0001	.0033	.0012	.0022	.0870
-1.7855	.01	-.26	-.1329	.0744	.1262	.0000	.0005	.0004	.0033	.0012	.0022	.0812
-1.0668	.01	.71	-.0762	.0714	.1167	-.0002	.0004	.0007	.0033	.0012	.0022	.0782
-.1647	.01	1.79	-.0116	.0702	.1058	.0002	.0004	.0007	.0033	.0012	.0023	.0770
1.4733	.01	3.72	.1093	.0742	.0853	-.0005	.0001	.0015	.0033	.0012	.0023	.0811
2.6559	.01	5.71	.2299	.0865	.0641	.0002	-.0000	.0018	.0033	.0013	.0025	.0937
3.2610	.01	7.71	.3507	.1075	.0431	-.0004	-.0000	.0028	.0033	.0013	.0027	.1148
3.4535	.00	9.70	.4718	.1366	.0203	.0002	.0008	.0022	.0032	.0013	.0029	.1440
3.4032	.00	11.74	.5935	.1744	-.0056	-.0008	.0008	.0030	.0031	.0013	.0031	.1819
3.2248	-.00	13.80	.7100	.2202	-.0312	-.0015	.0015	.0030	.0030	.0013	.0034	.2279
3.0257	.00	15.73	.8179	.2703	-.0572	-.0016	.0004	.0041	.0028	.0013	.0037	.2782
2.8049	.00	17.76	.9288	.3311	-.0848	-.0016	-.0006	.0060	.0028	.0015	.0040	.3395
2.5934	-.00	19.70	1.0256	.3955	-.1078	-.0011	-.0012	.0071	.0028	.0015	.0043	.4040
-1.8269	.02	-.27	-.1361	.0745	.1268	.0006	.0010	-.0006	.0033	.0012	.0022	.0813

TABLE AIII.- Continued

IPWT PROJECT 1424 RUN 60 MACH 2.00

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.000	.02	-4.44	-.3539	.0747	.1483	.0005	.0014	-.0022	.0025	.0009	.0029	.0810
2.001	.02	-2.40	-.2397	.0716	.1308	.0002	.0011	-.0014	.0024	.0009	.0029	.0778
2.000	.02	-1.49	-.1698	.0703	.1236	.0003	.0012	-.0010	.0025	.0009	.0029	.0766
2.000	.02	-.46	-.1332	.0689	.1148	-.0001	.0010	-.0005	.0025	.0009	.0029	.0752
2.000	.01	.58	-.0761	.0673	.1059	.0002	.0011	-.0005	.0025	.0009	.0029	.0736
2.001	.01	1.54	-.0235	.0659	.0977	-.0001	.0008	.0003	.0024	.0010	.0029	.0722
2.001	.01	2.59	.0354	.0639	.0878	.0004	.0009	.0004	.0024	.0010	.0029	.0702
2.000	.01	3.57	.0898	.0622	.0788	-.0003	.0006	.0009	.0024	.0010	.0029	.0684
2.000	.01	5.59	.2055	.0569	.0596	-.0004	.0005	.0015	.0024	.0009	.0029	.0651
2.000	.01	7.54	.3158	.0552	.0403	-.0001	.0003	.0020	.0024	.0010	.0028	.0613
2.001	.01	9.60	.4351	.0508	.0176	-.0004	.0008	.0018	.0024	.0010	.0027	.0569
2.000	.00	11.54	.5482	.0469	-.0047	-.0008	.0012	.0017	.0023	.0010	.0025	.0527
2.000	.01	13.49	.6617	.0428	-.0278	-.0006	.0003	.0028	.0022	.0010	.0024	.0484
2.001	.01	15.51	.7757	.0381	-.0527	-.0009	-.0010	.0045	.0020	.0011	.0022	.0434
2.000	.01	17.50	.8881	.0340	-.0764	-.0015	-.0012	.0051	.0019	.0011	.0021	.0391
2.000	.01	19.50	1.0013	.0290	-.0995	-.0016	-.0017	.0056	.0019	.0011	.0019	.0339
2.000	.01	-.43	-.1291	.0687	.1142	.0004	.0011	-.0007	.0025	.0009	.0029	.0750

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-3.4089	.02	-4.44	-.3466	.1017	.1483	.0004	.0014	-.0022	.0025	.0009	.0031	.1082
-2.8994	.02	-2.40	-.2363	.0815	.1308	.0001	.0011	-.0014	.0024	.0009	.0029	.0877
-2.4972	.02	-1.49	-.1878	.0752	.1236	.0003	.0012	-.0010	.0025	.0009	.0029	.0815
-1.8954	.02	-.46	-.1326	.0700	.1148	-.0001	.0010	-.0005	.0025	.0009	.0029	.0763
-1.1550	.01	.58	-.0769	.0665	.1059	.0002	.0011	-.0005	.0025	.0009	.0029	.0728
-.3902	.01	1.54	-.0254	.0652	.0977	-.0000	.0008	.0003	.0024	.0010	.0029	.0715
.4932	.01	2.59	.0322	.0654	.0878	.0004	.0009	.0004	.0024	.0010	.0030	.0717
1.2641	.01	3.57	.0853	.0675	.0788	-.0003	.0006	.0009	.0024	.0009	.0030	.0739
2.5314	.01	5.59	.1982	.0783	.0596	-.0003	.0005	.0015	.0024	.0009	.0032	.0848
3.1930	.01	7.54	.3051	.0955	.0403	-.0001	.0003	.0020	.0024	.0010	.0033	.1022
3.4457	.01	9.60	.4196	.1218	.0176	-.0003	.0008	.0018	.0024	.0010	.0035	.1286
3.4131	.00	11.54	.5268	.1543	-.0047	-.0006	.0013	.0017	.0023	.0010	.0038	.1613
3.2534	.01	13.49	.6323	.1944	-.0278	-.0005	.0004	.0028	.0021	.0010	.0040	.2014
3.0405	.01	15.51	.7360	.2421	-.0527	-.0011	-.0007	.0045	.0019	.0010	.0043	.2493
2.8144	.01	17.50	.8356	.2969	-.0764	-.0018	-.0006	.0051	.0018	.0011	.0045	.3043
2.6012	.01	19.50	.9329	.3586	-.0995	-.0021	-.0010	.0056	.0018	.0010	.0048	.3662
-1.8451	.01	-.43	-.1286	.0697	.1142	.0004	.0011	-.0007	.0025	.0009	.0029	.0760

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 61 MACH 2.16

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.003	.02	-4.34	-.3224	.0706	.1344	.0002	.0008	-.0017	.0021	.0008	.0035	.0769
2.002	.02	-2.35	-.2194	.0675	.1195	.0002	.0009	-.0012	.0020	.0008	.0035	.0738
2.003	.02	-1.35	-.1689	.0661	.1124	.0000	.0009	-.0010	.0020	.0008	.0036	.0724
2.004	.02	-.40	-.1202	.0648	.1053	.0002	.0009	-.0006	.0020	.0008	.0036	.0711
2.003	.02	.64	-.0677	.0632	.0976	-.0003	.0007	-.0004	.0020	.0008	.0036	.0696
2.003	.01	1.69	-.0137	.0615	.0894	.0001	.0008	-.0002	.0020	.0008	.0035	.0679
2.003	.01	3.64	.0870	.0581	.0728	-.0002	.0006	.0004	.0019	.0008	.0035	.0644
2.003	.01	5.62	.1921	.0548	.0559	.0001	.0007	.0007	.0019	.0008	.0034	.0608
2.002	.01	7.65	.2997	.0506	.0367	-.0001	.0006	.0013	.0018	.0008	.0034	.0566
2.003	.01	9.66	.4091	.0464	.0155	.0000	.0003	.0013	.0018	.0008	.0033	.0523
2.003	.01	11.63	.5168	.0425	-.0056	.0001	.0005	.0013	.0017	.0008	.0031	.0481
2.003	.01	13.67	.6288	.0384	-.0288	-.0000	-.0011	.0033	.0015	.0008	.0029	.0437
2.002	.01	15.66	.7381	.0349	-.0511	-.0003	-.0010	.0037	.0015	.0009	.0027	.0400
2.004	.01	17.63	.8461	.0308	-.0734	-.0008	-.0013	.0044	.0014	.0008	.0025	.0355
2.002	.01	19.68	.9583	.0257	-.0979	-.0008	-.0008	.0042	.0013	.0008	.0023	.0301
2.003	.02	-.34	-.1162	.0648	.1049	.0003	.0009	-.0008	.0020	.0008	.0036	.0712

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-3.3383	.02	-4.34	-.3156	.0946	.1344	.0002	.0008	-.0017	.0021	.0008	.0037	.1011
-2.8316	.02	-2.35	-.2162	.0763	.1195	.0002	.0009	-.0012	.0020	.0008	.0036	.0827
-2.3852	.02	-1.35	-.1672	.0701	.1124	-.0000	.0009	-.0010	.0020	.0008	.0036	.0764
-1.8237	.02	-.40	-.1197	.0656	.1053	.0002	.0009	-.0006	.0020	.0008	.0036	.0720
-1.0961	.02	.64	-.0685	.0625	.0976	-.0003	.0007	-.0004	.0020	.0008	.0036	.0688
-.2567	.01	1.69	-.0157	.0611	.0894	.0001	.0008	-.0002	.0020	.0008	.0036	.0674
1.3039	.01	3.64	.0827	.0634	.0728	-.0002	.0006	.0004	.0019	.0008	.0037	.0697
2.5373	.01	5.62	.1851	.0730	.0559	.0002	.0007	.0007	.0019	.0008	.0037	.0793
3.2373	.01	7.65	.2894	.0894	.0367	-.0000	.0006	.0013	.0018	.0008	.0040	.0959
3.4755	.01	9.66	.3944	.1135	.0155	.0001	.0002	.0013	.0018	.0008	.0042	.1202
3.4353	.01	11.63	.4964	.1445	-.0056	.0002	.0005	.0013	.0017	.0008	.0044	.1513
3.2604	.01	13.67	.6005	.1842	-.0288	-.0003	-.0011	.0033	.0015	.0008	.0046	.1911
3.0331	.01	15.66	.6998	.2307	-.0511	-.0006	-.0009	.0037	.0014	.0008	.0048	.2378
2.8109	.01	17.63	.7955	.2830	-.0734	-.0011	-.0010	.0044	.0013	.0008	.0050	.2901
2.5953	.01	19.68	.8921	.3437	-.0979	-.0010	-.0005	.0042	.0012	.0007	.0052	.3510
-1.7675	.02	-.34	-.1158	.0655	.1049	.0003	.0009	-.0008	.0020	.0008	.0036	.0719

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 62 MACH 1.60

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.004	.02	-4.36	-.2385	.0284	.0485	.0008	.0002	-.0009	.0025	.0010	.0017	.0335
2.006	.02	-2.60	-.1397	.0291	.0320	.0007	.0003	-.0006	.0025	.0010	.0017	.0343
2.003	.02	-1.46	-.0766	.0295	.0216	.0004	-.0001	.0002	.0026	.0010	.0017	.0348
2.004	.02	-.35	-.0174	.0295	.0118	.0003	.0001	.0002	.0028	.0010	.0017	.0350
2.005	.02	.66	.0362	.0290	.0027	.0007	.0003	-.0002	.0028	.0010	.0017	.0345
2.005	.02	1.60	.0892	.0282	-.0056	.0006	-.0001	.0008	.0028	.0010	.0017	.0337
2.005	.02	3.61	.2038	.0263	-.0246	.0004	-.0000	.0008	.0028	.0010	.0016	.0318
2.004	.01	5.63	.3223	.0247	-.0452	.0002	.0000	.0013	.0028	.0010	.0017	.0301
2.005	.01	7.65	.4368	.0235	-.0648	.0000	-.0001	.0021	.0027	.0010	.0016	.0288
2.006	.01	9.62	.5457	.0227	-.0837	.0002	-.0004	.0025	.0026	.0010	.0016	.0278
2.005	.01	11.65	.6552	.0220	-.1034	.0001	-.0006	.0035	.0025	.0010	.0016	.0271
2.005	.01	13.64	.7646	.0213	-.1232	-.0000	-.0011	.0041	.0026	.0011	.0015	.0264
2.005	.01	15.58	.8639	.0207	-.1405	.0002	-.0013	.0043	.0025	.0011	.0015	.0259
2.005	.00	17.60	.9632	.0201	-.1563	.0001	-.0016	.0056	.0026	.0013	.0015	.0255
2.006	.00	19.69	1.0657	.0197	-.1740	-.0003	-.0020	.0063	.0027	.0014	.0015	.0253
2.004	.02	-.44	-.0198	.0295	.0124	.0007	.0002	.0003	.0028	.0010	.0017	.0350

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-5.0881	.02	-4.36	-.2354	.0463	.0485	.0008	.0003	-.0009	.0025	.0010	.0018	.0515
-3.9031	.02	-2.60	-.1380	.0354	.0320	.0007	.0004	-.0006	.0025	.0010	.0017	.0406
-2.4074	.02	-1.46	-.0757	.0314	.0216	.0004	-.0000	.0002	.0026	.0010	.0017	.0367
-.5794	.02	-.35	-.0172	.0297	.0118	.0003	.0001	.0002	.0028	.0010	.0017	.0351
1.2162	.02	.66	.0358	.0294	.0027	.0007	.0003	-.0002	.0028	.0010	.0017	.0349
2.8815	.02	1.60	.0883	.0306	-.0056	.0006	-.0001	.0008	.0028	.0010	.0017	.0362
5.1740	.02	3.61	.2015	.0369	-.0246	.0004	-.0001	.0008	.0028	.0010	.0017	.0445
5.6860	.01	5.63	.3180	.0559	-.0452	.0002	.0000	.0013	.0028	.0010	.0019	.0616
5.3066	.01	7.65	.4294	.0809	-.0648	.0000	-.0001	.0021	.0027	.0010	.0021	.0867
4.7339	.01	9.62	.5337	.1127	-.0837	.0002	-.0004	.0025	.0026	.0010	.0023	.1186
4.1677	.01	11.65	.6367	.1528	-.1034	-.0000	-.0006	.0035	.0025	.0010	.0026	.1589
3.6944	.01	13.64	.7373	.1996	-.1232	-.0003	-.0011	.0041	.0025	.0010	.0030	.2061
3.3018	.01	15.58	.8258	.2501	-.1405	-.0001	-.0013	.0043	.0024	.0011	.0033	.2569
2.9561	.00	17.60	.9111	.3082	-.1563	-.0004	-.0015	.0056	.0025	.0012	.0037	.3156
2.6563	.00	19.69	.9957	.3749	-.1740	-.0010	-.0018	.0063	.0025	.0013	.0041	.3828
-.6585	.02	-.44	-.0195	.0297	.0124	.0007	.0002	.0003	.0028	.0010	.0017	.0352

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 65 MACH 1.80

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.000	.02	-4.40	-.2161	.0281	.0411	.0003	-.0001	-.0005	.0026	.0007	.0022	.0337
2.001	.02	-2.46	-.1190	.0285	.0260	.0003	.0001	-.0001	.0026	.0007	.0022	.0340
2.001	.02	-1.45	-.0663	.0287	.0180	.0002	.0004	-.0004	.0027	.0007	.0022	.0343
2.001	.02	-.40	-.0159	.0287	.0107	.0001	-.0001	.0008	.0027	.0007	.0022	.0344
2.002	.02	.59	.0323	.0282	.0034	.0002	.0000	.0006	.0027	.0008	.0022	.0339
2.000	.02	1.62	.0841	.0274	-.0045	.0002	.0001	.0005	.0028	.0008	.0022	.0332
2.000	.02	3.54	.1857	.0261	-.0210	-.0000	.0002	.0002	.0028	.0008	.0022	.0318
2.001	.02	5.59	.2896	.0246	-.0388	.0000	-.0003	.0011	.0028	.0008	.0022	.0303
2.001	.02	7.65	.3951	.0237	-.0569	.0001	-.0003	.0012	.0027	.0008	.0021	.0294
2.003	.01	9.59	.4895	.0229	-.0735	-.0002	-.0003	.0015	.0027	.0009	.0020	.0285
2.001	.01	11.58	.5860	.0225	-.0904	-.0001	-.0006	.0019	.0026	.0009	.0020	.0280
2.001	.01	13.62	.6806	.0221	-.1083	.0000	-.0010	.0026	.0025	.0010	.0019	.0274
2.002	.01	15.55	.7702	.0218	-.1241	.0002	-.0014	.0029	.0025	.0010	.0017	.0270
2.000	.01	17.51	.8587	.0217	-.1399	-.0001	-.0009	.0031	.0025	.0010	.0016	.0269
2.000	.01	19.60	.9550	.0212	-.1577	-.0000	-.0008	.0034	.0025	.0012	.0016	.0265
2.001	.02	-.41	-.0150	.0287	.0108	.0001	.0001	.0001	.0027	.0007	.0022	.0344

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.7952	.02	-4.40	-.2130	.0444	.0411	.0003	-.0001	-.0005	.0026	.0007	.0024	.0502
-3.5049	.02	-2.46	-.1175	.0335	.0260	.0003	.0001	-.0001	.0026	.0007	.0023	.0391
-2.1579	.02	-1.45	-.0655	.0303	.0180	.0002	.0004	-.0004	.0027	.0007	.0023	.0360
-.5434	.02	-.40	-.0156	.0288	.0107	.0001	-.0001	.0008	.0027	.0007	.0022	.0345
1.1225	.02	.59	.0320	.0285	.0034	.0002	.0000	.0006	.0027	.0008	.0022	.0342
2.7934	.02	1.62	.0832	.0298	-.0045	.0002	.0001	.0005	.0027	.0008	.0022	.0355
4.9114	.02	3.54	.1835	.0374	-.0210	-.0000	.0002	.0002	.0028	.0008	.0023	.0432
5.4497	.02	5.59	.2854	.0524	-.0388	-.0000	-.0003	.0011	.0027	.0008	.0025	.0584
5.1339	.02	7.65	.3879	.0755	-.0569	.0001	-.0003	.0012	.0027	.0008	.0026	.0817
4.6301	.01	9.59	.4782	.1033	-.0735	-.0003	-.0002	.0015	.0026	.0009	.0029	.1096
4.1085	.01	11.58	.5688	.1365	-.0904	-.0002	-.0005	.0019	.0026	.0009	.0031	.1450
3.6370	.01	13.62	.6554	.1802	-.1083	-.0002	-.0009	.0026	.0024	.0009	.0034	.1870
3.2606	.01	15.55	.7352	.2255	-.1241	-.0002	-.0014	.0029	.0024	.0010	.0037	.2326
2.9322	.01	17.51	.8114	.2767	-.1399	-.0003	-.0008	.0031	.0024	.0010	.0040	.2841
2.6420	.01	19.60	.8915	.3374	-.1577	-.0003	-.0007	.0034	.0024	.0011	.0043	.3452
-.5121	.02	-.41	-.0147	.0288	.0108	.0001	.0001	.0001	.0027	.0007	.0022	.0345

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 66 MACH 1.80

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.001	5.00	-4.39	-.2135	.0276	.0403	-.0027	.0184	-.0439	.0023	.0008	.0022	.0330
2.000	5.00	-2.46	-.1184	.0263	.0247	-.0040	.0174	-.0413	.0025	.0009	.0022	.0339
2.000	5.00	-1.44	-.0664	.0285	.0165	-.0056	.0165	-.0404	.0026	.0009	.0022	.0342
2.001	5.00	-.44	-.0179	.0284	.0090	-.0071	.0155	-.0395	.0026	.0009	.0022	.0341
2.001	5.01	.53	.0315	.0281	.0016	-.0083	.0151	-.0394	.0027	.0009	.0022	.0339
2.001	5.01	1.55	.0816	.0277	-.0061	-.0098	.0145	-.0394	.0028	.0009	.0022	.0336
2.001	5.02	3.65	.1870	.0264	-.0228	-.0111	.0134	-.0397	.0029	.0009	.0022	.0324
2.001	5.03	5.57	.2852	.0253	-.0394	-.0118	.0125	-.0407	.0029	.0009	.0022	.0313
2.001	5.04	7.58	.3843	.0243	-.0565	-.0125	.0117	-.0411	.0029	.0010	.0021	.0304
2.001	5.04	9.60	.4846	.0236	-.0742	-.0131	.0110	-.0418	.0029	.0011	.0020	.0296
2.001	5.05	11.55	.5766	.0231	-.0908	-.0140	.0101	-.0424	.0028	.0011	.0020	.0290
2.001	5.07	13.55	.6718	.0226	-.1082	-.0139	.0078	-.0428	.0027	.0012	.0019	.0283
2.002	5.09	15.61	.7695	.0218	-.1263	-.0149	.0046	-.0409	.0027	.0012	.0017	.0274
2.001	5.10	17.63	.8620	.0212	-.1447	-.0154	.0007	-.0385	.0029	.0013	.0016	.0270
2.000	5.12	19.57	.9504	.0207	-.1613	-.0164	-.0033	-.0368	.0030	.0013	.0016	.0266
2.001	5.01	-.40	-.0142	.0285	.0088	-.0072	.0157	-.0403	.0027	.0009	.0022	.0342

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY.	CDC	CDB	CDI	CD UNC
-4.8116	5.00	-4.39	-.2104	.0437	.0403	-.0041	.0181	-.0439	.0023	.0008	.0024	.0493
-3.5138	5.00	-2.46	-.1169	.0333	.0247	-.0047	.0172	-.0413	.0025	.0009	.0023	.0389
-2.1769	5.00	-1.44	-.0656	.0301	.0165	-.0060	.0163	-.0404	.0026	.0009	.0023	.0358
-.6188	5.00	-.44	-.0176	.0285	.0090	-.0072	.0154	-.0395	.0026	.0009	.0022	.0343
1.0960	5.01	.53	.0312	.0284	.0016	-.0082	.0152	-.0394	.0027	.0009	.0022	.0342
2.6989	5.01	1.55	.0807	.0299	-.0061	-.0094	.0148	-.0394	.0028	.0009	.0022	.0358
4.8453	5.02	3.65	.1846	.0381	-.0228	-.0102	.0141	-.0397	.0029	.0009	.0023	.0442
5.3469	5.03	5.57	.2809	.0525	-.0394	-.0105	.0136	-.0407	.0029	.0009	.0025	.0589
5.0783	5.04	7.58	.3772	.0743	-.0565	-.0108	.0133	-.0411	.0029	.0010	.0026	.0808
4.5841	5.04	9.60	.4732	.1032	-.0742	-.0111	.0130	-.0418	.0028	.0011	.0029	.1100
4.0877	5.05	11.55	.5595	.1369	-.0908	-.0117	.0127	-.0424	.0028	.0011	.0031	.1438
3.6401	5.07	13.55	.6469	.1777	-.1082	-.0117	.0108	-.0428	.0026	.0011	.0034	.1849
3.2494	5.09	15.61	.7344	.2260	-.1263	-.0131	.0084	-.0409	.0026	.0011	.0037	.2334
2.9196	5.10	17.63	.8141	.2768	-.1447	-.0145	.0053	-.0385	.0027	.0012	.0040	.2868
2.6497	5.12	19.57	.8875	.3349	-.1613	-.0166	.0024	-.0368	.0028	.0013	.0043	.3433
-.4895	5.01	-.40	-.0140	.0286	.0088	-.0073	.0157	-.0403	.0027	.0009	.0022	.0343

UPWT PROJECT 1424 RUN 67 MACH 2.00

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.000	-.02	-4.70	-.2079	.0274	.0355	.0007	.0007	-.0003	.0022	.0005	.0029	.0330
1.999	-.02	-2.60	-.1099	.0277	.0215	.0008	.0004	.0006	.0021	.0005	.0029	.0332
1.999	-.03	-1.57	-.0611	.0278	.0144	.0007	.0004	.0007	.0022	.0005	.0029	.0334
2.000	-.03	-.55	-.0144	.0278	.0077	.0006	.0004	.0009	.0022	.0005	.0029	.0334
2.001	-.03	.47	.0329	.0274	.0009	.0006	.0005	.0011	.0022	.0005	.0029	.0330
1.999	-.03	1.40	.0747	.0268	-.0054	.0004	.0006	.0010	.0022	.0005	.0029	.0324
2.001	-.03	3.46	.1745	.0255	-.0208	.0003	.0003	.0017	.0022	.0005	.0029	.0310
2.000	-.03	5.47	.2672	.0245	-.0354	.0006	.0003	.0019	.0021	.0006	.0029	.0301
2.000	-.03	7.46	.3575	.0239	-.0502	.0006	-.0001	.0021	.0021	.0007	.0028	.0295
2.001	-.03	9.44	.4452	.0233	-.0648	.0003	-.0002	.0026	.0022	.0007	.0027	.0289
2.000	-.03	11.39	.5260	.0232	-.0789	.0005	-.0002	.0032	.0021	.0008	.0026	.0286
2.000	-.03	13.51	.6176	.0227	-.0951	.0004	-.0006	.0033	.0020	.0008	.0024	.0280
2.000	-.03	15.39	.6941	.0225	-.1086	.0003	-.0010	.0038	.0019	.0008	.0022	.0275
2.000	-.03	17.45	.7815	.0226	-.1255	.0000	-.0006	.0038	.0019	.0008	.0021	.0274
2.000	-.03	19.48	.8692	.0222	-.1425	.0001	-.0011	.0045	.0019	.0009	.0019	.0269
2.001	-.03	-.58	-.0153	.0277	.0084	.0006	.0003	.0013	.0022	.0005	.0029	.0333

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.6349	-.02	-4.70	-.2045	.0441	.0355	.0007	.0007	-.0003	.0022	.0005	.0031	.0499
-3.3199	-.02	-2.60	-.1083	.0326	.0215	.0008	.0004	.0006	.0021	.0005	.0029	.0382
-2.0437	-.03	-1.57	-.0602	.0295	.0144	.0007	.0005	.0007	.0022	.0005	.0029	.0350
-.5046	-.03	-.55	-.0141	.0279	.0077	.0006	.0004	.0009	.0022	.0005	.0029	.0335
1.1786	-.03	.47	.0326	.0277	.0009	.0006	.0005	.0011	.0022	.0005	.0029	.0333
2.5875	-.03	1.40	.0739	.0286	-.0054	.0004	.0006	.0010	.0022	.0005	.0029	.0342
4.8070	-.03	3.46	.1723	.0358	-.0208	.0003	.0003	.0017	.0022	.0005	.0030	.0415
5.3058	-.03	5.47	.2631	.0496	-.0354	.0006	.0002	.0019	.0021	.0006	.0032	.0555
5.0436	-.03	7.46	.3507	.0695	-.0502	.0005	-.0002	.0021	.0021	.0007	.0033	.0757
4.5651	-.03	9.44	.4344	.0952	-.0648	.0003	-.0002	.0026	.0021	.0007	.0035	.1015
4.0694	-.03	11.39	.5101	.1253	-.0789	.0004	-.0003	.0032	.0021	.0007	.0037	.1319
3.6076	-.03	13.51	.5941	.1647	-.0951	.0003	-.0006	.0033	.0020	.0008	.0040	.1714
3.2482	-.03	15.39	.6621	.2038	-.1086	.0000	-.0010	.0038	.0018	.0008	.0042	.2107
2.9112	-.03	17.45	.7375	.2533	-.1255	-.0001	-.0006	.0038	.0018	.0008	.0045	.2605
2.6338	-.03	19.48	.8107	.3078	-.1425	-.0003	-.0011	.0045	.0018	.0008	.0048	.3153
-.5380	-.03	-.58	-.0150	.0279	.0084	.0006	.0003	.0013	.0022	.0005	.0029	.0334

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 70 MACH 2.16

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
1.999	-.02	-4.50	-.1900	.0271	.0290	.0005	.0002	-.0001	.0019	.0004	.0035	.0329
2.000	-.02	-2.49	-.1023	.0272	.0177	.0005	.0001	.0001	.0018	.0004	.0035	.0328
1.999	-.02	-1.48	-.0573	.0272	.0117	.0004	-.0001	.0005	.0018	.0004	.0036	.0329
1.999	-.02	-.42	-.0107	.0270	.0053	.0005	.0002	.0004	.0018	.0004	.0036	.0327
2.000	-.02	.52	.0298	.0268	-.0002	.0002	.0003	.0005	.0018	.0004	.0036	.0325
1.999	-.02	1.55	.0759	.0263	-.0065	.0002	.0002	.0007	.0018	.0004	.0036	.0320
2.000	-.02	3.52	.1627	.0251	-.0195	.0004	.0002	.0007	.0017	.0004	.0035	.0308
2.000	-.02	5.55	.2500	.0243	-.0325	.0004	-.0001	.0012	.0017	.0005	.0034	.0299
2.000	-.02	7.54	.3352	.0237	-.0460	.0003	-.0002	.0013	.0017	.0005	.0034	.0292
1.998	-.02	9.51	.4167	.0233	-.0597	.0006	-.0004	.0014	.0017	.0006	.0033	.0288
1.999	-.03	11.57	.5008	.0229	-.0739	.0007	-.0001	.0017	.0017	.0006	.0031	.0282
1.999	-.02	13.48	.5753	.0228	-.0871	.0004	-.0001	.0013	.0016	.0006	.0029	.0279
1.999	-.03	15.51	.6563	.0225	-.1016	.0003	-.0001	.0015	.0015	.0007	.0027	.0273
1.999	-.03	17.51	.7377	.0222	-.1171	.0000	-.0007	.0022	.0015	.0007	.0025	.0269
2.001	-.03	19.59	.8237	.0218	-.1337	.0004	-.0001	.0016	.0015	.0007	.0023	.0264
1.999	-.02	-.48	-.0116	.0271	.0057	.0003	.0002	.0003	.0018	.0004	.0036	.0328

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.4743	-.02	-4.50	-.1867	.0417	.0290	.0005	.0002	-.0001	.0019	.0004	.0037	.0477
-3.1977	-.02	-2.49	-.1008	.0315	.0177	.0005	.0001	.0001	.0018	.0004	.0036	.0372
-1.9656	-.02	-1.48	-.0564	.0287	.0117	.0004	-.0001	.0005	.0018	.0004	.0036	.0344
-.3841	-.02	-.42	-.0104	.0271	.0053	.0005	.0002	.0004	.0018	.0004	.0036	.0328
1.0882	-.02	.52	.0295	.0271	-.0002	.0002	.0003	.0005	.0018	.0004	.0036	.0328
2.6457	-.02	1.55	.0749	.0283	-.0065	.0002	.0002	.0007	.0018	.0004	.0036	.0340
4.5961	-.02	3.52	.1604	.0349	-.0195	.0004	.0001	.0007	.0017	.0004	.0037	.0407
5.1146	-.02	5.55	.2458	.0481	-.0325	.0003	-.0001	.0012	.0017	.0005	.0037	.0540
4.9119	-.02	7.54	.3284	.0668	-.0460	.0003	-.0002	.0013	.0016	.0005	.0039	.0730
4.4675	-.02	9.51	.4060	.0909	-.0597	.0005	-.0005	.0014	.0017	.0006	.0041	.0973
3.9895	-.03	11.57	.4848	.1215	-.0739	.0007	-.0002	.0017	.0016	.0006	.0044	.1281
3.5769	-.02	13.48	.5528	.1546	-.0871	.0004	-.0002	.0013	.0015	.0006	.0046	.1613
3.2061	-.03	15.51	.6249	.1949	-.1016	.0003	-.0001	.0015	.0014	.0006	.0048	.2018
2.8913	-.03	17.51	.6953	.2405	-.1171	-.0002	-.0006	.0022	.0014	.0007	.0050	.2476
2.6116	-.03	19.59	.7671	.2937	-.1337	.0003	-.0003	.0016	.0015	.0007	.0052	.3011
-.4166	-.02	-.48	-.0113	.0272	.0057	.0003	.0002	.0003	.0018	.0004	.0036	.0329

UPWT PROJECT 1424 RUN 71 MACH 1.60

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.000	-.02	-4.39	-.2707	.0313	.0699	.0003	.0001	-.0011	.0026	.0010	.0017	.0366
2.002	-.02	-2.38	-.1569	.0319	.0507	.0002	-.0000	-.0002	.0026	.0010	.0017	.0372
2.002	-.02	-1.46	-.1066	.0319	.0426	.0001	-.0000	-.0002	.0027	.0010	.0017	.0374
2.002	-.02	-.30	-.0429	.0316	.0324	.0002	.0001	-.0002	.0030	.0011	.0017	.0373
2.001	-.02	.58	.0019	.0310	.0248	-.0001	-.0001	.0003	.0030	.0011	.0017	.0368
2.002	-.02	1.56	.0581	.0301	.0158	-.0000	-.0002	.0009	.0030	.0011	.0017	.0358
2.003	-.02	3.59	.1734	.0277	-.0031	-.0001	-.0005	.0016	.0031	.0011	.0016	.0335
2.001	-.03	5.64	.2901	.0257	-.0232	-.0004	-.0004	.0020	.0030	.0011	.0017	.0315
2.000	-.03	7.57	.4019	.0239	-.0421	-.0006	-.0004	.0027	.0030	.0011	.0016	.0296
2.002	-.03	9.62	.5153	.0223	-.0617	-.0002	-.0004	.0028	.0029	.0011	.0016	.0279
2.002	-.03	11.56	.6207	.0210	-.0804	-.0005	-.0006	.0037	.0027	.0011	.0016	.0264
2.001	-.03	13.58	.7298	.0197	-.0998	-.0008	-.0008	.0042	.0027	.0011	.0015	.0250
2.001	-.03	15.60	.8334	.0186	-.1180	-.0005	-.0015	.0050	.0027	.0012	.0015	.0240
2.003	-.04	17.57	.9287	.0176	-.1325	-.0007	-.0019	.0064	.0027	.0014	.0015	.0232
2.002	-.02	-.37	-.0473	.0316	.0328	.0003	-.0001	.0005	.0029	.0011	.0017	.0373

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-5.1580	-.02	-4.39	-.2673	.0518	.0699	.0003	.0001	-.0011	.0026	.0010	.0018	.0573
-4.0569	-.02	-2.38	-.1553	.0383	.0507	.0003	-.0000	-.0002	.0026	.0010	.0017	.0437
-3.0515	-.02	-1.46	-.1056	.0346	.0426	.0001	-.0000	-.0002	.0027	.0010	.0017	.0401
-1.3426	-.02	-.30	-.0427	.0318	.0324	.0002	.0001	-.0002	.0030	.0011	.0017	.0375
.0494	-.02	.58	.0015	.0311	.0248	-.0001	-.0001	.0003	.0030	.0011	.0017	.0368
1.8083	-.02	1.58	.0572	.0316	.0158	-.0000	-.0002	.0009	.0030	.0011	.0017	.0374
4.4508	-.02	3.59	.1711	.0384	-.0031	-.0001	-.0005	.0016	.0031	.0011	.0017	.0443
5.3100	-.03	5.64	.2859	.0538	-.0232	-.0005	-.0004	.0020	.0030	.0011	.0019	.0599
5.1849	-.03	7.57	.3949	.0762	-.0421	-.0006	-.0003	.0027	.0030	.0011	.0021	.0823
4.6922	-.03	9.62	.5038	.1074	-.0617	-.0003	-.0003	.0028	.0028	.0011	.0023	.1136
4.1911	-.03	11.56	.6033	.1439	-.0804	-.0006	-.0004	.0037	.0027	.0011	.0026	.1503
3.7257	-.03	13.58	.7040	.1890	-.0998	-.0010	-.0006	.0042	.0026	.0011	.0030	.1957
3.3177	-.03	15.60	.7969	.2402	-.1180	-.0009	-.0013	.0050	.0026	.0012	.0033	.2473
2.9826	-.04	17.57	.8792	.2948	-.1325	-.0012	-.0016	.0064	.0026	.0013	.0037	.3024
-1.4740	-.02	-.37	-.0471	.0319	.0328	.0003	-.0001	.0005	.0029	.0011	.0017	.0376

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 72 MACH 1.80

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.002	-.02	-4.45	-.2416	.0306	.0574	.0001	-.0003	-.0001	.0028	.0007	.0022	.0364
2.003	-.02	-2.41	-.1383	.0307	.0414	-.0000	-.0005	.0008	.0027	.0007	.0022	.0364
2.001	-.02	-1.43	-.0906	.0306	.0345	-.0002	-.0003	.0007	.0028	.0007	.0022	.0364
2.002	-.02	-.37	-.0368	.0303	.0265	-.0002	-.0004	.0010	.0029	.0008	.0022	.0361
2.001	-.02	.64	.0123	.0296	.0191	-.0005	-.0005	.0010	.0029	.0008	.0022	.0355
2.002	-.02	1.52	.0559	.0288	.0127	-.0005	-.0002	.0008	.0029	.0008	.0022	.0348
2.002	-.02	3.53	.1623	.0270	-.0045	-.0002	-.0001	.0011	.0029	.0008	.0022	.0329
2.003	-.02	5.60	.2676	.0252	-.0219	-.0004	-.0007	.0022	.0029	.0008	.0022	.0311
2.001	-.03	7.58	.3665	.0239	-.0386	-.0004	-.0008	.0029	.0029	.0009	.0021	.0298
2.002	-.03	9.66	.4686	.0225	-.0563	-.0007	-.0008	.0030	.0029	.0009	.0020	.0283
2.001	-.03	11.56	.5589	.0215	-.0723	-.0005	-.0011	.0041	.0028	.0010	.0020	.0273
2.001	-.03	13.62	.6572	.0205	-.0905	-.0003	-.0015	.0042	.0027	.0010	.0019	.0261
2.002	-.03	15.60	.7471	.0198	-.1061	-.0005	-.0020	.0049	.0027	.0011	.0017	.0253
2.001	-.03	17.55	.8345	.0191	-.1215	-.0004	-.0015	.0051	.0027	.0011	.0016	.0245
2.001	-.03	19.56	.9276	.0182	-.1387	-.0007	-.0016	.0056	.0026	.0013	.0016	.0237
2.003	-.02	-.44	-.0390	.0304	.0270	-.0002	-.0001	.0002	.0029	.0008	.0022	.0363

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.8474	-.02	-4.45	-.2381	.0491	.0574	.0002	-.0003	-.0001	.0027	.0007	.0024	.0550
-3.7496	-.02	-2.41	-.1367	.0365	.0414	-.0000	-.0005	.0008	.0027	.0007	.0023	.0422
-2.7289	-.02	-1.43	-.0896	.0328	.0345	-.0002	-.0003	.0007	.0028	.0007	.0023	.0386
-1.1987	-.02	-.37	-.0365	.0305	.0265	-.0002	-.0004	.0010	.0029	.0008	.0022	.0364
.4023	-.02	.64	.0120	.0298	.0191	-.0005	-.0005	.0010	.0029	.0008	.0022	.0357
1.8150	-.02	1.52	.0550	.0303	.0127	-.0005	-.0002	.0008	.0029	.0008	.0022	.0362
4.3468	-.02	3.53	.1600	.0368	-.0045	-.0002	-.0001	.0011	.0029	.0008	.0023	.0429
5.1735	-.02	5.60	.2634	.0509	-.0219	-.0005	-.0007	.0022	.0029	.0008	.0025	.0571
5.0312	-.03	7.58	.3596	.0715	-.0386	-.0005	-.0008	.0029	.0029	.0009	.0026	.0778
4.5769	-.03	9.66	.4575	.0999	-.0563	-.0008	-.0006	.0030	.0028	.0009	.0029	.1066
4.1114	-.03	11.56	.5425	.1319	-.0723	-.0007	-.0010	.0041	.0028	.0010	.0031	.1388
3.6560	-.03	13.62	.6330	.1731	-.0905	-.0007	-.0013	.0042	.0027	.0010	.0034	.1802
3.2725	-.03	15.60	.7133	.2180	-.1061	-.0010	-.0018	.0049	.0026	.0010	.0037	.2253
2.9493	-.03	17.55	.7889	.2675	-.1215	-.0008	-.0013	.0051	.0025	.0011	.0040	.2751
2.6691	-.03	19.56	.8669	.3248	-.1387	-.0012	-.0013	.0056	.0025	.0012	.0043	.3328
-1.2627	-.02	-.44	-.0387	.0307	.0270	-.0002	-.0001	.0002	.0029	.0008	.0022	.0366

UPWT PROJECT 1424 RUN 73 MACH 2.00

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.003	-.02	-4.60	-.2311	.0295	.0507	.0005	.0007	-.0019	.0023	.0005	.0029	.0352
2.002	-.02	-2.54	-.1345	.0294	.0363	.0004	.0005	-.0012	.0023	.0005	.0029	.0351
2.005	-.02	-1.58	-.0880	.0293	.0294	.0002	.0005	-.0008	.0023	.0005	.0029	.0350
2.004	-.02	-.56	-.0413	.0291	.0229	.0002	.0005	-.0007	.0023	.0005	.0029	.0349
2.003	-.02	.42	.0039	.0286	.0163	.0000	.0006	-.0003	.0024	.0005	.0029	.0344
2.005	-.02	1.44	.0512	.0278	.0094	-.0001	.0007	-.0004	.0023	.0006	.0029	.0336
2.002	-.02	3.39	.1427	.0262	-.0047	-.0002	.0005	.0001	.0023	.0005	.0029	.0319
2.005	-.03	5.44	.2393	.0247	-.0199	.0001	.0005	.0005	.0023	.0006	.0029	.0305
2.003	-.02	7.48	.3315	.0235	-.0350	.0000	-.0001	.0011	.0023	.0007	.0028	.0293
2.004	-.03	9.35	.4143	.0226	-.0486	-.0002	-.0002	.0019	.0023	.0008	.0027	.0283
2.005	-.03	11.44	.5054	.0219	-.0642	.0003	-.0000	.0025	.0023	.0008	.0025	.0276
2.004	-.03	13.42	.5893	.0211	-.0792	-.0000	-.0003	.0029	.0022	.0008	.0024	.0265
2.004	-.03	15.43	.6726	.0203	-.0940	-.0002	-.0008	.0033	.0020	.0009	.0022	.0255
2.004	-.03	17.43	.7571	.0200	-.1099	-.0004	-.0005	.0034	.0021	.0009	.0021	.0250
2.003	-.03	19.37	.8411	.0191	-.1255	-.0004	-.0013	.0040	.0020	.0009	.0019	.0240
2.004	-.02	-.62	-.0439	.0291	.0232	.0002	.0006	-.0009	.0023	.0005	.0029	.0349

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.7653	-.02	-4.60	-.2275	.0477	.0507	.0005	.0006	-.0019	.0023	.0005	.0031	.0537
-3.7627	-.02	-2.54	-.1328	.0353	.0363	.0004	.0005	-.0012	.0023	.0005	.0029	.0410
-2.7472	-.02	-1.58	-.0870	.0317	.0294	.0002	.0005	-.0008	.0023	.0005	.0029	.0374
-1.3853	-.02	-.56	-.0409	.0295	.0229	.0002	.0005	-.0007	.0023	.0005	.0029	.0353
.1266	-.02	.42	.0036	.0286	.0163	.0000	.0006	-.0003	.0024	.0005	.0029	.0344
1.7354	-.02	1.44	.0504	.0290	.0094	-.0001	.0007	-.0004	.0023	.0006	.0029	.0348
4.0829	-.02	3.39	.1406	.0344	-.0047	-.0002	.0005	.0001	.0023	.0005	.0030	.0403
5.0123	-.03	5.44	.2354	.0470	-.0199	.0001	.0005	.0005	.0023	.0006	.0032	.0530
4.9268	-.02	7.48	.3248	.0659	-.0350	.0000	-.0001	.0011	.0023	.0007	.0033	.0723
4.5559	-.03	9.35	.4043	.0887	-.0486	-.0002	-.0002	.0019	.0023	.0008	.0035	.0953
4.0692	-.03	11.44	.4901	.1204	-.0642	.0003	-.0001	.0025	.0023	.0008	.0037	.1272
3.6462	-.03	13.42	.5672	.1556	-.0792	-.0001	-.0003	.0029	.0021	.0008	.0040	.1625
3.2665	-.03	15.43	.6418	.1965	-.0940	-.0004	-.0007	.0033	.0020	.0009	.0043	.2036
2.9386	-.03	17.43	.7151	.2433	-.1099	-.0005	-.0004	.0034	.0020	.0009	.0045	.2507
2.6734	-.03	19.37	.7859	.2940	-.1255	-.0008	-.0011	.0040	.0019	.0009	.0048	.3016
-1.4703	-.02	-.62	-.0435	.0296	.0232	.0002	.0006	-.0009	.0023	.0005	.0029	.0354

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 74 MACH 2.16

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
1.997	-.01	-4.47	-.2069	.0289	.0408	-.0001	.0002	-.0019	.0020	.0005	.0035	.0349
2.001	-.01	-2.55	-.1225	.0286	.0298	.0001	.0000	-.0012	.0019	.0004	.0035	.0345
2.002	-.02	-1.46	-.0747	.0285	.0236	.0001	.0001	-.0011	.0020	.0004	.0036	.0344
2.001	-.02	-.46	-.0306	.0281	.0175	.0000	.0003	-.0011	.0020	.0004	.0036	.0341
2.001	-.02	.52	.0127	.0277	.0118	-.0002	.0002	-.0005	.0020	.0004	.0036	.0337
2.003	-.02	1.53	.0567	.0270	.0056	-.0003	.0001	-.0003	.0019	.0004	.0036	.0330
2.002	-.02	3.57	.1458	.0253	-.0074	-.0002	.0001	-.0003	.0019	.0005	.0035	.0312
2.002	-.02	5.52	.2303	.0243	-.0199	-.0001	.0000	.0000	.0018	.0006	.0034	.0301
2.001	-.02	7.53	.3146	.0231	-.0331	-.0002	-.0001	.0003	.0018	.0006	.0034	.0289
2.001	-.02	9.52	.3971	.0223	-.0463	.0000	-.0002	.0002	.0018	.0006	.0033	.0280
2.001	-.02	11.52	.4777	.0214	-.0601	.0003	-.0002	.0006	.0018	.0006	.0031	.0270
2.002	-.02	13.59	.5592	.0208	-.0740	.0001	.0000	.0004	.0018	.0007	.0029	.0261
2.001	-.02	15.55	.6377	.0202	-.0884	-.0001	.0002	.0005	.0017	.0007	.0027	.0253
2.002	-.02	17.49	.7170	.0196	-.1034	-.0002	.0003	.0004	.0017	.0007	.0025	.0246
2.002	-.02	19.51	.7995	.0187	-.1191	-.0005	-.0004	.0012	.0017	.0008	.0023	.0236
2.002	-.02	-.49	-.0314	.0282	.0178	-.0002	.0002	-.0008	.0020	.0004	.0036	.0341

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.5497	-.01	-4.47	-.2035	.0447	.0408	-.0001	.0002	-.0019	.0020	.0005	.0037	.0509
-3.5516	-.01	-2.55	-.1207	.0340	.0298	.0001	.0000	-.0012	.0019	.0004	.0036	.0399
-2.4316	-.02	-1.46	-.0738	.0303	.0236	.0001	.0001	-.0011	.0020	.0004	.0036	.0363
-1.0699	-.02	-.46	-.0304	.0284	.0175	.0000	.0003	-.0011	.0020	.0004	.0036	.0343
.4445	-.02	.52	.0124	.0278	.0118	-.0002	.0002	-.0005	.0020	.0004	.0036	.0338
1.9562	-.02	1.53	.0558	.0285	.0056	-.0003	.0001	-.0003	.0019	.0004	.0036	.0345
4.1991	-.02	3.57	.1435	.0342	-.0074	-.0002	.0001	-.0003	.0019	.0005	.0037	.0402
4.9211	-.02	5.52	.2263	.0460	-.0199	-.0001	.0000	.0000	.0018	.0005	.0037	.0521
4.8456	-.02	7.53	.3080	.0636	-.0331	-.0002	-.0001	.0003	.0018	.0006	.0039	.0699
4.4583	-.02	9.52	.3868	.0868	-.0463	.0000	-.0002	.0002	.0018	.0006	.0042	.0934
4.0182	-.02	11.52	.4626	.1151	-.0601	.0002	-.0002	.0006	.0018	.0006	.0043	.1219
3.5866	-.02	13.59	.5373	.1498	-.0740	.0001	.0000	.0004	.0017	.0007	.0046	.1568
3.2282	-.02	15.55	.6075	.1882	-.0884	-.0001	.0002	.0005	.0016	.0007	.0048	.1953
2.9203	-.02	17.49	.6764	.2316	-.1034	-.0001	.0003	.0004	.0016	.0007	.0050	.2390
2.6474	-.02	19.51	.7458	.2817	-.1191	-.0006	-.0003	.0012	.0016	.0008	.0052	.2893
-1.0925	-.02	-.49	-.0311	.0284	.0178	-.0002	.0002	-.0008	.0020	.0004	.0036	.0344

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 75 MACH 1.60

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.001	-.01	-4.48	-.3021	.0370	.0891	.0003	.0000	-.0015	.0026	.0010	.0017	.0423
2.000	-.02	-2.36	-.1805	.0371	.0689	.0001	.0001	-.0008	.0027	.0010	.0017	.0425
1.999	-.02	-1.34	-.1257	.0371	.0596	.0002	.0001	-.0004	.0027	.0010	.0017	.0425
2.000	-.02	-.40	-.0762	.0366	.0516	-.0000	.0000	-.0004	.0029	.0010	.0017	.0422
2.005	-.02	.62	-.0193	.0358	.0425	.0001	-.0000	-.0003	.0030	.0011	.0017	.0415
2.000	-.02	1.67	.0344	.0347	.0336	-.0002	-.0002	.0002	.0030	.0011	.0017	.0405
1.998	-.02	3.58	.1427	.0323	.0156	.0000	-.0003	.0007	.0031	.0011	.0016	.0381
1.999	-.02	5.61	.2639	.0297	-.0047	.0001	-.0002	.0009	.0031	.0011	.0017	.0355
2.000	-.02	7.62	.3755	.0273	-.0241	-.0003	-.0001	.0010	.0031	.0011	.0016	.0331
2.001	-.03	9.59	.4870	.0252	-.0436	-.0000	-.0002	.0017	.0030	.0011	.0016	.0308
2.000	-.03	11.57	.5958	.0230	-.0628	-.0002	-.0001	.0015	.0028	.0011	.0016	.0285
2.000	-.03	13.59	.7031	.0209	-.0821	-.0005	-.0004	.0022	.0027	.0012	.0015	.0263
2.001	-.03	15.57	.8080	.0190	-.1009	-.0001	-.0008	.0026	.0027	.0012	.0015	.0244
2.000	-.03	17.67	.9066	.0174	-.1159	-.0005	-.0014	.0037	.0027	.0014	.0015	.0229
2.003	-.02	-.43	-.0766	.0367	.0518	.0003	-.0003	.0006	.0029	.0010	.0017	.0423

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.9447	-.01	-4.48	-.2980	.0603	.0891	.0003	.0001	-.0015	.0026	.0010	.0018	.0657
-4.0154	-.02	-2.36	-.1787	.0445	.0689	.0001	.0001	-.0008	.0027	.0010	.0017	.0499
-3.1196	-.02	-1.34	-.1247	.0400	.0596	.0002	.0001	-.0004	.0027	.0010	.0017	.0454
-2.0436	-.02	-.40	-.0759	.0372	.0516	-.0000	.0000	-.0004	.0029	.0010	.0017	.0427
-.5539	-.02	.62	-.0197	.0356	.0425	.0001	-.0000	-.0003	.0030	.0011	.0017	.0413
.9330	-.02	1.67	.0333	.0357	.0336	-.0002	-.0002	.0002	.0030	.0011	.0017	.0415
3.4148	-.02	3.58	.1402	.0410	.0156	-.0000	-.0003	.0007	.0031	.0011	.0017	.0469
4.7093	-.02	5.61	.2594	.0551	-.0047	.0001	-.0002	.0009	.0031	.0011	.0019	.0612
4.8201	-.02	7.62	.3681	.0764	-.0241	-.0003	-.0001	.0010	.0030	.0011	.0021	.0826
4.5191	-.03	9.59	.4755	.1052	-.0436	-.0001	-.0002	.0017	.0029	.0011	.0023	.1116
4.1049	-.03	11.57	.5784	.1409	-.0628	-.0003	-.0001	.0015	.0028	.0011	.0026	.1474
3.6831	-.03	13.59	.6778	.1840	-.0821	-.0006	-.0003	.0022	.0026	.0011	.0030	.1908
3.3099	-.03	15.57	.7724	.2334	-.1009	-.0004	-.0008	.0026	.0026	.0012	.0033	.2404
2.9632	-.03	17.67	.8577	.2894	-.1159	-.0009	-.0012	.0037	.0026	.0013	.0037	.2970
-2.0479	-.02	-.43	-.0763	.0373	.0518	.0003	-.0003	.0006	.0029	.0010	.0017	.0429

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 76 MACH 1.80

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.003	-.02	-4.44	-.2616	.0356	.0717	.0001	-.0001	-.0007	.0028	.0007	.0022	.0413
2.005	-.02	-2.45	-.1597	.0353	.0560	-.0001	-.0003	.0002	.0028	.0007	.0022	.0411
2.003	-.02	-1.40	-.1084	.0352	.0483	.0002	-.0000	.0000	.0028	.0007	.0022	.0409
2.003	-.02	-.41	-.0594	.0347	.0412	-.0001	-.0000	.0001	.0029	.0008	.0022	.0406
2.003	-.02	.55	-.0132	.0338	.0343	-.0003	-.0002	.0003	.0029	.0008	.0022	.0398
2.006	-.02	1.55	.0384	.0328	.0266	-.0002	-.0003	.0007	.0030	.0008	.0022	.0387
2.004	-.02	3.54	.1416	.0307	.0101	-.0001	-.0000	.0003	.0030	.0008	.0022	.0367
2.003	-.02	5.58	.2464	.0286	-.0072	-.0002	.0000	.0004	.0030	.0008	.0022	.0345
2.004	-.02	7.62	.3499	.0266	-.0248	-.0001	-.0006	.0015	.0030	.0008	.0021	.0326
2.004	-.02	9.64	.4482	.0246	-.0419	-.0004	-.0005	.0019	.0029	.0009	.0020	.0305
2.003	-.02	11.58	.5413	.0230	-.0586	-.0005	-.0006	.0020	.0029	.0010	.0020	.0288
2.005	-.02	13.61	.6375	.0213	-.0767	-.0003	-.0010	.0024	.0028	.0010	.0019	.0270
2.004	-.02	15.58	.7277	.0200	-.0927	-.0002	-.0014	.0028	.0028	.0011	.0017	.0256
2.005	-.02	17.63	.8201	.0188	-.1081	-.0002	-.0011	.0026	.0027	.0011	.0016	.0243
2.004	-.03	19.64	.9104	.0174	-.1250	-.0003	-.0013	.0040	.0027	.0012	.0016	.0228
2.004	-.02	-.42	-.0597	.0347	.0414	.0000	-.0002	.0003	.0029	.0008	.0022	.0406

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.6382	-.02	-4.44	-.2577	.0556	.0717	.0001	-.0001	-.0007	.0028	.0007	.0024	.0615
-3.7561	-.02	-2.45	-.1579	.0420	.0560	-.0001	-.0003	.0002	.0028	.0007	.0023	.0478
-2.8433	-.02	-1.40	-.1074	.0378	.0483	.0002	-.0000	.0000	.0028	.0007	.0023	.0436
-1.6830	-.02	-.41	-.0591	.0351	.0412	-.0001	-.0000	.0001	.0029	.0008	.0022	.0410
-.4034	-.02	.55	-.0136	.0337	.0343	-.0003	-.0002	.0003	.0029	.0008	.0022	.0396
1.1066	-.02	1.55	.0374	.0338	.0266	-.0002	-.0003	.0007	.0030	.0008	.0022	.0398
3.5452	-.02	3.54	.1391	.0392	.0101	-.0001	-.0000	.0003	.0030	.0008	.0023	.0453
4.6437	-.02	5.58	.2420	.0521	-.0072	-.0002	.0000	.0004	.0030	.0008	.0025	.0584
4.7427	-.02	7.62	.3427	.0723	-.0248	-.0002	-.0006	.0015	.0029	.0008	.0026	.0787
4.4396	-.02	9.64	.4371	.0985	-.0419	-.0005	-.0004	.0019	.0029	.0009	.0029	.1051
4.0387	-.02	11.58	.5249	.1300	-.0586	-.0006	-.0005	.0020	.0028	.0010	.0031	.1369
3.6285	-.02	13.61	.6137	.1691	-.0767	-.0005	-.0009	.0024	.0027	.0010	.0034	.1763
3.2666	-.02	15.58	.6947	.2127	-.0927	-.0006	-.0013	.0028	.0027	.0011	.0037	.2201
2.9368	-.02	17.63	.7749	.2639	-.1081	-.0005	-.0010	.0026	.0026	.0011	.0040	.2715
2.6614	-.03	19.64	.8505	.3196	-.1250	-.0007	-.0011	.0040	.0025	.0012	.0043	.3276
-1.6922	-.02	-.42	-.0594	.0351	.0414	.0000	-.0002	.0003	.0029	.0008	.0022	.0410

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 77 MACH 2.00

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.003	-.02	-4.60	-.2500	.0343	.0616	.0004	.0009	-.0019	.0024	.0006	.0029	.0401
2.001	-.02	-2.51	-.1499	.0337	.0466	.0004	.0007	-.0012	.0023	.0005	.0029	.0394
2.000	-.02	-1.58	-.1068	.0335	.0402	.0004	.0005	-.0007	.0023	.0005	.0029	.0392
2.001	-.02	-.58	-.0595	.0331	.0339	.0004	.0008	-.0010	.0024	.0005	.0029	.0389
2.001	-.02	.43	-.0121	.0325	.0270	.0004	.0007	-.0006	.0024	.0005	.0029	.0383
2.000	-.02	1.41	.0320	.0314	.0210	.0000	.0006	-.0002	.0024	.0006	.0029	.0372
2.001	-.02	3.41	.1270	.0295	.0064	.0003	.0008	-.0004	.0024	.0005	.0029	.0353
2.002	-.02	5.47	.2240	.0277	-.0087	.0000	.0005	.0002	.0023	.0006	.0029	.0335
2.002	-.02	7.44	.3129	.0260	-.0232	.0001	.0000	.0008	.0023	.0007	.0028	.0319
2.001	-.02	9.45	.4030	.0244	-.0380	-.0001	-.0001	.0010	.0023	.0008	.0027	.0303
2.001	-.03	11.45	.4895	.0232	-.0531	.0002	.0000	.0013	.0024	.0008	.0025	.0289
2.001	-.04	13.43	.5751	.0217	-.0685	-.0001	-.0020	.0066	.0022	.0008	.0024	.0272
2.001	-.02	15.41	.6593	.0205	-.0831	.0000	-.0006	.0020	.0021	.0009	.0022	.0257
2.000	-.03	17.42	.7427	.0197	-.0987	-.0002	-.0003	.0021	.0021	.0009	.0021	.0247
2.001	-.03	19.41	.8263	.0183	-.1138	-.0003	-.0006	.0023	.0021	.0009	.0019	.0233
2.001	-.02	-.54	-.0580	.0332	.0339	.0005	.0007	-.0010	.0024	.0005	.0029	.0390

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.5536	-.02	-4.60	-.2460	.0540	.0616	.0003	.0009	-.0019	.0023	.0006	.0031	.0600
-3.6798	-.02	-2.51	-.1480	.0402	.0466	.0003	.0007	-.0012	.0023	.0005	.0029	.0460
-2.9010	-.02	-1.58	-.1057	.0364	.0402	.0004	.0005	-.0007	.0023	.0005	.0029	.0422
-1.7533	-.02	-.58	-.0591	.0337	.0339	.0004	.0008	-.0010	.0024	.0005	.0029	.0395
-.3817	-.02	.43	-.0124	.0324	.0270	.0004	.0007	-.0006	.0024	.0005	.0029	.0382
.9667	-.02	1.41	.0311	.0322	.0210	.0000	.0006	-.0002	.0024	.0006	.0029	.0380
3.3785	-.02	3.41	.1247	.0369	.0064	.0003	.0007	-.0004	.0024	.0005	.0030	.0428
4.5253	-.02	5.47	.2198	.0486	-.0087	.0001	.0005	.0002	.0023	.0006	.0032	.0547
4.6578	-.02	7.44	.3062	.0657	-.0232	.0001	.0000	.0008	.0023	.0007	.0033	.0721
4.3906	-.02	9.45	.3926	.0894	-.0380	-.0001	-.0001	.0010	.0023	.0008	.0035	.0960
3.9989	-.03	11.45	.4742	.1186	-.0531	.0002	.0000	.0013	.0023	.0008	.0037	.1254
3.6149	-.04	13.43	.5532	.1530	-.0685	-.0005	-.0019	.0066	.0022	.0008	.0040	.1600
3.2608	-.02	15.41	.6290	.1929	-.0831	-.0001	-.0006	.0020	.0020	.0009	.0042	.2000
2.9402	-.03	17.42	.7015	.2386	-.0987	-.0003	-.0003	.0021	.0020	.0009	.0045	.2460
2.6717	-.03	19.41	.7720	.2889	-.1138	-.0005	-.0005	.0023	.0019	.0009	.0048	.2966
-1.7101	-.02	-.54	-.0577	.0337	.0339	.0005	.0007	-.0010	.0024	.0005	.0029	.0395

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 78 MACH 2.16

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.001	-.01	-4.47	-.2219	.0330	.0514	.0002	.0003	-.0017	.0020	.0005	.0035	.0390
2.001	-.02	-2.51	-.1343	.0323	.0401	.0001	-.0000	-.0008	.0019	.0004	.0035	.0382
2.001	-.02	-1.51	-.0898	.0320	.0340	.0002	.0001	-.0009	.0019	.0004	.0036	.0380
2.000	-.02	-.44	-.0435	.0316	.0278	-.0000	.0002	-.0006	.0020	.0004	.0036	.0375
2.001	-.02	.56	.0007	.0309	.0218	-.0001	.0001	.0000	.0020	.0004	.0036	.0368
2.001	-.02	1.52	.0413	.0301	.0159	-.0002	.0000	.0002	.0019	.0004	.0036	.0360
2.001	-.02	3.51	.1310	.0280	.0027	-.0000	.0001	.0001	.0019	.0005	.0035	.0339
2.001	-.02	5.52	.2168	.0264	-.0102	.0002	.0001	.0003	.0018	.0006	.0034	.0323
2.001	-.02	7.51	.3007	.0249	-.0234	.0002	-.0000	.0004	.0018	.0006	.0034	.0307
2.002	-.02	9.57	.3860	.0236	-.0369	.0004	-.0002	.0008	.0019	.0006	.0033	.0293
2.001	-.02	11.51	.4651	.0223	-.0506	.0004	-.0003	.0012	.0018	.0006	.0031	.0279
2.002	-.02	13.57	.5468	.0211	-.0651	.0002	.0001	.0008	.0018	.0007	.0029	.0265
2.001	-.03	15.50	.6235	.0201	-.0789	.0002	-.0001	.0014	.0016	.0007	.0027	.0252
2.001	-.03	17.50	.7044	.0191	-.0942	-.0002	.0004	.0011	.0017	.0007	.0025	.0241
2.000	-.02	19.50	.7866	.0180	-.1098	-.0002	-.0001	.0011	.0017	.0008	.0023	.0229
2.002	-.02	-.49	-.0459	.0316	.0281	.0001	.0002	-.0005	.0020	.0004	.0036	.0375

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.3613	-.01	-4.47	-.2181	.0500	.0514	.0002	.0003	-.0017	.0020	.0005	.0037	.0562
-3.4744	-.02	-2.51	-.1324	.0381	.0401	.0001	-.0000	-.0008	.0019	.0004	.0036	.0441
-2.5826	-.02	-1.51	-.0888	.0344	.0340	.0002	.0001	-.0009	.0019	.0004	.0036	.0403
-1.3533	-.02	-.44	-.0432	.0319	.0278	-.0000	.0002	-.0006	.0020	.0004	.0036	.0378
.0093	-.02	.56	.0003	.0309	.0218	-.0001	.0001	.0000	.0020	.0004	.0036	.0368
1.2934	-.02	1.52	.0403	.0311	.0159	-.0002	.0000	.0002	.0019	.0004	.0036	.0371
3.5877	-.02	3.51	.1286	.0358	.0027	-.0000	.0001	.0001	.0019	.0005	.0037	.0419
4.5375	-.02	5.52	.2126	.0469	-.0102	.0002	.0001	.0003	.0018	.0006	.0037	.0530
4.6371	-.02	7.51	.2940	.0634	-.0234	.0002	-.0000	.0004	.0018	.0006	.0039	.0697
4.3421	-.02	9.57	.3756	.0865	-.0369	.0003	-.0002	.0008	.0018	.0006	.0042	.0931
3.9715	-.02	11.51	.4500	.1133	-.0506	.0004	-.0004	.0012	.0018	.0006	.0043	.1201
3.5713	-.02	13.57	.5253	.1471	-.0651	.0002	.0000	.0008	.0017	.0007	.0046	.1540
3.2324	-.03	15.50	.5940	.1838	-.0789	.0002	-.0001	.0014	.0016	.0007	.0048	.1908
2.9206	-.03	17.50	.6645	.2275	-.0942	-.0001	.0004	.0011	.0016	.0007	.0050	.2348
2.6534	-.02	19.50	.7339	.2766	-.1098	-.0002	-.0001	.0011	.0016	.0008	.0052	.2842
-1.4263	-.02	-.49	-.0456	.0320	.0281	.0001	.0002	-.0005	.0020	.0004	.0036	.0379

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 79 MACH 1.60

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.006	-.02	-4.40	-.2172	.0278	.0349	.0003	-.0008	.0013	.0027	.0007	.0017	.0329
2.000	-.02	-2.35	-.1164	.0277	.0217	.0001	-.0008	.0018	.0028	.0007	.0017	.0329
2.001	-.02	-1.34	-.0671	.0277	.0151	.0005	-.0006	.0017	.0030	.0007	.0017	.0330
2.001	-.02	-.40	-.0207	.0276	.0088	.0005	-.0005	.0017	.0031	.0007	.0017	.0330
2.002	-.02	.60	.0267	.0272	.0024	.0002	-.0008	.0021	.0032	.0007	.0017	.0328
1.997	-.02	1.67	.0808	.0266	-.0050	.0005	-.0005	.0017	.0032	.0007	.0017	.0322
2.001	-.02	3.62	.1771	.0256	-.0170	.0002	-.0005	.0020	.0033	.0007	.0016	.0312
2.001	-.02	5.63	.2749	.0243	-.0284	.0002	-.0004	.0022	.0034	.0007	.0017	.0301
1.997	-.03	7.66	.3742	.0234	-.0398	.0005	-.0004	.0023	.0034	.0007	.0016	.0291
2.000	-.03	9.67	.4697	.0226	-.0512	.0003	-.0006	.0029	.0035	.0007	.0016	.0285
1.999	-.03	11.61	.5621	.0222	-.0619	.0004	-.0007	.0031	.0035	.0007	.0016	.0279
2.001	-.03	13.59	.6497	.0215	-.0719	.0003	-.0012	.0036	.0034	.0007	.0015	.0273
1.999	-.03	15.62	.7412	.0211	-.0813	.0002	-.0013	.0038	.0034	.0008	.0015	.0269
2.002	-.03	17.62	.8270	.0209	-.0895	.0002	-.0022	.0055	.0034	.0009	.0015	.0267
1.999	-.03	19.66	.9187	.0208	-.1008	.0004	-.0023	.0057	.0034	.0009	.0015	.0266
2.001	-.02	-.39	-.0196	.0276	.0069	.0002	-.0006	.0013	.0031	.0007	.0017	.0331

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.8473	-.02	-4.40	-.2142	.0442	.0349	.0004	-.0007	.0013	.0027	.0007	.0018	.0494
-3.5499	-.02	-2.35	-.1151	.0324	.0217	.0002	-.0008	.0018	.0028	.0007	.0017	.0376
-2.2702	-.02	-1.34	-.0664	.0292	.0151	.0005	-.0006	.0017	.0030	.0007	.0017	.0346
-.7389	-.02	-.40	-.0205	.0277	.0088	.0005	-.0005	.0017	.0031	.0007	.0017	.0332
.9605	-.02	.60	.0264	.0275	.0024	.0002	-.0008	.0021	.0032	.0007	.0017	.0330
2.7600	-.02	1.67	.0799	.0289	-.0050	.0005	-.0005	.0017	.0032	.0007	.0017	.0345
4.7755	-.02	3.62	.1749	.0366	-.0170	.0001	-.0005	.0020	.0033	.0007	.0017	.0424
5.3228	-.02	5.63	.2709	.0509	-.0284	.0002	-.0004	.0022	.0034	.0007	.0019	.0569
5.0634	-.03	7.66	.3673	.0725	-.0398	.0005	-.0005	.0023	.0034	.0007	.0021	.0787
4.5594	-.03	9.67	.4586	.1006	-.0512	.0002	-.0007	.0029	.0034	.0007	.0023	.1070
4.0779	-.03	11.61	.5455	.1338	-.0619	.0002	-.0008	.0031	.0034	.0007	.0026	.1405
3.6352	-.03	13.59	.6257	.1721	-.0719	.0000	-.0013	.0036	.0033	.0007	.0030	.1792
3.2437	-.03	15.62	.7074	.2181	-.0813	-.0002	-.0013	.0038	.0033	.0008	.0033	.2255
2.9149	-.03	17.62	.7810	.2679	-.0895	-.0004	-.0021	.0055	.0033	.0009	.0037	.2757
2.6298	-.03	19.66	.8571	.3259	-.1008	-.0004	-.0023	.0057	.0032	.0008	.0041	.3341
-.6987	-.02	-.39	-.0194	.0277	.0089	.0002	-.0006	.0013	.0031	.0007	.0017	.0332

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 82 MACH 1.80

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.006	-.02	-4.47	-.1944	.0268	.0266	.0004	-.0006	.0006	.0028	.0005	.0022	.0323
2.000	-.02	-2.42	-.1050	.0265	.0173	.0004	-.0005	.0007	.0028	.0005	.0022	.0320
2.002	-.02	-1.32	-.0579	.0264	.0120	-.0001	-.0006	.0009	.0029	.0005	.0022	.0320
2.002	-.02	-.37	-.0162	.0262	.0074	.0001	-.0004	.0010	.0029	.0005	.0022	.0319
2.001	-.02	.71	.0294	.0257	.0022	.0000	-.0005	.0009	.0029	.0005	.0022	.0314
2.002	-.02	1.68	.0724	.0253	-.0025	.0000	-.0006	.0012	.0030	.0005	.0022	.0310
2.001	-.02	3.62	.1576	.0245	-.0120	-.0002	-.0006	.0013	.0030	.0005	.0022	.0302
2.002	-.02	5.62	.2451	.0236	-.0210	-.0001	-.0007	.0013	.0030	.0005	.0022	.0293
2.000	-.02	7.64	.3328	.0227	-.0302	.0000	-.0010	.0016	.0030	.0006	.0021	.0284
2.002	-.02	9.67	.4186	.0222	-.0399	-.0000	-.0007	.0015	.0030	.0006	.0020	.0278
2.000	-.02	11.61	.5008	.0221	-.0494	.0001	-.0008	.0020	.0029	.0006	.0019	.0276
2.003	-.02	13.68	.5835	.0218	-.0589	.0003	-.0011	.0019	.0029	.0007	.0018	.0272
2.004	-.02	15.64	.6593	.0219	-.0662	.0003	-.0013	.0025	.0029	.0007	.0017	.0272
2.000	-.02	17.64	.7376	.0220	-.0754	.0004	-.0015	.0028	.0028	.0007	.0016	.0272
2.002	-.02	19.65	.8213	.0214	-.0873	.0003	-.0021	.0029	.0028	.0007	.0016	.0264
2.000	-.02	-.31	-.0138	.0262	.0072	-.0001	-.0006	.0011	.0029	.0005	.0022	.0319

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.5924	-.02	-4.47	-.1913	.0417	.0266	.0004	-.0005	.0006	.0027	.0005	.0024	.0473
-3.3551	-.02	-2.42	-.1036	.0309	.0173	.0004	-.0005	.0007	.0028	.0005	.0023	.0364
-2.0650	-.02	-1.32	-.0572	.0277	.0120	-.0001	-.0006	.0009	.0029	.0005	.0022	.0333
-.6089	-.02	-.37	-.0160	.0263	.0074	.0001	-.0004	.0010	.0029	.0005	.0022	.0320
1.1143	-.02	.71	.0291	.0261	.0022	.0000	-.0005	.0009	.0029	.0005	.0022	.0318
2.6086	-.02	1.68	.0715	.0274	-.0025	-.0000	-.0006	.0012	.0030	.0005	.0022	.0331
4.5375	-.02	3.62	.1555	.0343	-.0120	-.0002	-.0006	.0013	.0030	.0005	.0023	.0401
5.1124	-.02	5.62	.2412	.0472	-.0210	-.0001	-.0006	.0013	.0030	.0005	.0025	.0532
4.9285	-.02	7.64	.3262	.0662	-.0302	-.0001	-.0010	.0016	.0030	.0005	.0026	.0723
4.4674	-.02	9.67	.4083	.0914	-.0399	-.0002	-.0007	.0015	.0029	.0006	.0029	.0978
4.0026	-.02	11.61	.4353	.1213	-.0494	-.0001	-.0009	.0020	.0029	.0006	.0031	.1279
3.5586	-.02	13.68	.5609	.1576	-.0589	.0000	-.0011	.0019	.0028	.0006	.0034	.1645
3.1897	-.02	15.64	.6281	.1969	-.0662	-.0000	-.0014	.0025	.0028	.0007	.0037	.2040
2.8719	-.02	17.64	.6952	.2421	-.0754	-.0001	-.0015	.0028	.0027	.0007	.0040	.2494
2.6076	-.02	19.65	.7653	.2935	-.0873	-.0004	-.0021	.0029	.0026	.0007	.0043	.3011
-.5191	-.02	-.31	-.0136	.0263	.0072	-.0001	-.0006	.0011	.0029	.0005	.0022	.0319

UPWT PROJECT 1424 RUN 83 MACH 1.80

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.002	5.01	-4.32	-.1883	.0261	.0255	-.0054	.0133	-.0416	.0026	.0005	.0022	.0314
2.000	5.00	-2.33	-.1017	.0262	.0157	-.0061	.0123	-.0396	.0028	.0005	.0022	.0317
2.005	5.00	-1.33	-.0573	.0261	.0106	-.0064	.0113	-.0382	.0028	.0005	.0022	.0317
2.003	5.01	-.33	-.0137	.0259	.0058	-.0070	.0099	-.0365	.0029	.0005	.0022	.0315
2.001	5.01	.67	.0289	.0256	.0010	-.0076	.0095	-.0373	.0029	.0005	.0022	.0312
2.002	5.02	1.64	.0701	.0253	-.0035	-.0080	.0085	-.0365	.0030	.0005	.0022	.0310
2.000	5.03	3.70	.1606	.0246	-.0129	-.0088	.0075	-.0374	.0031	.0005	.0022	.0304
2.003	5.03	5.68	.2452	.0238	-.0224	-.0096	.0067	-.0382	.0031	.0005	.0022	.0297
2.003	5.05	7.71	.3321	.0233	-.0315	-.0100	.0049	-.0387	.0032	.0006	.0021	.0291
2.002	5.06	9.68	.4133	.0227	-.0407	-.0105	.0032	-.0387	.0032	.0006	.0020	.0285
2.003	5.08	11.66	.4972	.0225	-.0504	-.0105	.0001	-.0382	.0031	.0006	.0019	.0282
2.003	5.10	13.70	.5799	.0221	-.0600	-.0103	-.0054	-.0348	.0031	.0007	.0018	.0277
2.002	5.13	15.77	.6649	.0218	-.0715	-.0099	-.0108	-.0330	.0032	.0007	.0017	.0274
2.001	5.16	17.68	.7373	.0212	-.0797	-.0116	-.0161	-.0293	.0033	.0007	.0016	.0268
2.001	5.18	19.71	.8191	.0209	-.0904	-.0114	-.0218	-.0255	.0033	.0007	.0016	.0265
2.003	5.01	-.31	-.0112	.0258	.0059	-.0071	.0101	-.0374	.0029	.0005	.0022	.0314

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDR	CDI	CD UNC
-4.6275	5.01	-4.32	-.1854	.0401	.0255	-.0064	.0129	-.0416	.0026	.0005	.0024	.0455
-3.3127	5.00	-2.33	-.1003	.0303	.0157	-.0066	.0120	-.0396	.0028	.0005	.0023	.0358
-2.0650	5.00	-1.33	-.0566	.0274	.0106	-.0066	.0112	-.0382	.0028	.0005	.0022	.0330
-.5223	5.01	-.33	-.0135	.0259	.0058	-.0071	.0099	-.0365	.0029	.0005	.0022	.0316
1.1021	5.01	.67	.0286	.0259	.0010	-.0075	.0096	-.0373	.0029	.0005	.0022	.0316
2.5438	5.02	1.64	.0692	.0272	-.0035	-.0078	.0087	-.0365	.0030	.0005	.0022	.0330
4.5544	5.03	3.70	.1584	.0348	-.0129	-.0083	.0080	-.0374	.0031	.0005	.0023	.0407
5.0588	5.03	5.68	.2412	.0477	-.0224	-.0089	.0076	-.0382	.0031	.0005	.0025	.0538
4.8524	5.05	7.71	.3254	.0671	-.0315	-.0093	.0062	-.0387	.0031	.0005	.0027	.0734
4.4258	5.06	9.68	.4029	.0910	-.0407	-.0098	.0049	-.0387	.0031	.0006	.0029	.0976
3.9687	5.08	11.66	.4816	.1214	-.0504	-.0103	.0022	-.0382	.0031	.0006	.0031	.1282
3.5450	5.10	13.70	.5573	.1572	-.0600	-.0113	-.0028	-.0348	.0030	.0006	.0034	.1643
3.1716	5.13	15.77	.6330	.1996	-.0715	-.0125	-.0077	-.0330	.0031	.0007	.0037	.2070
2.8751	5.16	17.68	.6950	.2417	-.0797	-.0160	-.0118	-.0293	.0031	.0007	.0040	.2495
2.6034	5.18	19.71	.7630	.2931	-.0904	-.0181	-.0167	-.0255	.0031	.0007	.0043	.3012
-.4256	5.01	-.31	-.0110	.0259	.0059	-.0072	.0101	-.0374	.0029	.0005	.0022	.0315

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 84 MACH 2.00

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.005	-.02	-4.58	-.1816	.0257	.0207	.0003	.0001	-.0002	.0022	.0004	.0029	.0311
2.003	-.02	-2.55	-.0998	.0254	.0133	.0005	.0002	-.0002	.0021	.0004	.0029	.0308
2.004	-.02	-1.55	-.0597	.0253	.0099	.0004	.0001	-.0000	.0022	.0004	.0029	.0307
2.002	-.02	-.62	-.0229	.0251	.0064	.0003	.0003	-.0001	.0022	.0004	.0029	.0306
2.006	-.02	.44	.0193	.0246	.0025	.0003	.0003	-.0002	.0022	.0004	.0029	.0302
2.002	-.02	1.42	.0585	.0242	-.0011	.0001	.0004	.0001	.0022	.0004	.0029	.0297
2.006	-.02	3.45	.1401	.0234	-.0088	.0001	.0003	.0001	.0022	.0004	.0029	.0289
2.005	-.02	5.42	.2212	.0228	-.0165	.0002	.0001	.0003	.0022	.0004	.0029	.0282
2.001	-.02	7.44	.3000	.0222	-.0238	.0003	-.0003	.0005	.0022	.0004	.0028	.0276
2.006	-.02	9.47	.3773	.0218	-.0315	-.0000	-.0004	.0004	.0022	.0005	.0027	.0272
2.002	-.02	11.41	.4495	.0217	-.0390	.0002	-.0004	.0005	.0022	.0005	.0025	.0270
2.002	-.02	13.39	.5201	.0221	-.0457	.0001	-.0006	.0009	.0022	.0005	.0024	.0272
1.998	-.02	15.51	.5962	.0224	-.0542	-.0002	-.0009	.0014	.0021	.0005	.0022	.0272
2.000	-.02	17.43	.6674	.0224	-.0638	-.0002	-.0013	.0017	.0021	.0005	.0021	.0270
1.997	-.01	19.44	.7467	.0217	-.0758	-.0000	-.0019	.0020	.0020	.0005	.0019	.0262
2.002	-.02	-.57	-.0202	.0252	.0060	.0004	.0003	-.0001	.0022	.0004	.0029	.0307

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.4795	-.02	-4.58	-.1786	.0399	.0207	.0003	.0001	-.0002	.0022	.0004	.0031	.0455
-3.3021	-.02	-2.55	-.0983	.0298	.0133	.0005	.0002	-.0002	.0021	.0004	.0029	.0353
-2.1899	-.02	-1.55	-.0588	.0269	.0099	.0004	.0002	-.0000	.0022	.0004	.0029	.0323
-.8871	-.02	-.62	-.0225	.0254	.0064	.0003	.0003	-.0001	.0022	.0004	.0029	.0309
.7678	-.02	.44	.0190	.0248	.0025	.0003	.0003	-.0002	.0022	.0004	.0029	.0303
2.2521	-.02	1.42	.0577	.0256	-.0011	.0001	.0004	.0001	.0022	.0004	.0029	.0312
4.3679	-.02	3.45	.1381	.0316	-.0088	.0001	.0003	.0001	.0022	.0004	.0030	.0373
5.0305	-.02	5.42	.2175	.0432	-.0165	.0003	.0001	.0003	.0022	.0004	.0032	.0490
4.8756	-.02	7.44	.2939	.0603	-.0238	.0002	-.0003	.0005	.0022	.0004	.0033	.0662
4.4428	-.02	9.47	.3677	.0828	-.0315	-.0001	-.0004	.0004	.0022	.0005	.0035	.0889
3.9935	-.02	11.41	.4353	.1090	-.0390	.0001	-.0004	.0005	.0022	.0005	.0037	.1154
3.5627	-.02	13.39	.4997	.1403	-.0457	-.0001	-.0006	.0009	.0022	.0005	.0040	.1469
3.1720	-.02	15.51	.5673	.1789	-.0542	-.0004	-.0008	.0014	.0020	.0005	.0043	.1857
2.8747	-.02	17.43	.6289	.2188	-.0638	-.0006	-.0011	.0017	.0020	.0005	.0045	.2257
2.6148	-.01	19.44	.6956	.2660	-.0758	-.0007	-.0017	.0020	.0019	.0005	.0048	.2732
-.7851	-.02	-.57	-.0199	.0254	.0060	.0004	.0003	-.0001	.0022	.0004	.0029	.0309

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 87 MACH 2.16

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.001	-.02	-4.53	-.1656	.0250	.0152	-.0001	-.0004	.0000	.0019	.0003	.0035	.0306
1.997	-.02	-2.44	-.0884	.0244	.0102	-.0001	-.0005	.0002	.0017	.0003	.0035	.0300
1.997	-.02	-1.42	-.0498	.0243	.0073	.0002	-.0003	.0002	.0017	.0003	.0036	.0299
1.999	-.02	-.45	-.0137	.0239	.0045	.0000	-.0003	.0005	.0018	.0003	.0036	.0296
2.000	-.02	.52	.0223	.0235	.0017	.0000	-.0001	.0001	.0018	.0003	.0036	.0291
2.000	-.02	1.58	.0624	.0231	-.0014	-.0001	-.0003	.0008	.0018	.0003	.0036	.0287
1.999	-.02	3.51	.1347	.0225	-.0073	-.0001	-.0004	.0009	.0017	.0003	.0035	.0281
1.999	-.02	5.58	.2123	.0219	-.0140	.0000	-.0003	.0009	.0017	.0003	.0034	.0274
1.998	-.02	7.63	.2864	.0215	-.0205	.0001	-.0005	.0013	.0017	.0003	.0034	.0269
2.002	-.02	9.56	.3560	.0212	-.0276	.0002	-.0009	.0011	.0017	.0004	.0033	.0266
2.001	-.02	11.64	.4279	.0213	-.0345	.0003	-.0009	.0009	.0017	.0004	.0031	.0264
1.998	-.02	13.60	.4951	.0216	-.0416	.0001	-.0010	.0013	.0016	.0004	.0029	.0265
2.002	-.02	15.62	.5640	.0217	-.0499	.0001	-.0010	.0016	.0015	.0004	.0027	.0264
1.997	-.02	17.60	.6353	.0216	-.0595	-.0001	-.0008	.0014	.0016	.0004	.0025	.0261
2.000	-.02	19.60	.7106	.0208	-.0711	-.0002	-.0011	.0014	.0016	.0004	.0023	.0250
1.998	-.02	-.46	-.0135	.0240	.0048	.0000	-.0003	.0002	.0018	.0003	.0036	.0296

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.3057	-.02	-4.53	-.1626	.0378	.0152	-.0000	-.0004	.0000	.0019	.0003	.0037	.0436
-3.0913	-.02	-2.44	-.0869	.0281	.0102	-.0000	-.0005	.0002	.0017	.0003	.0036	.0338
-1.9254	-.02	-1.42	-.0490	.0255	.0073	.0002	-.0003	.0002	.0017	.0003	.0036	.0311
-.5603	-.02	-.45	-.0135	.0240	.0045	.0000	-.0003	.0005	.0018	.0003	.0036	.0297
.9298	-.02	.52	.0220	.0237	.0017	.0000	-.0001	.0001	.0018	.0003	.0036	.0293
2.4798	-.02	1.58	.0615	.0248	-.0014	-.0001	-.0003	.0008	.0018	.0003	.0036	.0304
4.3404	-.02	3.51	.1327	.0306	-.0073	-.0001	-.0003	.0009	.0017	.0003	.0037	.0363
4.9466	-.02	5.58	.2085	.0421	-.0140	-.0000	-.0003	.0009	.0017	.0003	.0037	.0479
4.7728	-.02	7.63	.2801	.0587	-.0205	-.0000	-.0005	.0013	.0017	.0003	.0040	.0647
4.3775	-.02	9.56	.3464	.0791	-.0276	.0001	-.0009	.0011	.0017	.0004	.0042	.0853
3.9089	-.02	11.64	.4135	.1058	-.0345	.0001	-.0010	.0009	.0017	.0004	.0044	.1122
3.4998	-.02	13.60	.4748	.1357	-.0416	-.0001	-.0010	.0013	.0016	.0004	.0046	.1422
3.1420	-.02	15.62	.5358	.1705	-.0499	-.0002	-.0010	.0016	.0015	.0004	.0048	.1772
2.8444	-.02	17.60	.5975	.2101	-.0595	-.0004	-.0008	.0014	.0015	.0004	.0050	.2170
2.5924	-.02	19.60	.6609	.2549	-.0711	-.0006	-.0009	.0014	.0015	.0004	.0052	.2620
-.5510	-.02	-.46	-.0133	.0241	.0048	.0000	-.0003	.0002	.0018	.0003	.0036	.0298

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 88 MACH 1.60

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.006	-.02	-4.34	-.2560	.0341	.0600	.0004	-.0009	.0012	.0028	.0007	.0017	.0393
2.003	-.02	-2.37	-.1590	.0333	.0476	.0002	-.0006	.0010	.0028	.0007	.0017	.0385
2.003	-.02	-1.41	-.1140	.0331	.0414	.0004	-.0004	.0012	.0029	.0007	.0017	.0384
2.004	-.02	-.31	-.0614	.0325	.0342	.0006	-.0002	.0006	.0031	.0007	.0017	.0380
2.002	-.02	.65	-.0135	.0319	.0277	.0005	-.0003	.0013	.0031	.0007	.0017	.0374
2.000	-.02	1.68	.0373	.0311	.0209	.0003	-.0006	.0019	.0032	.0007	.0017	.0367
2.003	-.02	3.68	.1354	.0294	.0084	.0005	-.0004	.0019	.0033	.0007	.0016	.0351
2.006	-.03	5.61	.2309	.0277	-.0027	.0004	-.0007	.0026	.0034	.0007	.0017	.0334
2.003	-.02	7.65	.3294	.0259	-.0141	.0002	-.0008	.0028	.0034	.0007	.0016	.0317
2.003	-.03	9.68	.4288	.0243	-.0265	.0003	-.0008	.0038	.0036	.0007	.0016	.0301
2.003	-.03	11.65	.5239	.0227	-.0379	.0005	-.0009	.0040	.0036	.0007	.0016	.0285
2.002	-.03	13.63	.6134	.0213	-.0482	.0005	-.0011	.0045	.0035	.0008	.0015	.0270
2.004	-.03	15.69	.7046	.0201	-.0580	.0003	-.0017	.0052	.0034	.0008	.0015	.0258
2.003	-.03	17.66	.7899	.0193	-.0665	.0003	-.0025	.0065	.0033	.0009	.0015	.0250
2.002	-.03	19.67	.8713	.0187	-.0738	-.0019	-.0010	.0048	.0033	.0009	.0015	.0243
2.001	-.02	-.39	-.0637	.0325	.0344	.0003	-.0005	.0014	.0031	.0007	.0017	.0380

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.7423	-.02	-4.34	-.2524	.0532	.0600	.0005	-.0009	.0012	.0028	.0007	.0018	.0586
-3.9535	-.02	-2.37	-.1573	.0398	.0476	.0002	-.0006	.0010	.0028	.0007	.0017	.0450
-3.1515	-.02	-1.41	-.1131	.0359	.0414	.0005	-.0004	.0012	.0029	.0007	.0017	.0412
-1.8640	-.02	-.31	-.0612	.0328	.0342	.0006	-.0002	.0006	.0031	.0007	.0017	.0383
-.4389	-.02	.65	-.0139	.0317	.0277	.0005	-.0004	.0013	.0031	.0007	.0017	.0373
1.1264	-.02	1.68	.0362	.0322	.0209	.0002	-.0006	.0019	.0032	.0007	.0017	.0378
3.5043	-.02	3.68	.1330	.0380	.0084	.0004	-.0004	.0019	.0033	.0007	.0018	.0437
4.5498	-.03	5.61	.2268	.0498	-.0027	.0003	-.0007	.0026	.0034	.0007	.0019	.0559
4.6729	-.02	7.65	.3226	.0690	-.0141	.0000	-.0008	.0028	.0034	.0007	.0021	.0752
4.3917	-.03	9.68	.4181	.0952	-.0265	.0002	-.0009	.0038	.0035	.0007	.0023	.1018
4.0004	-.03	11.65	.5079	.1270	-.0379	.0003	-.0009	.0040	.0035	.0007	.0026	.1338
3.6050	-.03	13.63	.5903	.1638	-.0482	.0002	-.0012	.0045	.0034	.0007	.0030	.1708
3.2311	-.03	15.69	.6721	.2080	-.0580	-.0002	-.0018	.0052	.0033	.0008	.0033	.2154
2.9176	-.03	17.66	.7459	.2557	-.0665	-.0004	-.0025	.0065	.0032	.0009	.0037	.2634
2.6390	-.03	19.67	.8132	.3082	-.0738	-.0022	-.0003	.0048	.0031	.0008	.0041	.3162
-1.9249	-.02	-.39	-.0635	.0330	.0344	.0003	-.0005	.0014	.0031	.0007	.0017	.0385

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 89 MACH 1.80

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.000	-.02	-4.41	-.2251	.0323	.0464	.0001	-.0011	.0018	.0028	.0005	.0022	.0379
2.000	-.02	-2.35	-.1352	.0314	.0368	.0003	-.0008	.0015	.0029	.0005	.0022	.0370
2.000	-.02	-1.38	-.0929	.0310	.0320	.0004	-.0007	.0017	.0029	.0005	.0022	.0367
2.001	-.02	-.31	-.0468	.0306	.0268	.0000	-.0007	.0016	.0030	.0005	.0022	.0363
2.001	-.02	.72	-.0023	.0299	.0219	.0002	-.0008	.0017	.0030	.0005	.0022	.0357
2.001	-.02	1.64	.0380	.0293	.0174	.0001	-.0008	.0018	.0031	.0005	.0022	.0351
2.002	-.02	3.57	.1247	.0279	.0081	.0003	-.0007	.0016	.0031	.0005	.0022	.0337
2.001	-.02	5.64	.2148	.0264	-.0013	.0000	-.0007	.0021	.0032	.0005	.0022	.0323
2.002	-.02	7.68	.3049	.0247	-.0111	.0002	-.0010	.0025	.0032	.0006	.0021	.0305
2.003	-.02	9.70	.3903	.0233	-.0208	.0000	-.0008	.0019	.0031	.0006	.0020	.0291
2.003	-.02	11.64	.4718	.0224	-.0307	.0004	-.0009	.0027	.0031	.0006	.0019	.0281
2.000	-.02	13.67	.5548	.0214	-.0404	.0004	-.0016	.0029	.0030	.0007	.0018	.0269
2.000	-.02	15.67	.6314	.0207	-.0482	.0003	-.0014	.0036	.0029	.0007	.0017	.0260
2.000	-.02	17.65	.7088	.0203	-.0573	.0006	-.0019	.0040	.0028	.0007	.0016	.0254
2.002	-.02	19.66	.7919	.0190	-.0689	.0007	-.0025	.0045	.0028	.0007	.0016	.0241
2.001	-.02	-.33	-.0476	.0305	.0268	.0004	-.0004	.0012	.0030	.0005	.0022	.0363

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.4881	-.02	-4.41	-.2216	.0494	.0464	.0002	-.0011	.0018	.0028	.0005	.0024	.0550
-3.6279	-.02	-2.35	-.1336	.0368	.0368	.0004	-.0008	.0015	.0029	.0005	.0023	.0425
-2.7682	-.02	-1.38	-.0920	.0332	.0320	.0004	-.0007	.0017	.0029	.0005	.0023	.0389
-1.5133	-.02	-.31	-.0467	.0308	.0268	.0000	-.0007	.0016	.0030	.0005	.0022	.0366
-.0917	-.02	.72	-.0027	.0299	.0219	.0002	-.0008	.0017	.0030	.0005	.0022	.0357
1.2193	-.02	1.64	.0370	.0303	.0174	.0001	-.0009	.0018	.0031	.0005	.0022	.0362
3.4540	-.02	3.57	.1224	.0354	.0081	.0003	-.0007	.0016	.0031	.0005	.0023	.0414
4.4771	-.02	5.64	.2107	.0471	-.0013	-.0000	-.0007	.0021	.0032	.0005	.0025	.0532
4.6138	-.02	7.68	.2983	.0646	-.0111	.0001	-.0010	.0025	.0031	.0005	.0027	.0710
4.3236	-.02	9.70	.3801	.0879	-.0208	-.0001	-.0008	.0019	.0031	.0006	.0029	.0945
3.9400	-.02	11.64	.4568	.1159	-.0307	.0002	-.0010	.0027	.0031	.0006	.0031	.1227
3.5479	-.02	13.67	.5332	.1503	-.0404	.0000	-.0017	.0029	.0029	.0006	.0034	.1572
3.1910	-.02	15.67	.6014	.1885	-.0482	-.0000	-.0014	.0036	.0028	.0007	.0037	.1956
2.8829	-.02	17.65	.6682	.2318	-.0573	.0000	-.0020	.0040	.0027	.0007	.0040	.2391
2.6224	-.02	19.66	.7383	.2815	-.0689	-.0002	-.0026	.0045	.0026	.0007	.0043	.2891
-1.5397	-.02	-.33	-.0474	.0308	.0268	.0004	-.0004	.0012	.0030	.0005	.0022	.0366

TABLE AIII.- Continued

IIPWT PROJECT 1424 RUN 90 MACH 2.00

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.003	-.02	-4.57	-.2097	.0304	.0371	.0005	-.0000	.0001	.0024	.0004	.0029	.0361
2.001	-.02	-2.56	-.1287	.0295	.0300	.0006	-.0001	.0006	.0023	.0004	.0029	.0352
2.000	-.02	-1.51	-.0858	.0292	.0259	.0007	.0001	.0002	.0024	.0004	.0029	.0349
1.999	-.02	-.58	-.0502	.0288	.0225	.0005	-.0000	.0003	.0024	.0004	.0029	.0345
2.000	-.02	.39	-.0106	.0282	.0190	.0005	.0001	.0003	.0024	.0004	.0029	.0340
2.003	-.02	1.39	.0289	.0275	.0153	.0006	.0002	.0004	.0024	.0004	.0029	.0332
2.000	-.02	3.41	.1107	.0263	.0078	.0003	.0001	.0003	.0024	.0004	.0029	.0320
1.999	-.02	5.47	.1938	.0249	.0002	.0002	-.0000	.0006	.0024	.0004	.0029	.0306
2.003	-.02	7.39	.2696	.0239	-.0071	.0005	-.0005	.0007	.0024	.0004	.0028	.0296
1.993	-.02	9.46	.3503	.0228	-.0154	.0004	-.0007	.0010	.0024	.0005	.0027	.0284
2.002	-.02	11.45	.4239	.0219	-.0233	.0005	-.0008	.0011	.0024	.0005	.0025	.0274
2.003	-.02	13.48	.4978	.0215	-.0311	.0004	-.0009	.0011	.0023	.0005	.0024	.0268
1.999	-.02	15.40	.5675	.0211	-.0397	.0001	-.0011	.0015	.0022	.0005	.0022	.0261
2.002	-.02	17.51	.6447	.0205	-.0495	.0003	-.0011	.0016	.0022	.0005	.0021	.0252
2.001	-.02	19.39	.7164	.0194	-.0598	.0003	-.0017	.0021	.0021	.0005	.0019	.0240
1.999	-.02	-.63	-.0510	.0288	.0231	.0004	-.0001	.0002	.0024	.0004	.0029	.0345

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.4052	-.02	-4.57	-.2061	.0468	.0371	.0005	.0000	.0001	.0024	.0004	.0031	.0526
-3.6094	-.02	-2.56	-.1270	.0352	.0300	.0006	-.0000	.0006	.0023	.0004	.0029	.0409
-2.7000	-.02	-1.51	-.0849	.0314	.0259	.0007	.0001	.0002	.0024	.0004	.0029	.0371
-1.7008	-.02	-.58	-.0499	.0293	.0225	.0005	-.0000	.0003	.0024	.0004	.0029	.0351
-.3854	-.02	.39	-.0109	.0282	.0190	.0005	.0001	.0003	.0024	.0004	.0029	.0339
.9975	-.02	1.39	.0281	.0282	.0153	.0006	.0002	.0004	.0024	.0004	.0029	.0339
3.3224	-.02	3.41	.1086	.0327	.0078	.0003	.0001	.0003	.0024	.0004	.0030	.0385
4.4214	-.02	5.47	.1900	.0430	.0002	.0002	-.0000	.0006	.0024	.0004	.0032	.0489
4.5559	-.02	7.39	.2636	.0578	-.0071	.0005	-.0006	.0007	.0024	.0004	.0033	.0640
4.3036	-.02	9.46	.3409	.0792	-.0154	.0003	-.0008	.0010	.0024	.0005	.0035	.0856
3.9283	-.02	11.45	.4101	.1044	-.0233	.0003	-.0009	.0011	.0023	.0005	.0037	.1110
3.5327	-.02	13.48	.4779	.1353	-.0311	.0002	-.0009	.0011	.0023	.0005	.0040	.1420
3.1973	-.02	15.40	.5404	.1690	-.0397	-.0002	-.0010	.0015	.0021	.0005	.0042	.1759
2.8796	-.02	17.51	.6074	.2109	-.0495	-.0000	-.0011	.0016	.0021	.0005	.0045	.2180
2.6390	-.02	19.39	.6680	.2531	-.0598	-.0003	-.0018	.0021	.0020	.0005	.0048	.2604
-1.7261	-.02	-.63	-.0506	.0293	.0231	.0004	-.0001	.0002	.0024	.0004	.0029	.0351

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 91 MACH 2.16

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
1.999	-.02	-4.41	-.1860	.0292	.0291	.0001	-.0008	.0004	.0021	.0003	.0035	.0351
2.002	-.02	-2.47	-.1138	.0283	.0241	-.0000	-.0008	.0006	.0019	.0003	.0035	.0341
1.997	-.02	-1.36	-.0723	.0276	.0213	.0002	-.0006	.0005	.0020	.0003	.0036	.0336
2.000	-.02	-.40	-.0366	.0273	.0187	.0001	-.0005	.0009	.0020	.0003	.0036	.0331
2.000	-.02	.53	-.0021	.0266	.0158	.0002	-.0005	.0007	.0020	.0003	.0036	.0324
2.000	-.02	1.61	.0383	.0260	.0127	.0003	-.0005	.0009	.0020	.0003	.0036	.0319
2.000	-.02	3.56	.1115	.0250	.0068	.0001	-.0005	.0009	.0019	.0003	.0035	.0308
2.002	-.02	5.63	.1892	.0239	.0002	.0002	-.0006	.0012	.0019	.0003	.0034	.0295
2.001	-.02	7.53	.2596	.0228	-.0062	.0004	-.0007	.0012	.0019	.0003	.0034	.0284
1.998	-.02	9.59	.3330	.0219	-.0138	.0004	-.0012	.0010	.0019	.0004	.0033	.0275
2.002	-.02	11.61	.4033	.0210	-.0209	.0005	-.0013	.0012	.0019	.0004	.0031	.0264
2.002	-.02	13.63	.4712	.0207	-.0283	.0003	-.0008	.0006	.0018	.0004	.0029	.0258
2.000	-.02	15.55	.5396	.0204	-.0368	.0002	-.0009	.0013	.0017	.0004	.0027	.0252
2.000	-.02	17.59	.6110	.0198	-.0458	.0001	-.0010	.0014	.0017	.0004	.0025	.0244
2.000	-.02	19.56	.6824	.0186	-.0561	.0002	-.0011	.0012	.0017	.0004	.0023	.0231
2.001	-.02	-.41	-.0362	.0274	.0187	.0001	-.0005	.0005	.0020	.0003	.0036	.0332

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.2286	-.02	-4.41	-.1826	.0432	.0291	.0002	-.0008	.0004	.0021	.0003	.0037	.0492
-3.3865	-.02	-2.47	-.1121	.0331	.0241	.0000	-.0008	.0006	.0019	.0003	.0036	.0390
-2.4264	-.02	-1.36	-.0715	.0295	.0213	.0002	-.0006	.0005	.0020	.0003	.0036	.0353
-1.3205	-.02	-.40	-.0364	.0275	.0187	.0001	-.0005	.0009	.0020	.0003	.0036	.0334
-.0919	-.02	.53	-.0024	.0265	.0158	.0002	-.0005	.0007	.0020	.0003	.0036	.0324
1.3799	-.02	1.61	.0374	.0271	.0127	.0003	-.0005	.0009	.0020	.0003	.0036	.0329
3.4460	-.02	3.56	.1093	.0317	.0068	.0001	-.0005	.0009	.0019	.0003	.0037	.0376
4.4130	-.02	5.63	.1853	.0420	.0002	.0001	-.0007	.0012	.0019	.0003	.0037	.0480
4.5236	-.02	7.53	.2535	.0560	-.0062	.0004	-.0007	.0012	.0019	.0003	.0039	.0622
4.2494	-.02	9.59	.3236	.0762	-.0138	.0002	-.0013	.0010	.0019	.0004	.0042	.0826
3.8792	-.02	11.61	.3895	.1004	-.0209	.0002	-.0014	.0012	.0018	.0004	.0044	.1070
3.4886	-.02	13.63	.4516	.1295	-.0283	.0001	-.0009	.0006	.0017	.0004	.0046	.1362
3.1626	-.02	15.55	.5129	.1622	-.0368	-.0000	-.0010	.0013	.0016	.0004	.0048	.1690
2.8606	-.02	17.59	.5749	.2010	-.0458	-.0003	-.0010	.0014	.0016	.0004	.0050	.2080
2.6152	-.02	19.56	.6352	.2429	-.0561	-.0002	-.0011	.0012	.0016	.0004	.0052	.2501
-1.3022	-.02	-.41	-.0360	.0276	.0187	.0001	-.0005	.0005	.0020	.0003	.0036	.0335

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 92 MACH 1.60

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.001	-.02	-4.35	-.1553	.0314	.0005	-.0003	-.0001	-.0005	.0028	.0007	.0017	.0366
1.998	-.02	-2.40	-.0591	.0324	-.0119	-.0003	-.0001	.0001	.0029	.0007	.0017	.0377
1.998	-.02	-1.37	-.0094	.0330	-.0187	-.0005	-.0001	-.0004	.0030	.0007	.0017	.0383
1.997	-.02	-.40	.0379	.0332	-.0254	-.0003	.0001	-.0000	.0031	.0007	.0017	.0387
2.001	-.02	.69	.0921	.0335	-.0328	-.0006	-.0002	.0007	.0031	.0007	.0017	.0390
2.000	-.02	1.60	.1376	.0335	-.0391	-.0004	-.0001	.0008	.0032	.0007	.0017	.0391
1.999	-.02	3.60	.2352	.0335	-.0516	-.0005	.0000	.0008	.0033	.0007	.0016	.0391
1.997	-.02	5.62	.3353	.0334	-.0634	-.0006	-.0001	.0012	.0034	.0007	.0017	.0391
1.998	-.02	7.66	.4355	.0336	-.0747	-.0007	-.0003	.0014	.0034	.0007	.0016	.0393
2.002	-.02	9.63	.5322	.0342	-.0861	-.0003	-.0006	.0024	.0035	.0007	.0016	.0400
1.999	-.02	11.59	.6248	.0347	-.0971	-.0002	-.0005	.0021	.0035	.0007	.0016	.0405
2.001	-.03	13.57	.7169	.0350	-.1077	-.0001	-.0007	.0027	.0036	.0007	.0015	.0409
1.998	-.02	15.61	.8106	.0357	-.1171	-.0006	-.0011	.0033	.0038	.0008	.0015	.0418
1.998	-.03	17.62	.9000	.0363	-.1267	-.0008	-.0015	.0045	.0039	.0009	.0015	.0425
2.002	-.02	19.64	.9926	.0372	-.1383	-.0005	-.0025	.0052	.0038	.0009	.0015	.0434
1.997	-.02	-.37	.0409	.0333	-.0256	-.0002	.0000	.0002	.0031	.0007	.0017	.0388

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-3.5457	-.02	-4.35	-.1522	.0429	.0005	-.0003	-.0001	-.0005	.0028	.0007	.0018	.0482
-1.6554	-.02	-2.40	-.0575	.0348	-.0119	-.0003	-.0001	.0001	.0029	.0007	.0017	.0401
-.2576	-.02	-1.37	-.0085	.0332	-.0187	-.0005	-.0001	-.0004	.0030	.0007	.0017	.0386
1.1591	-.02	-.40	.0382	.0329	-.0254	-.0003	.0001	-.0000	.0031	.0007	.0017	.0384
2.6508	-.02	.69	.0917	.0346	-.0328	-.0006	-.0002	.0007	.0031	.0007	.0017	.0401
3.6535	-.02	1.60	.1365	.0374	-.0391	-.0004	-.0001	.0008	.0032	.0007	.0017	.0429
4.8338	-.02	3.60	.2324	.0481	-.0516	-.0005	.0001	.0008	.0033	.0007	.0017	.0538
5.0160	-.02	5.62	.3301	.0658	-.0634	-.0006	-.0000	.0012	.0033	.0007	.0019	.0718
4.6977	-.02	7.66	.4267	.0908	-.0747	-.0008	-.0002	.0014	.0034	.0007	.0021	.0970
4.2497	-.02	9.63	.5184	.1220	-.0861	-.0004	-.0005	.0024	.0035	.0007	.0023	.1285
3.8141	-.02	11.59	.6045	.1585	-.0971	-.0003	-.0005	.0021	.0034	.0007	.0026	.1652
3.4266	-.03	13.57	.6880	.2008	-.1077	-.0003	-.0006	.0027	.0035	.0007	.0030	.2080
3.0730	-.02	15.61	.7703	.2507	-.1171	-.0009	-.0009	.0033	.0037	.0008	.0033	.2584
2.7758	-.03	17.62	.8459	.3047	-.1267	-.0012	-.0012	.0045	.0037	.0009	.0037	.3130
2.5172	-.02	19.64	.9214	.3660	-.1383	-.0013	-.0022	.0052	.0036	.0008	.0041	.3745
1.2449	-.02	-.37	.0411	.0330	-.0256	-.0002	.0000	.0002	.0031	.0007	.0017	.0385

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 93 MACH 1.80

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.002	-.02	-4.30	-.1412	.0297	-.0008	-.0003	-.0006	.0010	.0028	.0005	.0022	.0352
1.999	-.02	-2.31	-.0536	.0305	-.0102	-.0003	-.0005	.0012	.0028	.0005	.0022	.0360
2.003	-.02	-1.37	-.0138	.0308	-.0146	-.0003	-.0004	.0011	.0028	.0005	.0022	.0364
2.005	-.02	-.38	.0295	.0310	-.0194	-.0005	-.0003	.0009	.0029	.0005	.0022	.0367
2.003	-.02	.59	.0714	.0313	-.0244	-.0005	-.0003	.0007	.0029	.0005	.0022	.0369
2.003	-.02	1.69	.1196	.0313	-.0299	-.0007	-.0005	.0009	.0029	.0005	.0022	.0369
2.002	-.02	3.61	.2068	.0314	-.0392	-.0003	-.0001	.0007	.0029	.0005	.0022	.0371
2.001	-.02	5.77	.3004	.0315	-.0494	-.0005	-.0003	.0011	.0029	.0005	.0022	.0372
1.999	-.02	7.75	.3859	.0317	-.0587	-.0004	-.0006	.0022	.0029	.0006	.0021	.0373
2.005	-.02	9.66	.4662	.0323	-.0676	-.0004	-.0005	.0019	.0029	.0006	.0020	.0379
2.004	-.02	11.65	.5509	.0331	-.0775	-.0004	-.0001	.0017	.0029	.0006	.0019	.0386
2.001	-.02	13.68	.6319	.0341	-.0872	-.0003	-.0004	.0020	.0030	.0007	.0018	.0395
2.000	-.03	15.68	.7122	.0353	-.0958	-.0006	-.0009	.0034	.0031	.0007	.0017	.0408
2.004	-.02	17.66	.7942	.0363	-.1066	-.0005	-.0016	.0039	.0030	.0007	.0016	.0417
2.005	-.03	19.71	.8841	.0368	-.1203	-.0004	-.0013	.0045	.0029	.0007	.0016	.0419
2.002	-.02	-.34	.0312	.0311	-.0198	-.0004	-.0002	.0007	.0029	.0005	.0022	.0367

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-3.4523	-.02	-4.30	-.1383	.0400	-.0008	-.0003	-.0007	.0010	.0027	.0005	.0024	.0457
-1.6017	-.02	-2.31	-.0522	.0326	-.0102	-.0003	-.0005	.0012	.0028	.0005	.0023	.0381
-.4176	-.02	-1.37	-.0130	.0311	-.0146	-.0003	-.0004	.0011	.0028	.0005	.0022	.0367
.9643	-.02	-.38	.0297	.0308	-.0194	-.0005	-.0003	.0009	.0029	.0005	.0022	.0365
2.2208	-.02	.59	.0710	.0320	-.0244	-.0005	-.0003	.0007	.0029	.0005	.0022	.0376
3.4088	-.02	1.69	.1185	.0348	-.0299	-.0007	-.0004	.0009	.0029	.0005	.0022	.0404
4.6109	-.02	3.61	.2042	.0443	-.0392	-.0003	-.0001	.0007	.0029	.0005	.0023	.0501
4.8233	-.02	5.77	.2953	.0612	-.0494	-.0006	-.0002	.0011	.0029	.0005	.0025	.0672
4.5519	-.02	7.75	.3775	.0829	-.0587	-.0005	-.0006	.0022	.0029	.0005	.0027	.0890
4.1528	-.02	9.66	.4534	.1092	-.0676	-.0005	-.0004	.0019	.0029	.0006	.0029	.1155
3.7335	-.02	11.65	.5320	.1425	-.0775	-.0004	-.0000	.0017	.0029	.0006	.0031	.1491
3.3443	-.02	13.68	.6050	.1809	-.0872	-.0004	-.0003	.0020	.0029	.0006	.0034	.1878
3.0091	-.03	15.68	.6752	.2244	-.0958	-.0008	-.0007	.0034	.0030	.0007	.0037	.2317
2.7276	-.02	17.66	.7448	.2731	-.1066	-.0009	-.0014	.0039	.0029	.0007	.0040	.2806
2.4816	-.03	19.71	.8188	.3299	-.1203	-.0008	-.0011	.0045	.0027	.0007	.0043	.3377
1.0162	-.02	-.34	.0314	.0309	-.0198	-.0004	-.0002	.0007	.0029	.0005	.0022	.0366

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 94 MACH 2.00

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.008	-.02	-4.56	-.1455	.0277	-.0000	.0001	-.0001	-.0002	.0021	.0004	.0029	.0332
2.004	-.02	-2.52	-.0613	.0285	-.0079	-.0002	-.0000	.0002	.0021	.0004	.0029	.0339
2.002	-.02	-1.60	-.0245	.0289	-.0114	.0001	.0000	.0001	.0021	.0004	.0029	.0343
2.004	-.02	-.51	.0194	.0292	-.0154	-.0001	.0002	.0000	.0021	.0004	.0029	.0346
2.001	-.02	.44	.0560	.0294	-.0194	-.0000	.0003	-.0001	.0021	.0004	.0029	.0348
2.003	-.02	1.52	.1003	.0294	-.0237	-.0000	.0003	.0001	.0022	.0004	.0029	.0348
2.004	-.02	3.41	.1791	.0296	-.0312	-.0001	.0005	-.0001	.0022	.0004	.0029	.0350
2.004	-.02	5.50	.2629	.0299	-.0393	-.0002	.0001	.0006	.0022	.0004	.0029	.0354
2.004	-.02	7.43	.3387	.0303	-.0466	-.0002	-.0001	.0009	.0022	.0004	.0028	.0357
2.002	-.02	9.50	.4198	.0310	-.0549	-.0001	.0001	.0006	.0022	.0005	.0027	.0364
2.005	-.02	11.46	.4922	.0320	-.0620	-.0002	.0003	.0009	.0023	.0005	.0025	.0373
2.002	-.02	13.43	.5645	.0332	-.0697	-.0006	-.0000	.0012	.0023	.0005	.0024	.0384
2.006	-.02	15.50	.6397	.0344	-.0788	-.0007	-.0006	.0017	.0022	.0005	.0022	.0394
2.003	-.02	17.45	.7150	.0353	-.0893	-.0006	-.0008	.0023	.0022	.0005	.0021	.0400
2.003	-.02	19.39	.7938	.0359	-.1025	-.0005	-.0017	.0029	.0022	.0005	.0019	.0405
2.002	-.02	-.56	.0169	.0293	-.0153	.0001	.0002	-.0002	.0022	.0004	.0029	.0347

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-3.6493	-.02	-4.56	-.1424	.0390	-.0000	.0001	-.0001	-.0002	.0021	.0004	.0031	.0446
-1.9203	-.02	-2.52	-.0597	.0311	-.0079	-.0002	-.0000	.0002	.0021	.0004	.0029	.0365
-.7948	-.02	-1.60	-.0235	.0296	-.0114	.0001	.0000	.0001	.0021	.0004	.0029	.0350
.6776	-.02	-.51	.0197	.0290	-.0154	-.0001	.0002	.0000	.0021	.0004	.0029	.0345
1.8692	-.02	.44	.0557	.0298	-.0194	-.0000	.0003	-.0001	.0021	.0004	.0029	.0352
3.1038	-.02	1.52	.0993	.0320	-.0237	.0000	.0003	.0001	.0022	.0004	.0029	.0375
4.4091	-.02	3.41	.1766	.0401	-.0312	-.0001	.0005	-.0001	.0022	.0004	.0030	.0456
4.7241	-.02	5.50	.2583	.0547	-.0393	-.0002	.0001	.0006	.0022	.0004	.0032	.0604
4.5220	-.02	7.43	.3312	.0732	-.0466	-.0002	-.0001	.0009	.0022	.0004	.0033	.0792
4.1226	-.02	9.50	.4080	.0990	-.0549	-.0001	.0001	.0006	.0022	.0005	.0035	.1051
3.7151	-.02	11.46	.4750	.1279	-.0620	-.0001	.0003	.0009	.0022	.0005	.0037	.1343
3.3391	-.02	13.43	.5402	.1618	-.0697	-.0006	.0001	.0012	.0022	.0005	.0040	.1685
3.0004	-.02	15.50	.6060	.2020	-.0788	-.0008	-.0004	.0017	.0021	.0005	.0043	.2088
2.7293	-.02	17.45	.6703	.2456	-.0893	-.0008	-.0006	.0023	.0021	.0005	.0045	.2526
2.4988	-.02	19.39	.7356	.2944	-.1025	-.0010	-.0014	.0029	.0021	.0005	.0048	.3017
.5936	-.02	-.56	.0173	.0291	-.0153	.0001	.0002	-.0002	.0022	.0004	.0029	.0346

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 95 MACH 2.16

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLR	CNB	CY	CAC	CAB	CAI	CA UNC
2.002	-.02	-4.41	-.1287	.0269	-.0032	-.0002	-.0005	-.0001	.0018	.0003	.0035	.0325
2.000	-.02	-2.40	-.0532	.0273	-.0090	-.0003	-.0006	.0004	.0017	.0003	.0035	.0328
1.999	-.02	-1.42	-.0162	.0276	-.0117	-.0001	-.0005	.0007	.0017	.0003	.0036	.0332
1.998	-.02	-.41	.0216	.0278	-.0147	-.0002	-.0004	.0004	.0017	.0003	.0036	.0334
1.997	-.02	.64	.0608	.0278	-.0181	-.0001	-.0003	.0008	.0017	.0003	.0036	.0334
1.999	-.02	1.60	.0977	.0279	-.0210	-.0002	-.0001	.0004	.0017	.0003	.0036	.0335
1.999	-.02	3.63	.1754	.0282	-.0278	-.0002	-.0002	.0010	.0017	.0003	.0035	.0337
1.996	-.02	5.55	.2464	.0285	-.0338	-.0002	-.0002	.0009	.0017	.0003	.0034	.0340
1.998	-.02	7.63	.3229	.0291	-.0409	-.0001	-.0002	.0009	.0017	.0003	.0034	.0345
1.999	-.02	9.55	.3915	.0297	-.0479	-.0000	-.0003	.0006	.0017	.0004	.0033	.0351
1.998	-.02	11.60	.4633	.0306	-.0553	-.0001	-.0002	.0011	.0017	.0004	.0031	.0358
2.001	-.02	13.64	.5335	.0320	-.0632	-.0005	-.0002	.0011	.0017	.0004	.0029	.0371
1.996	-.02	15.56	.6015	.0330	-.0716	-.0004	-.0003	.0012	.0016	.0004	.0027	.0378
1.998	-.02	17.58	.6760	.0340	-.0827	-.0005	-.0005	.0013	.0017	.0004	.0025	.0386
1.999	-.02	19.56	.7523	.0344	-.0956	-.0006	-.0008	.0018	.0017	.0004	.0023	.0388
2.001	-.02	-.39	.0239	.0279	-.0150	-.0001	-.0003	.0002	.0017	.0003	.0036	.0335

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-3.4435	-.02	-4.41	-.1257	.0365	-.0032	-.0002	-.0005	-.0001	.0018	.0003	.0037	.0423
-1.7544	-.02	-2.40	-.0517	.0295	-.0090	-.0003	-.0006	.0004	.0017	.0003	.0036	.0350
-.5465	-.02	-1.42	-.0153	.0280	-.0117	-.0001	-.0005	.0007	.0017	.0003	.0036	.0336
.7896	-.02	-.41	.0218	.0277	-.0147	-.0002	-.0004	.0004	.0017	.0003	.0036	.0333
2.1204	-.02	.64	.0604	.0285	-.0181	-.0001	-.0003	.0008	.0017	.0003	.0036	.0340
3.1608	-.02	1.60	.0967	.0306	-.0210	-.0002	-.0001	.0004	.0017	.0003	.0036	.0362
4.4198	-.02	3.63	.1728	.0391	-.0278	-.0002	-.0002	.0010	.0017	.0003	.0037	.0447
4.6592	-.02	5.55	.2418	.0519	-.0338	-.0002	-.0001	.0009	.0017	.0003	.0037	.0576
4.4367	-.02	7.63	.3153	.0711	-.0409	-.0002	-.0002	.0009	.0017	.0003	.0040	.0770
4.0709	-.02	9.55	.3800	.0933	-.0479	-.0001	-.0003	.0006	.0017	.0004	.0042	.0996
3.6642	-.02	11.60	.4465	.1218	-.0553	-.0002	-.0002	.0011	.0017	.0004	.0044	.1283
3.2843	-.02	13.64	.5096	.1552	-.0632	-.0006	-.0000	.0011	.0017	.0004	.0046	.1618
2.9807	-.02	15.56	.5692	.1909	-.0716	-.0005	-.0002	.0012	.0016	.0004	.0048	.1977
2.7039	-.02	17.58	.6326	.2340	-.0827	-.0007	-.0003	.0013	.0016	.0004	.0050	.2410
2.4747	-.02	19.56	.6958	.2812	-.0956	-.0009	-.0006	.0018	.0016	.0004	.0052	.2884
.8694	-.02	-.39	.0241	.0277	-.0150	-.0001	-.0003	.0002	.0017	.0003	.0036	.0333

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 96 MACH 1.60

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
1.997	-.02	-4.31	-.0994	.0459	-.0281	-.0000	-.0008	.0004	.0029	.0007	.0017	.0512
2.002	-.02	-2.42	-.0080	.0469	-.0395	-.0001	-.0007	.0005	.0030	.0007	.0017	.0523
2.003	-.02	-1.31	.0476	.0480	-.0472	-.0001	-.0009	.0008	.0030	.0007	.0017	.0534
2.006	-.02	-.34	.0948	.0486	-.0536	.0002	-.0008	.0011	.0031	.0007	.0017	.0541
2.003	-.02	.61	.1419	.0492	-.0601	-.0001	-.0009	.0013	.0031	.0007	.0017	.0547
2.003	-.02	1.62	.1920	.0497	-.0669	.0000	-.0008	.0012	.0032	.0007	.0017	.0552
2.002	-.02	3.66	.2942	.0509	-.0804	-.0001	-.0007	.0017	.0033	.0007	.0016	.0565
2.004	-.02	5.61	.3911	.0516	-.0923	-.0003	-.0007	.0018	.0034	.0007	.0017	.0574
2.004	-.02	7.68	.4951	.0531	-.1045	-.0002	-.0004	.0018	.0035	.0007	.0016	.0589
2.001	-.03	9.57	.5878	.0544	-.1151	-.0001	-.0004	.0025	.0036	.0007	.0016	.0603
2.002	-.03	11.60	.6862	.0559	-.1261	-.0001	-.0009	.0035	.0037	.0007	.0016	.0619
2.005	-.02	13.59	.7833	.0570	-.1370	.0000	-.0009	.0026	.0038	.0007	.0015	.0632
2.002	-.03	15.63	.8764	.0585	-.1472	-.0003	-.0004	.0024	.0040	.0008	.0015	.0649
1.999	-.03	17.63	.9724	.0602	-.1574	-.0003	-.0015	.0042	.0042	.0009	.0015	.0667
2.000	-.03	19.62	1.0667	.0616	-.1693	-.0002	-.0019	.0047	.0041	.0009	.0015	.0681
2.001	-.02	-.36	.0949	.0485	-.0536	-.0003	-.0011	.0017	.0031	.0007	.0017	.0540

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-1.7979	-.02	-4.31	-.0954	.0531	-.0281	.0001	-.0008	.0004	.0029	.0007	.0018	.0585
-.1240	-.02	-2.42	-.0058	.0471	-.0395	-.0001	-.0007	.0005	.0030	.0007	.0017	.0526
1.0384	-.02	-1.31	.0487	.0469	-.0472	-.0000	-.0009	.0008	.0030	.0007	.0017	.0523
1.9790	-.02	-.34	.0951	.0480	-.0536	.0002	-.0008	.0011	.0031	.0007	.0017	.0535
2.7878	-.02	.61	.1413	.0507	-.0601	-.0001	-.0009	.0013	.0031	.0007	.0017	.0562
3.4572	-.02	1.62	.1904	.0551	-.0669	-.0000	-.0008	.0012	.0032	.0007	.0017	.0607
4.1787	-.02	3.66	.2902	.0694	-.0804	-.0001	-.0007	.0017	.0033	.0007	.0018	.0752
4.2999	-.02	5.61	.3839	.0893	-.0923	-.0003	-.0007	.0018	.0034	.0007	.0019	.0953
4.0861	-.02	7.68	.4832	.1183	-.1045	-.0002	-.0004	.0018	.0035	.0007	.0021	.1245
3.7859	-.03	9.57	.5701	.1506	-.1151	-.0002	-.0004	.0025	.0036	.0007	.0023	.1571
3.4451	-.03	11.60	.6603	.1917	-.1261	-.0003	-.0009	.0035	.0036	.0007	.0026	.1986
3.1386	-.02	13.59	.7473	.2381	-.1370	-.0002	-.0009	.0026	.0037	.0007	.0030	.2455
2.8480	-.03	15.63	.8274	.2905	-.1472	-.0004	-.0003	.0024	.0039	.0008	.0033	.2985
2.5963	-.03	17.63	.9076	.3496	-.1574	-.0008	-.0014	.0042	.0040	.0009	.0037	.3581
2.3778	-.03	19.62	.9832	.4135	-.1693	-.0008	-.0017	.0047	.0038	.0009	.0041	.4222
1.9847	-.02	-.36	.0952	.0480	-.0536	-.0002	-.0011	.0017	.0031	.0007	.0017	.0534

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 97 MACH 1.80

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.000	-.02	-4.34	-.1025	.0425	-.0235	-.0003	-.0010	.0012	.0027	.0005	.0022	.0479
1.999	-.02	-2.35	-.0133	.0436	-.0326	.0001	-.0005	.0007	.0027	.0005	.0022	.0491
1.998	-.02	-1.33	.0317	.0444	-.0380	-.0001	-.0007	.0012	.0028	.0005	.0022	.0498
1.996	-.02	-.32	.0754	.0450	-.0430	-.0001	-.0007	.0013	.0028	.0005	.0022	.0505
1.995	-.02	.66	.1207	.0458	-.0486	-.0000	-.0008	.0013	.0028	.0005	.0022	.0513
2.000	-.02	1.68	.1648	.0462	-.0537	-.0002	-.0011	.0017	.0028	.0005	.0022	.0518
2.000	-.02	3.69	.2563	.0474	-.0643	.0000	-.0011	.0018	.0029	.0005	.0022	.0530
1.996	-.02	5.64	.3424	.0484	-.0742	-.0003	-.0010	.0021	.0029	.0005	.0022	.0540
2.000	-.02	7.70	.4340	.0498	-.0848	-.0001	-.0011	.0016	.0029	.0006	.0021	.0553
1.999	-.02	9.74	.5231	.0512	-.0948	.0001	-.0010	.0021	.0029	.0006	.0020	.0568
1.995	-.02	11.65	.6060	.0530	-.1052	-.0001	-.0008	.0020	.0030	.0006	.0019	.0586
1.998	-.02	13.85	.6977	.0549	-.1154	.0001	-.0008	.0021	.0031	.0007	.0018	.0606
2.001	-.02	15.68	.7731	.0567	-.1241	-.0000	-.0011	.0025	.0032	.0007	.0017	.0623
1.998	-.02	17.74	.8593	.0586	-.1354	-.0002	-.0013	.0036	.0031	.0007	.0016	.0641
1.996	-.03	19.61	.9470	.0600	-.1491	-.0002	-.0013	.0035	.0030	.0007	.0016	.0652
1.998	-.02	-.32	.0772	.0451	-.0432	.0000	-.0007	.0011	.0028	.0005	.0022	.0506

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-1.9748	-.02	-4.34	-.0986	.0499	-.0235	-.0002	-.0010	.0012	.0027	.0005	.0024	.0556
-.2559	-.02	-2.35	-.0113	.0441	-.0326	.0001	-.0005	.0007	.0027	.0005	.0023	.0496
.7538	-.02	-1.33	.0329	.0436	-.0380	-.0001	-.0007	.0012	.0028	.0005	.0022	.0491
1.6987	-.02	-.32	.0757	.0446	-.0430	-.0000	-.0007	.0013	.0028	.0005	.0022	.0501
2.5477	-.02	.66	.1201	.0471	-.0486	-.0000	-.0008	.0013	.0028	.0005	.0022	.0527
3.2008	-.02	1.68	.1633	.0510	-.0537	-.0003	-.0011	.0017	.0028	.0005	.0022	.0566
3.9631	-.02	3.69	.2524	.0637	-.0643	-.0001	-.0011	.0018	.0028	.0005	.0023	.0694
4.1158	-.02	5.64	.3356	.0815	-.0742	-.0004	-.0010	.0021	.0029	.0005	.0025	.0874
3.9554	-.02	7.70	.4229	.1069	-.0848	-.0003	-.0010	.0016	.0028	.0005	.0027	.1130
3.6647	-.02	9.74	.5062	.1381	-.0948	-.0001	-.0010	.0021	.0029	.0006	.0029	.1445
3.3611	-.02	11.65	.5820	.1731	-.1052	-.0002	-.0007	.0020	.0029	.0006	.0031	.1798
3.0337	-.02	13.85	.6634	.2187	-.1154	-.0001	-.0008	.0021	.0030	.0006	.0034	.2258
2.7837	-.02	15.68	.7281	.2616	-.1241	-.0003	-.0010	.0025	.0031	.0007	.0037	.2690
2.5375	-.02	17.74	.7996	.3151	-.1354	-.0005	-.0012	.0036	.0030	.0007	.0040	.3228
2.3445	-.03	19.61	.8709	.3715	-.1491	-.0006	-.0011	.0035	.0029	.0007	.0043	.3793
1.7350	-.02	-.32	.0775	.0447	-.0432	.0000	-.0007	.0011	.0028	.0005	.0022	.0502

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 98 MACH 2.00

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.001	-.02	-4.60	-.1110	.0390	-.0196	-.0000	-.0004	.0008	.0021	.0004	.0029	.0443
2.003	-.02	-2.54	-.0257	.0406	-.0280	.0001	-.0003	.0005	.0020	.0004	.0029	.0459
2.007	-.02	-1.60	.0128	.0414	-.0316	.0002	-.0001	.0005	.0020	.0004	.0029	.0467
2.005	-.02	-.56	.0548	.0422	-.0357	.0002	-.0002	.0007	.0020	.0004	.0029	.0475
2.002	-.02	.47	.0961	.0427	-.0400	.0002	-.0002	.0009	.0020	.0004	.0029	.0480
2.002	-.02	1.47	.1383	.0433	-.0444	-.0000	-.0003	.0010	.0020	.0004	.0029	.0486
2.006	-.02	3.43	.2209	.0446	-.0530	-.0001	-.0003	.0012	.0020	.0004	.0029	.0499
2.003	-.02	5.44	.3036	.0460	-.0616	.0000	-.0003	.0011	.0020	.0004	.0029	.0513
2.004	-.02	7.43	.3837	.0472	-.0699	.0002	-.0007	.0014	.0021	.0004	.0028	.0526
2.000	-.02	9.54	.4646	.0490	-.0783	.0000	-.0007	.0014	.0021	.0005	.0027	.0543
2.003	-.02	11.44	.5386	.0508	-.0865	.0000	-.0002	.0011	.0022	.0005	.0025	.0561
2.003	-.02	13.43	.6135	.0529	-.0948	-.0003	-.0005	.0015	.0022	.0005	.0024	.0580
2.002	-.02	15.46	.6897	.0548	-.1040	-.0005	-.0007	.0021	.0021	.0005	.0022	.0597
2.000	-.02	17.42	.7671	.0566	-.1158	-.0004	-.0010	.0024	.0022	.0005	.0021	.0613
2.004	-.02	19.43	.8517	.0581	-.1298	-.0004	-.0018	.0034	.0022	.0005	.0019	.0628
2.003	-.02	-.53	.0575	.0423	-.0360	.0002	-.0002	.0005	.0020	.0004	.0029	.0476

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-2.2521	-.02	-4.60	-.1071	.0476	-.0196	.0000	-.0004	.0008	.0021	.0004	.0031	.0531
-.5680	-.02	-2.54	-.0236	.0416	-.0280	.0001	-.0003	.0005	.0020	.0004	.0029	.0470
.3447	-.02	-1.60	.0141	.0410	-.0316	.0002	-.0001	.0005	.0020	.0004	.0029	.0463
1.3271	-.02	-.56	.0552	.0416	-.0357	.0002	-.0002	.0007	.0020	.0004	.0029	.0469
2.2010	-.02	.47	.0957	.0435	-.0400	.0002	-.0002	.0009	.0020	.0004	.0029	.0488
2.9239	-.02	1.47	.1370	.0468	-.0444	-.0000	-.0003	.0010	.0020	.0004	.0029	.0522
3.7772	-.02	3.43	.2175	.0576	-.0530	-.0002	-.0003	.0012	.0020	.0004	.0030	.0630
4.0038	-.02	5.44	.2974	.0743	-.0616	-.0000	-.0003	.0011	.0020	.0004	.0032	.0799
3.8961	-.02	7.43	.3736	.0959	-.0699	.0001	-.0007	.0014	.0021	.0004	.0033	.1017
3.6107	-.02	9.54	.4492	.1244	-.0783	-.0001	-.0006	.0014	.0021	.0005	.0035	.1305
3.3262	-.02	11.44	.5168	.1554	-.0865	-.0000	-.0002	.0011	.0022	.0005	.0037	.1618
3.0332	-.02	13.43	.5834	.1923	-.0948	-.0004	-.0004	.0015	.0022	.0005	.0040	.1990
2.7661	-.02	15.46	.6489	.2346	-.1040	-.0006	-.0006	.0021	.0021	.0005	.0043	.2414
2.5395	-.02	17.42	.7137	.2810	-.1158	-.0006	-.0008	.0024	.0021	.0005	.0045	.2881
2.3349	-.02	19.43	.7826	.3352	-.1298	-.0009	-.0016	.0034	.0021	.0005	.0048	.3425
1.3861	-.02	-.53	.0579	.0418	-.0360	.0002	-.0002	.0005	.0020	.0004	.0029	.0471

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 99 MACH 2.16

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.000	-.02	-4.43	-.0986	.0371	-.0204	-.0001	-.0007	.0004	.0017	.0003	.0035	.0426
2.004	-.02	-2.38	-.0203	.0385	-.0267	-.0000	-.0007	.0006	.0016	.0003	.0035	.0440
1.999	-.02	-1.66	.0070	.0390	-.0287	-.0001	-.0005	.0007	.0016	.0003	.0036	.0445
1.998	-.02	-1.39	.0178	.0393	-.0296	.0001	-.0004	.0004	.0016	.0003	.0036	.0447
1.998	-.02	-.48	.0527	.0398	-.0326	-.0002	-.0006	.0008	.0016	.0003	.0036	.0453
2.003	-.02	.54	.0916	.0404	-.0360	-.0002	-.0005	.0009	.0016	.0003	.0036	.0458
1.998	-.02	1.59	.1323	.0409	-.0398	-.0002	-.0005	.0012	.0016	.0003	.0036	.0464
2.003	-.02	3.58	.2086	.0424	-.0469	-.0001	-.0005	.0011	.0016	.0003	.0035	.0478
2.001	-.02	5.60	.2861	.0438	-.0546	-.0000	-.0006	.0012	.0016	.0003	.0034	.0491
2.002	-.02	7.64	.3621	.0454	-.0622	.0001	-.0008	.0014	.0015	.0003	.0034	.0506
2.001	-.02	9.54	.4323	.0471	-.0697	.0001	-.0009	.0013	.0016	.0004	.0033	.0523
1.999	-.02	11.58	.5061	.0490	-.0780	.0000	-.0006	.0010	.0016	.0004	.0031	.0541
2.003	-.02	13.57	.5770	.0513	-.0860	-.0004	-.0004	.0012	.0016	.0004	.0029	.0562
2.001	-.02	15.65	.6522	.0533	-.0960	-.0004	-.0004	.0015	.0016	.0004	.0027	.0580
1.998	-.02	17.64	.7295	.0553	-.1085	-.0003	-.0004	.0016	.0016	.0004	.0025	.0598
2.004	-.02	19.64	.8090	.0569	-.1227	-.0004	-.0010	.0020	.0017	.0004	.0023	.0613
1.998	-.02	-.48	.0536	.0399	-.0324	-.0001	-.0005	.0010	.0016	.0003	.0036	.0454

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-2.1374	-.02	-4.43	-.0949	.0444	-.0204	-.0001	-.0007	.0004	.0017	.0003	.0037	.0501
-.4696	-.02	-2.38	-.0184	.0393	-.0267	.0000	-.0007	.0006	.0016	.0003	.0036	.0448
.2142	-.02	-1.66	.0083	.0388	-.0287	-.0001	-.0005	.0007	.0016	.0003	.0036	.0442
.4863	-.02	-1.39	.0189	.0388	-.0296	.0001	-.0004	.0004	.0016	.0003	.0036	.0443
1.3472	-.02	-.48	.0531	.0394	-.0326	-.0002	-.0006	.0008	.0016	.0003	.0036	.0449
2.2094	-.02	.54	.0911	.0412	-.0360	-.0002	-.0005	.0009	.0016	.0003	.0036	.0467
2.9371	-.02	1.59	.1309	.0446	-.0398	-.0002	-.0005	.0012	.0016	.0003	.0036	.0500
3.7177	-.02	3.58	.2051	.0552	-.0469	-.0002	-.0005	.0011	.0016	.0003	.0037	.0607
3.9318	-.02	5.60	.2798	.0712	-.0546	-.0001	-.0006	.0012	.0016	.0003	.0037	.0768
3.8051	-.02	7.64	.3520	.0925	-.0622	-.0000	-.0008	.0014	.0015	.0003	.0040	.0983
3.5646	-.02	9.54	.4175	.1171	-.0697	-.0001	-.0009	.0013	.0016	.0004	.0042	.1232
3.2687	-.02	11.58	.4847	.1483	-.0780	-.0001	-.0006	.0010	.0016	.0004	.0044	.1546
2.9839	-.02	13.57	.5475	.1835	-.0860	-.0005	-.0003	.0012	.0016	.0004	.0046	.1900
2.7199	-.02	15.65	.6122	.2251	-.0960	-.0004	-.0003	.0015	.0015	.0004	.0048	.2318
2.4965	-.02	17.64	.6769	.2711	-.1085	-.0004	-.0003	.0016	.0015	.0004	.0050	.2781
2.2993	-.02	19.64	.7413	.3224	-.1227	-.0007	-.0008	.0020	.0016	.0004	.0052	.3296
1.3683	-.02	-.48	.0540	.0395	-.0324	-.0001	-.0005	.0010	.0016	.0003	.0036	.0449

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 112 MACH 1.60

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.002	-.02	-4.35	-.2005	.0254	.0302	.0009	-.0002	-.0004	.0028	.0007	.0017	.0306
1.997	-.02	-2.42	-.1105	.0260	.0195	.0010	.0002	-.0010	.0029	.0007	.0017	.0313
1.995	-.02	-1.45	-.0671	.0264	.0142	.0007	.0001	-.0003	.0030	.0007	.0017	.0317
1.998	-.02	-.36	-.0187	.0263	.0086	.0008	.0001	-.0000	.0031	.0007	.0017	.0318
1.992	-.02	.62	.0241	.0258	.0037	.0008	.0001	-.0001	.0032	.0007	.0017	.0314
1.991	-.02	1.58	.0679	.0252	-.0014	.0003	-.0002	.0004	.0032	.0007	.0017	.0307
1.996	-.02	3.63	.1666	.0235	-.0131	.0008	-.0001	.0006	.0033	.0007	.0016	.0291
2.000	-.02	5.55	.2525	.0226	-.0210	.0021	-.0001	.0006	.0034	.0007	.0017	.0283
2.003	-.02	7.64	.3425	.0219	-.0262	.0003	-.0002	.0011	.0034	.0007	.0016	.0276
1.994	-.02	9.57	.4278	.0215	-.0320	.0004	-.0001	.0014	.0034	.0007	.0016	.0272
1.995	-.02	11.59	.5137	.0211	-.0373	.0002	-.0003	.0017	.0033	.0007	.0016	.0267
1.991	-.02	13.63	.5990	.0205	-.0428	.0003	-.0007	.0021	.0033	.0008	.0015	.0261
1.992	-.02	15.68	.6802	.0203	-.0467	.0001	-.0011	.0028	.0034	.0008	.0015	.0260
1.997	-.02	17.64	.7595	.0203	-.0505	.0001	-.0020	.0037	.0034	.0009	.0015	.0261
2.000	-.02	19.64	.8408	.0202	-.0562	-.0001	-.0022	.0052	.0034	.0009	.0015	.0260
1.989	-.02	-.41	-.0212	.0264	.0086	.0005	-.0003	.0012	.0031	.0007	.0017	.0319

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.8955	-.02	-4.35	-.1977	.0404	.0302	.0009	-.0001	-.0004	.0028	.0007	.0018	.0457
-3.5673	-.02	-2.42	-.1091	.0306	.0195	.0010	.0003	-.0010	.0029	.0007	.0017	.0359
-2.3642	-.02	-1.45	-.0663	.0281	.0142	.0007	.0001	-.0003	.0030	.0007	.0017	.0334
-.7016	-.02	-.36	-.0186	.0265	.0086	.0008	.0001	-.0000	.0031	.0007	.0017	.0320
.9142	-.02	.62	.0238	.0261	.0037	.0008	.0001	-.0001	.0032	.0007	.0017	.0316
2.4849	-.02	1.58	.0671	.0270	-.0014	.0003	-.0002	.0004	.0032	.0007	.0017	.0326
4.8524	-.02	3.63	.1645	.0339	-.0131	.0008	-.0002	.0006	.0033	.0007	.0017	.0396
5.3390	-.02	5.55	.2488	.0466	-.0210	.0021	-.0003	.0006	.0033	.0007	.0019	.0526
5.0341	-.02	7.64	.3361	.0668	-.0262	.0003	-.0003	.0011	.0034	.0007	.0021	.0729
4.5631	-.02	9.57	.4178	.0916	-.0320	.0004	-.0001	.0014	.0034	.0007	.0023	.0979
4.0594	-.02	11.59	.4984	.1228	-.0373	.0002	-.0004	.0017	.0033	.0007	.0026	.1294
3.6121	-.02	13.63	.5765	.1596	-.0428	.0001	-.0007	.0021	.0032	.0007	.0030	.1666
3.2203	-.02	15.68	.6486	.2014	-.0467	-.0002	-.0011	.0028	.0033	.0008	.0033	.2088
2.8995	-.02	17.64	.7168	.2472	-.0505	-.0005	-.0019	.0037	.0033	.0009	.0037	.2550
2.6221	-.02	19.64	.7841	.2990	-.0562	-.0008	-.0020	.0052	.0032	.0008	.0041	.3071
-.7906	-.02	-.41	-.0210	.0266	.0086	.0005	-.0002	.0012	.0031	.0007	.0017	.0321

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 115 MACH 1.80

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
1.994	-.02	-4.52	-.1860	.0248	.0251	.0005	-.0003	.0009	.0029	.0005	.0022	.0304
1.988	-.02	-2.52	-.1010	.0250	.0158	.0003	-.0004	.0006	.0029	.0005	.0022	.0307
1.980	-.02	-1.51	-.0595	.0253	.0112	.0005	-.0004	.0011	.0029	.0005	.0022	.0310
1.989	-.02	-.51	-.0182	.0252	.0068	.0000	-.0004	.0010	.0030	.0005	.0022	.0310
1.991	-.02	.54	.0251	.0246	.0023	.0003	-.0003	.0009	.0030	.0005	.0022	.0304
1.980	-.02	1.51	.0665	.0240	-.0023	.0002	-.0004	.0009	.0031	.0005	.0022	.0298
1.982	-.02	3.52	.1541	.0226	-.0120	.0002	-.0002	.0007	.0031	.0005	.0022	.0284
1.987	-.02	5.55	.2360	.0217	-.0177	.0016	-.0006	.0016	.0032	.0005	.0022	.0275
1.990	-.02	7.53	.3145	.0210	-.0224	.0008	-.0007	.0014	.0032	.0005	.0021	.0268
1.985	-.02	9.52	.3907	.0206	-.0267	.0002	-.0006	.0018	.0031	.0006	.0020	.0264
1.987	-.02	11.53	.4674	.0205	-.0318	.0004	-.0006	.0020	.0031	.0006	.0020	.0262
1.997	-.02	13.52	.5413	.0203	-.0367	.0005	-.0007	.0025	.0031	.0006	.0019	.0259
2.001	-.02	15.50	.6110	.0208	-.0401	.0003	-.0012	.0025	.0031	.0007	.0017	.0263
2.004	-.02	17.51	.6820	.0209	-.0452	.0006	-.0014	.0033	.0031	.0007	.0016	.0263
1.990	-.02	19.48	.7589	.0204	-.0528	.0004	-.0020	.0037	.0030	.0007	.0016	.0256
2.005	-.02	-.51	-.0170	.0252	.0071	.0004	-.0001	.0004	.0030	.0005	.0022	.0310

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.6670	-.02	-4.52	-.1831	.0392	.0251	.0005	-.0003	.0009	.0029	.0005	.0024	.0450
-3.3872	-.02	-2.52	-.0996	.0294	.0158	.0004	-.0004	.0006	.0029	.0005	.0023	.0351
-2.1870	-.02	-1.51	-.0587	.0269	.0112	.0005	-.0004	.0011	.0029	.0005	.0023	.0326
-.7060	-.02	-.51	-.0179	.0254	.0068	.0000	-.0004	.0010	.0030	.0005	.0022	.0311
1.0007	-.02	.54	.0248	.0248	.0023	.0003	-.0003	.0009	.0030	.0005	.0022	.0306
2.5520	-.02	1.51	.0657	.0258	-.0023	.0002	-.0004	.0009	.0031	.0005	.0022	.0316
4.7721	-.02	3.52	.1522	.0319	-.0120	.0002	-.0002	.0007	.0031	.0005	.0023	.0378
5.2718	-.02	5.55	.2324	.0441	-.0177	.0016	-.0007	.0016	.0032	.0005	.0025	.0502
5.0190	-.02	7.53	.3085	.0615	-.0224	.0007	-.0008	.0014	.0031	.0005	.0026	.0678
4.5303	-.02	9.52	.3812	.0842	-.0267	.0001	-.0006	.0018	.0031	.0006	.0028	.0907
4.0334	-.02	11.53	.4531	.1123	-.0318	.0002	-.0007	.0020	.0031	.0006	.0031	.1191
3.5971	-.02	13.52	.5207	.1448	-.0367	.0003	-.0008	.0025	.0030	.0006	.0034	.1517
3.2118	-.02	15.50	.5823	.1813	-.0401	-.0000	-.0012	.0025	.0030	.0007	.0037	.1886
2.8874	-.02	17.51	.6431	.2227	-.0452	.0001	-.0015	.0033	.0029	.0007	.0040	.2303
2.6254	-.02	19.48	.7076	.2695	-.0528	-.0003	-.0020	.0037	.0028	.0007	.0043	.2773
-.6584	-.02	-.51	-.0167	.0254	.0071	.0004	-.0001	.0004	.0030	.0005	.0022	.0311

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 116 MACH 1.80

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.002	5.10	-4.49	-.1618	.0245	.0234	-.0024	.0123	-.0427	.0027	.0005	.0022	.0299
2.006	5.10	-2.53	-.0972	.0250	.0136	-.0042	.0117	-.0411	.0029	.0005	.0022	.0306
2.008	5.10	-1.45	-.0532	.0252	.0088	-.0056	.0110	-.0401	.0030	.0005	.0022	.0309
2.009	5.10	-.52	-.0156	.0250	.0051	-.0073	.0101	-.0394	.0030	.0005	.0022	.0307
2.007	5.10	.53	.0246	.0245	.0010	-.0087	.0090	-.0383	.0030	.0005	.0022	.0303
2.001	5.11	1.58	.0710	.0240	-.0040	-.0108	.0083	-.0385	.0031	.0005	.0022	.0299
2.005	5.12	3.49	.1511	.0231	-.0117	-.0116	.0071	-.0391	.0032	.0005	.0022	.0290
2.009	5.13	5.53	.2348	.0222	-.0189	-.0135	.0053	-.0392	.0033	.0005	.0022	.0282
2.003	5.15	7.46	.3099	.0217	-.0245	-.0146	.0033	-.0392	.0033	.0005	.0021	.0276
1.997	5.16	9.47	.3862	.0213	-.0299	-.0148	.0011	-.0391	.0033	.0006	.0020	.0272
1.999	5.18	11.58	.4646	.0210	-.0343	-.0139	-.0013	-.0394	.0033	.0006	.0020	.0269
2.003	5.20	13.48	.5351	.0207	-.0392	-.0132	-.0056	-.0368	.0033	.0006	.0019	.0264
2.007	5.22	15.53	.6132	.0202	-.0461	-.0128	-.0100	-.0344	.0034	.0007	.0017	.0259
2.009	5.25	17.52	.6875	.0200	-.0520	-.0122	-.0150	-.0319	.0035	.0007	.0016	.0259
2.011	5.27	19.46	.7587	.0196	-.0586	-.0124	-.0204	-.0276	.0035	.0007	.0016	.0254
1.999	5.10	-.49	-.0163	.0251	.0052	-.0072	.0101	-.0397	.0030	.0005	.0022	.0308

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.6536	5.10	-4.49	-.1790	.0385	.0234	-.0033	.0120	-.0427	.0027	.0005	.0024	.0441
-3.2834	5.10	-2.53	-.0958	.0292	.0136	-.0047	.0115	-.0411	.0029	.0005	.0023	.0349
-1.9797	5.10	-1.45	-.0525	.0265	.0088	-.0059	.0109	-.0401	.0030	.0005	.0023	.0322
-.6103	5.10	-.52	-.0153	.0251	.0051	-.0073	.0100	-.0394	.0030	.0005	.0022	.0309
.9857	5.10	.53	.0244	.0247	.0010	-.0086	.0091	-.0383	.0030	.0005	.0022	.0305
2.7033	5.11	1.58	.0702	.0260	-.0040	-.0106	.0086	-.0385	.0031	.0005	.0022	.0318
4.6434	5.12	3.49	.1491	.0321	-.0117	-.0112	.0078	-.0391	.0032	.0005	.0023	.0381
5.1978	5.13	5.53	.2311	.0445	-.0189	-.0129	.0066	-.0392	.0033	.0005	.0025	.0507
4.9663	5.15	7.46	.3039	.0612	-.0245	-.0140	.0052	-.0392	.0033	.0005	.0026	.0677
4.5016	5.16	9.47	.3767	.0837	-.0299	-.0145	.0035	-.0391	.0033	.0006	.0028	.0904
3.9961	5.18	11.58	.4501	.1126	-.0343	-.0139	.0015	-.0394	.0033	.0006	.0031	.1196
3.5932	5.20	13.48	.5147	.1432	-.0392	-.0142	-.0024	-.0368	.0032	.0006	.0034	.1504
3.2194	5.22	15.53	.5845	.1815	-.0461	-.0150	-.0062	-.0344	.0032	.0007	.0037	.1891
2.9006	5.25	17.52	.6486	.2236	-.0520	-.0162	-.0106	-.0319	.0034	.0007	.0040	.2316
2.6364	5.27	19.46	.7078	.2685	-.0586	-.0185	-.0151	-.0276	.0033	.0007	.0043	.2767
-.6359	5.10	-.49	-.0160	.0252	.0052	-.0073	.0100	-.0397	.0030	.0005	.0022	.0309

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 117 MACH 2.00

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
1.997	5.10	-4.51	-.1673	.0232	.0187	-.0029	.0103	-.0405	.0022	.0004	.0029	.0287
2.001	5.10	-2.51	-.0897	.0235	.0112	-.0039	.0087	-.0381	.0023	.0004	.0029	.0291
2.006	5.11	-1.59	-.0527	.0237	.0073	-.0048	.0080	-.0375	.0023	.0004	.0029	.0294
2.008	5.11	-.61	-.0146	.0237	.0033	-.0060	.0073	-.0368	.0024	.0004	.0029	.0294
1.999	5.11	.44	.0250	.0235	-.0003	-.0073	.0064	-.0365	.0024	.0004	.0029	.0292
1.998	5.12	1.39	.0597	.0231	-.0034	-.0079	.0060	-.0367	.0024	.0004	.0029	.0288
2.002	5.13	3.37	.1366	.0221	-.0095	-.0088	.0053	-.0381	.0025	.0004	.0029	.0278
2.006	5.14	5.47	.2155	.0214	-.0152	-.0101	.0040	-.0389	.0025	.0004	.0029	.0272
2.007	5.15	7.43	.2849	.0209	-.0193	-.0114	.0023	-.0393	.0026	.0004	.0028	.0267
1.995	5.16	9.40	.3547	.0206	-.0242	-.0120	.0001	-.0394	.0026	.0005	.0027	.0264
2.001	5.18	11.48	.4258	.0204	-.0286	-.0124	-.0029	-.0383	.0026	.0005	.0025	.0260
2.005	5.21	15.41	.5576	.0200	-.0382	-.0120	-.0092	-.0351	.0026	.0005	.0022	.0254
2.007	5.23	17.50	.6292	.0197	-.0448	-.0124	-.0126	-.0339	.0027	.0005	.0021	.0250
1.995	5.26	19.41	.6964	.0193	-.0517	-.0121	-.0176	-.0310	.0027	.0005	.0019	.0245
2.002	5.11	-.60	-.0155	.0238	.0036	-.0062	.0071	-.0369	.0024	.0004	.0029	.0295

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.5600	5.10	-4.51	-.1645	.0361	.0187	-.0037	.0100	-.0405	.0022	.0004	.0031	.0418
-3.2265	5.10	-2.51	-.0883	.0274	.0112	-.0043	.0085	-.0381	.0023	.0004	.0029	.0330
-2.0624	5.11	-1.59	-.0519	.0252	.0073	-.0050	.0079	-.0375	.0023	.0004	.0029	.0308
-.6006	5.11	-.61	-.0143	.0239	.0033	-.0061	.0072	-.0368	.0024	.0004	.0029	.0295
1.0449	5.11	.44	.0247	.0237	-.0003	-.0073	.0064	-.0365	.0024	.0004	.0029	.0294
2.4079	5.12	1.39	.0590	.0245	-.0034	-.0077	.0062	-.0367	.0024	.0004	.0029	.0303
4.4941	5.13	3.37	.1347	.0300	-.0095	-.0085	.0058	-.0381	.0025	.0004	.0030	.0358
5.1088	5.14	5.47	.2120	.0415	-.0152	-.0097	.0050	-.0389	.0025	.0004	.0032	.0476
4.8945	5.15	7.43	.2790	.0570	-.0193	-.0111	.0038	-.0393	.0026	.0004	.0033	.0633
4.4650	5.16	9.40	.3457	.0774	-.0242	-.0119	.0021	-.0394	.0025	.0005	.0035	.0839
3.9846	5.18	11.48	.4123	.1035	-.0286	-.0127	-.0004	-.0383	.0025	.0005	.0037	.1102
3.2106	5.21	15.41	.5310	.1654	-.0382	-.0140	-.0057	-.0351	.0026	.0005	.0042	.1727
2.8865	5.23	17.50	.5929	.2054	-.0448	-.0157	-.0083	-.0339	.0026	.0005	.0045	.2130
2.6309	5.26	19.41	.6491	.2467	-.0517	-.0172	-.0126	-.0310	.0025	.0005	.0048	.2545
-.6336	5.11	-.60	-.0152	.0239	.0036	-.0062	.0071	-.0369	.0024	.0004	.0029	.0296

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 121 MACH 2.16

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.003	.00	-4.57	-.1661	.0235	.0143	.0001	-.0005	.0006	.0020	.0003	.0035	.0293
2.005	.00	-2.55	-.0910	.0234	.0090	.0005	-.0003	.0001	.0019	.0003	.0035	.0291
2.000	.00	-.45	-.0139	.0233	.0028	.0002	-.0002	.0005	.0019	.0003	.0036	.0290
1.999	-.00	1.54	.0613	.0222	-.0031	.0000	-.0002	.0006	.0019	.0003	.0036	.0279
2.002	-.00	3.47	.1325	.0213	-.0088	.0001	-.0002	.0008	.0019	.0003	.0035	.0270
2.005	-.00	7.50	.2749	.0198	-.0177	.0006	-.0002	.0012	.0019	.0003	.0034	.0254
2.000	-.00	9.35	.3347	.0194	-.0208	.0013	-.0003	.0012	.0019	.0004	.0033	.0249
1.995	-.00	11.39	.3979	.0193	-.0231	.0007	-.0003	.0015	.0019	.0004	.0031	.0247
1.996	-.00	15.52	.5271	.0200	-.0311	.0004	-.0006	.0022	.0017	.0004	.0027	.0248
1.999	-.00	19.52	.6624	.0190	-.0454	-.0002	-.0012	.0026	.0017	.0004	.0023	.0235
2.005	.00	-.54	-.0154	.0234	.0032	.0003	-.0002	.0002	.0019	.0003	.0036	.0292

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.4735	.00	-4.57	-.1631	.0365	.0143	.0002	-.0005	.0006	.0020	.0003	.0037	.0424
-3.2736	.00	-2.55	-.0895	.0274	.0090	.0006	-.0003	.0001	.0019	.0003	.0036	.0331
-.5849	.00	-.45	-.0137	.0234	.0028	.0002	-.0002	.0005	.0019	.0003	.0036	.0291
2.5446	-.00	1.54	.0605	.0238	-.0031	.0000	-.0002	.0006	.0019	.0003	.0036	.0296
4.4813	-.00	3.47	.1305	.0291	-.0088	.0001	-.0002	.0008	.0019	.0003	.0037	.0350
4.9005	-.00	7.50	.2691	.0549	-.0177	.0005	-.0003	.0012	.0018	.0003	.0039	.0610
4.4887	-.00	9.35	.3260	.0726	-.0208	.0012	-.0005	.0012	.0019	.0004	.0041	.0790
4.0008	-.00	11.39	.3851	.0962	-.0231	.0006	-.0004	.0015	.0018	.0004	.0043	.1028
3.1698	-.00	15.52	.5011	.1581	-.0311	.0002	-.0007	.0022	.0017	.0004	.0048	.1649
2.6093	-.00	19.52	.6164	.2362	-.0454	-.0006	-.0011	.0026	.0016	.0004	.0052	.2435
-.6421	.00	-.54	-.0151	.0236	.0032	.0003	-.0002	.0002	.0019	.0003	.0036	.0294

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 122 MACH 1.60

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLR	CNB	CY	CAC	CAB	CAI	CA UNC
2.001	-.00	-4.40	-.2492	.0310	.0569	.0010	-.0008	.0020	.0025	.0007	.0017	.0359
1.992	-.00	-2.38	-.1537	.0313	.0452	.0010	-.0006	.0019	.0025	.0007	.0017	.0361
1.994	-.00	-1.39	-.1086	.0314	.0393	.0008	-.0005	.0017	.0026	.0007	.0017	.0363
1.998	-.00	-.38	-.0642	.0310	.0339	.0007	-.0005	.0019	.0027	.0007	.0017	.0361
1.993	-.00	.65	-.0186	.0304	.0285	.0006	-.0007	.0021	.0028	.0007	.0017	.0356
1.992	-.00	1.60	.0254	.0295	.0232	.0006	-.0007	.0022	.0028	.0007	.0017	.0346
1.996	-.00	3.64	.1203	.0276	.0126	.0006	-.0006	.0022	.0029	.0007	.0016	.0328
1.999	-.00	5.56	.2078	.0262	.0055	.0020	-.0007	.0027	.0030	.0007	.0017	.0316
1.999	-.00	7.67	.2985	.0247	.0003	.0001	-.0010	.0029	.0031	.0007	.0016	.0301
1.992	-.00	9.55	.3828	.0235	-.0058	-.0002	-.0010	.0032	.0031	.0007	.0016	.0288
1.994	-.00	11.65	.4731	.0219	-.0124	.0000	-.0009	.0029	.0031	.0007	.0016	.0272
1.997	-.01	13.61	.5575	.0205	-.0184	.0000	-.0011	.0035	.0030	.0007	.0015	.0258
1.999	-.00	15.61	.6389	.0195	-.0240	-.0004	-.0009	.0030	.0029	.0008	.0015	.0247
1.995	-.01	17.56	.7173	.0187	-.0282	-.0001	-.0016	.0049	.0029	.0009	.0015	.0239
1.996	-.01	19.66	.8000	.0179	-.0345	-.0006	-.0018	.0048	.0028	.0009	.0015	.0231
1.996	-.00	-.37	-.0628	.0310	.0340	.0005	-.0005	.0017	.0027	.0007	.0017	.0361

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.9265	-.00	-4.40	-.2458	.0499	.0569	.0011	-.0008	.0020	.0025	.0007	.0018	.0549
-4.0515	-.00	-2.38	-.1522	.0376	.0452	.0010	-.0005	.0019	.0025	.0007	.0017	.0425
-3.1708	-.00	-1.39	-.1077	.0340	.0393	.0008	-.0005	.0017	.0026	.0007	.0017	.0389
-2.0350	-.00	-.38	-.0640	.0314	.0339	.0007	-.0005	.0019	.0027	.0007	.0017	.0365
-.6288	-.00	.65	-.0190	.0302	.0285	.0006	-.0007	.0021	.0028	.0007	.0017	.0354
.8132	-.00	1.60	.0245	.0301	.0232	.0006	-.0007	.0022	.0028	.0007	.0017	.0353
3.3699	-.00	3.64	.1181	.0350	.0126	.0006	-.0007	.0022	.0029	.0007	.0017	.0404
4.4398	-.00	5.56	.2040	.0459	.0055	.0019	-.0009	.0027	.0030	.0007	.0019	.0515
4.5760	-.00	7.67	.2921	.0638	.0003	-.0000	-.0010	.0029	.0030	.0007	.0021	.0697
4.3459	-.00	9.55	.3730	.0858	-.0058	-.0003	-.0010	.0032	.0031	.0007	.0023	.0919
3.9564	-.00	11.65	.4583	.1158	-.0124	-.0002	-.0009	.0029	.0030	.0007	.0026	.1222
3.5838	-.01	13.61	.5363	.1496	-.0184	-.0002	-.0010	.0035	.0029	.0007	.0030	.1562
3.2262	-.00	15.61	.6092	.1888	-.0240	-.0006	-.0008	.0030	.0028	.0008	.0033	.1958
2.9195	-.01	17.56	.6774	.2320	-.0282	-.0006	-.0015	.0049	.0027	.0009	.0037	.2393
2.6349	-.01	19.66	.7464	.2833	-.0345	-.0011	-.0015	.0048	.0027	.0008	.0041	.2909
-1.9915	-.00	-.37	-.0626	.0314	.0340	.0005	-.0005	.0017	.0027	.0007	.0017	.0365

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 123 MACH 1.80

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.005	.00	-4.51	-.2213	.0298	.0448	.0004	-.0009	.0019	.0026	.0005	.0022	.0352
2.004	-.00	-2.52	-.1352	.0297	.0347	.0003	-.0008	.0018	.0026	.0005	.0022	.0350
1.999	-.00	-1.50	-.0928	.0297	.0297	.0002	-.0008	.0022	.0027	.0005	.0022	.0351
1.999	-.00	-.52	-.0515	.0294	.0255	.0003	-.0006	.0017	.0028	.0005	.0022	.0349
2.004	-.00	.52	-.0084	.0287	.0208	.0001	-.0007	.0017	.0028	.0005	.0022	.0343
2.005	-.00	1.52	.0346	.0278	.0161	.0002	-.0008	.0019	.0029	.0005	.0022	.0334
1.998	-.00	3.55	.1230	.0260	.0067	.0004	-.0008	.0022	.0030	.0005	.0022	.0317
1.999	-.00	5.48	.2002	.0245	.0018	.0017	-.0003	.0016	.0030	.0005	.0022	.0303
2.002	-.00	7.60	.2839	.0231	-.0031	.0008	-.0007	.0025	.0030	.0006	.0021	.0288
2.000	-.00	9.48	.3562	.0220	-.0070	.0001	-.0007	.0027	.0030	.0006	.0020	.0276
1.999	-.01	11.48	.4307	.0211	-.0123	.0001	-.0008	.0032	.0030	.0006	.0020	.0266
2.001	-.00	13.48	.5072	.0202	-.0176	.0000	-.0013	.0033	.0029	.0006	.0019	.0256
2.002	-.01	15.48	.5783	.0197	-.0228	.0001	-.0009	.0035	.0028	.0007	.0017	.0250
1.999	-.01	17.51	.6522	.0194	-.0281	.0003	-.0015	.0046	.0028	.0007	.0016	.0245
1.999	-.00	19.43	.7265	.0184	-.0350	.0001	-.0022	.0048	.0027	.0007	.0016	.0234
1.999	-.00	-.51	-.0514	.0294	.0255	.0003	-.0007	.0017	.0028	.0005	.0022	.0349

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.6395	.00	-4.51	-.2179	.0470	.0448	.0005	-.0009	.0019	.0026	.0005	.0024	.0525
-3.7583	-.00	-2.52	-.1336	.0355	.0347	.0003	-.0008	.0018	.0026	.0005	.0023	.0410
-2.8627	-.00	-1.50	-.0918	.0321	.0297	.0003	-.0008	.0022	.0027	.0005	.0023	.0375
-1.7152	-.00	-.52	-.0512	.0299	.0255	.0003	-.0006	.0017	.0028	.0005	.0022	.0354
-.3041	-.00	.52	-.0087	.0266	.0208	.0001	-.0007	.0017	.0028	.0005	.0022	.0342
1.1762	-.00	1.52	.0337	.0287	.0161	.0001	-.0008	.0019	.0029	.0005	.0022	.0343
3.6151	-.00	3.55	.1209	.0334	.0067	.0004	-.0009	.0022	.0030	.0005	.0023	.0392
4.5407	-.00	5.48	.1965	.0433	.0018	.0016	-.0004	.0016	.0030	.0005	.0025	.0493
4.6368	-.00	7.60	.2778	.0599	-.0031	.0007	-.0008	.0025	.0030	.0005	.0026	.0661
4.3648	-.00	9.48	.3470	.0795	-.0070	-.0000	-.0007	.0027	.0030	.0006	.0028	.0859
3.9668	-.01	11.48	.4171	.1052	-.0123	-.0001	-.0008	.0032	.0029	.0006	.0031	.1118
3.5774	-.00	13.48	.4876	.1363	-.0176	-.0003	-.0013	.0033	.0028	.0006	.0034	.1431
3.2154	-.01	15.48	.5512	.1714	-.0228	-.0001	-.0009	.0035	.0027	.0006	.0037	.1784
2.8978	-.01	17.51	.6151	.2123	-.0281	-.0002	-.0015	.0046	.0026	.0007	.0040	.2196
2.6469	-.00	19.43	.6780	.2561	-.0350	-.0007	-.0021	.0048	.0025	.0007	.0043	.2636
-1.7091	-.00	-.51	-.0510	.0299	.0255	.0003	-.0007	.0017	.0028	.0005	.0022	.0354

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 124 MACH 2.00

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.002	.00	-4.54	-.1986	.0282	.0354	.0006	-.0004	.0011	.0022	.0004	.0029	.0337
2.005	.00	-2.61	-.1218	.0280	.0280	.0008	-.0003	.0007	.0022	.0004	.0029	.0334
2.006	-.00	-1.58	-.0807	.0279	.0239	.0007	-.0002	.0007	.0022	.0004	.0029	.0335
2.008	-.00	-.59	-.0423	.0276	.0203	.0008	-.0001	.0009	.0023	.0004	.0029	.0333
2.005	-.00	.46	-.0027	.0269	.0167	.0005	-.0001	.0010	.0023	.0004	.0029	.0325
2.002	-.00	1.47	.0371	.0261	.0132	.0002	-.0001	.0009	.0023	.0004	.0029	.0317
2.000	-.00	3.45	.1165	.0244	.0059	.0004	-.0001	.0013	.0023	.0004	.0029	.0301
2.001	-.00	5.43	.1920	.0231	.0003	.0006	-.0001	.0017	.0023	.0004	.0029	.0287
2.003	-.00	7.44	.2633	.0219	-.0034	.0017	-.0004	.0013	.0023	.0004	.0028	.0275
2.004	-.00	9.53	.3341	.0208	-.0066	.0004	-.0005	.0022	.0024	.0005	.0027	.0263
2.006	-.00	11.42	.3989	.0202	-.0099	.0006	-.0006	.0025	.0023	.0005	.0025	.0256
2.008	-.01	13.49	.4668	.0199	-.0137	.0002	-.0004	.0025	.0022	.0005	.0024	.0251
2.006	-.00	15.44	.5310	.0195	-.0188	.0001	-.0008	.0025	.0021	.0005	.0022	.0243
2.000	-.01	17.37	.5974	.0190	-.0252	.0001	-.0009	.0031	.0020	.0005	.0021	.0237
2.002	-.00	19.52	.6729	.0180	-.0330	-.0000	-.0015	.0036	.0020	.0005	.0019	.0224
2.003	-.00	-.57	-.0415	.0276	.0202	.0004	-.0002	.0008	.0023	.0004	.0029	.0332

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.4747	.00	-4.54	-.1953	.0436	.0354	.0006	-.0004	.0011	.0022	.0004	.0031	.0493
-3.5961	.00	-2.61	-.1201	.0334	.0280	.0008	-.0003	.0007	.0022	.0004	.0029	.0389
-2.6479	-.00	-1.58	-.0798	.0301	.0239	.0007	-.0002	.0007	.0022	.0004	.0029	.0357
-1.4950	-.00	-.59	-.0420	.0281	.0203	.0008	-.0001	.0009	.0023	.0004	.0029	.0337
-.1093	-.00	.46	-.0029	.0269	.0167	.0005	-.0001	.0010	.0023	.0004	.0029	.0325
1.3422	-.00	1.47	.0362	.0270	.0132	.0002	-.0001	.0009	.0023	.0004	.0029	.0326
3.6596	-.00	3.45	.1145	.0313	.0059	.0004	-.0001	.0013	.0023	.0004	.0030	.0370
4.6091	-.00	5.43	.1884	.0409	.0003	.0006	-.0001	.0017	.0023	.0004	.0032	.0467
4.6551	-.00	7.44	.2575	.0553	-.0034	.0016	-.0006	.0013	.0023	.0004	.0033	.0614
4.3400	-.00	9.53	.3251	.0749	-.0066	.0003	-.0006	.0022	.0023	.0005	.0035	.0812
3.9578	-.00	11.42	.3860	.0975	-.0099	.0005	-.0007	.0025	.0023	.0005	.0037	.1040
3.5406	-.01	13.49	.4482	.1266	-.0137	.0001	-.0005	.0025	.0022	.0005	.0040	.1333
3.1975	-.00	15.44	.5055	.1581	-.0188	-.0001	-.0008	.0025	.0020	.0005	.0043	.1649
2.9028	-.01	17.37	.5632	.1940	-.0252	-.0002	-.0008	.0031	.0019	.0005	.0045	.2010
2.6247	-.00	19.52	.6269	.2389	-.0330	-.0005	-.0014	.0036	.0019	.0005	.0048	.2460
-1.4688	-.00	-.57	-.0411	.0280	.0202	.0004	-.0002	.0008	.0023	.0004	.0029	.0336

TABLE AIII.- Continued

IPWT PROJECT 1424 RUN 125 MACH 2.16

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.000	.00	-4.52	-.1862	.0275	.0268	.0000	-.0007	.0012	.0019	.0003	.0035	.0333
2.000	.00	-2.59	-.1147	.0271	.0215	.0002	-.0007	.0009	.0018	.0003	.0035	.0328
2.005	.00	-1.52	-.0746	.0270	.0183	.0004	-.0005	.0008	.0019	.0003	.0036	.0327
2.000	.00	-.57	-.0387	.0267	.0157	.0002	-.0003	.0005	.0019	.0003	.0036	.0324
1.998	-.00	.52	.0002	.0259	.0126	.0001	-.0005	.0011	.0019	.0003	.0036	.0317
1.998	.00	1.49	.0365	.0252	.0097	.0000	-.0005	.0010	.0019	.0003	.0036	.0309
2.000	-.00	3.53	.1134	.0240	.0040	.0001	-.0004	.0011	.0019	.0003	.0035	.0296
2.002	-.00	5.50	.1844	.0226	-.0008	.0002	-.0005	.0014	.0018	.0003	.0034	.0282
2.003	-.00	7.44	.2514	.0213	-.0050	.0004	-.0006	.0018	.0018	.0003	.0034	.0269
1.998	-.00	9.47	.3171	.0203	-.0082	.0013	-.0009	.0017	.0019	.0004	.0033	.0258
1.998	-.00	11.57	.3832	.0195	-.0109	.0007	-.0009	.0022	.0018	.0004	.0031	.0248
2.001	-.00	13.43	.4405	.0193	-.0141	.0001	-.0003	.0016	.0017	.0004	.0029	.0243
2.003	-.00	15.41	.5035	.0189	-.0189	.0002	-.0008	.0024	.0016	.0004	.0027	.0237
2.005	-.00	17.56	.5730	.0182	-.0256	-.0001	-.0009	.0023	.0016	.0004	.0025	.0227
1.997	-.00	19.48	.6385	.0172	-.0326	-.0003	-.0009	.0026	.0016	.0004	.0023	.0215
2.001	-.00	-.51	-.0368	.0267	.0157	.0003	-.0003	.0009	.0019	.0003	.0036	.0325

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-4.3604	.00	-4.52	-.1829	.0419	.0268	.0001	-.0007	.0012	.0019	.0003	.0037	.0479
-3.5128	.00	-2.59	-.1130	.0322	.0215	.0003	-.0007	.0009	.0018	.0003	.0036	.0379
-2.5457	.00	-1.52	-.0736	.0289	.0183	.0004	-.0005	.0008	.0019	.0003	.0036	.0347
-1.4200	.00	-.57	-.0384	.0270	.0157	.0002	-.0003	.0005	.0019	.0003	.0036	.0328
-.0029	-.00	.52	-.0001	.0259	.0126	.0001	-.0005	.0011	.0019	.0003	.0036	.0317
1.3674	.00	1.49	.0356	.0261	.0097	.0000	-.0005	.0010	.0019	.0003	.0036	.0318
3.6176	-.00	3.53	.1112	.0307	.0040	.0001	-.0005	.0011	.0019	.0003	.0037	.0366
4.5312	-.00	5.50	.1807	.0399	-.0008	.0001	-.0005	.0014	.0018	.0003	.0037	.0458
4.6265	-.00	7.44	.2457	.0531	-.0050	.0003	-.0007	.0018	.0018	.0003	.0039	.0592
4.3287	-.00	9.47	.3084	.0712	-.0082	.0011	-.0011	.0017	.0018	.0004	.0041	.0776
3.9147	-.00	11.57	.3703	.0946	-.0109	.0006	-.0010	.0022	.0018	.0004	.0044	.1011
3.5408	-.00	13.43	.4226	.1194	-.0141	.0000	-.0003	.0016	.0017	.0004	.0046	.1260
3.1958	-.00	15.41	.4789	.1498	-.0189	-.0000	-.0008	.0024	.0016	.0004	.0048	.1566
2.8743	-.00	17.56	.5393	.1876	-.0256	-.0003	-.0008	.0023	.0015	.0004	.0050	.1945
2.6298	-.00	19.48	.5947	.2261	-.0326	-.0006	-.0007	.0026	.0015	.0004	.0052	.2332
-1.3501	-.00	-.51	-.0365	.0270	.0157	.0003	-.0003	.0009	.0019	.0003	.0036	.0328

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 126 MACH 1.60

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.002	.01	-4.40	-.1471	.0282	-.0015	-.0000	-.0009	.0005	.0026	.0007	.0017	.0332
2.002	.00	-2.41	-.0546	.0292	-.0124	.0001	-.0003	.0001	.0027	.0007	.0017	.0343
2.003	.00	-1.40	-.0092	.0297	-.0180	-.0002	-.0003	.0003	.0029	.0007	.0017	.0349
1.999	.00	-.36	.0369	.0300	-.0235	.0001	-.0003	.0003	.0029	.0007	.0017	.0353
2.001	.00	.67	.0829	.0298	-.0288	-.0000	-.0003	.0006	.0030	.0007	.0017	.0352
2.004	.00	1.68	.1293	.0293	-.0344	-.0001	-.0001	.0002	.0030	.0007	.0017	.0347
2.007	.00	3.64	.2237	.0282	-.0460	.0005	-.0006	.0012	.0031	.0007	.0016	.0336
2.004	.00	5.63	.3141	.0279	-.0536	.0015	-.0005	.0009	.0032	.0007	.0017	.0335
1.998	-.00	7.60	.3977	.0283	-.0580	.0000	-.0000	.0005	.0032	.0007	.0016	.0338
2.006	-.00	9.63	.4850	.0286	-.0625	-.0000	.0000	.0008	.0033	.0007	.0016	.0341
2.001	-.00	11.62	.5651	.0290	-.0659	.0003	-.0001	.0013	.0032	.0007	.0016	.0345
2.001	-.00	13.57	.6463	.0294	-.0696	.0002	-.0001	.0010	.0033	.0007	.0015	.0350
2.006	-.00	15.63	.7271	.0300	-.0724	-.0000	-.0001	.0008	.0036	.0008	.0015	.0359
1.998	-.00	17.60	.8049	.0309	-.0748	-.0000	-.0006	.0022	.0037	.0009	.0015	.0369
2.005	-.01	19.63	.8864	.0316	-.0798	-.0001	-.0006	.0027	.0036	.0009	.0015	.0376
2.001	.00	-.39	.0365	.0300	-.0233	.0004	.0000	.0000	.0030	.0007	.0017	.0354

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-3.6793	.01	-4.40	-.1443	.0392	-.0015	.0000	-.0009	.0005	.0026	.0007	.0018	.0444
-1.6914	.00	-2.41	-.0532	.0314	-.0124	.0001	-.0003	.0001	.0027	.0007	.0017	.0366
-.2809	.00	-1.40	-.0084	.0299	-.0180	-.0001	-.0003	.0003	.0029	.0007	.0017	.0351
1.2485	.00	-.36	.0371	.0298	-.0235	.0001	-.0003	.0003	.0029	.0007	.0017	.0351
2.6772	.00	.67	.0825	.0308	-.0288	-.0000	-.0003	.0006	.0030	.0007	.0017	.0362
3.8781	.00	1.68	.1283	.0331	-.0344	-.0001	-.0001	.0002	.0030	.0007	.0017	.0385
5.2435	.00	3.64	.2213	.0422	-.0460	.0005	-.0006	.0012	.0031	.0007	.0017	.0478
5.3057	.00	5.63	.3095	.0563	-.0536	.0014	-.0007	.0009	.0032	.0007	.0019	.0641
4.8665	-.00	7.60	.3900	.0801	-.0580	.0000	-.0000	.0005	.0032	.0007	.0021	.0861
4.3548	-.00	9.63	.4729	.1086	-.0625	-.0000	.0000	.0008	.0032	.0007	.0023	.1148
3.8771	-.00	11.62	.5470	.1411	-.0659	.0003	-.0001	.0013	.0032	.0007	.0026	.1476
3.4737	-.00	13.57	.6207	.1787	-.0696	.0002	-.0002	.0010	.0033	.0007	.0030	.1856
3.1013	-.00	15.63	.6913	.2229	-.0724	-.0001	-.0001	.0008	.0035	.0008	.0033	.2304
2.7976	-.00	17.60	.7569	.2706	-.0748	-.0002	-.0006	.0022	.0035	.0009	.0037	.2786
2.5346	-.01	19.63	.8233	.3248	-.0798	-.0003	-.0006	.0027	.0034	.0009	.0041	.3332
1.2345	.00	-.39	.0367	.0298	-.0233	.0004	.0000	.0000	.0030	.0007	.0017	.0351

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 127 MACH 1.80

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
1.996	.00	-4.46	-.1420	.0272	.0008	-.0001	-.0009	.0005	.0027	.0005	.0022	.0326
2.003	.00	-2.52	-.0586	.0280	-.0088	-.0001	-.0005	.0005	.0027	.0005	.0022	.0333
2.000	.00	-1.48	-.0143	.0284	-.0136	-.0000	-.0004	.0005	.0028	.0005	.0022	.0339
1.999	.00	-.48	.0275	.0284	-.0180	-.0001	-.0003	.0004	.0028	.0005	.0022	.0340
1.998	.00	.52	.0680	.0282	-.0225	-.0000	-.0004	.0003	.0029	.0005	.0022	.0338
2.003	.00	1.47	.1087	.0278	-.0273	-.0002	-.0004	.0006	.0029	.0005	.0022	.0334
1.999	.00	3.49	.1950	.0269	-.0371	-.0001	-.0005	.0009	.0029	.0005	.0022	.0326
1.996	.00	5.52	.2814	.0266	-.0435	.0010	-.0006	.0007	.0030	.0005	.0022	.0323
2.003	.00	7.51	.3586	.0267	-.0481	.0010	-.0007	.0013	.0030	.0005	.0021	.0324
2.003	-.00	9.49	.4332	.0271	-.0516	.0000	-.0004	.0010	.0031	.0006	.0020	.0328
2.000	-.00	11.48	.5077	.0278	-.0558	.0002	-.0003	.0010	.0031	.0006	.0020	.0335
2.004	-.00	13.48	.5805	.0285	-.0591	.0001	.0001	.0010	.0031	.0006	.0019	.0341
2.000	-.00	15.46	.6497	.0297	-.0622	.0001	-.0001	.0010	.0031	.0007	.0017	.0353
2.003	-.00	17.49	.7241	.0307	-.0670	.0003	-.0006	.0013	.0030	.0007	.0016	.0360
2.001	-.00	19.53	.8028	.0308	-.0749	.0001	-.0005	.0016	.0029	.0007	.0016	.0360
2.003	.00	-.51	.0252	.0263	-.0177	-.0001	-.0003	.0003	.0029	.0005	.0022	.0339

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-3.6648	.00	-4.46	-.1391	.0379	.0008	-.0001	-.0009	.0005	.0026	.0005	.0024	.0435
-1.8765	.00	-2.52	-.0571	.0304	-.0088	-.0001	-.0005	.0005	.0027	.0005	.0023	.0359
-.4680	.00	-1.48	-.0134	.0287	-.0136	-.0000	-.0004	.0005	.0028	.0005	.0023	.0342
.9860	.00	-.46	.0278	.0282	-.0180	-.0001	-.0003	.0004	.0028	.0005	.0022	.0338
2.3534	.00	.52	.0677	.0288	-.0225	-.0000	-.0004	.0003	.0029	.0005	.0022	.0344
3.5293	.00	1.47	.1079	.0306	-.0273	-.0002	-.0004	.0006	.0029	.0005	.0022	.0362
4.9904	.00	3.49	.1927	.0386	-.0371	-.0001	-.0005	.0009	.0029	.0005	.0023	.0444
5.2030	.00	5.52	.2771	.0533	-.0435	.0009	-.0006	.0007	.0030	.0005	.0025	.0592
4.8275	.00	7.51	.3514	.0728	-.0481	.0009	-.0008	.0013	.0030	.0005	.0026	.0790
4.3401	-.00	9.49	.4222	.0973	-.0516	-.0001	-.0004	.0010	.0030	.0006	.0028	.1037
3.8634	-.00	11.48	.4912	.1271	-.0558	.0001	-.0004	.0010	.0030	.0006	.0031	.1338
3.4488	-.00	13.48	.5570	.1615	-.0591	.0001	.0000	.0010	.0030	.0006	.0034	.1685
3.0884	-.00	15.46	.6173	.1999	-.0622	.0001	-.0001	.0010	.0030	.0006	.0037	.2072
2.7835	-.00	17.49	.6804	.2445	-.0670	.0001	-.0007	.0013	.0028	.0007	.0040	.2520
2.5298	-.00	19.53	.7453	.2946	-.0749	-.0001	-.0005	.0016	.0028	.0007	.0043	.3023
.9078	.00	-.51	.0255	.0281	-.0177	-.0001	-.0003	.0003	.0029	.0005	.0022	.0337

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 128 MACH 2.00

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
1.996	.00	-4.62	-.1446	.0256	.0022	.0003	-.0004	.0005	.0021	.0004	.0029	.0310
2.000	.00	-2.48	-.0589	.0264	-.0066	.0002	-.0002	-.0000	.0021	.0004	.0029	.0318
2.003	.00	-1.58	-.0230	.0268	-.0103	.0003	.0001	-.0002	.0022	.0004	.0029	.0322
1.998	-.00	-.59	.0149	.0269	-.0137	.0003	.0001	-.0000	.0022	.0004	.0029	.0324
1.995	.00	.36	.0518	.0268	-.0172	-.0000	.0001	-.0002	.0022	.0004	.0029	.0323
1.998	-.00	1.47	.0947	.0264	-.0215	-.0001	.0001	.0002	.0022	.0004	.0029	.0319
2.001	-.00	3.47	.1766	.0256	-.0298	-.0000	.0003	.0000	.0022	.0004	.0029	.0311
2.004	-.00	5.38	.2498	.0254	-.0355	.0003	.0002	.0003	.0023	.0004	.0029	.0309
1.995	.00	7.49	.3245	.0254	-.0398	.0012	-.0001	.0003	.0023	.0004	.0028	.0309
1.998	-.00	9.47	.3921	.0258	-.0427	.0004	.0001	.0004	.0023	.0005	.0027	.0313
2.001	-.00	11.44	.4578	.0265	-.0454	.0003	.0004	.0008	.0024	.0005	.0025	.0319
2.002	-.00	13.47	.5247	.0274	-.0484	.0001	.0001	.0009	.0023	.0005	.0024	.0327
2.003	-.00	15.47	.5905	.0286	-.0525	-.0000	-.0003	.0009	.0022	.0005	.0022	.0336
1.997	-.00	17.42	.6561	.0293	-.0567	.0000	-.0002	.0015	.0022	.0005	.0021	.0341
1.999	-.00	19.45	.7325	.0296	-.0675	-.0000	-.0009	.0021	.0022	.0005	.0019	.0343
1.997	-.00	-.54	.0177	.0270	-.0141	.0002	.0001	-.0000	.0022	.0004	.0029	.0325

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-3.8355	.00	-4.62	-.1416	.0369	.0022	.0003	-.0003	.0005	.0021	.0004	.0031	.0425
-1.9897	.00	-2.48	-.0574	.0289	-.0066	.0002	-.0001	-.0000	.0021	.0004	.0029	.0343
-.8076	.00	-1.58	-.0221	.0274	-.0103	.0003	.0001	-.0002	.0022	.0004	.0029	.0329
.5693	-.00	-.59	.0152	.0267	-.0137	.0003	.0001	-.0000	.0022	.0004	.0029	.0322
1.8986	.00	.36	.0515	.0271	-.0172	-.0000	.0001	-.0002	.0022	.0004	.0029	.0326
3.2566	-.00	1.47	.0939	.0288	-.0215	-.0001	.0001	.0002	.0022	.0004	.0029	.0343
4.8231	-.00	3.47	.1744	.0362	-.0298	.0000	.0003	.0000	.0022	.0004	.0030	.0418
5.0812	-.00	5.38	.2457	.0484	-.0355	.0003	.0002	.0003	.0023	.0004	.0031	.0542
4.7495	.00	7.49	.3177	.0669	-.0398	.0012	-.0003	.0003	.0023	.0004	.0033	.0729
4.2848	-.00	9.47	.3816	.0891	-.0427	.0004	.0000	.0004	.0023	.0005	.0035	.0954
3.8320	-.00	11.44	.4424	.1155	-.0454	.0004	.0003	.0008	.0023	.0005	.0037	.1220
3.4137	-.00	13.47	.5028	.1473	-.0484	.0002	.0001	.0009	.0023	.0005	.0040	.1540
3.0623	-.00	15.47	.5603	.1830	-.0525	-.0001	-.0003	.0009	.0022	.0005	.0043	.1899
2.7779	-.00	17.42	.6161	.2218	-.0587	-.0000	-.0002	.0015	.0021	.0005	.0045	.2289
2.5272	-.00	19.45	.6795	.2689	-.0675	-.0003	-.0008	.0021	.0021	.0005	.0048	.2763
.6721	-.00	-.54	.0130	.0268	-.0141	.0002	.0001	-.0000	.0022	.0004	.0029	.0323

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 129 MACH 2.16

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.001	.00	-4.50	-.1326	.0250	-.0018	.0000	-.0006	.0005	.0018	.0003	.0035	.0307
2.002	.00	-2.54	-.0584	.0256	-.0078	.0002	-.0005	.0004	.0017	.0003	.0035	.0312
1.996	.00	-1.56	-.0216	.0258	-.0109	-.0000	-.0003	.0003	.0018	.0003	.0036	.0315
1.997	.00	-.50	.0173	.0260	-.0142	-.0001	-.0003	.0001	.0018	.0003	.0036	.0317
2.001	.00	.53	.0553	.0257	-.0169	-.0002	-.0003	.0001	.0018	.0003	.0036	.0313
1.995	.00	1.47	.0906	.0253	-.0199	-.0001	-.0001	.0003	.0018	.0003	.0036	.0310
1.998	-.00	3.51	.1675	.0249	-.0265	-.0002	-.0002	.0006	.0018	.0003	.0035	.0305
2.001	-.00	5.48	.2393	.0247	-.0316	.0001	-.0002	.0008	.0018	.0003	.0034	.0303
2.002	-.00	7.52	.3068	.0246	-.0354	.0003	-.0001	.0007	.0018	.0003	.0034	.0301
2.000	.00	9.44	.3684	.0246	-.0383	.0007	-.0003	.0004	.0018	.0004	.0033	.0303
1.993	-.00	11.47	.4324	.0253	-.0408	.0005	-.0000	.0006	.0018	.0004	.0031	.0307
1.995	-.00	13.45	.4941	.0265	-.0439	.0002	.0000	.0004	.0018	.0004	.0029	.0316
1.999	-.00	15.50	.5589	.0274	-.0487	.0002	-.0002	.0012	.0017	.0004	.0027	.0322
2.001	-.00	17.47	.6241	.0279	-.0556	.0001	-.0002	.0012	.0017	.0004	.0025	.0325
2.002	-.00	19.50	.6955	.0280	-.0642	-.0002	-.0004	.0014	.0018	.0004	.0023	.0325
1.996	.00	-.57	.0158	.0261	-.0138	-.0002	-.0004	.0002	.0018	.0003	.0036	.0317

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-3.6871	.00	-4.50	-.1297	.0352	-.0018	.0001	-.0006	.0005	.0018	.0003	.0037	.0410
-2.0251	.00	-2.54	-.0569	.0281	-.0078	.0002	-.0005	.0004	.0017	.0003	.0036	.0337
-.7856	.00	-1.56	-.0207	.0264	-.0109	-.0000	-.0003	.0003	.0018	.0003	.0036	.0320
.6816	.00	-.50	.0176	.0259	-.0142	-.0001	-.0003	.0001	.0018	.0003	.0036	.0315
2.0993	.00	.53	.0550	.0262	-.0169	-.0002	-.0003	.0001	.0018	.0003	.0036	.0318
3.2494	.00	1.47	.0897	.0276	-.0199	-.0001	-.0001	.0003	.0018	.0003	.0036	.0333
4.7248	-.00	3.51	.1652	.0350	-.0265	-.0002	-.0002	.0006	.0018	.0003	.0037	.0407
4.9875	-.00	5.48	.2352	.0472	-.0316	.0001	-.0002	.0008	.0018	.0003	.0037	.0530
4.6951	-.00	7.52	.3001	.0639	-.0354	.0003	-.0002	.0007	.0018	.0003	.0039	.0700
4.2646	.00	9.44	.3583	.0840	-.0383	.0007	-.0004	.0004	.0018	.0004	.0041	.0903
3.8117	-.00	11.47	.4175	.1095	-.0408	.0005	-.0001	.0006	.0018	.0004	.0043	.1160
3.4039	-.00	13.45	.4730	.1390	-.0439	.0002	-.0000	.0004	.0018	.0004	.0046	.1457
3.0521	-.00	15.50	.5298	.1736	-.0487	.0002	-.0003	.0012	.0016	.0004	.0048	.1804
2.7704	-.00	17.47	.5854	.2113	-.0556	-.0000	-.0002	.0012	.0016	.0004	.0050	.2183
2.5233	-.00	19.50	.6447	.2555	-.0642	-.0003	-.0003	.0014	.0017	.0004	.0052	.2628
.6236	.00	-.57	.0161	.0259	-.0138	-.0002	-.0004	.0002	.0018	.0003	.0036	.0316

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 130 MACH 1.60

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.001	.00	-4.36	-.1026	.0381	-.0219	.0008	-.0007	.0008	.0018	.0007	.0017	.0423
1.997	.00	-2.37	-.0120	.0392	-.0337	.0003	-.0007	.0010	.0019	.0007	.0017	.0435
1.995	-.00	-1.34	.0339	.0399	-.0397	.0006	-.0006	.0016	.0020	.0007	.0017	.0442
1.997	-.00	-.41	.0753	.0402	-.0447	.0007	-.0004	.0016	.0020	.0007	.0017	.0446
2.004	-.00	.63	.1193	.0403	-.0496	.0006	-.0002	.0012	.0021	.0007	.0017	.0447
2.008	-.00	1.59	.1629	.0399	-.0547	.0002	-.0006	.0018	.0021	.0007	.0017	.0444
2.007	-.00	3.59	.2568	.0395	-.0672	.0005	-.0006	.0015	.0022	.0007	.0016	.0441
1.996	-.00	5.63	.3470	.0398	-.0744	.0018	-.0009	.0022	.0023	.0007	.0017	.0444
1.995	-.00	7.61	.4294	.0404	-.0773	.0005	-.0002	.0018	.0024	.0007	.0016	.0450
1.999	-.01	9.61	.5114	.0415	-.0798	.0004	-.0001	.0019	.0025	.0007	.0016	.0462
2.001	-.01	11.63	.5909	.0424	-.0820	.0003	-.0002	.0022	.0025	.0007	.0016	.0471
2.003	-.00	13.65	.6700	.0435	-.0837	.0003	-.0004	.0015	.0026	.0008	.0015	.0483
1.999	-.00	15.58	.7440	.0446	-.0855	.0004	-.0007	.0024	.0028	.0008	.0015	.0497
1.993	-.00	17.63	.8207	.0464	-.0874	.0004	-.0015	.0032	.0030	.0009	.0015	.0517
2.000	.00	19.64	.9015	.0476	-.0916	.0002	-.0023	.0037	.0030	.0009	.0015	.0530
2.002	-.00	-.42	.0747	.0401	-.0443	.0003	-.0006	.0018	.0020	.0007	.0017	.0445

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-2.1708	.00	-4.36	-.0991	.0457	-.0219	.0008	-.0006	.0008	.0018	.0007	.0018	.0500
-.2579	.00	-2.37	-.0102	.0396	-.0337	.0003	-.0007	.0010	.0019	.0007	.0017	.0439
.8933	-.00	-1.34	.0349	.0391	-.0397	.0006	-.0006	.0016	.0020	.0007	.0017	.0434
1.9046	-.00	-.41	.0756	.0397	-.0447	.0007	-.0004	.0016	.0020	.0007	.0017	.0441
2.8592	-.00	.63	.1189	.0416	-.0496	.0006	-.0002	.0012	.0021	.0007	.0017	.0460
3.6404	-.00	1.59	.1616	.0444	-.0547	.0002	-.0006	.0018	.0021	.0007	.0017	.0489
4.5772	-.00	3.59	.2536	.0554	-.0672	.0004	-.0006	.0015	.0022	.0007	.0017	.0601
4.6517	-.00	5.63	.3411	.0733	-.0744	.0017	-.0011	.0022	.0023	.0007	.0019	.0782
4.3561	-.00	7.61	.4198	.0964	-.0773	.0005	-.0003	.0018	.0023	.0007	.0021	.1015
3.9588	-.01	9.61	.4968	.1255	-.0798	.0004	-.0001	.0019	.0024	.0007	.0023	.1310
3.5714	-.01	11.63	.5696	.1595	-.0820	.0002	-.0003	.0022	.0025	.0007	.0026	.1653
3.2190	-.00	13.65	.6401	.1988	-.0837	.0002	-.0004	.0015	.0025	.0007	.0030	.2051
2.9215	-.00	15.58	.7039	.2409	-.0855	.0001	-.0008	.0024	.0027	.0008	.0033	.2477
2.6409	-.00	17.63	.7672	.2905	-.0874	-.0001	-.0015	.0032	.0029	.0009	.0037	.2979
2.4103	.00	19.64	.8320	.3452	-.0916	-.0006	-.0023	.0037	.0028	.0008	.0041	.3529
1.8991	-.00	-.42	.0750	.0395	-.0443	.0003	-.0006	.0018	.0020	.0007	.0017	.0439

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 131 MACH 1.80

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLR	CNB	CY	CAC	CAB	CAI	CA UNC
1.995	.00	-4.53	-.1087	.0359	-.0168	.0004	-.0010	.0017	.0018	.0005	.0022	.0404
1.999	.00	-2.52	-.0263	.0368	-.0265	.0004	-.0008	.0013	.0018	.0005	.0022	.0414
2.003	.00	-1.49	.0169	.0373	-.0313	.0003	-.0007	.0012	.0018	.0005	.0022	.0418
2.004	-.00	-.52	.0573	.0376	-.0356	.0003	-.0006	.0012	.0019	.0005	.0022	.0422
2.006	-.00	.54	.1000	.0377	-.0405	.0002	-.0008	.0016	.0019	.0005	.0022	.0423
1.998	.00	1.48	.1400	.0376	-.0452	.0000	-.0006	.0010	.0019	.0005	.0022	.0422
1.999	.00	3.44	.2257	.0375	-.0555	.0005	-.0007	.0014	.0020	.0005	.0022	.0422
2.002	.00	5.49	.3078	.0375	-.0620	.0012	-.0010	.0014	.0020	.0005	.0022	.0423
2.004	-.00	7.47	.3833	.0381	-.0661	.0012	-.0008	.0018	.0021	.0005	.0021	.0429
2.004	-.00	9.55	.4594	.0391	-.0686	.0001	-.0003	.0012	.0022	.0006	.0020	.0439
2.006	-.00	11.58	.5326	.0403	-.0715	.0001	.0004	.0006	.0023	.0006	.0020	.0452
2.005	-.00	13.52	.5993	.0415	-.0736	.0003	-.0001	.0014	.0023	.0006	.0019	.0463
1.999	-.00	15.46	.6650	.0432	-.0754	.0006	-.0006	.0018	.0024	.0007	.0017	.0480
2.000	.00	17.54	.7398	.0449	-.0806	.0007	-.0015	.0027	.0023	.0007	.0016	.0496
2.003	-.00	19.48	.8114	.0457	-.0874	.0007	-.0014	.0032	.0023	.0007	.0016	.0503
2.003	.00	-.54	.0564	.0376	-.0358	.0002	-.0004	.0005	.0019	.0005	.0022	.0422

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-2.3781	.00	-4.53	-.1052	.0442	-.0168	.0005	-.0010	.0017	.0018	.0005	.0024	.0489
-.6464	.00	-2.52	-.0245	.0379	-.0265	.0004	-.0008	.0013	.0018	.0005	.0023	.0425
.4889	.00	-1.49	.0180	.0368	-.0313	.0003	-.0007	.0012	.0018	.0005	.0023	.0414
1.5551	-.00	-.52	.0577	.0371	-.0356	.0003	-.0006	.0012	.0019	.0005	.0022	.0417
2.5786	-.00	.54	.0996	.0386	-.0405	.0002	-.0008	.0016	.0019	.0005	.0022	.0433
3.3759	.00	1.48	.1389	.0411	-.0452	-.0000	-.0006	.0010	.0019	.0005	.0022	.0458
4.3791	.00	3.44	.2228	.0509	-.0555	.0004	-.0007	.0014	.0020	.0005	.0023	.0557
4.5452	.00	5.49	.3023	.0665	-.0620	.0012	-.0011	.0014	.0020	.0005	.0025	.0715
4.3015	-.00	7.47	.3745	.0871	-.0661	.0011	-.0009	.0018	.0021	.0005	.0026	.0923
3.9142	-.00	9.55	.4459	.1139	-.0686	.0001	-.0003	.0012	.0022	.0006	.0029	.1195
3.5307	-.00	11.58	.5129	.1453	-.0715	.0002	.0004	.0006	.0022	.0006	.0031	.1512
3.1986	-.00	13.52	.5721	.1789	-.0736	.0002	-.0001	.0014	.0022	.0006	.0034	.1851
2.8966	-.00	15.46	.6285	.2170	-.0754	.0004	-.0007	.0018	.0023	.0006	.0037	.2236
2.6239	.00	17.54	.6909	.2633	-.0806	.0002	-.0016	.0027	.0022	.0007	.0040	.2702
2.4088	-.00	19.48	.7487	.3108	-.0874	.0001	-.0016	.0032	.0021	.0007	.0043	.3179
1.5343	.00	-.54	.0568	.0370	-.0358	.0002	-.0004	.0005	.0019	.0005	.0022	.0416

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 132 MACH 2.00

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.000	.01	-4.55	-.1106	.0334	-.0132	.0003	-.0007	.0002	.0012	.0004	.0029	.0379
1.994	.00	-2.60	-.0324	.0347	-.0219	.0005	-.0004	.0004	.0011	.0004	.0029	.0391
1.999	.00	-1.56	.0082	.0351	-.0256	.0005	-.0002	-.0001	.0011	.0004	.0029	.0395
2.001	.00	-.61	.0433	.0355	-.0291	.0006	-.0004	.0002	.0012	.0004	.0029	.0400
2.002	.00	.33	.0792	.0356	-.0325	.0006	-.0001	-.0001	.0012	.0004	.0029	.0400
1.992	.00	1.43	.1223	.0354	-.0371	.0003	-.0002	.0004	.0012	.0004	.0029	.0399
1.990	-.00	3.50	.2059	.0353	-.0459	.0004	.0001	-.0000	.0012	.0004	.0029	.0398
1.995	.00	5.45	.2792	.0356	-.0519	.0005	.0000	-.0001	.0013	.0004	.0029	.0401
1.997	.00	7.39	.3466	.0361	-.0556	.0016	-.0004	.0005	.0013	.0004	.0028	.0406
1.998	-.00	9.42	.4146	.0370	-.0580	.0009	-.0001	.0005	.0014	.0005	.0027	.0416
2.000	-.00	11.43	.4789	.0383	-.0603	.0005	.0003	-.0002	.0015	.0005	.0025	.0428
2.001	-.00	13.46	.5428	.0398	-.0622	.0005	-.0003	.0008	.0014	.0005	.0024	.0441
2.003	.00	15.43	.6060	.0411	-.0657	.0004	-.0006	.0006	.0013	.0005	.0022	.0452
1.998	-.00	17.43	.6725	.0426	-.0720	.0004	-.0006	.0015	.0013	.0005	.0021	.0465
1.994	.00	19.41	.7459	.0438	-.0806	.0004	-.0010	.0017	.0014	.0005	.0019	.0476
1.999	.00	-.56	.0475	.0356	-.0293	.0005	-.0002	-.0001	.0012	.0004	.0029	.0401

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-2.5583	.01	-4.55	-.1071	.0419	-.0132	.0004	-.0006	.0002	.0012	.0004	.0031	.0465
-.8462	.00	-2.60	-.0305	.0361	-.0219	.0005	-.0004	.0004	.0011	.0004	.0029	.0405
.2683	.00	-1.56	.0093	.0348	-.0256	.0005	-.0002	-.0001	.0011	.0004	.0029	.0393
1.2490	.00	-.61	.0437	.0350	-.0291	.0006	-.0003	.0002	.0012	.0004	.0029	.0395
2.1941	.00	.33	.0790	.0360	-.0325	.0006	-.0002	-.0001	.0012	.0004	.0029	.0405
3.1518	.00	1.43	.1212	.0385	-.0371	.0003	-.0003	.0004	.0012	.0004	.0029	.0430
4.2603	-.00	3.50	.2030	.0477	-.0459	.0004	.0001	-.0000	.0012	.0004	.0030	.0523
4.4449	.00	5.45	.2740	.0616	-.0519	.0005	-.0000	-.0001	.0013	.0004	.0032	.0665
4.2389	.00	7.39	.3383	.0798	-.0556	.0016	-.0006	.0005	.0013	.0004	.0033	.0849
3.8845	-.00	9.42	.4020	.1035	-.0580	.0008	-.0002	.0005	.0014	.0005	.0035	.1088
3.5124	-.00	11.43	.4608	.1312	-.0603	.0006	.0002	-.0002	.0014	.0005	.0037	.1369
3.1672	-.00	13.46	.5175	.1634	-.0622	.0004	-.0004	.0008	.0014	.0005	.0040	.1692
2.8765	.00	15.43	.5720	.1989	-.0657	.0002	-.0007	.0006	.0013	.0005	.0043	.2049
2.6196	-.00	17.43	.6276	.2396	-.0720	.0002	-.0007	.0015	.0013	.0005	.0045	.2458
2.4024	.00	19.41	.6876	.2862	-.0806	.0001	-.0011	.0017	.0013	.0005	.0048	.2928
1.3641	.00	-.56	.0479	.0351	-.0293	.0005	-.0002	-.0001	.0012	.0004	.0029	.0396

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 133 MACH 2.16

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
1.999	.00	-4.55	-.1106	.0324	-.0148	.0003	-.0007	.0004	.0008	.0003	.0035	.0370
2.004	.00	-2.52	-.0324	.0336	-.0214	.0004	-.0006	-.0001	.0007	.0003	.0035	.0382
2.005	.00	-1.55	.0032	.0341	-.0247	.0004	-.0005	-.0003	.0007	.0003	.0036	.0386
2.006	.00	-.48	.0412	.0343	-.0277	.0004	-.0005	-.0000	.0007	.0003	.0036	.0389
2.000	.00	.46	.0761	.0342	-.0306	.0003	-.0005	-.0000	.0007	.0003	.0036	.0388
1.996	.00	1.47	.1137	.0341	-.0342	.0004	-.0003	-.0002	.0007	.0003	.0036	.0387
2.002	.00	3.44	.1873	.0342	-.0407	.0004	-.0001	-.0002	.0007	.0003	.0035	.0387
2.004	.00	5.48	.2599	.0346	-.0464	.0004	-.0000	-.0002	.0008	.0003	.0034	.0391
2.004	.00	7.48	.3279	.0350	-.0503	.0005	-.0002	.0002	.0008	.0003	.0034	.0394
2.004	.00	9.50	.3905	.0356	-.0530	.0009	-.0005	-.0001	.0008	.0004	.0033	.0403
2.006	.00	11.47	.4514	.0369	-.0557	.0007	.0000	-.0004	.0008	.0004	.0031	.0412
2.008	.00	13.45	.5124	.0384	-.0584	.0006	-.0001	-.0003	.0008	.0004	.0029	.0425
2.001	.00	15.44	.5743	.0398	-.0623	.0007	-.0006	.0007	.0007	.0004	.0027	.0436
2.002	.00	17.45	.6411	.0411	-.0694	.0005	-.0005	.0007	.0007	.0004	.0025	.0448
2.004	.00	19.51	.7141	.0423	-.0785	.0001	-.0007	.0001	.0008	.0004	.0023	.0458
2.006	.00	-.50	.0422	.0344	-.0277	.0003	-.0006	.0001	.0007	.0003	.0036	.0389

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-2.6181	.00	-4.55	-.1071	.0409	-.0148	.0004	-.0007	.0004	.0008	.0003	.0037	.0457
-.8756	.00	-2.52	-.0306	.0349	-.0214	.0004	-.0006	-.0001	.0007	.0003	.0036	.0395
.1266	.00	-1.55	.0043	.0339	-.0247	.0004	-.0005	-.0003	.0007	.0003	.0036	.0385
1.2248	.00	-.48	.0416	.0340	-.0277	.0004	-.0005	-.0000	.0007	.0003	.0036	.0385
2.1735	.00	.46	.0757	.0348	-.0306	.0003	-.0005	-.0000	.0007	.0003	.0036	.0394
3.0418	.00	1.47	.1126	.0370	-.0342	.0004	-.0003	-.0002	.0007	.0003	.0036	.0416
4.0798	.00	3.44	.1845	.0452	-.0407	.0004	-.0002	-.0002	.0007	.0003	.0037	.0499
4.3236	.00	5.48	.2547	.0589	-.0464	.0004	-.0001	-.0002	.0007	.0003	.0037	.0637
4.1651	.00	7.48	.3197	.0768	-.0503	.0005	-.0003	.0002	.0008	.0003	.0039	.0818
3.8256	.00	9.50	.3782	.0989	-.0530	.0008	-.0006	-.0001	.0008	.0004	.0041	.1042
3.4828	.00	11.47	.4338	.1246	-.0557	.0007	-.0001	-.0004	.0008	.0004	.0043	.1301
3.1531	.00	13.45	.4881	.1548	-.0584	.0006	-.0003	-.0003	.0008	.0004	.0046	.1605
2.8637	.00	15.44	.5416	.1891	-.0623	.0005	-.0008	.0007	.0007	.0004	.0048	.1950
2.6115	.00	17.45	.5978	.2289	-.0694	.0003	-.0006	.0007	.0007	.0004	.0050	.2350
2.3878	.00	19.51	.6574	.2753	-.0785	-.0001	-.0007	.0001	.0008	.0004	.0052	.2817
1.2522	.00	-.50	.0426	.0340	-.0277	.0003	-.0006	.0001	.0007	.0003	.0036	.0386

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 150 MACH 1.60

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.001	.01	-4.60	-.0358	.0218	-.0131	.0000	-.0008	.0003	.0027	.0007	.0017	.0268
2.002	.00	-2.67	-.0216	.0211	-.0061	.0001	-.0008	.0010	.0027	.0007	.0017	.0262
2.003	.00	-1.60	-.0142	.0209	-.0020	.0001	-.0007	.0012	.0028	.0007	.0017	.0261
1.997	.00	-.67	-.0084	.0207	.0016	.0001	-.0007	.0009	.0029	.0007	.0017	.0260
1.992	.00	.39	-.0016	.0206	.0058	.0000	-.0007	.0011	.0030	.0007	.0017	.0260
1.994	.00	1.40	.0044	.0205	.0100	-.0001	-.0005	.0006	.0031	.0007	.0017	.0259
1.996	.00	3.33	.0169	.0203	.0187	.0000	-.0006	.0011	.0032	.0007	.0016	.0258
1.999	.00	-.68	-.0080	.0207	.0017	.0000	-.0006	.0012	.0029	.0007	.0017	.0260

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-1.3809	.01	-4.60	-.0337	.0244	-.0131	.0001	-.0008	.0003	.0027	.0007	.0018	.0296
-.9280	.00	-2.67	-.0204	.0220	-.0061	.0001	-.0008	.0010	.0027	.0007	.0017	.0272
-.6377	.00	-1.60	-.0136	.0213	-.0020	.0001	-.0007	.0012	.0028	.0007	.0017	.0265
-.3912	.00	-.67	-.0081	.0208	.0016	.0001	-.0006	.0009	.0029	.0007	.0017	.0261
-.0868	.00	.39	-.0018	.0206	.0058	-.0000	-.0007	.0011	.0030	.0007	.0017	.0260
.1868	.00	1.40	.0038	.0205	.0100	-.0001	-.0005	.0006	.0031	.0007	.0017	.0260
.7348	.00	3.33	.0155	.0211	.0187	-.0000	-.0006	.0011	.0032	.0007	.0017	.0267
-.3716	.00	-.68	-.0077	.0208	.0017	.0000	-.0006	.0012	.0029	.0007	.0017	.0261

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 153 MACH 1.80

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
1.997	.00	-4.80	-.0371	.0211	-.0137	.0000	-.0010	.0015	.0027	.0005	.0022	.0265
1.994	.00	-2.81	-.0229	.0203	-.0062	.0000	-.0009	.0014	.0027	.0005	.0022	.0257
1.996	-.00	-1.82	-.0163	.0199	-.0022	.0001	-.0008	.0017	.0028	.0005	.0022	.0254
1.999	-.00	-.84	-.0104	.0197	.0018	.0001	-.0007	.0014	.0029	.0005	.0022	.0253
1.999	.00	.24	-.0040	.0196	.0063	.0000	-.0007	.0013	.0029	.0005	.0022	.0252
2.001	.00	1.19	.0024	.0194	.0106	.0001	-.0008	.0017	.0030	.0005	.0022	.0251
2.001	.00	3.21	.0155	.0192	.0197	.0001	-.0009	.0017	.0031	.0005	.0022	.0251
2.002	-.00	-.82	-.0098	.0198	.0021	.0001	-.0008	.0017	.0029	.0005	.0022	.0253

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-1.4577	.00	-4.80	-.0348	.0239	-.0137	.0001	-.0010	.0015	.0027	.0005	.0024	.0295
-1.0201	.00	-2.81	-.0217	.0213	-.0062	.0001	-.0009	.0014	.0027	.0005	.0023	.0268
-.7620	-.00	-1.82	-.0155	.0204	-.0022	.0001	-.0008	.0017	.0028	.0005	.0023	.0259
-.5083	-.00	-.84	-.0101	.0198	.0018	.0001	-.0007	.0014	.0029	.0005	.0022	.0254
-.2112	.00	.24	-.0041	.0195	.0063	.0000	-.0007	.0013	.0029	.0005	.0022	.0252
.0972	.00	1.19	.0019	.0194	.0106	.0001	-.0008	.0017	.0030	.0005	.0022	.0252
.7110	.00	3.21	.0142	.0200	.0197	.0001	-.0009	.0017	.0031	.0005	.0023	.0259
-.4774	-.00	-.82	-.0095	.0199	.0021	.0001	-.0008	.0017	.0028	.0005	.0022	.0255

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 154 MACH 2.00

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.005	.00	-5.33	-.0387	.0199	-.0142	.0001	-.0007	.0011	.0022	.0004	.0029	.0254
2.003	.00	-3.34	-.0239	.0192	-.0067	.0000	-.0005	.0009	.0021	.0004	.0029	.0246
2.004	.00	-2.36	-.0180	.0189	-.0026	.0000	-.0004	.0007	.0022	.0004	.0029	.0244
2.004	.00	-1.36	-.0115	.0187	.0016	.0000	-.0003	.0006	.0023	.0004	.0029	.0243
1.993	-.00	-.37	-.0052	.0185	.0061	.0000	-.0002	.0009	.0023	.0004	.0029	.0241
1.995	-.00	.65	.0015	.0184	.0106	.0000	-.0003	.0012	.0023	.0004	.0029	.0240
1.996	-.00	2.66	.0143	.0180	.0204	-.0000	.0001	.0006	.0024	.0004	.0029	.0237
1.998	.00	-1.41	-.0117	.0187	.0015	.0000	-.0004	.0009	.0023	.0004	.0029	.0243

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-1.5613	.00	-5.33	-.0361	.0231	-.0142	.0001	-.0007	.0011	.0022	.0004	.0031	.0288
-1.0992	.00	-3.34	-.0224	.0204	-.0067	.0000	-.0005	.0009	.0021	.0004	.0030	.0259
-.8650	.00	-2.36	-.0169	.0196	-.0026	.0001	-.0004	.0007	.0022	.0004	.0029	.0251
-.5751	.00	-1.36	-.0109	.0190	.0016	.0000	-.0003	.0006	.0023	.0004	.0029	.0246
-.2730	-.00	-.37	-.0051	.0185	.0061	.0000	-.0002	.0009	.0023	.0004	.0029	.0241
.0663	-.00	.65	.0012	.0184	.0106	.0000	-.0003	.0012	.0023	.0004	.0029	.0240
.7100	-.00	2.66	.0132	.0186	.0204	-.0000	.0001	.0006	.0024	.0004	.0030	.0244
-.5841	.00	-1.41	-.0111	.0190	.0015	.0000	-.0004	.0009	.0023	.0004	.0029	.0246

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 157 MACH 2.16

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
1.996	.00	-5.66	-.0407	.0196	-.0164	.0000	-.0007	.0003	.0018	.0003	.0035	.0252
1.997	.00	-3.64	-.0255	.0188	-.0082	.0001	-.0008	.0006	.0017	.0003	.0035	.0244
1.998	.00	-2.66	-.0184	.0185	-.0042	.0000	-.0006	.0003	.0017	.0003	.0035	.0241
2.000	.00	-1.67	-.0121	.0183	.0002	.0000	-.0005	.0004	.0018	.0003	.0036	.0240
2.000	.00	-.63	-.0059	.0180	.0050	-.0000	-.0004	.0002	.0019	.0003	.0036	.0237
2.001	.00	.39	.0006	.0178	.0099	-.0000	-.0004	.0003	.0019	.0003	.0036	.0236
2.002	.00	2.38	.0138	.0174	.0197	-.0000	-.0004	.0005	.0020	.0003	.0035	.0232
2.003	.00	-1.65	-.0123	.0183	.0004	-.0000	-.0005	.0002	.0018	.0003	.0036	.0240

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-1.6316	.00	-5.66	-.0379	.0232	-.0164	.0001	-.0006	.0003	.0018	.0003	.0038	.0291
-1.1765	.00	-3.64	-.0238	.0202	-.0082	.0001	-.0008	.0006	.0017	.0003	.0037	.0259
-.8927	.00	-2.66	-.0172	.0193	-.0042	.0000	-.0006	.0003	.0017	.0003	.0036	.0249
-.6123	.00	-1.67	-.0114	.0186	.0002	.0000	-.0005	.0004	.0018	.0003	.0036	.0243
-.3106	.00	-.63	-.0056	.0181	.0050	-.0000	-.0004	.0002	.0019	.0003	.0036	.0238
.0215	.00	.39	.0004	.0178	.0099	-.0000	-.0004	.0003	.0019	.0003	.0036	.0236
.7144	.00	2.38	.0128	.0179	.0197	-.0001	-.0004	.0005	.0020	.0003	.0036	.0238
-.6231	.00	-1.65	-.0116	.0186	.0004	.0000	-.0005	.0002	.0018	.0003	.0036	.0243

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 15R MACH 1.60

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.001	.00	-4.57	-.0289	.0191	-.0188	.0001	-.0006	.0002	.0026	.0007	.0017	.0240
2.005	.00	-2.64	-.0167	.0183	-.0100	.0000	-.0007	.0003	.0024	.0007	.0017	.0231
2.004	.00	-1.57	-.0110	.0181	-.0053	.0000	-.0006	.0008	.0024	.0007	.0017	.0228
2.004	-.00	-.57	-.0049	.0179	-.0003	.0000	-.0005	.0010	.0024	.0007	.0017	.0226
2.004	.00	.41	.0002	.0178	.0039	.0000	-.0006	.0011	.0024	.0007	.0017	.0225
2.005	-.00	1.45	.0060	.0177	.0086	.0000	-.0005	.0010	.0024	.0007	.0017	.0225
2.006	.00	3.46	.0196	.0176	.0180	-.0000	-.0006	.0011	.0025	.0007	.0016	.0225
2.008	.00	-.60	-.0056	.0179	-.0007	.0000	-.0006	.0011	.0024	.0007	.0017	.0226

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-1.2771	.00	-4.57	-.0270	.0211	-.0188	.0001	-.0006	.0002	.0026	.0007	.0018	.0262
-.8272	.00	-2.64	-.0157	.0190	-.0100	.0001	-.0007	.0003	.0024	.0007	.0017	.0238
-.5684	.00	-1.57	-.0104	.0183	-.0053	.0001	-.0006	.0008	.0024	.0007	.0017	.0231
-.2626	-.00	-.57	-.0047	.0179	-.0003	.0000	-.0005	.0010	.0024	.0007	.0017	.0227
.0053	.00	.41	.0001	.0177	.0039	.0000	-.0006	.0011	.0024	.0007	.0017	.0225
.3046	-.00	1.45	.0054	.0178	.0086	.0000	-.0005	.0010	.0024	.0007	.0017	.0226
.9798	.00	3.46	.0183	.0187	.0180	-.0001	-.0006	.0011	.0025	.0007	.0017	.0236
-.3020	.00	-.60	-.0054	.0179	-.0007	.0000	-.0006	.0011	.0024	.0007	.0017	.0227

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 159 MACH 1.80

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.004	-.00	-4.72	-.0300	.0184	-.0197	.0000	-.0006	.0012	.0026	.0005	.0022	.0238
2.000	-.00	-2.66	-.0167	.0176	-.0100	.0001	-.0008	.0013	.0024	.0005	.0022	.0228
2.003	-.00	-1.70	-.0115	.0173	-.0052	.0000	-.0007	.0014	.0025	.0005	.0022	.0225
2.004	-.00	-.79	-.0067	.0171	-.0008	.0000	-.0006	.0016	.0025	.0005	.0022	.0224
2.005	-.00	.25	-.0009	.0171	.0040	.0000	-.0007	.0013	.0025	.0005	.0022	.0223
2.005	-.00	1.29	.0054	.0170	.0089	.0000	-.0006	.0016	.0025	.0005	.0022	.0222
2.004	.00	3.25	.0185	.0170	.0177	-.0000	-.0008	.0013	.0025	.0005	.0022	.0222
1.996	-.00	-.74	-.0066	.0172	-.0008	.0000	-.0006	.0016	.0025	.0005	.0022	.0224

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-1.3584	-.00	-4.72	-.0280	.0206	-.0197	.0001	-.0006	.0012	.0026	.0005	.0024	.0262
-.8562	-.00	-2.66	-.0157	.0183	-.0100	.0001	-.0008	.0013	.0024	.0005	.0023	.0235
-.6167	-.00	-1.70	-.0109	.0176	-.0052	.0001	-.0007	.0014	.0025	.0005	.0023	.0229
-.3741	-.00	-.79	-.0064	.0172	-.0008	.0000	-.0006	.0016	.0025	.0005	.0022	.0225
-.0558	-.00	.25	-.0010	.0171	.0040	.0000	-.0007	.0013	.0025	.0005	.0022	.0223
.2875	-.00	1.29	.0049	.0171	.0089	.0000	-.0006	.0016	.0025	.0005	.0022	.0223
.9637	.00	3.25	.0172	.0179	.0177	-.0000	-.0008	.0013	.0025	.0005	.0023	.0232
-.3653	-.00	-.74	-.0063	.0172	-.0008	.0001	-.0006	.0016	.0025	.0005	.0022	.0225

TABLE AIII.- Continued

UPWT PROJECT 1424 RUN 160 MACH 2.00

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
2.005	-.00	-5.25	-.0316	.0173	-.0202	.0000	-.0005	.0011	.0022	.0004	.0029	.0228
2.003	-.00	-3.33	-.0190	.0167	-.0113	.0000	-.0006	.0012	.0020	.0004	.0029	.0220
2.003	-.00	-2.26	-.0132	.0165	-.0061	.0000	-.0005	.0011	.0020	.0004	.0029	.0218
2.003	-.00	-1.29	-.0076	.0164	-.0012	.0000	-.0003	.0014	.0020	.0004	.0029	.0217
2.003	-.00	-.31	-.0022	.0162	.0036	.0000	-.0005	.0012	.0021	.0004	.0029	.0215
1.997	-.00	.68	.0036	.0161	.0081	.0000	-.0004	.0013	.0020	.0004	.0029	.0215
2.000	-.00	2.69	.0179	.0160	.0173	-.0000	-.0004	.0014	.0020	.0004	.0029	.0213
2.001	-.00	-1.29	-.0078	.0163	-.0013	.0000	-.0005	.0014	.0021	.0004	.0029	.0216

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-1.4798	-.00	-5.25	-.0294	.0198	-.0202	.0001	-.0005	.0011	.0022	.0004	.0031	.0256
-1.0026	-.00	-3.33	-.0176	.0176	-.0113	.0001	-.0006	.0012	.0020	.0004	.0030	.0230
-.7281	-.00	-2.26	-.0123	.0169	-.0061	.0000	-.0005	.0011	.0020	.0004	.0029	.0223
-.4304	-.00	-1.29	-.0071	.0165	-.0012	.0000	-.0003	.0014	.0020	.0004	.0029	.0219
-.1293	-.00	-.31	-.0021	.0162	.0036	.0000	-.0005	.0012	.0021	.0004	.0029	.0215
.2070	-.00	.68	.0033	.0162	.0081	.0000	-.0004	.0013	.0020	.0004	.0029	.0215
1.0065	-.00	2.69	.0168	.0167	.0173	-.0000	-.0004	.0014	.0020	.0004	.0030	.0221
-.4443	-.00	-1.29	-.0073	.0165	-.0013	.0000	-.0005	.0014	.0021	.0004	.0029	.0218

TABLE AIII.- Concluded

UPWT PROJECT 1424 RUN 161 MACH 2.16

BODY AXIS AXIAL FORCE CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

R/FT	BETA	ALPHA	CN	CA	CM	CLB	CNB	CY	CAC	CAB	CAI	CA UNC
1.997	.00	-5.56	-.0319	.0171	-.0226	.0000	-.0007	.0009	.0019	.0003	.0035	.0228
1.999	.00	-3.61	-.0189	.0165	-.0134	.0000	-.0006	.0010	.0017	.0003	.0035	.0221
2.000	-.00	-2.64	-.0131	.0163	-.0084	.0000	-.0005	.0010	.0017	.0003	.0035	.0219
2.000	-.00	-1.64	-.0074	.0162	-.0035	.0000	-.0005	.0011	.0017	.0003	.0036	.0218
2.001	-.00	-.61	-.0011	.0160	.0018	-.0000	-.0005	.0013	.0017	.0003	.0036	.0216
2.001	-.00	.40	.0048	.0159	.0067	-.0000	-.0006	.0014	.0017	.0003	.0036	.0215
2.002	-.00	2.45	.0200	.0157	.0160	-.0000	-.0005	.0012	.0017	.0003	.0035	.0212
2.003	-.00	-1.61	-.0076	.0162	-.0030	.0000	-.0005	.0009	.0017	.0003	.0036	.0218

STABILITY AXIS DRAG CORRECTED FOR BASE, CHAMBER, AND INTERNAL FLOW

L/D	BETA	ALPHA	CL	CD	CM	CLS	CNS	CY	CDC	CDB	CDI	CD UNC
-1.4776	.00	-5.56	-.0294	.0199	-.0226	.0001	-.0007	.0009	.0019	.0003	.0038	.0258
-.9898	.00	-3.61	-.0173	.0175	-.0134	.0001	-.0006	.0010	.0017	.0003	.0037	.0232
-.7146	-.00	-2.64	-.0120	.0169	-.0084	.0001	-.0005	.0010	.0017	.0003	.0036	.0225
-.4115	-.00	-1.64	-.0067	.0164	-.0035	.0000	-.0005	.0011	.0017	.0003	.0036	.0220
-.0522	-.00	-.61	-.0008	.0161	.0018	.0000	-.0005	.0013	.0017	.0003	.0036	.0216
.2936	-.00	.40	.0047	.0160	.0067	-.0000	-.0006	.0014	.0017	.0003	.0036	.0215
1.1560	-.00	2.45	.0190	.0164	.0160	-.0000	-.0005	.0012	.0017	.0003	.0036	.0220
-.4245	-.00	-1.61	-.0069	.0164	-.0030	.0000	-.0005	.0009	.0017	.0003	.0036	.0220

APPENDIX B

INTERNAL-FLOW CHARACTERISTICS

Experimental internal-flow data were obtained for the fuselage-alone geometry at all test conditions. The aircraft propulsion system was simulated on the model by an external-internal compression inlet and flow-through ducts. The boundary-layer diverter for the flow-through model was of sufficient size to avoid interference from forebody boundary-layer ingestion. Inlet geometry consisted of two side-mounted, half-axisymmetric inlets, each with a 20° conical compression spike. The inlet geometric arrangement is shown in figure B1. Airflow was ducted through the model to the exit at the base. Figure B2 is a streamwise sectional drawing of the inlet and duct system, and figure B3 is a sketch of the inlet, duct, and exit-area distribution, with selected cross-sectional views of the duct shape. Details of the exit choke ring used for all testing are shown in figure B4, and figure B5 is a sketch of the exit survey rake used for making internal-flow measurements. Figure B6 is a sketch of the positions of the static- and total-pressure tubes at the duct exit plane.

The ability to obtain good-quality force data at supersonic speeds on a wind-tunnel model, which represents the aircraft propulsion system as flow-through ducts, is strongly influenced by the inlet and internal-duct operating characteristics. Improper inlet and duct design can result in large spillage effects, which affect the external flow field of the model. To minimize the effect of the inlet and duct system on external aerodynamics, the internal-flow system was designed for the following critical operating conditions at $M = 1.80$: the conical compression shock impinges on the cowl lip, the terminal shock is ingested, no spillage effects occur, the mass-flow ratio (MFR) is 1.00, and the exit Mach number is 1.00. At higher Mach numbers for a given geometry, supercritical operating conditions occur in which the conical shock falls inside the cowl lip, and the shock waves from the supersonic external compression are not allowed to propagate to the external flow field. At these supercritical operating conditions, the MFR values can exceed values of 1.00. However, at lower Mach numbers for the conditions of subcritical flow, the conical shock angle becomes greater and allows the compression waves to influence the external flow and the external aerodynamics of the aircraft. For the subcritical condition, a terminal shock is located forward of the inlet face, the dimensions of the free-stream tube entering the inlet are decreased, mass-flow ratio values are reduced below 1.0, and there are increased inlet spillage effects.

Subcritical, critical, and supercritical inlet operating conditions were determined throughout the internal-flow test with schlieren and shadowgraph flow-visualization techniques. Shadowgraph photographs of the baseline configuration at Mach numbers of 1.60, 1.80, 2.00, and 2.16 and 0° angle of attack are shown in figure B7. Also shown in figure B7 is the effect of reducing duct exit area on inlet performance at Mach 1.80. The photographs reveal that the duct system is operating at subcritical conditions (extended terminal shock) at $M = 1.60$ and 1.80, critical conditions (terminal shock at inlet face, conical shock tangent to cowl lip) at $M = 2.00$, and supercritical conditions (ingested terminal shock, conical shock inside cowl lip) at $M = 2.16$ for the baseline geometry. A gradual reduction in duct exit area at $M = 1.80$ produces a steady forward progression of normal shock.

Exit-plane pressure data were obtained with a single exit-survey rake located in the duct on the left-hand side. The rake consisted of 13 total-head-pressure tubes and 4 static-pressure tubes distributed so that each tube was centered in a proportional segment of the total duct exit area. The rake was positioned

longitudinally with the static probes at the exit plane. Approximately 3 percent of the duct exit area was occupied by the rake tubes.

If the pressure measurements are taken at the duct exit plane and if free-stream conditions at the inlet face are assumed, equation (B1) can be solved for the mass-flow ratio as follows:

$$MFR = \frac{m_e}{m_\infty} = \frac{p_e M_e S_e (1 + 0.2M_e^2)^{1/2}}{p_\infty M_\infty S_{cap} (1 + 0.2M_\infty^2)^{1/2}} \tag{B1}$$

There was an MFR value of 1.00 for critical operating conditions, a value less than 1.00 for subcritical conditions, and a value greater than 1.00 for supercritical conditions. The variation in MFR for the baseline configuration caused by changes in angle of attack and Mach number is presented in figure B8. At $M = 1.80$, an MFR value of 0.98 was realized at zero incidence (design condition) and, in general, the MFR increased with increasing Mach number and decreased with changes in angle of attack from 0°.

Internal drag is simply a result of pressure and skin-friction forces acting on the internal-inlet and duct surfaces. These pressure and skin-friction forces are the results of changes in the internal flow, such as decelerating from supersonic (free-stream) to subsonic conditions through a system of shocks, boundary-layer separation, and many other types of flow phenomena. Because it is not practical to directly measure internal pressures and surface skin friction, the internal drag is computed by applying a force-and-momentum balance to the flow entering and exiting the model. The internal drag of a configuration is computed as follows from equation (B2) and by knowing the exit-plane and free-stream flow conditions:

$$D_{int} = 2\frac{m_e}{m_\infty} q_\infty S_{cap} - S_e \cos(\alpha + \varepsilon)\left[1.4 p_e M_e^2 + (p_e - p_\infty)\right] \tag{B2}$$

Internal drag coefficients are shown in figure B9 for the baseline configuration. Results indicate that increasing Mach number and angle of attack produced an increase in the internal drag.

Based upon the qualitative and quantitative results from this internal-flow experimental investigation, it can be concluded that the inlet and duct system was performing adequately for all test conditions. However, at the design condition of $M = 1.80$, the expected inlet performance was not achieved, and this can be attributed to the assumption that free-stream flow conditions exist at the inlet face.

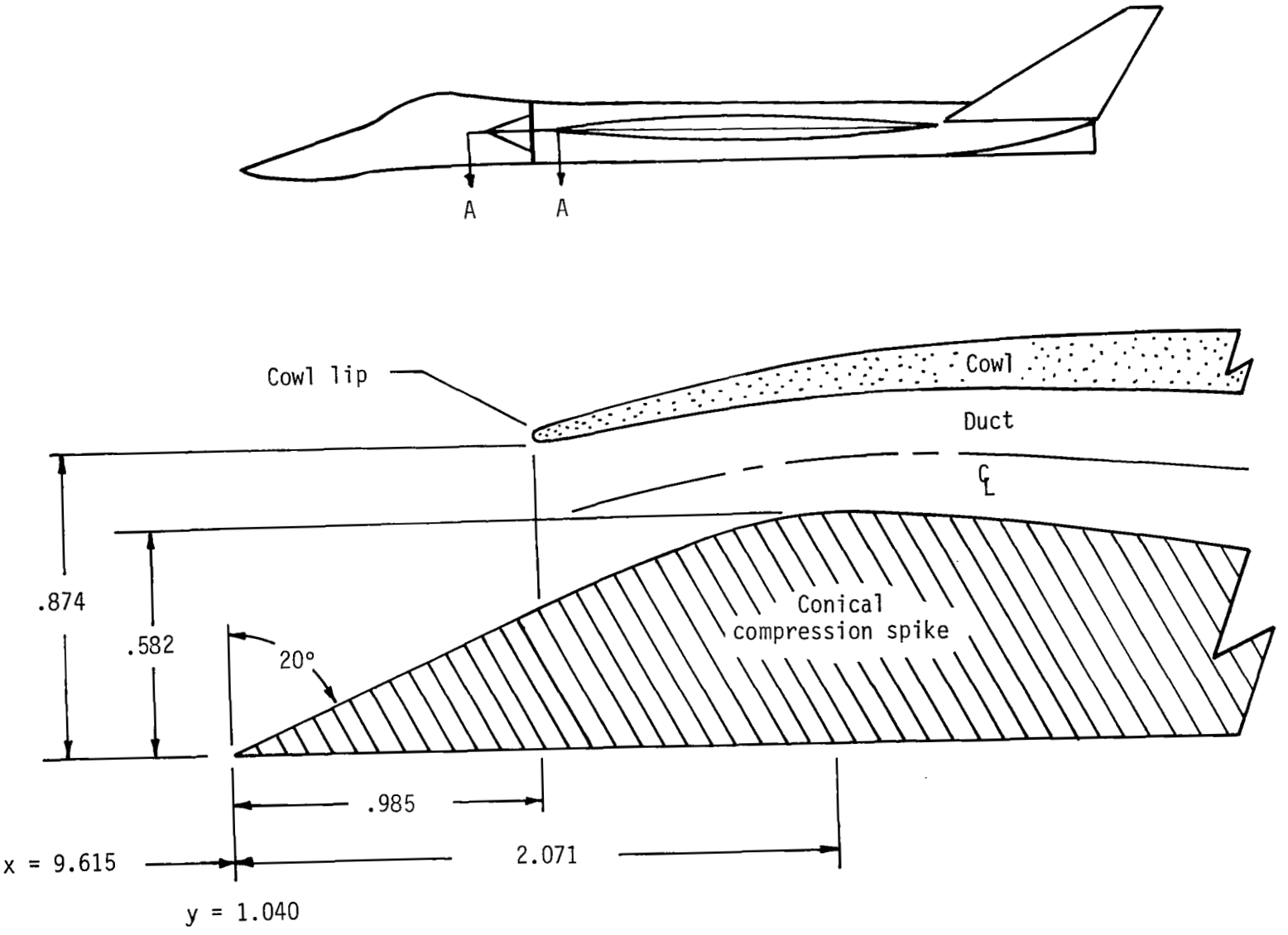


Figure B1.- Geometric details of model inlet.

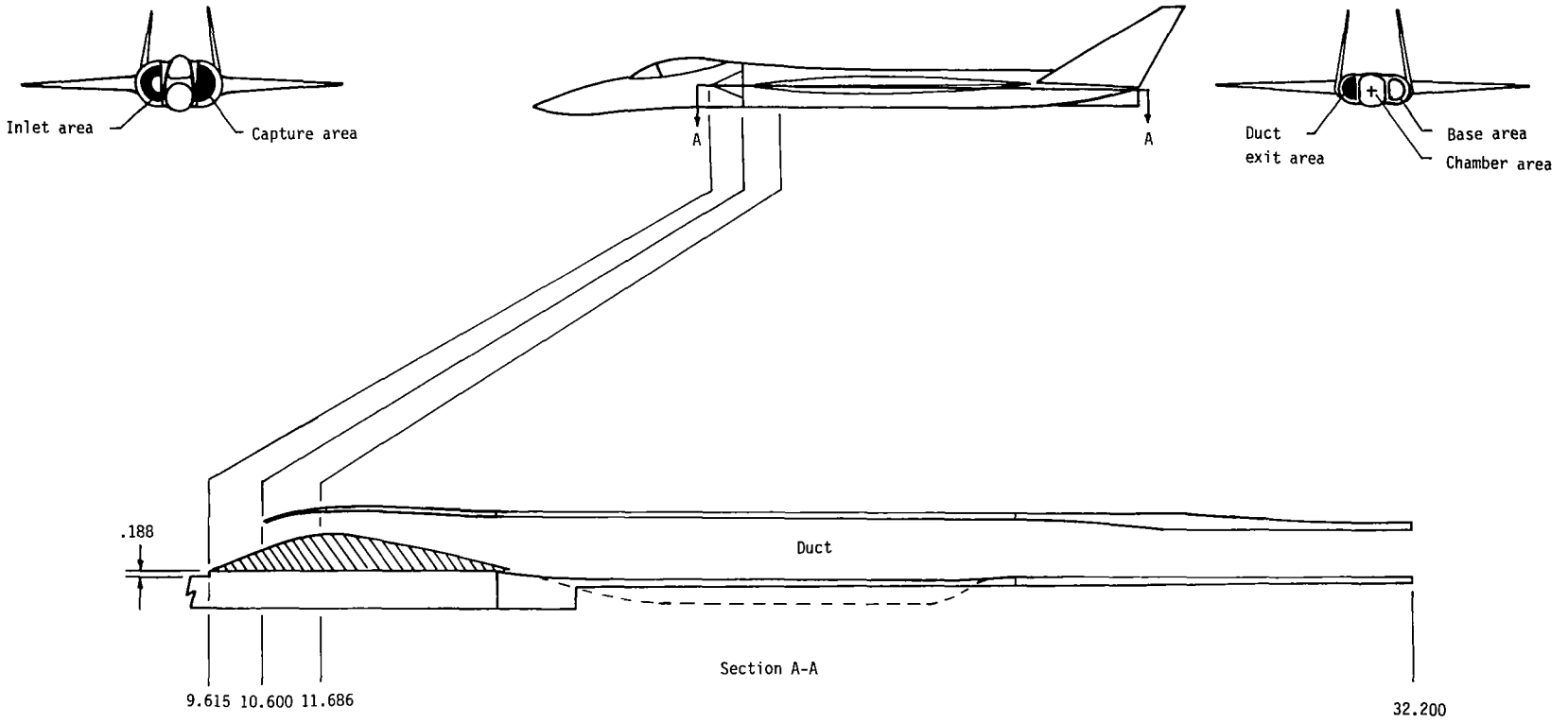


Figure B2.- Cross-sectional view of inlet and duct details. Linear dimensions are in inches.

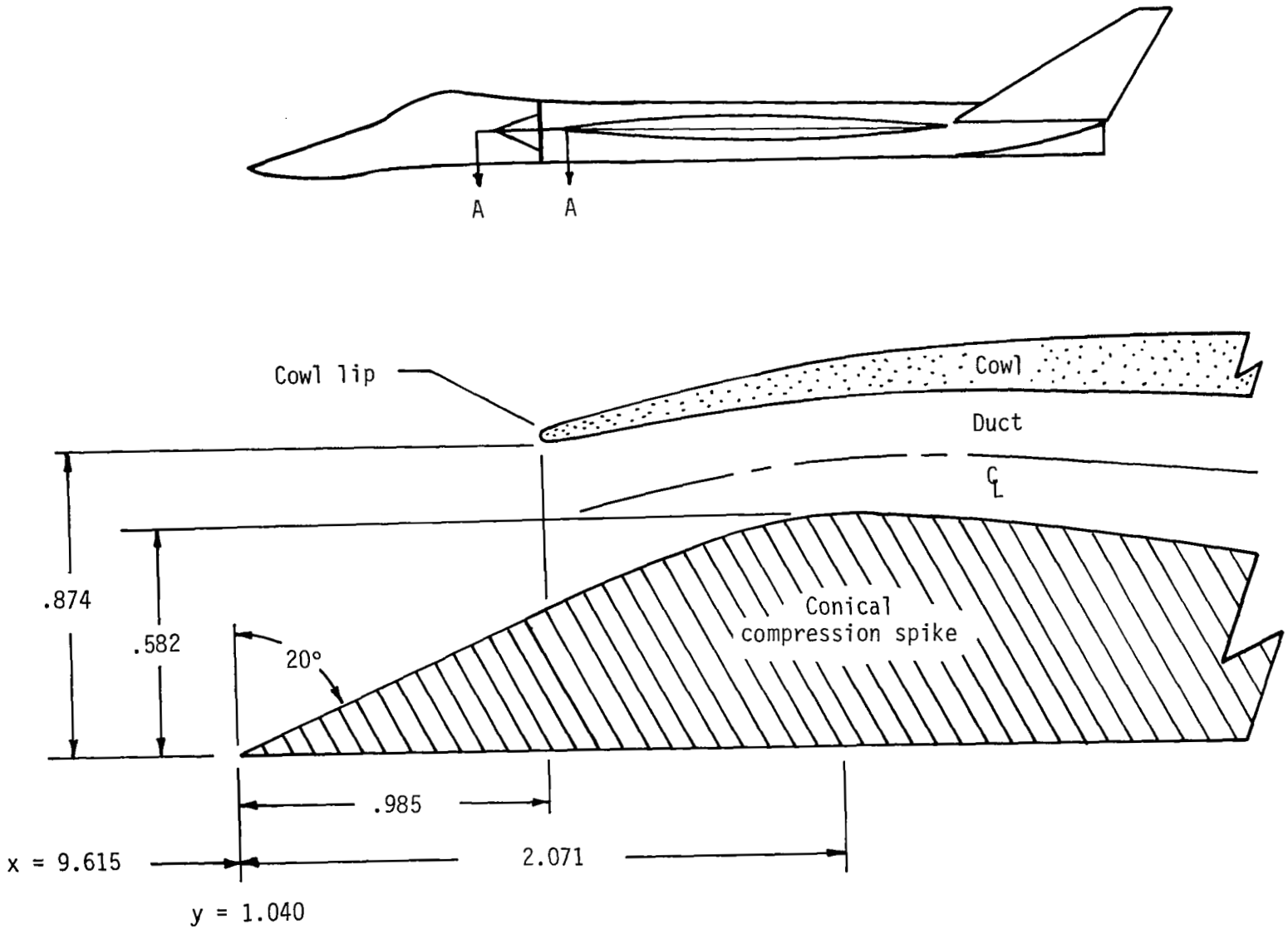


Figure B1.- Geometric details of model inlet.

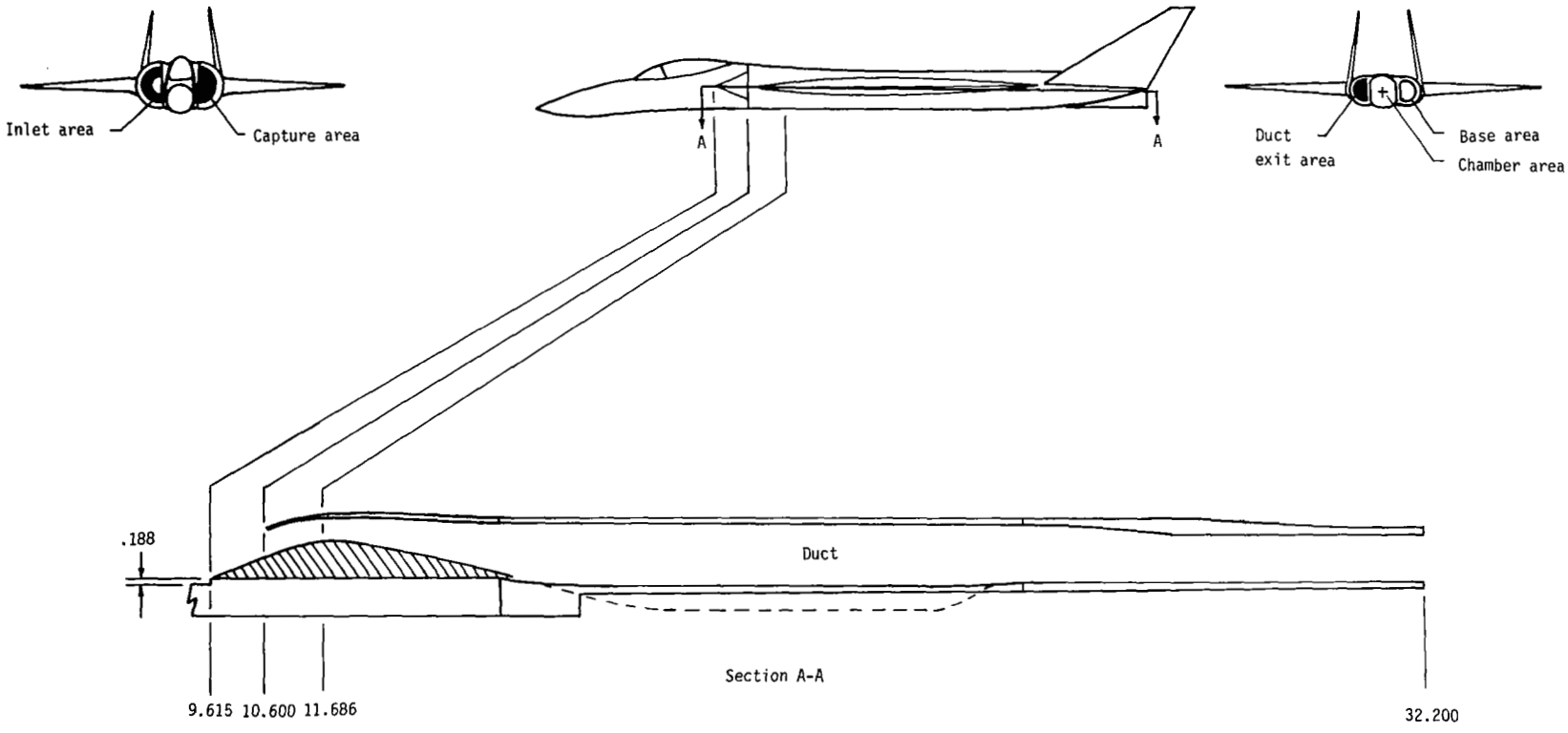


Figure B2.- Cross-sectional view of inlet and duct details. Linear dimensions are in inches.

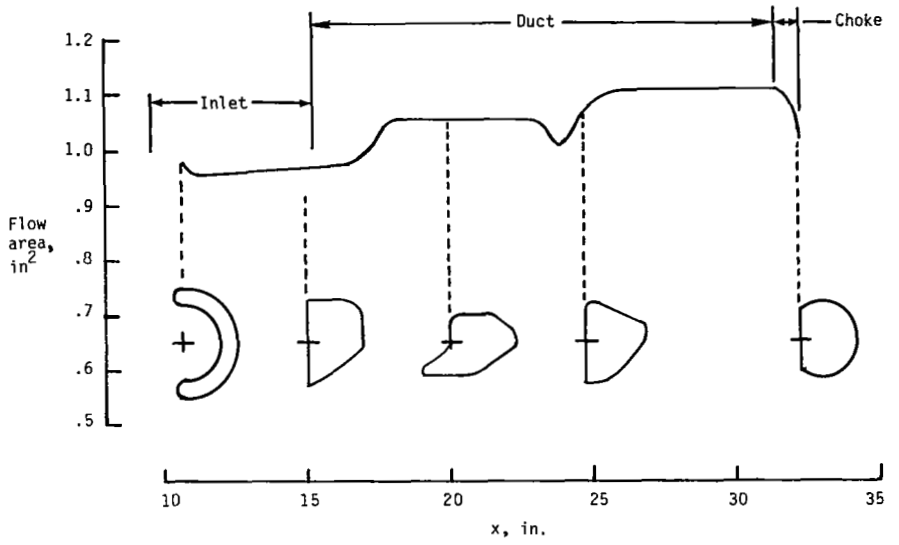


Figure B3.- Cross-sectional duct area distribution and duct shape.

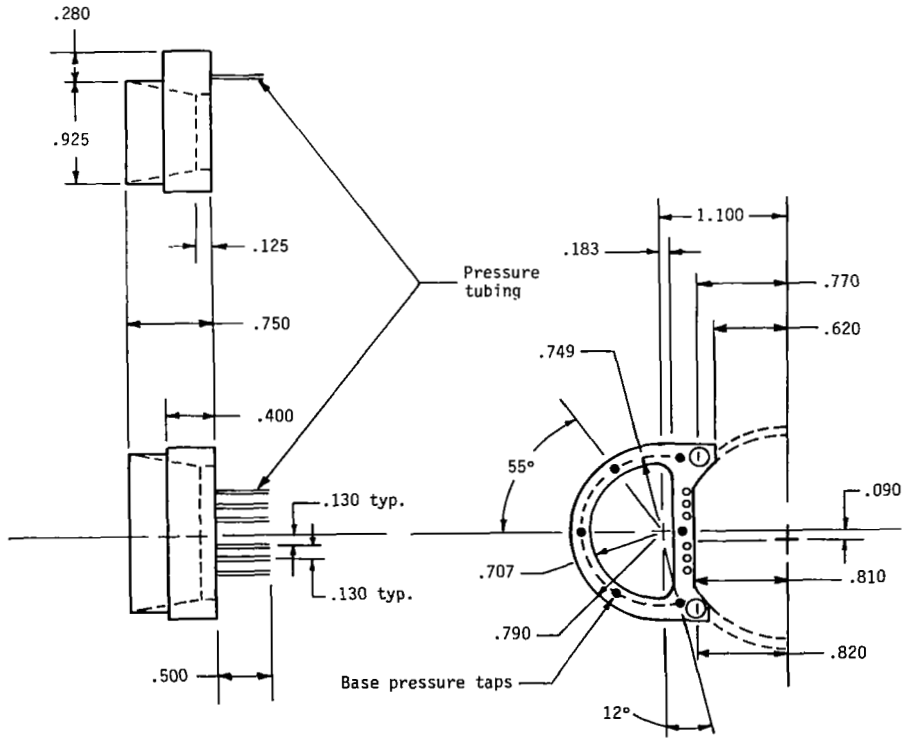


Figure B4.- Details of exit choke ring. Linear dimensions are inches.

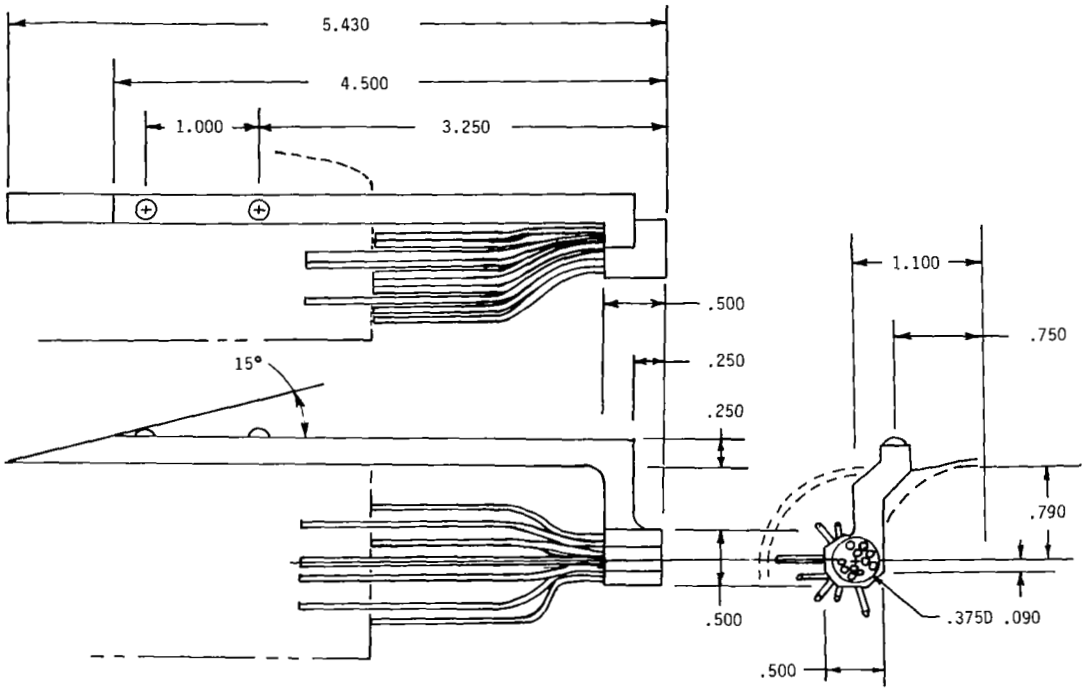


Figure B5.- Details of exit survey rake. Linear dimensions are in inches.

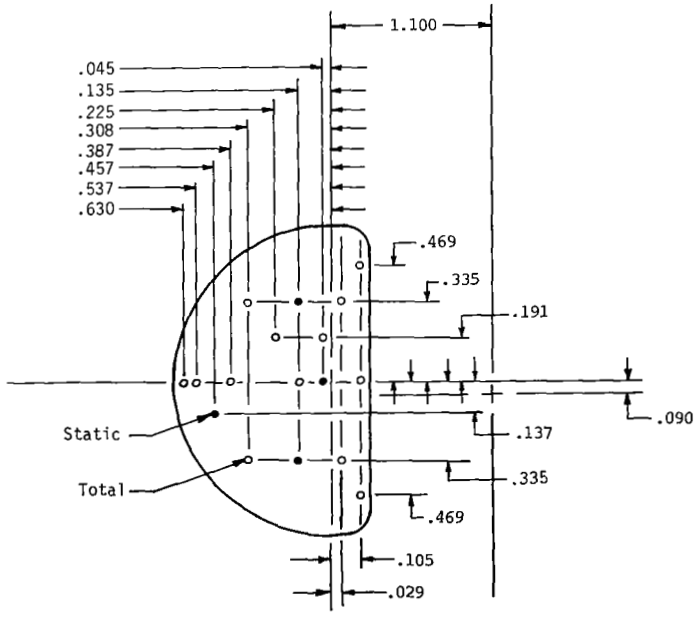


Figure B6.- Sketch showing survey-vane orifice locations. Linear dimensions are in inches.

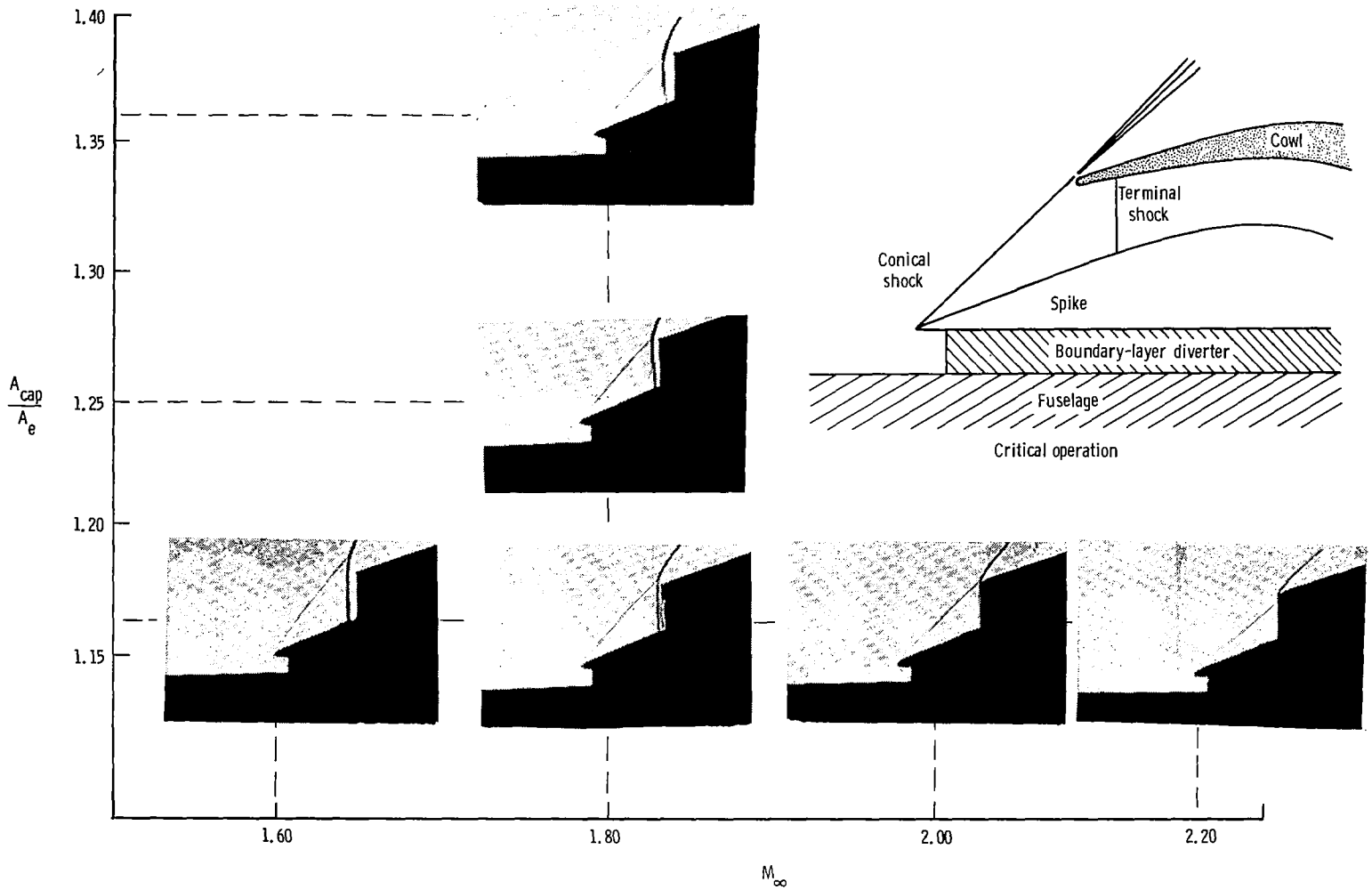


Figure B7.- Shadowgraph photos showing variation in inlet shock structure with Mach number and duct exit area. $\alpha = 0$.

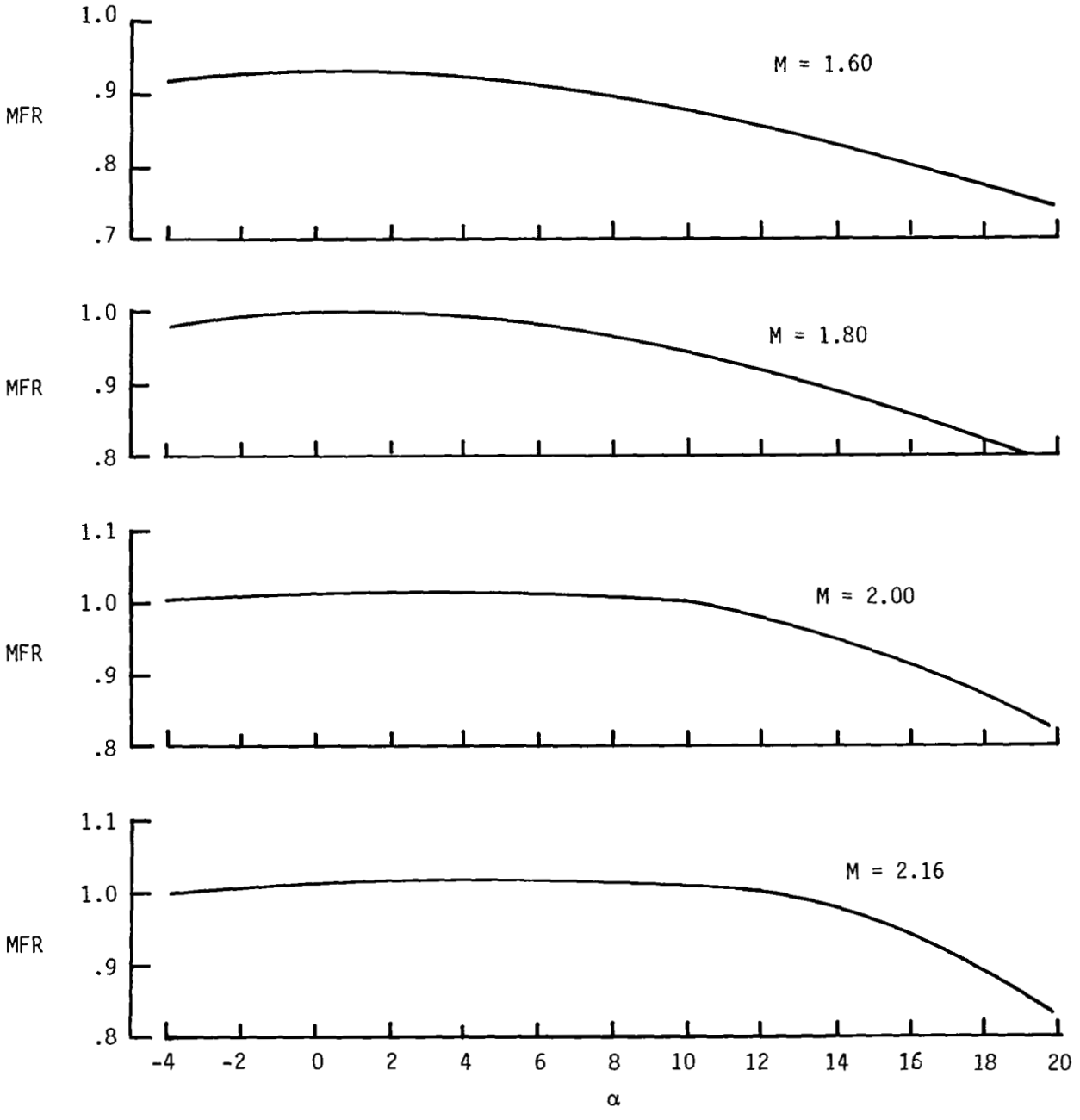


Figure B8.- Variation of mass-flow ratio with angle of attack and Mach number.

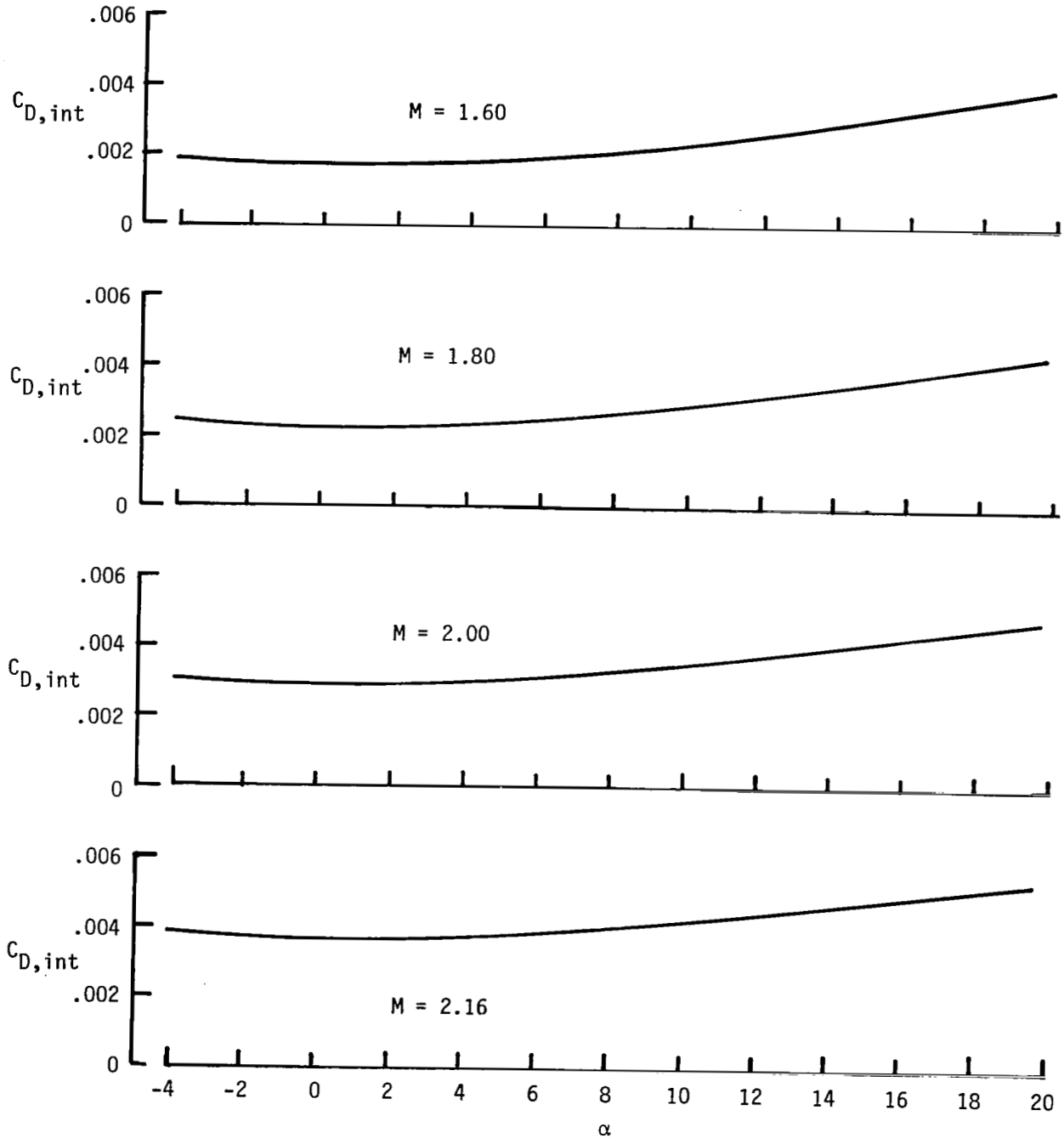


Figure B9.- Variation of internal drag coefficient with angle of attack and Mach number.

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