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(NASA-CR-144623) TERMINAL AREA ENERGY MANAGEMENT REGIME INVESTIGATIONS UTILIZING AN 0.030-SCALE MODEL (47-0) OF THE SPACE SHUTTLE VEHICLE ORBITER CONFIGURATION 140A/B, C/R IN THE AMES RESEARCH CENTER 11 X G3/16

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SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT

JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA MANagement services

SPACE DIVISION CHRYSLER CORPORATION

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TERMINAL AREA ENERGY MANAGEMENT REGIME INVESTIGATIONS UTILIZING AN 0.030-SCALE MODEL (47-0) OF THE SPACE SHUTTLE VEHICLE ORBITER CONFIGURATION 140A/B/C/R IN THE AMES RESEARCH CENTER 11 X 11 FOOT TRANSONIC WIND TUNNEL (OA148)

by

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Prepared under NASA Contract Number NAS9-13247

by

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for

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Johnson Space Center
National Aeronautics and Space Administration
Houston, Texas

WIND TUNNEL TEST SPECIFICS:

Test Number:	ARC 11-073
NASA Series Number:	OA148
Model Number:	47-0
Test Dates:	May 5 through May 17, 1975
Occupancy Hours:	220

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TERMINAL AREA ENERGY MANAGEMENT REGIME INVESTIGATIONS UTILIZING AN 0.030-SCALE MODEL (47-O) OF THE SPACE SHUTTLE VEHICLE ORBITER CONFIGURATION 140A/B/C/R IN THE AMES RESEARCH CENTER 11 x 11 FOOT TRANSONIC WIND TUNNEL (OA148)

by

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ABSTRACT

This report documents data obtained in wind tunnel test OA148.

The objectives of the test series were to:

1) obtain pressure distributions, forces and moments over the vehicle 5 Orbiter in the terminal area energy management (TAEM) and approach phases of flight.

2) obtain elevon and rudder hinge moments in the TAEM and approach phases of flight.

3) obtain body flap and elevon loads for verification of loads balancing with integrated pressure distributions.

4) obtain pressure distributions near the short OMS pods in the high subsonic, transonic and low supersonic Mach number regimes.

Testing was conducted over a Mach number range from 0.6 to 1.4 with Reynolds number variations from 4.57×10^6 to 2.74×10^6 per foot. Model angle-of-attack was varied from -4 to 16 degrees and angles of side slip ranged from -8 to 8 degrees.

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PLOTTED COEFFICIENTS SCHEDULE:

A) CY, CYN and CBL versus BETA

B) CN, CA and CLM versus ALPHA

C) CHEO, CHEI, CHETOT and CHBF versus ALPHA

D) CP versus X/LB

E) CP versus X/CW

F) CP versus X/CV

NOMENCLATURE

Symbol	Plot Symbol	Definition
A_b	AB	total Orbiter base area, ft^2
A_i	Ai	area over which P_i acts, ft^2
A_{sb}	ASB	speed brake base area, ft^2
b	BREF, BW	Orbiter wing span, in
b_v	BV	vertical tail reference span, in
C_{A_u}	CAU	Orbiter uncorrected axial force coefficient
C_A	CA	Orbiter axial force coefficient with sting cavity adjusted to average base pressure
C_{A_F}	CAF	Orbiter forebody axial force coefficient.
$C_{A_{sc}}$	CASC	Orbiter sting cavity axial force coefficient.
C_{D_U}	CDU	Orbiter uncorrected drag coefficient
$C_{h_{bf}}$	CHBF	body flap hinge moment coefficient, about hinge line X_0 = 1532.0
$C_{h_{ei}}$	CHEI	inner elevon hinge moment coefficient, about hinge line X_0 = 1387.0
$C_{h_{eo}}$	CHEO	outer elevon hinge moment coefficient, about hinge line X_0 = 1387.0
$C_{He_{TOT}}$	CHETOT	total right elevon hinge moment coefficient
C_{L_U}	CLU	Orbiter uncorrected lift coefficient
C_ℓ	CBL	Orbiter rolling moment coefficient, body axis system

NOMENCLATURE (Continued)

Symbol	Plot Symbol	Definition
C_m	CLM	Orbiter pitching moment coefficient with sting cavity adjusted to average base pressure, referenced to Orbiter MRC.
C_{m_u}	CLMU	Orbiter uncorrected pitching moment coefficient
C_{m_F}	CLMF	Orbiter forebody pitching moment coefficient referenced to orbiter MRC.
$C_{m_{sc}}$	CLMSC	Orbiter sting cavity pitching moment coefficient, referenced to Orbiter MRC
C_{N_u}	CNU	Orbiter uncorrected normal force coefficient
C_N	CN	Orbiter normal force coefficient with sting cavity adjusted to average base pressure
C_{N_F}	CNF	Orbiter forebody normal force coefficient
$C_{N_{sc}}$	CNSC	Orbiter sting cavity normal force coefficient
C_n	CYN	Orbiter yawing moment coefficient, body axis system
C_{pi}	CPi	surface tap pressure coefficient, port i, $(P_i - P_\infty)/q$
C_Y	CY	Orbiter side force coefficient
$C_{[X][Y]}$	C[X][Y]	base area force and moment coefficients. The first subscript (post fix) designates the type of coefficient, the second the pressure tap and it's associated area. The symbolic vectors [X] and [Y] are defined below.
[X]=		
A	A	axial force
N	N	normal force
Y	Y	side force
m	LM	pitching moment
n	YN	yawing moment
ℓ	BL	rolling moment

NOMENCLATURE (Continued)

Symbol	Plot Symbol [Y]=	Definition
1,2,3	1,2,3	areas associated with pressure taps
4,5,6	4,5,6	1 through 6 see figure 2b
sc	SC	sting cavity area
bf	BF	upper body flap area
l_b	LB	Orbiter reference body length, IML nose to X_o = 1528.3, in.
ℓ_{REF}	LREF	longitudinal reference length, Orbiter mean aerodynamic chord, in
	LU/DU	uncorrected lift to drag ratio, CLU/CDU
M	MACH	freestream Mach number
Φ	PHI	angular cylindrical coordinate position around Orbiter body - deg.
P_i	Pi	pressure at surface tap i, PSF
P_∞	P	freestream static pressure, PSF
P_t	PT	freestream total pressure, PSF
q	Q	freestream dynamic pressure, PSF
	RN/L	unit Reynolds number, million per foot
S	SREF	wing reference area, ft^2
T_t	TTR	freestream total temperature, °R
X_{cp}	XCP/L	center of pressure location referred to l_b
X_o/L_o	X/LB	longitudinal location of body surface, fraction of body length

NOMENCLATURE (Concluded)

Symbol	Plot Symbol	Definition
X/C	X/CW	chordwise location on wing surface, fraction of local chord
X/C_v	X/CV	chordwise location on vertical tail, fraction of local chord
η_v	Z/BV	spanwise location on vertical tail, fraction of vertical tail span
η	2Y/BW	spanwise location on wing, fraction of semi span
X_{mrp}	XMRP	longitudinal location of moment reference point
X_T	XT	longitudinal moment transfer distance from Orbiter balance center to Orbiter MRC, in
Y_{mrp}	YMRP	lateral location of moment reference point
Z_T	ZT	vertical moment transfer distance from Orbiter balance center to Orbiter MRC, in
α	ALPHA	angle of attack, degrees
β	BETA	angle of sideslip, degrees
δ_{bf}	BDFLAP	body flap deflection, degrees
δ_{eL}	ELVN-L, L-ELVN	left elevon deflection, degrees
δ_{eR}	ELVN-R, R-ELVN	right elevon deflection, degrees
δ_r	RUDDER	rudder deflection, degrees
δ_{sb}	SPDBRK	speed brake deflection, degrees
Z_{mrp}	ZMRP	vertical location of moment reference point
	$$	mask character used to indicate all possible values for this test 01 through 85

REMARKS

During the course of the test it was necessary to replumb the scanivalves. The resultant time loss necessitated deleting the priority 4 runs which incorporated the use of the metric vertical tail.

Data obtained from pressure taps 184, 296 and 347 are suspect due to slow leaks noticed while leak checking individual model pressure taps.

Body flap hinge moment data for datasets RE8001 through RE8005 have a -15% drift while datasets RE8006 and RE8007 have a +10% drift due to data recording system errors. System checks during the remainder of the test indicate a system error of less than 4% for body flap hinge moment data.

Rolling moment data has an approximate -.003 bias on the coefficient. The reason for this was not determined, but possible sources are fabrication tolerances and/or differential stiffness of the left and right elevon panels.

Distortion of the instrumented elevon shaft appears to have occurred around run 310 due to model assembly difficulties and the maximum loads encountered at these test conditions. A comparison of measured elevon deflection before and after the test with the nominal setting is presented below:

Elevon Panel	Nominal	Pre-Test	Post-Test
Inboard right	-10	-9° 36'	-8° 55'
	-4	-3° 34'	-2° 55'
	0	+0° 10'	+1° 02'
	4	+4° 26'	+4° 28'
	10	+10°32'	+10°39'
Outboard right	-10	-9° 36'	-8° 15'
	-4	-3° 34'	-2° 20'
	0	+0° 10'	+1° 05'
	4	+4° 26'	+3° 59'
	10	+10°32'	+10°18'

* Inboard only was measured but was the same as outboard panel(see Ref 2)

CONFIGURATION INVESTIGATED

The Rockwell International model 47-0 Space Shuttle Orbiter Vehicle was utilized in this test series. The model was originially constructed to -140A/B lines, but was modified prior to this test with the addition of the -140C OMS pods, six inch bevelled interpanel elevon gaps and uncovered RCS forward thrustor parts. To denote these additions, the additional designations "C" (for -140C OMS pods) and "R" (for RCS thrustors) were added, and the slashes deleted for convenience on Table II(designated "-140 ABCR").

In data sets RE8069 to 085 the RCS thrustor ports in the nose were filled reverting the configuration to -140A/B/C modified with body B_{26}.

The following nomenclature denotes the model components:

Component	Description
B_{26}	140A/B fuselage (VL70-000140A, VL70000140B)
B_{70}	140A/B fuselage (VL70-000140A, VL70-000145, VL70-000140B, VL70-000143A, VL70-000139) with RCS thrustor parts (VL70-08501, VL70-08502, VL70-08296)
C_9	140A/B basic canopy (VL70-000140A, VL70-000143A)
E_{44}	140A/B elevons (VL70-000200, VL70-006089, VL70-006092) with six inch bevelled interpanel gaps, no flipper door
F_9	140A/B body flap (VL70-000140B, VL70-000200)
M_{16}	OMS-RCS pods for 140C Orbiter
N_{28}	OMS basic nozzles
R_5	basic Orbiter rudder (VL70-000146A, VL70-000095)
V_8	basic Orbiter vertical tail (VL70-000140A, VL70-000146A)
W_{116}	basic 140A/B wing (VL70-000140B, VL70-000200)

CONFIGURATIONS INVESTIGATED (Concluded)

Designated configurations are:

-140ABCR $\equiv B_{70}\ C_9\ E_{44}\ F_9\ M_{16}\ N_{28}\ R_5\ V_8\ W_{116}$

-140 ABC $\equiv B_{26}\ C_9\ E_{44}\ F_9\ M_{16}\ N_{28}\ R_5\ V_8\ W_{116}$

TEST FACILITY DESCRIPTION

The Ames Research Center Unitary Plan 11- by 11-Foot Transonic Wind Tunnel is a closed-circuit, air-medium, variable-density facility capable of attaining Mach numbers from 0.6 to 1.4 at Reynolds numbers from 1.7 x 10^6/ft to 9.4 x 10^6/ft. The test section is 22 feet long, and models are installed on internal strain-gauge balances mounted to sting-type support systems.

Shadowgraph and Schlieren photographic equipment is available, and pressure transducer instrumentation is provided.

Tunnel operating temperature is 580°R. Extended high Reynolds number runs are restricted by power availability.

DATA REDUCTION

Standard NASA/Ames data reduction equations were used to reduce forces, moments, and pressures to coefficient form. Orbiter main balance force and moment coefficients were computed using the following equations:

Symbol	Orbiter main balance measurement
NF	Normal Force
AF	Axial Force
PM	Pitching Moment
YM	Yawing Moment
SF	Side Force
RM	Rolling Moment

$$C_{A_u} = AF / (q\,S) \qquad C_{L_u} = C_{N_u} \cos\alpha - C_{A_u} \sin\alpha$$

$$C_{N_u} = NF / (q\,S) \qquad C_{D_u} = C_{N_u} \sin\alpha + C_{A_u} \cos\alpha$$

$$C_Y = SF / (q\,S)$$

$$C_{m_u} = \frac{PM}{qSc} + \frac{C_A \cdot Z_T}{c} - \frac{C_N \cdot X_T}{c}$$

$$C_\ell = \frac{R\,M}{qSb} + \frac{C_Y \cdot Z_T}{b}$$

$$C_n = \frac{Y_M}{qSb} - \frac{C_Y \cdot X_T}{b}$$

Moment Transfer Distances

$X_T = 0.572$ in.

$Y_T = 0$

$Z_T = 0.450$ in.

The Moment Reference Center about which the data was reduced is located at

	Orbiter (Full Scale)
X_o	1076.68
Y_o	0
Z_o	375.00

Balance coefficients were grouped into datasets RE80$$.

DATA REDUCTION (Continued)

Hinge moments and hinge moment coefficients were computed using the following equations:

Elevon hinge moments (inboard and outboard).

$$HM_{e_I} = (HM1-HM2)\ (M1/D1) + HM1$$

$$HM_{eo} = (HM3-HM4)\ (M3/D3) + HM3$$

where

HMi = measured moment on strain gage i

D1 = distance between gages 1 and 2, .49335 in.

D3 = distance between gages 3 and 4, .45800 in.

M1 = moment transfer distance for inboard elevon, .93825 in.

M3 = moment transfer distance for outboard elevon, .92250 in.

Elevon hinge moment coefficients

$$\text{Inboard, } C_{H_{e_I}} = H_{M_{e_I}} / (q\ S_e\ c_e)$$

$$\text{Outboard, } C_{H_{eo}} = H_{M_{e_o}} / (q\ S_e\ c_e)$$

$$\text{Total, } C_{H_{e_{TOT}}} = C_{H_{e_I}} + C_{H_{e_o}}$$

S_e = elevon reference area, 0.189 ft.^{2}

c_e = elevon reference MAC, 2.721 in.

Body flap hinge moment coefficient

$$C_{H_{bf}} = HM_{bf} / (q\ S_{bf}\ c_{bf})$$

HM_{bf} = measured body flap hinge moment

S_{bf} = body flap reference area, 0.12834 ft.^{2}

c_{bf} = body flap reference MAC, 2.541 in.

Hinge moment coefficients are part of datasets RE8X$$.

Pressure coefficients for all model orifice pressure measurements were computed using this equation:

$$C_{P_i} = (P_i - P_\infty)/q$$

where P_i = pressure at model orifice i

P_∞ = tunnel static pressure

q = tunnel dynamic pressure

Other data reduction constants include:

S = wing reference area, 2.4210 ft.^{2}

c = wing reference chord, 14.2443 in.

b = wing reference span, 28.1004 in.

After the data had been reduced to coefficient form by NASA/AMES,DMS interpolated it to nominal α's and β's. Then 2 types of base and sting cavity area coefficients were calculated. When they are applied 3 types of balance coefficient data exists. These can be distinguished by the last subscript (symbolic name) or postfix (mnemonic name). The key is given below

U ~ uncorrected coefficients.

~ coefficients with sting cavity pressure corrected to base pressure (without a suffix).

F ~ forebody coefficients with the base area pressure corrected to freestream pressure.

Only the correction coefficients associated with base pressure tapes 1 through 4 were applied to the longitudinal orbiter coefficients.

Figure 2b illustrates the base area associated with each pressure tap. Alphabetic characters bf and sc designate body flap and sting cavity areas, respectively. Base area coefficient names have a numeric character which designates the pressure tap number. Base coefficients for vertical tail areas 5 and 6 were calculated but not applied to the total orbiter coefficients. Base area coefficient values are tabulated in the appendix. A detailed derivation of these coefficients follows. It is concluded by a matrix of base area geometric properties.

The orbiter sting cavity force and moment coefficients were computed as:

$$C_{A_{sc}} = \frac{(C_{p2} - C_{p1})\, A_1}{S}$$

$$C_{N_{sc}} = \frac{(C_{p2} - C_{p1})\, A_1 \tan 12.55^\circ}{S}$$

$$C_{m_{sc}} = C_{A_{sc}} \frac{Z_t}{c} - C_{N_{sc}} \frac{X_{sc}}{c}$$

The orbiter force and moment coefficients corrected for the difference between balance cavity pressure and orbiter base pressure:

$$C_A = C_{A_u} - C_{A_{sc}}$$

$$C_N = C_{N_u} - C_{N_{sc}}$$

$$C_m = C_{m_u} - C_{m_{sc}}$$

These orbiter coefficients are part of datasets KE80$$.

Orbiter base force and moment coefficients were calculated as follows:

Upper base area

$$C_{N2u} = -(C_{p2}\, A_{2u} \tan 16°)/S$$

$$C_{A2u} = -(C_{p2}\, A_{2u})/S$$

$$C_{m2u} = \frac{C_{A2u}}{c}\frac{Z_{2u}}{} - \frac{C_{N2u}}{c}\frac{X_{2u}}{}$$

Lower base area

$$C_{N2_\ell} = -(C_{p2}\, A_{2_\ell} \tan 10°)/S$$

$$C_{A2_\ell} = -(C_{p2}\, A_{2_\ell})/S$$

$$C_{m2_\ell} = C_{A2_\ell}\frac{Z_{2\ell}}{c} - C_{N2_\ell}\frac{X_{2\ell}}{c}$$

Total base area, A_2

$$C_{N2} = C_{N2_u} + C_{N2_\ell}$$

$$C_{A2} = C_{A2_u} + C_{A2_\ell}$$

$$C_{m2} = C_{m2_u} + C_{m2_\ell}$$

OMS pod base area, A_3

(This assumes the surface is perpendicular to the orbiter X-axis)

$$C_{A3} = -(C_{p3}\, A_3)/S$$

$$C_{m3} = C_{A3}\frac{Z_3}{c}$$

OMS pod base area, A_4

(This assumes the surface is perpendicular to the orbiter X-axis)

$$C_{A4} = -(C_{p4}\ A_4)/S$$

$$C_{m4} = C_{A4}\ \frac{Z4}{c}$$

Coefficients for the above areas are grouped into datasets EE8D$$.

Upper surface of body flap

$$C_{A_{bf}} = \frac{-C_{p_{bf}}\ A_{bf}}{S} \sin\ (\delta_{bf} + 6.88°)$$

$$C_{N_{bf}} = \frac{-C_{p_{bf}}\ A_{bf}}{S} \cos\ (\delta_{bf} + 6.88°)$$

$$C_{m_{bf}} = \frac{C_{A_{bf}}\ Z_{bf}}{c} - \frac{C_{N_{bf}}\ X_{bf}}{c}$$

where:

$$C_{p_{bf}} = \frac{C_{p200} + C_{p201} + C_{p204} + C_{p205}}{4}$$

The orbiter force and moment coefficients adjusted to free stream pressure (forebody coefficients).

$$C_{A_F} = C_{A_u} - \left(\frac{-C_{p1}\ A_1}{S} + \sum_{i\ =\ 2}^{4} C_{A_i} + C_{A_{bf}}\right)$$

$$C_{N_F} = C_{N_u} - \left(C_{N_2} + C_{N_{bf}}\right)$$

$$C_{mF} = C_{mu} - \left(\sum_{i\ =\ 2}^{4} C_{m_i} + C_{m_{bf}}\right)$$

These orbiter coefficients are part of datasets KE80$$.

Vertical tail "undercarriage" area, A_5

Top Segment:

$$C_{N5t} = (C_{p5}\ A_{5t} \tan 63.75°)/S$$

$$C_{A5t} = -(C_{p5}\ A_{5t})/S$$

$$C_{m5t} = C_{A5t}\ \frac{Z_{5t}}{c} - C_{N5t}\ \frac{X_{5t}}{c}$$

Middle Segment:

$$C_{N5m} = (C_{p5}\ A_{5m} \tan 26.1426°)/S$$

$$C_{A5m} = -(C_{p5}\ A_{5m})/S$$

$$C_{m5m} = C_{A5m}\ \frac{Z_{5m}}{c} - C_{N5m}\ \frac{X_{5m}}{c}$$

Bottom Segment:

$$C_{N5b} = (C_{p5}\ A_{5b} \tan 21.94°)/S$$

$$C_{A5b} = -(C_{p5}\ A_{5b})/S$$

$$C_{m5b} = C_{A5b}\ \frac{Z_{5b}}{c} - C_{N5b}\ \frac{X_{5b}}{c}$$

Total area, A_5:

$$C_{N5} = C_{N5t} + C_{N5m} + C_{N5b}$$

$$C_{A5} = C_{A5t} + C_{A5m} + C_{A5b}$$

$$C_{M5} = C_{m5t} + C_{m5m} + C_{m5b}$$

Vertical Tail base area, A_6:

Segment above rudder

$$C_{N6u} = (C_{p6}\ A_{6u} \tan 63.75°)/S$$

$$C_{A6u} = (C_{p6}\ A_{6u})/S$$

$$C_{m6u} = C_{A6u}\ \frac{Z_{6u}}{c} - C_{N6u}\ \frac{X_{6u}}{c}$$

Rudder/Speed brake base:

$$C_{A6_\ell} = C_{p6}\, A_{6'_\ell} [\sin(\theta - 55.1667^\circ)\cos 55.1667^\circ + \cos(\theta - 55.1667^\circ)\sin 55.1667^\circ \cos(\delta r)]/S$$

$$C_{N6_\ell} = C_{p6}\, A_{6'_\ell} [\sin(\theta - 55.1667^\circ)\sin 55.1667^\circ - \cos(\theta - 55.1667^\circ)\cos 55.1667^\circ \cos(\delta r)]/S$$

$$C_{Y6_\ell} = C_{p6}\, A_{6'_\ell} \cos(\theta - 55.1667^\circ)\sin \delta r/S$$

$$C_{m6_\ell} = [C_{A6_\ell}(Z_{6_\ell}) - C_{N6}(X_{6_\ell})]/c$$

$$C_{\ell 6_\ell} = [C_{Y6_\ell}(Z_{6_\ell})]/b$$

$$C_{n6_\ell} = -[C_{Y6}(X_{6_\ell})]/b$$

$$\theta = \tan^{-1}\left[\frac{5.456791 + .573209\cos\left(\frac{\delta SB}{2}\right)}{3.797715 - .823715\cos\left(\frac{\delta SB}{2}\right)}\right]$$

$$A_{6'_\ell} = A_{6_\ell}/\sin\theta$$

Total area, A_6:

$$C_{A6} = C_{A6u} + C_{A6\ell}$$

$$C_{N6} = C_{N6u} + C_{N6\ell}$$

$$C_{Y6} = C_{Y6\ell}$$

$$C_{m6} = C_{m6u} + C_{m6\ell}$$

$$C_{\ell 6} = C_{\ell 6\ell}$$

$$C_{n6} = C_{n6_\ell}$$

Vertical tail area coefficient data are grouped into datasets GE8D$$.

BASE GEOMETRIC PROPERTIES MATRIX

Description	Sub-script	Area A - ft.^{2}	Distance between Centroid and MRC vertical Z - in.	Distance between Centroid and MRC longitudinal X - in.
Sting cavity	sc	0.076699	0.45	12.199
Body flap upper surface	bf	0.128	- 2.64	13.659
Orbiter balance cavity	1	0.076699	0.45	12.199
Orbiter base orifice 2 lower	2ℓ	0.133889	- 1.32	12.617
Orbiter base orifice 2 upper	2u	0.0818055	2.07	12.384
Lower OMS pod	3	0.030472	2.68	NA
Upper OMS pod	4	0.074166	3.63	NA
Vertical tail "undercarriage" bottom	5b	0.003565	4.612	12.395
Vertical tail "undercarriage" middle	5m	0.002610	5.336	14.079
Vertical tail "undercarriage" top	5t	0.000341	5.97	15.185
Vertical tail above rudder	6u	0.000798	12.656	18.482
Base area of speed brake	6ℓ	Varies with speed brake deflection		

NOTES: Sting cavity and Orbiter balance cavity are synonymous.
NA - not applicable.

DATA REDUCTION (Continued)

δ_{sb}	$A6_\ell$ ft^2
0	0.0066036
25	0.0456000
35	0.0621000
55	0.0950800
85	0.1551400

$$X_{6\ell} = 15.045 + 1.442277\ [1-\cos\ (\delta sb/2)]$$

$$Z_{6\ell} = 9.755 + 0.501827\ [1-\cos\ (\delta sb/2)]$$

Standard DMS loads cycle test procedures were used to process the OA148 pressure data. First numerous pressure distribution plots were released. Analysis of these produced bad pressure data list. This list is reproduced below:

DATA REDUCTION (Continued)

OA148 Bad Pressure Data

Component	Dataset No.	Tap No.	β	α
Fuselage (B)	1	143	4	-4
	1	148	4	-4
	1	150	4	-4
	1	152	4	-4
	1	186	4	-4
	1	187	4	-4
	1	189	4	-4
	1	191	4	-4
	1	193	4	-4
Lower Wing (L)	1 → 7	231	ALL	ALL
	1 → 85	290	ALL	ALL
	1	316	4	-4
	1	317	4	-4
	1	337	4	-4
	1	338	4	-4
	1	358	4	-4
	1	378	4	-4
	1	379	4	-4
	1	398	4	-4
Upper Wing (U)	1 → 7	247	ALL	ALL
	1	357	4	-4
Body Flap (F)	24	205	-4	12
Speed Brake (K)	1 → 85	822	ALL	ALL
Vertical Tail (V)	8	443	ALL	ALL
	ALL	1444	ALL	ALL
	79	1453	-4	-4
	79	1454	-4	-4

Note: Wind tunnel pressure data tabulated in the appendix have the original bad data values.

These points were eliminated from further processing. The remaining data were interpolated to nominal alpha and beta values. Processing was completed with the release of a magnetic tape containing the final interpolated pressure coefficients.

This report contains plots and tabular listings for both force and pressure data. Plotted force data illustrates lateral-directional, longitudinal and hinge moment characteristics of the configuration tested. Plotted pressure data illustrates the effect of several control deflections and attitude changes on local pressure distributions. The multiple volume appendix contains a tabulated listing of the basic force and pressure data. Listing of the interpolated base area coefficients is also included. The plotted and tabulated data are arranged in the following manner:

VOLUME NO.	CONTENTS
1	Force data plots showing lateral-directional longitudinal and hinge moment characteristics.
2	Plots illustrating the effect of control surface deflections on fuselage, wing and vertical tail pressure distributions.

DATA REDUCTION (Concluded)

VOLUME NO. — CONTENTS

3 — Tabulated Force Data

Dataset	Data type
RE8O$$	source balance coefficients
RE8X$$	source hinge moment coefficients
RE8Y$$	source base pressure coefficients
KE8O$$	interpolated balance coefficients adjusted for cavity pressure and forebody coefficients
EE8D$$ FE8D$$	interpolated base and cavity area coefficients
GE8D$$	interpolated vertical tail base area coefficients

Tabulated Pressure Data

* The fourth character in each dataset identifier (i.e., XE8BXX, B for Fuselage) represents the individual component.

REFERENCES

1. SD75-SH-0106, "Pretest Information for OA148 of the 0.03-Scale 47-O Pressure Loads Space Shuttle Model in the 11 x 11 Foot Leg of the NASA/ARC Unitary Plan Wind Tunnel," April 18, 1975.

2. MG-75-07-11, Rockwell International Corporation Internal Letter: "Model design Dimensional Varification Task 36: Elevon Deflection Angle Check of the 0.03-Scale SSV Model 47-O (140A/B Configuration)". SAS/WTO/75-283, July 29, 1975.

TABLE I

TEST : 0A148 DATE : May 1975

TEST CONDITIONS

MACH NUMBER	REYNOLDS NUMBER (per foot)	DYNAMIC PRESSURE (pounds/sq. inch)	STAGNATION TEMPERATURE (degrees Fahrenheit)
0.60	4.57×10^6	4.166	120
0.90	3.41×10^6	4.166	120
1.10	3.05×10^6	4.166	120
1.25	2.86×10^6	4.166	120
1.40	2.74×10^6	4.166	120

BALANCE UTILIZED: ARC Task MK XX A

	CAPACITY:	ACCURACY:	COEFFICIENT TOLERANCE:
NF	3000 lbf/gage		
SF	1500 lbf/gage		
AF	600 lbf		
PM	27,000 in-lbf		
RM	4000 in-lbf		
YM	10,500 in-lbf		

COMMENTS: Maximum normal and side force dependent upon point of application

TABLE II.

TEST: OA 148 — DATA SET RUN NUMBER COLLATION SUMMARY — DATE: Post Test

DATA SET IDENTIFIER	CONFIGURATION	α	β	δ_R	δ_{SB}	δ_{SF}	δ_{EL}	δ_{EB}	α: -4	0	4	8	12	16	MACH NUMBERS
RE8001	-140 ABCR	B	D	0	55	16.5	0	0	32	33	34	35	58	59	1.4
002		A	D						38	39	40	41	42		1.25
003		A	D						43	44	45	46	47		1.1
004		A	D						48	49	50	51	52		0.9
005		A	C						53	54	55	56	57		0.6
006	-140 ABCR	A	C	0	55	22.5	0	0	60	61	62	63	64		0.6
007		A	D						68	66	67	69	70		0.9
008	-140 ABCR	B	D	0	85	22.5	0	0	71	72	73	74	75	76	1.4
009		A	D						77	78	79	80	81		1.25
010		A	D						82	83	84	85	86		1.1
011		A	D						87	88	89	90	91		0.9
012		A	C						92	93	94	95	96		0.6

TEST RUN NUMBER

1 — 13 — 19 — 31 — 37 — 43 — 49 — 76

α OR β SCHEDULES — COEFFICIENTS — IDVAR (1) — IDVAR (2) — NDV

$A\alpha$ = -4, 0, 4, 8, 12

$B\alpha$ = -4, 0, 4, 8, 12, 16

$C\beta$ = -8, -4, 0, 4, 8

$D\beta$ = -4, 0, 4

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TABLE II - Continued.

TEST: OA 148 — DATA SET RUN NUMBER COLLATION SUMMARY — DATE: POST TEST

DATA SET IDENTIFIER	CONFIGURATION	α	β	δ_e	δ_{ss}	δ_{RF}	δ_{EL}	δ_{ee}	α: -4	0	4	8	12	16	MACH NUMBERS				TEST RUN NUMBER
RE8013	-140 ABCR	B	D	0	35	0	0	0	97	98	99	100	101	102		1.4			
014		A	D						103	104	105	106	107			1.25			
015		A	D						108	109	110	111	112			1.1			
016		A	D						113	114	115	116	117			0.9			
017		A	C						118	119	120	121	122			0.6			
018	-140 ABCR	B	D	0	0	-11?	0	0	123	124	125	126	127	128		1.4			
019		A	D						131	129	130	132	133			1.25			
020		A	D						134	135	136	137	138			1.1			
021		A	D						139	140	141	142	143			0.9			
022		A	C						144	145	146	147	148			0.6			
023	-140 ABCR	B	D	0	0	0	0	0	149	150	151	152	153	154		1.4			
024		A	D						155	156	157	158	159			1.25			
025		A	D						160	161	162	163	164			1.1			
026		A	D						165	166	167	168	169			0.9			
027		A	C						170	171	172	173	174			0.6			

1 7 13 19 25 31 37 43 49 55 61 67 75 76

COEFFICIENTS — IDVAR (1) — IDVAR (2) — NDV

α OR β SCHEDULES

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TABLE II. - Continued.

TEST: OA 148 — DATA SET RUN NUMBER COLLATION SUMMARY — DATE: Post Test

DATA SET IDENTIFIER	CONFIGURATION	α	β	δ_r	δ_{sb}	δ_{bf}	δ_c	δ_{ee}	α: -4	0	4	8	12	16	MACH NUMBERS
RE8028	140 ABCR	B	D	-10	35	16.3	10	0	175	176	177	178	179	180	1.4
029		A	D						181	182	183	184	185		1.25
030		A	D						186	187	188	189	190		1.1
031		A	D						191	192	193	194	195		0.9
032		A	C						196	197	198	199	200		0.6
033	140 ABCR	B	D	+10	35	16.3	0	10	201	202	203	204	205	206	1.4
034		A	D						207	208	209	210	211		1.25
035		A	D						212	213	214	215	216		1.1
036		A	D						217	218	219	220	221		0.9
037		A	C						222	223	224	225	226		0.6
038	140 ABCR	B	D	+10	85	16.3	10	10	227	228	229	230	231	232	1.4
039		A	D						233	234	235	236	237		1.25
040		A	D						238	239	240	241	242		1.1
041		A	D						243	244	245	246	247		0.9
042		A	C						248	249	250	251	252		0.6

TEST RUN NUMBER

1 7 13 19 25 31 37 43 49 55 61 67 73

COEFFICIENTS — IDVAR (1) IDVAR (2) IDV

α OR β SCHEDULES

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TABLE II. - Continued.

TEST: OA 148 — DATA SET RUN NUMBER COLLATION SUMMARY — DATE: POST TEST

DATA SET IDENTIFIER	CONFIGURATION	α	β	δ_R	δ_{SS}	δ_{SB}	δ_{BL}	δ_{BB}	α -4	0	4	8	12	16	MACH NUMBERS
REB 043	140 ABCR	A	D	0	55	225	10	10	253	254	255	256	257		0.9
044		A	C						258	259	260	261	262		0.6
045	140 ABCR	A	D	0	55	225	4	4	263	264	265	266	267		0.9
046		A	C						268	269	270	271	272		0.6
047	140 ABCR	B	D	-10	85	163	4	4	273	274	275	276	277	278	1.4
048		A	D						279	280	281	282	283		1.25
049		A	D						284	285	286	287	288		1.1
050		A	D						289	290	291	292	293		0.9
051		A	D						294	295	296	297	298		0.6
052	140 ABCR	B	D	-10	55	163	-4	+4	299	300	301	302	303	304	1.4
053		A	D						305	306	307	308	309		1.25
054		A	D						310	311	312	313	314		1.1
055		A	D						315	316	317	318	319		0.9
056		A	C						320	321	322	323	324		0.6

TEST PLAN LIMITS

1 7 13 19 25 31 37 43 49 55 61 67 73 79

COEFFICIENTS — IDVAR (1) IDVAR (2) NDV

α OR β SCHEDULED

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TABLE II. - Continued.

TEST: CA 148 — DATA SET RUN NUMBER COLLATION SUMMARY — DATE: [illegible]

DATA SET IDENTIFIER	CONFIGURATION	α	β	δ_R	δ_{SB}	δ_{SF}	δ_{SL}	δ_R	X: -4	0	4	8	12	16	MACH NUMBERS
[illegible]	[illegible]	B	D	10	55	163	4	-4	325	326	327	328	329	330	.4
058		A	D						331	332	333	334	335		1.25
059		A	D						[illegible]						
06		A	D						341	342	343	344	[illegible]		
[illegible]		A	C						[illegible]				350		.6
063 - 40ABLK		B	D	-5	55	163	-4	-4	351	352	353	354	355	[illegible]	.4
064		A	D						357	359	359	360	[illegible]		1.25
065		A	D						362	363	[illegible]	[illegible]	366		
066		A	D						367	368	[illegible]	370	371		[illegible]
067		A	C						372	373	374	[illegible]	[illegible]		[illegible]
[illegible] - 40ABLK		A	D	0	55	[illegible]	-4	-4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
[illegible]		A	C						[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
[illegible]	[illegible] NEG	A	D	0	55	[illegible]	-10	-10	387	388	[illegible]	[illegible]	391		[illegible]
[illegible]		A	C						397	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]

1 7 13 19 25 31 37 43 49 [illegible]

COEFFICIENTS

α OR β SCHEDULES

IDVAR (1) ILVAR (2) [illegible]

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TABLE II. - Concluded.

TEST: OA-48 | DATA SET RUN NUMBER COLLATION SUMMARY | DATE: POST TEST

DATA SET IDENTIFIER	CONFIGURATION	α	β	δ_{RI}	δ_{SB}	δ_{DF}	δ_{EL}	δ_{BF}	X: -4	0	+4	8	12	16	MACH NUMBERS	TEST RUN NUMBER
R:8071	-140 ABC	B	D	-5	55	16.3	-10	-10	397	398	399	400	401	402	1.4	
072		A	D						403	404	405	406	407		1.25	
073		A	D						408	409	410	411	412		1.1	
074		A	D						413	414	415	416	417		0.9	
075		A	C						418	419	420	421	422		0.6	
076	-140 ABC	B	D	+10	0	-11.7	+10	-10	423	424	425	426	427	428	1.4	
077		A	D						429	430	431	432	433		1.25	
078		A	D						434	435	436	437	438		1.1	
079		A	D						439	440	441	442	443		0.9	
080		A	C						444	445	446	447	448		0.6	
081	-140 ABC	B	E	10	0	-11.7	+10	+10	449	450	451	452	453	454	1.4	
082		A	E						455	456	457	458	459		1.25	
083		A	E						460	461	462	463	464		1.1	
084		A	F						465	466	467	468	469		0.9	
085		A	O						470	471	472	473	474		0.6	

1 7 13 19 25 31 37 43 49 55 61 67 73 76

α OR β SCHEDULES

COEFFICIENTS

E_β : 0 @ α = -4, 0, 8, 16

-4 0 4 @ α = 4, 12

IDVAR (1) IDVAR (2) NDV

F_β = 0 @ α = -4, 0, 8, 12

-4 0 4 @ α = 4

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TABLE III

MODEL DIMENSIONAL DATA

MODEL COMPONENT : BODY - B_{26}

GENERAL DESCRIPTION : Configuration 140A/B orbiter fuselage

NOTE: B_{26} is identical to B_{24} except underside of fuselage has been refaired to accept W_{116}.

MODEL SCALE: 0.030 MODEL DRAWING: SS-A00147, Release 12

DRAWING NUMBER : VL70-000143B, -000200, -000205, -006089, -000145, VL70-000140A, -000140B

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length (OML: Fwd Sta. X_O =235), In.	1293.3	38.799
Length (IML: Fwd Sta X =238), In.	1290.3	38.709
Max Width (@ X_O = 1528.3), In.	264.0	7.920
Max Depth (@ X_O = 1464), In.	250.0	7.500
Fineness Ratio	0.264	0.264
Area - Ft^2		
Max. Cross-Sectional	340.88	0.3068
Planform		
Wetted		
Base		

TABLE III (Continued)

MODEL COMPONENT : BODY - B_{70}

GENERAL DESCRIPTION : Configuration 140A/B orbiter fuselage with forward fuselage RCS thruster ports, otherwise B_{70} is identical to B_{26}.

MODEL SCALE: 0.030

DRAWING NUMBER : VL70-000140A, -000140B, -000143B, -000145, -000200, VL70-000205, -006089, -008501, -008502, -008296

DIMENSIONS :

	FULL SCALE	MODEL SCALE
Length (OML: Fwd Sta X_O=235), In.	1293.3	38.799
Length (IML: Fwd Sta X_O =238), In.	1290.3	38.709
Max Width (@ X_O = 1528.3), In.	264.0	7.920
Max Depth (@ X_O = 1464), In.	250.0	7.500
Fineness Ratio	0.264	0.264
Area - Ft^2		
Max. Cross-Sectional	340.88	0.3068
Planfotm		
Wetted		
Base		

TABLE III (Cont'd)

MODEL COMPONENT : CANOPY - C_9

GENERAL DESCRIPTION : Configuration 3A. Canopy used with fuselage B_{26}.

MODEL SCALE: 0.030 MODEL DWG: SS-A00147, Release 12

DRAWING NUMBER : VL70-G00143A

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length (X_0=434.643 to 578), In.	143.357	4.301
Max Width (@ X_0 = 513.127), In.	152.412	4.572
Max Depth (@ X_0 = 485.0), In.	25.00	0.750
Fineness Ratio		
Area		
Max. Cross-Sectional		
Planform		
Wetted		
Base		

TABLE III (Cont'd)

MODEL COMPONENT ELEVON - E_{44}

GENERAL DESCRIPTION 6.0 In. F.S. caps machined into E_{26} elevon. Flipper doors centerbody pieces, and tipseals are not simulated. (Data are for one of two sides.)

MODEL SCALE: 0.030

DRAWING NUMBER

DIMENSIONS	FULL SCALE	MODEL SCALE
Area - Ft^2	210.0	0.189
Span (equivalent) , In.	349.2	10.476
Inb'd equivalent chord, In.	118.0	3.54
Outb'd equivalent chord , In.	55.19	1.656
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	0.2096	0.2096
At Outb'd equiv. chord	0.4004	0.4004
Sweep Back Angles, degrees		
Leading Edge	0.00	0.00
Trailing Edge	- 10.056	- 10.056
Hingeline	0.0	0.0
Area Moment (Product of Area & $\bar{c}$), Ft^3	1587.25	0.0429
Mean Aerodynamic Chord, In.	90.7	2.721

TABLE III (Cont'd)

MODEL COMPONENT : BODY FLAP - F_9

GENERAL DESCRIPTION : Configuration 140A/B

MODEL SCALE: 0.030

DRAWING NUMBER : VL70-000140B, -000200

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length (Chord), In.	84.7	2.541
Max Width , In.	262.308	7.869
Max Depth , In.	23.00	0.690
Fineness Ratio		
Area - Ft^2		
Max. Cross-Sectional		
Planform	142.60	0.128
Wetted		
Base	41.90	0.0377

TABLE III (Cont'd)

MODEL COMPONENT : OMS POD - M_{16}

GENERAL DESCRIPTION : Configuration 140C orbiter OMS pod - short pod. External contour is to referenced drawings with 1/2" added to simulate TPS.

MODEL SCALE: 0.015

DRAWING NUMBER : VL70-008401, -008410

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length (OMS Fwd Sta X_0 =1310.5), In.	258.50	7.755
Max Width (@ X_0 = 1511), In.	136.8	4.104
Max Depth (@ X_0 = 1511), In.	74.70	2.241
Fineness Ratio	2.484	2.484
Area - Ft^2		
Max. Cross-Sectional	38.865	0.053
Planform		
Wetted		
Base		

TABLE III (Cont'd)

MODEL COMPONENT: OMS NOZZLES - N_{28}

GENERAL DESCRIPTION: Configuration 140A/B orbiter OMS nozzles.

MODEL SCALE: 0.030

DRAWING NUMBER: VL70-000140A (Location), SS-A00106, Release 9 (Contour)

DIMENSIONS:	FULL SCALE	MODEL SCALE
MACH NO.		
Length - In.		
Gimbal Point to Exit Plane		
Throat to Exit Plane		
Diameter - In.		
Exit		
Throat		
Inlet		
Area - ft^2		
Exit		
Throat		
Gimbal Point (Station) - In.		
Left Nozzle		
X_0	1518.0	45.54
Y_0	- 88.0	- 2.64
Z_0	492.	14.76
Right Nozzles		
X_0	1518.0	45.54
Y_0	88.0	2.64
Z_0	492.0	14.76
Null Position - Deg.		
Left Nozzle		
Pitch	15°49'	15°49'
Yaw	12°17'	12°17'
Right Nozzle		
Pitch	15°49'	15°49'
Yaw	12°17'	12°17'

TABLE III (Cont'd)

MODEL COMPONENT RUDDER - R_5

GENERAL DESCRIPTION Configuration 140C orbiter rudder (identical to configuration 140A/B rudder).

MODEL SCALE: 0.030

DRAWING NUMBER VL70-000146B, -000095

DIMENSIONS	FULL SCALE	MODEL SCALE
Area - Ft^2	100.15	0.090
Span (equivalent), In.	201.00	6.030
Inb'd equivalent chord, In.	91.585	2.748
Outb'd equivalent chord, In.	50.833	1.525
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	0.400	0.400
At Outb'd equiv. chord	0.400	0.400
Sweep Back Angles, degrees		
Leading Edge	34.83	34.83
Trailing Edge	26.25	26.25
Hingeline	34.83	34.83
Area Moment (Product of area & $\bar{c}$), Ft^3	610.92	0.0165
Mean Aerodynamic Chord, In.	73.2	2.196

TABLE III (Cont'd)

MODEL COMPONENT: VERTICAL - V_8

GENERAL DESCRIPTION: Configuration 140C orbiter vertical tail.

(Identical to configuration 140A/B vertical tail.)

MODEL SCALE: 0.030

DRAWING NUMBER: VL70-000140C, -000146B

DIMENSIONS:	FULL SCALE	MODEL SCALE
TOTAL DATA		
Area (Theo) - Ft^2		
Planform	413.253	0.372
Span (Theo) - In.	315.72	9.472
Aspect Ratio	1.675	1.675
Rate of Taper	0.507	0.507
Taper Ratio	0.404	0.404
Sweep-Back Angles, Degrees.		
Leading Edge	45.000	45.000
Trailing Edge	26.25	26.25
0.25 Element Line	41.13	41.13
Chords:		
Root (Theo) WP	268.50	8.055
Tip (Theo) WP	108.47	3.254
MAC	199.81	5.994
Fus. Sta. of .25 MAC	1463.35	43.901
W.P. of .25 MAC	635.52	19.066
B.L. of .25 MAC	0.0	0.0
Airfoil Section		
Leading Wedge Angle - Deg.	10.0	10.0
Trailing Wedge Angle - Deg.	14.92	14.92
Leading Edge Radius	2.0	0.060
Void Area	13.17	0.0019
Blanketed Area	0.0	0.0

TABLE III (Conl'd)

MODEL COMPONENT: WING-W_{116}

GENERAL DESCRIPTION: Configuration 4

NOTE: Identical to W_{114} except airfoil thickness. Dihedral angle is along trailing edge of wing.

MODEL SCALE: 0.030

TEST NO.

DWG. VL70-000140A, -000200

DIMENSIONS:	FULL-SCALE	MODEL SCALE
TOTAL DATA		
Area (Theo.) Ft^2 Planform	2690.00	2.421
Span (Theo In.	936.68	28.10
Aspect Ratio	2.265	2.265
Rate of Taper	1.177	1.177
Taper Ratio	0.200	0.200
Dihedral Angle, degrees	3.500	3.500
Incidence Angle, degrees	0.500	0.500
Aerodynamic Twist, degrees		
Sweep Back Angles, degrees		
Leading Edge	45.000	45.000
Trailing Edge	- 10.056	- 10.056
0.25 Element Line	35.209	35.209
Chords:		
Root (Theo) B.P.0.0.	689.24	20.677
Tip, (Theo) B.P.	137.85	4.136
MAC	474.81	14.244
Fus. Sta. of .25 MAC	1136.83	34.105
W.P. of .25 MAC	290.58	8.717
B.L. of .25 MAC	182.13	5.464
EXPOSED DATA		
Area (Theo) Ft^2	1751.50	1.576
Span, (Theo) In. BP108	720.68	21.620
Aspect Ratio	2.059	2.059
Taper Ratio	0.245	0.245
Chords		
Root BP108	562.09	16.863
Tip 1.00 $\frac{b}{2}$	137.85	4.136
MAC	392.83	11.785
Fus. Sta. of .25 MAC	1185.98	35.579
W.P. of .25 MAC	295.30	8.829
B.L. of .25 MAC	251.77	7.555
Airfoil Section (Rockwell Mod NASA) XXXX-64		
Root $\frac{b}{2}$ =	0.113	0.113
Tip $\frac{b}{2}$ =	0.120	0.120
Data for (1) of (2) Sides		
Leading Edge Cuff Planform Area Ft^2	113.18	0.102
Leading Edge Intersects Fus M. L. @ Sta	500.0	15.0
Leading Edge Intersects Wing @ Sta	1025.0	30.720

TABLE IV.

FUSELAGE PRESSURE TAP LOCATIONS -

ORBITER - IN.			Φ RADIAL LOCATION ~ DEGREES																				
FULL	MODEL	X/L	0	20	40	55	70	90	105	110	120	135	140	150	151	156	162	165	169	174	180	NO TAPS	Σ NO TAPS
235	7.05	0	7																			1	1
245	7.35	.008	8					9													10	3	4
265	7.95	.023	11	12	13	14	15	16			17			18							19	9	13
295	8.85	.046		24	25	26	27	28			29			30							31	8	21
325	9.75	.070		36	37	38	39	40			41			42							43	8	29
330	11.40	.112	47	48	49	50	51	52			53			54							55	9	38
410	13.20	.158																		59		1	39
450	13.50	.166	60	61	62	63	64	65			66			67					68		69	10	49
465	13.95	.177													73		74					2	51
500	15.00	.204	75	76	77	78	79	80			81		82	83				84			85	11	62
560	16.80	.251	89		90		91	92			93			94				95			96	8	70
625	18.75	.301	98		99		100	101			102			103				104			105	8	78
725	21.75	.378	107		108		109	110			111			112				113			114	8	86
880	26.40	.497	116		117		118	119			120			121				122			123	8	94
980	29.40	.574	125		126																	2	96
1080	32.40	.652	128		129		130	131			132			133				134			135	8	104
1180	35.40	.729	137		138		139	140			141			142							143	7	111

TABLE IV. - Concluded.

FUSELAGE PRESSURE TAP LOCATIONS

ORBITER-IN.			Φ RADIAL LOCATION ~ DEGREES																								
FULL	Model	X_o/L_o	0	20	40	55	70	90	105	110	120	135	140	150	151	156	162	165	169	174	180	305	320	340	NO TAPS	Σ/16 TAPS
1245	37.35	.779	145		146		147	148	149		150	151		152				153			154				10	10
1300	39.0	.821	156		157		158	159	160		161	162		163							164				9	19
1375	41.25	.879	166		167		168	169	170		171	172		173				174							9	28
1430	42.9	.921	176		177		178	179	180		181	182		183				184							9	37
1480	44.4	.960	186		187		188	189	190		191	192		193				194							9	46
1530	45.9	.999								196 198	197 199														4	50

TABLE V.

η	y_0	LEFT WING PRESSURE TAP LOCATIONS																No TAPS	Σ No TAPS
.235	110	x/c	0	.041	.113	.247	.429	.547	.633	.727	.793								9
		TOP	208	209	210	211	212	213	214	215	216							9	
		BOT	—	—	—	—	—	—	—	—	—							0	
.299	140	x/c	0	.010	.020	.050	.094	.229	.362	.497		.700	.834	.865	.900	.965			34
		TOP	217	218	219	220	221	222	223	224		225	226	227	228	229		13	
		BOT		230	231	232	233	234	235	236		237	238	239	240	241		12	
.364	170	x/c	0	.010	.020	.040	.086	.163	.246	.390		.637	.798	.839	.879	.919	.955		61
		TOP	242	243	244	245	246	247	248	249		250	251	252	253	254	255	14	
		BOT		256	257	258	259	260	261	262		263	264	265	266	267	268	13	
.427	200	x/c	0	.010	.020	.040	.083	.177	.274	.402	.565	.760	.808	.857	.905	.953	1.00		89
		TOP	269	270	271	272	273	274	275	276	277	278	279	280	281	282		14	
		BOT		283	284	285	286	287	288	289	290	291	292	293	294	295	296	14	
.534	250	x/c	0	.010	.020	.050	.080	.150	.250	.400	.550	.725	.775	.850	.900	.950			116
		TOP	297	298	299	300	301	302	303	304	305	306	307	308	309	310	.	14	
		BOT		311	312	313	314	315	316	317	318	319	320	321	322	323		13	

TABLE V. - Concluded.

η	Y_0	LEFT WING PRESSURE TAP LOCATIONS																No TAPS	Σ No TAPS
.641	300	X/C	0	.010	.020	.050	.150	.250	.400	.550	.700	.775	.850	.900	1.00				123
		TOP										333	334	335				3	
		BOT										344	345	346	347			4	
.673	315	X/C	0	.010	.020	.050	.150	.250	.400	.550	.700	.775	.850	.900	1.00				140
		TOP	324	325	326	327	328	329	330	331	332							9	
		BOT		336	337	338	339	340	341	342	343							8	
.780	365	X/C	0	.010	.020	.050	.150	.250	.650	.750	.850	.950							159
		TOP	348	349	350	351	352	353	354	355	356	357						10	
		BOT		358	359	360	361	362	363	364	365	366						9	
.887	415	X/C	0	.010	.020	.050	.150	.250	.400	.600	.750	.900	1.0						179
		TOP	367	368	369	370	371	372	373	374	375	376						10	
		BOT		377	378	379	380	381	382	383	384	385	386					10	
.972	455	X/C	0	.020	.069	.157	.345	.503	.690	.862									194
		TOP	387	388	389	390	391	392	393	394								8	
		BOT		395	396	397	398	399	400	401								7	
1.0	4623	X/C	.418	.723															196
		TOP	402	403														2	
		BOT																	

TABLE VI.

ORBITER VERTICAL TAIL & SPEED BRAKE

PRESSURE TAP LOCATIONS

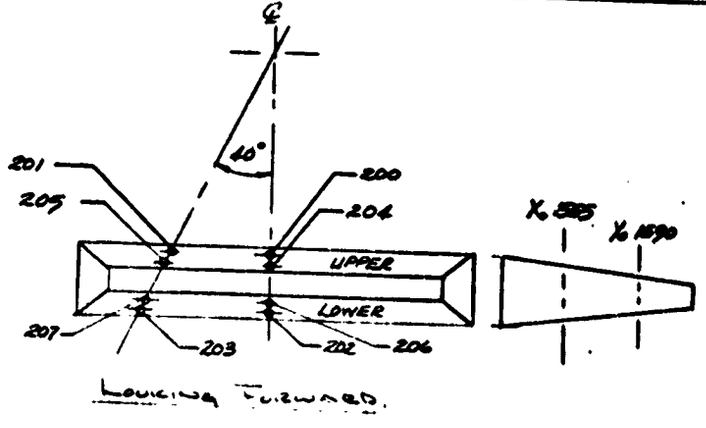
VERTICAL (LH ONLY)		X/C_V											
Z_o FULL SCALE	Z_o MODEL SCALE	η_V	0	.025	.05	.15	.30	.52	.685	.775	.90	NO TAPS	Σ NO TAPS
550	16.5	.153	430	431	432	433	434	435	436	437		8	8
600	18.0	.216	439	439	440	441	442	443	444	445	446	9	17
645	19.35	.459							1444	1445	1446	3	20
690	20.70	.600	447	448	449	450	451	452	453	454	455	9	29
720	21.6	.706							1453	1454	1455	3	32
765	22.95	.856	456	457	458	459	460	461	462	463	464	9	41
792	23.76	.925	465	466	467	468	469	470	471	472	473	9	50

SPEED BRAKE (R H INSIDE)		X/SB_V							
Z_o FULL SCALE	Z_o MODEL SCALE	η/SB	.10	.25	.40	.65	.90	NO TAPS	Σ NO TAPS
600	18.0	.110	801	802	803	804	805	5	5
630	18.9	.254	806	807	808	809	810	5	10
666	19.8	.407	811	812	813	814	815	5	15
690	20.7	.567	816	817	818	819	820	5	20
720	21.6	.706	821	822	823	824	825	5	25
750	22.5	.856	826	827	828	829	830	5	30

TABLE VII.

BODYFLAP PRESSURE TAP LOCATIONS

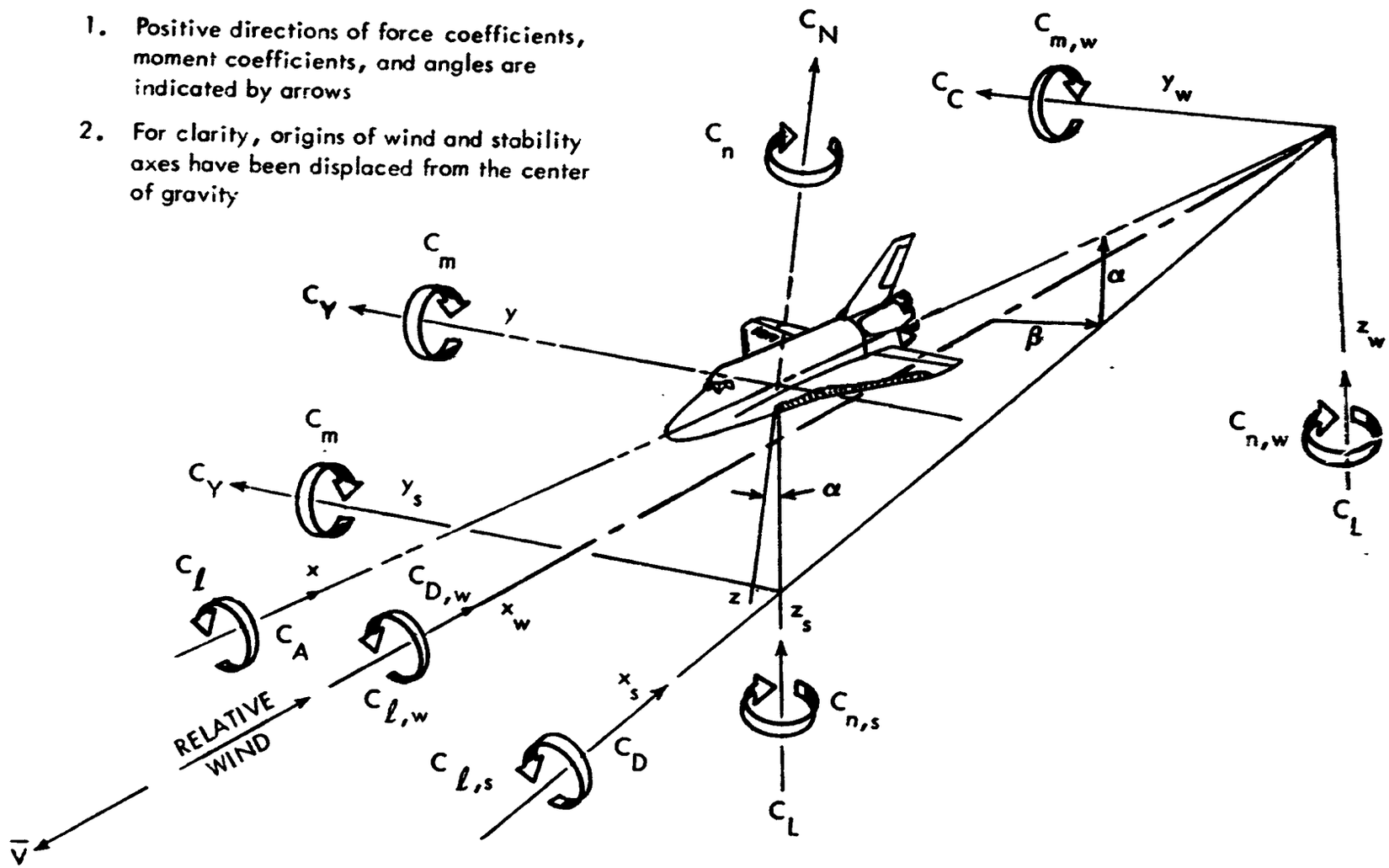
ORBITER-X_o			ϕ - DEGREES			
FULL SCALE	MODEL SCALE	X_o/L_o	0	40	NO. TAPS	Σ NO TAPS
1535 U	46.65	1.018	200	201	2	2
1555 L	46.65	1.018	202	203	2	4
1590 U	47.70	1.046	204	205	2	6
1590 L	47.70	1.046	206	207	2	8



LOOKING FORWARD.

Notes:

1. Positive directions of force coefficients, moment coefficients, and angles are indicated by arrows
2. For clarity, origins of wind and stability axes have been displaced from the center of gravity

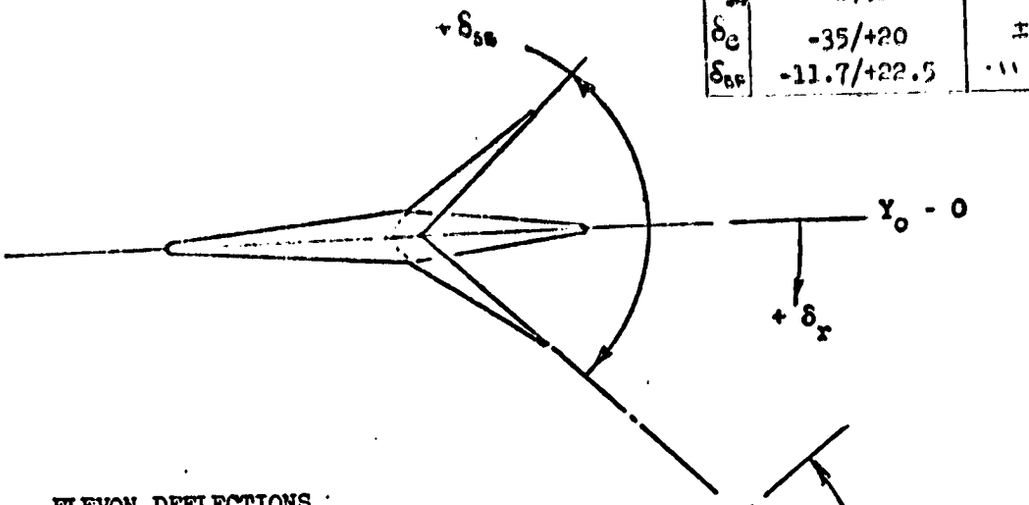


a. Orbiter Axis Systems

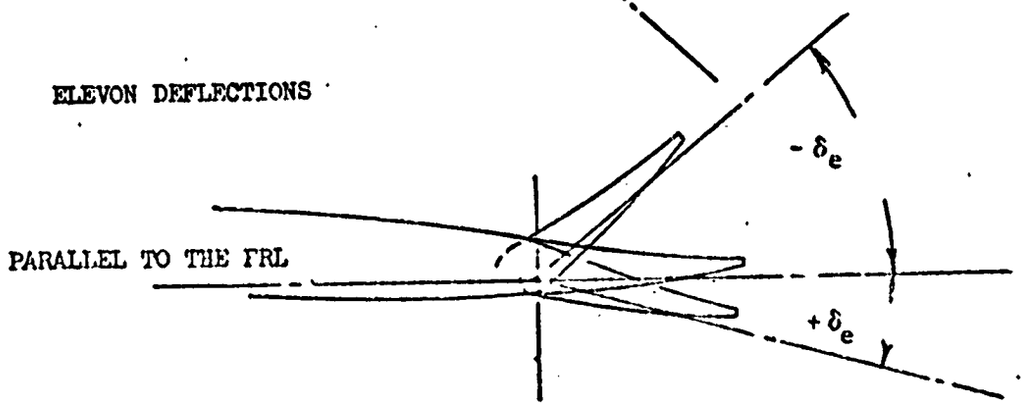
Figure 1. - Axis systems and sign conventions

RUDDER AND SPEED BRAKE DEFLECTIONS
(PARALLEL TO THE FRL)

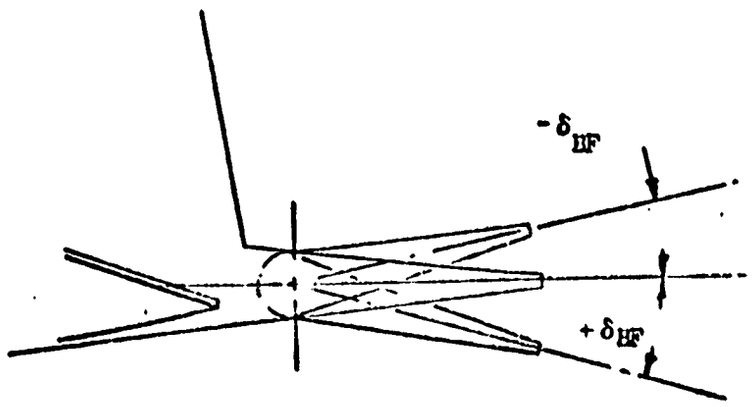
	Maximum Deflections	
	Vehicle [illegible]	Test CA1-B
δ_r	22.8	± 10
δ_{sb}	87.2	85
δ_e	-35/+20	± 10
δ_{BF}	-11.7/+22.5	-11.7/+22.5



ELEVON DEFLECTIONS



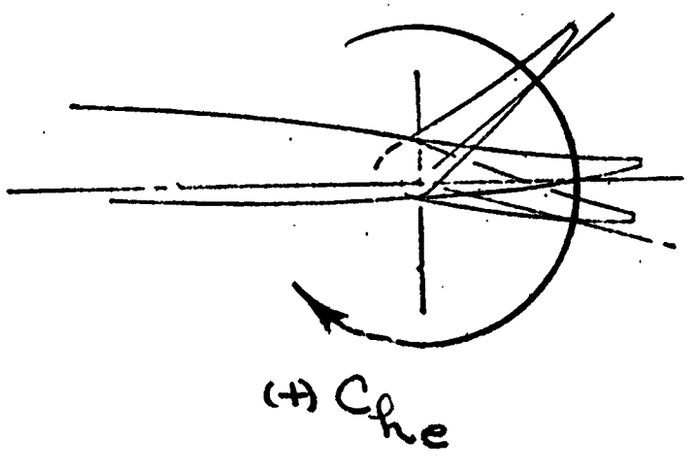
BODY FLAP DEFLECTIONS



X_o = 1532

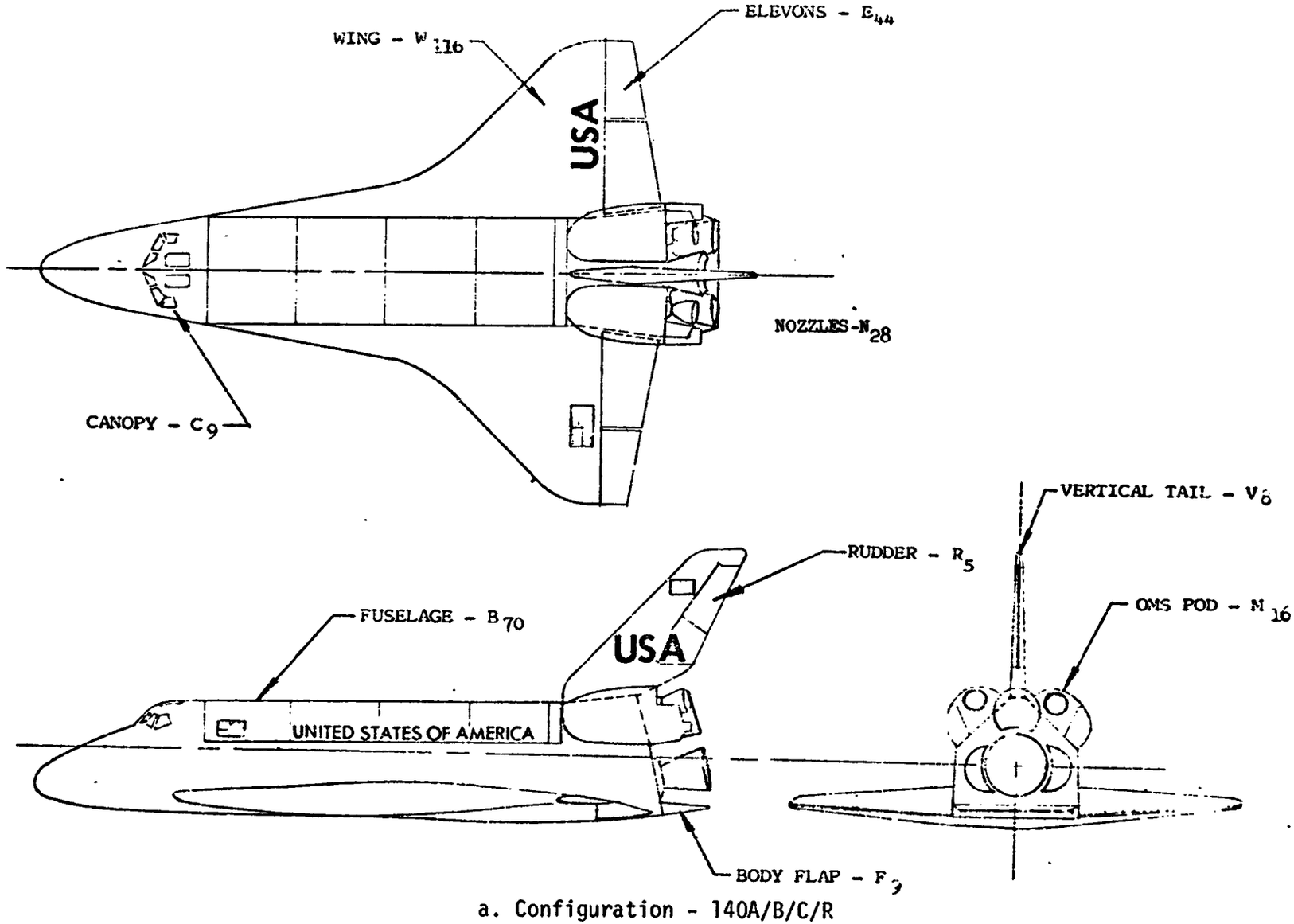
b. Definition of Angular Measurements

Figure 1. - Continued.



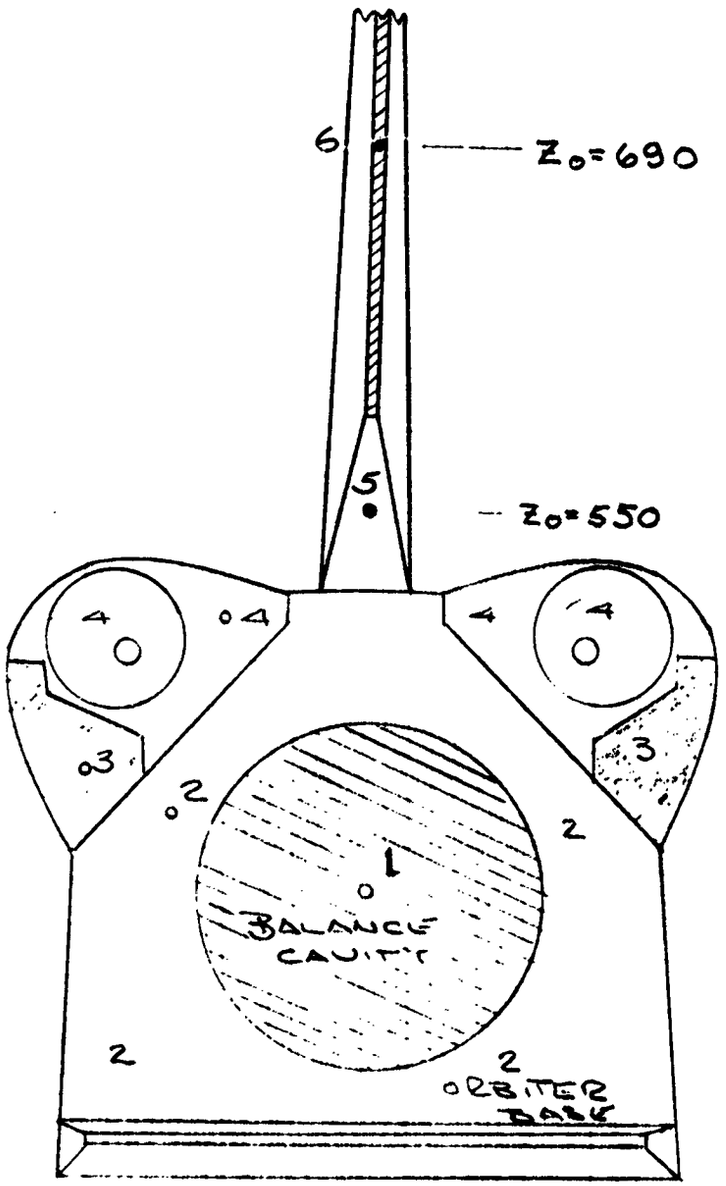
c. Elevon Hinge Moment Sign Convention

Figure 1. - Concluded.



a. Configuration - 140A/B/C/R

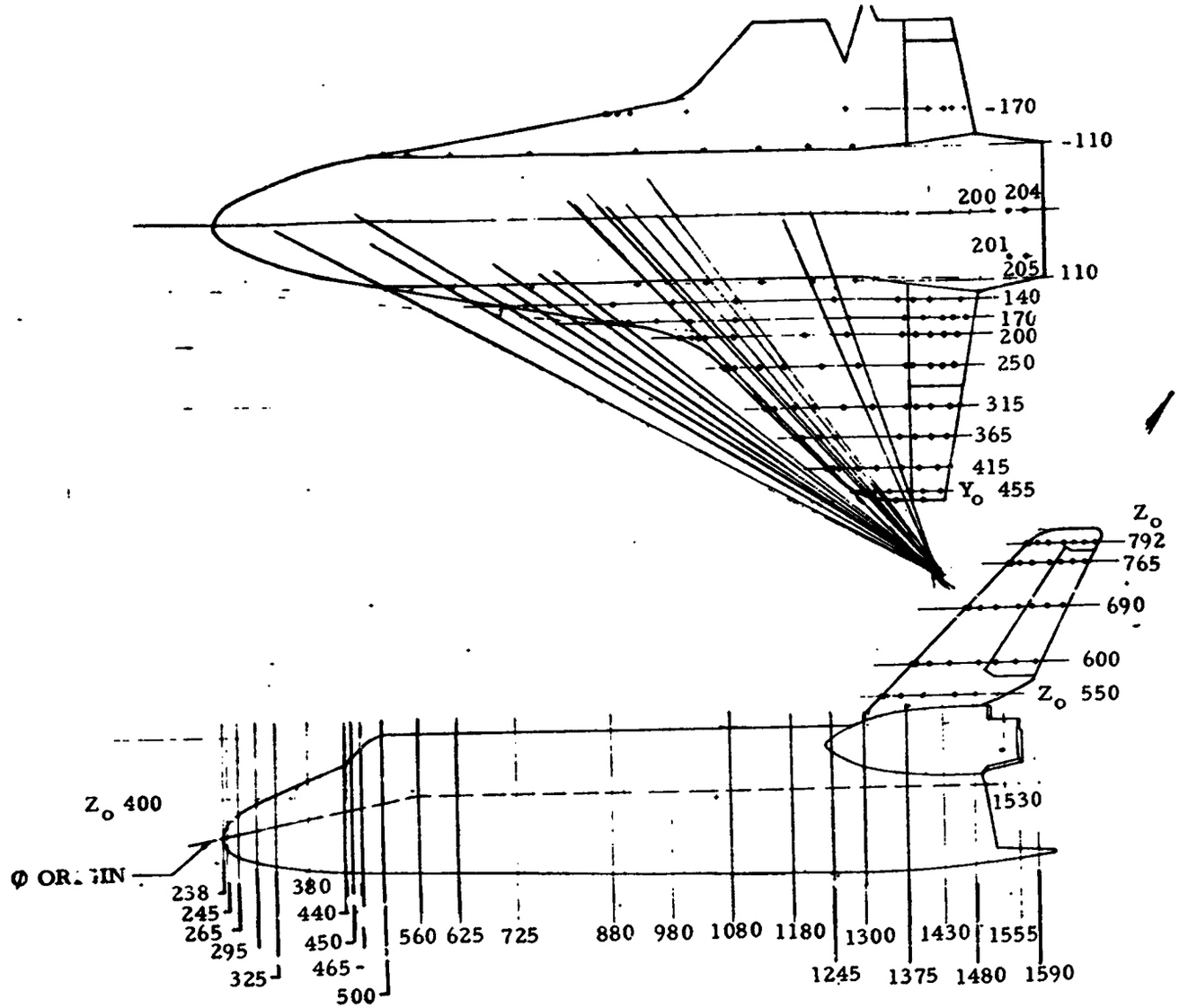
Figure 2. - Model sketches.



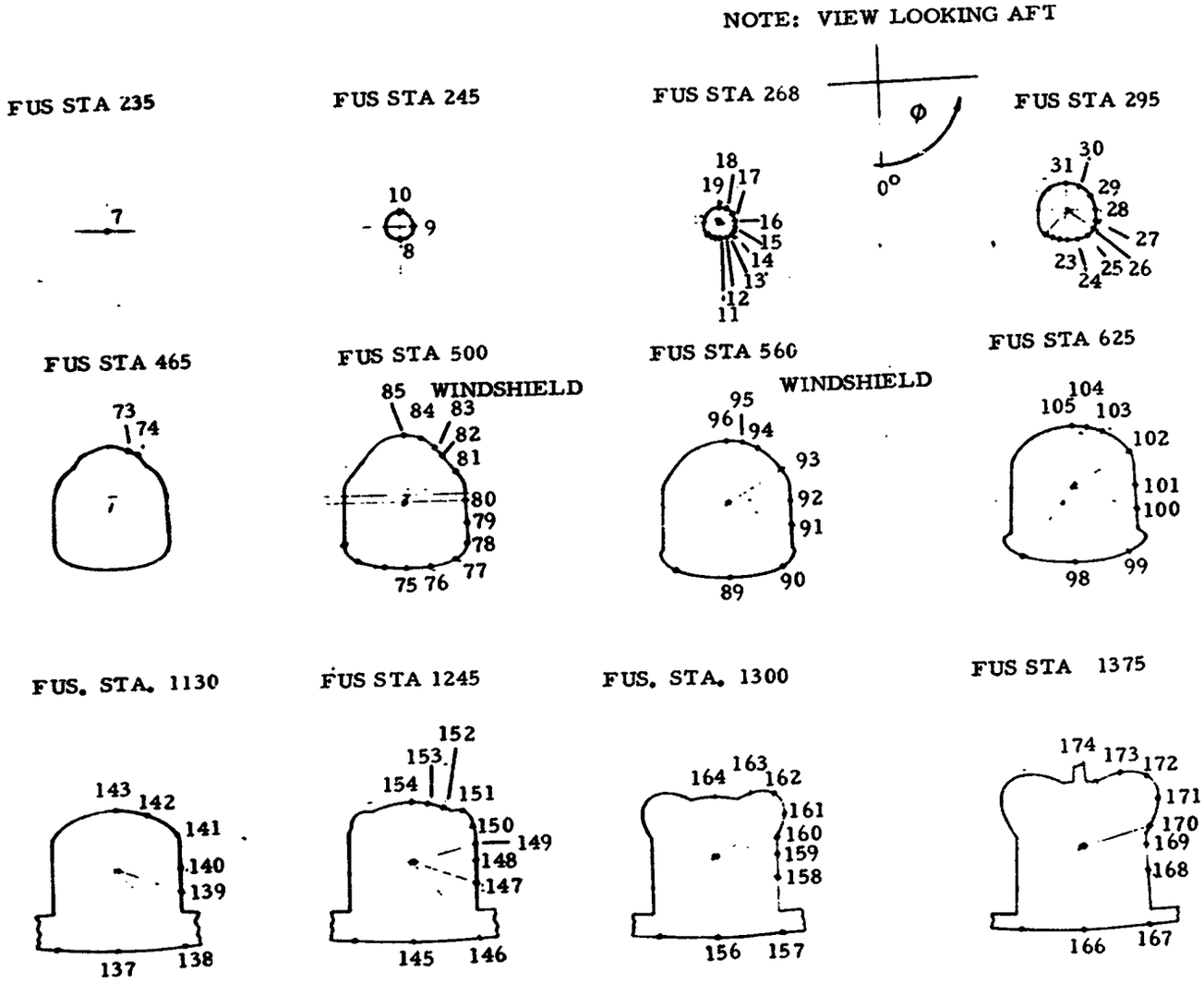
AREA NO.	PROJECTED AXIAL VALUE
A1	0.076699 ft²
A2	0.215695 ft²
A3	0.034072 ft²
A4	0.074167 ft²

b. Base Pressure Taps and Areas

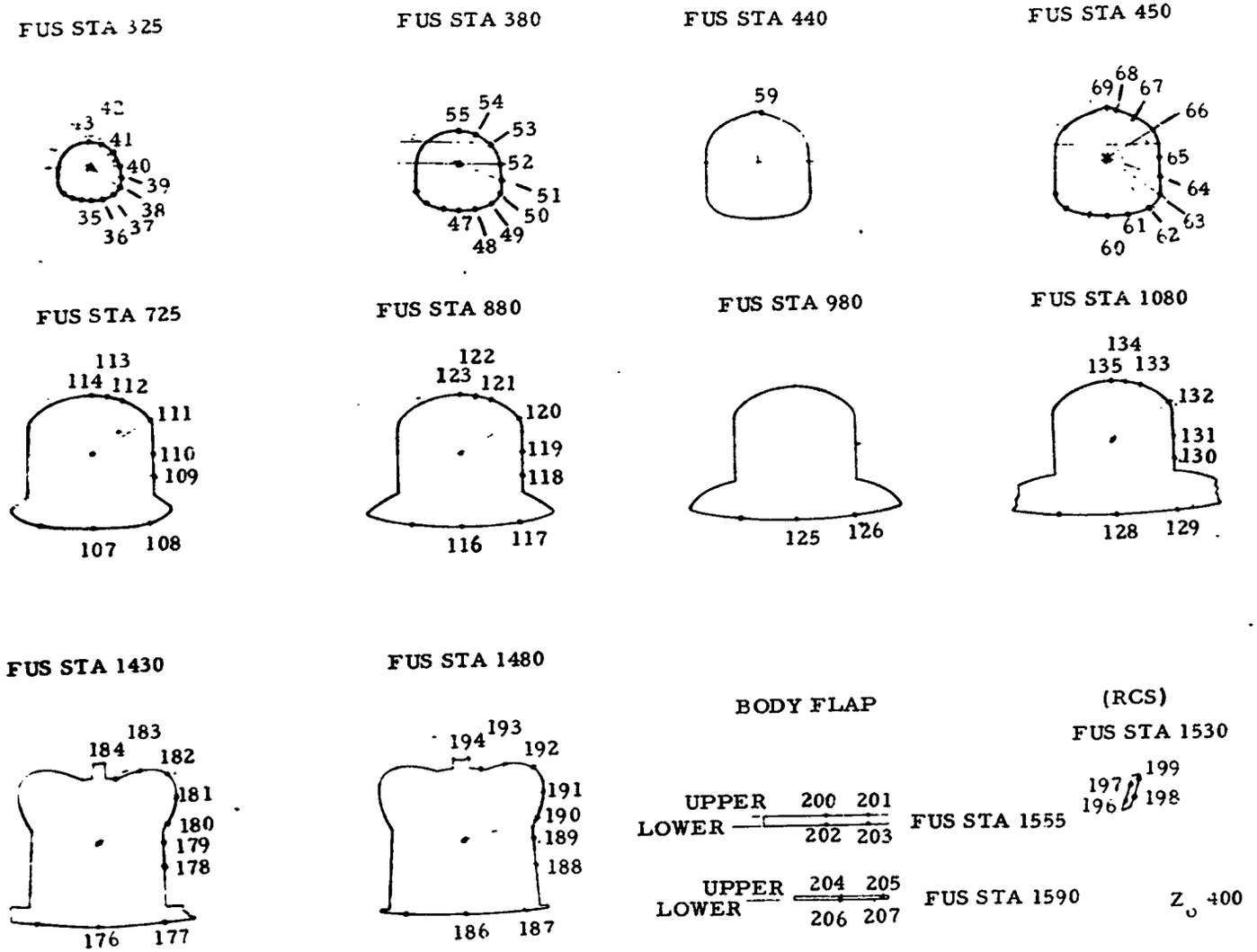
Figure 2. - Continued.



c. Fuselage, Vertical Tail, and Wing Pressure Tap Locations
Figure 2. - Continued.

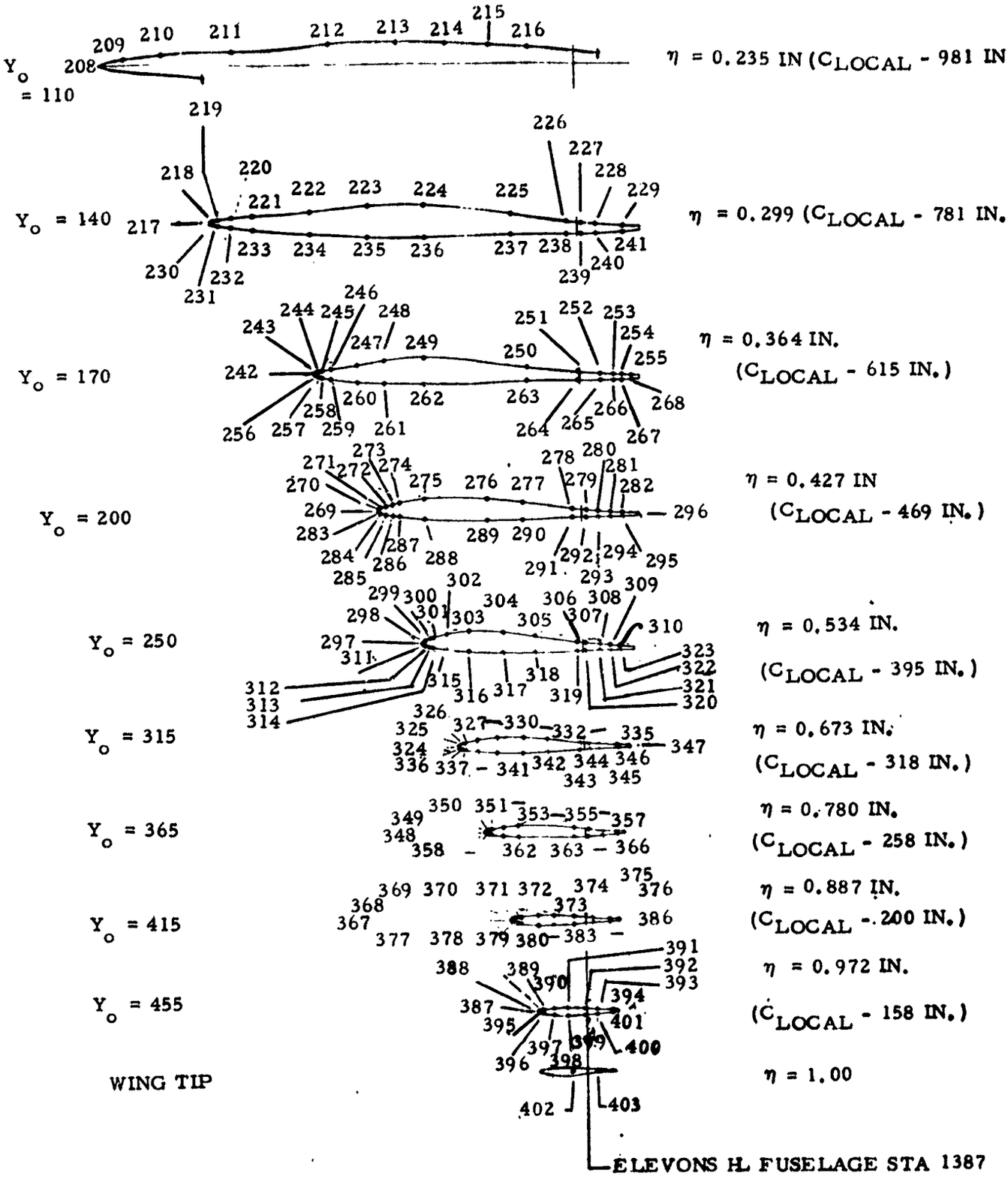


c. Fuselage, Vertical Tail, and Wing Pressure Tap Locations
Figure 2. - Continued.

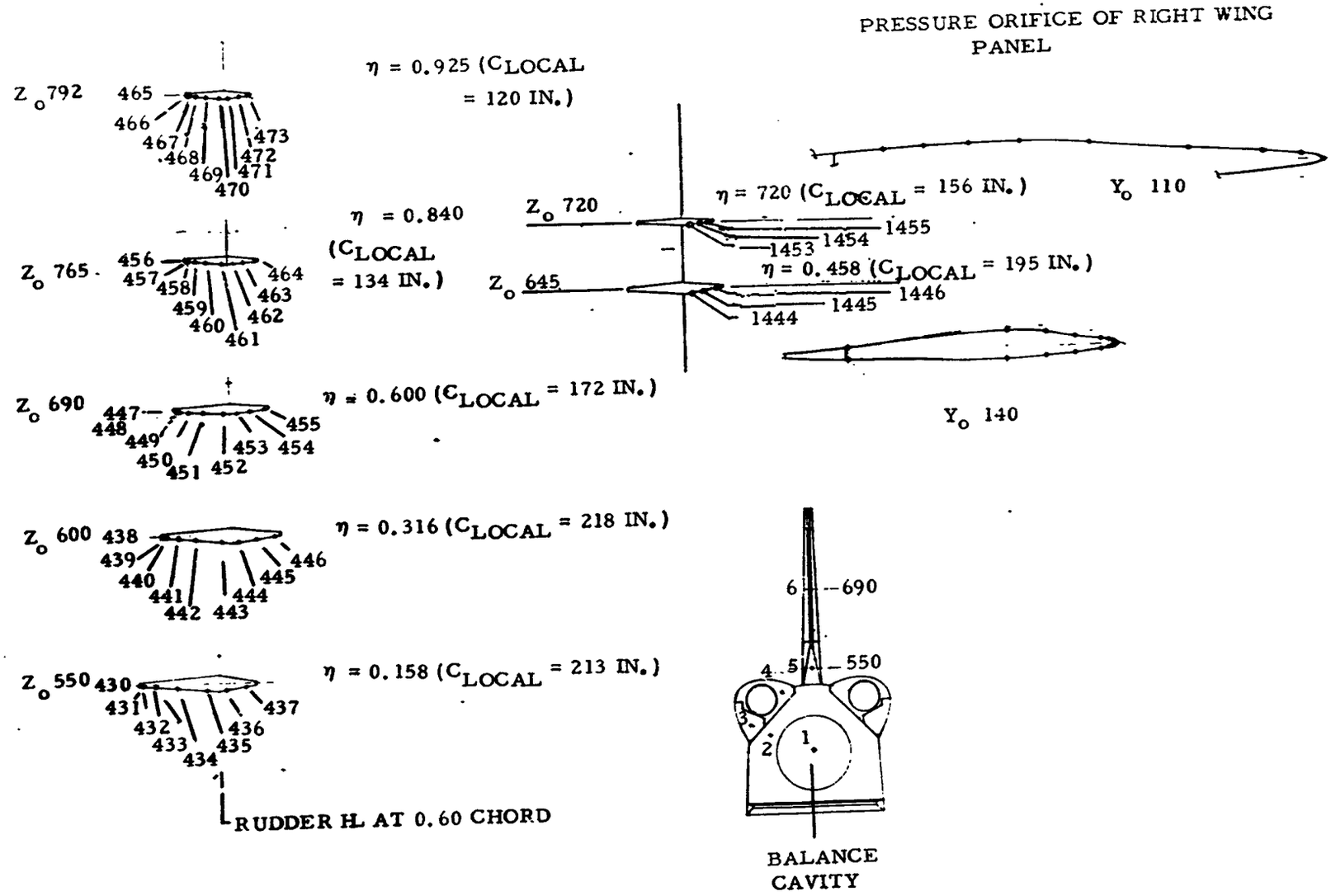


c. Fuselage, Vertical Tail, and Wing Pressure Tap Locations
Figure 2. - Continued.

PRESSURE ORIFICE LOCATION OF LEFT WING PANEL



c. Fuselage, Vertical Tail, and Wing Pressure Tap Locations
Figure 2. - Continued.

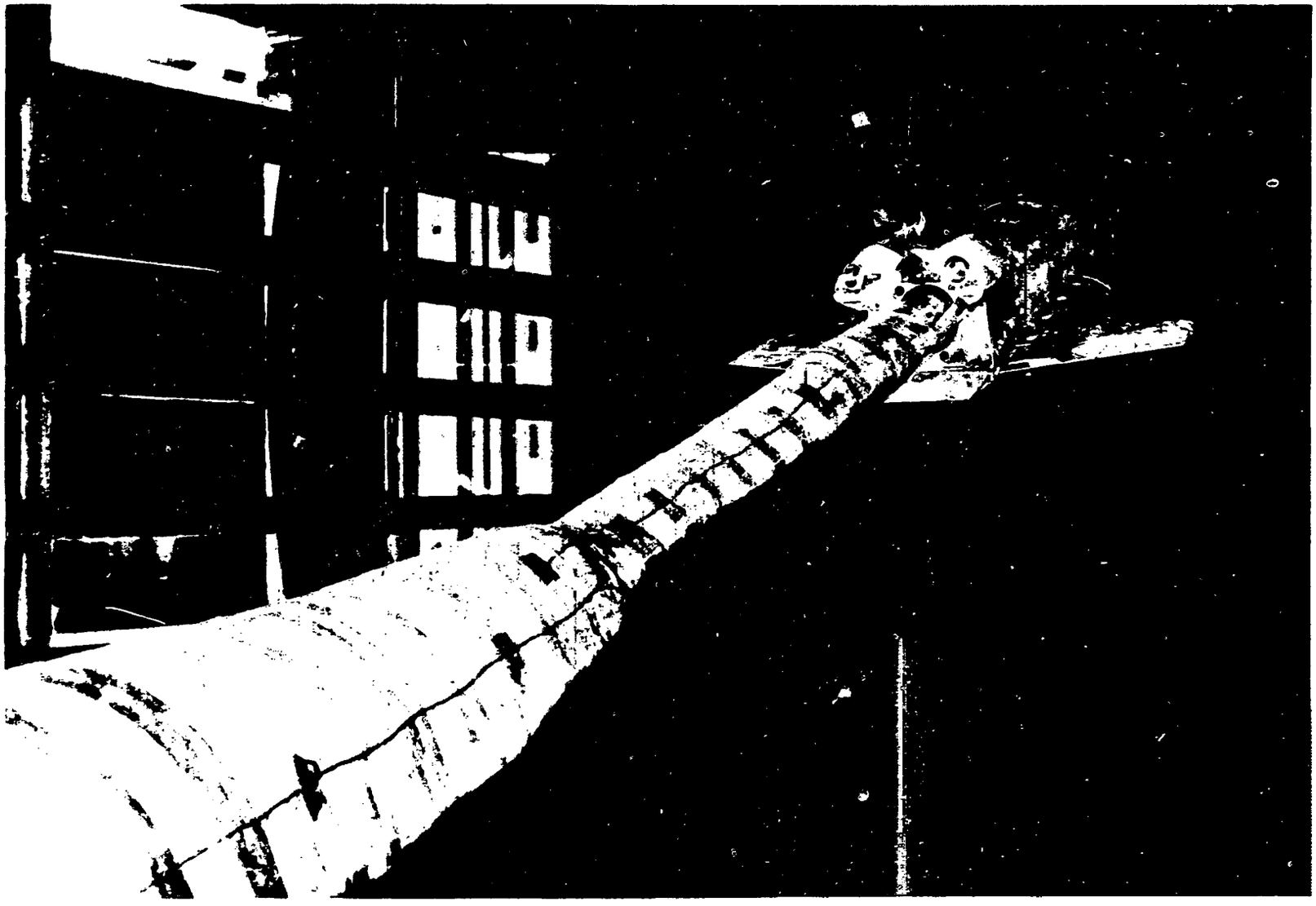


c. Fuselage, Vertical Tail, and Wing Pressure Tap Locations

Figure 2. - Concluded.

a. Three Quarter Front View of model 47-0 in the ARC 11 x 11 UPWT

Figure 3. - Model installation photographs.



b. Three Quarter Rear View of Model 47-0 in the ARC 11 x 11 UPWT

Figure 3. - Concluded.

APPENDIX

VOLUME NO.		CONTENTS	PAGES
3		TABULATED FORCE DATA	1-723
		TABULATED PRESSURE DATA	
		COMPONENT	
4, 5		Orbiter fuselage	1-1270
6, 7, 8	(Note)	Lower wing	1271-3146
9, 10, 11	(Note)	Upper wing	3147- 5404
12		Upper body flap	5405-5773
12		Lower body flap	5774-6142
13		Speed brake	6143-6546
13		Vertical tail	6547-7114

Note: Data tabulated at 2Y/BW = .673, X/CW = .775, .850, .950 & 1.00 were actually located at 2Y/BW = .641, X/CW = .775, .850, .950 & 1.00 as shown in Table V on page 47.

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8843) (05 AUG 75)

REFERENCE DATA

SREF = 2693.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8700 IN. YMRP = .0000 IN. YO
BREF = 935.0400 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = .000 SPDBRK = 55.000
BDFLAP = 22.500 L-ELVN = 10.000
R-ELVN = 10.000 MACH = .900

ALPHA (I) = -4.070 BETA (I) = -3.850 MACH = .89793 Q = 598.79 P = 1060.9 RN/L = 3.6657

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0030	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1876	.3446	-.0855	-.1328	-.1778			-.2182		-.2174	-.1776	-.0677	-.0301	.0043	-.0143
20.000			-.0553	-.1361	-.2342	-.2513		-.2682		-.2496					
40.000			.1422	-.1165	-.2240	-.2592		-.3615		-.4326	-.3138	-.1301	-.0791	-.0399	-.0434
60.000			.3366	.0853	-.0050	-.1040		-.2026		-.2902					
80.000			.4039	.2172	.1240	.0565		-.1017		-.2321	-.7202	-.0158	.0619	.1060	
90.000		.7316	.5444	.3058	.2067	.1081		-.0690		-.3131	-.6567	-.0514	.0432	.0929	
120.000			.6359	.4626	.3321	.3213		.1837		-.2359	-.5821	- 1097	.0252	.0570	
140.000										-.1624					
150.000			.6426	.4934	.4010	.4141		.6521		-.2672	-.8555	-.0471	.0214	.0447	
151.000									.3263						
160.000									.3643						
165.000										-.8368	-.7745	-.0274	.0121	.0395	
169.000								.7141							
174.000							.8276								
180.000	1.1876	.8395	.6813	.4644	.3892	.4113		.6370		-.9477	-.7676	-.0054	.0069	.0300	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1292	-.1713	-.2076	-.2619	-.1388	-.0837	.0945		.4165	.2123
40.000	-.2353		-.1910	-.2486	-.1240	-.1204	.0388		.3089	.1277
60.000	.0307	-.0457	.0546	.1516	-.1535	-.3669	-.1834			
80.000	.0693	.0085	.1194	.1912	-.2032	-.3077	-.2506			
105.000			.1875	.2383	-.3052	-.3306	-.3058			
110.000								-.4240		
120.000	.0621	.0315	.2644	.3456	-.3457	-.3070	-.3524	-.3180		
140.000			.3561	.4401	-.2185	-.1585	-.2119			
150.000	.0762	.1375	.3548	.4331	-.1121	-.1067	-.1803			
165.000	.0491		.3351		.0906	-.0685	-.3369			
180.000	.0538	.1327	.3146	.4821						

DATE 10 FEB 76 TABULATED PRESSURE DATA - OA148 (AMES 11-073-1) (XE8843)

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE

ALPHA (1) = -4.069 BETA (2) = .187 MACH = .89793 Q = 598.79 P = 1060.9 RN/L = 3.6597

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1347	.3493	-.0739	-.1130	-.1790			-.2144		-.2120	-.1739	-.0644	-.0225	.0113	-.0102
20.000			-.0595	-.1286	-.2214	-.2261		-.2437		-.2393					
40.000			.0376	-.1156	-.2076	-.2199		-.3113		-.3466	-.2954	-.0767	-.0388	-.0137	-.0154
55.000			.0411	.0140	-.0671	-.1368		-.2437		-.3430					
70.000			.3432	.1060	.0249	-.0235		-.1789		-.3255	-.7622	-.0412	.0424	.0665	
90.000		.5833	.4847	.1935	.0897	.0100		-.1725		-.4591	-.7334	-.0812	.0293	.0757	
105.000			.6336	.3440	.2224	.2308		.0591		-.4283	-.6767	-.1619	.0069	.0450	
110.000										-.4444					
120.000								.5700		-.7983	-.0385	-.0310	.0170	.0423	
135.000			.5875	.4576	.3556	.3060			.2277						
150.000									.3081						
165.000										-.8489	-.7364	-.0140	.0170	.0428	
180.000	1.1947	.8323	.5947	.4731	.3967	.4189	.8117	.6922							
								.6739		-.9565	-.7108	.0019	.0192	.0439	

X/LB	.6580	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1237	-.1777	-.2065	-.2812	-.1455	-.0933	.1058		.4396	.2273
40.000	-.1874		-.2117	-.2717	-.1322	-.1279	.0349		.3064	.1178
70.000	.0206	-.0507	.0246	.0991	-.2301	-.4112	-.2089			
90.000	.0452	.0012	.0913	.1246	-.3022	-.3701	-.2572			
105.000			.1515	.1361	-.4273	-.4029	-.3289			
110.000								-.4126		
120.000	.0664	.0757	.2211	.2395	-.5046	-.4314	-.4003	-.3438		
135.000			.3078	.4629	-.3429	-.2644	-.6329			
150.000	.0745	.1334	.3313	.5159	-.2252	-.2248	-.2380			
165.000	.0764		.3336		-.0235	-.1840	-.3408			
180.000	.0767	.1498	.3385	.5352						

ALPHA (1) = -4.078 BETA (3) = 4.272 MACH = .89793 Q = 598.79 P = 1060.9 RN/L = 3.6597

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1773	.3319	-.0914	-.1171	-.1893			-.2126		-.2480	-.1655	-.0698	-.0255	.0084	-.0194
20.000			-.0829	-.1373	-.2254	-.2257		-.2275		-.2462					
40.000			.0339	-.1440	-.2134	-.2003		-.2756		-.3219	-.2880	-.0548	-.0115	.0160	.0092
55.000			.1423	-.0575	-.1271	-.1684		-.2725		-.3912					
70.000			.2247	.0005	-.0686	-.0940		-.2401		-.4005	-.6139	-.0867	.0044	.0751	
90.000		.4176	.2984	.0557	-.0137	-.0851		-.2598		-.5060	-.7377	-.1175	.0393	.0831	
180.000			.4232	.2301	.1026	.1204		-.0583		-.6346	-.8132	-.1559	-.0170	.1130	

AMES 11-073(OA148) -140A/B/C/R CRB FUSELAGE (XE8843)

ALPHA (1) = -4.078 BETA (3) = 4.272

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.8006					
150.000			.5161	.4056	.2957	.3050		.4747		-.8825	-.8527	-.0354	-.0061	.0158	
151.000									.1135						
162.000									.2167						
165.000										-.8586	-.7429	-.0177	.0001	.0262	
169.000								.6322							
174.000							.7528								
180.000	1.1770	.8115	.5873	.4700	.3871	.4141		.6590		-.9462	-.7617	-.0082	.0065	.0289	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9500	.9590	1.0180	1.0460
PHI										
.000	-.1293	-.1844	-.1993	-.2662	-.1457	-.0880	.0944		.4022	.2071
40.000	-.1572		-.1903	-.2560	-.1343	-.1381	.0180		.3274	.1026
70.000	.0134	-.0519	-.0062	.0549	-.2935	-.4815	-.2381			
90.000	.0363	-.0069	.0562	.0700	-.3710	-.4672	-.2980			
105.000			.1104	.0617	-.5076	-.4997	-.3242			
110.000								-.3861		
120.000	.0445	.0489	.1548	.1036	-.6440	-.5829	-.6267	-.3445		
135.000			.2545	.3742	-.4746	-.4544	-.4795			
150.000	.0575	.1094	.2891	.5276	-.3409	-.4019	-.4422			
165.000	.0595		.3017		-.1246	-.3381	-.3561			
180.000	.0576	.1340	.3225	.5125						

ALPHA (2) = -.029 BETA (1) = -3.865 MACH = .89677 Q = 597.91 P = 1062.1 RN/L = 3.6486

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2025	.5078	.0617	-.0191	-.0906			-.1632		-.1699	-.1689	-.0787	-.0204	.0263	.0328
20.000			.0997	-.0149	-.1223	-.1624		-.1922		-.1948					
40.000			.2851	.0318	-.0740	-.1208		-.2253		-.2464	-.2604	-.0874	-.0275	.0049	.0311
55.000			.4253	.1953	.0965	.0137		-.0981		-.1976					
70.000			.4951	.2641	.1600	.1026		-.0479		-.1808	-.6501	-.0810	.0220	.0582	
90.000		.7156	.5414	.3172	.1932	.1445		-.0227		-.2580	-.6390	-.1153	.0142	.0535	
120.000			.5739	.4011	.2805	.2929		.1931		-.2509	-.6080	-.2077	-.0029	.0197	
140.000										-.2622					
150.000			.5339	.3978	.3042	.3417		.6256		-.3641	-.9852	-.2148	.0137	.0059	
161.000									.2974						
68.000									.3412						
165.000										-.9132	-.8647	-.1172	.0104	.0099	
169.000								.6719							
174.000							.7816								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8843)

ALPHA (2) = -.029 BETA (1) = -3.865

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.2025	.7114	.4641	.3646	.2925	.3343		.5862		-1.0546	-.8651	-.0400	.0104	.0061	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9890	1.0180	1.0460
PHI										
.000	-.0219	-.0590	-.1215	-.1920	-.1227	-.0817	.1193		.4032	.2110
40.000	-.0742		-.1034	-.1786	-.1020	-.1213	.0166		.4018	.1421
70.000	-.1064	-.2152	-.0928	.1361	-.1580	-.3520	-.1535			
90.000	-.0614	-.1428	.0617	.1698	-.2269	-.3110	-.1815			
105.000			.1302	.2167	-.3248	-.3321	-.2093			
110.000								-.4211		
120.000	-.0492	-.0157	.2453	.2936	-.4230	-.3040	-.2394	-.3069		
135.000			.2113	.3607	-.3081	-.1941	-.2036			
150.000	-.0034	.0671	.2867	.3053	-.2143	-.1484	-.1945			
165.000	.0004		.2850		.0370	-.1186	-.3254			
180.000	.0015	.0773	.2690	.3990						

ALPHA (2) = -.015 BETA (2) = .186 MACH = .89677 Q = 597.91 P = 1062.1 RN/L = 3.6486

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2096	.5127	.0693	-.0092	-.0801			-.1526		-.1617	-.1715	-.0650	-.0162	.0319	.0354
20.000			.0920	-.0129	-.1130	-.1462		-.1687		-.1814					
40.000			.2227	.0053	-.0799	-.1132		-.1935		-.2205	-.2611	-.0508	-.0037	.0198	.0479
55.000			.3253	.1106	.0257	-.0331		-.1471		-.2407					
70.000			.3812	.1556	.0607	.0239		-.1197		-.2594	-.7283	-.0828	.0079	.0399	
90.000		.5715	.4264	.2018	.0829	.0504		-.1117		-.3856	-.7138	-.1143	.0098	.0375	
120.000			.4801	.3054	.1911	.2175		.0885		-.4131	-.6858	-.1916	.0110	.0242	
140.000										-.4366					
150.000			.4891	.3705	.2639	.3109		.5463		-.8315	-.9481	-.1373	.0217	.0193	
151.000									.2028						
162.000									.2712						
165.000										-.9232	-.8625	-.0660	.0191	.0188	
169.000								.6450							
174.000							.7701								
180.000	1.2095	.7020	.4782	.3762	.2974	.3450		.6262		-.9451	-.8529	-.0437	.0202	.0157	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0216	-.0619	-.1220	-.1946	-.1233	-.0839	.1145		.4326	.2186
40.000	-.0576		-.1116	-.1877	-.1094	-.1101	.0348		.3322	.1175

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8843)

ALPHA (2) = -.015 BETA (2) = .186

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1177	-.2101	-.0484	.0753	-.2522	-.4125	-.1894			
90.000	-.0678	-.1317	.0296	.0972	-.3206	-.3872	-.2223			
105.000			.0983	.1267	-.4358	-.4438	-.2631			
110.000								-.3991		
120.000	-.0185	-.0094	.1763	.2430	-.5057	-.4666	-.3416	-.3180		
135.000			.2477	.3956	-.3893	-.3147	-.2594			
150.000	.0077	.0624	.2700	.4519	-.3034	-.2787	-.2370			
165.000	.0091		.2738		-.0928	-.2473	-.3175			
180.000	.0123	.0837	.2784	.4733						

ALPHA (2) = -.021 BETA (3) = 4.247 MACH = .89677 Q = 597.91 P = 1062.1 RN/L = 3.6486

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1944	.4952	.0595	-.0139	-.0988			-.1555		-.1703	-.1748	-.0797	-.0168	.0303	.0313
20.000			.0576	-.0308	-.1262	-.1476		-.1674		-.1871					
40.000			.1487	-.0220	-.1044	-.1181		-.1799		-.2087	-.2739	-.0445	.0038	.0253	.0628
55.000			.2194	.0273	-.0485	-.0798		-.1827		-.2710					
70.000			.2585	.0507	-.0324	-.0409		-.1846		-.3272	-.7841	-.0864	.0097	.0388	
90.000		.4094	.3074	.0834	-.0206	-.0281		-.1927		-.4992	-.7881	-.1356	.0168	.0358	
120.000			.3823	.2000	.0874	.1291		-.0258		-.5675	-.7867	-.1936	.0107	.0189	
140.000										-.7545					
150.000			.4270	.3189	.2201	.2517		.4542		-.9196	-.9659	-.0987	.0130	.0089	
151.000									.0921						
162.000									.1783						
165.000										-.8822	-.8566	-.0649	.0097	.0077	
169.000								.5917							
174.000							.7089								
180.000	1.1944	.6813	.4713	.3596	.2898	.3336		.6087		-1.0604	-.8782	-.0694	.0100	.0058	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0259	-.0635	-.1179	-.2041	-.1263	-.0862	.1181		.3966	.2085
40.000	-.0339		-.1047	-.1991	-.1101	-.1227	.0090		.3120	.0929
70.000	-.1139	-.1903	-.0635	.0263	-.3125	-.4874	-.2206			
90.000	-.0640	-.1175	.0021	.0343	-.3965	-.4825	-.2813			
105.000			.0645	.0429	-.5206	-.5463	-.2723			
110.000								-.3875		
120.000	-.0196	-.0194	.1191	.1009	-.6472	-.6054	-.6300	-.3253		
135.000			.2177	.3410	-.5251	-.5026	-.5135			
150.000	.0041	.0559	.2481	.4231	-.4004	-.4681	-.4426			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8843)

ALPHA (2) = -.021 BETA (3) = 4.247

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	.0020		.2540		-.1841	-.4058	-.3542			
180.000	-.0031	.0783	.2745	.4139						

ALPHA (3) = 3.931 BETA (1) = -3.870 MACH = .89677 Q = 597.91 P = 1062.1 RN/L = 3.6364

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0030	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1970	.6639	.2147	.0924	.0144			-.0895		-.1023	-.1205	-.0627	.0072	.0658	.0941
20.000			.2587	.1100	-.0024	-.0672		-.1030		-.1234					
40.000			.4166	.1675	.0653	-.0042		-.0918		-.1329	-.1654	-.0383	.0221	.0568	.1105
55.000			.4989	.2777	.1805	.0945		-.0086		-.1089					
70.000			.5199	.2974	.1900	.1342		.0032		-.1338	-.5764	-.1514	-.0267	.0221	
90.000		.6870	.5262	.3151	.1992	.1593		.0240		-.2117	-.6260	-.1941	-.0298	.0213	
120.000			.4980	.3333	.2245	.2586		.2071		-.2597	-.6217	-.3025	-.0834	-.0551	
140.000										-.3535					
150.000			.4206	.2943	.2105	.2761		.6062		-.4546	-.9964	-.4275	.0022	-.0253	
151.000									.2742						
162.000									.3055						
165.000										-.9677	-.8176	-.4161	.0319	-.0142	
169.000								.6368							
174.000							.7435								
180.000	1.1970	.5700	.3394	.2652	.1952	.2653		.5412		-1.1016	-.9133	-.2520	.0385	-.0026	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0552	.0294	-.0384	-.1105	-.0839	-.0597	.1368		.4716	.2340
40.000	.0469		-.0239	-.0969	-.0655	-.0898	.0420		.4359	.1515
70.000	-.2119	-.4389	-.1359	.0794	-.1732	-.3589	-.1349			
90.000	-.1869	-.3612	-.0299	.1073	-.2268	-.3080	-.1715			
100.000			.0997	.1306	-.3292	-.3347	-.1975			
110.000								-.4127		
120.000	-.1801	-.1734	.2010	.1307	-.4541	-.3028	-.2083	-.2925		
135.000			.2449	.2191	-.4155	-.2188	-.2027			
150.000	-.0877	-.0147	.2417	.1800	-.3023	-.1891	-.2071			
165.000	-.0725		.2167		-.0261	-.1655	-.3159			
180.000	-.0647	.0045	.1 32	.3414						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8843)

ALPHA (3) = 3.931 BETA (2) = .185 MACH = .89677 Q = 597.91 P = 1062.1 RN/L = 3.6364

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2040	.6660	.2190	.1048	.0141			-.0888		-.1031	-.1149	-.0495	.0133	.0779	.0939
20.000			.2408	.1042	-.0041	-.0625		-.0949		-.1215					
40.000			.3440	.1326	.0298	-.0143		-.0883		-.1350	-.1812	-.0434	.0285	.0630	.1199
55.000			.3930	.1844	.0971	.0277		-.0715		-.1625					
70.000			.4015	.1844	.0917	.0570		-.0696		-.1987	-.6531	-.1510	-.0285	.0122	
90.000		.5387	.4145	.2029	.0950	.0780		-.0593		-.3072	-.7118	-.1726	-.0200	.0144	
120.000			.4147	.2513	.1541	.1983		.1154		-.3870	-.6938	-.2712	-.0150	-.0081	
140.000										-.5075					
150.000			.3878	.2795	.1887	.2500		.5206		-.8780	-1.0324	-.3703	.0422	.0048	
151.000									.1867						
162.000									.2388						
165.000										-.9753	-.9405	-.2085	.0398	.0078	
169.000								.6047							
174.000							.7259								
180.000	1.2040	.5644	.3603	.2721	.1991	.2775		.5797		-1.0080	-.9264	-.1593	.0379	.0081	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0721	.0322	-.0312	-.1193	-.0804	-.0592	.1289		.4709	.2341
40.000	.0572		-.0201	-.1047	-.0723	-.0845	.0407		.3778	.1281
70.000	-.2272	-.4405	-.1338	.0365	-.2770	-.4175	-.1746			
90.000	-.1671	-.3322	-.0413	.0470	-.3580	-.4200	-.1952			
105.000			.0443	.0545	-.4623	-.5031	-.2260			
110.000								-.4001		
120.000	-.1188	-.1405	.1118	.1800	-.5520	-.5110	-.2653	-.3110		
135.000			.1700	.3837	-.4552	-.4019	-.2411			
150.000	-.0591	-.0203	.1867	.4631	-.3564	-.3414	-.2507			
165.000	-.0503		.1972		-.1627	-.3169	-.3118			
180.000	-.0509	-.0006	.2081	.4180						

ALPHA (3) = 3.933 BETA (3) = 4.242 MACH = .89677 Q = 597.91 P = 1062.1 RN/L = 3.6364

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1823	.6487	.2058	.0952	.0020			-.0860		-.1137	-.1305	-.0557	.0114	.0689	.0816
20.000			.2034	.0769	-.0257	-.0741		-.0993		-.1234					
40.000			.2566	.0823	-.0058	-.0426		-.0986		-.1419	-.2070	-.0859	.0145	.0481	.1130
55.000			.2724	.0880	.0131	-.0301		-.1238		-.2028					
70.000			.2762	.0778	.0001	-.0069		-.1298		-.2594	-.7197	-.1268	-.0303	.0029	
90.000		.3784	.2939	.0918	.0015	.0068		-.1312		-.4089	-.7927	-.1429	-.0130	.0079	
120.000			.3263	.1664	.0622	.1258		.0151		-.5240	-.7778	-.2534	.0145	.0054	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8843)

ALPHA (3) = 3.933 BETA (3) = 4.242

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.6790					
150.000			.3289	.2406	.1393	.2043		.4298		-1.0085	-1.0218	-.3045	.0386	.0033	
151.000									.0795						
162.000									.1481						
165.000										-.9881	-.7458	-.2117	.0256	-.0075	
169.000								.5512							
174.000							.6660								
180.000	1.1823	.5351	.3486	.2437	.1934	.2638		.5630		-1.1118	-.8957	-.2361	.0341	-.0024	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0652	.0257	-.0341	-.1192	-.0813	-.0740	.1287		.4741	.2340
40.000	.0622		-.0209	-.0899	-.0735	-.1070	.0378		.3555	.1043
70.000	-.2251	-.3995	-.1493	-.0069	-.3318	-.4932	-.2023			
90.000	-.1656	-.2965	-.0688	-.0033	-.4104	-.5044	-.2390			
105.000			-.0145	.0177	-.5378	-.5924	-.2553			
110.000								-.3792		
120.000	-.0994	-.1251	.0456	.1023	-.6277	-.6403	-.2781	-.3067		
135.000			.1509	.3285	-.5381	-.5330	-.4999			
150.000	-.0525	-.0204	.1796	.4202	-.4459	-.5171	-.4207			
165.000	-.0552		.1773		-.2406	-.4618	-.3412			
180.000	-.0630	.0087	.1982	.3326						

ALPHA (4) = 7.998 BETA (1) = -3.866 MACH = .89613 Q = 597.48 P = 1062.9 RN/L = 3.6207

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1633	.8021	.3643	.2132	.1171			-.0086		-.0309	-.0560	-.0121	.0475	.1224	.1563
20.000			.4096	.2401	.1138	.0336		-.0105		-.0413					
40.000			.5242	.2974	.1831	.1065		.0214		-.0306	-.0669	.0144	.0679	.1238	.1930
55.000			.5454	.3334	.2316	.1444		.0418		-.0529					
70.000			.5125	.3090	.1968	.1536		.0328		-.0934	-.4798	-.1902	-.0848	.0035	
90.000		.6331	.4831	.2917	.1876	.1593		.0486		-.1714	-.5995	-.2333	-.1049	-.0112	
120.000			.4065	.2430	.1455	.1993		.2024		-.2559	-.6518	-.4516	-.2480	-.1645	
140.000										-.3728					
150.000			.2950	.1871	.1086	.2033		.5811		-.4846	-.6251	-.4556	-.1308	-.0363	
151.000									.2549						
162.000									.2679						
165.000										-1.0186	-.6419	-.4994	-.0924	-.0222	
169.000								.5957							
174.000							.7003								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8843)

ALPHA (4) = 7.998 BETA (1) = -3.866

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.1603	.4192	.2151	.1687	.1072	.1995		.4951		-.9132	-.6566	-.4760	-.1099	.0015	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1497	.1104	.0434	-.0389	-.0382	-.0549	.1462		.5201	.2485
40.000	.1573		.0704	-.0175	-.0296	-.0942	.0446		.4512	.1556
70.000	-.3114	-.5707	-.2869	.0493	-.1677	-.3834	-.1630			
90.000	-.2562	-.4898	-.1296	.0318	-.2163	-.3426	-.2740			
105.000			.0114	.0436	-.2818	-.3564	-.2921			
110.000								-.4147		
120.000	-.3104	-.2942	.0891	.0192	-.3935	-.3309	-.2944	-.2924		
135.000			.0856	.1761	-.4150	-.2599	-.2478			
150.000	-.1587	-.1294	.0903	.2640	-.3326	-.2291	-.2439			
165.000	-.1393		.0914		-.0833	-.1779	-.3064			
180.000	-.1177	-.0844	.0975	.3090						

ALPHA (4) = 8.006 BETA (2) = .180 MACH = .89613 Q = 597.48 P = 1062.9 RN/L = 3.6207

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1681	.8095	.3702	.2231	.1243			-.0055		-.0286	-.0547	-.0075	.0550	.1289	.1587
20.000			.3868	.2246	.1052	.0314		-.0081		-.0393					
40.000			.4465	.2466	.1383	.0723		.0032		-.0502	-.1071	-.0298	.0519	.1112	.1904
55.000			.4297	.2315	.1347	.0633		-.0291		-.1094					
70.000			.3968	.1981	.0974	.0786		-.0336		-.1535	-.5846	-.2013	-.0892	-.0186	
90.000		.4908	.3773	.1887	.0898	.0897		-.0202		-.2516	-.6934	-.2145	-.0833	-.0195	
120.000			.3357	.1842	.0886	.1701		.1347		-.3576	-.7148	-.3289	-.1184	-.0637	
140.000										-.5019					
150.000			.2732	.1816	.0924	.1942		.4998		-.8359	-.6391	-.4464	-.0257	-.0165	
151.000									.1739						
162.000									.2049						
165.000										-1.0425	-.6574	-.4256	.0278	.0048	
169.000								.5572							
174.000							.6641								
180.000	1.1681	.4050	.2360	.1589	.1056	.2103		.5334		-1.0745	-.6481	-.4341	.0188	.0048	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1568	.1144	.0491	-.0402	-.0385	-.0585	.1467		.5212	.2493
40.000	.1646		.0685	-.0193	-.0350	-.1032	.0561		.4185	.1367

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8843)

ALPHA (4) = 8.006 BETA (2) = .180

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.3159	-.6272	-.3604	-.0250	-.2353	-.4265	-.3066			
90.000	-.2556	-.4800	-.2050	-.0271	-.3172	-.3892	-.5572			
105.000			-.0611	-.0236	-.4048	-.4241	-.5403			
110.000								-.3906		
120.000	-.2139	-.2524	-.0043	.0569	-.5220	-.4421	-.4135	-.2855		
135.000			.0638	.2661	-.4615	-.3466	-.3199			
150.000	-.1379	-.1396	.0998	.4074	-.3909	-.3328	-.2897			
165.000	-.1188		.1088		-.1778	-.3178	-.3068			
180.000	-.1140	-.0895	.1262	.3737						

ALPHA (4) = 8.004 BETA (3) = 4.244 MACH = .89613 Q = 597.48 P = 1062.9 RN/L = 3.6207

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1492	.7920	.3594	.2165	.1076			-.0085		-.0344	-.0573	-.0221	.0511	.1235	.1576
20.000			.3350	.1926	.0774	.0170		-.0270		-.0538					
40.000			.3407	.1770	.0828	.0239		-.0331		-.0907	-.1597	-.1005	.0206	.0859	.1751
55.000			.3000	.1214	.0317	-.0116		-.0993		-.1604					
70.000			.2685	.0908	-.0052	.0123		-.1008		-.2032	-.6500	-.1734	-.1131	-.0419	
90.000		.3274	.2654	.0885	-.0014	.0260		-.0922		-.3264	-.7630	-.1727	-.0904	-.0268	
120.000			.2533	.1131	.0220	.1173		.0511		-.4664	-.7405	-.2517	-.0849	-.0216	
140.000										-.6457					
150.000			.2292	.1550	.0582	.1632		.4098		-1.0224	-.6647	-.4062	-.0520	.0014	
161.053									.0747						
165.000									.1244						
169.000										-1.0496	-.6983	-.4474	-.0605	.0095	
174.000								.5128							
180.000	1.1492	.3814	.2239	.1384	.0920	.2001	.6218	.5210		-1.0487	-.7076	-.4606	-.0490	-.0061	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1559	.1131	.0476	-.0421	-.0424	-.0683	.1414		.5246	.2497
40.000	.1581		.0625	-.0150	-.0407	-.1093	.0521		.3878	.1059
70.000	-.3161	-.5303	-.3535	-.0890	-.3035	-.4430	-.3805			
90.000	-.2484	-.4445	-.2296	-.0967	-.4057	-.4172	-.5450			
105.000			-.1540	-.0769	-.5086	-.4734	-.5633			
110.000								-.3423		
120.000	-.1560	-.2310	-.0734	-.0199	-.6243	-.5488	-.5092	-.3179		
135.000			.0308	.2532	-.4870	-.4662	-.4194			
150.000	-.1124	-.1069	.0856	.3336	-.4174	-.4820	-.3416			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8843)

ALPHA (4) = 8.004 BETA (3) = 4.244

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.1121		.0929		-.2414	-.4502	-.3108			
180.000	-.1219	-.0841	.0985	.3028						

ALPHA (5) = 11.977 BETA (1) = -3.853 MACH = .89753 Q = 598.50 P = 1061.4 RN/L = 3.6129

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0957	.9256	.5010	.3362	.2296			.0767		.0551	.0392	.0618	.1124	.1928	.2246
20.000			.5525	.3649	.2334	.1381		.0862		.0529					
40.000			.6208	.4062	.2890	.1966		.1198		.0593	.0236	.0724	.1249	.1909	.2714
55.000			.5697	.3637	.2530	.1564		.0614		-.0181					
70.000			.4898	.3018	.1887	.1545		.0538		-.0607	-.4074	-.1969	-.1434	-.0317	
90.000		.5576	.4281	.2502	.1634	.1408		.0604		-.1405	-.5277	-.2444	-.1673	-.0536	
120.000			.2988	.1443	.0582	.1389		.1867		-.2516	-.6626	-.5269	-.4126	-.2625	
140.000										-.3771					
150.000			.1646	.0850	.0133	.1401		.5584		-.5293	-.5627	-.5085	-.2217	-.0880	
151.000									.2365						
162.000									.2358						
165.000										-.8535	-.5750	-.5610	-.2030	-.0483	
169.000								.5596							
174.000							.6502								
180.000	1.0957	.2479	.0960	.0639	.0225	.1448		.4505		-.7185	-.5980	-.5461	-.1893	-.0152	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2334	.1939	.1234	.0255	-.0042	-.0451	.1320		.5562	.2483
40.000	.2584		.1522	.0559	.0007	-.1053	.0146		.4446	.1322
70.000	-.4516	-.7326	-.2418	-.0452	-.2775	-.4068	-.5331			
90.000	-.3456	-.5840	-.1311	-.0069	-.2810	-.3831	-.5599			
105.000			-.0398	.0492	-.3477	-.4367	-.5535			
110.000								-.3483		
120.000	-.3747	-.3048	-.0110	.0987	-.3892	-.4496	-.4187	-.2781		
135.000			-.0086	.1775	-.3965	-.3736	-.3463			
150.000	-.2607	-.2467	-.0283	.2823	-.3495	-.3351	-.3286			
165.000	-.2139		.0017		-.1302	-.2478	-.3443			
180.000	-.1688	-.1442	.0672	.3211						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8843)

ALPHA (5) = 11.988 BETA (2) = .182 MACH = .89753 Q = 598.50 P = 1061.4 RN/L = 3.6129

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1035	.9341	.5108	.3463	.2307			.0828		.0624	.0335	.0644	.1076	.1956	.2255
20.000			.5208	.3424	.2156	.1266		.0743		.0406					
40.000			.5287	.3360	.2283	.1437		.0750		.0126	-.0424	.0126	.0882	.1643	.2554
55.000			.4390	.2461	.1439	.0627		-.0236		-.0939					
70.000			.3688	.1860	.0607	.0746		-.0155		-.1261	-.5115	-.2385	-.1837	-.0854	
90.000		.4148	.3234	.1517	.0689	.0788		-.0028		-.2167	-.6405	-.2357	-.1920	-.0788	
120.000			.2405	.0973	.0199	.1251		.1372		-.3488	-.7352	-.4313	-.3013	-.1329	
140.000										-.4999					
150.000			.1498	.0909	.0138	.1412		.4840		-.7152	-.5907	-.5090	-.1792	-.045	
160.000									.1597						
165.000									.1793						
170.000										-.9439	-.6178	-.5372	-.1641	-.0070	
175.000								.5127							
179.000							.6076								
180.000	1.1035	.2384	.1141	.0748	.0294	.1590		.4873		-.7696	-.6108	-.5370	-.1726	.0070	

X/LB	.6520	.7230	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.6302	.1931	.1246	.0267	.0017	-.0468	.1317		.5564	.2543
40.000	.2450		.1473	.0573	-.0014	-.0964	.0183		.4303	.1169
70.000	-.4933	-.7476	-.3039	-.1130	-.3405	-.4270	-.6913			
90.000	-.3546	-.5996	-.1822	-.0739	-.3747	-.4201	-.5630			
105.000			-.0738	-.0219	-.4633	-.5052	-.5933			
110.000								-.2793		
120.000	-.2803	-.3151	-.0339	.0542	-.4674	-.5233	-.5099	-.2997		
135.000			-.0015	.2309	-.4337	-.4363	-.4367			
150.000	-.2162	-.2269	.0197	.3698	-.3930	-.4149	-.3704			
165.000	-.1672		.0647		-.1576	-.3436	-.3377			
180.000	-.1447	-.1255	.0875	.3392						

ALPHA (5) = 11.978 BETA (3) = 4.261 MACH = .89753 Q = 598.50 P = 1061.4 RN/L = 3.6129

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0894	.9186	.4980	.3316	.2174			.0754		.0519	.0292	.0486	.1108	.1936	.2218
20.000			.4864	.3012	.1817	.0978		.0520		.0138					
40.000			.4104	.2488	.1493	.0667		.0175		-.0533	-.1130	-.0682	.0426	.1370	.2240
55.000			.3042	.1219	.0288	-.0314		-.1023		-.1524					
70.000			.2441	.0775	-.0194	.0123		-.0796		-.1789	-.5854	-.2652	-.2202	-.1206	
90.000		.2571	.2202	.0564	-.0133	.0253		-.0636		-.2822	-.7143	-.2003	-.1982	-.0842	
120.000			.1751	.0475	-.0213	.1023		.0801		-.4368	-.6830	-.3628	-.2349	-.0835	

TABULATED PRESSURE DATA - OA148 (AMES 11-073-1)

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8843)

ALPHA (5) = 11.978 BETA (3) = 4.261

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.8197					
150.000			.1247	.0702	-.0132	.1245		.3910		-.9866	-.5927	-.5204	-.1776	-.0035	
151.000									.0683						
162.000									.1037						
165.000										-.9790	-.6005	-.5327	-.1864	.0031	
169.000								.4794							
174.000							.5815								
180.000	1.0894	.2143	.1107	.0626	.0146	.1491		.4822		-.6728	-.6004	-.5413	-.1973	-.0206	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
140.000	.2304	.1889	.1253	.0247	.0009	-.0494	.1333		.5590	.2548					
150.000	.2337		.1444	.0501	-.0045	-.0855	.0222		.3957	.0943					
151.000	-.4551	-.7575	-.2374	-.1329	-.3831	-.5153	-.6837								
162.000	-.3505	-.6050	-.1859	-.1330	-.4570	-.5441	-.5584								
165.000			-.1289	-.0827	-.5593	-.6436	-.5968								
169.000								-.3096							
174.000	-.2194	-.3010	-.0667	-.0062	-.5403	-.6390	-.6852	-.4061							
180.000			.0121	.2099	-.4558	-.5086	-.5848								
150.000	-.1614	-.1600	.0793	.3347	-.3962	-.4820	-.4899								
155.000	-.1486		.0821		-.1942	-.4232	-.3595								
180.000	-.1657	-.1361	.0597	.3140											

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8844) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 936.0660 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = .000 SPDBRK = 55.000
BDFLAP = 22.500 L-ELVN = 10.000
R-ELVN = 10.000 MACH = .600

ALPHA (1) = -4.010 BETA (1) = -7.850 MACH = .59610 Q = 593.75 P = 2387.2 RN/L = 4.8840

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0106	.1349	-.2153	-.2148	-.2216										
20.000			-.1957	-.2292	-.2837	-.2773		-.1805		-.1535	-.1261	-.0922	-.0690	-.0450	-.0594
40.000			.0290	-.2197	-.2970	-.3136		-.2397		-.1987					
55.000			.2829	.0584	-.0136	-.1215		-.3650		-.3256	-.2641	-.1922	-.1602	-.1328	-.1311
70.000			.4462	.2374	.1619	.0854		-.1443		-.1629					
90.000		.7395	.5474	.3390	.2369	.1375		-.0292		-.1209	-.1337	-.0006	.0601	.0982	
120.000			.6239	.4617	.3475	.3234		-.0050		-.1728	-.1584	-.0378	.0375	.0835	
140.000								.1862		-.1466	-.1754	-.1669	.0015	.0310	
150.000			.5707	.4308	.3440	.3472				-.1914					
151.000								.5631		-.3593	-.3136	-.1059	-.0397	-.0108	
162.000									.2469						
165.000									.2528						
169.000										-.9410	-.2393	-.1267	-.0609	-.0248	
174.000								.5707							
180.000	1.0106	.7054	.4408	.3423	.2773	.2868	.6968	.3729		-1.1815	-.2297	-.1364	-.0726	-.0437	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0842	-.0955	-.1113	-.1483	-.0991	-.0653	.0682		.3471	.0934
40.000	-.1759		-.1239	-.1405	-.1044	-.0826	-.0174		.2932	.0747
70.000	-.0336	-.0405	.0193	.1101	-.0990	-.1285	-.1555			
90.000	.0245	.0056	.0813	.1669	-.1138	-.1497	-.1812			
105.000			.1364	.2820	-.2063	-.1937	-.2373			
110.000								-.3596		
120.000	.0128	.0616	.2230	.4710	-.1938	-.1780	-.2148	-.2740		
135.000			.2705	.4539	-.1289	-.0917	-.1766			
150.000	.0066	.0759	.2597	.3165	-.0959	-.0629	-.1459			
165.000	-.0079		.2097		.1421	-.0325	-.2986			
180.000	-.0088	.0298	.1583	.2875						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8844)

ALPHA (1) = -3.994 BETA (2) = -3.842 MACH = .59610 Q = 593.75 P = 2387.2 RN/L = 4.8840

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0531	.1720	-.1809	-.1843	-.2051			-.1610		-.1353	-.1085	-.0755	-.0547	-.0342	-.0502
20.000			-.1649	-.1924	-.2438	-.2374		-.2019		-.1643					
40.000			.0140	-.1910	-.2600	-.2594		-.3004		-.2637	-.1987	-.1369	-.1096	-.0913	-.0932
55.000			.2077	.0036	-.0642	-.1496		-.1753		-.1959					
70.000			.3405	.1350	.0662	.0048		-.1060		-.1869	-.1820	-.0373	.0310	.0719	
90.000		.6084	.4333	.2218	.1283	.0386		-.1008		-.2682	-.2166	-.0753	.0096	.0598	
120.000			.5329	.3713	.2589	.2387		.0814		-.2420	-.2307	-.1995	-.0104	.0306	
140.000										-.2698					
150.000			.5437	.4120	.3253	.3245		.5056		-.4147	-.2771	-.0915	-.0254	.0090	
151.000									.1564						
162.000									.1932						
165.000										-.9319	-.2121	-.0986	-.0311	.0064	
169.000								.5589							
174.000							.6930								
180.000	1.0531	.7285	.4785	.3624	.3101	.3188		.4666		-1.1544	-.1996	-.1020	-.0380	-.0055	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.0759	-.0882	-.1096	-.1531	-.0972	-.0676	.0674		.3532	.0959					
40.000	-.1482		-.1194	-.1430	-.1056	-.0736	.0044		.2898	.0473					
70.000	-.0293	-.0768	-.0231	.0604	-.1447	-.1568	-.1770								
90.000	-.0012	-.0233	.0433	.0967	-.1854	-.1907	-.2059								
105.000			.1001	.1696	-.2838	-.2410	-.2595								
110.000								-.3610							
120.000	.0195	.0527	.2004	.3211	-.2940	-.2567	-.2758	-.2967							
145.000			.2665	.4240	-.1998	-.1497	-.2159								
150.000	.0578	.0342	.2733	.4263	-.1377	-.1216	-.1753								
165.000	.0288		.2402		.0473	-.1151	-.3000								
180.000	.0154	.0844	.2223	.4168											

ALPHA (1) = -3.985 BETA (3) = .188 MACH = .59610 Q = 593.75 P = 2387.2 RN/L = 4.8840

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0612	.1806	-.1803	-.1772	-.1964			-.1523		-.1313	-.1012	-.0685	-.0444	-.0302	-.0441
20.000			-.1627	-.1767	-.2213	-.2116		-.1701		-.1495					
40.000			-.0179	-.1857	-.2315	-.2211		-.2382		-.2141	-.1491	-.0897	-.0664	-.0606	-.0622
55.000			.1267	-.0575	-.1056	-.1723		-.2009		-.2197					
70.000			.2259	.0304	-.0231	-.0701		-.1719		-.2415	-.2164	-.0698	.0064	.0514	
90.000		.4547	.3071	.0980	.0138	-.0575		-.1936		-.3565	-.2622	-.1034	-.0086	.0409	
120.000			.4183	.2555	.1461	.1412		-.0504		-.3459	-.2842	-.2400	-.0351	.0104	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8844)

ALPHA (1) = -3.985 BETA (3) = .188

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.3513					
150.000			.4859	.3718	.2836	.2787		.4106		-.4794	-.2521	-.0970	-.0257	.0092	
151.000									.0331						
162.000									.0943						
165.000										-.9374	-.1981	-.0961	-.0280	.0104	
169.000								.5265							
174.000							.6799								
180.000	1.0512	.7290	.4920	.4002	.3248	.3299		.5113		-1.1233	-.1861	-.0871	-.0221	.0128	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0762	-.0364	-.1113	-.1520	-.0932	-.0690	.0666		.3793	.1077
40.000	-.1257		-.1132	-.1383	-.0909	-.0702	.0181		.2547	.0330
70.000	-.0503	-.1028	-.0555	.0106	-.1866	-.1900	-.1992			
90.000	-.0154	-.0508	.0008	.0340	-.2411	-.2256	-.2211			
105.000			.0497	.0672	-.3591	-.2815	-.2847			
110.000								-.3660		
120.000	.0032	.0165	.1247	.1933	-.4107	-.3501	-.3454	-.3273		
135.000			.2192	.4443	-.2917	-.2204	-.2623			
150.000	.0389	.0863	.2440	.4676	-.2084	-.2038	-.2156			
165.000	.0398		.2402		-.0504	-.1997	-.3059			
180.000	.0297	.1009	.2462	.4776						

ALPHA (1) = -3.992 BETA (4) = 4.269 MACH = .59610 Q = 593.75 P = 2387.2 RN/L = 4.8840

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0407	.1553	-.1851	-.1783	-.2124			-.1645		-.1365	-.1102	-.0764	-.0534	-.0351	-.0558
20.000			-.1877	-.1839	-.2207	-.2022		-.1676		-.1424					
40.000			-.0718	-.2008	-.2283	-.2008		-.2037		-.1835	-.1240	-.0664	-.0408	-.0444	-.0411
55.000			.0319	-.1140	-.1579	-.1999		-.2264		-.2446					
70.000			.1098	-.0670	-.1125	-.1401		-.2321		-.2956	-.2420	-.0861	-.0076	.0388	
90.000		.2818	.1760	-.0269	-.0969	-.1505		-.2722		-.4375	-.2972	-.1255	-.0237	.0293	
120.000			.2963	.1360	.0264	.0257		-.1932		-.4497	-.3426	-.3009	-.0833	-.0259	
140.000										-.4391					
150.000			.4047	.3125	.2179	.2038		.2934		-.5503	-.3542	-.1191	-.0560	-.0208	
151.000									-.0996						
162.000									-.0251						
165.000										-.9443	-.2100	-.1148	-.0482	-.0105	
169.000								.4606							
174.000							.6136								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8844)

ALPHA (1) = -3.992 BETA (4) = 4.269

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.0407	.6949	.4826	.3829	.3108	.3219		.4887		-1.1311	-.1961	-.0994	-.0372	-.0060	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0853	-.0910	-.1131	-.1515	-.0976	-.0667	.0656		.3495	.0983
40.000	-.1081		-.1040	-.1282	-.1008	-.0704	.0138		.2662	.0204
70.000	-.0670	-.1286	-.1005	-.0300	-.2268	-.2098	-.2051			
90.000	-.0316	-.0763	-.0404	-.0311	-.2906	-.2579	-.2401			
105.000			-.0036	-.0198	-.4269	-.3210	-.3001			
110.000								-.3699		
120.000	-.0309	-.0405	.0297	.0333	-.5425	-.4406	-.4236	-.3584		
135.000			.1477	.2921	-.4006	-.3011	-.3172			
150.000	.0109	.0451	.1871	.4732	-.3207	-.3003	-.2736			
165.000	.0128		.1925		-.1676	-.2959	-.3101			
180.000	.0112	.0818	.2273	.4481						

ALPHA (1) = -4.007 BETA (5) = 8.349 MACH = .59610 Q = 593.75 P = 2387.2 RN/L = 4.8840

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9908	.1285	-.2037	-.1921	-.2263			-.1756		-.1562	-.1255	-.0957	-.0685	-.0493	-.0634
20.000			-.2065	-.1928	-.2348	-.2073		-.1680		-.1548					
40.000			-.1275	-.2059	-.2260	-.1915		-.1877		-.1710	-.1135	-.0529	-.0315	-.0315	-.0188
55.000			-.0493	-.1694	-.1921	-.2076		-.2330		-.2494					
70.000			-.0052	-.1521	-.1924	-.1893		-.2695		-.3174	-.2566	-.0967	-.0182	.0306	
90.000		.1053	.0496	-.1324	-.1943	-.2263		-.3440		-.4947	-.3193	-.1349	-.0327	.0134	
120.000			.1575	.0009	-.1127	-.1023		-.3357		-.5433	-.3913	-.3464	-.1209	-.0618	
140.000										-.5189					
150.000			.2909	.2195	.1140	.1067		.1461		-.6315	-.2695	-.1505	-.1045	-.0712	
157.000									-.2555						
162.000									-.1739						
165.000										-.9928	-.2355	-.1527	-.0929	-.0600	
169.000															
174.000								.3709							
180.000	.9909	.6220	.4340	.3290	.2646	.2782	.5455	.3935		-1.1465	-.2332	-.1389	-.0785	-.0541	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0890	-.0921	-.1151	-.1533	-.1017	-.0697	.0667		.3450	.0947
40.000	-.0879		-.0961	-.1199	-.0925	-.0640	0149		.2436	-.0014

AMES 11-073:OA148) -140A/B/C/R ORB FUSELAGE (XE3B44)

ALPHA (1) = -4.007 BETA (5) = 8.349

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.0840	-.1546	-.1362	-.0702	-.2651	-.2298	-.2060			
90.000	-.0539	-.1115	-.1053	-.0777	-.3259	-.2793	-.2549			
105.000			-.0599	-.0561	-.4792	-.3501	-.3107			
110.000								-.3567		
120.000	-.0621	-.0978	-.0711	-.1855	-.6893	-.5415	-.4768	-.3746		
135.000			.0386	.1205	-.5506	-.4053	-.3730			
150.000	-.0505	-.0261	.0829	.4177	-.4831	-.4257	-.3362			
165.000	-.0427		.1103		-.3056	-.3936	-.3192			
180.000	-.0405	.0230	.1626	.3438						

ALPHA (2) = .039 BETA (1) = -7.886 MACH = .59632 Q = 593.96 P = 2386.1 RN/L = 4.8783

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0383	.3193	-.0635	-.1150	-.1374			-.1375		-.1169	-.1002	-.0721	-.0428	-.0091	-.0106
20.000			-.0223	-.0936	-.1701	-.1962		-.1713		-.1502					
40.000			.2065	-.0413	-.1254	-.1630		-.2190		-.2023	-.1453	-.0873	-.0639	-.0544	-.0395
55.000			.4046	.1914	.1118	.0251		-.0391		-.0916					
70.000			.4986	.2969	.2018	.1346		.0085		-.0948	-.1300	-.0221	.0308	.0521	
90.000		.7333	.5495	.3444	.2435	.1654		.0225		-.1568	-.1549	-.0544	.0101	.0336	
120.000			.5518	.3949	.2899	.2849		.1739		-.1753	-.2239	-.2208	-.0719	-.0578	
140.000										-.2704					
150.000			.4508	.3184	.2445	.2593		.5169		-.4595	-.4025	-.1575	-.0857	-.0651	
151.000									.1856						
160.000									.1716						
165.000										-1.1077	-.2933	-.1680	-.0937	-.0665	
169.000								.5076							
174.000							.6555								
180.000	1.0383	.5752	.3162	.2440	.1833	.2076		.2991		-1.3487	-.2680	-.1625	-.0928	-.0708	

X/LB	.6520	.7230	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0293	-.0454	-.0724	-.1203	-.0764	-.0609	.0700		.3946	.[illegible]53
40.000	-.0779		-.0720	-.1099	-.0837	-.0696	-.0131		.3445	.0940
[illegible]	[illegible]	[illegible]	[illegible]	.1087	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.1167	[illegible]	[illegible]			
[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
110.000								-.3544		
120.000	-.0377	-.0200	.1683	.4507	-.2149	-.1765	-.2046	-.2666		
135.000			.2225	.4042	-.1735	-.1253	-.1927			
150.000	-.0537	.0222	.2117	.2414	-.1655	-.1017	-.1690			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8844)

ALPHA (2) = .039 BETA (1) = -7.886

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

Y/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0582		.1660		.1032	-.0593	-.2970			
180.000	-.0639	-.0052	.1313	.2440						

ALPHA (2) = .052 BETA (2) = -3.866 MACH = .59632 Q = 593.96 P = 2386.1 RN/L = 1.8783

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

Y/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0717	.3516	-.0290	-.0785	-.1199			-.1205		-.1015	-.0828	-.0530	-.0271	.0040	.0002
20.000			-.0030	-.0631	-.1451	-.1650		-.1432		-.1252					
40.000			.1722	-.0401	-.1138	-.1276		-.1821		-.1632	-.1123	-.0567	-.0401	-.0282	-.0109
60.000			.3166	.1216	.0443	-.0193		-.0908		-.1377					
80.000			.3984	.1887	.1026	.0528		-.0747		-.1628	-.1820	-.0591	-.0038	.0215	
90.000		.6006	.4369	.2382	.1339	.0717		-.0660		-.2379	-.2146	-.0863	-.0145	.0142	
100.000			.4700	.3152	.2157	.2168		.0822		-.2625	-.2583	-.2243	-.0522	-.0292	
140.000										-.3322					
160.000			.4292	.3069	.2294	.2471		.4597		-.5058	-.3460	-.1370	-.0591	-.0316	
161.000									.1028						
162.000									.1104						
165.000										-1.0913	-.2601	-.1349	-.0631	-.0292	
167.000								.4960							
170.000							.6363								
180.000	1.0717	.5900	.3532	.2766	.2109	.2379		.3945		-1.3101	-.2428	-.1276	-.0607	-.0285	

Y/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0233	-.0415	-.0662	-.1169	-.0787	-.0556	.0780		.3662	.0990
20.000	-.0369		-.0831	-.0991	-.0847	-.0641	.003.		.3236	.0562
40.000	-.1411	-.1594	-.0716	.0546	-.1428	-.1528	-.1737			
80.000	-.0913	-.0956	.0033	.0938	-.1899	-.1928	-.2081			
135.000			.0589	.1790	-.2728	-.2355	-.2623			
150.000								-.3587		
160.000	-.0600	-.0095	.1683	.3182	-.2974	-.2481	-.2530	-.2843		
170.000			.2304	.3587	-.2393	-.1746	-.2275			
175.000	-.0169	.0510	.2339	.3066	-.1957	-.1523	-.1948			
180.000	-.0150		.2051		.0049	-.1481	-.2533			
180.001	-.0216	.0497	.1919	.3432						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8844)

ALPHA (2) = .053 BETA (3) = .192 MACH = .59632 Q = 593.96 P = 2386.1 RN/L = 4.8783

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PH:															
.000	1.0792	.3562	-.0284	-.0716	-.1151			-.1128		-.1021	-.0770	-.0460	-.0207	.0030	.0020
20.000			-.0090	-.0661	-.1341	-.1426		-.1259		-.1120					
40.000			.1249	-.0500	-.1087	-.1196		-.1533		-.1467	-.0939	-.0418	-.0185	-.0166	.0058
55.000			.2242	.0469	-.0144	-.0728		-.1330		-.1796					
70.000			.2713	.0884	.0154	-.0237		-.1353		-.2163	-.2233	-.0866	-.0280	.0028	
90.000		.4476	.3147	.1230	.0363	-.0154		-.1472		-.3252	-.2543	-.1213	-.0349	.0014	
120.000			.3731	.2249	.1251	.1329		-.0304		-.3576	-.3013	-.2368	-.0444	-.0175	
140.000										-.4093					
160.000			.3902	.2860	.1964	.2151		.3674		-.5596	-.3100	-.1225	-.0525	-.0218	
181.000									-.0109						
188.000									.0279						
160.000										-1.0788	-.2456	-.1248	-.0487	-.0139	
169.000								.4646							
174.000							.6243								
180.000	1.0792	.5939	.3728	.2957	.2194	.2525		.4423		-1.2899	-.2261	-.1172	-.0463	-.0220	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PH:										
.000	-.0213	-.0374	-.0709	-.1131	-.0791	-.0586	.0789		.3732	.0959
40.000	-.0467		-.0647	-.0985	-.0823	-.0568	.0197		.2815	.0392
70.000	-.1549	-.1856	-.1060	.0006	-.1897	-.1849	-.1917			
90.000	-.1041	-.1143	-.0293	.0215	-.2477	-.2294	-.2218			
105.000			.0326	.0512	-.3495	-.2788	-.2773			
110.000								-.3599		
120.000	-.0509	-.0189	.1174	.1348	-.3884	-.3236	-.3164	-.3050		
140.000			.1863	.3438	-.3181	-.2345	-.2671			
160.000	-.0058	.0483	.2123	.3909	-.2547	-.2306	-.2601			
165.000	-.0337		.2023		-.0952	-.2293	-.2925			
180.000	-.0061	.0535	.2068	.4176						

ALPHA (2) = .049 BETA (4) = 4.248 MACH = .59632 Q = 593.96 P = 2386.1 RN/L = 4.8783

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PH:															
.000	1.0813	.3383	-.0372	-.0814	-.1277			-.1212		-.1063	-.0863	-.0540	-.0250	.0014	-.0051
20.000			-.0410	-.0838	-.1455	-.1453		-.1274		-.1157					
40.000			.0480	-.0866	-.1282	-.1289		-.1438		-.1422	-.0894	-.0352	-.0105	-.0069	.0163
55.000			.1111	-.0299	-.0793	-.1231		-.1713		-.2086					
70.000			.1494	-.0137	-.0767	-.0913		-.1951		-.2711	-.2488	-.1063	-.0387	-.0055	
90.000		.2789	.1930	.0062	-.0695	-.1003		-.2254		-.3952	-.2642	-.1293	-.0449	-.0059	
120.000			.2628	.1168	.0204	.0343		-.1604		-.4375	-.3372	-.2572	-.0575	-.0243	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8844)

ALPHA (2) = .049 BETA (4) = 4.248

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.4792					
150.000			.3186	.2301	.1477	.1521		.2599		-.6149	-.2905	-.1346	-.0591	-.0298	
151.000									-.1435						
160.000									-.0915						
161.000										-1.0741	-.2455	-.1343	-.0617	-.0305	
170.000								.4035							
171.000	1.0613	.5609	.3656	.2700	.2199	.2395	.5612								
180.000								.4221		-1.2910	-.2406	-.1227	-.0577	-.0333	
	.8580	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
190.000															
191.000	-.0241	-.0411	-.0734	-.1224	-.0779	-.0612	.0746		.3666	.1000					
200.000	-.0283		-.0587	-.0981	-.0833	-.0568	.0146		.2629	.0148					
201.000	-.1647	-.2096	-.1417	-.0515	-.2296	-.2144	-.2082								
210.000	-.1104	-.1391	-.0747	-.0475	-.2986	-.2594	-.2458								
211.000			-.0809	-.0378	.4241	-.3225	-.3040								
220.000								-.3739							
221.000	-.0076	-.0660	.0259	.0510	-.5136	-.4185	-.3824	-.3371							
230.000			.1372	.2565	-.4265	-.3154	-.3166								
231.000	-.0305	.0205	.1645	.3613	-.3660	-.3216	-.2841								
240.000	-.0305		.1678		-.2198	-.3241	-.3057								
241.000	-.0264	.0458	.1908	.3774											

ALPHA (2) = .044 BETA (5) = 8.307 MACH = .59632 Q = 593.96 P = 2386.1 RN/L = 4.8783

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
190.000								-.1343		-.1292	-.1001	-.0669	-.0393	-.0127	-.0204
191.000	1.0098	.3146	-.0530	-.0930	-.1476			-.1419		-.1334					
200.000			-.0734	-.1058	-.1592	-.1557		-.1495		-.1557	-.1104	-.0566	-.0279	-.0194	.0223
201.000			-.0598	-.1137	-.1533	-.1460		-.2008		-.2327					
210.000			.0148	-.1063	-.1402	-.1590		-.2421		-.2977	-.2606	-.1159	-.0416	-.0051	
211.000			.0350	-.1023	-.1414	-.1474		-.2846		-.4456	-.3022	-.1341	-.0402	-.0124	
220.000		.0954	.0672	-.0992	-.1538	-.1747		-.2803		-.5228	-.3700	-.2852	-.0734	-.0377	
221.000			.1302	.0009	-.0976	-.0752				-.5489					
230.000								.1180		-.6864	-.2984	-.1533	-.0952	-.0714	
231.000			.2146	.1492	.0531	.0650			-.2959						
240.000									-.2392						
241.000								.3209		-1.0973	-.2616	-.1633	-.0976	-.0735	
							.4970								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8844)

ALPHA (2) = .044 BETA (5) = 8.307

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.0096	.4881	.3198	.2242	.1637	.1956		.3218		-1.2911	-.2737	-.1635	-.1024	-.0802	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0325	-.0439	-.0780	-.1200	-.0801	-.0638	.0749		.3878	.1070
20.000	-.0197		-.0593	-.0906	-.0805	-.0588	.0202		.2449	-.0041
70.000	-.1762	-.2311	-.1755	-.0931	-.2646	-.2301	-.2119			
90.000	-.1248	-.1613	-.1208	-.0915	-.3432	-.3087	-.2763			
105.000			-.0757	-.0938	-.4711	-.3552	-.3230			
110.000								-.3766		
120.000	-.0887	-.1116	-.0509	-.1861	-.6496	-.5173	-.4421	-.3589		
135.000			.0427	.0892	-.5654	-.4079	-.3762			
150.000	-.0602	-.0434	.0716	.3547	-.5223	-.4392	-.3472			
165.000	-.0624		.0892		-.3640	-.4285	-.3198			
180.000	-.0812	-.0123	.1308	.2785						

ALPHA (3) = 3.960 BETA (1) = -7.902 MACH = .59694 Q = 595.02 P = 2385.4 RN/L = 4.8785

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0304	.4858	.0846	-.0076	-.0505			-.0895		-.0774	-.0643	-.0409	-.0072	.0326	.0409
20.000			.1472	.0272	-.0579	-.1029		-.1016		-.0915					
40.000			.3529	.1104	.0201	-.0279		-.0912		-.0926	-.0474	-.0015	.0143	.0250	.0530
55.000			.4931	.2896	.2050	.1130		.0292		-.0399					
70.000			.5282	.3268	.2225	.1531		.0340		-.0805	-.1367	-.0435	-.0082	-.0006	
80.000		.6967	.5214	.3374	.2424	.1661		.0339		-.1451	-.1742	-.0779	-.0273	-.0192	
120.000			.4612	.3130	.2147	.2170		.1415		-.2150	-.2837	-.3000	-.1736	-.1748	
140.000										-.3432					
150.000			.3234	.2061	.1391	.1848		.4684		-.5656	-.4833	-.2038	-.1243	-.1145	
151.000									.1260						
162.000									.0912						
165.000										-.2824	-.3444	-.1933	-.1189	-.1010	
169.000								.4466							
174.000							.6074								
180.000	1.0304	.4324	.2060	.1253	.0895	.1329		.2334		-1.5054	-.2941	-.1753	-.1125	-.0875	

X/L6	.6520	.7290	.7790	.8210	.8790	.9210	.9500	.9990	1.0180	1.0460
PHI										
.000	.0331	.0071	-.0271	-.0779	-.0502	-.0397	.0833		.4200	.1110
40.000	.0168		-.0107	-.0598	-.0553	-.0448	.0052		.3566	.0905

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8844)

ALPHA (3) = 3.960 BETA (1) = -7.902

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.2216	-.1919	-.0661	.1014	-.0904	-.1056	-.1359			
90.000	-.1612	-.1320	.0016	.1631	-.1035	-.1427	-.1857			
105.000			.0487	.3229	-.1724	-.1755	-.2290			
110.000								-.3482		
120.000	-.2174	-.1112	.1113	.4724	-.2373	-.1887	-.1954	-.2710		
135.000			.1765	.3332	-.2241	-.1563	-.2141			
150.000	-.1166	-.0363	.1733	.1138	-.2337	-.1300	-.1843			
165.000	-.0988		.1373		.0739	-.0763	-.2971			
180.000	-.0923	-.0247	.1085	.1971						

ALPHA (3) = 3.954 BETA (2) = -3.864 MACH = .59694 Q = 595.02 P = 2385.4 RN/L = 4.8785

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0634	.5276	.1172	.0282	-.0324			-.0692		-.0625	-.0468	-.0223	.0101	.0473	.0540
20.000			.1569	.0547	-.0448	-.0785		-.0832		-.0707					
40.000			.3117	.0979	.0108	-.0250		-.0790		-.0843	-.0346	.0056	.0255	.0342	.0685
55.000			.3972	.2087	.1290	.0476		-.0393		-.0944					
70.000			.4134	.2218	.1280	.0761		-.0469		-.1485	-.1858	-.0865	-.0375	-.0259	
90.000		.5635	.4188	.2329	.1494	.0901		-.0412		-.2231	-.2193	-.1135	-.0520	-.0377	
120.000			.3923	.2479	.1581	.1737		.0687		-.2831	-.3021	-.2786	-.1247	-.1117	
140.000										-.3968					
150.000			.3073	.2075	.1328	.1765		.4204		-.5988	-.4134	-.1720	-.0837	-.0680	
151.000									.0504						
162.000									.0417						
165.000										-1.2426	-.3053	-.1569	-.0792	-.0597	
169.000								.4408							
174.000							.5863								
180.000	1.0634	.4390	.2342	.1831	.1197	.1642		.3261		-1.4635	-.2735	-.1398	-.0747	-.0528	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0419	.0164	-.0206	-.0775	-.0546	-.0372	.0877		.3987	.1061
40.000	.0348		-.0057	-.0541	-.0621	-.0457	.0172		.3310	.0524
70.000	-.2563	-.2368	-.1163	.0442	-.1449	-.1414	-.1604			
90.000	-.1836	-.1634	-.0371	.0897	-.1849	-.1936	-.2062			
105.000			.0227	.1883	-.2575	-.2271	-.2585			
110.000								-.3528		
120.000	-.1621	-.0720	.1417	.2817	-.3111	-.2464	-.2374	-.2794		
135.000			.2018	.2857	-.2736	-.1925	-.2379			
150.000	-.0647	.0074	.2008	.2069	-.2542	-.1779	-.2095			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8844)

ALPHA (3) = 3.964 BETA (2) = -3.864

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0557		.1676		-.0337	-.1698	-.2957			
180.000	-.0562	.0208	.1588	.2766						

ALPHA (3) = 3.969 BETA (3) = .189 MACH = .59694 Q = 595.02 P = 2385.4 RN/L = 4.8785

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0723	.5326	.1188	.0376	-.0304			-.0679		-.0587	-.0383	-.0149	.0147	.0507	.0506
20.000			.1352	.0512	-.0370	-.0693		-.0731		-.0688					
40.000			.2424	.0664	-.0079	-.0362		-.0745		-.0892	-.0447	-.0007	.0190	.0337	.0795
55.000			.2879	.1183	.0502	-.0173		-.0916		-.1525					
70.000			.2945	.1162	.0424	-.0002		-.1113		-.2064	-.2271	-.1139	-.0651	-.0445	
90.000		.4183	.3039	.1332	.0557	.0059		-.1217		-.3005	-.2526	-.1378	-.0625	-.0389	
120.000			.3130	.1709	.0865	.1065		-.0223		-.3710	-.3199	-.2619	-.0805	-.0662	
140.000										-.4618					
150.000			.2863	.1909	.1109	.1530		.3319		-.6411	-.3577	-.1440	-.0611	-.0411	
151.000									-.0512						
162.000									-.0432						
165.000										-1.2158	-.2775	-.1423	-.0611	-.0364	
169.000								.4068							
174.000							.5686								
180.000	1.0723	.4441	.2527	.1849	.1373	.1748		.3803		-1.4232	-.2566	-.1355	-.0575	-.0375	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0440	.0227	-.0186	-.0763	-.0489	-.0391	.0925		.3970	.1093
40.000	.0338		-.0058	-.0562	-.0571	-.0398	.0259		.3020	.0415
70.000	-.2736	-.2600	-.1480	-.0113	-.1926	-.1792	-.1838			
90.000	-.1975	-.1783	-.0595	.0055	-.2485	-.2282	-.2254			
105.000			.0146	.0334	-.3337	-.2764	-.2788			
110.000								-.3538		
120.000	-.1156	-.0560	.1060	.0409	-.3776	-.3082	-.2934	-.2878		
135.000			.1744	.2389	-.3328	-.2463	-.2680			
150.000	-.0459	.0179	.1748	.3481	-.2814	-.2426	-.2420			
165.000	-.0342		.1608		-.1349	-.2474	-.2743			
180.000	-.0416	.0318	.1677	.3814						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8844)

ALPHA (3) = 3.972 BETA (4) = 4.243 MACH = .59694 Q = 595.02 P = 2385.4 RN/L = 4.8785

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0551	.5156	.1074	.0310	-.0349			-.0681		-.0630	-.0433	-.0233	.0084	.0461	.0448
20.000			.1070	.0179	-.0563	-.0748		-.0790		-.0783					
40.000			.1576	.0236	-.0440	-.0603		-.0916		-.1122	-.0801	-.0248	.0020	.0205	.0697
55.000			.1734	.0284	-.0278	-.0788		-.1478		-.1957					
70.000			.1745	.0189	-.0489	-.0660		-.1710		-.2580	-.2573	-.1295	-.0750	-.0499	
90.000		.2524	.1881	.0288	-.0359	-.0686		-.1947		-.3611	-.2838	-.1463	-.0626	-.0451	
120.000			.2175	.0945	.0066	.0360		-.1224		-.4439	-.3377	-.2504	-.0613	-.0445	
140.000										-.5282					
150.000			.2275	.1590	.0694	.1059		.2327		-.6911	-.3290	-.1456	-.0658	-.0429	
151.000									-.1731						
162.000									-.1468						
165.000										-1.2027	-.2721	-.1423	-.0665	-.0391	
169.000								.3498							
174.000							.5165								
180.000	1.0551	.4171	.2536	.1702	.1197	.1689		.3541		-1.4253	-.2620	-.1444	-.0727	-.0559	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0396	.0173	-.0227	-.0770	-.0512	-.0359	.0906		.4118	.1142
40.000	.0410		-.0073	-.0468	-.0551	-.0411	.0290		.2854	.0261
70.000	-.2883	-.2808	-.1805	-.0654	-.2403	-.2254	-.2149			
90.000	-.2021	-.1923	-.1019	-.0583	-.3050	-.2662	-.2455			
105.000			-.0504	-.0464	-.4134	-.3227	-.3056			
110.000								-.3828		
120.000	-.1055	-.0920	.0140	.0253	-.4938	-.3899	-.3445	-.3180		
135.000			.1104	.2733	-.4335	-.3151	-.3120			
150.000	-.0492	-.0049	.1426	.2551	-.3890	-.3271	-.2868			
165.000	-.0490		.1479		-.2445	-.3312	-.2935			
180.000	-.0548	.0238	.1653	.2989						

ALPHA (3) = 3.982 BETA (5) = 8.290 MACH = .59694 Q = 595.02 P = 2385.4 RN/L = 4.8785

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0030	.4830	.0917	.0088	-.0578			-.0852		-.0807	-.0650	-.0318	-.0030	.0370	.0354
20.000			.0622	-.0138	-.0798	-.0976		-.1037		-.1097					
40.000			.0669	-.0474	-.0921	-.1122		-.1231		-.1488	-.1296	-.0655	-.0239	.0003	.0626
55.000			.0575	-.0770	-.1059	-.1470		-.1927		-.2390					
70.000			.0508	-.0779	-.1289	-.1283		-.2124		-.2957	-.2791	-.1484	-.0828	-.0561	
90.000		.0707	.0695	-.0843	-.1251	-.1420		-.2472		-.4070	-.2981	-.1465	-.0674	-.0474	
120.000			.1051	-.0095	-.0907	-.0563		-.2287		-.5042	-.3545	-.2455	-.0558	-.0410	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8844)

ALPHA (3) = 3.982 BETA (5) = 8.290

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.5820					
150.000			.1363	.0916	.0026	.0216		.0981		-.7265	-.3119	-.1569	-.0854	-.0574	
151.000									-.3221						
162.000									-.2844						
165.000										-1.2132	-.2896	-.1607	-.1011	-.0821	
169.000								.2815							
174.000							.4534								
180.000	1.0030	.3485	.2042	.1238	.0758	.1254		.2587		-1.4376	-.2953	-.1759	-.1120	-.0959	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0332	.0162	-.0231	-.0853	-.0484	-.0397	.0871		.4213	.1170
40.000	.0453		-.0047	-.0472	-.0550	-.0422	.0299		.2731	.0122
70.000	-.2842	-.3066	-.2212	-.1182	-.2785	-.2506	-.2319			
90.000	-.1975	-.2233	-.1518	-.1150	-.3434	-.3089	-.2700			
105.000			-.1000	-.1127	-.4768	-.3665	-.3282			
110.000								-.3731		
120.000	-.1246	-.1346	-.0452	-.1022	-.6021	-.4803	-.4078	-.3411		
135.000			.0472	.0688	-.5625	-.4089	-.3683			
150.000	-.0828	-.0471	.0655	.2622	-.5389	-.4492	-.3505			
165.000	-.0878		.0726		-.4375	-.4497	-.3138			
180.000	-.1075	-.0397	.1025	.2166						

ALPHA (4) = 8.025 BETA (1) = -7.890 MACH = .59616 Q = 593.73 P = 2386.3 RN/L = 4.8652

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9930	.6447	.2295	.1130	.0500			-.0244		-.0187	-.0175	.0053	.0359	.0891	.1092
20.000			.3054	.1676	.0552	-.0051		-.0175		-.0182					
40.000			.4910	.2606	.1579	.0965		.0210		.0069	.0374	.0797	.0894	.1020	.1149
55.000			.5460	.3599	.2558	.1588		.0633		-.0119					
70.000			.5176	.3388	.2378	.1614		.0419		-.0703	-.1482	-.0758	-.0475	-.0506	
90.000		.6377	.4729	.3062	.2183	.1552		.0347		-.1520	-.1900	-.1185	-.0786	-.0781	
120.000			.3467	.2064	.1120	.1381		.0953		-.2627	-.3526	-.2699	-.1744	-.1390	
140.000										-.4153					
150.000			.1813	.0857	.0358	.0937		.4190		-.6659	-.5626	-.2530	-.1657	-.1617	
151.000									.0654						
162.000									.0126						
165.000										-1.4445	-.3834	-.2198	-.1374	-.1263	
169.000								.3917							
174.000							.5592								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8844)

ALPHA (4) = 8.025 BETA (1) = -7.890

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	.9930	.2767	.0680	.0495	.0049	.0654		.1730		-1.7568	-.3182	-.1816	-.1142	-.1062	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1008	.0728	.0332	-.0297	-.0178	-.0174	.0998		.4435	.1144					
40.000	.1205		.0596	-.0004	-.0217	-.0139	.0321		.3672	.0962					
70.000	-.3531	-.2691	-.1041	.0997	-.0822	-.0901	-.1278								
90.000	-.2703	-.1921	-.0343	.1603	-.0991	-.1376	-.1820								
105.000			.0053	.3373	-.1554	-.1647	-.2214								
110.000								-.3392							
120.000	-.3677	-.2031	.0407	.5094	-.2692	-.2003	-.1979	-.2790							
135.000			.1231	.2604	-.2717	-.1825	-.2330								
150.000	-.1643	-.0716	.1443	-.1172	-.3047	-.1554	-.1998								
165.000	-.1340		.1113		.0538	-.0885	-.3104								
180.000	-.1282	-.0474	.0919	.0912											

ALPHA (4) = 8.036 BETA (2) = -3.859 MACH = .59616 Q = 593.73 P = 2386.3 RN/L = 4.8652

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0244	.6827	.2668	.1395	.0721			-.0076		-.0076	.0016	.0234	.0594	.0981	.1135
20.000			.3080	.1674	.0778	.0118		-.0031		-.0125					
40.000			.4293	.2259	.1337	.0711		.0180		-.0109	.0152	.0542	.0808	.0932	.1472
55.000			.4467	.2658	.1769	.0777		-.0052		-.0842					
70.000			.4088	.2392	.1394	.0863		-.0314		-.1421	-.2074	-.1211	-.0800	-.0745	
90.000		.5102	.3806	.2138	.1311	.0815		-.0421		-.2213	-.2338	-.1491	-.1002	-.0904	
120.000			.2917	.1612	.0736	.1145		.0466		-.3278	-.3584	-.3669	-.2308	-.2322	
140.000										-.4597					
160.000			.1829	.1016	.0343	.1043		.3798		-.6889	-.4825	-.2061	-.1173	-.1100	
161.000									.0033						
162.000									-.0285						
165.000										-1.3962	-.3327	-.1792	-.0987	-.0882	
168.000								.3819							
174.000							.5376								
180.000	1.0244	.6812	.1112	.0778	.0298	.0941		.2641		-1.5999	-.2891	-.1524	-.0793	-.0730	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1087	.0819	.0372	-.0254	-.0096	-.0096	.1129		.4312	.1240					
40.000	.1272		.0586	.0023	-.0155	-.0119	.0454		.3478	.0686					

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8844)

ALPHA (4) = 8.036 BETA (2) = -3.859

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.3737	-.3101	-.1552	.0369	-.1365	-.1297	-.1510			
90.000	-.2872	-.2233	-.0791	.0857	-.1704	-.1862	-.1981			
105.000			-.0165	.1912	-.2447	-.2216	-.2519			
110.000								-.3410		
120.000	-.2725	-.1223	.1397	.1408	-.3217	-.2436	-.2306	-.2780		
135.000			.1789	.1355	-.3011	-.2183	-.2531			
150.000	-.1172	-.0224	.1661	.1301	-.2725	-.1995	-.2165			
165.000	-.1027		.1283		-.0660	-.1621	-.2664			
180.000	-.0959	-.0102	.1218	.2612						

ALPHA (4) = 8.040 BETA (3) = .178 MACH = .59616 Q = 593.73 P = 2386.3 RN/L = 1.8652

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0302	.6980	.2785	.1518	.0806			.0027		-.0054	.0089	.0353	.0649	.1071	.1184
20.000			.2874	.1586	.0663	.0196		-.0023		-.0130					
40.000			.3506	.1776	.0953	.0392		-.0063		-.0372	-.0219	.0233	.0608	.0841	.1427
55.000			.3314	.1572	.0772	.0115		-.0823		-.1471					
70.000			.2693	.1309	.0428	.0122		-.1005		-.2050	-.2484	-.1522	-.1112	-.0991	
90.000		.3626	.2712	.1150	.0428	.0098		-.1069		-.2896	-.2745	-.1653	-.1095	-.0976	
120.000			.2299	.1081	.0260	.0746		-.0194		-.3892	-.3580	-.3174	-.1560	-.1516	
140.000										-.5126					
150.000			.1646	.0908	.0317	.0927		.3010		-.7140	-.4005	-.1743	-.0830	-.0755	
151.000									-.0913						
162.000									-.0953						
165.000										-1.3429	-.3077	-.1520	-.0723	-.0584	
169.000								.3525							
174.000							.5151								
180.000	1.0302	.2769	.1306	.0822	.0495	.1124		.3120		-1.5358	-.2761	-.1387	-.0704	-.0563	

X/LB	.6520	.7290	.7730	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1169	.0869	.0432	-.0180	-.0088	-.0095	.1170		.4363	.1243
40.000	.1275		.0645	.0072	-.0200	-.0079	.0560		.3287	.0507
70.000	-.3921	-.3357	-.1926	-.0236	-.2025	-.1866	-.1821			
90.000	-.2888	-.2439	-.0923	.0136	-.2557	-.2326	-.2172			
105.000			-.0005	.0542	-.3222	-.2710	-.2791			
110.000								-.3527		
120.000	-.1921	-.0968	.0717	.0552	-.3629	-.2984	-.2684	-.2805		
135.000			.0961	.2335	-.3454	-.2553	-.2675			
150.000	-.0953	-.0361	.1299	.4017	-.3133	-.2588	-.2412			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8844)

ALPHA (4) = 8.040 BETA (3) = .178

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0748		.1288		-.1545	-.2595	-.2519			
180.000	-.0765	-.0005	.1407	.4040						

ALPHA (4) = 8.039 BETA (4) = 4.241 MACH = .59616 Q = 593.73 P = 2386.3 RN/L = 4.8652

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0123	.6731	.2634	.1444	.0636			-.0049		-.0105	-.0004	.0278	.0565	.0978	.1084
20.000			.2515	.1271	.0362	-.0010		-.0265		-.0389					
40.000			.2468	.1010	.0329	-.0141		-.0537		-.0931	-.0809	-.0218	.0245	.0537	.1231
55.000			.2016	.0482	-.0095	-.0792		-.1436		-.2115					
70.000			.1648	.0191	-.0455	-.0537		-.1543		-.2596	-.2868	-.1758	-.1243	-.1124	
90.000		.1972	.1658	.0177	-.0322	-.0596		-.1701		-.3457	-.2960	-.1741	-.1122	-.0971	
120.000			.1519	.0378	-.0339	.0140		-.0998		-.4523	-.3617	-.2804	-.1043	-.0909	
140.000										-.5699					
150.000			.1292	.0672	.0078	.0540		.2050		-.7401	-.3521	-.1580	-.0676	-.0603	
151.000									-.2045						
162.000									-.2016						
165.000										-1.3055	-.2901	-.1433	-.0745	-.0591	
169.000								.3045							
174.000							.4635								
180.000	1.0123	.2461	.1304	.0724	.0362	.0985		.2981		-1.5156	-.2809	-.1504	-.0813	-.0719	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1096	.0851	.0350	-.0260	-.0152	-.0080	.1098		.4376	.1264
40.000	.1134		.0569	.0078	-.0184	-.0152	.0473		.3125	.0395
70.000	-.4071	-.3602	-.2285	-.0850	-.2492	-.2308	-.2082			
90.000	-.2908	-.2676	-.1303	-.0891	-.3201	-.2691	-.2450			
105.000			-.0721	-.0653	-.4265	-.3224	-.3057			
110.000								-.3862		
130.000	-.1565	-.1488	-.0317	.0173	-.4776	-.3792	-.3350	-.3076		
135.000			.0830	.3405	-.4499	-.3226	-.3130			
150.000	-.0793	-.0399	.1150	.3680	-.4147	-.3447	-.2813			
165.000	-.0778		.1064		-.2827	-.3448	-.2638			
180.000	-.0914	-.0061	.1284	.2494						

AMES 11-073(OA148) -140A/B/C/R OPB FUSELAGE (XE8844)

ALPHA (4) = 8.038 BETA (5) = 8.285 MACH = .59616 Q = 593.73 P = 2386.3 RN/L = 4.8652

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9544	.6326	.2294	.1234	.0369			-.0187		-.0310	-.0199	.0060	.0444	.0917	.0925
20.000			.1781	.0774	-.0084	-.0383		-.0606		-.0742					
40.000			.1244	.0236	-.0483	-.0843		-.1215		-.1630	-.1673	-.0908	-.0300	.0166	.0991
55.000			.0514	-.0668	-.1223	-.1684		-.2233		-.2711					
70.000			.0307	-.0859	-.1430	-.1232		-.2183		-.3028	-.3073	-.1946	-.1395	-.1254	
90.000		.0137	.0418	-.0890	-.1287	-.1225		-.2362		-.4018	-.3127	-.1760	-.1102	-.1054	
120.000			.0500	-.0464	-.1146	-.0585		-.2102		-.5153	-.3569	-.2473	-.0784	-.0660	
140.000										-.6112					
150.000			.0486	.0046	-.0602	-.0137		.0790		-.7839	-.3357	-.1608	-.0810	-.0781	
151.000									-.3461						
162.000									-.3389						
165.000										-1.2930	-.2972	-.1695	-.0972	-.0978	
169.000								.2272							
174.000							.3885								
180.000	.9544	.1785	.0820	.0284	-.0183	.0538		.1946		-1.5317	-.3290	-.1898	-.1264	-.1102	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.0975	.0740	.0340	-.0317	-.0143	-.0148	.0967		.4390	.1202					
40.000	.1025		.0435	.0008	-.0288	-.0256	.0442		.2854	.0102					
70.000	-.4012	-.3816	-.2755	-.1534	-.2949	-.2559	-.2275								
90.000	-.2991	-.2954	-.2120	-.1587	-.3756	-.3080	-.2687								
105.000			-.1679	-.0847	-.5117	-.3705	-.3323								
110.000								-.3796							
120.000	-.1692	-.1793	-.1001	.1447	-.6164	-.4734	-.4004	-.3309							
135.000			.0124	.3670	-.5554	-.4053	-.3622								
150.000	-.1095	-.0781	.0518	.1096	-.5497	-.4450	-.3498								
165.000	-.1144		.0597		-.4393	-.4496	-.3238								
180.000	-.1344	-.0507	.0955	.1346											

ALPHA (5) = 12.021 BETA (1) = -7.852 MACH = .59616 Q = 593.74 P = 2386.7 RN/L = 4.8654

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9185	.7748	.3727	.2310	.1557			.0505		.0387	.0441	.0543	.1004	.1520	.1728
20.000			.4495	.2971	.1765	.0985		.0730		.0521					
40.000			.5929	.3813	.2746	.1945		.1250		.0843	.1015	.1320	.1574	.1743	.2350
55.000			.5746	.3925	.2878	.1817		.0733		-.0135					
70.000			.4875	.3192	.2110	.1565		.0431		-.0793	-.1785	-.1227	-.0951	-.1015	
90.000		.5459	.4032	.2572	.1981	.1248		.0154		-.1710	-.2258	-.1681	-.1407	-.1431	
120.000			.2210	.0928	.0059	.0552		.0398		-.3231	-.4371	-.3349	-.5016	-.5215	

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AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8844)

ALPHA (5) = 12.021 BETA (1) = -7.852

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.4809					
150.000			.0433	-.0240	-.0695	.0092		.3720		-.7616	-.6318	-.2911	-.2049	-.2206	
151.000									.0151						
162.000									-.0577						
165.000										-1.5841	-.4178	-.2436	-.1609	-.1729	
169.000								.3395							
174.000							.4902								
180.000	.9185	.0945	-.0574	-.0479	-.0748	.0035		.1100		-1.9867	-.3268	-.1897	-.1286	-.1455	

X/LB	.6520	.7230	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1756	.1439	.0949	.0327	.0295	.0193	.1277		.4676	.1355
40.000	.2151		.1310	.0693	.0206	.0279	.0630		.3749	.0863
70.000	-.4922	-.3490	-.1505	.0797	-.0847	-.0327	-.1130			
90.000	-.3776	-.2563	-.0705	.1513	-.0913	-.1269	-.1630			
105.000			-.0299	.3408	-.1531	-.1609	-.2132			
110.000								-.3240		
120.000	-.4970	-.2457	-.0112	.5042	-.2946	-.2156	-.2023	-.2834		
135.000			.0257	.1160	-.3146	-.2131	-.2546			
150.000	-.2315	-.1239	.0223	-.0753	-.3328	-.1813	-.2101			
165.000	-.2199		.0338		.0395	-.0988	-.2929			
180.000	-.1968	-.1365	-.0099	.2689						

ALPHA (5) = 11.932 BETA (2) = -3.840 MACH = .59616 Q = 593.74 P = 2386.7 RN/L = 4.8654

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9469	.8089	.4086	.2581	.1772			.0694		.0553	.0604	.0789	.1132	.1638	.1801
20.000			.4549	.2934	.1829	.1097		.0772		.0576					
40.000			.5222	.3307	.2306	.1538		.0936		.0477	.0520	.0970	.1250	.1567	.2189
55.000			.4604	.2817	.1845	.0851		-.0131		-.0914					
70.000			.3825	.2185	.1116	.0803		-.0352		-.1549	-.2384	-.1654	-.1325	-.1323	
90.000		.4265	.3120	.1641	.1182	.0556		-.0495		-.2375	-.2639	-.1913	-.1554	-.1565	
120.000			.1798	.0550	-.0189	.0366		.0066		-.3749	-.4234	-.4776	-.3730	-.3817	
140.000										-.5225					
150.000			.0530	-.0035	-.0557	.0261		.3422		-.7804	-.5293	-.2446	-.1456	-.1655	
151.000									-.0400						
162.000									-.0903						
165.000										-1.5422	-.3622	-.1937	-.1237	-.1222	
169.000								.3332							
174.000							.4910								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8844)

ALPHA (5) = 11.932 BETA (2) = -3.840

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	[illegible]	[illegible]	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	.9469	.1114	-.0145	-.0329	[illegible]			.2096		-1.8448	-.2986	-.1523	-.0847	-.0901	
X/LB	.6520	.7290	.7790	.8210		.9	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1827	.1504	.1002	.0274		[illegible]	.1291		.4614	.1318					
40.000	.2129		.1342	.0629		.1	.0598		3599	.0674					
70.000	-.5280	-.3990	-.2164	-.0018	[illegible]	132	-.1389								
90.000	-.3981	-.2866	-.1196	.0608	[illegible]	-.1701	-.1884								
105.000			-.0445	.1625	-.2385	-.2163	-.2484								
110.000								-.3381							
120.000	-.3569	-.1182	.0436	.1327	-.3221	-.2445	-.2235	-.2783							
135.000			.0509	.1191	-.2871	-.2208	-.2515								
150.000	-.2145	-.1289	.0183	.2360	-.2395	-.2124	-.2278								
165.000	-.1577		.0313		-.0567	-.1584	-.2663								
180.000	-.1330	-.0488	.0891	.3741											

ALPHA (5) = 11.946 BETA (3) = .176 MACH = .59616 Q = 593.74 P = 2386.7 RN/L = 4.8654

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9557	.8189	.4183	.2655	.1769			.0734		.0620	.0663	.0873	.1192	.1747	.1849
20.000			.4222	.2735	.1631	.1032		.0656		.0445					
40.000			.4253	.2590	.1681	.0993		.0391		-.0130	-.0116	.0464	.0920	.1312	.2055
55.000			.3297	.1650	.0755	-.0153		-.1027		-.1748					
70.000			.2578	.1037	.0130	-.0025		-.1076		-.2141	-.2836	-.2009	-.1589	-.1636	
90.000		.2768	.2090	.0698	.0331	-.0073		-.1147		-.2995	-.2929	-.2137	-.1629	-.1649	
120.000			.1256	.0142	-.0507	.0128		-.0461		-.4187	-.4023	-.4013	-.2550	-.2485	
140.000										-.5700					
150.000			.0425	.0007	-.0533	.0268		.2713		-.7864	-.4444	-.1972	-.1046	-.1119	
151.000									-.1294						
162.000									-.1604						
165.000										-1.4486	-.3177	-.1563	-.0826	-.0816	
169.000								.2945							
174.000							.4588								
180.000	.9557	.1031	.0090	-.0076	-.0320	.0412		.2514		-1.7089	-.2322	-.1386	-.0701	-.0745	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1878	.1606	.1088	.0325	.0282	.0204	.1307		.4615	.1365					
40.000	.2060		.1301	.0569	.0140	.0145	.0611		.3434	.0532					

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8B44)

ALPHA (5) = 11.946 BETA (3) = .176

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0480
PHI										
70.000	-.5564	-.4412	-.2582	-.0719	-.2278	-.2044	-.1897			
90.000	-.4000	-.3225	-.1521	-.0368	-.2058	-.2393	-.2291			
105.000			-.0477	.0238	-.3561	-.2764	-.2761			
110.000								-.3810		
120.000	-.2478	-.1468	.0193	.1132	-.3786	-.3068	-.2806	-.2772		
135.000			.0098	.2575	-.3583	-.2783	-.2702			
150.000	-.1670	-.1020	.0913	.4810	-.3389	-.2645	-.2421			
165.000	-.1083		.1164		-.1817	-.2739	-.2655			
180.000	-.1054	-.0284	.1258	.4100						

ALPHA (5) = 11.941 BETA (4) = 4.247 MACH = .59616 Q = 593.74 P = 2386.7 RN/L = 4.8654

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9411	.7999	.4002	.2494	.1620			.0679		.0480	.0586	.0792	.1134	.1628	.1750
20.000			.3677	.2299	.1264	.0756		.0311		.0145					
40.000			.3086	.1668	.0820	.0147		-.0295		-.0953	-.0990	-.0326	.0377	.0918	.1792
55.000			.1822	.0371	-.0312	-.1161		-.1850		-.2528					
70.000			.1300	-.0051	-.0709	-.0786		-.1641		-.2704	-.3137	-.2273	-.1844	-.1951	
90.000		.1181	.1108	-.0232	-.0524	-.0687		-.1722		-.3504	-.3160	-.2268	-.1677	-.1692	
120.000			.0676	-.0317	-.0855	-.0197		-.1048		-.4769	-.3945	-.3358	-.1698	-.1497	
140.000										-.6105					
150.000			.0199	-.0130	-.0697	.0033		.1707		-.8035	-.3844	-.1665	-.0799	-.0935	
151.000									-.2372						
162.000									-.2434						
165.000										-1.4019	-.2996	-.1468	-.0704	-.0711	
169.000								.2528							
174.000							.4148								
180.000	.9411	.0760	.0159	-.0160	-.0438	.0353		.2362		-1.7522	-.2952	-.1563	-.0834	-.0966	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0480
PHI										
.000	.1837	.1532	.1019	.0287	.0282	.0161	.1266		.4641	.1316
40.000	.1842		.1194	.0561	.0095	.0038	.0590		.3269	.0394
70.000	-.5530	-.4612	-.2875	-.1389	-.2858	-.2589	-.2328			
90.000	-.4086	-.3431	-.2024	-.1445	-.3568	-.2896	-.2597			
105.000			-.1372	-.1129	-.4850	-.3614	-.3335			
110.000								-.4242		
120.000	-.2284	-.2028	-.1060	-.0476	-.5000	-.4004	-.3449	-.3161		
135.000			.0425	.3379	-.4351	-.3189	-.3096			
150.000	-.1238	-.0661	.1007	.4201	-.4395	-.3572	-.2876			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8844)

ALPHA (5) = 11.941 BETA (4) = 4.247

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.1082		.0929		-.3042	-.3647	-.2623			
180.000	-.1301	-.0537	.0814	.3948						

ALPHA (5) = 11.928 BETA (5) = 8.307 MACH = .59616 Q = 593.74 P = 2386.7 RN/L = 4.8654

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.8790	.7517	.3686	.2289	.1379			.0447		.0357	.0385	.0612	.1002	.1488	.1587
20.000			.2959	.1715	.0786	.0319		-.0057		-.0390					
40.000			.1689	.0542	-.0145	-.0798		-.1197		-.1927	-.2044	-.1155	-.0326	.0493	.1429
55.000			.0245	-.1036	-.1546	-.2261		-.2730		-.3264					
70.000			-.0083	-.1129	-.1631	-.1410		-.2240		-.3231	-.3465	-.2593	-.2101	-.2340	
90.000		-.0634	.0011	-.1086	-.1314	-.1306		-.2277		-.3971	-.3271	-.2236	-.1603	-.1683	
120.000			-.0104	-.1022	-.1458	-.0688		-.1827		-.5166	-.3833	-.2788	-.1122	-.1106	
140.000										-.6508					
150.000			-.0355	-.0586	-.1124	-.0429		.0637		-.8239	-.3456	-.1594	-.0710	-.0853	
151.000									-.3573						
162.000									-.3727						
165.000										-1.3581	-.3088	-.1589	-.0921	-.1164	
169.000								.1845							
174.000							.3421								
180.000	.8790	.0130	-.0231	-.0572	-.0871	-.0095		.1440		-1.6963	-.3317	-.1930	-.1324	-.1520	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1675	.1386	.0901	.0233	.0251	.0166	.1178		.4617	.1256
40.000	.1625		.1078	.0467	.0066	.0002	.0575		.2961	.0221
70.000	-.5420	-.4727	-.3350	-.2161	-.3315	-.2947	-.2470			
90.000	-.4108	-.3876	-.2844	-.2296	-.4118	-.3101	-.2614			
105.000			-.2189	-.2112	-.5852	-.4084	-.3533			
110.000								-.4006		
120.000	-.2497	-.2789	-.1704	.0007	-.6431	-.4860	-.4189	-.3252		
135.000			.0124	.4751	-.5859	-.4200	-.3673			
150.000	-.1276	-.0968	.0282	.3906	-.5785	-.4786	-.3635			
165.000	-.1617		-.0062		-.5331	-.4816	-.3226			
180.000	-.2052	-.1419	.0073	.1695						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8845) (05 AUG 75)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.6800 IN.	XO	
LREF =	474.8000 IN.	YMRP =	.0000 IN.	YO	
BREF =	935.0680 IN.	ZMRP =	375.0000 IN.	ZO	
SCALE =	.0300				

PARAMETRIC DATA

RUDDER =	.000	SPDBRK =	55.000
BDFLAP =	22.500	L-ELVN =	4.000
R-ELVN =	4.000	MACH =	.900

ALPHA (1) = -3.961 BETA (1) = -3.852 MACH = .89683 Q = 597.89 P = 1061.9 RN/L = 3.6441

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1860	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1853	.3526	-.0811	-.1265	-.1777			-.2175		-.2143	-.1883	-.0736	-.0363	.0004	-.0161
20.000			-.0538	-.1368	-.2314	-.2456		-.2666		-.2453					
40.000			.1457	-.1117	-.2215	-.2463		-.3603		-.4187	-.3521	-.1290	-.0888	-.0424	-.0468
55.000			.3341	.0879	-.0046	-.0995		-.2009		-.2887					
70.000			.4577	.2156	.1234	.0592		-.0997		-.2333	-.7243	-.0195	.0536	.1026	
90.000		.7254	.5451	.3062	.2045	.1079		-.0711		-.3100	-.6628	-.0486	.0382	.0936	
120.000			.6315	.4504	.3263	.3193		.1784		-.2387	-.5856	-.1113	.0240	.0641	
140.000										-.1665					
150.000			.6369	.4951	.3897	.4113		.6470		-.2745	-.8631	-.0533	.0193	.0428	
151.000									.3233						
162.000									.3850						
165.000										-.8399	-.7788	-.0271	.0094	.0376	
169.000								.7125							
174.000							.8208								
180.000	1.1853	.8354	.5800	.4657	.3800	.4075		.6340		-.9479	-.7724	-.0133	.0044	.0295	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1320	-.1913	-.2346	-.3308	-.1809	-.0840	.0944		.4088	.2155
40.000	-.2389		-.2252	-.3254	-.1871	-.0717	.0584		.2661	.1181
70.000	.0251	-.0425	.0525	.1528	-.1320	-.1079	-.1093			
90.000	.0497	.0019	.1219	.1932	-.1847	-.1541	-.1468			
105.000			.1844	.2413	-.2892	-.2013	-.1890			
110.000								-.4078		
120.000	.0623	.0910	.2866	.3516	-.3325	-.2427	-.2217	-.2958		
135.000			.3550	.4445	-.2069	-.1290	-.1596			
150.000	.0681	.1360	.3560	.4371	-.1106	-.0884	-.1506			
155.000	.0643		.3331		.0975	-.0545	-.3292			
180.000	.0590	.1290	.3147	.4816						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8845)

ALPHA (1) = -3.932 BETA (2) = .188 MACH = .89683 Q = 597.89 P = 1081.9 RN/L = 3.6441

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1931	.3566	-.0695	-.1136	-.1747			-.2126		-.2126	-.1903	-.0671	-.0230	.0059	-.0127
20.000			-.0531	-.1249	-.2197	-.2259		-.2408		-.2292					
40.000			.0981	-.1110	-.2043	-.2174		-.3108		-.3408	-.3470	-.0781	-.0415	-.0128	-.0176
55.000			.2448	.0139	-.0638	-.1335		-.2384		-.3451					
70.000			.3438	.1055	.0238	-.0220		-.1782		-.3278	-.7681	-.0348	.0398	.0829	
90.000		.5820	.4214	.1816	.1041	.0036		-.1733		-.4588	-.7351	-.0853	.0298	.0719	
120.000			.5288	.3448	.2211	.2248		.0574		-.4297	-.6804	-.1632	.0049	.0478	
140.000										-.4479					
150.000			.5799	.4566	.3533	.3649		.5743		-.8039	-.8494	-.0401	.0154	.0411	
151.000									.2259						
162.000									.3060						
165.000										-.8534	-.7467	-.0183	.0173	.0436	
169.000								.6821							
174.000							.8085								
180.000	1.1931	.8284	.5911	.4706	.3931	.4180		.6708		-.9591	-.6987	.0004	.0182	.0432	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1257	-.1939	-.2339	-.3329	-.1955	-.0861	.1097		.4321	.2336
40.000	-.1875		-.2270	-.3267	-.2131	-.0887	.0613		.2915	.1225
70.000	.0181	-.0521	.0222	.0972	-.2224	-.1685	-.1389			
90.000	.0397	.0004	.0881	.1229	-.2975	-.2314	-.1817			
105.000			.1480	.1333	-.4260	-.2727	-.2302			
110.000								-.4203		
120.000	.0592	.0692	.2191	.2399	-.5046	-.4188	-.3103	-.3385		
135.000			.3064	.4571	-.3494	-.2608	-.2250			
150.000	.0726	.1287	.3269	.5229	-.2197	-.2139	-.2083			
165.000	.0766		.3295		-.0228	-.1797	-.3264			
180.000	.0730	.1453	.3346	.5313						

ALPHA (1) = -3.942 BETA (3) = 4.270 MACH = .89683 Q = 597.89 P = 1081.9 RN/L = 3.[illegible]41

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	[illegible]740
PHI															
.000	1.1727	.3354	-.0850	-.1177	-.1846			-.2122		-.2340	-.1808	-.0733	-.0321	.0024	-.[illegible]234
20.000			-.0796	-.1331	-.2214	-.2169		-.2242		-.2468					
40.000			.0355	-.1380	-.2061	-.1992		-.2731		-.3149	-.3054	-.0525	-.0144	-.0028	[illegible]030
55.000			.1442	-.0568	-.1236	-.1638		-.2663		-.3905					
70.000			.2236	-.0003	-.0684	-.0922		-.2408		-.4068	-.8305	-.0910	.0409	.0723	
90.000		.4189	.2966	.0557	-.0530	-.0823		-.2571		-.5905	-.7499	-.1910	.0380	.0611	
120.000			.4150	.2305	.0996	.1172		-.0658		-.5943	-.8184	-.2607	-.0177	.0201	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8845)

ALPHA (1) = -3.942 BETA (3) = 4.270

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.8033					
150.000			.5099	.4006	.2929	.3019		.4724		-.8851	-.8634	-.0518	-.0085	.0129	
151.000									.1094						
162.000									.2150						
165.000										-.8593	-.7411	-.0177	-.0024	.0219	
169.000								.6307							
174.000							.7504								
180.000	1.1727	.8049	.5827	.4653	.3807	.4093		.6558		-.9473	-.7667	-.0114	.0052	.0283	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1304	-.1932	-.2312	-.3262	-.1886	-.0826	.0981		.3877	.2122
40.000	-.1616		-.2201	-.3193	-.2209	-.1094	.0548		.3162	.1042
70.000	.0061	-.0575	-.0081	.0532	-.2939	-.3060	-.1693			
90.000	.0297	-.0107	.0550	.0661	-.3732	-.3829	-.2187			
105.000			.1077	.0594	-.5087	-.4723	-.2301			
110.000								-.3984		
120.000	.0438	.0452	.1507	.1045	-.6421	-.5828	-.2807	-.3400		
135.000			.2502	.3766	-.4742	-.4505	-.4270			
150.000	.0545	.1081	.2850	.5301	-.3402	-.4002	-.4124			
165.000	.0549		.2976		-.1241	-.3368	-.3322			
180.000	.0552	.1341	.3216	.5056						

ALPHA (2) = .010 BETA (1) = -3.868 MACH = .89660 Q = 597.56 P = 1061.9 RN/L = 3.8228

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2039	.5099	.0687	-.0205	-.0887			-.1625		-.1642	-.1708	-.0730	-.0218	.0206	.0288
20.000			.1077	-.0112	-.1202	-.1601		-.1918		-.1945					
40.000			.2903	.0410	-.0736	-.1222		-.2221		-.2436	-.2682	-.0802	-.0345	-.0002	.0224
55.000			.4302	.1952	.1037	.0184		-.0970		-.1974					
70.000			.4973	.2637	.1640	.1063		-.0438		-.1838	-.6532	-.0807	.0161	.0585	
90.000		.7163	.5437	.3181	.1985	.1413		-.0169		-.2609	-.6415	-.1132	.0126	.0552	
120.000			.5758	.3999	.2845	.2921		.1987		-.2566	-.6110	-.2024	-.0066	.0126	
140.000										-.2635					
150.000			.5343	.4009	.2983	.3427		.6251		-.3713	-.9912	-.2289	.0128	.0080	
151.000									.3009						
162.000									.3420						
165.000										-.9177	-.8672	-.1259	.0088	.0071	
169.000								.6715							
174.000							.7781								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8845)

ALPHA (2) = .010 BETA (1) = -3.868

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.2039	.7130	.4617	.3628	.2905	.3344		.5865		-1.0575	-.8602	-.0580	.0081	.0049	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0315	-.0760	-.1484	-.2552	-.1811	-.0878	.1222		.3930	.2149
40.000	-.0883		-.1347	-.2445	-.1892	-.0783	.0416		.3425	.1352
70.000	-.1047	-.2063	-.0161	.1416	-.1251	-.0801	-.0864			
90.000	-.0665	-.1402	.0670	.1742	-.1861	-.1238	-.1299			
105.000			.1378	.2222	-.2892	-.1766	-.1722			
110.000								-.4021		
120.000	-.0483	-.0179	.2499	.2911	-.3777	-.2162	-.1856	-.2836		
135.000			.3124	.3602	-.2875	488	-.1634			
150.000	-.0078	.0665	.3087	.3122	-.1922	.205	-.1699			
165.000	-.0045		.2880		.0571	.0973	-.3231			
180.000	.0051	.0822	.2727	.4053						

ALPHA (2) = .025 BETA (2) = .185 MACH = .89660 Q = 597.56 P = 1061.9 RN/L = 3.6228

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2098	.5170	.0735	-.0085	-.0817			-.1544		-.1655	-.1676	-.0639	-.0120	.0323	.0307
20.000			.0925	-.0176	-.1115	-.1482		-.1695		-.1856					
40.000			.2275	.0087	-.0794	-.1137		-.1930		-.2230	-.2571	-.0541	-.0072	.0193	.0435
55.000			.3277	.1164	.0255	-.0380		-.1487		-.2405					
70.000			.3803	.1550	.0657	.0233		-.1222		-.2623	-.7209	-.0893	.0089	.0429	
90.000		.5667	.4275	.1971	.0840	.0548		-.1094		-.3776	-.7143	-.1220	.0100	.0357	
120.000			.4786	.3022	.1893	.2175		.0891		-.4060	-.6833	-.2038	.0093	.0220	
140.000										-.4910					
150.000			.4867	.3671	.2679	.3051		.5445		-.8332	-.9473	-.1572	.0228	.0151	
151.000									.2010						
162.000									.2575						
165.000										-.9205	-.8578	-.0489	.0193	.0191	
169.000								.6444							
174.000							.7693								
180.000	1.2098	.7016	.4720	.3746	.2953	.3406		.6241		-.9433	-.8538	-.0314	.0193	.0156	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0239	-.0733	-.1397	-.2607	-.1834	-.0926	.1140		.4226	.2242
40.000	-.0584		-.1307	-.2491	-.2065	-.0961	.0610		.3067	.1187

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8945)

ALPHA (2) = .025 BETA (2) = .185

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1137	-.2067	-.0416	.0747	-.2455	-.1554	-.1319			
90.000	-.0688	-.1260	.0295	.0969	-.3140	-.1970	-.1734			
105.000			.0982	.1300	-.4305	-.2256	-.2109			
110.000								-.3846		
120.000	-.0220	-.0020	.1780	.2394	-.4978	-.3299	-.2667	-.2949		
135.000			.2517	.4016	-.3759	-.2432	-.2173			
150.000	.0127	.0547	.2744	.4492	-.2940	-.2422	-.2188			
165.000	.0142		.2703		-.0914	-.2339	-.3157			
180.000	.0075	.0812	.2777	.4703						

ALPHA (2) = .019 BETA (3) = 4.247 MACH = .89660 Q = 597.56 P = 1061.9 RN/L = 3.6228

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1926	.4957	.0613	-.0100	-.1001			-.1572		-.1637	-.1810	-.0783	-.0197	.0254	.0248
20.000			.0617	-.0286	-.1256	-.1498		-.1710		-.1871					
40.000			.1525	-.0184	-.1053	-.1144		-.1807		-.2126	-.2720	-.0417	.0046	.0238	.0534
55.000			.2192	.0277	-.0412	-.0785		-.1835		-.2763					
70.000			.2621	.0485	-.0281	-.0397		-.1783		-.3330	-.7798	-.0906	.0087	.0391	
90.000		.4075	.3069	.0828	-.0163	-.0298		-.1904		-.4965	-.7885	-.1518	.0167	.0303	
120.000			.3748	.2033	.0857	.1268		-.0236		-.5629	-.7871	-.2201	.0103	.0178	
140.000										-.7516					
150.000			.4242	.3200	.2189	.2543		.4519		-.9188	-.9650	-.1279	.0127	.0094	
151.000									.0909						
162.000									.1800						
165.000										-.8798	-.8498	-.0670	.0101	.0078	
169.000								.5913							
174.000							.7093								
180.000	1.1926	.6814	.4706	.3559	.2842	.3354		.6095		-1.0589	-.8745	-.0672	.0105	.0028	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0284	-.0775	-.1441	-.2553	-.1827	-.0928	.1212		.3926	.2154
40.000	-.0430		-.1240	-.2341	-.2108	-.1213	.0460		.3057	.1003
70.000	-.1139	-.1848	-.0614	.0259	-.3110	-.2789	-.1591			
90.000	-.0633	-.1150	.0050	.0361	-.3913	-.3849	-.1988			
105.000			.0660	.0432	-.5191	-.4707	-.2191			
110.000								-.3969		
120.000	-.0190	-.0190	.1186	.0970	-.6437	-.6100	-.2413	-.3219		
135.000			.2185	.3380	-.5229	-.4999	-.2451			
150.000	.0052	.0550	.2472	.4330	-.3980	-.4573	-.3563			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8845)

ALPHA (2) = .019 BETA (3) = 4.247

SECTION (1)OPBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	.0014		.2538		-.1816	-.3975	-.3278			
180.000	-.0005	.0823	.2758	.4146						

ALPHA (3) = 3.946 BETA (1) = -3.873 MACH = .89837 Q = 599.08 P = 1060.5 RN/L = 3.6099

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4570	.5740
PHI															
.000	1.1935	.6635	.2151	.0940	.0078			-.0912		-.1037	-.1366	-.0629	.0039	.0675	.0862
20.000			.2603	.1116	-.0074	-.0726		-.1086		-.1196					
40.000			.4154	.1638	.0612	-.0034		-.0940		-.1366	-.1685	-.0422	.0155	.0825	.1044
55.000			.4986	.2778	.1735	.0948		-.0141		-.1115					
70.000			.5177	.2967	.1894	.1326		-.0042		-.1352	-.5743	-.1440	-.0294	.0268	
90.000		.6831	.5221	.3119	.1986	.1579		.0220		-.2089	-.6226	-.2067	-.0353	.0149	
120.000			.4947	.3280	.2225	.2571		.2080		-.2567	-.6176	-.3161	-.0904	-.0567	
140.000										-.3504					
150.000			.4152	.2925	.2055	.2701		.6028		-.4613	-.8867	-.4300	.0056	-.0229	
151.000									.2744						
162.000									.3013						
165.000										-.9624	-.7285	-.4114	.0327	-.0102	
169.000								.6348							
174.000							.7395								
180.000	1.1935	.5690	.3374	.2556	.1877	.2619		.5359		-1.0958	-.9269	-.2525	.0391	-.0026	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.05[illegible]	.0066	-.0605	-.1736	-.1565	-.0900	.1272		.4608	.2356
40.000	.03[illegible]		-.0411	-.1646	-.1722	-.0815	.0395		.3730	.1408
70.000	-.2127	-.4373	-.0915	.1130	-.1040	-.0711	-.0761			
90.000	-.1673	-.3490	-.0025	.1368	-.1589	-.1199	-.1257			
105.000			.0905	.1566	-.2504	-.1685	-.1712			
110.000								-.3891		
120.000	-.1779	-.1546	.2137	.1482	-.3784	-.2128	-.1696	-.2744		
135.000			.2606	.2315	-.3333	-.1664	-.1762			
150.000	-.0844	-.0024	.2490	.1803	-.2472	-.1490	-.1916			
165.000	-.0721		.2269		.0047	-.1357	-.3170			
180.000	-.0622	.0160	.2031	.3380						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XEB8+5)

ALPHA (3) = 4.002 BETA (2) = .184 MACH = .89837 Q = 599.08 P = 1050.5 RN/L = 3.6099

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2016	.6703	.2233	.1021	.0197			-.0820		-.0986	-.1220	-.0550	.2075	0567	[illegible]
20.000			.2410	.1054	-.0058	-.0632		-.0921		-.1199					
40.000			.3436	.1361	.0295	-.0158		-.0998		-.1298	-.1881	-.0329	[illegible]	.0599	[illegible]
55.000			.3913	.1831	.0939	.0263		-.0718		-.1637					
[illegible]			.3994	.1835	.0591	.0575		-.0718		-.2039	-.6624	[illegible]	[illegible]	[illegible]	
[illegible]		[illegible]	-.133	.1964	.0967	.0773		-.0598		-.3123	-.7225	[illegible]	[illegible]	[illegible]	
[illegible]			-.166	.2518	.1489	.1957		.1195		-.3869	-.7040	[illegible]	[illegible]	[illegible]	
[illegible]										-.5111					
[illegible]			.3952	.2700	.1800	.2481		.5195		-.8927	[illegible]	-.3951	[illegible]	[illegible]	
[illegible]									.1859						
[illegible]									.2359						
[illegible]										-.9785	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]								.6037							
[illegible]							.7196								
180.000	1.2016	.5583	.3573	.2794	.1999	.2757		.5799		-1.0164	[illegible]	[illegible]	[illegible]	[illegible]	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0591	.0133	-.0562	-.1796	-.1540	-.0892	.1255		.4529	.2554
40.000	.0494		-.0466	-.1597	-.1694	-.0909	.0570		.3477	.1205
70.000	-.2293	-.4363	-.1217	.0470	-.2101	-.1325	-.1192			
90.000	-.1728	-.3397	-.0332	.0529	-.3023	-.1744	-.1540			
105.000			.0555	.0541	-.4169	-.2177	-.2010			
110.000								-.3825		
120.000	-.1212	-.1321	.1153	.1859	-.5298	-.2626	-.2388	-.2859		
135.000			.1716	.3987	-.4304	-.2435	-.2279			
150.000	-.0603	-.0234	.1921	.4711	-.3249	-.2629	-.2303			
165.000	-.0520		.2003		-.1427	-.2572	-.3086			
180.000	-.0520	.0035	.2108	.4154						

ALPHA (3) = 3.937 BETA (3) = 4.209 MACH = .89837 Q = 599.08 P = 1050.5 RN/L = [illegible]

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	[illegible]	.5510	[illegible]	.1807	.0021			-.0689		-.1097	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
20.000			.1962	.0758	-.0245	-.0734		-.1014		-.1371					
[illegible]			[illegible]	[illegible]	[illegible]	-.0374		-.0981		-.1530	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]			[illegible]	[illegible]	[illegible]	-.0334		-.1276		-.2094					
[illegible]			[illegible]	[illegible]	-.0076	-.0082		-.1391		-.2597	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	.0060		-.1349		-.4045	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]			[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8345)

ALPHA (3) = 3.937 BETA (3) = 4.239

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.6780					
150.000			.3294	.2391	.1366	.2049		.4327		-1.0035	-1.0018	-.3174	.0405	.0039	
151.000									.0810						
162.000									.1511						
165.000										-.9827	-.7444	-.2039	.0318	-.0029	
169.000								.5521							
174.000							.6671								
180.000	1.1849	.5375	.3504	.2395	.1853	.2620		.5634		-1.1064	-.9532	-.2334	.0355	-.0112	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0570	.0086	-.0555	-.1791	-.1479	-.0978	.1286		.4599	.2415
40.000	.0544		-.0414	-.1616	-.1893	-.1261	.0503		.3366	.1034
70.000	-.2268	-.3953	-.1423	-.0079	-.3309	-.2586	-.1592			
90.000	-.1650	-.2769	-.0691	-.0061	-.4176	-.3482	-.1976			
105.000			-.0132	.0157	-.5364	-.3863	-.2201			
110.000								-.3958		
120.000	-.0943	-.1249	.0479	.0951	-.6300	-.6329	-.2535	-.3027		
135.000			.1535	.3200	-.5345	-.5251	-.2067			
150.000	-.0461	-.0065	.1836	.4265	-.4392	-.5057	-.2090			
165.000	-.0541		.1878		-.2387	-.4565	-.3198			
180.000	-.0644	.0088	.2029	.3338						

ALPHA (4) = 7.970 BETA (1) = -3.868 MACH = .89753 Q = 598.50 P = 1081.4 RN/L = 3.5937

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1610	.7998	.3648	.2113	.1186			-.0088		-.0296	-.0542	-.0141	.0436	.1251	.1438
20.000			.4108	.2371	.1134	.0292		-.0112		-.0374					
40.000			.5258	.2933	.1840	.1017		.0181		-.0273	-.0703	.0119	.0639	.1196	.1861
55.000			.5474	.3337	.2296	.1389		.0405		-.0545					
70.000			.5151	.3075	.1968	.1509		.0351		-.0949	-.4912	-.1775	-.0861	-.0009	
90.000		.6332	.4842	.2900	.1871	.1592		.0499		-.1694	-.6050	-.2324	-.0942	-.0138	
120.000			.4082	.2473	.1458	.1985		.2030		-.2543	-.6444	-.4927	-.2468	-.1584	
140.000										-.3697					
150.000			.2963	.1920	.1092	.2021		.5810		-.4820	-.6279	-.4412	-.1338	-.0368	
151.000									.2559						
162.000									.2686						
165.000										-1.0244	-.6435	-.4790	-.1081	-.0186	
169.000								.5986							
174.000							.6998								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8845)

ALPHA (4) = 7.970 BETA (1) = -3.868

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.1610	.4221	.2156	.1444	.0969	.2021		.4943		-.9518	-.6519	-.4686	-.0913	.0000	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1329	.0922	.0232	-.0394	-.1212	-.1058	.1248		.5142	.2514
[illegible]	.1476		.0413	-.0781	-.1411	-.1108	.0375		.4025	.1478
[illegible]	-.3091	-.5583	-.1322	.0801	-.1371	-.1319	-.1126			
90.000	-.2529	-.4883	-.0526	.0598	-.1667	-.1747	-.1613			
105.000			.0811	.0749	-.2429	-.2242	-.2036			
[illegible]								-.3866		
120.000	-.3044	-.3820	.1070	.0809	-.3475	-.2463	-.1932	-.2850		
135.000			.1053	.2000	-.3599	-.2065	-.2102			
150.000	-.1516	-.1058	.1049	.2639	-.2959	-.1881	-.2173			
165.000	-.1294		.0999		-.0529	-.1487	-.3016			
180.000	-.1181	-.0723	.1056	.3094						

ALPHA (4) = 7.979 BETA (2) = .177 MACH = .89753 Q = 595.50 P = 1051.4 PN = 3.5937

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1667	.8039	.3570	.2211	.1205			-.0073		-.0329	-.0518	-.0159	.0553	.1238	.1544
20.000			.3865	.2205	.1054	.0309		-.0120		-.0464					
40.000			.4443	.2443	.1406	.0718		.0022		-.0504	-.1107	-.0420	.0548	[illegible]	.1829
55.000			.4313	.2283	.1335	.0629		-.0302		-.1078					
70.000			.3955	.1987	.0964	.0756		-.0353		-.1528	-.5899	[illegible]	[illegible]	[illegible]	
90.000		.4912	.3733	.1904	.0905	.0879		-.0224		-.2523	-.6890	[illegible]	[illegible]	[illegible]	
120.000			.3334	.1855	.0914	.1594		.1354		-.3594	[illegible]	-.3252	[illegible]	[illegible]	
140.000										-.4975					
150.000			[illegible]	.1238	.0292	.1332		.4375		-.5254	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]									.1736						
162.000									.2074						
165.000										-1.038[illegible]	[illegible]	[illegible]	.0265	[illegible]	
169.000								.5580							
174.000							.6659								
180.000	[illegible]	.4135	.2364	[illegible]	.1122	.2133		.5345		-1.1394	-.6542	-.3545	[illegible]	[illegible]	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	[illegible]	[illegible]	.0187	[illegible]	-.1167	-.1053	.1254		.5156	.2519
[illegible]	[illegible]		.0338	[illegible]	-.1466	-.1233	.0429		.3853	[illegible]

AMES 11-0 3'CA148 -140A/B/C P ORB FUSELAGE (XE3945)

ALPHA (4) = 7.979 BETA (2) = .177

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7730	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.2105	-.6221	-.1984	.0201	-.2131	-.2220	-.1487			
90.000	-.2496	-.4720	-.1110	.0218	-.2913	-.2855	-.1763			
105.000			-.0164	.0139	-.3762	-.3646	-.2185			
110.000								-.3929		
120.000	-.2097	-.2317	.0182	.0870	-.4914	-.4170	-.2412	-.2898		
135.000			.0659	.3173	-.4306	-.3066	-.2452			
150.000	-.1343	-.1237	.1180	.4166	-.3555	-.3061	-.2464			
165.000	-.1112		.1318		-.1575	-.2834	-.2983			
180.000	-.1061	-.0705	.1419	.3818						

ALPHA (4) = 7.978 BETA (3) = 4.243 MACH = .89753 Q = 598.50 P = 1061.4 RN/L = 3.5937

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1516	.7940	.3535	.2148	.1097			-.0121		-.0367	-.0563	-.0237	.0483	.1199	.1430
20.000			.3395	.1877	.0815	.0130		-.0256		-.0651					
40.000			.3449	.1731	.0787	.0185		-.0289		-.0977	-.1564	-.1090	.0202	.0975	.1645
55.000			.3014	.1196	.0335	-.0163		-.0995		-.1649					
70.000			.2711	.0924	.0014	.0087		-.0962		-.2033	-.6506	-.2067	-.1067	-.0329	
90.000		.3291	.2657	.0877	-.0008	.0243		-.0863		-.3357	-.7565	-.1972	-.0800	-.0275	
120.000			.2560	.1106	.0236	.1236		.0527		-.4715	-.7606	-.2775	-.0800	-.0172	
140.000										-.6430					
150.000			.2309	.1513	.0539	.1635		.4157		-1.0197	-.6724	-.4166	-.0481	.0007	
151.000									.0742						
162.000									.1259						
165.000										-1.0476	-.6901	-.4670	-.0519	.0050	
169.000								.5155							
174.000							.6240								
180.000	1.1516	.3845	.2316	.1563	.0915	.1983		.5240		-1.1124	-.7034	-.4601	-.0535	-.0051	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1401	.0957	.0175	-.0968	-.1110	-.1077	.1271		[illegible]48	.2532
40.000	.1449		.0348	-.[illegible]82	-.1535	-.1354	.0375		[illegible]8	.1085
70.000	-.3095	-.5805	-.2349	-.0541	-.2781	-.3571	-.1913			
90.000	-.2412	-.4331	-.1823	-.0657	-.3558	-.4111	-.2392			
105.000			-.1087	-.0473	-.4713	-.4649	-.2630			
110.000								-.4037		
120.000	-.1568	-.2211	-.0552	.0178	-.5451	-.5428	-.3120	-.3062		
135.000			.0529	.2663	-.4512	-.4497	-.2973			
150.000	-.1066	-.0959	.0956	.3502	-.3878	-.4561	-.3075			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8845)

ALPHA (4) = 7.978 BETA (3) = 4.243

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.1054		.1049		-.2289	-.4344	-.3143			
180.000	-.1224	-.0777	.1070	.3179						

ALPHA (5) = 11.950 BETA (1) = -3.856 MACH = .89653 Q = 597.97 P = 1082.9 RN/L = 3.5858

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0957	.9228	.4992	.3331	.2264			.0732		.0537	.0300	.0530	.1028	.1800	.2134
20.000			.5492	.3608	.2300	.1343		.0838		.0546					
40.000			.6202	.4007	.2867	.1944		.1155		.0546	.0151	.0709	.1155	.1788	.2599
55.000			.5664	.3622	.2536	.1542		.0597		-.0194					
70.000			.4915	.2989	.1861	.1483		.0529		-.0598	-.4236	-.1933	-.1499	-.0375	
90.000		.5622	.4286	.2545	.1603	.1381		.0600		-.1402	-.5425	-.2514	-.1657	-.0579	
120.000			.3002	.1469	.0595	.1400		.1868		-.2524	-.6663	-.5423	-.4117	-.2578	
140.000										-.3789					
150.000			.1662	.0798	.0236	.1414		.5607		-.5309	-.5770	-.5135	-.2299	-.0923	
151.000									.2371						
162.000									.2359						
165.000										-.8339	-.5900	-.5555	-.2155	-.0440	
169.000								.5645							
174.000							.6529								
180.000	1.0957	.2582	.0953	.0746	.0338	.1466		.4565		-.7023	-.5965	-.5553	-.1914	-.0116	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2177	.1709	.0881	-.0217	-.0743	-.1008	.1162		.5549	.2587
40.000	.2436		.1181	.0035	-.1167	-.1184	.0136		.4330	.1444
70.000	-.4467	-.7334	-.1784	-.0096	-.2596	-.3435	-.1646			
90.000	-.3469	-.5800	-.0621	.0290	-.2686	-.3570	-.1941			
105.000			-.0138	.0695	-.3292	-.4466	-.2287			
110.000								-.4468		
120.000	-.3749	-.2831	-.0008	.1265	-.3802	-.4255	-.2256	-.3242		
135.000			.0093	.1984	-.3846	-.3345	-.2625			
150.000	-.2572	-.2301	-.0169	.2902	-.3357	-.2880	-.2876			
165.000	-.2072		.0120		-.1154	-.2166	-.3254			
180.000	-.1655	-.1275	.0762	.3330						

AMES 11-073(OA148) -1 OA/B/C/R ORB FUSELAGE (XE8845)

ALPHA (5) = 11.961 BETA (2) = .178 MACH = .8653 Q = 597.97 P = 1062.9 RN/L = 3.5856

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1065	.9343	.5053	.3413	.2325			.0843		.0553	.0326	.0576	.1066	.1879	.2214
20.000			.5167	.3412	.2169	.1224		.0772		.0425					
40.000			.5256	.3320	.2242	.1392		.0756		.0120	-.0453	.0004	.0839	.1578	.2472
55.000			.4399	.2486	.1408	.0597		-.0279		-.0907					
70.000			.3667	.1855	.0799	.0725		-.0194		-.1252	-.5189	-.2306	-.1871	-.0906	
90.000		.4210	.3208	.1534	.0664	.0808		-.0057		-.2137	-.6445	-.2391	-.1871	-.0765	
120.000			.2394	.1033	.0159	.1252		.1377		-.3427	-.7378	-.4233	-.3027	-.1416	
140.000										-.4953					
150.000			.1564	.0971	-.0007	.1422		.4796		-.7108	-.6062	-.5035	-.1840	-.0465	
151.000									.1616						
162.000									.1788						
165.000										-.9483	-.6166	-.5264	-.1958	-.0063	
169.000								.5131							
174.000							.5126								
180.000	1.1065	.2439	.1131	.0711	.0192	.1621		.4886		-.7498	-.6356	-.5219	-.1876	.0114	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2233	.1761	.0943	-.0203	-.0720	-.1232	.1119		.5591	.2590
40.000	.2358		.1163	.0076	-.1203	-.1419	.0157		.4187	.1228
70.000	-.4682	-.7449	-.2650	-.0890	-.3224	-.3995	-.2074			
90.000	-.3513	-.5972	-.1256	-.0473	-.3558	-.4070	-.2506			
105.000			-.0564	-.0071	-.4435	-.4869	-.2467			
110.000								-.4316		
120.000	-.2734	-.2959	-.0175	.0728	-.4584	-.5020	-.2553	-.3039		
135.000			.0076	.2505	-.4274	-.4201	-.3475			
150.000	-.2090	-.2225	.0415	.3742	-.3864	-.3968	-.2977			
165.000	-.1587		.0704		-.1501	-.3207	-.3124			
180.000	-.1478	-.1116	.0946	.3490						

ALPHA (5) = 11.950 BETA (3) = 4.259 MACH = .8653 Q = 597.97 P = 1062.9 RN/L = 3.5856

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0888	.9162	.5005	.3291	.2193			.0748		.0497	.0284	.0479	.1066	.1842	.2077
20.000			.4670	.2994	.1860	.1024		.0502		.0106					
40.000			.4104	.2472	.1539	.0624		.0216		-.0622	-.1176	-.0750	.0395	.1232	.2148
55.000			.3039	.1180	.0317	-.0345		-.0980		-.1585					
70.000			.2408	.0735	-.0181	.0082		-.0782		-.1820	-.5830	-.3100	-.2201	-.1199	
90.000		.2538	.2181	.0584	-.0148	.0195		-.0640		-.2844	-.7171	-.2381	-.2071	-.0840	
120.000			.1732	.0452	-.0269	.1007		.0797		-.4377	-.6861	-.3639	-.2357	-.0543	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8845)

ALPHA (5) = 11.950 BETA (3) = 4.259

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.6189					
150.000			.1286	.0665	-.0106	.1227		.3937		-.9901	-.5886	-.5266	-.1927	-.0102	
151.000									.0703						
162.000									.1073						
165.000										-.9764	-.6012	-.5436	-.1764	.0051	
169.000								.4831							
174.000							.5849								
180.000	1.0888	.2214	.1172	.0740	.0152	.1479		.4836		-.6677	-.6035	-.5474	-.2071	-.0228	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2166	.1729	.0949	-.0269	-.0679	-.1216	.1132		.5585	.2662
40.000	.2223		.1103	-.0016	-.1112	-.1401	.0073		.3910	.1082
70.000	-.4477	-.7523	-.1998	-.1129	-.3914	-.4982	-.5020			
90.000	-.3461	-.5926	-.1532	-.1103	-.4456	-.5343	-.5376			
105.000			-.0942	-.0556	-.5605	-.6419	-.5957			
110.000								-.3423		
120.000	-.2149	-.2901	-.0508	-.0028	-.5374	-.6202	-.6561	-.3196		
135.000			.0290	.2289	-.4570	-.5067	-.5657			
150.000	-.1509	-.1431	.0938	.3444	-.3992	-.4833	-.4499			
165.000	-.1428		.0881		-.1944	-.4157	-.3312			
180.000	-.1640	-.1243	.0678	.3192						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8846) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 936.0680 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = .000 SPOBRK = 55.000
BDFLAP = 22.500 L-ELVN = 4.000
R-ELVN = 4.000 MACH = .600

ALPHA (1) = -4.081 BETA (1) = -7.851 MACH = .59592 Q = 593.39 P = 2387.4 RN/L = 4.8516

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0078	.1325	-.2227	-.2211	-.2237			-.1771		-.1514	-.1235	-.0978	-.0762	-.0557	-.0666
20.000			-.1976	-.2353	-.2862	-.2822		-.2424		-.2033					
40.000			.0228	-.2244	-.3068	-.3105		-.3736		-.3359	-.2693	-.1964	-.1662	-.1412	-.1356
55.000			.2733	.0580	-.0192	-.1207		-.1510		-.1624					
70.000			.4507	.2365	.1508	.0862		-.0367		-.1217	-.1345	-.0027	.0599	.1019	
90.000		.7395	.5493	.3359	.2360	.1360		-.0094		-.1757	-.1624	-.0394	.0405	.0817	
120.000			.6179	.4631	.3433	.3257		.1876		-.1415	-.1773	-.1660	.0067	.0356	
140.000										-.1956					
150.000			.5694	.4290	.3487	.3505		.5599		-.3582	-.3156	-.1038	-.0363	-.0105	
151.000									.2477						
162.000									.2579						
165.000										-.9306	-.2356	-.1253	-.0585	-.0207	
169.000								.5700							
174.000							.7008								
180.000	1.0078	.7105	.4439	.3400	.2727	.2913		.3626		-1.1748	-.2306	-.1324	-.0760	-.0410	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1002	-.1136	-.1432	-.1825	-.1324	-.0942	.0472		.3348	.0847
40.000	-.1927		-.1541	-.1913	-.1524	-.0819	-.0369		.2451	.0319
70.000	.0091	-.0164	.0539	.1484	-.0246	-.0471	-.1137			
90.000	.0375	.0304	.1046	.1970	-.0576	-.0935	-.1596			
105.000			.1546	.3093	-.1403	-.1378	-.2060			
110.000								-.3438		
120.000	.0207	.0762	.2341	.4853	-.1595	-.1497	-.1890	-.2612		
135.000			.2822	.4659	-.1065	-.0767	-.1628			
150.000	.0224	.0808	.2657	.3267	-.0876	-.0501	-.1401			
165.000	.0056		.2146		.1478	-.0238	-.2967			
180.000	-.0241	.0321	.1633	.2923						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8846)

ALPHA (1) = -3.953 BETA (2) = -3.833 MACH = .59592 Q = 593.39 P = 2387.4 RN/L = 4.8516

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0528	.1737	-.1772	-.1869	-.2065			-.1574		-.1324	-.1089	-.0771	-.0590	-.0407	-.0555
20.000			-.1704	-.1901	-.2480	-.2375		-.2037		-.1705					
40.000			.0135	-.1852	-.2577	-.2604		-.3007		-.2645	-.2022	-.1349	-.1106	-.0966	-.1026
55.000			.2108	.0035	-.0643	-.1394		-.1769		-.1973					
70.000			.3419	.1344	.0566	.0093		-.1079		-.1898	-.1775	-.0424	.0296	.0745	
90.000		.6022	.4301	.2187	.1313	.0389		-.1048		-.2751	-.2133	-.0752	.0113	.0625	
120.000			.5260	.3671	.2552	.2369		.0863		-.2485	-.2302	-.1988	-.0046	.0327	
140.000										-.2699					
150.000			.5382	.4103	.3216	.3267		.5017		-.4140	-.2746	-.0909	-.0210	.0098	
151.000									.1558						
162.000									.1932						
165.000										-.9333	-.2116	-.1037	-.0260	.0077	
169.000								.5596							
174.000							.6928								
180.000	1.0528	.7272	.4767	.3870	.3102	.3179		.4668		-1.1534	-.2002	-.1047	-.0324	-.0018	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0964	-.1081	-.1406	-.1798	-.1309	-.[illegible]	.0537		.3505	.0928
40.000	-.1715		-.1478	-.1883	-.1507	-.[illegible]	-.0053		.2522	.0387
70.000	-.0201	-.0513	.0082	.0963	-.0705	-.0811	-.1332			
90.000	.0105	.0027	.0672	.1337	-.1218	-.1341	-.1784			
105.000			.1210	.2018	-.2200	-.1856	-.2250			
110.000								-.3446		
120.000	.0309	.0650	.2159	.3479	-.2540	-.2[illegible]3	-.2454	-.2781		
135.000			.2774	.4295	-.1792	-.1316	-.1992			
150.000	.0429	.1080	.2779	.4175	-.1211	-.1135	-.1615			
165.000	.0338		.2471		.0590	-.1082	-.3016			
180.000	.0229	.0922	.2310	.4195						

ALPHA (1) = -3.951 BETA (3) = .188 MACH = .59592 Q = 593.39 P = 2387.4 RN/L = 4.8516

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0612	.1791	-.1767	-.1755	-.1994			-.1539		-.1295	-.1062	-.0743	-.0499	-.0381	-.0521
20.000			-.1626	-.1771	-.2232	-.2153		-.1762		-.1490					
40.000			-.0209	-.1897	-.2324	-.2215		-.2420		-.2155	-.153	-.0905	-.0699	-.0699	-.0709
55.000			.1204	-.0525	-.1111	-.1636		-.2002		-.2216					
70.000			.2252	.0335	-.0332	-.0705		-.1748		-.2458	-.2169	-.0694	.0063	.0502	
90.000		.4501	.3009	.0978	.0093	-.0589		-.1930		-.3579	-.2649	-.1040	-.0122	.0392	
120.000			.4189	.2569	.1463	.1418		-.0546		-.3488	-.2905	-.2405	-.0376	.0104	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8B48)

ALPHA (1) = -3.951 BETA (3) = .188

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.3509					
150.000			.4833	.3737	.2821	.2758		.4081		-.4771	-.2555	-.0936	-.0293	.0101	
151.000									.0350						
162.000									.0913						
165.000										-.9263	-.2000	-.0946	-.0250	.0148	
169.000								.5219							
174.000							.6784								
180.000	1.0612	.7244	.4901	.3953	.3236	.3328		.5090		-1.1335	-.1855	-.0891	-.0241	.0148	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0923	-.1075	-.1388	-.1833	-.1309	-.0958	.0501		.3770	.1040
40.000	-.1436		-.1471	-.1792	-.1530	-.0812	.0089		.2276	.0263
70.000	-.0374	-.0828	-.0308	.0477	-.1181	-.1189	-.1589			
90.000	-.0037	-.0279	.0258	.0655	-.1810	-.1715	-.1973			
105.000			.0711	.0911	-.2992	-.2314	-.2536			
110.000								-.3613		
120.000	.0131	.0311	.1392	.2113	-.3701	-.3068	-.3076	-.3055		
135.000			.2323	.4594	-.2687	-.1977	-.2425			
150.000	.0469	.0963	.2566	.4719	-.1999	-.1851	-.2071			
165.000	.0462		.2450		-.0431	-.1939	-.2984			
180.000	.0381	.1089	.2540	.4800						

ALPHA (1) = -3.958 BETA (4) = 4.269 MACH = .59592 Q = 593.39 P = 2387.4 RN/L = 4.8516

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0376	.1496	-.1867	-.1825	-.2119			-.1649		-.1393	-.1122	-.0792	-.0541	-.0427	-.0596
20.000			-.1876	-.1808	-.2285	-.2019		-.1682		-.1423					
40.000			-.0791	-.1984	-.2309	-.2010		-.2098		-.1841	-.1268	-.0679	-.0506	-.0499	-.0439
55.000			.0245	-.1226	-.1613	-.1948		-.2281		-.2403					
70.000			.1037	-.0685	-.1229	-.1359		-.2328		-.2873	-.2455	-.0843	-.0086	.0374	
90.000		.2781	.1742	-.0277	-.1055	-.1521		-.2760		-.4353	-.3002	-.1227	-.0228	.0262	
120.000			.2915	.1364	.0193	.0208		-.1934		-.4473	-.3416	-.2952	-.0821	-.0266	
140.000										-.4348					
150.000			.3984	.3070	.2154	.1998		.2908		-.5542	-.2506	-.1108	-.0565	-.0226	
151.000									-.1074						
162.000									-.0260						
165.000										-.9458	-.2121	-.1108	-.0489	-.0078	
169.000								.4596							
174.000							.6092								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8846)

ALPHA (1) = -3.958 BETA (4) = 4.269

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.0376	.6931	.4825	.3820	.3056	.3157		.4843		-1.1219	-.1949	-.0978	-.0399	-.0017	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0952	-.1154	-.1410	-.1867	-.1304	-.0891	.0499		.3405	.0933
40.000	-.1196		-.1343	-.1698	-.1541	-.0800	.0018		.2401	.0022
70.000	-.0532	-.1060	-.0681	.0076	-.1571	-.1422	-.1685			
90.000	-.0249	-.0605	-.0161	.0033	-.2243	-.2081	-.2131			
105.000			.0201	.0105	-.3660	-.2697	-.2762			
110.000								-.3645		
120.000	-.0246	-.0282	.0465	.0552	-.4929	-.3987	-.3764	-.3303		
135.000			.1578	.3031	-.3780	-.2776	-.2937			
150.000	.0159	.0503	.1923	.4757	-.3064	-.2809	-.2628			
165.000	.0192		.2034		-.1569	-.2819	-.3093			
180.000	.0224	.0884	.2309	.4492						

ALPHA (1) = -3.973 BETA (5) = 8.335 MACH = .59592 Q = 593.39 P = 2387.4 RN/L = 4.8516

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9892	.1318	-.2033	-.1952	-.2317			-.1790		-.1555	-.1262	-.0948	-.0693	-.0563	-.0719
20.000			-.2054	-.1949	-.2350	-.2111		-.1733		-.1553					
40.000			-.1234	-.2127	-.2277	-.1972		-.1883		-.1753	-.1154	-.0542	-.0349	-.0399	-.0306
55.000			-.0532	-.1697	-.1982	-.2068		-.2379		-.2499					
70.000			-.0032	-.1543	-.1873	-.1942		-.2705		-.3175	-.2569	-.0962	-.0200	.0270	
90.000		.1011	.0468	-.1403	-.1933	-.2270		-.3363		-.4931	-.3149	-.1377	-.0323	.0133	
120.000			.1553	-.0050	-.1097	-.1061		-.3365		-.5431	-.3936	-.3450	-.1220	-.0590	
140.000										-.5170					
150.000			.2847	.2191	.1161	.1029		.1494		-.6309	-.2734	-.1517	-.1047	-.0719	
151.000									-.2645						
162.000									-.1769						
165.000										-.9933	-.2419	-.1519	-.0914	-.0562	
169.000								.3731							
174.000							.5415								
180.000	.9892	.6205	.4312	.3286	.2624	.2725		.3921		-1.1473	-.2331	-.1381	-.0788	-.0536	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1034	-.1165	-.1426	-.1883	-.1320	-.0938	.0480		.3324	.0905
40.000	-.1056		-.1302	-.1689	-.1487	-.0787	-.0001		.2110	-.0136

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8846)

ALPHA (1) = -3.973 BETA (5) = 8.335

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.0719	-.1386	-.1096	-.0326	-.1947	-.1651	-.1758			
90.000	-.0498	-.0927	-.0784	-.0452	-.2642	-.2332	-.2309			
105.000			-.0319	-.0269	-.4115	-.2979	-.2840			
110.000								-.3444		
120.000	-.0589	-.0835	-.0517	-.1502	-.6287	-.4990	-.4286	-.3462		
135.000			.0534	.1356	-.5215	-.3760	-.3536			
150.000	-.0443	-.0178	.0922	.4268	-.4644	-.4053	-.3258			
165.000	-.0389		.1168		-.2884	-.3853	-.3099			
180.000	-.0313	.0287	.1679	.3405						

ALPHA (2) = .060 BETA (1) = -7.888 MACH = .59634 Q = 594.08 P = 2386.3 RN/L = 4.8479

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0335	.3263	-.0668	-.1150	-.1366			-.1355		-.1192	-.1021	-.0727	-.0493	-.0208	-.0207
20.000			-.0177	-.0955	-.1701	-.1948		-.1697		-.1512					
40.000			.2041	-.0427	-.1287	-.1576		-.2262		-.2081	-.1545	-.0923	-.0719	-.0583	-.0482
55.000			.3968	.1972	.1089	.0191		-.0462		-.0903					
70.000			.4995	.2920	.2015	.1319		.0084		-.0952	-.1319	-.0201	.0246	.0533	
90.000		.7359	.5493	.3465	.2422	.1678		.0213		-.1575	-.1634	-.0564	.0041	.0397	
120.000			.5512	.3954	.2904	.2813		.1716		-.1782	-.2311	-.2191	-.0692	-.0501	
140.000										-.2699					
150.000			.4516	.3179	.2474	.2616		.5138		-.4617	-.3990	-.1552	-.0892	-.0654	
151.000									.1892						
162.000									.1711						
165.000										-1.1164	-.2969	-.1702	-.0930	-.0627	
169.000								.5067							
174.000							.6520								
180.000	1.0335	.5785	.3226	.2357	.1797	.2037		.2972		-1.3642	-.2719	-.1612	-.0968	-.0699	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0452	-.0673	-.1053	-.1488	-.1102	-.0835	.0521		.3865	.1009
40.000	-.0953		-.1048	-.1519	-.1310	-.0662	-.0233		.2948	.0592
70.000	-.0998	-.0951	.0088	.1432	-.0249	-.0396	-.1084			
90.000	-.0547	-.0421	.0667	.1866	-.0502	-.0883	-.1626			
105.000			.1163	.3206	-.1265	-.1296	-.2016			
110.000								-.3424		
120.000	-.0826	-.0064	.1845	.4783	-.1818	-.1497	-.1812	-.2642		
135.000			.2278	.4112	-.1603	-.1108	-.1844			
150.000	-.0501	.0254	.2197	.2454	-.1577	-.0885	-.1588			

AMES 11-073(OA148) -1)OA/B/C/R ORB FUSELAGE (XE8848)

ALPHA (2) = .060 BETA (1) = -7.888

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABL: CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	9600	.9990	1.0180	1.0460
PHI										
165.000	-.0513		.1695		.1122	-.0502	- 2973			
180.000	-.0514	.0036	.1351	.2475						

ALPHA (2) = .070 BETA (2) = -3.865 MACH = .79634 Q = 594.08 P = 2386.3 RN/L = 4.8479

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABL: CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0741	.3605	-.0295	-.0837	-.1189			-.1181		-.1043	-.0858	-.0563	-.0265	-.0018	-.0069
20.000			-.0018	-.0663	-.1449	-.1613		-.1392		-.1261					
40.000			.1744	-.0395	-.1160	-.1356		-.1856		-.1680	-.1111	-.0579	-.0411	-.0340	-.0121
55 000			.3174	.1237	.0469	-.0257		-.0927		-.1366					
70.000			.3910	.1886	.1021	.0525		-.0714		-.1549	-.1795	-.0579	-.0026	.0218	
90.000		.5970	.4369	.2379	.1372	.0731		-.0633		-.2364	-.2125	-.0896	-.0149	.0204	
120.000			.4697	.3158	.2151	.2165		.0835		-.2603	-.2589	-.2222	-.0499	-.0222	
140.000										-.3305					
150.000			.4308	.3099	.2320	.2515		.4626		-.5025	-.3460	-.1273	-.0537	-.0268	
151.000									.1049						
162.000									.1158						
165.000										-1.0859	-.2652	-.1311	-.0589	-.0237	
169.000								.4991							
174.000							6334								
180.000	1.0741	.5899	.5554	.2850	.2099	.2394		.3984		-1.3138	-.2396	-.1266	-.0601	-.0268	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	9600	.9990	1.0180	1.0460
PHI										
.000	-.0303	-.0616	-.0959	-.1522	-.1124	-.0785	0616		.3598	.0968
40.000	-.0729		-.0959	-.1475	-.1368	-.0594	- 0066		.2869	.0416
70.000	-.1248	-.1308	-.0372	.0901	-.0732	-.0783	- 1258			
90.000	-.0765	-.0741	.0326	.1246	-.1245	-.1322	- 1796			
105.000			.0856	.2103	-.2042	-.1798	- 2276			
110.000								-.3370		
120.000	-.0485	.0052	.1866	.3448	-.2591	-.2116	- 2288	-.2732		
135.000			.2470	.3768	-.2191	-.1580	- 2153			
150.000	-.0076	.0594	.2429	.3100	-.1886	-.1405	- 1860			
165.000	-.0062		.2120		.0143	-.1327	- 2894			
180.000	-.0162	.0611	.1985	.3471						

AMES 11-073(OA148) -140A/B/C/P ORB FUSELAGE (DE3B46)

ALPHA (2) = .070 BETA (3) = .181 MACH = .59634 Q = 594.08 P = 2386.3 RN/L = 4.8479

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0816	.3697	-.0318	-.0711	-.1169			-.1206		-.0993	-.0765	-.0504	-.0247	.0007	-.0005
20.000			-.0091	-.0640	-.1333	-.1449		-.1278		-.1141					
40.000			.1333	-.0522	-.1167	-.1203		-.1556		-.1472	-.0953	-.0377	-.0209	-.0156	.0002
55.000			.2249	.0451	-.0145	-.0711		-.1375		-.1763					
70.000			.2701	.0854	.0109	-.0279		-.1377		-.2197	-.2218	-.0911	-.0273	.0088	
90.000		.4447	.3161	.1210	.0377	-.0177		-.1491		-.3216	-.2512	-.1172	-.0356	.0050	
120.000			.3743	.2246	.1224	.1306		-.0305		-.3536	-.2979	-.2354	-.0427	-.0165	
140.000										-.4073					
150.000			.3841	.2804	.1947	.2127		.3678		-.5585	-.3047	-.1239	-.0475	-.0181	
161.000									-.0084						
168.000									.0255						
180.000										-1.0773	-.2399	-.1215	-.0470	-.0148	
184.000								.4622							
174.000							.6245								
180.000	1.0816	.5847	.3757	.2875	.2213	.2520		.4451		-1.2938	-.2294	-.1153	-.0418	-.0148	

X/LB	.6520	.7200	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0356	-.0575	-.0976	-.1519	-.1097	-.0799	.0608		.3704	.0996
40.000	-.0606		-.0916	-.1430	-.1359	-.0678	.0061		.2555	.0199
70.000	-.1446	-.1535	-.0677	.0395	-.1210	-.1178	-.1572			
90.000	-.0907	-.0931	-.0025	.0580	-.1877	-.1740	-.1960			
105.000			.0558	.0831	-.2857	-.2262	-.2497			
110.000								-.3533		
120.000	-.0398	.0004	.1411	.1526	-.2508	-.2831	-.2783	-.2842		
135.000			.2026	.3528	-.2909	-.2122	-.2457			
150.000	.0026	.0645	.2244	.4120	-.2417	-.2131	.7221			
165.000	.0030		.2105		-.0884	-.2234	-.2913			
180.000	.0008	.0730	.2136	.4187						

ALPHA (2) = -.059 BETA (4) = 4.248 MACH = .59634 Q = 594.08 P = 2386.3 RN/L = 4.8479

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0539	.3434	-.0407	-.0763	-.1286			-.1228		-.1037	-.0831	-.0561	-.0313	-.0022	-.0167
20.000			-.0395	-.0840	-.1449	-.1437		-.1290		-.1175					
40.000			.0403	-.0855	-.1321	-.1262		-.1455		-.1458	-.0899	-.0377	-.0173	-.0114	.0091
55.000			.1156	-.0300	-.0812	-.1209		-.1756		-.2091					
70.000			.1531	-.0139	-.0734	-.0894		-.2000		-.2699	-.2419	-.1068	-.0398	.0015	
90.000		.2790	.1454	.0098	-.0620	-.1024		-.2261		-.3937	-.2843	-.1300	-.0407	-.0085	
120.000			.2042	.1199	.0184	.0343		-.1522		-.4434	-.3319	-.2594	-.0543	-.0235	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8846)

ALPHA (2) = .065 BETA (4) = 4.248

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.4813					
150.000			.3177	.2320	.1462	.1539		.2622		-.6170	-.2841	-.1335	-.0568	-.0306	
151.000									-.1417						
162.000									-.0870						
165.000										-1.0855	-.2403	-.1328	-.0535	-.0268	
169.000								.4027							
174.000							.5569								
[illegible]	1.0593	.5655	.3659	.2718	.2173	.2423		.4195		-1.2839	-.2418	-.1260	-.0599	-.0292	
[illegible]	[illegible]	[illegible]	[illegible]	.9210	.8790	.9210	.9600	.9990	1.0180	1.0460					
[illegible]															
[illegible]	[illegible]	[illegible]	[illegible]	-.1497	-.1087	-.0786	.0620		.3651	.1037					
[illegible]	[illegible]		[illegible]	-.1330	-.1371	-.0709	.0074		.2374	-.0006					
[illegible]	[illegible]	[illegible]	[illegible]	-.0138	-.1594	-.1463	-.1692								
[illegible]	[illegible]	[illegible]	[illegible]	-.0113	-.2353	-.2082	-.2170								
[illegible]			[illegible]	-.0027	-.3558	-.2678	-.2743								
[illegible]								-.3651							
[illegible]	[illegible]	[illegible]	[illegible]	.0737	-.4654	-.3700	-.3409	-.3076							
[illegible]			[illegible]	[illegible]	-.3957	-.2872	-.2918								
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.3418	-.2995	-.2695								
[illegible]	[illegible]		[illegible]		-.2797	-.3119	-.3029								
[illegible]	[illegible]	[illegible]	[illegible]	.3369											

ALPHA (2) = [illegible] BETA (5) = 8.306 MACH = .59634 Q = 594.08 P = 2386.3 RN/L = 4.8479

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
[illegible]	[illegible]	[illegible]	[illegible]	-.0313	-.1529			-.1342		-.1213	-.1032	-.0713	-.0422	-.0185	-.0293
[illegible]			[illegible]	-.1000	-.1638	-.1567		-.1477		-.1396					
[illegible]			[illegible]	-.1154	-.1596	-.1450		-.1548		-.1581	-.1135	-.0498	-.0305	-.0199	.0129
[illegible]			[illegible]	-.1026	-.1376	-.1551		-.2034		-.2331					
[illegible]			[illegible]	-.1050	-.1458	-.1501		-.2397		-.3020	-.2612	-.1168	-.0429	-.0066	
[illegible]		[illegible]	[illegible]	-.1033	-.1636	-.1735		-.2916		-.4496	-.3011	-.1334	-.0400	-.0106	
[illegible]			[illegible]	[illegible]	-.1017	-.0730		-.2857		-.5194	-.3584	-.2810	-.0722	-.0366	
										-.5513					
[illegible]			[illegible]	[illegible]	.0527	.0600		[illegible]		-.6889	-.2936	-.1564	[illegible]	-.0672	
[illegible]									-.2959						
[illegible]									-.2347						
[illegible]										-1.1028	-.2669	-.1633	-.1012	-.0710	
[illegible]								.3211							
[illegible]							.4994								

AMES 11-073(OA148) -140A/B/C/R ORH FUSELAGE (XE9546)

ALPHA (Z) = .063 BETA (S) = 8.306

SECTION 1 :ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.0111	.4891	.3222	.2239	.1651	.1947		.3204		-1.2897	-.2730	-.1602	-.1014	-.0786	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0473	-.0658	-.1037	-.1566	-.1162	-.0887	.0548		.3839	.1001
20.000	-.0347		-.0857	-.1333	-.1374	-.0770	.0006		.2221	-.0177
40.000	-.1619	-.2008	-.1464	-.0517	-.1993	-.1685	-.1807			
55.000	-.1140	-.1468	-.0964	-.0574	-.2776	-.2518	-.2484			
70.000			-.0109	-.0565	-.4004	-.2978	-.2872			
90.000								-.3583		
120.000	-.0781	-.0903	-.0279	-.1477	-.6032	-.4637	-.3973	-.3276		
140.000			.0561	.1076	-.5319	-.3752	-.3460			
150.000	-.0656	-.0338	.0867	.3618	-.5025	-.4181	-.3312			
160.000	-.0589		.0973		-.3457	-.4113	-.3078			
180.000	-.0566	-.0027	.1387	.2232						

ALPHA (B) = 4.012 BETA (S) = -7.901 MACH = .59704 Q = 595.39 P = 2366.0 P0/L = 4.8469

SECTION 1 :ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0274	.4893	.0828	-.0076	-.0511			-.0894		-.0775	-.0598	-.0392	-.0144	.0241	.0351
20.000			.1430	.0267	-.0600	-.1068		-.1010		-.0932					
40.000			.3517	.1123	.0208	-.0283		-.0958		-.0904	-.0432	-.0056	.0092	.0156	.0403
55.000			.4895	.2893	.1990	.1042		.0215		-.0352					
70.000			.5267	.3226	.2231	.1492		.0267		-.0920	-.1374	-.0774	-.0089	.0038	
90.000		.7003	.5265	.3387	.2375	.1700		.0368		-.1481	-.1717	-.0774	-.0299	-.0158	
120.000			.4582	.3096	.2087	.2152		.1411		-.2194	-.2814	-.3004	-.1694	-.1729	
140.000										-.3420					
150.000			.3206	.1995	.1425	.1837		.4649		-.5697	-.4883	-.2096	-.1208	-.1139	
151.000									.1298						
152.000									.0941						
160.000										-1.2857	-.3401	-.1959	-.1181	-.1002	
170.000								.4505							
180.000	1.0274	.4350	.2003	.1402	.0922	.1376	.6047	.2372		-1.5146	-.2958	-.1779	-.1078	-.0818	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0211	-.0088	-.0551	-.1019	-.0822	-.0681	.0700		.4156	.1109
40.000	.0082		-.0426	-.0978	-.1032	-.0379	-.0050		.3341	.0624

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8846)

ALPHA (3) = 4.012 BETA (1) = -7.901

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.2104	-.1615	-.0322	.1397	-.0127	-.0237	-.0962			
90.000	-.1467	-.1054	.0266	.1909	-.0416	-.0831	-.1573			
105.000			.0779	.3478	-.1104	-.1247	-.2027			
110.000								-.3382		
120.000	-.2029	-.0905	.1257	.4911	-.2051	-.1574	-.1798	-.2672		
135.000			.1866	.3614	-.2055	-.1439	-.2096			
150.000	-.1070	-.0206	.1813	.1131	-.2289	-.1201	-.1794			
165.000	-.0917		.1457		.0846	-.0722	-.2902			
180.000	-.0899	-.0171	.1167	.1998						

ALPHA (3) = 4.016 BETA (2) = -3.862 MACH = .59704 Q = 595.39 P = 2386.0 RN/L = 4.8469

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0638	.5339	.1244	.0253	-.0255			-.0686		-.0581	-.0497	-.0237	.0024	.0371	.0467
20.000			.1562	.0539	-.0354	-.0782		-.0761		-.0759					
40.000			.3109	.1012	.0161	-.0239		-.0723		-.0825	-.0427	.0080	.0189	.0277	.0571
55.000			.3951	.2101	.1317	.0430		-.0336		-.0949					
70.000			.4103	.2224	.1305	.0773		-.0430		-.1494	-.1923	-.0877	-.0419	-.0246	
90.000		.5679	.4171	.2380	.1480	.0896		-.0407		-.2208	-.2171	-.1138	-.0504	-.0200	
120.000			.3990	.2510	.1515	.1745		.0707		-.2890	-.3073	-.2746	-.1225	-.1092	
140.000										-.4042					
150.000			.3114	.2061	.1309	.1794		.4208		-.6004	-.4133	-.1717	-.0854	-.0649	
151.000									.0515						
152.000									.0397						
155.000										-1.2511	-.3009	-.1582	-.0830	-.0557	
160.000								.4392							
174.000							.5892								
180.000	1.0638	.4510	.2317	.1612	.1125	.1660		.3296		-1.4537	-.2676	-.1438	-.0698	-.0499	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0299	-.0083	-.0515	-.1024	-.0784	-.0628	.0767		.3976	.1087
20.000	.0195		-.0377	-.0965	-.1054	-.0479	.0129		.3047	.0488
70.000	-.2434	-.2250	-.0634	.0808	-.0716	-.0685	-.1227			
90.000	-.1763	-.1428	-.0115	.1252	-.1128	-.1312	-.1775			
105.000			.0458	.2202	-.1969	-.1773	-.2237			
110.000								-.3439		
120.000	-.1467	-.0540	.1531	.3135	-.2710	-.2108	-.2188	-.2670		
135.000			.2142	.2986	-.2503	-.1759	-.2229			
150.000	-.0583	.0197	.2114	.2219	-.2375	-.1678	-.2022			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE88+8)

ALPHA (3) = 4.016 BETA (2) = -3.852

SECTION 1 ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0460		.1939		-.0187	-.1560	-.2908			
180.000	-.0489	.0291	.1667	.2856						

ALPHA (3) = 4.027 BETA (3) = .191 MACH = .59704 Q = 595.39 P = 2356.0 P/L = 4.8469

SECTION 1 ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0718	.5358	.1253	.0362	-.0230			-.0645		-.0576	-.0447	-.0154	.0101	.0406	.0469
20.000			.1431	.0503	-.0249	-.0712		-.0692		-.0704					
40.000			.1462	.0683	-.0714	-.0356		-.072.		-.0854	-.0547	-.0215	.0146	.0262	.0572
55.000			.2937	.1181	.0436	-.0198		-.0909		-.1515					
70.000			.2934	.1179	.0435	-.0002		-.1097		-.2101	-.2323	-.1175	-.0690	-.0429	
85.000		.4165	.3059	.1342	.0531	.0068		-.1233		-.3039	-.2585	-.1357	-.0854	-.0430	
100.000			.3084	.1723	.0812	.1114		-.0212		-.3739	-.3284	-.2575	-.0855	-.0671	
140.000										-.4631					
160.000			.2795	.1912	.1089	.1547		.3296		-.6486	-.3581	-.1506	-.0671	-.0460	
161.000									-.0567						
162.000									-.0415						
165.000										-1.2226	-.2792	-.1407	-.0523	-.0345	
169.000								.4066							
174.000							.5688								
180.000	1.0718	.4421	.2572	.1685	.1229	.1795		.3754		-1.4344	-.2573	-.1359	-.0621	-.0334	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0308	-.0057	-.0485	-.1097	-.0826	-.0658	.0742		3943	.1102
40.000	.0230		-.0427	-.0919	-.1061	- 0475	.0147		.2727	.0259
70.000	-.2546	-.2321	-.1176	.0269	-.1246	-.1136	-.1501			
90.000	-.1843	-.1546	-.0381	.0450	-.1823	-.1780	-.1956			
105.000			.0377	.0680	-.2682	-.2183	-.2493			
110.000								-.3447		
120.000	-.1077	-.0416	.1277	.0674	-.3371	-.2740	-.2580	-.2702		
135.000			.1806	.2575	-.3082	-.2245	-.2486			
150.000	-.0405	.0246	.1830	.3522	-.2649	-.2227	-.2298			
165.000	-.0315		.1697		-.1223	-.2373	-.2676			
180.000	-.0339	.0389	.1765	.3846						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XEB846)

ALPHA (3) = 4.030 BETA (4) = 4.239 MACH = .59704 Q = 595.39 P = 2386.0 RN/L = 4.8469

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0515	.5145	.1123	.0289	-.0322			-.0724		-.0679	-.0516	-.0227	.0065	.0400	.0423
20.000			.1037	.0130	-.0519	-.0776		-.0738		-.0848					
40.000			.1544	.0210	-.0393	-.0646		-.0913		-.1133	-.0799	-.0283	.0001	.0166	.0676
55.000			.1640	.0227	-.0303	-.0861		-.1426		-.1961					
70.000			.1664	.0134	-.0483	-.0679		-.1668		-.2543	-.2559	-.1395	-.0793	-.0481	
90.000		.2513	.1853	.0297	-.0438	-.0738		-.1921		-.3619	-.2849	-.1506	-.0705	-.0415	
120.000			.2158	.0853	-.0015	.0290		-.1294		-.4428	-.3439	-.2461	-.0655	-.0427	
140.000										-.5253					
150.000			.2232	.1499	.0711	.1050		.2298		-.6853	-.3266	-.1419	-.0642	-.0456	
151.000									-.1758						
162.000									-.1523						
165.000										-1.2027	-.2660	-.1431	-.0665	-.0442	
168.000								.3488							
174.000							.5077								
180.000	1.0515	.4128	.2473	.1695	.1199	.1643		.3540		-1.4297	-.2631	-.1398	-.0713	-.0543	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0263	-.0059	-.0479	-.1160	-.0799	-.0657	.0734		.4021	.1136
40.000	.0301		-.0309	-.0933	-.1103	-.0584	.0158		.2590	.0085
70.000	-.2713	-.2545	-.1444	-.0293	-.1726	-.1572	-.1820			
90.000	-.1883	-.174[illegible]	-.0769	-.0299	-.2395	-.2056	-.2225			
105.000			-.0204	-.0145	-.3480	-.2664	-.2749			
110.000								-.3673		
120.000	-.0978	-.0801	.0308	.0460	-.4449	-.3448	-.3122	-.3007		
[illegible]			.1234	.2764	-.4126	[illegible]	-.2368			
[illegible]	-.0442	.0090	.1500	.2739	-.3758	-.3130	-.2771			
[illegible]	[illegible]		[illegible]		[illegible]	[illegible]	[illegible]			
[illegible]	-.0521	.0286	.1713	.2991						

ALPHA (3) = 4.035 BETA (5) = 8.288 MACH = .59704 Q = 595.39 P = 2386.0 RN/L = 4.8469

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9981	[illegible]	.0911	.0154	-.0607			-.0923		-.0848	-.0611	-.0360	-.0046	.0261	.0295
20.000			.0591	-.0134	-.0844	-.1040		-.1096		-.1094					
40.000			.0600	-.0466	-.0915	-.1089		-.1271		-.1532	-.1274	-.0701	-.0309	-.0027	.0536
55.000			.0469	-.0768	-.1097	-.1455		-.1943		-.2335					
70.000			.0460	-.0801	-.1329	-.1313		-.2184		-.2967	-.2742	-.1482	-.0805	-.0524	
90.000		.0623	.0675	-.0792	-.1317	-.1425		-.2516		-.4178	-.2995	-.1477	-.0642	-.0437	
120.000			.1042	-.0160	-.0986	-.0566		-.2407		-.5133	-.3625	-.2399	-.0550	-.0412	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8846)

ALPHA (3) = 4.035 BETA (5) = 8.288

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.5808					
150.000			.1372	.0802	.0003	.0260		.0935		-.7360	-.3112	-.1586	-.0836	-.0704	
151.000									-.3230						
162.000									-.2878						
165.000										-1.1974	-.2867	-.1680	-.0995	-.0777	
169.000								.2792							
174.000							.4468								
180.000	.9981	.3414	.2025	.1181	.0741	.1214		.2570		-1.4226	-.2993	-.1836	-.1198	-.0926	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0158	-.0053	-.0545	-.1102	-.0823	-.0682	.0697		.4131	.1104
40.000	.0229		-.0342	-.0920	-.1142	-.0637	.0097		.2496	.0024
70.000	-.2559	-.0767	-.1658	-.0741	-.2029	-.1733	-.1900			
90.000	-.1692	-.1977	-.1235	-.0798	-.2844	-.2481	-.2452			
105.000			-.0671	-.0720	-.4017	-.3025	-.2881			
110.000								-.3425		
120.000	-.1102	-.1169	-.0204	-.0703	-.5486	-.4285	-.3701	-.3102		
140.000			.0636	.0829	-.5286	-.3756	-.3428			
150.000	-.0706	-.0403	.0768	.2676	-.5305	-.4316	-.3438			
165.000	-.0749		.0852		-.4182	-.4312	-.2966			
180.000	-.0366	-.0280	.1146	.2248						

ALPHA (4) = 7.996 BETA (1) = -7.892 MACH = .59670 Q = 594.93 P = 2387.1 RN/L = 4.8410

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9319	.5440	.2307	.1075	.0452			-.0265		-.0230	-.0192	.0008	.0339	.0756	.0968
20.000			.3049	.1676	.0537	-.0114		-.0220		-.0239					
40.000			.3466	.2561	.1567	.0891		.0204		-.0002	.0295	.0713	.0817	.0900	.1317
55.000			.3466	.3070	.2616	.1582		.0621		-.0199					
70.000			.5255	.3359	.2758	.1641		.0420		-.0759	-.1581	-.0799	-.0499	-.0449	
90.000		.6356	.4745	.3044	.2175	.1544		.0322		-.1527	-.1923	-.1216	-.0811	-.0739	
120.000			.3466	.2059	.1160	.1412		.0993		-.2665	-.3586	-.4139	-.3133	-.3201	
140.000										-.4122					
150.000			.1348	.0954	.0369	.0957		.4186		-.6656	-.5644	-.2539	-.1699	-.1621	
161.000									.0666						
162.000									.0131						
165.000										-1.4491	-.3799	-.2184	-.1460	-.1259	
169.000								.3924							
174.000							.5587								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8846)

ALPHA (4) = 7.996 BETA (1) = -7.892

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	.9919	.2736	.0743	.0506	.0047	.0642		.1644		-1.7861	-.3187	-.1836	-.1176	-.1041	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0863	.0498	.0003	-.0627	-.0468	-.0441	.0842		.4384	.1209
40.000	.1036		.0238	-.0445	-.0718	-.0082	.0135		.3411	.0770
70.000	-.3235	-.2348	-.0638	.1424	-.0028	-.0064	-.0837			
90.000	-.2523	-.1751	.0043	.1982	-.0313	-.0822	-.1562			
105.000			.0330	.3629	-.0965	-.1177	-.1988			
110.000								-.3304		
120.000	-.3440	-.1862	.0529	.5218	-.2359	-.1832	-.1816	-.2828		
135.000			.1291	.3001	-.2601	-.1750	-.2307			
150.000	-.1581	-.0591	.1457	-.0929	-.2904	-.1512	-.1956			
165.000	-.1287		.1215		.0767	-.0722	-.2927			
180.000	-.1101	-.0347	.1036	.1096						

ALPHA (4) = 8.007 BETA (2) = -3.051 MACH = .59670 Q = 594.93 P = 2387.1 RN/L = 4.8410

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0229	.6773	.2646	.1393	.0720			-.0100		-.0111	-.0029	.0191	.0497	.0873	.1051
20.000			.3116	.1682	.0713	.0105		-.0086		-.0179					
40.000			.4279	.2209	.1292	.0712		.0148		-.0113	.0107	.0525	.0757	.0859	.1380
55.000			.4436	.2616	.1720	.0839		-.0076		-.0816					
70.000			.4127	.2351	.1408	.0829		-.0329		-.1416	-.2090	-.1256	-.0823	-.0761	
90.000		.5133	.3821	.2093	.1287	.0792		-.0360		-.2235	-.2338	-.1494	-.0991	-.0883	
120.000			.2983	.1630	.0786	.1087		.0434		-.3282	-.3596	-.3592	-.2249	-.2285	
140.000										-.4601					
150.000			.1830	.1019	.0432	.1011		.3809		-.6894	-.4779	-.2036	-.1151	-.1072	
151.000									.0011						
162.000									-.0284						
165.000										-1.4011	-.3360	-.1795	-.0981	-.0845	
169.000								.3870							
174.000							.5431								
180.000	1.0229	.2866	.1088	.0718	.0342	.0957		.2676		-1.6100	-.2872	-.1556	-.0759	-.0682	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0956	.0625	.0069	-.0602	-.0428	-.0394	.0863		.4297	.1190
40.000	.1074		.0246	-.0405	-.0731	-.0126	.0282		.3170	.0601

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8846)

ALPHA (4) = 8.007 BETA (2) = -3.861

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.3580	-.2786	-.1219	.0762	-.0653	-.0580	-.1108			
90.000	-.2736	-.2016	-.0470	.1214	-.0981	-.1205	-.1727			
105.000			.0102	.2367	-.1797	-.1704	-.2229			
113.000								-.3312		
120.000	-.2523	-.1049	.1483	.1754	-.2838	-.2151	-.2055	-.2689		
135.000			.1879	.1489	-.2815	-.2719	-.2391			
150.000	-.1096	-.0054	.1774	.1276	-.2582	-.1817	-.2066			
165.000	-.0860		.1400		-.0542	-.1562	-.2621			
180.000	-.0902	.0033	.1355	.2602						

ALPHA (4) = 8.012 BETA (3) = .176 MACH = .59670 Q = 594.93 P = 2387.1 RN/L = 4.8410

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0308	.6849	.2700	.1493	.0732			-.0024		-.0034	.0013	.0242	.0586	.0990	.1083
20.000			.2864	.1531	.0666	.0082		-.0085		-.0195					
40.000			.3434	.1758	.0902	.0383		-.0076		-.0471	-.0303	.0267	.0584	.0735	.1336
55.000			.3275	.1531	.0751	.0061		-.0835		-.1474					
75.000			.2887	.1249	.0401	.0116		-.1007		-.2022	-.2541	-.1514	-.1084	-.0905	
90.000		.3635	.2709	.1157	.0533	.0059		-.1132		-.2891	-.2695	-.1699	-.1106	-.0975	
120.000			.2218	.0982	.0297	.0697		-.0227		-.3974	-.3630	-.3128	-.1578	-.1411	
140.000										-.5178					
150.000			.1629	.0949	.0264	.0889		.3000		-.7152	-.4086	-.1694	-.0853	-.0694	
151.000									-.0920						
160.000									-.1043						
165.000										-1.3404	-.3046	-.1514	-.0725	-.0545	
169.000								.3473							
174.000							.5090								
180.000	1.0308	.2751	.1201	.0897	.0441	.1066		.3114		-1.5413	-.2773	-.1417	-.0621	-.0573	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0999	.0618	.0115	-.0554	-.0439	-.0348	.0910		.4282	.1208
40.000	.1050		.0259	-.0418	-.0756	-.0257	.0362		.2974	.0409
70.000	-.3817	-.3019	-.1464	.0190	-.1223	-.1063	-.1436			
90.000	-.2730	-.2194	-.0639	.0468	-.1831	-.1783	-.1944			
105.000			.0183	.0843	-.2524	-.2155	-.2431			
113.000								-.3341		
120.000	-.1742	-.0790	.0958	.0858	-.3232	-.2643	-.2440	-.2678		
135.000			.1088	.2270	-.3227	-.2412	-.2534			
150.000	-.0845	-.0190	.1385	.3917	-.2940	-.2435	-.2241			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8846)

ALPHA (4) = 8.012 BETA (3) = .176

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0701		.1350		-.1418	-.2402	-.2474			
180.000	-.0665	.0132	.1521	.4035						

ALPHA (4) = 8.012 BETA (4) = 4.240 MACH = .59670 Q = 594.93 P = 2387.1 RN/L = 4.8410

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0144	.6800	.2578	.1413	.0603			-.0104		-.0184	-.0039	.0205	.0513	.0931	.0981
20.000			.2407	.1201	.0383	-.0045		-.0300		-.0463					
40.000			.2414	.0979	.0279	-.0163		-.0541		-.0968	-.0818	-.0264	.0201	.0527	.1179
55.000			.1920	.0426	-.0189	-.0837		-.1515		-.2116					
70.000			.1619	.0165	-.0487	-.0619		-.1653		-.2598	-.2823	-.1836	-.1285	-.1051	
80.000		.2005	.1581	.0126	-.0428	-.0603		-.1742		-.3489	-.2867	-.1788	-.1153	-.0927	
130.000			.1480	.0331	-.0362	.0161		-.1109		-.4563	-.3585	-.2781	-.1035	-.0852	
140.000										-.5728					
150.000			.1263	.0605	-.0007	.0468		.2007		-.7407	-.3510	-.1571	-.0697	-.0608	
151.000									-.2038						
162.000									-.2017						
165.000										-1.3042	-.2867	-.1460	-.0687	-.0589	
169.000								.2972							
174.000							.4542								
180.000	1.0144	.2529	.1261	.0738	.0258	.0924		.2922		-1.5296	-.2916	-.1533	-.0732	-.0700	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0924	.0607	.0111	-.0658	-.0434	-.0395	.0848		.4306	.1229
40.000	.0981		.0295	-.0438	-.0837	-.0368	.0227		.2781	.0133
70.000	-.3875	-.3285	-.1842	-.0459	-.1776	-.1584	-.1777			
90.000	-.2728	-.2339	-.1037	-.0483	-.2571	-.2143	-.2199			
125.000			-.0459	-.0297	-.3566	-.2712	-.2710			
135.000								-.3698		
140.000	-.1531	-.1232	-.0105	.0394	-.4265	-.3335	-.2954	-.2830		
155.000			.1009	.3428	-.4087	-.2872	-.2877			
160.000	-.0745	-.0154	.1277	.3903	-.4056	-.3198	-.2731			
165.000	-.0705		.1151		-.2702	-.3407	-.2786			
180.000	-.0648	-.0018	.1354	.2513						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8B46)

ALPHA (4) = 8.009 BETA (5) = 8.293 MACH = .59670 Q = 594.93 P = 2387.1 RN/L = 4.8410

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9576	.6286	.2317	.1231	.0329			-.0235		-.0301	-.0128	.0074	.0391	.0791	.0886
20.000			.1810	.0810	-.0039	-.0370		-.0636		-.0736					
40.000			.1287	.0169	-.0440	-.0826		-.1196		-.1627	-.1617	-.0875	-.0344	.0146	.0953
55.000			.0516	-.0712	-.1214	-.1609		-.2171		-.2681					
70.000			.0313	-.0830	-.1354	-.1271		-.2192		-.3022	-.3065	-.1924	-.1430	-.1163	
90.000		.0136	.0406	-.0832	-.1255	-.1250		-.2303		-.4009	-.3153	-.1745	-.1093	-.0974	
120.000			.0544	-.0504	-.1144	-.0525		-.2034		-.5110	-.3656	-.2406	-.0672	-.0629	
140.000										-.6158					
150.000			.0491	.0065	-.0599	-.0058		.0801		-.7898	-.3322	-.1565	-.0745	-.0737	
151.000									-.3417						
152.000									-.3327						
155.000										-1.3040	-.2943	-.1688	-.0974	-.0896	
169.000								.2286							
174.000							.3877								
180.000	.9576	.1794	.0869	.0331	-.0079	.0546		.2010		-1.5336	-.3257	-.1898	-.1284	-.1023	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0815	.0579	.0017	-.0650	-.0483	-.0458	.0784		.4366	.1194
40.000	.0850		.0194	-.0476	-.0885	-.0463	.0167		.2578	.0027
70.000	-.3928	-.3513	-.2257	-.1069	-.2138	-.1772	-.1870			
90.000	-.2803	-.2703	-.1702	-.1130	-.2949	-.2295	-.2303			
105.000			-.1335	-.0435	-.4305	-.3098	-.2910			
110.000								-.3566		
120.000	-.1491	-.1587	-.0753	.1742	-.5495	-.4146	-.3542	-.2956		
135.000			.0383	.3616	-.5164	-.3735	-.3320			
150.000	-.1033	-.0650	.0657	.1133	-.5160	-.4256	-.3306			
165.000	-.1047		.0746		-.4032	-.4209	-.3028			
180.000	-.1161	-.0337	.1075	.1583						

ALPHA (5) = 11.987 BETA (1) = -7.852 MACH = .59692 Q = 595.28 P = 2386.8 RN/L = 4.8383

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9196	.7720	.3711	.2249	.1505			.0467		.0430	.0411	.0611	.0934	.1447	.1638
20.000			.4530	.2949	.1720	.0961		.0708		.0570					
40.000			.5940	.3748	.2669	.1879		.1177		.0853	.0991	.1381	.1518	.1728	.2238
55.000			.5781	.3902	.2882	.1795		.0689		-.0134					
70.000			.4835	.3206	.2113	.1539		.0410		-.0910	-.1785	-.1161	-.0897	-.0927	
90.000		.5570	.4041	.2525	.1971	.1222		.0173		-.1696	-.2225	-.1679	-.1339	-.1394	
120.000			.2142	.0873	.0014	.0441		.0379		-.3205	-.4358	-.5631	-.4934	-.5126	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8846)

ALPHA (5) = 11.987 BETA (1) = -7.852

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.4837					
150.000			.0472	-.0284	-.0660	.0128		.3714		-.7658	-.6213	-.2867	-.2047	-.2061	
161.000									.0147						
162.000									-.0539						
165.000										-1.5718	-.4059	-.2378	-.1596	-.1640	
169.000								.3404							
174.000							.4964								
180.000	.9196	.1039	-.0446	-.0513	-.0847	-.0016		.1122		-1.9689	-.3238	-.1868	-.1251	-.1395	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1619	.1213	.0670	-.0024	-.0031	-.0115	.1079		.4635	.1324
40.000	.1009		.1043	.0212	-.0340	.0253	.0429		.3592	.0866
70.000	-.4753	-.3132	-.0998	.1258	-.0037	-.0021	-.0770			
[illegible]	-.3805	-.2221	-.0247	.1900	-.0258	-.0703	-.1410			
[illegible]			-.0033	.3684	-.0880	-.1084	-.1893			
[illegible]								-.3127		
[illegible]	-.4710	-.2328	-.0046	.5210	-.2515	-.1965	-.1885	-.2868		
[illegible]			.0377	.1669	-.3015	-.2071	-.2506			
[illegible]	-.2075	-.1024	.0265	-.0685	-.3348	-.1687	-.2049			
[illegible]	-.1935		.0428		.0519	-.0852	-.2831			
180.000	-.1872	-.1185	.0124	.2155						

ALPHA (5) = 12.008 BETA (2) = -3.842 MACH = .59692 Q = 595.28 P = 2386.8 RN/L = 4.8363

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9482	.8147	.4059	.2584	.1770			.0655		.0543	.0546	.0769	.1088	.1575	.1754
20.000			.4523	.2900	.1841	.1053		.0757		.0543					
[illegible]			.5203	.3288	.2308	.1542		.0899		.0450	.0504	.0946	.1242	.1490	.2152
[illegible]			.4624	.2824	.1870	.0873		-.0120		-.0954					
[illegible]			.3813	.2135	.1162	.0745		-.0283		-.1483	-.2385	-.1621	-.1287	-.1303	
[illegible]		.4270	.3133	.1649	.1190	.0551		-.0477		-.2390	-.2634	-.1950	-.1561	-.1561	
[illegible]			.1743	.0525	-.0162	.0340		.0082		-.3709	-.4222	-.4774	-.3763	-.3733	
[illegible]										-.5232					
[illegible]			.0526	-.0110	-.0512	.0283		.3464		-.7779	-.5349	-.2354	-.1398	-.1635	
[illegible]									-.0442						
[illegible]									-.0913						
[illegible]										-1.5312	-.3599	-.1938	-.1202	-.1157	
[illegible]								.3334							
[illegible]							.4909								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8846)

ALPHA (5) = 12.008 BETA = -3.842

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	.9488	.1117	-.0114	-.0167	-.0486	.0290		.2053		-1.8679	-.2933	-.1526	-.0844	-.0875	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1692	.1268	.0738	-.0016	-.0016	-.0066	.1118		.4568	.1342
40.000	.2017		.1020	.0207	-.0330	.0161	.0516		.3373	.0677
70.000	-.4974	-.3556	-.1699	.0442	-.0710	-.0549	-.1008			
90.000	-.3686	-.2521	-.0856	.1028	-.0953	-.1112	-.1564			
105.000			-.0219	.2294	-.1727	-.1619	-.2172			
110.000								-.3275		
120.000	-.3330	-.0598	.0609	.1519	-.2867	-.2228	-.2087	-.2731		
135.000			.0653	.1271	-.2771	-.2109	-.2474			
150.000	-.2002	-.1086	.0440	.2149	-.2008	-.1884	-.2104			
165.000	-.1495		.0425		-.0388	-.1473	-.2533			
180.000	-.1157	-.0358	.1019	.3770						

ALPHA (5) = 12.016 BETA (3) = .174 MACH = .59692 Q = 595.28 P = 2386.8 RN/L = 4.8363

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9584	.8216	.4160	.2626	.1780			.0685		.0582	.0633	.0865	.1183	.1639	.1782
20.000			.4233	.2728	.1655	.1014		.0616		.0448					
40.000			.4254	.2555	.1676	.0980		.0413		-.0171	-.0138	.0420	.0869	.1282	.1994
55.000			.3279	.1605	.0782	-.0187		-.0998		-.1709					
70.000			.2691	.1002	.0168	-.0027		-.1043		-.2122	-.2865	-.2010	-.1637	-.1568	
90.000		.2755	.2060	.0718	.0319	-.0102		-.1138		-.3003	-.2991	-.2158	-.1648	-.1565	
120.000			.1258	.0180	-.0463	.0110		-.0431		-.4193	-.4027	-.3953	-.2543	-.2384	
140.000										-.5646					
150.000			.0468	.0050	-.0530	.0295		.2715		-.7964	-.4391	-.1889	-.1060	-.1137	
151.000									-.1289						
162.000									-.1613						
165.000										-1.4579	-.3153	-.1594	-.0841	-.0764	
169.000								.2985							
174.000							.4594								
180.000	.9584	.1095	.0045	-.0125	-.0338	.0455		.2507		-1.7185	-.2889	-.1367	-.0716	-.0729	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1735	.1354	.0759	-.0120	.0030	-.0051	.1117		.4589	.1375
40.000	.1959		.1021	.0173	-.0425	.0060	.0491		.3211	.0524

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8846)

ALPHA (5) = 12.016 BETA (3) = .174

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.5273	-.4037	-.2070	-.0215	-.1403	-.1115	-.1385			
90.000	-.3835	-.2897	-.1116	.0148	-.1997	-.1670	-.1882			
105.000			-.0180	.0640	-.2770	-.2195	-.2401			
110.000								-.3365		
120.000	-.2273	-.1235	.0449	.1438	-.3264	-.2650	-.2420	-.2660		
135.000			.0310	.2999	-.3397	-.2564	-.2632			
150.000	-.1603	-.0885	.0963	.4826	-.3083	-.2481	-.2311			
165.000	-.1029		.1232		-.1626	-.2580	-.2526			
180.000	-.0966	-.0118	.1393	.4097						

ALPHA (5) = 11.917 BETA (4) = 4.245 MACH = .59692 Q = 595.28 P = 2386.8 RN/L = 4.8383

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
000	.9437	.8013	.3962	.2551	.1575										
20.000			.3634	.2331	.1256	.0661		.0572		.0482	.0499	.0727	.1095	.1474	.1671
40.000			.3039	.1696	.0825	.0219		.0285		.0096					
55.000			.1847	.0384	-.0381	-.1119		-.0361		-.0874	-.1048	-.0282	.0276	.0802	.1711
70.000			.1270	-.0068	-.0710	-.0688		-.1875		-.2472					
90.000		.1144	.1067	-.0177	-.0598	-.0686		-.1754		-.2702	-.3201	-.2301	-.1915	-.1934	
120.000			.0643	-.0283	-.0923	-.0151		-.1759		-.3513	-.3248	-.2171	-.1726	-.1636	
140.000								-.1138		-.4811	-.4002	-.3298	-.1700	-.1409	
150.000			.0167	-.0189	-.0710	.0067				-.6094					
161.000								.1699		-.8112	-.3892	-.1650	-.0822	-.0850	
162.000									-.2332						
165.000									-.2550						
169.000										-1.4148	-.2985	-.1480	-.0727	-.0704	
174.000								.2495							
180.000	.9437	.0802	.0097	-.0182	-.0494	.0375	.4137								
								.2374		-1.7884	-.2978	-.1579	-.0907	-.0876	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1591	.1269	.0663	-.0052	-.0061	-.0104	.1096								
40.000	.1659		.0854	.0146	-.0536	-.0122	.0415		.4627	.1359					
70.000	-.5223	-.4183	-.2394	-.0342	-.1975	-.1639	-.1695		.2962	.0216					
90.000	-.3878	-.3126	-.1573	-.0978	-.2836	-.2223	-.2112								
105.000			-.1011	-.0637	-.3935	-.2856	-.2816								
110.000								-.3760							
120.000	-.2010	-.1757	-.0747	-.0077	-.4422	-.3436	-.3058	-.2853							
135.000			.0620	.3621	-.4039	-.2894	-.2826								
150.000	-.1158	-.0566	.1179	.4198	-.4254	-.3252	-.2768								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE6846)

ALPHA (5) = 11.917 BETA (4) = 4.245

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0990		.1057		-.2752	-.3409	-.2651			
180.000	-.1126	-.0281	.1014	.3999						

ALPHA (5) = 11.904 BETA (5) = 8.309 MACH = .59692 Q = 595.28 P = 2386.8 RN/L = 4.8363

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.8823	.7551	.3643	.2358	.1363			.0461		.0297	.0430	.0566	.0986	.1402	.1532
20.000			.2915	.1706	.0764	.0257		-.0105		-.0304					
40.000			.1654	.0598	-.0195	-.0711		-.1199		-.1903	-.2101	-.1138	-.0347	.0444	.1393
55.000			.0204	-.0993	-.1630	-.2175		-.2757		-.3255					
70.000			-.0049	-.1069	-.1670	-.1351		-.2288		-.3192	-.3400	-.2490	-.2105	-.2268	
90.000		-.0672	.0012	-.1095	-.1412	-.1242		-.2303		-.3962	-.3281	-.2209	-.1619	-.1651	
120.000			-.0178	-.0962	-.1464	-.0635		-.1938		-.5128	-.3820	-.2719	-.1041	-.1108	
140.000										-.6346					
150.000			-.0367	-.0652	-.1104	-.0444		.0615		-.8290	-.3465	-.1603	-.0736	-.0837	
151.000									-.3567						
162.000									-.3809						
165.000										-1.3663	-.3089	-.1603	-.0862	-.1075	
169.000								.1865							
174.000							.3450								
180.000	.8823	.0148	-.0253	-.0418	-.0931	-.0043		.1453		-1.7730	-.3352	-.1900	-.1289	-.1403	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1558	.1246	.0663	-.0105	-.0098	-.0143	.1101		.4588	.1334
40.000	.1475		.0793	.0039	-.0652	-.0207	.0290		.2766	.0064
70.000	-.5075	-.4354	-.2874	-.1506	-.2380	-.1938	-.1883			
90.000	-.3969	-.3436	-.2315	-.1773	-.3330	-.2397	-.2225			
105.000			-.1856	-.1633	-.4987	-.3332	-.3013			
110.000								-.3639		
120.000	-.2363	-.2459	-.1400	.0254	-.5757	-.4279	-.3680	-.2952		
135.000			.0337	.4778	-.5445	-.3836	-.3452			
150.000	-.1146	-.0763	.0475	.3329	-.5634	-.4501	-.3575			
165.000	-.1498		.0174		-.5012	-.4551	-.3136			
180.000	-.1798	-.1314	.0213	.1843						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8847) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 930.0680 IN. ZMRP = 3.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = -10.000 SPDBRK = 85.000
BDFLAP = 16.300 L-ELVN = 4.000
R-ELVN = 4.000 MACH = 1.400

ALPHA (I) = -4.021 BETA (I) = -3.852 MACH = 1.3993 Q = 600.40 P = 438.06 RN/L = 2.9180

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0300	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4780	.6800	.2080	.0817	.0128			-.0547		-.0274	-.0019	-.0224	-.0380	-.0599	-.0574
30.000			.2646	.0958	.0159	-.0734		-.0533		-.0584					
40.000			.4486	.1272	.0642	-.0483		-.0960		-.1789	-.1725	-.1481	-.0911	-.0941	-.0607
55.000			.5963	.3169	.2347	.1082		.1205		.0755					
70.000			.6902	.4159	.3150	.2221		.2299		.1409	-.1874	-.0955	-.0533	.0222	
80.000		.9431	.7555	.4918	.3400	.2672		.2946		.0876	-.1657	-.1733	-.0917	.0152	
100.000			.8159	.6139	.4496	.4698		.5676		.1541	-.1024	-.3313	-.1224	-.0198	
140.000										.1173					
150.000			.7994	.6439	.4824	.5575		1.0044		-.0918	-.2881	-.1651	-.1047	-.0590	
160.000									.7447						
165.000									.8079						
165.000										-.1423	-.2450	-.1599	-.1134	-.0810	
169.000								1.0654							
175.000							1.1001								
180.000	1.4780	1.0299	.7322	.6066	.4770	.5591		1.0029		-.2445	-.2800	-.1384	-.1212	-.0968	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0202	-.0202	-.0378	-.0914	-.1603	-.2071	-.2558		.1963	.1975
40.000	-.0682		-.0751	-.1030	-.1763	-.1406	-.2690		.0699	.0222
70.000	.0919	.0181	-.0433	.1977	.1516	.0402	-.0352			
90.000	.0916	.0560	.0641	.2012	.1212	.0529	-.0216			
120.000			.2048	.2376	.0257	-.0200	-.0517			
150.000								-.1793		
165.000	.0303	.0618	.3506	.2854	.0744	-.0510	-.0272	-.1425		
165.000			.4030	.4229	.1110	.0733	.0569			
169.000	-.0065	.0400	.3874	.4114	.1725	.1949	.1078			
175.000	-.0166		.3826		.4854	.3033	-.2342			
180.000	-.0176	.0190	.3775	.4087						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8947)

ALPHA (1) = -4.015 BETA (2) = .189 MACH = 1.3993 Q = 600.40 P = 438.06 RN/L = 2.9180

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4819	.6789	.2771	.0818	.0216			-.0503		-.0274	.0038	-.0082	-.0384	-.0464	-.0490
20.000			.2534	.0958	.0148	-.0449		-.0442		-.0472					
40.000			.3947	.1135	.0589	-.0445		-.0520		-.1148	-.1134	-.1040	-.0573	-.0724	-.0400
55.000			.5102	.2391	.1748	.0493		.0767		.0372					
70.000			.5653	.3105	.2277	.1406		.1550		.0771	-.2394	-.1609	-.1017	.0121	
90.000		.8012	.6459	.3852	.2374	.1675		.2079		-.0070	-.2354	-.2349	-.1246	.0051	
120.000			.7233	.5275	.3635	.3873		.4649		.0506	-.1794	-.3990	-.1720	-.0456	
140.000										-.0661					
150.000			.7497	.6146	.4555	.5185		.9342		-.1630	-.2940	-.1779	-.1336	-.0690	
151.000									.6604						
162.000									.7437						
165.000										-.1460	-.2699	-.1395	-.1177	-.0742	
167.000								1.0378							
174.000							1.0996								
180.000	1.4819	1.0166	.7438	.6153	.4957	.5652		1.0309		-.2864	-.2907	-.1024	-.1114	-.0759	

X/LB	.6520	.7230	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0150	-.0107	-.0320	-.0818	-.1565	-.2024	-.2541		.1867	.1966
40.000	-.0419		-.0551	-.0878	-.1621	-.1370	-.2440		.1185	.0367
70.000	.0548	.0149	.0044	.2330	.1128	.0078	-.0720			
90.000	.0738	.0400	.1543	.1941	.0690	.0046	-.0529			
105.000			.2806	.2257	-.0154	-.0495	-.0798			
110.000								-.1999		
120.000	.0423	.0612	.3023	.1446	.0290	-.1077	-.1205	-.1924		
135.000			.3911	.3965	.0833	.0220	-.0117			
150.000	.0129	.0448	.4031	.4173	.1726	.1052	.0313			
165.000	.0039		.4090		.4228	.1959	-.2986			
180.000	.0004	.0294	.4142	.4959						

ALPHA (1) = -4.023 BETA (3) = 4.275 MACH = 1.3993 Q = 600.40 P = 438.06 RN/L = 2.9180

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4886	.6606	.2065	.0729	.0221			-.0564		-.0423	-.0039	-.0080	-.0357	-.0604	-.0581
20.000			.2192	.0737	.0016	-.0395		-.0491		-.0322					
40.000			.3233	.0892	.0320	-.0463		-.0395		-.0746	-.0708	-.0703	-.0519	-.0710	-.0355
55.000			.4159	.1623	.1066	-.0068		.0367		.0065					
70.000			.4778	.2117	.1400	.0577		.0937		.0220	-.2859	-.2181	-.1357	-.0072	
90.000		.6514	.5364	.2828	.1397	.0767		.1231		-.1031	-.3007	-.2953	-.1522	-.0139	
120.000			.6257	.4409	.2698	.2863		.3498		-.0534	-.2484	-.4471	-.2339	-.0764	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8847)

ALPHA (1) = -4.023 BETA (3) = 4.275

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.1959					
150.000			.6881	.5740	.4171	.4606		.8499		-.2091	-.2974	-.1743	-.1682	-.1179	
151.000									.5497						
162.000									.6666						
166.000										-.1608	-.3080	-.1277	-.1364	-.1047	
169.000								.9886							
174.000							1.0408								
181.000	.4666	.9989	.7382	.6152	.4893	.5526		1.0159		-.2564	-.2813	-.1477	-.1202	-.0979	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
000	-.0313	-.0104	-.0405	-.0883	-.1565	-.2016	-.2554		.1906	.1871
40.000	-.0177		-.0341	-.0737	-.1612	-.1398	-.2349		.1187	.0732
70.000	.0501	-.0177	.0108	.2314	.0932	-.0194	-.1026			
90.000	.0593	.0099	.1481	.2139	.0406	-.0510	-.1003			
105.000			.2670	.1969	-.0520	-.0875	-.1177			
114.000								-.2359		
120.000	.0290	.0453	.2733	.0335	-.0600	-.1912	-.2945	-.2453		
138.000			.3437	.3526	.0340	-.0543	-.0956			
150.000	-.0061	.0540	.3648	.3737	.1272	.0210	-.0623			
161.000	-.0165		.3723		.3526	.1167	-.3271			
180.000	-.0192	.0254	.3844	.4228						

ALPHA (2) = -.011 BETA (1) = -3.871 MACH = 1.3999 Q = 600.31 P = 437.59 RN/L = 2.9188

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4656	.8033	.3825	.1653	.0881			-.0098		-.0063	.0133	.0165	.0072	-.0230	-.0258
20.000			.3744	.1953	.0921	.0047		.0015		-.0249					
40.000			.5410	.2498	.1630	.0486		.0052		-.0548	-.0496	-.0526	-.0173	-.0446	-.0211
60.000			.6530	.3667	.3030	.1641		.1674		.1417					
70.000			.7048	.4404	.3369	.2272		.2389		.1839	-.1575	-.0701	-.0456	-.0260	
80.000		.9183	.7359	.4847	.3413	.2550		.3177		.1481	-.1446	-.1520	-.0927	-.0283	
90.000			.7450	.5544	.3325	.3398		.5711		.1670	-.1102	-.3154	-.1466	-.0595	
95.000										.1146					
100.000			.6885	.5516	.3645	.3858		.9797		-.1123	-.3388	-.2471	-.1447	-.0280	
105.000									.7278						
110.000									.7803						
120.000										-.1908	-.3063	-.2184	-.1527	-.0699	
140.000								1.0305							
180.000							1.0388								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8947)

ALPHA (2) = -.011 BETA (1) = -3.871

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3760	.4970	.5740
PHI															
180.000	1.4856	.9044	.6105	.5110	.3541	.3752		.9590		-.2931	-.3312	-.1928	-.1645	-.0936	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0010	.0105	.0114	-.0305	-.0955	-.1458	-.1974		.2426	.2341
20.000	-.0060		-.0107	-.0397	-.1139	-.0683	-.1922		.1537	.1069
40.000	.0178	-.0503	-.1738	.0462	.0695	-.0149	-.0847			
60.000	.0397	-.0169	-.0825	.1288	.0272	-.0168	-.0795			
120.000			.0122	.1850	-.0499	-.0883	-.1198			
140.000								-.2230		
160.000	-.0183	-.0094	.2768	.2272	.0331	-.1092	-.1316	-.1813		
180.000			.3338	.3332	.0421	-.0220	-.0127			
200.000	-.0282	.0041	.3235	.3291	.0544	.1192	.0510			
220.000	-.0279		.3201		.4082	.2309	-.2527			
240.000	-.0246	.0155	.3132	.3101						

ALPHA (2) = -.002 BETA (2) = .186 MACH = 1.3999 Q = 600.31 P = 437.59 RN/L = 2.9188

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3760	.4970	.5740
PHI															
.000	1.4850	.8017	.3334	.1659	.0938			-.0025		-.0045	.0054	.0319	.0163	-.0205	-.0195
20.000			.3549	.1817	.0867	.0259		-.0042		-.0145					
40.000			.4753	.2117	.1414	.0358		.0055		-.0238	-.0195	-.0300	-.0007	-.0340	-.0192
55.000			.5591	.2964	.2277	.0995		.1017		.0984					
70.000			.5964	.3294	.2464	.1462		.1698		.1255	-.2058	-.1326	-.1024	-.0394	
90.000		.7743	.6310	.3751	.2426	.1658		.2296		.0564	-.2088	-.2150	-.1451	-.0369	
120.000			.6594	.4735	.3119	.2982		.4752		.0705	-.1916	-.3923	-.1650	-.0589	
140.000										-.0264					
150.000			.6471	.5256	.3390	.3623		.6919		-.0865	-.3483	-.2407	-.1510	-.0882	
160.000									.6409						
170.000									.7206						
180.000										-.1981	-.3212	-.2053	-.1607	-.0597	
190.000								1.0013							
200.000							1.0291								
220.000	1.4850	.8952	.6209	.5152	.3725	.3814		.9981		-.3415	-.3460	-.1624	-.1579	-.0715	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0060	.0205	.0117	-.0244	-.0945	-.1431	-.1947		.2501	.2373
40.000	.0109		.0091	-.0259	-.1047	-.0763	-.1753		.1524	.0899

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8847)

ALPHA (2) = -.002 BETA (2) = .186

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.0001	-.0955	-.1226	.0725	.0243	-.0520	-.1272			
90.000	.0284	-.0412	.0227	.1001	-.0211	-.0512	-.1013			
105.000			.1604	.1292	-.1215	-.1168	-.1419			
110.000								-.2443		
120.000	.0142	.0094	.2664	.2024	.0068	-.1454	-.2178	-.2259		
130.000			.2841	.3392	.0813	-.0326	-.0708			
140.000	.0001	.0237	.2985	.3520	.1138	.0540	-.0241			
145.000	-.0060		.3144		.3377	.1327	-.3004			
180.000	-.0105	.0162	.3264	.4231						

ALPHA (2) = -.007 BETA (3) = 4.251 MACH = 1.3999 Q = 600.31 P = 437.59 RN/L = 2.9188

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4705	.7865	.3271	.1569	.0945			-.0183		-.0153	-.0030	.0229	.0090	-.0247	-.0292
20.000			.3255	.1539	.0709	.0198		-.0136		-.0200					
40.000			.3983	.1687	.1039	.0224		.0008		-.0235	.0022	-.0157	-.0030	-.0471	-.0271
55.000			.4568	.2154	.1532	.0430		.0538		.0642					
70.000			.4894	.2298	.1595	.0684		.1045		.0753	-.2530	-.1823	-.1505	-.0466	
90.000		.6224	.5250	.2771	.1506	.0795		.1572		-.0273	-.2660	-.2707	-.1708	-.0502	
120.000			.5717	.3917	.2281	.2194		.3671		-.0287	-.2634	-.4467	-.1871	-.0652	
140.000										-.1898					
150.000			.5896	.4869	.3078	.3063		.8234		-.2410	-.3516	-.2391	-.1988	-.0842	
151.000									.5346						
160.000									.6385						
165.000										-.2106	-.3610	-.1828	-.1835	-.0919	
174.000								.9473							
180.000	1.4705	.8652	.6153	.5199	.3782	.3669	.9730	.9751		-.3134	-.3368	-.2073	-.1656	-.0988	

X LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0175	.0139	.0068	-.0342	-.0959	-.1433	-.1966		.2422	.2268
20.000	.0172		.0217	-.0162	-.1009	-.0886	-.1770		.1617	.1012
40.000	-.0073	-.1155	-.0917	.0884	.0016	-.0868	-.1655			
80.000	.0233	-.0604	.0374	.0912	-.0581	-.0976	-.1401			
105.000			.1720	.1316	-.1590	-.1650	-.1778			
110.000								-.2739		
120.000	.0145	.0086	.2266	.0569	-.0730	-.2164	-.3177	-.2936		
135.000			.2838	.2946	.0018	-.0996	-.1398			
180.000	-.0111	.0233	.3059	.2991	.0836	-.0263	-.1066			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8847)

ALPHA (2) = -.007 BETA (3) = 4.251

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
155.000	-.0200		.3058		.2443	.0610	-.3358			
180.000	-.0297	.0171	.3100	.3076						

ALPHA (3) = 3.927 BETA (1) = -3.876 MACH = 1.3955 Q = 600.04 P = 440.18 RN/L = 2.9202

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4681	.9250	.4372	.2649	.1673			.0433		.0325	.0374	.0383	.0520	.0228	.0156
20.000			.4832	.2927	.1758	.0748		.0584		.0209					
40.000			.6262	.3534	.2550	.1316		.0896		.0202	.0596	.0289	.0438	.0133	.0305
55.000			.6904	.4366	.3472	.2085		.1833		.1758					
70.000			.7022	.4461	.3451	.2272		.1939		.2127	-.1333	-.0457	-.0417	-.0865	
90.000		.8745	.7015	.4616	.3328	.2361		.2677		.1903	-.1286	-.1096	-.0908	-.0863	
120.000			.6612	.4699	.3317	.2996		.5542		.1735	-.1156	-.3133	-.2385	-.1471	
140.000										.1064					
150.000			.5703	.4484	.2772	.2925		.9376		-.1248	-.3903	-.3242	-.1861	-.1135	
151.000									.7052						
160.000									.7470						
165.000										-.2448	-.3584	-.2755	-.1840	-.0922	
169.000								.9891							
174.000							.9506								
180.000	1.4681	.7629	.4827	.4135	.2543	.2718		.9103		-.3457	-.3819	-.2392	-.1977	-.0804	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0381	.0468	.0633	.0301	-.0319	-.0827	-.1353		.3381	.3155
40.000	.0565		.0619	.0275	-.0550	-.0278	-.1263		.2446	.1897
70.000	-.0500	-.1495	-.1994	-.0894	-.0231	-.0753	-.1439			
90.000	-.0273	-.0904	-.1660	.0524	-.0621	-.0934	-.1386			
120.000			-.1078	.1149	-.1009	-.1994	-.1734			
140.000								-.2731		
150.000	-.0934	-.1031	.2006	.1527	-.0089	-.1592	-.2168	-.2491		
155.000			.2295	.2320	-.0201	-.1270	-.0863			
160.000	-.0490	-.0004	.2285	.2362	-.0524	.0478	-.0252			
165.000	-.0405		.2384		.2800	.1726	-.2564			
180.000	-.0340	.0537	.2244	.2654						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8847)

ALPHA (3) = 3.927 BETA (2) = .191 MACH = 1.3955 Q = 600.04 P = 440.18 RN/L = 2.9202

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4740	.9213	.4403	.2629	.1753			.0494		.0343	.0270	.0550	.0545	.0235	.0244
20.000			.4587	.2704	.1678	.0854		.0487		.0239					
40.000			.5498	.3041	.2192	.1092		.0756		.0147	.0697	.0370	.0453	.0132	.0161
55.000			.5883	.3390	.2673	.1383		.1195		.1140					
70.000			.5918	.3381	.2555	.1473		.1244		.1529	-.1778	-.1037	-.0985	-.1096	
90.000		.7330	.6003	.3560	.2399	.1515		.2046		.1114	-.1868	-.1740	-.1450	-.0924	
120.000			.5878	.4055	.2635	.2376		.4781		.0817	-.1936	-.3652	-.2014	-.1021	
140.000										-.0007					
160.000			.5359	.4315	.2520	.2734		.8419		-.2066	-.3961	-.2920	-.1728	-.0698	
161.000									.6200						
162.000									.6915						
165.000										-.2420	-.3609	-.2545	-.1884	-.0592	
169.000								.9485							
174.000							.9445								
180.000	1.4740	.7481	.4951	.4185	.2737	.2829		.9379		-.3836	-.3936	-.2130	-.1901	-.0582	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0277	.0595	.0701	.0379	-.0312	-.0769	-.1380		.3382	.3098
40.000	.0607		.0772	.0405	-.0390	-.0255	-.1259		.2429	.1773
70.000	-.0553	-.1798	-.1969	-.0317	-.0512	-.1110	-.1759			
90.000	-.0209	-.1222	-.1162	.0355	-.1249	-.1221	-.1597			
105.000			.0834	.0810	-.1809	-.2377	-.1955			
110.000								-.2838		
120.000	-.0224	-.0435	.1933	.1326	-.0331	-.1808	-.2521	-.2838		
135.000			.2011	.2514	.0329	-.0825	-.1214			
150.000	-.0165	.0038	.2087	.3357	.0829	-.0022	-.0794			
165.000	-.0195		.2178		.2715	.0767	-.2961			
180.000	-.0224	.0043	.2289	.3916						

ALPHA (3) = 3.930 BETA (3) = 4.244 MACH = 1.3955 Q = 600.04 P = 440.18 RN/L = 2.9202

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4616	.9144	.4362	.2598	.1805			.0437		.0284	.0237	.0418	.0606	.0223	.0149
20.000			.4244	.2454	.1508	.0777		.0385		.0166					
40.000			.4690	.2546	.1737	.0794		.0540		-.0004	.0628	.0264	.0433	-.0093	.0034
55.000			.4834	.2532	.1897	.0738		.0609		.0633					
70.000			.4865	.2418	.718	.0743		.0656		.1062	-.2189	-.1576	-.1489	-.1168	
90.000		.5822	.5008	.2614	.1614	.0733		.1497		.0322	-.2382	-.2262	-.1902	-.0977	
120.000			.5079	.3376	.1982	.1730		.3752		-.0037	-.2708	-.4215	-.1722	-.0748	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8847)

ALPHA (3) = 3.930 BETA (3) = 4.244

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.1611					
150.000			.4902	.4064	.2204	.2258		.7886		-.2661	-.4058	-.2923	-.1963	-.0650	
151.000									.5235						
162.000									.6111						
165.000										-.2571	-.4058	-.2298	-.2083	-.0697	
169.000								.9006							
174.000							.8968								
180.000	1.4616	.7250	.4935	.4304	.2772	.2687		.9335		-.3640	-.3833	-.2498	-.1982	-.0858	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0201	.0512	.0647	.0345	-.0287	-.0767	-.1369		.3443	.3185
40.000	.0474		.0871	.0551	-.0348	-.0306	-.1295		.2404	.1808
70.000	-.0531	-.1907	-.1942	-.0292	-.0693	-.1401	-.2004			
90.000	-.0115	-.1223	-.0310	.0236	-.1456	-.1422	-.1808			
105.000			.0945	.0356	-.2417	-.2567	-.2247			
110.000								-.3100		
120.000	.0014	-.0240	.1505	.0085	-.0954	-.2492	-.3380	-.3757		
135.000			.2195	.2221	-.0669	-.1424	-.1758			
150.000	-.0141	.0187	.2332	.2119	-.0005	-.0772	-.1449			
165.000	-.0256		.2334		.2134	.0188	-.3531			
180.000	-.0363	.0565	.2361	.2637						

ALPHA (4) = 7.863 BETA (1) = -3.871 MACH = 1.3954 Q = 600.24 P = 440.41 RN/L = 2.9228

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4376	1.0392	.5540	.3733	.2568			.1104		.0859	.0859	.0701	.0958	.0793	.0750
20.000			.5946	.3950	.2696	.1573		.1262		.0828					
40.000			.7076	.4475	.3363	.2134		.1710		.0906	.1[illegible]	.1118	.1064	.0720	.0939
55.000			.7215	.4770	.3806	.2377		.2000		.1373					
70.000			.6908	.4489	.3426	.2342		.1906		.2042	-.1046	-.0315	-.0296	-.1089	
90.000		.8222	.6594	.4329	.3139	.2179		.1962		.2203	-.1108	-.0693	-.0832	-.1335	
120.000			.5738	.3832	.2639	.2241		.5126		.1792	-.1185	-.3161	-.3394	-.2820	
140.000										.1062					
150.000			.4559	.3308	.2111	.2094		.8803		-.1126	-.4316	-.3819	-.2159	-.1261	
151.000									.6776						
162.000									.7205						
165.000										-.2855	-.3998	-.3227	-.2022	-.0905	
169.000								.9173							
174.000							.8141								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8847)

ALPHA (4) = 7.863 BETA (1) = -3.871

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.4376	.6234	.3656	.3184	.1847	.1892		.8671		-.3800	-.4179	-.2699	-.2124	-.0700	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0984	.1151	.1293	.0956	.0382	-.0141	-.0685		.4493	.4011
40.000	.1335		.1481	.1098	.0135	.0453	-.0725		.3699	.2636
70.000	-.1334	-.2394	-.2805	-.2305	-.1362	-.1344	-.1680			
90.000	-.0978	-.1914	-.2364	-.0319	-.1357	-.1951	-.2114			
105.000			-.1144	.0238	-.1596	-.2653	-.2797			
110.000								-.3166		
120.000	-.1809	-.1712	.0789	.0680	-.0605	-.1970	-.2392	-.2998		
135.000			.0637	.1266	-.0483	-.1326	-.1237			
150.000	-.0853	-.0301	.0626	.1224	.0346	-.0008	-.0933			
165.000	-.0598		.0748		.2443	.1324	-.2899			
180.000	-.0499	-.0259	.1320	.3208						

ALPHA (4) = 7.994 BETA (2) = .174 MACH = 1.3954 Q = 600.24 P = 440.41 RN/L = 2.9228

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4416	1.0413	.5583	.3782	.2712			.1153		.0962	.0761	.0773	.1043	.0826	.0812
20.000			.5699	.3783	.2568	.1663		.1141		.0813					
40.000			.6270	.3962	.2957	.1798		.1412		.0639	.0976	.1036	.0986	.0663	.0789
55.000			.6145	.3785	.2979	.1561		.1268		.0773					
70.000			.5840	.3410	.2566	.1542		.1252		.1479	-.1457	-.0826	-.0925	-.1536	
90.000		.6655	.5645	.3316	.2344	.1363		.1349		.1500	-.1644	-.1250	-.1383	-.1679	
120.000			.5081	.3257	.2153	.1827		.4620		.1035	-.1830	-.3551	-.3291	-.1717	
140.000										.0143					
150.000			.4281	.3346	.1854	.1941		.7932		-.2121	-.4342	-.3414	-.1843	-.0732	
151.000									.6062						
152.000									.6630						
155.000										-.2822	-.3988	-.2897	-.1982	-.0530	
159.000								.8826							
174.000							.8434								
180.000	1.4416	.6069	.3767	.3280	.1924	.1981		.8826		-.4148	-.4311	-.2489	-.2079	-.0459	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0937	.1216	.1452	.1151	.0498	-.0061	-.0595		.4439	.3917
40.000	.1192		.1586	.1205	.0365	.0446	-.0644		.3470	.2516

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8847)

ALPHA (4) = 7.994 BETA (2) = .174

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1386	-.2478	-.2685	-.1008	-.1513	-.1631	-.2048			
90.000	-.0744	-.1853	-.2268	-.0160	-.1932	-.2100	-.2077			
105.000			-.0357	.0494	-.2284	-.3015	-.2842			
110.000								-.3152		
120.000	-.0676	-.0879	.0923	.0389	-.0841	-.2107	-.2795	-.3369		
135.000			.0919	.1447	-.0247	-.1290	-.1725			
150.000	-.0393	-.0430	.0897	.3660	.0339	-.0568	-.1221			
165.000	-.0336		.0983		.2343	.0117	-.3147			
180.000	-.0290	-.0191	.1234	.3988						

ALPHA (4) = 7.994 BETA (3) = 4.239 MACH = 1.3954 Q = 600.24 P = 440.41 RN/L = 2.9228

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4316	1.0320	.5483	.3764	.2643			.1090		.0843	.0734	.0709	.1075	.0808	.0741
20.000			.5314	.3506	.2318	.1396		.0925		.0685					
40.000			.5349	.3381	.2405	.1313		.1024		.0288	.0590	.0707	.0874	.0403	.0553
55.000			.5012	.2836	.2087	.0753		.0565		.0177					
70.000			.4746	.2450	.1712	.0807		.0668		.1001	-.1838	-.1347	-.1442	-.1953	
90.000		.5410	.4696	.2412	.1549	.0671		.0885		.0753	-.2110	-.1774	-.1883	-.1556	
120.000			.4404	.2695	.1556	.1331		.3795		.0234	-.2558	-.3977	-.2251	-.1032	
140.000										-.0920					
150.000			.3951	.3162	.1426	.1573		.7388		-.2818	-.4430	-.3321	-.1817	-.0583	
151.000									.5105						
160.000									.5852						
165.000										-.2950	-.4335	-.2630	-.2128	-.0574	
169.000								.8508							
170.000							.8025								
180.000	1.4316	.5820	.3756	.3433	.1964	.1868		.8936		-.4045	-.4143	-.2732	-.2119	-.0739	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0845	.1257	.1356	.1082	.0434	-.0110	-.0636		.4488	.3978
40.000	.1029		.1651	.1287	.0384	.0327	-.0650		.3304	.2536
70.000	-.1253	-.2394	-.2629	-.0980	-.1464	-.1737	-.2458			
90.000	-.0640	-.1710	-.1494	-.0330	-.2151	-.2070	-.2021			
105.000			.0224	-.0020	-.2700	-.3327	-.2718			
110.000								-.3364		
120.000	-.0358	-.0623	.0702	-.0770	-.1266	-.2728	-.3662	-.3970		
135.000			.1401	.2215	-.0769	-.1723	-.2088			
150.000	-.0294	-.0202	.1560	.3011	-.0451	-.1265	-.1872			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8B47)

ALPHA (4) = 7.994 BETA (3) = 4.239

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0371		.1075		.1811	-.0631	-.3478			
180.000	-.0484	-.0137	.1063	.2917						

ALPHA (5) = 11.867 BETA (1) = -3.958 MACH = 1.3955 Q = 600.34 P = 440.41 RN/L = 2.9245

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3874	1.1489	.6728	.4859	.3540			.1828		.1667	.1424	.1180	.1436	.1493	.1512
20.000			.7161	.5100	.3590	.2470		.1981		.1568					
40.000			.7969	.5475	.4238	.2919		.2470		.1566	.1710	.1832	.1764	.1441	.1689
55.000			.7435	.5147	.4033	.2440		.2042		.1380					
70.000			.6749	.4530	.3356	.2353		.1898		.1288	-.0761	-.0096	-.0181	-.0964	
80.000		.7694	.6176	.4059	.2953	.1950		.1787		.2278	-.0992	-.0372	-.0681	-.1385	
90.000			.4907	.3064	.1785	.1573		.4267		.1851	-.1218	-.3012	-.4330	-.4863	
100.000										.1085					
110.000			.3469	.2183	.1422	.1305		.8742		-.0761	-.4702	-.4292	-.2571	-.1584	
120.000									.6545						
135.000									.6849						
150.000										-.3276	-.4327	-.3625	-.2194	-.1044	
165.000								.8422							
180.000	1.3874	.4819	.2553	.2284	.1151	.1213	.6707	.7984		-.4068	-.4402	-.2927	-.2076	-.0726	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1774	.2005	.2188	.1836	.1250	.0752	.0233		.5585	.4648
40.000	.2236		.2525	.1983	.1080	.1482	-.0041		.4382	.2914
70.000	-.1827	-.3355	-.3655	-.2810	-.2312	-.0918	-.1112			
90.000	-.1549	-.2623	-.3066	-.0914	-.2145	-.2256	-.0957			
105.000			-.2656	.0034	-.2206	-.3081	-.2126			
110.000								-.2368		
120.000	-.1890	-.1951	-.0355	.0641	-.1337	-.2301	-.2559	-.2719		
135.000			-.0396	.1369	-.1033	-.1404	-.1685			
150.000	-.1009	-.1766	-.1414	.2273	-.0541	-.1370	-.2068			
165.000	-.0937		-.0904		.2158	.0240	-.3235			
180.000	-.0602	-.0629	-.0627	.3428						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8B47)

ALPHA (5) = 11.873 BETA (2) = .176 MACH = 1.3955 Q = 600.34 P = 440.41 RN/L = 2.9245

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3942	1.1523	.6755	.4913	.3675			.1896		.1648	.1377	.1287	.1590	.1606	.1494
20.000			.6845	.4828	.3427	.2382		.1801		.1495					
40.000			.6982	.4814	.3698	.2439		.1957		.1136	.1271	.1342	.1597	.1278	.1501
55.000			.6281	.4033	.3092	.1443		.1183		.0596					
70.000			.5632	.3406	.2490	.1499		.1157		.0664	-.1177	-.0726	-.0905	-.1679	
90.000		.6312	.5205	.3042	.2134	.1183		.1153		.1632	-.1456	-.0974	-.1295	-.1964	
120.000			.4293	.2519	.1514	.1174		.4005		.1188	-.1808	-.3504	-.4335	-.2453	
140.000										.0232					
150.000			.3264	.2384	.1221	.1278		.7358		-.2041	-.4664	-.3931	-.1970	-.0908	
151.000									.5859						
162.000									.6289						
165.000										-.3153	-.4275	-.3171	-.1913	-.0568	
169.000								.8077							
174.000							.7393								
180.000	1.3942	.4626	.2653	.2372	.1179	.1278		.8167		-.4378	-.4582	-.2737	-.2010	-.0450	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1723	.2001	.2388	.1936	.1354	.0791	.0142		.5520	.4636
40.000	.2001		.2529	.2116	.1188	.1243	.0060		.4255	.3050
70.000	-.2313	-.3577	-.3948	-.2100	-.2620	-.2480	-.2358			
90.000	-.1450	-.2384	-.3021	-.1102	-.2605	-.2806	-.2477			
105.000			-.2022	.0010	-.3067	-.3612	-.3418			
110.000								-.3473		
120.000	-.0391	-.1237	.0183	-.0449	-.1374	-.2474	-.3146	-.3657		
135.000			.0060	.0741	-.0021	-.1608	-.2089			
150.000	-.0702	-.0867	-.1071	.3284	-.0198	-.1117	-.1649			
165.000	-.0462		-.0563		.2275	-.0298	-.3371			
180.000	-.0388	-.0343	-.0297	.3584						

ALPHA (5) = 11.868 BETA (3) = 4.257 MACH = 1.3955 Q = 600.34 P = 440.41 RN/L = 2.9245

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0090	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3845	1.1399	.6663	.4854	.3584			.1846		.1547	.1344	.1190	.1493	.1472	.1428
20.000			.6378	.4487	.3138	.2081		.1575		.1288					
40.000			.5958	.4036	.3013	.1885		.1393		.0554	.0643	.0783	.1297	.1024	.1209
55.000			.5054	.2999	.2136	.0540		.0471		-.0046					
70.000			.4533	.2400	.1614	.0754		.0589		.0207	-.1606	-.1214	-.1454	-.2332	
90.000		.4896	.4299	.2159	.1376	.0514		.0627		.1000	-.1908	-.1473	-.1813	-.2414	
120.000			.3681	.2015	.1081	.0879		.3605		.0386	-.2399	-.3807	-.3805	-.1464	

AMES 11-073(OA148) -140A/B/C'R ORB FUSELAGE (XE8847)

ALPHA (5) = 11.868 BETA (3) = 4.257

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.0683					
150.000			.2949	.2298	.0907	.1028		.6608		-.2824	-.4696	-.3564	-.1756	-.0633	
151.000									.4859						
162.000									.5583						
165.000										-.3249	-.4493	-.2830	-.2006	-.0548	
169.000								.7664							
174.000							.6769								
180.000	1.3845	.4391	.2617	.2558	.1308	.1176		.8254		-.4229	-.4335	-.2941	-.2098	-.0758	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1603	.2077	.2275	.1919	.1243	.0768	.0087		.5559	.4684
40.000	.1711		.2544	.2120	.1132	.1146	.0073		.4181	.3151
70.000	-.2180	-.3370	-.3770	-.2173	-.2377	-.2968	-.2632			
90.000	-.1162	-.2246	-.2506	-.1405	-.3025	-.3001	-.2624			
105.000			-.0683	-.0858	-.3984	-.4119	-.3918			
110.000								-.3638		
120.000	-.0746	-.0965	.0101	-.1424	-.1713	-.3048	-.4198	-.4525		
135.000			-.0584	.1415	-.1051	-.1746	-.2143			
150.000	-.0426	-.0412	-.0024	.2824	-.0412	-.1438	-.2156			
165.000	-.0386		-.0471		.2127	-.0887	-.3485			
180.000	-.0590	-.0549	-.0574	.3453						

ALPHA (6) = 15.839 BETA (1) = -3.834 MACH = 1.3943 Q = 600.32 P = 441.12 RN/L = 2.9229

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3190	1.2449	.7983	.5958	.4663			.2689		.2406	.2099	.1910	.2094	.2222	.2345
20.000			.8365	.6207	.4632	.3408		.2807		.2415					
40.000			.8627	.6377	.5063	.3807		.3108		.2205	.2304	.2210	.2453	.2271	.2533
55.000			.7565	.5330	.4130	.2361		.1835		.1287					
70.000			.6518	.4434	.3236	.2363		.1757		.1190	-.0717	-.0178	-.0159	-.1082	
90.000		.7060	.5575	.3729	.2705	.1604		.1549		.1860	-.0909	-.0251	-.0579	-.1328	
120.000			.4076	.2236	.0837	.0820		.3000		.1785	-.1260	-.3010	-.5135	-.4175	
140.000										.1195					
150.000			.2488	.1111	.0660	.0575		.7930		-.0271	-.5113	-.4808	-.3109	-.3099	
151.000									.6295						
162.000									.6453						
165.000										-.3770	-.4657	-.4038	-.2481	-.1198	
169.000								.8029							
174.000							.5854								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE0847)

ALPHA (6) = 15.839 BETA (1) = -3.834

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.3190	.3201	.1554	.1425	.0514	.0641		.7284		-.4400	-.4612	-.3059	-.1955	-.0708	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2738	.2972	.3264	.2934	.2419	.1546	.0796		.6551	.5825
40.000	.3146		.3625	.3202	.2133	.2078	.0633		.4953	.3355
70.000	-.2507	-.4391	-.5220	-.4608	-.4425	-.3815	-.1717			
90.000	-.1441	-.3102	-.3732	-.1938	-.2726	-.3050	-.2668			
105.000			-.2943	-.0360	-.2850	-.3635	-.3671			
110.000								-.3039		
120.000	-.2291	-.1979	-.1112	.0952	-.1953	-.2733	-.2817	-.3480		
135.000			-.0370	.0359	-.2011	-.1834	-.2137			
150.000	-.2811	-.3208	-.1926	.1495	-.3729	-.2776	-.3028			
165.000	-.1210		-.2059		.1681	-.0515	-.3546			
180.000	-.0782	-.1013	-.1036	.2421						

ALPHA (6) = 15.851 BETA (2) = .174 MACH = 1.3943 Q = 600.32 P = 441.12 RN/L = 2.9229

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3233	1.2485	.8011	.6023	.4709			.2714		.2441	.2111	.1914	.2158	.2295	.2314
20.000			.7992	.5941	.4410	.3221		.2612		.2224					
40.000			.7646	.5625	.4389	.3150		.2433		.1549	.1563	.1733	.2057	.2021	.2258
55.000			.6284	.4131	.3046	.1233		.0898		.0444					
70.000			.5324	.3282	.2295	.1417		.0988		.0494	-.1140	-.0802	-.0873	-.1954	
90.000		.5678	.4715	.2735	.1843	.0914		.0926		.1438	-.1409	-.0821	-.1184	-.1987	
120.000			.3521	.1718	.0536	.0568		.3195		.1115	-.1801	-.3356	-.5251	-.3197	
140.000										.0302					
150.000			.2263	.1346	.0586	.0665		.6350		-.1695	-.4948	-.4478	-.2421	-.1063	
151.000									.5499						
162.000									.6060						
165.000										-.3496	-.4521	-.3377	-.1866	-.0664	
169.000								.7383							
174.000							.6452								
180.000	1.3233	.2884	.1612	.1608	.0636	.0695		.7621		-.4637	-.4811	-.2865	-.1774	-.0549	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2656	.2954	.3508	.3182	.2446	.1586	.0793		.6532	.5241
40.000	.2681		.3565	.3326	.2217	.2087	.0580		.5002	.3517

DATE 10 FEB 76 TABULATED PRESSURE DATA - OA148 (AMES 11-073-1)

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8847)

ALPHA (6) = 15.851 BETA (2) = .174

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.3464	-.4861	-.5438	-.4605	-.4990	-.4541	-.2739			
90.000	-.2120	-.3290	-.3981	-.2572	-.3740	-.3657	-.3154			
105.000			-.2857	-.0801	-.4073	-.4463	-.4236	-.4133		
110.000								-.3895		
120.000	-.1203	-.1609	-.0855	-.0181	-.1924	-.2567	-.3284			
135.000			.0043	.0057	-.1140	-.1806	-.2312			
150.000	-.1532	-.1735	-.1853	.2555	-.2695	-.2272	-.2629			
165.000	-.0792		-.1039		.2447	-.0736	-.3652			
180.000	-.0725	-.0509	-.0768	.2716						

ALPHA (6) = 15.843 BETA (3) = 4.283 MACH = 1.3943 Q = 600.32 P = 441.12 RN/L = 2.9229

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
000	1.3183	1.2391	.7892	.5939	.4620			.2663		.2341	.2058	.1941	.2165	.2205	.2268
30.000			.7510	.5516	.4073	.2957		.2308		.1930					
45.000			.6566	.4785	.3601	.2379		.1615		.0814	.0663	.1190	.1662	.1695	.1978
60.000			.4981	.3002	.1998	.0190		-.0076		-.0452					
75.000			.4121	.2260	.1420	.0660		.0299		-.0128	-.1455	-.1294	-.1546	-.2903	
90.000		.4357	.3876	.1875	.1106	.0294		.0391		.0969	-.1760	-.1350	-.1759	-.2478	
120.000			.3059	.1297	.0441	.0358		.2946		.0552	-.2296	-.3705	-.4889	-.2056	
150.000										-.0520					
165.000			.2082	.1336	.0545	.0525		.5960		-.2829	-.4938	-.3870	-.1844	-.0771	
151.000									.4651						
157.500									.5314						
165.000										-.3526	-.4605	-.2924	-.1780	-.0525	
172.500								.7039							
180.000							.5892								
180.000	1.3183	.2691	.1596	.1618	.0769	.0556		.7574		-.4577	-.4523	-.3056	-.2006	-.0698	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
000	.2615	.3092	.3358	.2959	.2275	.1506	.0678		.6534	.5265
30.000	.2540		.3573	.3034	.2123	.2014	.0650		.4929	.3681
45.000	-.4051	-.4540	-.5051	-.4315	-.4731	-.3739	-.2634			
60.000	-.2217	-.3532	-.4033	-.2691	-.3982	-.3753	-.3413			
75.000			-.2455	-.1753	-.5069	-.5278	-.4809			
90.000								-.4106		
120.000	-.1029	-.1355	-.0444	-.1942	-.1793	-.2647	-.3965	-.3934		
150.000			-.1609	.0880	-.1817	-.2582	-.2849			
165.000	-.0815	-.0889	-.1152	.2305	-.0848	-.1309	-.2185			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8847)

ALPHA (6) = 15.843 BETA (3) = 4.283

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0629		-.0878		.2790	-.0763	-.3815			
180.000	-.0771	-.1083	-.1063	.2480						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8848) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT.	XMRP = 1076.6800 IN. XO		
LREF = 474.8000 IN.	YMRP = .0000 IN. YO		
BREF = 936.6800 IN.	ZMRP = 375.0000 IN. ZO		
SCALE = .0300			

PARAMETRIC DATA

RUDDER =	-10.000	SPDBRK =	85.000
BDFLAP =	16.300	L-ELVN =	4.000
R-ELVN =	4.000	MACH =	1.250

ALPHA (1) = -4.024 BETA (1) = -3.849 MACH = 1.2475 Q = 600.37 P = 551.11 RN/L = 3.0241

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4041	.6280	.1835	.0640	.0036			-.0203		-.0101	-.0179	-.0536	-.0697	-.0996	-.0597
20.000			.2239	.0731	-.0153	-.0643		-.0434		-.0698					
40.000			.4090	.1106	.0337	-.0560		-.1054		-.2022	-.2036	-.1539	-.0916	-.1275	-.0776
55.000			.5640	.2971	.2198	.1250		.0858		.0222					
70.000			.6652	.4077	.3190	.2674		.1905		.0730	-.2749	-.1294	-.0732	.0202	
90.000		.9200	.7345	.4859	.3662	.3237		.2385		.0128	-.2465	-.2404	-.0937	.0135	
[illegible]			.8030	.6142	.4650	.5244		.4949		.0732	-.1786	-.4161	-.1312	-.0246	
[illegible]										.0432					
[illegible]			.7354	.6467	.5331	.6081		.9228		-.1984	-.3926	-.2258	-.1256	-.0720	
151.000									.6519						
162.000									.7094						
[illegible]										-.2652	-.2911	-.2277	-.1411	-.0826	
[illegible]								.9785							
174.000							1.0497								
180.000	1.4041	1.0051	.7335	.6130	.5293	.6052		.9101		-.3726	-.3705	-.1812	-.1652	-.0567	

X/LB	.6520	.7230	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0004	-.0246	-.0562	-.1208	-.1955	-.2496	-.2982		.2222	.1837
20.000	-.0703		-.0879	-.1253	-.2066	-.1728	-.3187		.0742	.0357
[illegible]	.0931	.0039	-.0054	.3159	.1492	-.0026	-.0946			
[illegible]	[illegible]	[illegible]	.1842	.2754	[illegible]	.0128	-.0069			
[illegible]			[illegible]	[illegible]	.0485	-.0415	.0927			
110.000								-.2712		
[illegible]	.0576	.0566	.4267	.3028	.0142	-.0331	-.0504	-.2207		
[illegible]			.4773	.4829	.0638	.0641	.0287			
[illegible]	.0355	.1032	.4884	.4709	.1558	.1488	.0563			
[illegible]	.0167		.4584		.4353	.2353	-.3054			
180.000	.0144	.1236	.4571	.4928						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8848)

ALPHA (1) = -4.006 BETA (2) = .189 MACH = 1.2475 Q = 600.37 P = 551.11 RN/L = 3.0241

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4108	.6285	.1997	.0563	.0346			-.0093		.0010	-.0047	-.0547	-.0747	-.0953	-.0556
30.000			.2143	.0627	-.0006	-.0326		-.0227		-.0410					
40.000			.3546	.0917	.0301	-.0256		-.0531		-.1433	-.1341	-.1231	-.0865	-.0931	-.0598
65.000			.4760	.2199	.1580	.0662		.0622		-.0214					
90.000			.5594	.2997	.2291	.1800		.1358		.0123	-.3385	-.2079	-.1179	-.0046	
95.000		.7866	.6257	.3714	.2746	.2272		.1611		-.0859	-.3212	-.3167	-.1231	-.0048	
115.000			.7103	.5184	.3963	.4473		.3935		-.0418	-.2742	-.4945	-.1895	-.0375	
140.000										-.1634					
150.000			.7457	.6126	.5007	.5731		.8550		-.2806	-.3649	-.2490	-.1628	-.0603	
160.000									.5665						
165.000									.6462						
168.000										-.2711	-.3496	-.1725	-.1703	-.0660	
169.000								.9529							
174.000							1.0445								
180.000	1.4108	.9995	.7483	.6256	.5382	.6160		.9437		-.3411	-.4052	-.1481	-.1670	-.0711	

X/LB	.0620	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0016	-.0249	-.0525	-.1176	-.1976	-.2506	-.2978		.2104	.1996
40.000	-.0374		-.0690	-.1136	-.1990	-.1608	-.3038		.0766	.0366
70.000	.0679	-.0050	.1132	.2969	.1059	-.0408	-.1338			
90.000	.0802	.0412	.2230	.2625	.0527	-.0348	-.0973			
105.000			.3312	.2377	-.0211	-.0850	-.1319			
110.000								-.2993		
120.000	.0735	.1062	.3631	.1350	-.0561	-.1224	-.1560	-.2545		
135.000			.4667	.4535	.0123	-.0233	-.0520			
150.000	.0396	.1200	.4769	.4821	.1180	.0442	-.0293			
165.000	.0329		.4797		.3522	.1173	-.3600			
180.000	.0252	.1334	.4866	.5751						

ALPHA (1) = -4.015 BETA (3) = 4.273 MACH = 1.2475 Q = 600.37 P = 551.11 RN/L = 3.0241

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3927	.6156	.1958	.0462	.0340			-.0042		-.0062	-.0130	-.0522	-.0695	-.0992	-.0751
30.000			.1979	.0469	-.0047	-.0427		-.0141		-.0248					
40.000			.2979	.0580	.0123	-.0304		-.0292		-.0861	-.0972	-.1039	-.0775	-.0857	-.0458
65.000			.3906	.1382	.0916	.0167		.0208		-.0521					
90.000			.4883	.1917	.1276	.0973		.0701		-.0477	-.3949	-.2472	-.1385	-.0169	
95.000		.6459	.5161	.2561	.1409	.1226		.0809		-.1835	-.3927	-.3704	-.1263	-.0210	
110.000			.6092	.4183	.2721	.3399		.2774		-.1563	-.3446	-.5530	-.2608	-.0562	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8848)

ALPHA (1) = -4.015 BETA (3) = 4.273

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.3196					
150.000			.6812	.5655	.4407	.5061		.7658		-.3297	-.3925	-.1993	-.2238	-.0885	
151.000									.4576						
162.000									.5651						
165.000										-.2795	-.4146	-.1649	-.1911	-.0963	
168.000								.9036							
174.000							.9875								
180.000	1.3927	.9781	.7385	.6157	.5233	.5998		.9274		-.3830	-.3492	-.1795	-.1637	-.0991	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0161	-.0201	-.0575	-.1185	-.1988	-.2487	-.2970		.2118	.1768
40.000	-.0151		-.0485	-.1067	-.2054	-.1846	-.2930		.1121	.0547
70.000	.0592	-.0134	.1453	.2905	.0830	-.0688	-.1632			
90.000	.0659	.0445	.2188	.2689	.0095	-.0949	-.1427			
105.000			.3054	.1894	-.0637	-.1274	-.1762			
110.000								-.3324		
120.000	.0542	.1241	.3175	.0445	-.1523	-.2402	-.2655	-.3067		
135.000			.4066	.4295	-.0455	-.1132	-.1464			
150.000	.0136	.1372	.4351	.4593	.0629	-.0576	-.1278			
165.000	.0066		.4437		.2820	.0332	-.3836			
180.000	.0006	.1130	.4595	.5069						

ALPHA (2) = .012 BETA (1) = -3.869 MACH = 1.2460 Q = 599.92 P = 552.04 RN/L = 3.0247

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4118	.7574	.3001	.1603	.0804			.0144		.0220	.0204	-.0081	-.0284	-.0671	-.0560
20.000			.3390	.1771	.0643	.0080		.0120		-.0219					
40.000			.5111	.2359	.1353	.0488		.0111		-.0746	-.0812	-.0720	-.0215	-.0794	-.0352
55.000			.6273	.3746	.2773	.1841		.1657		.0889					
70.000			.6918	.4305	.3251	.2728		.2275		.1248	-.2565	-.1030	-.0824	-.0340	
80.000		.8975	.7183	.4746	.3721	.3221		.2744		.0667	-.2381	-.1957	-.1254	-.0345	
120.000			.7329	.5418	.3994	.4709		.5050		.0809	-.1852	-.4086	-.1643	-.0825	
140.000										.0261					
150.000			.6839	.5345	.4062	.5194		.6979		-.2313	-.4562	-.3028	-.1700	-.0935	
161.000									.6314						
169.000									.6791						
165.000										-.3215	-.4007	-.2998	-.1865	-.0843	
168.000								.9429							
174.000							1.0035								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8848)

ALPHA (2) = .012 BETA (1) = -3.869

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.4118	.8796	.6110	.4989	.3992	.5116		.8679		-.4250	-.4283	-.2443	-.2082	-.0810	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.0153	.0191	.0073	-.0502	-.1207	-.1802	-.2254		.2611	.2226					
40.000	-.0192		-.0104	-.0504	-.1380	-.0901	-.2377		.1687	.1111					
70.000	.0094	-.1021	-.1716	.1690	.0723	-.0596	-.1310								
90.000	.0356	-.0407	-.0528	.1519	.0464	-.0499	-.1393								
105.000			.1607	.1862	-.0208	-.1182	-.1645								
110.000								-.3089							
120.000	-.0041	-.0133	.3341	.2142	-.0476	-.1222	-.1244	-.2484							
135.000			.3896	.3697	-.0208	-.0293	-.0436								
150.000	.0129	.0441	.3766	.3634	.0513	.0643	-.0095								
165.000	.0023		.3693		.3566	.1618	-.3289								
180.000	-.0025	.0976	.3622	.3607											

ALPHA (2) = .020 BETA (2) = .189 MACH = 1.2460 Q = 599.92 P = 552.04 RN/L = 3.0247

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4164	.7594	.3017	.1490	.1052			.0194		.0392	.0305	-.0036	-.0313	-.0592	-.0531
20.000			.3224	.1619	.0814	.0160		.0316		.0047					
40.000			.4428	.2001	.1170	.0430		.0531		-.0312	-.0432	-.0524	-.0306	-.0722	-.0328
55.000			.5285	.2839	.2046	.1295		.1321		.0527					
70.000			.5762	.3235	.2263	.1817		.1722		.0649	-.3065	-.1782	-.1402	-.0439	
90.000		.7549	.6097	.3643	.2372	.2284		.2041		-.0210	-.3018	-.2761	-.1647	-.0444	
120.000			.6487	.4547	.3176	.4037		.4138		-.0245	-.2718	-.4793	-.1640	-.0608	
140.000										-.1140					
150.000			.6402	.5064	.3752	.4919		.8237		-.3192	-.4633	-.3165	-.1836	-.0583	
151.000									.5479						
162.000									.6158						
165.000										-.3261	-.3953	-.2440	-.2029	-.0559	
169.000								.9154							
174.000							.9909								
180.000	1.4164	.8706	.6218	.5029	.4092	.5233		.9020		-.4600	-.4679	-.2176	-.2093	-.0575	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.0135	.0196	.0137	-.0462	-.1223	-.1769	-.2288		.2804	.2355					
40.000	.0017		.0078	-.0377	-.1349	-.1103	-.2298		.1457	.0781					

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8848)

ALPHA (2) = .020 BETA (2) = .189

SECTION 1 1:ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.0073	-.1082	-.1217	.1696	.0223	-.0952	-.1719			
90.000	.0229	-.0479	.0759	.1237	-.0226	-.0902	-.1590			
105.000			.2080	.1226	-.0921	-.1570	-.1931			
110.000								-.3433		
120.000	.0343	.0332	.2947	.1776	-.0824	-.1840	-.2272	-.2910		
135.000			.3260	.3774	.0017	-.0924	-.1213			
150.000	.0253	.0749	.3473	.3942	.0618	-.0180	-.1007			
165.000	.0806		.3655		.2693	.0559	-.3622			
180.000	.0104	.0780	.3774	.4729						

ALPHA 2) = .014 BETA (3) = 4.249 MACH = 1.2460 Q = 599.92 P = 552.04 RN/L = 3.0247

SECTION 1 1:ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4046	.7478	.2397	.1555	.1099			-.0039		.0190	.0230	-.0025	-.0269	-.0640	-.0627
[illegible]			.2345	.1413	.0749	-.0055		.0034		.0091					
30.000			.3743	.1519	.0962	.0108		.0452		-.0112	-.0197	-.0465	-.0366	-.0814	-.0374
60.000			.4345	.1922	.1396	.0525		.0877		.0166					
90.000			.4678	.2137	.1422	.0984		.1167		.0143	-.3542	-.2254	-.1751	-.0496	
90.000		.6104	.5056	.2552	.1405	.1129		.1365		-.1064	-.3636	-.3290	-.1706	-.0454	
120.000			.5585	.3688	.2142	.3148		.3103		-.1307	-.3589	-.5336	-.1716	-.0519	
[illegible]										-.3140					
150.000			.5870	.4688	.3265	.4337		.7435		-.3783	-.4378	-.2671	-.2292	-.0655	
180.000									.4467						
[illegible]									.5374						
[illegible]										-.3358	-.4756	-.2277	-.2249	-.0697	
210.000								.868.							
[illegible]							.9424								
240.000	1.4046	.8489	.6175	.5057	.3938	.5046		.8865		-.4383	-.4123	-.2414	-.2051	-.0820	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
[illegible]	-.0010	.0247	.0039	-.0487	-.1218	-.1785	-.2303		.2603	.2237
[illegible]	.0261		.0195	-.0334	-.1326	-.1194	-.2243		.1631	.0829
30.000	-.0121	-.1170	-.0815	.1665	-.0034	-.1291	-.2090			
60.000	.0200	-.0535	.0806	.1255	-.0774	-.1364	-.1940			
90.000			.1389	.1146	-.1465	-.2042	-.2357			
[illegible]								-.3702		
[illegible]	.0364	.0395	.2453	.0231	-.1693	-.2870	-.3233	-.3468		
[illegible]			.3231	.3300	-.0757	-.1694	-.2099			
210.000	.0150	.0955	.3431	.3416	.0205	-.1017	-.1853			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8B48)

ALPHA (2) = .014 BETA (3) = 4.249

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	.0032		.3463		.2093	-.0123	-.3829			
180.000	-.0033	.0955	.3593	.3727						

ALPHA (3) = 3.961 BETA (1) = -3.873 MACH = 1.2462 Q = 600.16 P = 552.05 RN/L = 3.0262

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4004	.6962	.4186	.2743	.1660			.0556		.0561	.0639	.0383	.0291	-.0146	-.0188
20.000			.4606	.2838	.1627	.0755		.0662		.0328					
40.000			.6051	.3463	.2235	.1344		.1127		.0363	.0295	.0128	.0460	-.0188	-.0009
55.000			.6787	.4406	.3270	.2204		.2200		.1503					
70.000			.6886	.4493	.3260	.2541		.2490		.1694	-.2224	-.0787	-.0758	-.1065	
90.000		.8627	.6838	.4623	.3251	.2909		.2921		.1205	-.2175	-.1348	-.1324	-.1009	
120.000			.6532	.4680	.3192	.3793		.5066		.0958	-.1979	-.4068	-.2750	-.1737	
140.000										.0224					
150.000			.5698	.4312	.2678	.4123		.8736		-.2387	-.5097	-.3936	-.1942	-.1013	
151.000									.6146						
162.000									.6474						
165.000										-.3720	-.4658	-.3606	-.2088	-.0751	
169.000								.9081							
174.000							.9543								
180.000	1.4004	.7450	.4851	.4036	.2673	.4081		.8277		-.4724	-.4746	-.2934	-.2300	-.0664	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0406	.0715	.0875	.0355	-.0372	-.1033	-.1519		.3716	.3022
40.000	.0538		.0717	.0369	-.0563	-.0268	-.1704		.2686	.1845
70.000	-.0586	-.1896	-.2490	-.0258	-.0118	-.1093	-..558			
90.000	-.0287	-.1361	-.1935	.0506	-.0341	-.1172	-.1916			
105.000			.0076	.1156	-.1433	-.1792	-.2314			
110.000								-.3496		
120.000	-.0801	-.0907	.2314	.1493	-.0905	-.2241	-.1890	-.2883		
135.000			.2617	.2631	-.0819	-.1262	-.1320			
150.000	-.0207	.0540	.2663	.2592	-.0412	.0023	-.0898			
165.000	-.0105		.2694		.2628	.1155	-.3197			
180.000	-.0055	.1038	.2581	.3088						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8848)

ALPHA (3) = 3.960 BETA (2) = .185 MACH = 1.2462 Q = 600.16 P = 552.05 RN/L = 3.0262

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4041	.8844	.4179	.2733	.1909			.0585		.0686	.0750	.0476	.0248	-.0091	-.0128
20.000			.4394	.2751	.1617	.0785		.0665		.0519					
40.000			.5311	.3022	.2034	.1083		.1106		.0583	.0373	.0142	.0274	-.0238	-.0084
55.000			.5733	.3429	.2529	.1436		.1782		.1042					
70.000			.5773	.3434	.2362	.1643		.1973		.1123	-.2657	-.1560	-.1336	-.1140	
90.000		.7192	.5858	.3580	.2249	.1808		.2326		.0425	-.2756	-.2118	-.1885	-.1046	
120.000			.5780	.4007	.2418	.3172		.4326		.0012	-.2697	-.4660	-.2203	-.1074	
140.000										-.0886					
150.000			.5353	.4176	.2539	.4010		.7894		-.3305	-.5144	-.3712	-.1873	-.0585	
161.000									.5339						
168.000									.5935						
171.000										-.3715	-.4418	-.2948	-.2149	-.0470	
169.000								.8766							
174.000							.9341								
180.000	1.4041	.7350	.5066	.4066	.2833	.4227		.8622		-.5130	-.5142	-.2658	-.2269	-.0475	
ANG	.6520	.7230	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.0331	.0793	.0948	.0372	-.0369	-.1013	-.1610		.3728	.2985					
40.000	.0563		.0962	.0512	-.0562	-.0435	-.1658		.2529	.1609					
70.000	-.0091	-.1897	-.2491	.0076	-.0614	-.1474	-.2145								
90.000	-.0282	-.1318	-.0613	.0266	-.1008	-.1527	-.2105								
105.000			.1189	.0641	-.2065	-.2164	-.2490								
110.000								-.3724							
121.000	-.0170	-.0345	.2154	.0946	-.1135	-.2610	-.2606	-.3262							
130.000			.2317	.2937	-.0411	-.1495	-.1945								
150.000	.0114	.0303	.2428	.4091	.0231	-.0702	-.1563								
165.000	.0102		.2559		.2266	.0037	-.3604								
180.000	.0075	.0369	.2781	.4417											

ALPHA (3) = 3.954 BETA (3) = 4.240 MACH = 1.2462 Q = 600.16 P = 552.05 RN/L = 3.0262

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3820	.8758	.4159	.2888	.1896			.0430		.0483	.0596	.0507	.0290	-.0127	-.0209
20.000			.4065	.2599	.1493	.0539		.0393		.0415					
40.000			.4822	.2572	.1716	.0686		.0765		.0443	.0457	.0109	.0080	-.0426	-.0294
55.000			.4682	.2489	.1601	.0626		.1252		.0684					
70.000			.4704	.2371	.1577	.0751		.1399		.0618	-.3054	-.2057	-.1847	-.1105	
90.000		.5717	.4845	.2546	.1474	.0809		.1698		-.0320	-.3271	-.2643	-.2222	-.0953	
120.000			.4908	.3236	.1639	.2275		.3392		-.0945	-.3457	-.5132	-.1696	-.0710	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8848)

ALPHA (3) = 3.964 BETA (3) = 4.240

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.2632					
150.000			.4923	.3877	.2082	.3423		.7219		-.4006	-.5027	-.3268	-.2156	-.0492	
161.000									.4391						
162.000									.5173						
165.000										-.3808	-.5168	-.2749	-.2401	-.0546	
169.000								.8321							
174.000							.89.								
180.000	1.3920	.7127	.5045	.4131	.2671	.3976		.8505		-.4904	-.4576	-.2874	-.2250	-.0569	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0192	.0825	.0912	.0380	-.0366	-.1022	-.1591		.3736	.3049
40.000	.0632		.1091	.0547	-.0548	-.0475	-.1666		.4516	.1536
70.000	-.0681	-.2002	-.2056	.0212	-.0777	-.1747	-.2452			
90.000	-.0282	-.1314	-.0143	.0130	-.1313	-.1815	-.2285			
105.000			.1067	.0223	-.2628	-.2578	-.2785			
110.000								-.3971		
120.000	.0132	-.0158	.1652	-.0239	-.1898	-.3356	-.4189	-.3627		
135.000			.2479	.2420	-.1344	-.2113	-.2552			
150.000	.0106	.0561	.2666	.2398	-.0482	-.1488	-.2224			
165.000	-.0004		.2624		.1865	-.0550	-.3896			
180.000	-.0104	.0979	.2696	.3047						

ALPHA (4) = 7.898 BETA (1) = -3.868 MACH = 1.2462 Q = 600.16 P = 552.05 RN/L = 3.0273

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3698	1.0057	.5428	.3785	.2583			.1148		.0960	.1003	.0925	.0911	.0454	.0482
20.000			.5941	.3952	.2501	.1622		.1233		.0930					
40.000			.6955	.4510	.3233	.2226		.1822		.1177	.1269	.0836	.1099	.0487	.0666
55.000			.7127	.4809	.3636	.2404		.2314		.1802					
70.000			.6807	.4548	.3259	.2404		.2477		.1946	-.1807	-.0602	-.0642	-.1535	
90.000		.8079	.6517	.4362	.3080	.2375		.2931		.1635	-.2005	-.0979	-.1313	-.1822	
120.000			.5661	.3893	.2569	.2505		.4964		.1071	-.2071	-.4027	-.4305	-.2922	
140.000										.0251					
150.000			.4526	.3358	.1829	.2319		.8544		-.2107	-.5560	-.4751	-.2307	-.1165	
161.000									.5958						
162.000									.6219						
165.000										-.4200	-.5164	-.4056	-.2164	-.0816	
169.000								.8796							
174.000							.8890								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8848)

ALPHA (4) = 7.898 BETA (1) = -3.868

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.3698	.6081	.3675	.3172	.1744	.2342		.7915		-.5148	-.5079	-.3231	-.2279	-.0644	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1064	.1321	.1714	.1278	.0493	-.0254	-.0882		.4749	.3689					
40.000	.1309		.1726	.1354	.0278	.0441	-.1144		.3745	.2329					
70.000	-.1406	-.2651	-.3251	-.1450	-.0869	-.1482	-.1792								
90.000	-.0977	-.2002	-.2766	-.0219	-.1660	-.1738	-.2096								
105.000			-.0656	.0402	-.2163	-.2975	-.2516								
110.000								-.3456							
120.000	-.1742	-.1639	.1118	.0785	-.1148	-.2478	-.2799	-.3140							
135.000			.0318	.1676	-.0848	-.1515	-.1771								
150.000	-.0720	-.0345	.0854	.2125	.0194	-.0492	-.1510								
165.000	-.0413		.1184		.2486	.0689	-.3588								
180.000	-.0335	-.0003	.1834	.4189											

ALPHA (4) = 8.000 BETA (2) = .178 MACH = 1.2462 Q = 600.16 P = 552.05 RN/L = 3.0273

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3737	1.0080	.5433	.3862	.2742			.1125		.1112	.0987	.1017	.0890	.0496	.0524
20.000			.5607	.3808	.2415	.1519		.1113		.0939					
40.000			.6149	.3997	.2846	.1875		.1483		.1062	.1109	.0744	.0836	.0369	.0496
55.000			.6006	.3808	.2808	.1594		.1662		.1371					
70.000			.5704	.3502	.2391	.1535		.1917		.1454	-.2193	-.1383	-.1308	-.2041	
90.000		.6713	.5501	.3419	.2200	.1528		.2414		.0949	-.2503	-.1756	-.1872	-.1735	
120.000			.4999	.3365	.1938	.1938		.4399		.0250	-.2715	-.4534	-.3652	-.1699	
140.000										-.0769					
150.000			.4306	.3386	.1526	.2212		.7674		-.3321	-.5574	-.4241	-.1954	-.0716	
161.000									.5257						
172.000									.5715						
180.000										-.4130	-.4857	-.3350	-.2067	-.0508	
174.000								.8310							
180.000	1.3737	.5992	.3998	.3167	.1783	.2485	.8645	.8223		-.5501	-.5518	-.3015	-.2244	-.0435	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.0896	.1459	.1887	.1323	.0526	-.0215	-.0872		.4757	.3640					
40.000	.1166		.2005	.1441	.0323	.0420	-.1135		.3500	.2182					

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8B48)

ALPHA (4) = 8.000 BETA (2) = .178

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1362	-.2470	-.3196	-.0983	-.1131	-.1882	-.2227			
90.000	-.0779	-.1951	-.2594	-.0132	-.2251	-.2038	-.2369			
105.000			-.0352	.0620	-.2903	-.3137	-.2852			
110.000								-.3910		
120.000	-.0722	-.0831	.1123	.0413	-.1600	-.2881	-.3615	-.3431		
135.000			.1135	.2433	-.0845	-.1939	-.2432			
150.000	-.0211	-.0350	.1658	.4449	-.0210	-.1251	-.1958			
165.000	-.0150		.1993		.1749	-.0605	-.1801			
180.000	-.0113	-.0028	.2277	.4764						

ALPHA (4) = 8.003 BETA (3) = 4.235 MACH = 1.2462 Q = 600.16 P = 552.05 RN/L = 3.0273

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3606	.9950	.5370	.3870	.2689										
20.000			.5188	.3504	.2227	.1211		.1065		.0929	.0900	.1009	.0912	.0488	.0401
40.000			.5252	.3337	.2328	.1245		.0949		.0667					
55.000			.4832	.2780	.1972	.0681		.1011		.0573	.0856	.0634	.0585	.0054	.0304
70.000			.4608	.2432	.1590	.0679		.0778		.0952					
90.000		.5275	.4547	.2413	.1440	.0669		.1388		.1016	-.2561	-.1840	-.1855	-.2112	
120.000			.4325	.2719	.1376	.1305		.1842		.0271	-.2974	-.2277	-.2364	-.1664	
140.000								.3641		-.0557	-.3342	-.4944	-.2269	-.0953	
150.000			.3336	.3122	.1131	.1816				-.1819					
151.000								.7016		-.4153	-.5615	-.3634	-.1925	-.0464	
160.000									.4360						
165.000									.4996						
169.000										-.4222	-.5380	-.3085	-.2286	-.0454	
174.000								.8024							
180.000	1.3606	.5674	.3868	.3377	.1692	.2242	.8354	.8205		-.5325	-.4915	-.3172	-.2317	-.0629	

X/LB	.5520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0778	.1483	.1798	.1305	.0492	-.0274	-.0955		.4779	.3698
40.000	.1011		.2065	.1499	.0297	.0261	-.1134		.3382	.2137
70.000	-.1190	-.2977	-.3152	-.0998	-.1478	-.2490	-.2659			
90.000	-.0533	-.1838	-.1361	-.0427	-.2255	-.1944	-.2769			
105.000			.0271	-.0086	-.3565	-.3109	-.3225			
110.000								-.4329		
120.000	-.0193	-.0669	.0879	-.0874	-.2135	-.3573	-.4563	-.3652		
135.000			.1930	.2474	-.1459	-.2400	-.2857			
150.000	-.0101	-.0070	.2315	.3445	-.0924	-.2037	-.2597			

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AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8848)

ALPHA (4) = 8.003 BETA (3) = 4.235

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0207		.1826		.1195	-.1347	-.4053			
180.000	-.0391	.0026	.1557	.3953						

ALPHA (5) = 11.933 BETA (1) = -3.854 MACH = 1.2450 Q = 599.95 P = 552.98 RN/L = 3.0281

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3185	1.1107	.6631	.4803	.3576			.1902		.1619	.1428	.1362	.1628	.1218	.1364
20.000			.7081	.5047	.3534	.2402		.1990		.1584					
40.000			.7776	.5450	.4116	.3004		.2435		.1685	.2008	.1574	.1786	.1244	.1602
55.000			.7350	.5092	.3847	.2496		.1985		.1742					
70.000			.6614	.4486	.3159	.2374		.1891		.2133	-.1208	-.0516	-.0580	-.1515	
90.000		.7507	.6025	.4026	.2784	.2006		.2411		.1961	-.1716	-.0754	-.1226	-.1937	
120.000			.4743	.2935	.1763	.1728		.4638		.1207	-.2055	-.3822	-.5592	-.4342	
140.000										.0350					
150.000			.3350	.2301	.1134	.1412		.8397		-.1105	-.5961	-.5361	-.2762	-.1556	
161.000									.5819						
160.000									.5989						
165.000										-.4642	-.5574	-.4489	-.2394	-.1028	
169.000								.8472							
174.000							.7867								
180.000	1.3186	.4611	.2513	.2315	.0983	.1271		.7617		-.5489	-.5363	-.3429	-.2090	-.0611	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1988	.2715	.2877	.2126	.1207	.0359	-.0334		.5654	.4175
40.000	.2208		.3156	.2279	.0901	.1224	-.0667		.4354	.2604
70.000	-.2527	-.3618	-.4142	-.2240	-.1939	-.1414	-.1761			
90.000	-.1688	-.2855	-.3572	-.0890	-.2341	-.2162	-.1683			
120.000			-.2874	.0104	-.2751	-.3705	-.2086			
140.000								-.3484		
150.000	-.1879	-.2061	-.0079	.0539	-.1823	-.2751	-.3117	-.2972		
161.000			-.0017	.1754	-.1407	-.1846	-.2218			
160.000	-.1082	-.2084	-.0441	.3068	-.0795	-.1740	-.2609			
165.000	-.0700		.0477		.1763	-.0229	-.3918			
180.000	-.0517	-.0474	.0780	.4378						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8848)

ALPHA (5) = 11.941 BETA (2) = .176 MACH = 1.2450 Q = 599.95 P = 552.98 RN/L = 3.0281

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3220	1.1154	.6661	.4895	.3718			.2005		.1686	.1344	.1544	.1633	.1278	.1372
20.000			.6776	.4833	.3419	.2193		.1984		.1511					
40.000			.6873	.4760	.3622	.2409		.2007		.1165	.1532	.1308	.1438	.1080	.1367
55.000			.6128	.3970	.2929	.1519		.1144		.1207					
70.000			.5463	.3386	.2311	.1526		.1262		.1655	-.1757	-.1223	-.1281	-.2248	
90.000		.6078	.5003	.3087	.2000	.1225		.2031		.1348	-.2259	-.1465	-.1831	-.2551	
120.000			.4116	.2537	.1399	.1307		.4244		.0476	-.2660	-.4349	-.5511	-.2225	
140.000										-.0627					
150.000			.3185	.2533	.0892	.1307		.7441		-.3216	-.5930	-.4738	-.2186	-.0814	
160.000									.5169						
170.000									.5475						
180.000										-.4468	-.5180	-.3600	-.1965	-.0471	
190.000								.7807							
200.000							.7840								
210.000	1.3220	.4368	.2656	.2365	.0991	.1357		.7759		-.5713	-.5746	-.3223	-.1955	-.0395	

Y/B	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1648	.3023	.2369	.2175	.1234	.0343	-.0275		.5628	.4123
40.000	.2027		.3172	.2314	.0949	.0987	-.0611		.4141	.2610
70.000	-.2553	-.3820	-.4224	-.2024	-.2563	-.2707	-.2395			
90.000	-.1437	-.2565	-.3407	-.1027	-.3021	-.2512	-.2949			
105.000			-.1922	-.0018	-.3541	-.4226	-.3181			
110.000								-.4382		
120.000	-.0855	-.1324	.0195	-.0303	-.2066	-.3099	-.3882	-.3928		
135.000			.0401	.1499	-.1379	-.2289	-.2886			
150.000	-.0640	-.0932	.0285	.4195	-.0683	-.1704	-.2263			
165.000	-.0407		.0800		.1625	-.1042	-.4006			
180.000	-.0336	-.0197	.1136	.4616						

ALPHA (5) = 11.936 BETA (3) = 4.253 MACH = 1.2450 Q = 599.95 P = 552.98 RN/L = 3.0281

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3116	1.1030	.6586	.4850	.3542			.1806		.1558	1366	.1478	.1635	.1201	.1326
20.000			.6317	.4469	.3066	.1925		.1590		.1211					
40.000			.5845	.4035	.2910	.1673		.1351		.0472	.1071	.1067	.1138	.0595	.1130
55.000			.4835	.2821	.1925	.0461		.0359		.0597					
70.000			.4319	.2283	.1427	.0727		.0640		.1140	-.2074	-.1755	-.1998	-.3051	
90.000		.4640	.4086	.2090	.1257	.0501		.1714		.0748	-.2688	-.2001	-.2380	-.2471	
120.000			.3529	.1943	.0958	.0854		.3777		-.0241	-.3259	-.4702	-.3522	-.1424	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XEB848)

ALPHA (5) = 11.935 BETA (3) = 4.253

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.1508					
150.000			.2913	.2290	.0599	.0972		.6626		-.4099	-.5931	-.4025	-.1847	-.0556	
151.000									.4321						
162.000									.4856						
165.000										-.4548	-.5440	-.3315	-.1946	-.0454	
169.000								.7609							
[illegible]							.7480								
180.000	1.3116	.4147	.2713	.2533	.1092	.1135		.7935		-.5598	-.5176	-.3456	-.2180	-.0605	

X/LB	.5520	.7280	.7730	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
[illegible]	.1033	.2305	.2827	.3117	.1149	.0256	-.0320		.5601	.4173
[illegible]	.1753		.3065	.2243	.0948	.0842	-.0661		.4091	.2529
[illegible]	[illegible]	-.3577	-.4220	-.1956	.2600	-.2769	-.2653			
[illegible]	[illegible]	-.2445	-.2718	-.1601	-.3295	-.2930	-.2825			
[illegible]			-.2694	-.1936	-.4632	-.4558	-.3366			
[illegible]								-.4368		
[illegible]	-.0419	-.1031	.0330	-.1727	-.2481	-.3955	-.5117	-.4930		
[illegible]			.0772	.1919	-.1528	-.2343	-.2877			
[illegible]	-.0276	-.0372	.1239	.3239	-.0950	-.2185	-.2848			
[illegible]	-.0387		.0788		.1374	-.1666	-.4156			
[illegible]	[illegible]	[illegible]	[illegible]	.4388						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8849) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 935.0860 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = -10.000 SPDBRK = 65.000
BDFLAP = 16.300 L-ELVN = 4.000
R-ELVN = 4.000 MACH = 1.100

ALPHA (I) = -4.022 BETA (I) = -3.848 MACH = 1.1001 Q = 600.26 P = 708.59 RN/L = 3.1930

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3163	.5497	.1319	.0706	.0108			-.0245		-.0620	-.0868	-.1440	-.1293	-.1045	-.0357
40.000			.1600	.0511	-.0382	-.0502		-.0719		-.1092					
70.000			-.3456	.0823	-.0123	-.0692		-.1610		-.2531	-.2382	-.2009	-.1578	-.1470	-.0503
90.000			.5105	.2765	.1846	.0903		.0175		-.0530					
105.000			.6251	.3606	.2994	.2429		.1189		-.0172	-.4013	-.1741	-.0852	-.0082	
120.000		.8787	.7030	.4724	.3544	.2931		.1521		-.0814	-.3529	-.3256	-.0956	-.0177	
140.000			.7803	.6063	.4672	.4937		.3987		-.0172	-.2899	-.5421	-.1090	-.0393	
150.000										-.0228					
151.000			.7839	.6428	.5483	.5800		.8330		-.2918	-.5135	-.3289	-.1679	-.0468	
160.000									.5458						
165.000									.6010						
169.000										-.4444	-.4213	-.2815	-.1964	-.0390	
174.000								.8877							
180.000	1.3163	.9758	.7254	.6112	.5388	.5760	.9761	.8174		-.5647	-.4424	-.2294	-.2254	-.0402	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0654	-.0256	-.0715	-.1497	-.2434	-.2941	-.3334		.2628	.1893
40.000	-.0444		-.0777	-.1435	-.2578	-.2349	-.3679		.1273	.0789
70.000	.1413	.0654	.2599	.3508	.0761	-.1059	-.2103			
90.000	.1538	.1222	.3159	.3594	.0456	-.0977	-.1780			
105.000			.3777	.3813	-.0440	-.1288	-.2047			
110.000								-.4229		
120.000	.1568	.2255	.4763	.4225	-.1062	-.0965	-.1439	-.3282		
135.000			.5322	.5514	-.0249	.0310	-.0467			
150.000	.1651	.2957	.5287	.5258	.0702	.0935	-.0273			
165.000	.1798		.5079		.3009	.1361	-.4021			
180.000	.1780	.3002	.4928	.5875						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XEB849)

ALPHA (1) = -4.022 BETA (2) = .189 MACH = 1.1001 Q = 600.26 P = 708.59 RN/L = 3.1930

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3201	.5509	.1413	.0803	.0234			-.0100		-.0487	-.0865	-.1423	-.1292	-.0974	-.0208
20.000			.1540	.0678	-.0126	-.0407		-.0359		-.0848					
40.000			.2994	.0777	-.0093	-.0422		-.1030		-.1799	-.1945	-.1917	-.1440	-.1141	-.0088
55.000			.4282	.1973	.1209	.0551		-.0184		-.1058					
[illegible]			.5155	.2827	.2062	.1675		.0525		-.0865	-.4703	-.2440	-.1127	-.0254	
[illegible]		.7399	.5595	.3532	.2815	.2035		.0730		-.2002	-.4306	-.4046	-.1122	-.0178	
[illegible]			[illegible]	.5041	.3950	.4094		.2949		-.1580	-.3976	-.6196	-.1523	-.0342	
[illegible]										-.2372					
[illegible]			.7316	.6033	.5067	.5396		.7619		-.4203	-.5115	-.2608	-.2120	-.0222	
[illegible]									.4596						
[illegible]									.5329						
[illegible]										-.4464	-.4495	-.2237	-.2254	-.0149	
[illegible]								.8590							
[illegible]							.9569								
[illegible]	1.3201	.9673	.7351	.6232	.5463	.5836		.8500		-.4814	-.5459	-.2051	-.2311	-.0137	
X/LB	.6520	.7280	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0450					
PHI															
[illegible]	[illegible]	[illegible]	-.0837	-.1536	-.2311	-.2983	-.3194		.2690	.2146					
[illegible]	[illegible]		-.0999	-.1525	-.2422	-.2408	-.3468		.1168	.0775					
[illegible]	[illegible]	.1217	.2573	.3134	.0347	-.1442	-.2524								
[illegible]	[illegible]	.1760	.3059	.3179	-.0201	-.1445	-.2166								
[illegible]			.3637	.2900	-.1071	-.1765	-.2446								
[illegible]								-.4552							
[illegible]	[illegible]	.2497	[illegible]	.2780	-.1915	-.1867	-.2310	-.3742							
[illegible]			[illegible]	.5350	-.0660	-.0795	-.1123								
[illegible]	[illegible]	.3050	[illegible]	.5734	.0203	-.0112	-.0954								
[illegible]	[illegible]		[illegible]		.2238	.0379	-.4207								
[illegible]	[illegible]	[illegible]	[illegible]	.0505											

ALPHA (1) = [illegible] BETA (2) = 4.271 MACH = 1.1001 Q = 600.26 P = 708.59 RN/L = 3.1930

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
[illegible]	[illegible]	.5354	.1232	.0776	.0219			-.0191		-.0420	-.0904	-.1454	-.1340	-.1053	-.0336
[illegible]			[illegible]	.0535	-.0169	-.0606		-.0205		-.0649					
[illegible]			[illegible]	.0589	.0045	-.0294		-.0625		-.1371	-.1659	-.1911	-.1446	-.0992	.0171
[illegible]			[illegible]	.1252	.0657	.0252		-.0401		-.1325					
[illegible]			[illegible]	.1792	.1221	.0992		.0000		-.1491	-.5245	-.3030	-.1129	[illegible]	
[illegible]		.5323	.4736	.2355	.1471	.1120		.0016		-.3014	-.5054	-.4573	-.1227	[illegible]	
[illegible]			.5912	.4021	.2767	.3045		.1915		-.2847	-.4642	-.6931	-.2175	[illegible]	

AMES 11-073(OA148) -140A/B/C/R OMB FUSELAGE (XE8E49)

ALPHA (1) = -4.029 BETA (3) = 4.271

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0030	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.4677					
150.000			.6661	.5594	.4538	.4762		.6725		-.4722	-.5262	-.2674	-.2875	-.0404	
151.000									.3533						
160.000									.4538						
165.000										-.4234	-.5481	-.2304	-.2570	-.0385	
169.000								.8126							
174.000							.9144								
180.000	1.3055	.9474	.7294	.6148	.5365	.5759		.8361		-.5719	-.4221	-.2293	-.2179	-.0438	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0857	-.0258	-.0777	-.1606	-.2504	-.3016	-.3347		.2757	.1826
40.000	.0496		-.0725	-.1495	-.2653	-.2358	-.3705		.1259	.0623
70.000	.1581	.1231	.2227	.2846	-.0102	-.1806	-.2957			
90.000	.1732	.1762	.2745	.2946	-.0622	-.2030	-.2737			
105.000			.3250	.2335	-.1728	-.2355	-.2964			
110.000								-.4830		
120.000	.1851	.2330	.3521	.1433	-.2837	-.2985	-.3466	-.4296		
130.000			.4636	.5010	-.1639	-.1935	-.2035			
150.000	.1904	.2886	.4686	.6054	-.0474	-.1359	-.1941			
165.000	.1819		.4776		.1500	-.0578	-.4412			
180.000	.1826	.3015	.4995	.6115						

ALPHA (2) = .025 BETA (1) = -3.865 MACH = 1.1003 Q = 600.53 P = 708.60 PN/L = 3.1951

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3276	.6884	.2520	.1687	.0787			.0186		-.0095	-.0335	-.0933	-.0852	-.0994	-.0320
20.000			.2933	.1634	.0478	.0216		-.0019		-.0444					
40.000			.4653	.2136	.1035	.0642		-.0305		-.1083	-.1177	-.1199	-.0819	-.1104	-.0282
55.000			.5923	.3592	.2651	.1826		.1054		.0136					
70.000			.6540	.4219	.3217	.2752		.1634		.0412	-.3818	-.1404	-.1340	-.0487	
90.000		.9810	.6953	.4712	.3514	.3165		.1960		-.0218	-.3471	-.2322	-.1576	-.0831	
120.000			.7151	.5431	.4342	.4565		.4129		-.0111	-.2903	-.5439	-.1819	-.0826	
140.000										-.0669					
150.000			.6759	.5413	.4609	.5063		.8099		-.3438	-.6093	-.4123	-.1785	-.0819	
151.000									.5226						
160.000									.5665						
165.000										-.4886	-.4914	-.3785	-.2151	-.0834	
169.000								.8519							
174.000							.9356								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8849)

ALPHA (2) = .025 BETA (1) = -3.866

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.3276	.8539	.6072	.5099	.4401	.5002		.7729		-.6008	-.5207	-.3037	-.2516	-.0435	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0917	.0576	.0213	-.0633	-.1418	-.2116	-.2555		.2932	.2102
40.000	.0031		.0300	-.0515	-.1744	-.1418	-.3045		.2187	.1210
70.000	.0354	-.1496	.0458	.2659	.0373	-.1282	-.2348			
90.000	.0677	-.0988	.1504	.2680	.0067	-.1371	-.2243			
105.000			.2711	.2805	-.0831	-.1848	-.2610			
110.000								-.4442		
120.000	.0416	.0[illegible]	.3958	.2878	-.1446	-.1661	-.1990	-.3570		
135.000			.4544	.4297	-.1072	-.0755	-.1274			
150.000	.0778	.1743	.4445	.4030	-.0126	-.0052	-.1088			
165.000	.0939		.4210		.2534	.0576	-.3873			
180.000	.0925	.2162	.4082	.4485						

ALPHA (2) = .030 BETA (2) = .185 MACH = 1.1003 Q = 600.53 P = 708.60 RN/L = 3.1951

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3326	.6922	.2628	.1738	.0808			.0336		.0060	-.0310	-.0896	-.0857	-.0975	-.0287
20.000			.2803	.1649	.0492	.0170		.0178		-.0242					
40.000			.4045	.1906	.0886	.0600		.0006		-.0718	-.0916	-.1211	-.0829	-.0876	-.0005
60.000			.4933	.2783	.1894	.1464		.0638		-.0308					
70.000			.5412	.3183	.2257	.2048		.1019		-.0270	-.4375	-.2181	-.[illegible]4	-.0535	
90.000		.7219	.5833	.3508	.2458	.2364		.1219		-.1208	-.4260	-.3161	-.1799	-.0514	
120.000			.6314	.4590	.3440	.3923		.3212		-.1378	-.3833	-.6046	-.1491	-.0460	
140.000										-.2174					
150.000			.6324	.5177	.4204	.4800		.7348		-.4818	-.5756	-.3808	-.2011	-.0332	
161.000									.4392						
165.000									.5059						
175.000										-.4964	-.5148	-.2937	-.2393	-.0294	
180.000								.8257							
174.000							.9275								
180.000	1.3326	.8454	.6196	.5207	.4515	.5113		.8088		-.5617	-.6159	-.2727	-.2497	-.0280	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0935	.0457	.0076	-.0715	-.1628	-.2280	-.2103		.3423	.2359
40.000	.0514		.0240	-.0607	-.1739	-.1560	-.2637		.1991	.1077

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8849)

ALPHA (2) = .030 BETA (2) = .186

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	.0233	-.1489	.1545	.2347	.0005	-.1522	-.2567			
90.000	.0523	-.0664	.1978	.2246	-.0508	-.1560	-.2377			
105.000			.2871	.1908	-.1314	-.2081	-.2798			
120.000	.0695	.0859	.3308	.2016	-.1769	-.2297	-.2748	-.4702		
135.000			.3892	.4177	-.0998	-.1427	-.1873	-.3852		
150.000	.0947	.1918	.4076	.4506	-.0265	-.0945	-.1739			
165.000	.0354		.4139		.1864	-.0329	-.4046			
180.000	.0947	.2006	.4214	.5376						

ALPHA (2) = .026 BETA (3) = 4.247 MACH = 1.1003 Q = 600.53 P = 708.60 RN/L = 3.1951

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
WP:															
.000	1.3194	.6756	.2500	.1728	.0790										
20.000			.2488	.1506	.0369	.0275		.0204		.0086	-.0412	-.0908	-.0860	-.1053	-.0413
40.000			.3299	.1586	.0651	.0593		.0213		-.0129					
55.000			.3935	.1998	.1188	.1087		.0275		-.0428	-.0881	-.1326	-.0961	-.0921	.0127
70.000			.4343	.2175	.1353	.1483		.0319		-.0659					
90.000		.5731	.4715	.2502	.1497	.1638		.0482		-.0812	-.4840	-.2841	-.2118	-.0467	
120.000			.5347	.3609	.2512	.3155		.0538		-.2203	-.4944	-.3757	-.1689	-.0439	
140.000								.2196		-.2575	-.4828	-.6659	-.1729	-.0343	
150.000			.5731	.4697	.3682	.4276				-.4621					
151.000								.6563		-.5457	-.5917	-.3333	-.2605	-.0387	
162.000									.3395						
165.000									.4252						
169.000										-.5050	-.6162	-.3013	-.2[illegible]	-.0438	
174.000								.7785							
180.000	1.3194	.8215	.6169	.5121	.4375	.4985	.8736								
								.7964		-.6131	-.5057	-.3029	-.2471	-.0446	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.3873	.0539	.0120	-.0659	-.1603	-.2256	-.2434		.2831	.2114
40.000	.0901		.0228	-.0582	-.1793	-.1826	-.2932		.1785	.0832
70.000	.0459	-.1019	.1120	.2042	-.0490	-.2039	-.3039			
90.000	.0819	-.0168	.1661	.1895	-.1153	-.2198	-.2890			
105.000			.2401	.1562	-.2053	-.2774	-.3310			
120.000	.1105	.1110	.2766	.0677	-.2837	-.3449	-.3842	-.4995		
135.000			.3647	.3974	-.1954	-.2559	-.2824	-.4245		
150.000	.1073	.2019	.3938	.4026	-.0904	-.2042	-.2717			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8849)

ALPHA (2) = .026 BETA (3) = 4.247

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	.1102		.3977		.1102	-.1286	-.4292			
180.000	.1095	.2185	.4137	.4682						

ALPHA (3) = 3.995 BETA (1) = -3.867 MACH = 1.1004 Q = 600.49 P = 708.37 RN/L = 3.1949

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3173	.8225	.3792	.2629	.1732			.0913		.0458	.0156	-.0338	-.0286	-.0606	-.0453
30.000			.4243	.2717	.1484	.0828		.0849		.0270					
40.000			.5730	.3298	.2163	.1558		.0929		.0147	-.0146	-.0378	-.0066	-.0682	.0096
55.000			.6457	.4276	.3246	.2535		.1778		.0763					
70.000			.6615	.4434	.3345	.2929		.1964		.0841	-.3284	-.1288	-.1422	-.1066	
80.000		.8257	.6676	.4552	.3392	.3256		.2276		.0300	-.3430	-.1854	-.1991	-.1053	
100.000			.6374	.4712	.3628	.4152		.4176		.0001	-.3152	-.5384	-.3106	-.1763	
140.000										-.0830					
150.000			.5548	.4385	.3489	.4360		.7878		-.3622	-.6743	-.4948	-.2109	-.0628	
161.000									.5018						
166.000									.5341						
169.000										-.5507	-.6014	-.4502	-.2278	-.0609	
170.								.8170							
174.000							.8998								
180.000	1.3173	.7149	.4831	.4099	.3413	.4308		.7326		-.6550	-.5858	-.3535	-.2467	-.0515	

X/LB	.6520	.7290	.7790	8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1631	.1657	.1270	.0343	-.0703	-.1617	-.2154		.3860	.2584
40.000	.1086		.1442	.0451	-.1104	-.0816	-.2561		.2840	.1612
70.000	-.0816	-.2503	-.3129	.1589	-.0216	-.1709	-.2792			
90.000	-.0295	-.1859	-.0748	.1516	-.0545	-.1824	-.2601			
105.000			.1369	.1433	-.1314	-.2470	-.3138			
110.000								-.4422		
160.000	-.0698	-.0861	.2709	.1483	-.1742	-.2394	-.2533	-.3768		
175.000			.3079	.3094	-.1548	-.1468	-.1922			
180.000	.0382	.1083	.3102	.3155	-.0845	-.0756	-.1728			
185.000	.0599		.3150		.1982	.0168	-.3990			
190.000	.0642	.1358	.3079	.3785						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8849)

ALPHA (3) = 3.995 BETA (2) = .185 MACH = 1.1004 Q = 600.49 P = 708.37 RN/L = 3.1949

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3256	.8277	.3897	.2701	.1749			.0989		.0495	.0158	-.0284	-.0333	-.0569	-.0402
20.000			.4043	.2643	.1457	.0656		.0975		.0325					
40.000			.5014	.2933	.1869	.1367		.1066		.0248	-.0191	-.0538	-.0286	-.0781	.0055
55.000			.5417	.3349	.2394	.1928		.1356		.0264					
70.000			.5495	.3356	.2375	.2244		.1408		.0210	-.3833	-.2139	-.2073	-.1055	
90.000		.6866	.5605	.3563	.2429	.2512		.1636		-.0613	-.4130	-.2698	-.2517	-.0881	
120.000			.5591	.3980	.2909	.3675		.3444		-.1158	-.3847	-.6049	-.2198	-.0888	
140.000										-.2144					
150.000			.5276	.4262	.3224	.4240		.7108		-.5024	-.6810	-.4656	-.2036	-.0468	
151.000									.4261						
162.000									.4786						
165.000										-.5538	-.5765	-.3545	-.2276	-.0388	
169.000								.7913							
174.000							.8815								
180.000	1.3256	.7111	.4990	.4197	.3474	.4431		.7713		-.6786	-.6675	-.3342	-.2437	-.0409	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0160	1.0460
PHI										
.000	.1523	1608	.1267	.0422	-.0609	-.1528	-.1948		.4088	.2711
40.000	.1335		.1394	.0476	-.0931	-.0851	-.2461		.2826	.1432
70.000	-.0720	-.2487	-.2311	.1347	-.0561	-.1875	-.2598			
90.000	-.0331	-.1774	.0141	.1320	-.1190	-.2017	-.2719			
105.000			.1510	.0948	-.1783	-.2509	-.3185			
110.000								-.4891		
120.000	.0049	-.0452	.2332	.1139	-.2001	-.2797	-.3220	-.4065		
135.000			.2666	.3671	-.1308	-.1974	-.2449			
150.000	.0576	0552	.2916	.4765	-.0602	-.1522	-.2263			
165.000	.0682		.3132		.1411	-.0833	-.4029			
180.000	.0700	.0734	.3367	.4980						

ALPHA (3) = 3.999 BETA (3) = 4.239 MACH = 1.1004 Q = 600.49 P = 708.37 RN/L = 3.1949

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3113	.8152	.3809	.2649	.1684			.0973		.0439	.0116	-.0315	-.0335	-.0646	-.0466
20.000			.3712	.2407	.1261	.0493		.0895		.0262					
40.000			.4169	.2438	.1454	.0971		.1027		.0203	-.0254	-.0759	-.0629	-.0941	.0038
55.000			.4318	.2443	.1600	.1347		.0926		-.0077					
70.000			.4358	.2330	.1435	.1623		.0970		-.0263	-.4255	-.2840	-.2588	-.0910	
90.000		.5386	.4542	.2457	.1468	.1875		.1053		-.1383	-.4680	-.3337	-.2583	-.0611	
120.000			.4787	.3147	.2038	.3095		.2553		-.2180	-.4644	-.6480	-.1918	-.0525	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8849)

ALPHA (3) = 3.999 BETA (3) = 4.239

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.3814					
150.000			.4829	.3827	.2831	.3793		.6372		-.5861	-.6408	-.3855	-.2187	-.0431	
151.000									.3340						
162.000									.4016						
165.000										-.5611	-.6535	-.3500	-.2493	-.0445	
168.000								.7472							
174.000							.8363								
180.000	1.3113	.6866	.4957	.4098	.3394	.4301		.7595		-.6712	-.5731	-.3603	-.2529	-.0549	

X/LB	.0520	.7380	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
[illegible]	[illegible]	.1657	.1200	.0251	-.0707	-.1631	-.2070		.3909	.2651
[illegible]	[illegible]		.1342	.0385	-.0970	-.1071	-.2640		.2025	.1261
[illegible]	-.0469	-.0235	-.1453	.1209	-.0963	-.2329	-.3366			
[illegible]	.0055	-.1453	.0272	.0314	-.1499	-.2488	-.3214			
[illegible]			.1044	.0582	-.2667	-.3203	-.3665			
[illegible]								-.5242		
[illegible]	.0879	.0028	.1844	.0034	-.2965	-.3806	-.4254	-.4423		
[illegible]			.2856	.2765	-.2402	-.3002	-.3347			
[illegible]	.0941	.0069	.3142	.2878	-.1436	-.2628	-.3276			
[illegible]	.0894		.3116		.0855	-.1737	-.4362			
[illegible]	.0752	.1391	.3127	.3602						

ALPHA (4) = 7.942 BETA (1) = -3.865 MACH = 1.1006 Q = 600.80 P = 708.61 RN/L = 3.1953

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
[illegible]	1.2871	.9443	.5098	.3627	.2606			.1377		.1235	.0663	.0345	.0385	.0074	.0174
30.000			.5557	.3802	.2521	.1685		.1386		.1200					
40.000			.6659	.4326	.3173	.2433		.1772		.1351	.0684	.0378	.0656	.0072	.0494
[illegible]			.6829	.4694	.3620	.2833		.2118		.1431					
[illegible]			.6549	.4437	.3300	.2958		.2177		.1254	-.2749	-.1202	-.1341	-.2287	
30.000		.7724	.6264	.4268	.3197	.3109		.2452		.0705	-.3178	-.1665	-.2025	-.2041	
[illegible]			.5470	.3853	.2811	.3537		.4142		.0052	-.3341	-.5142	-.5667	-.2712	
[illegible]										-.0890					
[illegible]			.4394	.3284	.2439	.3626		.7691		-.2462	-.7306	-.5869	-.2529	-.1105	
[illegible]									.4841						
[illegible]									.5052						
165.000										-.6039	-.6807	-.5076	-.2386	-.0785	
[illegible]								.7876							
[illegible]							.8561								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8849)

ALPHA (4) = 7.942 BETA (1) = -3.865

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.2871	.5713	.3628	.3173	.2305	.3683		.6956		-.7054	-.6366	-.3963	-.2178	-.0559	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2378	.2522	.1985	.0981	-.0057	-.0971	-.1506		.4791	.3004
40.000	.2392		.2208	.1164	-.0450	-.0107	-.209'		.3461	.1650
70.000	-.0975	-.3308	-.3966	-.0059	-.0334	-.1440	-.1897			
90.000	-.0674	-.2572	-.2937	.0229	-.0713	-.1436	-.2311			
105.000			.0156	.0741	-.1400	-.2023	-.2778			
110.000								-.4343		
120.000	-.1692	-.1885	.1636	.1160	-.2181	-.2298	-.2144	-.3124		
135.000			.1516	.3354	-.1921	-.2009	-.1991			
150.000	-.0130	-.0610	.1655	.4082	-.0877	-.1447	-.2229			
165.000	.0522		.2214		.1471	-.0479	-.4230			
180.000	.0558	.0027	.2639	.4855						

ALPHA (4) = 8.042 BETA (2) = .178 MACH = 1.1006 Q = 600.80 P = 708.61 RN/L = 3.1953

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2915	.9476	.5140	.3725	.2643			.1435		.1148	.0764	.0365	.0389	.0085	.0144
20.000			.5291	.3648	.2391	.1610		.1428		.1032					
40.000			.5841	.3803	.2723	.2104		.1650		.1110	.0526	.0116	.0311	-.0118	.0226
55.000			.5697	.3678	.2681	.2109		.1541		.0875					
70.000			.5364	.3357	.2296	.2270		.1602		.0660	-.3239	-.2075	-.2002	-.2120	
90.000		.6349	.5225	.3287	.2200	.2491		.1843		-.0068	-.3772	-.2473	-.2676	-.1826	
120.000			.4776	.4216	.2188	.3354		.3526		-.0909	-.4002	-.5769	-.3514	-.1533	
140.000										-.2037					
150.000			.4177	.3204	2270	.3616		.6879		-.5001	-.7324	-.5352	-.2113	-.0730	
151.000									.4118						
162.000									.4481						
165.000										-.5979	-.6269	-.4044	-.2061	-.0480	
169.000								.7447							
174.000							.8230								
180.000	1.2915	.5593	.3792	.3044	.2424	.3771		.7282		-.7329	-.7112	-.3818	-.2052	-.0459	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2342	.2577	.1972	.1009	.0000	-.0969	-.1336		.4832	.3023
40.000	.2391		.2191	.1171	-.0351	-.0165	-.2079		.3517	.1604

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8849)

ALPHA (4) = 8.042 BETA (2) = .178

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1112	-.3453	-.3943	.0387	-.0881	-.1880	-.2423			
90.000	-.0695	-.2282	-.1933	.0070	-.1644	-.1969	-.2513			
105.000			.0134	.0552	-.2534	-.2722	-.3136			
110.000								-.4803		
120.000	-.0405	-.1082	.1265	.0792	-.2729	-.3326	-.3178	-.3958		
135.000			.1758	.3559	-.1798	-.2616	-.3061			
150.000	.0478	-.0413	.2448	.5407	-.1139	-.2470	-.2806			
165.000	.0495		.2580		.0810	-.1597	-.4752			
180.000	.2779	-.0032	.3072	.5340						

ALPHA (4) = 8.044 BETA (3) = -.232 MACH = 1.1006 Q = 600.80 P = 708.61 RN/L = 3.1953

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0790	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
70.000	1.2775	.9359	.5007	.3633	.3488			.1442		.1094	.0656	.0370	.0357	.0041	.0179
80.000			.4889	.3340	.2054	.1413		.1291		.0847					
90.000			.4882	.3177	.2099	.1589		.1376		.0739	.0178	-.0232	-.0117	-.0362	.0054
95.000			.4543	.2662	.1717	.1418		.1018		.0409					
98.000			.4261	.2337	.1333	.1670		.1119		.0109	-.3647	-.2796	-.2723	-.1842	
99.000		.4935	.4021	.2341	.1338	.1960		.1310		-.0814	-.4328	-.3119	-.3265	-.1455	
100.000			.4060	.2563	.1522	.2977		.2833		-.1804	-.4651	-.6262	-.2511	-.0540	
101.000										-.3180					
102.000			.3734	.2956	.1877	.3370		.6189		-.6020	-.7285	-.4462	-.1960	-.0509	
103.000									.3267						
104.000									.3792						
105.000										-.6095	-.6713	-.3949	-.1981	-.0459	
106.000								.7145							
107.000							.7965								
180.000	1.2776	.5325	.3739	.3215	.2265	.3667		.7214		-.7224	-.6335	-.4059	-.2294	-.0591	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	.2350	.2493	.1988	.0931	-.0145	-.0932	-.1520		.4777	.3027
80.000	.2559		.2133	.1105	-.0415	-.0497	-.2123		.3355	.1516
90.000	-.0695	-.3102	-.3360	.0240	-.1596	-.2748	-.3389			
95.000	-.0311	-.2061	-.1315	-.0187	-.2261	-.2916	-.3491			
98.000			.0278	.0134	-.2931	-.3874	-.4146			
99.000								-.5250		
100.000	.0405	-.0800	.1094	-.0495	-.3400	-.3926	-.5068	-.4653		
101.000			.2524	.2922	-.2595	-.3485	-.3631			
102.000	.0911	-.0040	.2814	.4102	-.1935	-.3192	-.3713			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8849)

ALPHA (4) = 8.044 BETA (3) = 4.232

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	.0869		.2763		.0140	-.2523	-.4620			
180.000	.0705	.0080	.2598	.4891						

ALPHA (5) = 11.980 BETA (1) = -3.845 MACH = 1.0980 Q = 599.65 P = 710.48 RN/L = 3.1930

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2301	1.0524	.6314	.4667	.3522			.2019		.1873	.1274	.1073	.1167	.0955	.1974
20.000			.6767	.4868	.3498	.2530		.2087		.1859					
40.000			.7442	.5268	.4036	.3168		.2505		.2106	.1385	.1169	.1379	.0959	.2351
55.000			.6991	.4901	.3744	.2844		.2172		.1762					
70.000			.6288	.4312	.3072	.2865		.2201		.1561	-.2322	-.1141	-.1245	-.2345	
90.000		.7012	.5690	.3828	.2794	.2809		.2443		.1050	-.2987	-.1457	-.1900	-.2844	
120.000			.4387	.2817	.1827	.2946		.3945		.0163	-.3447	-.5152	-.7258	-.3419	
140.000										-.0830					
150.000			.3104	.2139	.1283	.3049		.7486		-.2164	-.7805	-.6810	-.2908	-.1346	
151.000									.4688						
162.000									.4768						
165.000										-.6548	-.7323	-.5468	-.2486	-.1014	
169.000								.7549							
174.000							.8063								
180.000	1.2301	.4151	.2344	.2212	.1382	.3101		.6583		-.7460	-.6854	-.4274	-.1947	-.0534	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.3194	.3227	.2650	1576	.0582	-.0175	-.0873		.5448	.3253
40.000	.3451		.2931	.1816	.0189	.0582	-.1814		.4177	.1805
70.000	-.1542	-.3868	-.4665	-.0744	-.0739	-.2200	-.3345			
90.000	-.0675	-.2995	-.3876	-.0396	-.1125	-.2190	-.3332			
85.000			-.1283	.0594	-.1500	-.2805	-.3690			
110.000								-.4611		
120.000	-.1842	-.1954	.0514	.1021	-.2267	-.2714	-.2928	-.3804		
135.000			.0658	.2925	-.2249	-.2114	-.2732			
150.000	-.0552	-.1777	.0642	.4336	-.1499	-.2104	-.2973			
165.000	.0579		.1602		.0805	-.1106	-.4427			
180.000	.0791	-.0393	.2331	.5025						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8849)

ALPHA (5) = 11.986 BETA (2) = .181 MACH = 1.0980 Q = 599.65 P = 710.48 RN/L = 3.1930

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2384	1.0588	.6382	.4719	.3553			.2119		.1918	.1357	.1162	.1164	.1028	.1807
20.000			.6484	.4655	.3327	.2422		.2070		.1781					
40.000			.6562	.4600	.3459	.2597		.2183		.1744	.0971	.0773	.0943	.0736	.1939
60.000			.5814	.3782	.2683	.1930		.1475		.1263					
80.000			.5039	.3193	.2099	.2100		.1640		.1062	-.2886	-.2023	-.2025	-.3220	
100.000		.5665	.4650	.2674	.1922	.2277		.1938		.0426	-.3555	-.2296	-.2650	-.3138	
120.000			.3841	.2351	.1320	.2909		.3566		-.0658	-.4041	-.5644	-.6916	-.2090	
140.000										-.1910					
160.000			.3003	.2231	.1141	.3104		.6704		-.4819	-.7766	-.5946	-.2473	-.0942	
180.000									.4036						
									.4257						
										-.6401	-.6728	-.4471	-.1976	-.0464	
								.7044							
							.7690								
.000	1.2394	.4015	.2690	.1976	.1377	.3258		.6874		-.7643	-.7316	-.4108	-.1762	-.0381	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.3159	.3267	.2749	.1632	.0659	.0000	-.0746		.5493	.3308
40.000	.3369		.2937	.1863	.0273	.0581	-.1477		.4107	.1779
80.000	-.1111	-.4275	-.4953	-.1742	-.1823	-.2289	-.2753			
90.000	-.0516	-.3083	-.3956	-.0954	-.1700	-.2246	-.2529			
100.000			-.1456	.0002	-.4357	-.3303	-.3598			
110.000								-.4780		
120.000	-.0465	-.1317	.0412	.0972	-.3160	-.3414	-.3603	-.3624		
130.000			.0947	.3273	-.2338	-.3104	-.3326			
140.000	.0384	-.0959	.1704	.5489	-.1876	-.2868	-.3288			
150.000	.0853		.2376		.0541	-.2040	-.4081			
160.000	.0941	-.0261	.2618	.5613						

ALPHA (5) = 11.982 BETA (3) = 4.250 MACH = 1.0980 Q = 599.65 P = 710.48 RN/L = 3.1930

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2345	1.0436	.6287	.4694	.3452			.2103		.1796	.1315	.1122	.1128	.0690	.1856
20.000			.6028	.4268	.3032	.2173		.1884		.1482					
40.000			.5511	.3801	.2796	.1937		.1714		.1156	.0477	.0341	.0485	.0341	.1584
60.000			.4510	.2665	.1690	.0971		.0820		.0812					
80.000			.3716	.2169	.1114	.1502		.1131		.0689	-.3315	-.2750	-.2790	-.3557	
100.000		.4232	.3722	.1959	.0890	.1856		.1426		-.0108	-.4068	-.3014	-.3314	-.2418	
120.000			.3481	.1464	.0555	.2705		.3012		-.1484	-.4677	-.6117	-.3625	-.1498	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8849)

ALPHA (5) = 11.982 BETA (3) = 4.250

SECTION 1 ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	1	.5740
PHI															
140.000										-.2947					
150.000			.2768	.2119	.0925	.2939		.5952		-.5958	-.7784	-.4969	-.1963	-.0581	
155.000									.3217						
160.000									.3618						
165.000										-.6487	-.6980	-.4203	-.1824	-.0463	
170.000								.6856							
175.000							.7601								
180.000	1.2245	.3814	.2655	.2395	.1305	.3165		.6875		-.7638	-.6810	-.4377	-.2067	-.0615	

X/LB	.6520	.7390	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
0.000	.3132	.3182	.2606	.1522	.0521	-.0168	-.0943		.5486	.3299
40.000	.3296		.2804	.1738	.0192	.0284	-.1487		.3876	.1659
70.000	-.1192	-.4134	-.4706	-.1452	-.2012	-.2762	-.3011			
90.000	-.0555	-.2309	-.3398	-.1274	-.3374	-.2618	-.2939			
105.000			-.1142	-.0650	-.5237	-.3774	-.3843			
110.000								-.5257		
120.000	.0239	-.1088	.0300	-.0587	-.3778	-.4722	-.5666	-.4955		
130.000			.1450	.2818	-.2700	-.3554	-.3821			
150.000	.0935	-.0423	.2415	.4729	-.1978	-.3381	-.4030			
165.000	.1040		.2405		.0052	-.2950	-.4766			
180.000	.0769	-.0445	.2129	.5153						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XEB850) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 4?.8??? IN. YMRP = .0000 IN. YO
BREF = [illegible] IN. ZMRP = 375.0000 IN. ZO
SCALE = [illegible]

PARAMETRIC DATA

RUDDER = -10.000 SPDBRK = 85.000
BDFLAP = 16.300 L-ELVN = 4.000
R-ELVN = 4.000 MACH = .900

ALPHA (1) = 4.039 BETA (1) = -3.850 MACH = .89970 Q = 599.92 P = 1058.7 RN/L = 3.5763

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0[illegible]80	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.1746			-.2204		[illegible]	-.1888	[illegible]	-.0333	[illegible]	[illegible]
[illegible]			[illegible]	[illegible]	-.2354	-.2465		-.2674		[illegible]					
[illegible]			[illegible]	[illegible]	[illegible]	-.2534		-.3509		-.4420	-.3781	-.1299	-.0665	-.0392	[illegible]
[illegible]			[illegible]	[illegible]	[illegible]	[illegible]		-.1995		-.2851					
			[illegible]	[illegible]	[illegible]	[illegible]		-.1012		-.2294	-.7210	[illegible]	.0584	[illegible]	
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	.1126		-.0696		-.3056	-.6545	-.0606	.0447	[illegible]	
			[illegible]	[illegible]	[illegible]	[illegible]		.1848		-.2336	-.5769	-.1176	.0234	[illegible]	
[illegible]										-.1600					
			[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		-.2792	-.6536	-.0590	.0247	[illegible]	
[illegible]									.3293						
									.3910						
[illegible]										-.6347	-.7700	-.0392	[illegible]	[illegible]	
[illegible]								.7175							
							.8253								
	[illegible]	[illegible]	[illegible]	[illegible]	.3917	[illegible]		.6400		-.9397	-.7627	-.0147	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.8790	.9210	.9600	.9930	1.0180	1.0460					
PHI															
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.2576	-.1532	-.0046		.3003	.0893					
[illegible]	[illegible]		[illegible]	-.3387	-.2737	-.1275	-.0368		.1708	.0045					
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.1154	-.1105								
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.1826	-.1562	-.1433								
			[illegible]	[illegible]	-.2763	-.1948	-.1799								
								-.3725							
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.2130	-.2694							
[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	-.1400								
	[illegible]	[illegible]	[illegible]	[illegible]	-.0778	-.0462	-.1170								
	[illegible]		[illegible]		.1245	-.0218	-.3496								
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]											

AMES 11-073(OA148) -140A/B/C/R OPB FUSELAGE (XEB853)

ALPHA (1) = 4.036 BETA (2) = .188 MACH = .89970 Q = 599.92 P = 1058.7 RN/L = 3.5763

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
[illegible]	1.1353	.3566	-.0703	-.1000	-.1699										
[illegible]			-.0514	-.1276	-.2175	-.2243		-.2091		-.2108	-.1832	-.0563	-.0245	.0110	-.0087
[illegible]			.1020	-.1118	-.2057	-.2106		-.2378		-.2259					
[illegible]			.2463	.0165	-.0817	-.1323		-.3042		-.3454	-.3225	-.0705	-.0387	-.0071	-.0124
[illegible]			[illegible]	.1104	.0708	-.0179		-.2371		-.3386					
[illegible]		.5827	.4255	.1633	.1078	.0129		-.1742		-.3192	-.7646	-.0295	.0494	.0939	
[illegible]			.5346	.3438	.2253	.2348		-.1667		-.4503	-.7275	-.0844	.0358	.0763	
[illegible]								.0621		-.4253	-.6760	-.1500	.0135	.0566	
[illegible]										-.4517					
[illegible]			.5961	.4621	.3566	.3133		.5786		-.7939	-.8384	-.0257	.0245	.0502	
[illegible]									.2312						
[illegible]									.3123						
[illegible]										-.8387	-.7347	-.0039	.0242	.0535	
[illegible]								.6660							
[illegible]							.8151								
[illegible]	1.1252	.6705	.5959	.4750	.3385	.4242		.6767		-.9469	-.7001	-.0007	.0263	.0512	

X/LB	.6000	.7200	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
[illegible]	-.1501	-.1338	-.0385	-.3272	-.3140	-.1565	.0002		.3260	.1077
[illegible]	-.1225		-.2257	-.3300	-.3154	-.1478	-.0147		.1620	-.0016
[illegible]	[illegible]	-.0376	.0370	.1045	-.2185	-.2023	-.1500			
[illegible]	.0533	.0135	.1002	.1325	-.2846	-.2574	-.1762			
[illegible]			.1602	.1404	-.4155	-.3287	-.2250			
[illegible]								-.4016		
[illegible]	.0735	.0957	.2303	.2453	-.4745	-.4082	-.3110	-.3412		
[illegible]			.3210	.4757	-.3145	-.2262	-.2104			
[illegible]	.1834	.1472	.3433	.5323	-.1847	-.1783	-.1916			
[illegible]	.0659		.3490		.0114	-.1405	-.3804			
[illegible]	.0659	.1645	.0530	.5465						

ALPHA (1) = 4.037 BETA (3) = 4.267 MACH = .89970 Q = 599.92 P = 1058.7 RN/L = 3.5763

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
[illegible]	1.1759	.3343	-.0949	-.1053	-.1612										
[illegible]			-.0767	-.1359	-.2151	-.2173		-.2079		-.2268	-.1834	-.0725	-.0291	.0042	-.0185
[illegible]			.0366	-.1339	-.2053	-.1997		-.2277		-.2490					
[illegible]			.1423	-.0542	-.1261	-.1569		-.2668		-.3174	-.2950	-.0474	-.0121	.0023	.0065
[illegible]			.2233	.0037	-.0691	-.0849		-.2649		-.3928					
[illegible]		.4216	[illegible]	.0625	.0014	-.0795		-.2392		-.4026	-.8156	-.0901	.0471	.0762	
[illegible]			.4174	.2343	.1002	.1225		-.2563		-.5867	-.7380	-.2219	.0445	.0662	
[illegible]								-.0647		-.5914	-.8168	-.2434	-.0126	.0239	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8850)

ALPHA (1) = -4.037 BETA (3) = 4.267

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
[illegible]										-.8060					
[illegible]			.5160	.4078	.2967	.3088		.4765		-.8798	-.8560	-.0434	-.0029	.0234	
[illegible]									.1171						
[illegible]									.2229						
[illegible]										-.8546	-.7474	-.0104	.0037	.0300	
[illegible]								.6358							
[illegible]							.7573								
[illegible]	[illegible]	[illegible]	[illegible]	.4632	.3971	.4167		.6621		-.9426	-.7618	-.0036	.0103	.0359	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.8790	.9210	.9600	.9990	1.0180	1.0460					
[illegible]	[illegible]	[illegible]	[illegible]	-.3361	-.2651	-.1659	-.0074		.2691	.0869					
[illegible]	[illegible]		[illegible]	-.7209	-.3133	-.1674	-.0293		.1904	-.0232					
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.3094	-.1730								
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.2685	-.4038	-.2187								
[illegible]			[illegible]	[illegible]	-.4964	-.4520	-.2332								
								-.4024							
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.5600	-.3163	-.3651							
			[illegible]	.3445	[illegible]	[illegible]	-.3790								
[illegible]	[illegible]	[illegible]	[illegible]	.5429	-.3100	-.3545	-.3971								
[illegible]	[illegible]		[illegible]		-.0866	-.2706	-.3723								
[illegible]	[illegible]	[illegible]	[illegible]	.5247											

ALPHA (1) = [illegible] BETA (3) = -3.657 MACH = .89953 Q = 599.04 P = 1060.0 RN/L = 3.5758

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
[illegible]	1.2017	.6157	[illegible]	-.0166	-.0794			-.1616		-.1660	-.1780	-.0692	-.0214	.0259	.0301
[illegible]			[illegible]	-.0172	-.1185	-.1593		-.1861		-.1927					
[illegible]			[illegible]	[illegible]	-.0690	-.1195		-.2175		-.2413	-.2719	-.0839	-.0285	.0028	.0277
[illegible]			[illegible]	[illegible]	.1028	.0103		-.0951		-.1955					
[illegible]			[illegible]	[illegible]	.1659	.1028		-.0404		-.1809	-.6533	-.0922	.0198	.0622	
[illegible]		.7200	[illegible]	.3181	.1971	.1448		-.0151		-.2557	-.6387	-.1235	.0158	.0545	
[illegible]			[illegible]	.3366	.2851	.2898		.1983		-.2569	-.6066	-.2272	.0002	.0173	
										-.2736					
[illegible]			.5334	.3936	.3056	.3412		.6276		-.3642	-.9871	-.2408	.0188	.0196	
[illegible]									.2997						
[illegible]									.3438						
[illegible]										-.9095	-.8597	-.1315	.0151	.0128	
[illegible]								.6738							
[illegible]							.7812								

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AMES 11-073(OA148) -140A/B/C/P ORB FUSELAGE (XE8850)

ALPHA (B) = .032 BETA (1) = -3.867

SECTION ( ) ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1590	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.2017	.7090	.4636	.3617	.2917	.3343		.5862		-1.0487	-.8575	-.0672	.0141	.0196	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.0693	-.0772	-.1469	-.2612	-.2273	-.1690	-.0003		.2980	.0909					
40.000	-.0482		-.1335	-.2494	-.2252	-.1311	-.0581		.2138	.0181					
70.000	-.0446	-.0014	-.0076	.1379	-.1351	-.0950	-.0907								
90.000	-.0581	-.1325	.0843	.1720	-.1760	-.1323	-.1263								
100.000			.1445	.2209	-.2866	-.1775	-.1670								
110.000								-.3726							
120.000	-.0478	-.0058	.2502	.2958	-.3449	-.2080	-.1833	-.2714							
140.000			.3216	.3832	-.2565	-.1234	-.1446								
160.000	-.0010	.0753	.3186	.3183	-.1600	-.0866	-.1379								
180.000	.0065		.2925		.0700	-.0728	-.3480								
200.000	.0011	.0956	.2757	.4046											

ALPHA (B) = .035 BETA (2) = .184 MACH = .89853 Q = 599.04 P = 1060.0 RN/L = 3.5758

SECTION ( ) ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0060	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2085	.5182	.0766	.0023	-.0836			-.1567		-.1617	-.1905	-.0700	-.0106	.0383	.0367
20.000			.0924	-.0081	-.1136	-.1478		-.1741		-.1799					
40.000			.2263	.0146	-.0772	-.1129		-.1918		-.2116	-.2655	-.0503	-.0057	.0256	.0492
55.000			.3285	.1130	.0245	-.0299		-.1449		-.2307					
70.000			.3826	.1553	.0613	.0300		-.1215		-.2575	-.7201	-.0861	.0126	.0474	
90.000		.5690	.4252	.1987	.0847	.0541		-.1109		-.3745	-.7076	-.1136	.0145	.0375	
120.000			.4778	.3016	.1893	.2155		.0916		-.4037	-.6740	-.1915	.0192	.0247	
140.000										-.4911					
160.000			.4855	.3663	.2262	.3076		.5447		-.8277	-.9364	-.1574	.0305	.0254	
161.000									.2035						
162.000									.2708						
165.000										-.9105	-.8503	-.0559	.0270	.0245	
169.000								.6435							
174.000							.7669								
180.000	1.2085	.7045	.4738	.3715	.2955	.3425		.6244		-.9261	-.8742	-.0417	.0277	.0252	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.0219	-.0765	-.1335	-.2631	-.2487	-.1741	-.0027		.3142	.0924					
40.000	-.0565		-.1268	-.2530	-.2633	-.1583	-.0307		.1799	-.0157					

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8850)

ALPHA (2) = .035 BETA (2) = .184

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1087	-.1892	-.0313	.0838	-.2328	-.1566	-.1324			
90.000	-.0640	-.1160	.0418	.0970	-.3167	-.2155	-.1750			
105.000			.1053	.1328	-.4217	-.2352	-.2123			
110.000								-.3780		
120.000	-.0131	.0067	.1986	.2420	-.4848	-.3624	-.2761	-.2976		
135.000			.2807	.4036	-.3491	-.2264	-.2057			
150.000	.0200	.0795	.3842	.4599	-.2558	-.2048	-.2065			
165.000	.0305		.2536		-.0500	-.1854	-.3440			
180.000	.0229	.0979	.3946	.4853						

ALPHA (3) = .028 BETA (3) = 4.248 MACH = .89853 Q = 599.04 P = 1060.0 RN/L = 3.5758

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1946	.5016	.0610	-.0052	-.0938			-.1637		-.1751	-.1753	-.0751	-.0138	.0296	.0222
20.000			.0639	-.0299	-.1227	-.1409		-.1684		-.1883					
40.000			.1540	-.0197	-.1055	-.1166		-.1757		-.2136	-.2615	-.0506	.0058	.0223	.0552
55.000			.2212	.0312	-.0421	-.0790		-.1806		-.2752					
70.000			.2634	.0528	-.0249	-.0401		-.1775		-.3290	-.7792	-.0970	.0109	.0337	
90.000		.4108	.3115	.0844	-.0136	-.0279		-.1844		-.4956	-.7804	-.1612	.0208	.0378	
120.000			.3806	.2009	.0896	.1320		-.0208		-.5602	-.7837	-.2303	.0135	.0258	
140.000										-.7511					
150.000			.4292	.3208	.2192	.2534		.4574		-.9182	-.9637	-.1190	.0164	.0104	
161.000									.0976						
170.000									.1836						
174.000										-.8741	-.8618	-.0636	.0147	.0090	
174.000								.5931							
174.000							.7119								
180.000	1.1946	.6788	.4723	.3583	.2899	.3338		.6123		-1.0558	-.8683	-.0614	.0150	.0059	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0275	-.0723	-.1419	-.2665	-.2439	-.1802	-.0038		.2967	.0940
40.000	-.0419		-.1329	-.2522	-.2674	-.1915	-.0486		.1835	-.0319
70.000	-.1063	-.1765	-.0551	.0324	-.3105	-.3350	-.1771			
90.000	-.0565	-.1027	.0109	.0422	-.3885	-.3876	-.2131			
105.000			.0740	.0449	-.5144	-.5098	-.2243			
110.000								-.4038		
120.000	-.0161	-.0100	.1255	.0993	-.6314	-.5776	-.2576	-.3351		
135.000			.2279	.3494	-.5009	-.4621	-.2552			
150.000	.0121	.0726	.2588	.4434	-.3695	-.4313	-.3429			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8850)

ALPHA (2) = .028 BETA (3) = 4.248

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
155.000	.0139		.2670		-.1594	-.3593	-.3691			
180.000	.0051	.0937	.2891	.4271						

ALPHA (3) = 3.999 BETA (1) = -3.868 MACH = .90073 Q = 600.62 P = 1057.6 RN/L = 3.5790

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1951	.6660	.2156	.1052	.0166			-.0905		-.1016	-.1306	-.0569	.0027	.0656	.0855
20.000			.2684	.1109	-.0030	-.0681		-.1023		-.1195					
40.000			.4193	.1684	.0637	-.0004		-.0905		-.1332	-.1707	-.0399	.0173	.0578	.1064
55.000			.4995	.2807	.1821	.0940		-.0099		-.1087					
70.000			.5197	.2979	.1920	.1339		.0049		-.1306	-.5786	-.1500	-.0300	.0263	
90.000		.6872	.5237	.3149	.1993	.1600		.0264		-.2068	-.6199	-.2070	-.0310	.0177	
120.000			.4944	.3278	.2243	.2567		.2086		-.2574	-.6156	-.3277	-.0875	-.0541	
140.000										-.3527					
150.000			.4175	.2896	.2102	.2711		.6046		-.4584	-.9978	-.4252	.0053	-.0183	
151.000									.2746						
162.000									.3045						
165.000										-.9602	-.8316	-.4078	.0355	-.0074	
169.000								.6368							
174.000							.7415								
180.000	1.1951	.5708	.3380	.2646	.1920	.2631		.5407		-1.0915	-.8976	-.2713	.0449	.0015	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0567	.0100	-.0690	-.1876	-.1958	-.1740	.0008		.3517	.1071
40.000	.0350		-.0508	-.1737	-.1827	-.1378	-.0706		.2392	.0298
70.000	-.2079	-.4314	-.0907	.1155	-.1052	-.0776	-.0743			
90.000	-.1653	-.3413	.0056	.1352	-.1408	-.1190	-.1229			
105.000			.1033	.1492	-.2489	-.1590	-.1651			
110.000								-.3661		
120.000	-.1784	-.1396	.2218	.1563	-.3446	-.1995	-.1638	-.2650		
135.000			.2646	.2381	-.2979	-.1423	-.1583			
150.000	-.0794	.0053	.2554	.1890	-.2160	-.1188	-.1624			
175.000	-.0040		.2304		.0317	-.1073	-.3238			
180.000	-.0576	.0205	.2073	.3517						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8850)

ALPHA (3) = 4.003 BETA (2) = .184 MACH = .90073 Q = 600.62 P = 1057.6 RN/L = 3.5790

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2018	.6700	.2232	.1093	.0176			-.0870		-.1063	-.1318	-.0500	.0145	.0686	.0880
20.000			.2426	.1036	-.0048	-.0666		-.0973		-.1181					
40.000			.3436	.1373	.0320	-.0145		-.0865		-.1294	-.1907	-.0550	.0256	.0562	.1130
55.000			.3907	.1847	.0944	.0288		-.0723		-.1594					
70.000			.3992	.1856	.0695	.0611		-.0712		-.1980	-.6608	-.1489	-.0307	.0096	
90.000		.5373	.4115	.2041	.0942	.0795		-.0580		-.3074	-.7181	-.1609	-.0227	.0103	
100.000			.4155	.2483	.1458	.1991		.1184		-.3818	-.6962	-.2831	-.0175	-.0103	
[illegible]										-.5011					
[illegible]			.3841	.2774	.1819	.2500		.5191		-.8736	-1.0306	-.3739	.0453	.0051	
[illegible]									.1868						
[illegible]									.2401						
[illegible]										-.9719	-.9373	-.2332	.0394	.0115	
[illegible]								.6055							
[illegible]							.7223								
[illegible]	1.2018	.5629	.3542	.2745	.2003	.2747		.5788		-1.0134	-.9410	-.1625	.0376	.0127	
[illegible]	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.0603	.0091	-.0690	-.1854	-.1824	-.1791	-.0009		.3470	.1070					
40.000	.0518		-.0528	-.1732	-.1928	-.1559	-.0372		.2131	-.0069					
70.000	-.2305	-.4184	-.1164	.0554	-.2039	-.1375	-.1211								
90.000	-.1658	-.3305	-.0192	.0594	-.2981	-.1815	-.1539								
100.000			.0636	.0714	-.4058	-.2223	-.1988								
110.000								-.3722							
120.000	-.1161	-.1150	.1245	.1978	-.5072	-.2884	-.2372	-.2913							
135.000			.1764	.3983	-.3952	-.2221	-.2134								
150.000	-.0521	-.0099	.2036	.4708	-.2847	-.2288	-.2145								
165.000	-.0445		.2139		-.1091	-.2188	-.3359								
180.000	-.0428	.0178	.2220	.4289											

ALPHA (3) = 4.005 BETA (3) = 4.239 MACH = .90073 Q = 600.62 P = 1057.6 RN/L = 3.5790

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1882	.6525	.2092	.1027	.0037			-.0900		-.1104	-.1317	-.0712	.0068	.0686	.0801
20.000			.2028	.0905	-.0259	-.0670		-.1056		-.1248					
40.000			.2527	.0824	-.0058	-.0411		-.0990		-.1432	-.2072	-.0918	.0092	.0521	.1068
55.000			.2726	.0926	.0079	-.0278		-.1269		-.1980					
70.000			.2747	.0817	-.0091	-.0065		-.1338		-.2604	-.7219	-.1392	-.0307	.0070	
90.000		.3748	.2944	.0919	-.0034	.0105		-.1359		-.4097	-.7914	-.1574	-.0133	.0068	
100.000			.3197	.1619	.0567	.1320		.0131		-.5183	-.7739	-.2645	.0165	.0028	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8850)

ALPHA (3) = 4.005 BETA (3) = 4.239

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.6790					
150.000			.3292	.2344	.1359	.2041		.4311		-1.0047	-.9967	-.3301	.0441	.0065	
161.000									.0809						
162.000									.1498						
165.000										-.9822	-.7531	-.2256	.0316	.0060	
169.000								.5526							
174.000							.6645								
180.000	1.1862	.5368	.3521	.2420	.1827	.2621		.5635		-1.1044	-.9532	-.2513	.0377	.0011	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0539	.0100	-.0645	-.1863	-.1977	-.2033	-.0031		.3509	.1087
30.000	.0549		-.0452	-.1668	-.2144	-.1993	-.0485		.2016	-.0287
70.000	-.2229	-.3856	-.1313	-.0017	-.3237	-.2208	-.1646			
90.000	-.1658	-.2746	-.0570	-.0053	-.4108	-.3500	-.2002			
105.000			-.0051	.0241	-.5320	-.3033	-.2279			
110.000								-.3911		
120.000	-.0892	-.1083	.0546	.0921	-.6242	-.6169	-.2793	-.3082		
135.000			.1655	.3276	-.5163	-.4852	-.2305			
150.000	-.0459	-.0004	.1916	.4279	-.4242	-.4695	-.2140			
165.000	-.0473		.1965		-.2161	-.4157	-.3430			
180.000	-.0527	.0244	.2173	.3343						

ALPHA (4) = 8.040 BETA (1) = -3.870 MACH = .89937 Q = 599.61 P = 1059.0 RN/L = 3.5771

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0090	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1587	.8050	.3654	.2207	.1177			-.0106		-.0312	-.0493	-.0208	.0421	.1199	.1507
20.000			.4109	.2418	.1118	.0341		-.0162		-.0382					
40.000			.5250	.2972	.1858	.1039		.0152		-.0257	-.0713	.0072	.0647	.1192	.1877
55.000			.5455	.3371	.2297	.1419		.0373		-.0484					
70.000			.5139	.3081	.1915	.1521		.0343		-.0897	-.4909	-.1907	-.0876	-.0018	
90.000		.6283	.4827	.2830	.1833	.1639		.0458		-.1669	-.6021	-.2381	-.0997	-.0183	
120.000			.3934	.2389	.1436	.1967		.2035		-.2516	-.6484	-.4683	-.2423	-.1602	
140.000										-.3710					
150.000			.2893	.1799	.1120	.2004		.5824		-.4836	-.6453	-.4503	-.1386	-.0352	
161.000									.2533						
162.000									.2698						
165.000										-1.0175	-.6415	-.5034	-.1115	-.0163	
169.000								.5998							
174.000							.6966								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8850)

ALPHA (4) = 8.040 BETA (1) = -3.870

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.1587	.4135	.2116	.1646	.1099	.1974		.4961		-.8889	-.6409	-.4878	-.1124	.0056	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1401	.0945	.0136	-.1105	-.1549	-.2040	-.0122		.3854	.1214
40.000	.1565		.0372	-.0899	-.1610	-.1737	-.0731		.2513	.0365
70.000	-.3073	-.5686	-.1277	.0873	-.1383	-.1395	-.1134			
90.000	-.2516	-.4823	-.0427	.0652	-.1754	-.1944	-.1641			
105.000			.0660	.0788	-.2481	-.2287	-.2013			
120.000								-.3560		
140.000	-.3006	-.2308	.0045	.0718	-.3492	-.2444	-.1875	-.2664		
150.000			.1122	.2042	-.3301	-.1840	-.1918			
160.000	-.1511	-.0985	.1101	.2703	-.2642	-.1596	-.1951			
165.000	-.1228		.1075		-.0314	-.1278	-.3172			
180.000	-.1096	-.0503	.1197	.3161						

ALPHA (4) = 8.045 BETA (2) = .178 MACH = .89937 Q = 599.61 P = 1059.0 RN/L = 3.5771

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1669	.8109	.3670	.2273	.1249			-.0054		-.0319	-.0542	-.0058	.0493	.1278	.1535
20.000			.3854	.2215	.1025	.0307		-.0141		-.0420					
40.000			.4454	.2420	.1395	.0703		-.0005		-.0554	-.1080	-.0468	.0510	.1089	.1834
55.000			.4307	.2257	.1355	.0591		-.0290		-.1051					
70.000			.3972	.1963	.0976	.0730		-.0318		-.1520	-.5827	-.2097	-.0844	-.0154	
90.000		.4853	.3812	.1866	.0576	.0864		-.0198		-.2503	-.6887	-.2422	-.0776	-.0169	
120.000			.3381	.1791	.0949	.1679		.1392		-.3629	-.7064	-.3237	-.1082	-.0519	
140.000										-.5021					
150.000			.2758	.1643	.0962	.1952		.4981		-.8376	-.6383	-.4554	-.0157	-.0135	
160.000									.1749						
165.000									.2070						
170.000										-1.0313	-.6555	-.4346	.0293	.0124	
175.000								.5554							
179.000							.6604								
180.000	1.1669	.4087	.2346	.1640	.1075	.2114		.5333		-1.1279	-.6437	-.3656	.0199	.0096	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1438	.0981	.0186	-.1054	-.1509	-.1954	-.0117		.3823	.1202
40.000	.1452		.0365	-.0904	-.1638	-.1874	-.0573		.2376	.0072

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8B50)

ALPHA (4) = 8.045 BETA (2) = .178

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.3059	-.6145	-.1825	.0178	-.2164	-.2465	-.1557			
90.000	-.2461	-.4589	-.1049	.0155	-.2849	-.2778	-.1796			
105.000			-.0016	.0154	-.3779	-.3757	-.2206			
110.000								-.3768		
120.000	-.2010	-.2270	.0184	.0998	-.4732	-.3655	-.2439	-.2855		
135.000			.0999	.2973	-.4112	-.2878	-.2373			
150.000	-.1187	-.1048	.1227	.4298	-.3125	-.2623	-.2286			
165.000	-.1010		.1410		-.1292	-.2517	-.3266			
180.000	-.1043	-.0585	.1533	.3908						

ALPHA (4) = 8.043 BETA (3) = 4.236 MACH = .89937 Q = 599.61 P = 1059.0 RN/L = 3.5771

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1508	.7930	.3562	.2235	.1098			-.0099		-.0290	-.0681	-.0250	.0477	.1155	.1430
20.000			.3362	.1890	.0781	.0182		-.0292		-.0631					
40.000			.3309	.1706	.0783	.0258		-.0337		-.0966	-.1652	-.0938	.0223	.0830	.1623
55.000			.3017	.1186	.0328	-.0130		-.0956		-.1621					
70.000			.2725	.0842	-.0013	.0071		-.0971		-.2100	-.6566	-.2436	-.0985	-.0411	
90.000		.3279	.2711	.0818	.0006	.0236		-.0888		-.3383	-.7664	-.2358	-.0811	-.0230	
120.000			.2598	.1096	.0281	.1202		.0540		-.4728	-.7872	-.3117	-.0514	-.0122	
150.000										-.6387					
165.000			.2327	.1522	.0651	.1602		.4170		-1.0137	-.6839	-.4073	-.0467	.0071	
170.000									.0789						
175.000									.1303						
180.000										-1.0375	-.7200	-.4026	-.0361	.0064	
175.000								.5193							
170.000							.6242								
180.000	1.1508	.3847	.2362	.1577	.0995	.2000		.5238		-1.0917	-.6925	-.4313	.0154	-.0023	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1341	.0981	.0078	-.1144	-.1437	-.2039	-.0247		.3858	.1225
20.000	.1409		.0291	-.0894	-.1711	-.1903	-.0775		.2237	-.0203
40.000	-.3031	-.5791	-.2553	-.0467	-.2760	-.3506	-.1905			
60.000	-.2357	-.4305	-.1646	-.0599	-.3559	-.3866	-.2445			
90.000			-.0972	-.0531	-.4721	-.4559	-.2504			
120.000								-.3856		
150.000	-.1496	-.2137	-.0444	.0191	-.5541	-.5215	-.3065	-.3091		
165.000			.0761	.2691	-.4389	-.4306	-.2978			
180.000	-.0916	-.0897	.1175	.3554	-.3569	-.4169	-.2798			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8850)

ALPHA (4) = 8.043 BETA (3) = 4.236

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
155.000	-.0951		.1186		-.2085	-.3825	-.3353			
180.000	-.1102	-.0586	.1331	.3415						

ALPHA (5) = 11.980 BETA (1) = -3.854 MACH = .89910 Q = 599.28 P = 1050.0 RN/L = 3.5742

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/B	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0982	.9252	.5019	.3399	.2250			.0793		.0543	.0326	.0486	.0989	.1833	.2158
20.000			.5493	.3636	.2285	.1340		.0814		.0534					
40.000			.6173	.4039	.2882	.2000		.1135		.0552	.0151	.0699	.1161	.1849	.2624
60.000			.5000	.3406	.2545	.1545		.0602		-.0150					
80.000			.4912	.3002	.1768	.1533		.0510		-.0610	-.4242	-.2034	-.1481	-.0338	
90.000		.5616	.4290	.2523	.1597	.1425		.0555		-.1389	-.5400	-.2489	-.1695	-.0634	
100.000			.2977	.1465	.0622	.1434		.1873		-.2516	-.6610	-.5298	-.4151	-.2560	
140.000										-.3780					
150.000			.1619	.0846	.0238	.1434		.5640		-.5261	-.5570	-.5159	-.2346	-.0875	
160.000									.2370						
165.000									.2389						
168.000										-.8313	-.5646	-.5609	-.2138	-.0449	
169.000								.5661							
174.000							.6591								
180.000	1.0982	.2593	.0961	.0775	.0304	.1474		.4591		- 7162	-.6045	-.5485	-.2093	- 0076	

X/B	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2170	.1712	.0895	-.0291	-.1045	-.1968	-.0278		.4137	.1292
20.000	.2434		.1201	-.0063	-.1263	-.1904	-.0959		.2753	.0269
40.000	-.4462	-.7267	-.1707	-.0041	-.2567	-.3425	-.1670			
80.000	-.3430	-.5765	-.0552	.0363	-.2630	-.3623	-.1950			
120.000			-.0074	.0765	-.3248	-.4254	-.2354			
140.000								-.3724		
150.000	-.378	-.2618	.0094	.1307	-.3719	-.4054	-.2275	-.2963		
160.000			.0141	.2084	-.3628	-.2815	-.2411			
165.000	-.2070	-.2227	-.0082	.2889	-.3091	-.2540	-.2506			
168.000	-.2019		.0146		-.0983	-.1837	-.3322			
180.000	-.1515	-.1207	.0813	.3337						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8850)

ALPHA (5) = 11.999 BETA (2) = .180 MACH = .89910 Q = 599.28 P = 1059.0 RN/L = 3.5742

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1049	.9299	.5068	.3444	.2315			.0783		.0547	.0297	.0574	.1101	.1912	.2189
20.000			.5168	.3383	.2150	.1225		.0701		.0366					
40.000			.5217	.3315	.2253	.1382		.0736		.0071	-.0479	-.0016	.0887	.1622	.2479
55.000			.4374	.2437	.1390	.0571		-.0252		-.0915					
70.000			.3699	.1841	.0787	.0727		-.0202		-.1212	-.5144	-.2480	-.1857	-.0829	
90.000		.4147	.3267	.1551	.0650	.0757		-.0068		-.2109	-.6371	-.2430	-.1841	-.0699	
130.000			.2399	.1015	.0221	.1243		.1384		-.3448	-.7303	-.4189	-.2942	-.1283	
140.000										-.4916					
150.000			.1589	.0843	.0173	.1448		.4864		-.7249	-.5958	-.4943	-.1895	-.0423	
151.000									.1637						
160.000									.1795						
165.000										-1.0044	-.6060	-.5221	-.1738	-.0043	
169.000								.5169							
174.000							.6129								
180.000	1.1049	.2462	.1174	.0643	.0282	.1606		.4887		-.7819	-.6151	-.5323	-.1558	.0098	

X/LB	.6520	.7230	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2036	.1726	.0941	-.0300	-.0979	-.2076	-.0419		.4102	.1317
40.000	.2349		.1184	-.0061	-.1305	-.1914	-.1068		.2562	.0024
70.000	-.4582	-.7369	-.2417	-.0882	-.3177	-.3977	-.2066			
90.000	-.3431	-.5823	-.1304	-.0597	-.3529	-.4009	-.2527			
130.000			-.0400	-.0078	-.4441	-.4840	-.2892			
140.000								-.4112		
150.000	-.2648	-.2908	-.0183	.0612	-.4409	-.4736	-.3512	-.3056		
160.000			.0146	.2375	-.4054	-.3783	-.3050			
170.000	-.2067	-.1685	.0447	.3756	-.3512	-.3486	-.2825			
175.000	-.1520		.0846		-.1264	-.2750	-.3309			
180.000	-.1365	-.0973	.1075	.3512						

ALPHA (5) = 11.979 BETA (3) = 4.260 MACH = .89910 Q = 599.28 P = 1059.0 RN/L = 3.5742

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0302	.9137	.4917	.3396	.2172			.0785		.0552	.0229	.0475	.1019	.1786	.2121
20.000			.4673	.2954	.1759	.1014		.0476		.0206					
40.000			.4114	.2452	.1457	.0718		.0127		-.0515	-.1196	-.0684	.0405	.1205	.2168
55.000			.2984	.1225	.0328	-.0350		-.1039		-.1486					
70.000			.2406	.0778	-.0159	.0084		-.0768		-.1745	-.5926	-.2449	-.2202	-.1258	
90.000		.2600	.2161	.0580	-.0224	.0245		-.0619		-.2670	-.7236	-.2140	-.2011	-.0773	
130.000			.1752	.0505	-.0280	.1042		.0778		-.4335	-.6732	-.3484	.2326	-.0651	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8850)

ALPHA (5) = 11.979 BETA (3) = 4.260

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.6140					
150.000			.1316	.0752	-.0143	.1248		.3942		-.9823	-.5994	-.5138	-.2042	.0005	
161.000									.0733						
165.221									.1080						
[illegible]										-.9541	-.5966	-.5453	-.2105	.0156	
[illegible]								.4839							
[illegible]							.5908								
[illegible]	1.0332	.2159	.1184	.0807	.0137	.1526		.4846		-.6654	-.6099	-.5474	-.2140	-.0164	
[illegible]	.6520	.7230	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
[illegible]	.2131	.1628	.0355	-.0369	-.1019	-.2333	-.0349		.4180	.1321					
[illegible]	.2606		.1036	-.0090	-.1408	-.2189	-.1190		.2432	-.0055					
[illegible]	-.4457	-.7776	-.2065	-.1110	-.3382	-.4171	-.3884								
[illegible]	-.3861	-.5339	-.2099	-.1125	-.4174	-.5255	-.4983								
105.000			-.1001	-.0911	-.5183	-.5557	-.5558								
110.000								-.3630							
120.000	-.2072	-.2886	-.0768	-.0407	-.5168	-.5947	-.5790	-.2907							
130.000			.0295	.2144	-.4202	-.4524	-.4817								
140.000	-.1478	-.1544	.0863	.3449	-.3669	-.4197	-.3848								
150.000	-.1351		.0830		-.1721	-.3766	-.3481								
160.000	-.1056	-.1102	.0782	.3299											

AMES 11-073(0A148) -140A/B/C/R ORB FUSELAGE (XE6851) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 936.0600 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = -10.000 SPDBRK = 85.000
BDFLAP = 16.300 L-ELVN = 4.000
R-ELVN = 4.000 MACH = .600

ALPHA (I) = -3.976 BETA (I) = -7.854 MACH = .59542 Q = 592.57 P = 2387.9 RN/L = 4.8104

SECTION (1):ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0094	.1372	-.2174	-.2139	-.2195			-.1789		-.1537	-.1240	-.0958	-.0759	-.0605	-.0724
20.000			-.1976	-.2286	-.2835	-.2854		-.2388		-.2056					
40.000			.0271	-.2169	-.2978	-.3096		-.3691		-.3296	-.2648	-.1939	-.1653	-.1412	-.1401
60.000			.2766	.0599	-.0182	-.1180		-.1434		-.1641					
70.000			.4519	.2375	.1497	.0863		-.0381		-.1247	-.1335	-.0040	.0648	.1008	
80.000		.7421	.5494	.3272	.2346	.1350		-.0107		-.1738	-.1658	-.0373	.0389	.0660	
100.000			.6211	.4595	.3510	.3205		.1902		-.1424	-.1832	-.1669	.0065	.0396	
140.000										-.1948					
150.000			.5688	.4288	.3453	.3481		.5633		-.3551	-.3086	-.1010	-.0331	-.0049	
161.000									.2430						
164.000									.2570						
165.000										-.9335	-.2419	-.1250	-.0552	-.0165	
169.000								.5698							
174.000							.6991								
180.000	1.0094	.7065	.4373	.3420	.2815	.2839		.3698		-1.1810	-.2334	-.1331	-.0752	-.0383	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0450
PHI										
.000	-.1048	-.1255	-.1555	-.1998	-.1603	-.1466	-.0458		.2171	-.0183
20.000	-.1930		-.1656	-.2051	-.1738	-.1251	-.1038		.1312	-.0418
70.000	.0105	-.0155	.0533	.1464	-.0266	-.0485	-.1135			
90.000	.0411	.0359	.1117	.1957	-.0633	-.0969	- 1547			
105.000			.1509	.3087	-.1447	-.1428	-.2024			
110.000								-.3408		
120.000	.0281	.0793	.2456	.4785	-.1615	-.1462	-.1920	-.2747		
135.000			.2907	.4722	-.0996	-.0726	-.1671			
150.000	.0287	.0919	.2785	.3407	-.0728	-.0361	-.1275			
161.000	.0116		.2282		.1628	-.0137	-.3211			
180.000	-.0146	.0525	.1828	.3093						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8851)

ALPHA (1) = -3.959 BETA (2) = -3.844 MACH = .59342 Q = 592.57 P = 2387.9 RN/L = 4.8104

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0516	.1719	-.1786	-.1816	-.2019			-.1599		-.1323	-.1108	-.0793	-.0575	-.0432	-.0605
20.000			-.1697	-.1893	-.2414	-.2400		-.2004		-.1667					
40.000			.0131	-.1881	-.2604	-.2581		-.2947		-.2656	-.2002	-.1321	-.1080	-.1006	-.1079
55.000			.2044	-.0002	-.0688	-.1389		-.1728		-.1955					
70.000			3340	.1304	.0562	.0075		-.1082		-.1884	-.1835	-.0401	.0313	.0785	
90.000		.6071	.4268	.2185	.1254	.0404		-.1037		-.2639	-.2170	-.0752	.0113	.0647	
120.000			.5293	.3680	.2561	.2362		.0780		-.2377	-.2314	-.1988	-.0089	.0344	
140.000										-.2691					
160.000			.5430	.4116	.3256	.3264		.5027		-.4059	-.2712	-.0902	-.0216	.0193	
161.000									.1571						
162.000									.1902						
165.000										-.9292	-.2066	-.0940	-.0304	.0127	
169.000								.5584							
174.000							.6947								
180.000	1.0516	.7260	.4763	.3844	.3137	.3231		.4677		-1.1599	-.1971	-.0997	-.0351	.0060	
X/LB	.6520	.7290	.7780	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
000	-.0974	-.1234	-.1337	-.1957	-.1564	-.1493	-.0462		.2282	-.0155					
20.000	-.1701		-.1589	-.1952	-.1699	-.1134	-.0819		.1375	-.0489					
40.000	-.0131	-.0451	.0119	.0975	-.0729	-.0849	-.1342								
90.000	.0212	.0000	.0707	.1313	-.1224	-.1347	-.1734								
105.000			.1233	.1978	-.2205	-.1854	-.2246								
115.000								-.3384							
130.000	.3393	.0771	.2208	.3365	-.2551	-.2234	-.2545	-.2899							
145.000			.2050	.4048	-.1679	-.1245	-.2020								
155.000	.0583	.1180	.2027	.4450	-.1098	-.0566	-.1567								
170.000	.0480		.2622		.0712	-.0990	-.3295								
180.000	.0307	.1063	.2449	.4469											

ALPHA (1) = -3.956 BETA (3) = .188 MACH = .59542 Q = 592.57 P = 2387.9 RN/L = 4.8104

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0609	.1787	-.1808	-.1764	-.2015			-.1578		-.1332	-.1047	-.0737	-.0521	-.0396	-.0609
20.000			-.1644	-.1787	-.2290	-.2115		-.1794		-.1522					
40.000			-.0230	-.1949	-.2371	-.2204		-.2459		-.2137	-.1494	-.0934	-.0733	-.0595	-.0787
55.000			.1223	-.0539	-.1137	-.1649		-.2036		-.2281					
70.000			.2229	.0270	-.0359	-.0639		-.1768		-.2494	-.2205	-.0699	.0062	.0306	
90.000		.4483	.3039	.0970	.0102	-.0556		-.1917		-.3577	-.2635	-.1048	-.0111	.0458	
120.000			.4161	.2546	.1459	.1384		-.0521		-.3519	-.2877	-.2467	-.0346	.0127	

AMES 11-073(OA148) -140A/B/C/P ORB FUSELAGE (XE835)

ALPHA (1) = -3.956 BETA (3) = .188

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000															
150.000															
161.000			.4835	.3712	.2833	.2772		.4121		-.3514					
162.000										-.4794	-.2497	-.0970	-.0232	.0130	
171.000									.0377						
172.000									.0988						
181.000										-.9284	-.1985	-.0934	-.0251	.0182	
182.000								.5254							
190.000	1.0608	.7221	.4917	.3954	.3256	.3361	.6789								
								.5147		-1.1250	-.1862	-.0908	-.0187	.0175	
X/LB	.0520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.0386	-.1160	-.1533	-.2018	-.1576	-.1501	-.0482		.2434	-.0022					
40.000	-.1511		-.1580	-.1945	-.1699	-.1162	-.0644		.1095	-.0780					
80.000	-.0357	-.0736	-.0279	.0516	-.1156	-.1198	-.1572								
90.000	-.0015	-.0255	.0340	.0617	-.1865	-.1723	-.1923								
100.000			.0735	.0969	-.3021	-.2347	-.2549								
120.000	.0198	.0355	.1443	.2111	-.3737	-.3104	-.3250	-.3636							
125.000			.2362	.4457	-.2651	-.1999	-.2566	-.3279							
160.000	.0519	.1075	.2615	.4969	-.1947	-.1819	.2090								
165.000	.0517		.2573		-.0280	-.1680	-.3381								
180.000	.0485	.1254	.2794	.4933											

ALPHA (1) = -3.953 BETA (4) = 4.269 MACH = .59542 Q = 592.57 P = 2387.9 RN/L = 4.8104

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0379	.1556	-.1858	-.1813	-.2085										
20.000			-.1812	-.1819	-.2270	-.2028		-.1607		-.1405	-.1107	-.0821	-.0558	-.0444	-.0617
40.000			-.0764	-.1937	-.2303	-.1991		-.1686		-.1445					
55.000			.0235	-.1221	-.1646	-.1959		-.2111		-.1795	-.1227	-.0671	-.0470	-.0491	-.0491
70.000			.1051	-.0656	-.1224	-.1410		-.2265		-.2399					
80.000		.2838	.1697	-.0255	-.1008	-.1498		-.2370		-.2910	-.2439	-.0859	-.0360	.0440	
100.000			.2942	.1323	.0191	.0264		-.2769		-.4367	-.2993	-.1183	-.0212	.0282	
140.000								-.1921		-.4458	-.3424	-.2946	-.0785	.0278	
150.000			.4016	.3097	.2103	.2067				-.4341					
161.000								.2982		-.5462	-.2486	-.1124	-.0520	.0189	
162.000									-.1056						
171.000									-.0182						
172.000										-.9439	-.2052	-.1077	-.0449	.0245	
190.000								.4584							
194.000							.6124								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8851)

ALPHA (1) = -3.963 BETA (4) = 4.269

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.0379	.6935	.4831	.3800	.3097	.3221		.4898		-1.1224	-.1965	-.0958	-.0356	.0059	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1010	-.1226	-.1525	-.2004	-.1643	-.1522	-.0439		.2204	-.0184
60.000	-.1264		-.1439	-.1663	-.1750	-.1203	-.0651		.1177	-.0934
70.000	-.0491	-.1053	-.0566	.0066	-.1618	-.1517	-.1794			
90.000	-.0202	-.0550	-.0146	.0024	-.2337	-.2134	-.2237			
105.000			.0182	.0040	-.3760	-.2821	-.2838			
110.000								-.3800		
120.000	-.0189	-.0258	.0440	.0502	-.5071	-.4158	-.3998	-.3519		
135.000			.1614	.2953	-.3796	-.2797	-.3077			
150.000	.0234	.0604	.1996	.4829	-.3004	-.2855	-.2676			
165.000	.0394		.2150		-.1529	-.2862	-.3422			
180.000	.0270	.1024	.2475	.4623						

ALPHA (1) = -3.980 BETA (5) = 8.339 MACH = 59542 Q = 592.57 P = 2397.9 RN/L = 4.8104

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1590	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9896	.1311	-.2043	-.1945	-.2285			-.1805		-.1572	-.1263	-.0972	-.0682	-.0594	-.0739
20.000			-.2045	-.1984	-.2333	-.2043		-.1732		-.1575					
40.000			-.1311	-.2095	-.2278	-.1952		-.1881		-.1715	-.1106	-.0952	-.0313	-.0429	-.0298
60.000			-.0749	-.1695	-.1946	-.2130		-.2405		-.2484					
80.000			-.0249	-.1533	-.1941	-.1865		-.2714		-.3191	-.2509	-.1038	-.0145	.0296	
90.000		.1018	.0498	-.1386	-.2041	-.2225		-.3435		-.4871	-.3210	-.1321	-.0310	.0117	
100.000			.1941	-.0018	-.1133	-.1045		-.3368		-.5379	-.3935	-.3443	-.1231	-.0209	
110.000										-.5143					
120.000			.2640	.2185	.1137	.1036		.1472		-.6260	-.2739	-.1503	-.1004	-.0661	
130.000									-.2602						
140.000									-.1701						
150.000										-.9816	-.2425	-.1441	-.0889	-.0575	
160.000								.3727							
170.000							.5451								
180.000	.9935	.6251	.4342	.3331	.2816	.2774		.3903		-1.1393	-.2308	-.1323	-.0755	-.0424	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1032	-.1264	-.1569	-.2067	-.1615	-.1544	-.0533		.2151	-.0154
60.000	-.1270		-.1397	-.1877	-.1720	-.1188	-.0640		.0950	-.1065

AMES 11-073(OA148) -140A/B/C/R OPB FUSELAGE (XE8651)

ALPHA (1) = -3.930 BETA (5) = 8.333

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
[illegible]	-.0556	-.1340	-.1108	-.0326	-.2017	-.1707	-.1832			
[illegible]	-.0784	-.0902	-.0813	-.0458	-.2677	-.2358	-.2356			
[illegible]			-.0312	-.0782	-.4160	-.3023	-.2808			
[illegible]								-.3553		
[illegible]	-.0567	-.0795	-.1023	-.1704	-.6478	-.5091	-.4556	-.3714		
[illegible]			.0568	.1330	-.5249	-.3629	-.3657			
[illegible]	-.0341	-.0111	.0977	.4314	-.4850	-.4087	-.3345			
[illegible]	-.0[illegible]		.1203		-.2[illegible]	-.3864	-.3306			
[illegible]	-.0474	.0404	.1817	.3409						

ALPHA (2) = .050 BETA (1) = -7.831 MACH = .5[illegible] Q = 533.99 P = 2397.5 RN/L = 4.8200

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0347	.3222	-.0636	-.1149	.1362			-.1347		-.1208	-.0994	-.0735	-.0491	-.0226	-.0197
20.000			-.0249	-.0976	-.1720	-.2002		-.1736		-.1531					
40.000			.2075	-.0441	-.1282	-.1576		-.2212		-.2029	-.1497	-.0918	-.0735	-.0650	-.0517
55.000			.3992	.1926	.1033	.0195		-.0452		-.0931					
70.000			.5065	.2925	.1994	.1311		.0013		-.0935	-.1305	-.0202	.0291	.0528	
90.000		.7359	.5478	.3513	.2388	.1666		.0186		-.1539	-.1585	-.0522	.0073	.0374	
[illegible]			.5504	.3934	.2904	.2825		.1702		-.1736	-.2273	-.2150	-.0633	-.0474	
140.000										-.2631					
150.000			.4529	.3162	.2461	.2631		.5144		-.4627	-.4127	-.1572	-.0823	-.0541	
[illegible]									.1854						
[illegible]									.1719						
[illegible]										-1.1103	-.2355	-.1664	-.0694	-.0800	
[illegible]								.5101							
[illegible]							.6554								
180.000	1.0347	.5932	.3204	.2471	.1800	.2095		.2955		-1.3493	-.2595	-.1579	-.0939	-.0540	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
[illegible]	-.0485	-.0735	-.1159	-.1623	-.1369	-.1395	-.0402		.2543	-.0023
[illegible]	-.1008		-.1115	-.1612	-.1455	-.1043	-.0942		.1665	-.0306
[illegible]	-.0495	-.0373	.0078	.1410	-.0243	-.0387	-.0933			
[illegible]	-.0453	-.0349	.0622	.1935	-.0547	-.0898	-.1532			
[illegible]			.1173	.3225	-.1293	-.1341	-.2003			
[illegible]								-.3313		
[illegible]	-.0725	.0265	.1937	.4797	-.1762	-.1455	-.1762	-.2643		
[illegible]			.2413	.4238	-.1446	-.0931	-.1817			
[illegible]	-.0233	.0758	.2353	.2629	-.1341	-.0745	-.1413			

AME[illegible] [illegible] -140A/B/C/R ORB FUSELAGE (XE8851)

ALPHA (2) = .060 BETA (1) = -?

SECTION (1)ORBITER FUSELAGE VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0436		.1903		.1246	-.0393	-.3155			
180.000	-.0479	.0142	.1548	.2630						

ALPHA (2) = .070 BETA (2) = -3.863 MACH = .59620 Q = 593.99 P = 2387.5 R)/L = 4.8200

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0749	.3570	-.0303	-.0839	-.1213			-.1227		-.1048	-.0865	-.0561	-.0299	-.0081	-.0100
20.000			.0026	-.0662	-.1421	-.1625		-.1445		-.1238					
40.000			.1704	-.0389	-.1139	-.1382		-.1806		-.1656	-.1156	-.0628	-.0425	-.0346	-.0228
55.000			.3178	.1214	.0477	-.0219		-.0926		-.1395					
70.000			.3916	.1867	.1070	.0514		-.0686		-.1597	-.1808	-.0550	-.0007	.027[illegible]	
90.000		.5956	.4413	.2365	.1402	.0716		-.0641		-.2376	-.2092	-.0865	-.0147	.0189	
120.000			.4693	.3153	.2192	.2127		.0820		-.2597	-.2587	-.2238	-.0503	-.0167	
140.000										-.3333					
150.000			.4279	.3129	.2346	.2533		.4637		-.5074	-.3437	-.1321	-.0555	-.0242	
151.000									.1022						
162.000									.1136						
165.000										-1.0897	-.2590	-.1328	-.0567	-.0218	
169.000								.4988							
174.000							.6373								
180.000	1.0749	.5918	.3554	.2813	.2154	.2395		.3975		-1.3151	-.2390	-.1268	-.0555	-.0233	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0401	-.0716	-.1115	-.1659	-.1392	-.1333	-.0391		.2384	-.0102
40.000	-.0806		-.1029	-.1624	-.1520	-.1001	-.0787		.1600	-.0400
70.000	-.1205	-.1267	-.0351	.0906	-.0765	-.0825	-.1272			
90.000	-.0712	-.0655	.0332	.1248	-.1215	-.1358	-.1772			
105.000			.0832	.2038	-.2112	-.1855	-.2311			
110.000								-.3401		
120.000	-.0427	.0146	.1916	.3430	-.2610	-.2082	-.2334	-.2846		
130.000			.2553	.3854	-.2107	-.1516	-.2162			
150.000	.0016	.0711	.2521	.3321	-.1652	-.1292	-.1803			
165.000	.0007		.2261		.0276	-.1260	-.3269			
180.000	-.0040	.0706	.2123	.3681						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8851)

ALPHA (2) = .075 BETA (3) = .185 MACH = .59620 Q = 593.99 P = 2387.5 RN/L = 4.8200

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0827	.3704	-.0276	-.0706	-.1125			-.1119		-.0971	-.0821	-.0489	-.0242	-.0014	-.0099
20.000			-.0083	-.0663	-.1331	-.1476		-.1273		-.1142					
40.000			.1220	-.0535	-.1077	-.1184		-.1529		-.1503	-.0917	-.0424	-.0218	-.0178	-.0042
55.000			.2217	.0465	-.0163	-.0683		-.1335		-.1733					
70.000			.2714	.0940	.0112	-.0278		-.1340		-.2228	-.2149	-.0879	-.0235	.0083	
90.000		.4491	.3153	.1209	.0328	-.0138		-.1465		-.3209	-.2533	-.1196	-.0348	.0058	
130.000			.3736	.2238	.1245	.1312		-.0292		-.3505	-.2956	-.2326	-.0452	-.0081	
140.000										-.4039					
150.000			.3851	.2868	.1977	.2137		.3687		-.5572	-.3019	-.1248	-.0419	-.0144	
151.000									-.0105						
152.000									.0241						
155.000										-1.0706	-.2400	-.1210	-.0431	-.0073	
160.000								.4659							
170.000							.6261								
180.000	1.0827	.5901	.3769	.2925	.2226	.2497		.4450		-1.2853	-.2264	-.1135	-.0415	-.0127	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0398	-.0675	-.1102	-.1655	-.1353	-.1369	-.0395		.2401	-.0059
40.000	-.0644		-.1019	-.1544	-.1505	-.1044	-.0607		.1299	-.0700
70.000	-.1367	-.1551	-.0673	.0378	-.1246	-.1249	-.1572			
90.000	-.0853	-.0850	.0002	.0578	-.1869	-.1767	-.1949			
105.000			.0609	.0604	-.2873	-.2306	-.2536			
110.000								-.3571		
120.000	-.0332	.0057	.1383	.1574	-.3491	-.2897	-.2887	-.3014		
135.000			.2129	.3731	-.2864	-.2116	-.2564			
150.000	.0129	.0738	.22 *	.4258	-.2269	-.2053	-.2190			
165.000	.0105		.2220		-.0704	-.2153	-.3250			
180.000	.0095	.0871	.2318	.4402						

ALPHA (2) = .070 BETA (4) = 4.248 MACH = .59620 Q = 593.99 P = 2387.5 RN/L = 4.8200

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0606	.3466	-.0395	-.0790	-.1292			-.1210		-.1057	-.0818	-.0568	-.0322	-.0068	-.0109
20.000			-.0381	-.0858	-.1419	-.1441		-.1279		-.1186					
40.000			.0517	-.0416	-.1322	-.1235		-.1423		-.1408	-.0930	-.0371	-.0184	-.0109	.0137
55.000			.1137	-.0324	-.0823	-.1184		-.1755		-.2052					
70.000			.1538	-.0174	-.0766	-.0893		-.1990		-.2617	-.2441	-.1072	-.0369	.0041	
90.000		.2775	.1932	.0094	-.0643	-.1011		-.2248		-.3884	-.2823	-.1271	-.0390	-.0015	
130.000			.2650	.1183	.0184	.0370		-.1502		-.4388	-.3353	-.2535	-.0502	-.0168	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8851)

ALPHA (2) = .070 BETA (4) = 4.248

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.4826					
150.000			.3185	.2320	.1482	.1572		.2631		-.6187	-.2854	-.1250	-.0565	-.0252	
151.000									-.1364						
162.000									-.0850						
165.000										-1.0758	-.2397	-.1269	-.0556	-.0235	
169.000								.4095							
174.000							.5640								
180.000	1.0606	.5652	.3642	.2720	.2161	.2420		.4233		-1.2778	-.2381	-.1233	-.0547	-.0240	

X/LB	.0520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0372	-.0642	-.1097	-.1634	-.1400	-.1352	-.0370		.2410	-.0046
40.000	-.0500		-.0336	-.1488	-.1568	-.1116	-.0575		.1137	-.0974
80.000	-.1495	-.1750	-.1021	-.0166	-.1692	-.1562	-.1814			
90.000	-.0954	-.1088	-.0449	-.0096	-.2417	-.2124	-.2214			
110.000			.0018	-.0071	-.3636	-.2760	-.2836			
115.000								-.3806		
130.000	-.0475	-.0457	.0495	.0667	-.4744	-.3790	-.3531	-.3269		
135.000			.1525	.2709	-.3955	-.2891	-.3051			
150.000	-.0081	.0419	.1828	.3795	-.3328	-.3016	-.2761			
155.000	-.0034		.1878		-.1948	-.3117	-.3319			
180.000	-.0066	.0694	.2139	.3930						

ALPHA (2) = .066 BETA (5) = 8.300 MACH = .59620 Q = 593.99 P = 2387.5 RN/L = 4.8200

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0123	.3172	-.0509	-.0893	-.1447			-.1332		-.1262	-.1032	-.0699	-.0457	-.0194	-.0330
20.000			-.0676	-.1016	-.1635	-.1568		-.1389		-.1355					
40.000			-.0211	-.1111	-.1545	-.1388		-.1512		-.1552	-.1065	-.0552	-.0318	-.0228	.0127
55.000			.0120	-.1023	-.1357	-.1562		-.2025		-.2324					
70.000			.0390	-.1061	-.1433	-.1455		-.2381		-.2988	-.2613	-.1173	-.0443	-.0043	
80.000		.1014	.0730	-.0999	-.1552	-.1728		-.2867		-.4415	-.3014	-.1308	-.0434	-.0033	
130.000			.1404	.0009	-.0956	-.0738		-.2786		-.5184	-.3659	-.2826	-.0742	-.0328	
140.000										-.5489					
150.000			.2195	.1532	.0560	.0643		.1229		-.6850	-.2923	-.1537	-.0862	-.0633	
151.000									-.2905						
162.000									-.2338						
165.000										-1.1032	-.2622	-.1604	-.0976	-.0690	
169.000								.3223							
174.000							.5026								
180.000															

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE885:)

ALPHA (2) = .066 BETA (5) = 8.300

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0450	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3750	.4970	.5740
PHI															
180.000	1.0183	.4911	.3183	.2270	.1679	.1981		.3251		-1.3031	-.270?	[illegible]	-.1000	[illegible]	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0491	-.0732	-.1135	-.1712	-.1402	-.1448	-.0414		.2506	.0044
40.000	-.0434		-.0979	-.1459	-.1573	-.1120	-.0587		.1054	-.1044
70.000	-.1576	-.1973	-.1460	-.0571	-.2073	-.1764	-.1855			
90.000	-.1107	-.1359	-.0901	-.0574	-.2803	-.2517	-.2491			
105.000			-.0446	-.0595	-.4122	-.3078	-.2938			
110.000								-.3695		
120.000	-.0765	-.0890	-.0323	-.1621	-.6093	-.4669	-.4130	-.3466		
135.000			.0608	.1093	-.5373	-.3851	-.3608			
150.000	-.0552	-.0287	.0899	.3704	-.5019	-.4217	-.3362			
165.000	-.0554		.1064		-.3417	-.4199	-.3355			
180.000	-.0620	.0069	.1494	.2809						

ALPHA (3) = 4.023 BETA (1) = -7.901 MACH = .59564 Q = 593.05 P = 2388.1 RN/L = 4.8166

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0450	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0269	.4893	.0820	-.0084	-.0504			-.0887		-.0785	-.0672	-.0443	-.0152	.0256	.0285
20.000			.1419	.0287	-.0585	-.1058		-.1034		-.0956					
40.000			.3545	.1107	.0209	-.0322		-.0934		-.0977	-.0534	-.0045	.0083	.0111	.0361
55.000			.4898	.2869	.2002	.1080		.0276		-.0398					
70.000			.5223	.3260	.2201	.1558		.0288		-.0846	-.1387	-.0452	-.0064	-.0026	
90.000		.7021	.5205	.3376	.2400	.1688		.0355		-.1497	-.1715	-.0803	-.0298	-.0127	
120.000			.4583	.3092	.2095	.2151		.1397		-.2172	-.2799	-.2977	-.1710	-.1657	
140.000										-.3415					
150.000			.3220	.2021	.1424	.1831		.4641		-.5625	-.4833	-.2053	-.1257	-.1101	
151.000									.1257						
152.000									.0909						
165.000										-1.2808	-.3492	-.1987	-.1151	-.0916	
169.000								.4496							
174.000							.6093								
180.000	1.0269	.4419	.1963	.1457	.0991	.1328		.2290		-1.5063	-.2980	-.1757	-.1085	-.0817	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0107	-.0168	-.0632	-.1271	-.1115	-.1244	-.0293		.2704	.0088
40.000	-.0011		-.0544	-.1156	-.1245	-.0805	-.0802		.1822	-.0262

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8851)

ALPHA (3) = 4.023 BETA (1) = -7.901

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.2028	-.1624	-.0338	.1405	-.0184	-.0290	-.0925			
90.000	-.1405	-.0995	.0320	.1939	-.0460	-.0913	-.1508			
105.000			.0756	.3465	-.1150	-.1275	-.1980			
110.000								-.3301		
120.000	-.1962	-.0850	.1303	.4933	-.2042	-.1555	-.1776	-.2723		
135.000			.1908	.3502	-.1985	-.1329	-.2028			
150.000	-.0961	-.0139	.1907	.1287	-.2030	-.1020	-.1702			
165.000	-.0824		.1573		.0977	-.0561	-.3122			
180.000	-.0790	-.0087	.1264	.2127						

ALPHA (3) = 4.027 BETA (2) = -3.854 MACH = .59564 Q = 593.05 P = 2388.1 RN/L = 4.8166

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/B	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0626	.5247	.1176	.0236	-.0284			-.0726		-.0609	-.0501	-.0297	.0051	.0404	.0393
20.000			.1516	.0552	-.0417	-.0830		-.0781		-.0722					
40.000			.3077	.0972	.0149	-.0281		-.0774		-.0856	-.0410	.0018	.0215	.0250	.0512
55.000			.3936	.2098	.1207	.0433		-.0394		-.1008					
70.000			.4126	.2209	.1230	.0751		-.0549		-.1487	-.1921	-.0859	-.0399	-.0274	
90.000		.5523	.4149	.2316	.1446	.0872		-.0473		-.2285	-.2198	-.1184	-.0494	-.0332	
120.000			.3884	.2458	.1524	.1721		.0651		-.2872	-.2987	-.2815	-.1229	-.1082	
140.000										-.3977					
150.000			.3091	.2024	.1313	.1764		.4209		-.5956	-.4128	-.1744	-.0855	-.0640	
161.000									.0509						
168.000									.0379						
165.000										-1.2446	-.3041	-.1625	-.0812	-.0526	
169.000								.4394							
174.000							.5905								
180.000	1.0626	.4405	.2333	.1783	.1218	.1621		.3274		-1.4593	-.2716	-.1402	-.0731	-.0493	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0180	-.0142	-.0583	-.1253	-.1109	-.1196	-.0267		.2605	-.0007
20.000	.0123		-.0517	-.1155	-.1319	-.0821	-.0634		.1689	-.0354
35.000	-.2364	-.2031	-.0809	.0947	-.0927	-.0703	-.1179			
55.000	-.1674	-.1354	.0004	.1251	-.1019	-.1662	-.1781			
105.000			.0499	.2171	-.1932	-.1773	-.2211			
110.000								-.3285		
120.000	-.1373	-.0443	.1686	.3102	-.2049	-.2101	-.2196	-.2792		
135.000			.2103	.3007	-.1922	-.1735	-.2263			
150.000	-.1510	.0268	.2196	.2285	-.2224	-.1539	-.1957			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE885)

ALPHA (3) = 4.027 BETA (2) = -3.864

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
160.000	-.0370		.1926		-.0023	-.1458	-.3061			
180.000	-.0366	.0447	.1846	.3071						

ALPHA (3) = 4.029 BETA (3) = .191 MACH = .59564 Q = 583.05 P = 2388.1 RN/L +.8183

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0010	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3720	.4970	.6140
PHI															
.000	1.0719	.5359	.1200	.0351	-.0221			-.0640		-.0574	-.0438	-.0175	.0114	.0410	.0417
20.000			.1359	.0426	-.0347	-.0752		-.0725		-.0736					
40.000			.2384	.0870	-.0072	-.0382		-.0718		-.0917	-.0509	-.0038	.0199	.0218	.0342
55.000			.2865	.1169	.0476	-.0206		-.0931		-.1512					
70.000			.2810	.1187	.0374	-.0033		-.1145		-.2115	-.2294	-.1177	-.0807	-.0411	
90.000		.4179	.3039	.1301	.0485	.0076		-.1225		-.3022	-.2561	-.1330	-.0660	-.0430	
120.000			.3079	.1744	.0785	.1129		-.1239		-.3708	-.3191	-.2894	-.0847	-.0635	
140.000										-.4602					
150.000			.2785	.1950	.1116	.1510		.3253		-.6340	-.3511	-.1478	-.0829	-.0376	
161.000									-.0561						
169.000									-.0429						
169.000										-1.2048	-.2789	-.1139	-.0607	-.0343	
169.000								.4073							
174.000							.5701								
180.000	1.0719	.4383	.2556	.1775	.1294	.1809		.3763		-1.4271	-.2531	-.1312	-.0572	-.0336	

X/B	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0184	-.0115	-.0623	-.1363	-.1104	-.1224	-.0194		.2659	.0089
20.000	.0183		-.0523	-.1051	-.1283	-.0835	-.0513		.1462	-.0671
40.000	-.0521	-.2051	-.1131	.0223	-.1266	-.1215	-.1517			
90.000	-.1748	-.1520	-.0275	.0481	-.1898	-.1768	-.1915			
120.000			.0442	.0658	-.2721	-.2261	-.2			
140.000								-.3449		
150.000	-.0868	-.0310	.1304	.0554	-.3397	-.2725	-.2502	-.2774		
165.000			.1833	.2870	-.3010	-.2207	-.2533			
180.000	-.0319	.0338	.1904	.3840	-.2537	-.2196	-.2273			
180.000	-.0226		.1791		-.1102	-.2363	-.3062			
180.000	-.0215	.0521	.1697	.4021						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8851)

ALPHA (3) = 4.031 BETA (4) = 4.239 MACH = .59564 Q = 593.05 P = 2388.1 RN/L = 4.8166

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0506	.5108	.1141	.0256	-.0392			-.0713		-.0635	-.0527	-.0231	.0041	.0301	.0369
20.000			.1049	.0150	-.0589	-.0792		-.0833		-.0818					
40.000			.1525	.0152	-.0416	-.0635		-.0933		-.1107	-.0814	-.0244	-.0021	.0102	.0642
55.000			.1663	.0233	-.0300	-.0788		-.1466		-.1992					
70.000			.1715	.0162	-.0511	-.0722		-.1675		-.2571	-.2543	-.1337	-.0739	-.0490	
90.000		.2509	.1850	.0257	-.0432	-.0720		-.1907		-.3662	-.2808	-.1467	-.0668	-.0406	
120.000			.2144	.0813	.0013	.0358		-.1255		-.4509	-.3496	-.2478	-.0640	-.0375	
140.000										-.5248					
150.000			.2261	.1478	.0697	.1053		.2302		-.6870	-.3313	- 1444	-.0623	-.0345	
161.000									-.1684						
168.000									-.1488						
168.000										-1.1972	-.2681	-.1467	-.0637	-.0366	
165.000								.3496							
174.000							.5089								
180.000	1.0506	.4129	.2451	.1675	.1199	.1622		.3555		-1.4147	-.2641	-.1493	-.0694	-.0471	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0189	-.0131	-.0646	-.1250	-.1121	-.1209	-.0286		.2647	.0079
40.000	.0198		-.0499	-.1114	-.1327	-.0950	-.0526		.1263	-.0873
70.000	-.2664	-.2551	-.1488	-.0316	-.1756	-.1637	-.1911			
90.000	-.1656	-.1699	-.0718	-.0299	-.2426	-.2142	-.2320			
106.000			-.0234	-.0205	-.3538	-.2739	-.2795			
110.000								-.3800		
120.000	-.0932	-.0723	.0273	.0503	-.4463	-.3466	-.3224	-.3107		
135.000			.1294	.2795	-.4022	-.2895	-.2964			
150.000	-.0350	.0170	.1606	.2607	-.3634	-.3130	- 2795			
165.000	-.0359		.1658		-.2222	-.3221	-.3187			
180.000	-.0381	.0485	.1835	.3113						

ALPHA (3) = 4.035 BETA (5) = 8.279 MACH = .59564 Q = 593.05 P = 2388.1 RN/L = 4.8166

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9320	.4745	.0900	.0112	-.0565			-.0844		-.0829	-.0625	-.0396	-.0054	.0256	.0216
20.000			.0555	-.0033	-.0821	-.1011		-.1046		-.1135					
40.000			.0779	-.0430	-.0976	-.1067		-.1241		-.1531	-.1229	-.0657	-.0254	-.0047	.0510
55.000			.0434	-.0738	-.1135	-.1414		-.1353		-.2400					
70.000			.0446	-.0821	-.1365	-.1276		-.2217		-.2955	-.2742	-.1486	-.0822	-.0479	
90.000		.0531	.0710	-.0813	-.1325	-.1395		-.2573		-.4116	-.2970	-.1491	-.0680	-.0411	
120.000			.1068	-.0190	-.0973	-.0697		-.2421		-.5106	-.3569	-.2458	-.0552	-.0361	

AMES 11-073(OA148) -140A/B/C/R OR9 FUSELAGE (XE885)

ALPHA (3) = 4.035 BETA (5) = 8.279

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4870	.5740
PHI															
140.000										-.5817					
150.000			.1346	.0805	.0019	.0234		.0946		-.7627	-.3104	-.1563	-.0770	-.0600	
151.000									-.3242						
162.000									-.2894						
165.000										-1.0019	-.2810	-.1368	-.0950	-.0755	
160.000								.2777							
174.000							.4484								
180.000	.9990	.3440	.2008	.1249	.0783	.1286		.2591		-1.4369	-.3038	-.1784	-.1131	-.0810	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.0093	-.0130	-.0623	-.1333	-.1142	-.1283	-.0324		.2727	.0089					
40.000	.0216		-.0429	-.1071	-.1307	-.1012	-.0595		.1177	-.0948					
70.000	-.2648	-.2705	-.1871	-.0733	-.2100	-.1639	-.1914								
90.000	-.1933	-.1918	-.1219	-.0828	-.2914	-.2521	-.2478								
105.000			-.0688	-.0769	-.4055	-.3100	-.2906								
110.000								-.3549							
120.000	-.1085	-.1102	-.0200	-.0885	-.5636	-.4375	-.3803	-.3258							
130.000			.0673	.0826	-.5235	-.3814	-.3523								
150.000	-.0097	-.0303	.0797	.2721	-.5240	-.4309	-.3389								
164.000	-.0770		.0919		-.4075	-.4341	-.3188								
180.000	-.0389	-.0193	.1267	.2249											

ALPHA (4) = 8.051 BETA (1) = -7.886 MACH = .59572 Q = 593.16 P = 2387.8 PN/L = 4.8368

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4870	.5740
PHI															
.000	.9914	.6452	.2312	.1107	.0511			-.0227		-.0204	-.0160	.0044	.0351	.0778	.0946
20.000			.3062	.1672	.0561	-.0068		-.0149		-.0225					
40.000			.4217	.2612	.1556	.0927		.0222		.0014	.0326	.0763	.0830	.0956	.1356
55.000			.5461	.3550	.2615	.1575		.0621		-.0164					
70.000			.5181	.3334	.2315	.1675		.0404		-.0725	-.1541	-.0740	-.0491	-.0431	
90.000		.6337	.4730	.3047	.2190	.1540		.0317		-.1529	-.1914	-.1207	-.0780	-.0764	
120.000			.3473	.2089	.1126	.1347		.0936		-.2671	-.3553	-.4161	-.3108	-.3321	
140.000										-.4116					
160.000			.1788	.0848	.0409	.0974		.4181		-.6691	-.5570	-.2504	-.1650	-.1557	
161.000									.0694						
168.000									0138						
174.000										-1.4463	-.3798	-.2200	-.1358	-.1189	
180.000								.3901							
174.000							.5535								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8851)

ALPHA (4) = 8.061 BETA (1) = -7.886

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	.9914	.2742	.0705	.0371	.0034	.0621		.1701		-1.7404	-.3156	-.1830	-.1147	-.1024	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0861	.0460	-.0075	-.0739	-.0785	-.0974	-.0155		.2939	.0187
40.000	.1005		.0202	-.0523	-.0912	-.0425	-.0565		.1942	-.0244
70.000	-.2337	-.2314	-.0516	.1391	-.0064	-.0138	-.0818			
90.000	-.2526	-.1628	-.0038	.1982	-.0370	-.0791	-.1425			
105.000			.0396	.3654	-.0966	-.1145	-.1919			
110.000								-.3235		
120.000	-.3483	-.1762	.0635	.5242	-.2332	-.1780	-.1806	-.2850		
135.000			.1420	.2839	-.2501	-.1653	-.2276			
150.000	-.1483	-.0504	.1557	-.0719	-.2742	-.1338	-.1837			
165.000	-.1206		.1294		.0841	-.0700	- 3181			
180.000	-.1081	-.0279	.1139	.1078						

ALPHA (4) = 8.070 BETA (2) = -3.859 MACH = .59572 Q = 593.16 P = 2387.8 RN/L = 4.8368

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0165	.6870	.2613	.1408	.0726			-.0086		-.0085	-.0019	.0200	.0510	.0954	.1001
20.000			.3142	.1702	.0733	.0151		-.0053		-.0134					
40.000			.4275	.2277	.1332	.0688		.0154		-.0073	.0108	.0553	.0729	.0847	.1345
55.000			.4453	.2655	.1783	.0817		-.0086		-.0821					
70.000			.4056	.2356	.1382	.0864		-.0314		-.1463	-.2114	-.1229	-.0857	-.0738	
90.000		.5025	.3734	.2108	.1275	.0807		-.0419		-.2218	-.2345	-.1450	-.0964	-.0870	
100.000			.2950	.1607	.0733	.1078		.0448		-.3283	-.3553	-.3622	-.2267	-.2273	
105.000										-.4632					
110.000			.1769	.0930	.0441	.1031		.3796		-.6955	-.4790	-.2079	-.1142	-.1004	
120.000									-.0032						
135.000									-.0303						
150.000										-1.4035	-.3341	-.1771	-.0985	-.0816	
165.000								.3863							
180.000	1.0186	.2815	.1097	.0764	.0348	.0959	.5460	.2665		-1.5797	-.2230	-.1474	-.0781	-.0631	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0944	.0519	.0015	-.0680	-.0730	-.0912	-.0070		.2892	.0128
40.000	.1051		.0172	-.0518	-.0832	-.0493	-.0363		.1850	-.0322

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8851)

ALPHA (4) = 8.070 BETA (2) = -3.859

SECTION (1 ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.3593	-.2684	-.1194	.0783	-.0630	-.0572	-.1054			
90.000	-.2678	-.1978	-.0433	.1138	-.1033	-.1241	-.1687			
105.000			.0129	.2301	-.1786	-.1717	-.2224			
110.000								-.3245		
120.000	-.2431	-.0919	.1564	.1756	-.2837	-.2150	-.2140	-.2763		
135.000			.1915	.1569	-.2655	-.1911	-.2352			
150.000	-.1135	.0001	.1952	.1505	-.2378	-.1763	-.2097			
165.000	-.0799		.1516		-.0379	-.1369	-.2934			
180.000	-.0698	.0133	.1479	.2892						

ALPHA (4) = 8.060 BETA (3) = .180 MACH = .59572 Q = 593.16 P = 2387.8 RN/L = 4.8358

SECTION (1 ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0319	.6877	.2681	.1491	.0734			-.0054		-.0004	.0050	.0257	.0563	.0956	.1268
20.000			.2868	.1556	.0646	.0101		-.0061		-.0175					
40.000			.3443	.1727	.0869	.0359		-.0084		-.0396	-.0241	.0250	.0511	.0693	.1341
55.000			.3239	.1544	.0741	.0039		-.0857		-.1486					
70.000			.2845	.1231	.0409	.0072		-.1037		-.1970	-.2506	-.1509	-.1057	-.0922	
90.000		.3626	.2681	.1141	.0459	.0058		-.1075		-.2838	-.2738	-.1541	-.1015	-.0918	
120.000			.2254	.1032	.0210	.0712		-.0293		-.3332	-.3542	-.3074	-.1491	-.1365	
140.000										-.5137					
150.000			.1674	.0950	.0338	.0116		.3016		-.7207	-.4066	-.1627	-.0787	-.0681	
161.000									-.0928						
162.000									-.1033						
165.000										-1.3352	-.3016	-.1503	-.0699	-.0508	
169.000								.3495							
174.000							.5145								
180.000	1.0319	.2838	.1285	.0791	.0471	.1103		.3137		-1.5149	-.2722	-.1373	-.0666	-.0470	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0970	.0576	.0014	-.0692	-.0699	-.0924	-.0021		.2919	.0240
40.000	.1049		.0152	-.0519	-.1001	-.0624	-.0269		.1668	-.0535
70.000	-.3719	-.2894	-.1479	.0215	-.1228	-.1121	-.1410			
90.000	-.2744	-.2115	-.0561	.0450	-.1898	-.1807	-.1928			
105.000			.0236	.0843	-.2564	-.2116	-.2407			
110.000								-.3705		
120.000	-.1646	-.0602	.0003	.0806	-.3178	-.2612	-.2485	-.2917		
135.000			.1186	.2308	-.3149	-.2303	-.2500			
150.000	-.0757	-.0107	.1524	.4219	-.2853	-.2357	-.2302			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8851)

ALPHA (4) = 3.069 BETA (3) = .180

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
185.000	-.0553		.1528		-.1343	-.2441	-.2877			
180.000	-.0558	.0193	.1621	.4189						

ALPHA (4) = 8.069 BETA (4) = 4.237 MACH = .59572 Q = 593.16 P = 2387.8 RN/L = 4.8368

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0133	.6657	.2561	.1410	.0601			-.0108		-.0109	-.0038	.0200	.0517	.0806	.0960
20.000			.2360	.1175	.0350	-.0043		-.0300		-.0405					
40.000			.2421	.0940	.0244	-.0209		-.0556		-.0936	-.0823	-.0228	.0161	.0458	.1112
56.000			.1950	.0424	-.0235	-.0809		-.1508		-.2083					
70.000			.1624	.0173	-.0481	-.0617		-.1695		-.2594	-.2807	-.1782	-.1251	-.1013	
90.000		.1932	.1605	.0130	-.0410	-.0624		-.1733		-.3467	-.2392	-.1777	-.1096	-.0931	
120.000			.1563	.0369	-.0351	.0158		-.1079		-.4539	-.3561	-.2745	-.0997	-.0802	
140.000										-.5698					
150.000			.1279	.0661	.0021	.0532		.2023		-.7404	-.3512	-.1540	-.0650	-.0542	
151.000									-.2025						
162.000									-.1975						
165.000										-1.2898	-.2854	-.1464	-.0662	-.0516	
169.000								.2990							
174.000							.4578								
180.000	1.0133	.2564	.1307	.0741	.0365	.0997		.2971		-1.5085	-.2852	-.1533	-.0743	-.0568	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0884	.0547	.0311	-.0764	-.0700	-.0927	-.0119		.2972	.0278
40.000	.0925		.0144	-.0659	-.1016	-.0673	-.0402		.1476	-.0655
70.000	-.3744	-.3174	-.1807	-.0445	-.1790	-.1618	-.1770			
90.000	-.2719	-.2223	-.0977	-.0457	-.2561	-.2136	-.2165			
105.000			-.0433	-.0352	-.3599	-.2729	-.2747			
110.000								-.3699		
120.000	-.1419	-.1236	-.0093	.0497	-.4240	-.3299	-.2997	-.2899		
135.000			.1084	.3453	-.4085	-.2895	-.2915			
150.000	-.0630	-.0108	.1319	.3810	-.3976	-.3193	-.2705			
166.000	-.0811		.1681		-.2480	-.3246	-.2840			
180.000	-.0732	.0162	.1632	.2593						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE895:)

ALPHA (5) = 8.063 BETA (5) = 8.284 MACH = .59572 Q = 593.16 P = 2387.8 RN/L = 4.836R

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9568	.6319	.2305	.1218	.0329			-.0283		-.0281	-.0169	.0027	.0397	.0753	.0777
20.000			.1762	.0759	-.0054	-.0398		-.0644		-.0741					
40.000			.1238	.0215	-.0472	-.0846		-.1222		-.1650	-.1617	-.0659	-.0300	.0096	.0938
55.000			.0568	-.0631	-.1185	-.1657		-.2220		-.2715					
70.000			.0300	-.0816	-.1432	-.1234		-.2165		-.2997	-.3055	-.1889	-.1375	-.1201	
90.000		.0152	.0399	-.0895	-.1182	-.1196		-.2389		-.3910	-.3072	-.1754	-.1076	-.0990	
120.000			.0546	-.0550	-.1187	-.0556		-.2001		-.5088	-.3668	-.2461	-.0577	-.0553	
140.000										-.6144					
150.000			.0460	.0046	-.0626	-.0174		.0732		-.7802	-.3321	-.1531	-.0739	-.0573	
161.000									-.3482						
169.000									-.3370						
169.000										-1.2935	-.2973	-.1607	-.0945	-.0858	
174.000								.2260							
180.000	.9568	.1873	.0864	.0317	-.0094	.0534	.3892	.2022		-1.5093	-.3204	-.1854	-.1185	-.1045	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0736	.0482	-.0115	-.0985	-.0823	-.1040	-.0206		.2937	.0148
40.000	.0848		.0046	-.0623	-.1154	-.0857	-.0511		.1316	-.0829
70.000	-.3704	-.3410	-.2272	-.1017	-.2139	-.1811	-.1844			
90.000	-.2701	-.2642	-.1662	-.1142	-.2975	-.2314	-.2336			
105.000			-.1291	-.0464	-.4353	-.3109	-.2957			
110.000								-.3591		
120.000	-.1495	-.1486	-.0801	.1749	-.5539	-.4223	-.3594	-.3184		
139.000			.0402	.3398	-.5092	-.3755	-.3478			
150.000	-.0936	-.0514	.0774	.1021	-.4998	-.4188	-.3394			
165.000	-.0876		.0875		-.4138	-.4293	-.3903			
180.000	-.0108	-.0298	.1142	.1402						

ALPHA 5) = 12.002 BETA (1) = -7.847 MACH = .59550 Q = 592.81 P = 2388.1 RN/L = 4.8267

SECTION 1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.8344	.7742	.3737	.2279	.1516			.0472		.0386	.0451	.0619	.0896	.1401	.1601
20.000			.4582	.2925	.1768	.0987		.0657		.0531					
40.000			.5957	.3665	.2673	.1878		.1165		.0853	.1022	.1315	.1517	.1662	.2187
55.000			.5776	.3854	.2828	.1795		.0714		-.0141					
70.000			.4917	.3179	.2092	.1570		.0366		-.0924	-.1785	-.1154	-.0900	-.0879	
90.000		.5485	.4025	.2507	.1909	.1200		.0164		-.1755	-.2222	-.1633	-.1370	-.1353	
120.000			.2202	.0904	.0041	.0475		.0389		-.3202	-.4346	-.5590	-.4807	-.5182	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8851)

ALPHA (5) = 12.002 BETA (1) = -7.847

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.4813					
150.000			.0417	-.0262	-.0623	.0069		.3716		-.7626	-.6270	.2914	-.1994	-.2067	
151.000									.0195						
162.000									-.0533						
165.000										-1.5628	-.4146	-.2416	-.1586	-.1585	
169.000								.3417							
174.000							.4547								
180.000	.9244	.1034	-.0456	-.0544	-.0772	-.0004		.1248		-1.9631	-.3272	-.1830	-.1261	-.1338	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1523	.1155	.0550	-.0201	-.0301	-.0624	.0152		.3172	.0323
40.000	.1943		.0309	.0093	-.0510	-.0035	-.0189		.2098	-.0046
70.000	-.4653	-.3069	-.1059	.1257	-.0029	-.0099	-.0388			
90.000	-.3452	-.2221	-.0331	.1697	-.0230	-.0660	-.1328			
105.000			.0005	.3682	-.0681	-.1097	-.1799			
110.000								-.3078		
120.000	-.4649	-.2212	.0123	.5205	-.2558	-.1891	-.1873	-.2884		
135.000			.0500	.1486	-.2902	-.1950	-.2477			
150.000	-.2025	-.0895	.0414	-.0460	-.3059	-.1554	-.1968			
165.000	-.1986		.0532		.0579	-.0782	-.3109			
180.000	-.1743	-.1049	.0222	.2621						

ALPHA (5) = 12.023 BETA (2) = -3.840 MACH = .59550 Q = 592.81 P = 2388.1 RN/L = 4.8267

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9466	.8123	.4155	2559	.1747			.0626		.0558	[illegible]	.0780	.1095	.1541	[illegible]
[illegible]			.4532	.2930	.1830	.1058		.0736		.0539					
[illegible]			[illegible]	.3279	.2347	.1515		.0911		.0478	.0497	.0927	.1216	.1487	.2113
[illegible]			.4614	.2802	.1845	.0829		-.0073		-.0943					
[illegible]			.3780	.2122	.1114	.0776		-.0369		-.1462	[illegible]	[illegible]	-.1274	-.1234	
[illegible]		.4242	.3125	.1659	.1176	.0544		-.0526		-.2355	[illegible]	[illegible]	-.1530	-.1459	
[illegible]			.1756	.0586	-.0158	.0370		.0095		-.3703	[illegible]	-.4755	-.3670	-.3606	
[illegible]										-.5239					
[illegible]			.0539	-.0090	-.0471	.0318		.3458		-.7817	[illegible]	[illegible]	-.1376	-.1559	
[illegible]									-.0379						
[illegible]									-.0282						
[illegible]										[illegible]	-.3543	.1903	[illegible]	-.1150	
[illegible]								.3349							
[illegible]							.4959								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8851)

ALPHA (5) = 12.023 BETA (2) = -3.840

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	.9465	.1092	-.0118	-.0199	-.0405	.0325		.2106		-1.8257	-.2944	-.1523	-.0833	-.0839	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1667	.1218	.0625	-.0148	-.0278	-.0583	.0138		.3144	.0323
40.000	.1935		.0910	.0100	-.0467	-.0164	-.0121		.2004	-.0236
70.000	-.4961	-.3535	-.1695	.0422	-.0766	-.0618	-.0997			
90.000	-.3639	-.2431	-.0853	.1001	-.1020	-.1079	-.1548			
105.000			-.0144	.2101	-.1745	-.1632	-.2127			
115.000								-.3200		
120.000	-.3250	-.0838	.0693	.1540	-.2774	-.2112	-.2112	-.2808		
135.000			.0787	.1529	-.2594	-.1997	-.2423			
150.000	-.1923	-.1041	.0462	.2459	-.1985	-.1920	-.2077			
165.000	-.1368		.0614		-.0300	-.1399	-.2919			
180.000	-.1100	-.0207	.1159	.3904						

ALPHA (5) = 12.027 BETA (3) = .177 MACH = .59550 Q = 592.81 P = 2388.1 RN/L = 4.8267

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9568	.8182	.4102	.2640	.1762			.0635		.0553	.0614	.0810	.1116	.1592	.1684
20.000			.4210	.2672	.1593	.0930		.0602		.0394					
40.000			.4191	.2525	.1601	.0948		.0374		-.0145	-.0188	.0379	.0827	.1209	.1904
55.000			.3241	.1563	.0733	-.0201		-.1061		-.1773					
70.000			.2538	.0932	.0039	-.0039		-.1085		-.2176	-.2811	-.2037	-.1622	-.1589	
90.000		.2724	.2072	.0654	.0249	-.0120		-.1216		-.2978	-.2971	-.2082	-.1584	-.1586	
120.000			.1266	.0153	-.0476	.0127		-.0472		-.4232	-.4035	-.3975	-.2520	-.2329	
140.000										-.5716					
150.000			0465	-.0011	-.0460	.0288		.2714		-.7978	-.4380	-.1947	-.1044	-.1064	
151.000									-.1327						
162.000									-.1643						
165.000										-1.4452	-.3163	-.1551	-.0746	-.0749	
168.000								.2945							
174.000							.4592								
180.000	.9568	.1073	.0019	-.0160	-.0317	.0481		.2517		-1.6299	-.2881	-.1435	-.0696	-.0628	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0130	1.0460
PHI										
.000	.1650	.1231	.0671	-.0215	-.0322	-.0654	.0154		.3189	.0342
40.000	.1821		.0842	.0054	-.0673	-.0345	-.0175		.1838	-.0424

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8851)

ALPHA (5) = 12.027 BETA (3) = .177

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.5181	-.3908	-.2074	-.0154	-.1425	-.1189	-.1390			
90.000	-.3718	-.2743	-.1051	.0123	-.2044	-.1702	-.1855			
105.000			-.0123	.0602	-.2861	-.2275	-.2467			
110.000								-.3349		
120.000	-.2185	-.1160	.0457	.1392	-.3293	-.2666	-.2475	-.2710		
135.000			.0389	.2768	.3345	-.2467	-.2605			
150.000	-.1486	-.0702	.1132	.4889	-.2967	-.2398	-.2308			
165.000	-.0879		.1378		-.1555	-.2562	-.2869			
180.000	-.0825	-.0018	.1521	.4341						

ALPHA (5) = 12.024 BETA (4) = 4.250 MACH = .59550 Q = 592.81 P = 2388.1 RN/L = 4.8267

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9401	.7953	.3961	.2523	.1583			.0607		.0473	.0564	.0762	.1046	.1558	.1625
20.000			.3654	.2302	.1256	.0696		.0294		.0067					
40.000			.3023	.1676	.0834	.0169		-.0316		-.0881	-.1036	-.0331	.0278	.0871	.1641
55.000			.1809	.0414	-.0314	-.1173		-.1845		-.2488					
70.000			.1291	-.0027	-.0668	-.0725		-.1681		-.2789	-.3153	-.2357	-.1869	-.1900	
90.000		.1147	.1091	-.0160	-.0547	-.0679		-.1707		-.3580	-.3148	-.2170	-.1696	-.1612	
120.000			.0626	-.0329	-.0884	-.0129		-.1092		-.4750	-.3852	-.3272	-.1618	-.1385	
140.000										-.6132					
151.000			.0190	-.0129	-.0694	.0087		.1702		-.8093	-.3765	-.1679	-.0809	-.0832	
160.000									-.2329						
165.000									-.2474						
169.000										-1.3885	-.2991	-.1511	-.0691	-.0742	
174.000								.2490							
180.000	.9401	.0795	.0101	-.0132	-.0471	.0363	.4168	.2366		-1.7262	-.2932	-.1537	-.0790	-.0822	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1577	.1226	.0664	-.0171	-.0308	-.0644	.0159		.3174	.0354
40.000	.1632		.0785	-.0007	-.0712	-.0424	-.0226		.1576	-.0548
70.000	-.5124	-.4089	-.2376	-.0808	-.2025	-.1716	-.1773			
90.000	-.3777	-.3016	-.1502	-.0960	-.2723	-.2193	-.2175			
105.000			-.0926	-.0822	-.3981	-.2853	-.2757			
110.000								-.3698		
120.000	-.1958	-.1686	-.0719	-.0148	-.4395	-.3433	-.3101	-.2884		
135.000			.0657	.3621	-.3981	-.2857	-.2889			
150.000	-.1060	-.0398	.1254	.4231	-.4033	-.3253	-.2768			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8851)

ALPHA (5) = 12.024 BETA (4) = 4.250

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0927		.1185		-.2649	-.3395	-.2669			
180.000	-.1044	-.0245	.1109	.3990						

ALPHA (5) = 12.010 BETA (5) = 8.307 MACH = .59550 Q = 592.81 P = 2388.1 RN/L = 4.8287

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.8824	.7568	.3676	.2271	.1374			.0458		.0322	.0436	.0628	.0946	.1431	.1518
20.000			.2964	.1684	.0740	.0365		-.0077		-.0352					
40.000			.1669	.0583	-.0160	-.0785		-.1216		-.1930	-.2044	-.1131	-.0310	.0430	.1343
55.000			.0265	-.1031	-.1573	-.2256		-.2689		-.3212					
70.000			-.0077	-.1135	-.1680	-.1351		-.2258		-.3214	-.3442	-.2500	-.2020	-.2157	
90.000		-.0625	.0028	-.1095	-.1358	-.1273		-.2317		-.3804	-.3254	-.2236	-.1618	-.1498	
120.000			-.0070	-.1005	-.1467	-.0705		-.1858		-.5115	-.3755	-.2659	-.0991	-.1022	
140.000										-.6402					
150.000			-.0286	-.0593	-.1107	-.0442		.0593		-.8176	-.3416	-.1557	-.0655	-.0743	
151.000									-.3484						
152.000									-.3677						
165.000										-1.3424	-.2994	-.1573	-.0908	-.1046	
169.000								.1903							
174.000							.3473								
180.000	.8824	.0113	-.0164	-.0383	-.0818	-.0051		.1510		-1.7072	-.3248	-.1890	-.1270	-.1398	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1478	.1206	.0581	-.0265	-.0403	-.0682	.0069		.3179	.0275
-0.000	.1419		.0707	-.0091	-.0766	-.0474	-.0306		.1591	-.0642
70.000	-.5034	-.4209	-.2892	-.1593	-.2488	-.2069	-.1936			
90.000	-.3713	-.3452	-.2381	-.1709	-.3245	-.2264	-.2148			
105.000			-.1810	-.1483	-.4878	-.3309	-.2994			
110.000								-.3550		
120.000	-.2176	-.2414	-.1268	.0495	-.5741	-.4177	-.3696	-.3098		
140.000			.0425	.4837	-.5341	-.3776	-.3437			
150.000	-.1094	-.0694	.0501	.3939	-.5437	-.4397	-.3449			
155.000	-.1484		.0119		-.4857	-.4450	-.3001			
160.000	-.1923	-.1105	.0484	.1621						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8852) (05 AUG 75)

REFERENCE DATA

SREF = 2690.6000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 936.0000 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = -10.000 SPDBRK = 55.000
BDFLAP = 16.300 L-ELVN = -4.000
R-ELVN = 4.000 MACH = 1.400

ALPHA (1) = -4.050 BETA (1) = -3.860 MACH = 1.3963 Q = 600.46 P = 439.94 RN/L = 2.9139

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0060	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4789	.5790	.2062	.0816	.0127			-.0533		-.0244	-.0017	-.0212	-.0345	-.0586	-.0565
20.000			.2618	.0940	.0155	-.0731		-.0554		-.0652					
40.000			.4458	.1280	.0662	-.0501		-.0965		-.1766	-.1728	-.1458	-.0810	-.0932	-.0610
55.000			.5979	.3151	.2345	.1086		.1202		.0766					
70.000			.6892	.4148	.3173	.2215		.2307		.1405	-.1867	-.0939	-.0524	.0230	
90.000		.9413	.7540	.4919	.3420	.2706		.2941		.0884	-.1664	-.1708	-.0897	.0158	
120.000			.8156	.6159	.4490	.4724		.5683		.1552	-.1020	-.3297	-.1234	-.0214	
140.000										.1188					
150.000			.7953	.6449	.4853	.5589		1.0037		-.0916	-.2870	-.1635	-.1038	-.0563	
151.000									.7437						
162.000									.8050						
165.000										-.1417	-.2441	-.1576	-.1123	-.0766	
169.000								1.0626							
174.000							1.0999								
180.000	1.4789	1.0299	.7328	.6091	.4804	.5610		1.0002		-.2436	-.2794	-.1373	-.1211	-.0942	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0193	-.0197	-.0386	-.0919	-.1603	-.2070	-.2591		.1905	.1853
40.000	-.0562		-.0742	-.1036	-.1736	-.1722	-.3255		.0396	-.0105
70.000	.0831	.0182	-.0428	.2011	.1548	.1596	.1876			
90.000	.0937	.0557	.0683	.1998	.1236	.0678	.1230			
105.000			.2094	.2401	.0320	-.0125	-.0068			
110.000								-.0620		
120.000	.0391	.0619	.3655	.2879	.0728	-.0513	-.0295	-.1223		
135.000			.4026	.4229	.1152	.0775	.0591			
150.000	-.0063	.0432	.3835	.4163	.1725	.1953	.1070			
155.000	-.0131		.3839		.4890	.3079	-.2364			
160.000	-.0169	.0206	.3911	.4246						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8852)

ALPHA (1) = -4.043 BETA (2) = .186 MACH = 1.3963 Q = 600.46 P = 439.94 RN/L = 2.9139

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4783	.6767	.2122	.0850	.0180			-.0533		-.0276	.0013	-.0115	-.0398	-.0485	-.0534
20.000			.2458	.0954	.0120	-.0460		-.0476		-.0441					
40.000			.3895	.1171	.0541	-.0488		-.0552		-.1129	-.1153	-.1054	-.0606	-.0759	-.0442
55.000			.5077	.2364	.1688	.0440		.0711		.0337					
70.000			.5817	.3089	.2246	.1342		.1554		.0765	-.2427	-.1626	-.1064	.0082	
90.000		.8022	.6450	.3837	.2373	.1646		.2064		-.0115	-.2370	-.2387	-.1265	-.0002	
120.000			.7213	.5254	.3615	.3846		.4628		.0474	-.1822	-.4021	-.1732	-.0473	
140.000										-.0687					
150.000			.7483	.6132	.4543	.5192		.9330		-.1661	-.2954	-.1806	-.1361	-.0721	
151.000									.6578						
162.000									.7418						
165.000															
169.000										-.1500	-.2746	-.1392	-.1194	-.0761	
174.000								1.0355							
180.000	1.4783	1.0154	.7405	.6123	.4900	.5619	1.0962	1.0289		-.2876	-.2939	-.1050	-.1142	-.0766	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9500	.9990	1.0180	1.0460
PHI										
.000	-.0154	-.0140	-.0362	-.0962	-.1620	-.2063	-.2586		.1826	.1764
40.000	-.0445		-.0565	-.0916	-.1620	-.1697	-.3049		.0853	.0508
70.000	.0619	.0113	.0071	.2327	.1128	.1062	.1337			
90.000	.0709	.0404	.1559	.1995	.0677	.0178	.0639			
105.000			.2810	.2256	-.0155	-.0463	-.0326			
110.000								-.1236		
127.000	.0406	.0601	.3011	.1343	.0258	-.1097	-.1252	-.1831		
134.000			.3903	.3906	.0800	.0213	-.0132			
150.000	.0108	.0481	.4045	.4173	.1714	.1027	.0291			
165.000	.0019		.4085		.4212	.1956	-.3087			
180.000	-.0013	.0305	.4128	.5027						

ALPHA (1) = -4.048 BETA (3) = 4.268 MACH = 1.3963 Q = 600.46 P = 439.94 RN/L = 2.9139

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4643	.6585	.2044	.0712	.0212			-.0599		-.0421	-.0038	-.0113	-.0335	-.0625	-.0593
20.000			.2164	.0754	-.0002	-.0396		- 0495		-.0338					
40.000			.3221	.0888	.0316	-.0472		-.0363		-.0782	-.0730	-.0714	-.0512	-.0705	-.0371
55.000			.4138	.1609	.1048	-.0085		.0379		.0047					
70.000			.4770	.2125	.1392	.0551		.0966		.0200	-.2881	-.2225	-.1372	-.0088	
90.000		.6503	.5350	.2799	.1383	.0739		.1213		-.1074	-.3009	-.2961	-.1502	-.0134	
120.000			.6237	.4389	.2588	.2855		.3480		-.0572	-.2509	-.4500	-.2355	-.0755	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8852)

ALPHA (1) = -4.049 BETA (3) = 4.268

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.1994					
150.000			.6864	.5732	.4172	.4613		.8479		-.2100	-.2995	-.1749	-.1695	-.1194	
151.000									.5485						
162.000									.6637						
165.000										-.1633	-.3103	-.1278	-.1363	-.1081	
169.000								.9886							
174.000							1.0426								
180.000	1.4643	.9953	.7390	.6167	.4984	.5518		1.0138		-.2579	-.2827	-.1473	-.1209	-.0984	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.0324	-.0133	-.0423	-.0886	-.1587	- 2031	-.2583		.1956	.1749					
40.000	-.0154		-.0317	-.0765	-.1625	-.1678	-.2937		.0764	.0580					
70.000	.0901	-.0155	.0134	.2317	.0932	.0502	.0904								
90.000	.0593	.0117	.1459	.2135	.0305	-.0461	.0001								
105.000			.2678	.1968	-.0541	-.0879	-.0667								
110.000								-.1879							
120.000	.0267	.0490	.2735	.0319	-.0622	-.1910	-.2927	-.2306							
135.000			.3441	.3550	.0337	-.0555	-.0993								
150.000	-.0076	.0230	.3690	.3712	.1256	.0181	-.0632								
165.000	-.0119		.3722		.3507	.1135	-.3413								
180.000	-.0219	.0244	.3824	.4359											

ALPHA (2) = -.027 BETA (1) = -3.878 MACH = 1.3971 Q = 600.78 P = 439.70 RN/L = 2.9154

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4843	.8007	.3227	.1686	.0839			-.0142		-.0084	.0135	.0167	.0009	-.0265	-.0282
20.000			.3705	.1923	.0988	.0009		-.0038		-.0259					
40.000			.5379	.2439	.1594	.0500		-.0010		-.0551	-.0528	-.0538	-.0215	-.0441	-.0216
55.000			.6520	.3614	.2974	.1605		.1545		.1365					
70.000			.7024	.4375	.3363	.2234		.2376		.1816	-.1594	-.0739	-.0470	-.0298	
90.000		.9194	.7343	.4825	.3399	.2527		.3052		.1434	-.1479	-.1543	-.0946	-.0307	
120.000			.7439	.5516	.3894	.3682		.5700		.1646	-.1137	-.3183	-.1446	-.0629	
140.000										.1127					
150.000			.6876	.5608	.3592	.3821		.9766		-.1148	-.3409	-.2447	-.1468	-.0885	
161.000									.7251						
165.000									.7762						
169.000										-.1939	-.3077	-.2208	-.1522	-.0929	
174.000								1.0280							
180.000							1.0358								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8852)

ALPHA (2) = -.027 BETA (1) = -3.878

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.4840	.9026	.6105	.5124	.3503	.3792		.9561		-.2963	-.3336	-.1951	-.1682	-.0928	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0013	.0100	.0095	-.0340	-.0976	-.1481	-.2027		.2380	.2252
40.000	-.0079		-.0107	-.0425	-.1130	-.1006	-.2702		.1430	.0755
70.000	.0148	-.0648	-.1260	.0459	.0687	.0396	.1274			
90.000	.0397	-.0164	-.0833	.1282	.0279	-.0186	.0043			
105.000			.0226	.1848	-.0518	-.0889	-.1187			
110.000								-.1104		
120.000	-.0172	-.0145	.2760	.2200	.0300	-.1104	-.1324	-.1846		
135.000			.3340	.3394	.0384	-.0221	-.0128			
150.000	-.0279	.0056	.3227	.3306	.0538	.1201	.0496			
165.000	-.0265		.3192		.4052	.2298	-.2574			
180.000	-.0264	.0142	.3131	.3187						

ALPHA (2) = -.013 BETA (2) = .172 MACH = 1.3971 Q = 600.78 P = 439.70 RN/L = 2.9154

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4969	.8012	.3349	.1688	.0939			-.0040		-.0077	.0057	.0319	.0137	-.0184	-.0207
20.000			.3550	.1795	.0875	.0236		-.0021		-.0181					
40.000			.4776	.2116	.1408	.0424		.0038		-.0247	-.0190	-.0309	-.0033	-.0370	-.0183
60.000			.5594	.2965	.2300	.0973		.1032		.1004					
70.000			.5479	.3309	.2484	.1442		.1668		.1263	-.2092	-.1311	-.1033	-.0394	
80.000		.7774	.6323	.3792	.2436	.1640		.2290		.0546	-.2076	-.2127	-.1427	-.0377	
120.000			.6519	.4738	.3139	.2974		.4765		.0678	-.1946	-.3825	-.1662	-.0564	
140.000										-.0245					
150.000			.6481	.5259	.3391	.3638		.8912		-.1906	-.3505	-.2408	-.1526	-.0683	
161.000									.6415						
162.000									.7206						
165.000										-.1988	-.3203	-.2033	-.1608	-.0667	
168.000															
174.000								1.0020							
180.000	1.4859	.8889	.6229	.5165	.3722	.3848	1.0326	.9900		-.3430	-.3455	-.1615	-.1592	-.0690	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0316	.0199	.0130	-.0270	-.0958	-.1434	-.1997		.2495	.2275
40.000	.0074		.0085	-.0261	-.0998	-.1008	-.2401		.1269	.0892

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8852)

ALPHA (2) = -.013 BETA (2) = .172

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.0004	-.0934	-.1202	.0733	.0240	-.0093	.0592			
80.000	.0295	-.0391	.0213	.1019	-.0180	-.0488	-.0393			
105.000			.1600	.1302	-.1200	-.1172	-.1367			
110.000								-.1887		
120.000	.0142	.0076	.2689	.2043	.0066	-.1456	-.2139	-.2269		
135.000			.2827	.3402	.0802	-.0315	-.0713			
150.000	.0001	.0243	.3007	.3565	.1171	.0546	-.0256			
165.000	-.0066		.3151		.3388	.1334	-.3018			
180.000	-.0183	.0190	.3267	.4306						

ALPHA (2) = -.015 BETA (3) = 4.247 MACH = 1.3971 Q = 600.78 P = 439.70 RN/L = 2.9154

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4722	.7878	.3284	.1548	.0988			-.0177		-.0135	.0018	.0261	.0081	-.0270	-.0301
20.000			.3260	.1557	.0712	.0213		-.0106		-.0208					
40.000			.4028	.1689	.1046	.0222		.0021		-.0189	-.0022	-.0183	-.0053	-.0463	-.0277
55.000			.4600	.2139	.1548	.0433		.0555		.0633					
70.000			.4918	.2309	.1581	.0703		.1073		.0739	-.2532	-.1834	-.1495	-.0468	
80.000		.6227	.5255	.2763	.1517	.0807		.1544		-.0279	-.2678	-.2710	-.1707	-.0489	
120.000			.5723	.3931	.2295	.2210		.3674		-.0312	-.2664	-.4491	-.1865	-.0620	
140.000										-.1926					
150.000			.5921	.4890	.3112	.3060		.8213		-.2426	-.3517	-.2404	-.1994	-.0828	
161.000									.5357						
162.000									.6384						
165.000										-.2105	-.3611	-.1643	-.1832	-.0929	
168.000								.9491							
174.000							.9745								
180.000	1.4722	.8855	.6187	.5199	.3738	.3705		.9757		-.3140	-.3361	-.2072	-.1681	-.0985	

X/B	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0162	.0175	.0095	-.0306	-.0957	-.1413	-.1990		.2438	.2167
40.000	.0180		.0212	-.0143	-.0961	-.1136	-.2296		.1299	.0907
70.000	-.0099	-.1148	-.0920	.0896	.0018	-.0554	.0064			
80.000	.0229	-.0602	.0388	.0926	-.0573	-.0954	-.0881			
100.000			.1739	.1349	-.1569	-.1625	-.1724			
110.000								-.2379		
120.000	.0179	.0105	.2232	.0805	-.0718	-.2139	-.3190	-.2939		
135.000			.2260	.2957	.0035	-.0983	-.1398			
150.000	-.0098	.0248	.3079	.2986	.0980	-.0265	-.1070			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8852)

ALPHA (2) = -.015 BETA (3) = 4.247

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.729	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0188		.3071		.2506	.0625	-.3441			
180.000	-.0273	.0213	.3139	.3214						

ALPHA (3) = 3.910 BETA (1) = -3.886 MACH = 1.3964 Q = 600.16 P = 439.71 RN/L = 2.9092

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4698	.9209	.4378	.2671	.1684			.0473		.0337	.0401	.0399	.0511	.0234	.0183
20.000			.4843	.2929	.1774	.0782		.0621		.0214					
40.000			.6252	.3507	.2572	.1317		.0928		.0226	.0597	.0310	.0447	.0144	.0332
55.000			.6942	.4360	.3512	.2090		.1849		.1773					
70.000			.7025	.4471	.3472	.2326		.1965		.2151	-.1318	-.0470	-.0388	-.0841	
90.000		.8791	.7042	.4536	.3359	.2393		.2695		.1945	-.1259	-.1054	-.0891	-.0824	
120.000			.6656	.4737	.3349	.3021		.5573		.1773	-.1129	-.3132	-.2373	-.1450	
140.000										.1103					
150.000			.5735	.4466	.2777	.2983		.9427		-.1226	-.3896	-.3238	-.1851	-.1124	
151.000									.7075						
152.000									.7498						
155.000										-.2430	-.3565	-.2737	-.1837	-.0926	
169.000								.9914							
174.000							.9512								
180.000	1.4698	.7649	.4877	.4149	.2586	.2744		.9142		-.3442	-.3791	-.2387	-.1983	-.0770	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0391	.0478	.0655	.0293	-.0315	-.0845	-.1437		.3317	.3014
20.000	.0589		.0632	.0265	-.0505	-.0586	-.1783		.2271	.1549
70.000	-.0474	-.1491	-.1975	-.0877	-.0225	-.0586	.0485			
90.000	-.0223	-.0976	-.1653	.0552	-.0598	-.0897	-.1130			
105.000			-.1029	.1163	-.0985	-.1958	-.1709			
110.000								-.2569		
120.000	-.0949	-.1027	.2001	.1538	-.0087	-.1576	-.2143	-.2495		
135.000			.2324	.2359	-.0178	-.1251	-.0843			
150.000	-.0479	-.0011	.2297	.2369	-.0526	.0482	-.0233			
165.000	-.0390		.2389		.2839	.1746	-.2554			
180.000	-.0358	.0524	.2250	.2718						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8852)

ALPHA (3) = 3.912 BETA (2) = .174 MACH = 1.3964 Q = 600.16 P = 439.71 RN/L = 2.9092

SECTION (1:ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4740	.9242	.4400	.2638	.1768			.0492		.0374	.0277	.0532	.0549	.0261	.0268
20.000			.4558	.2735	.1671	.0855		.0494		.0253					
40.000			.5495	.3044	.2195	.1095		.0768		.0133	.0692	.0403	.0464	.0117	.0187
60.000			.5873	.3308	.2685	.1414		.1195		.1169					
80.000			.5927	.3395	.2556	.1506		.1265		.1547	-.1749	-.1006	-.0973	-.1067	
100.000		.7365	.6003	.3503	.2410	.1532		.2063		.1110	-.1843	-.1702	-.1435	-.0887	
120.000			.5868	.4084	.2643	.2412		.4782		.0841	-.1902	-.3619	-.1981	-.1009	
140.000										.0029					
160.000			.5377	.4376	.2525	.2749		.8408		-.2037	-.3928	-.2873	-.1709	-.0676	
151.000									.6219						
164.000									.6898						
168.000										-.2405	-.3583	-.2507	-.1858	-.0565	
174.000								.9472							
180.000	1.4740	.7500	.4929	.4181	.2749	.2827	.9434	.9351		-.3805	-.3928	-.2101	-.1884	-.0560	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0253	.0614	.0718	.0383	-.0302	-.0798	-.1420		.3312	.2978
20.000	.0617		.0775	.0407	-.0371	-.0651	-.1576		.2076	.1461
70.000	-.0603	-.1772	-.1947	-.0316	-.0505	-.0984	-.0124			
90.000	-.0197	-.1199	-.1186	.0357	-.1220	-.1229	-.1368			
106.000			.0761	.0942	-.1777	-.2331	-.1916			
110.000								-.2703		
120.000	-.0224	-.0421	.1962	.1348	-.0347	-.1815	-.2532	-.2800		
135.000			.2030	.2518	.0336	-.0813	-.1189			
150.000	-.0150	.0059	.2120	.3305	.0829	.0016	-.0767			
165.000	-.0178		.2162		.2754	.0830	-.2899			
180.000	-.0219	.0053	.2710	.4044						

ALPHA 3 = 3.916 BETA (3) = -.236 MACH = 1.3964 Q = 600.16 P = 439.71 RN/L = 2.9092

SECTION (1:ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4740	.9123	.4381	.2654	.1645			.0431		.0313	.0251	.0439	.0627	.0243	.0158
20.000			.4545	.2721	.1579	.0799		.0391		.0164					
40.000			.4967	.3084	.1775	.0851		.0558		.0027	.0645	.0324	.0462	-.0074	.0026
60.000			.5862	.3542	.1933	.0753		.0652		.0659					
80.000			.4465	.2443	.1742	.0751		.0687		.1079	-.2158	-.1514	-.1472	-.1138	
100.000		.5961	.5009	.3518	.1626	.0760		.1502		.0346	-.2346	-.2239	-.1872	-.0963	
120.000			.5195	.3403	.2003	.1763		.3754		-.0015	-.2883	-.4183	-.1686	-.074	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8852)

ALPHA (3) = 3.915 BETA (3) = 4.235

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000															
150.000										-.1578					
151.000			.4899	.4078	.2234	.2250		.7939		-.2636	-.4032	-.2884	-.1926	-.0621	
162.000									.5246						
165.000									.6110						
169.000										-.2547	-.4022	-.2272	-.2037	-.0673	
174.000								.9017							
180.000	1.4546	.7266	.4935	.4311	.2773	.2674	.8975	.9337		-.3621	-.3813	-.2451	-.1964	-.0819	

X/LB	[illegible]	.7080	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
0.000	.0207	.0518	.0652	.0337	-.0271	-.0765	-.1387			
40.000	.0465		.0971	.0548	-.0254	-.0595	-.1602		.3407	.3082
70.000	-.0566	-.1959	-.1935	-.0245	-.0563	-.1223	-.0661		.2056	.1594
[illegible]	-.0118	-.1012	-.0703	.0261	-.1427	-.1408	-.1640			
[illegible]			.0975	.0304	-.2409	-.2560	-.2214			
[illegible]								-.2982		
[illegible]	.0035	-.0219	.1537	.0063	-.0947	-.2475	-.3366	-.3735		
[illegible]			.2197	.2270	-.0647	-.1407	-.1764			
[illegible]	-.0115	.0172	.2339	.2106	.0011	-.0739	-.1423			
[illegible]	-.0338		.2340		.2157	.0204	-.3424			
180.000	-.0311	.0553	.2363	.2702						

ALPHA (4) = 7.922 BETA (1) = -3.875 MACH = 1.3955 Q = 599.65 P = 439.24 RN/L = 2.9107

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4379	1.7409	.5551	.3779	.2583			.1108		.0911	.0899	.0744	.0965	.0834	.0780
20.000			.6012	.3991	.2715	.1622		.1311		.0835					
[illegible]			[illegible]	.4522	.3405	.2169		.1752		.0944	.1296	.1158	.1084	.0758	.0952
[illegible]			.7335	.4834	.3663	.2430		.2038		.1431					
[illegible]			.8380	.4555	.3473	.2405		.1950		.2107	-.1024	.0265	-.0263	-.1050	
[illegible]		.8333	.8869	.4383	.3214	.2234		.1991		.2259	-.1085	-.0634	-.0004	-.1265	
[illegible]			.5825	.3832	.2706	.2300		.5163		.1835	-.1161	-.3139	-.3380	-.2850	
[illegible]										.1100					
[illegible]			.4615	.3323	.2151	.2109		.8960		-.1099	-.4339	-.3819	-.2193	-.1291	
[illegible]									.6860						
[illegible]									.7268						
[illegible]										-.2861	-.3998	-.3214	-.2028	-.089	
174.000								.9163							
[illegible]							.8122								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8852)

ALPHA (A) = 7.922 BETA ( ) = -3.876

SECTION ( )ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.4379	.6272	.3705	.3195	.1867	.1936		.8703		-.3776	-.4105	-.2709	-.2153	-.0687	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1004	.1179	.1338	.0994	.0408	-.0102	-.0756		.4339	.3835
40.000	.1378		.1510	.1120	.0223	-.0093	-.1009		.3056	.2071
70.000	-.1309	-.2343	-.2764	-.2351	-.1320	-.1283	.0288			
90.000	-.0964	-.1904	-.2334	-.0295	-.1291	-.1892	-.2007			
105.000			-.1194	.0292	-.1535	-.2580	-.2710			
110.000								-.3041		
120.000	-.1882	-.1735	.0808	.0719	-.0556	-.1920	-.2405	-.2944		
135.000			.0669	.1276	-.0462	-.1338	-.1170			
150.000	-.0848	-.0212	.0571	.1208	.0306	.0002	-.0902			
165.000	-.0585		.0783		.2391	.1371	-.2511			
180.000	-.0473	-.0228	.1357	.3127						

ALPHA (A) = 7.930 BETA (2) = .169 MACH = 1.3965 Q = 599.65 P = 439.24 RN/L = 2.9107

SECTION ( )ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4428	1.0437	.5586	.3775	.2711			.1211		.0944	.0790	.0774	.1085	.0884	.0822
20.000			.5739	.3824	.2598	.1684		.1204		.0825					
40.000			.6323	.4012	.2997	.1791		.1497		.0657	.1031	.0954	.1009	.0685	.0803
55.000			.6212	.3828	.3021	.1608		.1294		.0785					
70.000			.5878	.3474	.2603	.1508		.1280		.1500	-.1439	-.0783	-.0887	-.1476	
90.000		.6326	.5642	.3570	.2390	.1412		.1394		.1535	-.1892	-.1232	-.1364	-.1625	
140.000			.5154	.3290	.2175	.1851		.4651		.1062	-.1791	-.3551	-.3308	-.1732	
150.000										.0177					
160.000			.4523	.3349	.1882	.1994		.7974		-.2085	-.4349	-.3416	-.1844	-.0745	
165.000									.6125						
169.000									.6687						
174.000								.8874		-.2816	-.3997	-.2934	-.1970	-.0528	
180.000	1.4428	.6113	.3770	.3313	.1998	.2002	.8440	.8834		-.4152	-.4285	-.2506	-.2055	-.0459	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0921	.1255	.1493	.1175	.0496	-.0043	-.0646		.4392	.3774
40.000	.1212		.1621	.1260	.0453	-.0114	-.0947		.2979	.2161

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8852)

ALPHA (4) = 7.930 BETA (2) = .169

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1359	-.2467	-.2679	-.1022	-.1536	-.1543	-.0412			
90.000	-.0776	-.1830	-.2262	-.0143	-.1912	-.2113	-.1987			
105.000			-.0387	.0501	-.2241	-.2982	-.2828			
110.000								-.3098		
120.000	-.0701	-.0976	.0917	.0477	-.0817	-.2082	-.2767	-.3336		
135.000			.0940	.1415	-.0226	-.1240	-.1673			
150.000	-.0402	-.0414	.0898	.3587	.0344	-.0573	-.118			
165.000	-.0322		.0980		.2347	.0196	-.3060			
180.000	-.0276	-.0184	.1202	.4108						

ALPHA (4) = 7.931 BETA (3) = 4.235 MACH = 1.3965 Q = 599.65 P = 439.24 RN/L = 2.9107

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/B	.0000	.0060	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
000	1.4324	1.0344	.5487	.3802	.2690			.1096		.0879	.0789	.0726	.1118	.0824	.0764
20.000			.5317	.3540	.2367	.1414		.0964		.0693					
40.000			.5389	.3404	.2463	.1333		.1040		.0335	.0598	.0706	.0899	.0427	.0601
60.000			.5029	.2873	.2124	.0783		.0603		.0196					
80.000			.4776	.2490	.1740	.0849		.0669		.1001	-.1818	-.1305	-.1441	-.1980	
90.000		.5456	.4691	.2449	.1553	.0693		.0896		.0798	-.2073	-.1739	-.1847	-.1560	
100.000			.4396	.2709	.1577	.1344		.3837		.0260	-.2510	-.3952	-.2260	-.1025	
140.000										- 0880					
160.000			.3912	.3175	.1476	.1603		.7409		-.2772	-.4410	-.3308	-.1802	-.0590	
161.000									.5141						
162.000									.5869						
168.000										-.2937	-.4311	-.2626	-.2107	-.0593	
169.000								.8474							
174.000							.8054								
180.000	1.4324	.5819	.3728	.3390	.1978	.1865		.8929		-.4026	-.4129	-.2701	-.2102	-.0732	

X/B	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0858	.1269	.1371	.1117	.0451	-.0068	-.0634		.4456	.3859
20.000	.1080		.1880	.1311	.0458	-.0224	-.1050		.2921	.2281
40.000	-.1651	-.2335	-.2639	-.0985	-.1446	-.1641	-.1179			
60.000	-.0935	-.1728	-.1561	-.0328	-.2164	-.2081	-.1991			
105.000			.0232	.0012	-.2762	-.3320	-.2751			
110.000								-.3350		
120.000	-.0643	-.0599	.0701	-.0709	-.1264	-.2720	-.3650	-.3971		
135.000			.1347	.2179	-.0714	-.1695	-.2069			
150.000	-.0298	-.0206	.1612	.3033	-.0447	-.1262	-.1859			

AMES 11-073:OA148) -140A/B/C/F ORB FUSELAGE (XE8852)

ALPHA (4) = 7.931 BETA (3) = 4.235

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0326		.1117		.1851	-.0626	-.3377			
180.000	-.0468	- 0138	.1082	.3122						

ALPHA (5) = 11.858 BETA (1) = -3.866 MACH = 1.3951 Q = 600.34 P = 440.65 RN/L = 2.9166

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3898	1.1509	.6729	.4880	.3566			.1836		.1636	.1421	.1185	.1452	.1481	.1483
20.000			.7167	.5122	.3613	.2500		.2003		.1553					
40.000			.7909	.5522	.4279	.2952		.2481		.1581	.1746	.1808	.1766	.1443	.1685
55.000			.7490	.5190	.4074	.2495		.2074		.1410					
70.000			.6823	.4592	.3415	.2406		.1942		.1322	-.0701	-.0059	-.0146	-.0980	
90.000		.7732	.6208	.4157	.2989	.1996		.1860		.2293	-.0967	-.0337	-.0659	-.1337	
120.000			.4941	.3100	.1824	.1620		.4312		.1878	-.1196	-.2982	-.4300	-.4938	
140.000										.1127					
150.000			.3501	.2201	.1438	.1340		.8818		-.0706	-.4695	-.4260	-.2586	-.1612	
151.000									.6571						
162.000									.6863						
165.000										-.3300	-.4331	-.3585	-.2186	-.1035	
169.000															
174.000								.8616							
180.000	1.3898	.4825	.2544	.2281	.1142	.1217	.6802	.7952		-.4049	-.4388	-.2920	-.2065	-.0726	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1772	.2008	.2194	.1847	.1273	.0781	.0003		.5441	.4502
40.000	.2222		.2524	.2017	.1178	.0764	-.0403		.3799	.2655
70.000	-.1784	-.3300	-.3681	-.2863	-.1841	-.0269	-.0595			
90.000	-.1499	- 2669	-.3065	-.0895	-.1925	-.1743	-.0702			
120.000			-.2660	.0040	-.2100	-.2636	-.1397			
140.000								-.2427		
150.000	- 1903	-.1983	-.0394	.0661	-.1299	-.2234	-.1965	-.2531		
151.000			-.0408	.1409	-.0997	-.1376	-.1613			
162.000	-.0962	-.1742	-.1480	.2263	-.0514	-.1261	-.2007			
165.000	-.0882		-.0902		.2141	.0289	-.3139			
180.000	-.0816	-.0843	-.0849	.3689						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8852)

ALPHA (5) = 11.867 BETA (2) = .167 MACH = 1.3951 Q = 600.34 P = 440.65 RN/L = 2.9166

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3955	1.1561	.6785	.4939	.3705										
20.000			.6901	.4863	.3443	.2449		.1918		.1686	.1383	.1316	.1514	.1604	.1493
40.000			.7071	.4866	.3733	.2489		.1869		.1518					
55.000			.6337	.4089	.3148	.1518		.2048		.1164	.1327	.1391	.1601	.1318	.1524
70.000			.5709	.3485	.2543	.1553		.1244		.0651					
80.000		.6394	.5279	.3110	.2168	.1223		.1209		.0727	-.1135	-.0689	-.0837	-.1645	
100.000			.4340	.2543	.1512	.1209		.1199		.1700	-.1411	-.0946	-.1269	-.1929	
140.000								.4008		.1242	-.1777	-.3481	-.4334	-.2503	
150.000			.3270	.2333	.1248	.1305				.0278					
161.000								.7350		-.1990	-.4659	-.3965	-.1989	-.0914	
160.000									.5928						
165.000									.6428						
169.000										-.3164	-.4309	-.3198	-.1893	-.0569	
174.000								.8135							
180.000	1.3955	.4593	.2652	.2451	.1293	.1291	.7373	.8272		-.4387	-.4569	-.2733	-.2011	-.0444	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	1755	.2012	.2428	.1952	.1339	.0836	.0061		.5376	.4482
40.000	.2057		.2543	.2133	.1289	.0599	-.0396		.3841	.2860
70.000	-.2313	-.3571	-.3972	-.2122	-.2406	-.1571	-.0719			
90.000	-.1433	-.2398	-.3012	-.1090	-.2488	-.2453	-.1706			
105.000			-.2051	.0011	-.3011	-.3298	-.2574			
110.000								-.3161		
120.000	-.1012	-.1225	.0212	-.0401	-.1341	-.2405	-.2941	-.3192		
135.000			.0077	.0755	-.0912	-.1556	-.2021			
151.000	-.0697	-.0929	-.1086	.3260	-.0351	-.1164	-.1650			
165.000	-.0463		-.0666		.2273	-.0265	-.3251			
180.000	-.0385	-.0336	-.0335	.3749						

ALPHA (5) = 11.865 BETA (3) = 4.248 MACH = 1.3951 Q = 600.34 P = 440.65 RN/L = 2.9166

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3821	1.1417	.6575	.4863	.3618										
20.000			.6427	.4541	.3170	.2102		.1867		.1562	.1354	.1234	.1518	.1508	.1433
40.000			.6001	.4152	.3040	.1856		.1607		.1309					
55.000			.5090	.3004	.2147	.0588		.1430		.0565	.0707	.0769	.1319	.1074	.1239
70.000			.4549	.2426	.1632	.0805		.0470		-.0054					
80.000		.4927	.4313	.2175	.1370	.0550		.0625		.0196	-.1536	-.1206	-.1449	-.2311	
100.000			.3687	.2024	.1059	.0892		.0663		.1026	-.1864	-.1470	-.1789	-.2408	
								.3596		.0440	-.2370	-.3806	-.3898	-.1477	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8852)

ALPHA (5) = 11.855 BETA (3) = 4.248

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.0635					
150.000			.2929	.2277	.0945	.1041		.6667		-.2819	-.4897	-.3608	-.1737	-.0639	
151.000									.4911						
162.000									.5591						
165.000										-.3249	-.4466	-.2850	-.1961	-.0532	
169.000								.7639							
174.000							.6775								
180.000	1.3821	.4369	.2600	.2515	.1318	.1178		.8224		-.4241	-.4320	-.2906	-.2049	-.0743	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1624	.2109	.2340	.1961	.1298	.0810	.0013		.5435	.4423
40.000	.1754		.2604	.2174	.1206	.0358	-.0557		.3757	.2948
70.000	-.2207	-.3359	-.3818	-.2165	-.2368	-.2920	-.1659			
90.000	-.1184	-.2254	-.2562	-.1415	-.3020	-.3032	-.2003			
105.000			-.0705	-.0800	-.3950	-.4107	-.3919			
110.000								-.3541		
120.000	-.0712	-.0951	.0148	-.1339	-.1668	-.2994	-.4193	-.4590		
135.000			-.0594	.1453	-.1105	-.1728	-.2167			
150.000	-.0433	-.0417	-.0179	.2877	-.0397	-.1402	-.2129			
165.000	-.0372		-.0459		.2184	-.0860	-.3501			
180.000	-.0518	-.0527	-.0672	.3723						

ALPHA (6) = 15.826 BETA (1) = -3.845 MACH = 1.3947 Q = 600.64 P = 441.12 RN/L = 2.9102

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3163	1.2439	.7964	.5979	.4687			.2701		.2451	.2101	.1925	.2116	.2269	.2347
20.000			.8407	.6226	.4678	.3391		.2854		.2411					
40.000			.8965	.6431	.5090	.3903		.3125		.2243	.2356	.2262	.2472	.2305	.2548
55.000			.7800	.5535	.4190	.2385		.1861		.1308					
70.000			.6533	.4504	.3385	.2439		.1793		.1197	-.0641	-.0128	-.0067	-.1015	
90.000		.7107	.5884	.3606	.2755	.1637		.1592		.1877	-.0861	-.0222	-.0524	-.1289	
120.000			.4090	.2279	.0860	.0854		.2984		.1809	-.1186	-.2952	-.5097	-.4225	
140.000										.1230					
150.000			.2495	.1124	.0636	.0556		.7896		-.0223	-.5074	-.4766	-.3101	-.3184	
151.000									.6292						
162.000									.6450						
165.000										-.3738	-.4609	-.4000	-.2454	-.1196	
169.000								.8252							
174.000							.5989								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8852)

ALPHA (6) = 15.826 BETA (1) = -3.845

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.3163	.3260	.1564	.1414	.0575	.0654		.7290		-.4359	- .573	-.3058	-.1926	-.0698	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.2748	.3001	.3253	.3046	.2398	.1571	.0491		.6350	.5101					
40.000	.3170		.3640	.3176	.2211	.1086	.0056		.4681	.3402					
70.000	-.2451	-.4322	-.5152	-.4577	-.4279	-.3509	-.1480								
90.000	-.1792	-.3048	-.3083	-.1856	-.2526	-.2905	-.1671								
100.000			-.2320	-.0318	-.2039	-.3466	-.3359								
110.000								-.3002							
120.000	-.2209	-.1934	-.1050	.1075	-.1856	-.2720	-.2704	-.3262							
140.000			-.0346	.0351	-.1964	-.1779	-.2070								
150.000	-.2801	-.3191	-.1869	.1434	-.3650	-.2675	-.2917								
165.000	-.1153		-.2062		.1599	-.0498	-.3490								
180.000	-.0752	-.0991	-.1025	.2609											

ALPHA (6) = 15.841 BETA (2) = .165 MACH = 1.3947 Q = 600.64 P = 441.12 PN/L = 2.9102

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3261	1.2542	.8032	.6019	.4738			.2734		.2446	.2123	.1956	.2178	.2291	.2331
20.000			.8055	.5965	.4453	.3254		.2639		.2229					
40.000			.7707	.5667	.4448	.3162		.2492		.1555	.1577	.1766	.2070	.2065	.2298
60.000			.6373	.4182	.3123	.1277		.0957		.0499					
80.000			.5373	.3349	.2329	.1493		.1034		.0542	-.1115	-.0758	-.0833	-.1923	
90.000		.5760	.4765	.2798	.1901	.0940		.0964		.1478	-.1370	-.0779	-.1142	-.1919	
100.000			.4161	.1745	.0638	.0622		.3212		.1157	-.1773	-.3317	-.5222	-.3190	
110.000										.0342					
120.000			.2310	.1350	.0589	.0684		.8374		-.1579	-.4938	-.4445	-.2430	-.1064	
130.000									.5550						
140.000									.6117						
150.000										-.3493	-.4523	-.3355	-.1862	-.0661	
165.000								.7388							
180.000	1.3261	.2994	.1641	.1665	.0711	.0669	.6447	.7643		-.4620	-.4781	-.2821	-.1723	-.0541	

X/LB	.0000	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2654	.2969	.3469	.3188	.2496	.1631	.0609		.6346	.5077
40.000	.2910		.3671	.3299	.2347	.1055	.0006		.4648	.3525

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8852)

ALPHA (6) = 15.841 BETA (2) = .165

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.3399	-.4842	-.5448	-.4592	-.4906	-.3311	-.1629			
90.000	-.2103	-.3283	-.3985	-.2485	-.3581	-.3333	-.2613			
105.000			-.2834	-.0741	-.3919	-.4195	-.3634			
110.000								-.3754		
120.000	-.1177	-.1602	-.0834	-.0083	-.1876	-.2417	-.3071	-.3655		
135.000			.0039	.0056	-.1121	-.1732	-.2249			
150.000	-.1696	-.1804	-.1885	.2562	-.2847	-.2362	-.2674			
165.000	-.0802		-.1075		.2439	-.0702	-.3459			
180.000	-.0730	-.0508	-.0711	.2980						

ALPHA (6) = 15.833 BETA (3) = 4.274 MACH = 1.3947 Q = 600.64 P = 441.12 RN/L = 2.9102

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
000	1.3184	1.2431	.7940	.5984	.4658										
20.000			.7591	.5547	.4118	.2999		.2706		.2374	.2096	.1950	.2167	.2221	.2283
40.000			.6619	.4942	.3697	.2405		.2369		.1982					
55.000			.5035	.3053	.2034	.0232		.1687		.0863	.0712	.1204	.1711	.1725	.2007
70.000			.4176	.2301	.1471	.0687		-.0018		-.0402					
90.000		.4441	.3917	.1917	.1160	.0314		.0331		-.0112	-.1429	-.1275	-.1518	-.2878	
120.000			.3082	.1323	.0457	.0397		.0444		.1022	-.1705	-.1324	-.1735	-.2445	
140.000								.3004		.0599	-.2272	-.3683	-.4941	-.2054	
150.000			.2109	.1365	.0582	.0536				-.0485					
151.000								.6013		-.2796	-.4926	-.3886	-.1841	-.0751	
162.000									.4718						
165.000									.5407						
169.000										-.3507	-.4581	-.2915	-.1764	-.0511	
174.000								.7068							
180.000	1.3184	.2718	.1621	.1641	.0802	.0572	.5966								
								.7587		-.4557	-.4493	-.3019	-.1995	-.0666	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2541	.3082	.3370	.2959	.2344	.1580	.0630			
40.000	.2601		.3632	.3096	.2283	.1015	-.0028		.6352	.5046
70.000	-.4035	-.4533	-.5059	-.4323	-.4754	-.3348	-.1804		.4559	.3597
90.000	-.2187	-.3511	-.4013	-.2672	-.3951	-.3637	-.3353			
105.000			-.2425	-.1709	-.5009	-.5166	-.4706			
110.000								-.4241		
120.000	-.1005	-.1333	-.0337	-.1835	-.1735	-.2766	-.3816	-.3977		
135.000			-.1801	.0565	-.1791	-.2570	-.2902			
150.000	-.0913	-.0866	-.1120	.2396	-.0234	-.1343	-.2137			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8852)

ALPHA (6) = 15.833 BETA (3) = 4.274

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.3790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0572		-.0867		.2796	-.0765	-.3736			
180.000	-.0730	-.1031	-.1026	.2590						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8853) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 936.0690 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = -10.000 SPDBRK = 55.000
BDFLAP = 16.300 L-ELVN = -4.000
R-ELVN = 4.000 MACH = 1.250

ALPHA (1) = -4.036 BETA (1) = -3.860 MACH = 1.2435 Q = 597.22 P = 551.79 RN/L = 3.0068

SECTION (1)OPBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4202	.6364	.1898	.0617	-.0096			-.0797		-.0601	-.0360	-.0666	-.0896	-.1147	-.0969
20.000			.2304	.0667	-.0271	-.0931		-.0906		-.1189					
40.000			.4156	.1060	.0231	-.0848		-.1430		-.2466	-.2388	-.1866	-.1116	-.1466	-.1258
55.000			.5756	.2970	.2106	.0972		.0602		-.0009					
70.000			.6793	.4014	.3081	.2393		.1723		.0610	-.2872	-.1540	-.1097	-.0058	
90.000		.9321	.7452	.4843	.3531	.3009		.2270		.0057	-.2585	-.2572	-.1305	-.0058	
120.000			.8137	.6043	.4705	.5094		.4904		.0702	-.1857	-.4286	-.1675	-.0530	
140.000										.0399					
150.000			.7997	.6341	.5131	.5845		.9225		-.2052	-.3990	-.2361	-.1672	-.0946	
151.000									.6482						
162.000									.7069						
165.000										-.2708	-.3087	-.2420	-.1812	-.1142	
169.000								.9751							
174.000							1.0459								
180.000	1.4202	1.0174	.7407	.5967	.5015	.5852		.9038		-.3779	-.3772	-.1930	-.2011	-.1372	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0799	-.0780	-.1059	-.1630	-.2352	-.2884	-.3352		.1615	.1245
40.000	-.1362		-.1592	-.1666	-.2373	-.2390	-.4230		-.0155	-.0592
70.000	.0297	-.0604	-.1315	.2149	.0932	.1174	.1264			
90.000	.0369	-.0207	.0431	.1632	.0593	-.0020	.0977			
105.000			.2000	.1819	-.0157	-.0838	.0450			
110.000								-.1923		
120.000	-.0004	.0060	.3396	.2231	-.0381	-.0956	-.1043	-.1359		
135.000			.3915	.4008	.0146	.0078	-.0152			
150.000	-.0382	.0058	.3661	.4002	.1103	.1048	.0165			
165.000	-.0503		.3800		.4123	.2053	-.3413			
180.000	-.0557	-.0018	.3759	.4183						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8853)

ALPHA (1) = -4.029 BETA (2) = .182 MACH = 1.2435 Q = 597.22 P = 551.79 RN/L = 3.0068

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4171	.6394	.2122	.0666	.0318			-.0437		-.0178	-.0401	-.0674	-.0949	-.0987	-.0903
20.000			.2288	.0733	.0046	-.0473		-.0516		-.0629					
40.000			.3683	.0991	.0354	-.0461		-.0897		-.1611	-.1665	-.1399	-.1110	-.1160	-.0767
55.000			.4912	.2311	.1631	.0486		.0295		-.0375					
70.000			.5725	.3097	.2315	.1534		.1053		-.0060	-.3513	-.2124	-.1409	-.0411	
80.000		.7940	.6382	.3791	.2716	.2083		.1448		-.0968	-.3330	-.3226	-.1470	-.0419	
100.000			.7241	.5241	.3884	.4312		.3865		-.0513	-.2754	-.4981	-.2131	-.0904	
140.000										-.1696					
150.000			.7592	.6155	.4921	.5566		.8508		-.2946	-.3748	-.2480	-.1589	-.0971	
161.000									.5658						
162.000									.6411						
165.000										-.2601	-.3563	-.1703	-.1729	-.1090	
169.000								.9500							
174.000							1.0408								
180.000	1.4171	1.0139	.7587	.6250	.5329	.6023		.9422		-.3812	-.4083	-.1485	-.1740	-.1211	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0644	-.0857	-.1071	-.1599	-.2356	-.2748	-.3319		.1583	.1317
40.000	-.1000		-.1267	-.1647	-.2413	-.2546	-.3946		.0362	-.0109
70.000	.0384	-.0759	-.0433	.2188	.0616	.0939	.0744			
80.000	.0468	-.0052	.1318	.1722	-.0039	-.0189	.0371			
105.000			.2532	.1592	-.0700	-.1075	-.0278			
110.000								-.2305		
120.000	.0158	.0205	.2866	.0557	-.0915	-.1751	-.2000	-.2073		
130.000			.3842	.3774	-.0144	-.0645	-.0923			
150.000	-.0149	.0131	.3997	.3952	.0889	.0155	-.0672			
165.000	-.0878		.4044		.3390	.0925	-.4084			
180.000	-.0591	.0026	.4092	.5017						

ALPHA (1) = -4.033 BETA (3) = 4.271 MACH = 1.2435 Q = 597.22 P = 551.79 RN/L = 3.0068

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4087	.6366	.2114	.0478	.0380			-.0632		-.0375	-.0423	-.0624	-.0986	-.1336	-.1225
20.000			.2159	.0559	.0040	-.0537		-.0519		-.0423					
40.000			.3113	.0678	.0234	-.0607		-.0613		-.1072	-.1131	-.1353	-.0886	-.1211	-.0898
55.000			.4038	.1484	.0915	-.0015		-.0069		-.0885					
70.000			.4712	.2002	.1409	.0605		.0442		-.0790	-.4091	-.2809	-.1781	-.0441	
90.000		.6541	.5318	.2690	.1903	.1040		.0579		-.2079	-.4221	-.3950	-.1672	-.0452	
120.000			.6262	.4314	.2782	.3275		.2703		-.1773	-.3645	-.5757	-.3036	-.0975	

AMES 11-073(OA148) -140/ /B/C/R ORB FUSELAGE (XE8853)

ALPHA (1) = -4.033 BETA (3) = 4.271

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE (P

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.3363					
150.000			.6950	.5756	.4380	.4928		.7672		-.3420	-.4102	-.2184	-.2548	-.1457	
151.000									.4521						
162.000									.5633						
165.000										-.2930	-.4273	-.1885	-.2160	-.1480	
169.000								.9027							
174.000							.9681								
180.000	1.4087	.9920	.7544	.6248	.5217	.5839		.9277		-.3882	-.3696	-.1985	-.1909	-.1485	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0841	-.0704	-.1014	-.1601	-.2366	-.2896	-.3395		.1561	.1284
40.000	-.0699		-.0915	-.1435	-.2363	-.2413	-.3914		.0237	-.0050
70.000	-.0095	-.0710	.0802	.2614	.0637	.0483	.0432			
90.000	.0037	-.0169	.1798	.2186	-.0099	-.0774	-.0318			
105.000			.2652	.1524	-.0792	-.1282	-.0846			
110.000								-.2721		
120.000	-.0038	.0701	.2668	-.0220	-.1686	-.2638	-.2638	-.2749		
135.000			.3499	.3695	-.0578	-.1356	-.1717			
150.000	-.0557	.0608	.3798	.3657	.0472	-.0831	-.1551			
165.000	-.0637		.3821		.2815	.0209	-.4235			
180.000	-.0561	.0220	.4008	.4518						

ALPHA (2) = -.011 BETA (1) = -3.881 MACH = 1.2434 Q = 599.32 P = 552.04 RN/L = 3.0119

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE C>

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1530	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4228	.7854	.3173	.1938	.0898			-.0390		-.0309	-.0212	-.0291	-.0537	-.0699	-.0680
20.000			.3636	.1893	.0749	-.0011		-.0243		-.0646					
40.000			.5295	.2478	.1419	.0521		-.0130		-.1018	-.1131	-.1147	-.0586	-.0756	-.0534
55.000			.6461	.3839	.2837	.1645		.1454		.0799					
70.000			.7004	.4361	.3238	.2400		.2131		.1176	-.2572	-.1175	-.1071	-.0506	
90.000		.9126	.7311	.4774	.3384	.2930		.2682		.0705	-.2331	-.2094	-.1474	-.0527	
120.000			.7438	.5363	.3946	.4425		.5049		.0759	-.1817	-.4070	-.1853	-.1009	
140.000										.0219					
150.000			.6899	.5236	.3799	.4943		.8970		-.2355	-.4528	-.3001	-.1917	-.1306	
151.000									.6278						
162.000									.6733						
165.000										-.3239	-.4000	-.2963	-.1955	-.1325	
169.000								.9413							
174.000							1.0012								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8853)

ALPHA (2) = -.011 BETA (1) = -3.881

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE C_P

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.4228	.8881	.6230	.4963	.3703	.4922		.8617		-.4224	-.4259	-.2478	-.2202	-.1266	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0289	-.0555	-.0541	-.0917	-.1630	-.2171	-.2657		.2072	.1690
40.000	-.0487		-.0774	-.0968	-.1628	-.1557	-.3572		.1002	.0215
70.000	-.0324	-.1628	-.2159	.0312	-.0036	.0089	.0721			
90.000	-.0039	-.0727	-.1605	.0640	-.0276	-.1023	-.0001			
105.000			.0354	.1195	-.1194	-.1773	-.1824			
110.000								-.2115		
120.000	-.0605	-.0732	.2518	.1573	-.0798	-.2013	-.1827	-.2596		
135.000			.3188	.3079	-.0622	-.0868	-.1033			
150.000	-.0414	-.0364	.3019	.3050	.0031	.0374	-.0502			
165.000	-.0534		.3014		.3363	.1382	-.3545			
180.000	-.0624	-.0079	.2885	.3068						

ALPHA (2) = .001 BETA (2) = .178 MACH = 1.2454 Q = 599.32 P = 552.04 RN/L = 3.0119

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE C_P

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4292	.7867	.3382	.1822	.1303			.0050		.0059	.0049	-.0093	-.0493	-.0836	-.0786
20.000			.3501	.1888	.1067	.0248		.0058		-.0251					
40.000			.4733	.2275	.1445	.0473		.0308		-.0580	-.0468	-.0718	-.0458	-.1079	-.0637
55.000			.5577	.3110	.2318	.1242		.1136		.0413					
70.000			.5986	.3483	.2542	.1812		.1579		.0569	-.3105	-.1814	-.1599	-.0915	
90.000		.7779	.6337	.3891	.2585	.2204		.1992		-.0234	-.3069	-.2884	-.1880	-.0783	
120.000			.6668	.4745	.3292	.3891		.4176		-.0237	-.2816	-.4809	-.1795	-.0968	
140.000										-.1211					
150.000			.6602	.5208	.3830	.4834		.8259		-.3272	-.4759	-.3130	-.2034	-.1091	
151.000									.5499						
162.000									.6226						
165.000										-.3284	-.4107	-.2376	-.2166	-.1001	
169.000								.9210							
174.000							.9934								
180.000	1.4292	.8910	.6432	.5184	.4099	.5119		.9049		-.4748	-.4619	-.2133	-.2149	-.0951	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0488	-.0472	-.0573	-.0939	-.1651	-.2067	-.2553		.2341	.1880
40.000	-.0576		-.0583	-.0935	-.1740	-.1710	-.33 9		.0854	.0366

AMES 11-073(OA148) -140A B/C/R ORB FUSELAGE (XE8853)

ALPHA (2) = .001 BETA (2) = .178

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE C-

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9610	.9990	1.0180	1.0460
PHI										
70.000	-.0498	-.1353	-.1931	.0670	-.0386	-.0495	.0100			
90.000	-.0075	-.1034	-.0063	.0595	-.0835	-.1284	-.0654			
105.000			.1445	.0727	-.1706	-.2039	-.2064			
110.000								-.2473		
120.000	.0001	-.0251	.2382	.1349	-.0984	-.2442	-.2588	-.3186		
135.000			.2544	.3098	-.0180	-.1198	-.1618			
150.000	-.0224	-.0186	.2779	.3324	.0365	-.0443	-.1193			
165.000	-.0229		.3015		.2647	.0344	-.3984			
180.000	-.0289	-.0063	.3164	.4219						

ALPHA (2) = .000 BETA (3) = 4.247 MACH = 1.244 Q = 599.32 P = 552.04 RN/L = 3.0119

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4188	.7728	.3292	.1543	.1273			-.0247		-.0030	.0119	-.0408	-.0283	-.0581	-.1078
20.000			.3256	.1688	.0978	.0038		-.0237		-.0293					
40.000			.4038	.1842	.1233	-.0175		.0093		-.0584	-.0395	-.0690	-.0721	-.0946	-.0837
55.000			.4590	.2193	.1688	.0513		.0683		-.0189					
70.000			.4897	.2441	.1641	.0902		.0940		-.0165	-.3794	-.2587	-.2072	-.0745	
90.000		.6316	.5279	.2776	.1667	.0994		.1247		-.1279	-.3881	-.3716	-.2069	-.0708	
120.000			.5773	.3902	.2269	.3057		.3104		-.1457	-.3787	-.5603	-.2159	-.0886	
140.000										-.3250					
150.000			.6042	.4828	.3331	.4235		.7452		-.3869	-.4518	-.2836	-.2748	-.1097	
151.000									.4503						
162.000									.5371						
165.000										-.3455	-.4853	-.2431	-.2580	-.1158	
169.000								.8672							
174.000							.9460								
180.000	1.4188	.8656	.6370	.5132	.3957	.4928		.8856		-.4442	-.4258	-.2630	-.2247	-.1286	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9610	.9990	1.0180	1.0460
PHI										
.000	-.0721	-.0373	-.0543	-.0857	-.1606	-.2157	-.2708		.2089	.1765
40.000	-.0368		-.0380	-.0762	-.1655	-.1819	-.3231		.0874	.0380
70.000	-.0742	-.1686	-.1248	.1210	-.0251	-.0543	-.0226			
90.000	-.0335	-.1194	.0431	.0715	-.1001	-.1405	-.0792			
105.000			.1486	.0685	-.1670	-.2127	-.1991			
110.000								-.2941		
120.000	-.0079	-.0197	.1995	-.0095	-.1762	-.3197	-.3458	-.3545		
135.000			.2727	.2839	-.0928	-.1839	-.2317			
150.000	-.0510	.0030	.2944	.2852	.0070	-.1178	-.2015			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8853)

ALPHA (2) = .000 BETA (3) = 4.247

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0676		.2928		.2016	-.0251	-.4249			
180.000	-.0656	.0162	.3049	.3247						

ALPHA (3) = 3.944 BETA (1) = -3.877 MACH = 1.2467 Q = 599.84 P = 551.34 RN/L = 3.0121

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4033	.8868	.4154	.2706	.1623			.0567		.0485	.0677	.0396	.0292	-.0143	-.0218
20.000			.4610	.2860	.1587	.0817		.0622		.0325					
40.000			.6091	.3492	.2217	.1319		.1101		.0336	.0263	.0084	.0462	-.0204	-.0024
55.000			.6798	.4394	.3268	.2240		.2191		.1506					
70.000			.6907	.4484	.3282	.2568		.2490		.1692	-.2211	-.0818	-.0757	-.1066	
90.000		.8622	.6933	.4640	.3259	.2908		.2948		.1222	-.2161	-.1432	-.1286	-.1008	
120.000			.6562	.4697	.3230	.3795		.5084		.0972	-.1970	-.4096	-.2717	-.1684	
140.000										.0242					
150.000			.5711	.4347	.2727	.4116		.8805		-.2374	-.5079	-.3964	-.1966	-.1027	
151.000									.6150						
162.000									.6495						
165.000										-.3706	-.4665	-.3591	-.2075	-.0829	
169.000								.9112							
174.000							.9543								
180.000	1.4033	.7483	.4908	.4031	.2744	.4133		.8272		-.4696	-.4734	-.2923	-.2304	-.0697	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0382	.0703	.0882	.0354	-.0379	-.1018	-.1737		.3553	.2837
40.000	.0509		.0698	.0380	-.0505	-.0528	-.2440		.2312	.1482
70.000	-.0588	-.1872	-.2507	-.0177	-.0058	.0266	.0772			
90.000	-.0295	-.1376	-.1924	.0536	-.0316	-.1034	-.0063			
105.000			.0122	.1160	-.1399	-.1750	-.1640			
110.000								-.2306		
120.000	-.0826	-.0919	.2327	.1455	-.0857	-.2212	-.1641	-.2322		
135.000			.2610	.2660	-.0798	-.1235	-.1294			
150.000	-.0201	.0519	.2668	.2664	-.0417	.0040	-.0856			
165.000	-.0092		.2719		.2655	.1207	-.3246			
180.000	-.0053	.1042	.2618	.3118						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8853)

ALPHA (3) = 3.945 BETA (2) = .180 MACH = 1.2467 Q = 599.84 P = 551.34 RN/L = 3.0121

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4084	.8911	.4191	.2713	.1828			.0548		.0682	.0744	.0492	.0246	-.0085	-.0115
20.000			.4394	.2720	.1574	.0769		.0616		.0526					
40.000			.5328	.3015	.2038	.0987		.1074		.0578	.0411	.0130	.0267	-.0252	-.0101
55.000			.5739	.3456	.2484	.1380		.1781		.1041					
70.000			.5779	.3432	.2380	.1623		.1967		.1114	-.2670	-.1521	-.1342	-.1130	
90.000		.7212	.5857	.3607	.2274	.1840		.2345		.0418	-.2772	-.2095	-.1908	-.1028	
120.000			.5807	.4026	.2399	.3139		.4365		.0012	-.2703	-.4636	-.2213	-.1085	
140.000										-.0869					
150.000			.5387	.4234	.2508	.3993		.7938		-.3301	-.5130	-.3702	-.1880	-.0592	
151.000									.5367						
162.000									.5955						
165.000										-.3704	-.4408	-.2942	-.2135	-.0479	
169.000								.8791							
174.000							.9066								
180.000	1.4084	.7339	.5059	.4066	.2864	.4252		.8645		-.5119	-.5134	-.2659	-.2295	-.0469	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0328	.0788	.0932	.0377	-.0370	-.1008	-.1726		.3646	.2821
40.000	.0595		.0944	.0526	-.0483	-.0805	-.2123		.2069	.1244
70.000	-.0710	-.1858	-.2494	.0071	-.0614	-.0746	-.0039			
90.000	-.0313	-.1316	-.0616	.0323	-.1013	-.1466	-.0800			
105.000			.1223	.0670	-.2035	-.2126	-.2264			
110.000								-.2564		
120.000	-.0167	-.0304	.2170	.1003	-.1107	-.2565	-.2580	-.3159		
135.000			.2329	.2957	-.0387	-.1448	-.1921			
150.000	.0109	.0317	.2452	.4101	.0263	-.0689	-.1513			
165.000	.0081		.2584		.2310	.0084	-.3525			
180.000	.0074	.0374	.2801	.4516						

ALPHA (3) = 3.949 BETA (3) = 4.232 MACH = 1.2467 Q = 599.84 P = 551.34 RN/L = 3.0121

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3933	.8794	.4161	.2854	.1894			.0447		.0496	.0577	.0501	.0238	-.0089	-.0212
20.000			.4069	.2572	.1482	.0553		.0369		.0430					
40.000			.4537	.2577	.1742	.0693		.0745		.0428	.0466	.0107	.0090	-.0401	-.0262
55.000			.4599	.2519	.1806	.0617		.1239		.0700					
70.000			.4716	.2392	.1582	.0764		.1392		.0638	-.3054	-.2039	-.1850	-.1103	
90.000		.5750	.4861	.2563	.1482	.0918		.1737		-.0317	-.3293	-.2656	-.2212	-.0980	
120.000			.5040	.3248	.1641	.2280		.3419		-.0923	-.3451	-.5138	-.1718	-.0679	

AMES 11-073(OA148) -140/B/C/R ORB FUSELAGE (XE8853)

ALPHA (3) = 3.949 BETA (3) = 4.232

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	3780	.4970	.5748
PHI															
140.000															
150.000			.4929	.3886	.2149	.3421		.7250		-.2595					
151.000										-.4022	-.5065	-.3233	-.2141	-.0505	
162.000									.4423						
165.000									.5167						
169.000										-.3823	-.5178	-.2765	-.2401	-.0522	
174.000								.8358							
180.000	1.3933	.7095	.5052	.4130	.2747	.3981	.8516	.8521		-.4904	-.4585	-.2833	-.2262	-.0647	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9E00	.9990	1.0180	1.0460					
PHI															
.000	.0197	.0806	.0922	.0383	-.0336	-.0980	-.1618		.3640	.2861					
40.000	.0565		.1062	.0570	-.0445	-.0812	-.2073		.2045	.1225					
70.000	-.0690	-.1993	-.2091	.0209	-.0783	-.1144	-.0644								
90.000	-.0250	-.1292	-.0164	.0144	-.1302	-.1751	-.1426								
105.000			.1088	.0252	-.2622	-.2567	-.2635								
110.000								-.2949							
120.000	.0125	-.0147	.1629	-.0265	-.1870	-.3332	-.4219	-.3597							
135.000			.2492	.2386	-.1339	-.2103	-.2554								
150.000	.0112	.0542	.2668	.2384	-.0464	-.1471	-.2227								
165.000	-.0004		.2666		.1874	-.0509	-.3E03								
180.000	-.0074	.0960	.2659	.3075											

ALPHA (4) = 7.975 BETA (1) = -3.876 MACH = 1.2435 Q = 599.91 P = 551.57 RN/L = 3.0143

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1530	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3685	1.0024	.5375	.3795	.2571										
20.000			.5852	.3955	.2486	.1660		.1144		.0952	.1014	.0894	.0912	.0473	.0461
40.000			.6979	.4522	.3213	.2219		.1262		.0898					
55.000			.7172	.4871	.3661	.2425		.1790		.1165	.1285	.0839	.1158	.0494	.0704
70.000			.6858	.4569	.3286	.2429		.2300		.1819					
90.000		.8119	.6549	.4401	.3123	.2425		.2465		.1994	-.1794	-.0584	-.0631	-.1502	
120.000			.5694	.3941	.2620	.2510		.2929		.1677	-.1987	-.0947	-.1278	-.1789	
140.000								.4972		.1113	-.2051	-.4029	-.4308	-.2951	
150.000			.4561	.3387	.1825	.2358				.0298					
151.000								.8586		-.2023	-.5565	-.4766	-.2330	-.1162	
162.000									.5994						
165.000									.6265						
169.000										-.4195	-.5173	-.4053	-.2174	-.0858	
174.000								.8813							
							.8838								

AMES 11-073(OA148) -140A'B/C/R ORB FUSELAGE (XE8853)

ALPHA (4) = 7.975 BETA (1) = -3.876

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE C>

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1590	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.3685	.6070	.3715	.3215	.1707	.2434		.7928		-.5123	-.5064	-.3227	-.2259	-.0664	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9610	.9990	1.0180	1.0460
PHI										
.000	.1073	.1332	.1722	.1272	.0468	-.0236	-.1147		.4583	.3472
40.000	.1346		.1705	.1347	.0345	-.0042	-.1561		.2971	.1886
70.000	-.1382	-.2510	-.3227	-.1445	-.0778	.0132	.0655			
90.000	-.0945	-.1997	-.2733	-.0229	-.1693	-.1591	.0234			
105.000			-.0643	.0449	-.2130	-.2917	-.0554			
110.000								-.2418		
120.000	-.1698	-.1614	.1154	.0780	-.1139	-.2463	-.2758	-.1738		
135.000			.0910	.1712	-.0858	-.1490	-.1745			
150.000	-.0747	-.0223	.0889	.2049	.0182	-.0445	-.1494			
165.000	-.0409		.1168		.2481	.0768	-.3582			
180.000	-.0305	.0038	.1832	.4234						

ALPHA (4) = 7.918 BETA (2) = .169 MACH = 1.2465 Q = 599.91 P = 551.57 RN/L = 3.0143

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE C>

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1590	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3751	1.0075	.5453	.3860	.2787										
20.000			.5634	.3800	.2452	.1526		.1163		.1083	.1036	.1058	.0892	.0510	.0496
40.000			.6216	.4010	.2834	.1875		.1170		.0949					
55.000			.6059	.3865	.2834	.1637		.1500		.1053	.1142	0772	.0850	.0369	.0489
70.000			.5762	.3541	.2436	.1597		.1672		.1326					
90.000		.6792	.5549	.3463	.2219	.1618		.2018		.1440	-.2172	-.1335	-.1269	-.2005	
120.000			.5045	.3395	.1993	.1964		.2419		.0970	-.2474	-.1712	-.1835	-.1737	
140.000								.4437		.0262	-.2670	-.4482	-.3744	-.1687	
150.000			.4336	.3359	.1597	.2176				-.0717					
151.000								.7730		-.3265	-.5559	-.4249	-.1953	- 0706	
162.000									.5306						
165.000									.5749						
169.000										-.4102	-.4826	-.3337	-.2035	-.0494	
174.000								.8345							
180.000	1.3751	.5936	.3890	.3211	.1844	.2445	.8705								
								.8227		-.5463	-.5500	-.3009	-.2192	- 0423	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.96 0	.9990	1.0180	1.0460
PHI										
.000	.0927	.1463	.1876	.1310	.0531	-.0172	-.1069		.4579	.3469
40.000	.1166		.2010	.1465	.0392	-.0179	-.1424		.2871	.1797

AMES 11-073(OA148) -140A'B/C/R ORB FUSELAGE (XE8853)

ALPHA (4) = 7.918 BETA (2) = .169

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9610	.9990	1.0180	1.0460
PHI										
70.000	-.1319	-.2472	-.3175	-.0974	-.1115	-.1389	-.0082			
90.000	-.0777	-.1906	-.2594	-.0091	-.2215	-.1979	-.1017			
105.000			-.0329	.0642	-.2858	-.3115	-.2709			
110.000								-.2389		
120.000	-.0705	-.0856	.1148	.0454	-.1540	-.2838	-.3556	-.3137		
135.000			.1187	.2454	-.0808	-.1880	-.2385			
150.000	-.0211	-.0348	.1611	.4445	-.0195	-.1217	-.1849			
165.000	-.0117		.1942		.1820	-.0521	-.3614			
180.000	-.0082	.0030	.2352	.4855						

ALPHA (4) = 7.882 BETA (3) = 4.233 MACH = 1.2465 Q = 599.91 P = 551.57 RN/L = 3.0143

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3643	1.0000	.5375	.3860	.2703			.1074		.0901	.0917	.1042	.0922	.0514	.0394
20.000			.5219	.3524	.2258	.1244		.0900		.0698					
40.000			.5280	.3373	.2350	.1292		.0982		.0594	.0816	.0613	.0625	.0097	.0276
55.000			.4915	.2798	.2005	.0690		.0787		.0948					
70.000			.4648	.2463	.1631	.0695		.1364		.0981	-.2546	-.1832	-.1427	-.2060	
90.000		.5304	.4584	.2475	.1489	.0704		.1902		.0276	-.2959	-.2249	-.2339	-.1597	
120.000			.4344	.2739	.1397	.1331		.3670		-.0555	-.3320	-.4918	-.2273	-.0964	
140.000										-.1763					
150.000			.3976	.3149	.1164	.1805		.7015		-.4123	-.5590	-.3701	-.1926	-.0481	
151.000									.4412						
162.000									.5011						
165.000										-.4203	-.5326	-.3084	-.2240	-.0431	
169.000								.8038							
174.000							.8352								
180.000	1.3643	.5705	.3912	.3399	.1690	.2142		.8224		-.5307	-.4891	-.3140	-.2327	-.0608	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0795	.1500	.1775	.1325	.0520	-.0254	-.1015		.4634	.3531
40.000	.1005		.2073	.1466	.0378	-.0349	-.1512		.2860	.1816
70.000	-.1162	-.2853	-.3133	-.0957	-.1436	-.2187	-.0788			
90.000	-.0547	-.1843	-.1351	-.0405	-.2239	-.1935	-.2403			
105.000			.0295	-.0059	-.3540	-.3109	-.3194			
110.000								-.3028		
120.000	-.0143	-.0651	.0876	-.0804	-.2091	-.3526	-.4528	-.3647		
135.000			.1870	.2461	-.1419	-.2366	-.2856			
150.000	-.0085	-.0078	.2375	.3454	-.0878	-.1983	-.2547			

AMES 11-073(OA148) -140A,B/C/R ORB FUSELAGE (XE8853)

ALPHA (4) = 7.882 BETA (3) = 4.233

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CF

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0203		.1879		.1235	-.1316	-.3954			
180.000	-.0372	.0063	.1597	.4005						

ALPHA (5) = 11.916 BETA (1) = -3.857 MACH = 1.2462 Q = 600.48 P = 550.64 RN/L = 3.0151

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CF

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1560	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3192	1.1113	.6644	.4830	.3610			.1903		.1620	.1457	.1355	.1631	.1251	.1345
20.000			.7091	.5068	.3544	.2352		.2017		.1535					
40.000			.7818	.5451	.4141	.3026		.2465		.1681	.2040	.1596	.1822	.1275	.1596
55.000			.7384	.5127	.3869	.2576		.2019		.1757					
70.000			.6680	.4516	.3199	.2399		.1936		.2113	-.1220	-.0498	-.0527	-.1476	
90.000		.7549	.6061	.4056	.2834	.2066		.2420		.1972	-.1678	-.0708	-.1164	-.1903	
120.000			.4762	.2985	.1795	.1771		.4692		.1270	-.1992	-.3799	-.5548	-.4400	
140.000										.0368					
150.000			.3374	.2279	.1167	.1424		.8430		-.1040	-.5918	-.5319	-.2734	-.1549	
151.000									.5847						
162.000									.6020						
165.000										-.4616	-.5535	-.4469	-.2377	-.1013	
169.000								.8534							
174.000							.7843								
180.000	1.3192	.4651	.2535	.2345	.1005	.1276		.7626		-.5438	-.5323	-.3397	-.2085	-.0605	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1893	.2745	.2927	.2129	.1224	.0336	-.0659		.5413	.3994
40.000	.2261		.3203	.2295	.0988	.0428	-.1102		.3564	.2287
70.000	-.2455	-.3782	-.4091	-.1873	-.0710	-.1184	-.0983			
90.000	-.1648	-.2828	-.3552	-.0699	-.1748	-.1025	-.1575			
105.000			-.2822	.0224	-.2254	-.1359	-.2089			
110.000								-.3466		
120.000	-.1913	-.2041	-.0063	.0587	-.1637	-.2216	-.1990	-.2958		
135.000			.0031	.1800	-.1320	-.1655	-.1803			
150.000	-.1032	-.2108	-.0453	.3053	-.0696	-.1631	-.2404			
165.000	-.0671		.0485		.1832	-.0132	-.3712			
180.000	-.0496	-.0489	.0818	.4545						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8853)

ALPHA (5) = 11.930 BETA (2) = .181 MACH = 1.248 Q = 600.48 P = 550.64 RN/L = 3.0151

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.150)	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3249	1.1159	.6699	.4896	.3717			.1898		.1751	.1370	.1578	.1602	.1265	.1382
20.000			.6779	.4872	.3444	.2218		.1914		.1544					
40.000			.6882	.4820	.3641	.2411		.2041		.1219	.1563	.1322	.1461	.1096	.1393
55.000			.6162	.4020	.2900	.1580		.1197		.1179					
70.000			.5482	.3418	.2286	.1576		.1291		.1692	-.1719	-.1198	-.1257	-.2186	
90.000		.6143	.5039	.3121	.2032	.1319		.1987		.1388	-.2204	-.1457	-.1784	-.2501	
120.000			.4154	.2587	.1364	.1366		.4255		.0522	-.2635	-.4297	-.5442	-.2251	
140.000										-.0590					
150.000			.3184	.2493	.0969	.1352		.7451		-.3160	-.5883	-.4685	-.2160	-.0911	
151.000									.5205						
162.000									.5513						
165.000										-.4442	-.5132	-.3565	-.1958	-.0494	
169.000								.7877							
174.000							.791)								
180.000	1.3249	.4453	.2676	.2439	.1141	.1380		.7818		-.5704	-.5719	-.3188	-.1927	-.0396	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.960)	.9990	1.0180	1.0460
PHI										
.000	.1856	.3025	.2962	.2177	.1263	.0371	-.056		.5419	.3938
40.000	.2054		.3174	.2342	.1073	.0293	-.100?		.3575	.2252
70.000	-.2327	-.3750	-.4127	-.1960	-.2377	-.2118	-.020)			
90.000	-.1391	-.2534	-.3354	-.0977	-.2784	-.1969	-.089)			
105.000			-.1883	.0055	-.3196	-.4092	-.238			
11 00								-.2682		
120 30	-.0883	-.1276	.0273	-.0294	-.1997	-.2954	-.373?	-.3054		
135.000			.0435	.1621	-.1307	-.2167	-.273)			
150.000	-.0605	-.0932	.0308	.4149	-.0666	-.1657	-.219'			
165.000	-.0356		.0724		.1695	-.0946	-.380)			
180.000	-.0292	-.0223	.1056	.4742						

ALPHA (5) = 11.925 BETA (3) = 4.245 MACH = 1.248? Q = 600.48 P = 550.64 RN/L = 3.0151

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.158)	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.3144	1.1062	.6585	.4870	.3562			.1848		.1552	.1427	.1461	.1667	.1205	.1297
20.000			.6338	.4483	.3091	.1940		.1622		.1243					
40.000			.5898	.4073	.2952	.1690		.1380		.0546	.1031	.1064	.1168	.0739	.1050
55.000			.4936	.2851	.1949	.0515		.0416		.0551					
70.000			.4361	.2321	.1434	.0760		.0631		.1132	-.2049	-.1713	-.1925	-.3006	
90.000		.4681	.4118	.2112	.1283	.0534		.1643		.0763	-.2631	-.1958	-.2342	-.2482	
120.000			.3548	.1970	.0991	.0859		.3775		-.0212	-.3206	-.4672	-.3596	-.1396	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8B53)

ALPHA (5) = 11.925 BETA (3) = 4.245

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.1463					
150.000			.2923	.2298	.0598	.0982		.6648		-.4037	-.5898	-.4036	-.1833	-.0549	
151.000									.4337						
162.000									.4879						
165.000										-.4501	-.5379	-.3281	-.1920	-.0431	
163.000								.7623							
174.000							.7580								
180.000	1.3144	.4172	.2702	.2587	.1076	.1165		.7940		-.5568	-.5191	-.3413	-.2194	-.0598	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1721	.2865	.2903	.2111	.1156	.0300	-.0456		.5445	.3976
40.000	.1777		.3079	.2255	.1041	-.0048	-.1155		.3579	.2350
70.000	-.2109	-.3573	-.4179	-.1809	-.2566	-.2333	-.0310			
90.000	-.1125	-.2434	-.2693	-.1479	-.3278	-.2861	-.2402			
105.000			-.0695	-.0950	-.4583	-.4521	-.3186			
110.000								-.3683		
120.000	-.0416	-.1008	.0363	-.1691	-.2472	-.3940	-.5130	-.4435		
135.000			.0727	.1775	-.1545	-.2326	-.2875			
150.000	-.0318	-.0405	.1308	.3431	-.0939	-.2131	-.2806			
165.000	-.0337		.0765		.1376	-.1649	-.4027			
180.000	-.0499	-.0437	.0642	.4620						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8B54) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 936.0080 IN. ZMPP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = -10.000 SPDBRK = 55.000
BDFLAP = 16.300 L-ELVN = -4.000
R-ELVN = 4.000 MACH = 1.100

ALPHA (1) = -3.970 BETA (1) = -3.853 MACH = 1.1014 Q = 600.89 P = 707.69 RN/L = 3.1837

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3153	.5490	.1312	.0707	.0103			-.0218		-.0613	-.0872	-.1423	-.1311	-.1052	-.0255
20.000			.1598	.0536	-.0399	-.0481		-.0705		-.1077					
40.000			.3466	.0823	-.0105	-.0703		-.1600		-.2496	-.2400	-.2001	-.1601	-.1483	-.0408
55.000			.5153	.2719	.1859	.0910		.0194		-.0615					
70.000			.6254	.3887	.2999	.2434		.1200		-.0139	-.4026	-.1728	-.0894	-.0102	
90.000		.8772	.7026	.4697	.3640	.2933		.1544		-.0811	-.3550	-.3245	-.1009	-.0105	
120.000			.7909	.6037	.4881	.4914		.3981		-.0198	-.2895	-.5413	-.1125	-.0372	
140.000										-.0274					
150.000			.7837	.6 25	.5486	.5794		.8331		-.2968	-.5155	-.3262	-.1711	-.0416	
161.000									.5474						
162.000									.6013						
165.000										-.4434	-.4198	-.2791	-.1973	-.0364	
169.000								.8889							
174.000							.9784								
180.000	1.3.58	.9753	.7264	.6117	.5392	.5757		.8196		-.5640	-.4426	-.2296	-.2298	-.0354	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0713	-.0266	-.0722	-.1482	-.2425	-.2910	-.3433		.2468	.1713
40.000	-.0364		-.0778	-.1447	-.2368	-.2722	-.5019		.0383	.0185
70.000	.1470	.0554	.2603	.3502	.1114	.1980	.1468			
90.000	.1502	.1224	.3145	.3619	.0678	.1356	.1189			
100.000			.3779	.3793	-.0557	.0798	.0890			
110.000								-.3126		
120.000	.1552	.2233	.4782	.4227	-.1036	-.0921	.0593	-.1989		
135.000			.5284	.5463	-.0242	.0161	.0445			
150.000	.1643	.2916	.5274	.5210	.0670	.0791	-.0496			
165.000	.1837		.5073		.2993	.1255	-.3793			
180.000	.1783	.2991	.4919	.5897						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8854)

ALPHA (1) = -3.931 BETA (2) = .182 MACH = 1.1014 Q = 600.89 P = 707.69 RN/L = 3.1837

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3213	.5544	.1418	.0829	.0249			-.0111		-.0478	-.0845	-.1394	-.1261	-.0936	-.0273
20.000			.1569	.0709	-.0109	-.0417		-.0351		-.0836					
40.000			.2990	.0836	-.0097	-.0420		-.1030		-.1760	-.1902	-.1885	-.1423	-.1119	-.0184
55.000			.4285	.1984	.1225	.0589		-.0174		-.1048					
70.000			.5148	.2918	.2069	.1704		.0521		-.0871	-.4677	-.2436	-.1192	-.0255	
90.000		.7385	.5869	.3544	.2707	.2041		.0738		-.1991	-.4269	-.4057	-.1115	-.0236	
120.000			.6822	.5057	.3838	.4110		.2941		-.1579	-.3948	-.6200	-.1518	-.0350	
140.000										-.2345					
150.000			.7298	.6056	.5028	.5400		.7613		-.4200	-.5113	-.2851	-.2116	-.0231	
161.000									.4587						
165.000									.5329						
169.000										-.4476	-.4514	-.2264	-.2217	-.0146	
174.000								.8581							
180.000	1.3213	.9518	.7324	.6209	.5417	.5843	.9656	.8511		-.4797	-.5477	-.2069	-.2267	-.0174	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0570	-.0325	-.0794	-.1546	-.2428	-.3024	-.3295		.2654	.1882
40.000	-.0014		-.0844	-.1435	-.2310	-.2835	-.4480		.0829	.0565
70.000	.1303	.1193	.2561	.3156	.0477	.0822	.0672			
90.000	.1489	.1798	.3059	.3166	-.0155	-.0198	.0294			
105.000			.3673	.2971	-.1045	-.1244	-.0015			
110.000								-.3351		
120.000	.1632	.2478	.4161	.2624	-.1791	-.1893	-.1981	-.2046		
135.000			.4906	.5291	-.0882	-.0929	-.1355			
150.000	.1774	.3108	.5105	.5651	.0168	-.0350	-.1255			
165.000	.1765		.5078		.2194	.0200	-.4101			
180.000	.1919	.3158	.5119	.6532						

ALPHA (1) = -3.991 BETA (3) = 4.263 MACH = 1.1014 Q = 600.89 P = 707.69 RN/L = 3.1837

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3057	.5378	.1300	.0806	.0253			-.0179		-.0408	-.0863	-.1394	-.1340	-.1010	-.0360
20.000			.1336	.0644	-.0128	-.0524		-.0175		-.0637					
40.000			.2395	.0620	.0034	-.0218		-.0620		-.1344	-.1611	-.1893	-.1406	-.0897	.0175
55.000			.3375	.1270	.0667	.0247		-.0363		-.1382					
70.000			.4104	.1802	.1282	.1058		.0014		-.1472	-.5215	-.3010	-.1168	-.0117	
90.000		.5917	.4773	.2352	.1917	.1144		.0054		-.3001	-.5033	-.4636	-.1198	-.0100	
120.000			.5833	.3986	.2786	.3086		.1834		-.2848	-.4824	-.6933	-.2127	-.0360	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8854)

ALPHA (1) = -3.991 BETA (3) = 4.263

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.4685					
150.000			.6659	.5584	.4560	.4770		.6750		-.4708	-.5264	-.2661	-.2838	-.0384	
151.000									.3538						
162.000									.4558						
165.000										-.4211	-.5441	-.2313	-.2546	-.0346	
168.000								.8139							
174.000							.9150								
180.000	1.3057	.9460	.7317	.6144	.5398	.5745		.8375		-.5698	-.4197	-.2325	-.2178	-.0426	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.0620	-.0226	-.0744	-.1538	-.2466	-.3024	-.3569		.2192	.1569					
40.000	.0424		-.0692	-.1439	-.2513	-.2798	-.4527		.0684	.0210					
70.000	.1522	.1213	.2224	.2855	-.0078	-.0004	-.0092								
80.000	.1775	.1725	.2726	.2941	-.0794	-.1248	-.0830								
105.000			.3250	.2309	-.1701	-.2109	-.1274								
110.000								-.3989							
120.000	.1928	.2309	.3504	.1439	-.2814	-.3026	-.3470	-.3012							
125.000			.4405	.4930	-.1667	-.2050	-.2255								
140.000	.1816	.2843	.4663	.6078	-.0530	-.1566	-.2165								
155.000	.1882		.4745		.1444	-.0750	-.4279								
180.000	.1736	.2987	.4980	.6171											

ALPHA (21 = .009 BETA (1 = -3.870 MACH = 1.1014 Q = 600.89 P = 707.69 RN/L = 3.1864

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3086	.6918	.2574	.1673	.0798			.0231		-.0061	-.0348	-.0893	-.0839	-.1061	-.0318
30.000			.2937	.1631	.0506	.0245		-.0031		-.0414					
40.000			.4800	.2161	.1087	.0641		-.0280		-.1119	-.1204	-.1167	-.0792	-.1089	-.0281
50.000			.5009	.3607	.2667	.1898		.1097		.0125					
70.000			.6527	.4224	.3258	.2786		.1644		.0396	-.3817	-.1376	-.1350	-.0432	
80.000		.9648	.6942	.4730	.3522	.3200		.1973		-.0219	-.3459	-.2332	-.1574	-.0499	
120.000			.7168	.5471	.4332	.4599		.4142		-.0110	-.2912	-.5427	-.1830	-.0860	
140.000										-.0681					
150.000			.6758	.5436	.4546	.5101		.8087		-.3449	-.6062	-.4109	-.1800	-.0542	
161.000									.5242						
162.000									.5678						
165.000										-.4865	-.4889	-.3765	-.2150	-.0464	
168.000								.8530							
174.000							.9394								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8854)

ALPHA (2) = .009 BETA (1) = -3.870

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.3266	.8563	.6046	.5128	.4395	.5040		.7755		-.5991	-.5163	-.2986	-.2499	-.0460	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0342	.0527	.0181	-.0581	-.1413	-.2061	-.2777		.2905	.1933
40.000	.0202		.0292	-.0490	-.1403	-.1785	-.4307		.1609	.0854
70.000	.0362	-.1465	.0664	.2657	.0568	.1518	.1330			
90.000	.0687	-.0872	.1530	.2700	.0182	.0603	.0991			
105.000			.2705	.2768	-.0796	-.1023	.0731			
110.000								-.3143		
120.000	.0417	.0245	.3891	.2886	-.1403	-.1608	.0411	-.2040		
135.000			.4475	.4371	-.1020	-.0653	-.0995			
150.000	.0770	.1761	.4500	.4080	-.0096	-.0024	-.1032			
165.000	.0850		.4231		.2568	.0616	-.3775			
180.000	.0910	.2177	.4100	.4560						

ALPHA (2) = .092 BETA (2) = .176 MACH = 1.1014 Q = 600.89 P = 707.69 RN/L = 3.1864

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3339	.6965	.2651	.1758	.0582			.0334		.0105	-.0320	-.0874	-.0841	-.0987	-.0313
20.000			.2828	.1675	.0493	.0209		.0231		-.0190					
40.000			.4067	.1931	.0912	.0643		.0028		-.0678	-.0916	-.1190	-.0815	-.0893	-.0049
55.000			.4950	.2797	.1915	.1488		.0673		-.0308					
70.000			.5403	.3188	.2280	.2086		.1045		-.0258	-.4365	-.2172	-.1876	-.0514	
90.000		.7214	.5829	.3609	.2470	.2373		.1236		-.1237	-.4255	-.3106	-.1786	-.0504	
120.000			.6305	.4560	.3454	.3925		.3244		-.1364	-.3840	-.6049	-.1522	-.0440	
140.000										-.2180					
150.000			.6305	.5170	.4185	.4772		.7357		-.4804	-.5768	-.3836	-.2017	-.0313	
157.000									.4419						
162.000									.5059						
165.000										-.4974	-.5146	-.2926	-.2394	-.0269	
169.000								.8285							
174.000							.9295								
180.000	1.3339	.9418	.6208	.5174	.4478	.5099		.8106		-.5631	-.6146	-.2743	-.2502	-.0217	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0354	.0452	.0071	-.0727	-.1617	-.2192	-.2741		.3228	.2136
40.000	.0516		.0191	-.0621	-.1575	-.1869	-.4116		.1442	.0876

AMES 11-073(OA148) -140A'B/C/R ORB FUSELAGE (XE8854)

ALPHA (2) = .092 BETA (2) = .176

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE C?

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9610	.9990	1.0180	1.0460
PHI										
70.000	.0210	-.1488	.1574	.2355	.0150	.0601	.0535			
90.000	.0492	-.0679	.1999	.2172	-.0435	-.0376	.0301			
105.000			.2772	.1833	-.1322	-.1679	.0014			
110.000								-.3345		
120.000	.0627	.0738	.3279	.1932	-.1730	-.2263	-.2213	-.1950		
135.000			.3852	.4106	-.0990	-.1419	-.1846			
150.000	.0945	.1899	.4006	.4485	-.0237	-.0942	-.1728			
165.000	.0954		.4075		.1870	-.0299	-.3938			
180.000	.0955	.1869	.4136	.5370						

ALPHA (2) = .026 BETA (3) = 4.243 MACH = 1.104 Q = 600.89 P = 707.69 RN/L = 3.1864

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3198	.6764	.2541	.1725	.0845			.0242		.0091	-.0397	-.0873	-.0876	-.1076	-.0418
20.000			.2548	.1471	.0419	.0306		.0273		-.0081					
40.000			.3366	.1563	.0715	.0587		.0353		-.0364	-.0864	-.1300	-.0977	-.0968	.0157
55.000			.3967	.1987	.1262	.1047		.0390		-.0654					
70.000			.4337	.2159	.1434	.1464		.0522		-.0788	-.4842	-.2830	-.2080	-.0487	
90.000		.5741	.4716	.2491	.1568	.1629		.0569		-.2177	-.4931	-.3706	-.1691	-.0337	
120.000			.5390	.3610	.2501	.3134		.2242		-.2585	-.4818	-.6643	-.1724	-.0323	
140.000										-.4587					
150.000			.5770	.4701	.3711	.4272		.6568		-.5467	-.5912	-.3322	-.2618	-.0395	
151.000									.3431						
162.000									.4255						
165.000										-.5026	-.6162	-.2992	-.2766	-.0395	
169.000								.7786							
174.000							.8761								
180.000	1.3198	.8211	.6159	.5125	.4432	.4993		.7965		-.6110	-.4996	-.3035	-.2467	-.0421	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0930	.0562	.0159	-.0641	-.1532	-.2309	-.2778		.2665	.1924
40.000	.0959		.0268	-.0547	-.1609	-.2151	-.3826		.1355	.0479
70.000	.0444	-.0987	.1119	.2039	-.0476	-.0495	-.0560			
90.000	.0826	-.0152	.1648	.1913	-.1136	-.1638	-.1083			
105.000			.2382	.1518	-.2067	-.2671	-.1654			
110.000								-.4047		
120.000	.1051	.1112	.2734	.0766	-.2837	-.3438	-.3817	-.3186		
135.000			.3655	.3953	-.1923	-.2539	-.2855			
150.000	.1230	.2005	.3923	.4083	-.0919	-.2045	-.2835			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8854)

ALPHA (2) = .026 BETA (3) = 4.243

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	.1081		3959		.1157	-.1265	-.4248			
180.000	.0857	.2146	.4109	.4683						

ALPHA (3) = 3.932 BETA (1) = -3.873 MACH = 1.1009 Q = 600.53 P = 707.91 RN/L = 3.1859

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3193	.8227	.3832	.2600	.1714			.0925		.0464	.0140	-.0320	-.0327	-.0574	-.0435
20.000			.4244	.2725	.1500	.0857		.0843		.0215					
40.000			.5709	.3307	.2176	.1560		.0944		.0083	-.0174	-.0379	-.0077	-.0655	.0074
55.000			.6508	.4275	.3283	.2553		.1804		.0737					
70.000			.6547	.4454	.3375	.2963		.1992		.0827	-.3298	-.1303	-.1409	-.1044	
90.000		.8297	.6708	.4598	.3476	.3260		.2317		.0272	-.3437	-.1862	-.2001	-.1049	
120.000			.6428	.4737	.3670	.4200		.4226		-.0028	-.3135	-.5381	-.3072	-.1692	
140.000										-.0840					
150.000			.5614	.4362	.3528	.4386		.7903		-.3239	-.6726	-.4919	-.2115	-.0765	
151.000									.5060						
158.000									.5359						
160.000										-.5489	-.6018	-.4516	-.2235	-.0640	
168.000								.8207							
174.000							.9010								
180.000	1.3199	.7203	.4893	.4184	.3443	.4325		.7345		-.6558	-.5826	-.3537	-.2454	-.0532	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1570	.1681	.1271	.0353	-.0670	-.1598	-.2410		.3681	.2373
20.000	.0892		.1473	.0433	-.0893	-.1089	-.3790		.2262	.1269
70.000	-.0598	-.2404	-.3108	.1673	.0122	.1341	.1107			
90.000	-.0087	-.1803	-.0706	.1459	-.0363	.0377	.0556			
120.000			.1414	.1527	-.1145	-.1036	.0395			
140.000								-.3231		
150.000	-.0935	-.0885	.2802	.1562	-.1659	-.2260	-.0145	-.2188		
158.000			.3069	.3084	-.1518	-.1421	-.1638			
168.000	.0[illegible]		.3128	.3191	-.0759	-.0704	-.1624			
[illegible]	.0[illegible]		.3184		.2016	.0234	-.3802			
[illegible]	.0711	.1444	.3135	.3857						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8854)

ALPHA (B) = 3.933 BETA (Z) = .171 MACH = 1.1009 Q = 600.53 P = 707.91 RN/L = 3.1859

SECTION : 1 ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3242	.8231	.3261	.2661	.1768			.1027		.0490	.0186	-.0300	-.0321	-.0552	-.0371
20.000			.4056	.2645	.1420	.0722		.0946		.0330					
40.000			.4985	.2906	.1860	.1347		.1057		.0282	-.0139	-.0555	-.0241	-.0741	-.0001
55.000			.5423	.3356	.2430	.1965		.1347		.0313					
70.000			.5504	.3394	.2389	.2247		.1418		.0240	-.3781	-.2136	-.2023	-.1000	
80.000		.6887	.5610	.3540	.2428	.2540		.1630		-.0599	-.4076	-.2657	-.2492	-.0892	
[illegible]			.5810	.4004	.2961	.3709		.3449		-.1106	-.3807	-.6005	-.2169	-.0857	
[illegible]										-.2105					
[illegible]			.5294	.4252	.3262	.4215		.7102		-.4962	-.6747	-.4650	-.1980	-.0506	
[illegible]									.4258						
[illegible]									.4805						
[illegible]										-.5493	-.5709	-.3524	-.2225	-.0392	
[illegible]								.7930							
[illegible]							.8835								
180.000	1.3242	.7116	.5042	.4212	.3479	.4432		.7703		-.6749	-.6657	-.3286	-.2378	-.0369	
X/LB	.6820	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1483	.1544	.1235	.0377	-.0614	-.1509	-.2296		.3822	.2436					
[illegible]	.1351		.1419	.0457	-.0821	-.1191	-.3405		.2139	.1114					
[illegible]	-.0875	-.2476	-.2100	.1471	-.0395	.0374	.0303								
[illegible]	-.0286	-.1709	.0481	.1275	-.1002	-.0802	.0035								
[illegible]			.1608	.0971	-.1731	-.2227	-.0400								
[illegible]								-.3420							
[illegible]	-.0008	-.0371	.2357	.1053	-.1962	-.2749	-.2823	-.2082							
[illegible]			.2755	.3743	-.1e59	-.1960	.2432								
[illegible]	.0018	.0705	.3012	.4677	.0564	-.1436	-.1225								
[illegible]	.0046		3243		.1408	-.0818	-.4034								
[illegible]	.0760	.0083	3332	.4389											

[illegible] = 3.943 BETA (B) = 4.232 MACH = 1.1009 Q = 600.53 P = 707.91 RN/L = 3.1859

SECTION : 1 ORBITER FUSELAGE DEPENDENT VARIABLE CP

[illegible]	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3119	.8139	.3791	.2635	.1659			.0989		.0448	.0129	-.0275	-.0302	-.0592	-.0445
[illegible]			.3714	.2387	.1284	.0532		.0905		.0280					
[illegible]			.4190	.2430	.1482	.0957		.1044		.0214	-.0253	-.0740	-.0625	-.0912	-.0008
[illegible]			.4389	.2437	.1590	.1334		.0968		-.0057					
[illegible]			.4419	.2333	.1468	.1609		.0980		-.0258	-.4232	-.2810	-.2581	-.0839	
[illegible]		.5410	.4566	.2505	.1517	.1995		.1084		-.1377	-.4654	-.3317	-.2567	-.0632	
[illegible]			.4782	.3136	.2133	.3080		.2576		-.2167	-.4602	-.6448	-.1895	-.0452	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8854)

ALPHA (3) = 3.943 BETA (3) = 4.232

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0090	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.3757					
150.000			.4818	.3891	.2816	.3820		.6401		-.5841	-.6386	-.3833	-.2200	-.0415	
151.000									.3358						
162.000									.4032						
165.000										-.5596	-.6500	-.3491	-.2459	-.0412	
169.000								.7471							
174.000							.8378								
180.000	1.3119	.6882	.5013	.4094	.3368	.4355		.7591		-.6695	-.5716	-.3586	-.2487	-.0540	
X/B	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1532	.1680	.1265	.0266	-.0722	-.1580	-.2276		.3730	.2424					
40.000	.1673		.1383	.0457	-.0947	-.1636	-.3099		.1963	.0801					
70.000	-.0403	-.2181	-.1445	.1223	-.0951	-.1034	-.0950								
90.000	.0107	-.1429	.0271	.0933	-.1525	-.2289	-.1331								
101.000			.1249	.0580	-.2562	-.3195	-.2186								
110.000								-.3978							
120.000	.0617	.0021	.1855	.0028	-.2949	-.3802	-.4207	-.3397							
135.000			.2871	.2895	-.2387	-.2975	-.3332								
151.000	.0920	.0979	.3150	.2854	-.1455	-.2587	-.3246								
165.000	.0634		.3115		.0934	-.1671	-.4266								
180.000	.0721	.1392	.3101	.3600											

ALPHA (4) = 7.906 BETA (1) = -3.871 MACH = 1.1009 Q = 600.53 P = 707.91 RN/L = 3.1862

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0090	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2865	.9435	.5062	.3607	.2614			.1376		.1238	.0653	.0329	.0371	.0065	.0178
20.000			.5548	.3900	.2482	.1656		.1374		.1175					
40.000			.6649	.4330	.3162	.2422		.1741		.1333	.0668	.0371	.0621	.0048	.0510
55.000			.6880	.4690	.3621	.2852		.2123		.1432					
70.000			.6573	.4452	.3308	.2982		.2184		.1274	-.2746	-.1206	-.1328	-.2262	
90.000		.7753	.6269	.4330	.3216	.3121		.2457		.0698	-.3177	-.1649	-.2026	-.1957	
107.000			.5494	.3886	.2842	.3573		.4164		.0059	-.3326	-.5131	-.5649	-.2732	
140.000										-.0875					
151.000			.4422	.3327	.2444	.3676		.7700		-.2458	-.7296	-.5859	-.2526	-.1055	
161.000									.4877						
167.000									.5065						
165.000										-.6017	-.6796	-.5065	-.2363	-.0796	
170.000								.7876							
174.000							.8573								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8854)

ALPHA (4) = 7.906 BETA (1) = -3.871

SECTION (1)ORBITER FUSELAGE. DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.2855	.5715	.3644	.3179	.2404	.3700		.6963		-.7034	-.6359	-.3957	-.2200	-.0563	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.2407	.2459	.1978	.0999	-.0065	-.1101	-.1890		.4540	.2799					
40.000	.2377		.2188	.1159	-.0373	-.0552	-.3138		.2787	.1515					
70.000	-.0980	-.3236	-.3978	.0241	-.0030	.0838	.0749								
90.000	-.0699	-.2537	-.2876	.0263	-.0458	-.0114	.0346								
110.000			.0201	.0763	-.1050	-.1531	-.0173								
121.000	-.1588	-.1953	.1691	.1119	-.1913	-.2106	-.0318	-.3338							
135.000			.1528	.3250	-.1883	-.1689	-.1769	-.2420							
150.000	-.0107	-.0525	.1658	.4038	-.0835	-.1269	-.2090								
165.000	.0435		.2178		.1525	-.0399	-.4072								
180.000	.0571	.0112	.2717	.4887											

ALPHA (1) = 8.006 BETA (2) = .170 MACH = 1.1009 Q = 600.53 P = 707.91 RN/L = 3.1862

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
000	1.2938	.9493	.5175	.3683	.2619										
30.000			.5309	.3641	.2400	.1636		.1486		.1159	.0756	.0391	.0386	.0108	.0154
40.000			.5866	.3937	.2758	.2083		.1434		.1022					
55.000			.5735	.3691	.2701	.2132		.1656		.1128	.0539	.0129	.0315	-.0107	.0335
70.000			.5309	.3406	.2338	.2301		.1580		.0862					
90.000		.6403	.5260	.3314	.2058	.2518		.1618		.0694	-.3238	-.2049	-.1973	-.2091	
110.000			.4819	.3243	.2242	.3388		.1870		-.0053	- 3747	-.2438	-.2654	-.1785	
121.000								.3576		-.0874	-.3981	-.5754	-.3498	-.1501	
135.000			.4210	.3245	.2296	.3640				-.2014					
150.000								.6915		-.4976	-.7330	-.5287	-.2110	-.0726	
165.000									.4175						
180.000									.4531						
195.000										-.5988	-.6259	-.4026	-.2058	-.0478	
210.000								.7495							
230.000	1.2938	.5544	.3828	.3085	.2484	.3803	.8268								
								.7304		-.7323	-.7065	-.3769	-.2011	-.0417	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
000	.2411	.2573	.2005	.1010	.0004	-.0965	-.1700								
40.000	.2505		.2196	.1189	-.0236	-.0559	-.2787		.4614	.2854					
									.2858	.1378					

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XEB854)

ALPHA (4) = 8.006 BETA (2) = .170

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1031	-.3396	-.3921	.0171	-.0660	.0197	.0185			
90.000	-.0593	-.2285	-.2182	.0143	-.1471	-.1016	-.0050			
105.000			.0233	.0623	-.2349	-.2309	-.0480			
110.000								-.3459		
120.000	-.0441	-.1066	.1335	.0817	-.2678	-.3147	-.2756	-.2450		
130.000			.1727	.3495	-.1733	-.2508	-.2764			
150.000	.0465	-.0353	.2406	.5259	-.1092	-.2129	-.2702			
160.000	.0680		.2813		.0870	-.1469	-.4245			
180.000	.0741	-.0052	.2933	.5395						

ALPHA (4) = 8.008 BETA (3) = 4.224 MACH = 1.1009 Q = 600.53 P = 707.91 RN/L = 3.1862

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2783	.9348	.5039	.3574	.2517			.1456		.1115	.0714	.0373	.0408	.0074	.0138
20.000			.4831	.3357	.2126	.1390		.1331		.0809					
40.000			.4931	.3154	.2206	.1657		.1435		.0705	.0222	-.0195	-.0093	-.0319	.0126
55.000			.4567	.2652	.1779	.1440		.1077		.0399					
70.000			.4279	.2347	.1413	.1648		.1140		.0149	-.3627	-.2760	-.2671	-.1790	
90.000		.4993	.4275	.2359	.1361	.1938		.1341		-.0762	-.4263	-.3107	-.3170	-.1514	
120.000			.4114	.2535	.1574	.2995		.2860		-.1759	-.4586	-.6262	-.2431	-.0885	
140.000										-.3108					
150.000			.3781	.2949	.1916	.3386		.6203		-.5966	-.7251	-.4424	-.1938	-.0512	
151.000									.3275						
162.000									.3816						
165.000										-.6053	-.6652	-.3884	-.1985	-.0484	
169.000								.7154							
174.000							.7973								
180.000	1.2783	.5357	.3817	.3220	.2312	.3707		.7227		-.7160	-.6324	-.3995	-.2202	-.1528	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2410	.2565	.2023	.0935	-.0111	-.0892	-.1844		.4552	.2820
[illegible]	.2638		.2158	.1126	-.0284	-.1137	-.2542		.2624	.1152
[illegible]	[illegible]	-.3135	-.3338	.0255	-.1532	-.1230	-.1008			
[illegible]	-.0265	-.2002	-.1076	-.0194	-.2252	-.2714	-.1238			
[illegible]			.0283	.0122	-.2895	-.3815	-.1979			
[illegible]								-.4049		
[illegible]	.0419	-.0793	.1100	-.0425	-.3379	-.3026	-.5002	-.3397		
[illegible]			.2449	.2082	-.2539	-.3451	-.3618			
[illegible]	[illegible]	-.0013	.2015	.4177	-.1310	-.3121	-.3002			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8854)

ALPHA (4) = 8.008 BETA (3) = 4.224

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	.0979		.2762		.0202	-.2494	-.4464			
180.000	.0704	.0043	.2546	.4902						

ALPHA (5) = 11.922 BETA (1) = -3.854 MACH = 1.1005 Q = 600.31 P = 708.13 RN/L = 3.1832

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2330	1.0548	.6345	.4649	.3515			.2035		.1845	.1267	.1094	.1153	.0928	.1889
20.000			.6802	.4905	.3544	.2552		.2105		.1850					
40.000			.7476	.5294	.4097	.3186		.2555		.2074	.1392	.1158	.1380	.0934	.2359
55.000			.7036	.4940	.3800	.2895		.2225		.1758					
70.000			.6322	.4333	.3148	.2892		.2273		.1559	-.2323	-.1111	-.1188	-.2337	
90.000		.7123	.5716	.3890	.2837	.2831		.2489		.1054	-.2975	-.1462	-.1861	-.2795	
120.000			.4484	.2849	.1836	.2930		.3981		.0181	-.3435	-.5134	-.7191	-.3487	
140.000										-.0829					
150.000			.3155	.2215	.1280	.3081		.7524		-.2139	-.7788	-.6816	-.2882	-.1365	
151.000									.4734						
162.000									.4819						
165.000										-.6522	-.7320	-.5519	-.2467	-.1002	
169.000								.7585							
174.000							.8094								
180.000	1.2330	.4229	.2415	.2251	.1410	.3123		.6610		-.7441	-.6778	-.4257	-.1950	-.0563	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.3175	.3243	.2630	.1602	.0664	-.0583	-.1345		.5247	.3128
40.000	.3474		.2915	.1828	.0318	-.0355	-.2233		.3419	.1651
70.000	-.1429	-.3790	-.4663	-.0108	-.0592	-.1742	-.0688			
90.000	-.0691	-.2929	-.3820	.0083	-.0875	-.2060	-.1638			
105.000			-.1039	.0763	-.1353	-.2535	-.3197			
110.000								-.3594		
180.000	-.1871	-.2043	.0595	.1128	-.1893	-.2474	-.2160	-.3245		
150.000			.0698	.2834	-.1971	-.1945	-.2265			
160.000	-.0575	-.1757	.0822	.4375	-.1339	-.1917	-.2755			
165.000	.0444		.1467		.0953	-.0825	-.4290			
180.000	.0785	-.0377	.2373	.5193						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8854)

ALPHA (5) = 11.941 BETA (2) = .179 MACH = 1.1005 Q = 600.31 P = 708.13 RN/L = 3.1832

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2394	1.0578	.6402	.4730	.3536			.2126		.1905	.1388	.1132	.1176	.0992	.1779
20.000			.6480	.4671	.3364	.2390		.2003		.1789					
40.000			.6565	.4602	.3496	.2614		.2214		.1770	.1018	.0794	.0971	.0752	.1864
55.000			.5797	.3791	.2718	.1957		.1515		.1273					
70.000			.5134	.3234	.2067	.2152		.1645		.1091	-.2846	-.1980	-.1973	-.3189	
90.000		.5689	.4695	.2932	.1829	.2282		.1954		.0438	-.3542	-.2253	-.2609	-.3167	
120.000			.3873	.2395	.1371	.2917		.3561		-.0619	-.4020	-.5607	-.6870	-.2064	
140.000										-.1857					
150.000			.3035	.2266	.1215	.3143		.6786		-.4769	-.7738	-.5942	-.2409	-.0941	
151.000									.4061						
160.000									.4295						
165.000										-.6370	-.6709	-.4466	-.1916	-.0448	
169.000								.7062							
174.000							.7744								
180.000	1.2394	.4079	.2603	.2020	.1385	.3266		.6895		-.7622	-.7310	-.4094	-.1773	-.0342	

X/LB	.6520	.7290	.7990	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.3144	.3306	.2736	.1648	.0717	-.0217	-.1277		.5290	.3156
40.000	.3325		.2984	.1867	.0377	-.0189	-.2010		.3411	.1523
70.000	-.1195	-.4230	-.4909	-.1485	-.1639	-.0986	-.0925			
90.000	-.0646	-.3045	-.3887	-.0887	-.1488	-.2134	-.0687			
105.000			-.1452	.0104	-.2369	-.3247	-.1778			
110.000								-.4113		
120.000	-.0462	-.1368	.0470	.0849	-.3070	-.2776	-.3489	-.2974		
135.000			.1152	.3316	-.2246	-.2911	-.3004			
150.000	.0403	-.0931	.1667	.5425	-.1825	-.2799	-.2980			
165.000	.0858		.2287		.0577	-.1965	-.4413			
180.000	.0950	-.0247	.2678	.5793						

ALPHA (5) = 12.006 BETA (3) = 4.239 MACH = 1.1005 Q = 600.31 P = 708.13 RN/L = 3.1832

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2271	1.0468	.6231	.4678	.3424			.2069		.1784	.1354	.1147	.1150	.0982	.1836
20.000			.6091	.4299	.3005	.2131		.1838		.1482					
40.000			.5571	.3834	.2774	.1928		.1702		.1227	.0517	.0338	.0548	.0390	.1692
55.000			.4975	.2659	.1768	.1002		.0820		.0814					
70.000			.4270	.2185	.1141	.1505		.1176		.0701	-.3270	-.2736	-.2741	-.3543	
90.000		.4253	.3741	.2074	.0989	.1871		.1464		-.0125	-.4023	-.2939	-.3250	-.2418	
120.000			.3269	.1829	.0648	.2684		.3054		-.1427	-.4613	-.6085	-.3580	-.1474	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8854)

ALPHA (5) = 12.006 BETA (3) = 4.239

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.2886					
150.000			.2767	.2062	.0768	.2967		.5974		-.5891	-.7755	-.4986	-.1939	-.0600	
161.000									.3248						
162.000									.3655						
165.000										-.6460	-.6939	-.4163	-.1755	-.0480	
169.000								.6872							
174.000							.7591								
180.000	1.2271	.3771	.2639	.2336	.1230	.3141		.6905		-.7616	-.6773	-.4328	-.1956	-.0529	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.3199	.3262	.2687	.1556	.0543	-.0133	-.1379		.5272	.3160
40.000	.3326		.2843	.1773	.0308	-.0575	-.1940		.3283	.1377
70.000	-.1100	-.4094	-.4689	-.1477	-.2110	-.2074	-.0785			
90.000	-.0480	-.2927	-.3426	-.1306	-.3453	-.2690	-.1259			
105.000			-.1146	-.0649	-.5162	-.3733	-.3301			
110.000								-.4066		
120.000	.0449	-.1070	.0310	-.0604	-.3729	-.4968	-.5767	-.4720		
141.000			.1416	.2229	-.2653	-.3501	-.3903			
150.000	.1029	-.0383	.2417	.4681	-.1939	-.3328	-.3932			
155.000	.1093		.2427		.0104	-.2888	-.4576			
180.000	.0814	-.0336	.2211	.5362						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8855) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 960.0000 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0500

PARAMETRIC DATA

RUDDER = -10.000 SPDBRK = 55.000
BDFLAP = 16.300 L-ELVN = 4.000
R-ELVN = 4.000 MACH = .900

ALPHA (1) = -3.986 BETA (1) = -3.861 MACH = .90063 Q = 600.64 P = 1057.8 RN/L = 3.5876

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1914	.3572	-.0748	-.1150	-.1709			-.2164		-.2168	-.1941	-.0680	-.0316	.0032	-.0162
20.000			-.0468	-.1342	-.2280	-.2435		-.2634		-.2496					
40.000			.1496	-.1116	-.2141	-.2445		-.3536		-.4289	-.3888	-.1264	-.0856	-.0380	-.0440
60.000			.3379	.0910	.0013	-.0959		-.1936		-.2843					
80.000			.4634	.2220	.1265	.0622		-.0947		-.2309	-.7228	-.0184	.0603	.1093	
90.000		.7317	.5469	.3095	.2069	.1130		-.0653		-.3050	-.6581	-.0512	.0438	.1013	
120.000			.6378	.4558	.3340	.3255		.1855		-.2300	-.5805	-.1224	.0296	.0721	
140.000										-.1594					
150.000			.6424	.5012	.4038	.4175		.6582		-.2810	-.8505	-.0642	.0245	.0489	
161.000									.3337						
169.000									.3893						
165.000										-.8323	-.7698	-.0260	.0167	.0442	
169.000								.7203							
174.000							.8284								
180.000	1.1914	.8413	.5833	.4682	.3937	.4165		.6428		-.9387	-.7583	-.0095	.0089	.0350	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1299	-.1974	-.2413	-.3396	-.4453	-.1906	-.0263		.3057	.1100
40.000	-.2370		-.2302	-.3396	-.3452	-.2739	-.1231		.1232	.0214
70.000	.0369	-.0202	.0891	.2024	.0499	.0658	-.0409			
90.000	.0612	.0251	.1508	.2316	-.0198	-.0035	-.0940			
100.000			.2128	.2755	-.1279	-.0667	-.1422			
110.000								-.3522		
120.000	.0741	.1099	.3057	.3674	-.2275	-.1438	-.1720	-.2791		
135.000			.3662	.4545	-.1561	-.0896	-.1571			
150.000	.0784	.1466	.3700	.4567	-.0831	-.0712	-.1937			
165.000	.0732		.3483		.1155	-.0439	-.3209			
180.000	.0671	.1449	.3257	.5050						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8855)

ALPHA (1) = -3.902 BETA (2) = .179 MACH = .90063 Q = 600.64 P = 1057.8 RN/L = 3.5876

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1963	.3610	-.0627	-.0988	-.1673			-.2098		-.2179	-.1917	-.0625	-.0212	.0106	-.0103
20.000			-.0504	-.1190	-.2141	-.2179		-.2359		-.2384					
40.000			.1046	-.1068	-.1967	-.2090		-.3020		-.3558	-.3492	-.0749	-.0375	-.0085	-.0136
55.000			.2476	.0185	-.0628	-.1283		-.2305		-.3381					
70.000			.3496	.1075	.0269	-.0172		-.1747		-.3209	-.7590	-.0478	.0452	.0860	
90.000		.5841	.4262	.1856	.1039	.0127		-.1683		-.4511	-.7260	-.0957	.0328	.0783	
120.000			.5305	.3471	.2242	.2320		.0640		-.4261	-.6748	-.1699	.0125	.0526	
140.000										-.4466					
150.000			.5860	.4581	.3575	.3709		.5770		-.7958	-.8408	-.0464	.0217	.0439	
151.000									.2323						
152.000									.3116						
165.000										-.8422	-.7434	-.0172	.0238	.0456	
169.000								.6860							
174.000							.8114								
180.000	1.1963	.8321	.5920	.4710	.3970	.4222		.6750		-.9483	-.7353	-.0009	.0240	.0470	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1230	-.1961	-.2335	-.3360	-.4441	-.1913	-.0231		.3144	.1099
40.000	-.1855		-.2291	-.3324	-.3746	-.2505	-.1179		.1549	.0172
70.000	.0255	-.0353	.0446	.1315	-.0340	.0036	-.0854			
90.000	.0475	.0161	.1089	.1501	-.1216	-.0733	-.1359			
105.000			.1659	.1558	-.2404	-.1352	-.1870			
110.000								-.3687		
130.000	.0669	.0839	.2336	.2391	-.4479	-.2601	-.2569	-.3020		
145.000			.3171	.4610	-.3067	-.1860	-.2294			
150.000	.0807	.1406	.3390	.5239	-.1916	-.1811	-.2652			
165.000	.0788		.3405		-.0055	-.1552	-.3197			
180.000	.0803	.1544	.3438	.5509						

ALPHA (1) = -3.962 BETA (3) = 4.262 MACH = .90063 Q = 600.64 P = 1057.8 RN/L = 3.5876

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1799	.3424	-.0824	-.1054	-.1759			-.2096		-.2361	-.1749	-.0697	-.0310	.0051	-.0170
20.000			-.0708	-.1269	-.2122	-.2093		-.2209		-.2380					
40.000			.0413	-.1314	-.2039	-.1969		-.2628		-.3053	-.3195	-.0514	-.0135	.0018	.0083
55.000			.1460	-.0534	-.1208	-.1594		-.2614		-.3831					
70.000			.2231	.0057	-.0657	-.0838		-.2345		-.3997	-.8415	-.0788	.0439	.0725	
90.000		.4251	.3021	.0610	.0012	-.0808		-.2529		-.5836	-.7526	-.1804	.0403	.0681	
120.000			.4204	.2315	.1050	.1218		-.0633		-.5923	-.8140	-.2416	-.0138	.0275	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8855)

ALPHA (1) = -3.962 BETA (3) = 4.262

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.8070					
150.000			.5153	.4058	.2974	.3066		.4798		-.8833	-.8587	-.0374	-.0067	.0196	
151.000									.1173						
162.000									.2223						
165.000											-.8587	-.7585	-.0060	-.0015	.0279
169.000								.6348							
174.000							.7559								
180.000	1.1799	.8085	.5897	.4666	.3860	.4119		.6625		-.9450	-.7609	-.0067	.0058	.0305	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1259	-.1916	-.2327	-.3376	-.3484	-.1968	-.0252		.2720	.0837
40.000	-.1564		-.2188	-.3280	-.3840	-.2277	-.0909		.1729	-.0074
70.000	.0102	-.0485	-.0009	.0696	-.1482	-.0485	-.1080			
90.000	.0362	-.0054	.0641	.0790	-.2468	-.1272	-.1731			
105.000			.1191	.0696	-.4275	-.1783	-.2134			
110.000								-.3508		
120.000	.0484	.0515	.1595	.1009	-.6305	-.2938	-.3321	-.3041		
135.000			.2573	.3748	-.4634	-.4190	-.3146			
150.000	.0586	.1123	.2916	.5339	-.3282	-.3712	-.3298			
165.000	.0614		.3050		-.1059	-.3141	-.3137			
180.000	.0626	.1411	.3297	.5273						

ALPHA (2) = .074 BETA (1) = -3.874 MACH = .89883 Q = 599.16 P = 1059.5 RN/L = 3.5834

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2041	.5152	.0721	-.0077	-.0783										
20.000			.1119	-.0164	-.1156	-.1586		-.1578		-.1664	-.1744	-.0721	-.0202	.0282	.0277
40.000			.2916	.0403	-.0665	-.1180		-.1857		-.1933					
55.000			.4315	.1953	.1060	.0140		-.2143		-.2439	-.2761	-.0812	-.0306	.0098	.0239
70.000			.4982	.2643	.1655	.1061		-.0905		-.1983					
80.000		.7186	.5443	.3193	.1955	.1437		-.0368		-.1867	-.6514	-.0828	.0202	.0639	
120.000			.5706	.4004	.2827	.2943		-.0134		-.2591	-.6398	-.1251	.0150	.0535	
140.000								.1990		-.2562	-.6039	-.2348	-.0013	.0130	
150.000			.5333	.3978	.3040	.3429				-.2647					
151.000								.6281		-.3695	-.9799	-.2449	.0171	.0167	
162.000									.2997						
165.000									.3453						
169.000										-.9116	-.8605	-.1320	.0145	.0099	
174.000								.6752							
							.7832								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8855)

ALPHA (2) = .074 BETA (1) = -3.874

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.2041	.7149	.4635	.3663	.2860	.3358		.5876		-1.0521	-.8578	-.0616	.0133	.0952	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0307	-.0761	-.1470	-.2651	-.3509	-.2266	-.0248		.3008	.1019
40.000	-.0881		-.1278	-.2505	-.3084	-.2632	-.1502		.1841	.0425
70.000	-.0764	-.1791	.0288	.1850	.0411	.0690	-.0335			
90.000	-.0586	-.1096	.0948	.2174	-.0165	-.0075	-.0876			
105.000			.1627	.2546	-.1251	-.0679	-.1418			
110.000								-.3368		
120.000	-.0446	.0015	.2681	.3141	-.2573	-.1486	-.1569	-.2737		
135.000			.3293	.3759	-.2196	-.1158	-.1740			
150.000	-.0012	.0794	.3222	.3113	-.1689	-.1091	-.2100			
165.000	.0024		.2938		.0698	-.0884	-.3091			
180.000	.0036	.0893	.2762	.4176						

ALPHA (2) = .080 BETA (2) = .167 MACH = .89883 Q = 599.16 P = 1059.5 RN/L = 3.5834

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2101	.5207	.0782	.0029	-.0800			-.1551		-.1634	-.1748	-.0718	-.0094	.0317	.0341
20.000			.0959	-.0102	-.1140	-.1479		-.1721		-.1852					
40.000			.2293	.0139	-.0743	-.1081		-.1903		-.2154	-.2718	-.0530	-.0063	.0209	.0487
55.000			.2299	.1177	.0259	-.0339		-.1429		-.2385					
70.000			.3835	.1597	.0618	.0301		-.1200		-.2574	-.7242	-.0894	.0107	.0435	
80.000		.5700	.4881	.2050	.0851	.0575		-.1110		-.3737	-.7086	-.1187	.0124	.0377	
90.000			.4799	.3102	.1908	.2174		.0910		-.4063	-.6808	-.2004	.0140	.0242	
100.000										-.4901					
120.000			.4870	.3699	.2701	.3094		.5463		-.8293	-.9439	-.1536	.0249	.0211	
90.000									.2044						
100.000									.2717						
120.000										-.9160	-.8596	-.0589	.0218	.0211	
90.000								.6450							
100.000							.7701								
120.000	1.2.0	.7323	.4735	.3724	.2974	.3472		.6274		-.9345	-.8748	-.0416	.0230	.0218	

X/LB	.0520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
90.000	-.0834	-.0748	-.1481	-.2604	-.3422	-.2243	-.0217		.3134	.0995
100.000	-.0808		-.1343	-.2475	-.3229	-.2609	-.1200		.1826	.0137

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8B55)

ALPHA (2) = .080 BETA (2) = .167

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1099	-.1894	-.0212	.1078	-.0507	.0048	-.0766			
90.000	-.0663	-.1182	.0487	.1256	-.1380	-.0673	-.1255			
105.000			.1165	.1506	-.2416	-.1281	-.1757			
110.000								-.3357		
120.000	-.0206	.0032	.1906	.2562	-.4007	-.2409	-.2300	-.2806		
135.000			.2591	.4047	-.3251	-.2031	-.2348			
150.000	.0152	.0747	.2798	.4501	-.2607	-.2077	-.2705			
165.000	.0159		.2629		-.0676	-.2031	-.3070			
180.000	.0110	.0669	.2821	.4816						

ALPHA (2) = .067 BETA (3) = 4.244 MACH = .89883 Q = 599.16 P = 1059.5 RN/L = 3.5834

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1955	.5042	.0627	-.0027	-.0895			-.1562		-.1682	-.1783	-.0752	-.0209	.0294	.0214
20.000			.0627	-.0254	-.1177	-.1418		-.1649		-.1828					
40.000			.1545	-.0126	-.1047	-.1097		-.1734		-.2088	-.2618	-.0474	-.0001	.0216	.0562
55.000			.2199	.0303	-.0433	-.0736		-.1808		-.2771					
70.000			.2627	.0495	-.0256	-.0362		-.1793		-.3315	-.7787	-.0854	.0081	.0367	
90.000		.4114	.3065	.0825	-.0129	-.0277		-.1867		-.4915	-.7860	-.1463	.0180	.0388	
120.000			.3798	.2027	.0880	.1274		-.0209		-.5605	-.7825	-.2372	.0117	.0198	
140.000										-.7560					
150.000			.4275	.3196	.2176	.2518		.4558		-.9200	-.9657	-.1310	.0157	.0101	
161.000									.0965						
165.000									.1822						
169.000										-.8761	-.8643	-.0599	.0131	.0110	
174.000								.5919							
180.000	1.1956	.6818	.4709	.3546	.2875	.3321	.7102	.6105		-1.0597	-.8734	-.0689	.0133	.0056	

X/B	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0268	-.0754	-.1430	-.2679	-.2863	-.2236	-.0241		.2898	.0915
40.000	-.0442		-.1312	-.2500	-.2972	-.2533	-.1009		.1653	-.0160
70.000	-.1177	-.1813	-.0599	.0382	-.1594	-.0473	-.1030			
90.000	-.0665	-.1113	.0091	.0407	-.2934	-.1287	-.1643			
105.000			.0702	.0539	-.4460	-.1773	-.2080			
110.000								-.3410		
120.000	-.0167	-.0171	.1252	.0965	-.6321	-.2695	-.2942	-.2938		
135.000			.2235	.3425	-.5148	-.4451	-.2844			
150.000	.0354	.0609	.2524	.4308	-.3835	-.4405	-.3018			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8855)

ALPHA (2) = .067 BETA (3) = 4.244

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	.0047		.2560		-.1671	-.3785	-.3043			
180.000	.0015	.0882	.2833	.4256						

ALPHA (3) = 3.346 BETA (1) = -3.879 MACH = .89970 Q = 599.92 P = 1058.7 RN/L = 3.5860

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1951	.6656	.2158	.1016	.0151			-.0871		-.1042	-.1297	-.0635	.0079	.0673	.0793
20.000			.2607	.1081	-.0015	-.0699		-.1048		-.1238					
40.000			.4163	.1650	.0672	-.0015		-.0902		-.1366	-.1621	-.0416	.0218	.0593	.1027
[illegible]			.4984	.2708	.1791	.0937		-.0050		-.1144					
[illegible]			.5170	.2950	.1907	.1340		.0019		-.1340	-.5690	-.1531	-.0239	.0268	
[illegible]		.6854	.5049	.3159	.1992	.1616		.0229		-.2074	-.6188	-.2163	-.0279	.0174	
120.000			.4954	.3361	.2251	.2579		.2067		-.2544	-.6125	-.3554	-.0936	-.0564	
140.000										-.3476					
[illegible]			.4169	.2990	.2117	.2745		.6056		-.4501	-.9963	-.4339	.0107	-.0181	
[illegible]									.2773						
[illegible]									.3054						
[illegible]										-.9569	-.7791	-.4108	.0383	-.0099	
[illegible]								.6355							
[illegible]							.7441								
[illegible]	1.1951	.8762	[illegible]	.2879	.1956	.2672		.5391		-1.0903	-.9150	-.2474	.0426	-.0021	
.0	6561	.7297	[illegible]	8210	8790	.9210	.9600	.9990	1.0180	1.0460					
[illegible]															
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		.3522	.1185					
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		.2379	.0651					
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]								
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]								
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.3301							
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.2748							
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]								
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8855)

ALPHA (1) = 3.961 BETA (2) = .176 MACH = .89970 Q = 599.92 P = 1058.7 RN/L = 3.5860

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2025	.6713	.2190	.1066	.0184			-.0831		-.1016	-.1283	-.0525	.0107	.0683	.0869
20.000			.2436	.1073	-.0075	-.0672		-.0937		-.1229					
40.000			.3474	.1352	.0274	-.0124		-.0885		-.1318	-.1874	-.0424	.0235	.0565	.1138
55.000			.3927	.1865	.0984	.0320		-.0732		-.1611					
70.000			.4003	.1880	.0913	.0618		-.0678		-.1992	-.6599	-.1552	-.0322	.0103	
80.000		.5434	.4128	.2024	.1005	.0823		-.0583		-.3060	-.7152	-.1621	-.0249	.0111	
120.000			.4173	.2531	.1519	.2024		.1224		-.3801	-.6953	-.2806	-.0171	-.0071	
140.000										-.5042					
150.000			.3890	.2793	.1833	.2517		.5191		-.8744	-1.0348	-.3738	.0424	.0042	
161.000									.1889						
162.000									.2389						
165.000										-.9734	-.9396	-.2116	.0386	.0066	
169.000								.6065							
174.000							.7251								
180.000	1.2025	.5681	.3580	.2757	.2017	.2781		.5811		-1.0138	-.9124	-.1441	.0362	.0108	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0587	.0075	-.0730	-.1975	-.2236	-.2394	-.0192		.3451	.1116
40.000	.0472		-.0572	-.1767	-.2307	-.2885	-.1207		.2177	.0232
70.000	-.2465	-.4176	-.0872	.0907	-.0394	.0110	-.0659			
90.000	-.1668	-.3165	.0018	.0903	-.1308	-.0692	-.1197			
105.000			.0773	.0998	-.2401	-.1251	-.1710			
110.000								-.3277		
120.000	-.1150	-.1077	.1300	.2004	-.4332	-.2309	-.2147	-.2656		
130.000			.1865	.4007	-.3095	-.2133	-.2340			
140.000	-.0544	-.0076	.2094	.4703	-.2762	-.2312	-.0673			
150.000	-.0485		.2155		-.1114	-.2293	-.2845			
180.000	-.0447	.0168	.2222	.4302						

ALPHA (3) = 3.956 BETA (3) = 4.235 MACH = .89970 Q = 599.92 P = 1058.7 RN/L = 3.5860

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1854	.6536	.2101	.1064	.0045			-.0889		-.1059	-.1298	-.0641	.0020	.0653	.0781
20.000			.2042	.0813	-.0274	-.0664		-.1035		-.1286					
40.000			.2552	.0872	-.0036	-.0353		-.1009		-.1454	-.2158	-.0806	.0108	.0481	.1069
55.000			.2758	.0886	.0139	-.0265		-.1234		-.2021					
70.000			.2784	.0922	-.0040	-.0057		-.1309		-.2585	-.7234	-.1417	-.0369	.0039	
80.000		.3786	.3008	.0824	.0016	.0069		-.1309		-.4071	-.7884	-.1630	-.0136	.0083	
120.000			.3833	.1629	.0645	.1313		.0181		-.5163	-.7751	-.2777	.0155	.0072	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8855)

ALPHA (3) = 3.956 BETA (3) = 4.235

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000															
150.000										-.6743					
151.000			.3308	.2396	.1444	.2068		.4350		-1.0040	-1.0029	-.3230	.0410	.0085	
162.000									.0840						
165.000									.1523						
153.000										-.9856	-.7643	-.2133	.0311	.0028	
174.000								.5550							
180.000	1.1854	.5378	.5528	.2448	.1852	.2631	.6696	.5649		-1.1054	-.9513	-.2338	.0367	-.0038	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0557	.0083	-.0690	-.1997	-.2196	-.2417	-.0244		.3434	.1072
40.000	.0522		-.0532	-.1757	-.2363	-.2540	-.0953		.1921	-.0041
70.000	-.2312	-.3943	-.1332	.0100	-.1487	-.0475	-.1003			
[illegible]	-.1661	-.2308	-.0569	.0097	-.2665	-.1299	-.1604			
[illegible]			.0010	.0271	-.4266	-.1878	-.2135			
[illegible]								-.3350		
[illegible]	-.0427	-.1217	.0540	.0965	-.6132	-.3035	-.2799	-.2782		
[illegible]			.1616	.3273	-.5211	-.2722	-.2844			
[illegible]	-.0579	-.0095	.1650	.4315	-.4295	-.4453	-.3107			
[illegible]	-.0168		.1662		-.2207	-.4286	-.2947			
[illegible]	-.0601	.0175	.2090	.3517						

ALPHA (1) = [illegible].837 BETA (1) = -3.876 MACH = .69863 Q = 599.02 P = 1059.8 RN/L = 3.5993

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.1120	[illegible]	.1660	.1770	.2040	.2510	.3010	[illegible]	[illegible]	[illegible]
[illegible]								-.0024		-.0327	-.0542	-.0190	[illegible]	[illegible]	[illegible]
[illegible]				[illegible]	[illegible]	[illegible]		-.0093		-.0429					
[illegible]					[illegible]	[illegible]		[illegible]		-.0327	-.0736	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]						[illegible]		[illegible]		-.0516					
[illegible]					[illegible]	[illegible]		[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]					[illegible]			[illegible]		[illegible]	[illegible]	[illegible]		[illegible]	
[illegible]					[illegible]			[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]										[illegible]					
[illegible]					[illegible]	[illegible]		[illegible]		[illegible]	[illegible]	[illegible]	[illegible]		
[illegible]									[illegible]						
[illegible]									.2736						
[illegible]										[illegible]	-.6471	[illegible]	[illegible]	[illegible]	
[illegible]								[illegible]							

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8855)

ALPHA (∝) = 7.893 BETA (β) = -3.876

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.1612	.4249	.2171	.1753	.1064	.2042		.4999		-.8993	-.7258	-.4744	-.1250	.0043	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1356	.0865	.0039	-.1208	-.1868	-.2874	-.0297		.3899	.1295
40.000	.1395		.0279	-.0891	-.2071	-.3089	-.1586		.2694	.0611
70.000	-.3062	-.5630	-.0896	.1282	.0095	.0383	-.0375			
90.000	-.2490	-.4762	-.0041	.1065	-.0512	-.0454	-.1133			
105.000			.0832	.1014	-.1306	-.1077	-.1677			
110.000								-.3264		
120.000	-.2395	-.2295	.1126	.1230	-.2778	-.1887	-.1730	-.2753		
135.000			.1226	.2100	-.2998	-.1865	-.2216			
150.000	-.1469	-.0837	.1098	.2788	-.2563	-.1749	-.2275			
165.000	-.1239		.1079		-.0350	-.1360	-.2801			
180.000	-.1069	-.0591	.1149	.3172						

ALPHA (∝) = 8.030 BETA (β) = .173 MACH = .83863 Q = 599.02 P = 1059.8 RN/L = 3.5893

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1679	.8105	.3682	.2239	.1225			-.0052		-.0291	-.0572	-.0132	.0501	.1188	.1492
20.000			.3883	.2233	.1014	.0306		-.0123		-.0447					
40.000			.4439	.2417	.1366	.0671		-.0005		-.0565	-.1168	-.0348	.0531	.1018	.1818
55.000			.4313	.2278	.1366	.0647		-.0326		-.1092					
70.000			.3944	.1966	.0993	.0737		-.0335		-.1511	-.5944	-.2071	-.0899	-.0182	
90.000		.4906	.3755	.1881	.0938	.0881		-.0212		-.2504	-.6930	-.2392	-.0854	-.0175	
120.000			.3379	.1848	.0899	.1671		.1357		-.3585	-.7153	-.3295	-.1170	-.0596	
140.000										-.5001					
150.000			.2753	.1900	.0913	.1936		.4995		-.8325	-.6413	-.4392	-.0246	-.0118	
157.000									.1768						
162.000									.2087						
165.000										-1.0366	-.6576	-.4425	.0245	.0095	
169.000								.5557							
171.000							.6622								
180.000	1.1679	.4145	.2359	.1480	.1031	.2139		.5343		-1.1324	-.6512	-.3435	.0198	.0085	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1406	.0999	.0045	-.1146	-.1907	-.3009	-.0316		.3821	.1223
40.000	.1458		.0256	-.0963	-.2026	-.3052	-.1285		.2434	.0315

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8855)

ALPHA (4) = 8.030 BETA (2) = .173

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7390	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.3098	-.6134	-.1531	.0500	-.0764	-.0277	-.0855			
90.000	-.2481	-.4674	-.0619	.0485	-.1611	-.0965	-.1349			
105.000			.0169	.0408	-.2727	-.1584	-.1875			
110.000								-.3231		
120.000	-.2040	-.2217	.0396	.1066	-.4481	-.2587	-.2212	-.2623		
135.000			.1005	.3099	-.3986	-.2481	-.2539			
150.000	-.1271	-.1129	.1272	.4167	-.3264	-.2723	-.2[illegible]42			
165.000	-.1103		.1408		-.1352	-.2546	-.2777			
180.000	-.1019	-.0512	.1520	.3922						

ALPHA (4) = 8.015 BETA (3) = 4.230 MACH = .89363 Q = 599.02 P = 1059.8 RN/L = 3.5893

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3760	.4970	.5740
PHI															
[illegible]	1.1500	.7913	.3534	.2206	.1089			-.0140		-.0343	-.0674	-.0207	.0359	.1167	.1423
[illegible]			.3391	.1843	.0748	.0187		-.0319		-.0636					
[illegible]			.3[illegible]	.1720	.0776	.0245		-.0367		-.0959	-.1578	-.1020	.0188	.0830	.1645
[illegible]			.30[illegible]	.1205	.0373	-.0135		-.0974		-.1634					
[illegible]			.2737	.0901	.0334	.0001		-.0937		-.2057	-.6568	-.2155	-.1072	-.0365	
[illegible]		.3865	.2732	.0477	.0013	.0167		-.0849		-.3344	-.7673	-.1935	-.0950	-.0213	
[illegible]			.2601	[illegible]	.0262	.230		.0559		-.4729	-.7520	-.2884	-.1382	[illegible]	
[illegible]										-.6445					
[illegible]			23[illegible]	.1632	[illegible]	[illegible]		.4154	.0802	-1.0159	-.6765	-.4051	[illegible]	[illegible]	
[illegible]									.1306						

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AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8955)

ALPHA (A) = 8.015 BETA (B) = 4.230

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.1014		.1140		-.2179	-.4180	-.2953			
180.000	-.1194	-.0737	.1142	.3154						

ALPHA (A) = 11.973 BETA (B) = -3.861 MACH = .89910 Q = 599.49 P = 1059.5 RN/L = 3.5890

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
0.000	1.1001	.9232	.5002	.3334	.2269			.0792		.0500	.0275	.0500	.0954	.1830	.2116
20.000			.5509	.3580	.2290	.1325		.0851		.0493					
40.000			.6203	.4045	.2868	.1950		.1177		.0540	.0145	.0669	.1148	.1787	.2607
60.000			.5714	.3668	.2573	.1568		.0615		-.0166					
80.000			.4951	.3069	.1898	.1530		.0551		-.0595	-.4191	-.1974	-.1478	-.0384	
100.000		.5579	.4330	.2545	.1648	.1424		.0610		-.1373	-.5431	-.2611	-.1714	-.0590	
120.000			.3008	.1476	.0615	.1429		.1887		-.2481	-.6607	-.5270	-.4173	-.2555	
140.000										-.3780					
150.000			.1674	.0856	.0245	.1408		.5628		-.5265	-.5780	-.5126	-.2328	-.0851	
160.000									.2399						
161.000									.2389						
162.000										-.8178	-.5825	-.5579	-.2026	-.0488	
165.000								.5656							
169.000							.6546								
174.000								.4575		-.7150	-.5977	-.5482	-.2092	-.0151	
180.000	1.1001	.2602	.0947	.0780	.0304	.1450									

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2125	.1623	.0828	-.0457	-.1346	-.2854	-.0521		.4153	.1374
20.000	.2404		.1069	-.0219	-.1866	-.2854	-.1817		.2828	.0565
40.000	-.4467	-.7231	-.1519	.0393	-.1991	-.0768	-.0935			
60.000	-.3431	-.5728	-.0357	.0516	-.2283	-.1435	-.1520			
80.000			.0093	.1032	-.3078	-.2051	-.2126			
100.000								-.3429		
120.000	-.3889	-.2272	.0171	.1670	-.3725	-.2700	-.2248	-.2793		
140.000			.0893	.1994	-.3565	-.2517	-.2569			
150.000	-.2437	-.2034	.0139	.2884	-.3360	-.2704	-.2804			
160.000	-.2752		.0281		-.1037	-.1984	-.2821			
180.000	-.1839	-.1165	.0507	.3340						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8855)

ALPHA (5) = 11.957 BETA (2) = .182 MACH = .89910 Q = 599.49 P = 1059.5 RN/L = 3.5890

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1054	.9309	.5073	.3466	.2298			.0788		.0561	.0266	.0564	.1091	.1841	.2178
20.000			.5178	.3352	.2117	.1201		.0739		.0363					
40.000			.5229	.3311	.2235	.1433		.0732		.0119	-.0490	.0008	.0862	.1605	.2424
55.000			.4419	.2424	.1456	.0547		-.0251		-.0873					
70.000			.3679	.1866	.0823	.0720		-.0166		-.1261	-.5203	-.2543	-.1823	-.0874	
90.000		.4185	.3251	.1562	.0681	.0767		-.0043		-.2142	-.6488	-.2316	-.1856	-.0799	
120.000			.2389	.1057	.0195	.1277		.1379		-.3407	-.7348	-.4138	-.3026	-.1352	
140.000										-.4898					
150.000			.1543	.0962	.0148	.1438		.4872		-.7148	-.5985	-.5192	-.1896	-.0448	
151.000									.1632						
152.000									.1797						
155.000										-.9527	-.6098	-.5298	-.1821	-.0052	
159.000								.5162							
174.000							.6126								
180.000	1.1054	.2500	.1148	.0745	.0287	.1641		.4887		-.7717	-.6121	-.5301	-.1847	.0113	

Y/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2185	.1590	.0838	-.0415	-.1272	-.2857	-.0552		.4133	.1332
40.000	.2327		.1072	-.0151	-.1824	-.2890	-.1660		.2580	.0272
[illegible]	[illegible]	.7415	-.2176	-.0767	-.2848	-.1444	-.1302			
[illegible]	[illegible]	.5937	[illegible]	-.0253	-.3211	-.2035	-.1539			
[illegible]			[illegible]	.0142	-.4190	-.2642	-.2307			
[illegible]	[illegible]	[illegible]	[illegible]	.0868	-.4452	[illegible]	-.2490	-.3221		
[illegible]			[illegible]	[illegible]	[illegible]	-.3516	-.2775	-.2689		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.2957			
[illegible]	[illegible]		[illegible]		[illegible]	.3023	-.2928			
[illegible]	[illegible]	[illegible]	[illegible]	.3425						

[illegible] = [illegible] [illegible] = [illegible] MACH = .89910 Q = 599.49 P = 1059.5 [illegible]

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.2195			.0784		.3448	.0259	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]			[illegible]	[illegible]	.1820	[illegible]		.0525		[illegible]					
[illegible]			[illegible]	[illegible]	.1518	[illegible]		.0183		-.0483	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]			[illegible]	[illegible]	.0346	[illegible]		[illegible]		-.1500					
[illegible]			[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	.0200		[illegible]		-.2770	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]			[illegible]	[illegible]	-.0218	[illegible]		.0808		-.4305	[illegible]	[illegible]	[illegible]	[illegible]	

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8855)

ALPHA (5) = 12.005 BETA (3) = 4.250

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.6157					
150.000			.1307	.0737	-.0069	.1256		.3970		-.9853	-.6041	-.5149	-.1849	-.0038	
151.000									.0749						
162.000									.1105						
165.000										-.9396	-.6064	-.5248	-.2328	.0114	
169.000								.4856							
174.000							.5864								
180.000	1.0930	.2230	.1177	.0801	.0183	.1489		.4870		-.6745	-.5989	-.5369	-.2180	-.0094	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2193	.1649	.0813	-.0454	-.1238	-.2879	-.0652		.4106	.1307
40.000	.2193		.0907	-.0251	-.1921	-.3183	-.1613		.2340	.0028
70.000	-.4513	-.7404	-.2060	-.0988	-.3593	-.2716	-.1882			
90.000	-.3440	-.6025	-.1211	-.0915	-.4247	-.4299	-.2193			
105.000			-.0520	-.0456	-.5326	-.5939	-.2971			
110.000								-.3176		
120.000	-.2180	-.2881	-.0364	.0469	-.5203	-.5893	-.3595	-.2784		
135.000			.0482	.2382	-.4413	-.4856	-.5053			
150.000	-.1567	-.1351	.0941	.3633	-.3833	-.4585	-.4212			
165.000	-.1380		.0949		-.1800	-.3970	-.3098			
180.000	-.1629	-.1204	.0686	.3359						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8856) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT.	XMRP = 1076.6800 IN. XO		
LREF = 474.8000 IN.	YMRP = .0000 IN. YO		
BREF = 936.0680 IN.	ZMRP = 375.0000 IN. ZO		
SCALE = .0300			

PARAMETRIC DATA

RUDDER =	-10.000	SPDBRK =	55.000
BDFLAP =	16.300	L-ELVN =	-4.000
R-ELVN =	4.000	MACH =	.600

ALPHA (1) = -4.044 BETA (1) = -7.862 MACH = .59674 Q = 594.66 P = 2385.6 RN/L = 4.8797

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0107	.1322	-.2202	-.2203	-.2207			-.1808		-.1524	-.1290	-.0968	-.0783	-.0641	-.0771
20.000			-.2031	-.2339	-.2846	-.2870		-.2384		-.2084					
40.000			.0263	-.2278	-.3035	-.3154		-.3750		-.3367	-.2735	-.1983	-.1699	-.1486	-.1524
55.000			.2742	.0516	-.0204	-.1206		-.1462		-.1692					
70.000			.4448	.2344	.1505	.0819		-.0418		-.1269	-.1334	-.0040	.0655	.1055	
90.000		.7421	.5495	.3354	.2572	.1394		-.0103		-.1763	-.1620	-.0395	.0430	.0909	
120.000			.6236	.4647	.3494	.3254		.1885		-.1395	-.1852	-.1652	.0064	.0439	
140.000										-.1922					
150.000			.5755	.4361	.3520	.3540		.5696		-.3521	-.3107	-.1029	-.0334	.0008	
151.000									.2508						
160.000									.2574						
165.000										-.9344	-.2411	-.1266	-.0544	-.0186	
168.000								.5753							
174.000							.7067								
180.000	1.0107	.7147	.4476	.3478	.2864	.2934		.3699		-1.1770	-.2276	-.1287	-.0708	-.0392	

X/LB	.6520	.7290	[illegible]	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.0470		.2267	.0079
[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	-.1225		.1235	-.0301
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.0468			
		[illegible]		[illegible]	[illegible]	[illegible]	-.1070			
			[illegible]	[illegible]	[illegible]	[illegible]	-.1517			
								-.3022		
		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.1491	-.2357		
			[illegible]	[illegible]	[illegible]	[illegible]	-.1562			
		[illegible]		[illegible]	[illegible]	[illegible]	-.1616			
			[illegible]		[illegible]	[illegible]	-.2774			
		[illegible]	[illegible]	[illegible]						

AMES 11-073(OA148) -140A/B/G/R ORB FUSELAGE (XE8856)

ALPHA (1) = -3.971 BETA (2) = -3.856 MACH = .59674 Q = 594.66 P = 2385.6 RN/L = 4.8797

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0521	.1672	-.1831	-.1838	-.2058			-.1599		-.1386	-.1100	-.0814	-.0576	-.0457	-.0627
20.000			-.1707	-.1942	-.2473	-.2364		-.2052		-.1674					
40.000			.0081	-.1923	-.2622	-.2618		-.3019		-.2666	-.2045	-.1378	-.1132	-.1054	-.1091
55.000			.2010	.0012	-.0685	-.1419		-.1827		-.1972					
70.000			.3374	.1316	.0511	.0058		-.1089		-.1888	-.1794	-.0365	.0312	.0769	
90.000		.6012	.4248	.2157	.1250	.0430		-.1052		-.2668	-.2171	-.0734	.0127	.0618	
120.000			.5305	.3720	.2562	.2345		.0792		-.2448	-.2310	-.1946	-.0062	.0360	
140.000										-.2664					
150.000			.5406	.4121	.3249	.3283		.5066		-.4084	-.2720	-.0874	-.0216	.0173	
151.000									.1584						
162.000									.1968						
165.000										-.9268	-.2115	-.0976	-.0259	.0159	
169.000								.5611							
174.000							.6952								
180.000	1.0521	.7292	.4796	.3834	.3112	.3229		.4665		-1.1463	-.1969	-.1018	-.0339	.0074	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1068	-.1312	-.1676	-.2234	-.1802	-.1673	-.0538		.2455	.0089
40.000	-.1871		-.1847	-.2412	-.2250	-.1593	-.1250		.1338	-.0416
70.000	.0017	-.0149	.0578	.1607	.0464	.0282	-.0681			
90.000	.0318	.0292	.1075	.1849	-.0242	-.0524	-.1290			
105.000			.1517	.2519	-.1188	-.1065	-.1771			
119.000								-.3058		
120.000	.0447	.0884	.2395	.3769	-.2096	-.1732	-.2026	-.2535		
135.000			.2933	.4479	-.1618	-.1262	-.2003			
150.000	.0533	.1199	.2901	.4274	-.1279	-.1239	-.1960			
165.000	.0484		.2570		.0540	-.1214	-.2801			
180.000	.0293	.1008	.2371	.4358						

ALPHA (1) = -3.944 BETA (3) = .179 MACH = .59674 Q = 594.66 P = 2385.6 RN/L = 4.8797

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0601	.1745	-.1769	-.1792	-.2024			-.1573		-.1347	-.1049	-.0743	-.0534	-.0395	-.0655
20.000			-.1658	-.1761	-.2296	-.2114		-.1784		-.1555					
40.000			-.0261	-.1855	-.2353	-.2229		-.2459		-.2181	-.1489	-.0934	-.0731	-.0667	-.0814
55.000			.1197	-.0563	-.1169	-.1625		-.2047		-.2237					
70.000			.2181	.0304	-.0365	-.0672		-.1793		-.2407	-.2160	-.0731	.0062	.0590	
90.000		.4468	.3018	.0955	.0064	-.0594		-.1907		-.3591	-.2619	-.1067	-.0118	.0434	
120.000			.4194	.2544	.1409	.1411		-.0506		-.3507	-.2867	-.2445	-.0352	.0142	

AMES 11-073(OA148) -14 B/C/R ORB FUSELAGE (XE8856)

ALPHA (1) = -3.944 BETA (3) = .179

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.3542					
150.000			.4839	.3728	.2804	.2783		.4113		-.4803	-.2502	-.0944	-.0241	.0162	
151.000									.0349						
162.000									.0958						
165.000										-.9269	-.1914	-.0937	-.0198	.0155	
169.000								.5220							
174.000							.6784								
180.000	1.0601	.7222	.4904	.3938	.3259	.3321		.5113		-1.1278	-.1851	-.0844	-.0212	.0162	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1074	-.1301	-.1651	-.2203	-.1829	-.1723	-.0546		.2465	.0120
40.000	-.1602		-.1784	-.2315	-.2269	-.1682	-.1104		.1211	-.0477
70.000	-.0219	-.0490	.0209	.1079	-.0012	-.0080	-.0953			
90.000	.0363	.0044	.0693	.1169	-.0831	-.0879	-.1508			
105.000			.1074	.1443	-.1959	-.1525	-.2032			
110.000								-.3209		
120.000	.0257	.0514	.1681	.2396	-.3111	-.2520	-.2571	-.2674		
135.000			.2459	.4571	-.2500	-.1868	-.2389			
150.000	.0565	.1093	.2635	.4740	-.1937	-.1988	-.2346			
165.000	.0515		.2551		-.0442	-.2054	-.2815			
180.000	.0462	.1177	.2505	.4910						

ALPHA (1) = -3.952 BETA (4) = 4.259 MACH = .59674 Q = 594.66 P = 2385.6 RN/L = 4.8797

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0400	.1583	-.1955	-.1840	-.2088			-.1609		-.1402	-.1153	-.0761	-.0537	-.0452	-.0683
30.000			-.1787	-.1801	-.2235	-.2022		-.1658		-.1469					
60.000			-.0731	-.1952	-.2268	-.1997		-.2083		-.1847	-.1291	-.0646	-.0435	-.0497	-.0520
85.000			.0284	-.1195	-.1617	-.1924		-.2272		-.2451					
95.000			.1079	-.0695	-.1209	-.1369		-.2331		-.2901	-.2451	-.0867	-.0099	.0438	
105.000		.2757	.1031	.0253	-.1020	-.1493		-.2770		-.4335	-.3014	-.1234	-.0234	.0321	
120.000			.2907	.1745	.0224	.0218		-.1929		-.4497	-.3426	-.2975	-.0810	-.0245	
135.000										-.4351					
150.000			-.0071	.3119	.2169	.2035		.2893		-.5460	-.2482	-.1132	-.0509	-.0112	
165.000									-.1033						
172.500									-.0246						
180.000										-.9483	-.2081	-.1113	-.0445	-.0109	
180.000							.6110	.4580							

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8856)

ALPHA (1) = -3.952 BETA (4) = 4.259

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.0400	.6943	.4820	.3813	.3124	.3222		.4895		-1.1263	-.1936	-.0976	-.0350	.0011	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.1112	-.1349	-.1686	-.2228	-.1819	-.1666	-.0548		.2185	-.0016					
40.000	-.1358		-.1671	-.2240	-.2287	-.1728	-.0952		.1248	-.0616					
70.000	-.0366	-.0754	-.0205	.0682	-.0436	-.0390	-.1070								
91.000	-.0044	-.0293	.0244	.0585	-.1239	-.1220	-.1671								
105.000			.0557	.0647	-.2609	-.1872	-.2182								
110.000								-.3159							
120.000	-.0126	-.0034	.0757	.1026	-.4308	-.3314	-.3125	-.2863							
135.000			.1769	.3265	-.3553	-.2645	-.2799								
150.000	.0238	.0674	.2071	.4772	-.3002	-.2946	-.2833								
165.000	.0288		.2118		-.1633	-.2987	-.2844								
180.000	.0269	.0968	.2427	.4658											

ALPHA (1) = -3.967 BETA (5) = 8.330 MACH = .59574 Q = 594.66 P = 2385.6 RN/L = 4.8797

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9896	.1386	-.2021	-.1891	-.2312			-.1797		-.1577	-.1345	-.0925	-.0690	-.0591	-.0779
20.000			-.2014	-.1919	-.2338	-.2068		-.1726		-.1540					
40.000			-.1231	-.2134	-.2305	-.1936		-.1894		-.1741	-.1141	-.0548	-.0304	-.0430	-.0324
55.000			-.0542	-.1748	-.1935	-.2100		-.2420		-.2524					
70.000			-.0029	-.1570	-.1862	-.1923		-.2735		-.3180	-.2552	-.0949	-.0136	.0304	
80.000		.1000	.0477	-.1390	-.2068	-.2314		-.3333		-.4917	-.3199	-.1337	-.0347	.0150	
140.000			.1569	.0003	-.1127	-.1086		-.3325		-.5475	-.3940	-.3467	-.1283	-.0610	
145.000										-.5147					
150.000			.2863	.2150	.1136	.1037		.1452		-.6249	-.2707	-.1475	-.1029	-.0632	
161.000									-.2633						
162.000									-.1740						
166.000										-.9939	-.2402	-.1441	-.0868	-.0495	
169.000								.3731							
174.000							.5421								
180.000	.9896	.6233	.4323	.3258	.2631	.2715		.3895		-1.1522	-.2318	-.1394	-.0769	-.0459	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.1132	-.1381	-.1689	-.2242	-.1841	-.1775	-.0656		.2148	-.0142					
40.000	-.1146		-.1637	-.2192	-.2281	-.1773	-.0874		.0991	-.0815					

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8856)

ALPHA (1) = -3.967 BETA (5) 8.330

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.0502	-.1030	-.0611	.0282	-.0804	-.0590	-.1176			
90.000	-.0265	-.0646	-.0378	.0054	-.1659	-.1484	-.1729			
105.000			.0049	.0303	-.3030	-.2143	-.2315			
110.000								-.3057		
120.000	-.0443	-.0639	-.0115	-.0925	-.5499	-.4182	-.3648	-.3019		
135.000			.0750	.1536	-.4971	-.3605	-.3354			
150.000	-.0319	-.0032	.1065	.4342	-.4485	-.4063	-.3285			
165.000	-.0315		.1286		-.2848	-.3918	-.2779			
180.000	-.0205	.0407	.1813	.3586						

ALPHA (2) = .082 BETA (1) = -7.901 MACH = .59728 Q = 595.74 P = 2385.6 RN/L = 4.8906

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0348	.3155	-.0653	-.1190	-.1400			-.1387		-.1237	-.1035	-.0737	-.0523	-.0210	-.0260
20.000			-.0254	-.0954	-.1760	-.1957		-.1743		-.1568					
40.000			.2024	-.0455	-.1298	-.1640		-.2272		-.2086	-.1486	-.0966	-.0796	-.0644	-.0554
55.000			.3952	.1891	.1080	.0168		-.0437		-.0932					
70.000			.5032	.2913	.1995	.1270		.0033		-.0979	-.1295	-.0210	.0324	.0597	
90.000		.7359	.5517	.3504	.2344	.1657		.0203		-.1603	-.1554	-.0539	.0127	.0439	
120.000			.5515	.3941	.2928	.2849		.1751		-.1739	-.2225	-.2143	-.0644	-.0435	
140.000										-.2652					
150.000			.4523	.3191	.2522	.2610		.5163		-.4647	-.3959	-.1538	-.0777	-.0559	
161.000									.1851						
162.000									.1754						
165.000										-1.1072	-.2880	-.1659	-.0900	-.0597	
168.000								.5146							
174.000							.6550								
180.000	1.0348	.5801	.3235	.2453	.1888	.2128		.3008		-1.3406	-.2664	-.1607	-.0891	-.0657	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0583	-.0823	-.1264	-.1887	-.1556	-.1520	-.0443		.2625	.0204
20.000	-.1199		-.1345	-.2026	-.1952	-.1467	-.1199		.1467	-.0179
40.000	-.0801	-.0592	.0635	.2036	.0923	.0751	-.0406			
55.000	-.0259	-.0072	.1033	.2414	.0394	-.0122	-.1108			
70.000			.1473	.3650	-.0394	-.0632	-.1593			
90.000								-.3009		
120.000	-.0185	.0131	.2025	.5100	-.1470	-.1221	-.1541	-.2465		
140.000			.2457	.4490	-.1441	-.1030	-.1857			
150.000	-.0348	.0436	.3315	.4489	-.1622	-.1001	-.1812			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8858)

ALPHA (2) = .082 BETA (1) = -7.901

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0360		.1812		.1166	-.0553	-.2776			
180.000	-.0521	.0090	.1398	.2481						

ALPHA (2) = .093 BETA (2) = -3.873 MACH = .59728 Q = 595.74 P = 2385.6 RN/L = 4.8906

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0735	.3570	-.0316	-.0859	-.1166			-.1227		-.1039	-.0859	-.0556	-.0354	-.0090	-.0146
20.000			-.0045	-.0720	-.1416	-.1663		-.1416		-.1226					
40.000			.1697	-.0446	-.1104	-.1373		-.1770		-.1663	-.1165	-.0621	-.0479	-.0390	-.0257
55.000			.3174	.1203	.0469	-.0290		-.0885		-.1371					
70.000			.3913	.1901	.1061	.0496		-.0674		-.1625	-.1780	-.0564	-.0007	.0292	
90.000		.6070	.4354	.2361	.1342	.0747		-.0649		-.2368	-.2118	-.0894	-.0149	.0191	
120.000			.4679	.3184	.2151	.2180		.0817		-.2604	-.2607	-.2223	-.0456	-.0188	
140.000										-.3340					
150.000			.4322	.3151	.2375	.2512		.4618		-.5069	-.3459	-.1326	-.0526	-.0242	
161.000									.1023						
166.000									.1157						
169.000										-1.0954	-.2600	-.1328	-.0569	-.0216	
174.000								.5024							
180.000	1.0735	.5986	.3568	.2812	.2153	.2390	.6412	.4014		-1.3111	-.2374	-.1239	-.0597	-.0240	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0471	-.0781	-.1262	-.1911	-.1541	-.1509	-.0394		.2407	.0160
40.000	-.0801		-.1326	-.2008	-.2027	-.1464	-.1246		.1560	-.0247
70.000	-.1090	-.1008	.0161	.1519	.0386	.0284	-.0680			
90.000	-.0597	-.0394	.0690	.1772	-.0259	-.0522	-.1331			
105.000			.1167	.2574	-.1158	-.1093	-.1854			
110.000								-.3078		
120.000	-.0333	.0259	.2037	.3797	-.2176	-.1752	-.1916	-.2491		
135.000			.2576	.3315	-.2035	-.1501	-.2120			
150.000	.0029	.0718	.2538	.3199	-.1893	-.1540	-.2105			
165.000	.0022		.2215		.0171	-.1409	-.2759			
180.000	-.0104	.0688	.2096	.3529						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8856)

ALPHA (2) = .095 BETA (3) = .179 MACH = .59728 Q = 595.74 P = 2385.6 RN/L = 4.8906

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0832	.3595	-.0256	-.0710	-.1196			-.1182		-.0992	-.0803	-.0495	-.0297	-.0037	-.0122
20.000			-.0102	-.0670	-.1314	-.1453		-.1291		-.1175					
40.000			.1250	-.0545	-.1126	-.1161		-.1515		-.1429	-.0955	-.0391	-.0240	-.0212	-.0061
55.000			.2284	.0450	-.0149	-.0769		-.1374		-.1754					
70.000			.2730	.0844	.0125	-.0741		-.1395		-.2217	-.2226	-.0927	-.0245	.0088	
90.000		.4448	.3164	.1231	.0387	-.0175		-.1482		-.3228	-.2555	-.1123	-.0330	.0066	
120.000			.3713	.2201	.1215	.1326		-.0281		-.3539	-.2999	-.2336	-.0448	-.0075	
140.000										-.4123					
150.000			.3976	.2842	.1960	.2157		.3681		-.5655	-.3060	-.1213	-.0453	-.0110	
151.000									-.0111						
162.000									.0264						
165.000										-1.0745	-.2410	-.1142	-.0462	-.0120	
169.000								.4660							
174.000							.6225								
180.000	1.0832	.5930	.3738	.2925	.2184	.2499		.4446		-1.2914	-.2293	-.1111	-.0424	-.0082	

X/LB	.6520	.7230	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0395	-.0828	-.1215	-.1851	-.1578	-.1576	-.0457		.2447	.0111
40.000	-.0715		-.1286	-.1957	-.2069	-.1556	-.1063		.1393	-.0449
70.000	-.1276	-.1231	-.0224	.0942	-.0129	-.0135	-.0930			
90.000	-.0733	-.0644	.0349	.1050	-.0929	-.0938	-.1555			
105.000			.0891	.1308	-.1874	-.1533	-.2033			
110.000								-.3143		
120.000	-.0255	.0158	.1643	.1847	-.2354	-.2362	-.2390	-.2583		
135.000			.2206	.3578	-.2711	-.2019	-.2418			
150.000	.0135	.0725	.2300	.4112	-.2357	-.2188	-.2397			
165.000	.0133		.2221		-.0878	-.2289	-.2773			
180.000	.0054	.0846	.2289	.4324						

ALPHA (2) = .092 BETA (4) = 4.242 MACH = .59728 Q = 595.74 P = 2385.6 RN/L = 4.8906

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0815	.3406	-.0387	-.0751	-.1266			-.1229		-.1071	-.0868	-.0571	-.0298	-.0097	-.0194
20.000			-.0396	-.0852	-.1436	-.1503		-.1274		-.1185					
40.000			.0405	-.0810	-.1323	-.1274		-.1447		-.1421	-.0921	-.0394	-.0198	-.0135	.0054
55.000			.1001	-.0711	-.0805	-.1189		-.1747		-.2082					
70.000			.1542	-.0314	-.0342	-.0856		-.1984		-.2668	-.2470	-.1076	-.0366	-.0026	
90.000		.2791	.1917	.0386	-.0642	-.0995		-.2265		-.3939	-.2827	-.1312	-.0408	-.0039	
120.000			.2530	.1164	.0307	.0348		-.1506		-.4406	-.3369	-.2583	-.0543	-.0221	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8856)

ALPHA (2) = .092 BETA (4) = 4.242

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.4752					
150.000			.3158	.2301	.1457	.1547		.2628		-.6195	-.2865	-.1310	-.0566	-.0249	
161.000									-.1423						
162.000									-.0924						
166.000										-1.0802	-.2451	-.1335	-.0571	-.0237	
169.000								.4033							
174.000							.5627								
180.000	1.0615	.5625	.3623	.2691	.2131	.2415		.4175		-1.2866	-.2402	-.1267	-.0578	-.0253	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0511	-.0778	-.1260	-.1886	-.1657	-.1588	-.0478		.2404	.0081
50.000	-.0605		-.1167	-.1853	-.2127	-.1622	-.0883		.1191	-.0638
70.000	-.1330	-.1475	-.0615	.0394	-.0556	-.0443	-.1076			
90.000	-.0934	-.0834	-.0079	.0378	-.1422	-.1320	-.1688			
105.000			.0340	.0504	-.2571	-.1886	-.2209			
110.000								-.3203		
120.000	-.0475	-.0309	.0812	.1159	-.4118	-.3173	-.2880	-.2681		
135.000			.1700	.3016	-.3745	-.2741	-.2786			
150.000	-.0027	.0453	.1892	.3694	-.3339	-.3078	-.2831			
165.000	-.0003		.1914		-.2006	-.3170	-.2754			
180.000	-.0081	.0569	.2115	.3995						

ALPHA (2) = .089 BETA (5) = 8.298 MACH = .59728 Q = 595.74 P = 2385.6 RN/L = 4.8906

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0091	.3159	-.0524	-.0906	-.1477			-.1376		-.1281	-.1017	-.0716	-.0400	-.0213	-.0344
30.000			-.0637	-.1078	-.1636	-.1560		-.1442		-.1380					
40.000			-.0220	-.1167	-.1522	-.1470		-.1551		-.1518	-.1167	-.0601	-.0284	-.0251	.0080
55.000			.0103	-.1075	-.1352	-.1641		-.2003		-.2366					
70.000			.0353	-.1066	-.1491	-.1504		-.2400		-.2999	-.2666	-.1174	-.0450	-.0033	
80.000		.0973	.0641	-.1021	-.1588	-.1752		-.2916		-.4456	-.3015	-.1297	-.0410	-.0051	
100.000			.1378	-.0018	-.0917	-.0744		-.2864		-.5225	-.3657	-.2840	-.0734	-.0335	
140.000										-.5436					
150.000			.2139	.1479	.0509	.0588		.1179		-.6849	-.2936	-.1562	-.0935	-.0666	
161.000									-.2906						
162.000									-.2348						
166.000										-1.1077	-.2664	-.1619	-.0994	-.0645	
169.000								.3195							
174.000							.4969								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8856)

ALPHA (2) = .089 BETA (5) = 8.298

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.0091	.4888	.3173	.2174	.1637	.1946		.3233		-1.2955	-.2681	-.1640	-.0978	-.0678	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0550	-.0806	-.1294	-.1983	-.1681	-.1701	-.0601		.2520	-.0037
40.000	-.0513		-.1190	-.1831	-.2122	-.1783	-.0838		.1119	-.0652
70.000	-.1429	-.1733	-.0937	.0027	-.0923	-.0675	-.1194			
90.000	-.0941	-.1114	-.0501	-.0065	-.1853	-.1653	-.1890			
105.000			-.0109	-.0067	-.3016	-.2188	-.2377			
120.000								-.3112		
140.000	-.0673	-.0695	.0029	-.1055	-.5334	-.3901	-.3375	-.2801		
155.000			.0793	.1306	-.4995	-.3559	-.3315			
150.000	-.0468	-.0134	.1013	.3685	-.4952	-.4234	-.3463			
165.000	-.0603		.1061		-.3462	-.4199	-.2830			
180.000	-.0650	.0099	.1536	.3020						

ALPHA (3) = +.038 BETA (1) = -7.914 MACH = .59696 Q = 595.02 P = 2385.3 RN/L = 4.8897

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0324	.4827	.0762	-.0078	-.0513			-.0881		-.0760	-.0713	-.0445	-.0148	.0195	.0255
20.000			.1384	.0236	-.0627	-.1108		-.1040		-.0950					
40.000			.3540	.1047	.0149	-.0302		-.0964		-.1025	-.0495	-.0042	.0032	.0126	.0335
60.000			.4903	.2853	.1967	.1101		.0283		-.0439					
70.000			.5247	.3254	.2058	.1551		.0326		-.0774	-.1379	-.0437	-.0070	.0099	
80.000		.7052	.5044	.3401	.2422	.1726		.0401		-.1475	-.1705	-.0842	-.0283	-.0134	
100.000			.4681	.3126	.2147	.2205		.1435		-.2129	-.2795	-.2993	-.1650	-.1661	
120.000										-.3395					
140.000			.3287	.2073	.1440	.1850		.4668		-.5639	-.4755	-.2005	-.1207	-.1018	
150.000									.1271						
160.000									.0871						
170.000										-1.2765	-.3405	-.1991	-.1195	-.0925	
180.000								.4514							
							.6097								
	1.0324	.4870	.2002	.1478	.0931	.1352		.2314		-1.5034	-.2929	-.1721	-.1051	-.0845	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0046	-.0319	-.0776	-.1481	-.1295	-.1403	-.0319		.2802	.0204
40.000	-.0182		-.0762	-.1576	-.1809	-.1275	-.1053		.1732	-.0053

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8856)

ALPHA (3) = 4.036 BETA (1) = -7.914

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1847	-.1234	.0233	.2021	.0998	.0851	-.0288			
90.000	-.1293	-.0691	.0757	.2450	.0513	-.0100	-.1120			
105.000			.1056	.3866	-.0212	-.0547	-.1581			
110.000								-.2967		
120.000	-.1937	-.0760	.1418	.5347	-.1720	-.1460	-.1595	-.2539		
135.000			.1939	.3867	-.1933	-.1375	-.2101			
150.000	-.0989	-.0103	.1898	.1287	-.2348	-.1362	-.1942			
165.000	-.0866		.1512		.0907	-.0727	-.2762			
180.000	-.0801	-.0117	.1122	.2056						

ALPHA (3) = 4.041 BETA (2) = -3.873 MACH = .59696 Q = 595.02 P = 2385.3 RN/L = 4.8897

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0645	.5254	.1209	.0232	-.0299			-.0712		-.0673	-.0544	-.0269	.0038	.0339	.0344
20.000			.1525	.0544	-.0408	-.0832		-.0790		-.0758					
40.000			.3111	.0956	.0106	-.0268		-.0747		-.0901	-.0418	.0000	.0168	.0230	.0494
55.000			.3974	.2067	.1283	.0419		-.0366		-.1030					
70.000			.4131	.2199	.1293	.0769		-.0432		-.1477	-.1909	-.0855	-.0382	-.0178	
90.000		.5697	.4189	.2347	.1447	.0876		-.0434		-.2286	-.2202	-.1150	-.0472	-.0289	
120.000			.3913	.2465	.1508	.1746		.0682		-.2882	-.2990	-.2801	-.1197	-.1076	
140.000										-.3960					
150.000			.3099	.2056	.1397	.1781		.4201		-.5995	-.4129	-.1695	-.0837	-.0627	
161.000									.0539						
165.000									.0400						
169.000										-1.2354	-.2992	-.1619	-.0808	-.0528	
174.000								.4442							
180.000	1.0645	.4497	.2365	.1821	.1281	.1653	.5912	.3291		-1.4466	-.2685	-.1396	-.0709	-.0450	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0112	-.0255	-.0751	-.1461	-.1322	-.1388	-.0315		.2716	.0218
20.000	.0015		-.0727	-.1507	-.1870	-.1295	-.1142		.1794	-.0207
40.000	-.2177	-.1692	-.0267	.1427	.0438	.0373	-.0586			
80.000	-.1500	-.1090	.0345	.1777	-.0184	-.0522	-.1321			
105.000			.0806	.2792	-.0985	-.1059	-.1820			
110.000								-.3051		
120.000	-.1338	-.0337	.1731	.3597	-.2339	-.1928	-.1910	-.2590		
135.000			.2222	.3234	-.2372	-.1726	-.2271			
150.000	-.0497	.0319	.2647	.2261	-.2443	-.1807	-.2157			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8856)

ALPHA (3) = 4.041 BETA (2) = -3.873

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0343		.1923		-.0150	-.1562	-.2698			
180.000	-.0387	.0426	.1773	.2907						

ALPHA (3) = 4.096 BETA (3) = .178 MACH = .59696 Q = 595.02 P = 2385.3 RN/L = 4.8897

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0702	.5262	.1174	.0334	-.0270			-.0650		-.0587	-.0411	-.0166	.0129	.0456	.0413
20.000			.1392	.0465	-.0336	-.0701		-.0724		-.0676					
40.000			.2409	.0723	-.0089	-.0347		-.0702		-.0901	-.0507	-.0039	.0182	.0257	.0579
55.000			.2899	.1145	.0455	-.0214		-.0944		-.1503					
70.000			.2933	.1189	.0406	.0011		-.1155		-.2081	-.2304	-.1128	-.0607	-.0366	
90.000		.4154	.3046	.1313	.0531	.0063		-.1238		-.3033	-.2524	-.1391	-.0631	-.0416	
120.000			.3100	.1725	.0854	.1137		-.0219		-.3700	-.3180	-.2573	-.0792	-.0590	
140.000										-.4616					
150.000			.2795	.1920	.1131	.1556		.3312		-.6385	-.3555	-.1474	-.0612	-.0347	
151.000									-.0551						
152.000									-.0406						
160.000										-1.2041	-.2765	-.1426	-.0576	-.0293	
169.000								.4084							
174.000							.5660								
180.000	1.0702	.4469	2533	.1737	.1287	.1800		.3803		-1.4216	-.2562	-.1294	-.0548	-.0328	

X/L	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
[illegible]	.0157	-.0197	-.0876	-.1437	-.1285	-.1337	-.0287		.2672	.0202
[illegible]	[illegible]		-.0760	-.1440	-.1891	-.1353	-.0983		.1585	-.0377
[illegible]	[illegible]	-.1982	-.0809	.0984	-.0146	-.0079	-.0845			
[illegible]	[illegible]	-.1208	.0061	.0380	-.0830	-.0906	-.1469			
[illegible]			.0704	.1199	-.1711	-.1482	-.2059			
[illegible]								-.3027		
[illegible]	[illegible]	-.0179	.1864	.1392	-.2874	-.2283	-.2208	-.2434		
[illegible]			.2009	.2579	-.2800	-.2085	-.2369			
[illegible]	[illegible]	.0488	.3024	.3324	-.2605	-.2306	-.2353			
[illegible]	[illegible]		.1849		-.1151	-.2436	-.2557			
[illegible]	[illegible]	.0003	.1849	.3378						

TABULATED PRESSURE DATA - OA148 (AMES 11-073-1)

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8856)

ALPHA (3) = 3.977 BETA (4) = 4.232 MACH = .59696 Q = 595.02 P = 2385.3 RN/L = 4.8897

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0530	.5117	.1052	.0243	-.0391										
20.000			.1031	.0110	-.0568	-.0819		-.0717		-.0693	-.0482	-.0260	.0087	.0354	.0319
40.000			.1520	.0179	-.0452	-.0687		-.0817		-.0873					
55.000			.1683	.0210	-.0325	-.0852		-.0947		-.1145	-.0780	-.0273	.0016	.0091	.0606
80.000			.1718	.0129	-.0516	-.0694		-.1459		-.1948					
90.000		.2500	.1870	.0177	-.0434	-.0708		-.1715		-.2555	-.2543	-.1390	-.0732	-.0439	
100.000			.2121	.0831	.0037	.0293		-.1966		-.3515	-.2845	-.1489	-.0628	-.0398	
110.000								-.1252		-.4411	-.3365	-.2454	-.0581	-.0389	
120.000			.2259	.1493	.0687	.1009				-.5170					
130.000								.2320		-.6790	-.3269	-.1392	-.0592	-.0378	
140.000									-.1718						
150.000									-.1507						
160.000										-1.1981	-.2676	-.1390	-.0625	-.0395	
170.000								.3509							
180.000	1.0530	.4144	.2476	.1657	.1167	.1643	.5127								
X LB	.6520	.7290	.7790	.8210	.8690	.9210	.9600	.9930	1.0180	1.0460					
PHI															
.000	.0169	-.0175	-.0729	-.1502	-.1349	-.1399	-.0370								
20.000	.0109		-.0729	-.1493	-.1911	-.1484	-.0763		.2650	.0137					
40.000	-.2487	-.2175	-.0949	.0330	-.0592	-.0467	-.1123		.1392	-.0481					
55.000	-.1655	-.1394	-.0318	.0234	-.1474	-.1290	-.1750								
80.000			.0139	.0381	-.2473	-.1880	-.2172								
90.000	-.0852	-.0530	.0645	.0919	-.3896	-.2935	-.2670	-.3119							
100.000			.1469	.3069	-.3600	-.2740	-.2832	-.2661							
110.000	-.0315	.0256	.1684	.2820	-.3694	-.3175	-.2829								
120.000	-.0255		.1688		-.2286	-.3259	-.2722								
130.000	-.0412	.0446	.1806	.3176											

ALPHA (3) = 4.011 BETA (5) = 8.279 MACH = .59695 Q = 595.02 P = 2385.3 RN/L = 4.8897

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0001	.4820	.0917	.0129	-.0597										
20.000			.0535	-.0143	-.0841	-.1023		-.0897		-.0793	-.0661	-.0422	-.0088	.0196	.0233
40.000			.0549	-.0498	-.0955	-.1060		-.1077		-.1092					
55.000			.0542	-.0716	-.1168	-.1470		-.1290		-.1534	-.1295	-.0523	-.0344	-.0079	.0522
80.000			.0439	-.0791	-.1383	-.1302		-.2000		-.2352					
90.000		.0597	.0421	-.0946	-.1429	-.1358		-.2256		-.2912	-.2799	-.1445	-.0770	-.0469	
100.000			.0982	-.0141	-.0959	-.0561		-.2592		-.4156	-.2980	-.1504	-.0699	-.0417	
110.000								-.2355		-.5114	-.3600	-.2427	-.0575	-.0378	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8856)

ALPHA (3) = 4.011 BETA (5) = 8.279

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB PHI	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
140.000										-.5833					
150.000			.1359	.0768	-.0006	.0223		.0980		-.7379	-.3125	-.1513	-.0822	-.0589	
151.000									-.3214						
162.000									-.2871						
165.000										-1.1992	-.2849	-.1688	-.0978	-.0745	
168.000								.2758							
174.000							.4438								
180.000	1.0001	.3422	.2005	.1168	.0752	.1236		.2564		-1.4395	-.2980	-.1800	-.1087	-.0894	

X/LB PHI	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
.000	.0008	-.0269	-.0783	-.1534	-.1416	-.1477	-.0436		.2705	.0012
40.000	.0157		-.0674	-.1425	-.2010	-.1598	-.0749		.1319	-.0524
70.000	-.2488	-.2454	-.1327	-.0154	-.1022	-.0762	-.1234			
90.000	-.1754	-.1647	-.0830	-.0308	-.1558	-.1689	-.1858			
105.000			-.0363	-.0218	-.3009	-.2299	-.2340			
[illegible]								-.2934		
[illegible]	-.0383	-.0862	.0069	-.0174	-.4812	-.3609	-.3070	-.2633		
135.000			.0859	.1073	-.4692	-.3459	-.3182			
150.000	-.0600	-.0184	.1005	.2699	-.5036	-.4291	-.3439			
165.000	-.0721		.1006		-.4167	-.4307	-.2774			
180.000	-.0917	-.0164	.1270	.2393						

ALPHA (4) = 8.004 BETA (1) = -7.903 MACH = .59678 Q = 594.78 P = 2385.7 RN/L = 4.8929

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB PHI	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.0419			-.0320		-.0319	-.0193	.0012	[illegible]	[illegible]	[illegible]
[illegible]			[illegible]	[illegible]	.0526	[illegible]		-.0249		[illegible]					
[illegible]			[illegible]	[illegible]	.1523	.0865		.0192		[illegible]	.0295	.0614	.0772	[illegible]	[illegible]
[illegible]			[illegible]	[illegible]	[illegible]	[illegible]		.0663		[illegible]					
[illegible]			[illegible]	[illegible]	.2353	[illegible]		.0424		-.0762	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		.0362		[illegible]	-.1597	[illegible]	[illegible]	[illegible]	
[illegible]			[illegible]	[illegible]	[illegible]	[illegible]		.1045		-.2566	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]										-.4062					
[illegible]			[illegible]	[illegible]	.0403	[illegible]		.4250		[illegible]	-.5604	[illegible]	[illegible]	[illegible]	
[illegible]									.0758						
[illegible]									[illegible]						
[illegible]										[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]								[illegible]							
[illegible]							[illegible]								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8856)

ALPHA (4) = 8.004 BETA (1) = -7.903

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	.9858	.2743	.0850	.0531	.0130	.0675		.1720		-1.7247	-.3148	-.1814	-.1129	-.1017	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0739	.0350	-.0244	-.0983	-.0985	-.1117	-.0185		.2997	.0299
40.000	.0891		-.0105	-.0976	-.1546	-.0841	- 0888		.1928	-.0053
70.000	-.2953	-.1857	-.0029	.1986	.1040	.0903	-.0231			
90.000	-.2285	-.1287	.0459	.2485	.0595	-.0003	-.1049			
105.000			.0732	.4052	-.0098	-.0500	-.1588			
110.000								-.2925		
120.000	-.3291	-.1688	.0694	.5441	-.2090	-.1647	-.1712	-.2791		
135.000			.1339	.3535	-.2497	-.1778	-.2402			
150.000	-.1465	-.0451	.1482	-.0426	-.2960	-.1574	-.2111			
165.000	-.1145		.1245		.0782	-.0764	-.2756			
180.000	-.1104	-.0254	.1045	.1208						

ALPHA (4) = 8.017 BETA (2) = -3.872 MACH = .59678 Q = 594.79 P = 2385.7 RN/L = 4.8929

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0241	.6806	.2576	.1351	.0742			-.0082		-.0143	-.0054	.0213	.0465	.0851	.0968
20.000			.3061	.1699	.0716	.0078		-.0092		-.0179					
40.000			.4267	.2266	.1309	.0702		.0091		-.0134	.0145	.0512	.0768	.0830	.1267
55.000			.4464	.2671	.1760	.0814		-.0052		-.0833					
70.000			.4147	.2408	.1452	.0889		-.0326		-.1424	-.2020	-.1198	-.0771	-.0648	
90.000		.5169	.3809	.2190	.1354	.0854		-.0374		-.2205	-.2381	-.1435	-.0934	-.0786	
120.000			.2999	.1690	.0833	.1129		.0482		-.3280	-.3550	-.3605	-.2255	-.2224	
140.000										-.4617					
150.000			.1912	.1048	.0510	.1041		.3833		-.6801	-.4758	-.2016	-.1044	-.1003	
151.000									.0074						
159.000									-.0257						
165.000										-1.3910	-.3294	-.1781	-.0934	-.0780	
169.000								.3880							
174.000							.5518								
180.000	1.0241	.2895	.1124	.0930	.0458	.0972		.2660		-1.6035	-.2832	-.1515	-.0787	-.0629	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0837	.0415	-.0175	-.0368	-.0965	-.1162	-.0160		.2929	.0259
40.000	.0906		-.0066	-.0939	-.1550	-.0968	-.0831		.1939	-.0140

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8856)

ALPHA (4) = 8.017 BETA (2) = -3.072

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

PHI \ X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
70.000	-.3330	-.2323	-.0612	.1430	.0512	.0508	-.0493			
90.000	-.2424	-.1608	.0004	.1801	-.0077	-.0445	-.1237			
105.000			.0441	.3109	-.0832	-.0973	-.1814			
110.000										
120.000	-.2374	-.0853	.1568	.2732	-.2577	-.1901	-.1841	-.2960		
135.000			.2076	.1498	-.2689	-.1944	-.2404	-.2642		
150.000	-.0939	.0076	.2013	.0954	-.2700	-.1929	-.2157			
165.000	-.0752		.1660		-.0423	-.1620	-.2566			
180.000	-.0735	.0213	.1503	.2645						

ALPHA (4) = 7.965 BETA (3) = .166 MACH = .59678 Q = 594.78 P = 2385.7 RN/L = 4.8929

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

PHI \ X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
[illegible]	1.0327	.6815	.2635	.1457	.0735			-.0076		-.0095	.0027	.0258	.0535	.0923	.0998
[illegible]			.2839	.1534	.0807	.0062		-.0131		-.0207					
[illegible]			[illegible]	.1764	.0884	.0355		-.0145		-.0425	-.0233	.0232	.0518	.0743	.1244
[illegible]			[illegible]	[illegible]	.0775	.0075		-.0831		-.1461					
[illegible]			[illegible]	[illegible]	.0481	[illegible]		-.1013		-.2072	-.2487	-.1496	[illegible]	[illegible]	
[illegible]		[illegible]	[illegible]	[illegible]	.0505	[illegible]		-.1063		-.2896	-.2690	-.1612	[illegible]	[illegible]	
[illegible]			[illegible]	[illegible]	.0275	[illegible]		-.0249		-.3889	-.3552	-.3107	[illegible]	[illegible]	
[illegible]										-.3117					
[illegible]			[illegible]	[illegible]	[illegible]	[illegible]		.3074		-.1125	-.3995	[illegible]	[illegible]	[illegible]	
[illegible]									-.0871						
[illegible]									-.1047						
[illegible]										[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]								.3517							
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.0154		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.0180	[illegible]					
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]					
[illegible]				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]							

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8856)

ALPHA (4) = 7.765 BETA (3) = .166

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI									
0.000	-.0512	.1463		-.1342	-.2457	-.2266			
180.000	-.0614	.1561	.4139						

ALPHA (4) = 7.931 BETA (4) = 4.229 MACH = .59678 Q = 594.78 P = 2385.7 RN/L = 4.8929

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0152	.6678	.2573	.1388	.0568			-.0096		-.0134	-.0033	.0181	.0474	.0903	.0958
20.000			.2374	.1215	.0355	-.0086		-.0317		-.0392					
40.000			.2435	.0928	.0264	-.0170		-.0528		-.0958	-.0798	-.0237	.0166	.0486	.1088
55.000			.1985	.0447	-.0198	-.0777		-.1470		-.2030					
70.000			.1675	.0246	-.0477	-.0656		-.1636		-.2555	-.2785	-.1739	-.1234	-.0985	
90.000		.2035	.1628	.0189	-.0364	-.0592		-.1742		-.3451	-.2900	-.1751	-.1158	-.0899	
120.000			.1563	.0333	-.0309	.0214		-.1038		-.4505	-.3554	-.2689	-.0974	-.0767	
140.000										-.5661					
150.000			.1251	.0701	.0051	.0553		.2069		-.7484	-.3508	-.1540	-.0630	-.0528	
161.000									-.1991						
172.000									-.1958						
165.000										-1.3040	-.2851	-.1426	-.0658	-.0514	
169.000								.3065							
174.000							.4661								
180.000	1.0152	.2550	.1307	.0694	.0385	.0957		.2975		-1.5374	-.2867	-.1466	-.0753	-.0609	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0855	.0439	-.0137	-.0976	-.0922	-.1107	-.0195		.2921	.0258
40.000	.0887		-.0039	-.0950	-.1630	-.1212	-.0582		.1619	-.0336
70.000	-.3640	-.2850	-.1298	.0219	-.0685	-.0504	-.1089			
90.000	-.2575	-.1955	-.0523	.0143	-.1525	-.1331	-.1661			
120.000			-.0014	.0280	-.2501	-.1840	-.2130			
140.000								-.3095		
150.000	-.1361	-.1005	.0265	.0848	-.3631	-.2603	-.2480	-.2457		
161.000			.1249	.3515	-.3817	-.2761	-.2707			
172.000	-.0628	-.0033	.1440	.3876	-.3852	-.3227	-.2834			
165.000	-.0837		.1355		-.2505	-.3267	-.2410			
180.000	-.0719	.0133	.1473	.2763						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8356)

ALPHA (4) = 7.987 BETA (5) = 8.286 MACH = .59678 Q = 594.78 P = 2385.7 RN/L = 4.8929

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9577	.6302	.2330	.1203	.0415			-.0277		-.0296	-.0172	.0052	.0377	.0813	.0787
20.000			.1817	.0806	-.0009	-.0300		-.0582		-.0750					
40.000			.1285	.0181	-.0475	-.0850		-.1151		-.1607	-.1600	-.0872	-.0290	.0165	.0895
55.000			.0570	-.0719	-.1160	-.1658		-.2195		-.2696					
70.000			.0326	-.0876	-.1397	-.1283		-.2134		-.3036	-.2973	-.1927	-.1404	-.1191	
90.000		.0193	.0432	-.0838	-.1202	-.1269		-.2347		-.3895	-.3059	-.1733	-.1035	-.0940	
120.000			.0579	-.0447	-.1131	-.0590		-.2032		-.5095	-.3556	-.2429	-.0675	-.0621	
140.000										-.6127					
150.000			.0486	.0072	-.0580	-.0109		.0810		-.7799	-.3270	-.1565	-.0720	-.0648	
151.000									-.3427						
158.000									-.3240						
165.000										-1.2897	-.2980	-.1579	-.0883	-.0851	
169.000								.2300							
174.000							.3917								
180.000	.9577	.1852	.0931	.0299	-.0085	.0566		.2068		-1.5159	-.3181	-.1882	-.1165	-.0984	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0775	.0401	-.0158	-.1040	-.1033	-.1188	-.0353		.2302	.0120
40.000	.0734		-.0106	-.0937	-.1712	-.1311	-.0719		.1513	-.0409
70.000	-.3571	-.3119	-.1729	-.0411	-.1047	-.0735	-.1196			
90.000	-.2579	-.2238	-.1259	-.0531	-.1952	-.1432	-.1686			
105.000			-.0820	.0071	-.3231	-.2223	-.2355			
[illegible]								-.3021		
120.000	-.1425	-.1313	-.0382	.1980	-.4882	-.3571	-.2967	-.2751		
135.000			.0649	.3932	-.4830	-.3504	-.3219			
150.000	-.0373	[illegible]	.0854	[illegible]	-.4882	-.4143	-.3330			
[illegible]	[illegible]		[illegible]		-.3951	-.4193	-.2908			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]						

ALPHA (4) = [illegible] BETA (5) = -7 [illegible] MACH = .59670 Q = 594.67 P = 2385.6 RN/L = [illegible]

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.1580	.1660	.1770	.2040	.2510	.3010	.3780	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			.0406		[illegible]	.0346	.0509	[illegible]	[illegible]	[illegible]
[illegible]			[illegible]	[illegible]	[illegible]	[illegible]		.0609		.0480					
[illegible]			[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	.0929	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]			[illegible]	[illegible]	[illegible]	[illegible]		.0784		-.3136					
[illegible]			[illegible]	[illegible]	[illegible]	[illegible]		.0375		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]			[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8856)

ALPHA (5) = 11.920 BETA (1) = -7.867

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0030	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.4718					
150.000			.0443	-.0258	-.0618	.0070		.3698		-.7549	-.6285	-.2949	-.2092	-.2076	
151.000									.0229						
162.000									-.0483						
165.000										-1.5667	-.4103	-.2466	-.1629	-.1582	
169.000								.3443							
174.000							.4945								
180.000	.9135	.1065	-.0446	-.0421	-.0717	.0009		.1030		-1.9836	-.3285	-.1896	-.1233	-.1347	

X LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1410	.1017	.0395	-.0457	-.0539	-.0833	.0040		.3221	.0457
40.000	.1936		.0629	-.0314	-.1134	-.0462	-.0655		.2190	.0059
70.000	-.4281	-.2672	-.0438	.1879	.1070	.0987	-.0141			
90.000	-.3883	-.1861	.0147	.2437	.0617	.0065	-.0958			
105.000			.0340	.4045	-.0043	-.0465	-.1546			
110.000								-.2912		
130.000	-.4653	-.2339	.0071	.5351	-.2466	-.1892	-.1860	-.2921		
135.000			.0489	.2805	-.3037	-.2143	-.2643			
150.000	-.1979	-.0952	.0465	-.1025	-.3569	-.1842	-.2190			
165.000	-.1932		.0478		.0460	-.0844	-.2813			
180.000	-.1784	-.1134	.0138	.1931						

ALPHA (5) = 11.942 BETA (2) = -3.850 MACH = .59670 Q = 594.67 P = 2385.8 RN/L = 4.8946

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0030	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9521	.8005	.3464	.2473	.1696			.0547		.0542	.0495	.0677	.1040	.1469	.1606
20.000			.4463	.2843	.1770	.0999		.0646		.0499					
40.000			.5180	.3256	.2246	.1505		.0871		.0408	.0427	.0948	.1209	.1431	.2018
60.000			.4592	.2785	.1848	.0985		-.0134		-.0940					
80.000			.3812	.2146	.1153	.0783		-.0337		-.1470	-.2356	-.1592	-.1315	-.1227	
90.000		.4284	.3195	.1677	.1189	.0551		-.0494		-.2370	-.2644	-.1935	-.1523	-.1487	
95.000			.1788	.0595	-.0127	.0371		.0054		-.3715	-.4170	-.4741	-.3660	-.3552	
140.000										-.5159					
151.000			.0519	-.0053	-.0440	.0298		.3473		-.7733	-.5307	-.2345	-.1440	-.1503	
161.000									-.0408						
169.000									-.0992						
170.000										-1.5333	-.3605	-.1916	-.1180	-.1086	
175.000								.3371							
179.000							.4975								

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AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8856)

ALPHA (5) = 11.942 BETA (2) = -3.850

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	.3521	.1170	-.0114	-.0167	-.0428	.0298		.2084		-1.8354	-.2961	-.1535	-.0850	-.0859	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1511	.1077	.0428	-.0375	-.0540	-.0809	.0010		.3165	.0369
[illegible]	.1802		.0639	-.0339	-.1184	-.0592	-.0495		.2081	-.0059
[illegible]	-.4650	-.3161	-.1134	.1100	.0392	.0489	-.0414			
[illegible]	-.3487	-.2176	-.0441	.1631	-.0044	-.0357	-.1174			
[illegible]			.0060	.3025	-.0803	-.0946	-.1715			
[illegible]								-.2931		
[illegible]	-.3289	-.0305	.0941	.1873	-.2638	-.2035	-.1979	-.2672		
[illegible]			.0712	.1165	-.2778	-.2132	-.2506			
[illegible]	-.1833	-.0819	.0698	.2572	-.2218	-.1985	-.2266			
[illegible]	-.1352		.0497		-.0399	-.1434	-.2262			
[illegible]	-.1104	-.0270	.1100	.3772						

ALPHA (6) = 12.055 BETA (3) = .165 MACH = .59670 Q = 594.67 P = 2385.8 RN/L = 4.8946

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
[illegible]	[illegible]	.8136	.4065	.2618	.1662			.0578		.0546	.0572	.0767	.1074	.1534	.1569
[illegible]			.4191	.2664	.1594	.0935		.0541		.0384					
[illegible]			[illegible]	[illegible]	.1627	.0949		.0370		-.0120	-.0172	.0397	.0823	.1150	.1819
[illegible]			[illegible]	[illegible]	[illegible]	-.0199		-.1027		-.1725					
[illegible]			.2560	.1030	.0161	-.0035		-.1087		-.2208	-.2816	-.2029	-.1631	-.1572	
		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		-.1143		-.3024	-.3017	-.2067	-.1643	-.1540	
			[illegible]	[illegible]	[illegible]	.0114		-.0473		-.4254	-.4050	-.3981	-.2526	[illegible]	
										-.5685					
			[illegible]	[illegible]	[illegible]	.0278		.2675		-.7904	-.4481	-.1996	[illegible]	[illegible]	
									-.1271						
									-.1343						
										-1.4503	-.3212	-.1640	-.0778	[illegible]	
								.2950							
							.4542								
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		.2509		-1.6550	-.2861	-.1427	-.0752	[illegible]	

X/LB	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.9600	.9990	1.0180	1.0460
[illegible]					[illegible]	[illegible]	.0018		[illegible]	[illegible]
[illegible]					[illegible]	[illegible]	-.0397		[illegible]	[illegible]

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8856)

ALPHA (5) = 12.055 BETA (3) = .165

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

W/B	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.4984	-.3524	-.1578	.0433	-.0346	-.0063	-.0697			
90.000	-.3543	-.2448	-.0553	.0740	-.1019	-.0861	-.1371			
105.000			.0204	.1174	-.1749	-.1398	-.1951			
110.000								-.2926		
127.000	-.2123	-.0966	.0827	.1870	-.2640	-.2335	-.2148	-.2451		
130.000			.0567	.3298	-.3093	-.2383	-.2492			
150.000	-.1481	-.0739	.1086	.4843	-.3038	-.2506	-.2411			
165.000	-.0945		.1327		-.1545	-.2553	-.2357			
180.000	-.0852	-.0007	.1461	.4259						

ALPHA (5) = 12.053 BETA (4) = 4.239 MACH = .59670 Q = 594.67 P = 2385.8 RN/L = 4.8946

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

W/B	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9382	.7956	.3969	.2522	.1595			.0608		.0446	.0549	.0696	.1039	.1501	.1620
30.000			.3672	.2315	.1246	.0644		.0310		.0088					
45.000			.3034	.1668	.0834	.0180		-.0319		-.0927	-.1025	-.0306	.0341	.0833	.1641
55.000			.1852	.0310	-.0340	-.1166		-.1842		-.2414					
70.000			.1299	-.0031	-.0731	-.0758		-.1692		-.2674	-.3251	-.2325	-.1842	-.1859	
90.000		.1221	.1093	-.0214	-.0541	-.0758		-.1768		-.3494	-.3185	-.2223	-.1636	-.1641	
120.000			.0641	-.0321	-.0937	-.0174		-.1080		-.4755	-.3886	-.3251	-.1636	-.1399	
140.000										-.6125					
150.000			.0109	-.0176	-.0728	.0060		.1664		-.8008	-.3804	-.1610	-.0798	-.0819	
151.000									-.2326						
164.000									-.2503						
170.000										-1.3844	-.2958	-.1466	-.0744	-.0691	
174.000								.2437							
176.000							.4133								
180.000	.9382	.0775	.0034	-.0190	-.0491	.0350		.2342		-1.6763	-.2930	-.1518	-.0820	-.0849	

W/B	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1544	.1158	.0524	-.0399	-.0554	-.0897	-.0052		.3149	.0327
30.000	.1595		.0583	-.0381	-.1324	-.0938	-.0439		.1773	-.0203
70.000	-.4350	-.3801	-.1823	-.0182	-.0922	-.0545	-.1009			
90.000	-.3570	-.2781	-.1112	-.0357	-.1732	-.1357	-.1615			
105.000			-.0609	-.0012	-.2945	-.1984	-.2200			
110.000								-.3067		
127.000	-.1867	-.1518	-.0351	.0449	-.3835	-.2970	-.2613	-.2433		
130.000			.0765	.3635	-.3734	-.2702	-.2644			
150.000	-.0973	-.0373	.1271	.4323	-.4022	-.3306	-.2727			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8856)

ALPHA (5) = 12.053 BETA (4) = 4.239

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0802		.1140							
180.000	-.1068	-.0242	.1101	.4156	-.2631	-.3434	-.2563			

ALPHA (5) = 12.101 BETA (5) = 8.299 MACH = .59670 Q = 594.67 P = 2385.8 RN/L = 4.8946

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.8823	.7608	.3724	.2330	.1354			.0476		.0324	.0455	.0555	.0955	.1452	.1494
20.000			.2988	.1721	.0[illegible]3	.0301		-.0125		-.0323					
40.000			.1670	.0634	-.0116	-.0758		-.1163		-.1886	-.2045	-.1175	-.0372	.0330	.1364
55.000			.0276	-.1056	-.1585	-.2238		-.2700		-.3172					
70.000			-.0071	-.1151	[illegible]	-.1345		-.2278		-.3189	-.3496	-.2571	-.2031	-.2211	
90.000		-.0555	-.0017	-.1035	-.1378	-.1257		-.2335		-.3981	-.3294	-.2202	-.1660	-.1596	
120.000			-.0102	-.0976	-.1515	-.0680		-.1887		-.5143	-.3693	-.2706	-.1040	-.1105	
140.000										-.6380					
150.000			-.0407	-.0601	-.1167	-.0391		.0618		-.8312	-.3491	-.1539	-.0694	-.0792	
160.000									-.3541						
162.000									-.3749						
165.000										-1.3405	-.3027	-.1648	-.0922	-.1043	
169.000								.1836							
174.000							.3465								
180.000	.8823	.0102	-.0264	-.0538	-.0928	-.0057		.1478		-1.7660	-.3342	-.1878	-.1310	-.1356	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
[illegible]	[illegible]	[illegible]	.0478	-.0450	-.0593	-.0892	-.0051		.3148	.0299
[illegible]	[illegible]		.0442	-.0415	-.1442	-.1004	-.0553		.1656	-.0404
[illegible]	[illegible]	-.3995	-.2299	-.0814	-.1327	-.0848	-.1142			
[illegible]	[illegible]	-.3205	-.1650	[illegible]	-.2418	-.1535	-.1656			
[illegible]			-.1464	-.0351	[illegible]	[illegible]	-.2489			
[illegible]								-.3234		
[illegible]	[illegible]	[illegible]	-.0366	[illegible]	-.5058	-.3588	-.3057	-.2646		
[illegible]			[illegible]	.4637	-.5007	-.3513	-.3171			
[illegible]	[illegible]	[illegible]	[illegible]	.4084	-.5405	-.4372	-.3519			
[illegible]	[illegible]		[illegible]		-.4817	-.4490	-.2898			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8857) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 935.0680 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = 10.000 SPDBRK = 55.000
BDFLAP = 16.300 L-ELVN = 4.000
R-ELVN = -4.000 MACH = 1.400

ALPHA (I) = -4.026 BETA (I) = -3.843 MACH = 1.3927 Q = 599.59 P = 441.59 RN/L = 2.9055

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0070	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4761	.6782	.2073	.0831	.0111			-.0523		-.0252	-.0093	-.0227	-.0367	-.0577	-.0567
20.000			.2618	.0980	.0151	-.0737		-.0519		-.0649					
40.000			.4453	.1315	.0647	-.0514		-.0974		-.1755	-.1665	-.1456	-.0835	-.0939	-.0631
55.000			.5932	.3171	.2347	.1082		.1233		.0732					
70.000			.6867	.4141	.3151	.2200		.2300		.1384	-.1894	-.0946	-.0549	.0226	
90.000		.9389	.7512	.4896	.3400	.2675		.2923		.0897	-.1674	-.1734	-.0924	.0146	
120.000			.8119	.6119	.4467	.4702		.5666		.1521	-.1043	-.3319	-.1246	-.0241	
140.000										.1147					
150.000			.7939	.6403	.4821	.5566		.9980		-.0951	-.2903	-.1656	-.1061	-.0595	
161.000									.7412						
162.000									.8038						
165.000										-.1450	-.2466	-.1626	-.1165	-.0787	
169.000								1.0594							
174.000							1.1000								
180.000	1.4761	1.0244	.7283	.6001	.4726	.5578		.9971		-.2468	-.2821	-.1409	-.1220	-.0959	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0198	-.0215	-.0423	-.0936	-.1614	-.2073	-.2582		.2010	.1825
40.000	-.0680		-.0765	-.1038	-.1773	-.1431	-.2710		.0714	.0193
70.000	.0802	.0154	-.0463	.1972	.1511	.0399	-.0349			
90.000	.0919	.0515	.0616	.2010	.1210	.0504	-.0240			
105.000			.2017	.2367	.0295	-.0183	-.0526			
110.000								-.1804		
130.000	.0799	.0606	.3571	.2966	.0708	-.0536	-.0266	-.1453		
[illegible]			.4004	.4189	.1104	.0716	.0560			
[illegible]	-.0085	.0428	.3802	.4125	.1703	.1928	.1060			
165.000	-.0156		.3806		.4844	.3053	-.2386			
180.000	-.0165	.0197	.3803	.4162						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8857)

ALPHA (1) = -3.938 BETA (2) = .202 MACH = 1.3927 Q = 599.59 P = 441.59 RN/L = 2.9055

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4797	.6763	.2127	.0844	.0177			-.0540		-.0285	-.0001	-.0114	-.0409	-.0496	-.0539
20.000			.2475	.0960	.0108	-.0469		-.0490		-.0437					
40.000			.3923	.1156	.0541	-.0465		-.0535		-.1088	-.1159	-.1066	-.0622	-.0766	-.0425
55.000			.5073	.2367	.1695	.0434		.0730		.0337					
70.000			.5824	.3088	.2255	.1310		.1551		.0756	-.2437	-.1646	-.1059	.0036	
90.000		.7991	.6439	.3823	.2343	.1636		.2038		-.0103	-.2392	-.2406	-.1284	-.0041	
120.000			.7187	.5252	.3594	.3788		.4616		.0472	-.1843	-.4040	-.1767	-.0517	
140.000										-.0678					
160.000			.7452	.6103	.4516	.5153		.9303		-.1677	-.2996	-.1833	-.1405	-.0721	
161.000									.6364						
162.000									.7397						
165.000										-.1526	-.2759	-.1457	-.1239	-.0757	
170.000								1.0363							
180.000	1.4797	1.0128	.7345	.6106	.4885	.5602	1.0921	1.0263		-.2915	-.2977	-.1074	-.1185	-.0768	
ETA	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
ALL															
0.0	-.0141	-.0146	-.0352	-.0860	-.1611	-.2044	-.2606		.1849	.1754					
10.000	-.0396		-.0550	-.0915	-.1639	-.1392	-.2485		.1147	.0311					
[illegible]	.0559	.0097	.0037	.2299	.1093	.0037	-.0744								
[illegible]	.0094	.0374	.1611	.1989	.0622	-.0005	-.0557								
[illegible]			.2787	.2230	-.0161	-.0503	-.0818								
[illegible]								-.2064							
60.000	.0402	.0567	.3017	.1351	.0238	-.1132	-.1232	-.1986							
[illegible]			.3867	.3937	.0777	.0175	-.0159								
[illegible]	.0096	.0443	.4003	.4138	.1677	.1012	.0303								
[illegible]	.0012		.4057		.4173	.1904	-.3122								
[illegible]	-.0070	.0881	.4088	.978											

ALPHA (1) = -4.001 BETA (3) = 4.282 MACH = 1.3927 Q = 599.59 P = 441.59 RN/L = 2.9055

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4838	.6592	.2076	.0707	.0209			-.0617		-.0411	-.0035	-.0147	-.0344	-.0539	-.0623
20.000			.2163	.0783	.0001	-.0405		-.0525		-.0348					
40.000			.3819	.0889	.0336	-.0498		-.0362		-.0806	-.0747	-.0744	-.0524	-.0732	-.0387
55.000			.4148	.1595	.1028	-.0074		.0422		.0031					
70.000			.4777	.2119	.1366	.0543		.0966		.0168	-.2875	-.2233	-.1385	-.0110	
90.000		.8502	.5374	.2813	.1334	.0720		.1214		-.1102	-.3031	-.2983	-.1539	-.0145	
120.000			.8849	.4787	.2888	.2658		.3470		-.0591	-.2521	-.4538	-.2373	-.0795	

AMES 11-073(OA148) -140/B/C/R ORB FUSELAGE (XE8857)

ALPHA (1) = -4.001 BETA (3) = 4.282

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE C

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1530	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.2010					
150.000			.6861	.5731	.4144	.4639		.8484		-.2135	-.3027	-.1772	-.1706	-.1203	
151.000									.5466						
162.000									.6637						
165.000										-.1655	-.3123	-.1304	-.1389	-.1096	
169.000								.9873							
174.000							1.0331								
180.000	1.4636	.9928	.7362	.6130	.4867	.5518		1.0136		-.2615	-.2861	-.1498	-.1231	-.1011	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9630	.9990	1.0180	1.0460
PHI										
.000	-.0347	-.0141	-.0432	-.0899	-.1616	-.2056	-.2634		.1854	.1712
40.000	-.0184		-.0328	-.0783	-.1647	-.1449	-.2371		.1208	.0658
70.000	.0469	-.0204	.0095	.2316	.0919	-.0198	-.1017			
90.000	.0575	.0124	.1469	.2117	.0370	-.0530	-.0938			
105.000			.2671	.1922	-.0551	-.0877	-.1133			
110.000								-.2391		
120.000	.0265	.0463	.2728	.0336	-.0652	-.1930	-.2930	-.2474		
135.000			3462	.3540	.0327	-.0563	-.0933			
150.000	-.0096	.0265	.3662	.3727	.1234	.0167	-.0632			
165.000	-.0165		.3710		.3511	.1126	-.3339			
180.000	-.0197	.0250	.3829	.4271						

ALPHA (2) = .015 BETA (1) = -3.863 MACH = 1.3931 Q = 599.59 P = 441.36 RN/L = 2.9062

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE C

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1530	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4831	.8007	.3223	.1670	.0827			-.0175		-.0078	.0128	.0114	-.0005	-.0243	-.0281
20.000			.3689	.1900	.0853	-.0002		-.0029		-.0232					
40.000			.5365	.2453	.1581	.0496		-.0027		-.0542	-.0494	-.0511	-.0177	-.0426	-.0208
55.000			.6495	.3788	.2959	.1623		.1616		.1367					
70.000			.6986	.4350	.3327	.2233		.2325		.1805	-.1611	-.0740	-.0489	-.0312	
90.000		.9123	.7307	.4794	.3379	.2509		.3046		.1408	-.1486	-.1532	-.0950	-.0319	
120.000			.7418	.5458	.3856	.3660		.5683		.1611	-.1147	-.3198	-.1454	-.0655	
140.000										.1105					
150.000			.6822	.5432	.3577	.3835		.9748		-.1176	-.3442	-.2444	-.1484	-.0875	
151.000									.7215						
162.000									.7732						
165.000										-.1966	-.3101	-.2243	-.1536	-.0924	
169.000								1.0252							
174.000							1.0377								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8857)

ALPHA (2) = .015 BETA (1) = -3.863

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.4831	.8951	.6061	.5049	.3492	.3724		.9514		-.2978	-.3362	-.1979	-.1681	-.0934	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.0026	.0090	.0095	-.0334	-.0993	-.1488	-.1986		.2461	.2232					
40.000	-.0071		-.0102	-.0422	-.1171	-.0729	-.1950		.1549	.1024					
70.000	.0154	-.0691	-.1272	.0441	.0652	-.0212	-.0892								
90.000	.0392	-.0203	-.0846	.1258	.0242	-.0215	-.0848								
105.000			.0228	.1810	.0534	-.0903	-.1242								
110.000								-.2294							
120.000	-.0173	-.0170	.2769	.2183	.0271	-.1143	-.1371	-.1904							
135.000			.3323	.3335	.0365	-.0245	-.0159								
150.000	-.0284	.0054	.3209	.3254	.0499	.1155	.0470								
165.000	-.0279		.3197		.4012	.2265	-.2637								
180.000	-.0267	.0157	.3127	.3146											

ALPHA (2) = .021 BETA (2) = .195 MACH = 1.3931 Q = 599.59 P = 441.36 RN/L = 2.9062

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4835	.8014	.3308	.1628	.0925			-.0070		-.0102	.0102	.0283	.0109	-.0193	-.0240
20.000			.3528	.1780	.0835	.0197		-.0056		-.0199					
40.000			.4728	.2092	.1383	.0405		.0008		-.0246	-.0168	-.0309	-.0009	-.0365	-.0197
60.000			.6048	.2942	.2259	.0941		.1000		.0991					
80.000			.6982	.3665	.2451	.1402		.1607		.1234	-.2120	-.1344	-.1051	-.0437	
90.000		.7719	.6270	.3736	.2304	.1617		.2278		.0518	-.2113	-.2164	-.1455	-.0422	
100.000			.6561	.4097	.3074	.2940		.4728		.0650	-.1972	-.3833	-.1677	-.0625	
110.000										-.0300					
120.000			.6404	.5235	.3365	.3561		.8873		-.1934	-.3532	-.2439	-.1552	-.0679	
130.000									.6367						
140.000									.7161						
150.000										-.1995	-.3229	-.2084	-.1635	-.0696	
160.000								.9960							
170.000							1.0262								
180.000	1.4835	.8939	.6186	.5129	.3679	.3811		.9839		-.3454	-.3316	-.1661	-.1625	-.0710	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.0018	.0219	.0119	-.0366	-.0979	-.1453	-.2026		.2502	.2284					
40.000	.0188		.0182	-.0877	-.1059	-.0809	-.1813		.1486	.0840					

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8857)

ALPHA (2) = .021 BETA (2) = .195

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.0020	-.0957	-.1261	.0735	.0223	-.0556	-.1261			
90.000	.0266	-.0403	.0258	.1000	-.0222	-.0543	-.1046			
105.000			.1573	.1251	-.1228	-.1193	-.1429			
110.000								-.2488		
120.000	.0126	.0070	.2594	.1975	.0035	-.1503	-.2187	-.2337		
135.000			.2844	.3378	.0781	-.0336	-.0755			
150.000	-.0008	.0240	.2978	.3549	.1136	.0498	-.0282			
165.000	-.0066		.3155		.3344	.1284	-.3051			
180.000	-.0123	.0182	.3264	.4277						

ALPHA (2) = .016 BETA (3) = 4.262 MACH = 1.3931 Q = 599.59 P = 441.36 RN/L = 2.9062

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1650	.1770	.2040	.2510	.3010	.3750	.4970	.5740
PHI															
.000	1.4720	.7852	.3265	.1516	.0977			-.0157		-.0163	.0028	.0219	.0035	-.0277	-.0334
20.000			.3234	.1532	.0705	.0185		-.0129		-.0239					
40.000			.3984	.1671	.1050	.0205		.0018		-.0194	-.0026	-.0246	-.0093	-.0492	-.0294
55.000			.4565	.2113	.1541	.0415		.0540		.0598					
70.000			.4861	.2274	.1567	.0665		.1055		.0712	-.2544	-.1911	-.1507	-.0489	
90.000		.6221	.5244	.2744	.1499	.0755		.1516		-.0326	-.2695	-.2742	-.1713	-.0517	
120.000			.5712	.3905	.2265	.2144		.3647		-.0352	-.2674	-.4537	-.1890	-.0562	
140.000										-.1953					
150.000			.5890	.4876	.3101	.3054		.8195		-.2461	-.3542	-.2432	-.2006	-.0854	
151.000									.5341						
162.000									.6354						
165.000										-.2137	-.3644	-.1863	-.1840	-.0942	
169.000								.9468							
174.000							.9728								
180.000	1.4720	.8529	.6171	.5149	.3770	.3675		.9719		-.3171	-.3390	-.2098	-.1703	-.0999	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0133	.0202	.0093	-.0324	-.0973	-.1444	-.2037		.2391	.2228
40.000	.0168		.0205	-.0174	-.1014	-.0697	-.1796		.1625	.0976
70.000	-.0119	-.1159	-.0344	.0397	.0003	-.0666	-.1615			
90.000	.0028	-.0609	.0370	.0201	-.0602	-.0397	-.1409			
105.000			.1733	.1316	-.1587	-.1647	-.1779			
110.000								-.2769		
120.000	.0159	.0073	.2279	.0534	-.0750	-.2181	-.3214	-.2913		
[illegible]			[illegible]	[illegible]	-.0024	-.1006	-.1436			
[illegible]	-.0077	.0253	[illegible]	[illegible]	.0822	-.0297	-.1090			

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AMES 11-073-1 (OA148) 140A/B/C/R ORB FUSELAGE (XE8857)

ALPHA (2) = .016 BETA (3) = 4. [illegible]

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.821[illegible]	[illegible]	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0178		.3051							
180.000	-.0291	.0226	.3133	.3189		.[illegible] 3	-.3336			

ALPHA (3) = 3.900 BETA (1) = - MACH = 1.3926 Q = 599.48 P = 441.59 RN/L = 2.9063

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1530	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4699	.9241	.4372	.2663	.1656			.0431		.0356	.0353	.0378	.0486	.0214	.0160
20.000			.4828	.2927	.1745	.0788		.0601		.0207					
40.000			.6250	.3492	.2544	.1327		.0885		.0190	.0562	.0339	.0417	.0112	.0319
55.000			.6935	.4345	.3466	.2071		.1833		.1726					
70.000			.7009	.4466	.3445	.2291		.1944		.2100	-.1348	-.0500	-.0422	-.0883	
90.000		.8735	.7028	.4624	.3317	.2367		.2691		.1877	-.1303	-.1063	-.0925	-.0871	
120.000			.6607	.4707	.3326	.2996		.5562		.1731	-.1180	-.3157	-.2408	-.1491	
140.000										.1051					
150.000			.5699	.4449	.2726	.2953		.9384		-.1284	-.3930	-.3261	-.1859	-.1116	
151.000									.7044						
162.000									.7479						
165.000										-.2465	-.3591	-.2772	-.1850	-.0927	
169.000								.9904							
174.000							.9530								
180.000	1.4699	.7614	.4843	.4142	.2551	.2747		.9124		-.3473	-.3818	-.2419	-.1994	-.0771	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0365	.0465	.0630	.0287	-.0319	-.0838	-.1380		.3413	.3027
40.000	.0552		.0509	.0270	-.0553	-.0308	-.1309		.2428	.1817
70.000	-.0497	-.1518	-.2005	-.0367	-.0253	-.0766	-.1429			
90.000	-.0261	-.0950	-.1684	.0546	-.0638	-.0045	-.1399			
105.000			-.1013	.1149	-.1032	-.1998	-.1744			
110.000								-.2759		
120.000	[illegible]	-.1052	.1979	.1515	-.0117	-.1518	-.2148	-.2525		
135.000			.2297	.2323	-.0211	-.1245	-.0871			
150.000	-.0478	.0042	.2285	.2340	.0515	.0462	-.0284			
165.000	[illegible]		.2380		.2809	.1718	-.2608			
180.000	-.0343	.0535	.2240	.2709						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8857)

ALPHA (3) = 4.005 BETA (2) = .197 MACH = 1.3926 Q = 599.48 P = 441.59 RN/L = 2.9063

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4710	.9235	.4415	.2639	.1760			.0485		.0353	.0284	.0546	.0583	.0264	.0233
20.000			.4583	.2727	.1696	.0855		.0471		.0230					
40.000			.5522	.3057	.2202	.1100		.0740		.0147	.0686	.0396	.0493	.0134	.0174
55.000			.5862	.3393	.2675	.1387		.1203		.1134					
70.000			.5898	.3374	.2564	.1465		.1227		.1534	-.1782	-.1025	-.0975	-.1096	
90.000		.7317	.5971	.3568	.2412	.1508		.2044		.1091	-.1877	-.1701	-.1427	-.0917	
120.000			.5841	.4038	.2632	.2368		.4770		.0824	-.1943	-.3652	-.2006	-.1034	
140.000										.0005					
150.000			.5323	.4329	.2486	.2694		.8389		-.2083	-.3979	-.2919	-.1739	-.0686	
151.000									.6192						
162.000									.6891						
166.000										-.2443	-.3624	-.2531	-.1857	-.0592	
163.000								.9447							
174.000							.9443								
180.000	1.4710	.7447	.4921	.4166	.2703	.2793		.9339		-.3861	-.3972	-.2117	-.1900	-.0547	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0311	.0626	.0737	.0384	-.0312	-.0785	-.1411		.3363	.2989
40.000	.0602		.0791	.0413	-.0391	-.0250	-.1262		.2383	.1711
70.000	-.0536	-.1793	-.1977	-.0323	-.0508	-.1095	-.1721			
90.000	-.0216	-.1209	-.1160	.0339	-.1254	-.1247	-.1598			
105.000			.0850	.0812	-.1817	-.2352	-.1948			
110.000								-.2852		
120.000	-.0241	-.0429	.1916	.1283	-.0353	-.1834	-.2514	-.2873		
135.000			.1987	.2482	.0326	-.0849	-.1238			
150.000	-.0166	.0044	.2061	.3410	.0822	-.0032	-.0814			
165.000	-.0180		.2151		.2714	.0749	-.2965			
180.000	-.0212	.0031	.2271	.3985						

ALPHA (3) = 3.907 BETA (3) = 4.252 MACH = 1.3926 Q = 599.48 P = 441.59 RN/L = 2.9063

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4592	.9093	.4364	.2561	.1817			.0403		.0262	.0224	.0409	.0566	.0205	.0124
20.000			.4241	.2448	.1496	.0766		.0327		.0158					
40.000			.4664	.2545	.1735	.0812		.0521		.0002	.0626	.0264	.0408	-.0102	.0006
55.000			.4944	.2716	.1989	.0719		.0610		.0045					
70.000			.4861	.2796	.1702	.0738		.0601		.1033	-.2207	-.1557	-.1486	-.1122	
90.000		.5841	.5005	.2613	.1600	.0719		.1529		.0302	-.2392	-.2270	-.1888	-.0996	
120.000			.5078	.3390	.1980	.1718		.3737		-.0057	-.2721	-.4226	-.1703	-.0759	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8857)

ALPHA (3) = 3.907 BETA (3) = 4.252

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.1640					
150.000			.4896	.4082	.2200	.2257		.7884		-.2678	-.4074	-.2896	-.1954	-.0654	
151.000									.5202						
162.000									.6082						
165.000										-.2586	-.4069	-.2289	-.2093	-.0703	
169.000								.9004							
174.000							.8980								
180.000	1.4592	.7266	.4953	.4299	.2774	.2705		.9337		-.3641	-.3824	-.2468	-.1984	-.0864	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0221	.0531	.0642	.0334	-.0317	-.0796	-.1460		.3358	.3034
40.000	.0512		.0855	.0543	-.0331	-.0350	-.1294		.2348	.1697
70.000	-.0647	-.1882	-.1949	-.0259	-.0682	-.1403	-.1988			
90.000	-.0136	-.1221	-.0272	.0234	-.1433	-.1435	-.1806			
105.000			.0955	.0333	-.2426	-.2565	-.2231			
110.000								-.3096		
120.000	.0004	-.0231	.1533	.0097	-.0977	-.2511	-.3397	-.3741		
135.000			.2204	.2279	-.0673	-.1427	-.1782			
150.000	-.0145	.0193	.2343	.2139	-.0001	-.0778	-.1465			
165.000	-.0247		.2348		.2123	.0185	-.3446			
180.000	-.0357	.0598	.2374	.2655						

ALPHA (4) = 7.945 BETA (1) = -3.862 MACH = 1.3931 Q = 599.59 P = 441.38 RN/L = 2.8969

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4360	1.0405	.5523	.3754	.2582			.1083		.0907	.0854	.0707	.0966	.0805	.0755
20.000			.5959	.3979	.2683	.1574		.1255		.0831					
40.000			.7064	.4521	.3362	.2125		.1700		.0925	.1271	.1174	.1074	.0781	.0958
55.000			.7208	.4800	.3797	.2390		.1974		.1375					
70.000			.6905	.4511	.3400	.2381		.1924		.2014	-.1024	-.0298	-.0312	-.1078	
90.000		.8221	.6560	.4343	.3142	.2177		.1948		.2189	-.1109	-.0655	-.0818	-.1358	
120.000			.5736	.3821	.2624	.2265		.5126		.1791	-.1192	-.3146	-.3389	-.2895	
140.000										.1067					
150.000			.4539	.3305	.2071	.2073		.8854		-.1137	-.4326	-.3817	-.2183	-.1261	
161.000									.6769						
162.000									.7185						
165.000										-.2862	-.3995	-.3221	-.2024	-.0883	
169.000								.9121							
174.000							.8126								

AMES 11-073(OA148) -140A'B/C/R ORB FUSELAGE (XE8857)

ALPHA (4) = 7.945 BETA (1) = -3.862

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE C)

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1530	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.4360	.6157	.3592	.3166	.1825	.1870		.8634		-.3805	-.4169	-.2706	-.2126	-.0684	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0996	.1166	.1327	.0986	.0382	-.0131	-.0663		.4465	.3835
40.000	.1382		.1514	.1109	.0170	.0437	-.0734		.3640	.2534
70.000	-.1334	-.2366	-.2789	-.2250	-.1374	-.1355	-.1600			
90.000	-.0982	-.1931	-.2379	-.0319	-.1353	-.1954	-.2152			
105.000			-.1167	.0261	-.1596	-.2648	-.2774			
110.000								-.3149		
120.000	-.1790	-.1717	.0785	.0667	-.0616	-.1978	-.2422	-.2974		
135.000			.0620	.1238	-.0490	-.1317	-.1224			
150.000	-.0866	-.0298	.0616	.1280	.0368	-.0009	-.0957			
165.000	-.0577		.0746		.2477	.1311	-.2939			
180.000	-.0476	-.0253	.1325	.3323						

ALPHA (4) = 7.917 BETA (2) = .187 MACH = 1.397 Q = 599.59 P = 441.36 RN/L = 2.8969

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4409	1.0429	.5571	.3784	.2716			.1162		.0971	.0755	.0741	.1047	.0835	.0795
20.000			.5708	.3791	.2570	.1630		.1153		.0829					
40.000			.6301	.3985	.2960	.1806		.1420		.0666	.1008	.1054	.1000	.0669	.0784
55.000			.6145	.3812	.2986	.1569		.1271		.0577					
70.000			.5847	.3442	.2570	.1564		.1250		.1477	-.1469	-.0810	-.0909	-.1535	
90.000		.6864	.5642	.3340	.2360	.1399		.1366		.1481	-.1630	-.1240	-.1386	-.1672	
120.000			.5096	.3274	.2154	.1831		.4639		.1037	-.1836	-.3553	-.3305	-.1722	
140.000										.0157					
150.000			.4283	.3354	.1850	.1958		.7933		-.2124	-.4349	-.3426	-.1828	-.0726	
151.000									.6077						
162.000									.6627						
165.000										-.2829	-.4002	-.2927	-.1975	-.0504	
169.000								.9802							
174.000							.8455								
180.000	1.4409	.6067	.3763	.3255	.1925	.1965		.8824		-.4146	-.4332	-.2492	-.2091	-.0454	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0925	.1225	.1447	.1154	.0487	-.0064	-.0662		.4364	.3743
40.000	.1192		.1589	.1232	.0387	.0449	-.0662		.3466	.2399

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8857)

ALPHA (4) = 7.917 BETA (2) = .187

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1382	-.2490	-.2693	-.1012	-.1509	-.1623	-.2022			
90.000	-.0771	-.1855	-.2272	-.0154	-.1932	-.2126	-.2071			
105.000			-.0370	.0514	-.2271	-.3005	-.2831			
110.000								-.3162		
120.000	-.0693	-.0861	.0931	.0420	-.0847	-.2124	-.2776	-.3379		
135.000			.0923	.1449	-.0233	-.1275	-.1721			
150.000	-.0390	-.0435	.0926	.3653	.0340	-.0578	-.1202			
165.000	-.0329		.0976		.2342	.0131	-.3166			
180.000	-.0234	-.0189	.1281	.4075						

ALPHA (4) = 7.849 BETA (3) = 4.251 MACH = 1.3931 Q = 599.59 P = 441.36 RN/L = 2.8969

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0060	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4308	1.0292	.5474	.3758	.2641			.1076		.0846	.0745	.0717	.1079	.0781	.0744
20.000			.5292	.3498	.2310	.1394		.0923		.0678					
40.000			.5344	.3358	.2407	.1296		.1017		.0319	.0596	.0694	.0875	.0406	.0560
55.000			.5016	.2834	.2091	.0760		.0602		.0215					
70.000			.4764	.2454	.1720	.0838		.0665		.1000	-.1832	-.1331	-.1451	-.1923	
90.000		.5420	.4707	.2440	.1550	.0670		.0930		.0768	-.2101	-.1749	-.1867	-.1543	
120.000			.4433	.2709	.1607	.1331		.3790		.0246	-.2555	-.3971	-.2226	-.1034	
140.000										-.0945					
150.000			.3944	.3205	.1460	.1595		.7429		-.2806	-.4401	-.3291	-.1817	-.0580	
161.000									.5107						
162.000									.5843						
165.000										-.2945	-.4321	-.2620	-.2112	-.0569	
169.000								.8510							
174.000							.8057								
180.000	1.4308	.5847	.3776	.3466	.1965	.1869		.8951		-.4013	-.4117	-.2708	-.2105	-.0720	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0841	.1252	.1346	.1072	.0414	-.0093	-.0753		.4349	.3767
40.000	.1030		.1656	.1264	.0393	.0336	-.0694		.3274	.2418
70.000	-.1225	-.2352	-.2599	-.0957	-.1440	-.1712	-.2412			
90.000	-.0806	-.1698	-.1437	-.0333	-.2141	-.2055	-.2028			
105.000			.0285	.0013	-.2789	-.3318	-.2701			
110.000								-.3367		
120.000	-.0386	-.0589	.0731	-.0698	-.1253	-.2717	-.3656	-.4021		
135.000			.1415	.2358	-.0755	-.1712	-.2091			
150.000	-.0371	-.0177	.1615	.3017	-.0447	-.1260	-.1863			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8857)

ALPHA (4) = 7.849 BETA (3) = 4.251

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0335		.1114		.1813	-.0623	-.3530			
180.000	-.0480	-.0115	.1079	.2960						

ALPHA (5) = 11.907 BETA (1) = -3.847 MACH = 1.3946 Q = 600.23 P = 440.88 RN/L = 2.9052

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3981	1.1539	.6755	.4882	.3603			.1856		.1687	.1427	.1263	.1454	.1499	.1515
20.000			.7206	.5143	.3539	.2519		.2012		.1557					
40.000			.7895	.5495	.4274	.2941		.2477		.1562	.1770	.1815	.1768	.1456	.1695
55.000			.7469	.5157	.4052	.2451		.2057		.1366					
70.000			.6752	.4541	.3365	.2373		.1913		.1278	-.0713	-.0106	-.0192	-.0965	
80.000		.7698	.6188	.4102	.2968	.1960		.1832		.2257	-.0985	-.0362	-.0688	-.1366	
120.000			.4884	.3070	.1804	.1573		.4314		.1853	-.1212	-.3016	-.4340	-.4869	
140.000										.1094					
150.000			.3464	.2212	.1407	.1313		.8755		-.0756	-.4712	-.4288	-.2579	-.1608	
151.000									.6559						
162.000									.6847						
165.000										-.3303	-.4343	-.3631	-.2144	-.1055	
169.000								.8484							
174.000							.6743								
180.000	1.3881	.4803	.2566	.2276	.1135	.1204		.7993		-.4078	-.4396	-.2941	-.2064	-.0734	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1782	.2030	.2224	.1848	.1283	.0849	.0161		.5479	.4438
40.000	.2748		.2543	.2005	.1112	.1520	-.0071		.4322	.2781
70.000	-.1806	-.3370	-.3572	-.2831	-.2283	-.0861	-.1037			
90.000	-.1937	-.2616	-.3060	-.0918	-.2117	-.2207	-.0891			
105.000			-.2663	.0073	-.2207	-.3028	-.2072			
110.000								-.2334		
120.000	-.1839	-.1922	-.0356	.0659	-.1333	-.2290	-.2550	-.2672		
135.000			-.0400	.1379	-.1012	-.1369	-.1658			
150.000	-.1032	-.1776	-.1494	.2252	-.0597	-.1459	-.2138			
165.000	-.0845		-.0358		.2216	.0244	-.3288			
180.000	-.0902	-.0618	-.0655	.3560						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8857)

ALPHA (5) = 11.890 BETA (2) = .186 MACH = 1.3946 Q = 600.23 P = 440.88 RN/L = 2.9052

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3960	1.1559	.6779	.4931	.3707			.1924		.1672	.1438	.1303	.1599	.1594	.1543
20.000			.6866	.4892	.3464	.2429		.1846		.1509					
40.000			.7010	.4878	.3714	.2480		.2021		.1154	.1270	.1368	.1604	.1313	.1526
55.000			.6304	.4059	.3119	.1478		.1223		.0634					
70.000			.5629	.3423	.2505	.1554		.1188		.0684	-.1153	-.0716	-.0874	-.1663	
90.000		.6356	.5242	.3098	.2125	.1228		.1195		.1639	-.1418	-.0962	-.1278	-.1939	
120.000			.4326	.2531	.1504	.1185		.3997		.1201	-.1775	-.3461	-.4325	-.2489	
140.000										.0249					
150.000			.3263	.2401	.1232	.1		.7375		-.2011	-.4642	-.3933	-.1973	-.0906	
161.000									.5873						
165.000									.6334						
175.000										-.3129	-.4268	-.3158	-.1883	-.0555	
176.000								.8095							
180.000	1.3960	.4637	.2665	.2387	.1166	.1278	.7398	.8182		-.4337	-.4573	-.2714	-.1996	-.0441	

X LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1732	.2039	.2393	.1995	.1383	.0838	.0080		.5407	.4482
40.000	.2060		.2556	.2155	.1219	.1338	.0063		.4245	.2913
70.000	-.2309	-.3570	-.3856	-.2108	-.2599	-.2538	-.2168			
90.000	-.1443	-.2369	-.2990	-.1096	-.2574	-.2738	-.2406			
105.000			-.2016	.0037	-.3041	-.3596	-.3397			
110.000								-.3400		
120.000	-.0980	-.1210	.0198	-.0463	-.1349	-.2435	-.3118	-.3664		
135.000			.0055	.0740	-.0919	-.1573	-.2061			
150.000	-.0680	-.0880	-.1082	.3274	-.0247	-.1123	-.1646			
165.000	-.0447		-.0546		.2315	-.0270	-.3426			
180.000	-.0347	-.0301	-.0296	.3732						

ALPHA (5) = 11.884 BETA (3) = 4.265 MACH = 1.3946 Q = 600.23 P = 440.88 RN/L = 2.9052

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3853	1.1449	.6701	.4838	.3621			.1875		.1603	.1370	.1230	.1557	.1491	.1465
20.000			.6437	.4539	.3176	.2121		.1599		.1311					
40.000			.6028	.4143	.3055	.1875		.1403		.0609	.0649	.0808	.1323	.1056	.1240
55.000			.5095	.2996	.2149	.0549		.0490		-.0024					
70.000			.4517	.2407	.1631	.0790		.0613		.0224	-.1599	-.1193	-.1455	-.2310	
90.000		.4921	.4540	.2192	.1402	.0540		.0696		.0999	-.1908	-.1460	-.1800	-.2394	
120.000			.3707	.2024	.1123	.0875		.3636		.0404	-.2383	-.3799	-.3823	-.1447	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8857)

ALPHA (5) = 11.884 BETA (3) = 4.265

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.0652					
150.000			.2956	.2312	.0885	.1045		.6585		-.2801	-.4678	-.3566	-.1739	-.0613	
151.000									.4856						
162.000									.5627						
165.000										-.3233	-.4466	-.2820	-.1972	-.0513	
169.000								.7640							
174.000							.6755								
180.000	1.3963	.4380	.2612	.2593	.1298	.1186		.8247		-.4213	-.4321	-.2917	-.2079	-.0740	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1616	.2071	.2291	.1973	.1293	.0793	-.0106		.5403	.4500
40.000	.1739		.2567	.2172	.1186	.1215	.0022		.4143	.3046
70.000	-.2161	-.3357	-.3771	-.2173	-.2360	-.2953	-.2605			
90.000	-.1160	-.2263	-.2508	-.1409	-.3044	-.3018	-.2681			
105.000			-.0612	-.0851	-.3994	-.4116	-.3914			
110.000								-.3650		
120.000	-.0743	-.0949	.0138	-.1402	-.1717	-.3053	-.4199	-.4523		
135.000			-.0589	.1457	-.1055	-.1733	-.2166			
150.000	-.0436	-.0412	-.0084	.2904	-.0394	-.1406	-.2153			
165.000	-.0394		-.0458		.2157	-.0881	-.3490			
180.000	-.0567	-.0539	-.0676	.3618						

ALPHA (6) = 15.871 BETA (1) = -3.822 MACH = 1.3964 Q = 598.94 P = 438.77 RN/L = 2.9066

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3103	1.2517	.8012	.6014	.4721			.2751		.2451	.2131	.1981	.2163	.2260	.2362
20.000			.8426	.6242	.4676	.3472		.2693		.2420					
40.000			.8666	.6406	.5116	.3917		.3155		.2214	.2337	.2226	.2515	.2300	.2572
55.000			.7605	.5338	.4170	.2365		.1835		.1330					
70.000			.6541	.4463	.3273	.2379		.1786		.1196	-.0733	-.0185	-.0160	-.108	
90.000		.7068	.5699	.3761	.2741	.1599		.1575		.1859	-.0915	-.0255	-.0586	-.128	
120.000			.4092	.2254	.0828	.0830		.3025		.1771	-.1261	-.3001	-.5136	-.413	
140.000										.1189					
160.000			.2489	.1147	.0655	.0629		.7881		-.0285	-.5124	-.4814	-.3112	-.3189	
151.000									.6306						
162.000									.6495						
165.000										-.3769	-.4659	-.4023	-.2475	-.1158	
169.000								.8068							
174.000							.5856								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8857)

ALPHA (6) = 15.871 BETA (1) = -3.822

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.3193	.3200	.1591	.1431	.0544	.0662		.7323		-.4397	-.4554	-.3043	-.1938	-.0678	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2785	.3034	.3301	.3030	.2449	.1644	.0766		.6359	.5032
40.000	.3166		.3659	.3225	.2214	.2205	.0678		.4881	.3236
70.000	-.2671	-.4397	-.5241	-.4608	-.4489	-.3910	-.1598			
90.000	-.1442	-.3113	-.3734	-.1958	-.2736	-.3028	-.2833			
105.000			-.2886	-.0336	-.2880	-.3628	-.3667			
110.000								-.3002		
120.000	-.2238	-.1932	-.1060	.0992	-.1925	-.2729	-.2826	-.3468		
135.000			-.0363	.0403	-.2027	-.1602	-.2112			
150.000	-.2603	-.3196	-.2025	.1533	- .3714	-.2737	-.3049			
160.000	-.1177		-.2038		.1650	-.0561	-.3520			
180.000	-.0340	-.0075	-.0990	.2570						

ALPHA (6) = 15.883 BETA (2) = .187 MACH = 1.3964 Q = 598.94 P = 438.77 RN/L = 2.9068

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3244	1.2553	.8059	.6060	.4762			.2750		.2453	.2150	.1987	.2205	.2342	.2332
20.000			.8049	.5945	.4457	.3247		.2644		.2259					
40.000			.7694	.5671	.4417	.3158		.2464		.1558	.1632	.1772	.2070	.2061	.2276
55.000			.6320	.4136	.3076	.1246		.0889		.0439					
70.000			.5329	.3301	.2301	.1440		.0991		.0517	-.1092	-.0787	-.0858	-.1941	
80.000		.5693	.4723	.2750	.1844	.0932		.0944		.1440	-.1376	-.0832	-.1151	-.1949	
100.000			.3547	.1750	.0672	.0575		.3188		.1135	-.1774	-.3344	-.5236	-.3172	
120.000										.0302					
140.000			.2295	.1407	.0594	.0674		.6432		-.1663	-.4940	-.4455	-.2393	-.1055	
150.000									.5507						
160.000									.6013						
170.000										-.3473	-.4514	-.3346	-.1837	-.0665	
175.000								.7328							
180.000	1.3244	.2335	.1636	.1603	.0563	.0688	.6467	.7536		-.4564	-.4788	-.2842	-.1707	-.0539	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2684	.2995	.3591	.3129	.2508	.1631	.0634		.6379	.5100
40.000	.3307		.3733	.3371	.2300	.2153	.0615		.4946	.3408

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8857)

ALPHA (6) = 15.883 BETA (2) = .187

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.3454	-.4845	-.5460	-.4618	-.5000	-.4713	-.2711			
90.000	-.2110	-.3274	-.3998	-.2556	-.3737	-.3678	-.3168			
105.000			-.2852	-.0830	-.4067	-.4492	-.4268			
110.000								-.4170		
120.000	-.1177	-.1594	-.0851	-.0123	-.1900	-.2538	-.3284	-.3917		
135.000			.0099	.0038	-.1125	-.1780	-.2313			
150.000	-.1545	-.1713	-.1856	.2534	-.2772	-.2307	-.2604			
165.000	-.0759		-.1035		.2494	-.0706	-.3555			
180.000	-.0722	-.0526	-.0732	.2885						

ALPHA (6) = 15.915 BETA (3) = 4.292 MACH = 1.3964 Q = 598.94 P = 438.77 RN/L = 2.9056

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3175	1.2408	.7912	.5975	.4669			.2719		.2370	.2104	.1966	.2195	.2254	.2290
20.000			.7535	.5529	.4114	.2970		.2356		.1974					
40.000			.6580	.4839	.3528	.2399		.1651		.0850	.0676	.1192	.1685	.1737	.2024
55.000			.4951	.3012	.1972	.0216		-.0068		-.0448					
70.000			.4065	.2268	.1430	.0671		.0268		-.0128	-.1437	-.1311	-.1536	-.2904	
90.000		.4347	.3835	.1468	.1112	.0285		.0377		.0975	-.1729	-.1337	-.1740	-.2473	
120.000			.3048	.1290	.0439	.0358		.2970		.0582	-.2269	-.3698	-.4886	-.2046	
140.000										-.0514					
150.000			.2067	.1380	.0458	.0519		.5898		-.2751	-.4907	-.3859	-.1818	-.0754	
151.000									.4596						
154.000									.5306						
165.000										-.3524	-.4587	-.2909	-.1750	-.0510	
169.000								.6985							
174.000							.5893								
180.000	1.3176	.2693	.1574	.1669	.0712	.0576		.7548		-.4565	-.4517	-.3046	-.1998	-.0695	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2246	.3134	.3411	.3013	.2379	.1529	.0428		.6352	.5167
40.000	.4743		.3649	.3119	.2158	.2063	.0607		.4876	.3547
70.000	-.4175	-.4533	-.5052	-.4332	-.4760	-.3745	-.2603			
90.000	-.2245	-.3532	-.4025	-.2639	-.4009	-.3752	-.3374			
105.000			-.2468	-.1716	-.5075	-.5264	-.4785			
110.000								-.4282		
120.000	-.0975	-.1346	-.0424	-.1887	-.1794	-.2822	-.3920	-.4042		
135.000			-.1797	.0530	-.1841	-.2544	-.2873			
150.000	-.0794	-.0834	-.1151	.2365	-.0249	-.1309	-.2122			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XEB857)

ALPHA (6) = 15.915 BETA (3) = 4.292

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.65[illegible]0	.7230	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
155.000	-.0[illegible]		-.0859		.2856	-.0740	-.3781			
180.000	-.0757	-.1023	-.1018	.2576						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8858) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.6000 IN. YMRP = .0000 IN. YO
BREF = 936.0000 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = 10.000 SPDBRK = 55.000
BDFLAP = 16.300 L-ELVN = 4.000
R-ELVN = -4.000 MACH = 1.250

ALPHA (I) = -4.015 BETA (I) = -3.834 MACH = 1.2474 Q = 600.07 P = 550.87 RN/L = 3.0101

SECTION (1):ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4063	.6324	.1890	.0673	.0104			-.0121		-.0093	-.0169	-.0536	-.0688	-.0981	-.0584
20.000			.2292	.0753	-.0142	-.0661		-.0360		-.0691					
40.000			.4093	.1162	.0366	-.0542		-.1019		-.2037	-.2056	-.1546	-.0903	-.1227	-.0776
60.000			.5679	.3003	.2224	.1252		.0859		.0219					
70.000			.6662	.4122	.3194	.2707		.1913		.0739	-.2763	-.1284	-.0740	.0196	
80.000		.9227	.7350	.4920	.3721	.3793		.2405		.0127	-.2441	-.2376	-.0898	.0109	
120.000			.8024	.6183	.4833	.52.		.4971		.0746	-.1774	-.4150	-.1329	-.0251	
140.000										.0465					
150.000			.7934	.6478	.5355			.9247		-.1968	-.3905	-.2304	-.1281	-.0714	
151.000									.6528						
162.000									.7095						
169.000										-.2653	-.2928	-.2300	-.1409	-.0825	
168.000								.9786							
174.000							1.0523								
180.000	1.4063	1.0092	.7315	.6148	.5270	.609'		.9108		-.3728	-.3694	-.1766	-.1650	-.0939	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0009	-.0239	-.0537	-.1171	-.1933	-.2496	-.2950		.2204	.1533
40.000	-.0593		-.0835	-.1204	-.2047	-.1715	-.3147		.0788	.0331
70.000	.0857	.0089	-.0096	.3159	.1503	-.0005	-.0899			
90.000	.0965	.0439	.1785	.2818	.1264	.0116	-.0651			
105.000			.3054	.2779	.0499	-.0367	-.0906			
110.000								-.2715		
120.000	.0693	.0753	.4279	.3031	.0137	-.0350	-.0509	-.2211		
135.000			.4767	.4996	.0620	.0662	.0348			
150.000	.0363	.1069	.4724	.4767	.1557	.1496	.0582			
165.000	.0238		.4633		.4359	.2383	-.3162			
180.000	.0133	.1219	.4567	.4972						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8858)

ALPHA (1) = -4.012 BETA (2) = .202 MACH = 1.2474 Q = 600.07 P = 550.87 RN/L = 3.0101

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1530	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4124	.6292	.2000	.0561	.0330			-.0090		-.0010	-.0069	-.0525	-.0743	-.0924	-.0540
20.000			.2163	.0639	-.0003	-.0307		-.0203		-.0371					
40.000			.3559	.0893	.0292	-.0265		-.0535		-.1471	-.1362	-.1226	-.0854	-.0924	-.0580
55.000			.4791	.2206	.1569	.0688		.0672		-.0197					
70.000			.5809	.3010	.2310	.1808		.1322		.0138	-.3371	-.2070	-.1177	.0017	
90.000		.7847	.6273	.3718	.2782	.2294		.1652		-.0852	-.3210	-.3176	-.1219	-.0047	
120.000			.7129	.5215	.3883	.4505		.3951		-.0404	-.2717	-.4926	-.1886	-.0348	
140.000										-.1594					
150.000			.7469	.6184	.4998	.5734		.8577		-.2790	-.3623	-.2464	-.1608	-.0597	
151.000									.5679						
162.000									.6453						
165.000										-.2698	-.3437	-.1695	-.1674	-.0632	
169.000								.9539							
174.000							1.0938								
180.000	1.4124	.9399	.7474	.6229	.5413	.6181		.9447		-.3427	-.4024	-.1469	-.1653	-.0568	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9610	.9990	1.0180	1.0460
PHI										
.000	.0019	-.0183	-.0486	-.1162	-.1950	-.2476	-.2939		.2062	.1777
40.000	-.0392		-.0669	-.1103	-.1950	-.1801	-.3043		.0718	.0296
70.000	.0722	-.0039	.1210	.2992	.1092	-.0381	-.1296			
90.000	.0830	.0443	.2255	.2660	.0529	-.0329	-.0954			
105.000			.3304	.2401	-.0172	-.0311	-.1277			
110.000								-.2981		
120.000	.0768	.1115	.3670	.1382	-.0525	-.1199	-.1543	-.2537		
135.000			.4547	.4552	.0156	-.0204	-.0436			
150.000	.0420	.1302	.4793	.4760	.1202	.0450	-.0276			
165.000	.0349		.4797		.3552	.1212	-.3593			
180.000	.0277	.1383	.4904	.5835						

ALPHA (1) = -4.007 BETA (2) = 4.280 MACH = 1.2474 Q = 600.07 P = 550.87 RN/L = 3.0101

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1530	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3961	.6162	.1990	.0502	.0320			-.0360		-.0063	-.0106	-.0481	-.0678	-.0994	-.0703
20.000			.1993	.0481	-.0046	-.0412		-.0150		-.0226					
40.000			.3013	.0594	.0155	-.0320		-.0278		-.0850	-.0936	-.1037	-.0758	-.0859	-.0384
55.000			.3944	.1376	.0837	.0226		.0223		-.0511					
70.000			.4672	.1936	.1326	.0896		.0749		-.0455	-.3833	-.2478	-.1349	-.0150	
90.000		.6382	.5196	.2594	.1860	.1256		.0847		-.1834	-.3915	-.3000	-.1259	-.0176	
120.000			.6141	.4200	.2720	.3405		.2805		-.1567	-.3418	-.5527	-.2508	-.0517	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8858)

ALPHA (1) = -4.007 BETA (3) = 4.280

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.3196					
150.000			.6857	.5669	.4446	.5087		.7693		-.3272	-.3927	-.1956	-.2206	-.0836	
151.000									.4620						
162.000									.5678						
165.000										-.2782	-.4140	-.1646	-.1878	-.0935	
169.000								.9073							
174.000							.9897								
180.000	1.3961	.9819	.7438	.6186	.5272	.6023		.9314		-.3827	-.3508	-.1774	-.1637	-.0951	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0117	-.0157	-.0545	-.1175	-.1971	-.2470	-.3008		.2030	.1646
40.000	-.0120		-.0495	-.1041	-.2000	-.1797	-.2923		.1116	.0468
70.000	.0634	-.0119	.1523	.2946	.0854	-.0659	-.1599			
90.000	.0770	.0483	.2254	.2751	.0115	-.0908	-.1402			
105.000			.3116	.1902	-.0613	-.1242	-.1739			
110.000								-.3307		
120.000	.0556	.1274	.3199	.0471	-.1499	-.2359	-.2610	-.3044		
135.000			.4104	.4292	-.0415	-.1109	-.1476			
150.000	.0192	.1386	.4386	.4551	.0689	-.0566	-.1267			
165.000	.0086		.4431		.2840	.0348	-.3723			
180.000	.0070	.1150	.4581	.5160						

ALPHA (2) = .035 BETA (1) = -3.858 MACH = 1.2470 Q = 599.89 P = 551.11 RN/L = 3.0093

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4151	.7640	.3024	.1666	.0880			.0171		.0253	.0258	-.0058	-.0248	-.0635	-.0589
20.000			.3421	.1815	.0593	.0034		.0140		-.0217					
40.000			.5120	.2386	.1390	.0520		.0162		-.0744	-.0773	-.0671	-.0222	-.0796	-.0403
55.000			.6310	.3753	.2818	.1869		.1709		.0929					
70.000			.6854	.4343	.3259	.2719		.2306		.1260	-.2517	-.0978	-.0784	-.0349	
90.000		.9003	.7194	.4792	.3429	.3241		.2760		.0700	-.2328	-.1966	-.1250	-.0339	
120.000			.7333	.5431	.4031	.4727		.5069		.0868	-.1791	-.4081	-.1621	-.0798	
140.000										.0300					
150.000			.6844	.5363	.4076	.5213		.9021		-.2300	-.4550	-.3053	-.1682	-.0901	
151.000									.6335						
162.000									.6789						
165.000										-.3191	-.3989	-.2994	-.1826	-.0856	
169.000								.9455							
174.000							1.0062								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8858)

ALPHA (2) = .035 BETA (1) = -3.858

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.4151	.8795	.6065	.5021	.3984	.5138		.8702		-.4226	-.4255	-.2429	-.2058	-.0790	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0214	.0209	.0128	-.0452	-.1164	-.1750	-.2262		.2602	.2103
40.000	-.0143		-.0093	-.0466	-.1339	-.0855	-.2345		.1670	.1043
70.000	.0107	-.1039	-.1714	.1707	.0726	-.0579	-.1251			
90.000	.0317	-.0372	-.0515	.1489	.0495	-.0496	-.1358			
105.000			.1601	.1864	-.0207	-.1184	-.1637			
110.000								-.3100		
120.000	.0002	-.0105	.3327	.2223	-.0459	-.1219	-.1235	-.2540		
135.000			.3902	.3593	-.0207	-.0295	-.0440			
150.000	.0081	.0476	.3777	.3588	.0533	.0653	-.0096			
165.000	.0025		.3703		.3667	.1634	-.3358			
180.000	-.0003	.1054	.3570	.3712						

ALPHA (2) = .040 BETA (2) = .189 MACH = 1.2470 Q = 599.89 P = 551.11 RN/L = 3.0083

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4208	.7646	.3043	.1557	.1154			.0283		.0436	.0358	-.0003	-.0315	-.0548	-.0487
20.000			.3232	.1659	.0774	.0153		.0349		.0072					
40.000			.4460	.2027	.1180	.0478		.0463		-.0277	-.0407	-.0497	-.0279	-.0690	-.0286
55.000			.5310	.2834	.2086	.1323		.1307		.0589					
70.000			.5733	.3259	.2291	.1821		.1743		.0657	-.3026	-.1754	-.1367	-.0409	
90.000		.7599	.6101	.3676	.2385	.2269		.2071		-.0164	-.2977	-.2746	-.1625	-.0460	
120.000			.6484	.4618	.3138	.4078		.4187		-.0206	-.2703	-.4742	-.1587	-.0596	
140.000										-.1096					
150.000			.6394	.5120	.3740	.4949		.8258		-.3173	-.4600	-.3123	-.1802	-.0569	
151.000									.5491						
162.000									.6194						
165.000										-.3215	-.3930	-.2401	-.2002	-.0503	
169.000								.9187							
174.000							.9968								
180.000	1.4208	.8704	.6205	.5090	.4047	.5272		.9036		-.4567	-.4646	-.2137	-.2054	-.0517	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0193	.0261	.0160	-.0420	-.1201	-.1739	-.2312		.2760	.2195
40.000	.0054		.0101	-.0340	-.1295	-.1085	-.2262		.1476	.0700

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8858)

ALPHA (2) = .040 BETA (2) = .189

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.0050	-.1073	-.1222	.1750	.0255	-.0923	-.1653			
90.000	.0238	-.0451	.0802	.1312	-.0189	-.0885	-.1554			
105.000			.2038	.1249	-.0922	-.1590	-.1922			
110.000								-.3422		
120.000	.0370	.0316	.2970	.1852	-.0793	-.1840	-.2215	-.2892		
135.000			.3245	.3777	.0045	-.0904	-.1211			
150.000	.0299	.0785	.3453	.3954	.0651	-.0144	-.0948			
165.000	.0221		.3676		.2912	.0594	-.3526			
180.000	.0210	.0851	.3801	.4836						

ALPHA (2) = .037 BETA (3) = 4.261 MACH = 1.2470 Q = 599.89 P = 551.11 RN/L = 3.0093

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0090	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4083	.7504	.3021	.1607	.1152			.0005		.0193	.0193	-.0010	-.0256	-.0613	-.0599
20.000			.2993	.1443	.0778	-.0003		.0085		.0115					
40.000			.3776	.1563	.0998	.0125		.0478		-.0119	-.0167	-.0469	-.0367	-.0779	-.0346
55.000			.4359	.1965	.1433	.0520		.0953		.0160					
70.000			.4699	.2176	.1438	.0877		.1206		.0160	-.3528	-.2284	-.1721	-.0422	
90.000		.6126	.5085	.2578	.1419	.1168		.1374		-.1054	-.3604	-.3287	-.1695	-.0431	
120.000			.5613	.3733	.2178	.3171		.3112		-.1277	-.3554	-.5344	-.1721	-.0536	
140.000										-.3 07					
150.000			.5902	.4729	.3297	.4389		.7463		-.3705	-.4345	-.2665	-.2284	-.0646	
151.000									.4498						
162.000									.5418						
165.000										-.3339	-.4716	-.2298	-.2241	-.0689	
169.000								.8716							
174.000							.9440								
180.000	1.4093	.8486	.6231	.5076	.3981	.5075		.8910		-.4387	-.4116	-.2405	-.2019	-.0814	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0003	.0222	.0146	-.0409	-.1223	-.1762	-.2337		.2557	.2078
40.000	.0295		.0255	-.0270	-.1266	-.1178	-.2190		.1623	.0744
70.000	-.0046	-.1152	-.0533	.1614	-.0026	-.1276	-.2052			
90.000	.0003	-.0495	.0794	.1251	-.0696	-.1308	-.1887			
105.000			.2022	.1145	-.1462	-.2018	-.2326			
110.000								-.3672		
120.000	.0391	.0423	.2454	.0286	-.1668	-.2846	-.3220	-.3439		
135.000			.3241	.3366	-.0730	-.1672	-.2099			
150.000	.0179	.1003	.3474	.3479	.0234	-.1003	-.1832			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8858)

ALPHA (2) = .037 BETA (3) = 4.261

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	.0047		.3500		.2150	-.0098	-.3740			
180.000	-.0031	.1000	.3620	.3806						

ALPHA (3) = 3.928 BETA (1) = -3.861 MACH = 1.2467 Q = 599.84 P = 551.34 RN/L = 3.0120

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4039	.8859	.4178	.2743	.1668			.0580		.0508	.0662	.0375	.0291	-.0144	-.0166
20.000			.4625	.2864	.1573	.0809		.0658		.0297					
40.000			.6065	.3476	.2218	.1340		.1095		.0361	.0331	.0123	.0506	-.0184	.0026
55.000			.6756	.4365	.3280	.2237		.2183		.1518					
70.000			.6889	.4499	.3271	.2537		.2526		.1691	-.2220	-.0809	-.0742	-.1050	
80.000		.8639	.6899	.4625	.3242	.2878		.2937		.1222	-.2179	-.1345	-.1317	-.1028	
120.000			.6538	.4677	.3209	.3793		.5064		.0969	-.1974	-.4045	-.2752	-.1719	
140.000										.0250					
150.000			.5668	.4372	.2642	.4145		.8792		-.2366	-.5091	-.3922	-.1920	-.1017	
151.000									.6138						
162.000									.6473						
165.000										-.3715	-.4656	-.3565	-.2069	-.0809	
169.000								.9088							
174.000							.9544								
180.000	1.4039	.7470	.4866	.4060	.2670	.4088		.8272		-.4718	-.4735	-.2903	-.2286	-.0665	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0407	.0764	.0887	.0370	-.0384	-.1005	-.1595		.3636	.2852
40.000	.0529		.0742	.0384	-.0554	-.0247	-.1715		.2618	.1714
70.000	-.0545	-.1858	-.2497	-.0219	-.0074	-.1086	-.1513			
90.000	-.0380	-.1350	-.1919	.0542	-.0292	-.1164	-.1917			
125.000			.0050	.1169	-.1414	-.1790	-.2315			
140.000								-.3502		
150.000	-.0785	-.0916	.2339	.1516	-.0887	-.2251	-.1900	-.2919		
155.000			.2651	.2621	-.0811	-.1257	-.1312			
160.000	-.0170	.0563	.2639	.2683	-.0410	.0018	-.0898			
165.000	-.0142		.2726		.2614	.1164	-.3357			
180.000	-.0027	.1041	.2607	.3146						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8858)

ALPHA (3) = 3.929 BETA (2) = .192 MACH = 1.2467 Q = 599.84 P = 551.34 RN/L = 3.0120

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4097	.8876	.4194	.2829	.1901			.0550		.0704	.0714	.0497	.0241	-.0085	-.0148
20.000			.4362	.2775	.1596	.0793		.0666		.0560					
40.000			.5316	.3016	.2021	.1104		.1050		.0532	.0392	.0140	.0284	-.0226	-.0120
55.000			.5721	.3429	.2461	.1426		.1738		.1026					
70.000			.5775	.3419	.2350	.1631		.1979		.1113	-.2663	-.1552	-.1356	-.1108	
90.000		.7226	.5836	.3575	.2257	.1832		.2328		.0425	-.2760	-.2093	-.1861	-.1014	
120.000			.5798	.3993	.2425	.3152		.4340		-.0005	-.2711	-.4667	-.2166	-.1064	
140.000										-.0893					
150.000			.5387	.4246	.2567	.3989		.7906		-.3309	-.5138	-.3718	-.1880	-.0575	
161.000									.5365						
165.000									.5946						
169.000										-.3701	-.4419	-.2945	-.2152	-.0479	
174.000								.8815							
180.000	1.4097	.7380	.5023	.4086	.2900	.4274	.9375	.8645		-.5124	-.5155	-.2650	-.2256	-.0481	
X/LB	.6520	.7200	.7790	.8260	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.0322	.0797	.0962	.0356	-.0373	-.1004	-.1745		.3588	.2802					
40.000	.0506		.1007	.0510	-.0531	-.0399	-.1707		.2468	.1448					
70.000	-.0691	-.1854	-.2448	.0130	-.0582	-.1445	-.2117								
90.000	-.0224	-.1319	-.0563	.0319	-.1056	-.1492	-.2094								
105.000			.1202	.0667	-.2024	-.2153	-.2493								
110.000								-.3726							
120.000	-.0137	-.0286	.2198	.0939	-.1124	-.2578	-.2613	-.3257							
135.000			.2301	.2995	-.0405	-.1490	-.1951								
150.000	.0114	.0317	.2451	.4117	.0260	-.0701	-.1549								
165.000	.0161		.2592		.2299	.0029	-.3539								
180.000	.0099	.0387	.2803	.4537											

ALPHA (3) = 3.933 BETA (3) = 4.251 MACH = 1.2467 Q = 599.84 P = 551.34 RN/L = 3.0120

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3959	.8773	.4163	.2848	.1889			.0444		.0474	.0593	.0513	.0281	-.0107	-.0221
20.000			.4066	.2570	.1465	.0545		.0377		.0408					
40.000			.4532	.2560	.1725	.0674		.0734		.0417	.0413	.0098	.0080	-.0420	-.0290
55.000			.4700	.2478	.1804	.0638		.1276		.0678					
70.000			.4715	.2398	.1579	.0756		.1399		.0626	-.3077	-.2057	-.1868	-.1092	
90.000		.5737	.4859	.2546	.1477	.0810		.1725		-.0322	-.3302	-.2668	-.2216	-.0898	
120.000			.5027	.3244	.1657	.2238		.3401		-.0961	-.3451	-.5155	-.1705	-.0665	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8858)

ALPHA (3) = 3.933 BETA (3) = 4.251

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.2669					
150.000			.4954	.3885	.2168	.3448		.7248		-.4027	-.5031	-.3253	-.2162	-.0524	
151.000									.4413						
162.000									.5179						
165.000										-.3825	-.5192	-.2741	-.2393	-.0541	
169.000								.8368							
174.000							.8924								
180.000	1.3959	.7143	.5060	.4129	.2747	.4004		.8529		-.4903	-.4545	-.2850	-.2256	-.0671	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0217	.0794	.0941	.0398	-.0349	-.1002	-.1770		.3585	.2824
40.000	.0638		.1111	.0566	-.0498	-.0441	-.1692		.2448	.1386
70.000	-.0690	-.1988	-.2059	.0195	-.0774	-.1730	-.2400			
90.000	-.0247	-.1284	-.0142	.0155	-.1276	-.1768	-.2270			
105.000			.1087	.0229	-.2616	-.2578	-.2772			
110.000								-.3970		
120.000	.0110	-.0136	.1656	-.0245	-.1886	-.3312	-.4230	-.3610		
135.000			.2513	.2325	-.1350	-.2102	-.2554			
150.000	.0112	.0579	.2689	.2378	-.0443	-.1477	-.2235			
165.000	.0008		.2648		.1848	-.0535	-.3814			
180.000	-.0085	.0940	.2676	.3040						

ALPHA (4) = 7.966 BETA (1) = -3.855 MACH = 1.2463 Q = 599.67 P = 551.57 RN/L = 3.0105

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3705	1.0059	.5407	.3816	.2600			.1165		.0981	.0981	.0914	.0950	.0485	.0525
30.000			.5875	.3983	.2494	.1638		.1255		.0913					
45.000			.6995	.4494	.3224	.2213		.1845		.1196	.1270	.0853	.1187	.0478	.0716
55.000			.7142	.4820	.3643	.2420		.2297		.1811					
75.000			.6930	.4553	.3265	.2405		.2505		.1962	-.1766	-.0598	-.0648	-.1515	
90.000		.8135	.6530	.4399	.3080	.2375		.2918		.1660	-.1983	-.0979	-.1295	-.1833	
120.000			.9698	.3903	.2593	.2490		.4962		.1083	-.2057	-.4017	-.4340	-.2901	
140.000										.0267					
150.000			.4536	.3343	.1865	.2323		.8565		-.2033	-.5563	-.4747	-.2300	-.1164	
161.000									.5966						
162.000									.6240						
165.000										-.4203	-.5177	-.4061	-.2144	-.0830	
169.000								.8830							
174.000							.8941								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8858)

ALPHA (4) = 7.966 BETA (1) = -3.855

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.3705	.6035	.3709	.3288	.1633	.2335		.7951		-.5149	-.5090	-.3217	-.2227	-.0620	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1073	.1376	.1757	.1288	.0470	-.0176	-.0967		.4601	.3496
40.000	.1331		.1757	.1321	.0300	.0475	-.1147		.3666	.2179
70.000	-.1367	-.2574	-.3237	-.1450	-.0852	-.1484	-.1779			
90.000	-.0948	-.1979	-.2751	-.0216	-.1668	-.1722	-.2107			
105.000			-.0654	.0405	-.2159	-.2965	-.2494			
110.000								-.3456		
120.000	-.1748	-.1618	.1090	.0782	-.1152	-.2474	-.2799	-.3070		
135.000			.0929	.1713	-.0838	-.1508	-.1777			
150.000	-.0750	-.0360	.0893	.2158	.0222	-.0482	-.1503			
165.000	-.0395		.1182		.2483	.0711	-.3697			
180.000	-.0308	-.0005	.1833	.4284						

ALPHA (4) = 7.970 BETA (2) = .187 MACH = 1.2463 Q = 599.67 P = 551.57 RN/L = 3.0105

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3766	1.0126	.5454	.3868	.2792			.1162		.1093	.1010	.1030	.0883	.0533	.0519
20.000			.5615	.3814	.2435	.1524		.1146		.0954					
40.000			.6187	.4017	.2832	.1884		.1479		.1086	.1119	.0741	.0838	.0373	.0514
55.000			.6050	.3855	.2794	.1606		.1630		.1308					
70.000			.5714	.3526	.2407	.1569		.1956		.1471	-.2188	-.1361	-.1279	-.2051	
90.000		.6731	.5511	.3481	.2220	.157'		.2421		.0961	-.2490	-.1739	-.1843	-.1735	
120.000			.5005	.3394	.1951	.1984		.4430		.0261	-.2701	-.4505	-.3745	-.1716	
140.000										-.0753					
150.000			.4321	.3401	.1573	.2218		.7709		-.3303	-.5572	-.4253	-.194"	-.0721	
161.000									.5280						
162.000									.5717						
165.000										-.4128	-.4866	-.3334	-.2068	-.0483	
169.000								.8337							
174.000							.8661								
180.000	1.3766	.5910	.3884	.3191	.1791	.2485		.8224		-.5494	-.5512	-.3010	-.2209	-.0445	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0999	.1502	.1883	.1380	.0534	-.0205	-.1000		.4643	.3458
40.000	.1176		.2054	.1521	.0331	.0449	-.1145		.3469	.2017

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8858)

ALPHA (4) = 7.970 BETA (2) = .187

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1359	-.2457	-.3216	-.1006	-.1120	-.1881	-.2195			
90.000	-.0785	-.1919	-.2606	-.0103	-.2256	-.2008	-.2334			
105.000			-.0348	.0611	-.2894	-.3169	-.2853			
110.000								-.3912		
120.000	-.0674	-.0882	.1127	.0376	-.1572	-.2846	-.3563	-.3436		
135.000			.1178	.2370	-.0827	-.1910	-.2420			
150.000	-.0166	-.0357	.1630	.4416	-.0186	-.1253	-.1919			
165.000	-.0098		.2012		.1790	-.0575	-.3689			
180.000	-.0094	.0023	.2351	.4820						

ALPHA (4) = 7.894 BETA (3) = 4.250 MACH = 1.2463 Q = 599.67 P = 551.57 RN/L = 3.0105

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3641	.9989	.5368	.3847	.2665			.1071		.0889	.0929	.1003	.0913	.0486	.0405
20.000			.5196	.3527	.2240	.1222		.0915		.0695					
40.000			.5238	.3340	.2316	.1248		.0996		.0542	.0861	.0618	.0585	.0054	.0278
55.000			.4893	.2786	.1959	.0701		.0715		.0958					
70.000			.4538	.2443	.1605	.0694		.1343		.1007	-.2553	-.1854	-.1854	-.2059	
90.000		.5252	.4541	.2439	.1459	.0679		.1836		.0268	-.2969	-.2258	-.2357	-.1623	
120.000			.4324	.2715	.1371	.1312		.3626		-.0566	-.3333	-.4940	-.2253	-.0942	
140.000										-.1814					
150.000			.3960	.3147	.1161	.1836		.7015		-.4148	-.5589	-.3648	-.1899	-.0485	
161.000									.4370						
165.000									.5000						
170.000										-.4205	-.5360	-.3079	-.2253	-.0468	
174.000								.8037							
180.000	1.3641	.5694	.3904	.3414	.1699	.2181	.8384	.8216		-.5308	-.4909	-.3150	-.2312	-.0646	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0771	.1480	.1922	.1300	.0514	-.0305	-.1218		.4565	.3481
40.000	.1000		.2077	.1456	.0297	.0266	-.1195		.3298	.1966
70.000	-.1170	-.2874	-.3134	-.0878	-.1371	-.2449	-.2586			
90.000	-.0582	-.1843	-.1247	-.0418	-.2267	-.1958	-.2817			
105.000			.0302	-.0100	-.3567	-.3138	-.3229			
110.000								-.4339		
120.000	-.0121	-.0664	.0908	-.0914	-.2130	-.3558	-.4564	-.3670		
135.000			.1964	.2458	-.1472	-.2402	-.2874			
150.000	-.0102	-.0041	.2355	.3371	-.0928	-.2009	-.2589			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8858)

ALPHA (4) = 7.894 BETA (3) = 4.250

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0211		.1803		.1218	-.1333	-.3941			
180.000	-.0352	.0091	.1595	.3937						

ALPHA (5) = 11.923 BETA (1) = -3.838 MACH = 1.2454 Q = 599.32 P = 552.04 RN/L = 3.0114

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3199	1.1150	.6664	.4849	.3607			.1924		.1667	.1444	.1414	.1667	.1231	.1369
20.000			.7101	.5071	.3558	.2387		.2020		.1530					
40.000			.7780	.5450	.4134	.3048		.2470		.1688	.1986	.1607	.1806	.1264	.1600
55.000			.7354	.5121	.3865	.2507		.1999		.1745					
70.000			.6650	.4473	.3158	.2429		.1926		.2050	-.1196	-.0500	-.0576	-.1517	
90.000		.7496	.6030	.4006	.2787	.2063		.2444		.2008	-.1710	-.0765	-.1214	-.1937	
120.000			.4769	.2953	.1780	.1756		.4672		.1243	-.2048	-.3835	-.5578	-.4292	
140.000										.0368					
150.000			.3383	.2283	.1141	.1397		.8435		-.1087	-.5955	-.5360	-.2747	-.1522	
151.000									.5852						
162.000									.6001						
165.000										-.4639	-.5564	-.4502	-.2376	-.1030	
169.000								.8506							
174.000							.7877								
180.000	1.3199	.4611	.2504	.2305	.0973	.1304		.7643		-.5484	-.5340	-.3395	-.2087	-.0625	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1905	.2750	.2839	.2131	.1224	.0369	-.0461		.5480	.3999
40.000	.2253		.3171	.2292	.0950	.1288	-.0672		.4243	.2438
70.000	-.2539	-.3790	-.4154	-.2209	-.1917	-.1354	-.1725			
90.000	-.1661	-.2958	-.3552	-.0914	-.2318	-.1996	-.1670			
105.000			-.2845	.0161	-.2735	-.3686	-.2073			
110.000								-.3461		
120.000	.1854	-.2041	-.0043	.0586	-.1815	-.2738	-.3130	-.2902		
135.000			-.2003	.1829	-.1441	-.1630	-.2198			
150.000	-.1079	-.2125	-.0382	.3083	-.0775	-.1777	-.2561			
165.000	-.0509		.0473		.1774	-.0231	-.3906			
180.000	-.0491	-.0472	.0720	.4520						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8858)

ALPHA (5) = 11.931 BETA (2) = .197 MACH = 1.2454 Q = 599.32 P = 552.04 RN/L = 3.0114

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3252	1.1195	.6695	.4944	.3722										
20.000			.6813	.4844	.3430	.2230		.2035		.1658	.1369	.1568	.1607	.1281	.1397
40.000			.6896	.4848	.3643	.2409		.2000		.1487					
55.000			.6143	.3987	.2924	.1534		.2033		.1170	.1551	.1321	.1498	.1089	.1373
70.000			.5454	.3414	.2301	.1569		.1155		.1215					
90.000		.6105	.5014	.3071	.2008	.1264		.1231		.1605	-.1745	-.1226	-.1271	-.2250	
120.000			.4124	.2531	.1378	.1321		.1957		.1362	-.2232	-.1479	-.1822	-.2549	
140.000								.4254		.0502	-.2654	-.4348	-.5536	-.2249	
150.000			.3172	.2562	.0919	.1302				-.0615					
151.000								.7421		-.3177	-.5924	-.4760	-.2201	-.0929	
159.000									.5181						
165.000									.5489						
169.000										-.4479	-.5197	-.3606	-.1960	-.0460	
174.000								.7816							
180.000	1.3252	.4401	.2687	.2405	.0985	.1340	.7868	.7797		-.5715	-.5739	-.3218	-.1943	-.0411	

Y/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1851	.3102	.2991	.2179	.1255	.0354	-.0525		.5435	.3954
40.000	.2054		.3190	.2340	.1021	.1058	-.0663		.4046	.2420
70.000	-.2353	-.3784	-.4248	-.2038	-.2581	-.2678	-.2307			
90.000	-.1352	-.2573	-.3418	-.1001	-.3008	-.2516	-.2929			
105.000			-.1919	.0020	-.3520	-.4191	-.3144			
110.000								-.4323		
120.000	-.0980	-.1301	.0241	-.0221	-.2055	-.3096	-.3071	-.3851		
135.000			.0434	.1528	-.1379	-.2273	-.2866			
150.000	-.0667	-.0039	.0276	.4177	-.0672	-.1718	-.2695			
165.000	-.0353		.0765		.1668	-.1019	-.3808			
180.000	-.0344	-.0219	.1099	.4658						

ALPHA (5) = 11.925 BETA (3) = 4.259 MACH = 1.2454 Q = 599.32 P = 552.04 RN/L = 3.0114

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3120	1.1058	.6583	.4893	.3562										
20.000			.6299	.4461	.3068	.1890		.1879		.1560	.1392	.1411	.1678	.1199	.1317
40.000			.5833	.4016	.2905	.1673		.1581		.1253					
55.000			.4880	.2805	.1874	.0441		.1332		.0481	.1081	.1026	.1175	.0693	.1118
70.000			.4280	.2311	.1372	.0698		.0332		.0523					
90.000		.4564	.4046	.2117	.1197	.0493		.0573		.1116	-.2052	-.1744	-.1968	-.3062	
120.000			.3480	.1940	.0942	.0928		.1597		0764	-.2673	-.1994	-.2370	-.2496	
								.3705		.0226	-.3252	-.4703	-.3589	-.1436	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8858)

ALPHA (5) = 11.925 BETA (3) = 4.259

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.1497					
150.000			.2865	.2290	.0587	.1022		.6609		-.4083	-.5942	-.4040	-.1839	-.0557	
161.000									.4284						
162.000									.4835						
165.000										-.4532	-.5444	-.3289	-.1928	-.0455	
169.000								.7619							
174.000							.7539								
180.000	1.3120	.4093	.2636	.2557	.1030	.1160		.7893		-.5588	-.5250	-.3435	-.2179	-.0647	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1754	.2822	.2803	.2119	.1133	.0219	-.0679		.5394	.3963
40.000	.1783		.3942	.2242	.0947	.0833	-.0724		.3949	.2331
70.000	-.2124	-.3629	-.4294	-.1824	-.2600	-.2791	-.2844			
90.000	-.1153	-.2445	-.2656	-.1504	-.3336	-.3057	-.2846			
105.000			-.0684	-.1021	-.4676	-.4580	-.3431			
115.000								-.4447		
120.000	-.0450	-.1044	.0326	-.1632	-.2561	-.4001	-.5155	-.4598		
135.000			.0738	.1992	-.1536	-.2340	-.2915			
150.000	-.0307	-.0392	.1371	.3443	-.1001	-.2184	-.2837			
165.000	-.0323		.1029		.1326	-.1731	-.4144			
180.000	-.0526	-.0499	.0669	.4461						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8859) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 936.0680 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = 10.000 SPOSRK = 55.000
BDFLAP = 16.300 L-ELVN = 4.000
R-ELVN = -4.000 MACH = 1.100

ALPHA (I) = -4.026 BETA (I) = -3.831 MACH = 1.1006 Q = 600.08 P = 707.67 RN/L = 3.1805

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3175	.5517	.1330	.0723	.0167			-.0207		-.0600	-.0845	-.1433	-.1304	-.1013	-.0213
20.000			.1635	.0606	-.0403	-.0504		-.0696		-.1067					
40.000			.3513	.0847	-.0115	-.0655		-.1620		-.2485	-.2388	-.2007	-.1573	-.1462	-.0487
55.000			.5187	.2730	.1868	.0951		.0204		-.0585					
70.000			.6274	.3909	.3018	.2432		.1182		-.0141	-.3999	-.1717	-.0841	-.0041	
90.000		.8793	.7056	.4717	.3678	.2949		.1539		-.0784	-.3522	-.3244	-.0966	-.0152	
120.000			.7815	.6071	.4887	.4933		.4007		-.0165	-.2872	-.5392	-.1103	-.0410	
140.000										-.0243					
150.000			.7824	.6442	.5488	.5786		.8342		-.2886	-.5147	-.3284	-.1684	-.0461	
151.000									.5463						
162.000									.6029						
165.000										-.4414	-.4185	-.2798	-.1955	-.0381	
169.000								.8886							
174.000							.9807								
180.000	1.3175	.9776	.7266	.6133	.5367	.5753		.8205		-.5636	-.4454	-.2295	-.2276	-.0407	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0738	-.0216	-.0676	-.1502	-.2420	-.3018	-.3451		.2450	.1622
40.000	-.0433		-.0699	-.1426	-.2541	-.2373	-.3788		.1333	.0693
70.000	.1340	.0655	.2652	.3536	.0774	-.1027	-.2048			
90.000	.1543	.1208	.3178	.3610	.0443	-.0982	-.1786			
105.000			.3754	.3846	-.0436	-.1293	-.2062			
110.000								-.4224		
120.000	.1551	.2226	.4787	.4293	-.1065	-.0972	-.1454	-.3239		
135.000			.5329	.5556	-.0244	.0242	-.0410			
150.000	.1687	.2952	.5278	.5196	.0672	.0907	-.0127			
165.000	.1788		.5073		.2980	.1313	-.4004			
180.000	.1834	.2996	.4933	.5893						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8859)

ALPHA (1) = -3.894 BETA (2) = .203 MACH = 1.1006 Q = 500.08 P = 707.67 RN/L = 3.1805

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3254	.5592	.1426	.0882	.0285			-.0066		-.0461	-.0859	-.1384	-.1247	-.0959	-.0211
20.000			.1572	.0710	-.0112	-.0390		-.0314		-.0828					
40.000			.3016	.0947	-.0090	-.0321		-.1011		-.1733	-.1892	-.1856	-.1436	-.1122	-.0064
55.000			.4304	.2006	.1241	.0574		-.0184		-.1038					
70.000			.5174	.2857	.2037	.1701		.0524		-.0859	-.4701	-.2418	-.1157	-.0224	
90.000		.7431	.5907	.3570	.2713	.2060		.0758		-.1972	-.4311	-.3989	-.1131	-.0227	
120.000			.6852	.5060	.3860	.4134		.2951		-.1568	-.3966	-.6173	-.1497	-.0336	
140.000										-.2332					
150.000			.7306	.6106	.5072	.5377		.7630		-.4207	-.5124	-.2841	-.2090	-.0185	
151.000									.4599						
162.000									.5355						
165.000										-.4493	-.4502	-.2269	-.2272	-.0133	
169.000								.8611							
174.000							.9690								
180.000	1.3254	.9655	.7360	.6222	.5445	.5835		.8526		-.4803	-.5490	-.2066	-.2314	-.0083	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0585	-.0317	-.0802	-.1592	-.2438	-.2990	-.3358		.2689	.1958
40.000	.0021		-.0821	-.1460	-.2459	-.2405	-.3697		.1037	.0694
70.000	.1347	.1161	.2553	.3134	.0358	-.1429	-.2519			
90.000	.1463	.1678	.3040	.3180	-.0194	-.1441	-.2185			
105.000			.3690	.2987	-.1060	-.1812	-.2517			
110.000								-.4589		
120.000	.1674	.2455	.4182	.2670	-.1795	-.1899	-.2443	-.3784		
135.000			.4931	.5314	-.0885	-.0927	-.1372			
150.000	.1836	.3044	.5133	.5728	.0167	-.0367	-.1249			
165.000	.1809		.5088		.2190	.0205	-.4033			
180.000	.1740	.3170	.5141	.6521						

ALPHA (1) = -4.013 BETA (3) = 4.281 MACH = 1.1006 Q = 600.08 P = 707.67 RN/L = 3.1805

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1500	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3091	.5345	.1332	.0838	.0255			-.0208		-.0401	-.0900	-.1425	-.1356	-.1023	-.0307
20.000			.1334	.0652	-.0133	-.0560		-.0175		-.0649					
40.000			.2409	.0626	.0071	-.0219		-.0608		-.1368	-.1644	-.1883	-.1432	-.0926	.0189
55.000			.3384	.1304	.0683	.0257		-.0352		-.1398					
70.000			.4075	.1822	.1283	.1040		.0030		-.1481	-.5236	-.3015	-.1167	-.0177	
90.000		.5943	.4761	.2403	.1916	.1162		.0038		-.3023	-.5037	-.4557	-.1212	-.0140	
120.000			.5965	.4022	.2772	.3093		.1836		-.2838	-.4834	-.6932	-.2197	-.0444	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8859)

ALPHA (1) = -4.013 BETA (3) = 4.281

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LS	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.4685					
150.000			.6692	.5589	.4549	.4816		.6751		-.4711	-.5276	-.2665	-.2861	-.0312	
151.000									.3542						
162.000									.4565						
165.000										-.4228	-.5465	-.2304	-.2559	-.0343	
169.000								.8153							
170.000							.9176								
180.000	1.3091	.9516	.7333	.6160	.5402	.5766		.8401		-.5697	-.4192	-.2296	-.2174	-.0406	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0648	-.0264	-.0751	-.1576	-.2490	-.3108	-.3491		.2328	.1652
40.000	.0459		-.0723	-.1458	-.2575	-.2558	-.3581		.1150	.0414
70.000	.1524	.1220	.2217	.2869	-.0062	-.1780	-.2932			
90.000	.1716	.1737	.2755	.2936	-.0595	-.2018	-.2767			
105.000			.3243	.2343	-.1702	-.2355	-.3015			
110.000								-.4819		
120.000	.1860	.2334	.3550	.1487	-.2825	-.3049	-.3590	-.4208		
135.000			.4409	.5011	-.1683	-.2076	-.2322			
150.000	.1798	.2840	.4691	.6092	-.0557	-.1602	-.2274			
165.000	.1787		.4770		.1426	-.0791	-.4104			
180.000	.1768	.3007	.4983	.6168						

ALPHA (2) = .051 BETA (1) = -3.852 MACH = 1.1008 Q = 600.03 P = 707.43 RN/L = 3.1794

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LS	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3332	.6927	.2601	.1689	.0788			.0250		-.0079	-.0337	-.0895	-.0877	-.1038	-.0366
30.000			.2953	.1660	.0488	.0228		-.0015		-.0446					
60.000			.4661	.2184	.1074	.0679		-.0272		-.1108	-.1174	-.1180	-.0804	-.1083	-.0356
90.000			.5940	.3630	.2669	.1910		.1075		.0132					
120.000			.6559	.4249	.3259	.2778		.1657		.0373	-.3829	-.1399	-.1366	-.0461	
135.000		.8660	.6902	.4743	.3636	.3208		.1974		-.0237	-.3484	-.2336	-.1586	-.0500	
150.000			.7187	.5457	.4337	.4596		.4154		-.0150	-.2935	-.5468	-.1827	-.0851	
165.000										-.0715					
180.000			.6758	.5423	.4538	.5092		.8124		-.3474	-.6118	-.4163	-.1794	-.0571	
191.250									.5256						
195.000									.5686						
195.000										-.4920	-.4932	-.3832	-.2118	-.0522	
195.000								.8554							
179.000							.9393								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8859)

ALPHA (2) = .051 BETA (1) = -3.852

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.3332	.3530	.6089	.5119	.4401	.5012		.7766		-.6030	-.5185	-.3068	-.2513	-.0434	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0850	.0595	.0216	-.0586	-.1507	-.2109	-.2737		.2860	.1910
40.000	.0018		.0294	-.0501	-.1738	-.1391	-.2974		.2142	.1079
70.000	.0335	-.1474	.0514	.2674	.0397	-.1244	-.2318			
90.000	.0654	-.0858	.1476	.2645	.0064	-.1351	-.2220			
105.000			.2670	.2767	-.0815	-.1831	-.2609			
110.000								-.4462		
120.000	.0397	.0156	.3883	.2956	-.1427	-.1646	-.1990	-.3633		
135.000			.4476	.4290	-.1035	-.0704	-.1223			
150.000	.0817	.1714	.4471	.4081	-.0123	-.0072	-.1063			
165.000	.0954		.4246		.2528	.0599	-.4045			
180.000	.0883	.2152	.4093	.4519						

ALPHA (2) = .053 BETA (2) = .191 MACH = 1.1008 Q = 600.03 P = 707.43 RN/L = 3.1794

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3352	.6930	.2657	.1782	.0864			.0328		.0084	-.0330	-.0859	-.0867	-.0997	-.0382
20.000			.2815	.1656	.0508	.0212		.0217		-.0193					
40.000			.4084	.1913	.0949	.0655		.0014		-.0699	-.0930	-.1200	-.0845	-.0909	-.0110
55.000			.4959	.2797	.1923	.1483		.0673		-.0334					
70.000			.5432	.3191	.2301	.2050		.1039		-.0287	-.4403	-.2169	-.1862	-.0567	
90.000		.7237	.5964	.3612	.2483	.2367		.1247		-.1273	-.4280	-.2152	-.1814	-.0513	
120.000			.6325	.4574	.3489	.3926		.3241		-.1394	-.3848	-.6092	-.1554	-.0409	
140.000										-.2200					
150.000			.6339	.5150	.4210	.4777		.7376		-.4824	-.5772	-.3875	-.2056	-.0313	
151.000									.4413						
162.000									.5056						
165.000										-.4973	-.5184	-.2989	-.2415	-.0264	
169.000								.8290							
174.000							.9284								
180.000	1.3352	.8483	.6219	.5200	.4493	.5112		.8120		-.5626	-.6160	-.2783	-.2515	-.0290	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0897	.0450	.0041	-.0734	-.1602	-.1772	-.2518		.3250	.2100
40.000	.0465		.0207	-.0635	-.1588	-.1404	-.2925		.1804	.0833

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8859)

ALPHA (2) = .053 BETA (2) = .191

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	.0214	-.1503	.1446	.2324	-.0016	-.1505	-.2539			
90.000	.0514	-.0715	.2000	.2101	-.0460	-.1541	-.2349			
105.000			.2875	.1933	-.1313	-.2092	-.2804			
110.000								-.4723		
120.000	.0688	.0816	.3322	.2042	-.1720	-.2293	-.2757	-.3838		
135.000			.3801	.4164	-.1001	-.1434	-.1881			
150.000	.0939	.1888	.4073	.4564	-.0260	-.0946	-.1752			
165.000	.0949		.4191		.1864	-.0334	-.3933			
180.000	.0943	.2008	.4218	.5420						

ALPHA (2) = .049 BETA (3) = 4.255 MACH = 1.1008 Q = 600.03 P = 707.43 RN/L = 3.1794

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3190	.6764	.2517	.1729	.0838			.0231		.0073	-.0402	-.0904	-.0903	-.1054	-.0412
20.000			.2505	.1480	.0389	.0300		.0250		-.0111					
40.000			.3313	.1572	.0666	.0615		.0295		-.0421	-.0862	-.1314	-.0967	-.0927	.0157
55.000			.3960	.1996	.1208	.1038		.0354		-.0669					
70.000			.4318	.2199	.1359	.1468		.0498		-.0789	-.4828	-.2846	-.2062	-.0521	
90.000		.5730	.4753	.2530	.1567	.1650		.0548		-.2178	-.4941	-.3757	-.1666	-.0363	
120.000			.5385	.3643	.2497	.3155		.2221		-.2582	-.4816	-.6656	-.1713	-.0322	
140.000										-.4613					
150.000			.5765	.4705	.3750	.4295		.6562		-.5466	-.5915	-.3323	-.2584	-.0372	
151.000									.3410						
162.000									.4252						
165.000										-.5034	-.6179	-.2994	-.2732	-.0410	
169.000								.7785							
174.000							.8736								
180.000	1.3190	.8216	.6183	.5147	.4401	.5021		.7966		-.6120	-.5037	-.3009	-.2454	-.0457	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0926	.0568	.0133	-.0658	-.1590	-.2165	-.2776		.2846	.1917
40.000	.0933		.0265	-.0599	-.1750	-.1546	-.2933		.1693	.0613
70.000	.0412	-.1011	.1110	.2045	-.0494	-.2023	-.3027			
90.000	.0830	-.0152	.1658	.1917	-.1145	-.2177	-.2859			
105.000			.2426	.1499	-.2068	-.2763	-.3298			
110.000								-.4976		
120.000	.1027	.1125	.2754	.0732	-.2827	-.3451	-.3839	-.4210		
135.000			.3672	.4011	-.1938	-.2560	-.2890			
150.000	.1243	.2022	.3937	.4072	-.0919	-.2071	-.2845			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8859)

ALPHA (2) = .049 BETA (3) = 4.255

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	.1172		.3990		.1126	-.1297	-.4106			
180.000	.0850	.2145	.4134	.4680						

ALPHA (3) = 3.965 BETA (1) = -3.853 MACH = 1.1009 Q = 600.17 P = 707.44 RN/L = 3.1827

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3201	.8233	.3818	.2643	.1764			.0961		.0466	.0170	-.0317	-.0290	-.0601	-.0431
20.000			.4282	.2719	.1516	.0805		.0887		.0241					
40.000			.5745	.3335	.2185	.1579		.0949		.0114	-.0149	-.0370	-.0035	-.0660	.0087
55.000			.6481	.4278	.3264	.2534		.1795		.0752					
70.000			.6627	.4415	.3368	.2967		.1984		.0847	-.3286	-.1310	-.1385	-.1076	
90.000		.8296	.6670	.4595	.3437	.3255		.2298		.0298	-.3449	-.1855	-.1997	-.1069	
120.000			.6386	.4703	.3633	.4162		.4195		-.0023	-.3149	-.5384	-.3053	-.1695	
140.000										-.0818					
150.000			.5611	.4384	.3510	.4387		.7879		-.3272	-.6745	-.4926	-.2089	-.0783	
151.000									.5022						
162.000									.5351						
165.000										-.5492	-.6010	-.4501	-.2236	-.0639	
169.000								.8198							
174.000							.9009								
180.000	1.3201	.7199	.4842	.4148	.3383	.4316		.7345		-.6556	-.5844	-.3525	-.2465	-.0509	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9390	1.0180	1.0460
PHI										
.000	.1639	.1734	.1266	.0369	-.0685	-.1606	-.2371		.3701	.2368
40.000	.1110		.1459	.0431	-.1016	-.0780	-.2539		.2732	.1300
70.000	-.0608	-.2462	-.3157	.1577	-.0206	-.1667	-.2195			
90.000	-.0204	-.1799	-.0790	.1422	-.0511	-.1813	-.2630			
105.000			.1420	.1468	-.1307	-.2472	-.3115			
110.000								-.4370		
120.000	-.0659	-.0898	.2704	.1537	-.1705	-.2427	-.2551	-.3769		
135.000			.3080	.3073	-.1575	-.1508	-.1946			
150.000	.0469	.1058	.3100	.3199	-.0803	-.0758	-.1717			
165.000	.0554		.3123		.1978	.0164	-.4112			
180.000	.0593	.1389	.3109	.3924						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8859)

ALPHA (3) = 3.964 BETA (2) = .193 MACH = 1.1009 Q = 600.17 P = 707.44 RN/L = 3.1827

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3250	.8260	.3857	.2686	.1762			.0979		.0519	.0209	-.0284	-.0333	-.0506	-.0347
20.000			.4055	.2630	.1419	.0669		.0929		.0345					
40.000			.5005	.2918	.1858	.1353		.1064		.0286	-.0137	-.0522	-.0241	-.0711	.0031
55.000			.5423	.3329	.2411	.1919		.1338		.0312					
70.000			.5479	.3355	.2385	.2264		.1395		.0243	-.3779	-.2105	-.2044	-.0970	
90.000		.6880	.5609	.3530	.2406	.2514		.1619		-.0597	-.4093	-.2659	-.2492	-.0923	
120.000			.5586	.3990	.2921	.3700		.3437		-.1121	-.3779	-.6009	-.2150	-.0869	
140.000										-.2126					
150.000			.5276	.4247	.3237	.4205		.7084		-.4989	-.6760	-.4627	-.1963	-.0441	
151.000									.4243						
162.000									.4776						
165.000										-.5495	-.5707	-.3492	-.2211	-.0375	
169.000								.7899							
174.000							.8798								
180.000	1.3250	.7152	.5021	.4170	.3464	.4441		.7696		-.6750	-.6683	-.3301	-.2371	-.0368	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1543	.1602	.1357	.0373	-.0620	-.1541	-.2309		.3819	.2438
40.000	.1300		.1461	.0500	-.0914	-.0867	-.2491		.2665	.1189
70.000	-.0692	-.2453	-.1857	.1382	-.0578	-.1867	-.2610			
90.000	-.0288	-.1739	.0218	.1228	-.1100	-.2022	-.2723			
105.000			.1547	.1022	-.1751	-.2598	-.3215			
110.000								-.4963		
120.000	.0019	-.0367	.2410	.1122	-.1980	-.2812	-.3230	-.4055		
135.000			.2761	.3781	-.1278	-.1998	-.2473			
150.000	.0595	.0691	.3059	.4870	-.0584	-.1459	-.2273			
165.000	.0696		.326		.1381	-.0867	-.4050			
180.000	.0710	.0689	.3308	.5007						

ALPHA (3) = 3.966 BETA (3) = +4.249 MACH = 1.1009 Q = 600.17 P = 707.44 RN/L = 3.1827

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3094	.9103	.3769	.2661	.1669			.0952		.0469	.0083	-.0301	-.0343	-.0631	-.0406
20.000			.3710	.2411	.1245	.0534		.0858		.0249					
40.000			.4159	.2401	.1462	.1042		.1018		.0178	-.0285	-.0747	-.0648	-.0957	.0135
55.000			.4345	.2420	.1601	.1330		.0933		-.0061					
70.000			.4381	.2349	.1462	.1616		.0950		-.0281	-.4288	-.2850	-.2611	-.0849	
90.000		.5370	.4511	.2496	.1516	.1857		.1049		-.1425	-.4718	-.3374	-.2573	-.0606	
120.000			.4794	.3157	.2123	.3091		.2547		-.2203	-.4671	-.6470	-.1935	-.0428	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8859)

ALPHA (3) = 3.966 BETA (3) = 4.249

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.3855					
150.000			.4834	.3853	.2854	.3814		.6363		-.5884	-.6409	-.3838	-.2238	-.0361	
151.000									.3322						
162.000									.4003						
165.000										-.5633	-.6544	-.3528	-.2533	-.0460	
169.000								.7464							
174.000							.8362								
180.000	1.3094	.6868	.5007	.4158	.3430	.4315		.7580		-.6730	-.5732	-.3601	-.2543	-.0579	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	9600	.9990	1.0190	1.0460
PHI										
.000	.1611	.1639	.1199	.0286	-.0737	-.1624	- 2432		.3667	.2390
40.000	.1731		.1353	.0394	-.0942	-.1110	- 2712		.2385	.0926
70.000	-.0408	-.2236	-.1347	.1195	-.0957	-.2317	-.3372			
90.000	.0057	-.1434	.0251	.0932	-.1536	-.2484	- 3183			
105.000			.1231	.0613	-.2579	-.3238	- 3677			
110.000								-.5236		
120.000	.0698	.0026	.1842	.0097	-.3007	-.3813	-.4262	-.4334		
135.000			.2840	.2705	-.2444	-.3037	- 3391			
150.000	.0951	.0968	.3112	.2898	-.1485	-.2668	-.3311			
165.000	.0883		.3110		.0805	-.1782	- 4145			
180.000	.0769	.1458	.3179	.3638						

ALPHA (4) = 7.908 BETA (1) = -3.848 MACH = 1 0993 Q = 599.26 P = 708.35 RN/L = 3.1817

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2888	.9441	.5073	.3624	.2591			.1380		.1238	.0670	.0312	.0366	.0068	.0151
20.000			.5490	.3818	.2523	.1688		.1361		.1212					
40.000			.6604	.4334	.3156	.2425		.1758		.1320	.0677	.0357	.0635	.0052	.0563
55.000			.6834	.4686	.3608	.2841		.2108		.1417					
70.000			.6550	.4431	.3279	.2997		.2162		.1266	-.2754	-.1189	-.1326	-.2217	
90.000		.7761	.6240	.4234	.3213	.3141		.2432		.0708	-.3185	-.1671	-.2019	-.2001	
120.000			.5476	.3856	.2821	.3571		.4144		.0050	-.3327	-.5162	-.5613	-.2673	
140.000										-.0874					
150.000			.4399	.3291	.2487	.3657		.7682		-.2475	-.7302	-.5845	-.2503	-.1047	
151.000									.4848						
162.000									.5047						
165.000										-.6027	-.6767	-.5046	-.2347	-.0761	
169.000								.7876							
174.000							8611								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8859)

ALPHA (4) = 7.908 BETA (1) = -3.848

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.2888	.5731	.3661	.3123	.2492	.3685		.6971		-.7063	-.8407	-.3954	-.2130	-.0577	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2441	.2552	.2009	.0949	-.0096	-.1047	-.1878		.4521	.2762
40.000	.2401		.2231	.1157	-.0457	-.0136	-.2085		.3247	.1436
70.000	-.0986	-.3255	-.3869	.0163	-.0223	-.1345	-.1653			
90.000	-.0683	-.2546	-.2846	.0289	-.0697	-.1448	-.2267			
105.000			.0203	.0802	-.1312	-.1985	-.2737			
110.000								-.4322		
120.000	-.1516	-.1799	.1686	.1176	-.2229	-.2252	-.2182	-.3235		
135.000			.1578	.3399	-.1899	-.1895	-.1991			
150.000	-.0062	-.0551	.1734	.4125	-.0886	-.1426	-.2227			
165.000	.0517		.2270		.1438	-.0522	-.4403			
180.000	.0647	.0116	.2769	.4966						

ALPHA (4) = 7.912 BETA (2) = .189 MACH = 1.0993 Q = 599.26 P = 708.35 RN/L = 3.1817

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
[illegible]	[illegible]	.9512	[illegible]	.3676	.2667			.1464		.1169	.0738	.0394	.0366	.0120	.0174
[illegible]			[illegible]	.3663	.2404	.1692		.1438		.0996					
[illegible]			[illegible]	.3605	.2749	.2076		.1656		.1067	.0516	.0120	.0309	-.0060	.0274
[illegible]			[illegible]	.3690	.2693	.2142		.1572		.0854					
[illegible]			[illegible]	.3392	[illegible]	.2300		.1620		.0646	-.3241	-.2080	-.1994	[illegible]	
[illegible]		.5311	[illegible]	[illegible]	[illegible]	.2492		.1861		-.0076	-.3769	-.2482	-.2626	[illegible]	
[illegible]			[illegible]	[illegible]	[illegible]	[illegible]		.3563		-.0902	-.3995	-.5790	-.3536	[illegible]	
[illegible]										-.2044					
[illegible]			[illegible]	.3288	.2291	.3676		.6902		-.5013	-.7332	-.5353	-.2108	[illegible]	
[illegible]									.4158						
[illegible]									.4529						
[illegible]										-.6005	-.6293	-.4054	-.2013	-.0519	
[illegible]								.7467							
[illegible]							.8252								
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.2504	.3827		.7325		-.7322	-.7100	-.3789	-.1999	-.0493	

X/LB	[illegible]	.7290	[illegible]	[illegible]	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.0023	-.1015	-.1733		.4620	.2823
[illegible]	[illegible]		[illegible]	[illegible]	-.0314	-.0159	-.2072		.3346	.1405

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8859)

ALPHA (4) = 7.912 BETA (2) = .199

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1105	-.3420	-.3877	.0397	-.0813	-.1779	-.2340			
90.000	-.0687	-.2221	-.1960	.0259	-.1592	-.1972	-.2532			
105.000			.0382	.0560	-.2518	-.2584	-.3062			
110.000								-.4644		
120.000	-.0390	-.1121	.1267	.0782	-.2689	-.3279	-.3189	-.3768		
135.000			.1894	.3392	-.1772	-.2677	-.2967			
150.000	.0501	-.0261	.2313	.5317	-.1109	-.2187	-.2769			
165.000	.0829		.2914		.0854	-.1569	-.4282			
180.000	.0775	.0021	.3101	.5474						

ALPHA (4) = 7.911 BETA (3) = 4.247 MACH = 1.0993 Q = 599.26 P = 708.35 RN/L = 3.1817

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2775	.9329	.5015	.3643	.2508			.1441		.1089	.0639	.0339	.0351	.0052	.0194
20.000			.4863	.3303	.2149	.1402		.1318		.0821					
40.000			.4880	.3149	.2161	.1629		.1419		.0719	.0156	-.0239	-.0106	-.0385	.0099
55.000			.4534	.2655	.1766	.1412		.1051		.0402					
70.000			.4260	.2364	.1374	.1649		.1107		.0096	-.3706	-.2819	-.2715	-.1815	
90.000		.4875	.4220	.2388	.1353	.1961		.1301		-.0832	-.4348	-.3150	-.3283	-.1465	
120.000			.4073	.2589	.1577	.2996		.2826		-.1844	-.4653	-.6293	-.2490	-.0931	
140.000										-.3206					
150.000			.3780	.2946	.1910	.3379		.6181		-.6046	-.7311	-.4454	-.1983	-.0497	
151.000									.3249						
162.000									.3788						
165.000										-.6122	-.6752	-.3945	-.2035	-.0464	
169.000								.7122							
174.000							.7956								
180.000	1.2775	.5422	.3834	.3184	.2310	.3703		.7209		-.7257	-.6332	-.4068	-.2236	-.0604	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2397	.2484	.1994	.0918	-.0133	-.1119	-.1917		.4509	.2822
40.000	.2605		.2110	.1105	-.0381	-.0506	-.2239		.3071	.1270
70.000	-.0897	-.3166	-.3379	.0230	-.1562	-.2690	-.3335			
90.000	-.0299	-.2092	-.1237	-.0164	-.2273	-.2930	-.3440			
105.000			.0244	.0152	-.3017	-.3747	-.4102			
110.000								-.5229		
120.000	.0483	-.0775	.1095	-.0378	-.3416	-.3972	-.5073	-.4649		
135.000			.2521	.2960	-.2621	-.3507	-.3680			
150.000	.0962	.0019	.2930	.4214	-.1947	-.3212	-.3757			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8859)

ALPHA (4) = 7.911 BETA (3) = 4.247

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	.0894		.2778		.0114	-.2530	-.4402			
180.000	.0666	.0097	.2588	.4860						

ALPHA (5) = 11.969 BETA (1) = -3.832 MACH = 1.0972 Q = 598.33 P = 710.00 RN/L = 3.1878

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2314	1.0528	.6343	.4661	.3556			.2039		.1853	.1270	.1113	.1166	.0962	.2236
20.000			.6805	.4926	.3565	.2564		.2134		.1851					
40.000			.7470	.5314	.4071	.3139		.2526		.2083	.1367	.1154	.1386	.0948	.2539
55.000			.7027	.4923	.3792	.2874		.2188		.1761					
70.000			.6291	.4320	.3123	.2881		.2259		.1557	-.2334	-.1143	-.1226	-.2357	
90.000		.7030	.5694	.3868	.2827	.2834		.2472		.1034	-.3018	-.1470	-.1905	-.2838	
120.000			.4432	.2813	.1847	.2940		.3965		.0146	-.3468	-.5167	-.7301	-.3424	
140.000										-.0861					
150.000			.3140	.2174	.1327	.3052		.7491		-.2180	-.7842	-.6825	-.2903	-.1375	
151.000									.4691						
162.000									.4779						
165.000										-.6580	-.7347	-.5496	-.2435	-.1037	
[illegible]								.7550							
[illegible]							.8078								
180.000	[illegible]	[illegible]	[illegible]	.2193	[illegible]	.3106		.6596		-.7506	-.6865	-.4261	-.1931	-.0537	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
[illegible]	[illegible]	.2830	[illegible]	[illegible]	[illegible]	[illegible]	-.1394		.5249	.3107
[illegible]	[illegible]		[illegible]	.1519	.1208	.0544	-.1859		.4020	.1584
[illegible]	[illegible]	-.3007	[illegible]	-.0761	-.0744	-.2241	-.3428			
[illegible]	[illegible]	-.2925	[illegible]	-.1313	-.1042	-.2216	-.3376			
[illegible]			[illegible]	[illegible]	-.1501	-.2817	-.3772			
[illegible]								-.4553		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.2029	-.2796	-.5046	-.3780		
[illegible]			[illegible]	.2979	-.2279	-.2174	-.2720			
[illegible]	[illegible]	[illegible]	[illegible]	.4480	-.1508	-.2144	-.3010			
[illegible]	.0442		[illegible]		.0803	-.1158	-.4522			
[illegible]	[illegible]	[illegible]	[illegible]	.5151						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8859)

ALPHA (5) = 11.872 BETA (2) = .197 MACH = 1.0972 Q = 598.33 P = 710.00 RN/L = 3.1878

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2398	1.0578	.6387	.4730	.3576			.2107		.1890	.1367	.1125	.1167	.0983	.1967
20.000			.6486	.4654	.3363	.2462		.2086		.1788					
40.000			.6536	.4621	.3486	.2633		.2209		.1734	.0989	.0763	.0931	.0706	.2031
55.000			.5807	.3774	.2762	.1953		.1521		.1270					
70.000			.5125	.3223	.2079	.2164		.1677		.1064	-.2881	-.2010	-.2012	-.3236	
90.000		.5693	.4690	.2892	.1868	.2273		.1930		.0423	-.3579	-.2288	-.2650	-.3010	
120.000			.3887	.2400	.1369	.2918		.3561		-.0666	-.4074	-.5628	-.6886	-.2053	
140.000										-.1899					
150.000			.3059	.2296	.1218	.3110		.6763		-.4807	-.7794	-.5940	-.2414	-.0945	
151.000									.4051						
162.000									.4283						
1_ 000										-.6419	-.6755	-.4468	-.1922	-.0439	
169.000								.7061							
174.000							.7733								
180.000	1.2398	.4096	.2647	.2024	.1469	.3285		.6912		-.7669	-.7323	-.4109	-.1799	-.0380	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.3216	.3320	.2703	.1640	.0687	-.0349	-.1197		.5269	.:40
40.000	.3360		.2932	.1888	.0322	.0554	-.1698		.3926	664
70.000	-.1246	-.4202	-.4979	-.1731	-.1757	-.2200	-.2671			
90.000	-.0730	-.3046	-.3905	-.0853	-.1669	-.2284	-.2552			
105.000			-.1389	.0083	-.4384	-.3252	-.3497			
110.000								-.4612		
120.000	-.0456	-.1376	.0476	.0814	-.3135	-.3377	-.3670	-.3434		
135.000			.1184	.3254	-.2295	-.3067	-.3267			
150.000	.0406	-.0924	.1639	.5525	-.1844	-.2885	-.3262			
165.000	.0857		.2425		.0539	-.2057	-.4363			
180.000	.0951	-.0143	.2688	.5760						

ALPHA (5) = 11.865 BETA (3) = 4.258 MACH = 1.0972 Q = 598.33 P = 710.00 RN/L = 3.1878

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2263	1.0422	.6269	.4679	.3410			.2050		.1766	.1347	.1134	.1112	.0944	.1731
20.000			.5978	.4301	.2989	.2122		.1834		.1447					
40.000			.5477	.3834	.2743	.1925		.1687		.1094	.0513	.0308	.0498	.0375	.1575
55.000			.4510	.2676	.1623	.1060		.0788		.0794					
70.000			.3901	.2212	.1104	.1543		.1095		.0699	-.3287	-.2771	-.2779	-.3459	
90.000		.4209	.3681	.2028	.0891	.1874		.1427		-.0128	-.4046	-.3020	-.3296	-.2457	
120.000			.3243	.1886	.0621	.2718		.2980		-.1469	-.4638	-.6133	-.3462	-.1505	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8859)

ALPHA (5) = 11.865 BETA (3) = 4.258

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.2956					
150.000			.2719	.2113	.0704	.2980		.5936		-.5945	-.7768	-.4963	-.1831	-.0590	
151.000									.3182						
152.000									.3603						
165.000										-.6477	-.6953	-.4190	-.1682	-.0505	
169.000								.6833							
174.000							.7596								
180.000	1.2263	.3816	.2664	.2357	.1175	.3170		.6874		-.7622	-.6848	-.4348	-.1937	-.0628	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.3126	.3263	.2656	.1532	.0478	-.0608	-.1409		.5204	.3129
40.000	.3299		.2828	.1733	.0199	.0190	-.1785		.3613	.1448
70.000	-.1148	-.4182	-.4596	-.1315	-.2126	-.2798	-.3003			
90.000	-.0481	-.2927	-.3273	-.1259	-.3356	-.2712	-.2945			
105.000			-.1151	-.0622	-.5327	-.3654	-.3771			
110.000								-.5299		
120.000	.0407	-.1074	.0278	-.0698	-.3775	-.4825	-.5704	-.4915		
135.000			.1471	.2383	-.2719	-.3588	-.3901			
150.000	.1019	-.0287	.2417	.4719	-.2002	-.3348	-.4028			
165.000	.1074		.2421		.0011	-.3008	-.4545			
180.000	.0814	-.0391	.2150	.5266						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8860) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 935.0680 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = 10.000 SPDBRK = 55.000
BDFLAP = 16.300 L-ELVN = 4.000
R-ELVN = -4.000 MACH = .900

ALPHA (I) = -4.026 BETA (I) = -3.841 MACH = .89803 Q = 598.77 P = 1060.7 RN/L = 3.5631

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1865	.3570	-.0744	-.1122	-.1697			-.2140		-.2190	-.1798	-.0734	-.0322	.0055	-.0137
20.000			-.0490	-.1392	-.2333	-.2425		-.2032		-.2499					
40.000			.1459	-.1161	-.2127	-.2454		-.3578		-.4363	-.3678	-.1309	-.0825	-.0384	-.0441
55.000			.3342	.0883	.0004	-.1015		-.1932		-.2851					
70.000			.4596	.2176	.1240	.0595		-.0939		-.2292	-.7207	-.0207	.0617	.1061	
90.000		.7308	.5444	.3055	.2046	.1090		-.0712		-.3036	-.6555	-.0533	.0464	.0976	
120.000			.6365	.4547	.3301	.3222		.1823		-.2341	-.5802	-.1165	.0301	.0702	
140.000										-.1595					
150.000			.6421	.4973	.3989	.4147		.6556		-.2693	-.8568	-.0625	.0230	.0453	
161.000									.3291						
162.000									.3877						
165.000										-.8341	-.7746	-.0266	.0164	.0405	
169.000								.7161							
174.000							.8290								
180.000	1.1865	.8398	.5801	.4662	.3880	.4123		.6384		-.9416	-.7681	-.0160	.0093	.0340	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1317	-.1877	-.2347	-.3433	-.3518	-.1899	-.0291		.2809	.0852
40.000	-.2401		-.2281	-.3381	-.2429	-.1625	-.0609		.1715	-.0010
70.000	.0340	-.0135	.0595	.1564	-.1277	-.1114	-.1044			
90.000	.0612	.0170	.1254	.1971	-.1668	-.1441	-.1314			
105.000			.1891	.2424	-.2769	-.1699	-.1756			
110.000								-.3535		
120.000	.0577	.0977	.2913	.3459	-.3148	-.2156	-.2026	-.2616		
135.000			.3633	.4486	-.1821	-.0998	-.1148			
150.000	.0782	.1454	.3620	.4482	-.0850	-.0413	-.0633			
165.000	.0758		.3407		.1172	-.0201	-.3076			
180.000	.0602	.1377	.3202	.4928						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8860)

ALPHA (1) = -4.026 BETA (2) = .202 MACH = .89803 Q = 598.77 P = 1060.7 RN/L = 3.5631

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1959	.3528	-.0715	-.1013	-.1704			-.2121		-.2173	-.1775	-.0623	-.0241	.0076	-.0079
20.000			-.0523	-.1232	-.2158	-.2267		-.2385		-.2338					
40.000			.1013	-.1161	-.2054	-.2158		-.3078		-.3302	-.3300	-.0777	-.0376	-.0099	-.0155
55.000			.2423	.0163	-.0650	-.1338		-.2374		-.3389					
70.000			.3462	.1092	.0260	-.0205		-.1773		-.3236	-.7698	-.0345	.0480	.0901	
90.000		.5838	.4263	.1851	.1054	.0133		-.1709		-.4583	-.7317	-.0761	.0331	.0759	
120.000			.5337	.3522	.2255	.2328		.0587		-.4299	-.6789	-.1541	.0104	.0498	
140.000										-.4452					
150.000			.5882	.4638	.3528	.3727		.5792		-.7963	-.8403	-.0295	.0194	.0437	
151.000									.2309						
162.000									.3094						
165.000										-.8451	-.7367	-.0161	.0208	.0505	
169.000								.6850							
174.000							.8143								
180.000	1.1959	.8324	.5943	.4767	.3988	.4207		.6751		-.9528	-.7116	-.0045	.0213	.0498	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
[illegible]	-.1262	-.1355	-.2395	-.3386	-.4197	-.1933	-.0277		.3170	.1048
[illegible]	-.1384		-.2279	-.3348	-.2213	-.1734	-.0292		.1418	.0039
[illegible]	[illegible]	-.0459	.0321	.0241	-.2175	-.1950	-.1389			
[illegible]	[illegible]	.0277	.0254	.1273	-.2683	-.2294	-.1533			
[illegible]			[illegible]	[illegible]	-.4187	[illegible]	-.2147			
[illegible]								-.3589		
[illegible]	[illegible]	.0507	[illegible]	.2476	-.4276	[illegible]	.2951	-.2966		
[illegible]			[illegible]	.4675	-.3241	.2052	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.2272	[illegible]	-.1139			
[illegible]	[illegible]		[illegible]		-.0630	[illegible]	-.3082			
[illegible]	[illegible]	[illegible]	[illegible]	.3455						

[illegible] = 4.2[illegible] MACH = .89803 Q = 598.77 P = 1060.7 RN/L = 3.5631

[illegible] ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	[illegible]	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
[illegible]	[illegible]	.3753	-.0644	-.1017	-.1766			-.2100		-.2248	-.1771	-.0724	-.0324	.0063	-.0193
[illegible]			-.0738	-.1334	-.2191	-.2224		-.2252		-.2340					
[illegible]			[illegible]	[illegible]	-.2064	-.1979		-.2714		-.3268	-.3036	-.0459	-.0140	.0023	.0057
[illegible]			[illegible]	-.0569	-.1268	-.1647		-.2627		-.3867					
[illegible]			[illegible]	[illegible]	[illegible]	-.0899		-.2396		-.4047	-.8351	-.0775	.0455	.0786	
[illegible]		[illegible]	[illegible]	[illegible]	-.0012	[illegible]		-.2563		-.5938	-.7347	-.2172	.0441	.0645	
[illegible]			[illegible]	[illegible]	.1033	[illegible]		-.0663		-.5919	-.8123	-.2500	-.0135	.0272	

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

AMES 11-073:OA148) -140A/B/C/R ORB FUSELAGE (XE8860)

ALPHA (1) = -3.984 BETA (3) = 4.285

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.8078					
150.000			.5145	.4057	.2997	.3066		.4775		-.8821	-.8538	-.0468	-.0045	.0236	
151.000									.1134						
162.000									.2204						
165.000										-.8552	-.7402	-.0236	.0004	.0312	
169.000								.6346							
174.000							.7569								
180.000	1.1786	.8100	.5883	.4709	.3906	.4138		.6623		-.9426	-.7607	-.0158	.0075	.0317	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1339	-.1996	-.2351	-.3422	-.3827	-.2005	-.0319		.2964	.0982
40.000	-.1641		-.2233	-.3321	-.3752	-.1640	-.0284		.1945	.0048
70.000	.0116	-.0485	-.0011	.0573	-.2937	-.2886	-.1616			
90.000	.0369	-.0030	.0581	.0686	-.3703	-.3361	-.1998			
105.000			.1160	.0627	-.5024	-.4405	-.2179			
110.000								-.3523		
120.000	.0474	.0505	.1565	.1023	-.6415	-.5779	-.3290	-.3333		
135.000			.2585	.3766	-.4676	-.4398	-.2347			
150.000	.0595	.1141	.2912	.5346	-.3371	-.3853	-.1673			
165.000	.0657		.3043		-.1163	-.3268	-.3099			
180.000	.0622	.1423	.3304	.5244						

ALPHA (2) = .056 BETA (1) = -3.856 MACH = .89813 Q = 598.75 P = 1060.5 RN/L = 3.5631

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2043	.5186	.0732	-.0088	-.0796			-.1585		-.1616	-.1697	-.0692	-.0192	.0283	.0317
20.000			.1079	-.0130	-.1147	-.1584		-.1867		-.1921					
40.000			.2938	.0420	-.0661	-.1187		-.2177		-.2445	-.2701	-.0803	-.0279	.0054	.0329
55.000			.4326	.1987	.1041	.0151		-.0923		-.1907					
70.000			.4936	.2676	.1673	.1059		-.0376		-.1756	-.6484	-.0826	.0216	.0627	
80.000		.7197	.5470	.3186	.1934	.1447		-.0142		-.2559	-.6369	-.1310	.0169	.0543	
100.000			.5747	.3992	.2960	.2924		.2013		-.2552	-.6038	-.2081	-.0015	.0147	
140.000										-.2724					
150.000			.6358	.3937	.3037	.3429		.6298		-.3716	-.9848	-.2126	.0179	.0102	
61.000									.3016						
1 .000									.3424						
1 .00										-.9106	-.8610	-.1293	.0141	.0091	
1 .000								.6752							
174.000							.7840								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8860)

ALPHA (2) = .055 BETA (1) = -3.856

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI 180.000	1.2043	.7035	.4593	.3637	.2929	.3349		.5882		-1.0495	-.8575	-.0633	.0139	.0048	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0259	-.0745	-.1457	-.2635	-.3141	-.2101	-.0221		.2896	.0926
45.000	-.0958		-.1305	-.2524	-.2995	-.1623	-.0747		.2080	.0169
70.000	-.1023	-.2092	-.0077	.1394	-.1309	-.0269	-.0944			
90.000	-.0610	-.1304	.0539	.1737	-.1729	-.1193	-.1190			
105.000			.1476	.2210	-.2805	-.1673	-.1577			
110.000								-.3456		
120.000	-.0491	-.0089	.2536	.2928	-.3534	-.1943	-.1694	-.2446		
135.000			.3175	.3671	-.2529	-.1068	-.1185			
150.000	-.0008	.0751	.3173	.3095	-.1644	-.0763	-.0867			
165.000	.0060		.2911		.0674	-.0672	-.3035			
180.000	[illegible]	[illegible]	.2732	.4076						

ALPHA (2) = [illegible] BETA (2) = [illegible] MACH = .89815 Q = 598.75 P = 1060.5 RN/L = 3.5631

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI 180.000	[illegible]	.7032	.4768	.3746	.3004	.3452	.7726	.6273		-.9312	-.8595	-.0518	.0252	.0233	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	[illegible]	.1728	[illegible]	[illegible]	-.3033	-.2172	-.0176		.314	.0394
45.000	[illegible]		-.1308	[illegible]	-.3040	-.1776	-.0425		.1815	-.0015

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8B50)

ALPHA (2) = .056 BETA (2) = .18

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1148	-.2035	-.0356	.0773	-.2430	-.1610	-.1268			
90.000	-.0648	-.1214	.0336	.1005	-.3110	-.1877	-.1554			
105.000			.1062	.1296	-.4291	-.2271	-.2008			
110.000								-.3529		
120.000	-.0213	-.0034	.1766	.2410	-.4897	-.2912	-.2462	-.2720		
135.000			.2553	.4010	-.3621	-.2117	-.1753			
150.000	.0132	.0728	.2758	.4614	-.2705	-.1966	-.1324			
165.000	.0215		.2759		-.0759	-.1916	.2992			
180.000	.0126	.0860	.2828	.4760						

ALPHA (2) = .048 BETA (3) = 4.260 MACH = .89813 Q = 598.75 P = 1060.5 RN/L = 3.5631

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0060	.0230	.0460	.0700	.1120	.1580	.1800	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1936	.5004	.0636	-.0038	-.0886			-.1549		-.1730	-.1808	-.0683	-.0162	.0304	.0238
20.000			.0686	-.0284	-.1238	-.1432		-.1641		-.1845					
40.000			.1565	-.0189	-.1007	-.1159		-.1771		-.2129	-.2707	-.0497	-.0003	.0209	.0572
55.000			.2234	.0278	-.0362	-.0762		-.1790		-.2752					
70.000			.2631	.0491	-.0234	-.0408		-.1733		-.3265	-.7791	-.0861	.0122	.0377	
90.000		.4115	.3077	.0848	-.0123	-.0296		-.1846		-.4969	-.7815	-.1627	.0188	.0356	
120.000			.3798	.2052	.0904	.1296		-.0214		-.5607	-.7836	-.2163	.0115	.0217	
140.000										-.7517					
150.000			.4267	.3222	.2199	.2536		.4555		-.9213	-.9668	-.1097	.0143	.0082	
151.000									.0951						
164.000									.1830						
165.000										-.8816	-.8598	-.0682	.0124	.0094	
169.000								.5920							
174.000							.7122								
180.000	1.1936	.6812	.4727	.3604	.2882	.3382		.6115		-1.0600	-.8680	-.0533	.0126	.0040	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0308	-.0823	-.1442	-.2700	-.3515	-.2283	-.0264		.2978	.0991
40.000	-.0435		-.1352	-.2500	-.2992	-.2165	-.0511		.1860	-.0081
70.000	-.1107	-.1845	-.0613	.0278	-.3146	-.2935	-.1646			
90.000	-.0643	-.1059	.0052	.0382	-.3885	-.3454	-.1851			
105.000			.0700	.0437	-.5184	-.5038	-.2095			
110.000								-.3626		
120.000	-.0139	-.0186	.1216	.1000	-.6374	-.5990	-.2728	-.2989		
135.000			.2226	.3447	-.5225	-.4981	-.1965			
150.000	.0125	.0676	.2497	.4386	-.3933	-.4597	-.1642			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8860)

ALPHA (2) = .048 BETA (3) = 4.260

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	.0087		.2569		-.1777	-.3932	-.2934			
180.000	.0007	.0922	.2855	.4272						

ALPHA (3) = 3.975 BETA (1) = -3.861 MACH = .89723 Q = 597.99 P = 1061.2 RN/L = 3.5607

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1969	.6643	.2169	.1010	.0189			-.0894		-.1047	-.1229	-.0546	.0037	.0675	.0869
20.000			.2629	.1133	-.0028	-.0673		-.1028		-.1227					
40.000			.4197	.1690	.0649	-.0032		-.0896		-.1336	-.1674	-.0391	.0228	.0587	.1060
55.000			.5036	.2781	.1775	.0939		-.0086		-.1085					
70.000			.5181	.2972	.1898	.1340		.0008		-.1310	-.5724	-.1518	-.0261	.0261	
90.000		.6848	.5243	.3107	.2047	.1607		.0242		-.2076	-.6225	-.2021	-.0296	.0175	
120.000			.4948	.3310	.2247	.2568		.2079		-.2565	-.6159	-.3072	-.0873	-.0543	
140.000										-.3520					
150.000			.4162	.2934	.2110	.2700		.6072		-.4540	-.9422	-.4216	.0056	-.0202	
151.000									.2755						
162.000									.3057						
165.000										-.9628	-.8049	-.4043	.0356	-.0112	
168.000								.6352							
174.000							.7424								
180.000	1.1939	.5690	.3287	.2632	.1995	.2645		.5406		-1.0947	-.9021	-.2569	.0424	.0001	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
[illegible]	[illegible]	.0058	-.0692	-.1975	-.2216	-.2359	-.0241		.3407	.1113
[illegible]	[illegible]		-.0528	-.1762	-.1968	-.1820	-.0905		.2391	.0285
[illegible]	-.2130	-.4335	-.0962	.1164	-.0977	-.0703	-.0669			
[illegible]	-.1545	-.3410	.0051	.1423	-.1443	-.1120	-.1138			
[illegible]			.1031	.1633	-.2362	-.1540	-.1514			
[illegible]								-.3368		
[illegible]	-.1803	-.1395	.2221	.1477	-.3447	-.1909	-.1456	-.2388		
[illegible]			.2652	.2405	-.2989	-.1351	-.1368			
150.000	-.0769	.0082	.2516	.1863	-.2227	-.1133	-.1140			
165.000	-.0636		.2268		.0220	-.1011	-.2911			
180.000	-.0593	.0165	.2059	.3480						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8860)

ALPHA (3) = 4.019 BETA (2) = .193 MACH = .89723 Q = 597.99 P = 1061.2 RN/L = 3.5607

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2044	.6710	.2215	.1118	.0190			-.0845		-.0949	-.1228	-.0568	.0087	.0700	.0866
20.000			.2437	.1051	-.0037	-.0647		-.0947		-.1202					
40.000			.3433	.1365	.0384	-.0109		-.0861		-.1342	-.1834	-.0334	.0258	.0587	.1126
55.000			.3911	.1855	.0942	.0312		-.0689		-.1607					
70.000			.3999	.1871	.0881	.0591		-.0701		-.2012	-.6576	-.1479	-.0310	.0071	
90.000		.5376	.4124	.2063	.0980	.0801		-.0606		-.3105	-.7227	-.1751	-.0197	.0096	
120.000			.4181	.2507	.1514	.2000		.1191		-.3856	-.6993	-.2748	-.0159	-.0087	
140.000										-.5087					
150.000			.3843	.2791	.1817	.2542		.5191		-.8785	-1.0307	-.3775	.0438	.0076	
162.000									.1865						
165.000									.2400						
169.000										-.9779	-.9440	-.2194	.0397	.0080	
174.000								.6046							
180.000	1.2044	.5650	.3554	.2722	.2025	.2769	.7224	.5816		-1.0117	-.9328	-.1605	.0355	.0073	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0568	.0090	-.0736	-.1903	-.2230	-.2379	-.0170		.3447	.1142
40.000	.0454		-.0566	-.1771	-.2072	-.1938	-.0486		.2094	.0064
70.000	-.2277	-.4292	-.1214	.0541	-.2042	-.1368	-.1167			
90.000	-.1687	-.3159	-.0232	.0594	-.2881	-.1771	-.1448			
105.000			.0572	.0714	-.4004	-.2153	-.1849			
110.000								-.3394		
140.000	-.1144	-.1226	.1205	.1885	-.5198	-.2753	-.2187	-.2542		
150.000			.1704	.3930	-.4082	-.2103	-.1825			
150.000	-.0547	-.0154	.1984	.4653	-.3008	-.2148	-.1553			
166.000	-.0443		.2126		-.1193	-.2143	-.2869			
180.000	-.0474	.0186	.2226	.4298						

ALPHA (3) = 3.944 BETA (3) = 4.252 MACH = .89723 Q = 597.99 P = 1061.2 RN/L = 3.5607

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1888	.6524	.2091	.1037	.0084			-.0870		-.1102	-.1216	-.0591	.0112	.0687	.0776
20.000			.2008	.0788	-.0263	-.0669		-.0997		-.1275					
40.000			.2559	.0833	-.0046	-.0418		-.0981		-.1460	-.2094	-.0803	.0114	.0486	.1062
55.000			.2720	.0873	.0108	-.0293		-.1274		-.2021					
70.000			.2779	.0805	-.0015	-.0050		-.1314		-.2596	-.7223	-.1414	-.0311	.0062	
90.000		.3793	.2977	.0961	.0023	.0076		-.1304		-.4092	-.7941	-.1563	-.0117	.0125	
120.000			.3254	.1653	.0649	.1328		.0180		-.5209	-.7754	-.2599	.0176	.0090	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8860)

ALPHA (3) = 3.944 BETA (3) = 4.252

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.6738					
150.000			.3322	.2399	.1438	.2094		.4347		-1.0052	-1.0222	-.3184	.0413	.0073	
151.000									.0837						
162.000									.1531						
165.000										-.9839	-.7590	-.2104	.0313	.0021	
169.000								.5569							
174.000							.6703								
180.000	1.1888	.5414	.3547	.2463	.1910	.2668		.5672		-1.1079	-.9453	-.2211	.0375	-.0021	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0530	.0092	-.0700	-.2000	-.2351	-.2561	-.0173		.3470	.1189
40.000	.0547		.0049	-.1779	-.2461	-.2156	-.0565		.2081	-.0099
70.000	-.0700	-.4887	-.1351	-.0045	-.3966	-.2509	-.1596			
90.000	-.1616	-.2778	-.0617	-.0041	-.4075	-.2853	-.1854			
105.000			-.0016	.0175	-.5358	-.3518	-.2093			
110.000								-.3574		
20.000	-.0328	-.1162	.0514	.0382	-.6245	-.6247	-.2526	-.2762		
135.000			.656	.3215	-.5332	-.5189	-.1981			
150.000	-.0457	-.0052	.1873	.4339	-.4356	-.4979	-.1570			
165.000	-.0573		.1364		-.2315	-.4512	-.2830			
180.000	-.0569	.0235	.2171	.3290						

ALPHA (3) = 8.020 BETA (3) = -3.857 MACH = .89903 Q = 599.30 = 1059.3 RN/L = 3.5554

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.1801	.8054	.3623	.2193	.1224			-.0132		-.0308	-.0596	-.0095	.0389	.1171	.1450
20.000			.4113	.2393	.1167	.0284		-.0094		-.0357					
40.000			.5267	.2932	.1838	.1034		.0228		-.0294	-.0748	.0093	.0656	.1154	.1843
55.000			.5449	.3314	.2275	.1416		.0398		-.0559					
70.000			.5114	.3043	.1970	.1480		.0303		-.0942	-.4965	-.1823	-.0821	-.0020	
90.000		.6299	.4809	.2901	.1871	.1586		.0507		-.1683	-.6072	-.2490	-.0980	-.0194	
120.000			.3997	.2424	.1441	.1950		.2028		-.2575	-.6524	-.5056	-.2549	-.1649	
140.000										-.3748					
150.000			.2888	.1876	.1115	.2033		.5819		-.4839	-.6120	-.4581	-.1466	-.0344	
151.000									.2529						
162.000									.2669						
165.000										-1.0211	-.6441	-.5018	-.0944	-.0169	
169.000								.5972							
174.000							.7005								
180.000															

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8860)

ALPHA (4) = 9.020 BETA (1) = -3.857

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
160.000	1.1601	.4171	.2115	.1696	.1011	.1993		.4960		-.9264	-.6564	-.4548	-.1150	.0024	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1368	.0843	.0051	-.1163	-.1715	-.2891	-.0316		.3788	.1250
40.000	.1427		.0289	-.0944	-.1698	-.2297	-.0907		.2455	.0317
70.000	-.3108	-.5711	-.1172	.0915	-.1322	-.1409	-.1070			
90.000	-.2539	-.4872	-.0376	.0741	-.1693	-.1851	-.1555			
105.000			.0550	.0815	-.2402	-.2153	-.1924			
110.000								-.3424		
120.000	-.3004	-.2398	.1055	.0741	-.3242	-.2379	-.1735	-.2445		
135.000			.1027	.2028	-.3320	-.1774	-.1697			
150.000	-.1467	-.1013	.1083	.2767	-.2591	-.1466	-.1514			
165.000	-.1281		.1099		-.0374	-.1174	-.2832			
180.000	-.1121	-.0606	.1166	.3163						

ALPHA (4) = 8.028 BETA (2) = .194 MACH = .89903 Q = 599.30 P = 1059.3 RN/L = 3.5654

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1666	.8119	.3706	.2261	.1215			-.0093		-.0319	-.0567	-.0127	.0524	.1266	.1495
20.000			.3881	.2246	.1017	.0284		-.0154		-.0430					
40.000			.4428	.2449	.1395	.0704		.0004		-.0524	-.1118	-.0423	.0520	.1049	.1776
55.000			.4283	.2258	.1324	.0629		-.0298		-.1080					
70.000			.3947	.1929	.0929	.0773		-.0391		-.1558	-.5944	-.2114	-.0874	-.0170	
90.000		.4859	.3767	.1868	.0899	.0846		-.0263		-.2513	-.6918	-.2296	-.0768	-.0226	
120.000			.3315	.1835	.0906	.1646		.1345		-.3565	-.7103	-.3283	-.1200	-.0597	
140.000										-.5017					
150.000			.2702	.1820	.0870	.1915		.4982		-.8325	-.6400	-.4691	-.0217	-.0146	
151.000									.1722						
162.000									.2043						
165.000										-1.0387	-.6549	-.4316	.0253	.007	
169.000								.5538							
174.000							.6589								
180.000	1.1666	.4065	.2347	.1494	.1026	.2135		.5305		-1.1314	-.6522	-.3227	.0175	.0076	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1448	.0894	.0119	-.1162	-.1806	-.2794	-.0353		.3828	.1260
40.000	.1495		.0279	-.0924	-.1792	-.2398	-.0712		.2366	.0103

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8860)

ALPHA (4) = 8.028 BETA (2) = .194

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.3109	-.6171	-.1794	.0273	-.2084	-.2060	-.1483			
90.000	-.2506	-.4677	-.0880	.3187	-.2914	-.2966	-.1707			
105.000			-.0099	.0209	-.3750	-.3075	-.2170			
110.000								-.3482		
120.000	-.2091	-.2362	.0238	.0880	-.4888	-.3516	-.2289	-.2546		
135.000			.0932	.3034	-.4214	-.2658	-.2073			
150.000	-.1234	-.1172	.1177	.4089	-.3379	-.2573	-.1788			
165.000	-.1052		.1333		-.1439	-.2433	-.2780			
180.000	-.1054	-.0629	.1496	.3895						

ALPHA (4) = 8.024 BETA (3) = 4.248 MACH = .89903 Q = 599.30 P = 1059.3 RN/L = 3.5654

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1501	.7950	.3542	.2179	.1125			-.0094		-.0345	-.0624	-.0160	.0487	.1158	.1366
20.000			.3368	.1911	.0773	.0216		-.0275		-.0608					
40.000			.3434	.1703	.0762	.0196		-.0344		-.0967	-.1627	-.0993	.0198	.0801	.1576
55.000			.3053	.1158	.0303	-.0124		-.0988		-.1675					
70.000			.2742	.0886	.0029	.0060		-.0995		-.2138	-.6539	-.1964	-.1012	-.0423	
90.000		.5320	.2701	.0832	.0065	.0218		-.0873		-.3383	-.7636	-.2021	-.0728	-.0181	
120.000			.2816	.1113	.0275	.1229		.0572		-.4760	-.7594	-.3165	-.0624	-.0153	
140.000										-.6454					
150.000			.0371	.1524	.0594	.1621		.4135		-1.0215	-.6666	-.4344	-.0480	.0049	
161.000									.0804						
165.000									.1288						
170.000										-1.0485	-.7274	-.3966	-.0560	.0071	
180.000								.5170							
174.000							.6264								
160.000	.1501	.3840	.2378	.1640	.0986	.1999		.5243		-1.0721	-.7119	-.4287	-.0582	-.0069	

X/LB	.8020	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1328	.0962	.0038	-.1255	-.1886	-.2959	-.0318		.3870	.1295
40.000	.1256		.0235	-.0999	-.1924	-.2411	-.0854		.2313	-.0066
70.000	-.2073	-.5780	-.2382	-.0477	-.2757	-.3404	-.1815			
90.000	-.2423	-.4271	-.1657	-.0590	-.3580	-.3583	-.2177			
105.000			-.0965	-.0539	-.4748	-.4638	-.2378			
110.000								-.3599		
120.000	-.1573	-.2225	-.0612	.0074	-.5493	-.5074	-.2737	-.2792		
135.000			.0600	.2596	-.4466	-.4240	-.2411			
150.000	-.1033	-.0853	.1019	.3345	-.3712	-.4638	-.2077			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8860)

ALPHA (4) = 8.024 BETA (3) = 4.248

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.1066		.1187		-.2267	-.4201	-.2738			
180.000	-.1143	-.0697	.1147	.3264						

ALPHA (5) = 11.919 BETA (1) = -3.839 MACH = .89963 Q = 599.94 P = 1059.0 RN/L = 3.5645

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0952	.9264	.4957	.3396	.2259			.0734		.0508	.0253	.0439	.0981	.1760	.2130
20.000			.5460	.3571	.2288	.1281		.0796		.0489					
40.000			.6138	.4011	.2872	.1968		.1136		.0598	.0111	.0650	.1155	.1788	.2569
55.000			.5640	.3508	.2486	.1499		.0587		-.0177					
70.000			.4877	.2936	.1807	.1480		.0485		-.0638	-.4270	-.1983	-.1501	-.0386	
90.000		.5558	.4236	.2484	.1603	.1385		.0542		-.1423	-.5492	-.2372	-.1749	-.0636	
120.000			.2969	.1438	.0597	.1350		.1837		-.2519	-.6667	-.5220	-.4216	-.2586	
140.000										-.3798					
150.000			.1627	.0815	.0195	.1371		.5594		-.5298	-.5806	-.5163	-.2320	-.0881	
151.000									.2344						
162.000									.2339						
165.000										-.8621	-.5769	-.5664	-.2221	-.0437	
169.000								.5631							
174.000							.6542								
180.000	1.0952	.2550	.0903	.0716	.0230	.1440		.4542		-.6997	-.6160	-.5550	-.2186	-.0083	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2132	.1632	.0777	-.0476	-.1314	-.2880	-.0620		.4046	.1256
40.000	.2399		.1093	-.0188	-.1382	-.2247	-.1235		.2646	.0253
70.000	-.4473	-.7298	-.1731	-.0059	-.2583	-.3262	-.1701			
90.000	-.3460	-.5725	-.0639	.0294	-.2684	-.3548	-.1966			
105.000			-.0078	.0862	-.3309	-.3628	-.2410			
110.000								-.3597		
120.000	-.3756	-.2469	.0157	.1447	-.3794	-.3919	-.2232	-.2822		
135.000			.0123	.2138	-.3667	-.2586	-.2249			
150.000	-.2511	-.2211	-.0007	.2963	-.3154	-.2369	-.2059			
165.000	-.1977		.0252		-.1060	-.1787	-.2929			
180.000	-.1640	-.1204	.0833	.3365						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8860)

ALPHA (5) = 11.929 BETA (2) = .180 MACH = .89963 Q = 599.94 P = 1059.0 RN/L = 3.5645

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1032	.9301	.5026	.3445	.2336			.0828		.0532	.0327	.0519	.1087	.1870	.2197
20.000			.5159	.3356	.2131	.1225		.0780		.0300					
40.000			.5214	.3296	.2206	.1385		.0750		.0052	-.0466	.0011	.0789	.1546	.2431
55.000			.4401	.2455	.1386	.0565		-.0291		-.0875					
70.000			.3653	.1840	.0762	.0726		-.0213		-.1254	-.5144	-.2612	-.1817	-.0904	
90.000		.4175	.3246	.1490	.0681	.0778		-.0085		-.2129	-.6431	-.2593	-.1895	-.0773	
120.000			.2392	.1010	.0208	.1216		.1365		-.3402	-.7380	-.4180	-.2948	-.1373	
140.000										-.4931					
150.000			.1543	.0880	.0159	.1419		.4847		-.7266	-.5920	-.5133	-.1734	-.0404	
151.000									.1620						
162.000									.1793						
165.000										-1.0046	-.6173	-.5202	-.1555	-.0078	
169.000								.5125							
174.000							.6067								
180.000	1.1032	.2456	.1169	.0776	.0292	.1587		.4878		-.7652	-.6268	-.5135	-.1722	.0071	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2183	[illegible]	.0828	-.0464	-.1323	-.2898	-.0531		.4070	.1330
40.000	.2355		.1041	-.0174	-.1493	-.2341	-.1152		.2589	.0042
70.000	-.4675	-.7419	-.2521	-.0659	-.3181	-.4010	-.1952			
[illegible]	-.3497	-.5845	-.1340	-.0526	-.3513	-.4039	-.2110			
[illegible]			-.0395	-.0010	-.4344	-.4822	-.2234			
[illegible]								-.3615		
[illegible]	-.2766	-.2850	-.0161	.0700	-.4584	-.4862	-.2475	-.2703		
[illegible]			.0185	.2375	-.4136	-.3732	-.2416			
[illegible]	-.2012	-.1977	.0457	.3869	-.3718	-.3397	-.2018			
[illegible]	-.1146		.0549		-.1433	-.2826	-.2857			
[illegible]	-.1441	-.1083	.0995	.0435						

ALPHA (5) = 11.915 BETA (3) = 4.268 MACH = .89963 Q = 599.94 P = 1059.0 RN/L = 3.5645

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0824	.9089	.4889	.3302	.2167			.0693		.0447	.0121	.0483	.1081	.1707	.2021
20.000			.4633	.2911	.1758	.1021		.0523		.0114					
40.000			.4074	.2493	.1413	.0627		.0121		-.0568	-.1276	-.0818	.0350	.1163	.2082
55.000			.3007	.1174	.0307	-.0406		-.1082		-.1593					
70.000			.2411	.0711	-.0189	.0048		-.0799		-.1835	-.5999	-.2635	-.2248	-.1295	
90.000		.2586	.2194	.0595	-.0182	.0204		-.0545		-.2895	-.7282	-.2194	-.2052	-.0768	
120.000			.1773	.0451	-.0234	.0993		.0757		-.4377	-.6903	-.3589	-.2473	-.0562	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8860)

ALPHA (5) = 11.915 BETA (3) = 4.268

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.6200					
150.000			.1331	.0676	-.0050	.1242		.3932		-.9940	-.5984	-.5327	-.2057	-.0037	
151.000									.0707						
162.000									.1057						
165.000										-.9715	-.6145	-.5497	-.2069	.0100	
169.000								.4823							
174.000							.5819								
180.000	1.0884	.2177	.1191	.0680	.0248	.1483		.4834		-.6725	-.5929	-.5483	-.2239	-.0143	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2047	.1562	.0715	-.0551	-.1425	-.2980	-.0544		.4133	.1358
40.000	.2153		.0928	-.0278	-.1665	-.2549	-.1358		.2416	-.0110
70.000	-.4422	-.7293	-.2662	-.1128	-.4029	-.5179	-.5019			
90.000	-.3410	-.5941	-.1218	-.1046	-.4459	-.5409	-.5110			
105.000			-.0495	-.0472	-.5654	-.6397	-.5391			
110.000								-.3493		
120.000	-.2212	-.2666	-.0257	.0114	-.5418	-.6097	-.6270	-.2785		
135.000			.0025	.2514	-.4564	-.5023	-.4165			
150.000	-.1494	-.1506	.1080	.3610	-.3934	-.4811	-.2750			
165.000	-.1356		.0988		-.2014	-.4250	-.2953			
180.000	-.1639	-.1296	.0597	.3079						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XEB861) (05 AUG 75)

REFERENCE DATA

SREF	=	2690.0000 SQ.FT.	XMRP	=	1076.6800 IN. XO
LREF	=	474.8000 IN.	YMRP	=	.0000 IN. YO
BREF	=	936.0680 IN.	ZMRP	=	375.0000 IN. ZO
SCALE	=	.0300			

PARAMETRIC DATA

RUDDER	=	10.000	SPDBRK	=	55.000
BDFLAP	=	16.300	L-ELVN	=	4.000
R-ELVN	=	-4.000	MACH	=	.600

ALPHA (1) = -4.014 BETA (1) = -7.854 MACH = .59638 Q = 594.21 P = 2386.5 RN/L = 4.8411

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0083	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0059	.1340	-.2151	-.2205	-.2236			-.1801		-.1556	-.1290	-.0967	-.0788	-.0648	-.0782
20.000			-.1995	-.2302	-.2792	-.2832		-.2401		-.2059					
40.000			.0266	-.2186	-.2984	-.3151		-.3660		-.3351	-.2704	-.1973	-.1676	-.1467	-.1469
55.000			.2768	.0564	-.0193	-.1221		-.1453		-.1638					
[illegible]			.4446	.2345	.1528	.0887		-.0355		-.1269	-.1333	-.0066	.0590	.0984	
90.000		.7366	.5492	.3328	.2322	.1385		-.0104		-.1822	-.1612	-.0419	.0348	.0832	
[illegible]			.6192	.4562	.3453	.3179		.1920		-.1464	-.1817	-.1679	.0029	.0343	
[illegible]										-.1944					
[illegible]			.5655	.4269	.3439	.3457		.5604		-.3544	-.3120	-.1042	-.0367	-.0053	
[illegible]									.2485						
[illegible]									.2551						
[illegible]										-.9371	-.2407	-.1310	-.0588	-.0238	
[illegible]								.5685							
[illegible]							.6994								
[illegible]	[illegible]	.7039	.4371	.3397	.2748	.2800		.3727		-1.1905	-.2303	-.1348	-.0759	-.0412	

X/LB	.6520	.7290	.7730	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.1796	-.1731	-.0611		.2163	.0013
40.000	-.2071		-.1764	-.2142	-.1778	-.1385	-.1143		.1303	-.0471
[illegible]	[illegible]	-.1071	.0543	.1518	-.0155	-.0395	-.1023			
[illegible]	[illegible]	.3340	[illegible]	.2026	-.0528	-.0637	-.1473			
[illegible]			.1655	.3172	-.1284	-.1267	-.1911			
[illegible]								-.3299		
[illegible]	[illegible]	.1907	.2446	.4807	-.1449	-.1287	-.1725	-.2466		
[illegible]			.2669	.4767	-.0911	-.0518	-.1405			
[illegible]	.2214	.0384	.2719	.3320	-.0644	-.0136	-.0896			
[illegible]	.0019		.2215		.1717	.0114	-.2669			
[illegible]	-.2161	.0414	.1725	.3042						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8861)

ALPHA (1) = -3.908 BETA (2) = -3.832 MACH = .59638 Q = 594.21 P = 2386.5 RN/L = 4.8411

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0515	.1722	-.1834	-.1868	-.2017			-.1634		-.1375	-.1117	-.0779	-.0614	-.0488	-.0650
20.000			-.1658	-.1908	-.2472	-.2373		-.2004		-.1729					
40.000			.0101	-.1884	-.2643	-.2613		-.3003		-.2700	-.2053	-.1405	-.1168	-.1019	-.1101
55.000			.2003	-.0009	-.0661	-.1499		-.1822		-.1994					
70.000			.3383	.1317	.0606	.0095		-.1084		-.1947	-.1830	-.0410	.0303	.0770	
90.000		.6063	.4309	.2190	.1293	.0361		-.1003		-.2715	-.2182	-.0763	.0080	.0627	
120.000			.5318	.3667	.2531	.2356		.0819		-.2456	-.2323	-.1990	-.0076	.0361	
140.000										-.2689					
150.000			.5379	.4139	.3297	.3258		.5033		-.4110	-.2715	-.0917	-.0206	.0161	
161.000									.1559						
162.000									.1941						
166.000										-.9328	-.2105	-.1019	-.0280	.0130	
169.000								.5602							
174.000							.6966								
180.000	1.0515	.7253	.4771	.3814	.3129	.3189		.4677		-1.1534	-.1960	-.1016	-.0348	.0033	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.1070	-.1317	-.1691	-.2196	-.1787	-.1696	-.0575		.2262	.0028					
40.000	-.1793		-.1701	-.2123	-.1784	-.1253	-.0963		.1380	-.0563					
70.000	-.0107	-.0462	.0208	.1061	-.0623	-.0734	-.1237								
90.000	.0177	.0085	.0762	.1372	-.1105	-.1210	-.1629								
105.000			.1280	.2048	-.2098	-.1754	-.2145								
110.000								-.3323							
120.000	.0354	.0745	.2215	.3433	-.2357	-.2016	-.2264	-.2641							
135.000			.2873	.4351	-.1613	-.1071	-.1720								
150.000	.0478	.1157	.2869	.4428	-.0946	-.0692	-.1115								
165.000	.0402		.2553		.0835	-.0677	-.2705								
180.000	.0301	.0993	.2397	.4300											

ALPHA (1) = -3.980 BETA (3) = .201 MACH = .59638 Q = 594.21 P = 2386.5 RN/L = 4.8411

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0602	.1832	-.1731	-.1753	-.1959			-.1522		-.1331	-.1054	-.0744	-.0508	-.0401	-.0629
20.000			-.1649	-.1774	-.2253	-.2142		-.1776		-.1507					
40.000			-.0221	-.1890	-.2343	-.2206		-.2456		-.2175	-.1509	-.0917	-.0761	-.0569	-.0760
55.000			.1183	-.0533	-.1149	-.1769		-.2037		-.2264					
70.000			.2203	.0292	-.0329	-.0714		-.1771		-.2482	-.2173	-.0659	.0089	.0568	
90.000		.4526	.3033	.1803	.0100	-.0579		-.1947		-.3603	-.2613	-.1048	-.0093	.0417	
120.000			.4165	.2559	.1450	.1421		-.0496		-.3483	-.2046	-.2438	-.0370	.0217	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XEB861)

ALPHA (1) = -3.990 BETA (3) = .201

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.3495					
150.000			.4840	.3756	.2803	.2800		.4113		-.4770	-.2468	-.0929	-.0221	.0134	
151.000									.0347						
162.000									.0999						
165.000										-.9253	-.1950	-.0934	-.0233	.0205	
169.000								.5231							
174.000							.6798								
180.000	1.0602	.7257	.4915	.4024	.3209	.3307		.5106		-1.1256	-.1855	-.0860	-.0188	.0174	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
[illegible]	-.1041	-.1281	-.1686	-.2193	-.1755	-.1719	-.0584		.2482	.0125
[illegible]	-.1551		-.1682	-.2054	-.1764	-.1285	-.0727		.1193	-.0618
[illegible]	-.0093	-.0718	-.0167	.0545	-.1107	-.1145	-.1451			
[illegible]	[illegible]	[illegible]	.0361	.0714	-.1580	[illegible]	-.1788			
[illegible]			.0747	.0394	-.2879	[illegible]	-.2348			
[illegible]								-.3327		
[illegible]	.0156	.0380	.1436	.2196	-.3520	-.2912	-.2942	-.2902		
[illegible]			.2418	.4593	-.2408	-.1716	-.2126			
[illegible]	[illegible]	[illegible]	.2597	[illegible]	-.1653	-.1432	-.1529			
[illegible]	[illegible]		.2535		-.0153	-.1491	-.2789			
[illegible]	[illegible]	[illegible]	[illegible]	.4972						

RUN [illegible] MACH = .59638 C = 594.21 P = 2385.5 RN/L = [illegible]

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
[illegible]	[illegible]	[illegible]	[illegible]	-.1639	-.2127			-.1665		-.1405	-.1139	-.0773	-.0555	[illegible]	[illegible]
[illegible]			[illegible]	[illegible]	[illegible]	-.2154		-.1669		-.1465					
[illegible]			[illegible]	[illegible]	[illegible]	[illegible]		-.2095		-.1850	-.1267	-.0672	-.0480	-.0527	-.0543
[illegible]			[illegible]	[illegible]	[illegible]	-.1975		-.2281		-.2443					
[illegible]			[illegible]	-.0735	-.1235	-.1373		-.2316		-.2331	-.2406	-.0947	-.0051	.0404	
[illegible]		[illegible]	[illegible]	[illegible]	-.1012	-.0525		-.2757		-.4352	-.2961	-.1235	-.0226	.0309	
[illegible]			.2981	.1303	[illegible]	.0215		-.1923		-.4537	-.3469	-.2953	-.0795	-.0245	
[illegible]										-.4330					
[illegible]			.4066	.3102	.2177	.2047		.2919		-.5423	-.2521	-.1143	-.0525	-.0131	
[illegible]									-.0992						
[illegible]									-.0208						
[illegible]										-.9396	-.2093	-.1079	-.0397	-.0022	
[illegible]								.4624							
[illegible]							.6112								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE0861)

ALPHA (1) = -3.988 BETA (4) = 4.282

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.0395	.6950	.4826	.3820	.3117	.3198		.4883		-1.1194	-.1968	-.1008	-.0359	.0039	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.1077	-.1283	-.1669	-.2206	-.1773	-.1643	-.0536		.2312	.0049					
40.000	-.1340		-.1539	-.1934	-.1732	-.1199	-.0657		.1329	-.0676					
70.000	-.0439	-.0969	-.0558	.0132	-.1479	-.1313	-.1551								
90.000	-.0126	-.0446	-.0085	.0157	-.2113	-.1889	-.1927								
105.000			.0266	.0163	-.3494	-.2532	-.2541								
110.000								-.3335							
120.000	-.0163	-.0213	.0520	.0547	-.4719	-.3750	-.3593	-.3144							
135.000			.1649	.3017	-.3546	-.2499	-.2611								
150.000	.0212	.0618	.2004	.4821	-.2701	-.2312	-.2024								
165.000	.0291		.2109		-.1240	-.2302	-.2882								
180.000	.0295	.0967	.2399	.4625											

ALPHA (1) = -4.005 BETA (5) = 8.352 MACH = .59638 Q = 594.21 P = 2386.5 RN/L = 4.8411

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9888	.1221	-.2016	-.1930	-.2362			-.1820		-.1558	-.1277	-.0975	-.0756	-.0583	-.0825
20.000			-.2039	-.1950	-.2376	-.2047		-.1761		-.1553					
40.000			-.1297	-.2158	-.2258	-.1925		-.1896		-.1754	-.1102	-.0560	-.0387	-.0395	-.0343
55.000			-.0560	-.1751	-.1938	-.2128		-.2365		-.2507					
70.000			-.0093	-.1545	-.1922	-.1891		-.2727		-.3218	-.2566	-.0976	-.0177	.0338	
90.000		.0990	.0439	-.1439	-.2113	-.2298		-.3411		-.4921	-.3211	-.1360	-.0300	.0203	
105.000			.1579	-.0017	-.1143	-.1020		-.3406		-.5475	-.3978	-.3495	-.1219	-.0634	
140.000										-.5157					
150.000			.2937	.2205	.1159	.1044		.1451		-.6327	-.2655	-.1516	-.1013	-.0657	
161.000									-.2554						
162.000									-.1645						
165.000										-.9838	-.2341	-.1464	-.0914	-.0513	
174.000								.3747							
180.000	.9898	.6260	.4381	.3305	.2690	.2753	.5470	.3969		-1.1344	-.2345	-.1332	-.0798	-.0461	
X/LB	.6520	.7290	.7790	.9210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.1153	-.1326	-.1673	-.2208	-.1798	-.1639	-.0492		.2216	.0050					
40.000	-.1142		-.1416	-.1918	-.1748	-.1174	-.0573		.1107	-.0752					

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8861)

ALPHA (1) = -4.005 BETA (5) = 8.352

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.0548	-.1217	-.0960	-.0227	-.1842	-.1526	-.1579			
90.000	-.0376	-.0841	-.0708	-.0332	-.2463	-.2138	-.2067			
105.000			-.0227	-.0133	-.3914	-.2806	-.2546			
110.000								-.3125		
120.000	-.0520	-.0738	-.0376	-.1487	-.6111	-.4597	-.4167	-.3250		
135.000			.0605	.1357	-.4905	-.3423	-.3193			
150.000	-.0365	-.0106	.1031	.4316	-.4327	-.3481	-.2650			
165.000	-.0257		.1229		-.2578	-.3242	-.2791			
180.000	-.0257	.0417	.1783	.3552						

ALPHA (2) = .015 BETA (1) = -7.895 MACH = .59624 Q = 593.85 P = 2396.1 RN/L = 4.8452

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	[illegible]	[illegible]	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3760	.4970	.5740
PHI															
[illegible]	[illegible]	[illegible]	-.0668	-.1164	-.1377			-.1375		-.1227	-.1016	-.0718	-.0509	-.0250	-.0269
[illegible]			-.0109	-.0972	-.1634	-.1988		-.1746		-.1579					
[illegible]			[illegible]	[illegible]	-.1305	-.1663		-.2235		-.2092	-.1540	-.0952	[illegible]	-.0658	-.0552
[illegible]			[illegible]	[illegible]	[illegible]	.0195		-.0455		-.0955					
[illegible]			.5131	[illegible]	[illegible]	[illegible]		.0004		-.0955	-.1326	-.0217	.0255	.0506	
[illegible]		[illegible]	[illegible]	[illegible]	.2417	[illegible]		.0236		-.1554	-.1626	-.0555	[illegible]	.0483	
[illegible]			[illegible]	[illegible]	[illegible]	[illegible]		.1693		-.1772	-.2296	-.2204	-.0534	[illegible]	
[illegible]										-.2669					
[illegible]			[illegible]	[illegible]	[illegible]	.2629		.5157		-.4649	-.4022	-.1547	[illegible]	[illegible]	
[illegible]									.1832						
[illegible]									.1708						
[illegible]										-1.1237	-.2594	[illegible]	-.0924	[illegible]	
[illegible]								.5107							
[illegible]							.5597								
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.1237	.2125		.3034		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.1641	-.0530		.2514	.0081
[illegible]	[illegible]		[illegible]	[illegible]	-.1595	-.1184	-.1078		.1577	-.0410
[illegible]	[illegible]	[illegible]	.0121	[illegible]	-.0153	-.0328	-.0907			
[illegible]	[illegible]	[illegible]	.0747	[illegible]	-.0487	-.0816	-.1461			
[illegible]			.1226	[illegible]	-.1219	-.1263	-.1881			
[illegible]								-.3200		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.1352	-.1608	-.2458		
[illegible]			[illegible]	[illegible]	-.1370	-.0825	-.1607			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.1355	-.0565	-.1126			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8861)

ALPHA (2) = .015 BETA (1) = -7.895

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0421		.1872		.1386	-.0184	-.2715			
180.000	-.0498	.0142	.1480	.2622						

ALPHA (2) = .022 BETA (2) = -3.851 MACH = .59624 Q = 593.85 P = 2388.1 RN/L = 4.8452

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1668	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0742	.3587	-.0298	-.0829	-.1208			-.1230		-.1050	-.0801	-.0561	-.0353	-.0088	-.0150
20.000			-.0010	-.0668	-.1456	-.1659		-.1433		-.1242					
40.000			.1706	-.0429	-.1137	-.1345		-.1831		-.1687	-.1110	-.0609	-.0453	-.0398	-.0282
55.000			.3165	.1210	.0484	-.0223		-.0877		-.1338					
70.000			.3882	.1900	.1023	.0494		-.0697		-.1619	-.1807	-.0562	-.0041	.0269	
90.000		.5996	.4346	.2345	.1368	.0742		-.0654		-.2395	-.2086	-.0893	-.0162	.0174	
120.000			.4687	.3166	.2135	.2194		.0828		-.2590	-.2566	-.2197	-.0432	-.0204	
140.000										-.3338					
150.000			.4313	.3114	.2331	.2535		.4606		-.5049	-.3455	-.1329	-.0505	-.0211	
151.000									.1036						
162.000									.1176						
165.000										-1.0899	-.2583	-.1305	-.0581	-.0202	
169.000								.4973							
174.000							.6408								
180.000	1.0742	.5961	.3559	.2799	.2137	.2416		.3991		-1.3120	-.2368	-.1243	-.0571	-.02.0	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0455	-.0766	-.1242	-.1857	-.1572	-.1557	-.0456		.2378	.0099
40.000	-.0830		-.1164	-.1700	-.1554	-.1113	-.0929		.1615	-.0388
70.000	-.1183	-.1225	-.0282	.0962	-.0557	-.0738	-.1179			
90.000	-.0585	-.0650	.0377	.1334	-.1125	-.1222	-.1617			
105.000			.0951	.2161	-.1991	-.1737	-.2132			
110.000								-.3241		
120.000	-.0411	.0200	.1928	.3462	-.2457	-.1950	-.2054	-.2481		
135.000			.2549	.3785	-.1953	-.1240	-.1781			
150.000	.0004	.0689	.2562	.3230	-.1532	-.1016	-.1332			
165.000	-.0027		.2253		.0438	-.0957	-.2662			
180.000	-.0043	.0698	.2065	.3591						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8861)

ALPHA (2) = .105 BETA (3) = .189 MACH = .59624 Q = 593.85 P = 2386.1 RN/L = 4.8452

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0822	.3668	-.0227	-.0691	-.1132			-.1160		-.0977	-.0813	-.0503	-.0290	-.0039	-.0126
20.000			-.0091	-.0666	-.1334	-.1412		-.1243		-.1130					
40.000			.1197	-.0533	-.1106	-.1196		-.1515		-.1437	-.0940	-.0389	-.0264	-.0230	-.0034
55.000			.2252	.0471	-.0180	-.0674		-.1342		-.1762					
70.000			.2733	.0867	.0078	-.0216		-.1371		-.2189	-.2210	-.0869	-.0278	.0063	
90.000		.4503	.3185	.1215	.0327	-.0138		-.1520		-.3234	-.2564	-.1123	-.0344	.0045	
120.000			.3704	.2198	.1203	.1343		-.0330		-.3529	-.2967	-.2337	-.0443	-.0125	
140.000										-.4115					
150.000			.3837	.2811	.1928	.2125		.3651		-.5634	-.3103	-.1208	-.0446	-.0117	
151.000									-.0124						
162.000									.0279						
165.000										-1.0826	-.2421	-.1241	-.0448	-.0064	
169.000								.4644							
174.000							.6223								
180.000	1.0822	.5911	.3783	.2925	.2170	.2493		.4434		-1.2904	-.2224	-.1144	-.0434	-.0093	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0458	-.0787	-.1213	-.1862	-.1595	-.1550	-.0434		.2449	.0115
40.000	-.0695		-.1145	-.1691	-.1577	-.1147	-.0676		.1363	-.0604
70.000	-.1384	-.1493	-.0647	.0469	-.1105	-.1123	-.1421			
90.000	-.0891	-.0839	.0077	.0606	-.1793	-.1673	-.1841			
105.000			.0619	.0697	-.2713	-.2137	-.2312			
110.000								-.3306		
120.000	-.0345	.0047	.1429	.1579	-.3340	-.2710	-.2618	-.2649		
135.000			.2122	.3547	-.2589	-.1824	-.2186			
150.000	.0080	.0691	.2266	.4102	-.2160	-.1661	-.1706			
165.000	.0120		.2203		-.0540	-.1782	-.2712			
180.000	.0080	.0816	.2238	.4333						

ALPHA (2) = .105 BETA (4) = 4.264 MACH = .59624 Q = 593.85 P = 2386.1 RN/L = 4.8452

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0637	.3376	-.0384	-.0819	-.1310			-.1221		-.1112	-.0891	-.0590	-.0293	-.0117	-.0183
20.000			-.0386	-.0805	-.1405	-.1481		-.1290		-.1203					
40.000			.0451	-.0848	-.1312	-.1284		-.1439		-.1422	-.0976	-.0395	-.0205	-.0177	.0024
55.000			.1170	-.0353	-.0832	-.1183		-.1719		-.2072					
70.000			.1522	-.0145	-.0796	-.0960		-.1972		-.2705	-.2468	-.1071	-.0371	-.0015	
90.000		.2778	.1913	.0057	-.0635	-.1010		-.2285		-.3941	-.2890	-.1263	-.0404	-.0033	
120.000			.2628	.1146	.0182	.0361		-.1524		-.4399	-.3381	-.2536	-.0561	-.0199	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8861)

ALPHA (2) = .100 BETA (4) = 4.264

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.4763					
150.000			.3174	.2321	.1469	.1525		.2604		-.6203	-.2904	-.1329	-.0611	-.0263	
151.000									-.1427						
162.000									-.0891						
165.000										-1.0762	-.2426	-.1308	-.0580	-.0218	
169.000								.4064							
174.000							.5636								
180.000	1.0637	.5603	.3627	.2696	.2156	.2419		.4230		-1.2866	-.2358	-.1239	-.0587	-.0244	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0491	-.0807	-.1289	-.1892	-.1551	-.1533	-.0424		.2423	.0173
40.000	-.0572		-.1070	-.1612	-.1603	-.1119	-.0612		.1230	-.0720
70.000	-.1467	-.1717	-.0983	-.0069	-.1554	-.1373	-.1570			
90.000	-.0956	-.1087	-.0370	-.0045	-.2235	-.1937	-.1984			
105.000			.0072	.0004	-.3481	-.2548	-.2576			
110.000								-.3393		
120.000	-.0480	-.0439	.0533	.0791	-.4545	-.3540	-.3220	-.2917		
135.000			.1573	.2827	-.3743	-.2560	-.2590			
150.000	-.0069	.0387	.1834	.3807	-.3120	-.2596	-.2176			
165.000	-.0040		.1891		-.1726	-.2626	-.2766			
180.000	-.0075	.0676	.2120	.4002						

ALPHA (2) = .094 BETA (5) = 8.317 MACH = .59624 Q = 593.85 P = 2386.1 RN/L = 4.8452

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0125	.3123	-.0514	-.0961	-.1516			-.1400		-.1275	-.1031	-.0721	-.0467	-.0239	-.0344
20.000			-.0716	-.1064	-.1635	-.1640		-.1457		-.1329					
40.000			-.0237	-.1161	-.1576	-.1477		-.1519		-.1564	-.1156	-.0566	-.0313	-.0272	.0097
55.000			.0061	-.1111	-.1417	-.1618		-.2048		-.2344					
70.000			.0371	-.1054	-.1435	-.1521		-.2799		-.3022	-.2668	-.1107	-.0455	-.0083	
90.000		.0986	.0683	-.1057	-.1588	-.1754		-.2926		-.4483	-.3067	-.1330	-.0429	-.0075	
120.000			.1374	-.0061	-.0988	-.0728		-.2850		-.5279	-.3699	-.2827	-.0723	-.0372	
140.000										-.5511					
150.000			.2146	.1492	.0546	.0615		.1187		-.6659	-.2973	-.1529	-.0951	-.0655	
151.000									-.2926						
162.000									-.2399						
165.000										-1.1079	-.2705	-.1603	-.0974	-.0643	
169.000								.3219							
174.000							.4994								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8861)

ALPHA (2) = .094 BETA (5) = 8.317

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.0125	.4905	.3185	.2208	.1672	.1944		.3221		-1.3086	-.2741	-.1648	-.1017	-.0702	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0546	-.0828	-.1293	-.1919	-.1607	-.1559	-.0471		.2560	.0099
40.000	-.0506		-.1066	-.1573	-.1619	-.1184	-.0566		.1155	-.0809
70.000	-.1552	-.1958	-.1403	-.0440	-.1874	-.1589	-.1634			
90.000	-.1077	-.1308	-.0823	-.0530	-.2652	-.2400	-.2288			
105.000			-.0414	-.0563	-.3945	-.2898	-.2729			
110.000								-.3336		
120.000	-.0731	-.0876	-.0298	-.1505	- 5843	-.4472	-.3866	-.3097		
135.000			.0591	.1094	-.5064	-.3475	-.3192			
150.000	-.0543	-.0259	.0862	.3676	-.4750	-.3789	-.2853			
165.000	-.0562		.1069		-.3202	-.3635	-.2791			
180.000	-.0655	.0040	.1474	.2998						

ALPHA (3) = 4.024 BETA (1) = -7.901 MACH = .59706 Q = 595.26 P = 2385.4 RN/L = 4.8521

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0280	.4930	.0819	-.0030	-.0494			-.0866		-.0786	-.0655	-.0408	-.0160	.0213	.0309
20.000			.1449	.0277	-.0565	-.1077		-.1012		-.0924					
40.000			.3588	.1120	.0206	-.0250		-.0946		-.0931	-.0486	-.0073	.0067	.0126	.0366
55.000			.4933	.2862	.2016	.1083		.0283		-.0437					
70.000			.5284	.3276	.2250	.1558		.0314		-.0812	-.1383	-.0458	-.0077	.0031	
80.000		.7007	.5241	.3401	.2465	.1719		.0362		-.1493	-.1708	-.0915	-.0257	-.0118	
90.000			.4584	.3127	.2113	.2161		.1440		-.2181	-.2844	-.3015	-.1668	-.1648	
140.000										-.3408					
150.000			.3226	.2021	.1444	.1849		.4722		-.5650	-.4807	-.2025	-.1247	-.1073	
161.000									.1296						
166.000									.0946						
165.000										-1.2817	-.3401	-.1971	-.1162	-.0912	
169.000								.4507							
174.000							.6124								
180.000	1.0280	.4299	.1933	.1466	.1002	.1352		.2379		-1.4958	-.2934	-.1758	-.1051	-.0810	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0087	-.0249	-.0763	-.1417	-.1345	-.1417	-.0371		.2707	.0091
40.000	-.0050		-.0595	-.1236	-.1327	-.0918	-.0884		.1783	-.0399

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8861)

ALPHA (3) = 4.024 BETA (1) = -7.901

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.2034	-.1578	-.0235	.1468	-.0067	-.0180	-.0825			
90.000	-.1392	-.0936	.0421	.2031	-.0349	-.0764	-.1406			
105.000			.0832	.3528	-.1073	-.1160	-.1857			
110.000								-.3161		
120.000	-.1925	-.0852	.1352	.4944	-.1919	-.1420	-.1529	-.2457		
135.000			.1947	.3563	-.1867	-.1158	-.1777			
150.000	-.0931	-.0076	.1957	.1326	-.1962	-.0799	-.1244			
165.000	-.0770		.1593		.1111	-.0333	-.2528			
180.000	-.0766	-.0010	.1311	.2111						

ALPHA (3) = 4.026 BETA (2) = -3.849 MACH = .59706 Q = 595.26 P = 2385.4 RN/L = 4.8521

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0608	.5254	.1184	.0257	-.0334			-.0759		-.0659	-.0516	-.0251	.0007	.0356	.0356
20.000			.1554	.0472	-.0405	-.0805		-.0841		-.0776					
40.000			.3124	.0963	.0143	-.0253		-.0773		-.0895	-.0428	-.0012	.0177	.0233	.0545
55.000			.3978	.2041	.1245	.0372		-.0366		-.1005					
70.000			.4137	.2167	.1268	.0736		-.0487		-.1479	-.1932	-.0902	-.0390	-.0232	
90.000		.5591	.4159	.2323	.1443	.0873		-.0439		-.2250	-.2229	-.1179	-.0499	-.0377	
120.000			.3906	.2436	.1528	.1713		.0689		-.2937	-.3021	-.2765	-.1207	-.1074	
140.000										-.4021					
150.000			.3049	.2025	.1396	.1730		.4187		-.6035	-.4152	-.1653	-.0839	-.0644	
151.000									.0415						
162.000									.0382						
165.000										-1.2447	-.3014	-.1578	-.0803	-.0544	
169.000								.4407							
174.000							.5876								
180.000	1.0608	.4435	.2298	.1755	.1254	.1597		.3274		-1.4573	-.2695	-.1457	-.0735	-.0473	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0157	-.0223	-.0745	-.1457	-.1284	-.1386	-.0367		.2602	.0161
40.000	.0032		-.0585	-.1253	-.1341	-.0899	-.0779		.1713	-.0419
70.000	-.2380	-.2001	-.0719	.0844	-.0697	-.0680	-.1133			
90.000	-.1638	-.1322	-.0066	.1275	-.1098	-.1223	-.1662			
105.000			.0571	.2152	-.1885	-.1675	-.2121			
110.000								-.3164		
120.000	-.1389	-.0473	.1599	.3109	-.2554	-.1983	-.1987	-.2469		
[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	-.1948			
150.000	-.2507	.0280	.2187	[illegible]	-.2114	-.1285	-.1543			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8861)

ALPHA (3) = 4.026 BETA (2) = -3.849

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0381		.1885		.0008	-.1260	-.2690			
180.000	-.0414	.0409	.1781	.2922						

ALPHA (3) = 4.034 BETA (3) = .195 MACH = .59706 Q = 595.26 P = 2385.4 RN/L = 4.8521

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0712	.5322	.1239	.0320	-.0289			-.0718		-.0591	-.0451	-.0220	.0070	.0365	.0386
20.000			.1365	.0417	-.0401	-.0724		-.0760		-.0776					
40.000			.2350	.0663	-.0081	-.0381		-.0758		-.0923	-.0566	-.0034	.0139	.0202	.0622
55.000			.2841	.1146	.0410	-.0237		-.0976		-.1526					
70.000			.2879	.1150	.0368	-.0036		-.1196		-.2098	-.2299	-.1188	-.0640	-.0442	
90.000		.4093	.2991	.1261	.0479	.0063		-.1276		-.3045	-.2594	-.1379	-.0650	-.0417	
120.000			.3036	.1696	.0789	.1097		-.0252		-.3717	-.3243	-.2567	-.0822	-.0624	
140.000										-.4629					
160.000			.2787	.1890	.1096	.1495		.3255		-.6414	-.3596	-.1448	-.0662	-.0361	
151.000									-.0559						
162.000									-.0410						
165.000										-1.2131	-.2759	-.1424	-.0579	-.0281	
169.000								.4065							
174.000							.5669								
180.000	1.0712	.4369	.2528	.1680	.1266	.1798		.3783		-1.4335	-.2565	-.1316	-.0586	-.0309	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
000	.0119	-.0224	-.0763	-.1480	-.1356	-.1385	-.0352		.2637	.0146
40.000	.0128		-.0578	-.1195	-.1369	-.0932	-.0580		.1498	-.0543
70.000	-.2504	-.2220	-.1091	.0334	-.1168	-.1118	-.1159			
90.000	-.1729	-.1469	-.0266	.0458	-.1830	-.1671	-.1852			
105.000			.0461	.0677	-.2604	-.2123	-.2348			
110.000								-.3209		
120.000	-.0962	-.0313	.1317	.0826	-.3265	-.2519	-.2436	-.2516		
135.000			.1629	.2757	-.2819	-.1917	-.2200			
150.000	-.0285	.0376	.1896	.3681	-.2369	-.1830	-.1831			
165.000	-.0615		.1753		-.1026	-.2037	-.2486			
180.000	-.0291	.0505	.1859	.3953						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8861)

ALPHA (3) = 4.044 BETA (4) = 4.254 MACH = .59706 Q = 595.26 P = 2385.4 RN/L = 4.8521

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0521	.5114	.1074	.0275	-.0394			-.0733		-.0695	-.0540	-.0283	.0001	.0417	.0286
20.000			.1048	.0116	-.0579	-.0829		-.0846		-.0849					
40.000			.1534	.0206	-.0451	-.0663		-.0960		-.1114	-.0854	-.0302	-.0004	.0153	.0560
55.000			.1656	.0180	-.0323	-.0839		-.1470		-.2016					
70.000			.1651	.0149	-.0520	-.0683		-.1697		-.2658	-.2627	-.1364	-.0798	-.0491	
90.000		.2439	.1826	.0208	-.0434	-.0742		-.1974		-.3677	-.2826	-.1482	-.0692	-.0442	
120.000			.2123	.0829	-.0021	.0323		-.1281		-.4468	-.3328	-.2527	-.0642	-.0398	
140.000										-.5305					
150.000			.2207	.1486	.0676	.1039		.2320		-.6879	-.3248	-.1506	-.0633	-.0365	
151.000									-.1775						
162.000									-.1520						
165.000										-1.2071	-.2719	-.1435	-.0682	-.0401	
169.000								.3507							
174.000							.5092								
180.000	1.0521	.4121	.2481	.1665	.1167	.1642		.3561		-1.4290	-.2642	-.1427	-.0718	-.0474	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0139	-.0228	-.0659	-.1415	-.1297	-.1351	-.0334		.2725	.0225
40.000	.0181		-.0529	-.1184	-.1374	-.0991	-.0448		.1358	-.0682
70.000	-.2660	-.2407	-.1398	-.0208	-.1594	-.1448	-.1650			
90.000	-.1793	-.1698	-.0677	-.0271	-.2284	-.1981	-.2026			
105.000			-.0161	-.0041	-.3362	-.2549	-.2550			
110.000								-.3455		
120.000	-.0903	-.0676	.0403	.0554	-.4303	-.3365	-.3041	-.2777		
135.000			.1313	.2798	-.3878	-.2622	-.2644			
150.000	-.0389	.0170	.1584	.2497	-.3428	-.2751	-.2273			
165.000	-.0335		.1668		-.2109	-.2844	-.2803			
180.000	-.0411	.0403	.1819	.3178						

$5

ALPHA (3) = 4.047 BETA (5) = 8.299 MACH = .59706 Q = 595.26 P = 2385.4 RN/L = 4.8521

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9965	.4794	.0831	.0127	-.0582			-.0916		-.0849	-.0661	-.0423	-.0118	.0179	.0190
20.000			.0557	-.0145	-.0871	-.1004		-.1055		-.1153					
40.000			.0535	-.0483	-.0999	-.1115		-.1309		-.1558	-.1340	-.0692	-.0331	-.0059	.0490
55.000			.0475	-.0779	-.1150	-.1467		-.1991		-.2393					
70.000			.0416	-.0852	-.1373	-.1292		-.2246		-.2992	-.2777	-.1464	-.0839	-.0520	
90.000		.0681	.0639	-.0671	-.1318	-.1420		-.2609		-.4174	-.2999	-.1488	-.0617	-.0429	
120.000			.1016	-.0190	-.1015	-.0601		-.2419		-.5117	-.3633	-.2449	-.0567	-.0435	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8861)

ALPHA (3) = 4.047 BETA (5) = 8.299

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.5828					
150.000			.1337	.0790	-.0012	.0231		.0920		-.7356	-.3121	-.1578	-.0891	-.0616	
151.000									-.3258						
162.000									-.2829						
165.000										-1.2061	-.2870	-.1696	-.0968	-.0732	
169.000								.2774							
174.000							.4474								
180.000	.9965	.3447	.2053	.1228	.0748	.1223		.2596		-1.4199	-.3012	-.1790	-.1134	-.0909	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0027	-.0271	-.0819	-.1478	-.1324	-.1406	-.0400		.2801	.0174
40.000	.0152		-.0507	-.1156	-.1403	-.1047	-.0514		.1307	-.0685
70.000	-.2501	-.2634	-.1788	-.0665	-.1980	-.1670	-.1736			
90.000	-.1833	-.1902	-.1150	- 0738	-.2767	-.2338	-.2232			
105.000			-.0632	-.0708	-.3909	-.2929	-.2706			
110.000								-.3156		
120.000	-.1029	-.1070	-.0137	-.0874	-.5443	-.4163	-.3540	-.2944		
138.000			.0615	.0792	-.5091	-.3514	-.3215			
150.000	-.0868	-.0302	.0796	.2907	-.5024	-.3923	-.2954			
165.000	-.0882		.0895		-.3989	-.3913	-.2798			
180.000	-.0904	-.0199	.1192	.2098						

ALPHA (4) = 8.028 BETA (1) = -7.897 MACH = .59720 Q = 595.49 P = 2385.3 RN/L = 4.8534

SECTION (1 ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9989	.6422	.2281	.1066	.0465			-.0266		-.0276	-.0164	.0010	.0301	.0743	.0883
20.000			.3091	.1664	.0565	-.0062		-.0195		-.0237					
40.000			.4820	.2484	.1550	.0859		.0195		.0009	.0285	.0687	.0800	.0890	.1238
55.000			.5475	.3514	.2562	.1546		.0621		-.0176					
70.000			.5131	.3344	.2302	.1633		.0382		-.0777	-.1542	-.0823	-.0502	-.0478	
90.000		.6335	.4727	.3055	.2214	.1560		.0292		-.1588	-.1951	-.1213	-.0759	-.0677	
120.000			.3443	.2061	.1146	.1390		.0985		-.2671	-.3495	-.4144	-.3088	-.3219	
140.000										-.4143					
150.000			.1893	.0876	.0365	.1014		.4190		-.6732	-.5565	-.2559	-.1652	-.1565	
151.000									.0687						
162.000									.0219						
165.000										-1.4489	-.3827	-.2266	-.1383	-.1205	
169.000								.3967							
174.000							.5557								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8861)

ALPHA (4) = ..028 BETA (1) = -7.897

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	.9859	.2791	.0675	.0453	.0122	.0623		.1799		-1.7074	-.3165	-.1865	-.1154	-.0988	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0718	.0344	-.0195	-.0970	-.1001	-.1201	-.0263		.2878	.0167
40.000	.0302		.0129	-.0707	-.0997	-.0543	-.0703		.1889	-.0269
70.000	-.3166	-.2235	-.0611	.1447	-.0003	-.0089	-.0799			
90.000	-.2432	-.1624	.0036	.1969	-.0267	-.0736	-.1480			
105.000			.0458	.3659	-.0912	-.1091	-.1810			
110.000								-.3107		
120.000	-.3416	-.1722	.0671	.5203	-.2269	-.1598	-.1655	-.2588		
135.000			.1429	.2983	-.2366	-.1450	-.1977			
150.000	-.1456	-.0436	.1585	-.0756	-.2655	-.1088	-.1435			
165.000	-.1132		.1325		.0939	-.0422	-.2588			
180.000	-.1056	-.0255	.1161	.1220						

ALPHA (4) = 8.037 BETA (2) = -3.847 MACH = .59720 Q = 595.49 P = 2385.3 RN/L = 4.8534

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0188	.6771	.2653	.1393	.0697			-.0080		-.0134	-.0031	.0162	.0442	.0827	.0968
20.000			.3088	.1686	.0704	.0090		-.0073		-.0188					
40.000			.4233	.2251	.1285	.0676		.0095		-.0123	.0091	.0489	.0690	.0841	.1293
55.000			.4411	.2600	.1745	.0802		-.0116		-.0827					
7..000			.4062	.2359	.1344	.0884		-.0331		-.1443	-.2101	-.1235	-.0816	-.0722	
90.000		.5074	.3689	.2097	.1273	.0832		-.0413		-.2228	-.2354	-.1471	-.0954	-.0853	
120.000			.2941	.1608	.0772	.1142		.0447		-.3314	-.3600	-.3628	-.2228	-.2236	
140.000										-.4677					
150.000			.1821	.0956	.0446	.1031		.3821		-.6954	-.4757	-.2030	-.1150	-.1019	
151.000									.0031						
162.000									-.0272						
165.000										-1.3999	-.3319	-.1760	-.0968	-.0804	
169.000								.3882							
174.000							.5473								
180.000	1.0188	.2817	.1129	.0801	.0354	.0967		.2648		-1.5937	-.2856	-.1509	-.0771	-.0643	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0931	.0410	-.0205	-.0891	-.0963	-.1145	-.0166		.2916	.0237
40.000	.0352		.0107	-.0627	-.1008	-.0564	-.0417		.1839	-.0300

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8861)

ALPHA (4) = 8.037 BETA (2) = -3.847

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.3537	-.2594	-.1107	.0852	-.0552	-.0503	-.0990			
90.000	-.2645	-.1509	-.0374	.1228	-.0934	-.1151	-.1562			
105.000			.0205	.2380	-.1650	-.1550	-.2040			
110.000								-.3042		
120.000	-.2415	-.0888	.1588	.1804	-.2698	-.1918	-.1884	-.2292		
135.000			.1929	.1589	-.2538	-.1675	-.1981			
150.000	-.0998	.0301	.1878	.1570	-.2283	-.1447	-.1593			
165.000	-.0780		.1514		-.0300	-.1171	-.2393			
180.000	-.0709	.0119	.1455	.2772						

ALPHA (4) = 8.042 BETA (3) = .196 MACH = .59720 Q = 595.49 P = 2385.3 RN/L = 4.8534

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
000	1.0267	.6824	.2690	.1492	.0723			-.0038		-.0064	-.0010	.0245	.0522	.0877	.1004
30.000			.2846	.1539	.0638	.0106		-.0094		-.0176					
40.000			.3418	.1742	.0905	.0362		-.0106		-.0447	-.0314	.0229	.0513	.0678	.1260
55.000			.3209	.1501	.0730	.0017		-.0802		-.1524					
70.000			.2841	.1255	.0414	.0100		-.1020		-.2071	-.2577	-.1508	-.1078	-.0922	
80.000		.3539	.2647	.1039	.0447	.0045		-.1086		-.2904	-.2715	-.1700	-.1085	-.0913	
90.000			.2210	.0991	.0246	.0734		-.0260		-.3929	-.3634	-.3154	-.1534	-.1380	
100.000										-.5195					
110.000			.1044	.0834	.0312	.0878		.3032		-.7177	-.4072	-.1716	-.0842	-.0647	
120.000									-.0942						
130.000									-.1057						
140.000										-1.3463	-.3021	-.1501	-.0735	-.0493	
150.000								.3529							
160.000							.5171								
170.000	.0787	.2755	.1270	.0792	.0478	.1079		.3155		-1.5533	-.2754	-.1447	-.0638	-.0493	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	.0875	.0448	-.0157	-.0342	-.0949	-.1099	-.0133		.2919	.0293
90.000	.0152		.0081	-.0672	-.1022	-.0659	-.0352		.1704	-.0391
105.000	-.3464	-.0995	-.1426	.0257	-.1181	-.1062	-.1325			
110.000	-.0889	-.0107	-.0932	.0503	-.1784	-.1632	-.1799			
120.000			.0303	.0837	-.2485	-.2057	-.2287			
135.000								-.3150		
150.000	-.1682	-.0716	.0943	.0844	-.3060	-.2458	-.2248	-.2418		
165.000			.1155	.2469	-.3028	-.2033	-.2216			
180.000	-.0780	-.0103	.1457	.4141	-.2706	-.1932	-.1809			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8861)

ALPHA (4) = 8.042 BETA (3) = .195

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0593		.1450		-.1284	-.2105	-.2340			
90.000	-.0598	.0189	.1594	.4129						

ALPHA (4) = 7.950 BETA (4) = 4.251 MACH = .59720 Q = 595.49 P = 2385.3 RN/L = 4.8534

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0090	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0139	.6543	.2510	.1330	.0571			-.0092		-.0177	-.0060	.0162	.0482	.0862	.0889
20.000			.2391	.1134	.0341	-.0139		-.0317		-.0440					
40.000			.2397	.0335	.0202	-.0190		-.0547		-.1013	-.0861	-.0247	.0139	.0422	.1114
55.000			.1078	.0465	-.0210	-.0047		-.1524		-.2137					
70.000			.1598	.0225	-.0503	-.0596		-.1626		-.2595	-.2830	-.1784	-.1264	-.1055	
90.000		.1997	.1581	.0128	-.0412	-.0589		-.1775		-.3560	-.2956	-.1784	-.1089	-.0974	
120.000			.1480	.0353	-.0406	.0208		-.1096		-.4536	-.3607	-.2746	-.0982	-.0867	
140.000										-.5648					
150.000			.1215	.0694	-.0009	.0544		.1993		-.7455	-.3558	-.1547	-.0687	-.0532	
151.000									-.2107						
162.000									-.2026						
165.000										-1.3083	-.2916	-.1500	-.0675	-.0541	
170.000								.2978							
174.000							.4606								
180.000	1.0139	.5552	.1253	.0743	.0318	.0963		.2928		-1.5146	-.2890	-.1495	-.0774	-.0707	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0781	.0398	-.0172	-.0956	-.0917	-.1149	-.0176		.2969	.0303
[illegible]	.0906		.0045	-.0660	-.1130	-.0790	-.0351		.1558	-.0518
[illegible]	-.0701	-.3111	-.1807	-.0348	-.1704	-.1483	-.1642			
[illegible]	-.2275	-.2230	-.0921	-.0435	-.2339	-.2080	-.2015			
[illegible]			-.0392	-.0214	-.3479	-.2548	-.2523			
[illegible]								-.3420		
[illegible]	-.1444	.1149	-.0012	.0485	-.4146	-.3204	-.2820	-.2660		
[illegible]			.1238	.3485	-.3313	-.2637	-.2598			
[illegible]	-.2679	-.0113	.1853	.3726	-.3778	-.2994	-.2290			
[illegible]	-.0414		.1706		-.2484	-.3005	-.2691			
[illegible]	[illegible]	.0100	.1474	[illegible]						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE886)

ALPHA (4 = 7.955 BETA (5) = 8.305 MACH = .59720 Q = 595.49 P = 2385.3 RN/L = 4.8534

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
000	.9552	.6199	.2249	.1215	.0280			-.0260		-.0320	-.0254	.0062	.0366	.0761	.0723
20.000			.1744	.0772	-.0069	-.0416		-.0658		-.0818					
40.000			.1251	.0158	-.0480	-.0867		-.1187		-.1635	-.1644	-.0881	-.0366	.0132	.0865
55.000			.0561	-.0769	-.1227	-.1686		-.2192		-.2707					
70.000			.0337	-.0910	-.1331	-.1270		-.2188		-.2997	-.3090	-.1925	-.1375	-.1186	
90.000		.0086	.0428	-.0849	-.1189	-.1301		-.2261		-.3944	-.3102	-.1741	-.1127	-.0950	
120.000			.0524	-.0551	-.1109	-.0627		-.1980		-.5175	-.3554	-.2449	-.0744	-.0543	
140.000										-.6121					
150.000			.0477	.0117	-.0563	-.0097		.0611		-.7829	-.3217	-.1575	-.0772	-.0672	
161.000									-.3446						
170.000									-.3325						
180.000										-1.2879	-.2941	-.1653	-.0997	-.0865	
190.000								.2298							
200.000	.9552	.1869	.0889	.0325	-.0079	.0548	.3975	.2024		-1.5434	-.3222	-.1930	-.1230	-.1054	
X/LB	.6520	.7030	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
000	.0659	.0302	-.0208	-.1006	-.0981	-.1124	-.0277		.3008	.0321					
40.000	.0744		.0004	-.0705	-.1174	-.0798	-.0401		.1546	-.0565					
70.000	-.3675	-.3383	-.2149	-.0978	-.2050	-.1692	-.1740								
90.000	-.2711	-.2616	-.1692	-.0931	-.2812	-.2218	-.2113								
120.000			-.1181	-.0365	-.4195	-.2966	-.2761								
140.000								-.3320							
160.000	-.1440	-.1530	-.0719	.1806	-.5239	-.3955	-.3245	-.2920							
180.000			.0411	.3386	-.4924	-.3502	-.3194								
190.000	-.0980	-.0530	.0789	.0033	-.4806	-.3905	-.2975								
200.000	-.1408		.0799		-.3934	-.3978	-.2911								
210.000	-.1172	-.0751	.1059	.1693											

ALPHA = -1.843 BETA (1) = -7.853 MACH = .59660 Q = 594.44 P = 2386.0 RN/L = 4.8439

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/B	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
000	.9659	.7570	.3694	.2231	.1480			.0405		.0393	.0391	.0560	.0902	.1344	.1558
20.000			.4571	.2838	.1766	.0917		.0639		.0458					
40.000			.5921	.3751	.2681	.1883		.1183		.0774	.0961	.1320	.1450	.1618	.2158
55.000			.5889	.3865	.2844	.1793		.0724		-.0112					
70.000			.4849	.3139	.2144	.1552		.0381		-.0821	-.1839	-.1195	-.0975	-.0825	
90.000		.5455	.4013	.2813	.1997	.1213		.0187		-.1785	-.2234	-.1682	-.1401	-.1394	
120.000			.2187	.0413	.0024	.0471		.0398		-.3155	-.4376	-.5522	-.4784	-.4950	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8861)

ALPHA (5) = 11.943 BETA (1) = -7.953

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.4802					
150.000			.0402	-.0257	-.0657	.0114		.3722		-.7567	-.6248	-.2888	-.1971	-.2026	
151.000									.0164						
162.000									-.0543						
165.000										-1.5777	-.4121	-.2448	-.1571	-.1579	
169.000								.3424							
174.000							.5010								
180.000	.9259	.1092	-.0430	-.0468	-.0725	.0072		.1098		-1.9992	-.3220	-.1834	-.1245	-.1349	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1423	.1011	.0389	-.0371	-.0503	-.0844	-.0028		.3147	.0355
40.000	.1903		.0810	-.0001	-.0576	-.0208	-.0341		.2067	-.0013
70.000	-.4529	-.2997	-.0956	.1298	-.0013	-.0013	-.0637			
90.000	-.3481	-.2175	-.0289	.1973	-.0221	-.0562	-.1279			
100.000			.0006	.3704	-.0901	-.1035	-.1769			
110.000								-.3016		
120.000	-.4550	-.2213	.0152	.5170	-.2508	-.1793	-.1690	-.2617		
135.000			.0481	.1551	-.2810	-.1759	-.2183			
150.000	-.2021	-.0852	.0401	-.0455	-.2991	-.1308	-.1692			
165.000	-.1952		.0567		.0675	-.0557	-.2499			
180.000	-.1654	-.1014	.0260	.2737						

ALPHA (5) = 11.962 BETA (2) = -3.827 MACH = .59660 Q = 594.44 P = 2386.0 RN/L = 4.8439

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9471	.8932	.4054	.2539	.1764			.0628		.0512	.0510	.0707	.1068	.1431	.1598
20.000			.4478	.2579	.1833	.0981		.0706		.0484					
40.000			.5186	.3253	.2278	.1499		.0903		.0395	.0406	.0909	.1210	.1376	.2044
58.000			.4579	.2804	.1763	.0810		-.0106		-.0998					
70.000			.3752	.2972	.1103	.0765		-.0391		-.1535	-.2430	-.1661	-.1319	-.1293	
80.000		.4223	.3089	.1646	.1177	.0536		-.0516		-.2409	-.2617	-.1900	-.1537	-.1531	
100.000			.1737	.0659	-.0144	.0332		.0050		-.3737	-.4254	-.4790	-.3689	-.3654	
140.000										-.5226					
150.000			.0475	-.0084	-.0473	.0306		.3470		-.7705	-.5385	-.2377	-.1397	-.1535	
161.000									-.0450						
168.000									-.0971						
175.000										-1.5327	-.3625	-.1919	-.1198	-.1189	
180.000								.3335							
180.000							.4965								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XIB861)

ALPHA (5) = 11.952 BETA (2) = -3.827

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3720	.4970	.5740
PHI															
180.000	.9471	.1178	-.0136	-.0134	-.0459	.0299		.2087		-1.6551	-.2984	-.1483	-.0800	-.0809	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1522	.1093	.0418	-.0415	-.0481	-.0826	.0029		.3129	.0418
[illegible]	.1875		.0769	-.0055	-.0597	-.0301	-.0216		.1979	-.0191
[illegible]	-.4951	-.3513	-.1652	.0486	-.0673	-.0521	-.0924			
[illegible]	-.3557	-.2423	-.0803	.1034	-.0072	-.1065	-.1487			
[illegible]			-.0114	.2102	-.1689	-.1554	-.2052			
[illegible]	-.3270	-.0867	.0699	.1461	-.2740	-.2029	-.1932	-.3115		
[illegible]			.0749	.1704	-.2483	-.1774	-.2085	-.2489		
[illegible]	-.1545	-.0904	.0502	.2379	-.1945	-.1562	-.1665			
[illegible]	-.1364		.0576		-.0209	-.1120	-.2322			
[illegible]	-.1014	-.0235	.1119	.3866						

ALPHA (5) = 11.957 BETA (3) = .197 MACH = .59560 Q = 594.44 P = 2386.0 RN/L = 4.8439

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3720	.4970	.5740
PHI															
.000	.9553	.8136	[illegible]	.2636	.1783			.0619		.0582	.0569	.0791	.1058	.1511	.1350
[illegible]			.4185	.2650	.1603	.0971		.0605		.0369					
[illegible]			[illegible]	.2502	.1592	.0923		.0366		-.0211	-.0241	.0494	.0844	.1150	.1363
[illegible]			.7345	.1500	.0709	-.0212		-.1067		-.1769					
[illegible]			.2567	[illegible]	.0140	-.0053		-.1103		-.2201	-.2874	-.2051	-.1694	-.1567	
[illegible]		.2810	[illegible]	[illegible]	.0259	-.0162		-.1183		-.3036	-.2980	-.2187	-.1653	-.1500	
[illegible]			[illegible]	[illegible]	-.0475	.0091		-.0451		-.4325	-.4125	-.3951	-.2522	-.2285	
[illegible]										-.5728					
[illegible]			.0513	[illegible]	-.0468	.0262		.2758		-.7883	-.4440	-.1990	-.1111	-.1035	
[illegible]									-.1292						
[illegible]									-.1586						
[illegible]										-1.4659	-.3231	-.1637	-.0796	-.0733	
[illegible]								.2940							
[illegible]							.4600								
[illegible]	.9553	.1061	.0095	-.0134	-.0305	.0475		.2523		-1.7099	-.2689	-.1454	-.0701	-.0719	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	[illegible]	[illegible]	.0464	-.0427	-.0504	-.0779	.0065		.3191	.0426
[illegible]	[illegible]		.0720	-.0052	-.0738	-.0434	-.0190		.1909	-.0391

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8861)

ALPHA (5) = 11.967 BETA (3) = .197

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.5133	-.3095	-.2064	-.0129	-.1344	-.1129	-.1335			
90.000	-.3653	-.2740	-.1036	.0210	-.1938	-.1599	-.1692			
105.000			-.0080	.0699	-.2694	-.2125	-.2309			
110.000								-.3179		
120.000	-.2147	-.1570	.0526	.1478	-.3154	-.2431	-.2214	-.2459		
135.000			.0324	.2961	-.3188	-.2272	-.2314			
150.000	-.1473	-.0691	.1117	.4891	-.2847	-.2081	-.1822			
165.000	-.0933		.1348		-.1458	-.2215	-.2322			
180.000	-.0840	.0029	.1493	.4234						

ALPHA (5) = 11.963 BETA (4) = 4.259 MACH = .59660 Q = 594.44 P = 2386.0 RN/L = 4.8439

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9405	.7959	.3930	.2507	.1598			.0560		.0488	.0512	.0683	.1057	.1469	.1539
20.000			.3620	.2288	.1250	.0659		.0322		.0034					
40.000			.2940	.1660	.0790	.0151		-.0357		-.1002	-.1062	-.0263	.0257	.0757	.1579
55.000			.1822	.0251	-.0432	-.1145		-.1890		-.2519					
70.000			.1254	-.0104	-.0797	-.0713		-.1755		-.2779	-.3173	-.2338	-.1879	-.1901	
90.000		.1144	.1031	-.0225	-.0593	-.0753		-.1776		-.3522	-.3222	-.2251	-.1673	-.1570	
120.000			.0639	-.0368	-.0934	-.0231		-.1166		-.4768	-.3934	-.3334	-.1650	-.1393	
140.000										-.6052					
150.000			.0186	-.0190	-.0749	.0047		.1668		-.8117	-.3859	-.1669	-.0779	-.0788	
151.000									-.2346						
162.000									-.2562						
165.000										-1.3912	-.3021	-.1486	-.0694	-.0726	
169.000								.2471							
174.000							.4097								
180.000	.9405	.0798	.0113	-.0164	-.0491	.0296		.2369		-1.7214	-.2979	-.1524	-.0840	-.0920	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1506	.1087	.0448	-.0407	-.0499	-.0813	.0033		.3216	.0457
40.000	.1607		.0630	-.0152	-.0792	-.0537	-.0231		.1756	-.0409
70.000	-.5090	-.4039	-.2304	-.0790	-.1866	-.1561	-.1607			
90.000	-.3731	-.2981	-.1485	-.0906	-.2690	-.2073	-.1994			
105.000			-.0905	-.0573	-.3808	-.2696	-.2609			
110.000								-.3485		
120.000	-.2036	-.1694	-.0674	-.0091	-.4301	-.3216	-.2857	-.2671		
135.000			.0696	.3711	-.3820	-.2630	-.2616			
150.000	-.1015	-.0442	.1244	.4180	-.4023	-.2859	-.2265			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8861)

ALPHA (5) = 11.963 BETA (4) = 4.259

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0894		.1123		-.2599	-.3013	-.2402			
180.000	-.1066	-.0248	.1060	.4020						

ALPHA (5) = 11.951 BETA (5) = 8.316 MACH = .59660 Q = 594.44 P = 2386.0 RN/L = 4.8439

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.8846	.7528	.3687	.2282	.1279			.0412		.0339	.0301	.0538	.0953	.1428	.1433
20.000			.2978	.1650	.0796	.0269		-.0127		-.0334					
40.000			.1679	.0548	-.0156	-.0796		-.1180		-.1917	-.2116	-.1108	-.0315	.0319	.1310
55.000			.0276	-.1057	-.1520	-.2273		-.2663		-.3209					
70.000			-.0049	-.1111	-.1648	-.1404		-.2225		-.3209	-.3493	-.2502	-.2059	-.2239	
90.000		-.0641	.0000	-.1088	-.1376	-.1272		-.2275		-.3940	-.3308	-.2206	-.1636	-.1598	
120.000			-.0096	-.1003	-.1433	-.0636		-.1852		-.5164	-.3706	-.2660	-.1113	-.1055	
140.000										-.6378					
150.000			-.0367	-.0589	-.1123	-.0401		.0611		-.8174	-.3474	-.1569	-.0694	-.0717	
151.000									-.3598						
162.000									-.3756						
165.000										-1.3449	-.3071	-.1591	-.0921	-.1011	
169.000								.1837							
174.000							.3493								
180.000	.8846	.0202	-.0217	-.0464	-.0861	-.0035		.1460		-1.7680	-.3258	-.1903	-.1345	-.1356	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1469	.0969	.0445	-.0464	-.0511	-.0813	.0037		.3234	.0508
40.000	.1419		.0554	-.0139	-.0772	-.0577	-.0278		.1697	-.0369
70.000	-.4989	-.4190	-.2765	-.1475	-.2300	-.1897	-.1741			
90.000	-.3838	-.3404	-.2238	-.1604	-.3120	-.2262	-.1963			
105.000			-.1757	-.1456	-.4781	-.3204	-.2863			
110.000								-.3412		
120.000	-.2226	-.2396	-.1240	.0499	-.5595	-.4142	-.3483	-.2861		
135.000			.0422	.4773	-.5239	-.3580	-.3182			
150.000	-.1084	-.0776	.0497	.3821	-.5282	-.4107	-.3039			
165.000	-.1463		.0113		-.4710	-.4179	-.2913			
180.000	-.1785	-.1120	.0336	.1761						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8862) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 936.0680 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = 5.000 SPOBRK = 55.000
BDFLAP = 16.300 L-ELVN = -4.000
R-ELVN = -4.000 MACH = 1.400

ALPHA (1) = -4.059 BETA (1) = -3.849 MACH = 1.3925 Q = 599.99 P = 442.06 RN/L = 2.9210

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4742	.6749	.2032	.0793	.0081			-.0543		-.0269	-.0118	-.0245	-.0112	-.0635	-.0589
20.000			.2594	.0905	.0107	-.0763		-.0579		-.0692					
40.000			.4443	.1222	.0610	-.0528		-.1004		-.1815	-.1711	-.1495	-.0909	-.0987	-.0674
55.000			.5932	.3154	.2297	.1053		.1216		.0703					
70.000			.6839	.4109	.3135	.2174		.2288		.1358	-.1933	-.0989	-.0583	83	
90.000		.9387	.7506	.4884	.3393	.2658		.2897		.0861	-.1711	-.1765	-.0966	.0112	
120.000			.8139	.6110	.4482	.4753		.5659		.1497	-.1059	-.3367	-.1287	-.0222	
140.000										.1126					
150.000			.7964	.6419	.4855	.5621		1.0013		-.0978	-.2936	-.1698	-.1079	-.0012	
151.000									.7432						
162.000									.8060						
165.000										-.1472	-.2496	-.1651	-.1195	-.0818	
169.000								1.0620							
174.000							1.0998								
180.000	1.4742	1.0257	.7333	.6034	.4777	.5624		1.0004		-.2499	-.2850	-.1453	-.1240	-.0969	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0213	-.0237	-.0428	-.0950	-.1645	-.2074	-.2626		.1870	.1590
40.000	-.0695		-.0804	-.1047	-.1780	-.1742	-.3298		.0387	-.0171
70.000	.0825	.0144	-.0480	.1990	.1500	.1628	.1899			
90.000	.0916	.0498	.0663	.1991	.1216	.0718	.1361			
105.000			.2039	.2360	.0279	-.0174	-.0035			
110.000								-.0637		
120.000	.0348	.0594	.3569	.2843	.0708	-.0537	-.0280	-.1188		
135.000			.4009	.4221	.1117	.0738	.0564			
150.000	-.0100	.0424	.3668	.4119	.1761	.1934	.1046			
165.000	-.0183		.3823		.4860	.3044	-.2421			
180.000	-.0196	.0154	.3759	.4098						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8E62)

ALPHA (1) = -3.922 BETA (2) = .195 MACH = 1.3925 Q = 599.99 P = 442.06 RN/L = 2.9210

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4763	.6763	.2146	.0802	.0180			-.0540		-.0269	-.0021	-.0137	-.0372	-.0521	-.0548
20.000			.2484	.0948	.0098	-.0484		-.0479		-.0433					
40.000			.3900	.1154	.0542	-.0488		-.0535		-.1138	-.1182	-.1079	-.0651	-.0774	-.0448
55.000			.5049	.2364	.1695	.0454		.0740		.0301					
70.000			.5801	.3085	.2224	.1316		.1606		.0736	-.2458	-.1675	-.1096	.0023	
90.000		.7962	.6416	.3817	.2345	.1623		.2052		-.0123	-.2396	-.2418	-.1313	-.0065	
120.000			.7163	.5221	.3567	.3807		.4600		.0452	-.1871	-.4059	-.1786	-.0509	
140.000										-.0740					
150.000			.7409	.6093	.4495	.5141		.9266		-.1705	-.3023	-.1857	-.1391	-.0713	
151.000									.6534						
162.000									.7389						
165.000										-.1559	-.2303	-.1462	-.1252	-.0765	
169.000								1.0324							
174.000							1.0919								
180.000	1.4763	1.0083	.7361	.6081	.4845	.5583		1.0244		-.2947	-.2994	-.1108	-.1179	-.0784	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0174	-.0165	-.0370	-.0846	-.1610	-.2030	-.2602		.1690	.1512
40.000	-.0415		-.0574	-.0903	-.1612	-.1681	-.3047		.0818	.0437
70.000	.0577	.0082	-.0028	.2249	.1074	.1096	.1377			
90.000	.0686	.0346	.1492	.1921	.0656	.0179	.0690			
105.000			.2713	.2187	-.0200	-.0502	-.0310			
110.000								-.1240		
120.000	.0395	.0561	.2988	.1306	.0229	-.1116	-.1227	-.1845		
135.000			.3870	.3910	.0769	.0166	-.0156			
150.000	.0069	.0421	.3991	.4144	.1691	.1009	.0312			
165.000	-.0011		.4063		.4167	.1902	-.3086			
180.000	-.0056	.0288	.4107	.4976						

ALPHA (1) = -3.930 BETA (3) = 4.280 MACH = 1.3925 Q = 599.99 P = 442.06 RN/L = 2.9210

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4667	.6620	.2084	.0719	.0206			-.0631		-.0412	-.0053	-.0167	-.0347	-.0652	-.0610
20.000			.2185	.0771	-.0021	-.0418		-.0525		-.0341					
40.000			.3690	.0892	.0310	-.0475		-.0398		-.0816	-.0752	-.0749	-.0522	-.0746	-.0386
55.000			.4155	.1610	.1029	-.0075		.0428		.0018					
70.000			.4754	.2118	.1360	.0558		.0966		.0171	-.2878	-.2253	-.1400	-.0140	
90.000		.6480	.5354	.2802	.1367	.0730		.1214		-.1088	-.3030	-.3015	-.1540	-.0200	
120.000			.6232	.4376	.2655	.2851		.3467		-.0604	-.2548	-.4553	-.2380	-.0805	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8862)

ALPHA (1) = -3.930 BETA (3) = 4.280

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.2033					
150.000			.6837	.5702	.4111	.4595		.8464		-.2160	-.3058	-.1788	-.1738	-.1214	
151.000									.5463						
162.000									.6619						
165.000										-.1683	-.3162	-.1320	-.1410	-.1098	
169.000								.9861							
174.000							1.0387								
180.000	1.4667	.9921	.7347	.6096	.4848	.5515		1.0118		-.2635	-.2885	-.1528	-.1245	-.1013	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0338	-.0143	-.0421	-.0875	-.1588	-.2047	-.2633		.1763	.1517
40.000	-.0194		-.0327	-.0759	-.1623	-.1690	-.2934		.0756	.0467
70.000	.0459	-.0190	.0067	.2300	.0912	.0595	.0996			
90.000	.0556	.0091	.1437	.2098	.0359	-.0463	.0087			
105.000			.2648	.1910	-.0557	-.0874	-.0597			
110.000								-.1871		
120.000	.0272	.0473	.2719	.0284	-.0650	-.1922	-.2941	-.2279		
135.000			.3432	.3547	.0306	-.0578	-.0983			
150.000	-.0086	.0282	.3665	.3690	.1243	.0156	-.0663			
165.000	-.0152		.3728		.3483	.1114	-.3419			
180.000	-.0197	.0252	.3828	.4223						

ALPHA (2) = .024 BETA (1) = -3.867 MACH = 1.3922 Q = 599.78 P = 442.06 RN/L = 2.9172

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4836	.8018	.3211	.1657	.0804			-.0163		-.0093	.0094	.0098	-.0008	-.0292	-.0319
20.000			.3693	.1892	.0873	.0024		-.0057		-.0290					
40.000			.5375	.2445	.1570	.0467		-.0007		-.0550	-.0531	-.0535	-.0186	-.0481	-.0224
55.000			.6484	.3768	.2951	.1604		.1621		.1347					
70.000			.6997	.4348	.3329	.2214		.2348		.1769	-.1643	-.0767	-.0524	-.0337	
90.000		.9149	.7349	.4809	.3367	.2518		.3055		.1381	-.1525	-.1580	-.0980	-.0314	
120.000			.7401	.5469	.3871	.3664		.5680		.1579	-.1189	-.3237	-.1495	-.0679	
140.000										.1073					
150.000			.6841	.5466	.3575	.3879		.9753		-.1203	-.3495	-.2483	-.1516	-.0905	
151.000									.7244						
162.000									.7778						
165.000										-.1908	-.3.36	-.2273	-.1580	-.0936	
169.000								1.0259							
174.000							.0334								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8862)

ALPHA (2) = .024 BETA (1) = -3.867

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CF

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.4836	.8985	.6058	.5086	.3490	.3756		.9568		-.3027	-.3386	-.2006	-.1729	-.0959	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0049	.0057	.0057	-.0350	-.1003	-.1480	-.2043		.2364	.2106
40.000	-.0094		-.0146	-.0421	-.1159	-.1000	-.2677		.1417	.0725
70.000	.0140	-.0685	-.1305	.0430	.0628	.0415	.1335			
90.000	.0391	-.0241	-.0846	.1247	.0229	-.0201	.0096			
105.000			.0181	.1800	-.0541	-.0916	-.1215			
110.000								-.1096		
120.000	-.0222	-.0160	.2750	.2185	.0298	-.1129	-.1364	-.1904		
135.000			.3306	.3321	.0361	-.0272	-.0160			
150.000	-.0293	.0017	.3228	.3272	.0495	.1163	.0453			
165.000	-.0302		.3191		.3988	.2237	-.2663			
180.000	-.0274	.0136	.3084	.3079						

ALPHA (2) = .029 BETA (2) = .185 MACH = 1.3923 Q = 599.78 P = 442.06 RN/L = 2.9172

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1560	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4859	.8034	.3288	.1642	.0887			-.0087		-.0145	.0063	.0246	.0080	-.0169	-.0254
20.000			.3513	.1786	.0808	.0174		-.0075		-.0221					
40.000			.4708	.2092	.1358	.0383		.0041		-.0269	-.0205	-.0318	-.0027	-.0380	-.0223
55.000			.5516	.2940	.2239	.0992		.1016		.0952					
70.000			.5903	.3271	.2428	.1406		.1603		.1220	-.2136	-.1353	-.1064	-.0425	
90.000		.7697	.6242	.3731	.2374	.1593		.2256		.0511	-.2122	-.2187	-.1450	-.0447	
120.000			.6555	.4680	.3075	.2925		.4714		.0635	-.1987	-.3864	-.1687	-.0635	
140.000										-.0314					
150.000			.6410	.5218	.3314	.3567		.8874		-.1952	-.3563	-.2457	-.1564	-.0704	
151.000									.6344						
162.000									.7142						
165.000										-.2023	-.3234	-.2102	-.1659	-.0708	
169.000								.9953							
174.000							1.0293								
180.000	1.4859	.8833	.6133	.5099	.3688	.3803		.9827		-.3490	-.3538	-.1683	-.1633	-.0741	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0050	.0215	.0137	-.0290	-.0996	-.1462	-.2051		.2404	.2105
40.000	.0061		.0094	-.0275	-.1044	-.1053	-.2433		.1212	.0804

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8862)

ALPHA (2) = .029 BETA (2) = .185

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.0033	-.0970	-.1236	.0747	.0215	-.0079	.0639			
90.000	.0282	-.0431	.0209	.0971	-.0240	-.0547	-.0353			
105.000			.1559	.1262	-.1256	-.1192	-.1408			
110.000								-.1813		
120.000	.0103	.0036	.2670	.1975	.0010	-.1526	-.2191	-.2361		
135.000			.2844	.3348	.0761	-.0356	-.0765			
150.000	-.0024	.0251	.2954	.3549	.1109	.0484	-.0305			
165.000	-.0088		.3121		.3346	.1277	-.3126			
180.000	-.0142	.0174	.3253	.4219						

ALPHA (2) = .025 BETA (3) = 4.257 MACH = 1.3922 Q = 599.78 P = 442.06 RN/L = 2.9172

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4726	.7869	.3281	.1510	.0965			-.0163		-.0181	-.0025	.0206	.0027	-.0292	-.0336
20.000			.3225	.1522	.0693	.0195		-.0132		-.0235					
40.000			.3989	.1664	.1036	.0204		.0021		-.0223	-.0039	-.0226	-.0110	-.0514	-.0317
55.000			.4547	.2108	.1496	.0422		.0550		.0608					
70.000			.4877	.2278	.1565	.0635		.1046		.0722	-.2564	-.1912	-.1548	-.0502	
90.000		.6190	.5231	.2736	.1475	.0758		.1539		-.0322	-.2708	-.2772	-.1730	-.0521	
120.000			.5689	.3876	.2259	.2155		.3635		-.0348	-.2708	-.4555	-.1921	-.0686	
140.000										-.1973					
150.000			.5888	.4856	.3090	.3059		.8212		-.2479	-.3572	-.2436	-.2028	-.0870	
151.000									.5325						
162.000									.6343						
165.000										-.2155	-.3655	-.1888	-.1872	-.0955	
169.000								.9459							
174.000							.9744								
180.000	1.4726	.8619	.6152	.5196	.3749	.3661		.9721		-.3190	-.3420	-.2110	-.1728	-.1037	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0194	.0158	.0056	-.0312	-.0987	-.1445	-.2061		.2336	.2076
40.000	.0174		.0193	-.0160	-.0997	-.1160	-.2314		.1295	.0857
70.000	-.0105	-.1203	-.0959	.0878	-.0018	-.0542	.0101			
90.000	.0198	-.0638	.0361	.0830	-.0620	-.0978	-.0781			
105.000			.1706	.1304	-.1622	-.1672	-.1752			
110.000								-.2366		
120.000	.0155	.0081	.2249	.0558	-.0753	-.2194	-.3213	-.2909		
135.000			.2840	.2866	-.0023	-.1017	-.1412			
150.000	-.0126	.0238	.3039	.3004	.0809	-.0301	-.1101			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8862)

ALPHA (2) = .025 BETA (3) = 4.257

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0197		.3051		.2469	.0588	-.3443			
180.000	-.0310	.0236	.3122	.3131						

ALPHA (3) = 3.958 BETA (1) = -3.867 MACH = 1.3919 Q = 599.88 P = 442.29 RN/L = 2.9189

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4705	.9245	.4355	.2649	.1650			.0399		.0299	.0354	.0380	.0466	.0199	.0161
20.000			.4797	.2900	.1728	.0747		.0576		.0186					
40.000			.6240	.3468	.2515	.1332		.0862		.0179	.0538	.0322	.0405	.0121	.0296
55.000			.6909	.4337	.3461	.2055		.1811		.1724					
70.000			.6985	.4444	.3439	.2265		.1918		.2078	-.1366	-.0512	-.0456	-.0912	
90.000		.8730	.6980	.4578	.3314	.2336		.2690		.1261	-.1316	-.1106	-.0938	-.0909	
120.000			.6590	.4690	.3302	.2978		.5549		.1700	-.1203	-.3175	-.2432	-.1523	
140.000										.1035					
150.000			.5672	.4432	.2761	.2924		.9376		-.1297	-.3959	-.3305	-.1889	-.1123	
151.000									.7037						
152.000									.7460						
165.000										-.2483	-.3630	-.2799	-.1867	-.0960	
169.000								.9898							
174.000							.9553								
180.000	1.4706	.7581	.4797	.4125	.2541	.2711		.9102		-.3512	-.3864	-.2423	-.2023	-.0804	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0345	.0454	.0620	.0277	-.0350	-.0846	-.1482		.3299	.2858
40.000	.0553		.0587	.0277	-.0551	-.0570	-.1825		.2323	.1444
70.000	-.0546	-.1529	-.2036	-.0926	-.0268	-.0628	.0491			
90.000	-.0192	-.0967	-.1719	.0519	-.0658	-.0969	-.1124			
105.000			-.1026	.1121	-.1060	-.2027	-.1757			
110.000								-.2605		
120.000	-.1000	-.1064	.1951	.1494	-.0131	-.1641	-.2176	-.2560		
135.000			.2239	.2292	-.0240	-.1296	-.0900			
150.000	-.0518	-.0007	.2271	.2334	-.0535	.0447	-.0303			
165.000	-.0421		.2346		.2789	.1686	.2666			
180.000	-.0382	.0552	.2214	.2685						

AMES 11-073(OA148: -140A/B/C/R ORB FUSELAGE (XE8862)

ALPHA (3) = 3.958 BETA (2) = .187 MACH = 1.3919 Q = 599.88 P = 442.29 RN/L = 2.9189

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4747	.9261	.4387	.2602	.1741			.0453		.0339	.0235	.0529	.0521	.0228	.0210
20.000			.4581	.2713	.1655	.0832		.0441		.0190					
40.000			.5486	.3011	.2183	.1063		.0711		.0126	.0628	.0341	.0448	.0083	.0151
55.000			.3896	.3366	.2673	.1369		.1161		.1157					
70.000			.5915	.3345	.2548	.1452		.1246		.1517	-.1828	-.1088	-.1027	-.1129	
90.000		.7328	.5979	.3555	.2403	.1494		.2060		.1067	-.1911	-.1746	-.1486	-.0947	
120.000			.5841	.4038	.2640	.2363		.4765		.0787	-.1980	-.3697	-.2040	-.1063	
140.000										-.0032					
150.000			.5353	.4329	.2498	.2685		.8409		-.2110	-.4008	-.2970	-.1756	-.0698	
151.000									.6201						
162.000									.6869						
165.000										-.2477	-.3667	-.2570	-.1905	-.0611	
169.000								.9477							
174.000							.9451								
180.000	1.4747	.7461	.4953	.4154	.2725	.2791		.9368		-.3892	-.3983	-.2165	-.1950	-.0582	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0286	.0598	.0712	.0363	-.0330	-.0791	-.1475		.3244	.2798
40.000	.0565		.0773	.0406	-.0380	-.0608	-.1605		.2078	.1385
70.000	-.0656	-.1815	-.2004	-.0337	-.0562	-.1013	-.0130			
90.000	-.0201	-.1221	-.1202	.0340	-.1252	-.1252	-.1378			
105.000			.0818	.0787	-.1833	-.2370	-.1957			
110.000								-.2748		
120.000	-.0266	-.0447	.1921	.1292	-.0363	-.1846	-.2554	-.2930		
135.000			.2004	.2469	.0287	-.0859	-.1246			
150.000	-.0189	.0016	.2073	.3416	.0822	-.0041	-.0815			
165.000	-.0206		.2148		.2708	.0744	-.3098			
180.000	-.0249	.0019	.2269	.3934						

ALPHA (3) = 3.963 BETA (3) = 4.246 MACH = 1.3919 Q = 599.88 P = 442.29 RN/L = 2.9189

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0090	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4605	.9123	.4346	.2572	.1802			.0404		.0266	.0228	.0403	.0551	.0184	.0120
20.000			.4230	.2424	.1488	.0760		.0338		.0162					
40.000			.4665	.2528	.1722	.0778		.0513		-.0008	.0604	.0260	.0376	-.0135	-.0003
55.000			.4829	.2405	.1832	.0692		.0595		.0635					
70.000			.4833	.2359	.1687	.0725		.0678		.1006	-.2212	-.1584	-.1553	-.1175	
90.000		.5819	.4995	.2589	.1559	.0714		.1519		.0285	-.2411	-.2295	-.1953	-.1010	
120.000			.5060	.3346	.1932	.1713		.3719		-.0067	-.2749	-.4255	-.1730	-.0781	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8862)

ALPHA (3) = 3.963 BETA (3) = 4.245

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.1666					
150.000			.4895	.4029	.2164	.2202		.7884		-.2704	-.4090	-.2974	-.1979	-.0681	
151.000									.5195						
162.000									.6079						
165.000										-.2614	-.4097	-.2343	-.2109	-.0726	
169.000								.9009							
174.000							.8957								
180.000	1.4605	.7219	.4916	.4265	.2738	.2663		.9325		-.3683	-.3862	-.2525	-.2021	-.0890	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0163	.0531	.0635	.0328	-.0329	-.0791	-.1504		.3283	.2864
40.000	.0470		.0877	.0525	-.0329	-.0623	-.1630		.2011	.1457
70.000	-.0672	-.1913	-.1977	-.0310	-.0735	-.1256	-.0627			
90.000	-.0171	-.1256	-.0325	.0207	-.1467	-.1444	-.1649			
105.000			.0943	.0330	-.2467	-.2581	-.2218			
110.000								-.2989		
120.000	-.0028	-.0253	.1492	.0034	-.1000	-.2514	-.3399	-.3790		
135.000			.2163	.2194	-.0721	-.1470	-.1792			
150.000	-.0183	.0158	.2312	.2112	-.0018	-.0805	-.1473			
165.000	-.0280		.2309		.2115	.0151	-.3551			
180.000	-.0376	.0542	.2336	.2608						

ALPHA (4) = 7.927 BETA (1) = -3.866 MACH = 1.3932 Q = 600.00 P = 441.59 RN/L = 2.9182

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4393	1.0417	.5512	.3732	.2561			.1075		.0897	.0801	.0728	.0933	.0786	.0738
20.000			.5954	.3949	.2649	.1568		.1221		.0820					
40.000			.7071	.4479	.3332	.2099		.1685		.0908	.1261	.1143	.1053	.0750	.0930
60.000			.7230	.4779	.3789	.2365		.1980		.1367					
75.000			.6910	.4514	.3415	.2353		.1942		.2025	-.1088	-.0307	-.0312	-.1102	
90.000		.8212	.6591	.4335	.3155	.2186		.1980		.2188	-.1144	-.0659	-.0849	-.1304	
120.000			.5737	.3852	.2649	.2249		.5161		.1762	-.1222	-.3169	-.3401	-.2868	
140.000										.1033					
150.000			.4558	.3318	.2105	.2048		.8843		-.1168	-.4363	-.3848	-.2176	-.1280	
161.000									.6787						
169.000									.7208						
175.000										-.2896	-.4046	-.3254	-.2060	-.0913	
179.000								.9167							
174.000							.8075								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8862)

ALPHA (4) = 7.927 BETA (1) = -3.866

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.4383	.6196	.3628	.3188	.1835	.1893		.8683		-.3845	-.4206	-.2739	-.2166	-.0691	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0972	.1155	.1285	.0947	.0358	-.0164	-.0773		.4309	.3610
40.000	.1361		.1488	.1090	.0173	-.0112	-.1029		.3032	.1945
70.000	-.1346	-.2407	-.2811	-.2309	-.1397	-.1317	.0231			
90.000	-.0913	-.1959	-.2406	-.0335	-.1372	-.1963	-.2010			
105.000			-.1158	.0240	-.1617	-.2672	-.2805			
110.000								-.3055		
120.000	-.1944	-.1759	.0762	.0690	-.0617	-.1994	-.2439	-.3029		
130.000			.0020	.1246	-.0514	-.1336	-.1247			
140.000	-.0890	-.0253	.0813	.1229	.0353	-.0014	-.0941			
165.000	-.0630		.0754		.2461	.1299	-.3036			
180.000	-.0518	-.0259	.1315	.3288						

ALPHA (4) = 7.932 BETA (2) = .179 MACH = 1.3932 Q = 600.00 P = 441.59 RN/L = 2.9182

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4427	1.0443	.5594	.3776	.2711			.1150		.0977	.0767	.0753	.1062	.0849	.0815
20.000			.5728	.3776	.2560	.1655		.1176		.0833					
40.000			.6312	.3991	.2973	.1795		.1474		.0651	.1005	.1008	.0996	.0679	.0794
55.000			.6182	.3905	.2975	.1556		.1285		.0776					
70.000			.5849	.3453	.2578	.1571		.1235		.1497	-.1467	-.0812	-.0914	-.1509	
90.000		.6989	.5467	.3351	.2356	.1394		.1363		.1518	-.1625	-.1240	-.1379	-.1670	
120.000			.5037	.3256	.2146	.1840		.4635		.1050	-.1821	-.3568	-.3318	-.1733	
140.000										.0166					
150.000			.4289	.3332	.1858	.1967		.7980		-.2038	-.4350	-.3438	-.1852	-.0732	
161.000									.0094						
165.000									.6649						
175.000										-.2828	-.3989	-.2939	-.1987	-.0529	
174.000								.8813							
180.000	1.4427	.6097	.3769	.3261	.1938	.1955	.8436	.8837		-.4154	-.4320	-.2514	-.2067	-.0449	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0996	.1245	.1481	.1160	.0456	-.0065	-.0734		.4233	.3568
40.000	.1203		.1614	.1239	.0414	-.0110	-.0952		.2952	.2022

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8862)

ALPHA (4) = 7.932 BETA (2) = .179

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1342	-.2494	-.2693	-.1025	-.1548	-.1575	-.0424			
90.000	-.0784	-.1847	-.2289	-.0165	-.1952	-.2129	-.2000			
105.000			-.0393	.0492	-.2280	-.3020	-.2846			
110.000								-.3120		
120.000	-.0710	-.0869	.0907	.0411	-.0854	-.2115	-.2803	-.3413		
135.000			.0938	.1465	-.0237	-.1279	-.1717			
150.000	-.0406	-.0425	.0937	.3675	.0343	-.0569	-.1179			
165.000	-.0326		.0933		.2334	.0128	-.3217			
180.000	-.0307	-.0197	.1219	.4039						

ALPHA (4) = 7.933 BETA (3) = 4.245 MACH = 1.3932 Q = 600.00 P = 441.59 RN/L = 2.9182

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4318	1.0313	.5481	.3777	.2634			.1070		.0855	.0749	.0696	.1044	.0770	.0735
20.000			.5315	.3501	.2310	.1383		.0914		.0704					
40.000			.5353	.3374	.2409	.1309		.1006		.0281	.0578	.0647	.0829	.0392	.0544
55.000			.5017	.2840	.2071	.0722		.0571		.0188					
70.000			.4755	.2435	.1695	.0803		.0640		.0968	-.1847	-.1355	-.1483	-.1982	
90.000		.5381	.4696	.2402	.1516	.0656		.0869		.0727	-.2135	-.1792	-.1908	-.1597	
120.000			.4388	.2674	.1563	.1289		.3782		.0224	-.2570	-.4014	-.2313	-.1057	
140.000										-.0949					
150.000			.3889	.3161	.1405	.1563		.7381		-.2840	-.4466	-.3357	-.1837	-.0614	
161.000									.5084						
162.000									.5833						
165.000										-.2991	-.4364	-.2667	-.2147	-.0600	
169.000								.8482							
174.000							.8050								
180.000	1.4318	.5807	.3705	.3393	.1918	.1654		.8903		-.4076	-.4185	-.2759	-.2145	-.0777	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0825	.1250	.1343	.1093	.0425	-.0101	-.0808		.4282	.3616
20.000	.1013		.1850	.1290	.0406	-.0218	-.1019		.2904	.2122
70.000	-.1887	-.2403	-.2663	-.1022	-.1481	-.1680	-.1129			
90.000	-.0890	-.1729	-.1582	-.0353	-.2187	-.2111	-.1935			
105.000			.0199	-.0010	-.2819	-.3352	-.2721			
110.000								-.3356		
120.000	-.0331	-.0518	.0708	-.0694	-.1301	-.2756	-.3636	-.4075		
135.000			.1361	.2259	-.0763	-.1729	-.2034			
150.000	-.0319	-.0210	.1542	.2339	-.0469	-.1279	-.1886			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8862)

ALPHA (4) = 7.933 BETA (3) = 4.245

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0382		.1072		.1805	-.0674	-.3588			
180.000	-.0521	-.0171	.1061	.3001						

ALPHA (5) = 11.912 BETA (1) = -3.854 MACH = 1.3916 Q = 599.87 P = 442.53 RN/L = 2.9199

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X LB	.0000	.0060	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3874	1.1497	.6741	.4877	.3557			.1850		.1649	.1413	.1223	.1436	.1498	.1500
20.000			.7193	.5105	.3598	.2504		.1973		.1588					
40.000			.7895	.5487	.4238	.2911		.2426		.1569	.1734	.1788	.1762	.1427	.1699
55.000			.7462	.5133	.4051	.2471		.2029		.1344					
70.000			.6759	.4538	.3366	.2332		.1904		.1290	-.0749	-.0111	-.0201	-.0988	
90.000		.7692	.6177	.4094	.2946	.1944		.1826		.2249	-.1007	-.0362	-.0695	-.1391	
120.000			.4910	.3054	.1758	.1581		.4311		.1836	-.1219	-.3041	-.4386	-.4896	
140.000										.1070					
150.000			.3466	.2188	.1410	.1292		.8775		-.0771	-.4733	-.4306	-.2595	-.1626	
151.000									.6545						
152.000									.6864						
165.000										-.3327	-.4371	-.3646	-.2198	-.1068	
170.000								.8447							
174.000							.6744								
180.000	1.3874	.4777	.2544	.2265	.1127	.1179		.7951		-.4102	-.4413	-.2949	-.2091	-.1752	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1774	.1936	.2226	.1845	.1264	.0857	-.0068		.5221	.4229
40.000	.2047		.2519	.1990	.1158	.0833	-.0445		.3765	.2549
70.000	-.1408	-.3396	-.3692	-.2804	-.1846	-.0310	-.0587			
90.000	-.1536	-.2673	-.3109	-.0892	-.1917	-.1607	-.0793			
125.000			-.2669	.0016	-.2121	-.2637	-.1405			
140.000								-.2502		
150.000	-.1934	-.1972	-.0390	.0651	-.1335	-.2251	-.1963	-.2547		
165.000			-.0396	.1365	-.1035	-.1402	-.1649			
170.000	-.1012	-.1782	-.1489	.2247	-.0560	-.1428	-.2098			
175.000	-.0859		-.0244		.2151	.0215	-.3296			
180.000	-.0626	-.0651	.0669	.3460						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XEB862)

ALPHA (5) = 11.92[illegible] BETA (2) = .184 MACH = 1.3916 Q = 599.87 P = 442.53 RN/L = 2.9199

SECTION (1)ORBITER FUSELAGE DEPENDE VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3922	1.1548	.6784	.4937	.3724			.1880		.1646	.1381	.1289	.1504	.1578	.1500
20.000			.6886	.4870	.3445	.2377		.1602		.1493					
40.000			.7021	.4854	.3720	.2455		.1974		.1143	.1270	.1351	.1599	.1320	.1514
55.000			.6309	.4055	.3101	.1452		.1169		.0618					
70.000			.5640	.3415	.2498	.1507		.1162		.0668	-.1164	-.0724	-.0882	-.1717	
90.000		.6311	.5219	.3093	.2127	.1197		.1169		.1611	-.1455	-.0974	-.1315	-.1973	
120.000			.4292	.2493	.1510	.1159		.3993		.1171	-.1810	-.3506	-.4392	-.2518	
140.000										.0230					
150.000			.3228	.2354	.1187	.1275		.7362		-.2037	-.4696	-.3985	-.2005	-.0527	
[illegible]									.5870						
160.000									.6304						
165.000										-.3183	-.4308	-.3215	-.1920	-.0580	
169.000								.8023							
174.000							.7364								
180.000	1.3922	.4602	.2611	.2366	.1135	.1266		.8146		-.4396	-.4644	-.2759	-.2003	-.0479	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1739	.2027	.2449	.2007	.1403	.0822	-.0077		.5196	.4263
40.000	.2265		.2573	.2175	.1315	.0585	-.0361		.3783	.2699
70.000	-.2350	-.3620	-.4004	-.2174	-.2400	-.1656	-.0737			
90.000	-.1454	-.2435	-.3037	-.1111	-.2516	-.2518	-.1813			
105.000			-.2053	.0006	-.3051	-.3372	-.2755			
110.000								-.3202		
120.000	-.1007	-.1234	.0172	-.0464	-.1376	-.2428	-.3004	-.3377		
[illegible]			.0030	.0746	-.0937	-.1604	-.2086			
150.000	-.0715	-.0915	-.1109	.3263	-.0279	-.1163	-.1644			
165.000	-.0464		-.0571		.2285	-.0316	-.3451			
180.000	-.0381	-.0330	-.0328	.3667						

ALPHA (5) = 11.919 BETA (3) = 4.259 MACH = 1.3916 Q = 599.87 P = 442.53 RN/L = 2.9199

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1650	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3791	1.1417	.6679	.4857	.3596			.1806		.1541	.1354	.1215	.1477	.1454	.1459
20.000			.6409	.4495	.3135	.2106		.1572		.1295					
40.000			.5976	.4093	.3000	.1870		.1373		.0525	.0627	.0760	.1272	.1009	.1218
55.000			.5529	.2948	.2118	.0508		.0418		-.0067					
70.000			.4493	.2352	.1621	.0744		.0527		.0213	-.1617	-.1239	-.1507	-.2399	
[illegible]		.4980	[illegible]	.2175	.1447	.0517		.0588		.0356	-.1928	-.1504	-.1855	-.2479	
[illegible]			[illegible]	[illegible]	.1060	.0836		.3592		.0367	-.2429	-.3854	-.3295	-.1487	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8862)

ALPHA (5) = 11.919 BETA (3) = 4.258

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	. 580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.0689					
150.000			.2877	.2248	.0819	.0997		.6556		-.2867	-.4769	-.3630	-.1800	-.0672	
151.000									.4804						
162.000									.5568						
165.000										-.3313	-.4541	-.2882	-.2016	-.0565	
169.000								.7611							
174.000							.6710								
180.000	1.3791	.4338	.2567	.2515	.1235	.1132		.8207		-.4305	-.4385	-.2974	-.2115	-.0792	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1 0180	1.0460
PHI										
.000	.1646	.2079	.2320	.1964	.1279	.0826	-.0179		.5182	.4245
40.000	.1715		.2547	.2126	.1191	.0373	-.0530		.3707	.2813
70.000	-.2249	-.3431	-.3867	-.2255	-.2447	-.2995	-.1675			
90.000	-.1230	-.2309	-.2593	-.1472	-.3106	-.3059	-.2581			
105.000			-.0706	-.0910	-.4074	-.4200	-.3989			
110.000								-.3664		
120.000	-.0775	-.1007	.0086	-.1441	-.1743	-.3078	-.4260	-.4705		
135.000			-.0622	.1414	-.1110	-.1719	-.2182			
150.000	-.0471	-.0461	-.0199	.2825	-.0450	-.1441	-.2180			
165.000	-.0419		-.0500		.2109	-.0938	-.3702			
180.000	-.0614	-.0604	-.0720	.3558						

ALPHA (6) = 15.912 BETA (1) = -3.830 MACH = 1.3897 Q = 599.83 P = 443.71 RN/L = 2.9243

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3172	1.2478	.7966	.5994	.4699			.2713		.2374	.2126	.1897	.2143	.2240	.2346
20.000			.8422	.6227	.4664	.3443		.2876		.2370					
40.000			.8647	.6385	.5080	.3818		.3126		.2206	.2346	.2206	.2486	.2299	.2559
55.000			.7578	.5321	.4146	.2325		.1833		.1267					
70.000			.6499	.4408	.3219	.2351		.1755		.1203	-.0685	-.0219	-.0153	-.1106	
90.000		.7033	.5647	.3713	.2682	.1599		.1538		.1915	-.0931	-.0261	-.0602	-.1346	
120.000			.4035	.2197	.0769	.0826		.2970		.1788	-.1272	-.3039	-.5209	-.4191	
140.000										.1189					
150.000			.2438	.1109	.0610	.0587		.7866		-.0290	-.5162	-.4854	-.3134	-.3270	
151.000									.6277						
162.000									.6466						
165.000										-.3808	-.4693	-.4061	-.2529	-.1172	
169.000								.8131							
174.000							.5859								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8862)

ALPHA (6) = 15.912 BETA (1) = -3.830

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.3172	.3146	.1520	.1395	.0497	.0606		.7282		-.4435	-.4639	-.3056	-.1944	-.0711	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2781	.3023	.3297	.3158	.2440	.1541	.0399		.6118	.4860
40.000	.3183		.3718	.3291	.2222	.1117	-.0087		.4658	.3217
70.000	-.2586	-.4472	-.5269	-.4650	-.4466	-.3736	-.1596			
90.000	-.1454	-.3135	-.3780	-.1968	-.2636	-.2949	-.1782			
105.000			-.2967	-.0348	-.2791	-.3533	-.3451			
110.000								-.3120		
120.000	-.2271	-.1949	-.1111	.0970	-.1947	-.2743	-.2761	-.3364		
135.000			-.0340	.0375	-.2032	-.1708	-.2138			
150.000	-.2860	-.3204	-.1628	.1494	-.3779	-.2783	-.2982			
165.000	-.1217		-.2051		.1663	-.0582	-.3591			
180.000	-.0811	-.1026	-.1054	.2478						

ALPHA (6) = 15.324 BETA (2) = .184 MACH = 1.3897 Q = 599.83 P = 443.71 RN/L = 2.9243

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3238	1.2555	.8028	.6034	.4743			.2740		.2410	.2164	.1920	.2145	.2302	.2342
20.000			.8066	.5951	.4460	.3267		.2617		.2228					
40.000			.7702	.5663	.4432	.3158		.2470		.1533	.1646	.1727	.2049	.2018	.2288
55.000			.6326	.4139	.3061	.1226		.0910		.0433					
70.000			.5319	.3288	.2305	.1417		.1016		.0494	-.1133	-.0801	-.0865	-.1972	
90.000		.5583	.4735	.2737	.1861	.0940		.0912		.1445	-.1419	-.0841	-.1170	-.1958	
120.000			.3513	.1700	.0641	.0543		.3186		.1105	-.1814	-.3372	-.5294	-.3215	
140.000										.0284					
150.000			.2272	.1442	.0552	.0659		.6414		-.1660	-.4981	-.4492	-.2456	-.1079	
160.000									.5496						
165.000									.6001						
170.000										-.3512	-.4544	-.3369	-.1877	-.0678	
175.000								.7328							
180.000	1.3239	.2867	.1612	.1636	.0509	.0662	.6443	.7486		-.4600	-.4828	-.2873	-.1775	-.0578	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2956	.3020	.3561	.3185	.2482	.1601	.0399		.6105	.4897
40.000	.3416		.3753	.3358	.2306	.1078	-.0023		.4613	.3358

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8862)

ALPHA (6) = 15.924 BETA (2) = .184

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.3478	-.4858	-.5498	-.4681	-.4988	-.3409	-.1661			
90.000	-.2143	-.3331	-.4037	-.2566	-.3665	-.3419	-.2701			
105.000			-.2886	-.0813	-.3988	-.4279	-.3699			
110.000								-.3821		
120.000	-.1214	-.1614	-.0857	-.0184	-.1884	-.2443	-.3137	-.3717		
135.000			.0045	.0054	-.1165	-.1768	-.2276			
150.000	-.1587	-.1779	-.1902	.2555	-.2815	-.2372	-.2634			
165.000	-.0789		-.1084		.2474	-.0740	-.3561			
180.000	-.0743	-.0547	-.0752	.2853						

ALPHA (6) = 15.916 BETA (3) = 4.288 MACH = 1.3897 Q = 599.83 P = 443.71 RN/L = 2.9243

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3158	1.2434	.7910	.5973	.4668			.2711		.2346	.2098	.1925	.2226	.2221	.2280
20.000			.7550	.5550	.4099	.2988		.2326		.1954					
40.000			.6566	.4822	.3616	.2391		.1636		.0837	.0648	.1169	.1729	.1706	.2001
55.000			.4960	.3009	.1960	.0224		-.0126		-.0457					
70.000			.4073	.2238	.1397	.0663		.0254		-.0090	-.1477	-.1328	-.1566	-.2914	
90.000		.4324	.3823	.1867	.1097	.0276		.0356		.1010	-.1772	-.1358	-.1779	-.2508	
120.000			.3018	.1257	.0416	.0346		.2945		.0565	-.2314	-.3725	-.4947	-.2102	
140.000										-.0530					
150.000			.2042	.1385	.0423	.0509		.5877		-.2792	-.4954	-.3907	-.1871	-.0799	
151.000									.4603						
161.000									.5307						
165.000										-.3556	-.4618	-.2949	-.1800	-.0553	
165.000								.6973							
174.000							.5881								
180.000	1.3158	.2631	.1552	.1645	.0685	.0559		.7525		-.4602	-.4572	-.3075	-.2034	-.0702	

X/B	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2835	.3153	.3413	.3107	.2375	.1493	.0388		.6134	.4874
40.000	.2588		.3819	.3140	.2140	.0970	-.0052		.4492	.3372
70.000	-.4085	-.4595	-.5038	-.4361	-.4768	-.3348	-.1836			
90.000	-.2880	-.3584	-.4060	-.2745	-.4055	-.3695	-.3403			
105.000			-.2478	-.1746	-.5029	-.5234	-.4784			
110.000								-.4239		
120.000	-.1008	-.1373	-.0450	-.1899	-.1821	-.2820	-.3899	-.4102		
135.000			-.1811	.0463	-.1840	-.2563	-.2925			
150.000	-.0806	-.0924	-.1161	.2301	-.0274	-.1389	-.2166			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8862)

ALPHA (6) = 15.916 BETA (3) = 4.288

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0605		-.0876		.2837	-.0751	-.3790			
180.000	-.0781	-.1050	-.1029	.2588						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8863) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 936.0680 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = 5.000 SPDBRK = 55.000
BDFLAP = 16.300 L-ELVN = -4.000
R-ELVN = -4.000 MACH = 1.250

ALPHA (1) = -4.050 BETA (1) = -3.840 MACH = 1.2459 Q = 600.11 P = 552.28 RN/L = 3.0241

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4039	.6278	.1834	.0677	.0056			-.0149		-.0131	-.0206	-.0568	-.0734	-.1039	-.0612
20.000			.2210	.0718	-.0180	-.0660		-.0395		-.0751					
40.000			.4059	.1103	.0328	-.0595		-.1049		-.2071	-.2088	-.1550	-.0961	-.1282	-.0834
55.000			.5665	.2957	.2187	.1233		.0831		.0177					
70.000			.6661	.4048	.3215	.2683		.1884		.0700	-.2772	-.1346	-.0779	.0185	
90.000		.9234	.7347	.4875	.3689	.3268		.2399		.0099	-.2443	-.2424	-.0949	.0110	
120.000			.8078	.6170	.4871	.5264		.4960		.0726	-.1816	-.4211	-.1353	-.0265	
140.000										.0430					
150.000			.7938	.6489	.5400	.6105		.9246		-.1988	-.3946	-.2339	-.1299	-.0727	
151.000									.6509						
162.000									.7102						
165.000										-.2691	-.2954	-.2292	-.1431	-.0855	
169.000								.9794							
174.000							1.0529								
180.000	1.4039	1.0102	.7368	.6151	.5298	.6065		.9121		-.3771	-.3719	-.1791	-.1668	-.0961	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0011	-.0257	-.0597	-.1215	-.1985	-.2491	-.3050		.2003	.1470
40.000	-.0699		-.0893	-.1251	-.2035	-.2108	-.4082		.0272	-.0169
70.000	.0849	.0075	-.0032	.3149	.1598	.1933	.1856			
90.000	.1010	.0457	.1781	.2776	.1266	.0925	.1580			
105.000			.3074	.2735	.0490	-.0195	.1131			
110.000								-.1426		
120.000	.0699	.0725	.4287	.2957	.0122	-.0329	-.0376	-.0918		
135.000			.4778	.4856	.0615	.0658	.0310			
150.000	.0348	.1083	.4705	.4737	.1535	.1492	.0542			
165.000	.0218		.4633		.4319	.2360	-.3225			
180.000	.0115	.1276	.4581	.4978						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8863)

ALPHA (1) = -3.916 BETA (2) = .196 MACH = 1.2459 Q = 600.11 P = 552.28 RN/L = 3.0241

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4107	.6314	.2025	.0597	.0317			-.0073		.0013	-.0089	-.0543	-.0773	-.0939	-.0537
20.000			.2185	.0688	.0015	-.0287		-.0231		-.0406					
40.000			.3581	.0943	.0327	-.0237		-.0571		-.1479	-.1323	-.1232	-.0866	-.0936	-.0580
55.000			.4778	.2232	.1602	.0700		.0619		-.0207					
70.000			.5598	.3049	.2289	.1796		.1304		.0112	-.3399	-.2056	-.1194	-.0046	
90.000		.7835	.6264	.3736	.2735	.2301		.1644		-.0864	-.3247	-.3191	-.1244	-.0068	
120.000			.7110	.5178	.3882	.4484		.3926		-.0427	-.2753	-.4958	-.1872	-.0372	
140.000										-.1640					
150.000			.7421	.6130	.4978	.5708		.8557		-.2834	-.3671	-.2519	-.1633	-.0596	
151.000									.5660						
162.000									.6440						
165.000										-.2737	-.3493	-.1728	-.1707	-.0648	
169.000								.9525							
174.000							1.0444								
180.000	1.4107	.9991	.7466	.6234	5374	.6133		.9440		-.3451	-.4085	-.1501	-.1648	-.0688	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0023	-.0192	-.0490	-.1143	-.1940	-.2471	-.3029		.1847	.1454
40.000	-.0348		-.0646	-.1093	-.1907	-.2162	-.3742		.0593	.0150
70.000	.0651	-.0072	.1155	.2940	.1113	.1270	.1118			
90.000	.0777	.0410	.2218	.2637	.0551	.0308	.0753			
105.000			.3265	.2407	-.0186	-.0615	.0361			
110.000								-.2132		
120.000	.0742	.1080	.3649	.1424	-.0551	-.1207	-.1491	-.1552		
135.000			.4526	.4514	.0133	-.0218	-.0528			
150.000	.0486	.1232	.4737	.4772	.1162	.0432	-.0311			
165.000	.0330		.4808		.3491	.1158	-.3681			
180.000	.0251	.1353	.4841	.5779						

ALPHA (1) = -3.923 BETA (3) = 4.275 MACH = 1.2459 Q = 600.11 P = 552.28 RN/L = 3.0241

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3973	.6209	.2001	.0525	.0376			-.0361		-.0069	-.0123	-.0521	-.0668	-.1008	-.0686
20.000			.2001	.0499	-.0032	-.0401		-.0118		-.0227					
40.000			.3004	.0587	.0199	-.0311		-.0267		-.0830	-.0953	-.1053	-.0776	-.0876	-.0424
55.000			.3912	.1392	.0847	.0225		.0244		-.0518					
70.000			.4558	.1910	.1293	.0894		.0717		-.0487	-.3863	-.2463	-.1362	-.0181	
90.000		.6354	.5178	.2569	.1811	.1251		.0842		-.1843	-.3943	-.3699	-.1272	-.0165	
120.000			.6117	.4169	.2739	.3397		.2785		-.1587	-.3465	-.5551	-.2576	-.0509	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8863)

ALPHA (1) = -3.923 BETA (3) = 4.275

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.3231					
150.000			.6827	.5660	.4412	.5059		.7678		-.3323	-.3952	-.2005	-.2253	-.0873	
151.000									.4600						
162.000									.5657						
165.000										-.2815	-.4179	-.1665	-.1908	-.0958	
169.000								.9037							
174.000							.9890								
180.000	1.3973	.9763	.7402	.6146	.5244	.6002		.9294		-.3867	-.3531	-.1809	-.1669	-.0970	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0116	-.0199	-.0535	-.1163	-.1977	-.2451	-.3065		.1952	.1401
40.000	-.0133		-.0466	-.1038	-.1977	-.2133	-.3648		.0690	.0214
70.000	.0584	-.0142	.1426	.2889	.0820	.0830	.0730			
90.000	.0667	.0449	.2210	.2717	.0096	-.0434	.0078			
105.000			.3050	.1882	-.0634	-.1106	-.0470			
110.000								-.2557		
120.000	.0552	.1226	.3175	.0467	-.1524	-.2376	-.2664	-.2325		
135.000			.4065	.4195	-.0461	-.1158	-.1518			
150.000	.0161	.1331	.4326	.4520	.0644	-.0586	-.1312			
165.000	.0061		.4421		.2815	.0307	-.3781			
180.000	.0056	.1162	.4567	.5055						

ALPHA (2) = .044 BETA (1) = -3.864 MACH = 1.2451 Q = 599.58 P = 552.51 RN/L = 3.0238

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4164	.7612	.2975	.1661	.0836			.0136		.0271	.0214	-.0087	-.0289	-.0658	-.0601
20.000			.3410	.1796	.0675	.0060		.0124		-.0167					
40.000			.5102	.2376	.1366	.0529		.0157		-.0774	-.0807	-.0701	-.0230	-.0795	-.0421
55.000			.6287	.3757	.2811	.1945		.1656		.0905					
70.000			.6833	.4325	.3232	.2901		.2288		.1239	-.2542	-.1006	-.0809	-.0320	
90.000		.8382	.7202	.4779	.3414	.3239		.2739		.0680	-.2341	-.1947	-.1237	-.0361	
120.000			.7356	.5427	.4027	.4733		.5059		.0820	-.1834	-.4104	-.1630	-.0840	
140.000										.0280					
150.000			.6926	.5351	.4095	.5213		.9005		-.2310	-.4584	-.3080	-.1725	-.0916	
157.000									.5338						
164.000									.6785						
170.000										-.3231	-.4006	-.3016	-.1824	-.0850	
174.000								.9457							
177.000							1.0064								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8863)

ALPHA (2) = .044 BETA (1) = -3.864

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.4164	.8021	.6109	.4997	.3972	.5146		.8695		-.4240	-.4304	-.2465	-.2065	-.0774	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0201	.0179	.0087	-.0474	-.1192	-.1782	-.2381		.2480	.1919
40.000	-.0164		-.0083	-.0439	-.1319	-.1225	-.3385		.1393	.0670
70.000	.0287	-.0980	-.1720	.1784	.0762	.1175	.1326			
90.000	.0331	-.0367	-.0491	.1499	.0475	-.0243	.0838			
105.000			.1611	.1902	-.0221	-.1165	.0203			
110.000								-.1984		
120.000	.0003	-.0134	.3344	.2177	-.0491	-.1220	-.1248	-.1463		
135.000			.3852	.3716	-.0238	-.0319	-.0455			
150.000	.0063	.0480	.3786	.3657	.0501	.0679	-.0090			
165.000	.0030		.3695		.3668	.1619	-.3395			
180.000	.0059	.1028	.3579	.3653						

ALPHA (2) = .050 BETA (2) = .180 MACH = 1.2451 Q = 599.58 P = 552.51 RN/L = 3.0238

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4210	.7614	.3027	.1576	.1089			.0245		.0330	.0309	-.0044	-.0322	-.0610	-.0544
20.000			.3214	.1602	.0786	.0174		.0358		.0020					
40.000			.4461	.2016	.1205	.0452		.0486		-.0401	-.0451	-.0508	-.0315	-.0717	-.0327
55.000			.5321	.2841	.2054	.1283		.1339		.0520					
70.000			.5735	.3224	.2300	.1824		.1725		.0657	-.3104	-.1785	-.1395	-.0428	
90.000		.7564	.6109	.3657	.2385	.2283		.2049		-.0207	-.3024	-.2800	-.1601	-.0437	
105.000			.6487	.4603	.3141	.4046		.4162		-.0249	-.2730	-.4812	-.1608	-.0622	
110.000										-.1132					
120.000			.6421	.5125	.3752	.4926		.8239		-.3227	-.4650	-.3176	-.1840	-.0584	
131.000									.5501						
142.000									.6193						
155.000										-.3275	-.3978	-.2443	-.2034	-.0549	
160.000								.9194							
170.000							.9972								
180.000	1.4210	.8722	.6229	.5078	.4102	.5257		.9049		-.4636	-.4674	-.2168	-.2081	-.0565	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0189	.0236	.0161	-.0433	-.1195	-.1768	-.2398		.2603	.1961
40.000	.0033		.0101	-.0343	-.1261	-.1353	-.3129		.1174	.0561

DATE 10 FEB 76 TABULATED PRESSURE DATA - OA148 (AMES 11-073-1)

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8863)

ALPHA (2) = .050 BETA (2) = .180

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.0043	-.1070	-.1237	.1705	.0241	.0376	.0613			
90.000	.0239	-.0487	.0802	.1322	-.0202	-.0681	.0185			
105.000			.2101	.1231	-.0932	-.1574	-.1080			
110.000								-.2266		
120.000	.0378	.0345	.2975	.1777	-.0808	-.1825	-.2215	-.2380		
135.000			.3219	.3781	.0016	-.0925	-.1222			
150.000	.0262	.0764	.3478	.3940	.0647	-.0180	-.0972			
165.000	.0224		.3673		.2897	.0573	-.3656			
180.000	.0180	.0807	.3783	.4764						

ALPHA (2) = .046 BETA (3) = 4.256 MACH = 1.2451 Q = 599.58 P = 552.51 RN/L = 3.0238

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4087	.7482	.3007	.1635	.1122			-.0021		.0208	.0225	-.0038	-.0279	-.0652	-.0610
20.000			.2990	.1446	.0779	.0010		.0042		.0085					
40.000			.3769	.1545	.0987	.0162		.0478		-.0152	-.0209	-.0454	-.0383	-.0823	-.0330
55.000			.4366	.1938	.1422	.0542		.0930		.0166					
70.000			.4700	.2153	.1412	.0861		.1181		.0128	-.3552	-.2271	-.1758	-.0489	
90.000		.6097	.5060	.2574	.1408	.1136		.1351		-.1048	-.3652	-.3310	-.1713	-.0435	
127.000			.5609	.3707	.2167	.3162		.3110		-.1289	-.3593	-.5367	-.1732	-.0507	
140.000										-.3154					
150.000			.5881	.4708	.3291	.4352		.7462		-.3796	-.4405	-.2678	-.2302	-.0636	
151.000									.4473						
162.000									.5396						
165.000										-.3370	-.4777	-.2281	-.2278	-.0699	
169.000								.8716							
174.000							.9445								
180.000	1.4087	.8498	.6208	.5046	.3956	.5067		.8905		-.4415	-.4134	-.2394	-.2061	-.0785	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0029	.0249	.0119	-.0452	-.1217	-.1746	-.2427		.2438	.1869
40.000	.0287		.0238	-.0298	-.1257	-.1455	-.2945		.1298	.0529
70.000	-.0096	-.1174	-.0614	.1651	-.0038	-.0223	.0034			
90.000	.0228	-.0548	.0811	.1270	-.0699	-.1188	-.0490			
105.000			.2015	.1184	-.1463	-.2018	-.1698			
110.000								-.2748		
120.000	.0351	.0399	.2468	.0276	-.1695	-.2960	-.3218	-.3231		
135.000			.3207	.3314	-.0773	-.1696	-.2120			
150.000	.0157	.0378	.3444	.3409	.0214	-.1019	-.1850			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE0863)

ALPHA (2) = .046 BETA (6) = 4.256

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	.0032		.3466		.2135	-.0132	-.3800			
180.000	-.0029	.0982	.3567	.3771						

ALPHA (3) = 3.990 BETA (1) = -3.864 MACH = 1.2448 Q = 599.34 P = 552.51 RN/L = 3.0213

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4033	.8851	.4167	.2792	.1680			.0564		.0537	.0625	.0420	.0267	-.0137	-.0197
20.000			.4636	.2880	.1593	.0826		.0663		.0305					
40.000			.6071	.3497	.2213	.1349		.1132		.0342	.0290	.0118	.0457	-.0185	.0014
55.000			.6784	.4354	.3282	.2243		.2163		.1480					
75.000			.6907	.4510	.3287	.2572		.2520		.1676	-.2218	-.0800	-.0786	-.1103	
90.000		.8505	.6921	.4638	.3249	.2863		.2953		.1228	-.2190	-.1399	-.1333	-.1059	
120.000			.6569	.4695	.3204	.3810		.5080		.0944	-.1979	-.4116	-.2783	-.1752	
140.000										.0224					
150.000			.5683	.4321	.2691	.4184		.8821		-.2415	-.5130	-.3959	-.1976	-.1039	
161.000									.6135						
172.000									.6486						
180.000										-.3751	-.4699	-.3581	-.2083	-.0831	
169.000								.9114							
174.000							.9549								
180.000	1.4033	.7451	.4863	.4046	.2710	.4146		.8305		-.4751	-.4758	-.2925	-.2310	-.0701	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0400	.0724	.0899	.0390	-.0389	-.1007	-.1777		.3491	.2638
40.000	.0516		.0736	.0397	-.0512	-.0542	-.2484		.2313	.1376
75.000	-.0488	-.1900	-.2545	-.0218	-.0080	.0316	.0810			
90.000	-.0287	-.1354	-.1950	.0546	-.0276	-.1024	-.0014			
120.000			.0079	.1144	-.1445	-.1782	-.1800			
140.000								-.2318		
150.000	-.0900	-.0948	.2293	.1527	-.0894	-.2237	-.1879	-.2301		
165.000			.2529	.2600	-.0843	-.1287	-.1324			
180.000	-.0164	.0551	.2637	.2689	-.0406	.0000	-.0902			
165.000	-.0086		.2743		.2633	.1148	-.3420			
180.000	-.0049	.1023	.2579	.3102						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8863)

ALPHA (3) = 3.991 BETA (2) = .185 MACH = 1.2448 Q = 599. P = 552.51 RN/L = 3.0213

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

PHI \ X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
.000	1.4095	.8888	.4218	.2831	.1907			.0594		.0639	.0693	.0479	.0235	-.0094	-.0131
20.000			.4424	.2761	.1637	.0821		.0696		.0492					
40.000			.5333	.3037	.2058	.1114		.1162		.0501	.0338	.0121	.0232	-.0210	-.0112
55.000			.5749	.3442	.2555	.1450		.1777		.1058					
70.000			.5785	.3442	.2403	.1632		.1964		.1112	-.2697	-.1562	-.1368	-.1056	
90.000		.7207	.5882	.3595	.2299	.1834		.2323		.0430	-.2792	-.2146	-.1891	-.1026	
120.000			.5780	.4005	.2436	.3149		.4751		-.0005	-.2737	-.4676	-.2191	-.1095	
140.000										-.0903					
150.000			.5382	.4222	.2515	.4008		.7916		-.3343	-.5178	-.3716	-.1907	-.0616	
151.000									.5347						
160.000									.5931						
165.000										-.3739	-.4425	-.2945	-.2153	-.0502	
169.000								.8779							
174.000							.9378								
180.000	1.4095	.7382	.5082	.4099	.2843	.4256		.8639		-.5178	-.5171	-.2657	-.2269	-.0488	

PHI \ X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
.000	.0339	.0790	.0965	.0378	-.0345	-.1008	-.1853		.3456	.2614
40.000	.0591		.1003	.0529	-.0477	-.0793	-.2164		.2033	.1087
70.000	-.0725	-.1874	-.2467	.0091	-.0602	-.0628	.0034			
90.000	-.0291	-.1297	-.0608	.0314	-.1010	-.1484	-.0722			
105.000			.1186	.0641	-.2078	-.2177	-.2304			
110.000								-.2596		
120.000	-.0132	-.0337	.2167	.0994	-.1123	-.2591	-.2586	-.3212		
135.000			.2312	.2965	-.0441	-.1487	-.1960			
150.000	.0080	.0317	.2409	.4135	.0250	-.0732	-.1560			
165.000	.0099		.2582		.2270	.0039	-.3648			
180.000	.0095	.0365	.2789	.4467						

ALPHA (3) = 3.994 BETA (3) = 4.245 MACH = 1.2448 Q = 599.34 P = 552.51 RN/L = 3.0213

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

PHI \ X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
.000	1.3360	.9705	[illegible]	.2894	.1913			.0456		.0463	.0591	.0500	.0307	-.0124	-.0169
20.000			[illegible]	.2611	.1487	.0541		.0378		.0373					
[illegible]			[illegible]	[illegible]	.1735	[illegible]		.0752		.0410	.0439	.0075	.0032	.0439	-.0242
[illegible]			[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]					
[illegible]			[illegible]	.2379	.1572	.0761		.1412		.0624	-.3091	-.2055	-.1859	-.1092	
90.000		.5749	.4873	.2564	.1459	.0830		.1720		-.0322	-.3325	-.2637	-.2247	-.0942	
120.000			.5005	.3245	.1634	.2273		.3400		-.0952	-.3472	-.5163	-.1724	-.0684	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE9863)

ALPHA (3) = 3.994 BETA (3) = 4.245

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.2671					
150.000			.4913	.3883	.2128	.3457		.7248		-.4055	-.5074	-.3220	-.2157	-.0552	
151.000									.4403						
162.000									.5173						
165.000										-.3861	-.5216	-.2763	-.2420	-.0526	
169.000								.8354							
174.000							.8938								
180.000	1.3960	.7115	.5050	.4115	.2679	.3999		.8517		-.4941	-.4574	-.2852	-.2289	-.0661	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0203	.0837	.0958	.0412	-.0339	-.0990	-.1837		.3499	.2645
40.000	.0884		.1093	.0569	-.0473	-.0776	-.2093		.2029	.1048
70.000	-.0075	-.1999	-.2069	.0215	-.0780	-.1109	-.0585			
90.000	-.0247	-.1317	-.0164	.0145	-.1276	-.1760	-.1364			
105.000			.1093	.0227	-.2605	-.2587	-.2668			
110.000								-.2925		
140.000	.0135	-.0140	.1658	-.0225	-.1902	-.3340	-.4206	-.3643		
135.000			.2494	.2428	-.1356	-.2124	-.2587			
150.000	.0122	.0551	.2693	.2350	-.0488	-.1508	-.2238			
165.000	-.0010		.2639		.1852	-.0557	-.3903			
180.000	-.0096	.0959	.2675	.3039						

ALPHA (4) = 7.959 BETA (1) = -3.863 MACH = 1.2457 Q = 599.38 P = 551.80 RN/L = 3.0207

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3731	1.0043	.5389	.3802	.2635			.1150		.1032	.0954	.0958	.0904	.0454	.0537
20.000			.5877	.3981	.2499	.1637		.1251		.0909					
40.000			.6960	.4488	.3205	.2208		.1822		.1191	.1264	.0826	.1153	.0499	.0753
55.000			.7147	.4810	.3643	.2419		.2319		.1807					
70.000			.6832	.4561	.3266	.2395		.2495		.1977	-.1790	-.0638	-.0656	-.1501	
80.000		.8133	.6533	.4377	.3085	.2381		.2940		.1655	-.2003	-.0989	-.1337	-.1822	
120.000			.5697	.3913	.2584	.2497		.4967		.1087	-.2072	-.4045	-.4350	-.2949	
140.000										.0269					
150.000			.4536	.3361	.1810	.2350		.8576		-.2079	-.5600	-.4767	-.2322	-.1156	
151.000									.5966						
162.000									.6232						
165.000										-.4230	-.5197	-.4052	-.2189	-.0827	
169.000								.8813							
174.000							.8948								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8953)

ALPHA (4) = 7.969 BETA (1) = -3.863

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.3731	.6067	.3692	.3238	.1566	.2452		.7344		-.5178	-.5104	-.3205	-.2260	-.0635	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1056	.1361	.1733	.1260	.0504	-.0205	-.1274		.4400	.3263
40.000	.1340		.1752	.1378	.0322	-.0058	-.1626		.2945	.1703
70.000	-.1350	-.2570	-.3216	-.1425	-.0806	.0317	.0654			
90.000	-.0933	-.1969	-.2774	-.0205	-.1656	-.1533	.0311			
105.000			-.0639	.0395	-.2180	-.2939	-.0304			
110.000								-.2487		
120.000	-.1675	-.1625	.1086	.0773	-.1157	-.2492	-.2815	-.1794		
135.000			.0937	.1715	-.0896	-.1520	-.1799			
150.000	-.0751	-.0299	.0856	.2127	.0197	-.0468	-.1555			
165.000	-.0389		.1213		.2467	.0695	-.3789			
180.000	-.0311	.0010	.1822	.4222						

ALPHA (4) = 7.973 BETA (2) = .179 MACH = 1.2457 Q = 599.38 P = 551.80 RN/L = 3.0207

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3767	1.0115	.5455	.3947	.2819			.1178		.1066	.1032	.1026	.0907	.0493	.0514
20.000			.5601	.3923	.2480	.1509		.1187		.0926					
40.000			.6203	.4022	.2838	.1901		.1535		.1056	.1120	.0736	.0829	.0379	.0516
55.000			.6061	.3847	.2829	.1611		.1628		.1338					
70.000			.5727	.3541	.2421	.1559		.1921		.1461	-.2249	-.1357	-.1283	-.2057	
90.000		.6763	.5535	.3451	.2217	.1564		.2381		.0987	-.2510	-.1766	-.1873	-.1764	
120.000			.5033	.3361	.1955	.2006		.4400		.0272	-.2718	-.4543	-.3790	-.1715	
140.000										-.0756					
150.000			.4315	.3338	.1559	.2217		.7720		-.3330	-.5614	-.4266	-.1977	-.0729	
161.000									.5267						
172.000									.5712						
185.000										-.4173	-.4889	-.3336	-.2086	.0516	
169.000								.8346							
175.000							.8627								
180.000	1.3767	.5328	.3879	.3170	.1770	.2463		.8213		-.5540	-.5563	-.3309	-.2240	- 0445	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0345	.1531	.1899	.1359	.0560	-.0203	-.1258		.4408	.3243
40.000	.1253		.2048	.1456	.0367	-.0174	-.1494		.2793	.1563

AMES 11-073(OA148) -140A/B/C/P ORB FUSELAGE (XEBBED)

ALPHA (4) = 7.973 BETA (2) = .173

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1340	-.2439	-.3218	-.1017	-.1169	-.1307	-.0024			
90.000	-.0791	-.1937	-.2630	-.0139	-.2258	-.2025	-.0728			
105.000			-.0336	.0616	-.2923	-.3159	-.2730			
110.000								-.2499		
120.000	-.0542	-.0850	.1146	.0421	-.1613	-.2896	-.3643	-.2978		
135.000			.1163	.2392	-.0879	-.1951	-.2453			
150.000	-.0234	-.0355	.1614	.4428	-.0231	-.1263	-.1950			
165.000	-.0128		.2009		.1753	-.0607	-.3820			
180.000	-.0113	.0007	.2311	.4740						

ALPHA (4) = 7.937 BETA (3) = 4.244 MACH = 1.2457 Q = 599.38 P = 551.80 RN/L = 3.0207

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1590	.1650	.1770	.2040	.2510	.3010	.3790	.4970	.5740
PHI															
.000	1.[illegible]57	.9398	.5382	.3876	.2561			.1079		.0885	.0970	.1032	.0913	.0451	.0413
20.000			.5217	.3[illegible]6	.2226	.1235		.0939		.0536					
40.000			.52[illegible]0	.3346	.2342	.1286		.0977		.0555	.0809	.0565	.0572	.0048	.0323
55.000			.4897	.2778	.1972	.0578		.0799		.0949					
70.000			.4599	.2441	.1581	.0685		.1434		.1011	-.2588	-.1880	-.1890	-.2050	
90.000		.5243	.4573	.2427	.1446	.0676		.1834		.0289	-.3013	-.2290	-.2359	-.1535	
120.000			.4326	.2718	.1361	.1316		.3657		-.0555	-.3365	-.4936	-.2254	-.0396	
140.000										-.1827					
150.000			.3961	.3147	.1143	.1847		.7020		-.4189	-.5641	-.3670	-.1970	-.0518	
151.000									.4385						
160.000									.5013						
165.000										-.4256	-.5390	-.3104	-.2295	-.0476	
169.000								.8046							
17[illegible].000							.8387								
180.000	1.3567	.5723	.3879	.3389	.1676	.2171		.8243		-.5361	-.4915	-.3167	-.2361	-.0532	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
[illegible]	.0330	.1525	.1819	.1301	.0492	-.0291	-.1302		.4438	.3289
[illegible]	.0093		.2094	.1476	.0350	-.0336	-.1544		.2777	.1599
70.000	-.1160	-.2986	-.3171	-.0930	-.1409	-.2148	-.0708			
90.000	-.0563	-.1853	-.1361	-.0400	-.2228	-.1952	-.2271			
105.000			.0284	-.0054	-.3564	-.3067	-.3222			
110.000								-.2782		
120.000	-.0142	-.0652	.0920	-.0821	-.2122	-.3559	-.4566	-.3716		
[illegible]			.1019	.2450	-.1461	-.2404	-.2886			
[illegible]	-.0040	-.0070	.2371	.3404	-.0911	-.2034	-.2593			

A (JA.-) -140A/B/C/R ORB FUSELAGE (XE8863)

ALPHA (4) = 7.897 BETA (3) = ..244

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0137		.1876		.1219	-.1358	-.4115			
180.000	-.0374	.0049	.1576	.3978						

ALPHA (5) = 11.969 BETA (1) = -3.850 MACH = 1.2456 Q = 599.56 P = 552.04 RN/L = 3.0223

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3205	1.1138	.6654	.4852	.3606			.1927		.1674	.1449	.1397	.1641	.1245	.1375
20.000			.7102	.5066	.3565	.2365		.2005		.1577					
40.000			.7809	.5453	.4125	.3007		.2460		.1691	.1999	.1570	.1783	.1247	.1581
55.000			.7361	.5092	.3881	.2564		.1991		.1753					
70.000			.6637	.4485	.3172	.2394		.1931		.2085	-.1250	-.0529	-.0583	-.1522	
90.000		.7522	.6030	.4032	.2790	.2038		.2453		.1971	-.1729	-.0790	-.1216	-.1976	
120.000			.4739	.2939	.1749	.1706		.4700		.1221	-.2061	-.3874	-.5624	-.4335	
140.000										.0353					
150.000			.3351	.2252	.1125	.1398		.8432		-.1013	-.6000	-.5397	-.2781	-.1564	
151.000									.5824						
162.000									.5985						
165.000										-.4675	-.5600	-.4538	-.2407	-.1061	
169.000								.8498							
174.000							.7889								
180.000	1.3205	.4585	.2485	.2342	.0909	.1272		.7621		-.5512	-.5372	-.3452	-.2117	-.0649	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1863	.2785	.2887	.2124	.1215	.0315	-.0846		.5242	.3779
40.000	.2233		.3179	.2290	.0959	.0398	-.1179		.3491	.2047
70.000	-.2555	-.3831	-.4143	-.1916	-.0627	-.1270	-.1043			
90.000	-.1675	-.2877	-.3614	-.0729	-.1650	-.1167	-.1626			
105.000			-.2855	.0246	-.2299	-.1393	-.2139			
110.000								-.3542		
120.000	-.1934	-.2089	-.0069	.0561	-.1669	-.2249	-.2030	-.3096		
135.000			-.0009	.1796	-.1404	-.1707	-.1876			
150.000	-.1102	-.2114	-.0452	.3095	-.0722	-.1689	-.2410			
165.000	-.0699		.0455		.1770	-.0220	-.3936			
180.000	-.0511	-.0480	.0786	.4437						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8863)

ALPHA (5) = 11.877 BETA (2) = .185 MACH = 1.2456 Q = 599.56 P = 552.04 RN/L = 3.0223

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3276	1.1207	.6674	.4922	.3722			.2013		.1641	.1354	.1535	.1619	.1235	.1347
20.000			.6774	.4837	.3471	.2250		.1964		.1475					
40.000			.6893	.4839	.3630	.2427		.2006		.1164	.1532	.1292	.1453	.1052	.1375
55.000			.6179	.4005	.2921	.1527		.1183		.1195					
70.000			.5497	.3440	.2298	.1570		.1216		.1624	-.1792	-.1257	-.1309	-.2257	
90.000		.6155	.5045	.3113	.2025	.1259		.1952		.1356	-.2286	-.1522	-.1840	-.2549	
120.000			.4167	.2584	.1418	.1326		.4267		.0493	-.2701	-.4384	-.5550	-.2271	
140.000										-.0625					
150.000			.3218	.2561	.0899	.1314		.7478		-.3209	-.5971	-.4782	-.2241	-.0916	
151.000									.5216						
162.000									.5507						
165.000										-.4516	-.5212	-.3635	-.2018	-.0525	
169.000								.7860							
174.000							.7867								
180.000	1.3276	.4454	.2716	.2373	.0991	.1335		.7799		-.5748	-.5788	-.3234	-.2006	-.0449	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1840	.3038	.2938	.2163	.1225	.0340	-.0851		.5221	.3769
40.000	.2030		.3163	.2317	.1003	.0297	-.1110		.3496	.2049
70.000	-.2337	-.3764	-.4211	-.2019	-.2426	-.2152	-.0219			
90.000	-.1438	-.2586	-.3429	-.0991	-.2819	-.1924	-.0941			
105.000			-.1939	.0015	-.3298	-.4162	-.2374			
110.000								-.2776		
120.000	-.0882	-.1332	.0245	-.0295	-.2052	-.2990	-.3786	-.3168		
135.000			.0386	.1621	-.1368	-.2211	-.2803			
150.000	-.0627	-.0968	.0392	.4186	-.0716	-.1722	-.2227			
165.000	-.0385		.0721		.1635	-.1023	-.4051			
180.000	-.0356	-.0223	.1091	.4696						

ALPHA (5) = 11.890 BETA (3) = 4.256 MACH = 1.2456 Q = 599.56 P = 552.04 RN/L = 3.0223

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3184	1.1098	.6611	.4885	.3557			.1850		.1534	.1382	.1486	.1666	.1199	.1325
20.000			.6336	.4486	.3090	.1947		.1630		.1247					
40.000			.5878	.4036	.2915	.1680		.1364		.0563	.1052	.1023	.1137	.0713	.1116
55.000			.4891	.2827	.1947	.0442		.0317		.0587					
70.000			.4334	.2296	.1438	.0696		.0651		.1123	-.2105	-.1794	-.2003	-.3049	
90.000		.4638	.4087	.2083	.1251	.0471		.1722		.0734	-.2719	-.2034	-.2390	-.2483	
120.000			.3535	.1955	.0966	.0835		.3795		-.0258	-.3287	-.4750	-.3531	-.1447	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8863)

ALPHA (5) = 11.890 BETA (3) = 4.256

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.1535					
150.000			.2911	.2310	.0608	.0949		.6636		-.4141	-.5980	-.4083	-.1894	-.0582	
151.000									.4335						
162.000									.4892						
165.000										-.4592	-.5463	-.3324	-.1960	-.0454	
169.000								.7650							
174.000							.7581								
180.000	1.3184	.4147	.2695	.2583	.1068	.1139		.7930		-.5667	-.5214	-.3457	-.2157	-.0606	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1790	.2980	.2912	.2096	.1151	.0249	-.0842		.5211	.3750
40.000	.1851		.3080	.2249	.0983	-.0007	-.1196		.3491	.2149
70.000	-.2143	-.3642	-.4238	-.1879	-.2618	-.2398	-.0389			
90.000	-.1187	-.2466	-.2719	-.1478	-.3251	-.2832	-.2541			
105.000			-.0680	-.1010	-.4677	-.4603	-.3276			
110.000								-.3845		
120.000	-.0457	-.1070	.0295	-.1598	-.2501	-.3952	-.5112	-.4597		
135.000			.0803	.1802	-.1585	-.2367	-.2908			
150.000	-.0329	-.0371	.1220	.3478	-.0943	-.2212	-.2810			
165.000	-.0336		.0791		.1358	-.1702	-.4213			
180.000	-.0538	-.0489	.0586	.4448						

AMES 11-073(OA148) -.40A/B/C/R ORB FUSELAGE (XE8864) [illegible]

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 936.0680 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = 5.000 SPDBR = 55.000
BDFLAP = 16.300 L-ELVN = -4.000
R-ELVN = -4.000 MACH = 1.100

ALPHA (1) = -3.951 BETA (1) = -3.840 MACH = 1.0981 Q = 598.93 P = 709.54 RN/L = 3.1905

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3195	.5554	.1351	.0780	.0159			-.0195		-.0629	-.0909	-.1416	-.1296	-.1061	-.0049
20.000			.1649	.0591	-.0394	-.0496		-.0661		-.1089					
40.000			.3485	.0905	-.0082	-.0722		-.1587		-.2466	-.2436	-.2004	-.1587	-.1525	-.0355
55.000			.5197	.2726	.1888	.0974		.0206		-.0605					
70.000			.6274	.3929	.3014	.2472		.1217		-.0183	-.4031	-.1731	-.0862	-.0109	
90.000		.8824	.7057	.4758	.3704	.2954		.1546		-.0852	-.3593	-.3254	-.0971	-.0127	
120.000			.7847	.6045	.4892	.4962		.4005		-.0204	-.2936	-.5461	-.1113	-.0355	
140.000										-.0278					
150.000			.7821	.6454	.5497	.5799		.8329		-.2912	-.5238	-.3335	-.1743	-.0392	
151.000									.5458						
162.000									.6009						
165.000										-.4503	-.4268	-.2826	-.1966	-.0355	
169.000								.8882							
174.000							.9810								
180.000	1.3195	.9765	.7251	.6121	.5386	.5777		.8206		-.5715	-.4422	-.2302	-.2319	-.0326	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0726	-.0274	-.0738	-.1490	-.2422	-.2861	-.3537		.2373	.1435
40.000	-.0227		-.0769	-.1396	-.2355	-.2748	-.5060		.0563	.0096
70.000	.1411	.0614	.2593	.3546	.1252	.2191	.1593			
90.000	.1567	.1292	.3143	.3638	.0692	.1574	.1314			
105.000			.3781	.3797	-.0333	.1067	.1031			
110.000								-.3075		
120.000	.1564	.2191	.4780	.4274	-.1048	-.0892	.0871	-.1887		
135.000			.5276	.5479	-.0236	.0217	.1029			
150.000	.1800	.2909	.5278	.5193	.0682	.0815	.0311			
165.000	.1821		.5092		.3003	.1313	-.3961			
180.000	.1758	.3020	.4942	.5887						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8864)

ALPHA (1) = -3.948 BETA (2) = .196 MACH = 1.0981 Q = 598.93 P = 709.54 RN/L = 3.1905

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3239	.5529	.1392	.0883	.0280			-.0101		-.0456	-.0861	-.1418	-.1248	-.0988	-.0215
20.000			.1582	.0689	-.0141	-.0371		-.0334		-.0840					
40.000			.3021	.0782	-.0120	-.0408		-.1042		-.1795	-.1921	-.1873	-.1431	-.1128	-.0099
55.000			.4308	.2019	.1262	.0558		-.0184		-.1058					
70.000			.5192	.2845	.2107	.1655		.0515		-.0847	-.4724	-.2446	-.1147	-.0252	
90.000		.7430	.5939	.3574	.2845	.2041		.0740		-.1978	-.4305	-.4071	-.1104	-.0158	
120.000			.6889	.5070	.3870	.4112		.2956		-.1584	-.3992	-.6215	-.1502	-.0281	
140.000										-.2366					
150.000			.7359	.6106	.5127	.5397		.7634		-.4217	-.5146	-.2829	-.2119	-.0165	
151.000									.4608						
165.000									.5359						
169.000										-.4489	-.4530	-.2228	-.2256	-.0153	
169.000								.8632							
174.000							.9703								
180.000	1.3239	.9691	.7397	.6218	.5503	.5854		.8539		-.4809	-.5485	-.2053	-.2304	-.0177	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0654	-.0312	-.0829	-.1528	-.2401	-.2889	-.3311		.2363	.1568
40.000	.0012		-.0869	-.1391	-.2283	-.2468	-.4474		.0770	.0272
70.000	.1379	.1115	.2575	.3140	.0480	.0961	.0730			
90.000	.1533	.1711	.3054	.3192	-.0139	-.0035	.0361			
105.000			.3722	.2945	-.1062	-.1117	.0135			
110.000								-.3351		
120.000	.1732	.2492	.4153	.2759	-.1829	-.1923	-.1763	-.2102		
135.000			.4949	.5332	-.0913	-.0972	-.1404			
150.000	.1832	.3080	.5123	.5776	.0154	-.0371	-.1282			
165.000	.1870		.5087		.2139	.0156	-.4050			
180.000	.1903	.3193	.5158	.6519						

ALPHA (1) = -3.942 BETA (3) = 4.273 MACH = 1.0981 Q = 598.93 P = 709.54 RN/L = 3.1905

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3104	.5377	.1375	.0859	.0278			-.0171		-.0428	-.0931	-.1443	-.1333	-.1055	-.0180
20.000			.1358	.0709	-.0115	-.0520		-.0150		-.0680					
40.000			.2390	.0640	.0086	-.0213		-.0583		-.1387	-.1667	-.1902	-.1440	-.0920	.0325
55.000			.3377	.1309	.0966	.0303		-.0351		-.1389					
70.000			.4077	.1803	.1261	.1047		.0009		-.1508	-.5259	-.3057	-.1167	-.0185	
90.000		.5917	.4760	.2376	.1888	.1156		.0019		-.3040	-.5091	-.4677	-.1217	-.0150	
120.000			.5811	.4008	.2784	.3072		.1815		-.2885	-.4901	-.6973	-.2168	-.0403	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8864)

ALPHA (1) = -3.942 BETA (3) = 4.273

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.4725					
150.000			.6669	.5623	.4536	.4783		.6746		-.4780	-.5347	-.2706	-.2886	-.0361	
151.000									.3527						
162.000									.4541						
165.000										-.4291	-.5504	-.2355	-.2578	-.0351	
169.000								.8128							
174.000							.9192								
180.000	1.3104	.9490	.7341	.6166	.5361	.5772		.8372		-.5765	-.4235	-.2339	-.2196	-.0444	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0659	-.0268	-.0756	-.1570	-.2459	-.2984	-.3739		.2224	.1374
40.000	.0446		-.0738	-.1468	-.2549	-.2986	-.4586		.0763	-.0014
70.000	.1539	.1180	.2181	.2860	-.0080	.0051	-.0010			
90.000	.1700	.1700	.2738	.2941	-.0622	-.1203	-.0779			
105.000			.3216	.2342	-.1721	-.2092	-.1185			
110.000								-.3865		
120.000	.1811	.2291	.3518	.1440	-.2854	-.3076	-.3534	-.2956		
135.000			.4361	.4992	-.1702	-.2125	-.2371			
150.000	.1861	.2805	.4663	.6055	-.0574	-.1670	-.2299			
165.000	.1840		.4743		.1425	-.0820	-.4119			
180.000	.1820	.2992	.4967	.6157						

ALPHA (2) = .059 BETA (1) = -3.863 MACH = 1.0998 Q = 599.80 P = 708.37 RN/L = 3.1909

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3289	.6913	.2550	.1676	.0835			.0219		-.0119	-.0373	-.0930	-.0862	-.1045	-.0529
20.000			.2969	.1653	.0485	.0173		.0004		-.0470					
40.000			.4634	.2155	.1048	.0637		-.0303		-.1129	-.1191	-.1220	-.0791	-.1080	-.0293
55.000			.5909	.3606	.2681	.1923		.1076		.0104					
70.000			.6546	.4256	.3270	.2774		.1639		.0372	-.3868	-.1423	-.1371	-.0486	
80.000		.9637	.6944	.4751	.3525	.3184		.1975		-.0224	-.3533	-.2364	-.1606	-.0518	
120.000			.7185	.5473	.4356	.4603		.4130		-.0148	-.2960	-.5495	-.1826	-.0854	
140.000										-.0702					
150.000			.6749	.5454	.4536	.5090		.8097		-.3493	-.6148	-.4157	-.1795	-.0599	
151.000									.5228						
162.000									.5660						
165.000										-.4951	-.4980	-.3778	-.2193	-.0502	
169.000								.8525							
174.000							.9393								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8864)

ALPHA (2) = .059 BETA (1) = -3.863

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.3289	.8528	.6067	.5099	.4424	.5019		.7742		-.6080	-.5206	-.3025	-.2568	-.0443	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1033	.0564	.0164	-.0608	-.1420	-.2124	-.2994		.2680	.1638					
40.000	.0247		.0296	-.0492	-.1652	-.1694	-.4363		.1616	.0636					
70.000	.0355	-.1482	.0602	.2695	.0658	.1688	.1342								
90.000	.0705	-.0830	.1578	.2704	.0196	.0865	.0996								
105.000			.2717	.2790	-.0790	-.0444	.0711								
110.000								-.3226							
120.000	.0349	.0181	.3850	.2969	-.1416	-.1614	.0485	-.2149							
135.000			.4511	.4323	-.1068	-.0714	-.0825								
150.000	.0886	.1751	.4456	.4056	-.0135	-.0086	-.1091								
165.000	.0935		.4254		.2542	.0567	-.4034								
180.000	.1027	.2146	.4079	.4464											

ALPHA (2) = .062 BETA (2) = .183 MACH = 1.0998 Q = 599.80 P = 708.37 RN/L = 3.1909

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3375	.6957	.2627	.1780	.0913			.0348		.0087	-.0354	-.0889	-.0880	-.0979	-.0292
20.000			.2821	.1666	.0482	.0224		.0248		-.0174					
40.000			.4056	.1936	.0882	.0649		.0011		-.0710	-.0947	-.1219	-.0842	-.0861	.0038
55.000			.4980	.2805	.1929	.1480		.0641		-.0331					
70.000			.5447	.3191	.2265	.2081		.1034		-.0286	-.4430	-.2163	-.1875	-.0587	
90.000		.7265	.5857	.3629	.2485	.2396		.1221		-.1315	-.4318	-.3165	-.1766	-.0538	
120.000			.6322	.4581	.3477	.3931		.3223		-.1408	-.3875	-.6089	-.1550	-.0391	
140.000										-.2228					
150.000			.6362	.5196	.4221	.4805		.7384		-.4676	-.5810	-.3852	-.2043	-.0259	
151.000									.4411						
162.000									.5049						
165.000										-.5023	-.5222	-.2983	-.2407	-.0206	
169.000								.8298							
174.000							.9314								
180.000	1.3375	.8465	.6206	.5203	.4505	.5124		.8118		-.5604	-.6182	-.2781	-.2542	-.0263	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.0907	.0424	.0059	-.0603	-.1625	-.1687	-.2687		.2979	.1881					
40.000	.0459		.0305	-.0508	-.1611	-.1555	-.3835		.1411	.0634					

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8864)

ALPHA (2) = .062 BETA (2) = .183

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	.0185	-.1472	.1400	.2324	.0150	.0727	.0575			
90.000	.0493	-.0642	.2009	.2283	-.0407	-.0265	.0303			
105.000			.2896	.1926	-.1286	-.1601	.0058			
110.000								-.3402		
120.000	.0706	.1001	.3373	.2106	-.1748	-.2298	-.2169	-.2038		
135.000			.3896	.4140	-.1013	-.1435	-.1888			
150.000	.0964	.1813	.4106	.4517	-.0272	-.0983	-.1770			
165.000	.1042		.4170		.1864	-.0355	- 4061			
180.000	.0920	.2092	.4271	.5457						

ALPHA (2) = .059 BETA (3) = 4.253 MACH = 1.0998 Q = 599.80 P = 708.37 RN/L = 3.1909

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3235	.6807	.2557	.1789	.0876			.0276		.0102	-.0393	-.0913	-.0895	-.1032	-.0365
20.000			.2528	.1500	.0445	.0251		.0271		-.0090					
40.000			.3359	.1583	.0684	.0636		.0366		-.0402	-.0890	-.1302	-.0980	-.0876	.0157
55.000			.3966	.1971	.1240	.1057		.0368		-.0651					
70.000			.4330	.2194	.1410	.1474		.0489		-.0781	-.4841	-.2824	-.2115	-.0441	
90.000		.5760	.4785	.2560	.1593	.1625		.0543		-.2177	-.4945	-.3746	-.1680	-.0350	
120.000			.5415	.3682	.2496	.3159		.2210		-.2579	-.4824	-.6660	-.1708	-.0291	
140.000										-.4618					
150.000			.5796	.4742	.3748	.4320		.6578		-.5468	-.5915	-.3335	-.2625	-.0398	
161.000									.3415						
166.000									.4267						
169.000										-.5056	-.6175	-.2989	-.2751	-.0403	
174.000								.7812							
180.000	1.3235	.8261	.6203	.5187	.4429	.5056	.8780	.7984		-.6133	-.5064	-.3023	-.2460	-.0479	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1004	.0574	.0148	-.0657	-.1448	-.2223	-.3024		.2646	.1680
40.000	.0352		.0248	-.0572	-.1687	-.2025	-.3748		.1274	.0226
70.000	.0446	-.1054	.1115	.2039	-.0474	-.0399	-.0464			
90.000	.0796	-.0133	.1622	.1935	-.1163	-.1618	-.0946			
105.000			.2395	.1496	-.2104	-.2681	-.1585			
110.000								-.3482		
120.000	.1040	.1114	.2731	.0710	-.2882	-.3455	-.3834	-.3091		
135.000			.3674	.3922	-.1971	-.2593	-.2931			
150.000	.1094	.2014	.3923	.4136	-.0960	-.2076	-.2886			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8864)

ALPHA (2) = .059 BETA (3) = 4.253

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	.1153		.3983		.1098	-.1319	-.4177			
180.000	.0960	.2142	.4111	.4641						

ALPHA (3) = 4.021 BETA (1) = -3.865 MACH = 1.0995 Q = 600.25 P = 709.31 RN/L = 3.1949

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3224	.8262	.3815	.2644	.1719			.0945		.0441	.0133	-.0338	-.0261	-.0587	-.0456
20.000			.4265	.2784	.1494	.0815		.0822		.0247					
40.000			.5726	.3380	.2166	.1561		.0929		.0129	-.0151	-.0396	-.0048	-.0661	.0070
55.000			.6505	.4294	.3262	.2564		.1776		.0739					
70.000			.6638	.4469	.3347	.3006		.1972		.0822	-.3303	-.1296	-.1393	-.1067	
90.000		.8265	.6688	.4601	.3416	.3267		.2072		.0273	-.3464	-.1854	-.2006	-.1070	
120.000			.6377	.4705	.3666	.4175		.4147		-.0032	-.3173	-.5409	-.3105	-.1726	
140.000										-.0837					
150.000			.5608	.4350	.3480	.4353		.7916		-.3298	-.6789	-.4956	-.2093	-.0837	
151.000									.5039						
152.000									.5335						
155.000										-.5532	-.6072	-.4544	-.2244	-.0652	
169.000								.8205							
174.000							.9002								
180.000	1.3224	.7175	.4890	.4137	.3375	.4305		.7329		-.6585	-.5906	-.3563	-.2493	-.0532	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1553	.1705	.1284	.0337	-.0704	-.1634	-.2643		.3451	.2097
40.000	.1097		.1445	.0405	-.0949	-.1136	-.3863		.2206	.1015
70.000	-.0581	-.2361	-.3180	.1745	.0265	.1501	.1145			
90.000	-.0231	-.1814	-.0481	.1432	-.0376	.0410	.0604			
105.000			.1370	.1811	-.1074	-.0422	.0261			
110.000								-.3321		
120.000	-.0595	-.0808	.2889	.1585	-.1719	-.2217	.0215	-.2321		
135.000			.3111	.3095	-.1543	-.1460	-.1333			
150.000	.0545	.1014	.3155	.3121	-.0839	-.0740	-.1719			
165.000	.0649		.3180		.1977	.0164	-.4097			
180.000	.0811	.1493	.3185	.3870						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8854)

ALPHA (3) = 4.021 BETA (2) = .178 MACH = 1.0995 Q = 600.23 P = 709.31 RN/L = 3.1949

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3281	.8302	.3896	.2729	.1786										
20.000			.4109	.2634	.1465	.0806		.0997		.0511	.0197	-.0279	-.0330	-.0544	-.0392
40.000			.5022	.2917	.1895	.1411		.0940		.0353					
55.000			.5455	.3369	.2447	.1923		.1070		.0277	-.0162	-.0540	-.0256	-.0724	.0029
70.000			.5514	.3392	.2393	.2244		.1370		.0310					
90.000		.6890	.5634	.3534	.2452	.2535		.1427		.0249	-.3808	-.2108	-.2042	-.0993	
120.000			.5644	.3973	.2946	.3705		.1637		-.0595	-.4113	-.2660	-.2488	-.0871	
140.000								.3447		-.1118	-.3823	-.6033	-.2183	-.0856	
150.000			.5313	.4212	.3298	.4213				-.2130					
151.000								.7117		-.4995	-.6792	-.4639	-.1999	-.0477	
162.000									.4277						
165.000									.4811						
189.000										-.5534	-.5742	-.3522	-.2254	-.0354	
174.000								.7940							
180.000	1.3291	.7160	5093	.4174	.3017	.4440	.8828								
								.7725		-.6802	-.6677	-.3317	-.2420	-.0361	

X/LB	.6720	.7280	.7790	.8210	.8790	.9210	.9500	.9990	1.0180	1.0460
PHI										
.000	.1535	.1572	.1279	.0362	-.0585	-.1528	-.2552		.3575	.2178
40.000	.1390		.1476	.0482	-.0833	-.1203	-.3444		.2050	.0852
70.000	-.0702	-.2497	-.1936	.1349	-.0476	.0449	.0379			
90.000	-.0307	-.1784	.0105	.1152	-.0988	-.0675	.0046			
105.000			.1801	.1027	-.1738	-.2228	-.0311			
110.000								-.3457		
130.000	.0009	-.0354	.2342	.1088	-.1978	-.2772	-.2718	-.2190		
135.000			.2712	.3851	-.1390	-.1994	-.2462			
150.000	.0598	.0556	.3042	.4828	-.0678	-.1478	-.2276			
165.000	.0717		.3268		.1393	-.0846	-.4134			
180.000	.0885	.0746	.3381	.5029						

ALPHA (3) = 4.024 BETA (3) = 4.243 MACH = 1.0995 Q = 600.25 P = 709.31 RN/L = 3.1949

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3157	.8180	.3826	.2676	.1694										
20.000			.3751	.2419	.1257	.0525		.0976		.0475	.0109	-.0273	-.0310	-.0612	-.0439
40.000			.4193	.2469	.1491	.1002		.0891		.0279					
55.000			.4370	.2405	.1607	.1348		.1031		.0210	-.0253	-.0744	-.0636	-.0936	.0072
70.000			.4375	.2355	.1465	.1641		.0960		-.0062					
90.000		.5396	.4574	.2523	.1517	.1853		.0969		-.0265	-.4276	-.2836	-.2597	-.0870	
120.000			.4798	.3177	.2088	.3123		.1069		-.1380	-.4697	-.3339	-.2597	-.0621	
								.2575		-.2180	-.4664	-.6480	-.1917	-.0477	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8864)

ALPHA (3) = 4.024 BETA (3) = 4.243

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1590	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.3831					
150.000			.4834	.3834	.2847	.3828		.6400		-.5887	-.6434	-.3850	-.2210	-.0387	
151.000									.3357						
162.000									.4019						
165.000										-.5639	-.6562	-.3498	-.2503	-.0418	
169.000								.7485							
174.000							.8383								
180.000	1.3157	.6848	.5004	.4098	.3399	.4336		.7596		-.6756	-.5750	-.3597	-.2519	-.0550	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1755	.1708	.1218	.0306	-.0727	-.1610	-.2601		.3511	.2177
40.000	.1755		.1344	.0421	-.0877	-.1643	-.3168		.1789	.0551
70.000	-.0420	-.2218	-.1408	.1201	-.0939	-.0935	-.0820			
90.000	.0088	-.1423	.0249	.0909	-.1514	-.2223	-.1313			
105.000			.1232	.0542	-.2593	-.3218	-.2034			
110.000								-.3845		
120.000	.0666	.0063	.1845	-.0029	-.2970	-.3821	-.4304	-.3251		
135.000			.2838	.2810	-.2423	-.3017	-.3373			
150.000	.0916	.0368	.3157	.2853	-.1469	-.2646	-.3294			
165.000	.0757		.3129		.0875	-.1747	-.4285			
180.000	.0718	.1378	.3090	.3564						

ALPHA (4) = 7.977 BETA (1) = -3.859 MACH = 1.0995 Q = 600.25 P = 709.31 RN/L = 3.1954

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2919	.9466	.5127	.3647	.2611			.1361		.1246	.0673	.0327	.0387	.0082	.0183
20.000			.5569	.3800	.2504	.1688		.1378		.1201					
40.000			.6691	.4361	.3202	.2444		.1742		.1334	.0685	.0377	.0640	.0063	.0529
55.000			.6974	.4713	.3663	.2852		.2128		.1438					
70.000			.6587	.4474	.3367	.3023		.2199		.1258	-.2760	-.1188	-.1325	-.2229	
80.000		.7773	.6308	.4320	.3252	.3139		.2474		.0718	-.3193	-.1673	-.2023	-.2025	
120.000			.5498	.3850	.2854	.3579		.4173		.0060	-.3330	-.5156	-.5634	-.2713	
140.000										-.0996					
150.000			.4447	.3301	.2492	.3680		.7717		-.2424	-.7327	-.5875	-.2489	-.1089	
151.000									.4875						
162.000									.5062						
165.000										-.6067	-.6823	-.5069	-.2368	-.0788	
169.000								.7902							
174.000							.8621								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8964)

ALPHA (4) = 7.977 BETA (1) = -3.859

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.2919	.5735	.3664	.3140	.2443	.3680		.6982		-.7078	-.6385	-.3972	-.2158	-.0603	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.2466	.2572	.2011	.0987	-.0069	-.1135	-.2237		.4253	.2569					
40.000	.2409		.2219	.1145	-.0388	-.0593	-.3158		.2709	.1255					
70.000	-.0984	-.3271	-.3953	.0360	.0014	.1013	.0836								
90.000	-.0700	-.2568	-.2876	.0279	-.0461	-.0022	.0355								
105.000			.0275	.0830	-.1117	-.1409	.0012								
110.000								-.3399							
120.000	-.1590	-.1894	.1710	.1079	-.1779	-.2172	-.0317	-.2523							
135.000			.1623	.3355	-.1895	-.1734	-.1646								
150.000	-.0070	-.0530	.1701	.4058	-.0640	-.1350	-.2194								
165.000	.0507		.2253		.1478	-.0481	-.4354								
180.000	.0612	.0106	.2737	.4948											

ALPHA (4) = 7.981 BETA (2) = .181 MACH = 1.0995 Q = 600.25 P = 709.31 RN/L = 3.1954

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2950	.9522	.5187	.3746	.2642			.1465		.1197	.0742	.0397	.0358	.0160	.0204
20.000			.5331	.3670	.2425	.1645		.1448		.1074					
40.000			.5887	.3850	.2770	.2143		.1658		.1119	.0546	.0129	.0297	-.0084	.0341
55.000			.5773	.3710	.2706	.2148		.1569		.0925					
70.000			.5437	.3403	.2352	.2325		.1618		.0702	-.3235	-.2053	-.1982	-.2117	
90.000		.6389	.5248	.3299	.2305	.2524		.1869		-.0027	-.3765	-.2450	-.2646	-.1819	
120.000			.4822	.3269	.2269	.3368		.3578		-.0891	-.3973	-.5767	-.3815	-.1499	
140.000										-.2044					
150.000			.4197	.3226	.2300	.3639		.6939		-.5031	-.7365	-.5341	-.2138	-.0890	
161.000									.4171						
162.000									.4519						
165.000										-.6040	-.6300	-.4008	-.2020	-.0442	
175.000								.7483							
180.000	1.2950	.5627	.3830	.3091	.2505	.3814	.8268	.7311		-.7370	-.7127	-.3797	-.1996	-.0430	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.2605	.2572	.2094	.1028	.0027	-.1043	-.2099		.4335	.2584					
40.000	.2555		.2260	.1217	-.0775	-.0591	-.2842		.2636	.1122					

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8864)

ALPHA (4) = 7.991 BETA (2) = .181

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
76.000	-.1131	-.3419	-.3917	.0371	-.0641	.0240	.0251			
90.000	-.0700	-.2276	-.1981	.0086	-.1470	-.1013	.0060			
105.000			.0272	.0611	-.2338	-.2352	-.0424			
110.000								-.3510		
120.000	-.0454	-.1100	.1308	.0753	-.2693	-.3108	-.2700	-.2539		
135.000			.1831	.3500	-.1762	-.2535	-.2781			
150.000	.0490	-.0321	.2435	.5351	-.1121	-.2214	-.2745			
165.000	.0735		.2756		.0844	-.1551	-.4337			
180.000	.0772	-.0059	.2976	.5363						

ALPHA (4) = 7.900 BETA (3) = 4.237 MACH = 1.0995 Q = 600.25 P = 709.31 RN/L = 3.1954

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2842	.9374	.5049	.3690	.2529			.1444		.1114	.0667	.0388	.0373	.0042	.0151
20.000			.4923	.3347	.2168	.1401		.1328		.0854					
40.000			.4961	.3151	.2179	.1642		.1444		.0759	.0174	-.0209	-.0140	-.0365	.0199
55.000			.4582	.2659	.1811	.1451		.1079		.0404					
70.000			.4282	.2397	.1446	.1652		.1153		.0126	-.3703	-.2792	-.2685	-.1838	
90.000		.4937	.4267	.2392	.1366	.1964		.1363		.0807	-.4359	-.3138	-.3258	-.1417	
120.000			.4128	.2633	.1541	.3010		.2863		-.1210	-.4660	-.6310	-.2527	-.0949	
140.000										.0189					
150.000			.3855	.2946	.341	.3412		.6237		-.1256	-.7311	-.4449	-.1963	-.0479	
151.000									.3310						
160.000									.3038						
165.000										-.[illegible]	-.6726	-.3926	-.2053	-.0450	
169.000								.7188							
174.000							.7999								
180.000	1.2942	.5446	.3839	.3232	.2350	.3712		.7268		-.7[illegible]	.6331	-.4042	-.2290	-.0597	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2446	.2488	.1972	.0941	-.0110	-.1090	-.2192		.4279	.257[illegible]
40.000	.1659		.2152	.1115	-.0320	-.1147	-.2698		.2405	.092[illegible]
70.000	-.0872	-.3139	-.3380	.0246	-.1525	-.1196	-.1000			
90.000	-.0348	-.2072	-.1276	-.0150	-.2245	-.2695	-.1262			
105.000			.0301	.0104	-.2907	-.3809	-.1942			
110.000								-.4045		
120.000	.0503	-.0777	.1100	-.0487	-.3379	-.3970	-.4923	-.3329		
135.000			.2346	.2932	-.2563	-.3481	-.3655			
150.000	.0947	-.0048	.3247	.4202	-.1910	-.3199	-.3709			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8864)

ALPHA (4) = 7.900 BETA (3) = 4.237

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	.0888		.2791		.0175	-.2513	-.4516			
180.000	.0691	.0101	.2624	.4912						

ALPHA (5) = 11.919 BETA (1) = -3.844 MACH = 1.0980 Q = 599.84 P = 710.72 RN/L = 3.1951

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2382	1.0543	.6368	.4693	.3564			.2026		.1852	.1279	.1101	.1167	.0903	.1937
20.000			.6817	.4926	.3547	.2570		.2116		.1871					
40.000			.7502	.5297	.4086	.3185		.2541		.2094	.1355	.1175	.1387	.0938	.2382
55.000			.7070	.4964	.3816	.2912		.2227		.1753					
70.000			.6344	.4362	.3148	.2886		.2286		.1552	-.2352	-.1117	-.1198	-.2340	
90.000		.7148	.5725	.3906	.2884	.2837		.2503		.1043	-.3008	-.1467	-.1914	-.2793	
120.000			.4529	.2901	.1897	.2969		.4006		.0169	-.3470	-.5192	-.7238	-.3469	
140.000										-.0842					
150.000			.3195	.2242	.1319	.3075		.7551		-.2147	-.7833	-.6843	-.2912	-.1370	
151.000									.4736						
162.000									.4824						
165.000										-.6567	-.7348	-.5500	-.2468	-.1027	
169.000								.7605							
174.000							.8127								
180.000	1.2382	.4226	.2453	.2277	.1513	.3165		.6665		-.7504	-.6811	-.4287	-.1988	-.0573	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.3245	.3257	.2623	.1609	.0651	-.0674	-.1864		.5031	.2950
40.000	.3434		.2340	.1949	.0251	-.0368	-.2208		.3189	.1424
70.000	-.1356	-.3625	-.4675	-.0028	-.0699	-.1608	-.0636			
90.000	-.0715	-.2939	-.3833	.0067	-.0898	-.1959	-.1288			
105.000			-.1002	.0763	-.1369	-.2539	-.3231			
110.000								-.3594		
120.000	-.1839	-.1987	.0598	.1129	-.1874	-.2545	-.2227	-.3161		
135.000			.0695	.2892	-.1980	-.1973	-.2270			
150.000	-.0564	-.1782	.0662	.4414	-.1310	-.1965	-.2825			
165.000	.0416		.1583		.0943	-.0927	-.4484			
180.000	.0844	-.0386	.2404	.5159						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8864)

ALPHA (5) = 11.930 BETA (2) = .189 MACH = 1.0980 Q = 599.84 P = 710.72 RN/L = 3.1951

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2413	1.0598	.6391	.4764	.3548			.2132		.1909	.1374	.1123	.1167	.1023	.1751
20.000			.6485	.4691	.3371	.2477		.2087		.1785					
40.000			.6578	.4637	.3496	.2651		.2217		.1743	.1004	.0775	.0952	.0742	.2063
55.000			.5818	.3808	.2695	.1973		.1510		.1248					
70.000			.5137	.3267	.2071	.2148		.1628		.1075	-.2874	-.1995	-.2009	-.3207	
90.000		.5716	.4697	.2950	.1851	.2292		.1931		.0427	-.3579	-.2283	-.2633	-.3031	
120.000			.3871	.2395	.1357	.2938		.3564		-.0646	-.4060	-.5663	-.6939	-.2079	
140.000										-.1901					
150.000			.3064	.2312	.1201	.3141		.6781		-.4829	-.7819	-.5963	-.2397	-.0910	
161.000									.4082						
162.000									.4302						
165.000										-.6444	-.6764	-.4490	-.1900	-.0433	
169.000								.7060							
174.000							.7703								
180.000	1.2413	.4070	.2650	.2007	.1390	.3271		.6899		-.7677	-.7343	-.4136	-.1766	-.0386	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.3181	.3346	.2753	.1660	.0695	-.0539	-.1679		.5059	.2953
40.000	.3334		.2973	.1877	.0313	-.0205	-.2198		.3194	.1342
70.000	-.1213	-.4232	-.4878	-.1506	-.1546	-.0973	-.0805			
90.000	-.0676	-.3054	-.3950	-.0820	-.1514	-.2181	-.0549			
105.000			-.1456	.0120	-.4100	-.3195	-.1764			
110.000								-.4134		
120.000	-.0459	-.1350	.0492	.0958	-.3109	-.3045	-.3589	-.2986		
135.000			.1233	.3315	-.2300	-.3025	-.3043			
150.000	.0392	-.0898	.1655	.5506	-.1853	-.2884	-.3221			
165.000	.0865		.2407		.0551	-.2001	-.4461			
180.000	.0968	-.0231	.2673	.5675						

ALPHA (5) = 11.925 BETA (3) = 4.249 MACH = 1.0980 Q = 599.84 P = 710.72 RN/L = 3.1951

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2280	1.0471	.6292	.4711	.3461			.2107		.1791	.1349	.1104	.1177	.0970	.1619
20.000			.6012	.4306	.3042	.2147		.1854		.1493					
40.000			.5509	.3875	.2769	.1893		.1693		.1210	.0522	.0356	.0549	.0379	.1534
55.000			.4521	.2649	.1645	.1037		.0802		.0824					
70.000			.3993	.2222	.1064	.1558		.1103		.0732	-.3282	-.2727	-.2760	-.3516	
90.000		.4251	.3753	.2106	.0922	.1856		.1406		-.0088	-.4038	-.2970	-.3279	-.2440	
120.000			.3269	.1915	.0771	.2732		.3017		-.1417	-.4634	-.6105	-.3591	-.1466	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8864)

ALPHA (5) = 11.925 BETA (3) = 4.249

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.2908					
150.000			.2753	.2135	.0989	.3021		.5980		-.5915	-.7778	-.4956	-.1908	-.0562	
151.000									.3208						
162.000									.3621						
165.000										-.6473	-.6955	-.4162	-.1769	-.0472	
169.000								.6875							
174.000							.7607								
180.000	1.2280	.3812	.2646	.2412	.1256	.3192		.6903		-.7622	-.6874	-.4313	-.2005	-.0585	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.3190	.3242	.2666	.1578	.0505	-.0617	-.1839		.5037	.2931
40.000	.3337		.2845	.1783	.0213	-.0702	-.2286		.3059	.1181
70.000	-.1091	-.4227	-.4682	-.1414	-.2185	-.2176	-.0795			
90.000	-.0453	-.2821	-.3360	-.1268	-.3706	-.2763	-.1119			
105.000			-.1160	-.0661	-.5360	-.3900	-.3333			
110.000								-.4121		
120.000	.0451	-.1091	.0265	-.0511	-.3805	-.5101	-.5913	-.4615		
135.000			.1468	.2348	-.2743	-.3608	-.3997			
150.000	.1014	-.0382	.2421	.4711	-.2010	-.3351	-.4054			
165.000	.1078		.2427		.0004	-.3013	-.4696			
180.000	.0647	-.0308	.2168	.5300						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8B65) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 936.0680 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = 5.000 SPDBRK = 55.000
BDFLAP = 16.300 L-ELVN = -4.000
R-ELVN = -4.000 MACH = .900

ALPHA (1) = -3.955 BETA (1) = -3.837 MACH = .90037 Q = 600.12 P = 1057.6 RN/L = 3.5768

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1944	.3601	-.0708	-.1066	-.1675			-.2179		-.2161	-.1880	-.0696	-.0294	.0073	-.0146
20.000			-.0465	-.1326	-.2265	-.2430		-.2646		-.2567					
40.000			.1489	-.1076	-.2100	-.2431		-.3517		-.4388	-.3973	-.1260	-.0822	-.0367	-.0389
55.000			.3398	.0931	.0014	-.0973		-.1898		-.2826					
70.000			.4660	.2228	.1280	.0619		-.0945		-.2262	-.7179	-.0221	.0611	.1101	
90.000		.7341	.5524	.3094	.2099	.1131		-.0667		-.3029	-.6504	-.0631	.0476	.0990	
120.000			.6388	.4579	.3365	.3266		.1869		-.2300	-.5766	-.1444	.0321	.0741	
140.000										-.1597					
150.000			.6433	.5039	.4040	.4181		.6609		-.2810	-.8533	-.0629	.0271	.0498	
151.000									.3318						
162.000									.3917						
165.000										-.8316	-.7710	-.0261	.0184	.0450	
169.000								.7225							
174.000							.8292								
180.000	1.1944	.8452	.5945	.4699	.3894	.4146		.6421		-.9370	-.7650	-.0068	.0142	.0347	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1268	-.1938	-.2365	-.3430	-.4508	-.2655	-.0561		.2869	.1024
40.000	-.2353		-.2317	-.3392	-.3320	-.3334	-.1563		.1104	.0168
70.000	.0413	-.0150	.0962	.2120	.0676	.0777	-.0364			
90.000	.0651	.0368	.1590	.2442	-.0032	.0045	-.0836			
105.000			.2212	.2865	-.1064	-.0504	-.1269			
110.000								-.3401		
120.000	.0756	.1156	.3110	.3790	-.2054	-.1225	-.1395	-.2476		
135.000			.3756	.4617	-.1305	-.0499	-.1014			
150.000	.0818	.1580	.3755	.4605	-.0617	-.0251	-.0845			
165.000	.0797		.3513		.1407	-.0064	-.3025			
180.000	.0719	.1488	.3298	.4960						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8865)

ALPHA (1) = -3.963 BETA (2) = .195 MACH = .90037 Q = 600.12 P = 1057.6 RN/L = 3.5768

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2008	.3615	-.0701	-.0940	-.1693			-.2141		-.2166	-.2051	-.0613	-.0243	.0127	-.0064
20.000			-.0533	-.1264	-.2189	-.2255		-.2405		-.2277					
40.000			.1026	-.1101	-.2038	-.2077		-.3052		-.3560	-.3494	-.0708	-.0378	-.0081	-.0107
55.000			.2470	.0202	-.0648	-.1333		-.2382		-.3386					
70.000			.3493	.1096	.0258	-.0176		-.1763		-.3197	-.7636	-.0293	.0478	.0905	
90.000		.5833	.4303	.1832	.1094	.0143		-.1702		-.4530	-.7271	-.0906	.0367	.0763	
120.000			.5364	.3503	.2257	.2341		.0641		-.4289	-.6730	-.1648	.0138	.0564	
140.000										-.4454					
150.000			.5878	.4615	.3595	.3715		.5815		-.7936	-.8370	-.0420	.0240	.0534	
151.000									.2341						
162.000									.3120						
165.000										-.8396	-.7370	-.0194	.0249	.0553	
169.000								.6901							
174.000							.8176								
180.000	1.2008	.8372	.5959	.4740	.3991	.4225		.6782		-.9478	-.7256	-.0090	.0256	.0527	

X/LB	.6520	.7230	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1231	-.2023	-.2384	-.3486	-.4612	-.2904	-.0511		.3030	.1115
40.000	-.1877		-.2330	-.3413	-.3976	-.3359	-.1562		.1338	.0190
70.000	.0292	-.0297	.0553	-.0443	-.0115	.0196	-.0705			
90.000	.0542	.0226	.1161	.1555	-.1008	-.0576	-.1268			
105.000			.1750	.1677	-.2.51	-.1089	-.1625			
110.000								-.3437		
120.000	.0675	.0914	.2401	.2477	-.4176	-.2329	-.2278	-.2724		
135.000			.3234	.4763	-.2756	-.1444	-.1573			
150.000	.0876	.1503	.3459	.5279	-.1733	-.1359	- '394			
165.000	.0869		.3460		.0120	-.1266	-.3103			
180.000	.0830	.1580	.3491	.5471						

ALPHA (1) = -3.957 BETA (3) = 4.274 MACH = .90037 Q = 600.12 P = 1057.6 RN/L = 3.5768

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1819	.3440	-.0797	-.1000	-.1756			-.2075		-.2372	-.1856	-.0704	-.0277	.0076	-.0146
20.000			-.0714	-.1276	-.2131	-.2206		-.2240		-.2419					
40.000			.0392	-.1316	-.2065	-.1984		-.2664		-.3258	-.3006	-.0463	-.0091	.0041	.0111
55.000			.1400	-.0546	-.1243	-.1580		-.2633		-.3800					
70.000			.2266	.0034	-.0682	-.0832		-.2367		-.4003	-.8271	-.0915	.0498	.0818	
90.000		.4249	.3025	.0618	.0041	-.0795		-.2520		-.5839	-.7418	-.2233	.0481	.0679	
120.000			.4223	.2332	.1049	.1221		-.0623		-.5867	-.8103	-.2469	-.0095	.0282	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8865)

ALPHA (1) = -3.357 BETA (3) = 4.274

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.8004					
150.000			.5179	.4082	.2978	.3085		.4811		-.8754	-.8547	-.0500	.0001	.0266	
151.000									.1176						
162.000									.2243						
165.000										-.8488	-.7418	-.0168	.0055	.0332	
169.000								.6376							
174.000							.7578								
180.000	1.1819	.8132	.5885	.4698	.3898	.4136		.6637		-.9362	-.7621	-.0065	.0133	.0358	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1275	-.2012	-.2359	-.3452	-.4439	-.3143	-.0565		.2744	.0963
40.000	-.1539		-.2231	-.3349	-.4057	-.3159	-.1301		.1703	.0075
70.000	.0181	-.0410	.0111	.0805	-.1021	-.0260	-.0936			
90.000	.0439	.0045	.0708	.0818	-.2177	-.1193	-.1602			
105.000			.1223	.0786	-.3763	-.1578	-.1903			
110.000								-.3363		
120.000	.0544	.0567	.1650	.1102	-.6279	-.2878	-.2920	-.2951		
135.000			.2637	.3826	-.4623	-.2188	-.2139			
150.000	.0667	.1199	.2966	.5430	-.3267	-.3566	-.1751			
165.000	.0652		.3082		-.1047	-.2974	-.2909			
180.000	.0687	.1492	.3374	.5268						

ALPHA (2) = .052 BETA (1) = -3.869 MACH = .90007 Q = 599.62 P = 1057.3 RN/L = 3.5759

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2080	.5155	.0716	-.0038	-.0803			-.1629		-.1675	-.1837	-.0801	-.0200	.0299	.0318
20.000			.1129	-.0133	-.1172	-.1568		-.1929		-.1880					
40.000			.2931	.0403	-.0681	-.1154		-.2177		-.2387	-.2988	-.0864	-.0299	.0078	.0330
55.000			.4327	.1998	.1042	.0165		-.0914		-.1936					
70.000			.5029	.2687	.1658	.1102		-.0414		-.1755	-.6528	-.0822	.0224	.0365	
90.000		.7183	.5466	.3201	.1993	.1473		-.0165		-.2509	-.6382	-.1267	.0196	.0561	
120.000			.5771	.4013	.2847	.2951		.2030		-.2479	-.5986	-.2426	.0033	.0182	
140.000										-.2750					
150.000			.5334	.3999	.3098	.3449		.6326		-.3816	-.9782	-.2273	.0243	.0134	
151.000									.3047						
162.000									.3472						
165.000										-.9035	-.8554	-.1404	.0212	.0156	
169.000								.6794							
174.000							.7845								

DATE 10 FEB 76 TABULATED PRESSURE DATA - OA148 (AMES 11-073-1)

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8865)

ALPHA (2) = .052 BETA (1) = -3.869

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.57[illegible]
PHI															
180.000	1.2080	.7185	.4631	.3640	.2947	.3385		.5895		-1.0447	-.8559	-.0655	.0186	.0113	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0290	-.0768	-.1461	-.2684	-.3734	-.3116	-.0490		.2843	.0967
40.000	-.0853		-.1322	-.2558	-.3255	-.3389	-.1851		.1577	.0306
70.000	-.0359	-.1635	.0358	.1943	.0583	.0805	-.0280			
90.000	-.0542	-.1053	.1020	.2212	-.0107	.0046	-.0858			
105.000			.1713	.2663	-.1073	-.0502	-.1261			
110.000								-.3365		
120.000	-.0422	.0121	.2786	.3280	-.2457	-.1269	-.1353	-.2508		
135.000			.3363	.3778	-.1958	-.0854	-.1202			
150.000	.0042	.0893	.3289	.3104	-.1412	-.0644	-.1119			
165.000	.0127		.3017		.0949	-.0545	-.3015			
180.000	.0069	.0946	.2824	.4178						

ALPHA (2) = .054 BETA (2) = .179 MACH = .90007 Q = 599.62 P = 1057.3 RN/L = 3.5759

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2132	.5215	.0796	.0066	-.0759			-.1537		-.1672	-.1698	-.0625	-.0116	.0339	.0362
20.000			.0992	-.0049	-.1075	-.1447		-.1686		-.1780					
40.000			.2338	.0147	-.0737	-.1102		-.1879		-.2123	-.2710	-.0550	-.0029	.0198	.0510
55.000			.3330	.1119	.0345	-.0279		-.1395		-.2347					
70.000			.3969	.1579	.0675	.0294		-.1131		-.2548	-.7226	-.0868	.0125	.0481	
90.000		.5745	.4315	.2020	.0918	.0535		-.1053		-.3737	-.7080	-.1137	.0155	.0402	
120.000			.4826	.3077	.1975	.2184		.0974		-.4061	-.6799	-.2057	.0177	.0312	
140.000										-.4946					
150.000			.4903	.3702	.2732	.3093		.5511		-.8286	-.9431	-.1529	.0295	.0237	
157.000									.2078						
162.000									.2748						
165.000										-.9131	-.8546	-.0649	.0262	.0255	
169.000								.6496							
174.000							.7727								
180.000	1.2132	.7052	.4803	.3758	.2999	.3475		.6301		-.9301	-.8585	-.0427	.0266	.0255	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0264	-.0733	-.1475	-.2704	-.3795	-.2938	-.0532		.3014	.1040
40.000	-.0617		-.1363	-.2542	-.3263	-.3332	-.1605		.1721	.0205

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8865)

ALPHA (2) = .054 BETA (2) = .179

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1094	-.1840	-.0101	.1237	-.0247	.0214	-.0692			
90.000	-.0589	-.1077	.0600	.1311	-.1089	-.0566	-.1229			
105.000			.1199	.1537	-.2299	-.1182	-.1689			
110.000								-.3406		
120.000	-.0162	.0030	.1920	.2550	-.3558	-.2140	-.2029	-.2605		
135.000			.2676	.4137	-.3066	-.1695	-.1720			
150.000	.0196	.0812	.2832	.4637	-.2293	-.1678	-.1553			
165.000	.0246		.2834		-.0472	-.1706	-.2938			
180.000	.0223	.0953	.2917	.4849						

ALPHA (2) = .050 BETA (3) = 4.252 MACH = .90007 Q = 599.62 P = 1057.3 RN/L = 3.5759

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1974	.5011	.0658	-.0013	-.0892			-.1509		-.1717	-.1683	-.0770	-.0161	.0257	.0234
20.000			.0658	-.0262	-.1199	-.1416		-.1651		-.1882					
40.000			.1556	-.0142	-.1022	-.1142		-.1736		-.2095	-.2668	-.0504	.0038	.0215	.0560
55.000			.2229	.0307	-.0434	-.0732		-.1779		-.2746					
70.000			.2614	.0510	-.0260	-.0352		-.1774		-.3313	-.7811	-.0925	.0118	.0413	
90.000		.4127	.3120	.0841	-.0127	-.0255		-.1862		-.4967	-.7872	-.1492	.0210	.0406	
120.000			.3810	.2066	.0885	.1317		-.0198		-.5622	-.7870	-.2281	.0146	.0225	
140.000										-.7508					
150.000			.4320	.3234	.2207	.2555		.4586		-.9178	-.9642	-.1322	.0172	.0101	
151.000									.1000						
162.000									.1865						
165.000										-.8738	-.8577	-.0790	.0153	.0108	
169.000								.5961							
174.000							.7140								
180.000	1.1974	.6842	.4769	.3638	.2873	.3401		.6149		-1.0574	-.8701	-.0676	.0151	.0082	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0319	-.0745	-.1511	-.2705	-.3793	-.3271	-.0456		.2843	.0967
40.000	-.0445		-.1352	-.2536	-.3302	-.3306	-.1315		.1626	-.0048
70.000	-.1092	-.1777	-.0504	.0433	-.1752	-.0755	-.0997			
90.000	-.0603	-.1031	.0153	.0446	-.2618	-.1180	-.1509			
105.000			.0720	.0525	-.4284	-.1635	-.1934			
110.000								-.3395		
120.000	-.0163	-.0125	.1066	.1085	-.6321	-.2599	-.2638	-.2746		
135.000			.2281	.3508	-.5097	-.2408	-.2121			
150.000	.0140	.0638	.2551	.4372	-.3863	-.4285	-.1886			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8965)

ALPHA (2) = .050 BETA (3) = 4.252

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	.0099		.2626		-.1708	-.3859	-.2864			
180.000	.0065	.0903	.2845	.4299						

ALPHA (3) = 4.021 BETA (1) = -3.873 MACH = .89817 Q = 598.16 P = 1059.3 RN/L = 3.5705

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1995	.6694	.2229	.1059	.0195			-.0890		-.1027	-.1311	-.0600	.0030	.0638	.0864
20.000			.2636	.1153	-.0013	-.0666		-.1016		-.1195					
40.000			.4217	.1713	.0684	.0002		-.0871		-.1323	-.1720	-.0416	.0194	.0562	.1080
55.000			.5021	.2794	.1805	.0982		-.0029		-.1079					
70.000			.5181	.2971	.1947	.1365		.0042		-.1299	-.5734	-.1487	-.0293	.0288	
90.000		.6869	.5275	.3167	.2025	.1652		.0277		-.2087	-.6216	-.2132	-.0312	.0190	
120.000			.5002	.3286	.2219	.2589		.2099		-.2572	-.6160	-.3270	-.0875	-.0579	
140.000										-.3494					
150.000			.4198	.2919	.2094	.2733		.6068		-.4528	-1.0001	-.4260	.0047	-.0176	
160.000									.2778						
165.000									.3072						
169.000										-.9594	-.7673	-.4258	.0342	-.0077	
174.000								.6405							
180.000	1.1995	.5746	.3441	.2665	.1961	.2651	.7445	.5439		-1.0935	-.9181	-.2898	.0425	.0020	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0543	.0051	-.0784	-.2017	-.2523	-.3780	-.0447		.3368	.1140
40.000	.0325		-.0560	-.1838	-.2269	-.3366	-.1777		.2098	.0471
70.000	-.2116	-.4199	-.0375	.1673	.0580	.0802	-.0223			
90.000	-.1629	-.3273	.0390	.1838	-.0049	.0035	-.0865			
105.000			.1230	.2077	-.1028	-.0559	-.1322			
110.000								-.3331		
120.000	-.1732	-.1104	.2391	.1928	-.2547	-.1374	-.1340	-.2461		
135.000			.2762	.2518	-.2445	-.1128	-.1388			
150.000	-.0769	.0195	.2678	.1940	-.2057	-.1039	-.1368			
165.000	-.0607		.2377		.0446	-.0874	-.2843			
180.000	-.0539	.0299	.2167	.3413						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8865)

ALPHA (3) = 4.021 BETA (2) = .183 MACH = .89817 Q = 596.16 P = 1059.3 RN/L = 3.5705

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2058	.6721	.2223	.1123	.0212			-.0825		-.1010	-.1306	-.0551	.0075	.0669	.0896
20.000			.2394	.1088	-.0035	-.0643		-.0911		-.1185					
40.000			.3443	.1351	.0321	-.0141		-.0873		-.1349	-.1913	-.0418	.0236	.0574	.1135
55.000			.3917	.1841	.0929	.0325		-.0712		-.1574					
70.000			.3990	.1867	.0882	.0591		-.0726		-.1989	-.6595	-.1476	-.0283	.0113	
90.000		.5401	.4137	.2037	.0958	.0811		-.0584		-.3098	-.7176	-.1845	-.0216	.0112	
120.000			.4192	.2523	.1495	.1999		.1206		-.3846	-.6993	-.2678	-.0145	-.0109	
140.000										-.5105					
150.000			.3853	.2781	.1843	.2525		.5199		-.8789	-1.0334	-.3699	.0447	.0082	
151.000									.1881						
160.000									.2428						
165.000										-.9742	-.9410	-.2304	.0423	.0122	
169.000								.6095							
174.000							.7241								
180.000	1.2058	.5679	.3616	-.2764	.2016	.2778		.5838		-1.0159	-.9418	-.1637	.0387	.0084	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0565	.0058	-.0773	-.2023	-.2680	-.3761	-.0421		.3380	.1151
40.000	.0444		-.0595	-.1813	-.2616	-.3356	-.1551		.2143	.0216
70.000	-.2288	-.4134	-.0803	.1002	-.0240	.0197	-.0629			
90.000	-.1663	-.3012	.0110	.0991	-.1250	-.0595	-.1141			
105.000			.0805	.1026	-.2247	-.1163	-.1622			
110.000								-.3317		
120.000	-.1125	-.1031	.1418	.2060	-.3997	-.2100	-.1900	-.2567		
135.000			.1907	.4066	-.3434	-.1830	-.1866			
150.000	-.0503	.0023	.2101	.4893	-.2666	-.2006	-.1736			
165.000	-.0394		.2185		-.0978	-.2025	-.2797			
180.000	-.0411	.0262	.2289	.4322						

ALPHA (3) = 4.023 BETA (3) = 4.246 MACH = .89817 Q = 598.16 P = 1059.3 RN/L = 3.5705

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1890	.6545	.2093	.1059	.0057			-.0862		-.1114	-.1372	-.0651	.0023	.0555	.0777
20.000			.2067	.0804	-.0246	-.0660		-.1008		-.1287					
40.000			.2530	.0844	-.0345	-.0439		-.1003		-.1415	-.2154	-.0927	.0099	.0465	.1059
55.000			.2752	.0872	.0042	-.0263		-.1216		-.2010					
70.000			.2772	.0797	-.0036	-.0062		-.1318		-.2624	-.7185	-.1383	-.0339	.0056	
90.000		.3765	.2979	.0348	.0047	.0094		-.1289		-.4088	-.7924	-.1488	-.0122	.0125	
120.000			.3261	.1647	.0662	.1328		.0200		-.5223	-.7782	-.2702	.0181	.0131	

AMES 11-073(OA148) -140A/B/C/R OPB FUSELAGE (XE8865)

ALPHA (3) = 4.023 BETA (3) = 4.245

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.6811					
150.000			.3316	.2399	.1416	.2099		.4356		-1.0064	-1.0242	-.3256	.0428	.0062	
151.000									.0862						
162.000									.1536						
165.000										-.9865	-.7820	-.2240	.0347	.0046	
169.000								.5569							
174.000							.6599								
180.000	1.1890	.5383	.3548	.2409	.1908	.2647		.5580		-1.1078	-.9506	-.2494	.0387	.0001	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0522	.0034	-.0757	-.2022	-.2592	-.3742	-.0401		.3442	.1146
10.000	.0510		-.0582	-.1810	-.2559	-.3173	-.1194		.1928	.0075
20.000	-.2314	-.3787	-.1286	.0162	-.1283	-.0352	-.0950			
30.000	-.1834	-.2804	-.0505	.0106	-.2481	-.1127	-.1486			
146.000			.0072	.0340	-.3761	-.1695	-.1887			
160.000								-.3171		
170.000	-.0876	-.1139	.0625	.1010	-.6072	-.2824	-.2455	-.2631		
180.000			.1639	.3294	-.5218	-.2382	-.2194			
190.000	-.0480	-.0004	.1898	.4402	-.4262	-.3541	-.2016			
200.000	-.0456		.1923		-.2233	-.4270	-.2811			
210.000	-.0563	.0259	.2159	.3416						

ALPHA (4) = 7.876 BETA (1) = -3.856 MACH = .89873 Q = 598.61 R = 1038.8 RN/L = 3.5706

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1647	.9013	.3620	.2159	.1216			-.0101		-.0369	-.0633	-.0188	.0372	.1142	.1421
20.000			.4034	.2341	.1164	.0276		-.0111		-.0421					
40.000			.5240	.2929	.1930	.1008		.0206		-.0314	-.0780	.0046	.0618	.1164	.1790
56.000			.5454	.3519	.2293	.1406		.0435		-.0536					
70.000			.5151	.3073	.1977	.1524		.0352		-.0934	-.4974	-.1830	-.0818	.0032	
90.000		.6782	.4000	.2919	.1859	.1586		.0511		-.1693	-.6033	-.2441	-.0944	-.0107	
120.000			.4124	.2501	.1502	.1997		.2059		-.2522	-.6468	-.5212	-.2321	-.1536	
140.000										-.3709					
150.000			.3010	.1918	.1221	.2061		.5859		-.4771	-.6419	-.4582	-.1461	-.0337	
161.000									.2574						
169.000									.2723						
185.000										-1.0185	-.6480	-.5170	-.1024	-.0166	
160.000								.6041							
174.000							.7076								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8865)

ALPHA (4) = 7.876 BETA (1) = -3.866

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.1547	.4304	.2201	.1752	.1176	.2049		.5012		-.9469	-.6484	-.4426	-.1074	.0011	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1312	.0814	-.0008	-.1281	-.1980	-.3611	-.0506		.3771	.1311
40.000	.1359		.0264	-.1041	-.2064	-.3362	-.1838		.2502	.0553
70.000	-.3053	-.5629	-.0835	.1333	.0155	.0431	-.0382			
90.000	-.2479	-.4726	-.0012	.1115	-.0395	-.0336	-.1052			
105.000			.0918	.1125	-.1173	-.0965	-.1569			
110.000								-.3263		
120.000	-.2974	-.2245	.1208	.1101	-.2523	-.1674	-.1501	-.2532		
135.000			.1239	.2127	-.2843	-.1628	-.1775			
150.000	-.1444	-.0795	.1153	.2855	-.2346	-.1348	-.1594			
165.000	-.1222		.1103		-.0155	-.1013	-.2709			
180.000	-.1086	-.0537	.1200	.3127						

ALPHA (4) = 7.884 BETA (2) = .183 MACH = .89873 Q = 598.61 P = 1058.8 RN/L = 3.5706

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1729	.8091	.3725	.2281	.1223			-.0095		-.0276	-.0610	-.0124	.0468	.1217	.1504
20.000			.3843	.2214	.1046	.0275		-.0137		-.0442					
40.000			.4451	.2434	.1410	.0719		.0016		-.0508	-.1140	-.0338	.0492	.0988	.1788
55.000			.4333	.2309	.1389	.0653		-.0244		-.1073					
70.000			.4004	.1992	.0989	.0785		-.0322		-.1520	-.5911	-.2068	-.0891	-.0193	
90.000		.4935	.3829	.1911	.0956	.0908		-.0208		-.2502	-.6924	-.2224	-.0810	-.0169	
120.000			.3403	.1869	.0963	.1712		.1395		-.3579	-.7089	-.3268	-.1139	-.0594	
140.000										-.5001					
150.000			.2804	.1900	.0947	.1984		.5065		- 8336	-.6470	-.4573	-.0234	-.0097	
151.000									.1781						
152.000									.2103						
165.000										-1.0326	-.6586	-.4384	.0260	.0092	
169.000								.5610							
174.000							.6630								
180.000	1.1729	.4160	.2442	.1561	.1053	.2171		.5362		-1.1282	-.6677	-.3360	.0180	.0116	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1398	.0880	.0036	-.1259	-.1991	-.3592	-.0497		.3814	.1330
40.000	.1443		.0196	-.1012	-.2071	-.3321	-.1618		.2387	.0358

AMES 11-073(OA148) -140A/B/C/P OFB FUSELAGE (XE9888)

ALPHA (4) = 7.894 BETA (2) = .183

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.3074	-.6029	-.1520	.0599	-.0621	-.0142	-.0784			
90.000	-.2464	-.4623	-.0551	.0457	-.1499	-.0939	-.1266			
105.000			.0250	.0445	-.2581	-.1477	-.1776			
110.000								-.3245		
120.000	-.1977	-.2158	.0428	.1059	-.4323	-.2386	-.2036	-.2510		
135.000			.1052	.3235	-.3771	-.2160	-.2042			
150.000	-.1237	-.1057	.1364	.4229	-.3019	-.2249	-.1934			
165.000	-.1017		.1455		-.1171	-.2210	-.2666			
180.000	-.1002	-.0461	.1633	.3956						

ALPHA (4) = 7.882 BETA (3) = 4.244 MACH = .89873 Q = 598.61 P = 1058.8 RN/L = 3.5706

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1507	.7943	.3561	.2202	.1105			-.0099		-.0394	-.0603	-.0233	.0450	.1160	.1372
20.000			.3789	.1969	.0752	.0123		-.0301		-.0622					
45.000			.3458	.1838	.0795	.0199		-.0338		-.0935	-.1644	-.1116	.0203	.0798	.1576
65.000			.3036	.1173	.0382	-.0102		-.0930		-.1613					
70.000			.2750	.0866	.0005	.0069		-.0940		-.2099	-.6626	-.1928	-.0957	-.0374	
90.000		.3315	.2745	.0908	.0026	.0241		-.0871		-.3377	-.7650	-.1874	-.0839	-.0222	
120.000			.2631	.1204	.0305	.1235		.0554		-.4741	-.7743	-.3176	-.0569	-.0090	
150.000										-.6463					
151.000			.2357	.1565	.0653	.1680		.4215		-1.0202	-.6690	-.4221	-.0547	.0035	
162.000									.0800						
165.000									.1306						
169.000										-1.0439	-.7053	-.3918	-.0270	.0073	
174.000								.5222							
180.000	1.1557	.3900	.2371	.1649	.1010	.2066	.6301	.5295		-.9896	-.7141	-.4013	.0263	-.0074	

Y/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1303	.0922	.0011	-.1272	-.2013	-.3616	-.0510		.3854	.1325
40.000	.1346		.0175	-.1003	-.2157	-.3235	-.1475		.2205	.0141
70.000	-.3117	-.5857	-.1982	-.0258	-.1596	-.0676	-.1062			
90.000	-.2401	-.4288	-.1337	-.0297	-.2529	-.1465	-.1589			
105.000			-.0734	-.0240	-.4223	-.2035	-.2090			
110.000								-.3213		
120.000	-.1533	-.2128	-.0308	.0461	-.5443	-.3013	-.2528	-.2584		
135.000			.0701	.2396	-.4413	-.3023	-.2327			
150.000	-.0330	-.0916	.1743	.3947	-.3344	-.3491	-.2140			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8865)

ALPHA (4) = 7.862 BETA (3) = 4.244

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0929		.1327		-.2125	-.4046	-.2693			
180.000	-.1095	-.0617	.1250	.3463						

ALPHA (5) = 11.907 BETA (1) = -3.854 MACH = .89780 Q = 598.05 P = 1060.0 RN/L = 3.5707

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1017	.9234	.5019	.3393	.2249			.0724		.0471	.0270	.0486	.0951	.1795	.2116
20.000			.5483	.3608	.2294	.1323		.0769		.0481					
40.000			.6193	.4023	.2863	.1969		.1151		.0552	.0095	.0620	.1175	.1780	.2584
55.000			.5685	.3634	.2554	.1563		.0613		-.0170					
70.000			.4947	.3015	.1869	.1546		.0546		-.0582	-.4318	-.2015	-.1490	-.0349	
90.000		.5646	.4314	.2540	.1609	.1402		.0605		-.1374	-.5432	-.2448	-.1722	-.0593	
120.000			.3021	.1491	.0633	.1414		.1684		-.2512	-.6615	-.5395	-.4215	-.2608	
140.000										-.3774					
150.000			.1696	.0839	.0253	.1400		.5642		-.5267	-.5733	-.5087	-.2391	-.0877	
161.000									.2390						
162.000									.2411						
165.000										-.8499	-.5858	-.5536	-.2176	-.0440	
169.000								.5691							
174.000							.6591								
180.000	1.1017	.2595	.0989	.0777	.0345	.1473		.4608		-.7176	-.5962	-.5506	-.1930	-.0088	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2101	.1584	.0740	-.0582	-.1567	-.3314	-.0933		.4077	.1424
40.000	.2275		.1040	-.0300	-.1993	-.3044	-.2637		.2767	.0540
70.000	-.4427	-.7178	-.1414	.0190	-.1792	-.0548	-.0791			
90.000	-.3420	-.5680	-.0294	.0540	-.2207	-.1348	-.1524			
105.000			.0069	.0979	-.2981	-.1927	-.2022			
110.000								-.3351		
120.000	-.3747	-.2402	.0245	.1511	-.3634	-.2505	-.2041	-.2706		
135.000			.0229	.2002	-.3531	-.2296	-.2247			
150.000	-.2484	-.1937	-.0042	.2978	-.2992	-.2210	-.2222			
165.000	-.2219		.0291		-.0948	-.1679	-.2967			
180.000	-.1672	-.1156	.0783	.3390						

AMES II-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8865)

ALPHA (5) = 11.920 BETA (2) = .190 MACH = .89780 Q = 598.05 P = 1060.0 RN/L = 3.5707

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1095	.9324	.5048	.3452	.2336			.0780		.0565	.0276	.0526	.1063	.1826	.2129
20.000			.5153	.3373	.2119	.1243		.0750		.0404					
40.000			.5251	.3309	.2244	.1400		.0742		.0065	-.0525	.0008	.0851	.1571	.2376
55.000			.4408	.2471	.1422	.0558		-.0238		-.0890					
70.000			.3708	.1869	.0825	.0728		-.0191		-.1286	-.5278	-.2392	-.1883	-.0856	
90.000		.4207	.3302	.1538	.0683	.0811		-.0040		-.2182	-.6498	-.2428	-.1947	-.0760	
120.000			.2420	.1045	.0220	.1267		.1404		-.3424	-.7344	-.4206	-.2963	-.1336	
140.000										-.4920					
150.000			.1593	.0943	.0159	.1425		.4878		-.7188	-.5771	-.5181	-.1931	-.0406	
151.000									.1659						
162.000									.1832						
165.000										-1.0113	-.6271	-.5385	-.1923	.0004	
169.000								.5163							
174.000							.6090								
180.000	1.1095	.2514	.1207	.0752	.0312	.1619		.4934		-.7522	-.6289	-.5297	-.1938	.0094	

X/LB	.6020	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2122	.1620	.0759	-.0561	-.1555	-.3317	-.1064		.4081	.1403
40.000	.2283		.0996	-.0263	-.2006	-.3110	-.2692		.2533	.0316
70.000	-.4587	-.7362	-.1940	-.0659	-.2684	-.1283	-.1301			
90.000	-.3450	-.6983	-.0872	-.0380	-.3232	-.1903	-.1577			
105.000			-.0299	.0156	-.4168	-.2340	-.2226			
110.000								-.3273		
120.000	-.2697	-.2732	.0011	.0902	-.4418	-.3911	-.2388	-.2569		
135.000			.0282	.2565	-.4052	-.2780	-.2335			
150.000	-.2032	-.1923	.0560	.3770	-.3601	-.2810	-.2156			
165.000	-.1533		.0944		-.1366	-.2687	-.2839			
180.000	-.1398	-.0953	.1087	.3447						

ALPHA (5) = 11.987 BETA (3) = 4.258 MACH = .89780 Q = 598.05 P = 1060.0 RN/L = 3.5707

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0932	.9171	.4913	.3341	.2118			.0668		.0397	.0200	.0363	.1076	.1774	.2051
20.000			.4622	.3003	.1763	.0934		.0412		.0039					
40.000			.4073	.2509	.1408	.0636		.0100		-.0560	-.1204	-.0853	.0437	.1178	.2096
55.000			.3012	.1263	.0264	-.0310		-.1112		-.1546					
70.000			.2416	.0790	-.0256	.0128		-.0850		-.1794	-.5977	-.3583	-.2326	-.1310	
90.000		.2572	.2105	.0603	-.0230	.0279		-.0684		-.2846	-.7268	-.2158	-.2120	-.0832	
120.000			.1783	.0406	-.0260	.1051		.0767		-.4405	-.6856	-.3621	-.2319	-.0682	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8865)

ALPHA (5) = 11.907 BETA (3) = 4.258

SECTION : 1 ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.6176					
150.000			.1284	.0681	-.0114	.1250		.3915		-.9872	-.6108	-.5171	-.1883	-.0086	
151.000									.0715						
162.000									.1056						
165.000										-.9746	-.6248	-.5337	-.2267	.0054	
169.000								.4840							
174.000							.5856								
180.000	1.0932	.2186	.1153	.0738	.0177	.1456		.4878		-.7006	-.6075	-.5607	-.2316	-.0159	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2084	.1570	.0729	-.0620	-.1666	-.3390	-.1027		.4073	.1393
40.000	.2091		.0890	-.0411	-.2173	-.3447	-.1963		.2262	.0050
70.000	-.4417	-.7268	-.1940	-.0872	-.3494	-.2213	-.1660			
90.000	-.3351	-.5850	-.1029	-.1011	-.4144	-.3704	-.2151			
105.000			-.0677	-.0311	-.5243	-.4635	-.2267			
110.000								-.3141		
120.000	-.1989	-.2557	-.0033	.0035	-.5244	-.5927	-.3014	-.2657		
135.000			.0409	.2548	-.4381	-.4637	-.2220			
150.000	-.1514	-.1355	.1087	.3521	-.3859	-.4534	-.2693			
165.000	-.1396		.0998		-.1727	-.3728	-.2569			
180.000	-.1499	-.0779	.1026	.3344						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8866) (05 DEC 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.3300 IN. YMRP = .0000 IN. YO
BREF = 936.0680 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = 5.000 SPDBRK = 55.000
BDFLAP = 16.300 L-ELVN = -4.000
R-ELVN = -4.000 MACH = .600

ALPHA (1) = -4.037 BETA (1) = -7.846 MACH = .59482 Q = 591.26 = 2387.4 RN/L = 4.8005

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0070	.1326	-.2176	-.2237	-.2185			-.1820		-.1548	-.1272	-.0974	-.0771	-.0645	-.0848
20.000			-.1953	-.2400	-.2842	-.2797		-.2377		-.2107					
40.000			.0251	-.2332	-.2984	-.3140		-.3715		-.3335	-.2 00	-.1984	-.1718	-.1525	-.1583
55.000			.2753	.0507	-.0129	-.1304		-.1406		-.1679					
70.000			.4455	.2285	.1477	.0790		-.0323		-.1256	-.1374	-.0091	.0615	.1038	
90.000		.7355	.5463	.3305	.2382	.1332		-.0113		-.1785	-.1611	-.0384	.0401	.0904	
110.000			.6196	.4561	.3478	.3222		.1886		-.1465	-.1802	-.1637	.0097	.0458	
140.000										-.1884					
150.000			.6676	.4279	.3480	.3478		.5650		-.3519	-.3131	-.1045	-.0315	-.0025	
161.000									.2474						
162.000									.2576						
165.000										-.9330	-.2383	-.1261	-.0500	-.0234	
169.000								.5702							
174.000							.6995								
180.000	1.0070	.7079	.4462	.3454	.2787	.2914		.3748		-1.1600	-.2270	-.1316	-.0721	-.0370	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1312	-.1525	-.1923	-.2479	-.2046	-.1856	-.0707		.2131	.0005
40.000	-.2248		-.2089	-.2592	-.2302	-.1781	-.1410		.1031	-.0415
70.000	.0343	.0185	.1057	.2084	.0942	.0644	-.0566			
90.000	.0585	.0707	.1487	.2493	.0464	-.0028	-.1108			
105.000			.1971	.3595	-.0418	-.0610	-.1599			
110.000								-.3123		
120.000	.0341	.0983	.2605	.5111	-.1001	-.0887	-.1396	-.2328		
135.000			.2966	.4888	-.0699	-.0449	-.1334			
150.000	.0338	.1002	.2809	.3379	-.0553	-.0187	-.0966			
165.000	.0182		.2275		.1723	.0045	-.2647			
180.000	-.0185	.0471	.1776	.3139						

DATE 10 FEB 76 TABULATED PRESSURE DATA - OA148 (AMES 11-073-1)

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8966)

ALPHA (1) = -3.899 BETA (2) = -3.843 MACH = .59482 Q = 591.26 P = 2387.4 RN/L = 4.8005

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0482	.1706	-.1817	-.1861	-.2047			-.1629		-.1367	-.1137	-.0844	-.0627	-.0515	-.0756
20.000			-.1701	-.1910	-.2436	-.2395		-.2026		-.1719					
40.000			.0130	-.1903	-.2603	-.2590		-.3015		-.2712	-.2019	-.1374	-.1183	-.1105	-.1129
55.000			.2013	-.0007	-.0671	-.1510		-.1796		-.2036					
70.000			.3355	.1269	.0581	.0044		-.1120		-.1899	-.1811	-.0410	.0297	.0780	
90.000		.6042	.4305	.2146	.1248	.0378		-.1051		-.2731	-.2152	-.0806	.0106	.0648	
120.000			.5253	.3648	.2557	.2333		.0787		-.2412	-.2341	-.2043	-.0075	.0378	
140.000										-.2695					
150.000			.5338	.4107	.3233	.3241		.5028		-.4137	-.2757	-.0894	-.0187	.0181	
151.000									.1552						
162.000									.1922						
165.000								.5585		-.9281	-.2085	-.1035	-.0281	.0149	
169.000							.6945								
174.000								.4646		-1.1458	-.2030	-.0999	-.0338	.0006	
180.000	1.0482	.7211	.4740	.3784	.3065	.3179									

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1191	-.1477	-.1881	-.2462	-.2090	-.1907	-.0746		.2278	.0077
40.000	-.1929		-.1998	-.2512	-.2412	-.1820	-.1446		.1246	-.0468
70.000	.0018	-.0109	.0651	.1638	.0518	.0315	-.0694			
90.000	.0341	.0348	.1166	.1920	-.0182	-.0436	-.1270			
105.000			.1583	.2511	-.1159	-.1025	-.1796			
110.000								-.3197		
120.000	.0446	.0906	.2420	.3850	-.1902	-.1569	-.1831	-.2431		
135.000			.3016	.4515	-.1376	-.0908	-.1672			
150.000	.0577	.1246	.2952	.4159	-.0970	-.0778	-.1277			
165.000	.0510		.2585		.0821	-.0708	-.2617			
180.000	.0330	.1060	.2430	.4285						

ALPHA (1) = -3.894 BETA (3) = .194 MACH = .59482 Q = 591.26 P = 2387.4 RN/L = 4.8005

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0576	.1803	-.1771	-.1780	-.2007			-.1589		-.1317	-.1100	-.0808	-.0557	-.0474	-.0699
20.000			-.1637	-.1795	-.2291	-.2141		-.1773		-.1536					
40.000			-.0201	-.1869	-.2361	-.2222		-.2441		-.2157	-.1565	-.0903	-.0765	-.0753	-.0882
55.000			.1182	-.0593	-.1137	-.1775		-.2050		-.2257					
70.000			.2214	.0293	-.0366	-.0699		-.1773		-.2497	-.2176	-.0712	.0053	.0544	
90.000		.4485	.3033	.0925	.0092	-.0616		-.1954		-.3598	-.2646	-.1049	-.0116	.0431	
180.000			.4152	.2519	.1447	.1375		-.0537		-.3480	-.2854	-.2430	-.0371	.0171	

DATE 10 FEB 76 TABULATED PRESSURE DATA - OA148 (AMES 11-073-1)

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8866)

ALPHA (1) = -3.894 BETA (3) = .194

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1581	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.3527					
150.000			.4780	.3664	.2817	.2756		.4102		-.4795	-.2481	-.0970	-.0276	.0218	
151.000									.0332						
162.000									.0940						
165.000										-.9309	-.1980	-.0956	-.0233	.0218	
169.000								.5200							
174.000							.6748								
180.000	1.0578	.7217	.4908	.3962	.3206	.3310		.5104		-1.1300	-.1869	-.0863	-.0209	.0192	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1159	-.1463	-.1864	-.2461	-.2094	-.1941	-.0730		.2475	.0095
40.000	-.1666		-.1947	-.2443	-.2418	-.1832	-.1276		.1206	-.0492
70.000	-.0147	-.0399	.0271	.1154	.0060	-.0036	-.0928			
90.000	.0140	.0075	.0766	.1216	-.0728	-.0805	-.1451			
105.000			.1140	.1495	-.1654	-.1444	-.1985	-.3285		
110.000								-.2667		
120.000	.0267	.0564	.1753	.2519	-.2906	-.2302	-.2452			
135.000			.2542	.4658	-.2253	-.1568	-.2108			
150.000	.0577	.1186	.2677	.4844	-.1604	-.1471	-.1714			
165.000	.0584		.2583		-.0144	-.1525	-.2743			
180.000	.0497	.1259	.2675	.4864						

ALPHA (1) = -3.902 BETA (4) = 4.271 MACH = .59482 Q = 591.26 P = 2387.4 RN/L = 4.8005

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0362	.1525	-.1868	-.1843	-.2136			-.1623		-.1420	-.1161	-.0857	-.0599	-.0473	-.0738
20.000			-.1830	-.1831	-.2274	-.2043		-.1666		-.1467					
40.000			-.0806	-.1983	-.2293	-.2048		-.2109		-.1888	-.1283	-.0699	-.0492	-.0542	-.0629
55.000			.0228	-.1167	-.1591	-.1972		-.2299		-.2428					
70.000			.0998	-.0677	-.1269	-.1407		-.2318		-.2924	-.2464	-.0868	-.0098	.0427	
90.000		.2782	.1697	-.0301	-.1027	-.1461		-.2804		-.4377	-.2974	-.1236	-.0219	.0327	
120.000			.2917	.1284	.0154	.0179		-.1959		-.4532	-.3401	-.2932	-.0801	-.0264	
140.000										-.4382					
150.000			.4054	.3085	.2131	.2012		.2869		-.5491	-.2464	-.1172	-.0540	-.0109	
151.000									-.1040						
162.000									-.0254						
165.000										-.9499	-.2078	-.1124	-.0435	-.0014	
169.000								.4562							
174.000							.6105								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8866)

ALPHA (1) = -3.902 BETA (4) = 4.271

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.0362	.6896	.4821	.3818	.3104	.3176		.4876		-1.1244	-.1973	-.1001	-.0338	.0038	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1226	-.1508	-.1865	-.2465	-.2137	-.1950	-.0725		.2228	.0021
40.000	-.1477		-.1805	-.2371	-.2462	-.1857	-.1052		.1243	-.0593
70.000	-.0346	-.0619	-.0106	.0765	-.0266	-.0243	-.0997			
90.000	-.0038	-.0204	.0318	.0664	-.1108	-.1113	-.1566			
105.000			.0606	.0786	-.2357	-.1680	-.2024			
110.000								-.3097		
120.000	-.0050	.0043	.0879	.1095	-.4090	-.3113	-.3029	-.2805		
135.000			.1856	.3260	- 3254	-.2240	-.2451			
150.000	.0300	.0749	.2135	.4752	-.2645	-.2311	-.2129			
165.000	.0328		.2173		-.1219	-.2366	-.2677			
180.000	.0357	.1077	.2479	.4632						

ALPHA (1) = -3.917 BETA (5) = 8.333 MACH = .59482 Q = 591.26 P = 2387.4 RN/L = 4.8005

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9874	.1312	-.2030	-.1949	-.2340			-.1827		-.1599	-.1341	-.0993	-.0730	-.0695	-.0908
20.000			-.2075	-.1951	-.2378	-.2053		-.1744		-.1592					
40.000			-.1265	-.2096	-.2310	-.1931		-.1896		-.1745	-.1176	-.0583	-.0391	-.0443	-.0398
55.000			-.0514	-.1717	-.1975	-.2091		-.2397		-.2555					
70.000			-.0059	-.1541	-.1880	-.1896		-.2748		-.3231	-.2567	-.0975	-.0178	.0333	
90.000		.0981	.0465	-.1406	-.2096	-.2259		-.3412		-.4953	-.3241	-.1366	-.0341	.0217	
120.000			.1597	-.0068	-.1123	-.1035		-.3365		-.5441	-.3950	-.3495	-.1262	-.0578	
140.000										-.5178					
150.000			.2913	.2198	.1152	.1055		.1459		-.6331	-.2703	-.1483	-.1039	-.0647	
151.000									-.2575						
162.000									-.1687						
165.000										-.9902	-.2376	-.1511	-.0904	-.0505	
169.000								.3737							
174.000							.5440								
180.000	.9874	.6222	.4316	.3246	.2618	.2714		.3922		-1.1452	-.2322	-.1333	-.0778	-.0446	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1256	-.1545	-.1958	-.2445	-.2096	-.1907	-.0730		.2167	-.0093
40.000	-.1386		-.1763	-.2316	-.2400	-.1878	-.0990		.1042	-.0659

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8866)

ALPHA (1) = -3.917 BETA (5) = 8.333

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.0488	-.0920	-.0471	.0395	-.0652	-.0455	-.1065			
90.000	-.0248	-.0595	-.0259	.0185	-.1521	-.1322	-.1628			
105.000			.0129	.0414	-.2815	-.1956	-.2150			
110.000								-.2914		
120.000	-.0380	-.0516	-.0009	-.0913	-.5305	-.3932	-.3473	-.2937		
135.000			.0825	.1559	-.4630	-.3180	-.3052			
150.000	-.0281	.0013	.1138	.4373	-.4136	-.3465	-.2758			
165.000	-.0265		.1348		-.2459	-.3274	-.2654			
180.000	-.0191	.0514	.1915	.3674						

ALPHA (2) = .066 BETA (1) = -7.886 MACH = .59550 Q = 592.43 P = 2386.4 RN/L = 4.8075

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0341	.3222	-.0709	-.1163	-.1403			-.1411		-.1245	-.1040	-.0789	-.0529	-.0299	-.0373
20.000			-.0216	-.0963	-.1756	-.1975		-.1770		-.1593					
40.000			.2029	-.0530	-.1360	-.1641		-.2288		-.2105	-.1525	-.0978	-.0783	-.0703	-.0625
55.000			.4005	.1891	.1079	.0200		-.0475		-.0970					
70.000			.4983	.2495	.1934	.1261		.0028		-.0989	-.1315	-.0237	.0267	.0531	
90.000		.7293	.5436	.3451	.2359	.1656		.0188		-.1562	-.1635	-.0567	.0086	.0383	
120.000			.5455	.3945	.2938	.2810		.1706		-.1851	-.2310	-.2230	-.0674	-.0457	
140.000										-.2667					
150.000			.4487	.3171	.2451	.2623		.5115		-.4608	-.4021	-.1551	-.0783	-.0570	
151.000									.1817						
160.000									.1720						
165.000										-1.1126	-.2984	-.1672	-.0881	-.0606	
169.000								.5105							
174.000							.6538								
180.000	1.0341	.5829	.3230	.2461	.1784	.2098		.2960		-1.3467	-.2683	-.1636	-.0959	-.0660	

X LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0591	-.1012	-.1523	-.2111	-.1913	-.1847	-.0680		.2495	-.0007
40.000	-.1042		-.1520	-.2149	-.2124	-.1640	-.1297		.1295	-.0338
70.000	-.0898	-.0548	.0001	.2074	.0949	.0715	-.0462			
90.000	-.0318	-.0005	.1145	.2446	.0463	-.0089	-.1099			
105.000			.1543	.3654	-.0331	-.0571	-.1593			
110.000								-.3112		
120.000	-.0634	.0199	.2079	.5058	-.1313	-.1066	-.1385	-.2339		
135.000			.2488	.4425	-.1244	-.0770	-.1531			
150.000	-.0344	.0402	.2370	.2593	-.1309	-.0551	-.1221			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8866)

ALPHA (2) = .066 BETA (1) = -7.886

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0378		.1655		.1415	-.0166	-.2592			
180.000	-.0473	.0192	.1508	.2644						

ALPHA (2) = .075 BETA (2) = -3.862 MACH = .59550 Q = 592.43 P = 2386.4 RN/L = 4.8075

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0734	.3583	-.0311	-.0883	-.1195			-.1232		-.1035	-.0915	-.0567	-.0359	-.0110	-.0196
20.000			-.0074	-.0713	-.1494	-.1646		-.1465		-.1284					
40.000			.1693	-.0367	-.1136	-.1341		-.1845		-.1711	-.1183	-.0611	-.0407	-.0409	-.0307
55.000			.3193	.1199	.0426	-.0238		-.0931		-.1371					
70.000			.3904	.1885	.1038	.0531		-.0705		-.1615	-.1784	-.0570	-.0032	.0321	
90.000		.5986	.4343	.2364	.1398	.0756		-.0665		-.2382	-.2110	-.0893	-.0110	.0243	
120.000			.4655	.3159	.2122	.2157		.0866		-.2635	-.2572	-.2200	-.0471	-.0190	
140.000										-.3330					
150.000			.4296	.3112	.2319	.2498		.4608		-.5027	-.3436	-.1289	-.0528	-.0191	
151.000									.1063						
162.000									.1174						
165.000										-1.0862	-.2563	-.1291	-.0542	-.0191	
169.000								.5012							
174.000							.6374								
180.000	1.0734	.5937	.3564	.2820	.2153	.2406		.3984		-1.3112	-.2400	-.1265	-.0532	-.0236	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0540	-.0952	-.1391	-.2134	-.1877	-.1816	-.0642		.2355	.0102
40.000	-.1021		-.1434	-.2152	-.2215	-.1643	-.1436		.1489	-.0366
70.000	-.1016	-.0897	.0250	.1547	.0490	.0367	-.0669			
90.000	-.0483	-.0293	.0770	.1818	-.0159	-.0465	-.1336			
105.000			.1286	.2645	-.1026	-.1008	-.1790			
110.000								-.3120		
120.000	-.0318	.0359	.2137	.3875	-.1991	-.1557	-.1769	-.2431		
135.000			.2677	.3998	-.1772	-.1167	-.1807			
150.000	.0077	.0829	.2618	.3192	-.1521	-.1018	-.1469			
165.000	.0117		.2247		.0472	-.0970	-.2627			
180.000	-.0020	.0725	.2120	.3585						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8866)

ALPHA (2) = .076 BETA (3) = .175 MACH = .59550 Q = 592.43 P = 2386.4 RN/L = 4.8075

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0805	.3661	-.0239	-.0750	-.1191			-.1196		-.1037	-.0849	-.0541	-.0257	-.0124	-.0207
20.000			-.0117	-.0714	-.1350	-.1459		-.1312		-.1140					
40.000			.1174	-.0493	-.1132	-.1254		-.1533		-.1472	-.0976	-.0437	-.0268	-.0240	-.0107
55.000			.2183	.0444	-.0180	-.0681		-.1350		-.1775					
70.000			.2713	.0833	.0116	-.0244		-.1369		-.2231	-.2254	-.0867	-.0240	.0095	
90.000		.4462	.3185	.1229	.0323	-.0154		-.1485		-.3250	-.2557	-.1128	-.0323	.0086	
120.000			.3737	.2207	.1241	.1344		-.0320		-.3516	-.3034	-.2370	-.0470	-.0061	
140.000										-.4021					
150.000			.3901	.2850	.1972	.2162		.3703		-.5564	-.3086	-.1221	-.0425	-.0096	
151.000									-.0097						
162.000									.0306						
165.000										-1.0726	-.2416	-.1223	-.0468	-.0050	
169.000								.4666							
174.000							.6247								
180.000	1.0805	.5814	.3798	.2966	.2252	.2540		.4474		-1.2866	-.2255	-.1133	-.0416	-.0077	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0571	-.0977	-.1463	-.2089	-.1892	-.1810	-.0620		.2413	.0111
40.000	-.0848		-.1416	-.2080	-.2221	-.1647	-.1218		.1381	-.0471
70.000	-.1143	-.1100	-.0160	.1054	.0000	-.0040	-.0891			
90.000	.0685	-.0547	.0495	.1123	-.0789	-.0823	-.1490			
105.000			.1000	.1412	-.1713	-.1363	-.1934			
110.000								-.3155		
120.000	-.0187	.0262	.1721	.1870	-.2750	-.2169	-.2257	-.2486		
135.000			.2295	.3563	-.2437	-.1700	-.2071			
150.000	.0723	.0804	.2403	.4167	-.2039	-.1717	-.1814			
165.000	.0177		.2258		-.0538	-.1813	-.2630			
180.000	.0172	.0919	.2290	.4329						

ALPHA (2) = .073 BETA (4) = 4.250 MACH = .59550 Q = 592.43 P = 2386.4 RN/L = 4.8075

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0580	.3408	-.0419	-.0853	-.1314			-.1256		-.1151	-.0910	-.0606	-.0373	-.0188	-.0285
20.000			-.0400	-.0836	-.1456	-.1506		-.1320		-.1203					
40.000			.0463	-.0924	-.1288	-.1303		-.1451		-.1469	-.0962	-.0452	-.0228	-.0254	-.0059
55.000			.1098	-.0369	-.0808	-.1265		-.1665		-.2078					
70.000			.1489	-.0214	-.0939	-.0972		-.1360		-.2689	-.2514	-.1074	-.0371	-.0023	
90.000		.2777	.1931	.0062	-.0684	-.1034		-.2295		-.3973	-.2880	-.1303	-.0438	-.0028	
120.000			.2610	.1138	.0169	.0322		-.1555		-.4471	-.3406	-.2580	-.0557	-.0155	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8866)

ALPHA (2) = .073 BETA (4) = 4.250

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.4820					
150.000			.3149	.2315	.1459	.1528		.2620		-.6210	-.2930	-.1327	-.0586	-.0266	
151.000									-.1401						
162.000									-.0889						
165.000										-1.0784	-.2481	-.1339	-.0600	-.0223	
169.000								.4046							
174.000							.5618								
180.000	1.0580	.5632	.3640	.2664	.2127	.2411		.4195		-1.2850	-.2359	-.1253	-.0598	-.0235	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0645	-.0969	-.1501	-.2104	-.1661	-.1783	-.0666		.2380	.0086
40.000	-.0705		-.1377	-.1986	-.2182	-.1729	-.0976		.1205	-.0557
70.000	-.1334	-.1398	-.0535	.0490	-.0469	-.0375	-.1080			
90.000	-.0807	-.0784	-.0036	.0508	-.1232	-.1209	-.1605			
105.000			.0421	.0495	-.2538	-.1835	-.2159			
110.000								-.3261		
120.000	-.0389	-.0209	.0798	.1189	-.3858	-.2954	-.2737	-.2695		
135.000			.1727	.3098	-.3439	-.2377	-.2514			
150.000	.0015	.0509	.1969	.3783	-.2995	-.2575	-.2251			
165.000	.0034		.1940		-.1706	-.2654	-.2643			
180.000	-.0084	.0751	.2179	.3980						

ALPHA (2) = .069 BETA (5) = 8.308 MACH = .59550 Q = 592.43 P = 2386.4 RN/L = 4.8075

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0070	.3093	-.0584	-.0964	-.1528			-.1412		-.1294	-.1032	-.0742	-.0483	-.0326	-.0416
20.000			-.0702	-.1085	-.1663	-.1642		-.1464		-.1402					
40.000			-.0280	-.1173	-.1559	-.1480		-.1552		-.1574	-.1174	-.0600	-.0329	-.0312	.0024
55.000			.0069	-.1133	-.1406	-.1595		-.2009		-.2339					
70.000			.0346	-.1111	-.1511	-.1535		-.2433		-.2994	-.2643	-.1166	-.0452	-.0067	
90.000		.0330	.0657	-.1023	-.1580	-.1783		-.2930		-.4473	-.3001	-.1332	-.0426	-.0097	
120.000			.1353	-.0036	-.0976	-.0804		-.2807		-.5227	-.3729	-.2821	-.0728	-.0325	
140.000										-.5512					
150.000			.2114	.1433	.0557	.0610		.1183		-.6847	-.2999	-.1520	-.0985	-.0518	
151.000									-.2961						
162.000									-.2390						
165.000										-1.1033	-.2695	-.1641	-.0987	-.0514	
169.000								.3231							
174.000							.4983								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8866)

ALPHA (2) = .063 BETA (5) = 8.308

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.0070	.4887	.3159	.2235	.1642	.1948		.3205		-1.2997	-.2721	-.1629	-.0968	-.0714	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.0690	-.0982	-.1492	-.2156	-.1930	-.1853	-.0743		.2463	-.0038					
40.000	-.0614		-.1349	-.1989	-.2274	-.1841	-.0895		.1127	-.0556					
70.000	-.1378	-.1629	-.0911	.0172	-.0805	-.0569	-.1112								
90.000	-.0634	-.1052	-.0395	.0035	-.1698	-.1559	-.1878								
105.000			-.0029	.0035	-.2876	-.2052	-.2284								
110.000								-.3117							
120.000	-.0599	-.0639	.0073	-.0952	-.5153	-.3756	-.3257	-.2880							
135.000			.0793	.1327	-.4742	-.3242	-.3061								
150.000	-.0430	-.0037	.1010	.3761	-.4556	-.3663	-.2654								
165.000	-.0452		.1109		-.3111	-.3595	-.2653								
180.000	-.0342	.0140	.1564	.2387											

ALPHA (3) = 4.021 BETA (1) = -7.899 MACH = .59494 Q = 591.36 P = 2386.7 RN/L = 4.8049

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0272	.4976	.0756	-.0082	-.0524			-.0905		-.0823	-.0719	-.0470	-.0249	.0130	.0146
20.000			.1417	.0225	-.0596	-.1124		-.1053		-.1024					
40.000			.3511	.1043	.0163	-.0314		-.0998		-.1024	-.0571	-.0099	-.0020	.0016	.0224
55.000			.4830	.2805	.1914	.1086		.0234		-.0479					
70.000			.5147	.3198	.2259	.1543		.0242		-.0856	-.1437	-.0504	-.0118	.0013	
90.000		.7001	.5862	.3377	.2425	.1710		.0346		-.1505	-.1703	-.0857	-.0309	-.0058	
120.000			.4566	.3112	.2128	.2143		.1417		-.2225	-.2848	-.3044	-.1649	-.1630	
140.000										-.3475					
150.000			.3238	.2018	.1452	.1807		.4691		-.5658	-.4865	-.2088	-.1296	-.1070	
160.000									.1248						
162.000									.0903						
165.000										-1.2790	-.3461	-.1973	-.1191	-.0932	
169.000								.4529							
174.000							.6088								
180.000	1.0272	.4321	.1982	.1428	.0972	.1377		.2385		-1.5062	-.2976	-.1795	-.1053	-.0856	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.0374	-.0465	-.1051	-.1691	-.1598	-.1650	-.0584		.2715	.0104					
40.000	-.0281		-.0987	-.1684	-.1935	-.1415	-.1232		.1555	-.0194					

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8866)

ALPHA (3) = 4.021 BETA (1) = -7.899

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1871	-.1199	.0222	.2034	.1039	.0030	-.0368			
90.000	-.1228	-.0655	.0795	.2507	.0543	-.0006	-.1149			
105.000			.1150	.3897	-.0187	-.0507	-.1562			
110.000								-.3018		
120.000	-.1801	-.0631	.1472	.5391	-.1596	-.1210	-.1421	-.2457		
135.000			.1919	.3793	-.1733	-.1107	-.1799			
150.000	-.0949	-.0033	.1935	.1355	-.1992	-.0883	-.1380			
165.000	-.0810		.1565		.1200	-.0337	-.2611			
180.000	-.0715	-.0030	.1271	.2084						

ALPHA (3) = 4.024 BETA (2) = -3.864 MACH = .5949 Q = 591.36 P = 2386.7 RN/L = 4.80+6

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0616	.5308	.1139	.0220	-.0305			-.0750		-.0676	-.0553	-.0266	.0009	.0271	.0243
20.000			.1490	.0527	-.0458	-.0850		-.0810		-.0794					
40.000			.3072	.0927	.0073	-.0248		-.0762		-.0862	-.0438	-.0058	.0137	.0171	.0443
55.000			.3928	.2062	.1234	.0399		-.0410		-.1025					
70.000			.4093	.2171	.1253	.0739		-.0465		-.1486	-.1913	-.0870	-.0422	-.0167	
90.000		.5656	.4178	.2371	.1455	.0842		-.0446		-.2276	-.2198	-.1155	-.0527	-.0291	
120.000			.3884	.2471	.1500	.1722		.0694		-.2933	-.3053	-.2772	-.1215	-.1039	
140.000										-.3942					
150.000			.3081	.2047	.1377	.1727		.4178		-.6004	-.4147	-.1691	-.0817	-.0633	
161.000									.0492						
162.000									.0380						
165.000										-1.2423	-.2973	-.1627	-.0808	-.0500	
169.000								.4414							
174.000							.5896								
180.000	1.0616	.4416	.2314	.1821	.1250	.1656		.3264		-1.4510	-.2700	-.1462	-.0720	-.0445	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0702	-.0414	-.0966	-.1701	-.1617	-.1655	-.0532		.2622	.0177
40.000	-.0107		-.0859	-.1646	-.2013	-.1462	-.1291		.1687	-.0323
70.000	-.2150	-.1633	-.0135	.1523	.0507	.0430	-.0579			
90.000	-.1488	-.1009	.0427	.1823	-.0126	-.0431	-.1337			
105.000			.0661	.2787	-.0976	-.1018	-.1826			
110.000								-.3149		
120.000	-.1254	-.0297	.1708	.3599	-.2143	-.1624	-.1747	-.2463		
135.000			.2329	.3257	-.2165	-.1449	-.1945			
150.000	-.0405	.0393	.2273	.2402	-.2075	-.1336	-.1630			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8866)

ALPHA (3) = 4.024 BETA (2) = -3.864

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0312		.1974		.0119	-.1207	-.2555			
180.000	-.0320	.0489	.1849	.2949						

ALPHA (3) = 4.022 BETA (3) = .186 MACH = .5949 Q = 591.36 P = 2386.7 RN/L = 4.8049

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0635	.5246	.1185	.0317	-.0289			-.0711		-.0628	-.0447	-.0251	.0085	.0342	.0337
20.000			.1352	.0394	-.0386	-.0783		-.0733		-.0774					
40.000			.2394	.0614	-.0115	-.0411		-.0794		-.0931	-.0515	-.0064	.0138	.0218	.0548
55.000			.2941	.1097	.0467	-.0231		-.0989		-.1500					
70.000			.2897	.1151	.0393	-.0043		-.1137		-.2116	-.2313	-.1189	-.0627	-.0320	
80.000		.4155	.3003	.1311	.0495	.0009		-.1244		-.2993	-.2487	-.1374	-.0629	-.0339	
100.000			.3102	.1705	.0809	.1100		-.0279		-.3651	-.3197	-.2569	-.0793	-.0530	
140.000										-.4556					
150.000			.2841	.1919	.1111	.1500		.3268		-.6352	-.3512	-.1481	-.0632	-.0360	
161.000									-.0476						
162.000									-.0416						
165.000										-1.2071	-.2690	-.1386	-.0598	-.0268	
169.000								.4072							
174.000							.5672								
180.000	.0695	.4435	.2495	.1703	.1294	.1802		.3770		-1.4120	-.2560	-.1287	-.0513	-.0309	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0059	-.0357	-.0943	-.1713	-.1563	-.1599	-.0558		.2633	.0156
40.000	.0004		-.0799	-.1610	-.2073	-.1517	-.1076		.1507	-.0403
70.000	-.2269	-.1870	-.0475	.0959	-.0055	.0005	-.0876			
80.000	-.1525	-.1124	.0181	.1046	-.0763	-.0843	-.1468			
105.000			.0909	.1200	-.1655	-.1416	-.1971			
110.000								-.3070		
120.000	-.0878	-.0132	.1589	.1315	-.2709	-.2048	-.2019	-.2409		
135.000			.2087	.2639	-.2625	-.1837	-.2161			
160.000	-.0161	.0556	.2055	.3930	-.2303	-.1853	-.1923			
165.000	-.0117		.1630		-.0898	-.1997	-.2457			
180.000	-.0175	.0558	.1883	.3982						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8868)

ALPHA (3) = 4.025 BETA (4) = 4.244 MACH = .5949 Q = 591.36 P = 2386.7 RN/L = 4.8049

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0060	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0485	.5073	.1032	.0243	-.0392			-.0753		-.0700	-.0533	-.0287	.0010	.0274	.0234
20.000			.1032	.0159	-.0616	-.0858		-.0856		-.0829					
40.000			.1486	.0186	-.0485	-.0705		-.0991		-.1177	-.0855	-.0299	-.0026	.0081	.0543
55.000			.1653	.0205	-.0359	-.0806		-.1515		-.2008					
70.000			.1667	.0117	-.0537	-.0675		-.1753		-.2572	-.2586	-.1347	-.0791	-.0470	
90.000		.2485	.1820	.0186	-.0421	-.0734		-.1976		-.3630	-.2831	-.1506	-.0653	-.0397	
120.000			.2115	.0823	-.0024	.0346		-.1274		-.4439	-.3433	-.2500	-.0813	-.0377	
140.000										-.5255					
150.000			.2248	.1446	.0678	.1022		.2297		-.6871	-.3235	-.1426	-.0639	-.0351	
151.000									-.1757						
162.000									-.1538						
165.000										-1.2050	-.2713	-.1383	-.0641	-.0322	
169.000								.3482							
174.000							.5097								
180.000	1.0485	.4101	.2429	.1691	.1139	.1650		.3536		-1.4136	-.2673	-.1414	-.0713	-.0446	

X/LB	.6520	.7290	.7790	.8210	.8790	.9[illegible]	.9600	.9990	1.0180	1.0460
PHI										
.000	.0037	-.0353	-.0950	-.1704	-.1595	-.1615	-.0506		.2641	.0115
40.000	.0088		-.0815	-.1588	-.2146	-.1615	-.0843		.1359	-.0518
70.000	-.2389	-.2073	-.0859	.0447	-.0510	-.0396	-.1078			
90.000	-.1628	-.1347	-.0194	.0291	-.1369	-.1217	-.1675			
105.000			.0199	.0485	-.2340	-.1744	-.2102			
110.000								-.3138		
120.000	-.0747	-.0456	.0706	.0945	.3069	-.2761	-.2589	-.2580		
135.000			.1481	.3079	-.3589	-.2445	-.2538			
150.000	-.0277	.0325	.1736	.2746	-.3314	-.2598	-.2245			
165.000	-.0237		.1778		-.1965	-.2772	-.2639			
180.000	-.0301	.0515	.1910	.3167						

ALPHA (3) = 4.031 BETA (5) = 8.294 MACH = .5949 Q = 591.36 P = 2386.7 RN/L = 4.8049

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9993	.4776	.0852	.0121	-.0579			-.0896		-.0850	-.0751	-.0435	-.0151	.0158	.0092
20.000			.0586	-.0215	-.0857	-.1028		-.1070		-.1164					
40.000			.0593	-.0495	-.1002	-.1077		-.1287		-.1548	-.1350	-.0684	-.0370	-.0188	.0401
55.000			.0459	-.0802	-.1126	-.1489		-.2010		-.2372					
70.000			.0450	-.0831	-.1302	-.1295		-.2183		-.3028	-.2823	-.1510	-.0841	-.0549	
90.000		.0592	.0652	-.0965	-.1306	-.1448		-.2533		-.4161	-.2987	-.1477	-.0664	-.0337	
120.000			.1023	-.0867	-.0954	-.0597		-.2407		-.5148	-.3591	-.2483	-.0501	-.0364	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8866)

ALPHA (3) = 4.031 BETA (5) = 8.294

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.5862					
150.000			.1391	.0846	-.0022	.0247		.0930		-.7366	-.3204	-.1608	-.0846	-.0596	
151.000									-.3156						
162.000									-.2885						
165.000										-1.2038	-.2938	-.1674	-.0982	-.0744	
169.000								.2771							
174.000							.4490								
180.000	.9993	.3435	.2029	.1210	.0758	.1215		.2593		-1.4268	-.2986	-.1845	-.1174	-.0906	

X/LB	.6520	.7290	.7790	.8210	.9790	.9210	.9600	.9990	1.0180	1.0460
PHI										
000	-.0080	-.0430	-.0899	-.1734	-.1609	-.1700	-.0570		.2721	.0026
40.000	.0123		-.0853	-.1559	-.2135	-.1643	-.0809		.1337	-.0477
70.000	-.2446	-.2139	-.1318	-.0091	-.0927	-.0683	-.1181			
90.000	-.1651	-.1556	-.0716	-.0152	-.1778	-.1545	-.1815			
105.000			-.0260	-.0114	-.2831	-.2119	-.2254			
120.000								-.2894		
00.000	-.0954	-.0878	.0214	-.0161	-.4609	-.3412	-.2880	-.2617		
135.000			.0675	.1053	-.4692	-.3224	-.2965			
150.000	-.0108	-.0160	.0965	.2800	-.4777	-.3794	-.2890			
165.000	-.0686		.1002		-.3871	-.3838	-.2747			
180.000	-.0837	-.0141	.1261	.2353						

ALPHA (4) = 7.869 BETA (1) = -7.688 MACH = .59424 Q = 590.06 P = 2387.2 RN/L = 4.7971

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9944	.6289	.2224	.1017	.0383			-.0318		-.0333	-.0248	.0001	.0268	.0668	.0776
20.000			.2968	.1595	.0478	-.0131		-.0285		-.0307					
40.000			.4758	.2433	.1506	.0817		.0127		-.0048	.0283	.0606	.0803	.0829	.1166
55.000			.5444	.3475	.2521	.1566		.0616		-.0166					
70.000			.5182	.3318	.2363	.1630		.0373		-.0754	-.1531	-.0752	-.0436	-.0369	
90.000		.6362	.4761	.3094	.2244	.1535		.0347		-.1552	-.1865	-.1161	-.0735	-.0665	
120.000			.3510	.2116	.1188	.1430		.1035		-.2578	-.3448	-.4034	-.2978	-.3082	
140.000										-.4055					
150.000			.1892	.0921	.0459	.0987		.1188		-.6568	-.5460	-.2462	-.1623	-.1522	
161.000									.0716						
162.000									.0180						
165.000										-1.4227	-.3723	-.2165	-.1342	-.1167	
169.000								.3972							
174.000							.5610								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8866)

ALPHA (4) = 7.963 BETA (1) = -7.888

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	.9944	.2917	.0811	.0516	.0100	.0640		.1704		-1.6726	-.3143	-.1818	-.1095	-.0987	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0635	.0212	-.0425	-.1212	-.1203	-.1427	-.0421		.2882	.0199
40.000	.0761		-.0242	-.1119	-.1659	-.1030	-.1056		.1809	-.0148
70.000	-.2870	-.1739	-.0026	.2026	.1091	.0915	-.0292			
90.000	-.2147	-.1234	.0516	.2500	.0643	.0063	-.1099			
105.000			.0774	.4078	.0028	-.0423	-.1526			
110.000								-.2962		
120.000	-.3163	-.1545	.0836	.5501	-.1885	-.1454	-.1569	-.2626		
135.000			.1484	.3525	-.2233	-.1429	-.2007			
150.000	-.1341	-.0371	.1576	-.0345	-.2545	-.1138	-.1524			
165.000	-.1084		.1339		.0965	-.0418	-.2610			
180.000	-.0966	-.0189	.1161	.1221						

ALPHA (4) = 7.986 BETA (2) = -3.859 MACH = .59424 Q = 590.06 P = 2387.2 RN/L = 4.7971

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0195	.6793	.2573	.1317	.0678			-.0114		-.0144	-.0090	.0133	.0451	.0792	.0863
20.000			.3053	.1606	.0697	.0028		-.0079		-.0198					
40.000			.4184	.2178	.1264	.0656		.0133		-.0198	.0089	.0485	.0697	.0754	.1228
55.000			.4403	.2587	.1723	.0795		-.0119		-.0882					
70.000			.4007	.2347	.1373	.0828		-.0362		-.1442	-.2067	-.1206	-.0825	-.0687	
90.000		.5064	.3750	.2023	.1278	.0797		-.0417		-.2234	-.2378	-.1468	-.0970	-.0812	
120.000			.2976	.1597	.0733	.1104		.0464		-.3294	-.3554	-.3594	-.2235	-.2157	
140.000										-.4560					
150.000			.1857	.1023	.0442	.1004		.3805		-.6850	-.4762	-.2015	-.1106	-.0967	
151.000									-.0007						
162.000									-.0300						
165.000										-1.3995	-.3344	-.1768	-.0953	-.0764	
169.000								.3865							
174.000							.5469								
180.000	1.0195	.2818	.1108	.0833	.0418	.0938		.2675		-1.5788	-.2866	-.1492	-.0777	-.0616	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0684	.0227	-.0385	-.1199	-.1197	-.1386	-.0348		.2890	.0277
40.000	.0811		-.0204	-.1082	-.1698	-.1130	-.1046		.1879	-.0224

DATE 10 FEB 76 TABULATED PRESSURE DATA - OA148 (AMES 11-073-1)

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8866)

ALPHA (4) = 7.986 BETA (2) = -3.859

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6530	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.3180	-.2268	-.0540	.1467	.0557	.0528	-.0511			
90.000	-.2358	-.1565	.0049	.1846	-.0015	-.0357	-.1263			
105.000			.0516	.3007	-.0779	-.0914	-.1750			
110.000								-.2947		
120.000	-.2268	-.0747	.1612	.2523	-.2357	-.1701	-.1698	-.2473		
135.000			.2080	.1528	-.2436	-.1618	-.2077			
150.000	-.0893	.0122	.2047	.1075	-.2351	-.1411	-.1672			
165.000	-.0691		.1707		-.0236	-.1283	-.2419			
180.000	-.0635	.0269	.1564	.2776						

ALPHA (4) = 7.991 BETA (3) = .178 MACH = .5942 Q = 590.06 P = 2387.2 RN/L = 4.7971

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X LB	.0000	.0060	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	-.0310	.6941	.2705	.1440	.0752			-.0002		-.0069	.0028	.0232	.0525	.0869	.0950
30.000			.2938	.1547	.0657	.0119		-.0053		-.0232					
40.000			.3450	.1714	.0914	.0353		-.0070		-.0463	-.0269	.0236	.0484	.0708	.1196
50.000			.3278	.1516	.0767	.0073		-.0755		-.1492					
70.000			.2892	.1278	.0428	.0064		-.1024		-.2092	-.2538	-.1548	-.1083	-.0854	
90.000		.3665	.2743	.1145	.0450	.0042		-.1115		-.2930	-.2677	-.1674	-.1047	-.0845	
120.000			.2326	.1043	.0276	.0740		-.0227		-.3966	-.3581	-.3122	-.1524	-.1328	
140.000										-.5130					
150.000			.1709	.1000	.0414	.0942		.3008		-.7158	-.3995	-.1708	-.0794	-.0614	
160.000									-.0888						
161.000									-.0981						
162.000										-1.3469	-.2998	-.1527	-.0699	-.0486	
165.000								.3553							
169.000							.5189								
174.000										-1.5228	-.2712	-.1395	-.0606	-.0464	
180.000	1.0310	.2868	.1363	.0871	.0576	.1111		.3206							

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0755	.0316	-.0321	-.1137	-.1164	-.1358	-.0298		.2934	.0334
40.000	.0950		-.0135	-.1028	-.1650	-.1160	-.0759		.1726	-.0248
70.000	-.3425	-.2530	-.0896	.0904	-.0029	.0052	-.0744			
90.000	-.2497	-.1738	-.0100	.1099	-.0768	-.0759	-.1399			
105.000			.0710	.1369	-.1503	-.1354	-.1942			
110.000								-.2924		
120.000	-.1522	-.0471	.1286	.1560	-.2578	-.2031	-.1949	-.2357		
135.000			.1399	.2632	-.2744	-.1951	-.2124			
150.000	-.0650	.0075	.1587	.4098	-.2556	-.1977	-.1825			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8866)

ALPHA (4) = 7.991 BETA (3) = .178

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0479		.1564		-.1095	-.2003	-.2196			
180.000	-.0474	.0299	.1651	.4125						

ALPHA (4) = 7.992 BETA (4) = 4.237 MACH = .59424 Q = 590.06 P = 2387.2 RN/L = 4.7971

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0140	.6650	.2525	.1352	.0587			-.0133		-.0186	-.0068	.0170	.0441	.0815	.0821
20.000			.2405	.1187	.0319	-.0107		-.0313		-.0424					
40.000			.2395	.0930	.0226	-.0224		-.0547		-.0933	-.0855	-.0269	.0126	.0388	.1036
55.000			.1948	.0423	-.0165	-.0825		-.1501		-.2119					
70.000			.1628	.0183	-.0514	-.0649		-.1642		-.2631	-.2848	- 1734	-.1207	-.1019	
90.000		.1962	.1511	.0128	-.0412	-.0604		-.1775		-.3440	-.2966	-.1717	-.1117	-.0897	
120.000			.1519	.0357	-.0338	.0160		-.1099		-.4513	-.3581	-.2 5	-.1014	-.0782	
140.000										-.5663					
150.000			.1270	.0671	.0028	.0539		.2045		-.7389	-.3576	- 67	-.0686	-.0515	
161.000									-.2041						
162.000									-.2015						
165.000										-1.2875	-.2893	-.1422	-.0674	-.0461	
169.000								.3030							
174.000							.4613								
180.000	1.0140	.2461	.1293	.0687	.0347	.0969		.2942		-1.5092	-.2829	-.1484	-.0767	-.0599	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0733	.0273	-.0327	-.1164	-.1212	-.1337	-.0384		.2927	.0210
40.000	.0907		-.0203	-.1025	-.1816	-.1239	-.0664		.1608	-.0308
70.000	-.3508	-.2773	-.1254	.0262	-.0609	-.0434	-.1084			
90.000	-.2488	-.1871	-.0511	.0167	-.1437	-.1243	-.1614			
105.000			.0104	.0352	-.2422	-.1728	-.2085			
118.000								-.3105		
130.000	-.1700	-.0895	.0335	.0906	-.3507	-.2636	-.2376	-.2483		
150.000			.1257	.3630	-.3614	-.2473	-.2460			
161.000	-.0520	.0035	.1486	.3973	-.3627	-.2728	-.2283			
165.000	-.0044		.1387		-.2280	-.2892	-.2449			
180.000	-.0878	.0285	.1619	.2654						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8866)

ALPHA (4) = 7.989 BETA (5) = 8.293 MACH = .59424 Q = 590.06 P = 2387.2 RN/L = 4.7971

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9543	.6303	.2289	.1208	.0321			- 0268		-.0302	-.0220	.0057	.0394	.0713	.0745
20.000			.1786	.0742	-.0043	-.0398		-.0661		-.0783					
40.000			.1275	.0190	-.0493	-.0848		-.1204		-.1661	-.1581	-.0841	-.0350	.0057	.0850
55.000			.0571	-.0722	-.1202	-.1706		-.2192		-.2683					
70.000			.0338	-.0902	-.1333	-.1258		-.2139		-.3027	-.3051	-.1954	-.1355	-.1164	
90.000		.0102	.0484	-.0807	-.1195	-.1251		-.2258		-.3946	-.3062	-.1764	-.1019	-.0852	
120.000			.0533	-.0505	-.1119	-.0604		-.2020		-.5088	-.3597	-.2378	-.0717	-.0570	
140.000										-.6046					
150.000			.0521	.0092	-.0543	-.0058		.0799		-.7836	-.3328	-.1552	-.0674	-.0592	
151.000									-.3375						
162.000									-.3325						
165.000										-1.2842	-.2982	-.1621	-.0905	-.0863	
169.000								.2313							
174.000							.3927								
180.000	.9543	.1851	.0924	.0316	-.0098	.0611		.2015		-1.4937	-.3174	-.1854	-.1209	-.1028	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0638	.0227	-.0378	-.1222	-.1252	-.1354	-.0434		.2932	.0117
40.000	.0683		-.0283	-.1040	-.1846	-.1318	-.0711		.1543	-.0370
70.000	-.3496	-.2958	-.1668	-.0350	-.1003	-.0653	-.1102			
90.000	- 3458	-.2182	-.1226	-.0427	-.1801	-.1379	-.1658			
105.000			-.0709	.0189	-.3142	-.2180	-.2271			
110.000								-.3061		
120.000	-.1318	-.1245	-.0303	.2201	-.4566	-.3290	-.2818	-.2658		
135.000			.0672	.3746	-.4509	-.3184	-.2940			
150.000	-.0783	-.0368	.0902	.1333	-.4557	-.3687	-.2851			
165.000	-.0840		.0953		-.3795	-.3843	-.2774			
180.000	-.1113	-.0186	.1191	.1776						

ALPHA (5) = 12.002 BETA (1) = -7.846 MACH = .59422 Q = 590.08 P = 2387.2 RN/L = 4.7978

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9190	.7674	.3659	.2212	.1463			.0411		.0311	.0360	.0575	.0893	.1317	.1472
20.000			.4510	.2906	.1684	.0941		.0647		.0488					
40.000			.5886	.3697	.2659	.1874		.1176		.0831	.0961	.1250	.1469	.1586	.2081
55.000			.5676	.3850	.2837	.1900		.0711		-.0155					
70.000			.4838	.3159	.2089	.1557		.0361		-.0805	-.1790	-.1146	-.0913	-.0844	
90.000		.5493	.4003	.2532	.1999	.1185		.0201		-.1743	-.2214	-.1626	-.1338	-.1310	
120.000			.2229	.0903	.0117	.0452		.0416		-.3123	-.4234	-.5545	-.4815	-.4991	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8866)

ALPHA (5) = 12.002 BETA (1) = -7.846

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.4715					
150.000			.0509	-.0288	-.0638	.0080		.3718		-.7563	-.6232	-.2861	-.1964	-.1998	
151.000									.0182						
162.000									-.0504						
165.000										-1.5667	-.4070	-.2400	-.1553	-.1520	
169.000								.3380							
174.000							.4985								
180.000	.9190	.1119	-.0433	-.0464	-.0707	.0016		.1097		-1.9351	-.3278	-.1852	-.1243	-.1296	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1382	.0882	.0230	-.0538	-.0750	-.1053	-.0158		.3150	.0360
40.000	.1774		.0572	-.0437	-.1320	-.0592	-.0844		.2062	-.0023
70.000	-.4197	-.2534	-.0356	.1945	.1098	.1025	-.0119			
90.000	-.3155	-.1739	.0213	.2440	.0669	.0131	-.0997			
105.000			.0376	.4141	.0081	-.0357	-.1464			
110.000								-.2861		
120.000	-.4468	-.2105	.0215	.5362	-.2228	-.1664	-.1721	-.2716		
135.000			.0572	.2688	-.2754	-.1774	-.2240			
150.000	-.1893	-.0784	.0579	-.0818	-.3168	-.1352	-.1688			
165.000	-.1779		.0640		.0737	-.0520	-.2524			
180.000	-.1655	-.1045	.0213	.2269						

ALPHA (5) = 12.020 BETA (2) = -3.839 MACH = .59422 Q = 590.06 P = 2387.2 RN/L = 4.7978

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.30'	.3780	.4970	.5740
PHI															
.000	.9487	.8073	.4077	.2527	.1723			.0596		.0528	.0540	.0734	.1029	.1481	.1575
20.000			.4484	.2877	.1792	.1013		.0686		.0504					
40.000			.5187	.3241	.2232	.1507		.0908		.0464	.0457	.0929	.1189	.1387	.2012
55.000			.4614	.2784	.1792	.0851		-.0122		-.0956					
70.000			.3805	.2143	.1184	.0744		-.0084		-.1528	-.2355	-.1668	-.1310	-.1207	
90.000		.4241	.3139	.1680	.1215	.0546		-.0463		-.2419	-.2601	-.1914	-.1525	-.1438	
120.000			.1792	.0598	-.0155	.0362		.0095		-.3736	-.4147	-.4738	-.3621	-.3565	
140.000										-.5196					
150.000			.0527	-.0069	-.0465	.0303		.3460		-.7744	-.5300	-.2403	-.1391	-.1500	
151.000									-.0394						
162.000									-.0940						
165.000										-1.5389	-.3542	-.1954	-.1152	-.1080	
169.000								.3352							
174.000							.4964								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8866)

ALPHA (5) = 12.020 BETA (2) = -3.839

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	.9487	.1129	-.0115	-.0203	-.0403	.0329		.2081		-1.7851	-.2981	-.1558	-.0799	-.0814	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1460	.1006	.0304	-.0566	-.0705	-.0993	-.0078		.3170	.0424					
40.000	.1721		.0533	-.0408	-.1310	-.0659	-.0667		.2038	-.0068					
70.000	-.4613	-.3094	-.1029	.1148	.0462	.0559	-.0362								
90.000	-.3337	-.2028	-.0339	.1668	.0010	-.0241	-.1096								
105.000			.0163	.2909	-.0784	-.0880	-.1695								
110.000								-.2911							
120.000	-.3074	-.0737	.0853	.1926	-.2427	-.1779	-.1802	-.2507							
135.000			.0837	.1259	-.2488	-.1786	-.2173								
150.000	-.1772	-.0724	.0738	.2064	-.1843	-.1526	-.1726								
165.000	-.1271		.0654		-.0180	-.1084	-.2282								
180.000	-.1013	-.0117	.1188	.3857											

ALPHA (5) = 11.983 BETA (3) = .186 MACH = .59422 Q = 590.06 P = 2387.2 RN/L = 4.7978

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9589	.8132	.4056	.2595	.1718			.0663		.0525	.0601	.0791	.1119	.1471	.1587
20.000			.4167	.2688	.1575	.0948		.0586		.0413					
40.000			.4205	.2559	.1625	.0916		.0358		-.0175	-.0203	.0352	.0790	.1107	.1825
55.000			.3857	.1908	.0732	-.0186		-.1015		-.1723					
70.000			.2531	.1003	.0124	-.0007		-.1099		-.2153	-.2827	-.1975	-.1651	-.1546	
90.000		.2757	.2078	.0736	.0291	-.0093		-.1192		-.2983	-.3016	-.2113	-.1656	-.1530	
120.000			.1253	.0150	-.0508	.0141		-.0448		-.4187	-.4059	-.3976	-.2490	-.2303	
140.000										-.5579					
150.000			.0468	-.0024	-.0458	.0327		.2737		-.7906	-.4453	-.1942	-.1051	-.1002	
161.000									-.1289						
168.000									-.1587						
175.000										-1.4480	-.3188	-.1537	-.0794	-.0668	
169.000								.2934							
174.000							.4603								
180.000	.9599	.1055	.0058	-.0125	-.0303	.0453		.2517		-1.6478	-.2836	-.1380	-.0732	-.0623	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1518	.0991	.0300	-.0554	-.0782	-.1017	-.0052		.3127	.0419					
40.000	.1706		.0467	-.0479	-.1451	-.0848	-.0480		.1849	-.0237					

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8868)

ALPHA (5) = 11.983 BETA (3) = .186

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.4779	-.3403	-.1493	.0543	-.0201	.0060	-.0657			
90.000	-.3453	-.2373	-.0545	.0817	-.0946	-.0764	-.1306			
105.000			.0276	.1269	-.1660	-.1317	-.1832			
110.000								-.2867		
120.000	-.1998	-.0883	.0896	.1939	-.2673	-.2110	-.1988	-.2438		
135.000			.0621	.3354	-.2898	-.2086	-.2231			
150.000	-.1403	-.0616	.1198	.4852	-.2749	-.2119	-.1895			
165.000	-.0852		.1447		-.1303	-.2157	-.2263			
180.000	-.0741	.0099	.1549	.4241						

ALPHA (5) = 11.980 BETA (4) = 4.247 MACH = .59422 Q = 590.06 P = 2387.2 RN/L = 4.7978

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9402	.7943	.3919	.2481	.1618			.0600		.0447	.0463	.0679	.1056	.1469	.1518
20.000			.3624	.2250	.1241	.0664		.0304		.0067					
40.000			.3034	.1654	.0802	.0169		-.0345		-.0879	-.1044	-.0281	.0260	.0787	.1556
55.000			.1875	.0328	-.0409	-.1200		-.1632		-.2501					
70.000			.1337	-.0039	-.0726	-.0727		-.1708		-.2758	-.3218	-.2284	-.1831	-.1872	
90.000		.1233	.1070	-.0211	-.0533	-.0739		-.1765		-.3491	-.3215	-.2172	-.1655	-.1571	
120.000			.0654	-.0342	-.0879	-.0173		-.1071		-.4689	-.3890	-.3324	-.1662	-.1323	
140.000										-.6022					
150.000			.0194	-.0154	-.0681	.0056		.1732		-.8071	-.3845	-.1681	-.0773	-.0737	
151.000									-.2353						
162.000									-.2477						
165.000										-1.3842	-.3043	-.1469	-.0691	-.0640	
169.000															
179.000								.2500							
180.000	.9402	.0829	.0119	-.0171	-.0497	.0340	.4080	.2357		-1.6268	-.2929	-.1509	-.0825	-.0799	

X/LB	.6520	.7290	.7790	.9210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1454	0941	.0345	-.0616	-.0764	-.1004	-.0106		.3172	.0377
40.000	.1509		.0419	-.0483	-.1499	-.1004	-.0480		.1766	-.0196
70.000	-.4786	-.3589	-.1796	-.0136	-.0808	-.0463	-.0993			
90.000	-.3498	-.2578	-.1002	-.0287	-.1655	-.1253	-.1529			
105.000			-.0468	.0091	-.2751	-.1923	-.2111			
110.000								-.3153		
120.000	-.1969	-.1381	-.0221	.0546	-.3634	-.2762	-.2446	-.2408		
135.000			.0686	.3853	-.3427	-.2369	-.2358			
150.000	-.0971	-.0287	.1398	.4352	-.3696	-.2723	-.2276			

AMES 11-073(0A148) -140A/B/C/R ORB FUSELAGE (XE8866)

ALPHA (5) = 11.980 BETA (4) = 4.247

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0761		.1263		-.2426	-.2984	-.2379			
180.000	-.0995	-.0176	.1131	.4238						

ALPHA (5) = 11.973 BETA (5) = 8.307 MACH = .59422 Q = 590.06 P = 2387.2 RN/L = 4.7978

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.8811	.7600	.3655	.2308	.1319			.0477		.0326	.0302	.0560	.0928	.1379	.1396
20.000			.2970	.1699	.0823	.0285		-.0130		-.0307					
40.000			.1641	.0561	-.0179	-.0758		-.1183		-.1886	-.2195	-.1106	-.0326	.0422	.1301
60.000			.0237	-.1044	-.1608	-.2248		-.2770		-.3219					
80.000			-.0078	-.1079	-.1682	-.1421		-.2281		-.3195	-.3450	-.2451	-.1996	-.2155	
90.000		-.0707	-.0040	-.1072	-.1344	-.1286		-.2346		-.3944	-.3292	-.2172	-.1566	-.1518	
100.000			-.0002	-.1006	-.1456	-.0654		-.1836		-.5232	-.3710	-.2670	-.1080	-.1034	
120.000										-.6398					
150.000			-.0342	-.0523	-.1165	-.0421		.0620		-.8189	-.3382	-.1528	-.0765	-.0700	
151.000									-.3518						
152.000									-.3747						
155.000										-1.3409	-.3002	-.1552	-.0892	-.0910	
160.000								.1843							
170.000							.3501								
180.000	.8811	.0171	-.0238	-.0401	-.0851	-.0032		.1480		-1.6257	-.3285	-.1953	-.1318	-.1325	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1342	.0881	.0278	-.0615	-.0750	-.1068	-.0176		.3159	.0323
40.000	.1272		.0491	-.0554	-.1629	-.1074	-.0572		.1707	-.0309
70.000	-.4707	-.3805	-.2109	-.0840	-.1246	-.0759	-.1136			
80.000	-.3500	-.3030	-.1770	-.0915	-.2223	-.1431	-.1594			
100.000			-.1294	-.0944	-.3794	-.2407	-.2389			
110.000								-.3037		
120.000	-.2161	-.2113	-.0916	.0937	-.4867	-.3440	-.2876	-.2582		
130.000			.0597	.4810	-.4843	-.3274	-.2954			
50.000	-.0391	-.0559	.0700	.4056	-.4970	-.3966	-.2950			
90.000	-.1315		.0328		-.4565	-.4001	-.2772			
180.000	-.1677	-.1105	.0359	.1996						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8867) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 674.8000 IN. YMRP = .0000 IN. YO
BREF = 936.0000 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = .000 SPCBRK = 55.000
BDFLAP = 22.500 L-ELVN = -4.000
R-ELVN = -4.000 MACH = .900

ALPHA (1) = -3.954 BETA (1) = -3.849 MACH = .90057 Q = 600.66 P = 1058.0 RN/L = 3.6340

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1970	.3540	-.0751	-.1215	-.1877			-.2162		-.2134	-.1847	-.0685	-.0300	.0091	-.0073
20.000			-.0453	-.1336	-.2294	-.2474		-.2625		-.2538					
40.000			.1524	-.1123	-.2213	-.2456		-.3556		-.4384	-.4200	-.1198	-.0788	-.0345	-.0370
55.000			.3393	.1037	.0006	-.1097		-.1944		-.2785					
70.000			.4648	.2208	.1383	.0670		-.0983		-.2236	-.7209	-.0182	.0640	.1128	
90.000		.7354	.5540	.3119	.1927	.1128		-.0631		-.2990	-.6556	-.0611	.0489	.0988	
120.000			.6398	.4587	.3363	.3273		.1902		-.2285	-.5764	-.1254	.0369	.0721	
140.000										-.1545					
150.000			.6447	.4865	.4042	.4198		.6650		-.2858	-.8527	-.0672	.0289	.0539	
151.000									.3304						
162.000									.3905						
165.000										-.8322	-.7695	-.0338	.0204	.0469	
168.000								.7258							
174.000							.8518								
180.000	1.1970	.8451	.5801	.4391	4061	.4177		.6417		-.9322	-.7655	-.0220	.0145	.0386	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1282	-.1902	-.2378	-.3428	-.4398	-.1487	.0485		.4130	.2285
40.000	-.2373		-.2312	-.3387	-.3243	-.2128	-.0339		.1900	.1538
70.000	.0396	-.0176	.0990	.2092	.0632	.0760	-.1476			
90.000	.0676	.0293	.1546	.2421	-.0057	.0096	-.0671			
105.000			.2187	.2794	-.1146	-.0561	-.1358			
110.000								-.3745		
121.000	.0776	.1124	.3085	.3786	-.2090	-.1319	-.1560	-.2696		
135.000			.3593	.4608	-.1402	-.0655	-.1232			
150.000	.0851	.1548	.3708	.4869	-.0666	-.0396	-.1095			
165.000	.0786		.3509		.1327	-.0203	-.3148			
180.000	.0681	.1499	.3304	.4989						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XEB967)

ALPHA (1) = -3.952 BETA (2) = .192 MACH = .90057 Q = 600.66 P = 1056.0 RN/L = 3.6340

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0090	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2019	.3597	-.0636	-.1085	-.1855			-.2076		-.2249	-.1950	-.0630	-.0219	.0129	-.0046
20.000			-.0509	-.1209	-.2152	-.2244		-.2356		-.2424					
40.000			.1054	-.1105	-.1997	-.2114		-.3045		-.3616	-.3508	-.0716	-.0323	-.0071	-.0091
55.000			.2173	.0305	-.0629	-.1437		-.2361		-.3428					
70.000			.3498	.1093	.0373	-.0156		-.1788		-.3216	-.7583	-.0367	.0520	.0904	
90.000		.5852	[illegible]	.1862	.1131	.0157		-.1658		-.4561	-.7230	-.0982	.0388	.0774	
[illegible]			[illegible]	.3491	.2253	.2249		.0683		-.4281	-.6713	-.1764	.0172	.0520	
[illegible]										-.4632					
[illegible]			.5873	.4490	.3531	.3739		.5815		-.7970	-.8415	-.0398	.0261	.0496	
151.000									.2312						
165.000									.3091						
[illegible]										-.8401	-.7416	-.0139	.0278	.0519	
[illegible]								.6909							
[illegible]							.8351								
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.4097	.4267		.6780		-.9450	-.7599	-.0014	.0275	.0519	

X/LB	[illegible]	.7210	[illegible]	[illegible]	.9790	.9210	.9570	.9930	1.0180	1.0460
PHI										
.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.1501	.0715		.4102	.2433
[illegible]	[illegible]		[illegible]	[illegible]	-.2808	-.2318	-.0423		.2733	.1349
[illegible]	[illegible]	[illegible]	[illegible]	.1437	[illegible]	.0165	-.0811			
[illegible]	[illegible]	[illegible]	[illegible]	.1632	[illegible]	-.0628	-.1254			
[illegible]			[illegible]	.1662	[illegible]	-.1152	-.1734			
[illegible]								-.3718		
[illegible]	.0718	[illegible]	.3390	.2607	[illegible]	-.2443	-.2294	-.2838		
[illegible]			.3335	[illegible]	-.2840	-.1561	-.1767			
[illegible]	.0890	.1491	[illegible]	.5329	-.1794	-.1529	-.1774			
[illegible]	.0383		.3465		.0070	-.1082	-.3156			
180.000	.0627	.1620	.3513	.5305						

ALPHA (1) = -3.959 BETA (3) = 4.272 MACH = .90057 Q = 600.66 P = 1059.0 RN/L = 3.6340

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0090	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	[illegible]	.3405	-.0803	-.1113	-.1938			-.2075		-.2307	-.1953	-.0661	-.0284	.0072	-.0142
[illegible]			-.0740	-.1230	-.2124	-.2124		-.2217		-.2338					
[illegible]			.0425	-.1387	-.2021	-.1965		-.2646		-.3186	-.3339	-.0430	-.0114	.0023	.0112
55.000			.1498	-.0458	-.1199	-.1778		-.2636		-.3819					
[illegible]			[illegible]	.0035	-.0480	-.0837		-.2349		-.3984	-.8546	-.0854	.0532	.0799	
[illegible]		.4236	[illegible]	.0015	[illegible]	[illegible]		-.2530		-.5932	-.6544	-.2316	.0537	.0697	
[illegible]			[illegible]	.2348	.1070	.1290		-.0559		-.5963	-.8164	-.2580	-.0090	.0308	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8867)

ALPHA (1) = -3.959 BETA (3) = 4.272

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.8218					
150.000			.5177	.3974	.2871	.3111		.4905		-.8827	-.8620	-.0468	-.0041	.0273	
151.000									.1186						
160.000									.2182						
165.000										-.8511	-.7625	-.0149	.0016	.0351	
169.000								.6429							
174.000							.7980								
181.000	1.1840	.8142	.5899	.4344	.4042	.4130		.6643		-.9366	-.7596	-.0109	.0120	.0365	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1282	-.2016	-.2372	-.3426	-.4269	-.1465	.0464		.3909	.2283
40.000	-.1565		-.2256	-.3306	-.3995	-.2013	-.0236		.2768	.1087
70.000	.0164	-.0494	.0051	.0751	-.1310	-.0370	-.1076			
90.000	.0393	-.0013	.0560	.0864	-.2198	-.1217	-.1632			
105.000			.1227	.0758	-.4062	-.1661	-.2044			
110.000								-.3738		
120.000	.0545	.0583	.1614	.1056	-.6245	-.2980	-.2982	-.3084		
135.000			.2608	.3869	-.4617	-.2939	-.2358			
150.000	.0853	.1214	.2969	.5475	-.3277	-.3754	-.2191			
165.000	.0524		.3087		-.1106	-.3194	-.3174			
180.000	.0652	.1492	.3351	.5114						

ALPHA (2) = .049 BETA (1) = -3.871 MACH = .90130 Q = 601.04 P = 1056.9 RN/L = 3.6167

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2111	.5133	.0713	-.0159	-.0926			-.1616		-.1723	-.1730	-.0752	-.0211	.0310	.0346
30.000			.1108	-.0112	-.1185	-.1591		-.1685		-.1938					
40.000			.2437	.0410	-.0658	-.1201		-.2206		-.2447	-.2728	-.0880	-.0291	.0082	.0315
60.000			.4842	.2081	.1045	.0159		-.0955		-.1930					
80.000			.5833	.2690	.1767	.1105		-.0405		-.1756	-.6460	-.0857	.0240	.0638	
90.000		.7230	.5810	.2913	.1691	.1495		-.0134		-.2563	-.6338	-.1291	.0185	.0577	
105.000			.5903	.4011	.3873	.2993		.2066		-.2563	-.5991	-.2309	.0442	.0167	
110.000										-.2870					
120.000			.5364	.3815	.3095	.3524		.6388		-.3957	-.9829	-.2366	.0237	.0119	
135.000									.3064						
150.000									.3456						
165.000										-.9043	-.8539	-.1387	.0204	.0134	
180.000								.6837							
174.000							.8113								

[illegible] TEST LATEC PRESSURE DATA - OA149 (AMES 11-073-1) [illegible]

AMES 11-073(OA148) -140A/B,C/R ORB FUSELAGE (EES87)

ALPHA (B) = .049 BETA (1) = -3.971

SECTION: ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0030	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4870	.5740
PHI															
180.000	1.2111	.7188	.4823	.3753	.3112	.3402		.5934		-1.0454	-.8550	-.0835	.0190	.0117	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.0335	-.0719	-.1443	-.2595	-.3623	-.1598	.0755		.3733	.2200					
40.000	-.0850		-.1297	-.2525	-.3266	-.2182	-.0603		.3024	.1647					
70.000	-.0967	-.1711	.0322	.1923	.0556	.0799	-.0319								
90.000	-.0578	-.0962	.0995	.2221	-.0117	.0096	-.0867								
105.000			.1733	.2678	-.1135	-.0536	-.1347								
110.000								-.3691							
120.000	-.0410	.0092	.2753	.3310	-.2469	-.1274	-.1442	-.2699							
138.000			.3357	.3849	-.2020	-.0929	-.1390								
150.000	.0063	.0302	.3289	.3144	-.1517	-.0821	-.1551								
165.000	.0178		.3039		.0804	-.0707	-.3176								
180.000	.0068	.0306	.2809	.4214											

ALPHA (B) = .052 BETA (2) = .177 MACH = .90130 Q = 601.04 P = 1056.9 RN/L = 3.8167

SECTION: ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4870	.5740
PHI															
.000	1.2161	.5147	.3749	-.0088	-.0886			-.1570		-.1689	-.1793	-.0661	-.0083	.0326	.0336
20.000			.3974	-.0115	-.1101	-.1390		-.1650		-.1821					
40.000			.3000	.0122	-.0749	-.1104		-.1891		-.2190	-.2795	-.0584	.0009	.0241	.0475
55.000			.2084	.1241	.0316	-.0316		-.1411		-.2363					
70.000			.0486	.1546	.0744	.0304		-.1167		-.2602	-.7302	-.0879	.0163	.0515	
90.000		.5765	.4849	.1970	.1177	.0660		-.1075		-.3822	-.7075	-.1232	.0177	.0455	
120.000			.4947	.3051	.1966	.2149		.0989		-.4120	-.6829	-.2170	.0208	.0290	
140.000										-.5056					
150.000			.4819	.3512	.2703	.3099		.5643		-.8442	-.9423	-.1730	.0319	.0215	
161.000									.2090						
170.000									.2684						
155.000										-.9135	-.8525	-.0891	.0290	.0258	
169.000								.6514							
174.000							.7999								
180.000	1.2161	.7085	.4783	.3467	.3141	.3465		.6307		-.9125	-.8834	-.0546	.0286	.0251	
X/LB	.0520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.0276	-.0760	-.1490	-.2719	-.3565	-.1665	.0698		.4094	.2276					
40.000	-.0611		-.1327	-.2555	-.3172	-.2095	-.0488		.2840	.1273					

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE6867)

ALPHA (2) = .052 BETA (2) = .177

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1041	-.1888	-.0096	.1194	-.0295	.0197	-.0703			
90.000	-.0590	-.1096	.0563	.1311	-.1101	-.0513	-.1295			
105.000			.1246	.1564	-.2372	-.1204	-.1767			
110.000								-.3629		
120.000	-.0181	.0080	.1912	.2644	-.3705	-.2126	-.2155	-.2804		
135.000			.2684	.4115	-.3102	-.1802	-.1952			
150.000	.0218	.0818	.2851	.4595	-.2469	-.1906	-.2072			
165.000	.0253		.2856		-.0571	-.1898	-.3117			
180.000	.0180	.0937	.2914	.4722						

ALPHA (2) = .052 BETA (3) = 4.253 MACH = .90130 Q = 601.04 P = 1056.9 RN/L = 3.6167

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1939	.5005	.0610	-.0115	-.1051			-.1523		-.1752	-.2040	-.0800	-.0154	.0305	.0242
20.000			.0609	-.0226	-.1228	-.1450		-.1679		-.1858					
40.000			.1552	-.0167	-.1060	-.1124		-.1804		-.2102	-.2894	-.0558	.0033	.0215	.0606
55.000			.2215	.0412	-.0455	-.0686		-.1839		-.2759					
70.000			.2643	.0499	-.0210	-.0343		-.1825		-.3296	-.7885	-.0910	.0142	.0416	
90.000		.4120	.3102	.0844	.0145	-.0230		-.1872		-.4989	-.7930	-.1573	.0227	.0365	
120.000			.3789	.2035	.0894	.1356		-.0147		-.5701	-.7831	-.2636	.0234	.0231	
140.000										-.7819					
150.000			.4273	.3094	.1959	.2570		.4718		-.9415	-.9687	-.1316	.0199	.0090	
151.000									.0987						
162.000									.1807						
165.000										-.8505	-.8696	-.0798	.0168	.0147	
169.000								.6029							
174.000							.7611								
180.000	1.1999	.6911	.4702	.3456	.3031	.3357		.6130		-1.0631	-.8738	-.0829	.0172	.0090	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0309	-.0943	-.1465	-.2681	-.3703	-.1569	.0784		.3724	.2197
40.000	-.0487		-.1355	-.2503	-.3317	-.2091	-.0202		.2713	.0951
70.000	-.1094	-.1730	-.0339	.0527	-.1283	-.0313	-.1004			
90.000	-.0600	-.1075	.0205	.0510	-.2840	-.1230	-.1603			
[illegible]			.0754	.0593	-.4331	-.1650	-.1982			
[illegible]								-.3603		
[illegible]	-.0074	-.0093	.1295	.1045	-.6330	-.2570	-.2716	-.2952		
[illegible]			[illegible]	[illegible]	-.5141	-.3831	-.2351			
[illegible]	.0135	.0700	.2448	.4445	-.3888	-.4414	-.2428			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8867)

ALPHA (2) = .052 BETA (3) = 4.253

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	.0064		.2631		-.1681	-.3805	-.3092			
180.000	.0128	.1002	.2930	.4222						

ALPHA (3) = 4.019 BETA (1) = -3.877 MACH = .89987 Q = 599.87 P = 1058.3 RN/L = 3.6007

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2017	.6653	.2185	.0965	.0048			-.0917		-.1052	-.1322	-.0664	.0037	.0661	.0847
20.000			.2644	.1160	-.0030	-.0677		-.1066		-.1244					
40.000			.4205	.1706	.0655	-.0001		-.0924		-.1332	-.1704	-.0466	.0172	.0590	.1064
55.000			.5035	.2908	.1805	.0986		-.0173		-.1112					
70.000			.5209	.3005	.2015	.1421		.0035		-.1306	-.5787	-.1572	-.0237	.0295	
90.000		.6910	.5287	.3154	.1902	.1671		.0252		-.2106	-.6211	-.2125	-.0261	.0175	
120.000			.4958	.3336	.2271	.2630		.2129		-.2575	-.6138	-.3496	-.0894	-.0540	
140.000										-.3534					
150.000			.4191	.2722	.2138	.2746		.6146		-.4698	-1.0075	-.4325	.0087	-.0184	
151.000									.2798						
152.000									.3041						
165.000										-.9646	-.7928	-.4314	.0382	-.0087	
169.000								.6461							
174.000							.7733								
180.000	1.2017	.5743	.3375	.2835	.2077	.2691		.5487		-1.0960	-.9318	-.2796	.0458	.0015	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0525	.0053	-.0737	-.1949	-.2444	-.1833	.0884		.4456	.2398
40.000	.0336		-.0552	-.1783	-.2392	-.2304	-.0639		.3746	.1610
70.000	-.2103	-.4219	-.0432	.1675	.0590	.0842	-.0183			
90.000	-.1630	-.3226	.0413	.1923	-.0095	-.0018	-.0864			
105.000			.1248	.2049	-.0983	-.0574	-.1331			
110.000								-.3489		
120.000	-.1705	-.1195	.2470	.1921	-.2705	-.1473	-.1347	-.2638		
135.000			.2809	.2504	-.2515	-.1235	-.1582			
150.000	-.0725	.0195	.2687	.1911	-.2176	-.1176	-.1781			
165.000	-.0552		.2414		.0395	-.1007	-.2948			
180.000	-.0515	.0318	.2172	.3440						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8867)

ALPHA (3) = 4.018 BETA (2) = .181 MACH = .89987 Q = 599.87 P = 1058.3 RN/L = 3.6007

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2077	.6675	.2225	.1044	.0095			-.0860		-.1028	-.1307	-.0548	.0109	.0742	.0901
20.000			.2422	.1084	-.0092	-.0622		-.0952		-.1196					
40.000			.3460	.1374	.0324	-.0135		-.0886		-.1347	-.1980	-.0487	.0281	.0595	.1152
55.000			.3952	.1980	.0958	.0284		-.0772		-.1587					
70.000			.4016	.1897	.1027	.0674		-.0680		-.1987	-.6637	-.1531	-.0284	.0123	
90.000		.5436	.4142	.2049	.1157	.0868		-.0534		-.3085	-.7215	-.1812	-.0210	.0116	
120.000			.4172	.2526	.1500	.2069		.1241		-.3872	-.6933	-.2878	-.0151	-.0090	
140.000										-.5131					
150.000			.3867	.2552	.1890	.2541		.5508		-.9043	-1.0398	-.3873	.0520	.0088	
151.000									.1953						
162.000									.2385						
165.000										-.9758	-.9406	-.2403	.0461	.0123	
169.000								.6202							
174.000							.7662								
180.000	1.2077	.5694	.3569	.2524	.2216	.2792		.5884		-1.0426	-.9549	-.1876	.0442	.0116	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9680	.9990	1.0180	1.0460
PHI										
.000	.0582	.0064	-.0687	-.1967	-.2657	-.1953	.0909		.4511	.2388
40.000	.0454		-.0560	-.1784	-.2619	-.2240	-.0310		.3334	.1292
70.000	-.2243	-.4156	-.0822	.1019	-.0239	.0221	-.0644			
90.000	-.1649	-.3139	.0129	.0586	-.1196	-.0573	-.1199			
105.000			.0798	.1097	-.2207	-.1125	-.1679			
110.000								-.3610		
120.000	-.1113	-.1049	.1478	.2116	-.4096	-.2154	-.2014	-.2746		
135.000			.1873	.4061	-.3467	-.1953	-.2046			
150.000	-.0465	-.0026	.2159	.4794	-.2766	-.2140	-.2157			
165.000	-.0420		.2237		-.1038	-.2179	-.2978			
180.000	-.0381	.0248	.2263	.4182						

ALPHA (3) = 4.022 BETA (3) = 4.243 MACH = .89987 Q = 599.87 P = 1058.3 RN/L = 3.6007

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1907	.6542	.2078	.0977	-.0001			-.0873		-.1055	-.1402	-.0727	.0033	.0659	.0771
20.000			.2059	.0837	-.0265	-.0674		-.0982		-.1251					
40.000			.2583	.0861	-.0036	-.0400		-.0989		-.1483	-.2228	-.0849	.0113	.0453	.1095
55.000			.2735	.1000	.0129	-.0290		-.1270		-.2055					
70.000			.2763	.0788	.0018	.0022		-.1308		-.2587	-.7281	-.1408	-.0333	.0040	
90.000		.3817	.2990	.0965	.0174	.0152		-.1266		-.4101	-.7965	-.1777	-.0121	.0103	
120.000			.3252	.1678	.0625	.1311		.0277		-.5274	-.7762	-.3128	.0245	.0092	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8867)

ALPHA (3) = 4.022 BETA (3) = .243

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.6955					
150.000			.3302	.2169	.1255	.2102		.4606		-1.0231	-1.0245	-.3395	.0477	.0103	
151.000									.0912						
162.000									.1514						
165.000										-.9857	-.7929	-.2377	.0363	.0074	
169.000								.5731							
174.000							.7262								
180.000	1.1907	.5351	.3481	.2516	.2105	.2656		.5698		-1.1129	-.9479	-.2675	.0399	-.0018	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0542	.0027	-.0731	-.1961	-.2560	-.1890	.0923		.4529	.2424
40.000	.0521		-.0606	-.1724	-.2527	-.2110	-.0034		.3032	.1047
70.000	-.2267	-.3904	-.1303	.0173	-.1263	-.0335	-.0956			
90.000	-.1636	-.2872	-.0529	.0138	-.2565	-.1145	-.1535			
105.000			.0016	.0312	-.4212	-.1762	-.2027			
110.000								-.3558		
120.000	-.0856	-.1138	.0560	.1227	-.6119	-.2929	-.2560	-.2833		
135.000			.1513	.3299	-.5182	-.2743	-.2434			
150.000	-.0493	.0011	.1888	.4371	-.4285	-.4808	-.2470			
165.000	-.0497		.1968		-.2207	-.4330	-.3052			
180.000	-.0536	0297	.2186	.3295						

ALPHA (4) = 7.385 BETA (1) = -3.860 MACH = .90040 Q = 600.32 P = 1057.8 RN/L = 3.5837

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1636	.8059	.3619	.2128	.1090			-.0116		-.0327	-.0570	-.0219	.0413	.1187	.1469
20.000			.4140	.2357	.1156	.0281		.0107		-.0404					
40.000			.5272	.2960	.1880	.1039		.0223		-.0348	-.0723	.0059	.0654	.1223	.1849
55.000			.5507	.3471	.2350	.1342		.0392		-.0518					
70.000			.5185	.3076	.2067	.1559		.0349		-.0889	-.4959	-.1889	-.0874	.0042	
90.000		.6367	.4871	.2934	.1646	.1682		.0510		-.1652	-.6023	-.2444	-.0999	-.0208	
120.000			.4031	.2457	.1501	.1999		.2100		-.2507	-.6474	-.4734	-.2536	-.1596	
140.000										-.3662					
150.000			.2939	.1587	.1199	.2034		.5901		-.4796	-.6122	-.4777	-.1665	-.0322	
151.000									.2573						
162.000									.2689						
165.000										-1.0004	-.6306	-.5176	-.1408	-.0159	
169.000								.6087							
174.000							.7342								

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AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8867)

ALPHA (4) = 7.985 BETA (1) = -3.860

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.1636	.4204	.2100	.1561	.1213	.2060		.5040		-.8414	-.6523	-.5107	-.1384	.0089	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1344	.0882	.0056	-.1210	-.1922	-.2128	.0842		.5017	.2557					
40.000	.1441		.0353	-.0956	-.2073	-.2887	-.0608		.4126	.1649					
70.000	-.3013	-.5671	-.0780	.1256	.0101	.0387	-.0393								
90.000	-.2448	-.4769	-.0082	.1100	-.0392	-.0468	-.1049								
105.000			.0922	.1066	-.1240	-.1021	-.1631								
110.000								-.3458							
120.000	-.2939	-.2180	.1198	.1043	-.2742	-.1898	-.1630	-.2766							
135.000			.1262	.2173	-.2887	-.1680	-.1965								
150.000	-.1408	-.0844	.1189	.2632	-.2441	-.1590	-.2057								
165.000	-.1205		.1050		-.0262	-.1191	-.2918								
180.000	-.1101	-.0492	.1208	.3244											

ALPHA (4) = 7.993 BETA (2) = .182 MACH = .90040 Q = 600.32 P = 1057.8 RN/L = 3.5837

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1693	.8098	.3744	.2256	.1135			-.0005		-.0278	-.0576	-.0127	.0487	.1240	.1496
20.000			.3900	.2232	.1081	.0298		-.0107		-.0425					
40.000			.4466	.2468	.1418	.0740		.0056		-.0519	-.1093	-.0354	.0497	.1042	.1840
55.000			.4319	.2435	.1378	.0660		-.0322		-.1119					
70.000			.3999	.2010	.1083	.0851		-.0300		-.1502	-.5325	-.1956	-.1036	-.0149	
90.000		.4893	.3791	.1897	.0989	.0993		-.0175		-.2479	-.6891	-.2149	-.1024	-.0224	
120.000			.3343	.1841	.0946	.1724		.1427		-.3544	-.7077	-.3210	-.1699	-.0704	
140.000										-.5006					
150.000			.2686	.1585	.1048	.1991		.5291		-.8737	-.6373	-.4599	-.0991	-.0014	
161.000									.1819						
162.000									.2121						
165.000										-1.0350	-.6744	-.4854	-.0932	.0144	
169.000								.5925							
174.000							.7077								
180.000	1.1693	.4117	.2277	.1664	.1343	.2149		.5486		-.8603	-.6769	-.4849	-.1010	.0163	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1439	.0920	.0094	-.1171	-.1904	-.2288	.0862		.5044	.2551					
40.000	.1484		.0295	-.0913	-.2113	-.2536	-.0338		.3720	.1373					

DATE 10 FEB 76 TABULATED PRESSURE DATA - OA148 (AMES 11-073-1)

AMES 11-073(OA148) -140A/B/C/R ORB FUSEL GE (XE8867)

ALPHA (4) = 7.993 BETA (2) = .182

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.3060	-.6040	-.1425	.0536	-.0712	-.0155	-.0784			
90.000	-.2463	-.4598	-.0650	.0521	-.1531	-.0901	-.1327			
105.000			.0304	.0498	-.2432	-.1443	-.1845	-.3520		
110.000								-.2700		
120.000	-.2101	-.2122	.0538	.0788	-.4282	-.2524	-.2037			
135.000			.0920	.2822	-.3762	-.2219	-.2226			
150.000	-.1177	-.0946	.1279	.3571	-.3085	-.2418	-.2231			
165.000	-.1005		.1311		-.1140	-.2273	-.2879			
180.000	-.0953	-.0546	.1291	.3360						

ALPHA (4) = 7.992 BETA (3) = 4.242 MACH = .90040 Q = 600.32 P = 1057.8 RN/L = 3.5837

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1579	.7963	.3611	.2160	.1044			-.0108		-.0311	-.0606	-.0162	.0462	.1172	.1467
20.000			.3474	.1950	.0753	.0159		-.0257		-.0585					
40.000			.3464	.1757	.0848	.0208		-.0337		-.0885	-.1532	-.1035	.0170	.0790	.1577
55.000			.3077	.1334	.0444	-.0054		-.0692		-.1546					
70.000			.2791	.0902	.0107	.0168		-.0875		-.2025	-.6513	-.2123	-.1248	-.04[illegible]	
90.000		.3362	.2715	.0862	.0121	.0348		-.0809		-.3258	-.7621	-.2083	-.1083	-.0226	
120.000			.2592	.1112	.0289	.1277		.0678		-.4689	-.7158	-.2745	-.1120	-.0157	
140.000										-.6508					
150.000			.2318	.1292	.0567	.1646		.4531		-1.0294	-.6650	-.4604	-.0941	.0125	
165.000									.0893						
171.000									.1310						
177.000										-1.0384	-.6766	-.4814	-.0995	.0172	
180.000								.5476							
169.000							.6893								
174.000								.5354		-.9132	-.6879	-.4809	-.0993	.0031	
180.000	1.1579	.3838	.2282	.1596	.1230	.2040									

X/B	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1392	.0875	.0052	-.1241	-.1968	-.2244	.0845		.5065	.2585
40.000	.1434		.0219	-.0966	-.2105	-.2422	-.0284		.3380	.1172
70.000	-.3078	-.5727	-.2144	-.0150	-.1528	-.0638	-.1058			
90.000	-.2399	-.4217	-.1240	-.0341	-.2474	-.1399	-.1680			
105.000			-.0787	-.0304	-.4044	-.2056	-.2174			
110.000								-.3477		
120.000	-.1463	-.2072	-.0368	.0170	-.5234	-.3028	-.2669	-.2823		
135.000			.0696	.2653	-.4312	-.3406	-.2673			
150.000	-.0955	-.0802	.1108	.3292	-.3629	-.3843	-.2690			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE886?)

ALPHA (4) = 7.992 BETA (3) = 4.242

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0948		.1110		-.2094	-.3740	-.2991			
180.000	-.1030	-.0541	.1206	.3179						

ALPHA (5) = 11.953 BETA (1) = -3.856 MACH = .89987 Q = 599.87 P = 1058.3 RN/L = 3.5762

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1080	.5287	.5058	.3362	.2223			.0750		.0533	.0284	.0484	.0990	.1766	.2137
20.000			.5526	.3657	.2277	.1335		.0835		.0478					
40.000			.6236	.4082	.2891	.1993		.1156		.0578	.0094	.0644	.1153	.1764	.2592
55.000			.5749	.3798	.2587	.1617		.0604		-.0169					
70.000			.4978	.3038	.1996	.1600		.0578		-.0614	-.4314	-.2075	-.1455	-.0385	
90.000		.5668	.4364	.2575	.1569	.1529		.0625		-.1356	-.5487	-.2477	-.1708	-.0571	
120.000			.2998	.1498	.0612	.1475		.1954		-.2487	-.6660	-.5494	-.4183	-.2576	
140.000										-.3766					
150.000			.1693	.0501	.0338	.1501		.5719		-.5278	-.5823	-.5106	-.2326	-.0856	
151.000									.2462						
162.000									.2434						
165.000										-.8830	-.6143	-.5634	-.2146	-.0442	
169.000								.5823							
174.000							.7008								
180.000	1.1080	.2570	.0929	.1004	.0468	.1513		.4689		-.6965	-.6180	-.5549	-.2006	-.0054	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2119	.1619	.0739	-.0481	-.1537	-.2876	.0750		.5490	.2659
40.000	.2405		.1063	-.0226	-.2008	-.2897	-.0735		.4254	.1586
70.000	-.4460	-.7230	-.1516	.0209	-.1827	-.0568	-.0795			
90.000	-.3433	-.5748	-.0214	.0456	-.2311	-.1444	-.1543			
105.000			.0029	.1012	-.3046	-.1965	-.2051			
110.000								-.36[illegible]		
120.000	-.3650	-.2367	.0195	.1530	-.3662	-.2538	-.2[illegible]	-.29[illegible]		
135.000			.0180	.1977	-.3578	-.2408	-.2[illegible]			
150.000	-.2482	-.2099	-.0011	.2896	-.3077	-.2466	-.2[illegible]			
165.000	-.1990		.0278		-.0975	-.1801	-.3138			
180.000	-.1544	-.1074	.0910	.3243						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8867.

ALPHA (1) = 11.953 BETA (2) = .189 MACH = .89987 Q = 599.87 P = 1058.3 RN/L = 3.5762

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1114	.9345	.5099	.3464	.2275			.0800		.0598	.0305	.0561	.1100	.1847	.2209
20.000			.5225	.3371	.2173	.1322		.0788		.0452					
40.000			.5297	.3366	.2294	.1445		.0812		.0123	-.0478	.0049	.0876	.1599	.2457
55.000			.4448	.2613	.1464	.0592		-.0176		-.0825					
70.000			.3751	.1878	.0956	.0800		-.0117		-.1201	-.5233	-.2330	-.1907	-.0792	
90.000		.4217	.3292	.1544	.0717	.0899		.0003		-.2083	-.6460	-.2375	-.2027	-.0708	
120.000			.2399	.0998	.0256	.1230		.1490		-.3377	-.7217	-.4352	-.3277	-.1353	
140.000										-.4867					
150.000			.1573	.0568	.0301	.1497		.5154		-.7534	-.5689	-.5320	-.1905	-.0366	
151.000									.1733						
160.000									.1911						
165.000										-.9508	-.6231	-.5495	-.2046	.0026	
169.000								.5663							
174.000							.6748								
180.000	1.1114	.2518	.1183	.0767	.0559	.1608		.5173		-.6744	-.6084	-.5524	-.2221	.0194	

Y/R	.0520	.7230	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2206	.1680	.0820	-.0467	-.1438	-.2905	.0713		.3470	.2705
40.000	.2352		.1070	-.0277	-.1928	-.2869	-.0584		.3914	.1396
70.000	-.4608	-.3367	-.2014	-.0696	-.2818	-.1307	-.1285			
90.000	-.3387	-.5852	-.1049	-.0349	-.3212	-.1821	-.1627			
105.000			-.0167	.0179	-.4191	-.2464	-.2246			
110.000								-.3554		
120.000	-.2694	-.2872	.0047	.0976	-.4417	-.4265	-.2421	-.2864		
135.000			.0270	.2721	-.4134	-.3343	-.2547			
150.000	-.2014	-.2003	.0575	.3836	-.3667	-.3185	-.2587			
165.000	-.1469		.0328		-.1449	-.2938	-.3169			
180.000	-.1395	-.1027	.1009	.3347						

ALPHA (1) = 11.953 BETA (3) = 4.261 MACH = .89987 Q = 599.87 P = 1058.3 RN/L = 3.5762

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0993	.9206	.4989	.3345	.2130			.0782		.0480	.0249	.0520	.1044	.1799	.2112
20.000			.4733	.3021	.1811	.1014		.0525		.0145					
40.000			.4162	.2495	.1498	.0699		.0180		-.0510	-.1202	-.0763	.0419	.1249	.2168
55.000			.3062	.1354	.0333	-.0277		-.1032		-.1459					
70.000			.2501	.0776	-.0052	.0161		-.0735		-.1710	-.5907	-.3486	-.2221	-.1172	
90.000		.2628	.2262	.0625	-.0118	.0317		-.0546		-.2735	-.7204	-.2217	-.2160	-.0823	
120.000			.1781	.0477	-.0181	.1072		.0909		-.4270	-.6620	-.3623	-.2523	-.0559	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8867)

ALPHA (5) = 11.953 BETA (3) = 4.261

SECTION (1)UPPER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0060	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.6171					
150.000			.1292	.0500	-.0070	.1303		.4482		-.9832	-.5987	-.5378	-.2056	.0002	
151.000									.0919						
162.000									.1162						
165.000										-.9596	-.5888	-.5515	-.2372	.0132	
169.000								.5281							
174.000							.6376								
180.000	1.0993	.2229	.1131	.0741	.0444	.1549		.5056		-.6573	-.6143	-.5538	-.2429	-.0002	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2164	.1645	.0793	-.0507	-.1524	-.2997	.0719		.5487	.2699
40.000	.2223		.0975	-.0254	-.2062	-.3035	-.0417		.3699	.1174
70.000	-.4401	-.7364	-.1805	-.0897	-.3537	-.2484	-.1873			
90.000	-.3346	-.5864	-.1186	-.0816	-.4017	-.4173	-.2108			
105.000			-.0642	-.0672	-.5211	-.5576	-.2733			
110.000								-.3631		
120.000	-.2032	-.2837	-.0398	.0381	-.5089	-.5938	-.3561	-.2835		
135.000			.0418	.2295	-.4440	-.4911	-.4826			
150.000	-.1404	-.1364	.0975	.3490	-.3838	-.4547	-.3604			
165.000	-.1345		.0978		-.1813	-.3980	-.3142			
180.000	-.1529	-.0965	.0822	.3387						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8868) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 936.0660 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = .000 SPDBRK = 55.000
BDFLAP = 22.500 L-ELVN = -4.000
R-ELVN = -4.000 MACH = .600

ALPHA (1) = -3.934 BETA (1) = -7.845 MACH = .59574 Q = 593.04 P = 2387.2 RN/L = 4.8347

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0023	.1293	-.2138	-.2204	-.2324			-.1806		-.1530	-.1332	-.0997	-.0789	-.0656	-.0836
20.000			-.2005	-.2305	-.2854	-.2858		-.2459		-.2061					
40.000			.0263	-.2191	-.2963	-.3139		-.3738		-.3348	-.2676	-.1962	-.1651	-.1458	-.1505
55.000			.2776	.0661	-.0177	-.1254		-.1484		-.1647					
70.000			.4397	.2324	.1636	.0891		-.0416		-.1252	-.1358	-.0068	.0623	.1017	
80.000		.7322	.5430	.3342	.2019	.1348		-.0116		-.1807	-.1598	-.0405	.0355	.0895	
120.000			.6116	.4551	.3427	.3213		.1809		-.1436	-.1804	-.1644	.0018	.0362	
140.000										-.1917					
160.000			.5515	.4085	.3366	.3431		.5562		-.3565	-.3132	-.1029	-.0350	-.0043	
171.000									.2460						
177.000									.2484						
180.000										-.9373	-.2390	-.1309	-.0552	-.0200	
228.000								.5625							
234.000							.6954								
180.000	1.0023	.7005	.4315	.3337	.2869	.2827		.3611		-1.1832	-.2291	-.1349	-.0737	-.0373	

X/LB	.6520	.7330	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1244	-.1481	-.1952	-.2275	-.1876	-.1368	.0212		.3220	.0777
20.000	-.2146		-.1946	-.2480	-.2200	-.1473	-.0769		.2314	.0409
40.000	.0285	.0167	.1013	.2100	.0980	.0650	-.0640			
80.000	.0569	.0503	.1621	.2493	.0379	-.0058	-.1294			
120.000			.1881	.3553	-.0497	-.0717	-.1732			
140.000								-.3359		
160.000	.0404	.0943	.2670	.5110	-.1160	-.0996	-.1510	-.2495		
228.000			.2230.	.4879	-.0943	-.0665	-.1503			
234.000	.0270	.0930	.2744	.3341	-.0775	-.0395	-.1282			
180.000	.0089		.2283		.1611	-.0112	-.2818			
180.000	-.0102	.0504	.1747	.3234						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8858)

ALPHA (1) = -3.918 BETA (2) = -3.844 MACH = .59574 Q = 593.04 P = 2387.2 RN/L = 4.8347

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0505	.1622	-.1796	-.1857	-.2139			-.1609		-.1380	-.1161	-.0812	-.0613	-.0490	-.0725
20.000			-.1692	-.1878	-.2476	-.2414		-.2036		-.1735					
40.000			.0117	-.1921	-.2538	-.2619		-.3054		-.2623	-.2050	-.1408	-.1133	-.1095	-.1131
55.000			.2023	.0029	-.0600	-.1524		-.1764		-.2010					
70.000			.3393	.1300	.0683	.0099		-.1107		-.1921	-.1829	-.0440	.0298	.0770	
90.000		.6042	.4286	.2147	.0963	.0369		-.0997		-.2661	-.2186	-.0768	.0089	.0638	
120.000			.5270	.3615	.2543	.2347		.0803		-.2442	-.2315	-.2018	-.0091	.0361	
140.000										-.2680					
150.000			.5322	.4006	.3145	.3235		.5023		-.4078	-.2734	-.0900	-.0217	.0177	
151.000									.1562						
162.000									.1866						
165.000										-.9307	-.2080	-.0988	-.0295	.0125	
169.000								.5585							
174.000							.7061								
180.000	1.0505	.7237	.4714	.3655	.3212	.3180		.4663		-1.1646	-.1981	-.0981	-.0340	.0020	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
000	-.1117	-.1456	-.1781	-.2356	-.1779	-.1380	.0177		.3546	.0973
40.000	-.1886		-.1933	-.2411	-.2224	-.1367	-.0739		.2489	.0344
70.000	.0013	-.0154	.0652	.1591	.0500	.0271	-.0820			
90.000	.0319	.0324	.1114	.1895	-.0193	-.0519	-.1476			
105.000			.1567	.2493	-.1199	-.1114	-.1950			
110.000								-.3441		
120.000	.0420	.0878	.2375	.3830	-.1948	-.1693	-.1971	-.2634		
135.000			.2957	.4393	-.1492	-.1090	-.1839			
150.000	.0569	.1210	.2313	.4304	-.1060	-.0972	-.1550			
165.000	.0471		.2588		.0680	-.0915	-.2705			
180.000	.0340	.1074	.2942	.4412						

ALPHA (1) = -3.805 BETA (3) = .193 MACH = .59574 Q = 593.04 P = 2387.2 RN/L = 4.8347

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
000	1.0535	.1709	-.1763	-.1772	-.2087			-.1626		-.1343	-.1082	-.0769	-.0558	-.0442	-.0671
20.000			-.1610	-.1781	-.2270	-.2137		-.1771		-.1530					
40.000			-.0216	-.1689	-.2319	-.2212		-.2468		-.2181	-.1533	-.0930	-.0738	-.0717	-.0801
56.000			.1214	-.0517	-.1065	-.1773		-.2027		-.2268					
70.000			.2318	.0349	-.0287	-.0661		-.1792		-.2451	-.2200	-.0700	.0066	.0612	
90.000		.4476	.3045	.0964	-.0152	-.0606		-.1968		-.3590	-.2651	-.1070	-.0129	.0437	
120.000			.4157	.2526	.1421	.1432		-.0504		-.3468	-.2899	-.2401	-.0356	.0157	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XES868)

ALPHA (1) = -3.835 BETA (3) = .193

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.3529					
150.000			.4817	.3556	.2621	.2729		.4053		-.4820	-.2538	-.0900	-.0242	.0136	
151.000									.0314						
162.000									.0922						
165.000										-.9307	-.1948	-.0933	-.0219	.0193	
1[illegible]3.000								.5223							
174.000							.6874								
180.000	[illegible]	.7192	.4859	.3741	.3342	.3263		.5087		-1.1339	-.1846	-.0824	-.0204	.0176	

X/LB	.6520	.7230	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
[illegible]	[illegible]	[illegible]	-.1774	-.2330	-.1818	-.1412	.0191		.3685	.1004
[illegible]	[illegible]		-.1836	-.2354	-.2212	-.1447	-.0532		.2371	.0292
[illegible]	[illegible]	-.0410	[illegible]	[illegible]	.0006	-.0084	-.1045			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-.0754	-.0873	-.1659			
[illegible]			[illegible]	[illegible]	-.1919	-.1510	-.2123			
[illegible]								-.3510		
[illegible]	[illegible]	[illegible]	[illegible]	.2455	[illegible]	-.2425	-.2596	-.2816		
[illegible]			[illegible]	.4652	[illegible]	-.1725	-.2251			
[illegible]	[illegible]	[illegible]	[illegible]	.4787	-.1779	-.1682	-.1987			
[illegible]	[illegible]		[illegible]		-.0326	-.1782	-.2844			
[illegible]	[illegible]	[illegible]	[illegible]	.4726						

ALPHA (1) = -3.[illegible] BETA (4) = 4.2[illegible]0 MACH = .59574 Q = 593.04 P = 2387.2 RN/L = 4.8347

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
[illegible]	[illegible]	[illegible]	[illegible]	-.1856	-.2215			-.1666		-.1407	-.1114	-.0836	-.0540	-.0514	-.0742
20.000			-.1815	-.1861	-.2238	-.2075		-.1733		-.1447					
[illegible]			[illegible]	-.2042	-.2284	-.2017		-.2110		-.1844	-.1234	-.0694	-.0476	-.0575	-.0543
[illegible]			[illegible]	-.1232	-.1579	-.1989		-.2269		-.2450					
[illegible]			[illegible]	-.0710	-.1159	-.1390		-.2315		-.2891	-.2464	-.0865	-.0049	.0404	
[illegible]		.2735	.1693	-.0297	-.1213	-.1528		-.2752		-.4370	-.2999	-.1239	-.0234	.0270	
[illegible]			[illegible]	.1305	.0187	.0182		-.1911		-.4516	-.3459	-.2968	-.0777	-.0244	
140.000										-.4328					
150.000			.3998	.2976	.1898	.2028		.2933		-.5490	-.2532	-.1097	-.0502	-.0114	
151.000									-.1094						
[illegible]									-.0319						
[illegible]										-.9438	-.2084	-.1107	-.0473	-.0004	
[illegible]								.4610							
174.000							.6353								

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE0868)

ALPHA (1) = -3.903 BETA (4) = 4.270

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.0352	.6904	.4767	.3640	.3199	.3208		.4864		-1.1231	-.1980	-.0978	-.0350	.0036	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.1167	-.1421	-.1820	-.2382	-.1817	-.1402	.0151		.3438	.0898					
40.000	-.1405		-.1770	-.2250	-.2275	-.1523	-.0413		.2342	.0136					
70.000	-.0325	-.0736	-.0163	.0704	-.0406	-.0358	-.1175								
90.000	-.0054	-.0261	.0279	.0653	-.1181	-.1194	-.1780								
105.000			.0586	.0654	-.2569	-.1879	-.2309								
110.000								-.3479							
120.000	-.0098	-.0005	.0768	.1033	-.4187	-.3298	-.3138	-.3002							
135.000			.1818	.3173	-.3450	-.2470	-.2707								
150.000	.0298	.0696	.2084	.4766	-.2822	-.2633	-.2466								
165.000	.0340		.2147		-.1423	-.2676	-.2848								
180.000	.0325	.1034	.2442	.4471											

ALPHA (1) = -3.916 BETA (5) = 8.339 MACH = .59574 Q = 593.04 P = 2387.2 RN/L = 4.8347

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9905	.1271	-.2011	-.1957	-.2428			-.1791		-.1549	-.1288	-.0980	-.0773	-.0650	-.0873
20.000			-.2077	-.1989	-.2356	-.2103		-.1779		-.1572					
40.000			-.1272	-.2152	-.2235	-.1916		-.1905		-.1774	-.1159	-.0536	-.0354	-.0442	-.0430
55.000			-.0552	-.1687	-.1977	-.2130		-.2387		-.2525					
70.000			-.0104	-.1555	-.1765	-.1865		-.2766		-.3247	-.2593	-.0953	-.0186	.0324	
90.000		.0955	.0481	-.1431	-.2096	-.2315		-.3421		-.4950	-.3233	-.1361	-.0349	.0187	
120.000			.1544	-.0078	-.1201	-.1041		-.3371		-.5447	-.3946	-.3463	-.1181	-.0598	
140.000										-.5231					
150.000			.2865	.2043	.0929	.1011		.1443		-.6362	-.2712	-.1534	-.0989	-.0612	
157.000									-.2626						
160.000									-.1820						
165.000										-.9920	-.2407	-.1487	-.0880	-.0513	
170.000								.3683							
175.000							.5479								
180.000	.9895	.6253	.4265	.3185	.2768	.2802		.3899		-1.1482	-.2342	-.1356	-.0792	-.0444	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.1231	-.1447	-.1812	-.2308	-.1809	-.1403	.0172		.3291	.0786					
40.000	-.1229		-.1636	-.2157	-.2244	-.1560	-.0356		.2110	-.0021					

AMES 11-073(OA148) -140A/B O/B ORB FUSELAGE IXE2555

ALPHA (1) = -3.916 BETA (5) = 8.339

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6580	.7230	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.0532	-.0984	-.0548	.0385	-.0730	-.0560	-.1246			
90.000	-.0257	-.0610	-.0335	.0164	-.1576	-.1406	-.1788			
105.000			.0088	.0337	-.2918	-.2080	-.2309			
110.000								-.3215		
120.000	-.0428	-.0567	-.0068	-.0913	-.5436	-.4078	-.3650	-.3106		
135.000			.0794	.1506	-.4813	-.3405	-.3224			
150.000	-.0314	-.0034	.1092	.4345	-.4356	-.3731	-.2986			
165.000	-.0268		.1315		-.2744	-.3614	-.2927			
180.000	-.0209	.0445	.1810	.3442						

ALPHA (2) = .067 BETA (1) = -7.995 MACH = .59556 Q = 592.68 P = 2387.2 RN/L = 4.8372

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0349	.3135	-.0699	-.1168	-.1498			-.1378		-.1189	-.1079	-.0777	-.0542	-.0243	-.0319
20.000			-.0078	-.1003	-.1735	-.2023		-.1755		-.1553					
40.000			.1838	-.0464	-.1380	-.1640		-.2282		-.2134	-.1535	-.0972	-.0789	-.0699	-.0645
55.000			.3977	.1941	.1065	.0029		-.0486		-.0959					
70.000			.6010	.2944	.2741	.1289		.0036		-.1034	-.1342	-.0208	.0251	.0550	
80.000		.7351	.5481	.3495	.2292	.1626		.0193		-.1599	-.1669	-.0559	.0054	.0416	
90.000			.5498	.3916	.2890	.2824		.1674		-.1791	-.2275	-.2205	-.1699	-.0480	
95.000										-.2705					
97.500			.4497	.3042	.2307	.2630		.5117		-.4650	-.3973	-.1573	-.0813	-.0566	
99.000									.1837						
99.500									.1697						
100.000										-1.1132	-.2940	-.1668	-.0894	-.0576	
99.750								.5079							
99.500							.6562								
99.250	1.0349	.5811	.3231	.2591	.1962	.2072		.3024		-1.3566	-.2678	-.1564	-.0955	-.0671	

X/LB	.6580	.7230	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.0614	-.0992	-.1389	-.1934	-.1642	-.1314	.0248		.3811	.0946
90.000	-.1172		-.1438	-.2068	-.1977	-.1323	-.0694		.2694	.0560
105.000	-.0756	-.0507	.0621	.2081	.0934	.0672	-.0582			
110.000	-.0343	-.0046	.1106	.2438	.0432	-.0126	-.1283			
120.000			.1507	.3658	-.0313	-.0621	-.1729			
135.000								-.3292		
150.000	-.0650	.0193	.2043	.5114	-.1396	-.1127	-.1521	-.2530		
165.000			.2460	.4401	-.1347	-.0906	-.1733			
180.000	-.0345	.0393	.2338	.2650	-.1487	-.0745	-.1461			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XEE868)

ALPHA (2) = .067 BETA (1) = -7.888

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0410		.1866		.1258	-.0391	-.2810			
180.000	-.0502	.0174	.1495	.2777						

ALPHA (2) = .076 BETA (2) = -3.860 MACH = .59555 Q = 592.68 P = 2387.2 RN/L = 4.8372

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0709	.3500	-.0308	-.0854	-.1312			-.1260		-.1032	-.0892	-.0560	-.0346	-.0116	-.0210
20.000			-.0023	-.0731	-.1464	-.1649		-.1460		-.1309					
40.000			.1677	-.0434	-.1160	-.1337		-.1830		-.1690	-.1218	-.0616	-.0469	-.0417	-.0310
55.000			.3145	.1185	.0463	-.0294		-.0943		-.1406					
70.000			.3869	.1869	.1137	.0453		-.0679		-.1607	-.1816	-.0590	-.0026	.0328	
90.000		.6028	.4343	.2352	.1246	.0726		-.0657		-.2417	-.2121	-.0884	-.0132	.0209	
120.000			.4715	.3131	.2125	.2169		.0812		-.2654	-.2605	-.2227	-.0455	-.0189	
140.000										-.3339					
150.000			.4294	.2955	.2255	.2544		.4623		-.5125	-.3447	-.1283	-.0555	-.0212	
151.000									.1021						
162.000									.1134						
165.000										-1.0907	-.2569	-.1323	-.0555	-.0212	
169.000								.4998							
174.000							.6593								
180.000	1.0709	.5955	.3552	.2680	.2267	.2404		.3907		-1.3116	-.2344	-.1266	-.0562	-.0241	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0566	-.0893	-.1370	-.1902	-.1578	-.1238	.0322		.3566	.0977
40.000	-.0980		-.1360	-.1959	-.2016	-.1217	-.0678		.2851	.0428
70.000	-.1033	-.0919	.0207	.1517	.0439	.0282	-.0767			
90.000	-.0080	-.0357	.0732	.1902	-.0204	-.0524	-.1457			
105.000			.1206	.2699	-.1151	-.1122	-.1969			
120.000								-.3383		
130.000	-.0387	.0334	.2068	.3818	-.2075	-.1648	-.1907	-.2620		
140.000			.2574	.3907	-.1899	-.1338	-.2000			
150.000	.0030	.0784	.2578	.3862	-.1683	-.1248	-.1733			
160.000	.0072		.2297		.0282	-.1229	-.2739			
180.000	-.0006	.0693	.2088	.3603						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8868)

ALPHA (2) = .078 BETA (3) = .177 MACH = .59556 Q = 592.68 P = 2387.2 RN/L = 4.8372

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0781	.3550	-.0332	-.0757	-.1236			-.1196		-.1046	-.0802	-.0565	-.0280	-.0092	-.0152
20.000			-.0090	-.0685	-.1374	-.1502		-.1277		-.1192					
40.000			.1204	-.0591	-.1182	-.1238		-.1583		-.1521	-.0959	-.0446	-.0275	-.0265	-.0110
55.000			.2190	.0418	-.0197	-.0695		-.1369		-.1756					
70.000			.2695	.0841	.0183	-.0270		-.1384		-.2240	-.2195	-.0911	-.0282	.0107	
90.000		.4445	.3172	.1199	.0188	-.0170		-.1521		-.3250	-.2571	-.1186	-.0325	.0055	
120.000			.3703	.2213	.1199	.1207		-.0299		-.3525	-.3001	-.2342	-.0422	-.0084	
140.000										-.4053					
150.000			.3830	.2673	.1925	.2128		.3754		-.5618	-.3102	-.1250	-.0439	-.0105	
161.000									-.0125						
162.000									.0179						
165.000										-1.0843	-.2418	-.1208	-.0429	-.0088	
169.000								.4690							
174.000							.6416								
180.000	1.0781	.5887	.3691	.2799	.2412	.2498		.4455		-1.2950	-.2242	-.1115	-.0450	-.0131	

X/LB	.65	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0525	-.0865	-.1337	-.1982	-.1583	-.1263	.0248		.3643	.0978
40.000	-.0917		-.1325	-.1945	-.2080	-.1273	-.0518		.2493	.0279
70.000	-.1216	-.1195	-.0195	.0977	-.0085	-.0128	-.1051			
90.000	-.0732	-.0570	.0415	.1130	-.0890	-.0928	-.1667			
105.000			.0972	.1333	-.1854	-.1542	-.2179			
110.000								-.3507		
120.000	-.0270	.0196	.1648	.1857	-.2909	-.2301	-.2398	-.2742		
135.000			.2279	.3538	-.2599	-.1879	-.2355			
150.000	.0156	.0764	.2290	.4132	-.2221	-.1913	-.2119			
165.000	.0209		.2252		-.0769	-.2054	-.2711			
180.000	.0157	.0834	.2288	.4157						

ALPHA (2) = .074 BETA (4) = 4.252 MACH = .59556 Q = 592.68 P = 2387.2 RN/L = 4.8372

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0589	.3318	-.0352	-.0832	-.1409			-.1262		-.1114	-.0893	-.0557	-.0310	-.0106	-.0221
20.000			-.0401	-.0866	-.1457	-.1509		-.1353		-.1218					
40.000			.0475	-.0934	-.1324	-.1281		-.1459		-.1438	-.0954	-.0443	-.0223	-.0215	.0028
55.000			.1116	-.0318	-.0821	-.1201		-.1718		-.2082					
70.000			.1512	-.0182	-.0652	-.0927		-.1937		-.2698	-.2449	-.1077	-.0360	-.0011	
90.000		.2727	.1919	.0036	-.0797	-.1003		-.2255		-.3931	-.2834	-.1303	-.0372	-.0007	
120.000			.2595	.1130	.0176	.0346		-.1526		-.4443	-.3304	-.2589	-.0553	-.0163	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8868)

ALPHA (2) = .074 BETA (4) = 4.252

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.4770					
150.000			.3187	.2164	.1196	.1512		.2690		-.6189	-.2909	-.1312	-.0569	-.0240	
151.000									-.1426						
162.000									-.0989						
165.000										-1.0726	-.2439	-.1310	-.0550	-.0233	
169.000								.4125							
174.000							.5935								
180.000	1.0589	.5582	.3610	.2677	.2257	.2408		.4187		-1.2740	-.2386	-.1238	-.0548	-.0250	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0585	-.0891	-.1316	-.1945	-.1573	-.1259	.0275		.3570	.0959
40.000	-.0668		-.1285	-.1888	-.2075	-.1382	-.0311		.2318	.0133
70.000	-.1295	-.1432	-.0561	.0504	-.0478	-.0401	-.1167			
90.000	-.0829	-.0794	-.0023	.0497	-.1341	-.1273	-.1816			
105.000			.0389	.0518	-.2542	-.1900	-.2335			
110.000								-.3497		
120.000	-.0413	-.0226	.0804	.1169	-.3985	-.3076	-.2884	-.2843		
135.000			.1705	.3051	-.3563	-.2529	-.2695			
150.000	.0019	.0406	.1919	.3722	-.3217	-.2809	-.2507			
165.000	.0040		.1944		-.1886	-.2969	-.2843			
180.000	-.0023	.0713	.2152	.3852						

ALPHA (2) = .069 BETA (5) = 8.307 MACH = .59556 Q = 592.68 P = 2387.2 RN/L = 4.8372

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0077	.3053	-.0592	-.0944	-.1585			-.1399		-.1277	-.1040	-.0746	-.0497	-.0250	-.0407
20.000			-.0723	-.1053	-.1637	-.1594		-.1453		-.1348					
40.000			-.0272	-.1200	-.1609	-.1447		-.1556		-.1568	-.1106	-.0544	-.0331	-.0262	.0057
55.000			.0073	-.1013	-.1400	-.1584		-.2057		-.2347					
70.000			.0317	-.1025	-.1293	-.1494		-.2441		-.3051	-.2636	-.1156	-.0475	-.0046	
90.000		.0949	.0548	-.1025	-.1687	-.1746		-.2907		-.4487	-.3060	-.1326	-.0423	-.0079	
120.000			.1367	-.0018	-.1025	-.0729		-.2819		-.5233	-.3684	-.2852	-.0741	-.0348	
140.000										-.5524					
150.000			.2116	.1369	.0315	.0651		.1214		-.6856	-.2952	-.1530	-.0919	-.0613	
151.000									-.2997						
162.000									-.2420						
165.000										-1.1129	-.2685	-.1615	-.0990	-.0623	
169.000								.3173							
174.000							.5056								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8868)

ALPHA (2) = .069 BETA (5) = 8.307

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.0077	.4871	.3128	.2210	.1849	.2000		.3213		-1.3030	-.2728	-.1622	-.0990	-.0691	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0644	-.0916	-.1355	-.1976	-.1654	-.1342	.0228		.3760	.0860
40.000	-.0535		-.1232	-.1853	-.2131	-.1504	-.0296		.2129	.0043
70.000	-.1450	-.1650	-.0947	.0124	-.0876	-.0640	-.1272			
90.000	-.0964	-.1097	-.0434	.0028	-.1789	-.1652	-.1970			
105.000			-.0046	.0051	-.2926	-.2145	-.2410			
110.000								-.3340		
120.000	-.0631	-.0633	.0069	-.0891	-.5168	-.3884	-.3349	-.2955		
135.000			.0799	.1264	-.4884	-.3408	-.3182			
150.000	-.0469	-.0142	.1038	.3686	-.4769	-.3887	-.3130			
165.000	-.0483		.1109		-.3349	-.3960	-.2915			
180.000	-.0549	.0143	.1523	.2851						

ALPHA (3) = 4.022 BETA (1) = -7.901 MACH = .59644 Q = 594.20 P = 2386.1 RN/L = 4.8446

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0267	.4792	.0779	-.0086	-.0588			-.0923		-.0843	-.0709	-.0412	-.0175	.0185	.0211
20.000			.1421	.0242	-.0605	-.1076		-.1004		-.0976					
40.000			.3513	.1058	.0192	-.0326		-.0968		-.0976	-.0548	-.0130	.0005	.0093	.0280
55.000			.4895	.2805	.2003	.1102		.0189		-.0431					
70.000			.5204	.3233	.2380	.1571		.0307		-.0826	-.1407	-.0444	-.0059	.0102	
90.000		.6973	.5241	.3335	.2292	.1706		.0350		-.1440	-.1679	-.0800	-.0300	-.0092	
120.000			.4543	.3108	.2124	.2174		.1429		-.2161	-.2796	-.2975	-.1675	-.1559	
140.000										-.3386					
150.000			.3277	.1862	.1464	.1878		.4668		-.5691	-.4758	-.2049	-.1247	-.1048	
151.000									.1282						
162.000									.0951						
165.000										-1.2796	-.3386	-.1919	-.1166	-.0895	
169.000								.4514							
174.000							.6097								
180.000	1.0267	.4375	.1966	.1538	.1098	.1381		.2382		-1.5110	-.2962	-.1754	-.1027	-.0793	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0002	-.0405	-.0892	-.1531	-.1315	-.1103	.0359		.4074	.0993
40.000	-.0203		-.0807	-.1583	-.1790	-.0957	-.0580		.2996	.0618

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8868)

ALPHA (3) = 4.022 BETA (1) = -7.901

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1834	-.1230	.0265	.2016	.0991	.0800	-.0459			
90.000	-.1280	-.0698	.0774	.2480	.0508	-.0045	-.1287			
105.000			.1144	.3891	-.0245	-.0642	-.1678			
110.000								-.3207		
120.000	-.1840	-.0734	.1453	.5332	-.1669	-.1283	-.1557	-.2670		
135.000			.1913	.3832	-.1899	-.1283	-.1984			
150.000	-.0880	-.0007	.1911	.1415	-.2127	-.1031	-.1652			
165.000	-.0788		.1558		.0997	-.0549	-.2755			
180.000	-.0737	-.0039	.1263	.2182						

ALPHA (3) = 4.025 BETA (2) = -3.862 MACH = .59644 Q = 594.20 P = 2386.1 RN/L = 4.8448

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0639	.5208	.1198	.0250	-.0403			-.0749		-.0649	-.0577	-.0236	-.0026	.0321	.0294
20.000			.1500	.0501	-.0441	-.0817		-.0841		-.0769					
40.000			.3098	.0939	.0127	-.0263		-.0803		-.0869	-.0478	-.0019	.0127	.0215	.0474
55.000			.3906	.2095	.1252	.0383		-.0368		-.1019					
70.000			.4096	.2187	.1408	.0809		-.0507		-.1500	-.1931	-.0855	-.0405	-.0202	
90.000		.5654	.4171	.2301	.1335	.0916		-.0446		-.2273	-.2212	-.1158	-.0512	-.0297	
120.000			.3868	.2462	.1534	.1743		.0710		-.2919	-.3032	-.2789	-.1210	-.1013	
140.000										-.4015					
150.000			.3079	.1877	.1344	.1776		.4220		-.6079	-.4079	-.1705	-.0853	-.0570	
151.000									.0487						
162.000									.0362						
165.000										-1.2483	-.2982	-.1579	-.0791	-.0515	
169.000								.4436							
174.000							.6120								
180.000	1.0639	.4442	.2306	.1631	.1309	.1617		.3322		-1.4679	-.2686	-.1416	-.0729	-.0461	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0055	-.0340	-.0854	-.1544	-.1275	-.1082	.0399		.3876	.1047
40.000	-.0040		-.0764	-.1528	-.1808	-.1034	-.0587		.3045	.0403
70.000	-.2175	-.1592	-.0231	.1451	.0459	.0414	-.0686			
90.000	-.1522	-.1017	.0089	.1789	-.0180	-.0465	-.1481			
105.000			.0863	.2732	-.0981	-.1033	-.1916			
110.000								-.3292		
120.000	-.1234	-.0294	.1795	.3622	-.2225	-.1706	-.1892	-.2663		
135.000			.2316	.3238	-.2256	-.1568	-.2140			
150.000	-.0454	.0353	.2257	.2170	-.2266	-.1530	-.1869			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8868)

ALPHA (3) = 4.025 BETA (2) = -3.862

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0305		.1962		-.0062	-.1399	-.2668			
180.000	-.0303	.0503	.1844	.2896						

ALPHA (3) = 4.023 BETA (3) = .182 MACH = .59644 Q = 594.20 P = 2386.1 RN/L = 4.8448

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0709	.5229	.1209	.0294	-.0337			-.0686		-.0575	-.0479	-.0179	.0034	.0344	.0347
20.000			.1378	.0449	-.0389	-.0744		-.0760		-.0730					
40.000			.2385	.0627	-.0100	-.0390		-.0772		-.0931	-.0517	-.0030	.0167	.0176	.0568
55.000			.2975	.1178	.0501	-.0217		-.0940		-.1510					
70.000			.2891	.1107	.0466	-.0014		-.1136		-.2086	-.2309	-.1154	-.0555	-.0371	
90.000		.4147	.3025	.1238	.0345	.0057		-.1248		-.2991	-.2602	-.1348	-.0681	-.0370	
120.000			.3062	.1699	.0826	.1106		-.0182		-.3731	-.3242	-.2575	-.0806	-.0583	
140.000										-.4645					
150.000			.2760	.1744	.1117	.1516		.3462		-.6348	-.3579	-.1450	-.0600	-.0316	
151.000									-.0539						
162.000									-.0454						
165.000										-1.2027	-.2745	-.1344	-.0591	-.0278	
169.000								.4189							
174.000							.5906								
180.000	1.0709	.4410	.2517	.1832	.1541	.1769		.3806		-1.4385	-.2499	-.1313	-.0596	-.0269	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0139	-.0335	-.0930	-.1579	-.1333	-.1101	.0409		.3874	.1040
40.000	.0037		-.0787	-.1545	-.1891	-.1163	-.0303		.2700	.0310
70.000	-.2330	-.1891	-.0577	.0904	-.0094	-.0044	-.0954			
90.000	-.1527	-.1155	.0131	.1021	-.0835	-.0926	-.1648			
105.000			.0760	.1219	-.1700	-.1472	-.2131			
110.000								-.3324		
120.000	-.0872	-.0160	.1592	.1314	-.2808	-.2234	-.2175	-.2622		
135.000			.2074	.2631	-.2737	-.1991	-.2337			
150.000	-.0183	.0504	.2077	.3294	-.2439	-.2109	-.2126			
165.000	-.0164		.1863		-.1013	-.2157	-.2445			
180.000	-.0178	.0597	.1939	.3836						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8868)

ALPHA (3) = 4.027 BETA (4) = 4.243 MACH = .59644 Q = 594.20 P = 2386.1 RN/L = 4.8446

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0510	.5074	.1098	.0229	-.0464			-.0678		-.0649	-.0514	-.0272	.0038	.0322	.0288
20.000			.0930	.0119	-.0580	-.0831		-.0870		-.0881					
40.000			.1510	.0167	-.0476	-.0679		-.0953		-.1158	-.0832	-.0236	-.0038	.0109	.0522
55.000			.1686	.0287	-.0364	-.0842		-.1486		-.1995					
70.000			.1651	.0102	-.0310	-.0686		-.1735		-.2596	-.2603	-.1401	-.0759	-.0459	
90.000		.2502	.1855	.0152	-.0580	-.0690		-.1970		-.3638	-.2849	-.1491	-.0677	-.0405	
120.000			.2162	.0796	-.0040	.0307		-.1249		-.4430	-.3406	-.2496	-.0594	-.0408	
140.000										-.5201					
150.000			.2244	.1308	.0484	.0971		.2420		-.6901	-.3240	-.1450	-.0589	-.0323	
151.000									-.1787						
152.000									-.1579						
155.000										-1.2169	-.2697	-.1372	-.0643	-.0363	
169.000								.3574							
174.000															
180.000	1.0510	.4127	.2425	.1723	.1403	.1646	.5467	.3577		-1.4265	-.2640	-.1379	-.0665	-.0465	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0084	-.0257	-.0858	-.1587	-.1314	-.1150	.0398		.3936	.1025
40.000	.0122		-.0740	-.1441	-.1924	-.1282	-.0222		.2509	.0203
70.000	-.2434	-.2145	-.0927	.0401	-.0567	-.0487	-.1206			
90.000	-.1632	-.1364	-.0259	.0284	-.1432	-.1255	-.1823			
105.000			.0165	.0442	-.2464	-.1889	-.2285			
110.000								-.3390		
120.000	-.0781	-.0472	.0659	.1035	-.3809	-.2930	-.2676	-.2780		
135.000			.1478	.3121	-.3700	-.2585	-.2705			
150.000	-.0280	.0288	.1714	.2797	-.3481	-.2900	-.2569			
165.000	-.0254		.1732		-.2121	-.3005	-.2789			
180.000	-.0324	.0472	.1865	.3104						

ALPHA (3) = 4.033 BETA (5) = 8.290 MACH = .59644 Q = 594.20 P = 2386.1 RN/L = 4.6446

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9352	.4721	.0814	.0112	-.0668			-.0920		-.0847	-.0664	-.0471	-.0146	.0134	.0145
20.000			.0547	-.0110	-.0907	-.1051		-.1043		-.1151					
40.000			.0559	-.0474	-.1018	-.1100		-.1317		-.1581	-.1318	-.0690	-.0323	-.0112	.0453
55.000			.0472	-.0592	-.1136	-.1469		-.2056		-.2418					
70.000			.0425	-.0852	-.1162	-.1280		-.2219		-.2955	-.2807	-.1512	-.0844	-.0567	
90.000		.0657	.0650	-.0855	-.1481	-.1369		-.2557		-.4218	-.2999	-.1531	-.0683	-.0398	
120.000			.0871	-.0197	-.1013	-.0572		-.2423		-.5156	-.3663	-.2489	-.0581	-.0388	

DATE 10 FEB 75 TABULATED PRESSURE DATA - OA148 (AMES 11-073-1) (XE8868)

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE

ALPHA (3) = 4.033 BETA (5) = 8.290

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.5839					
150.000			.1334	.0657	-.0235	.0235		.1052		-.7339	-.3107	-.1539	-.0830	-.0613	
151.000									-.3213						
162.000									-.2995						
165.000										-1.2124	-.2910	-.1725	-.1014	-.0724	
169.000								.2772							
174.000							.4582								
180.000	.9962	.3431	.1975	.1284	.0931	.1238		.2611		-1.4233	-.3017	-.1798	-.1140	-.0914	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0065	-.0376	-.0900	-.1600	-.1378	-.1194	.0332		.4048	.0909
40.000	.0074		-.0732	-.1439	-.2021	-.1330	-.0296		.2434	.0152
70.000	-.2465	-.2371	-.1355	-.0095	-.0939	-.0681	-.1256			
90.000	-.1666	-.1684	-.0761	-.0132	-.1682	-.1659	-.1995			
105.000			-.0271	-.0092	-.2942	-.2211	-.2437			
110.000								-.3226		
120.000	-.0939	-.0803	.0161	-.0180	-.4750	-.3598	-.3063	-.2764		
130.000			.0874	.1058	-.4787	-.3356	-.3102			
150.000	-.0592	-.0208	.0909	.2820	-.5021	-.4015	-.3200			
165.000	-.0618		.1002		-.4011	-.4102	-.2854			
180.000	-.0837	-.0104	.1301	.2302						

ALPHA (4) = 7.992 BETA (1) = -7.890 MACH = .59642 Q = 594.33 P = 2386.8 RN/L = 4.8439

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9878	.6354	.2230	.1041	.0355			-.0285		-.0263	-.0188	-.0005	.0285	.0712	.0781
20.000			.3015	.1639	.0515	-.0129		-.0245		-.0249					
40.000			.4787	.2547	.1492	.0807		.0158		.0043	.0331	.0663	.0804	.0859	.1218
55.000			.5411	.3657	.2597	.1534		.0564		-.0179					
70.000			.5102	.3369	.2467	.1638		.0383		-.0763	-.1571	-.0750	-.0432	-.0408	
80.000		.6312	.4748	.3024	.2094	.1598		.0324		-.1557	-.1919	-.1175	-.0785	-.0715	
90.000			.3417	.2045	.1150	.1376		.0992		-.2646	-.3526	-.4165	-.3050	-.3177	
120.000										-.4092					
140.000			.1829	.0526	.0324	.0982		.4134		-.6635	-.5594	-.2519	-.1613	-.1529	
150.000									.0659						
161.000									.0128						
162.000										-1.4293	-.3785	-.2175	-.1439	-.1161	
165.000								.3325							
169.000							.5565								
174.000															

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8868)

ALPHA (4) = 7.982 BETA (1) = -7.890

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	.9878	.2781	.0710	.0562	.0223	.0645		.1704		-1.7541	-.3163	-.1816	-.1144	-.0962	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0682	.0255	-.0311	-.1062	-.0949	-.0908	.0538		.4318	.1055
40.000	.0824		-.0111	-.0963	-.1539	-.0668	-.0397		.3278	.0577
70.000	-.2916	-.1847	-.0035	.2014	.1059	.0890	-.0332			
90.000	-.2263	-.1326	.0467	.2502	.0623	-.0003	-.1201			
105.000			.0736	.4020	-.0042	-.0514	-.1671			
110.000								-.3145		
120.000	-.3258	-.1593	.0727	.5455	-.1997	-.1607	-.1693	-.2807		
135.000			.1416	.3493	-.2350	-.1602	-.2233			
150.000	-.1347	-.0396	.1549	-.0513	-.2784	-.1353	-.1788			
165.000	-.1128		.1299		.0926	-.0631	-.2821			
180.000	-.1022	-.0177	.1118	.1238						

ALPHA (4) = 7.993 BETA (2) = -3.860 MACH = .59642 Q = 594.33 P = 2386.8 RN/L = 4.8439

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0184	.6793	.2567	.1366	.0598			-.0106		-.0155	-.0092	.0170	.0446	.0795	.0507
20.000			.3022	.1618	.0664	.0057		-.0103		-.0183					
40.000			.4231	.2168	.1268	.0654		.0100		-.0167	.0036	.0486	.0675	.0774	.1240
55.000			.4406	.2697	.1703	.0764		-.0151		-.0842					
70.000			.4065	.2303	.1535	.0870		-.0330		-.1470	-.2113	-.1209	-.0821	-.0725	
90.000		.5007	.3742	.2045	.1162	.0866		-.0418		-.2286	-.2391	-.1473	-.0984	-.0855	
120.000			.2997	.1575	.0758	.1088		.0459		-.3286	-.3594	-.3583	-.2256	-.2194	
140.000										-.4622					
150.000			.1788	.0723	.0435	.0991		.3801		-.6923	-.4758	-.2056	-.1140	-.0962	
161.000									-.0030						
162.000									-.0333						
165.000										-1.4018	-.3365	-.1775	-.0954	-.0735	
169.000								.3922							
174.000							.5663								
180.000	1.0184	.2814	.1059	.0704	.0484	.0970		.2707		-1.6488	-.2835	-.1478	-.0779	-.0582	

X/LB	.0520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0788	.0325	-.0286	-.1031	-.0990	-.0870	.0598		.4225	.1152
40.000	.0909		-.0123	-.0947	-.1599	-.0740	-.0255		.3181	.0457

ALPHA (4) = 7.991 BETA (3) = 3.850

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.3331	-.2303	-.0638	.1422	.0497	.0461	-.0605			
90.000	-.2483	-.1586	-.0030	.1763	-.0068	-.0391	-.1393			
105.000			.0485	.2967	-.0853	-.1020	-.1909			
110.000								-.3223		
120.000	-.2278	-.0772	.1644	.2394	-.2460	-.1837	-.1927	-.2753		
135.000			.2012	.1575	-.2623	-.1845	-.2311			
150.000	-.0919	.0136	.1995	.1206	-.2537	-.1701	-.2022			
165.000	-.0712		.1656		-.0415	-.1452	-.2547			
180.000	-.0681	.0229	.1537	.2908						

ALPHA (4) = 7.991 BETA (3) = .185 MACH = .59642 Q = 594.33 P = 2386.8 RN/L = 4.8439

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0308	.6773	.2611	.1421	.0636			-.0097		-.0124	-.0037	.0184	.0495	.0843	.0949
20.000			.2728	.1461	.0574	.0028		-.0123		-.0290					
40.000			.3359	.1659	.0794	.0295		-.0182		-.0533	-.0313	.0195	.0481	.0651	.1209
60.000			.3210	.1655	.0723	-.0040		-.0842		-.1490					
80.000			.2814	.1267	.0560	.0071		-.1012		-.2087	-.2508	-.1560	-.1040	-.0889	
90.000		.3822	.2567	.1071	.0267	.0116		-.1145		-.2950	-.2678	-.1699	-.1052	-.0894	
120.000			.2234	.1009	.0227	.0778		-.0256		-.3921	-.3575	-.3121	-.1501	-.1356	
140.000										-.5184					
150.000			.1663	.0763	.0283	.0891		.3100		-.7173	-.4028	-.1704	-.0787	-.0651	
161.000									-.0946						
162.000									-.1109						
165.000										-1.3531	-.3013	-.1512	-.0695	-.0502	
169.000								.3651							
174.000							.5429								
180.000	1.0308	.2833	.1254	.0886	.0676	.1116		.3209		-1.5568	-.2720	-.1373	-.0620	-.0476	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0777	.0370	-.0271	-.1020	-.0954	-.0879	.0622		.4196	.1192
40.000	.0978		-.0100	-.0918	-.1595	-.0906	-.0089		.2937	.0416
70.000	-.3422	-.2593	-.0940	.0836	-.0099	-.0020	-.0885			
90.000	-.2503	-.1772	-.0172	.1059	-.0822	-.0902	-.1581			
105.000			.0566	.1315	-.1579	-.1404	-.2087			
110.000								-.3203		
120.000	-.1579	-.0470	.1237	.1502	-.2726	-.2188	-.2148	-.2632		
135.000			.1447	.2240	-.2881	-.2032	-.2362			
150.000	-.0616	.0041	.1604	.4079	-.2817	-.2190	-.2169			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8868)

ALPHA (4) = 7.991 BETA (3) = .135

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0491		.1557		-.1357	-.2348	-.2411			
180.000	-.0502	.0255	.1606	.3861						

ALPHA (4) = 7.992 BETA (4) = 4.234 MACH = .59642 Q = 594.33 P = 2386.8 RN/L = 4.8439

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0131	.6556	.2477	.1318	.0485			-.0135		-.0144	-.0100	.0148	.0462	.0842	.0835
20.000			.2318	.1101	.0312	-.0071		-.0338		-.0442					
40.000			.2371	.0945	.0201	-.0212		-.0560		-.0994	-.0872	-.0229	.0102	.0398	.1043
55.000			.1925	.0624	-.0191	-.0837		-.1529		-.2136					
70.000			.1632	.0187	-.0309	-.0596		-.1652		-.2599	-.2837	-.1739	-.1205	-.0959	
90.000		.1957	.1590	.0137	-.0579	-.0570		-.1786		-.3537	-.2943	-.1780	-.1094	-.0898	
120.000			.1457	.0329	-.0357	.0184		-.1090		-.4548	-.3572	-.2761	-.1002	-.0799	
140.000										-.5676					
150.000			.1263	.0473	-.0132	.0527		.2214		-.7511	-.3558	-.1583	-.0690	-.0473	
151.000									-.2033						
162.000									-.2054						
165.000										-1.3138	-.2884	-.1477	-.0697	-.0477	
169.000								.3173							
174.000							.5052								
180.000	1.0131	.2526	.1291	.0820	.0503	.0952		.2984		-1.5257	-.2828	-.1463	-.0737	-.0650	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0719	.0338	-.0295	-.1070	-.0904	-.0861	.0559		.4219	.1119
40.000	.0811		-.0159	-.0950	-.1658	-.1025	-.0110		.2755	.0332
70.000	-.3492	-.2764	-.1241	.0230	-.0653	-.0507	-.1195			
90.000	-.2529	-.1953	-.0552	.0188	-.1508	-.1322	-.1823			
105.000			-.0045	.0357	-.2492	-.1856	-.2270			
110.000								-.3416		
120.000	-.1270	-.0895	.0303	.0274	-.3623	-.2737	-.2520	-.2638		
135.000			.1251	.3757	-.3729	-.2615	-.2654			
150.000	-.0532	.0024	.1507	.3917	-.3825	-.3000	-.2629			
165.000	-.0069		.1385		-.2508	-.3182	-.2676			
180.000	-.0675	.0215	.1554	.2510						

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8868)

ALPHA (4) = 7.990 BETA (5) = 8.288 MACH = .59642 Q = 594.33 P = 2386.8 RN/L = 4.8439

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9559	.6212	.2222	.1169	0273			-.0304		-.0343	-.0263	.0006	.0307	.0590	.0682
20.000			.1789	.0741	-.0070	-.0465		-.0639		-.0776					
40.000			.1197	.0185	-.0550	-.0893		-.1186		-.1679	-.1625	-.0921	-.0360	.0075	.0831
55.000			.0477	-.0380	-.1151	-.1640		-.2280		-.2738					
70.000			.0329	-.0870	-.1194	-.1259		-.2160		-.3020	-.3085	-.1908	-.1375	-.1136	
90.000		.0165	.0442	-.0839	-.1430	-.1245		-.2347		-.3988	-.3118	-.1806	-.1065	-.0924	
120.000			.0484	-.0501	-.1149	-.0578		-.2075		-.5120	-.3662	-.2516	-.0767	-.0607	
140.000										-.6137					
160.000			.0488	-.0030	-.0818	-.0077		.0978		-.7813	-.3320	-.1586	-.0734	-.0663	
151.000									-.3437						
152.000									-.3460						
165.000										-1.2903	-.2968	-.1603	-.0940	-.0789	
169.000								.2361							
174.000							.4151								
180.000	.9559	.1941	.0858	.0481	.0079	.0588		.1992		-1.5052	-.3194	-.1891	-.1240	-.1066	

X/LB	.0520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0606	.0175	-.0341	-.1062	-.1012	-.0880	.0479		.4286	.1001
40.000	.0701		-.0218	-.0941	-.1800	-.1116	-.0164		.2633	.0197
70.000	-.3519	-.3032	-.1658	-.0373	-.1013	-.0712	-.1302			
90.000	-.2543	-.2233	-.1183	-.0396	-.1897	-.1543	-.1833			
105.000			-.0647	.0093	-.3230	-.2255	-.2450			
110.000								-.3331		
120.000	-.1348	-.1312	-.0363	.2161	-.4600	-.3496	-.2942	-.2795		
135.000			.0651	.3683	-.4758	-.3451	-.3121			
150.000	-.0815	-.0393	.0844	.1441	-.4943	-.4003	-.3137			
165.000	-.0857		.0950		-.3952	-.4104	-.2997			
180.000	-.1012	-.0202	.1185	.1709						

ALPHA (5) = 11.959 BETA (1) = -7.852 MACH = .59656 Q = 594.57 P = 2386.7 RN/L = 4.8403

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9197	.7642	.3659	.2173	1334			.0403		.0327	.0353	.0546	.0852	.1289	.1452
20.000			.4529	.2858	.1660	.0871		.0616		.0444					
40.000			.5810	.3664	.2655	.1852		.1124		.0788	.0942	.1254	.1436	.1537	.2067
55.000			.5687	.4045	.2842	.1758		.0775		-.0155					
70.000			.4873	.3135	.2230	.1506		.0373		-.0819	-.1860	-.1197	-.0915	-.0934	
90.000		.5464	.4017	.2487	.1703	.1276		.0188		-.1776	-.2249	-.1667	-.1360	-.1350	
120.000			.2242	.0892	.0044	.0441		.0420		-.3245	-.4331	-.5563	-.4800	-.4852	

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8868)

ALPHA (5) = 11.959 BETA (1) = -7.852

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.4775					
150.000			.0404	-.0570	-.0797	.0136		.3701		-.7641	-.6312	-.2917	-.2000	-.2011	
157.000									.0155						
162.000									-.0580						
165.000										-1.5689	-.4158	-.2447	-.1613	-.1557	
169.000								.3360							
174.000							.5029								
180.000	.9197	.1007	-.0576	-.0396	-.0589	.0013		.1174		-1.9834	-.3260	-.1854	-.1249	-.1357	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1360	.0923	.0294	-.0460	-.0560	-.0523	.0734		.4531	.1210
40.000	.1759		.0573	-.0339	-.1128	-.0296	-.0116		.3475	.0729
70.000	-.4286	-.2623	-.0437	.1889	.1047	.0946	-.0228			
90.000	-.3235	-.1658	.0133	.2435	.0606	.0056	-.1107			
105.000			.0346	.4016	-.0084	-.0530	-.1658			
113.000								-.3133		
120.000	-.4502	-.2180	.0111	.5326	-.2330	-.1828	-.1851	-.3038		
135.000			.0568	.2623	-.2903	-.2015	-.2560			
150.000	-.1912	-.0860	.0431	-.0685	-.3262	-.1586	-.2010			
165.000	-.1822		.0495		.0495	-.0720	-.2761			
180.000	-.1712	-.1000	.0259	.2567						

ALPHA (5) = 11.978 BETA (2) = -3.840 MACH = .59656 Q = 594.57 P = 2386.7 RN/L = 4.8403

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9430	.8012	.4015	.2536	.1617			.0529		.0461	.0522	.0673	.1036	.1433	.1595
20.000			.4424	.2815	.1782	.0976		.0662		.0487					
47.000			.5101	.3201	.2201	.1466		.0827		.0412	.0426	.0859	.1171	.1388	.1961
68.000			.4532	.2357	.1787	.0749		-.0197		-.0991					
78.000			.3735	.2066	.1186	.0742		-.0403		-.1564	-.2388	-.1658	-.1313	-.1291	
90.000		.4200	.3074	.1588	.0810	.0607		-.0564		-.2402	-.2682	-.1894	-.1518	-.1500	
120.000			.1698	.0525	-.0173	.0392		.0056		-.3728	-.4231	-.4727	-.3583	-.3521	
143.000										-.5204					
150.000			.0493	-.0372	-.0495	.0274		.3431		-.7760	-.5311	-.2359	-.1400	-.1527	
157.000									-.0462						
162.000									-.0982						
165.000										-1.5297	-.3611	-.1918	-.1180	-.1101	
169.000								.3410							
174.000							.5212								

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8868)

ALPHA (B) = 11.975 BETA (2) = -3.840

SECTION 1 (ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	.3430	.1122	-.0174	-.0249	-.0327	.0340		.2104		-1.8839	-.2971	-.1516	-.0847	-.0792	
X/LB	.6520	.7230	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1481	.1016	.0347	-.0471	-.0505	-.0498	.0815		.4477	.1311					
45.000	.1725		.0574	-.0330	-.1244	-.0425	.0048		.3291	.0584					
90.000	-.4608	-.3181	-.1170	.1110	.0389	.0466	-.0495								
90.000	-.3389	-.2113	-.0372	.1592	-.0079	-.0400	-.1259								
105.000			.0090	.2879	-.0854	-.0936	-.1854								
112.000								-.3224							
120.000	-.3112	-.0759	.0824	.1739	-.2621	-.1997	-.1976	-.2852							
135.000			.0758	.1205	-.2641	-.1979	-.2425								
150.000	-.1761	-.0932	.0639	.2699	-.2030	-.1740	-.2092								
165.000	-.1300		.0607		-.0312	-.1376	-.2526								
180.000	-.0994	-.0151	.1164	.4079											

ALPHA (B) = 11.981 BETA (3) = .186 MACH = .59656 Q = 594.57 P = 2386.7 RN/L = 4.8403

SECTION 1 (ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.0647	.0108	.4095	.2823	.1649			.0632		.0547	.0533	.0758	.1081	.1469	.1602
22.500			.4116	.2535	.1567	.0933		.0547		.0362					
45.000			.4135	.2462	.1595	.0869		.0362		-.0177	-.0212	.0391	.0809	.1065	.1848
67.500			.3048	.1810	.0748	-.0257		-.1061		-.1762					
72.000			.2530	.1011	.0230	-.0060		-.1054		-.2207	-.2874	-.2034	-.1660	-.1587	
90.000		.2745	.2057	.0642	-.0025	-.0070		-.1184		-.2998	-.2965	-.2100	-.1630	-.1586	
112.500			.1224	.0131	-.0484	.0209		-.0461		-.4234	-.4052	-.3977	-.2502	-.2254	
135.000										-.5689					
157.500			.0424	-.0252	-.0422	.0313		.2808		-.7981	-.4450	-.1959	-.1036	-.0960	
165.000									-.1383						
172.500									-.1688						
180.000										-1.4801	-.3230	-.1568	-.0774	-.0691	
180.000								.3226							
180.000							.4936								
180.000	.9547	.1059	.0015	-.0044	-.0162	.0452		.2633		-1.7947	-.2839	-.1412	-.0677	-.0630	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1523	.1029	.0382	-.0491	-.0499	-.0544	.0844		.4527	.1356					
45.000	.1654		.0525	-.0344	-.1289	-.0503	.0082		.3121	.0544					

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8868)

ALPHA (5) = 11.981 BETA (3) = .186

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.4853	-.3467	-.1531	.0492	-.0277	-.0058	-.0820			
90.000	-.3514	-.2414	-.0597	.0761	-.1001	-.0889	-.1504			
105.000			.0239	.1178	-.1815	-.1459	-.2072			
110.000								-.3229		
120.000	-.2046	-.0903	.0804	.1900	-.2790	-.2310	-.2190	-.2584		
135.000			.0570	.3411	-.3068	-.2296	-.2412			
150.000	-.1370	-.0578	.1262	.4975	-.2949	-.2357	-.2185			
165.000	-.0921		.1429		-.1507	-.2416	-.2446			
180.000	-.0753	.0092	.1554	.4079						

ALPHA (5) = 11.977 BETA (4) = 4.246 MACH = .59656 Q = 594.57 P = 2386.7 RN/L = 4.8403

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9439	.7920	.3864	.2486	.1476			.0543		.0444	.0458	.0667	.1046	.1446	.1534
20.000			.3621	.2286	.1219	.0596		.0262		.0065					
40.000			.3009	.1679	.0744	.0175		-.0343		-.0938	-.0999	-.0286	.0253	.0742	.1574
55.000			.1813	.0707	-.0370	-.1141		-.1883		-.2491					
70.000			.1306	-.0044	-.0531	-.0685		-.1713		-.2717	-.3225	-.2314	-.1847	-.1877	
90.000		.1189	.1084	-.0172	-.0835	-.0671		-.1774		-.3517	-.3150	-.2177	-.1655	-.1536	
120.000			.0654	-.0332	-.0911	-.0125		-.1047		-.4694	-.3849	-.3294	-.1641	-.1347	
140.000										-.6017					
150.000			.0257	-.0323	-.0908	.0125		.2010		-.8178	-.3817	-.1667	-.0786	-.0735	
151.000									-.2289						
162.000									-.2606						
165.000										-1.4158	-.3024	-.1443	-.0704	-.0546	
169.000								.2771							
174.000							.4519								
180.000	.9438	.0908	.0053	-.0013	-.0273	.0406		.2461		-1.7569	-.2943	-.1459	-.0794	-.0780	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1482	.1000	.0406	-.0437	-.0548	-.0553	.0801		.4562	.1233
40.000	.1550		.0497	-.0331	-.1369	-.0696	.0124		.3018	.0438
70.000	-.4759	-.3509	-.1804	-.0071	-.0796	-.0473	-.1051			
90.000	-.3518	-.2700	-.0971	-.0265	-.1707	-.1333	-.1700			
105.000			-.0519	.0201	-.2799	-.1983	-.2291			
110.000								-.3449		
120.000	-.1941	-.1417	-.0222	.0411	-.3917	-.2814	-.2553	-.2646		
135.000			.0073	.3960	-.3675	-.2599	-.2593			
150.000	-.0879	-.0200	.1191	.4946	-.3451	-.2350	-.2503			

AMES 11-073(OA148) -140A/B/C/R ORB FUSELAGE (XE8868)

ALPHA (5) = 11.977 BETA (4) = 4.246

SECTION : 1 ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0790		.1255		-.2621	-.3198	-.2534			
180.000	-.0948	-.0104	.1202	.4423						

ALPHA : 5) = 11.969 BETA (5) = 8.308 MACH = .59656 Q = 594.57 P = 2386.7 RN/L = 4.8403

SECTION : 1 ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.8810	.7490	.3653	.2222	.1221			.0410		.0301	.0383	.0499	.0948	.1342	.1467
20.000			.2949	.1651	.0842	.0225		-.0134		-.0307					
40.000			.1654	.0556	-.0156	-.0829		-.1114		-.1900	-.2111	-.1125	-.0359	.0366	.1280
55.000			.0810	-.0779	-.1602	-.2226		-.2718		-.3140					
70.000			-.0050	-.1105	-.1472	-.1379		-.2283		-.3184	-.3369	-.2439	-.2006	-.2153	
90.000		-.0649	.0020	-.1091	-.1635	-.1256		-.2311		-.3994	-.3275	-.2198	-.1607	-.1531	
120.000			-.0122	-.0977	-.1418	-.0678		-.1878		-.5198	-.3713	-.2649	-.1002	-.1035	
140.000										-.6358					
150.000			-.0380	-.0809	- 1332	-.0456		.0860		-.8282	-.3428	-.1588	-.0695	-.0709	
151.000									-.3535						
162.000									-.3849						
165.000										-1.3542	-.3044	-.1612	-.0820	-.0920	
169.000								.1977							
174.000							.3735								
180.000	.8810	.0210	-.0293	-.0341	-.0627	.0017		.1530		-1.7516	-.3319	-.1898	-.1245	-.1331	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
000	.1337	.0090	.0319	-.0518	-.0471	-.0557	.0754		.4528	.1289
40.000	.1439		.0401	-.0430	-.1480	-.0768	-.0057		.2799	.0307
70.000	-.4691	-.3826	-.2181	-.0838	-.1309	-.0874	-.1330			
[illegible]	-.3543	-.2842	-.1791	-.1015	-.2319	-.1521	-.1819			
[illegible]			-.1313	-.0020	-.3858	-.2526	-.2559			
110.000								-.3498		
140.000	-.2057	-.2201	-.0956	.0725	-.4983	-.3587	-.3161	-.2698		
155.000			.0602	.4548	-.5042	-.3508	-.3188			
160.000	-.0372	-.0532	.0665	.3949	-.5301	-.4259	-.3349			
165.000	-.1359		.0316		-.4702	-.4322	-.2999			
180.000	-.1597	-.1018	.0449	.1973						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8869) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 936.0680 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = .000 SPDBRK = 55.000
BDFLAP = 22.500 L-ELVN = -10.000
R-ELVN = -10.000 MACH = .900

ALPHA (I) = -3.989 BETA (I) = -3.851 MACH = .89987 Q = 599.88 P = 1058.3 RN/L = 3.6263

SECTION (I)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1956	.3526	-.0751	-.1273	-.1899			-.2194		-.2144	-.1848	-.0728	-.0279	.0072	-.0101
20.000			-.0458	-.1347	-.2304	-.2450		-.2668		-.2426					
40.000			.1464	-.1117	-.2145	-.2510		-.3617		-.4328	-.4053	-.1263	-.0813	-.0388	-.0369
55.000			.3362	.0891	.0017	-.1122		-.1930		-.2855					
70.000			.4643	.2189	.1315	.0662		-.0953		-.2272	-.7228	-.0099	.0645	.1126	
90.000		.7348	.5521	.3094	.1704	.1148		-.0669		-.3059	-.6612	-.0457	.0486	.1003	
120.000			.6393	.4562	.3357	.3262		.1846		-.2310	-.5799	-.1052	.0320	.0755	
140.000										-.1576					
150.000			.6432	.4896	.3994	.4203		.6832		-.2796	-.8580	-.0410	.0252	.0552	
161.000									.3293						
162.000									.3886						
165.000															
169.000										-.8374	-.7732	-.0203	.0173	.0521	
174.000								.7235							
180.000	1.1956	.8460	.5859	.4538	.4046	.4165	.8527	.6413		-.9423	-.7625	.0000	.0109	.0419	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.1299	-.1980	-.2435	-.3461	-.4571	-.3152	-.0014		.4019	.2342					
40.000	-.2369		-.2371	-.3437	-.3140	-.4176	-.1080		.1346	.1624					
70.000	.0557	.0231	.1444	.2713	.1924	.1792	-.0016								
90.000	.0798	.0656	.1987	.2934	.1125	.0878	-.0640								
105.000			.2493	.3327	.0086	.0231	-.1115								
110.000								-.3604							
120.000	.0878	.1396	.3359	.4183	-.1288	-.0758	-.1218	-.2708							
135.000			.3873	.4806	-.0952	-.0349	-.1081								
150.000	.0957	.1698	.3882	.4467	-.0468	-.0242	-.1156								
165.000	.0908		.3638		.1520	-.0035	-.3058								
180.000	.0816	.1011	.3396	.5044											

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8869)

ALPHA (1) = -3.987 BETA (2) = .189 MACH = .89987 Q = 599.68 P = 1058.3 RN/L = 3.62E3

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1997	.3570	-.0691	-.1109	-.1879			-.2122		-.2179	-.1722	-.0603	-.0229	.0136	-.0090
20.000			-.0539	-.1225	-.2184	-.2222		-.2437		-.2459					
40.000			.1013	-.1083	-.2028	-.2128		-.3083		-.3572	-.3209	-.0722	-.0343	-.0070	-.0102
55.000			.2478	.0185	-.0621	-.1419		-.2361		-.3444					
70.000			.3473	.1097	.0320	-.0124		-.1761		-.3254	-.7624	-.0397	.0518	.0938	
90.000		.5828	.4296	.1858	.0564	.0128		-.1669		-.4649	-.7278	-.0895	.0388	.0853	
120.000			.5355	.3471	.2249	.2247		.0666		-.4325	-.6745	-.1704	.0158	.0578	
140.000										-.4616					
160.000			.5912	.4502	.3547	.3754		.5803		-.7996	-.8380	-.0343	.0260	.0518	
161.000									.2306						
162.000									.3113						
165.000										-.8458	-.7430	-.0208	.0267	.0522	
169.000								.6911							
174.000							.8365								
180.000	1.1997	.8359	.5958	.4566	.4113	.4261		.6788		-.9512	-.7252	-.0035	.0269	.0522	

X/LB	.6820	.7280	.7730	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1268	-.1982	-.2409	-.3453	-.4646	-.3217	.0212		.3831	.2435
40.000	-.1911		-.2355	-.3422	-.3787	-.4001	-.1354		.2610	.1356
70.000	.0385	.0050	.1045	.2102	.1257	.1281	-.0352			
90.000	.0672	.0537	.1589	.2204	.0322	.0334	-.1013			
105.000			.2105	.2176	-.0817	-.0293	-.1430			
110.000								-.3596		
120.000	.0851	.1141	.2696	.2897	-.2727	-.1567	-.1844	-.2772		
135.000			.3435	.4942	-.2173	-.1151	-.1588			
150.000	.1007	.1564	.3604	.5397	-.1382	-.1270	-.1664			
164.000	.1007		.3590		.0335	-.1134	-.3019			
180.000	.0382	.1791	.3634	.5407						

ALPHA (1) = -3.981 BETA (3) = 4.272 MACH = .89987 Q = 599.88 P = 1058.3 RN/L = 3.6263

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1824	.3413	-.0822	-.1155	-.1909			-.2040		-.2273	-.1849	-.0711	-.0248	.0060	-.0175
20.000			-.0784	-.1276	-.2141	-.2195		-.2209		-.2375					
40.000			.0385	-.1373	-.2029	-.1976		-.2671		-.3143	-.3117	-.0471	-.0063	.0020	.0093
55.000			.1490	-.0552	-.1269	-.1703		-.2624		-.3866					
70.000			.2266	.0038	-.0613	-.0857		-.2398		-.4006	-.8426	-.0761	.0520	.0781	
90.000		.4239	.3035	.0575	-.0502	-.0835		-.2541		-.5975	-.6826	-.2237	.0497	.0698	
120.000			.4194	.2297	.1044	.1259		-.0577		-.5971	-.8189	-.2531	-.0125	.0315	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8869)

ALPHA (1) = -3.981 BETA (3) = 4.272

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.8232					
150.000			.5180	.3964	.2778	.3099		.4883		-.8850	-.8564	-.0422	-.0042	.0288	
151.000									.1152						
162.000									.2174						
165.000										-.8554	-.7653	-.0137	.0032	.0364	
169.000								.6414							
174.000							.7973								
180.000	1.1824	.8113	.5888	.4530	.4040	.4119		.6624		-.9431	-.7613	-.0004	.0079	.0367	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1334	-.2085	-.2424	-.3499	-.4347	-.3361	-.0074		.3889	.2263
40.000	-.1572		-.2298	-.3375	-.3899	-.3575	-.1086		.2526	.1187
70.000	.0279	-.0188	.0450	.1483	.0589	.0835	-.0612			
90.000	.0545	.0267	.1042	.1445	-.0416	-.0200	-.1318			
105.000			.1499	.1265	-.1637	-.0781	-.1706			
110.000								-.3548		
120.000	.0614	.0740	.1855	.1471	-.5346	-.2652	-.2472	-.2908		
135.000			.2727	.3935	-.4271	-.2272	-.2177			
150.000	.0775	.1312	.3089	.5512	-.3014	-.2661	-.2076			
165.000	.0751		.3223		-.0999	-.2532	-.3071			
180.000	.0800	.1611	.3442	.5200						

ALPHA (2) = .008 BETA (1) = -3.868 MACH = .90190 Q = 601.65 P = 1056.6 RN/L = 3.6047

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2100	.5160	.0718	-.0184	-.0979			-.1614		-.1680	-.1744	-.0762	-.0172	.0318	.0289
20.000			.1086	-.0125	-.1180	-.1610		-.1908		-.1956					
40.000			.2935	.0410	-.0678	-.1200		-.2189		-.2493	-.2816	-.0841	-.0290	.0077	.0294
55.000			.4347	.1983	.1004	.0105		-.0911		-.1935					
70.000			.5040	.2695	.1649	.1116		-.0428		-.1812	-.6535	-.0841	.0259	.0644	
90.000		.7189	.5502	.3199	.1839	.1480		-.0146		-.2559	-.6339	-.1221	.0181	.0368	
120.000			.5749	.3986	.2865	.3000		.2063		-.2540	-.5985	-.2241	.0029	.0223	
140.000										-.2724					
150.000			.5344	.3830	.3078	.3493		.1362		-.3868	-.9836	-.2347	.0209	.0144	
151.000									.3012						
162.000									.3448						
165.000										-.9071	-.8537	-.1247	.0178	.0144	
169.000								.6828							
174.000							.8092								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8869)

ALPHA (2) = .008 BETA (1) = -3.868

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.2100	.7168	.4618	.3698	.3047	.3384		.5918		-1.0495	-.8546	-.0522	.0169	.0118	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0298	-.0793	-.1482	-.2684	-.3760	-.2974	.0314		.3558	.2228
40.000	-.0864		-.1352	-.2565	-.3036	-.4100	-.1441		.2531	.1773
70.000	-.0669	-.1203	.0843	.2556	.1804	.1802	.0073			
90.000	-.0431	-.0589	.1463	.2749	.0999	.0862	-.0639			
105.000			.2062	.3172	.0037	.0175	-.1181			
110.000								-.3582		
120.000	-.0274	.0408	.3007	.3770	-.1626	-.0856	-.1271	-.2824		
135.000			.3480	.4000	-.1549	-.0698	-.1316			
150.000	.0168	.1080	.3428	.3297	-.1225	-.0632	-.1439			
165.000	.0178		.3164		.1031	-.0493	-.3075			
180.000	.0177	.1111	.2942	.4317						

ALPHA (2) = .010 BETA (2) = .177 MACH = .90190 Q = 601.65 P = 1056.6 RN/L = 3.6047

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2142	.5187	.0747	-.0100	-.0918			-.1531		-.1682	-.1640	-.0648	-.0112	.0355	.0351
20.000			.0943	-.0152	-.1105	-.1479		-.1696		-.1879					
40.000			.2312	.0063	-.0781	-.1167		-.1912		-.2186	-.2626	-.0566	-.0059	.0189	.0500
60.000			.3309	.1152	.0203	-.0374		-.1424		-.2323					
80.000			.3836	.1585	.0653	.0270		-.1147		-.2586	-.7253	-.0923	.0144	.0501	
90.000		.5718	.4328	.2004	.0849	.0585		-.1068		-.3821	-.7066	-.1131	.0165	.0435	
100.000			.4822	.3059	.1938	.2189		.0988		-.4126	-.6796	-.1855	.0203	.0335	
110.000										-.5081					
150.000			.4936	.3540	.2714	.3118		.5641		-.8523	-.9483	-.1411	.0293	.0249	
155.000									.2073						
160.000									.2680						
165.000										-.9166	-.8509	-.0739	.0277	.0258	
169.000								.6531							
174.000							.8008								
180.000	1.2142	.7095	.4754	.3570	.3154	.3485		.6297		-.9216	-.8688	-.0429	.0269	.0268	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0296	-.0730	-.1495	-.2710	-.3785	-.3017	.0318		.3882	.2284
40.000	-.0840		-.1412	-.2558	-.3162	-.3954	-.1245		.2566	.1361

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8869)

ALPHA (2) = .010 BETA (2) = .177

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.0957	-.1455	.0424	.1831	.1087	.1244	-.0337			
90.000	-.0533	-.0651	.1007	.1889	.0203	.0274	-.1011			
105.000			.1571	.2056	-.0949	-.0423	-.1541			
110.000								-.3464		
120.000	-.0051	.0405	.2217	.2895	-.2494	-.1585	-.1844	-.2696		
135.000			.2893	.4254	-.2357	-.1362	-.1746			
150.000	.0320	.1043	.3039	.4745	-.2001	-.1601	-.1891			
165.000	.0356		.3045		-.0321	-.1654	-.3003			
180.000	.0277	.1137	.3044	.4734						

ALPHA (2) = .007 BETA (3) = 4.253 MACH = .90190 Q = 601.65 P = 1056.6 RN/L = 3.6047

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1972	.5044	.0653	-.0116	-.1022			-.1560		-.1752	-.1759	-.0736	-.0132	.0305	.0307
20.000			.0611	-.0290	-.1204	-.1441		-.1616		-.1891					
40.000			.1517	-.0181	-.1018	-.1112		-.1766		-.2050	-.2777	-.0484	.0026	.0241	.0631
55.000			.2264	.0299	-.0429	-.0759		-.1770		-.2682					
70.000			.2630	.0476	-.0283	-.0362		-.1751		-.3213	-.7828	-.0980	.0142	.0404	
90.000		.4137	.3123	.0852	-.0204	-.0243		-.1856		-.4887	-.7873	-.1457	.0258	.0396	
120.000			.3782	.2041	.0890	.1334		-.0134		-.5602	-.7795	-.2109	.0220	.0277	
140.000										-.7793					
152.000			.4281	.3079	.1980	.2560		.4734		-.9356	-.9578	-.1136	.0218	.0127	
161.000									.0974						
167.000									.1798						
175.000										-.8506	-.8740	-.0387	.0185	.0120	
179.000								.6031							
174.000							.7590								
180.000	1.1972	.6844	.4710	.3481	.3039	.3372		.6135		-1.0588	-.8669	-.0404	.0194	.0146	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0254	-.0781	-.1491	-.2717	-.3766	-.3187	.0348		.3416	.2219
40.000	-.0367		-.1358	-.2539	-.3196	-.3538	-.1092		.2451	.1064
70.000	-.0978	-.1494	-.0133	.1139	.0397	.0742	-.0652			
90.000	-.0521	-.0739	.0501	.1045	-.0649	-.0319	-.1357			
105.000			.1069	.0982	-.1973	-.0959	-.1832			
110.000								-.3555		
120.000	-.0058	.0111	.1476	.1272	-.5445	-.2560	-.2355	-.2929		
135.000			.2407	.3631	-.4713	-.2425	-.2284			
150.000	.0237	.0891	.2692	.4574	-.3593	-.2895	-.2331			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8869)

ALPHA (2) = .007 BETA (3) = 4.253

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	.0231		.2734		-.1592	-.3123	-.3073			
180.000	.0172	.1057	.2969	.4315						

ALPHA (3) = 4.005 BETA (1) = -3.869 MACH = .90083 Q = 600.78 P = 1057.6 RN/L = 3.5915

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1938	.6665	.2158	.0930	.0075			-.0876		-.1009	-.1306	-.0595	.0048	.0635	.0890
20.000			.2638	.1115	.0021	-.0676		-.0985		-.1136					
40.000			.4187	.1710	.0624	-.0021		-.0857		-.1295	-.1777	-.0368	.0185	.0604	.1080
55.000			.5042	.2788	.1788	.0949		-.0085		-.1058					
70.000			.5228	.2965	.1890	.1368		.0035		-.1285	-.5859	-.1393	-.0255	.0275	
90.000		.6877	.5279	.3159	.1939	.1657		.0272		-.2105	-.6301	-.2006	-.0319	.0205	
100.000			.4959	.3277	.2244	.2594		.2132		-.2545	-.6157	-.3056	-.0849	-.0508	
140.000										-.3531					
150.000			.4175	.2719	.2145	.2743		.6109		-.4611	-.9799	-.4211	.0088	-.0128	
15..000									.2793						
168.000									.3039						
165.000										-.9627	-.8071	-.4223	.0375	-.0019	
169.000								.6444							
17..000							.7715								
180.000	1.1998	.5737	.3360	.2733	.2107	.2682		.5456		-1.0950	-.9255	-.2682	.0427	.0049	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0530	.0023	-.0777	-.2009	-.2628	-.3428	.0530		.4301	.2422
40.000	.0350		-.0564	-.1814	-.2289	-.3554	-.1271		.3535	.1705
70.000	-.2089	-.3929	.0061	.2202	.1646	.1695	.0062			
90.000	-.1698	-.2975	.0824	.2428	.0887	.0719	-.0666			
100.000			.1654	.2505	-.0103	-.0014	-.1272			
110.000								-.3356		
1..0.00	-.1607	-.0803	.2630	.2414	-.1345	-.1116	-.1323	-.2828		
135.000			.2953	.2703	-.2184	-.1102	-.1610			
150.000	-.0633	.0357	.2817	.1979	-.1854	-.1052	-.1545			
165.000	-.0526		.2585		.0091	-.0887	-.3019			
180.000	-.0444	.0483	.2292	.3531						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8869)

ALPHA (3) = 4.002 BETA (2) = .179 MACH = .90083 Q = 600.78 P = 1057.6 RN/L = 3.5915

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2054	.6700	.2239	.1037	.0043			-.0864		-.1070	-.1259	-.0501	.0123	.0737	.0874
20.000			.2400	.1078	-.0058	-.0602		-.0973		-.1221					
40.000			.3462	.1372	.0374	-.0130		-.0873		-.1315	-.1887	-.0527	.0262	.0607	.1109
55.000			.3923	.1861	.0934	.0331		-.0677		-.1599					
70.000			.4024	.1863	.0911	.0641		-.0693		-.2002	-.6595	-.1576	-.0284	.0135	
90.000		.5377	.4199	.2043	.1000	.0861		-.0528		-.3117	-.7211	-.1678	-.0170	.0150	
120.000			.4199	.2508	.1520	.2032		.1261		-.3882	-.6902	-.2973	-.0116	-.0066	
140.000										-.5119					
150.000			.3871	.2574	.1925	.2536		.5477		-.9034	-1.0356	-.3933	.0543	.0086	
151.000									.1942						
162.000									.2406						
165.000										-.9728	-.9308	-.2430	.0468	.0122	
169.000								.6194							
174.000							.7631								
180.000	1.2054	.5675	.3557	.2560	.2244	.2780		.5866		-1.0339	-.9578	-.1950	.0440	.0148	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0541	.0077	-.0713	-.2025	-.2836	-.3515	.0473		.4380	.2411
40.000	.0422		-.0555	-.1811	-.2433	-.3436	-.1073		.3151	.1378
70.000	-.2221	-.3669	-.0216	.1633	.0969	.1166	-.0320			
90.000	-.1591	-.2635	.0608	.1575	-.0038	.0208	-.1002			
105.000			.1304	.1562	-.1038	-.0484	-.1562			
110.000								-.3445		
120.000	-.1028	-.0700	.1772	.2387	-.2801	-.1690	-.1800	-.2831		
135.000			.2159	.4245	-.2797	-.1700	-.1990			
150.000	-.0393	.0245	.2322	.4767	-.2314	-.1929	-.2110			
165.000	-.0273		.2363		-.0747	-.1957	-.2954			
180.000	-.0311	.0485	.2461	.4240						

ALPHA (3) = 4.006 BETA (3) = 4.240 MACH = .90083 Q = 600.78 P = 1057.6 RN/L = 3.5915

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1893	.6603	.2111	.1016	-.0034			-.0820		-.1108	-.1285	-.0566	.0106	.0657	.0789
20.000			.2054	.0939	-.0230	-.0636		-.0969		-.1283					
40.000			.2562	.0849	-.0049	-.0378		-.0964		-.1474	-.2130	-.0962	.0149	.0518	.1101
55.000			.2805	.0865	.0114	-.0274		-.1208		-.2017					
70.000			.2800	.0802	-.0046	-.0021		-.1281		-.2550	-.7247	-.1500	-.0269	.0095	
90.000		.3803	.3034	.0988	.0034	.0100		-.1258		-.4058	-.7931	-.1779	-.0090	.0152	
120.000			.3244	.1680	.0672	.1299		.0325		-.5231	-.7714	-.3067	.0272	.0127	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8869)

ALPHA (3) = 4.006 BETA (3) = 4.240

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.6890					
150.000			.3327	.2181	.1231	.2136		.4608		-1.0168	-1.0133	-.3362	.0496	.0127	
161.000									.0904						
162.000									.1524						
165.000										-.9805	-.7409	-.2294	.0381	.0082	
169.000								.5733							
174.000							.7264								
180.000	1.1893	.5387	.3537	.2464	.2107	.2675		.5681		-1.1049	-.9417	-.2507	.0404	.0004	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0567	.0068	-.0725	-.1970	-.2563	-.3393	.0515		.4374	.2446
40.000	.0539		-.0554	-.1774	-.2490	-.3391	-.0741		.2883	.1097
70.000	-.2234	-.3549	-.0713	.0855	.0291	.0719	-.0623			
90.000	-.1531	-.2480	-.0093	.0702	-.0780	-.0306	-.1313			
105.000			.0403	.0836	-.2020	-.1035	-.1861			
110.000								-.3479		
121.000	-.0792	-.0932	.0862	.1477	-.4190	-.2416	-.2335	-.2787		
140.000			.1849	.3399	-.4545	-.2496	-.2343			
151.000	-.0352	.0186	.2040	.4455	-.3870	-.3076	-.2403			
165.000	-.0356		2079		-.2064	-.3420	-.2952			
181.000	-.0460	.0463	.2309	.3367						

ALPHA (4) = 7.976 BETA (1) = -3.869 MACH = .89993 Q = 600.24 P = 1058.8 RN/L = 3.5857

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1669	.8086	.3618	.2124	.1085			-.0122		-.0351	-.0570	-.0142	.0435	.1198	.1461
30.000			.4123	.2418	.1168	.0398		-.0136		-.0388					
40.000			.5315	.3001	.1836	.1031		.0198		-.0292	-.0704	.0032	.0693	.1182	.1863
55.000			.5580	.3367	.2305	.1434		.0398		-.0532					
70.000			.5204	.3093	.1982	.1592		.0363		-.0879	-.4909	-.1796	-.0842	.0036	
90.000		.6323	.4953	.2928	.1803	.1665		.0557		-.1644	-.6018	-.2292	-.1048	-.0109	
101.000			.4090	.2447	.1536	.2103		.2119		-.2507	-.6478	-.4878	-.2521	-.1512	
140.000										-.3168					
150.000			.2979	.1651	.1279	.2093		.5911		-.4764	-.5987	-.4654	-.1553	-.0331	
161.000									.2589						
162.000									.2736						
165.000										-.9762	-.6332	-.5200	-.1385	-.0113	
169.000								.6130							
174.000							.7380								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8869)

ALPHA (α) = 7.976 BETA (β) = -3.869

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1590	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.1669	.4231	.2179	.1902	.1307	.2062		.5090		-.8660	-.6347	-.5032	-.1409	.0100	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1357	.0972	.0053	-.1139	-.1982	-.3363	.0652		.4991	.2594					
40.000	.1425		.0308	-.0952	-.1952	-.3316	-.1037		.3983	.1704					
70.000	-.3214	-.5580	-.0454	.1633	.1189	.1355	-.0091								
90.000	-.2444	-.4703	.0241	.1436	.0436	.0405	-.0848								
105.000			.1068	.1404	-.0372	-.0368	-.1493								
110.000								-.3382							
120.000	-.2934	-.1904	.1262	.1421	-.2063	-.1492	-.1602	-.2872							
135.000			.1331	.2240	-.2509	-.1573	-.1970								
150.000	-.1341	-.0631	.1477	.2845	-.2148	-.1437	-.2021								
165.000	-.1128		.1185		-.0127	-.1064	-.2872								
180.000	-.0997	-.0444	.1271	.3187											

ALPHA (α) = 7.978 BETA (β) = .182 MACH = .89993 Q = 600.24 P = 1058.8 RN/L = 3.5857

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1719	.8115	.3662	.2224	.1169			-.0064		-.0293	-.0562	-.0196	.0487	.1228	.1536
20.000			.3951	.2178	.1054	.0288		-.0078		-.0468					
40.000			.4436	.2430	.1334	.0743		.0033		-.0544	-.1113	-.0374	.0457	.1036	.1791
55.000			.4338	.2261	.1157	.0625		-.0270		-.1061					
70.000			.3933	.1951	.0938	.0764		-.0310		-.1517	-.5918	-.1954	-.1046	-.0189	
90.000		.4907	.3841	.1873	.0864	.0956		-.0208		-.2534	-.6944	-.1959	-.0998	-.0218	
120.000			.3339	.1838	.0959	.1715		.1429		-.3595	-.7107	-.3094	-.1500	-.0436	
140.000										-.5058					
150.000			.2745	.1578	.1094	.1992		.5317		-.8882	-.6341	-.4795	-.0882	-.0018	
157.000									.1815						
162.000									.2113						
165.000										-1.0328	-.6674	-.4779	-.0128	.0143	
169.000								.5923							
174.000							.7238								
180.000	1.1719	.4183	.2360	.1604	.1356	.2184		.5497		-.8844	-.6938	-.4937	-.0904	.0214	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1408	.0905	.0069	-.1221	-.1950	-.3469	.0594		.4966	.2577					
40.000	.1460		.0259	-.0957	-.1946	-.3303	-.0990		.3600	.1419					

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8869)

ALPHA (4) = 7.978 BETA (2) = .182

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.3063	-.6039	-.0956	.0941	.0452	.0793	-.0478			
90.000	-.2454	-.4465	-.0189	.0781	-.0468	-.0145	-.1168			
105.000			.0572	.0709	-.1504	-.0878	-.1810			
110.000								-.3507		
120.000	-.1960	-.1967	.0658	.0911	-.3493	-.2109	-.2007	-.2843		
125.000			.1164	.2733	-.3416	-.2083	-.2223			
150.000	-.1146	-.0839	.1393	.3671	-.2775	-.2189	-.2194			
165.000	-.0957		.1385		-.0925	-.2138	-.2824			
180.000	-.0894	-.0368	.1430	.3525						

ALPHA (4) = 7.979 BETA (3) = 4.241 MACH = .89993 Q = 600.24 P = 1058.8 RN/L = 3.5857

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1569	.7933	.3545	.2141	.0991			-.0105		-.0365	-.0566	-.0251	.0446	.1224	.1427
20.000			.3283	.1884	.0768	.0151		-.0314		-.0578					
40.000			.3409	.1710	.0790	.0203		-.0340		-.0902	-.1613	-.1088	.0243	.0844	.1635
55.000			.3036	.1151	.0371	-.0105		-.0894		-.1580					
70.000			.2764	.0870	-.0017	.0110		-.0915		-.2054	-.6629	-.1961	-.1064	-.0339	
90.000		.3341	.2767	.0803	-.0036	.0299		-.0830		-.3311	-.7647	-.1802	-.0835	-.0201	
120.000			.2611	.1156	.0319	.1263		.0662		-.4753	-.7063	-.2746	-.0871	-.0109	
140.000										-.6543					
150.000			.2370	.1355	.0605	.1692		.4549		-1.0307	-.6536	-.4647	-.0407	.0130	
151.000									.0891						
162.000									.1329						
165.000										-1.0347	-.6862	-.4533	-.0776	.0153	
183.000								.5492							
174.000							.6942								
180.000	.1569	.3908	.2349	.1509	.1270	.2094		.5360		-.8776	-.7113	-.4803	-.0878	.0047	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1380	.0873	.0080	-.1255	-.2006	-.3280	.0607		.5034	.2584
40.000	.1396		.0227	-.0963	-.1973	-.3105	-.0797		.3273	.1192
70.000	-.3044	-.5753	-.1579	.0187	-.0149	.0483	-.0665			
90.000	-.2393	-.4171	-.0955	.0036	-.1224	-.0544	-.1379			
105.000			-.0400	-.0073	-.2601	-.1395	-.2020			
110.000								-.3527		
120.000	-.1430	-.2053	-.0292	.0391	-.4531	-.2686	-.2430	-.2759		
135.000			.0868	.2789	-.3935	-.2720	-.2549			
150.000	-.0857	-.0637	.1156	.3296	-.3394	-.3241	-.2641			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8869)

ALPHA (4) = 7.979 BETA (3) = 4.241

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0888		.1199		-.1892	-.3332	-.2919			
180.000	-.1027	-.0423	.1323	.3308						

ALPHA (5) = 11.950 BETA (1) = -3.853 MACH = .90010 Q = 600.36 P = 1058.5 RN/L = 3.5793

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1013	.9244	.5049	.3335	.2163			.0767		.0511	.0253	.0528	.0971	.1777	.2110
20.000			.5491	.3585	.2345	.1351		.0843		.0511					
40.000			.6174	.4014	.2669	.1952		.1180		.0533	.0104	.0635	.1170	.1780	.2599
55.000			.5692	.3623	.2537	.1502		.0618		-.0180					
70.000			.4965	.2972	.1853	.1526		.0549		-.0589	-.4310	-.1978	-.1450	-.0355	
90.000		.5627	.4360	.2520	.1498	.1502		.0625		-.1389	-.5576	-.2563	-.1710	-.0542	
120.000			.2980	.1474	.0641	.1426		.1943		-.2513	-.6691	-.5515	-.4222	-.2495	
140.000										-.3789					
150.000			.1712	.0537	.0381	.1467		.5711		-.5280	-.5720	-.5084	-.2267	-.0670	
151.000									.2422						
152.000									.2405						
165.000										-.8726	-.5943	-.5572	-.2014	-.0379	
169.000								.5808							
174.000							.6998								
180.000	1.1013	.2616	.0920	.0845	.0466	.1533		.4716		-.7100	-.6112	-.5551	-.2009	-.0081	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2118	.1598	.0737	-.0515	-.1513	-.3376	.0463		.5439	.2684
40.000	.2530		.1060	-.0209	-.1800	-.3338	-.1348		.4259	.1689
70.000	-.4484	-.7271	-.1428	.0123	-.0782	.0406	-.0397			
90.000	-.3412	-.5684	-.0362	.0619	-.1279	-.0598	-.1163			
120.000			.0239	.1004	-.2483	-.1477	-.1916			
140.000								-.3627		
150.000	-.3720	-.2249	.0112	.1637	-.3243	-.2254	-.2015	-.2941		
165.000			.0377	.2063	-.3241	-.2212	-.2377			
169.000	-.2476	-.1959	.0112	.3020	-.2818	-.2259	-.2448			
165.000	-.1990		.0363		-.0869	-.1708	-.3094			
180.000	-.1582	-.1097	.0864	.3289						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE0869)

ALPHA (5) = 11.955 BETA (2) = .189 MACH = .90010 Q = 600.36 P = 1058.5 RN/L = 3.5793

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1130	.9330	.5062	.3410	.2266			.0778		.0521	.0256	.0479	.1061	.1884	.2141
20.000			.5181	.3387	.2114	.1280		.0757		.0363					
40.000			.5232	.3347	.2223	.1390		.0731		.0065	-.0437	-.0086	.0824	.1588	.2416
55.000			.4411	.2441	.1419	.0584		-.0250		-.0886					
70.000			.3714	.1868	.0778	.0785		-.0170		-.1210	-.5146	-.2350	-.1870	-.0796	
90.000		.4203	.3298	.1537	.0660	.0868		-.0025		-.2113	-.6468	-.2636	-.2111	-.0686	
120.000			.2421	.1001	.0263	.1252		.1441		-.3394	-.7130	-.4322	-.3237	-.1367	
140.000										-.4926					
160.000			.1617	.0617	.0350	.1505		.5127		-.7759	-.5662	-.5399	-.1889	-.0355	
161.000									.1716						
162.000									.1901						
165.000										-.9315	-.5841	-.5488	-.1721	.0010	
169.000								.5658							
174.000							.6661								
180.000	1.1130	.2520	.1187	.0691	.0591	.1610		.5174		-.6752	-.6089	-.5540	-.2084	.0130	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2160	.1653	.0824	-.0495	-.1515	-.3398	.0407		.5372	.2722
20.000	.2316		.1047	-.0236	-.1816	-.3310	-.1256		.3822	.1475
40.000	-.4582	-.7287	-.1687	-.0546	-.1233	.0071	-.0647			
55.000	-.3403	-.5693	-.0939	-.0234	-.2223	-.0798	-.1363			
70.000			-.0132	.0280	-.3296	-.1643	-.2028			
90.000								-.3607		
120.000	-.2850	-.2811	.0158	.0836	-.4259	-.2614	-.2331	-.2874		
140.000			.0355	.2026	-.3897	-.2568	-.2560			
160.000	-.1332	-.1873	.0080	.3927	-.3495	-.2802	-.2523			
165.000	-.1489		.0082		-.1245	-.2491	-.2917			
180.000	-.1326	-.0982	.1045	.3446						

ALPHA (5) = 11.049 BETA (3) = 4.260 MACH = .90010 Q = 600.36 P = 1055.5 RN/L = 3.5793

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0090	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1001	.9166	.4946	.3328	.2069			.0669		.0474	.0285	.0394	.1005	.1737	.2116
20.000			.4667	.2939	.1763	.1020		.0453		.0102					
40.000			.4092	.2506	.1442	.0718		.0110		-.0542	-.1212	-.0749	.0377	.1154	.2133
55.000			.3042	.1225	.0296	-.0269		-.1054		-.1486					
70.000			.2477	.0774	-.0198	.0155		-.0762		-.1756	-.5967	-.2952	-.2303	-.1246	
90.000		.2812	.2262	.0602	-.0195	.0333		-.0615		-.2846	-.7267	-.2671	-.2035	-.0825	
120.000			.1751	.0450	-.0189	.1039		.0856		-.4394	-.6670	-.3644	-.2277	-.0605	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8953)

ALPHA (5) = 11.948 BETA (3) = 4.260

SECTION 1 ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1650	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.6258					
150.000			.1302	.0495	-.0158	.1283		.4451		-1.0078	-.6090	-.5310	-.1957	.0006	
151.000									.0887						
162.000									.1136						
165.000										-.9325	-.6161	-.5632	-.2277	.0152	
169.000								.5255							
174.000							.6355								
180.000	1.1001	.2229	.1176	.0520	.0429	.1539		.5052		-.6696	-.5856	-.5634	-.2269	-.0072	

X/B	.6520	.7290	.7790	.8210	.8790	.9210	.9500	.9990	1.0180	1.0460
PHI										
.000	.2062	.1637	.0703	-.0555	-.1569	-.3397	.0489		.5404	.2726
40.000	.2130		.0878	-.0307	-.1835	-.3359	-.1317		.3531	.1225
80.000	-.4440	-.7229	-.2349	-.0828	-.1432	-.0141	-.0791			
90.000	-.3359	-.5887	-.1655	-.1029	-.2879	-.1256	-.1546			
145.000			-.1382	-.0652	-.4474	-.2047	-.2258			
170.000								-.3508		
180.000	-.1996	-.2859	-.0608	-.0415	-.5052	-.3840	-.2788	-.2872		
191.000			.0245	.2323	-.4249	-.3627	-.2650			
195.000	-.1431	-.1417	.0949	.3376	-.3714	-.3038	-.2764			
205.000	-.1346		.0960		-.1694	-.3464	-.2933			
270.000	-.1507	-.0935	.0312	.3505						

AMC 1 (0A148) -140A/B/C ORB FUSELAGE (XE8870) (05 AUG 75)

REFERENCE DATA

SREF = 2690.6000 SQ.FT. XMRP = 1077 .
LREF = 474.8000 IN. YMRP =
BREF = 936.0680 IN. ZMRP = 775 3
SCALE = .0300

PARAMETRIC DATA

RUDDER = .000 SPDBRK = 55.000
BDFLAP = 22.500 L-ELVN = -10.000
R-ELVN = -10.000 MACH = .600

ALPHA (1) = -3.949 BETA (1) = CP = .59656 Q = 594.81 P = 2387.0 RN/L = 4.8517

SECTION (1)ORBITER FUSELAGE .T VARIABLE CP

X/LB	.0000	.0080	.0230	.04	...20	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI														
.000	1.0071	.1300	-.2191	-.2186	-.2359		-.1813		-.1573	-.1318	-.0971	-.0777	-.0715	-.0894
20.000			-.2025	-.2316	-.2788	-.2869	-.2436		-.2069					
40.000			.0226	-.2276	-.2994	-.3188	-.3682		-.3359	-.2739	-.2037	-.1710	-.1563	-.1639
55.000			.2768	.0552	-.0157	-.1258	-.1405		-.1716					
70.000			.4425	.2291	.1533	.0837	-.0424		-.1304	-.1386	-.0054	.0619	.1066	
90.000		.7322	.5464	.3295	.2023	.1381	-.0111		-.1835	-.1636	-.0379	.0258	.0912	
120.000			.6180	.4576	.3481	.3181	.1946		-.1411	-.1833	-.1672	.0095	.0432	
140.000									-.1898					
150.000			.5684	.4192	.3429	.3461	.5624		-.3595	-.3064	-.1039	-.0355	.0001	
151.000								.2449						
152.000								.2535						
155.000									-.9430	-.2388	-.1286	-.0530	-.0122	
169.000							.5674							
174.000						.6999								
180.000	1.0071	.7067	.4364	.3505	.2846	.2886	.3627		-1.1802	-.2338	-.1331	-.0715	-.0331	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1366	-.1625	-.2090	-.2615	-.2102	-.1681	-.0012		.3196	.0810
40.000	-.2330		-.2275	-.2643	-.2601	-.1771	-.1170		.2471	.0545
70.000	.0483	.0446	.1423	.2533	.1735	.1300	-.0364			
90.000	.0706	.0894	.1835	.2906	.1031	.0386	-.1054			
105.000			.2119	.3849	.0184	-.0203	-.1500			
110.000								-.3243		
120.000	.0503	.1143	.2729	.5404	-.0808	-.0767	-.1310	-.2429		
135.000			.3052	.5040	-.0694	-.0460	-.1420			
150.000	.0414	.1084	.2976	.3469	-.0648	-.0385	-.1220			
165.000	.0184		.2351		.1711	-.0043	-.2688			
180.000	-.0058	.0611	.1851	.3321						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8870)

ALPHA (1) = -3.933 BETA (2) = -3.843 MACH = .59665 Q = 594.81 P = 2387.0 RN/L = 4.8517

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0480	.1596	-.1842	-.1883	-.2115			-.1652		-.1411	-.1174	-.0856	-.0629	-.0546	-.0762
20.000			-.1699	-.1919	-.2473	-.2447		-.1991		-.1720					
40.000			.0074	-.1959	-.2645	-.2625		-.3027		-.2719	-.2145	-.1420	-.1160	-.1100	-.1227
55.000			.2044	-.0022	-.0635	-.1567		-.1795		-.1975					
70.000			.3376	.1288	.0593	.0073		-.1095		-.1942	-.1853	-.0373	.0311	.0850	
90.000		.5998	.4288	.2145	.0967	.0386		-.1038		-.2768	-.2181	-.0738	.0122	.0714	
120.000			.5274	.3599	.2509	.2342		.0841		-.2429	-.2342	-.1962	-.0063	.0398	
140.000										-.2709					
150.000			.5414	.4037	.3174	.3245		.5009		-.4113	-.2714	-.0894	-.0212	.0240	
151.000									.1562						
162.000									.1894						
165.000										-.9262	-.2106	-.1010	-.0269	.0225	
169.000								.5596							
174.000							.7071								
180.000	1.0480	.7260	.4762	.3550	.3190	.3136		.4651		-1.1479	-.1996	-.0972	-.0333	.0090	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.1305	-.1604	-.2038	-.2712	-.2168	-.1719	-.0047		.3521	.0929					
40.000	-.2045		-.2169	-.2842	-.2701	-.1748	-.1110		.2553	.0371					
70.000	.0187	.0124	.1053	.2059	.1257	.0937	-.0548								
90.000	.0472	.0572	.1468	.2268	.0462	.0010	-.1281								
105.000			.1820	.2877	-.0470	-.0603	-.1724								
110.000								-.3351							
120.000	.0528	.1059	.2602	.4130	-.1619	-.1331	-.1740	-.2565							
135.000			.3089	.4645	-.1302	-.0964	-.1762								
150.000	.0681	.1314	.3031	.4319	-.0999	-.0854	-.1487								
165.000	.0593		.2699		.0765	-.0833	-.2678								
180.000	.0398	.1141	.2478	.4431											

ALPHA (1) = -3.929 BETA (3) = .189 MACH = .59666 Q = 594.81 P = 2387.0 RN/L = 4.8517

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0562	.1661	-.1832	-.1790	-.2133			-.1620		-.1357	-.1107	-.0753	-.0572	-.0511	-.0781
20.000			-.1634	-.1782	-.2234	-.2216		-.1835		-.1532					
40.000			-.0270	-.1868	-.2391	-.2261		-.2478		-.2135	-.1600	-.0975	-.0762	-.0750	-.0888
55.000			.1182	-.0603	-.1099	-.1731		-.2049		-.2321					
70.000			.2701	.0311	-.0291	-.0604		-.1774		-.2495	-.2246	-.0702	.0072	.0576	
90.000		.4450	.3654	.0931	-.0137	-.0628		-.1340		-.3603	-.2670	-.1034	-.0101	.0460	
120.000			.4132	.2523	.1405	.1388		-.0495		-.3505	-.2892	-.2481	-.0369	.0144	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8870)

ALPHA (1) = -3.929 BETA (3) = .189

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
143.000										-.3545					
150.000			.4801	.3600	.2648	.2781		.4093		-.4792	-.2492	-.0916	-.0262	.0209	
151.000									.0307						
162.000									.0921						
165.000										-.9253	-.1998	-.0913	-.0241	.0238	
169.000								.5236							
174.000							.6882								
180.000	1.0562	.7186	.4866	.3662	.3330	.3314		.5113		-1.1323	-.1832	-.0840	-.0215	.0261	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1258	-.1576	-.2055	-.2676	-.2184	-.1773	-.0024		.3675	.0921
40.000	-.1764		-.2103	-.2744	-.2713	-.1894	-.0776		.2390	.0244
70.000	-.0002	-.0164	.0684	.1617	.0876	.0623	-.0724			
90.000	.0278	.0299	.1097	.1619	-.0071	-.0367	-.1432			
105.000			.1397	.1852	-.1189	-.0988	-.1919			
110.000								-.3464		
120.000	.0404	.0734	.1979	.2667	-.2569	-.2067	-.2295	-.2682		
135.000			.2659	.4680	-.2114	-.1512	-.2110			
150.000	.0689	.1263	.2818	.4853	-.1621	-.1608	-.1949			
165.000	.0579		.2706		-.0199	-.1648	-.2658			
180.000	.0595	.1379	.2737	.4753						

ALPHA (1) = -3.935 BETA (4) = 4.269 MACH = .59666 Q = 594.81 P = 2387.0 RN/L = 4.8517

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0358	.1481	-.1937	-.1871	-.2162			-.1667		-.1445	-.1153	-.0824	-.0620	-.0509	-.0823
20.000			-.1926	-.1834	-.2307	-.2065		-.1665		-.1473					
40.000			-.0794	-.1980	-.2338	-.2039		-.2149		-.1897	-.1275	-.0705	-.0563	-.0558	-.0683
55.000			.0256	-.1187	-.1644	-.2006		-.2322		-.2425					
70.000			.0950	-.0638	-.1152	-.1347		-.2393		-.2942	-.2425	-.0870	-.0097	.0482	
90.000		.2764	.1722	-.0366	-.1216	-.1518		-.2763		-.4389	-.2963	-.1242	-.0260	.0303	
120.000			.2835	.1267	.0145	.0240		-.1918		-.4518	-.3374	-.2949	-.0764	-.0223	
140.000										-.4345					
150.000			.3996	.2961	.1884	.2010		.2930		-.5493	-.2437	-.1178	-.0513	-.0093	
151.000									-.1095						
162.000									-.0251						
165.000										-.9423	-.2023	-.1119	-.0402	.0038	
169.000								.4605							
174.000							.6303								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8870)

ALPHA (1) = -3.935 BETA (4) = 4.269

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.0358	.6921	.4775	.3569	.3191	.3136		.4866		-1.1256	-.2010	-.0989	-.0317	.0076	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1306	-.1576	-.2003	-.2655	-.2177	-.1727	-.0048		.3411	.0857
40.000	-.1567		-.1970	-.2653	-.2785	-.1949	-.0697		.2324	.0053
70.000	-.0187	-.0412	.0299	.1213	.0475	.0388	-.0864			
90.000	.0078	.0050	.0633	.1041	-.0505	-.0615	-.1526			
105.000			.0913	.1150	-.1713	-.1278	-.1977			
110.000								-.3393		
120.000	.0033	.0220	.1086	.1378	-.3673	-.2799	-.2816	-.2754		
135.000			.1970	.3450	-.3083	-.2190	-.2526			
150.000	.0351	.0665	.2250	.4874	-.2665	-.2471	-.2371			
165.000	.0405		.2279		-.1254	-.2495	-.2686			
180.000	.0414	.1157	.2537	.4571						

ALPHA (1) = -3.949 BETA (5) = 8.334 MACH = .59666 Q = 594.81 P = 2387.0 RN/L = 4.8517

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9868	.1289	-.2061	-.1948	-.2404			-.1837		-.1845	-.1379	-.1010	-.0797	-.0676	-.0989
20.000			-.2082	-.1946	-.2411	-.2067		-.1770		-.1609					
40.000			-.1328	-.2124	-.2288	-.1941		-.1937		-.1774	-.1175	-.0636	-.0431	-.0522	-.0491
55.000			-.0564	-.1778	-.1998	-.2117		-.2355		-.2589					
70.000			-.0099	-.1507	-.1877	-.1865		-.2776		-.3293	-.2610	-.0961	-.0170	.0339	
90.000		.0954	.0509	-.1377	-.2093	-.2315		-.3484		-.5040	-.3209	-.1382	-.0339	.0218	
120.000			.1512	-.0039	-.1191	-.1012		-.3415		-.5529	-.3937	-.3547	-.1275	-.0544	
140.000										-.5247					
150.000			.2873	.2062	.0928	.1068		.1436		-.6367	-.2734	-.1570	-.1002	-.0660	
151.000									-.2612						
162.000									-.1716						
165.000										-.9878	-.2422	-.1498	-.0857	-.0465	
169.000								.3703							
174.000							.5484								
180.000	.9868	.6181	.4307	.3192	.2736	.2798		.3879		-1.1428	-.2361	-.1394	-.0747	-.0408	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1401	-.1701	-.2051	-.2620	-.2183	-.1738	-.0037		.3198	.0720
40.000	-.1408		-.1949	-.2510	-.2693	-.2060	-.0749		.2087	-.0016

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8870)

ALPHA (1) = -3.949 BETA (5) = 8.334

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.0393	-.0685	-.0131	.0929	.0166	.0138	-.0900			
90.000	-.0176	-.0338	.0074	.0605	-.0920	-.0904	-.1601			
105.000			.0442	.0816	-.2074	-.1508	-.2043			
110.000								-.3096		
120.000	-.0281	-.0345	.0321	-.0464	-.4865	-.3524	-.3074	-.2745		
135.000			.0969	.1805	-.4427	-.3077	-.2903			
150.000	-.0222	.0105	.1222	.4392	-.4196	-.3630	-.2859			
165.000	-.0203		.1428		-.2587	-.3418	-.2771			
180.000	-.0082	.0582	.1925	.3484						

ALPHA (2) = .049 BETA (1) = -7.888 MACH = .59628 Q = 593.97 P = 2386.4 RN/L = 4.8452

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0300	.3154	-.0716	-.1195	-.1469			-.1402		-.1251	-.1045	-.0777	-.0562	-.0306	-.0356
20.000			-.0236	-.1006	-.1761	-.1986		-.1789		-.1579					
40.000			.1960	-.0458	-.1343	-.1644		-.2279		-.2123	-.1589	-.0990	-.0803	-.0727	-.0694
55.000			.3051	.1877	.1099	.0091		-.0458		-.0930					
70.000			.4935	.2952	.1982	.1286		.0034		-.0963	-.1289	-.0232	.0329	.0604	
90.000		.7355	.5509	.3505	.2250	.1643		.0245		-.1605	-.1614	-.0557	.0121	.0503	
120.000			.5492	.3935	.2879	.2843		.1764		-.1781	-.2254	-.2142	-.0628	-.0408	
140.000										-.2683					
150.000			.4558	.3083	.2454	.2651		.5132		-.4585	-.3969	-.1526	-.0808	-.0489	
151.000									.1914						
160.000									.1743						
165.000										-1.0997	-.2893	-.1633	-.0841	-.0549	
169.000								.5106							
170.000							.6580								
180.000	1.0300	.5797	.3257	.2637	.1993	.2123		.2903		-1.3362	-.2630	-.1599	-.0884	-.0589	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0734	-.1104	-.1606	-.2256	-.1936	-.1600	.0048		.3746	.0901
40.000	-.1306		-.1651	-.2393	-.2398	-.1637	-.1075		.2747	.0664
70.000	-.0572	-.0257	.1021	.2511	.1699	.1353	-.0267			
90.000	-.0193	.0249	.1449	.2736	.1040	.0352	-.1046			
105.000			.1772	.3991	.0282	-.0196	-.1505			
110.000								-.3146		
120.000	-.0506	0316	.2237	.5313	-.1109	-.0936	-.1364	-.2578		
135.000			.2575	.4596	-.1211	-.0819	-.1661			
150.000	-.0190	.0568	.2415	.2659	-.1420	-.0700	-.1445			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8B70)

ALPHA (2) = .049 BETA (1) = -7.888

SECTION : 1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0249		.1949		.1386	-.0237	-.2668			
180.000	-.0369	.0326	.1600	.2825						

ALPHA (2) = .056 BETA (2) = -3.864 MACH = .59628 Q = 593.97 P = 2386.4 RN/L = 4.8452

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0699	.3504	-.0331	-.0872	-.1269			-.1245		-.1073	-.0881	-.0582	-.0395	-.0151	-.0204
20.000			-.0104	-.0706	-.1483	-.1627		-.1461		-.1288					
40.000			.1656	-.0454	-.1184	-.1333		-.1870		-.1700	-.1171	-.0656	-.0492	-.0445	-.0391
55.000			.3128	.1130	.0415	-.0343		-.0944		-.1349					
70.000			.3888	.1896	.1057	.0514		-.0721		-.1639	-.1792	-.0613	.0015	.0334	
90.000		.6015	.4356	.2348	.1258	.0718		-.0656		-.2433	-.2143	-.0955	-.0111	.0287	
120.000			.4681	.3146	.2116	.2195		.0815		-.2616	-.2599	-.2155	-.0417	-.0108	
140.000										-.3332					
150.000			.4321	.2947	.2298	.2522		.4602		-.5048	-.3414	-.1310	-.0480	-.0147	
151.000									.1034						
162.000									.1110						
165.000										-1.0800	-.2538	-.1347	-.0533	-.0190	
169.000								.5015							
174.000							.6593								
180.000	1.0599	.5870	.3567	.2575	.2229	.2418		.3958		-1.3059	-.2402	-.1231	-.0559	-.0168	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0645	-.1054	-.1579	-.2272	-.1921	-.1599	.0160		.3530	.0915
40.000	-.1066		-.1500	-.2350	-.2464	-.1627	-.1138		.2966	.0407
70.000	-.0952	-.0641	.0589	.1938	.1229	.0983	-.0477			
90.000	-.0380	-.0069	.1121	.2180	.0428	-.0037	-.1236			
105.000			.1474	.2983	-.0442	-.0639	-.1743			
110.000								-.3261		
120.000	-.0201	.0492	.2238	.4116	-.1754	-.1389	-.1698	-.2565		
135.000			.2743	.4170	-.1691	-.1202	-.1903			
150.000	.0190	.0900	.2694	.3275	-.1624	-.1179	-.1672			
165.000	.0197		.2363		.0452	-.1062	-.2619			
180.000	.0098	.0874	.2215	.3731						

AMES 11-073(OA148) -140A/S/C ORB FUSELAGE (XE8870)

ALPHA (2) = .059 BETA (3) = .180 MACH = .59628 Q = 593.97 P = 2386.4 RN/L = 4.8452

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0773	.3585	-.0292	-.0754	-.1241			-.1146		-.1065	-.0829	-.0514	-.0311	-.0071	-.0237
20.000			-.0121	-.0690	-.1388	-.1487		-.1305		-.1159					
40.000			.1189	-.0558	-.1148	-.1248		-.1572		-.1508	-.0946	-.0456	-.0259	-.0273	-.0190
55.000			.2196	.0439	-.0154	-.0785		-.1327		-.1764					
70.000			.2704	.0809	.0161	-.0238		-.1377		-.2214	-.2174	-.0859	-.0245	.0133	
90.000		.4429	.3159	.1183	.0216	-.0162		-.1472		-.3255	-.2561	-.1153	-.0304	.0114	
120.000			.3684	.2198	.1221	.1246		-.0290		-.3569	-.2931	-.2303	-.0380	-.0031	
140.000										-.4070					
150.000			.3855	.2739	.1883	166		.3808		-.5589	-.3025	-.1177	-.0364	-.0038	
151.000									-.0133						
162.000									.0230						
165.000										-1.0770	-.2380	-.1215	-.0383	-.0014	
169.000								.4685							
174.000							.6423								
180.000	1.0773	.5891	.3719	.2753	.2407	--		.4450		-1.2860	-.2216	-.1117	-.0401	-.0076	

X/LB	.6520	.7390	.7790	.8210	.8730	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0659	-.1000	-.1523	-.2253	-.1908	-.1570	.0093		.3635	.0916
40.000	-.0903		-.1561	-.2296	-.2515	-.1709	-.0670		.2511	.0231
70.000	-.1031	-.0906	.0233	.1473	.0739	.0567	-.0756			
90.000	-.0525	-.0263	.0760	.1555	-.0164	-.0413	-.1470			
105.000			.1263	.1748	-.1121	-.0981	-.1887			
110.000								-.3371		
120.000	-.0100	.0423	.1695	.2244	-.2428	-.1954	-.2080	-.2643		
135.000			.2470	.3723	-.2361	-.1663	-.2194			
150.000	.0269	.0925	.2470	.4196	-.2093	-.1777	-.1978			
165.000	.0293		.2363		-.0605	-.1930	-.2612			
180.000	.0240	.0997	.2395	.4243						

ALPHA (2) = .056 BETA (4) = 4.251 MACH = .59628 Q = 593.97 P = 2386.4 RN/L = 4.8452

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0588	.3355	-.0425	-.0825	-.1374			-.1228		-.1131	-.0932	-.0597	-.0363	-.0142	-.0322
20.000			-.0373	-.0866	-.1426	-.1457		-.1301		-.1230					
40.000			.0484	-.0857	-.1350	-.1274		-.1437		-.1415	-.0960	-.0444	-.0235	-.0235	-.0010
55.000			.1100	-.0354	-.0785	-.1204		-.1693		-.2085					
70.000			.1505	-.0145	-.0712	-.0893		-.1929		-.2671	-.2481	-.1075	-.0380	.0076	
90.000		.2727	.1917	.0090	-.0774	-.1004		-.2259		-.3939	-.2842	-.1245	-.0406	.0047	
120.000			.2632	.1159	.0187	.0379		-.1553		-.4419	-.3332	-.2595	-.0541	-.0087	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8870)

ALPHA (2) = .056 BETA (4) = 4.251

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0090	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.4808					
150.000			.3198	.2212	.1204	.1576		.2693		-.6176	-.2872	-.1252	-.0541	-.0210	
151.000									-.1420						
162.000									-.0912						
165.000										-1.0796	-.2394	-.1281	-.0572	-.0170	
169.000								.4119							
174.000							.5956								
180.000	1.0588	.5633	.3655	.2620	.2307	.2408		.4195		-1.2869	-.2298	-.1224	-.0543	-.0184	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0880	-.1026	-.1549	-.2203	-.1898	-.1559	.0091		.3564	.0926
40.000	-.0767		-.1485	-.2203	-.2496	-.1881	-.0590		.2326	.0111
70.000	-.1135	-.1081	-.0072	.1012	.0338	.0302	-.0887			
90.000	-.0645	-.0531	.0343	.0996	-.0558	-.0720	-.1582			
105.000			.0701	.0958	-.1764	-.1362	-.2081			
110.000								-.3426		
120.000	-.0268	-.0013	.1095	.1484	-.3456	-.2639	-.2486	-.2692		
135.000			.1889	.3327	-.3263	-.2335	-.2544			
150.000	.0089	.0641	.2066	.3887	-.3055	-.2656	-.2415			
165.000	.0101		.2057		-.1729	-.2780	-.2649			
180.000	.0076	.0851	.2252	.3932						

ALPHA (2) = .051 BETA (5) = 8.306 MACH = .59628 Q = 593.97 P = 2386.4 RN/L = 4.8452

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0061	.3019	-.0581	-.0963	-.1629			-.1415		-.1280	-.1029	-.0791	-.0494	-.0309	-.0428
20.000			-.0726	-.1081	-.1613	-.1601		-.1486		-.1394					
40.000			-.0297	-.1173	-.1615	-.1482		-.1526		-.1589	-.1139	-.0569	-.0323	-.0285	.0052
55.000			.0112	-.1102	-.1435	-.1641		-.2048		-.2334					
70.000			.0344	-.1081	-.1544	-.1495		-.2467		-.3001	-.2619	-.1176	-.0463	.0004	
90.000		.0881	.0664	-.1055	-.1736	-.1712		-.2928		-.4418	-.3071	-.1352	-.0399	-.0009	
120.000			.1339	-.0014	-.1017	-.0719		-.2795		-.5245	-.3704	-.2812	-.0714	-.0301	
140.000										-.5502					
150.000			.2148	.1340	.0283	.0623		.1237		-.6809	-.2914	-.1491	-.0916	-.0554	
151.000									-.2962						
162.000									-.2352						
165.000										-1.0977	-.2664	-.1548	-.0937	-.0589	
169.000								.3184							
174.000							.5058								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8870)

ALPHA (2) = .051 BETA (5) = 8.306

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.0051	.4906	.3146	.2200	.1806	.2006		.3213		-1.2897	-.2728	-.1602	-.0987	-.0646	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0727	-.1081	-.1590	-.2299	-.1913	-.1589	.0015		.3736	.0817
40.000	-.0656		-.1419	-.2155	-.2564	-.2038	-.0701		.2092	.0003
70.000	-.1231	-.1357	-.0485	.0636	-.0013	.0064	-.0973			
90.000	-.0772	-.0760	-.0083	.0497	-.1115	-.1062	-.1709			
105.000			.0266	.0457	-.2145	-.1631	-.2169			
110.000								-.3248		
120.000	-.0516	-.0376	.0385	-.0472	-.4647	-.3353	-.2981	-.2762		
135.000			.1022	.1477	-.4531	-.3125	-.2994			
150.000	-.0328	.0010	.1213	.3777	-.4521	-.3681	-.2981			
165.000	-.0375		.1231		-.3200	-.3815	-.2799			
180.000	-.0511	.0235	.1614	.2866						

ALPHA (3) = 4.000 BETA (1) = -7.898 MACH = .59578 Q = 593.03 P = 2386.8 RN/L = 4.8456

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0293	.4846	.0758	-.0139	-.0623			-.0914		-.0851	-.0682	-.0445	-.0194	.0087	.0138
20.000			.1338	.0234	-.0637	-.1122		-.1035		-.0990					
40.000			.3465	.1052	.0115	-.0306		-.0990		-.0990	-.0543	-.0128	.0039	.0032	.0241
55.000			.4962	.2836	.1956	.1049		.0282		-.0510					
70.000			.5179	.3240	.2203	.1545		.0318		-.0861	-.1392	-.0420	-.0080	.0110	
90.000		.7011	.5299	.3369	.2270	.1759		.0361		-.1493	-.1714	-.0773	-.0278	-.0049	
120.000			.4580	.3121	.2156	.2176		.1440		-.2175	-.2843	-.2958	-.1606	-.1518	
140.000										-.3365					
150.000			.3261	.1925	.1485	.1864		.4711		-.5589	-.4778	-.1999	-.1211	-.1002	
151.000									.1254						
162.000									.0921						
165.000										-1.2762	-.3367	-.1934	-.1125	-.0825	
169.000								.4520							
174.000							.6117								
180.000	1.0293	.4390	.1958	.1711	.1114	.1390		.2381		-1.5043	-.2910	-.1760	-.1011	-.0749	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0114	-.0525	-.1121	-.1871	-.1633	-.1436	.0187		.4089	.0976
40.000	-.0320		-.1073	-.1893	-.2184	-.1379	-.0996		.3161	.0654

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XC8870)

ALPHA (3) = 4.000 BETA (1) = -7.898

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1584	-.0894	.0680	.2454	.1700	.1416	-.0174			
90.000	-.1023	-.0372	.1120	.2845	.1127	.0390	-.1017			
105.000			.1404	.4204	.0396	-.0170	-.1514			
110.000								-.3082		
120.000	-.1692	-.0560	.1610	.5526	-.1472	-.1221	-.1486	-.2704		
135.000			.2056	.4072	-.1725	-.1166	-.1940			
150.000	-.0804	.0114	.2012	.1447	-.2097	-.1060	-.1638			
165.000	-.0656		.1653		.1060	-.0484	-.2709			
180.000	-.0631	.0075	.1357	.2224						

ALPHA (3) = 4.002 BETA (2) = -3.861 MACH = .59578 Q = 593.03 P = 2386.8 RN/L = 4.8456

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0627	.5224	.1084	.0193	-.0394			-.0721		-.0653	-.0554	-.0298	-.0021	.0238	.0253
20.000			.1520	.0511	-.0467	-.0642		-.0795		-.0789					
40.000			.3053	.0957	.0060	-.0302		-.0804		-.0890	-.0482	.0017	.0100	.0124	.0391
55.000			.3939	.2022	.1268	.0385		-.0352		-.0982					
70.000			.4108	.2186	.1294	.0801		-.0438		-.1475	-.1886	-.0876	-.0406	-.0185	
90.000		.5622	.4183	.2359	.1344	.0916		-.0419		-.2253	-.2180	-.1142	-.0482	-.0237	
120.000			.3927	.2463	.1543	.1772		.0721		-.2920	-.3023	-.2710	-.1157	-.0920	
140.000										-.3984					
150.000			.3119	.1884	.1379	.1822		.4229		-.6016	-.4136	-.1675	-.0831	-.0483	
161.000									.0504						
164.000									.0442						
169.000										-1.2490	-.3009	-.1553	-.0727	-.0455	
169.000								.4498							
174.000							.6163								
180.000	1.0627	.4471	.2256	.1576	.1357	.1672		.3297		-1.4615	-.2624	-.1413	-.0648	-.0386	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0024	-.0476	-.1091	-.1842	-.1637	-.1388	.0239		.3860	.1022
40.000	-.0162		-.1008	-.1894	-.2251	-.1408	-.0853		.3120	.0439
70.000	-.1942	-.1322	.0155	.1943	.1229	.1028	-.0447			
90.000	-.1324	-.0686	.0738	.2200	.0469	-.0006	-.1236			
105.000			.1131	.3179	-.0355	-.0598	-.1728			
110.000								-.3198		
120.000	-.1118	-.0123	.1961	.3961	-.1977	-.1518	-.1711	-.2753		
134.000			.2433	.3471	-.2078	-.1491	-.2101			
150.000	-.0302	.0570	.2427	.2296	-.2162	-.1516	-.1806			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8870)

ALPHA (3) = 4.002 BETA (2) = -3.861

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0147		.2095		.0081	-.1262	-.2583			
180.000	-.0212	.0857	.1985	.3007						

ALPHA (3) = 4.000 BETA (3) = .182 MACH = .59578 Q = 593.03 P = 2385.8 PN/L = 4.8455

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1590	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0709	.5885	.1125	.0305	-.0372			-.0676		-.0659	-.0485	-.0224	.0035	.0314	.0286
20.000			.1489	.0437	-.0424	-.0769		-.0783		-.0671					
40.000			.2375	.0580	-.0162	-.0393		-.0821		-.0944	-.0554	-.0079	.0095	.0166	.0434
60.000			.2929	.1159	.0456	-.0206		-.0960		-.1515					
80.000			.2906	.1161	.0392	-.0007		-.1148		-.2117	-.2313	-.1082	-.0604	-.0329	
90.000		.4190	.3074	.1311	.0566	.0049		-.1034		-.3072	-.2548	-.1339	-.0639	-.0350	
100.000			.3080	.1713	.0844	.1133		-.0240		-.3719	-.3213	-.2555	-.0787	-.0529	
140.000										-.4617					
150.000			.2810	.1746	.1154	.1543		.3483		-.6395	-.3568	-.1458	-.0563	-.0271	
160.000									-.0573						
165.000									-.0421						
169.000										-1.2209	-.2734	-.1420	-.0558	-.0171	
174.000								.4188							
180.000	1.0709	.4432	.2549	.1696	.1530	.1754	.5918	.3821		-1.4296	-.2331	-.1291	-.0514	-.0247	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9500	.9990	1.0180	1.0460
PHI										
.000	-.0066	-.0447	-.1048	-.1833	-.1665	-.1396	.0273		.3844	.1003
40.000	-.0097		-.0998	-.1856	-.2352	-.1545	-.0504		.2697	.0278
70.000	-.2142	-.1600	-.0178	.1415	.0721	.0628	-.0655			
90.000	-.1405	-.0891	.0483	.1442	-.0178	-.0425	-.1457			
105.000			.1067	.1681	-.0992	-.1001	-.1885			
110.000								-.3218		
150.000	-.0714	.0073	.1832	.1808	-.2465	-.1963	-.1989	-.2578		
170.000			.2240	.2758	-.2477	-.1794	-.2207			
150.000	-.0030	.0651	.2058	.3431	-.2380	-.1943	-.2048			
155.000	-.0038		.2007		-.0920	-.2100	-.2498			
160.000	-.0071	.0750	.2054	.3894						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8970)

ALPHA (3) = 4.003 BETA (4) = 4.239 MACH = .59578 Q = 593.03 P = 2386.8 RN/L = 4.8456

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0523	.5092	.1039	.0234	-.0454			-.0676		-.0705	-.0546	-.0288	-.0002	.0266	.0211
20.000			.1011	.0097	-.0594	-.0824		-.0856		-.0863					
40.000			.1487	.0154	-.0494	-.0701		-.0947		-.1142	-.0832	-.0287	-.0031	.0093	.0480
55.000			.1660	.0256	-.0297	-.0847		-.1421		-.1959					
70.000			.1591	.0164	-.0542	-.0566		-.1668		-.2612	-.2548	-.1349	-.0634	-.0280	
90.000		.2460	.1659	.0214	-.0547	-.0617		-.1959		-.3673	-.2804	-.1432	-.0506	-.0347	
120.000			.2137	.0841	-.0014	.0360		-.1245		-.4361	-.3391	-.2499	-.0589	-.0325	
140.000										-.5227					
150.000			.2237	.1385	.0499	.1065		.2426		- 6321	-.3225	-.1442	- 0569	-.0277	
161.000									-.1752						
166.000									-.1635						
165.000										-1.1973	-.2516	-.1413	-.0577	-.0313	
180.000								.3655							
180.000	1.0523	.4149	.2420	.1608	.1363	.1688	.5507	.3588		-1.4112	-.2604	-.1344	-.1851	-.0391	
X/LB	.6520	.7230	.7790	.8210	.8790	.9210	.9600	.9990	1.0 80	1.0460					
PHI															
.000	-.0029	-.0420	-.1039	-.1819	-.1647	-.1410	.0239		.3948	.0978					
40.000	.0047		-.0894	-.1764	-.2358	-.1764	-.0503		.2513	.0133					
70.000	-.2192	-.1789	-.0418	.0662	.0224	.0227	-.0938								
90.000	-.1444	-.1013	.0120	.0751	-.0702	-.0761	-.1623								
120.000			.0516	.0689	-.1694	-.1347	-.2087								
140.000								-.3422							
150.000	-.0631	-.0215	.0364	.1324	-.3378	-.2495	-.2394	-.2625							
161.000			.1700	.3283	-.3592	-.2316	-.2512								
166.000	-.0008	.0466	.1877	.2717	-.3335	-.2787	-.2422								
165.000	-.0062		.1858		-.2032	-.2878	-.2670								
180.000	-.0217	.0521	.1987	.3178											

ALPHA (3) = 4.003 BETA (5) = 8.292 MACH = .59578 Q = 593.03 P = 2386.9 RN/L = 4.8456

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9371	.4727	.0855	.0076	-.0704			-.0913		-.0853	-.0722	-.0462	-.0167	.0137	.0247
20.000			.0937	-.0165	-.0934	-.1013		-.1082		-.1144					
40.000			.0543	-.0505	-.1018	-.1098		-.1313		-.1588	-.1339	-.0568	.0350	.0774	.0394
55.000			.0492	-.0761	-.1203	-.1452		-.1959		-.2413					
70.000			.0403	-.0959	-.1391	-.1254		-.2264		-.3305	-.2751	-.1464	-.0780	-.0452	
90.000		.0045	.0688	-.0961	-.1470	-.1393		-.2564		-.4204	-.3028	-.1505	-.0649	-.0383	
120.000			.1011	-.0188	-.1025	-.0558		-.2393		-.5114	-.3638	-.2473	-.0505	-.0341	

DATE 10 FEB 78 TABULATED PRESSURE DATA - OA148 (AMES 11-073) PAGE [illegible]

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XCOST[illegible])

ALPHA (3) = 4.009 BETA (5) = 8.292

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3730	.4570	.5740
PHI															
[illegible]										-.5665					
[illegible]			.1347	.0665	-.0307	.0276		.1064		-.7332	-.3122	-.1551	-.0837	-.1524	
[illegible]									-.3867						
[illegible]									-.2305						
[illegible]										-.1978	-.0650	-.1658	-.1345	-.0693	
[illegible]								.2752							
[illegible]							.4574								
[illegible]	.3371	.2452	.2059	.2209	.0941	.1248		.2611		-.1430	-.3026	-.1727	-.1132	[illegible]	

X/LB	.5610	.7280	.7780	.8210	.8790	.9310	.9600	.9990	1.0180	1.0460
PHI										
[illegible]	[illegible]	-.0531	-.1089	-.1857	-.1640	-.1169	.0103		.3997	.0913
[illegible]	[illegible]		-.0051	-.1784	-.2488	-.2027	-.0643		.2372	.1065
[illegible]	[illegible]	-.1038	-.0645	.0435	-.0091	.0047	-.1004			
[illegible]	[illegible]	-.1333	-.0302	.0324	-.1197	-.1160	-.1834			
[illegible]			.0076	.0364	-.2187	-.1706	-.2203			
[illegible]								-.3203		
[illegible]	-.0830	-.1039	.0447	.0152	-.4172	-.3106	-.2734	-.2705		
[illegible]			.1017	.1204	-.4442	-.3147	-.2747			
[illegible]	-.0459	-.1074	.1103	.2659	[illegible]	-.3809	-.3021			
[illegible]	-.0507		.1036		-.3787	-.4042	-.2893			
[illegible]	-.0701	-.0035	.1362	.2417						

ALPHA (4) = 7.945 BETA (1) = -7.890 MACH = .59630 Q = 593.97 P = 2795.4 RN/L = 4.8462

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0010	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3730	.4570	.5740
PHI															
.000	.9875	.6363	.2238	.0997	.0357			-.0314		-.0313	-.0208	-.0029	.0244	[illegible]	.0755
30.000			.2955	.1555	.0518	-.0158		-.0219		-.0336					
45.000			.4755	.2475	.1457	.0933		.0166		-.0072	.0240	.0531	.0045	.0402	[illegible]
[illegible]			.5439	.3570	.2575	.1466		.0832		-.0225					
[illegible]			.5150	.3373	.2716	.1614		.0402		-.0140	-.1565	-.0777	-.0455	-.0335	
90.000		.6360	.4756	.2989	.2072	.1535		.0333		-.1551	-.1910	-.1192	-.0729	-.0633	
120.000			.3439	.2065	.1162	.1474		.0977		-.2669	-.3432	-.4055	-.2967	-.3093	
140.000										-.4039					
150.000			.1877	.0673	.0374	.1027		.4157		-.6657	-.5550	-.2458	-.1631	-.1482	
151.000									.07[illegible]						
152.000									.0154						
165.000										-.4333	-.3799	-.2215	-.1355	[illegible]	
[illegible]								.3000							
[illegible]							.5579								

AMES 11-073(OA148) -140A/B/C OPB FUSELAGE (XE8870)

ALPHA (4) = 7.945 BETA (1) = -7.890

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	.9876	.2744	.0730	.0780	.0241	.0666		-.1681		-1.7062	-.3164	-.1836	-.1102	-.0957	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0506	.0099	-.0548	-.1340	-.1281	-.1197	.0311		.4291	.1056
40.000	.0841		-.0365	-.1327	-.2000	-.1073	-.0732		.3393	.0626
70.000	-.2731	-.1503	.0356	.2448	.1794	.1514	-.0110			
90.000	-.2032	-.0964	.0815	.2872	.1187	.0463	-.0977			
105.000			.0974	.4289	.0486	-.0161	-.1531			
110.000								-.3076		
120.000	-.3062	-.1436	.0852	.5589	-.1859	-.1482	-.1680	-.2927		
135.000			.1471	.3809	-.2252	-.1539	-.2199			
150.000	-.1271	-.0279	.1613	-.0089	-.2765	-.1295	-.1791			
165.000	-.0973		.1349		.0922	-.0548	-.2784			
180.000	-.0952	-.0052	.1207	.1347						

ALPHA (4) = 7.956 BETA (2) = -3.860 MACH = .59630 Q = 593.97 P = 2386.4 RN/L = 4.8482

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0195	.6774	.2531	.1320	.0584			-.0126		-.0168	-.0102	.0124	.0402	.0798	.0815
20.000			.3034	.1640	.0650	.0091		-.0126		-.0215					
40.000			.4172	.2176	.1257	.0675		.0083		-.0159	.0071	.0445	.0658	.0739	.1164
55.000			.4417	.2566	.1716	.0792		-.0124		-.0906					
70.000			.4055	.2332	.1359	.0876		-.0337		-.1496	-.2110	-.1177	-.0800	-.0610	
90.000		.5009	.3748	.2083	.1183	.0838		-.0409		-.2288	-.2400	-.1473	-.0938	-.0783	
120.000			.2174	.1576	.0783	.1148		.0472		-.3274	-.3562	-.3633	-.2192	-.2056	
140.000										-.4589					
150.000			.1850	.0821	.0468	.0982		.3802		-.6901	-.4720	-.2019	-.1089	-.0926	
161.000									.0016						
162.000									-.0304						
165.000										-1.3964	-.3277	-.1774	-.0942	-.0667	
169.000								.3909							
174.000							.5696								
180.000	1.0195	.2824	.1090	.0615	.0487	.0963		.2703		-1.6034	-.2820	-.1492	-.0769	-.0574	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0849	.0112	-.0494	-.1321	-.1282	-.1157	.0419		.4224	.1138
40.000	.0751		-.0349	-.1307	-.2039	-.1168	-.0414		.3181	.0476

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8870)

ALPHA (4) = 7.955 BETA (2) = -3.860

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.3085	-.1929	-.0123	.1910	.1287	.1127	-.0329			
90.000	-.2261	-.1325	.0372	.2202	.0599	.0074	-.1173			
105.000			.0728	.3400	-.0244	-.0591	-.1749			
110.000								-.3177		
120.000	-.2132	-.0646	.1703	.3277	-.2260	-.1667	-.1816	-.2836		
135.000			.2103	.1652	-.2513	-.1754	-.2270			
150.000	-.0779	.0283	.2090	.0814	-.2519	-.1637	-.1916			
165.000	-.0586		.1840		-.0317	-.1416	-.2556			
180.000	-.0546	.0384	.1680	.3033						

ALPHA (4) = 7.955 BETA (3) = .181 MACH = .59630 Q = 593.97 P = 2396.4 RN/L = 4.8422

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0281	.6789	.2595	.1417	.0655			-.0072		-.0097	-.0008	.0193	.0478	.0809	.0897
20.000			.2735	.1483	.0515	.0057		-.0132		-.0186					
40.000			.3349	.1660	.0752	.0296		-.0212		-.0481	-.0322	.0213	.0468	.0618	.1134
56.000			.3176	.1494	.0688	.0035		-.0864		-.1516					
70.000			.2813	.1252	.0377	.0068		-.1028		-.2094	-.2517	-.1838	-.1023	-.0813	
90.000		.3604	.2684	.1127	.0266	.0097		-.1104		-.2997	-.2712	-.1611	-.0988	-.0828	
120.000			.2267	.0992	.0259	.0760		-.0262		-.3975	-.3535	-.3060	-.1409	-.1271	
140.000										-.5155					
150.000			.1707	.0718	.0372	.0955		.3129		-.7175	-.3996	-.1693	-.0791	-.0549	
151.000									-.0935						
162.000									-.1039						
165.000										-1.3444	-.2936	-.1523	-.0659	-.0375	
169.000								.3690							
174.000							.5415								
180.000	1.0281	.2794	.1304	.0681	.0662	.1061		.3222		-1.5255	-.2695	-.1388	-.0595	-.0373	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0655	.0213	-.0468	-.1335	-.1310	-.1201	.0415		.4193	.1094
40.000	.0745		-.0326	-.1308	-.2100	-.1356	-.0326		.2904	.0376
70.000	-.3195	-.2213	-.0459	.1339	.0728	.0676	-.0562			
90.000	-.2267	-.1429	.0225	.1450	-.0158	-.0384	-.1400			
105.000			.0899	.1697	-.0916	-.0963	-.1908			
110.000								-.3188		
120.000	-.1406	-.0302	.1494	.1939	-.2339	-.1965	-.2060	-.2676		
135.000			.1947	.2751	-.2626	-.1961	-.2257			
150.000	-.0525	.0216	.1729	.4076	-.2624	-.2108	-.2069			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8870)

ALPHA (4) = 7.955 BETA (3) = .'81

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0345		.1663		-.1202	-.2193	-.2366			
180.000	-.0372	.0410	.1765	.3950						

ALPHA (4) = 7.955 BETA (4) = 4.234 MACH = .59630 Q = 593.97 P = 2386.4 RN/L = 4.8482

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0108	.6519	.2431	.1304	.0445			-.0192		-.0235	-.0113	.0105	.0420	.0751	.0775
20.000			.2295	.1155	.0293	-.0121		-.0351		-.0483					
40.000			.2319	.0904	.0154	-.0210		-.0581		-.0988	-.0845	-.0307	.0098	.0389	.0980
55.000			.1896	.0381	-.0216	-.0799		-.1530		-.2065					
70.000			.1580	.0128	-.0519	-.0633		-.1597		-.2594	-.2784	-.1729	-.1175	-.0948	
90.000		.1945	.1631	.0163	-.0618	-.0602		-.1751		-.3497	-.2938	-.1770	-.1043	-.0848	
120.000			.1475	.0329	-.0346	.0148		-.1082		-.4563	-.3605	-.2693	-.0962	-.0758	
140.000										-.5655					
150.000			.1229	.0492	-.0107	.0560		.2233		-.7474	-.3546	-.1554	-.0619	-.0444	
151.000									-.2017						
162.000									-.2017						
165.000										-1.3088	-.2861	-.1393	-.0617	-.0434	
169.000								.3232							
174.000							.5038								
180.000	1.0108	.2539	.1292	.0604	.0516	.0990		.2983		-1.5059	-.2762	-.1476	-.0740	-.0596	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0672	.0150	-.0475	-.1393	-.1322	-.1188	.0321		.4195	.1058
40.000	.0693		-.0363	-.1297	-.2201	-.1595	-.0443		.2742	.0296
70.000	-.3253	-.2461	-.0778	.0805	.0221	.0247	-.0867			
90.000	-.2287	-.1552	-.0113	.0595	-.0730	-.0780	-.1640			
105.000			.0326	.0796	-.1813	-.1433	-.2088			
110.000								-.3463		
120.000	-.1142	-.0723	.0581	.1287	-.3171	-.2406	-.2374	-.2745		
135.000			.1483	.3811	-.3539	-.2479	-.2640			
150.000	-.0389	.0190	.1584	.3887	-.3688	-.2865	-.2576			
165.000	-.0399		.1487		-.2380	-.3029	-.2642			
180.000	-.0525	.0399	.1736	.2594						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8B70)

ALPHA (4) = 7.954 BETA (5) = 8.280 MACH = .59630 Q = 593.97 P = 2386.4 RN/L = 4.8482

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9570	.6221	.2232	.1099	.0226			-.0354		-.0385	-.0256	-.0045	.0286	.0656	.0642
20.000			.1724	.0742	-.0085	-.0432		-.0669		-.0790					
40.000			.1172	.0160	-.0535	-.0898		-.1205		-.1665	-.1669	-.0910	-.0357	.0073	.0784
55.000			.0504	-.0682	-.1220	-.1634		-.2189		-.2675					
70.000			.0267	-.0868	-.1431	-.1238		-.2156		-.3057	-.3040	-.1870	-.1360	-.1097	
90.000		.0123	.0457	-.0837	-.1472	-.1188		-.2344		-.4004	-.3087	-.1747	-.1012	-.0910	
120.000			.0499	-.0551	-.1215	-.0552		-.2058		-.5103	-.3593	-.2428	-.0665	-.0559	
140.000										-.6118					
150.000			.0518	-.0059	-.0861	-.0085		.0950		-.7852	-.3242	-.1588	-.0736	-.0606	
161.000									-.3445						
168.000									-.3400						
165.000										-1.2943	-.2937	-.1628	-.0898	-.0754	
169.000								.2356							
174.000							.4167								
180.000	.9570	.1875	.0878	.0302	.0081	.0573		.2[illegible]		-1.4940	-.3160	-.1868	-.1182	-.0946	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0506	.0085	-.0535	-.1426	-.1330	-.1246	.0268		.4264	.0973
40.000	.0592		-.0426	-.1353	-.2236	-.1824	-.0568		.2603	.0205
70.000	-.3281	-.2687	-.1196	.0257	-.0115	.0077	-.0950			
90.000	-.2335	-.1895	-.0720	.0090	-.1138	-.0951	-.1717			
105.000			-.0479	.0557	-.2442	-.1688	-.2174			
110.000								-.3328		
120.000	-.1239	-.1024	-.0030	.2403	-.4297	-.3073	-.2667	-.2668		
135.000			.0794	.3981	-.4435	-.3175	-.2955			
150.000	-.0692	-.0255	.1049	.1630	-.4723	-.3859	-.3067			
165.000	-.0723		.1053		-.3840	-.4075	-.3018			
180.000	-.0896	-.0099	.1244	.1895						

ALPHA (5) = 11.925 BETA (1) = -7.848 MACH = .59584 Q = 593.15 P = 2386.7 RN/L = 4.8434

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9179	.7676	.3620	.2454	.1320			.0389		.0473	.0525	.0518	.0963	.1393	.1503
20.000			.4493	.2863	.1686	.0835		.0601		.0466					
40.000			.5853	.3628	.2625	.1443		.1151		.0354	.0452	.0859	.1158	.1364	.1957
55.000			.5703	.3799	.2958	.1770		.0756		-.0996					
70.000			.4836	.3198	.2093	.1537		.0425		-.1543	-.2353	-.1655	-.1278	-.1185	
90.000		.5487	.4097	.2563	.1705	.1282		.0175		-.2428	-.2599	-.1919	-.1520	-.1330	
120.000			.2192	.0888	.0127	.0501		.0491		-.3697	-.4160	-.4720	-.3521	-.4847	

DATE 12 FEB 76 TABULATED PRESSURE DATA - OA148 (AMES 11-073-1)

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8870)

ALPHA (5) = 11.935 BETA (1) = -7.048

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.5232					
150.000			.0452	-.0584	-.0757	.0156		.3727		-.7727	-.5197	-.2318	-.1342	-.1439	
161.000									.0139						
168.000									-.0516						
185.000										-1.5239	-.3533	-.1933	-.1112	-.1070	
169.000								.3418							
174.000							.4972								
180.000	.9179	.1154	-.0464	-.0127	-.0535	.0049		.1234		-1.8765	-.3218	-.1475	-.0751	-.0744	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1369	.0853	.0172	-.0705	-.0801	-.0815	.0596		.4560	.1240					
40.000	.1669		.0398	-.0650	-.1620	-.0609	-.0355		.3568	.0736					
80.000	-.4342	-.2185	-.0646	.2385	.1824	.1638	.0092								
90.000	-.3167	-.1732	.0523	.3822	.1271	.0506	-.0904								
105.000			.0694	.4331	.0568	-.0056	-.1451								
110.000								-.3034							
120.000	-.4261	-.2002	.0306	.5487	-.2228	-.1794	-.1905	-.3104							
125.000			.0967	.3121	-.2979	-.1937	-.2473								
150.000	-.1006	-.0570	.0634	-.0776	-.3273	-.1749	-.1936								
160.000	-.1208		.0674		.0527	-.0658	-.2732								
180.000	-.1531	-.0959	.0357	.2489											

ALPHA (5) = 11.942 BETA (2) = -3.851 MACH = .59584 Q = 593.15 P = 2386.7 RN/L = 4.8434

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9477	.8018	.3921	.2455	.1589			.0529		.0479	.0488	.0648	.0979	.1415	.1512
20.000			.4471	.2837	.1736	.0948		.0620		.0470					
40.000			.5097	.3187	.2172	.1472		.0806		.0383	.0427	.0900	.1112	.1350	.1947
60.000			.4542	.2730	.1832	.0766		-.0184		-.0973					
80.000			.3740	.2153	.1107	.0723		-.0367		-.1530	-.2396	-.1617	-.1276	-.1183	
90.000		.4224	.3163	.1613	.0833	.0606		-.0527		-.2436	-.2617	-.1879	-.1478	-.1382	
120.000			.1736	.0812	-.0139	.0370		.0043		-.3775	-.4161	-.4688	-.3556	-.3500	
140.000										-.5213					
150.000			.0555	-.0315	-.0434	.0312		.3424		-.7798	-.5283	-.2334	-.1354	-.1409	
161.000									-.0415						
168.000									-.0963						
185.000										-1.5348	-.3580	-.1895	-.1126	-.1051	
169.000								.3422							
174.000							.5210								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8870)

ALPHA (5) = 11.942 BETA (2) = -3.851

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	.9477	.1133	-.0160	-.0272	-.0298	.0310		.2106		-1.8634	-.2947	-.1519	-.0818	-.0739	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1354	.0784	.0147	-.0787	-.0870	-.0875	.0602		.4495	.1264
40.000	.1520		.0362	-.0691	-.1714	-.0932	-.0213		.3317	.0576
70.000	-.4319	-.2751	-.0610	.1661	.1209	.1195	-.0164			
90.000	-.3178	-.1784	.0015	.2060	.0603	.0144	-.1059			
105.000			.0389	.3302	-.0194	-.0495	-.1645			
110.000								-.3090		
130.000	-.2978	-.0599	.1054	.2413	-.2398	-.1863	-.1929	-.2925		
135.000			.0959	.1399	-.2527	-.1880	-.2404			
150.000	-.1591	-.0010	.0923	.2789	-.2090	-.1776	-.2067			
155.000	-.1156		.0715		-.0219	-.1823	-.2409			
180.000	-.0911	-.0011	.1310	.4111						

ALPHA (5) = 11.947 BETA (3 = .182 MACH = .59584 Q = 593.15 P = 2386.7 RN/L = +.8434

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9582	.8104	.4026	.2526	.1673			.0637		.0475	.0506	.0721	.1043	.1459	.1549
20.000			.4124	.2580	.1528	.0918		.0561		.0353					
40.000			.4124	.2490	.1521	.0877		.0316		-.0168	-.0264	.0354	.0748	.1100	.1749
55.000			.3225	.1521	.0725	-.0217		-.1015		-.1756					
70.000			.2550	.0979	.0039	-.0027		-.1067		-.2160	-.2885	-.1979	-.1603	-.1492	
90.000		.2789	.2169	.0704	-.0044	-.0063		-.1219		-.3045	-.2941	-.2064	-.1575	-.1424	
120.000			.1250	.0124	-.0486	.0168		-.0455		-.4227	-.4002	-.3917	-.2461	-.2163	
140.000										-.5661					
150.000			.0531	-.0218	-.0446	.0380		.2822		-.7994	-.4389	-.1919	-.1036	-.0946	
151.000									-.1305						
162.000									-.1636						
165.000										-1.4645	-.3178	-.1584	-.0762	-.0615	
169.000								.3210							
174.000							.4957								
180.000	.9582	.1177	.0041	-.0227	-.0173	.0449		.2665		-1.7195	-.2853	-.1399	-.0622	-.0543	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1380	.0839	.0209	-.0775	-.0898	-.0877	.0621		.4486	.1246
40.000	.1544		.0352	-.0743	-.1795	-.1174	-.0161		.3119	.0463

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8870)

ALPHA (5) = 11.947 BETA (3) = .182

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.4573	-.3055	-.1041	.0999	.0534	.0712	-.0450			
90.000	-.3274	-.2043	-.0228	.1224	-.0286	-.0343	-.1344			
105.000			.0516	.1588	-.1044	-.0971	-.1878			
110.000								-.3238		
120.000	-.1887	-.0639	.1068	.2208	-.2499	-.2049	-.2062	-.2771		
135.000			.0754	.3569	-.2855	-.2189	-.2396			
150.000	-.1210	-.0379	.1318	.4992	-.2832	-.2267	-.2131			
165.000	-.0662		.1539		-.1365	-.2311	-.2403			
180.000	-.0831	.0224	.1649	.4115						

ALPHA (5) = 11.942 BETA (4) = 4.245 MACH = .59584 Q = 593.15 P = 2386.7 RN/L = 4.8434

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9389	.7904	.3886	.2463	.1455			.0516		.0347	.0445	.0612	.1010	.1385	.1403
20.000			.3570	.2222	.1174	.0588		.0223		.0019					
40.000			.2951	.1621	.0723	.0170		-.0350		-.0951	-.1029	-.0377	.0301	.0716	.1505
55.000			.1794	.0317	-.0379	-.1150		-.1866		-.2538					
70.000			.1297	-.0101	-.0853	-.0712		-.1721		-.2732	-.3180	-.2279	-.1817	-.1713	
90.000		.1184	.1109	-.0181	-.0856	-.0640		-.1609		-.3524	-.3140	-.2156	-.1606	-.1485	
120.000			.0647	-.0326	-.0891	-.0138		-.1112		-.4752	-.3880	-.3316	-.1608	-.1251	
140.000										-.6045					
150.000			.0225	-.0329	-.0927	.0104		.2025		-.8034	-.3789	-.1663	-.0754	-.0728	
151.000									-.2292						
162.000									-.2561						
165.000										-1.4117	-.2924	-.1428	-.0679	-.0576	
169.000								.2734							
174.000							.4538								
180.000	.9389	.0818	.0055	-.0300	-.0274	.0383		.2448		-1.7113	-.2928	-.1521	-.0738	-.0752	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1358	.0838	.0179	-.0767	-.0858	-.0847	.0595		.4502	.1284
40.000	.1401		.0260	-.0735	-.1895	-.1422	-.0252		.2963	.0405
70.000	-.4488	-.3236	-.1249	.0433	.0017	.0306	-.0710			
90.000	-.3204	-.2316	-.0597	.0238	-.0945	-.0764	-.1555			
105.000			-.0184	.0626	-.2063	-.1419	-.1986			
110.000								-.3434		
120.000	-.1699	-.1134	.0093	.0937	-.3377	-.2555	-.2357	-.2666		
135.000			.1125	.4150	-.3354	-.2389	-.2454			
150.000	-.0745	-.0070	.1563	.4338	-.3823	-.2840	-.2440			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8870)

ALPHA (5) = 11.942 BETA (4) = 4.245

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0671		.1385		-.2495	-.3088	-.2461			
180.000	-.0835	.0019	.1293	.4551						

ALPHA (5) = 11.935 BETA (5) = 8.309 MACH = .59584 Q = 593.15 P = 2386.7 RN/L = 4.8434

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2310	.3010	.3780	.4970	.5740
PHI															
.000	.8802	.7473	.3613	.2261	.1273			.0410		.0290	.0330	.0510	.0844	.1316	.1338
20.000			.2848	.1608	.0715	.0158		-.0147		-.0324					
40.000			.1599	.0515	-.0210	-.0792		-.1205		-.1883	-.2080	-.1157	-.0418	.0342	.1243
55.000			.0235	-.1075	-.1629	-.2236		-.2683		-.3173					
70.000			-.0125	-.1116	-.1696	-.1407		-.2312		-.3192	-.3458	-.2424	-.2071	-.2100	
90.000		-.0592	.0037	-.1128	-.1667	-.1216		-.2333		-.3952	-.3252	-.2133	-.1598	-.1553	
120.000			-.0151	-.1011	-.1477	-.0685		-.1869		-.5184	-.3728	-.2659	-.0986	-.0978	
140.000										-.6495					
150.000			-.0383	-.0781	-.1370	-.0459		.0808		-.8374	-.3381	-.1550	-.0655	-.0646	
161.000									-.3605						
162.000									-.3905						
165.000										-1.3653	-.3016	-.1560	-.0878	-.0864	
169.000								.1975							
174.000							.3723								
180.000	.8802	.0242	-.0324	-.0600	-.0662	.0008		.1525		-1.7426	-.3319	-.1877	-.1214	-.1237	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1234	.0809	.0128	-.0082	-.0893	-.0327	.0498		.4509	.1152
40.000	.1207		.0177	-.0747	-.1933	-.1613	-.0470		.2731	.0215
70.000	-.4534	-.3465	-.1709	-.0242	-.0400	.0031	-.0063			
90.000	-.3347	-.2697	-.1327	-.0479	-.1624	-.0950	-.1581			
105.000			-.0957	-.0403	-.3035	-.1918	-.2276			
110.000								-.3652		
120.000	-.2002	-.1874	-.0596	.1089	-.4397	-.3197	-.2756	-.2637		
135.000			.0837	.4511	-.4677	-.3216	-.2950			
150.000	-.0876	-.0409	.0876	.3953	-.5092	-.3961	-.3158			
165.000	-.1204		.0403		-.4545	-.4235	-.3024			
180.000	-.1538	-.0910	.0574	.1993						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8871) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 936.0680 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = -5.000 SPDBRK = 55.000
BDFLAP = 16.300 L-ELVN = -10.000
R-ELVN = -10.000 MACH = 1.400

ALPHA (1) = -3.946 BETA (1) = -3.857 MACH = 1.3971 Q = 600.47 P = 439.47 RN/L = 2.9096

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0030	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4865	.6869	.2110	.0817	.0046			-.0503		-.0249	-.0028	-.0206	-.0330	-.0596	-.0570
20.000			.2655	.0980	.0170	-.0728		-.0534		-.0658					
40.000			.4511	.1315	.0697	-.0461		-.0936		-.1761	-.1723	-.1464	-.0822	-.0950	-.0615
55.000			.6010	.3210	.2372	.1141		.1269		.0748					
70.000			.6924	.4168	.3163	.2354		.2327		.1420	-.1878	-.0955	-.0541	.0222	
90.000		.3496	.7579	.4930	.3379	.2827		.2984		.0893	-.1681	-.1728	-.0926	.0153	
120.000			.8136	.6108	.4581	.4725		.5757		.1529	-.1044	-.3322	-.1240	-.0206	
140.000										.1144					
150.000			.7992	.6158	.5016	.5512		1.0200		-.0995	-.2906	-.1675	-.1055	-.0601	
161.000									.7470						
165.000									.8067						
169.000										-.1453	-.2474	-.1618	-.1131	-.0792	
169.000								1.0799							
174.000							1.1442								
180.000	1.4865	1.0312	.7313	.5764	.5092	.5486		1.0048		-.2478	-.2805	-.1414	-.1219	-.0953	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0211	-.0201	-.0387	-.0891	-.1598	-.2040	-.2612		.1728	.1479
40.000	-.0668		-.0744	-.1037	-.1696	-.1956	-.3487		.0217	-.0094
70.000	.0820	.0188	-.0444	.2013	.2044	.3626	.3412			
90.000	.0912	.0546	.0531	.2022	.1404	.2554	.2987			
105.000			.2008	.2457	.0331	.0579	.2736			
110.000								-.0161		
120.000	.0386	.0637	.3590	.2843	.0737	-.0526	.0462	.0436		
135.000			.4023	.4213	.1125	.0719	.0547			
150.000	-.0075	.0429	.3888	.4183	.1726	.1947	.1044			
165.000	-.0168		.3822		.4855	.3097	-.2389			
180.000	-.0156	.0207	.3909	.4141						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8871)

ALPHA (1) = -3.940 BETA (2) = .190 MACH = 1.3971 Q = 600.47 P = 439.47 RN/L = 2.9096

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4910	.6932	.2165	.0854	.0093			-.0560		-.0292	.0005	-.0089	-.0416	-.0504	-.0524
20.000			.2495	.0949	.0103	-.0494		-.0477		-.0470					
40.000			.3946	.1153	.0528	-.0463		-.0543		-.1161	-.1180	-.1051	-.0639	-.0782	-.0433
55.000			.5111	.2363	.1707	.0449		.0770		.0336					
70.000			.5857	.3081	.2268	.1384		.1560		.0778	-.2465	-.1671	-.1067	.0055	
80.000		.8033	.6466	.3813	.2427	.1743		.2091		-.0120	-.2418	-.2392	-.1307	-.0026	
120.000			.7219	.5228	.3711	.3752		.4763		.0409	-.1867	-.4066	-.1759	-.0479	
140.000										-.0912					
160.000			.7497	.5877	.4705	.5096		.9534		-.1767	-.3012	-.1847	-.1386	-.0710	
151.000									.6612						
162.000									.7409						
165.000										-.1536	-.2814	-.1486	-.1239	-.0767	
169.000								1.0493							
174.000							1.1457								
180.000	1.4910	1.0193	.7381	.5689	.5192	.5532		1.0348		-.3007	-.2986	-.1041	-.1181	-.0783	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0164	-.0148	-.0371	-.0863	-.1623	-.2049	-.2627		.1576	.1319
40.000	-.0438		-.0581	-.0914	-.1587	-.1865	-.3328		.0603	.0261
70.000	.0588	.0080	-.0007	.2347	.1400	.3026	.2825			
90.000	.0690	.0369	.1549	.1892	.0802	.1731	.2063			
105.000			.2784	.2266	-.0115	.0401	.1906			
110.000								-.0644		
120.000	.0389	.0589	.3002	.1356	.0262	-.1124	-.1087	-.0030		
135.000			.3664	.3906	.0800	.0197	-.0146			
150.000	.0083	.0424	.4030	.4173	.1700	.1034	.0278			
165.000	.0012		.4071		.4201	.1920	-.3051			
180.000	-.0044	.0271	.4113	.4941						

ALPHA (1) = -3.946 BETA (3) = 4.272 MACH = 1.3971 Q = 600.47 P = 439.47 RN/L = 2.9096

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4723	.6553	.2095	.0700	.0127			-.0604		-.0399	-.0018	-.0114	-.0307	-.0542	-.0608
20.000			.2192	.0777	-.0016	-.0437		-.0499		-.0346					
40.000			.3229	.0896	.0298	-.0481		-.0440		-.0798	-.0736	-.0735	-.0557	-.0714	-.0389
55.000			.4159	.1605	.1039	-.0035		.0425		.0067					
70.000			.4779	.2103	.1370	.0619		.0957		.0219	-.2888	-.2281	-.1402	-.0076	
90.000		.6487	.5374	.2772	.1465	.0819		.1233		-.1093	-.3052	-.3000	-.1542	-.0192	
120.000			.6211	.4326	.2791	.2645		.3574		-.0637	-.2548	-.4569	-.2352	-.0774	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8871)

ALPHA (1) = -3.946 BETA (3) = 4.272

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.2073					
150.000			.6855	.5505	.4050	.4320		.8722		-.2230	-.3066	-.1802	-.1723	-.1194	
151.000									.5507						
162.000									.6594						
165.000										-.1652	-.3152	-.1283	-.1395	-.1096	
169.000								.9981							
174.000							1.1139								
180.000	1.4723	.9365	.7326	.5686	.5126	.5266		1.0150		-.2669	-.2898	-.1535	-.1235	-.1010	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0327	-.0119	-.0415	-.0897	-.1592	-.2027	-.2624		.1682	.1349
40.000	-.0165		-.0327	-.0763	-.1616	-.1707	-.3212		.0419	.0316
70.000	.0433	-.0244	.0079	.2350	.0992	.2698	.2435			
90.000	.0960	.0100	.1464	.2051	.0449	.0966	.1274			
120.000			.2814	.1917	-.0533	.0050	.1077			
140.000								-.1068		
160.000	.0275	.0401	.2603	.0239	-.0636	-.1934	-.2872	-.0819		
165.000			.3424	.3469	.0309	-.0581	-.1021			
170.000	-.0067	.0274	.3650	.3706	.1238	.0170	-.0662			
175.000	-.0131		.3696		.3500	.1122	-.3299			
180.000	-.0189	.0231	.3900	.4202						

ALPHA (2) = .016 BETA (1) = -3.873 MACH = 1.3971 Q = 600.47 P = 439.47 RN/L = 2.9088

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4936	.8061	.3242	.1630	.0764			-.0156		-.0074	.0127	.0165	.0019	-.0283	-.0324
20.000			.3728	.1906	.0890	-.0011		-.0051		-.0274					
40.000			5395	.2472	.1593	.0437		-.0032		-.0540	-.0556	-.0547	-.0224	-.0488	-.0239
55.000			.6569	.3823	.2987	.1654		.1633		.1393					
70.000			.7045	.4386	.3339	.2356		.2380		.1829	-.1646	-.0778	-.0514	-.0319	
90.000		.9212	.7397	.4833	.3399	.2656		.3117		.1426	-.1506	-.1531	-.0984	-.0308	
120.000			.7425	.5458	.3961	.3724		.5805		.1618	-.1171	-.3242	-.1491	-.0651	
140.000										.1085					
150.000			.6891	.5088	.4049	.3869		.9952		-.1242	-.3483	-.2515	-.1512	-.0915	
161.000									.7268						
162.000									.7756						
165.000										- 2000	-.3137	-.2242	-.1560	-.0967	
169.000								1.0506							
174.000							1.0829								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE887:)

ALPHA (2) = .016 BETA (1) = -3.873

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.4935	.9048	.6082	.4785	.4058	.3636		.9664		-.3073	-.3399	-.1995	-.1714	-.0974	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0190	1.0460					
PHI															
.000	-.0046	.0057	.0076	-.0345	-.0994	-.1500	-.2042		.2265	.1909					
40.000	-.0093		-.0153	-.0414	-.1163	-.1185	-.2947		.1134	.0745					
70.000	.0154	-.0674	-.1298	.0481	.0692	.2583	.2954								
90.000	.0387	-.0222	-.0859	.1288	.0262	.0512	.2510								
105.000			.0203	.1829	-.0519	-.0839	.1851								
110.000								-.0505							
130.000	-.0192	-.0144	.2742	.2283	.0305	-.1123	-.1310	-.0109							
145.000			.3332	.3322	.0386	-.0247	-.0155								
160.000	-.0310	.0004	.3222	.3312	.0517	.1170	.0467								
165.000	-.0315		.3212		.4039	.2313	-.2665								
180.000	-.0252	.0141	.3103	.3084											

ALPHA (2) = .022 BETA (2) = .180 MACH = 1.3971 Q = 600.47 P = 439.47 RN/L = 2.9088

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4952	.8048	.3321	.1646	.0859			-.0078		-.0066	.0039	.0307	.0123	-.0189	-.0235
20.000			.3571	.1762	.0824	.0209		-.0055		-.0192					
40.000			.4755	.2086	.1370	.0385		.0017		-.0275	-.0221	-.0332	-.0039	-.0375	-.0204
60.000			.5078	.2938	.2247	.1011		.0978		.1075					
70.000			.5063	.3271	.2438	.1483		.1662		.1272	-.2140	-.1358	-.1643	-.0415	
90.000		.7753	.6308	.3719	.2462	.1750		.2334		.0547	-.2154	-.2185	-.1469	-.0384	
120.000			.6599	.4624	.3207	.2949		.4878		.0638	-.2004	-.3985	-.1691	-.0615	
140.000										-.0523					
150.000			.6474	.4864	.3793	.3507		.9452		-.2052	-.3557	-.2433	-.1557	-.0696	
161.000									.6494						
162.000									.7149						
165.000										-.2033	-.3305	-.2129	-.1646	-.0715	
169.000								1.0246							
174.000							1.0921								
180.00	1.4952	.8999	.6191	.4700	.4178	.3714		.9977		-.3576	-.3519	-.1624	-.1634	-.0734	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.0054	.0182	.0127	-.0277	-.0982	-.1465	-.2070		.2267	.1900					
40.000	.0063		.0074	-.0279	-.1032	-.1039	-.2728		.1010	.0655					

DATE 10 FEB 76 TABULATED PRESSURE DATA - OA148 (AMES 11-073-1)

AMES 11-073(OA:48) -140A/B'C ORB FUSELAGE (XE8871)

ALPHA (2) = .022 BETA (2) = .180

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.0002	-.0956	-.1239	.0705	.0239	.1819	.2182			
90.000	.0234	-.0439	.0197	.0976	-.0203	.0087	.1635			
105.000			.1677	.1303	-.1218	-.1191	.0656			
.10.000								-.0802		
122.000	.0115	.0075	.2664	.1906	.0055	-.1491	-.2225	-.0812		
135.000			.2847	.3312	.0779	-.0348	-.0752			
150.000	-.0314	.0237	.2316	.3450	.1143	.0527	-.0294			
165.000	-.0092		.3096		.3366	.1330	-.3069			
180.000	-.0131	.0178	.3200	.4081						

ALPHA (2) = .019 BETA (3) = 4.248 MACH = 1.3971 Q = 600.47 P = 439.47 RN/L = 2.9088

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4793	.7918	.3284	.1532	.0863			-.0128		-.0136	-.0020	.0249	.0079	- 0265	-.0326
20.000			.3256	.1550	.0692	.0183		-.0143		-.0203					
43.000			.4007	.1688	.1027	.0189		-.0002		-.0257	.0002	-.0205	-.0049	-.0473	-.0300
55.000			.4580	.2133	.1524	.0420		.0515		0705					
70.000			.4836	.2278	.1574	.0696		.1073		.0777	-.2546	-.1917	-.1505	-.0444	
90.000		.6225	.5267	.2721	.1555	.0894		.1604		-.0307	-.2713	-.2719	-.1736	-.0516	
120.000			.5698	.3817	.2426	.2159		.3810		-.0364	-.2703	-.4541	-.1989	-.0655	
140.000										-.2035					
150.000			.5892	.4535	.3329	.2965		.8616		-.2568	-.3661	-.2433	-.1996	-.0855	
151.000									.5419						
162.000									.6298						
165.000										-.2128	-.3649	-.1848	-.1848	-.0938	
169.000								.9679							
174.000							1.0799								
180.000	1.4793	.8681	.6154	.4678	.4150	.3589		.9727		-.3247	-.3431	-.2096	-.1696	-.1017	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0205	.0159	.0098	-.0323	-.0960	-.1433	-.2060		.2258	.1892
40.000	.0184		.0220	-.0158	-.0987	-.0998	-.2664		.1085	.0728
70.000	-.0099	-.1199	-.1015	.0244	.0012	.1323	.1845			
90.000	.0222	-.0638	.0309	.0672	-.0550	-.0647	.0830			
[illegible]			.1741	.1442	-.1509	-.1656	-.0222			
111.000								-.1202		
122.000	.0157	.0098	.2098	.0528	-.0726	-.2176	-.3200	-.1791		
135.000			.2231	.2856	.0002	-.1011	-.1438			
150.000	-.0095	.0260	.3025	.2999	.0826	-.0299	-.1108			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE887)

ALPHA (2) = .018 BETA (3) = 4.248

SECTION (ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9930	1.0180	1.0460
PHI										
.000	-.0186		.3052		.2501	.0584	-.3410			
180.000	-.0280	.0187	.3127	.3110						

ALPHA (3) = 3.351 BETA (1) = -3.877 MACH = 1.3961 Q = 600.56 P = 440.18 RN/L = 2.9092

SECTION (ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/B	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4370	.5740
PHI															
.000	1.0806	.9963	.4305	.2645	.1599			.0424		.0323	.0380	.0353	.0494	.0227	.0153
20.000			.4445	.2934	.1768	.0739		.0816		.0185					
40.000			.6875	.3537	.2570	.1323		.0926		.0612	.0559	.0299	.0429	.0116	.0305
60.000			.6670	.4693	.3487	.2038		.1841		.1705					
80.000			.7046	.4437	.3457	.2577		.1932		.2.84	-.1360	-.0502	-.0431	-.0385	
90.000		.8814	.7066	.4685	.3300	.2522		.2596		.1933	-.1312	-.1095	-.0932	-.0934	
100.000			.6631	.4658	.3300	.3064		.5752		.1717	-.1170	-.3173	-.2415	-.1525	
140.000										.1264					
160.000			.5727	.3879	.3060	.2985		.9062		-.1393	-.3940	- 3282	- 1678	- 1144	
161.000									.7029						
169.000									.7407						
165.000										-.2504	-.3581	-.2757	-.1873	-.0941	
169.000								1.0136							
174.000							1.0219								
180.000	1.4806	.7713	.4854	.4268	.3095	.2717		.9275		-.3558	-.3978	-.2427	-.2013	-.0803	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9930	1.0180	1.0460
PHI										
.000	.0373	.0452	.0838	.0282	-.0325	-.0859	-.1516		.3148	.2658
20.000	.0569		.0583	.0269	-.0539	-.0527	-.2200		.1953	.1316
40.000	-.0504	-.1517	-.2040	-.0967	-.0216	.1411	.2250			
80.000	-.0178	-.0937	-.1699	.0548	-.0596	-.0873	.1474			
100.000			-.1185	.1158	-.1012	-.1987	-.0865			
120.000								-.0781		
140.000	-.0975	-.1030	.2016	.1552	-.0127	-.1617	-.2183	-.1331		
160.000			.2312	.2342	-.0252	-.1308	-.0886			
170.000	-.0504	-.0042	.2706	.2343	-.0601	0475	-.0268			
175.000	-.0416		.2384		.1827	.1735	-.2005			
180.000	-.0369	.0467	.2297	.2693						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8871)

ALPHA (3) = 3.952 BETA (2) = .179 MACH = 1.3961 Q = 600.56 P = 440.18 RN/L = 2.9092

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4841	.9290	.4468	.2628	.1662			.0466		.0360	.0269	.0513	.0546	.0238	.0238
20.000			.4609	.2711	.1683	.0858		.0494		.0253					
40.000			.5528	.3049	.2219	.1089		.0778		.0162	.0695	.0398	.0465	.0096	.0179
55.000			.5944	.3411	.2637	.1359		.1219		.1147					
70.000			.5980	.3387	.2542	.1507		.1269		.1634	-.1828	-.1054	-.1002	-.1088	
90.000		.7396	.6063	.3570	.2438	.1678		.2037		.1132	-.1901	-.1745	-.1468	-.0924	
120.000			.5913	.3972	.2690	.2448		.4914		.0861	-.1956	-.3683	-.2021	-.1015	
140.000										-.0004					
150.000			.5424	.3761	.2949	.2705		.9189		-.2222	-.4029	-.2921	-.1749	-.0696	
161.000									.6470						
168.000									.6956						
165.000										-.2488	-.3737	-.2611	-.1887	-.0586	
169.000								1.0158							
174.000							1.0039								
180.000	1.4941	.7541	.5020	.3830	.3256	.2794		.9682		-.3991	-.3953	-.2116	-.1921	-.0562	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0272	.0595	.0708	.0386	-.0311	-.0784	-.1503		.3123	.2673
40.000	.0586		.0755	.0410	-.0354	-.0571	-.1979		.1869	.1307
70.000	-.0610	-.1791	-.1980	-.0334	-.0489	.0552	.1620			
90.000	-.0164	-.1237	-.1291	.0405	-.1213	-.1146	.0593			
105.000			.0837	.0659	-.1802	-.2354	-.1480			
110.000								-.1073		
120.000	-.0235	-.0435	.1986	.1276	-.0344	-.1827	-.2536	-.2466		
135.000			.2099	.2470	.0277	-.0876	-.1243			
150.000	-.0169	.0043	.2101	.3277	.0806	-.0010	-.0810			
165.000	-.0199		.2222		.2697	.0776	-.3086			
180.000	-.0223	.0060	.2337	.3699						

ALPHA (3) = 3.956 BETA (3) = 4.242 MACH = 1.3961 Q = 600.56 P = 440.18 RN/L = 2.9092

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4666	.9148	.4379	.2597	.1729			.0413		.0295	.0269	.0415	.0612	.0231	.0154
20.000			.4284	.2476	.1500	.0755		.0339		.0190					
40.000			.4721	.2579	.1727	.0762		.0556		.0000	.0647	.0277	.0448	-.0104	.0040
55.000			.4854	.2545	.1927	.0682		.0601		.0623					
70.000			.4876	.2412	.1679	.0773		.0627		.1132	-.2207	-.1588	-.1493	-.1167	
90.000		.5843	.5040	.2624	.1598	.0892		.1533		.0392	-.2379	-.2333	-.1914	-.0992	
120.000			.5102	.3864	.2003	.1717		.3955		-.0043	-.2778	-.4253	-.1738	-.0746	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8871)

ALPHA (3) = 3.956 BETA (3) = 4.242

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.1829					
150.000			.4926	.3483	.2479	.2194		.8559		-.2804	-.4115	-.2960	-.1964	-.0647	
151.000									.5338						
162.000									.6039						
165.000										-.2590	-.4075	-.2300	-.2098	-.0704	
169.000								.9419							
171.000							1.0411								
180.000	1.4885	.7266	.4926	.3729	.3243	.2632		.9298		-.3725	-.3878	-.2529	-.1976	-.0854	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0216	.0536	.0655	.0322	-.0299	-.0774	-.1501		.3174	.2693
40.000	.0505		.0891	.0535	-.0332	-.0547	-.2023		.1831	.1393
70.000	-.0623	-.1921	-.1939	-.0286	-.0707	-.0023	.0894			
90.000	-.0132	-.1240	-.0458	.0203	-.1489	-.1396	.0033			
105.000			.0960	.0391	-.2438	-.2669	-.2029			
110.000								-.1385		
120.000	-.0012	-.0251	.1562	.0263	-.0978	-.2531	-.3418	-.3522		
135.000			.2264	.2426	-.0638	-.1454	-.1912			
150.000	-.0137	.0176	.2347	.2124	.0002	-.0788	-.1470			
155.000	-.0242		.2353		.2111	.0158	-.3581			
180.000	-.0337	.0490	.2378	.2633						

ALPHA (4) = 7.987 BETA (1) = -3.873 MACH = 1.3969 Q = 600.27 P = 439.47 RN/L = 2.9090

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4475	1.0468	.5593	.3752	.2484			.1106		.0895	.0884	.0711	.0962	.0810	.0760
20.000			.6033	.4013	.2717	.1618		.1309		.0829					
40.000			.7127	.4560	.3401	.2130		.1745		.0933	.1269	.1139	.1077	.0784	.0951
55.000			.7298	.4846	.3829	.2346		.2015		.1381					
70.000			.6946	.4558	.3458	.2373		.1948		.1912	-.1037	-.0303	-.0291	-.1067	
90.000		.8309	.6675	.4403	.3182	.2358		.1965		.2264	-.1121	-.0684	-.0827	-.1328	
120.000			.5776	.3872	.2523	.2351		.5392		.1824	-.1199	-.3178	-.3421	-.2915	
140.000										.1067					
150.000			.4621	.2848	.2260	.2122		.9321		-.1359	-.4365	-.3850	-.2196	-.1311	
151.000									.6792						
162.000									.7052						
165.000										-.2965	-.4022	-.3235	-.2044	-.0917	
169.000								.9621							
174.000							1.0208								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8871)

ALPHA (4) = 7.987 BETA (1) = -3.873

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.4475	.6264	.3660	.3270	.2225	.1893		.8734		-.3979	-.4225	-.2730	-.2149	-.0707	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1004	.1163	.1328	.1001	.0386	-.0144	-.0833		.4168	.3453
40.000	.1354		.1507	.1120	.0176	-.0206	-.1230		.2743	.1802
70.000	-.1321	-.2393	-.2602	-.2372	-.1343	.1042	.1725			
90.000	-.0915	-.1936	-.2369	-.0304	-.1320	-.1937	.0992			
105.000			-.1138	.0251	-.1579	-.2642	-.1731			
110.000								-.0976		
120.000	-.1898	-.1736	.0780	.0676	-.0610	-.1982	-.2395	-.1820		
135.000			.0617	.1228	-.0483	-.1331	-.1236			
150.000	-.0689	-.0256	.0640	.1228	.0348	.0000	-.0959			
165.000	-.0595		.0767		.2481	.1325	-.3066			
180.000	-.0469	-.0258	.1378	.2984						

ALPHA (4) = 7.995 BETA (2) = .177 MACH = 1.3969 Q = 600.27 P = 439.47 RN/L = 2.9090

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4540	1.0499	.5623	.3802	.2637			.1181		.0976	.0812	.0760	.1110	.0880	.0834
20.000			.5773	.3840	.2613	.1664		.1197		.0845					
40.000			.6361	.4018	.2993	.1818		.1511		.0691	.1025	.1018	.1039	.0576	.0815
55.000			.6216	.3845	.3007	.1518		.1335		.0810					
70.000			.5834	.3496	.2597	.1556		.1273		.1312	-.1458	-.0780	-.0899	-.1511	
90.000		.6958	.5706	.3354	.2397	.1551		.1356		.1566	-.1628	-.1243	-.1376	-.1666	
120.000			.5118	.3259	.2055	.1906		.4797		.1094	-.1830	-.3572	-.3354	-.1788	
140.000										.0193					
150.000			.4328	.2794	.2100	.1915		.8011		-.2164	-.4382	-.3423	-.1855	-.0721	
151.000									.6330						
162.000									.6858						
165.000										-.2883	-.4116	-.2981	-.1977	-.0502	
169.000								.9851							
174.000							.8377								
180.000	1.4540	.6114	.3776	.2884	.2352	.1932		.9397		-.4308	-.4328	-.2513	-.2083	-.0426	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0938	.1252	.1483	.1163	.0498	-.0061	-.0770		.4144	.3430
40.000	.1221		.1609	.1265	.0422	-.0154	-.1152		.2770	.1962

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8871)

ALPHA (4) = 7.995 BETA (2) = .177

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1370	-.2495	-.2725	-.1035	-.1528	-.0319	.1197			
90.000	-.0787	-.1879	-.2298	-.0161	-.1921	-.2124	.0153			
105.000			-.0381	.0474	-.2274	-.3020	-.2678			
110.000								-.1210		
120.000	-.0726	-.0890	.0932	.0486	-.0828	-.2136	-.2806	-.3229		
135.000			.0931	.1201	-.0253	-.1317	-.1743			
150.000	-.0393	-.0433	.0956	.3727	.0265	-.0557	-.1202			
165.000	-.0331		.1127		.2299	.0098	-.3246			
180.000	-.0285	-.0197	.1515	.3819						

ALPHA (4) = 7.892 BETA (3) = 4.237 MACH = 1.3969 Q = 600.27 P = 439.47 RN/L = 2.9090

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4393	1.0365	.5519	.3795	.2628			.1080		.0857	.0764	.0733	.1127	.0810	.0764
20.000			.5334	.3538	.2349	.1441		.0937		.0698					
40.000			.5405	.3414	.2447	.1327		.1004		.0329	.0612	.0736	.0917	.0412	.0580
55.000			.5070	.2866	.2123	.0696		.0639		.0226					
70.000			.4815	.2466	.1741	.0804		.0656		.0888	-.1857	-.1332	-.1456	-.1990	
90.000		.5434	.4777	.2440	.1529	.0832		.0827		.0864	-.2119	-.1768	-.1873	-.1561	
120.000			.4468	.2675	.1501	.1354		.4153		.0167	-.2571	-.4055	-.2295	-.1011	
140.000										-.1295					
150.000			.3987	.2611	.1725	.1593		.8484		-.2942	-.4473	-.3372	-.1806	-.0565	
151.000									.5404						
162.000									.5879						
165.000										-.2964	-.4371	-.2638	-.2135	-.0556	
169.000								.9292							
174.000							.9853								
180.000	1.4393	.5867	.3795	.2814	.2380	.1852		.9002		-.4154	-.4168	-.2759	-.2114	-.0713	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0861	.1272	.1343	.1087	.0434	-.0072	-.0920		.4189	.3450
40.000	.1055		.1653	.1304	.0427	-.0139	-.1268		.2701	.2067
70.000	-.1236	-.2390	-.2669	-.0999	-.1455	-.1053	.0578			
90.000	-.0627	-.1751	-.1790	-.0297	-.2149	-.2055	-.1061			
105.000			.0011	.0068	-.2774	-.3337	-.2779			
110.000								-.1614		
120.000	-.0359	-.0610	.0592	-.0459	-.1262	-.2741	-.3681	-.4072		
135.000			.1582	.2346	-.0795	-.1733	-.2112			
150.000	-.0260	-.0203	.1988	.3050	-.0431	-.1265	-.1864			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8871)

ALPHA (4) = 7.892 BETA (3) = 4.237

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0327		.1471		.1790	-.0605	-.3641			
180.000	-.0455	-.0148	.1257	.2947						

ALPHA (5) = 11.960 BETA (1) = -3.861 MACH = 1.3964 Q = 600.16 P = 439.71 RN/L = 2.9137

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3967	1.1573	.6794	.4894	.3462			.1865		.1634	.1448	.1213	.1454	.1545	.1511
20.000			.7253	.5152	.3638	.2542		.2035		.1587					
40.000			.7963	.5557	.4287	.2952		.2519		.1577	.1780	.1798	.1807	.1466	.1716
55.000			.7537	.5193	.4089	.2433		.2090		.1401					
70.000			.6813	.4570	.3412	.2352		.1961		.1317	-.0718	- 0072	-.0170	-.0968	
90.000		.7765	.6236	.4134	.3009	.2121		.1975		.2325	-.1006	-.0351	-.0687	-.1370	
120.000			.4955	.3083	.1648	.1584		.4369		.1896	-.1209	-.3064	-.4414	-.4942	
140.000										.1103					
150.000			.3550	.1807	.1464	.1348		.8848		-.0615	-.4766	-.4323	-.2616	-.1637	
151.000									.6595						
162.000									.6798						
165.000										-.3389	-.4395	-.3655	-.2227	-.1054	
169.000								.9220							
174.000							.9137								
180.000	1.3967	.4834	.2590	.2322	.1417	.1188		.8344		-.4275	-.4449	-.2976	-.2096	-.0734	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1790	.2050	.2265	.1866	.1290	.0838	-.0154		.5050	.4067
40.000	.2261		.2593	.2002	.1151	.0434	-.0652		.3545	.2446
70.000	-.1809	-.3361	-.3696	-.2813	-.1780	-.0007	.0228			
90.000	-.1530	-.2676	-.3085	-.0880	-.1671	-.1791	-.0418			
105.000			-.2665	.0052	-.1878	-.2577	-.1431			
110.000								-.1911		
120.000	-.1913	-.1972	-.0359	.0618	-.1315	-.2149	-.2269	-.2180		
135.000			-.0388	.1273	-.1029	-.1361	-.1622			
150.000	-.1031	-.1838	-.1584	.2341	-.0606	-.1404	-.2040			
165.000	-.0875		-.1007		.2113	.0178	-.3342			
180.000	-.0527	-.0623	-.0652	.3412						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8871)

ALPHA (5) = 11.969 BETA (2) = .177 MACH = 1.3964 Q = 600.16 P = 439.71 RN/L = 2.9137

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4027	1.1609	.6838	.4948	.3599			.1944		.1664	.1410	.1274	.1543	.1636	.1510
20.000			.6969	.4917	.3494	.2448		.1846		.1517					
40.000			.7087	.4898	.3737	.2480		.2010		.1163	.1298	.1346	.1626	.1322	.1529
55.000			.6358	.4087	.3137	.1434		.1234		.0636					
70.000			.5682	.3459	.2524	.1455		.1207		.0704	-.1101	-.0726	-.0888	-.1713	
90.000		.6380	.5283	.3111	.2222	.1369		.1217		.1740	-.1467	-.0952	-.1292	-.1967	
120.000			.4304	.2512	.1306	.1250		.4076		.1194	-.1785	-.3536	-.4425	-.2595	
140.000										.0258					
150.000			.3278	.1851	.1380	.1253		.7139		-.1995	-.4698	-.4021	-.2018	-.0928	
151.000									.5941						
160.000									.6672						
165.000										-.3254	-.4368	-.3272	-.1904	-.0561	
169.000								.8359							
174.000							.6703								
180.000	1.4027	.4627	.2644	.2031	.1563	.1234		.8926		-.4560	-.4633	-.2755	-.2004	-.0440	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1736	.2039	.2420	.1983	.1375	.0855	-.0118		.5105	.4125
40.000	.2063		.2584	.2169	.1260	.0381	-.0532		.3623	.2604
70.000	-.2376	-.3610	-.4048	-.2193	-.2219	-.1304	.0543			
90.000	-.1462	-.2435	-.3045	-.1112	-.2218	-.2404	-.1451			
105.000			-.2098	.0020	-.2855	-.3213	-.2415			
110.000								-.2981		
120.000	-.1014	-.1243	.0191	-.0366	-.1384	-.2294	-.2921	-.3236		
135.000			-.0028	.0736	-.0992	-.1645	-.2008			
150.000	-.0719	-.0911	-.1087	.3199	-.0299	-.1191	-.1670			
165.000	-.0478		-.0499		.2271	-.0267	-.3499			
180.000	-.0373	-.0316	-.0130	.3628						

ALPHA (5) = 11.967 BETA (3) = 4.251 MACH = 1.3964 Q = 600.16 P = 439.71 RN/L = 2.9137

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3903	1.1511	.6728	.4928	.3550			.1891		.1556	.1389	.1248	.1573	.1532	.1480
20.000			.6463	.4580	.3203	.2133		.1629		.1304					
40.000			.6052	.4184	.3050	.1897		.1374		.0571	.0692	.0791	.1325	.1091	.1251
55.000			.5097	.3019	.2143	.0494		.0475		-.0048					
70.000			.4545	.2412	.1637	.0670		.0630		.0157	-.1516	-.1179	-.1463	-.2346	
90.000		.4936	.4345	.2165	.1430	.0711		.0680		.1082	-.1897	-.1458	-.1815	-.2475	
120.000			.3674	.1995	.0944	.0894		.3832		.0473	-.2404	-.3831	-.4024	-.1552	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8871)

ALPHA (5) = 11.967 BETA (3) = 4.251

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.0602					
150.000			.2925	.1778	.1156	.1023		.7942		-.3034	-.4783	-.3647	-.1727	-.0603	
151.000									.5408						
162.000									.5665						
165.000										-.3310	-.4559	-.2842	-.1972	-.0519	
169.000								.9006							
174.000							.8679								
180.000	1.3903	.4348	.2598	.1981	.1576	.1130		.8555		-.4433	-.4422	-.2954	-.2063	-.0713	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1639	.2114	.2350	.1985	.1309	.0801	-.0258		.5059	.4068
40.000	.1766		.2615	.2176	.1187	.0197	-.0713		.3560	.2716
70.000	-.2258	-.3427	-.3859	-.2262	-.2146	-.2662	-.0223			
90.000	-.1266	-.2289	-.2744	-.1448	-.3062	-.3086	-.2455			
105.000			-.0959	-.0801	-.4024	-.4183	-.3957			
110.000								-.3590		
120.000	-.0768	-.0999	-.0041	-.1147	-.1706	-.3057	-.4267	-.4658		
135.000			-.0453	.1587	-.1080	-.1777	-.2216			
150.000	-.0441	-.0424	.0362	.2873	-.0381	-.1423	-.2153			
165.000	-.0390		-.0274		.2149	-.0868	-.3635			
180.000	-.0575	-.0546	-.0701	.3558						

ALPHA (6) = 15.903 BETA (1) = -3.840 MACH = 1.3960 Q = 600.45 P = 440.18 RN/L = 2.9185

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3267	1.2573	.8055	.6025	.4572			.2743		.2445	.2121	.1947	.2146	.2265	.2376
20.000			.8494	.6297	.4705	.3465		.2872		.2440					
40.000			.8744	.6461	.5143	.3848		.3146		.2262	.2359	.2244	.2503	.2313	.2595
55.000			.7660	.5398	.4194	.2403		.1879		.1303					
70.000			.6591	.4510	.3294	.2279		.1826		.1213	-.0682	-.0184	-.0101	-.1086	
90.000		.7116	.5745	.3806	.2749	.1871		.1631		.1933	-.0920	-.0243	-.0570	-.1306	
120.000			.4109	.2273	.0750	.0888		.3063		.1779	-.1253	-.3021	-.5172	-.4212	
140.000										.1175					
150.000			.2519	.0884	.0629	.0673		.7804		-.0192	-.5118	-.4830	-.3109	-.3135	
151.000									.6343						
162.000									.6527						
165.000										-.3730	-.4679	-.4061	-.2493	-.1191	
169.000								.8509							
174.000							.7628								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8871)

ALPHA (6) = 15.903 BETA (1) = -3.840

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.3267	.3202	.1564	.1543	.0726	.0602		.7880		-.4493	-.4619	-.3099	-.1959	-.0698	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2795	.3036	.3303	.2993	.2428	.1586	.0309		.5858	.4602
40.000	.3200		.3646	.3160	.2175	.0627	-.0362		.4446	.3156
70.000	-.2551	-.4395	-.5255	-.4579	-.4348	-.2863	-.0469			
90.000	-.1419	-.3118	-.3715	-.1882	-.2514	-.2860	-.1530			
105.000			-.2931	-.0317	-.2646	-.3459	-.2674			
110.000								-.2997		
120.000	-.2263	-.1939	-.1021	.0937	-.1848	-.2733	-.2685	-.2975		
135.000			-.0326	.0399	-.2065	-.1813	-.2117			
150.000	-.2835	-.3209	-.1709	.1481	-.3744	-.2715	-.3004			
165.000	-.1203		-.2056		.1587	-.0640	-.3617			
180.000	-.0756	-.1016	-.1035	.2370						

ALPHA (6) = 15.917 BETA (2) = .180 MACH = 1.3960 Q = 600.45 P = 440.18 RN/L = 2.9185

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3312	1.2613	.8073	.6076	.4646			.2746		.2450	.2103	.1953	.2207	.2335	.2365
20.000			.8099	.5995	.4475	.3280		.2627		.2270					
40.000			.7747	.5710	.4451	.3142		.2427		.1575	.1646	.1797	.2114	.2074	.2286
55.000			.6385	.4189	.3090	.1245		.0897		.0483					
70.000			.5375	.3330	.2319	.1328		.1009		.0526	-.1099	-.0766	-.0807	-.1923	
90.000		.5755	.4768	.2785	.1962	.1121		.0990		.1573	-.1380	-.0811	-.1159	-.1965	
120.000			.3539	.1724	.0489	.0630		.3156		.1206	-.1799	-.3342	-.5284	-.3253	
140.000										.0362					
150.000			.2310	.0948	.0648	.0666		.7612		-.1986	-.5010	-.4546	-.2423	-.1060	
161.000									.5756						
162.000									.6144						
165.000										-.3540	-.4632	-.3394	-.1871	-.0662	
169.000								.7565							
174.000							.6139								
180.000	1.3312	.2881	.1654	.1276	.0855	.0642		.8106		-.4779	-.4846	-.2842	-.1747	-.0545	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2718	.2999	.3502	.3230	.2488	.1615	.0343		.5915	.4716
40.000	.2935		.3733	.3303	.2292	.0734	-.0264		.4456	.3197

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8871)

ALPHA (6) = 15.917 BETA (2) = .180

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.3438	-.4886	-.5502	-.4653	-.4871	-.2395	-.0984			
90.000	-.2111	-.3331	-.4048	-.2551	-.3514	-.3276	-.2457			
105.000			-.2910	-.0778	-.3836	-.4167	-.3471			
110.000								-.3861		
120.000	-.1624	-.1611	-.0893	-.0065	-.1866	-.2393	-.3041	-.3680		
135.000			.0065	.0122	-.1165	-.1736	-.2229			
150.000	-.1560	-.1772	-.1889	.2521	-.2882	-.2367	-.2681			
165.000	-.0798		-.1062		.2449	-.0742	-.3661			
180.000	-.0761	-.0550	-.0750	.2863						

ALPHA (6) = 15.910 BETA (3) = 4.280 MACH = 1.3960 Q = 600.45 P = 440.18 RN/L = 2.9185

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3247	1.2516	.7972	.6009	.4577			.2720		.2333	.2112	.1960	.2293	.2260	.2321
20.000			.7618	.5577	.4134	.2995		.2340		.1971					
40.000			.6647	.4867	.3671	.2415		.1656		.0834	.0696	.1202	.1722	.1748	.2042
55.000			.5011	.3050	.2025	.0241		-.0060		-.0411					
70.000			.4133	.2287	.1418	.0553		.0305		-.0099	-.1408	-.1280	-.1518	-.2917	
90.000		.4425	.3983	.1918	.1208	.0463		.0425		.1072	-.1715	-.1323	-.1721	-.2504	
120.000			.3060	.1306	.0269	.0398		.3073		.0643	-.2288	-.3737	-.5056	-.2153	
140.000										-.0351					
150.000			.2099	.0977	.0565	.0518		.6687		-.3033	-.4998	-.3944	-.1864	-.0752	
151.000									.5275						
152.000									.5499						
165.000										-.3602	-.4656	-.2898	-.1762	-.0507	
169.000								.8563							
174.000							.7303								
180.000	1.3247	.2693	.1575	.1239	.0917	.0537		.8 14		-.4691	-.4589	-.3041	-.2000	-.0667	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2672	.3139	.3449	.2989	.2416	.1545	.0241		.5893	.4706
40.000	.2636		.3571	.3113	.2146	.0652	-.0334		.4353	.3319
70.000	-.4091	-.4605	-.5113	-.4377	-.4722	-.2398	-.1014			
90.000	-.2245	-.3554	-.4087	-.2743	-.3975	-.3602	-.3243			
105.000			-.2520	-.1710	-.5049	-.5177	-.4632			
110.000								-.4190		
120.000	-.1000	-.1377	-.0489	-.1852	-.1721	-.2738	-.3808	-.4083		
135.000			-.1775	.0556	-.1730	-.2603	-.2881			
150.000	-.0786	-.0885	-.1130	.2375	-.0274	-.1308	-.2156			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8871)

ALPHA (6) = 15.910 BETA (3) = 4.280

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0586		-.0876		.2801	-.0773	-.3871			
180.000	-.0740	-.1030	-.1028	.2468						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8872) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 476.8000 IN. YMRP = .0000 IN. YO
BREF = 936.0000 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = -5.000 SPDBRK = 55.000
BDFLAP = 16.300 L-ELVN = -10.000
R-ELVN = -10.000 MACH = 1.250

ALPHA (I) = -3.944 BETA (I) = -3.854 MACH = 1.2471 Q = 599.40 P = 550.63 RN/L = 3.0068

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4145	.6335	.1897	.0644	-.0018			-.0143		-.0125	-.0209	-.0557	-.0694	-.1002	-.0635
20.000			.2265	.0739	-.0171	-.0633		-.0401		-.0723					
40.000			.4111	.1140	.0344	-.0554		-.1048		-.2056	-.2013	-.1524	-.0926	-.1255	-.0749
55.000			.5700	.2998	.2181	.1270		.0838		.0205					
70.000			.6701	.4120	.3122	.2731		.1903		.0741	-.2773	-.1331	-.0792	.0180	
90.000		.9281	.7443	.4909	.3463	.3316		.2421		.0110	-.2480	-.2430	-.0983	.0103	
105.000			.8045	.6146	.4857	.5307		.5001		.0725	-.1799	-.4217	-.1338	-.0245	
140.000										.0398					
155.000			.7954	.6310	.5438	.6132		.9356		-.2080	-.3966	-.2317	-.1307	-.0737	
161.000									.6538						
162.000									.7109						
165.000										-.2699	-.2992	-.2332	-.1426	-.0847	
169.000								.9909							
174.000							1.0837								
180.000	1.4145	1.0114	.7355	.5824	.5457	.6070		.9145		-.3754	-.3778	-.1841	-.1669	-.0988	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0000	-.0234	-.0544	-.1189	-.1970	-.2485	-.3037		.1795	.1171
40.000	-.0704		-.0864	-.1263	-.1884	-.2516	-.4249		-.0010	-.0325
70.000	.0794	.0029	.0014	.3360	.3174	.3976	.3150			
90.000	.0959	.0441	.1817	.2958	.2344	.3292	.2691			
105.000			.3117	.2908	.1157	.2712	.2433			
110.000								-.1442		
120.000	.0702	.0719	.4310	.3113	.0191	.0162	.2284	-.0664		
135.000			.4769	.4907	.0680	.0769	.1935			
150.000	.0322	.1073	.4720	.4835	.1552	.1524	.0720			
165.000	.0196		.4629		.4378	.2412	-.3137			
180.000	.0107	.1278	.4609	.4995						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8872)

ALPHA (1) = -3.937 BETA (2) = .190 MACH = 1.2471 Q = 599.40 P = 550.63 RN/L = 3.0068

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0090	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4172	.6344	.2039	.0543	.0188			-.0064		.0021	-.0084	-.0533	-.0765	-.0925	-.0574
20.000			.2213	.0658	.0028	-.0313		-.0229		-.0377					
40.000			.3573	.0944	.0322	-.0302		-.0589		-.1474	-.1393	-.1226	-.0866	-.0947	-.0564
55.000			.4810	.2228	.1557	.0726		.0624		-.0191					
70.000			.5613	.3020	.2159	.1908		.1369		.0140	-.3408	-.2095	-.1205	-.0021	
80.000		.7876	.6316	.3738	.2435	.2396		.1660		-.0871	-.3263	-.3204	-.1262	-.0036	
120.000			.7121	.5205	.3867	.4509		.4031		-.0468	-.2752	-.4994	-.1944	-.0368	
140.000										-.1853					
150.000			.7476	.5987	.4888	.5734		.8676		-.2322	-.3680	-.2527	-.1646	-.0605	
151.000									.5703						
160.000									.6448						
165.000										-.2767	-.3584	-.1737	-.1718	-.0645	
169.000								.9605							
174.000							1.0763								
180.000	1.4172	1.0006	.7459	.5832	.5536	.6171		.9488		-.3635	-.4065	-.1498	-.1682	-.0688	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0050	-.0234	-.0483	-.1171	-.1949	-.2470	-.3003		.1631	.1149
40.000	-.0366		-.0669	-.1097	-.1591	-.2563	-.4022		.0283	-.0089
70.000	.0650	-.0060	.1186	.3066	.2359	.3331	.2547			
90.000	.0811	.0397	.2295	.2711	.1390	.2398	.1968			
105.000			.3328	.2519	.0338	.1830	.1829			
110.000								-.1633		
120.000	.0705	.1104	.3675	.1385	-.0499	-.1018	.1273	-.0809		
130.000			.4536	.4514	.0133	-.0102	-.0415			
150.000	.0421	.1306	.4784	.4694	.1190	.0467	-.0298			
165.000	.0325		.4778		.3529	.1174	-.3609			
180.000	.0277	.1319	.4805	.5697						

ALPHA (1) = -3.943 BETA (3) = 4.266 MACH = 1.2471 Q = 599.40 P = 550.63 RN/L = 3.0068

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0090	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4049	.6239	.1984	.0506	.0248			-.0345		-.0042	-.0132	-.0515	-.0682	-.1001	-.0701
20.000			.1995	.0498	-.0043	-.0456		-.0120		-.0244					
40.000			.2992	.0522	.0157	-.0321		-.0299		-.0833	-.0949	-.1090	-.0791	-.0899	-.0397
55.000			.3901	.1330	.0799	.0238		.0222		-.0480					
70.000			.4561	.1903	.1127	.0993		.0714		-.0447	-.3891	-.2528	-.1424	-.0190	
90.000		.6373	.5174	.2583	.1300	.1299		.0838		-.1864	-.3975	-.3738	-.1321	-.0201	
180.000			.6104	.4169	.2714	.3469		.2855		-.1631	-.3482	-.5575	-.2614	-.0568	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8872)

ALPHA (1) = -3.943 BETA (3) = 4.266

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.3277					
150.000			.6838	.5510	.4243	.5117		.7822		-.3448	-.3987	-.2003	-.2260	-.0875	
161.000									.4608						
162.000									.5636						
165.000										-.2824	-.4213	-.1669	-.1937	-.0975	
163.000								.9122							
174.000							1.0424								
180.000	1.4049	.9782	.7393	.5782	.5374	.5944		.9304		-.3658	-.3633	-.1836	-.1686	-.0971	
X LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.0111	-.0199	-.0560	-.1178	-.1997	-.2492	-.3033		.1727	.1149					
20.000	-.0113		-.0495	-.1056	-.1923	-.2372	-.3959		.0251	.0005					
70.000	.0501	-.0165	.1269	.3028	.1595	.2952	.2255								
90.000	.0677	.0424	.2743	.2784	.0599	.1462	.1211								
100.000			.3942	.1903	-.0351	.0053	.1202								
110.000								-.1899							
120.000	.0540	.1268	.3151	.0377	-.1541	-.2370	-.0323	-.1000							
135.000			.4040	.4226	-.0465	-.1151	-.1499								
150.000	.0166	.1370	.4358	.4535	.0618	-.0599	-.1315								
165.000	.0061		.4419		.2914	.0322	-.3782								
180.000	.0055	.1134	.4556	.5017											

ALPHA (21) = .045 BETA (1) = -3.865 MACH = 1.2470 Q = 599.89 P = 551.11 RN/L = 3.0108

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4262	.7684	.3039	.1618	.0759			.0128		.0251	.0254	-.0073	-.0263	-.0643	-.0542
20.000			.3450	.1807	.0709	.0102		.0167		-.0268					
40.000			.5179	.2399	.1402	.0509		.0188		-.0765	-.0765	-.0678	-.0206	-.0805	-.0432
60.000			.6364	.3760	.2811	.1929		.1690		.0939					
80.000			.6928	.4342	.3199	.2770		.2329		.1263	-.2539	-.1089	-.0817	-.0354	
80.000		.9040	.7275	.4792	.3266	.3302		.2780		.0727	-.2356	-.1971	-.1241	-.0336	
120.000			.7356	.5415	.4059	.4761		.5135		.0844	-.1813	-.4160	-.1623	-.0809	
140.000										.0270					
160.000			.6847	.5106	.4182	.5169		.9165		-.2377	-.4597	-.3082	-.173	-.0915	
170.000									.6375						
175.000									.6802						
180.000										-.3242	-.4044	-.3034	-.1842	-.0888	
180.000								.9608							
180.000							1.0460								

AMES 11-073(OA*48) -140A/B/C ORB FUSELAGE (XE8872)

ALPHA (2) = .045 BETA (1) = -3.865

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.4262	.8878	.6066	.5294	.4209	.5143		.8772		-.4261	-.4290	-.2493	-.2090	-.0798	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.0205	.0191	.0114	-.0473	-.1169	-.1735	-.2365		.2326	.1723					
40.000	-.0160		-.0079	-.0440	-.1286	-.1636	-.3654		.1173	.0604					
70.000	.0761	-.1072	-.1731	.1912	.1685	.3346	.2894								
90.000	.0454	-.0482	-.0552	.1619	.0918	.2307	.2317								
105.000			.1573	.1863	-.0029	.1059	.1952								
119.000								-.1561							
130.000	-.0368	-.0147	.3291	.2214	-.0425	-.1116	.1411	-.0815							
135.000			.3995	.3635	-.0206	-.0256	-.0290								
150.000	.0055	.0482	.3755	.3679	.0532	.0690	-.0042								
164.000	.0159		.3708		.3732	.1683	-.3341								
180.000	.0718	.0961	.3559	.3655											

ALPHA (2) = .050 BETA (2) = .176 MACH = 1.2470 Q = 533.89 P = 551.11 RN/L = 3.01DB

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4298	.7675	.3067	.1537	.1017			.0257		.0410	.0367	-.0046	-.0306	-.0553	-.0531
20.000			.3236	.1640	.0840	.0116		.0338		.0141					
40.000			.4479	.2102	.1195	.0451		.0488		-.0240	-.0435	-.0506	-.0275	-.0723	-.0335
55.000			.5353	.2867	.2050	.1340		.1297		.0576					
70.000			.5765	.3262	.2286	.1934		.1765		.0669	-.3077	-.1784	-.1399	-.0425	
90.000		.7623	.6115	.3867	.2379	.2371		.2096		-.0159	-.3035	-.2750	-.1857	-.0496	
120.000			.6480	.4584	.3160	.4070		.4263		-.0235	-.2728	-.4907	-.1635	-.0655	
140.000										-.1274					
150.000			.6397	.4920	.3741	.4934		.8540		-.3294	-.4683	-.3193	-.1845	-.0581	
161.000									.5552						
169.000									.6165						
175.000										-.3277	-.3996	-.2488	-.2050	-.0538	
169.000								.9327							
170.000							1.0408								
180.000	1.4296	.8716	.6144	.4798	.4241	.5261		.9086		-.4754	-.4738	-.2181	-.2097	-.0540	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.0142	.0228	.0118	-.0449	-.1228	-.1758	-.2420		.2459	.1715					
40.000	.0046		.0082	-.0346	-.1205	-.1631	-.3444		.0904	.0322					

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8872)

ALPHA (2) = .050 BETA (2) = .176

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.0080	-.1128	-.1280	.1734	.0901	.2568	.2239			
90.000	.0225	-.0497	.0743	.1309	.0040	.1464	.1705			
105.000			.2063	.1259	-.0837	-.0139	.1426			
110.000								-.1835		
120.000	.0369	.0327	.2897	.1750	-.0816	-.1858	-.0362	-.1006		
135.000			.3223	.3745	.0036	-.0937	-.1207			
150.000	.0254	.0809	.3405	.3849	.0646	-.0134	-.0985			
165.000	.0223		.3570		.2919	.0578	-.3683			
180.000	.0169	.0893	.3736	.4662						

ALPHA (2) = .045 BETA (3) = 4.247 MACH = 1.2470 Q = 599.89 P = 551.11 RN/L = 3.0108

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0060	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4169	.7556	.3046	.1579	.1005			.0003		.0212	.0279	-.0014	-.0274	-.0634	-.0655
30.000			.2984	.1435	.0762	-.0037		.0067		.0102					
40.000			.3797	.1547	.0996	.0142		.0495		-.0151	-.0141	-.0477	-.0374	-.0823	-.0377
55.000			.4402	.1947	.1430	.0519		.0949		.0181					
70.000			.4731	.2176	.1461	.0920		.1164		.0145	-.3571	-.2335	-.1778	-.0508	
80.000		.6145	.5113	.2568	.1389	.1226		.1413		-.1084	-.3705	-.3352	-.1743	-.0433	
100.000			.5616	.3691	.2253	.3165		.3248		-.1356	-.3621	-.5397	-.1723	-.0513	
140.000										-.3251					
150.000			.5930	.4514	.3185	.4384		.7734		-.3929	-.4442	-.2722	-.2297	-.0645	
161.000									.4565						
165.000									.5395						
170.000										-.3385	-.4819	-.2328	-.2280	-.0695	
174.000								.8877							
176.000							1.0113								
180.000	1.4169	.8512	.6200	.4717	.4190	.5022		.8956		-.4485	-.4234	-.2440	-.2085	-.0796	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0023	.0283	.0113	-.0458	-.1222	-.1735	-.2395		.2323	.1719
40.000	.0273		.0180	-.0312	-.1203	-.1422	-.3362		.1019	.0405
70.000	-.0119	-.1106	-.0789	.1664	.0219	.2031	.1730			
90.000	.0216	-.0585	.0721	.1289	-.0573	.0616	.0935			
105.000			.2088	.1322	-.1469	-.1004	.0683			
110.000								-.2023		
120.000	.0384	.0404	.2490	.0179	-.1661	-.2816	-.2880	-.1308		
135.000			.3242	.3292	-.0767	-.1684	-.2134			
150.000	.0163	.0985	.3445	.3375	.0236	-.1025	-.1841			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8872)

ALPHA (2) = .045 BETA (3) = 4.247

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	.0039		.3520		.2213	-.0109	-.3840			
180.000	-.0052	.0990	.3618	.3793						

ALPHA (3) = 3.983 BETA (1) = -3.876 MACH = 1.2481 Q = 600.17 P = 550.40 RN/L = 3.0062

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4137	.8933	.4230	.2753	.1534			.0562		.0492	.0645	.0410	.0314	-.0137	-.0189
20.000			.4676	.2918	.1591	.0830		.0674		.0306					
40.000			.6125	.3531	.2238	.1369		.1111		.0378	.0330	.0106	.0500	-.0207	-.0031
55.000			.6854	.4397	.3283	.2263		.2210		.1537					
70.000			.6938	.4526	.3231	.2640		.2523		.1708	-.2267	-.0861	-.0756	-.1109	
80.000		.8671	.6974	.4603	.3154	.2989		.2977		.1236	-.2176	-.1398	-.1315	-.1064	
140.000			.6844	.4660	.3223	.3791		.5141		.0962	-.2002	-.4128	-.2831	-.1752	
150.000										.0254					
151.000			.5708	.3963	.3023	.3901		.8950		-.2515	-.5152	-.4051	-.1988	-.1056	
152.000									.5177						
165.000									.5476						
169.000										-.3788	-.4704	-.3612	-.2105	-.0855	
174.000								.9265							
180.000	1.4137	.7493	.4835	.4092	.3080	.4080	1.0044	.8379		-.4825	-.4766	-.2981	-.2327	-.0578	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0440	.0734	.0889	.0330	-.0375	-.1014	-.1775		.3281	.2408
40.000	.0552		.0736	.0397	-.0524	-.0641	-.2961		.1914	.1047
70.000	-.0607	-.1903	-.2554	-.0263	.0324	.2666	.2634			
90.000	-.0299	-.1402	-.1992	.0538	-.0189	.1307	.1921			
105.000			-.0027	.1167	-.1397	-.0890	.1403			
110.000								-.1751		
120.000	-.0968	-.0956	.2374	.1498	-.0913	-.2251	-.0033	-.1114		
135.000			.2616	.2618	-.0850	-.1300	-.1316			
150.000	-.0179	.0574	.2637	.2662	-.0491	.0023	-.0909			
165.000	-.0100		.2685		.2633	.1207	-.3367			
180.000	-.0077	.1004	.2627	.3057						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8872)

ALPHA (3) = 3.993 BETA (2) = .181 MACH = 1.2481 Q = 600.17 P = 550.40 RN/L = 3.0062

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4190	.8959	.4222	.2789	.1733			.0545		.0706	.0770	.0496	.0268	-.0056	-.0144
20.000			.4453	.2744	.1595	.0787		.0619		.0577					
40.000			.5411	.3070	.2067	.1093		.1084		.0577	.0439	.0132	.0292	-.0237	-.0082
55.000			.5808	.3483	.2513	.1447		.1850		.1082					
70.000			.5820	.3461	.2408	.1712		.2032		.1153	-.2675	-.1563	-.1346	-.1148	
90.000		.7271	.5935	.3615	.2336	.1869		.2416		.0453	-.2789	-.2109	-.1885	-.1061	
120.000			.5818	.3938	.2575	.3058		.4461		.0034	-.2747	-.4696	-.2259	-.1125	
140.000										-.0906					
150.000			.5363	.3883	.2846	.3998		.8384		-.3469	-.5213	-.3740	-.1897	-.0616	
151.000									.5475						
152.000									.5971						
.000										-.3763	-.4480	-.3029	-.2164	-.0480	
169.000								.9107							
174.000							.9920								
180.000	1.4190	.7359	.5008	.3786	.3211	.4155		.8780		-.5327	-.5137	-.2688	-.2335	-.0473	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0291	.0821	.0973	.0399	-.0337	-.0998	-.1861		.3325	.2405
40.000	.0596		.0973	.0528	-.0490	-.0704	-.2763		.1840	.0889
70.000	-.0750	-.1927	-.2528	.0017	-.0479	.1781	.1862			
90.000	-.0308	-.1342	-.0836	.0325	-.0967	.0220	.1173			
105.000			.1202	.0741	-.2075	-.1832	.0811			
110.000								-.1952		
120.000	-.0172	-.0363	.2155	.1070	-.1117	-.2600	-.2398	-.1293		
135.000			.2341	.2870	-.0438	-.1491	-.1956			
150.000	.0116	.0324	.2480	.3961	.0208	-.0698	-.1558			
165.000	.0126		.2624		.2327	.0089	-.3690			
180.000	.0055	.0357	.2813	.4307						

ALPHA (3) = 3.984 BETA (3) = 4.240 MACH = 1.2481 Q = 600.17 P = 550.40 RN/L = 3.0062

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4064	.8951	.4190	.2844	.1786			.0408		.0497	.0586	.0519	.0290	-.0130	-.0228
20.000			.4104	.2595	.1483	.0524		.0405		.0426					
40.000			.4565	.2579	.1719	.0678		.0684		.0445	.0443	.0099	.0085	-.0430	-.0309
55.000			.4751	.2514	.1922	.0653		.1121		.0724					
70.000			.4768	.2395	.1605	.0799		.1452		.0697	-.3118	-.2085	-.1851	-.1108	
90.000		.5805	.4930	.2567	.1522	.0906		.1784		-.0347	-.3318	-.2671	-.2244	-.0981	
120.000			.5025	.3207	.1879	.2180		.3575		-.1004	-.3477	-.5176	-.1711	-.0696	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8872)

ALPHA (3) = 3.984 BETA (3) = 4.240

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.2923					
150.000			.4958	.3591	.2348	.3379		.7643		-.4165	-.5153	-.3287	-.2166	-.0536	
161.000									.4507						
162.000									.5163						
165.000										-.3829	-.5212	-.2821	-.2416	-.0567	
169.000								.8616							
174.000							.9779								
180.000	1.4064	.7172	.5049	.3736	.3129	.3649		.8585		-.5005	-.4632	-.2873	-.2263	-.0672	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0156	.0810	.0922	.0381	-.0359	-.0994	-.1851		.3317	.2431
40.000	.0640		.1103	.0567	-.0500	-.0727	-.2686		.1810	.0964
70.000	-.0667	-.2006	-.2208	.0142	-.0712	.0926	.1103			
90.000	-.0228	-.1304	-.0197	.0146	-.1275	-.0758	.0763			
105.000			.1109	.0280	-.2694	-.2505	.0150			
110.000								-.2122		
120.000	.0144	-.0159	.1669	-.0058	-.1851	-.3376	-.4223	-.1720		
135.000			.2523	.2620	-.1267	-.2112	-.2576			
150.000	.0111	.0562	.2725	.2419	-.0474	-.1472	-.2221			
165.000	.0013		.2693		.1886	-.0514	-.3966			
180.000	-.0097	.0966	.2713	.3062						

ALPHA (4) = 7.933 BETA (1) = -3.872 MACH = 1.2470 Q = 599.90 P = 551.11 RN/L = 3.0127

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3845	1.0131	.5425	.3784	.2429			.1161		.0971	.0971	.0935	.0884	.0435	.0435
20.000			.5916	.3988	.2503	.1653		.1221		.0885					
40.000			.7049	.4517	.3236	.2177		.1859		.1148	.1255	.0829	.1135	.0447	.0641
55.000			.7225	.4859	.3680	.2452		.2363		.1826					
70.000			.6918	.4582	.3204	.2550		.2550		.1998	-.1869	-.0598	-.0686	-.1539	
90.000		.8196	.6522	.4408	.3019	.2567		.3021		.1673	-.2045	-.1016	-.1319	-.1803	
120.000			.5744	.3861	.2494	.2591		.5089		.1088	-.2100	-.4116	-.4374	-.2989	
140.000										.0257					
150.000			.4628	.2885	.2112	.2380		.8734		-.2248	-.5649	-.4878	-.2381	-.1204	
151.000									.6043						
162.000									.6251						
165.000										-.4312	-.5245	-.4125	-.2223	-.0864	
169.000								.9002							
174.000							.9710								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8872)

ALPHA (4) = 7.933 BETA (1) = -3.872

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.3945	.6140	.3748	.2840	.2243	.2045		.8060		-.5310	-.5100	-.3327	-.2292	-.0668	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1043	.1311	.1697	.1256	.0486	-.0274	-.1341		.4201	.3033
40.000	.1331		.1711	.1290	.0319	-.0154	-.2204		.2575	.1362
70.000	-.1424	-.2569	-.3291	-.1461	.0001	.2217	.2083			
90.000	-.0986	-.2037	-.2777	-.0219	-.1572	.1185	.1245			
105.000			-.0673	.0419	-.2145	-.0008	.0485			
110.000								-.2081		
120.000	-.1747	-.1678	.1135	.0783	-.1125	-.2467	-.0323	-.1654		
135.000			.0888	.1668	-.0868	-.1537	-.1762			
150.000	-.0766	-.0256	.0858	.2120	.0202	-.0481	-.1499			
165.000	-.0448		.1182		.2532	.0737	-.3758			
180.000	-.0336	-.0005	.1873	.4077						

ALPHA (4) = 7.940 BETA (2) = .173 MACH = 1.2470 Q = 599.90 P = 551.11 RN/L = 3.0127

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3878	1.0151	.5466	.3869	.2596			.1132		.1052	.1035	.1024	.0903	.0506	.0500
20.000			.5645	.3834	.2400	.1460		.1163		.0938					
40.000			.6220	.4045	.2816	.1845		.1488		.1047	.1133	.0731	.0836	.0344	.0476
55.000			.6069	.3849	.2768	.1605		.1591		.1300					
70.000			.5738	.3509	.2380	.1668		.1929		.1484	-.2240	-.1401	-.1300	-.2065	
90.000		.6797	.5559	.3411	.2194	.1716		.2431		.0971	-.2538	-.1774	-.1903	-.1812	
120.000			.5022	.3234	.1957	.2046		.4502		.0279	-.2755	-.4580	-.3886	-.1807	
140.000										-.0769					
150.000			.4325	.2842	.1998	.2101		.8094		-.3488	-.5675	-.4310	-.1998	-.0754	
151.000									.5404						
162.000									.5782						
165.000										-.4230	-.4961	-.3432	-.2101	-.0525	
169.000								.8922							
174.000							.9219								
180.000	1.3878	.5929	.3823	.2765	.2313	.2134		.8477		-.5763	-.5526	-.3069	-.2271	-.0484	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0921	.1493	.1852	.1337	.0509	-.0263	-.1307		.4197	.2966
40.000	.1148		.2051	.1450	.0298	-.0157	-.2098		.2574	.1386

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8872)

ALPHA (4) = 7.940 BETA (2) = .173

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1365	-.2514	-.3241	-.0996	-.1094	.1398	.1510			
90.000	-.0802	-.1992	-.2658	-.0148	-.2270	-.0560	.1002			
105.000			-.0396	.0616	-.2925	-.3051	.0592			
120.000								-.2153		
130.000	-.0655	-.0909	.1102	.0389	-.1623	-.2935	-.3490	-.1940		
135.000			.1125	.2423	-.0900	-.1967	-.2474			
150.000	-.0182	-.0391	.1610	.4666	-.0287	-.1269	-.1985			
165.000	-.0154		.2108		.1759	-.0629	-.3832			
180.000	-.0112	.0022	.2594	.4532						

ALPHA (4) = 7.943 BETA (3) = 4.236 MACH = 1.2470 Q = 599.90 P = 551.11 RN/L = 3.0127

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3769	1.0075	.5432	.3891	.2568			.1085		.0961	.0884	.1030	.0902	.0516	.0432
20.000			.5267	.3558	.2242	.1214		.0915		.0732					
40.000			.5305	.3398	.2313	.1243		.1020		.0584	.0861	.0640	.0618	.0099	.0324
55.000			.4929	.2790	.1960	.0653		.0706		.1041					
70.000			.4646	.2447	.1565	.0779		.1161		.1122	-.2594	-.1863	-.1856	-.2142	
90.000		.5317	.4603	.2406	.1441	.0942		.1918		.0356	-.2991	-.2299	-.2356	-.1673	
120.000			.4343	.2575	.1412	.1352		.3874		-.0601	-.3391	-.4988	-.2330	-.0993	
140.000										-.2137					
150.000			.3960	.2611	.1596	.1617		.7568		-.4298	-.5679	-.3720	-.1920	-.0460	
161.000									.4523						
162.000									.4972						
165.000										-.4248	-.5453	-.3095	-.2273	-.0429	
90.000								.8386							
140.000							.9434								
180.000	1.3769	.5736	.3870	.2754	.2220	.1949		.8276		-.5439	-.4999	-.317'	.2318	-.0618	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0835	.1498	.1813	.1331	.0512	-.0289	-.1379		.4237	.3037
40.000	.1033		.2080	.1464	.0321	-.0158	-.2076		.2579	.1464
75.000	-.1181	-.2893	-.3187	-.0974	-.1416	.0262	.0902			
90.000	-.0568	-.1849	-.1697	-.0411	-.2294	-.1826	.0543			
105.000			.0184	.0018	-.3585	-.3208	-.0633			
120.000								-.2351		
130.000	-.0127	-.0647	.0798	-.0643	-.2146	-.3611	-.4614	-.2406		
135.000			.2004	.2600	-.1471	-.2402	-.2896			
150.000	-.0062	-.0033	.2572	.3500	-.0924	-.2005	-.2607			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8872)

ALPHA (4) = 7.943 BETA (3) = 4.236

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0193		.2015		.1233	-.1334	-.4105			
180.000	-.0337	.0058	.1700	.4165						

ALPHA (5) = 12.023 BETA (1) = -3.855 MACH = 1.2460 Q = 599.73 P = 551.81 RN/L = 3.0130

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3317	1.1244	.6747	.4879	.3496			.1944		.1649	.1459	.1388	.1671	.1263	.1394
20.000			.7181	.5135	.3582	.2366		.2037		.1578					
40.000			.7895	.5518	.4176	.3037		.2513		.1673	.2007	.1621	.1816	.1270	.1633
55.000			.7436	.5175	.3895	.2505		.2045		.1771					
70.000			.6724	.4543	.3191	.2417		.1923		.2121	-.1271	-.0492	-.0551	-.1510	
90.000		.7621	.6107	.4097	.2739	.2240		.2412		.2033	-.1699	-.0735	-.1193	-.1955	
120.000			.4787	.2960	.1508	.1761		.4807		.1221	-.2038	-.3854	-.5651	-.4567	
140.000										.0354					
150.000			.3418	.1770	.1222	.1450		.8498		-.1156	-.6020	-.5394	-.2800	-.1590	
151.000									.5862						
162.000									.5931						
165.000										-.4734	-.5596	-.4519	-.2418	-.1024	
169.000								.8632							
174.000							.9496								
180.000	1.3317	.4642	.2499	.2261	.1393	.1207		.7691		-.5627	-.5419	-.3458	-.2099	-.0614	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1917	.2733	.2931	.2169	.1243	.0314	-.0899		.5048	.3596
40.000	.2258		.3192	.2319	.0959	.0063	-.1512		.3300	.1837
70.000	-.2550	-.3880	-.4102	-.1706	-.0532	-.0630	.0373			
90.000	-.1774	-.2909	-.3640	-.0548	-.1452	-.0958	-.0654			
105.000			-.2725	.0348	-.1957	-.1057	-.2087			
110.000								-.2663		
120.000	-.1939	-.2071	-.0062	.0610	-.1574	-.2211	-.1560	-.3013		
135.000			.0028	.1732	-.1315	-.1570	-.1785			
150.000	-.1084	-.2139	-.0427	.3140	-.0765	-.1659	-.2307			
165.000	-.0712		.0546		.1765	-.0199	-.4004			
180.000	-.0545	-.0532	.0935	.4370						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8872)

ALPHA (S) = 12.037 BETA (2) = .182 MACH = 1.2460 Q = 599.73 P = 551.81 RN/L = 3.0130

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3339	1.1309	.6777	.5022	.3653			.2067		.1761	.1403	.1577	.1649	.1302	.1417
20.000			.6913	.4916	.3455	.2259		.1995		.1591					
40.000			.7015	.4899	.3675	.2446		.2055		.1231	.1579	.1362	.1493	.1114	.1417
55.000			.6250	.4045	.2973	.1421		.1199		.1135					
70.000			.5525	.3426	.2324	.1541		.1256		.1720	-.1735	-.1228	-.1275	-.2261	
80.000		.6171	.5089	.3116	.1999	.1481		.2057		.1413	-.2264	-.1459	-.1817	-.2559	
120.000			.4157	.2477	.1250	.1416		.4421		.0516	-.2674	-.4411	-.5662	-.2386	
140.000										-.0597					
160.000			.3203	.1837	.1262	.1323		.7545		-.3244	-.5998	-.4810	-.2244	-.0904	
175.000									.5308						
180.000									.5723						
185.000										-.4598	-.5259	-.3700	-.2020	-.0481	
200.000								.8680							
220.000							.8130								
240.000	1.3339	.4388	.2688	.1906	.1598	.1261		.8331		-.6048	-.5757	-.3225	-.1982	-.0385	
Y LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1930	.3099	.3020	.2207	.1278	.0349	-.0896		.5072	.3575					
40.000	.2098		.3235	.2370	.1037	.0165	-.1558		.3317	.1959					
70.000	-.2409	-.3855	-.4326	-.1944	-.2349	.0165	.0715								
80.000	-.1461	-.2608	-.3457	-.0951	-.2877	-.1345	.0432								
105.000			-.2157	.0038	-.3365	-.3317	-.1216								
110.000								-.2756							
150.000	-.0911	-.1343	.0172	-.0165	-.1962	-.2963	-.3252	-.2599							
165.000			.0336	.1718	-.1370	-.2228	-.2758								
180.000	-.0615	-.0964	.0215	.4350	-.0738	-.1697	-.2236								
195.000	-.0407		.0700		.1658	-.1008	-.4049								
200.000	-.0318	- 0222	.1483	.4525											

ALPHA (S) = 12.032 BETA (3) = 4.249 MACH = 1.2460 Q = 599.73 P = 551.81 RN/L = 3.0130

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3218	1.1186	.6671	.4940	.3527			.1850		.1566	.1426	.1460	.1719	.1239	.1272
20.000			.6402	.4503	.3138	.1957		.1586		.1266					
40.000			.5917	.4075	.2951	.1698		.1349		.0514	.1132	.1062	.1210	.0737	.1112
55.000			.4935	.2846	.1909	.0248		.0358		.0435					
70.000			.4328	.2320	.1383	.0545		.0547		.1182	-.2051	-.1782	-.2010	-.3064	
80.000		.4629	.4078	.2103	.1214	.0703		.1610		.0960	-.2722	-.2026	-.2411	-.2635	
100.000			.3488	.1809	.0914	.0942		.3945		-.0185	-.3278	-.4792	-.3855	-.1555	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8872)

ALPHA (5) = 12.032 BETA (3) = 4.249

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.1531					
150.000			.2891	.1646	.1010	.0947		.7618		-.4342	-.6046	-.4158	-.1869	-.0574	
151.000									.4601						
162.000									.4850						
165.000										-.4628	-.5533	-.3329	-.1969	-.0467	
168.000								.8278							
174.000							.8829								
180.000	1.3218	.4092	.2616	.1859	.1472	.1134		.8029		-.5769	-.5319	-.3479	-.2184	-.0639	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1779	.2939	.2980	.2146	.1163	.0244	-.0922		.5093	.3548
40.000	.1822		.3133	.2306	.1000	.0089	-.1561		.3282	.1981
70.000	-.2261	-.3708	-.4303	-.1953	-.2642	-.0481	.0781			
90.000	-.1134	-.2543	-.3033	-.1550	-.3332	-.2847	.1026			
105.000			-.0021	-.0938	-.4678	-.4631	-.1722			
110.000								-.2374		
120.000	-.0485	-.1060	.0213	-.1414	-.2512	-.3981	-.5180	-.3122		
135.000			.0901	.2127	-.1530	-.2373	-.2955			
150.000	-.0352	-.0323	.1792	.3589	-.0959	-.2170	-.2850			
165.000	-.0402		.1230		.1342	-.1724	-.4309			
180.000	-.0536	-.0508	.0502	.4428						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8B73) (05 AUG 75)

REFERENCE DATA

SREF = 2531.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 936.0800 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = -5.000 SPOBRK = 55.000
BDFLAP = 16.300 L-ELVN = -10.000
R-ELVN = -10.000 MACH = 1.100

ALPHA (I) = -3.958 BETA (I) = -3.850 MACH = 1.1006 Q = 600.53 P = 707.91 RN/L = 3.1821

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3293	.5548	.1326	.0722	.0064			-.0199		-.0601	-.0853	-.1426	-.1290	-.0993	-.0245
40.000			.1682	.0552	-.0350	-.0438		-.0666		-.1081					
50.000			.3518	.0855	-.0110	-.0655		-.1614		-.2487	-.2378	-.1992	-.1587	-.1466	-.0476
65.000			.5236	.2773	.1903	.0955		.0199		-.0613					
80.000			.6320	.3944	.2990	.2613		.1236		-.0140	-.4019	-.1740	-.0841	-.0071	
90.000		.8869	.7112	.4772	.3363	.3023		.1572		-.0805	-.3529	-.3252	-.0993	-.0131	
120.000			.7856	.6118	.4900	.4999		.4072		-.0159	-.2879	-.5436	-.1107	-.0404	
140.000										-.0280					
150.000			.7859	.6353	.5564	.5836		.8445		-.3024	-.5192	-.3297	-.1690	-.0460	
160.000									.5509						
165.000									.6071						
168.000										-.4456	-.4206	-.2847	-.1963	-.0431	
169.000								.9012							
174.000							1.0087								
180.000	1.3293	.9932	.7279	.5861	.5680	.5821		.8264		-.5681	-.4485	-.2313	-.2274	-.0367	

X/B	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0688	-.0202	-.0664	-.1466	-.2410	-.2996	-.3568		.2093	.1065
40.000	-.0657		-.0714	-.1393	-.2136	-.3320	-.5242		.0112	-.0221
70.000	.1348	.0354	.3012	.4119	.3531	.3768	.2356			
90.000	.1569	.1481	.3484	.4132	.2800	.2303	.1824			
105.000			.4055	.4205	.1803	.2391	.1409			
110.000								-.3101		
120.000	.1678	.2429	.4967	.4559	-.0132	.1261	.1140	-.1993		
135.000			.5472	.5648	.0346	.1460	.0935			
150.000	.1772	.3062	.5410	.5330	.1061	.1529	.0274			
165.000	.1805		.5175		.3299	.1775	-.3889			
180.000	.1873	.3110	.5024	.5955						

AMES 11-073(OA148) -1+0A/B/C ORB FUSELAGE (XE8873)

ALPHA (1) = -3.953 BETA (2) = .190 MACH = 1.1008 Q = 600.53 P = 707.91 RN/L = 3.1821

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3355	.5629	.1474	.0803	.0152			-.0063		-.0499	-.0861	-.1395	-.1242	-.0894	-.0197
20.000			.1630	.0755	-.0119	-.0407		-.0323		-.0853					
40.000			.3051	.0851	-.0107	-.0386		-.1009		-.1779	-.1924	-.1926	-.1444	-.1120	.0039
55.000			.4339	.2048	.1270	.0637		-.0182		-.1087					
70.000			.5234	.2876	.2041	.1779		.0554		-.0865	-.4747	-.2464	-.1153	-.0243	
90.000		.7481	.5363	.3606	.2350	.2112		.0792		-.2010	-.4311	-.4063	-.1118	-.0233	
120.000			.6895	.5134	.3908	.4169		.3047		-.1617	-.3969	-.6251	-.1501	-.0324	
140.000										-.2567					
150.000			.7344	.6019	.4938	.5441		.7717		-.4242	-.5161	-.2865	-.2121	-.0202	
161.000									.4626						
162.000									.5360						
165.000										-.4518	-.4545	-.2266	-.2266	-.0142	
169.000								.8699							
174.000							1.0002								
180.000	1.3355	.9755	.7396	.5900	.5628	.5928		.8584		-.4790	-.5517	-.2050	-.2307	-.0120	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0634	-.0302	-.0736	-.1599	-.2418	-.2984	-.3496		.2201	.1297
40.000	.0054		-.0786	-.1392	-.1982	-.3270	-.5006		.0526	-.0055
70.000	.1429	.1326	.2724	.3492	.2670	.3157	.1901			
90.000	.1698	.1786	.3252	.3446	.1609	.2216	.1254			
105.000			.3820	.3208	.0404	.1781	.1004			
110.000								-.3155		
120.000	.1704	.2582	.4295	.2768	-.1616	.0459	.0632	-.2043		
135.000			.4988	.5381	-.0802	-.0547	.0489			
150.000	.1963	.3125	.5213	.5679	.0229	-.0312	-.0392			
165.000	.1898		.5157		.2262	.0287	-.3854			
180.000	.1897	.3247	.5198	.6503						

ALPHA (1) = -3.980 BETA (3) = 4.266 MACH = 1.1008 Q = 600.53 P = 707.91 RN/L = 3.1821

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3156	.5407	.1370	.0859	.0079			-.0163		-.0409	-.0858	-.1430	-.1323	-.1063	-.0224
20.000			.1354	.0666	-.0142	-.0590		-.0172		-.0644					
40.000			.2396	.0644	.0053	-.0165		-.0602		-.1370	-.1627	-.1901	-.1427	-.0920	.0444
55.000			.3377	.1295	.0642	.0291		-.0370		-.1372					
70.000			.4105	.1803	.1159	.1097		.0033		-.1453	-.5251	-.3047	-.1149	-.0153	
90.000		.5914	.4703	.2594	.1609	.1190		.0042		-.3013	-.5104	-.4702	-.1206	-.0183	
120.000			.5805	.4055	.2744	.3121		.1880		-.2906	-.4876	-.6978	-.2120	-.0419	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8B73)

ALPHA (1) = -3.950 BETA (3) = 4.266

SECTION (1 ORBITER FUSELAGE DEPENDENT VARIABLE CP

Y/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.4790					
150.000			.6681	.5514	.4394	.4847		.6844		-.4799	-.5346	-.2663	-.2835	-.0405	
151.000									.3548						
160.000									.4512						
161.000										-.4248	-.5532	-.2313	-.2544	-.0400	
170.000								.8190							
171.000							.9617								
180.000	1.3156	.9520	.7304	.5912	.5499	.5727		.8391		-.5784	-.4275	-.2327	-.2182	-.0445	
X/LB	.6500	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
0.0	.0781	-.0209	-.0744	-.1590	-.2485	-.3055	-.3654		.2087	.1074					
5.000	.0432		-.0686	-.1463	-.2319	-.3084	-.4821		.0390	-.0366					
10.000	.1481	.1324	.2286	.2991	.1493	.2549	.1544								
20.000	.1481	.1770	.2797	.3128	.0461	.1287	.0661								
30.000			.3275	.2421	-.1077	.0872	.0486								
40.000								-.3315							
50.000	.1843	.2332	.3541	.1539	-.2843	-.2664	-.0103	-.2210							
60.000			.4429	.4963	-.1669	-.2028	-.1813								
70.000	.1954	.2895	.4699	.6172	-.0536	-.1513	-.2196								
80.000	.1935		.4797		.1466	-.0746	-.4194								
90.000	.1838	.3030	.5023	.6119											

ALPHA (21) = .047 BETA (11) = -3.869 MACH = 1.1000 Q = 599.94 P = 708.37 RN/L = 3.1830

SECTION (1 ORBITER FUSELAGE DEPENDENT VARIABLE CP

Y/B	.0000	.0093	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
0.000	1.3397	.6989	.2601	.1685	.0628			.0255		-.0068	-.0328	-.0914	-.0934	-.0994	-.0338
5.000			.2986	.1658	.0490	.0197		.0012		-.0430					
10.000			.4712	.2171	.1055	.0580		-.0289		-.1091	-.1170	-.1194	-.0796	-.1049	-.0274
20.000			.5087	.3658	.2688	.1961		.1097		.0167					
30.000			.5592	.4008	.3051	.2839		.1668		.0434	-.3842	-.1396	-.1346	-.0465	
40.000		.8694	.6482	.4709	.3428	.3264		.2019		-.0192	-.3497	-.2344	-.1572	-.0545	
50.000			.7197	.5483	.4372	.4660		.4209		-.0099	-.2909	-.5478	-.1870	-.0871	
140.000										-.3689					
150.000			.6779	.5309	.4572	.5126		.8216		-.3687	-.6123	-.4139	-.1844	-.0627	
151.000									.5269						
160.000									.5698						
161.000										-.4924	-.4948	-.3854	-.2161	-.0534	
170.000								.8645							
171.000							.9707								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8873)

ALPHA (2) = .047 BETA (1) = -3.869

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.3397	.8594	.6071	.5287	.4563	.5047		.7813		-.6033	-.5273	-.3035	-.2554	-.0481	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.0993	.0595	.0244	-.0569	-.1457	-.2072	-.3001		.2430	.1384					
20.000	.0141		.0358	-.0457	-.1503	-.2479	-.4654		.1269	.0378					
70.000	.0351	-.1431	.1322	.3146	.2921	.3457	.2199								
90.000	.0653	-.0870	.2096	.3156	.2030	.2611	.1571								
105.000			.2905	.3192	.0919	.1993	.1120								
115.000								-.3233							
140.000	.0346	.0265	.4066	.3218	-.1105	.0998	.0841	-.2214							
150.000			.4551	.4389	-.0917	.1161	.0467								
160.000	.0802	.1799	.4541	.4169	-.0071	.1112	-.0256								
165.000	.0905		.4331		.2665	.0965	-.3862								
167.000	.1048	.2187	.4105	.4504											

ALPHA 2) = .052 BETA (2) = .177 MACH = 1.1000 Q = 599.94 P = 708.37 RN/L = 3.1830

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3462	.7009	.2562	.1759	.0718			.0374		.0090	.0000	-.0877	-.0826	.0000	-.0196
20.000			.2864	.1697	.0482	.0248		.0240		-.0200					
40.000			.4082	.1962	.0918	.0656		.0023		-.0667	.0000	-.1205	-.0819	.0000	.0090
55.000			.5006	.2867	.1935	.1531		.0677		-.0269					
70.000			.5499	.3253	.2269	.2132		.1070		-.0227	.0000	-.2173	.0000	.0000	
90.000		.7297	.5905	.3677	.2469	.2475		.1285		-.1279	.0000	-.3127	.0000	-.0529	
120.000			.6338	.4633	.3489	.3999		.3320		-.1398	.0000	-.6094	.0000	-.0462	
140.000										-.2241					
150.000			.6362	.5060	.4125	.4849		.7604		-.4915	.0000	-.3921	.0000	-.0303	
151.000									.4481						
162.000									.5078						
165.000										.0000	.0000	-.3000	.0000	-.0292	
169.000								.8401							
174.000							.9651								
180.000	1.3462	.9525	.6217	.4976	.4628	.5164		.8169		.0000	-.6161	-.2783	.0000	-.0179	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.0924	.0000	.0000	-.0643	-.1586	-.2113	-.2778		.2724	.1521					
20.000	.0484		.0000	-.0517	-.1281	-.2246	-.4131		.1037	.0084					

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8873)

ALPHA (2) = .052 BETA (2) = .177

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	.0355	-.1469	.0000	.2692	.2167	.2785	.1682			
90.000	.0583	.0000	.2280	.2489	.1129	.1993	.1121			
105.000			.3021	.2210	-.0035	.1365	.0779			
110.000								-.3350		
120.000	.0730	.1241	.3473	.2212	-.1560	-.0288	.0422	-.2194		
135.000			.0000	.4296	-.0943	-.1187	.0088			
150.000	.0000	.0000	.4222	.4451	-.0219	-.0874	-.1261			
165.000	.0000		.4288		.1926	-.0295	-.3962			
180.000	.0976	.2178	.4270	.5393						

ALPHA (2) = .048 BETA (3) = 4.245 MACH = 1.1000 Q = 599.94 P = 708.37 RN/L = 3.1830

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1650	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
0.000	1.3299	.6833	.2553	.1763	.0702			.0308		.0124	-.0376	-.0900	-.0856	-.1054	-.0362
30.000			.2546	.1510	.0419	.0288		.0301		-.0059					
45.000			.3376	.1622	.0643	.0665		.0313		-.0421	-.0854	-.1302	-.0987	-.0902	.0150
60.000			.4028	.2005	.1245	.1121		.0349		-.0645					
75.000			.4364	.2224	.1384	.1550		.0535		-.0799	-.4868	-.2821	-.2140	-.0451	
90.000		.5803	.4775	.2584	.1491	.1720		.0594		-.2184	-.5003	-.3774	-.1680	-.0357	
120.000			.5391	.3696	.2503	.3205		.2332		-.2619	-.4827	-.6694	-.1685	-.0359	
140.000										-.4735					
150.000			.5808	.4635	.3534	.4390		.6748		-.5617	-.5929	-.3335	-.2609	-.0370	
151.000									.3484						
160.000									.4283						
165.000										-.5077	-.6207	-.2995	-.2781	-.0379	
169.000								.7930							
174.000							.9342								
180.000	1.3299	.8291	.6229	.4856	.4525	.5019		.8016		-.6145	-.5061	-.3036	-.2471	-.0463	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
0.000	.0374	.0599	.0160	-.0525	-.1569	-.2265	-.3032		.2490	.1437
30.000	.0833		.0270	-.0563	-.1481	-.2208	-.4222		.0946	-.0150
70.000	.0477	-.1041	.1110	.2230	.0999	.2163	.1251			
90.000	.0834	-.0141	.1705	.2107	-.0192	.1006	.0492			
105.000			.2526	.1763	-.1553	.0426	.0261			
110.000								- 3436		
120.000	.1097	.1151	.2832	.0754	-.2789	-.3217	-.0404	-.2348		
135.000			.3696	.3365	-.1943	-.2544	-.2698			
150.000	.1114	.2023	.3454	.4186	-.0900	-.2029	-.2825			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8873)

ALPHA (2) = .046 BETA (3) = 4.245

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	.1152		.4048		.1153	-.1296	-.4198			
180.000	.1042	.2190	.4165	.4646						

ALPHA (3) = 4.012 BETA (1) = -3.872 MACH = 1.0998 Q = 599.99 P = 708.60 RN/L = 3.1803

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3309	.8321	.3913	.2655	.1637			.0908		.0487	.0190	-.0300	-.0280	-.0532	-.0410
20.000			.4353	.2780	.1525	.0814		.0856		.0280					
40.000			.5803	.3390	.2235	.1608		.0997		.0152	-.0112	-.0344	-.0025	-.0615	.0127
55.000			.6569	.4349	.3301	.2593		.1831		.0811					
70.000			.6571	.4496	.3382	.3044		.2036		.0905	-.3312	-.1289	-.1368	-.1018	
90.000		.8335	.6761	.4625	.3359	.3332		.2350		.0316	-.3423	-.1849	-.1980	-.1067	
120.000			.6421	.4713	.3675	.4240		.4280		.0009	-.3169	-.5401	-.3101	-.1772	
140.000										-.0820					
150.000			.5639	.4158	.3585	.4381		.8017		-.3464	-.6771	-.4925	- 2099	-.0791	
151.000									.5095						
162.000									.5389						
165.000										-.5537	-.6060	-.4601	-.2263	-.0679	
169.000								.8336							
174.000							.9361								
180.000	1.3309	.7230	.4821	.4232	.3604	.4345		.7424		-.6602	-.5870	-.3570	-.2446	-.0507	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1589	.1746	.1324	.0376	-.0539	-.1573	-.2626		.3190	.1825
40.000	.1071		.1500	.0462	-.0877	-.1473	-.4227		.1811	.0787
70.000	-.0598	-.2491	-.3064	.1981	.2102	.3049	.2019			
90.000	-.0130	-.1952	-.0512	.1843	.1190	.2091	.1264			
105.000			.1605	.1933	.0078	.1315	.0927			
110.000								-.3313		
120.000	-.0653	-.0924	.2865	.1703	-.1395	-.0335	.0594	-.2400		
135.000			.3167	.3086	-.1436	-.0900	.0258			
150.000	.0454	.1190	.3096	.3201	-.0748	-.0492	-.0726			
165.000	.0594		.3161		.2061	.0325	-.3937			
180.000	.0726	.1445	.3181	.3916						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8873)

ALPHA (3) = 4.014 BETA (2) = .182 MACH = 1.0998 Q = 599.99 P = 708.60 RN/L = 3.1803

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3358	.8341	.3982	.2747	.1665			.0999		.0549	.0242	-.0256	-.0101	-.0506	-.0348
20.000			.4139	.2663	.1463	.0758		.0953		.0359					
40.000			.5090	.2951	.1939	.1438		.1080		.0306	-.0086	-.0504	-.0254	-.0711	.0097
55.000			.5511	.3401	.2470	.1981		.1414		.0351					
70.000			.5592	.3418	.2404	.2317		.1480		.0287	-.3818	-.2134	-.2031	-.0989	
90.000		.6354	.5692	.3585	.2423	.2610		.1692		-.0545	-.4105	-.2655	-.2505	-.0925	
120.000			.5566	.3997	.2975	.3762		.3538		-.1101	-.3809	-.6028	-.2169	-.0875	
140.000										-.2132					
150.000			.5349	.4073	.3327	.4258		.7433		-.5127	-.6839	-.4725	-.1943	-.0458	
161.000									.4367						
162.000									.4813						
165.000										-.5569	-.5731	-.3533	-.2245	-.0387	
169.000								.8137							
174.000							.9248								
180.000	1.3358	.7137	.5014	.3958	.3637	.4448		.7810		-.7019	-.6679	-.3318	-.2417	-.0358	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9930	1.0180	1.0460
PHI										
.000	.1671	.1659	.1293	.0413	-.0554	-.1465	-.2581		.3280	.1805
40.000	.1397		.1456	.0516	-.0695	-.1337	-.3991		.1610	.0314
70.000	-.0710	-.2516	-.1544	.1700	.1481	.2412	.1507			
90.000	-.0334	-.1751	.0337	.1681	.0418	.1512	.0840			
105.000			.1841	.1250	-.0735	.0871	.0462			
110.000								-.3454		
120.000	.0316	-.0426	.2424	.1191	-.1798	-.1736	.0022	-.2415		
135.000			.2932	.3533	-.1249	-.1761	-.0616			
150.000	.0580	.0623	.3040	.4717	-.0597	-.1372	-.2063			
165.000	.0721		.3269		.1443	-.0783	-.4061			
180.000	.0734	.0802	.3378	.4881						

ALPHA (3) = 4.008 BETA (3) = 4.238 MACH = 1.0988 Q = 599.99 P = 708.60 RN/L = 3.1803

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3233	.8166	.3819	.2650	.1560			.0969		.0506	.0111	-.0292	-.0314	-.0614	-.0403
20.000			.3752	.2437	.1219	.0537		.0891		.0280					
40.000			.4214	.2457	.1493	.0999		.1029		.0233	-.0260	-.0731	-.0626	-.0926	.0091
55.000			.4393	.2492	.1605	.1409		.0943		-.0012					
70.000			.4429	.2385	.1439	.1698		.0998		-.0215	-.4294	-.2868	-.2575	-.0886	
90.000		.5439	.4531	.2561	.1496	.1972		.1110		-.1371	-.4698	-.3344	-.2625	-.0669	
120.000			.4803	.3186	.2111	.3163		.2676		-.2214	-.4665	-.6508	-.1917	-.0466	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8873)

ALPHA (3) = 4.006 BETA (3) = 4.238

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.4108					
150.000			.4833	.3682	.2740	.3875		.6664		-.5991	-.6429	-.3828	-.2241	-.0372	
151.000									.3414						
162.000									.4033						
165.000										-.5627	-.6586	-.3490	-.2506	-.0437	
169.000								.7671							
174.000							.9015								
180.000	1.3233	.6865	.5012	.3758	.3527	.4372		.7652		-.6790	-.5770	-.3583	-.2522	-.0523	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1702	.1676	.1229	.0350	-.0767	-.1582	-.2696		.3238	.1881
40.000	.1773		.1387	.0452	-.0769	-.1451	-.3956		.1490	.0113
70.000	-.0420	-.2268	-.1406	.1328	.0245	.1586	.0904			
90.000	.0079	-.1411	.0277	.0981	-.0953	.0705	.0408			
105.000			.1293	.0679	-.2348	-.0158	.0053			
110.000								-.3642		
120.000	.0717	.0033	.1905	.0209	-.2970	-.3756	-.0955	-.2455		
135.000			.2919	.3049	-.2422	-.3019	-.3324			
150.000	.0938	.1014	.3197	.2948	-.1467	-.2571	-.3302			
165.000	.0694		.3191		.0827	-.1782	-.4329			
180.000	.0838	.1456	.3197	.3672						

ALPHA (4) = 7.976 BETA (1) = -3.868 MACH = 1.1000 Q = 599.94 P = 708.36 RN/L = 3.1794

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2906	.9520	.5144	.3634	.2505			.1401		.1262	.0713	.0363	.0371	.0100	.0182
20.000			.5624	.3853	.2522	.1672		.1401		.1212					
40.000			.6728	.4386	.3212	.2450		.1763		.1329	.0710	.0371	.0674	.0079	.0569
55.000			.6928	.4755	.3681	.2908		.2147		.1484					
70.000			.6645	.4529	.3362	.3089		.2233		.1339	-.2732	-.1176	-.1250	-.2205	
90.000		.7827	.6328	.4336	.3134	.3246		.2521		.0763	-.3182	-.1681	-.1986	-.2016	
120.000			.5539	.3865	.2891	.3644		.4254		.0097	-.3312	-.5169	-.5619	-.2766	
140.000										-.0845					
150.000			.4464	.3041	.2591	.3682		.7832		-.2480	-.7314	-.5883	-.2488	-.1105	
151.000									.4922						
152.000									.5091						
165.000										-.6065	-.6810	-.5150	-.2343	-.0800	
169.000								.8040							
174.000							.9024								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8873)

ALPHA (4) = 7.976 BETA (1) = -3.868

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.2996	.5767	.3634	.3312	.2638	.3711		.7065		-.7112	-.6388	-.3988	-.2148	-.0604	.

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2457	.2597	.2039	.1000	-.0050	-.1080	-.2263		.3937	.2242
40.000	.2357		.2273	.1478	-.0362	-.1064	-.3766		.2225	.0891
70.000	-.0930	-.3232	-.3918	.0968	.1399	.2515	.1723			
90.000	-.0642	-.2511	-.2784	.0664	.0526	.1559	.0972			
105.000			.0325	.1127	-.0211	.0881	.0512			
110.000								-.3450		
120.000	-.1604	-.1870	.1746	.1250	-.1435	-.0757	.0295	-.2621		
135.000			.1608	.3358	-.1649	-.1304	-.0188			
150.000	.0077	-.0514	.1670	.4127	-.0690	-.1033	-.1366			
165.000	.0539		.2256		.1595	-.0252	-.4207			
180.000	.0036	.0140	.2769	.4928						

ALPHA (4) = 7.984 BETA (2) = .174 MACH = 1.1000 Q = 599.94 P = 708.36 RN/L = 3.1794

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3077	.9592	.5208	.3760	.2567			.1480		.1233	.0754	.0403	.0389	.0107	.0233
20.000			.5372	.3701	.2438	.1682		.1468		.1095					
40.000			.5922	.3878	.2767	.2155		.1685		.1140	.0554	.0167	.0336	-.0086	.0350
55.000			.5803	.3742	.2724	.2191		.1604		.0949					
70.000			.5457	.3451	.2338	.2389		.1664		.0733	-.3261	-.2047	-.1969	-.2131	
90.000		.6463	.5305	.3325	.2233	.2616		.1924		-.0022	-.3785	-.2462	-.2648	-.1800	
120.000			.4822	.3237	.2259	.3432		.3661		-.0875	-.4030	-.5787	-.3685	-.1560	
140.000										-.2054					
150.000			.4233	.2953	.2419	.3673		.7271		-.5190	-.7405	-.5408	-.2159	-.0674	
151.000									.4257						
152.000									.4599						
165.000										-.6076	-.6300	-.4057	-.2066	-.0450	
169.000								.7892							
174.000							.8772								
180.000	1.3077	.5667	.3809	.2977	.2657	.3828		.7476		-.7657	-.7168	-.3825	-.2024	-.0397	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2465	.2589	.2040	.1031	.0056	-.1002	-.2143		.4025	.2282
40.000	.2477		.2259	.1238	-.0220	-.0916	-.3570		.2230	.0699

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8873)

ALPHA (4) = 7.984 BETA (2) = .174

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1096	-.3459	-.3937	.0677	.0846	.2090	.1342			
90.000	-.0676	-.2307	-.2112	.0216	-.0416	.1243	.0863			
105.000			.0050	.0644	-.1381	.0542	.0299			
110.000								-.3556		
120.000	-.0432	-.1128	.1297	.0704	-.2357	-.2427	-.0348	-.2717		
135.000			.1689	.3527	-.1767	-.2273	-.1230			
150.000	.0522	-.0369	.2441	.5436	-.1137	-.2087	-.2501			
165.000	.0725		.2873		.0890	-.1523	-.4287			
180.000	.0812	-.0021	.3110	.5103						

ALPHA (4) = 7.984 BETA (3) = 4.233 MACH = 1.1000 Q = 599.94 P = 708.36 RN/L = 3.1794

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0060	0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2909	.9454	.5109	.3695	.2487			.1499		.1152	.0746	.0396	.0417	.0124	.0176
20.000			.4937	.3379	.2177	.1447		.1363		.0884					
40.000			.4978	.3239	.2220	.1624		.1444		.0739	.0270	-.0157	-.0086	-.0305	.0140
55.000			.4608	.2634	.1726	.1463		.1095		.0477					
70.000			.4356	.2382	.1371	.1764		.1157		.0206	-.3661	-.2784	-.2648	-.1819	
90.000		.4949	.4289	.2384	.1342	.2067		.1394		-.0731	-.4303	-.3148	-.3234	-.1487	
120.000			.4110	.2582	.1631	.3059		.2982		-.1792	-.4663	-.6286	-.2486	-.0916	
140.000										-.3276					
150.000			.3825	.2730	.1891	.3412		.6592		-.6137	-.7376	-.4474	-.1910	-.0480	
151.340									.3396						
160.000									.3847						
165.000										-.6092	-.6722	-.3927	-.2...	-.0466	
169.000								.7442							
174.010							.0658								
180.000	1.2909	.5421	.3806	.2864	.2532	.3785		.7332		-.7295	-.6393	-.4027	-.2238	-.06...	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2394	.2593	.2059	.0966	-.0094	-.1014	-.2285		.4033	.2306
40.000	.2535		.2220	.1161	-.0268	-.0974	-.3453		.2163	.0536
70.000	-.0852	-.3247	-.3445	.0274	-.0821	.1163	.0716			
90.000	-.0289	-.1997	-.1490	-.0104	-.2163	.0203	.0199			
105.000			.0239	.0224	-.2951	-.0995	-.0323			
110.000								-.3798		
120.000	.0494	-.0807	.1138	-.0075	-.3416	-.3957	-.1819	-.2522		
135.000			.2504	.3245	-.2603	-.3514	-.3692			
150.000	.1037	.0026	.3039	.4133	-.1937	-.3121	-.3751			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8873)

ALPHA (4) = 7.984 BETA (3) = 4.233

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	.0930		.2856		.0158	-.2552	-.4583			
180.000	.0732	.0103	.2663	.5131						

ALPHA (5) = 12.067 BETA (1) = -3.848 MACH = 1.0997 Q = 599.84 P = 708.61 RN/L = 3.1785

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0090	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2448	1.0686	.6482	.4712	.3466			.2080		.1903	.1317	.1171	.1191	.0979	.2113
20.000			.6917	.4986	.3609	.2671		.2154		.1877					
40.000			.7595	.5405	.4169	.3248		.2600		.2161	.1398	.1234	.1444	.1015	.2558
55.000			.7098	.5028	.3871	.2910		.2290		.1801					
70.000			.6389	.4412	.3159	.2969		.2340		.1598	-.2336	-.1113	-.1180	-.2361	
90.000		.7164	.5806	.3916	.2752	.2964		.2557		.1074	-.3015	-.1416	-.1889	-.2793	
120.000			.4491	.2840	.1835	.3012		.4094		.0188	-.3472	-.5202	-.7333	-.3558	
140.000										-.0834					
150.000			.3194	.1785	.1539	.3117		.7653		-.2140	-.7863	-.6901	-.2936	-.1379	
161.000									.4788						
162.000									.4647						
165.000										-.6639	-.7404	-.5639	-.2538	-.1032	
169.000								.7765							
174.000							.8661								
180.000	1.2448	.4224	.2412	.2271	.1723	.3155		.6752		-.7623	-.6794	-.4305	-.1970	-.0504	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.3248	.3298	.2696	.1655	.0694	-.0621	-.1919		.4770	.2724
40.000	.3542		.3002	.1885	.0316	-.0500	-.2979		.2798	.1214
70.000	-.1491	-.3798	-.4648	-.0044	-.0633	.0654	.0902			
90.000	-.0710	-.3035	-.3805	.0116	-.0800	-.1485	.0375			
105.000			-.0954	.0847	-.1300	-.2543	.0010			
110.000								-.3362		
120.000	-.1815	-.1979	.0597	.1084	-.1784	-.2395	-.1726	-.2558		
135.000			.0765	.2872	-.1947	-.1874	-.1861			
150.000	-.0533	-.1785	.0630	.4335	-.1294	-.1933	-.2703			
165.000	.0402		.1605		.0956	-.0820	-.4466			
180.000	.0791	-.0385	.2362	.5001						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8873)

ALPHA (5) = 12.077 BETA (2) = .180 MACH = 1.0997 Q = 599.84 P = 708.61 RN/L = 3.1785

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2468	1.0715	.6511	.4804	.3558			.2186		.1954	.1428	.1183	.1247	.1058	.1980
20.000			.6611	.4761	.3415	.2494		.2150		.1835					
40.000			.6668	.4687	.3580	.2680		.2260		.1792	.1049	.0827	.1015	.0803	.2123
55.000			.5882	.3837	.2780	.1973		.1572		.1306					
70.000			.5177	.3258	.2117	.2212		.1734		.1140	-.2863	-.1997	-.1987	-.3234	
90.000		.5739	.4774	.2909	.1864	.2408		.2007		.0504	-.3587	-.2271	-.2614	-.3221	
120.000			.3838	.2313	.1396	.2891		.3675		-.0604	-.4064	-.5674	-.7172	-.2086	
140.000										-.1862					
150.000			.3018	.1814	.1508	.3257		.7066		-.4969	-.7852	-.6029	-.2481	-.0921	
161.000									.4155						
162.000									.4375						
165.000										-.6534	-.6779	-.4496	-.1978	-.0412	
169.000								.7623							
174.000							.8239								
180.000	1.2468	.4038	.2551	.1926	.1685	.3266		.7185		-.8083	-.7519	-.4119	-.1796	-.0346	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.3340	.3379	.2808	.1695	.0742	-.0478	-.1800		.4766	.2706
40.000	.3431		.3049	.1934	.0397	-.0390	-.3043		.2875	.0996
70.000	-.1131	-.4305	-.4943	-.1448	-.1515	.0985	.0890			
90.000	-.0587	-.3081	-.3967	-.0849	-.1352	-.0721	.0554			
105.000			-.1365	.0068	-.1307	-.3282	-.0105			
110.000								-.3563		
120.000	-.0409	-.1362	.0401	.1095	-.3013	-.2575	-.2001	-.2759		
135.000			.1130	.3359	-.2265	-.2666	-.2999			
150.000	.0454	-.0950	.1624	.5765	-.1898	-.2821	-.2909			
165.000	.0924		.2465		.0562	-.2025	-.4558			
180.000	.0995	-.0256	.2769	.5458						

ALPHA (5) = 12.076 BETA (3) = 4.245 MACH = 1.0997 Q = 599.84 P = 708.61 RN/L = 3.1785

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2352	1.0584	.6397	.4758	.3437			.2119		.1868	.1417	.1177	.1184	.1067	.1847
20.000			.6134	.4416	.3060	.2181		.1887		.1569					
40.000			.5627	.3950	.2830	.1946		.1710		.1262	.0586	.0405	.0536	.0434	.1597
55.000			.4573	.2713	.1696	.1097		.0830		.0852					
70.000			.3972	.2236	.1159	.1621		.1167		.0755	-.3245	-.2739	-.2793	-.3579	
90.000		.4236	.3783	.2042	.0987	.2001		.1494		-.0060	-.4044	-.2972	-.3272	-.2480	
120.000			.3256	.1856	.0734	.2791		.3121		-.1423	-.4655	-.6128	-.3703	-.1521	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8873)

ALPHA (5) = 12.076 BETA (3) = 4.245

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.2976					
150.000			.2720	.1789	.0946	.3027		.6475		-.6137	-.7852	-.5032	-.1888	-.0504	
151.000									.3384						
162.000									.3666						
165.000										-.6537	-.6958	-.4189	-.1717	-.0397	
169.000								.7236							
174.000							.8097								
180.000	1.2350	.3745	.2546	.1847	.1436	.3216		.7054		-.7728	-.6874	-.4370	-.1960	-.0513	

X/LB	.6520	.7290	.7730	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.3284	.3331	.2766	.1612	.0532	-.0566	-.1949		.4781	.2693
40.000	.3300		.2904	.1834	.0286	-.0528	-.3014		.2807	.0996
70.000	-.1434	-.4254	-.4703	-.1358	-.1975	.0573	.0576			
90.000	-.0971	-.2962	-.3583	-.1336	-.3330	-.1885	.0337			
108.000			-.1332	-.0620	-.5328	-.3708	-.0465			
110.000								-.3851		
120.000	.0465	-.1069	.0211	-.0406	-.3903	-.4728	-.5582	-.2573		
135.000			.1602	.2759	-.2723	-.3612	-.3890			
150.000	.1049	-.0311	.2500	.4646	-.1987	-.3303	-.4066			
165.000	.1119		.2490		.0031	-.3012	-.4777			
180.000	.0958	-.0323	.2193	.5290						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8874) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 936.0680 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = -5.000 SPDBRK = 55.000
BDFLAP = 16.300 L-ELVN = -10.000
R-ELVN = -10.000 MACH = .900

ALPHA (1) = -3.998 BETA (1) = -3.854 MACH = .90080 Q = 600.60 P = 1057.3 RN/L = 3.5738

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2019	.3600	-.0712	-.1096	-.1805			-.2155		-.2125	-.1793	-.0639	-.0269	.0103	-.0085
20.000			-.0452	-.1295	-.2269	-.2418		-.2599		-.2469					
40.000			.1549	-.1073	-.2091	-.2443		-.3505		-.4334	-.3858	-.1238	-.0813	-.0317	-.0363
55.000			.3439	.0986	.0062	-.0919		-.1906		-.2805					
70.000			.4698	.2260	.1310	.0721		-.0909		-.2232	-.7153	-.0103	.0666	.1185	
90.000		.7415	.5658	.3159	.1763	.1216		-.0610		-.3002	-.6539	-.0412	.0523	.1061	
120.000			.6448	.4652	.3402	.3323		.1916		-.2267	-.5790	-.1055	.0364	.0807	
140.000										-.1544					
150.000			.6476	.4979	.4091	.4263		.6699		-.2834	-.8518	-.0395	.0288	.0575	
151.000									.3359						
162.000									.3973						
165.000										-.8331	-.7693	-.0120	.0231	.0537	
169.000								.7335							
174.000							.8564								
180.000	1.2019	.8516	.5863	.4463	.4138	.4213		.6484		-.9374	-.7594	.0003	.0165	.0442	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1250	-.1937	-.2393	-.3443	-.4578	-.4581	-.1220		.2743	.1095
40.000	-.2379		-.2343	-.3443	-.3192	-.4862	-.2594		.0514	.0202
70.000	.0537	.0211	.1493	.274.	.1931	.1804	.0025			
90.000	.0792	.0701	.2011	.2947	.1122	.0907	-.0603			
105.000			.2540	.3332	.0076	.0230	-.1093			
110.000								-.3375		
120.000	.0907	.1420	.3378	.4220	-.1294	-.0761	-.1256	-.2612		
135.000			.3939	.4849	-.0947	-.0409	-.1181			
150.000	.0970	.1740	.3939	.4570	-.0437	-.0329	-.1448			
165.000	.0932		.3590		.1534	-.0044	-.2861			
180.000	.0845	.1672	.3469	.5115						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8874)

ALPHA (1) = -3.915 BETA (2) = .189 MACH = .90080 Q = 600.60 P = 1057.3 RN/L = 3.5738

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2071	.3671	-.0664	-.0946	-.1767			-.2055		-.2107	-.1875	-.0558	-.0197	.0182	.0005
20.000			-.0454	-.1172	-.2122	-.2184		-.2321		-.2354					
40.000			.1120	-.1006	-.1999	-.2053		-.3031		-.3619	-.3484	-.0690	-.0308	-.0022	-.0040
55.000			.2534	.0249	-.0539	-.1254		-.2361		-.3330					
70.000			.3536	.1152	.0315	-.0071		-.1703		-.3157	-.7560	-.0344	.0531	.0960	
90.000		.5832	.4341	.1913	.0595	.0217		-.1622		-.4517	-.7254	-.0911	.0422	.0846	
120.000			.5376	.3537	.2292	.2382		.0709		-.4261	-.6693	-.1465	.0197	.0629	
140.000										-.4617					
160.000			.5904	.4531	.3459	.3760		.5854		-.7951	-.8392	-.0247	.0272	.0563	
161.000									.2337						
168.000									.3121						
165.000										-.8439	-.7456	-.0057	.0298	.0570	
180.000								.6938							
180.000							.8427								
180.000	1.2071	.8362	.5950	.4445	.4123	.4273		.6808		-.9487	-.7484	.0042	.0298	.0563	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1185	-.1957	-.2358	-.3397	-.4612	-.4351	-.1195		.2763	.1166
40.000	-.1833		-.2306	-.3385	-.3818	-.4901	-.2750		.1302	.0236
70.000	.0387	.0026	.1041	.2099	.1264	.1273	-.0325			
90.000	.0668	.0516	.1571	.2189	.0305	.0279	-.0988			
105.000			.2034	.2199	-.0841	-.0312	-.1428			
110.000								-.3375		
120.000	.0829	.1149	.2694	.2861	-.2776	-.1691	-.1918	-.2767		
135.000			.3437	.4954	-.2233	-.1276	-.1786			
150.000	.1084	.1675	.3623	.5426	-.1440	-.1343	-.2056			
165.000	.1017		.3614		.0291	-.1207	-.2881			
180.000	.0981	.1795	.3647	.5533						

ALPHA (1) = -3.961 BETA (3) = 4.266 MACH = .90080 Q = 600.60 P = 1057.3 RN/L = 3.5738

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1894	.3490	-.0750	-.1035	-.1878			-.2014		-.2137	-.1810	-.0639	-.0234	.0132	-.0131
20.000			-.0735	-.1251	-.2073	-.2096		-.2187		-.2250					
40.000			.0449	-.1313	-.1959	-.1973		-.2590		-.3199	-.3078	-.0383	-.0091	.0075	.0145
55.000			.1537	-.0524	-.1213	-.1569		-.2595		-.3941					
70.000			.2308	.0046	-.0543	-.0793		-.2332		-.3981	-.8399	-.0644	.0547	.0858	
90.000		.4261	.3086	.0652	-.0501	-.0748		-.2479		-.5893	-.6852	-.2281	.0533	.0773	
120.000			.4256	.2395	.1064	.1289		-.0527		-.5952	-.8108	-.2582	-.0058	.0352	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8874)

ALPHA (1) = -3.951 BETA (3) = 4.266

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.8215					
150.000			.5219	.4014	.2833	.3152		.4919		-.8240	-.8587	-.0395	.0006	.0340	
151.000									.1222						
162.000									.2228						
166.000										-.8518	-.7577	-.0101	.0070	.0401	
169.000								.6435							
174.000							.8043								
180.000	1.1994	.8178	.5908	.4469	.4064	.4148		.6666		-.9380	-.7618	-.0084	.0129	.0425	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1283	-.1990	-.2328	-.3417	-.4242	-.4642	-.1397		.2659	.1014
40.000	-.1560		-.2242	-.3266	-.3911	-.4543	-.2450		.1414	.0147
70.000	.0311	-.0182	.0487	.1499	.0573	.0834	-.0600			
90.000	.0523	.0279	.1062	.1440	-.0508	-.0199	-.1223			
105.000			.1518	.1267	-.1738	-.0839	-.1736			
110.000								-.3298		
140.00	.0927	.0769	.1859	.1445	-.5337	-.2700	-.2560	-.2810		
145.000			.2788	.3971	-.4260	-.2359	-.2449			
150.000	.0799	.1308	.3108	.5582	-.3060	-.2742	-.2887			
160.00	.0649		.3225		-.0906	-.2557	-.2810			
180.000	.0816	.1653	.3513	.5299						

ALPHA (2) = .055 BETA (1) = -3.868 MACH = .90127 Q = 600.67 P = 1056.4 RN/L = 3.5726

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2145	.5244	.0740	-.0075	-.0879			-.1545		-.1671	-.1790	-.0753	-.0180	.0333	.0320
23.000			.1131	-.0089	-.1139	-.1596		-.1838		-.1939					
40.000			.2962	.0415	-.0687	-.1177		-.2168		-.2419	-.2898	-.0859	-.0268	.0094	.0313
55.000			.4381	.2015	.1053	.0182		-.0892		-.1942					
70.000			.5057	.2736	.1682	.1085		-.0381		-.1778	-.6591	-.0857	.0262	.0668	
80.000		.7238	.5515	.3254	.1934	.1509		-.0089		-.2556	-.6371	-.1170	.0198	.0602	
120.000			.5795	.4025	.2905	.3012		.2074		-.2544	-.6005	-.2270	.0034	.0228	
140.000										-.2791					
150.000			.5401	.3854	.3123	.3542		.6402		-.3909	-.9853	-.2382	.0234	.0144	
151.000									.3069						
162.000									.3494						
166.000										-.9089	-.8588	-.1348	.0217	.0156	
169.000								.6877							
174.000							.8139								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8974)

ALPHA (2) = .055 BETA (1) = -3.868

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.2145	.7194	.4647	.3394	.3130	.3399		.5954		-1.0520	-.8555	-.0560	.0198	.0156	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
[illegible]	-.0295	-.0803	-.1479	-.2643	-.3788	-.4340	-.1119		.2581	.1043
[illegible]	-.0962		-.1343	-.2532	-.3084	-.4686	-.2815		.1299	.0369
[illegible]	-.0874	-.1263	.0334	.2541	.1771	.1773	.0032			
[illegible]	-.0486	-.0836	.1433	.2757	.0977	.0823	-.0629			
[illegible]			.3047	.3175	-.0020	.0120	-.1211			
[illegible]								-.3267		
120.000	-.0300	.0379	.2984	.3797	-.1672	-.0944	-.1302	-.2584		
135.000			.3500	.4025	-.1598	-.0745	-.1446			
150.000	.0187	.1081	.3431	.3240	-.1278	-.0711	-.1649			
[illegible]	.0282		.3155		.1037	-.0559	-.2881			
[illegible]	.0182	.1117	.2363	.4339						

ALPHA (2) = .084 BETA (2) = .180 MACH = .90127 Q = 600.67 P = 1056.4 RN/L = 3.5726

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2217	.5239	.0841	.0061	-.0855			-.1525		-.1596	-.1840	-.0590	-.0084	.0341	.0360
20.000			.1052	-.0058	-.1045	-.1410		-.1677		-.1781					
40.000			.2389	.0198	-.0696	-.1028		-.1929		-.2099	-.2858	-.0482	-.0008	.0258	.0517
[illegible]			.3387	.1241	.0347	-.0277		-.1330		-.2360					
70.000			.3883	.1630	.0708	.0338		-.1104		-.2545	-.7334	-.0760	.0154	.0491	
90.000		.5756	.4396	.2038	.0878	.0657		-.1002		-.3769	-.7104	-.1040	.0175	.0461	
120.000			.4850	.3100	.1972	.2222		.1015		-.4109	-.6821	-.2049	.0220	0345	
40.000										-.5070					
[illegible]			.4933	.3579	.2617	.3154		.5683		-.8527	- 9455	-.1482	.0322	.0303	
[illegible]									.2122						
[illegible]									.2757						
[illegible]										-.9178	-.8601	-.0592	.0296	.0313	
[illegible]								.6580							
[illegible]							.8043								
180.000	1.2217	.7131	.4791	.3489	.3176	.3517		.6365		-.9163	-.8686	-.0421	.0296	.0303	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
[illegible]	-.0244	-.0777	-.1503	-.2684	-.3747	-.4261	-.1262		.2738	.1105
40.000	-.0599		-.1346	-.2544	-.3115	-.4635	-.2848		.1388	.0296

AMES 11-073(OA)48) -140A/B/C ORB FUSELAGE (XE8874)

ALPHA (2) = .084 BETA (2) = .180

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1006	-.1391	.0350	.1850	.1038	.1712	-.0305			
90.000	-.0485	-.0782	.1020	.1883	.0145	.0285	-.0998			
105.000			.1632	.2092	-.0947	-.0417	-.1509			
110.000								-.3224		
120.000	-.0027	.0420	.2271	.2973	-.2547	-.1635	-.1937	-.2698		
125.000			.2864	.4311	-.2381	-.1501	-.1976			
130.000	.0317	.1008	.3100	.4782	-.2035	-.1684	-.2242			
135.000	.0370		.3046		-.0293	-.1673	-.2807			
140.000	.0321	.1182	.3089	.4888						

ALPHA (2) = .055 BETA (3) = 4.246 MACH = .90127 Q = 600.67 P = 1056.4 RN/L = 3.5726

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2081	.5118	.0715	.0042	-.0975			-.1505		-.1662	-.1781	-.0613	-.0150	.0350	.0358
20.000			.0750	-.0247	-.1167	-.1295		-.1629		-.1771					
40.000			.1655	-.0145	-.0970	-.1052		-.1723		-.2039	-.2601	-.0423	.0089	.0288	.0673
55.000			.2353	.0326	-.0316	-.0720		-.1669		-.2634					
70.000			.2737	.0542	-.0169	-.0361		-.1674		-.3212	-.7840	-.0817	.0231	.0478	
90.000		.4167	.3186	.0905	-.0140	-.0221		-.1735		-.4912	-.7944	-.1590	.0286	.0509	
105.000			.3859	.2104	.0090	.1364		-.0036		-.5626	-.7792	-.2100	.0260	.0366	
110.000										-.7866					
120.000			.4382	.3140	.2045	.2634		.4806		-.9404	-.9620	-.1087	.0260	.0212	
131.000									.1060						
142.000									.1901						
165.000										-.8482	-.8717	-.0466	.0213	.0212	
163.000								.6097							
174.000							.7683								
180.000	1.2091	.6904	.4813	.3486	.3125	.3415		.6198		-1.0604	-.8614	-.0603	.0236	.0165	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0923	-.0748	-.1441	-.2668	-.3761	-.4135	-.1229		.2547	.1049
40.000	-.0408		-.1318	-.2491	-.3174	-.4302	-.2578		.1418	.0086
72.000	-.1004	-.1533	-.0068	.1128	.0330	.0715	-.0682			
90.000	-.0484	-.0795	.0502	.1082	-.0722	-.0298	-.1208			
105.000			.1104	.0969	-.2092	-.0996	-.1853			
110.000								-.3335		
120.000	-.0046	.0082	.1919	.1355	-.5353	-.2524	-.2457	-.2790		
135.000			.2476	.3670	-.4759	-.2446	-.2521			
150.000	.0283	.0868	.2718	.4636	-.3468	-.2957	-.2818			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8974)

ALPHA (2) = .055 BETA (3) = 4.248

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6880	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
155.000	.0243		.2800		-.1513	-.3170	-.2885			
180.000	.0159	.1127	.3046	.4370						

ALPHA (3) = 4.001 BETA (1) = -3.875 MACH = .90140 Q = 601.01 P = 1056.6 RN/L = 3.5771

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3760	.4970	.5740
PHI															
.000	1.2056	.6724	.2215	.1063	.0103			-.0862		-.1027	-.1298	-.0559	.0042	.0688	.0859
20.000			.2657	.1781	.0008	-.0644		-.0937		-.1253					
40.000			.4044	.1722	.0695	.0018		-.0862		-.1341	-.1822	-.0394	.0199	.0609	.1043
60.000			.5073	.2819	.1835	.1015		-.0050		-.1091					
80.000			.5348	.3018	.1940	.1414		.0059		-.1322	-.5910	-.1607	-.0230	.0878	
90.000		.6920	.5316	.3187	.1982	.1680		.0306		-.2115	-.6266	-.2188	-.0256	.0866	
100.000			.5017	.3349	.2302	.2639		.2157		-.2560	-.6158	-.3537	-.0851	-.0485	
120.000										-.3525					
140.000			.4269	.2705	.2184	.2788		.6184		-.4657	-.9705	-.4430	.0066	-.0139	
151.000									.2843						
160.000									.3102						
165.000										-.9667	-.8478	-.4392	.0407	-.0048	
170.000								.6520							
180.000	1.2056	.5796	.3439	.2852	.2205	.2693	.7749	.5518		-1.0996	-.9224	-.2855	.0481	.0038	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0511	.0039	-.0782	-.1987	-.2744	-.3976	-.1141		.3207	.1253
40.000	.0305		-.0571	-.1826	-.2285	-.4053	-.2729		.2052	.0580
70.000	-.2110	-.3894	.0026	.2278	.1692	.1713	.0042			
90.000	-.1990	-.2934	.0892	.2434	.0846	.0728	-.0676			
105.000			.1633	.2612	-.0077	-.0014	-.1311			
110.000								-.3155		
160.000	-.1616	-.0866	.2698	.2403	-.2008	-.1140	-.1367	-.2605		
175.000			.2964	.2662	-.2219	-.1155	-.1705			
180.000	-.2830	.0398	.2826	.2035	-.1919	-.1150	-.1860			
185.000	-.3478		.2530		.0541	-.0694	-.2721			
180.000	-.0366	.0503	.2335	.3594						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8874)

ALPHA (3) = 4.079 BETA (2) = .183 MACH = .90140 Q = 601.01 P = 1056.6 RN/L = 3.5771

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2119	.6754	.2301	.1110	.0120			-.0804		-.1021	-.1351	-.0620	.0146	.0737	.0896
20.000			.2511	.1088	.0016	-.0596		-.0927		-.1168					
40.000			.3497	.1389	.0388	-.0130		-.0832		-.1291	-.1930	-.0462	.0284	.0635	.1177
55.000			.3959	.1908	.1017	.0282		-.0678		-.1569					
70.000			.4037	.1913	.0898	.0652		-.0630		-.1951	-.6698	-.1449	-.0263	.0139	
90.000		.5424	.4184	.2070	.0948	.0921		-.0545		-.3062	-.7246	-.1660	-.0201	.0148	
120.000			.4194	.2520	.1508	.2073		.1272		-.3833	-.6942	-.2872	-.0156	-.0038	
140.000										-.5112					
150.000			.3890	.2577	.1899	.2565		.5500		-.9031	-1.0433	-.3920	.0507	.0108	
151.000									.1973						
157.000									.2436						
165.000										-.9771	-.9415	-.2359	.0437	.0170	
169.000								.6255							
174.000							.7606								
180.000	1.2119	.5688	.3580	.2568	.2231	.2800		.5915		-1.0466	-.9503	-.1665	.0445	.0177	

X/LB	.6520	.7290	.7790	.8210	.8790	.9.	.9600	.9990	1.0180	1.0460
PHI										
.000	.0501	.0051	-.0732	-.2009	-.2727	-.3953	-.1190		.3196	.1248
40.000	.0496		-.0556	-.1846	-.2367	-.4003	-.2580		.1900	.0362
70.000	-.2257	-.3929	-.0251	.1564	.0892	.1113	-.0379			
90.000	-.1617	-.2821	.0524	.1476	-.0091	.0157	-.1040			
105.000			.1265	.1538	-.1090	-.0523	-.1578			
110.000								-.3221		
120.000	-.1039	-.0707	.1722	.2378	-.3042	-.1780	-.1946	-.2662		
135.000			.2140	.4287	-.2820	-.1738	-.2111			
150.000	-.0384	.0168	.2344	.4812	-.2346	-.2055	-.2324			
165.000	-.0330		.2359		-.0772	-.1990	-.2723			
180.000	-.0373	.0455	.2450	.4316						

ALPHA (3) = 4.001 BETA (3) = 4.242 MACH = .90140 Q = 601.01 P = 1056.6 RN/L = 3.5771

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1980	.6021	.2199	.1099	-.0018			-.0860		-.1070	-.1191	-.0536	0112	.0717	.0793
20.000			.2153	.0860	-.0233	-.0600		-.0993		-.1333					
40.000			.2637	.0896	.0060	-.0347		-.0971		-.1466	-.2081	-.0962	.0160	.0487	.1123
55.000			.2810	.0914	.0235	-.0251		-.1154		-.2038					
70.000			.2852	.0841	.0022	.0010		-.1175		-.2546	-.7196	-.1632	-.0274	.0070	
90.000		.3852	.3057	.0993	.0018	.0174		-.1173		-.4042	-.7930	-.1877	-.0035	.0209	
120.000			.3304	.1681	.0709	.1373		.0337		-.5212	-.7712	-.3183	.0302	.0184	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8874)

ALPHA (3) = 4.001 BETA (3) = 4.242

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000															
150.000			.3384	.2226	.1338	.2146		.4685		-.6910					
151.000										-1.0189	-1.0324	-.3403	.0513	.0140	
162.000									.0963						
165.000									.1596						
169.000										-.9813	-.8432	-.2341	.0425	.0083	
174.000								.5794							
180.000	1.1980	.5455	.3578	.2483	.2166	.2720	.7343	.5777		-1.1051	-.9355	-.2465	.0442	.0014	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0556	.0121	-.0712	-.2014	-.2711	-.3943	-.1227		.3253	.1243
40.000	.0418		-.0591	-.1800	-.2347	-.3919	-.2372		.1736	.0176
70.000	-.2213	-.1592	-.0776	.0051	.0266	.0690	-.0625			
90.000	-.1546	-.2382	-.0090	.0240	- 0744	-.0313	-.1301			
105.000			.0430	.0780	-.2137	-.1078	-.1860			
130.000	-.0740	-.0912	.0869	.1481	-.4273	-.2486	-.2370	-.3179		
150.000			.1982	.3509	-.4604	-.2536	-.2557	-.2665		
160.000	-.0347	.0223	.2076	.4531	-.3933	-.3116	-.2813			
165.000	-.0316		.2104		-.1999	-.3376	-.2675			
180.000	-.0402	.0545	.2411	.3443						

ALPHA (4) = 7.933 BETA (1) = -3.872 MACH = .90130 Q = 600.85 P = 1056.6 RN/L = 3.5771

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1692	.8101	.3689	.2237	.1160			-.0078		-.0271	-.0628	-.0157	.0432	.1154	.1477
20.000			.4151	.2417	.1172	.0361		-.0082		-.0399					
40.000			.5309	.3002	.1841	.1092		.0207		-.0290	-.0779	.0099	.0655	.1147	.1857
55.000			.5525	.3382	.2357	.1455		.0399		-.0513					
70.000			.5304	.3116	.2018	.1581		.0380		-.0883	-.5040	-.1768	-.0955	-.0019	
90.000		.6397	.4924	.2971	.1871	.1688		.0570		-.1664	-.6098	-.2390	-.1141	-.0092	
120.000			.4104	.2493	.1525	.2061		.2134		-.2523	-.6523	-.4988	-.2537	-.1544	
140.000										-.3697					
150.000			.3017	.1694	.1265	.2101		.5932		-.4808	-.5913	-.4732	-.1630	-.0307	
151.000									.2625						
162.000									.2763						
165.000										-.9897	-.6219	-.5136	-.1468	-.0117	
169.000								.6163							
174.000							.7388								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XEBB74)

ALPHA (4) = 7.933 BETA (1) = -3.872

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.1692	.4286	.2165	.1841	.1362	.2096		.5121		-.8509	-.8393	-.5086	-.1347	.0078	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1358	.0849	.0007	-.1212	-.1973	-.3730	-.1098		.3751	.1399
40.000	.1420		.0254	-.0994	-.1921	-.3815	-.2631		.2580	.0650
70.000	-.3033	-.5545	-.0666	.1691	.1247	.1383	-.0096			
90.000	-.2472	-.4767	.0271	.1492	.0433	.0405	-.0835			
105.000			.1060	.1449	-.0315	-.0334	-.1441			
110.000								-.3112		
120.000	-.2886	-.1867	.1261	.1436	-.2065	-.1486	-.1582	-.2614		
135.000			.1244	.2293	-.2457	-.1572	-.1998			
150.000	-.1451	-.0740	.1247	.2904	-.2269	-.1423	-.2050			
165.000	-.1209		.1192		-.0135	-.1114	-.2574			
180.000	-.0968	-.0434	.1269	.3258						

ALPHA (4) = 8.028 BETA (2) = .177 MACH = .90130 Q = 600.85 P = 1056.6 RN/L = 3.5771

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1779	.8181	.3747	.2325	.1188			-.0051		-.0255	-.0487	-.0171	.0524	.1233	.1513
20.000			.3875	.2245	.1069	.0293		-.0086		-.0465					
40.000			.4454	.2437	.1394	.0771		.0037		-.0553	-.1032	-.0365	.0555	.1050	.1853
55.000			.4323	.2316	.1337	.0686		-.0281		-.1062					
70.000			.3975	.2033	.0929	.0815		-.0315		-.1460	-.5875	-.1949	-.0994	-.0138	
90.000		.4925	.3851	.1979	.0884	.0986		-.0203		-.2467	-.6894	-.2386	-.0942	-.0180	
120.000			.3420	.1846	.0962	.1785		.1440		-.3547	-.6922	-.3126	-.1598	-.0627	
140.000										-.5001					
150.000			.2796	.1599	.1119	.2016		.5338		-.0722	-.6411	-.4791	-.0778	-.0008	
151.000									.1842						
162.000									.2156						
165.000										-1.0333	-.6700	-.4418	-.0892	.0163	
163.000								.5970							
174.000							.7076								
180.000	1.1779	.4167	.2359	.1584	.1437	.2163		.5558		-.8722	-.6684	-.4833	-.0908	.0199	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1459	.0941	.0075	-.1196	-.1961	-.3700	-.0835		.3696	.1388
40.000	.1497		.0258	-.1018	-.1935	-.3754	-.2362		.2331	.0410

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8874)

ALPHA (4) = 8.028 BETA (2) = .177

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.3031	-.6031	-.0935	.0962	.0510	.0820	-.0479			
90.000	-.2393	-.4479	-.0174	.0766	-.0497	-.0097	-.1161			
105.000			.0539	.0708	-.1428	-.0825	-.1726			
110.000								-.3189		
120.000	-.1975	-.1970	.0680	.0804	-.3446	-.2049	-.2039	-.2508		
135.000			.1212	.2716	-.3353	-.2089	-.2243			
150.000	-.1085	-.0767	.1396	.3526	-.2809	-.2282	-.2360			
165.000	-.0402		.1502		-.0856	-.2203	-.2655			
180.000	-.0881	-.0369	.1495	.3513						

ALPHA (4) = 8.031 BETA (3) = 4.235 MACH = .90130 Q = 600.85 P = 1056.6 RN/L = 3.5771

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1606	.8016	.3637	.2208	.1051			-.0109		-.0391	-.0519	-.0255	.0521	.1223	.1434
20.000			.3452	.1923	.0818	.0154		-.0257		-.0595					
40.000			.3454	.1754	.0861	.0199		-.0302		-.0917	-.1543	-.1113	.0260	.0830	.1624
55.000			.3061	.1221	.0408	-.0083		-.0872		-.1567					
70.000			.2784	.0965	-.0007	.0164		-.0872		-.2031	-.6562	-.2071	-.1085	-.0363	
90.000		.3350	.2770	.0899	.0005	.0349		-.0826		-.3306	-.7599	-.1900	-.0952	-.0230	
120.000			.2623	.1157	.0327	.1348		.0686		-.4732	-.7287	-.2837	-.0949	-.0117	
140.000										-.6517					
150.000			.2357	.1354	.0617	.1683		.4572		-1.0263	-.6450	-.4457	-.0719	.0122	
151.000									.0918						
162.000									.1351						
165.000										-1.0407	-.7064	-.4690	-.0653	.0151	
169.000								.5505							
174.000							.6940								
180.000	1.1606	.3912	.2350	.1504	.1255	.2103		.5380		-.8576	-.6882	-.4631	-.0954	.0029	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1384	.0904	.0046	-.1262	-.1969	-.3704	-.0850		.3785	.1394
40.000	.1410		.0212	-.0985	-.1936	-.3599	-.2370		.2113	.0213
70.000	-.3042	-.5716	-.1660	.0156	-.0123	.0461	-.0626			
90.000	-.2299	-.4145	-.1066	-.0068	-.1198	-.0552	-.1344			
105.000			-.0546	-.0096	-.2457	-.1338	-.1954			
110.000								-.3114		
120.000	-.1494	-.2040	-.0256	.0322	-.4536	-.2780	-.2472	-.2535		
135.000			.0433	.2842	-.3942	-.2731	-.2637			
150.000	-.0840	-.0543	.1216	.3356	-.3397	-.3318	-.2802			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8874)

ALPHA (4) = 8.031 BETA (3) = 4.235

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0921		.1289		-.1967	-.3374	-.2768			
180.000	-.1033	-.0539	.1243	.3292						

ALPHA (5) = 11.980 BETA (1) = -3.859 MACH = .90157 Q = 601.36 P = 1058.9 RN/L = 3.5829

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1560	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1066	.9328	.5079	.3426	.2227			.0765		.0534	.0255	.0507	.1033	.1836	.2154
20.000			.5552	.3664	.2353	.1364		.0841		.0539					
40.000			.6226	.4072	.2922	.2002		.1202		.0584	.0118	.0658	.1170	.1843	.2642
55.000			.5736	.3659	.2571	.1605		.0656		-.0126					
70.000			.4983	.3055	.1954	.1605		.0570		-.0543	-.4289	-.1989	-.1453	-.0335	
90.000		.5515	.4348	.2568	.1575	.1515		.0651		-.1314	-.5496	-.2548	-.1645	-.0567	
120.000			.3007	.1468	.0631	.1498		.1954		-.2453	-.6606	-.5430	-.4212	-.2625	
140.000										-.3728					
150.000			.1702	.0579	.0351	.1487		.5727		-.5243	-.5832	-.5070	-.2342	-.0866	
151.000									.2436						
162.000									.2427						
165.000										-.8490	-.6005	-.5632	-.2051	-.0394	
169.000								.5833							
174.000							.7015								
180.000	1.1066	.2607	.0927	.0882	.0503	.1527		.4717		-.6845	-.6215	-.5544	-.1833	-.0028	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2154	.1632	.0792	-.0499	-.1502	-.3439	-.1800		.4065	.1524
40.000	.2412		.1113	-.0241	-.1756	-.3543	-.3537		.2793	.0708
70.000	-.4478	-.7175	-.1416	.0232	-.0677	.0475	-.0381			
90.000	-.3699	-.5606	-.0245	.0600	-.1289	-.0658	-.1149			
105.000			.0065	.1124	-.2195	-.1359	-.1817			
110.000								-.3144		
120.000	-.3623	-.2346	.0330	.1650	-.3283	-.2270	-.2011	-.2610		
130.000			.0261	.2223	-.3293	-.2194	-.2348			
150.000	-.2457	-.1943	.0078	.3003	-.2871	-.2268	-.2467			
165.000	-.1893		.0529		-.0863	-.1725	-.2591			
180.000	-.1542	-.1054	.0920	.3341						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8874)

ALPHA (5) = 12.020 BETA (2) = .183 MACH = .90157 Q = 601.36 P = 1056.9 RN/L = 3.5829

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1177	.9359	.5148	.3483	.2272			.0809		.0584	.0277	.0562	.1083	.1881	.2178
20.000			.5280	.3469	.2175	.1355		.0783		.0442					
40.000			.5306	.3379	.2298	.1429		.0752		.0140	-.0449	.0031	.0849	.1597	.2439
55.000			.4453	.2468	.1504	.0653		-.0199		-.0856					
70.000			.3749	.1906	.0825	.0818		-.0072		-.1196	-.5165	-.2390	-.1992	-.0803	
90.000		.4226	.3310	.1591	.0666	.0880		.0018		-.2069	-.6479	-.2368	-.2075	-.0618	
120.000			.2451	.1016	.0288	.1285		.1505		-.3379	-.7025	-.4318	-.3207	-.1397	
140.000										-.4800					
150.000			.1667	.0600	.0371	.1543		.5166		-.7583	-.5940	-.5375	-.2271	-.0331	
151.000									.1777						
160.000									.1974						
165.000										-.9000	-.6034	-.5486	-.1925	.0046	
170.000								.5699							
175.000							.6627								
180.000	1.1177	.2517	.1242	.0666	.0643	.1663		.5229		-.6968	-.5900	-.5495	-.2217	.0215	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2206	.1668	.0829	-.0465	-.1453	-.3349	-.3177		.4034	.1576
40.000	.2329		.1061	-.0206	-.1722	-.3354	-.3992		.2468	.0510
70.000	-.4579	-.7294	-.1985	-.0503	-.1198	.0063	-.0602			
90.000	-.3432	-.5784	-.0814	-.0357	-.2184	-.0807	-.1221			
105.000			-.0150	.0155	-.3535	-.1691	-.1976			
110.000								-.3147		
120.000	-.2608	-.2870	.0018	.0848	-.4221	-.2531	-.2344	-.2565		
135.000			.0234	.2597	-.3980	-.2687	-.2567			
150.000	-.1998	-.1893	.0494	.3916	-.3431	-.2782	-.2635			
165.000	-.1450		.0947		-.1165	-.2491	-.2634			
180.000	-.1272	-.0927	.1118	.3542						

ALPHA (5) = 12.054 BETA (3) = 4.256 MACH = .90157 Q = 601.36 P = 1056.9 RN/L = 3.5829

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1013	.9241	.5033	.3414	.2146			.0756		.0542	.0353	.0600	.1038	.1806	.2152
20.000			.4747	.3025	.1838	.1066		.0516		.0149					
40.000			.4227	.2518	.1526	.0762		.0177		-.0553	-.1069	-.0684	.0285	.1187	.2204
55.000			.3146	.1216	.0384	-.0321		-.0973		-.1444					
70.000			.2510	.0839	-.0053	.0144		-.0693		-.1714	-.5908	-.3323	-.2216	-.1286	
90.000		.2630	.2302	.0654	-.0191	.0324		-.0482		-.2771	-.7216	-.2420	-.2052	-.0752	
120.000			.1810	.0467	-.0170	.1135		.0036		-.4311	-.6728	-.3646	-.2220	-.0531	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8874)

ALPHA (5) = 12.054 BETA (3) = 4.256

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.6207					
150.000			.1349	.0470	-.0108	.1341		.4509		-1.0036	-.5951	-.5369	-.1872	.0077	
151.000									.0941						
152.000									.1183						
165.000										-.9254	-.6053	-.5576	-.2301	.0189	
169.000								.5295							
174.000							.6386								
180.000	1.1013	.2250	.1174	.0586	.0477	.150?		.5089		-.6491	-.5836	-.5550	-.2299	-.0075	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2144	.1677	.0744	-.0496	-.1509	-.3351	-.2264		.4081	.1530
40.000	.2182		.0922	-.0259	-.1801	-.3301	-.3369		.2212	.0284
70.000	-.4449	-.7375	-.2339	-.1045	-.1817	-.0394	-.0935			
90.000	-.3405	-.5869	-.2095	-.1085	-.2902	-.1202	-.1460			
105.000			-.1140	-.0735	-.4681	-.2301	-.2291			
113.000								-.3139		
120.000	-.2177	-.2989	-.0725	-.0309	-.4952	-.3691	-.2767	-.2592		
135.000			.0557	.2239	-.4226	-.4141	-.2708			
150.000	-.1482	-.1378	.0876	.3458	-.3669	-.4146	-.2819			
165.000	-.1295		.1037		-.1819	-.3842	-.2879			
180.000	-.1563	-.1249	.0685	.3221						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8B75) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0300 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.6000 IN. YMRP = .0000 IN. YO
BREF = 936.0680 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = -5.000 SPDBRK = 55.000
BDFLAP = 16.300 L-ELVN = -10.000
R-ELVN = -10.000 MACH = .600

ALPHA (1) = -3.999 BETA (1) = -7.854 MACH = .59648 Q = 594.32 P = 2386.4 RN/L = 4.8576

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0012	.1256	-.2286	-.2208	-.2385			-.1844		-.1596	-.1324	-.1078	-.0844	-.0723	-.0964
20.000			-.2096	-.2387	-.2868	-.2892		-.2452		-.2141					
40.000			.0191	-.2252	-.3107	-.3147		-.3807		-.3401	-.2725	-.2035	-.1741	-.1597	-.1680
56.000			.2727	.0454	-.0261	-.1256		-.1572		-.1699					
70.000			.4395	.2145	.1437	.0884		-.0407		-.1296	-.1362	-.0081	.0631	.1077	
90.000		.7320	.5378	.3275	.1975	.1309		-.0181		-.1832	-.1656	-.0415	.0378	.0862	
120.000			.6143	.4520	.3431	.3119		.1855		-.1434	-.1806	-.1675	.0047	.0408	
140.000										-.1953					
150.000			.5619	.4149	.3405	.3456		.5566		-.3574	-.3114	-.1040	-.0318	.0008	
161.000									.2408						
164.000									.2510						
165.000										-.9250	-.2391	-.1270	-.0522	-.0156	
169.000								.5656							
174.000							.6982								
180.000	1.0012	.7055	.4314	.3298	.2858	.2877		.3587		-1.1761	-.2304	-.1308	-.0692	-.0343	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1410	-.1737	-.2195	-.2783	-.2455	-.2293	-.0947		.2022	-.0104
40.000	-.2356		-.2370	-.3005	-.2818	-.2184	-.1813		.0933	-.0432
70.000	.0444	.0460	.1412	.2493	.1690	.1278	-.0325			
90.000	.0712	.0845	.1808	.2850	.1012	.0366	-.1008			
105.000			.2113	.3825	.0129	-.0218	-.1449			
110.000								-.3117		
120.000	.0476	.1110	.2741	.5354	-.0838	-.0815	-.1296	-.2330		
130.000			.3043	.5013	-.0789	-.0589	-.1496			
150.000	.0397	.1095	.2853	.3530	-.0786	-.0453	-.1355			
160.000	.0210		.2330		.1590	-.0150	-.2569			
180.000	-.0063	.0579	.1824	.3285						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8875)

ALPHA (1) = -3.939 BETA (2) = -3.848 MACH = .59648 Q = 594.32 P = 2386.4 RN/L = 4.8576

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0459	.1657	-.1847	-.1861	-.2178			-.1621		-.1418	-.1160	-.0902	-.0686	-.0581	-.0821
20.000			-.1767	-.1905	-.2474	-.2431		-.2115		-.1753					
40.000			.0011	-.1945	-.2593	-.2621		-.3053		-.2699	-.2107	-.1435	-.1196	-.1117	-.1242
55.000			.1052	-.0088	-.0688	-.1469		-.1872		-.2064					
70.000			.3090	.1886	.0503	.0042		-.1146		-.1957	-.1868	-.0413	.0289	.0799	
90.000		.5993	.4291	.2144	.0913	.0363		-.1089		-.2781	-.2193	-.0799	.0095	.0643	
120.000			.5232	.3641	.2533	.2313		.0769		-.2470	-.2355	-.2002	-.0066	.0377	
140.000										-.2725					
150.000			.5353	.4004	.3183	.3244		.5035		-.4119	-.2709	-.0909	-.0209	.0237	
161.000									.1522						
162.000									.1909						
165.000										-.9283	-.2095	-.1029	-.0266	.0163	
169.000								.5562							
174.000							.7061								
180.000	1.0459	.7234	.4707	.3563	.3188	.3139		.4598		-1.1558	-.1998	-.1034	-.0365	.0080	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1313	-.1672	-.2155	-.2775	-.2469	-.2280	-.0978		.2271	.0055
40.000	-.2122		-.2250	-.2923	-.2868	-.2141	-.1835		.1315	-.0434
70.000	.0137	.0088	.1016	.2042	.1259	.0938	-.0503			
90.000	.0472	.0577	.1441	.2258	.0405	-.0021	-.1168			
105.000			.1814	.2830	-.0531	-.0622	-.1645			
110.000								-.3148		
120.000	.0548	.1054	.2537	.4018	-.1687	-.1371	-.1748	-.2437		
130.000			.3075	.4591	-.1371	-.0967	-.1778			
150.000	.0650	.1316	.3019	.4211	-.1161	-.0980	-.1643			
164.000	.0676		.2691		.0689	-.0917	-.2536			
170.000	.0439	.1182	.2631	.4471						

ALPHA (1) = -3.939 BETA (3) = .187 MACH = .59648 Q = 594.32 P = 2386.4 RN/L = 4.8576

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0539	.1719	-.1821	-.1799	-.2119			-.1643		-.1375	-.1115	-.0793	-.0566	-.0542	-.0801
20.000			-.1660	-.1797	-.2270	-.2168		-.1811		-.1579					
40.000			-.0284	-.1889	-.2374	-.2242		-.2499		-.2239	-.1558	-.0973	-.0748	-.0807	-.0927
55.000			.1130	-.0623	-.1127	-.1785		-.2113		-.2302					
70.000			.2178	.0279	-.0400	-.0691		-.1797		-.2504	-.2260	-.0705	.0065	.0589	
90.000		.4439	.3005	.0900	-.0168	-.0604		-.1961		-.3618	-.2670	-.1078	-.0146	.0459	
120.000			.4114	.2512	.1385	.1356		-.0497		-.3494	-.2904	-.2455	-.0364	.0126	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE6_

ALPHA (1) = -3.939 BETA (3) = .187

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.3508					
150.000			.4822	.3653	.2616	.2739		.4084		-.4777	-.2525	-.0943	-.0217	.0198	
161.000									.0291						
162.000									.0936						
170.000										-.9236	-.1983	-.0952	-.0239	.0232	
173.000								.5204							
174.000							.6872								
180.000	1.0539	.7181	.4885	.3608	.3300	.3313		.5090		-1.1307	-.1870	-.0860	-.0215	.0213	
X/B	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.1321	-.1661	-.2162	-.2811	-.2463	-.2333	-.0982		.2398	.0058					
[illegible]	-.1827		-.2108	-.2872	-.2911	-.2205	-.1513		.1170	-.0452					
[illegible]	-.0009	-.0116	.0616	.1598	.0833	.0593	-.0696								
[illegible]	.0248	.0382	.1073	.1623	-.0116	-.0339	-.1364								
158.000			.1405	.1628	-.1211	-.1007	-.1820								
170.000								-.3195							
[illegible]	.0707	.0839	.1973	.2711	-.2626	-.2073	-.2214	-.2570							
[illegible]			.2673	.4712	-.2175	-.1598	-.2178								
[illegible]	.0689	.1229	.2760	.4826	-.1721	-.1722	-.2055								
175.000	.0852		.2661		-.0293	-.1787	-.2572								
180.000	.0874	.1400	.2768	.4803											

ALPHA (1) = -3.926 BETA (4) = 4.266 MACH = .59648 Q = 594.32 P = 2386.4 PN/L = 4.8576

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/B	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0324	.1473	-.1899	-.1874	-.2230			-.1684		-.1472	-.1196	-.0877	-.0651	-.0630	-.0807
[illegible]			-.1858	-.1858	-.2332	-.2088		-.1745		-.1547					
[illegible]			-.0819	-.2102	-.2353	-.2077		-.2179		-.1947	-.1324	-.0727	-.0548	-.0605	-.0712
[illegible]			.0194	-.1313	-.1600	-.2049		-.2383		-.2542					
[illegible]			.0958	-.0735	-.1278	-.1446		-.2355		-.3003	-.2516	-.0909	-.0151	.0411	
[illegible]		.2706	.1658	-.0340	-.1266	-.1589		-.2822		-.4419	-.3066	-.1300	-.0288	.0333	
[illegible]			.2854	.1847	.0155	.0169		-.1963		-.4578	-.3494	-.3039	-.0803	-.0259	
[illegible]										-.4402					
[illegible]			.3977	.2024	.1842	.1965		.2837		-.5540	-.2499	-.1186	-.0551	-.0092	
[illegible]									-.1059						
[illegible]									-.0310						
[illegible]										-.9586	-.2132	-.1127	-.0459	-.0033	
[illegible]								.4555							
[illegible]							.5244								

AMES 11-073(0A148) -140A/B/C ORB FUSELAGE (XE8875)

ALPHA (1) = -3.926 BETA (4) = 4.266

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.0324	.6871	.4746	.3514	.3161	.3125		.4787		-1.1357	-.1972	-.1028	-.0405	.0034	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.1370	-.1695	-.2215	-.2845	-.2485	-.2346	.1060		.2142	-.0102					
40.000	-.1659		-.2084	-.2792	-.2954	-.2262	.1335		.1145	-.0604					
70.000	-.0187	-.0484	.0233	.1191	.0454	.0355	-.0855								
90.000	.0043	-.0021	.0613	.1017	-.0472	-.0654	-.1427								
105.000			.0867	.1043	-.1865	-.1371	.1989								
110.000								-.3168							
120.000	.0004	.0149	.0983	.1349	-.3732	-.2799	-.2705	-.2697							
135.000			.1895	.3264	-.3279	-.2354	-.2602								
150.000	.0335	.0808	.2182	.4787	-.2815	-.2643	-.2501								
165.000	.0379		.2203		-.1397	-.2667	.2664								
180.000	.0381	.1137	.2545	.4537											

ALPHA (1) = -3.941 BETA (5) = 8.332 MACH = 5964B Q = 594.32 P = 2396.4 RN/L = 4.8578

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9801	.1215	-.2101	-.1967	-.2453			-.1889		-.1625	-.1354	-.1028	-.0827	-.0728	-.0988
20.000			-.2096	-.1998	-.2434	-.2123		-.1806		-.1637					
40.000			-.1347	-.2157	-.2384	-.1986		-.1993		-.1820	-.1172	-.0578	-.0415	-.0503	-.0498
55.000			-.0550	-.1763	-.2012	-.2166		-.2532		-.2554					
70.000			-.0126	-.1562	-.1991	-.1917		-.2781		-.3227	-.2598	-.0971	-.0181	.0340	
90.000		.0984	.0416	-.1482	-.2180	-.2327		-.3466		-.5033	-.3225	-.1404	-.0332	.0193	
120.000			.1441	-.0041	-.1228	-.1101		-.3440		-.5498	-.3941	-.3501	-.1224	-.0610	
140.000										-.5232					
150.000			.2853	.1993	.0885	.0973		.1402		-.6324	-.2697	-.1511	-.0989	-.0588	
151.000									-.2629						
162.000									-.1829						
165.000										-.9868	-.2411	-.1539	-.0867	-.0479	
169.000								.3663							
174.000							.5412								
180.000	.9801	.6164	.4241	.3083	.2709	.2747		.3884		-1.1395	-.2350	-.1385	-.0758	-.0443	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
000	-.1458	-.1723	-.2181	-.2837	-.2468	-.2292	-.1014		.2008	-.0228					
40.000	-.1436		-.2010	-.2707	-.2995	-.2445	-.1355		.0961	-.0638					

AMES 11-073(OA148) - 40A/B/C ORB FUSELAGE (XE8875)

ALPHA (1) = -3.941 BETA (5) = 8.332

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9500	.9990	1.0180	1.0460
PHI										
70.000	-.0424	-.0701	-.0159	.0856	.0126	.0127	-.0911			
90.000	-.0161	-.0372	.0002	.0527	-.0951	-.0901	-.1576			
105.000			.0330	.0743	-.2111	-.1527	-.1991			
110.000								-.2868		
120.000	-.0364	-.0361	.0218	-.0512	-.4934	-.3492	-.3140	-.2658		
135.000			.0941	.1669	-.4500	-.3148	-.3000			
150.000	-.0220	.0097	.1216	.4357	-.4365	-.3767	-.3047			
165.000	-.0164		.1369		-.2740	-.3625	-.2680			
180.000	-.0150	.0519	.1847	.3333						

ALPHA (2) = .043 BETA (1) = -7.890 MACH = 59824 Q = 593.85 P = 2386.3 PN/L = 4.8579

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0273	.3061	-.0782	-.1233	-.1597			-.1437		-.1298	-.1080	-.0840	-.0585	-.0356	-.0441
20.000			-.0313	-.1035	-.1854	-.2096		-.1846		-.1650					
40.000			.1918	-.0558	-.1424	-.1747		-.2395		-.2155	-.1582	-.1093	-.0835	-.0799	-.0788
55.000			.3876	.1803	.1005	.0090		-.0600		-.0972					
70.000			.4945	.2854	.1945	.1231		-.0027		-.0998	-.1369	-.0306	.0220	.0531	
90.000		.7209	.5439	.3376	.2190	.1604		.0109		-.1617	-.1638	-.0598	.0059	.0401	
120.000			.5449	.3932	.2854	.2795		.1706		-.1753	-.2241	-.2169	-.0650	-.0395	
140.000										-.2657					
150.000			.4448	.3006	.2441	.2567		.5111		-.4588	-.3989	-.1563	-.0839	-.0513	
151.000									.1818						
162.000									.1659						
165.000										-1.1108	-.2926	-.1664	-.0901	-.0613	
169.000								.5045							
174.000							.6533								
180.000	1.0273	.5730	.3157	.2683	.1998	.2101		.2998		-1.3346	-.2714	-.1584	-.0927	-.0627	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9500	.9990	1.0180	1.0460
PHI										
.000	-.0796	-.1219	-.1734	-.2419	-.2248	-.2186	-.0940		.2406	-.0074
40.000	-.1375		-.1808	-.2531	-.2626	-.2040	-.1723		.1223	-.0296
70.000	-.0579	-.0287	.0935	.2437	.1619	.1300	-.0279			
90.000	-.0197	.0186	.1419	.2759	.0975	.0313	-.1044			
105.000			.1731	.3922	.0190	-.0241	-.1518			
110.000								-.3057		
120.000	-.0561	.0283	.2149	.5270	-.1225	-.1052	-.1379	-.2437		
135.000			.2508	.4565	-.1258	-.0902	-.1738			
150.000	-.0261	.0524	.2391	.2591	-.1442	-.0870	-.1543			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XEEB75)

ALPHA (2) = .043 BETA (1) = -7.890

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
155.000	-.0294		.1933		.1241	-.0371	-.2565			
1[illegible]0.000	-.0431	.0231	.1582	.2827						

ALPHA (2) = .031 BETA (2) = -3.863 MACH = .59524 Q = 593.85 P = 2396.3 RN/L = 4.8579

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1650	.1770	.2040	.2510	.3310	.3780	.4970	.5740
PHI															
[illegible]	1.0673	.3502	-.0372	-.0912	-.1320			-.1284		-.1115	-.0931	-.0657	-.0453	-.0211	-.0332
[illegible]			-.0133	-.0790	-.1499	-.1699		-.1481		-.1335					
[illegible]			.1653	-.0465	-.1223	-.1393		-.1908		-.1780	-.1221	-.0682	-.0552	-.0517	-.0426
[illegible]			.3076	.1124	.0350	-.0309		-.1045		-.1462					
[illegible]			.3639	.1783	.0318	.0448		-.0779		-.1674	-.1847	-.0609	-.0077	.0264	
[illegible]		.5372	[illegible]	.2304	.1163	.0740		-.0715		-.2432	-.2142	-.0912	-.017[illegible]	.0219	
[illegible]			.4425	.3138	.2036	.2116		.0787		-.2647	-.2624	-.2253	-.04[illegible]	-.0185	
[illegible]										-.3372					
[illegible]			.4260	.3333	.2264	.2489		.4603		-.5085	-.3452	-.1331	-.0546	-.0192	
[illegible]									.0987						
[illegible]									.1100						
[illegible]										-1.0888	-.2619	-.1352	-.0585	-.0187	
[illegible]								.4373							
[illegible]							.6553								
[illegible]	1.0673	.5098	.3500	.2560	.2256	.2310		.3929		-1.3144	-.2391	-.1298	-.057[illegible]	-.0199	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
[illegible]	-.0711	-.1114	-.1560	-.2441	-.2268	-.2163	-.0881		.2305	-.0009
[illegible]	-.1164		-.1725	-.2463	-.2697	-.2033	-.1899		.1519	-.0384
[illegible]	-.2048	-.0667	.0574	.1070	.1159	.0912	-.0476			
[illegible]	-.1442	-.0[illegible]68	.1012	.2151	.0354	-.0038	-.1175			
[illegible]			.1446	.2298	-.0487	-.0639	-.1637			
[illegible]								-.3104		
[illegible]	-.1495	.1481	[illegible]	.4074	-.1871	-.1498	-.1721	-.2445		
[illegible]			.2723	.4173	-.1770	-.1302	-.1933			
[illegible]	.0114	.0498	.2670	.3258	-.1735	-.1319	-.1823			
[illegible]	.0159		.2326		.0312	-.1207	-.2518			
[illegible]	.0221	.0857	.2200	.3594						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE6375)

ALPHA (2) = .092 BETA (3) = .181 MACH = .59624 Q = 593.85 P = 2386.3 RN/L = 4.8579

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3760	.4970	.5740
PHI															
.000	1.0728	.3594	-.0339	-.0799	-.1288			-.1234		-.1096	-.0862	-.0576	-.0334	-.0154	-.0306
20.000			-.0156	-.0748	-.1381	-.1520		-.1338		-.1215					
40.000			.1131	-.0580	-.1174	-.1284		-.1616		-.1545	-.1031	-.0471	-.0320	-.0320	-.0240
55.000			.2154	.0380	-.0231	-.0755		-.1343		-.1826					
70.000			.2643	.0802	.0036	-.0298		-.1412		-.2285	-.2250	-.0931	-.0253	.0128	
80.000		.4375	.3102	.1095	.0143	-.0174		-.1526		-.3262	-.2580	-.1173	-.0315	.0081	
100.000			.3640	.2157	.1193	.1256		-.0300		-.3567	-.3001	-.2381	-.0415	-.0097	
120.000										-.4094					
140.000			.3818	.2650	.1792	.2073		.3757		-.5629	-.3078	-.1242	-.0476	-.0088	
161.000									-.0146						
82.000									.0218						
185.000										-1.0787	-.2423	-.1213	-.0443	-.0071	
189.000								.4640							
200.000							.6376								
210.000	1.0729	.5834	.3659	.2574	.2358	.2474		.4400		-1.2829	-.2290	-.1130	-.0441	-.0047	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0690	-.1127	-.1675	-.2495	-.2219	-.2185	-.0936		.2349	.0041
40.000	-.0985		-.1692	-.2463	-.2693	-.2087	-.1537		.1278	-.0469
70.000	-.1070	-.0917	.0197	.1410	.0693	.0558	-.0695			
80.000	-.0598	-.0351	.0737	.1490	-.0236	-.0463	-.1354			
100.000			.1208	.1695	-.1205	-.1046	-.1872			
110.000								-.3137		
120.000	-.0183	.0379	.1861	.2385	-.2527	-.2003	-.2104	-.2528		
140.000			.2351	.3669	-.2441	-.1808	-.2249			
160.000	.0347	.0897	.2437	.4100	-.2215	-.1976	-.2127			
165.000	.0234		.2292		-.0746	-.2072	-.2504			
180.000	.0199	.0357	.2348	.4220						

ALPHA (2) = .077 BETA (4) = 4.247 MACH = .59624 Q = 593.85 P = 2386.3 RN/L = 4.8579

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3760	.4970	.5740
PHI															
.000	1.0539	.3311	-.0449	-.0914	-.1359			-.1312		-.1169	-.0947	-.0646	-.0376	-.0263	-.0359
20.000			-.0465	-.0913	-.1513	-.1489		-.1305		-.1286					
40.000			.0434	-.0958	-.1369	-.1376		-.1562		-.1473	-.1036	-.0469	-.0253	-.0271	-.0073
55.000			.1107	-.0297	-.0861	-.1291		-.1787		-.2143					
70.000			.1479	-.0223	-.0621	-.0971		-.2018		-.2731	-.2520	-.1123	-.0383	-.0011	
80.000		.2759	.1821	.0016	-.0366	-.1075		-.2352		-.3977	-.2890	-.1317	-.0452	-.0043	
100.000			.2561	.1121	.0130	.0304		-.1569		-.4408	-.3441	-.2647	-.0537	-.0178	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8875)

ALPHA (2) = .077 BETA (4) = 4.247

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.4815					
150.000			.3123	.2161	.1149	.1492		.2600		-.6222	-.2902	-.1315	-.0613	-.0246	
151.000									-.1493						
162.000									-.0959						
165.000										-1.0754	-.2478	-.1308	-.0594	-.0225	
169.000								.4041							
174.000							.5884								
180.000	1.0539	.5550	.3592	.2498	.2237	.2351		.4136		-1.2911	-.2393	-.1222	-.0599	-.0239	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0724	-.1135	-.1750	-.2439	-.2250	-.2188	-.0908		.2316	-.0049
40.000	-.0816		-.1636	-.2364	-.2754	-.2220	-.1257		.1145	-.0601
70.000	-.1185	-.1158	-.0192	.0939	.0298	.0260	-.0834			
90.000	-.0857	-.0565	.0286	.0879	-.0694	-.0755	-.1511			
105.000			.0654	.0896	-.1660	-.1394	-.1972			
110.000								-.3150		
120.000	-.0327	-.0078	.1026	.1426	-.3590	-.2719	-.2510	-.2602		
135.000			.1825	.3255	-.3415	-.2432	-.2609			
150.000	.0070	.0504	.2009	.3793	-.3143	-.2800	-.2569			
165.000	.0067		.1993		-.1860	-.2932	-.2630			
180.000	-.0003	.0822	.2230	.3902						

ALPHA (2) = .073 BETA (5) = 8.305 MACH = .59624 Q = 593.85 P = 2386.3 RN/L = 4.8579

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0042	.3069	-.0634	-.0967	-.1630			-.1433		-.1290	-.1117	-.0787	-.0508	-.0375	-.0477
20.000			-.0735	-.1080	-.1651	-.1656		-.1500		-.1419					
40.000			-.0289	-.1213	-.1666	-.1467		-.1600		-.1601	-.1168	-.0596	-.0319	-.0356	-.0067
55.000			.0056	-.1142	-.1426	-.1638		-.2141		-.2336					
70.000			.0300	-.1094	-.1530	-.1531		-.2433		-.3064	-.2706	-.1211	-.0423	-.0084	
90.000		.0994	.0651	-.1066	-.1768	-.1766		-.2953		-.4520	-.3071	-.1368	-.0446	-.0065	
120.000			.1259	.0011	-.1044	-.0776		-.2855		-.5288	-.3720	-.2810	-.0726	-.0341	
140.000										-.5480					
150.000			.2091	.1362	.0271	.0585		.1176		-.6812	-.2978	-.1583	-.0958	-.0584	
151.000									-.3005						
162.000									-.2435						
165.000										-1.0933	-.2716	-.1635	-.1024	-.0636	
169.000								.3134							
174.000							.5020								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8875)

ALPHA (2) = .073 BETA (5) = 8.305

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.0042	.4886	.3114	.2145	.1756	.1962		.3182		-1.2964	-.2731	-.1659	-.1003	-.0676	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0811	-.1163	-.1725	-.2466	-.2282	-.2245	-.0950		.2380	-.0153
40.000	-.0750		-.1580	-.2318	-.2852	-.2382	-.1244		.1046	-.0642
70.000	-.1248	-.1411	-.0553	.0623	-.0030	.0079	-.0989			
90.000	-.0785	-.0859	-.0088	.0469	-.1106	-.1063	-.1621			
105.000			.0181	.0414	-.2204	-.1629	-.2111			
110.000								-.3087		
120.000	-.0525	-.0457	.0334	-.0511	-.4663	-.3369	-.2909	-.2546		
135.000			.0942	.1448	-.4586	-.3198	-.2969			
150.000	-.0361	-.0036	.1152	.3730	-.4686	-.3919	-.3113			
165.000	-.0418		.1214		-.3259	-.3898	-.2680			
180.000	-.0504	.0239	.1586	.2854						

ALPHA (3) = 4.023 BETA (1) = -7.904 MACH = .59640 Q = 594.21 P = 2386.5 RN/L = 4.8659

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0231	.4762	.0672	-.0125	-.0651			-.0970		-.0853	-.0768	-.0484	-.0226	.0065	.0078
20.000			.1333	.0197	-.0689	-.1136		-.1081		-.1019					
40.000			.3429	.0988	.0090	-.0337		-.1048		-.1061	-.0598	-.0162	-.0039	-.0049	.0128
55.000			.4837	.2818	.1935	.1038		.0215		-.0483					
70.000			.5176	.3154	.2174	.1517		.0274		-.0899	-.1442	-.0487	-.0115	.0039	
90.000		.6900	.5195	.3294	.2226	.1719		.0319		-.1514	-.1767	-.0842	-.0297	-.0085	
120.000			.4522	.3066	.2107	.2170		.1423		-.2216	-.2826	-.3012	-.1663	-.1558	
140.000										-.3399					
150.000			.3223	.1835	.1385	.1847		.4665		-.5640	-.4821	-.2082	-.1272	-.1006	
151.000									.1254						
162.000									.0919						
165.000										-1.2814	-.3486	-.1980	-.1168	-.0887	
169.000								.4470							
174.000							.6065								
180.000	1.0231	.4337	.2023	.1598	.1073	.1375		.2289		-1.5039	-.2961	-.1789	-.1069	-.0778	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0202	-.0636	-.1231	-.2022	-.1960	-.1960	-.0806		.2632	.0029
40.000	-.0391		-.1179	-.2065	-.2400	-.1794	-.1648		.1531	-.0212

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8875)

ALPHA (3) = 4.023 BETA (1) = -7.904

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1637	-.0908	.0588	.2420	.1687	.1396	-.0173			
90.000	-.1120	-.0436	.1079	.2784	.1039	.0374	-.1012			
105.000			.1358	.4135	.0328	-.0172	-.1476			
110.000								-.2934		
120.000	-.1716	-.0557	.1570	.5442	-.1525	-.1234	-.1515	-.2554		
135.000			.2017	.4105	-.1810	-.1257	-.1924			
150.000	-.0840	.0050	.1935	.1431	-.2124	-.1111	-.1693			
165.000	-.0681		.1613		.1029	-.0531	-.2497			
180.000	-.0660	.0081	.1367	.2274						

ALPHA (3) = 4.026 BETA (2) = -3.864 MACH = .59640 Q = 594.21 P = 2386.5 RN/L = 4.8659

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0585	.5164	.1140	.0178	-.0446			-.0783		-.0717	-.0589	-.0321	-.0041	.0255	.0153
20.000			.1496	.0417	-.0486	-.0865		-.0876		-.0834					
40.000			.2999	.0903	.0054	-.0320		-.0864		-.0862	-.0509	-.0062	.0073	.0137	.0352
55.000			.3874	.2012	.1201	.0318		-.0432		-.1070					
70.000			.4057	.2135	.1206	.0698		-.0493		-.1535	-.1977	-.0898	-.0422	-.0176	
90.000		.5630	.4174	.2268	.1256	.0883		-.0484		-.2316	-.2225	-.1140	-.0507	-.0296	
120.000			.3818	.2398	.1498	.1695		.0689		-.2945	-.3016	-.2799	-.1168	-.0963	
140.000										-.4007					
150.000			.3050	.1870	.1363	.1750		.4202		-.6046	-.4100	-.1698	-.0834	-.0580	
151.000									.0451						
162.000									.0368						
165.000										-1.2508	-.2999	-.1578	-.0787	-.0480	
169.000								.4440							
174.000							.6101								
180.000	1.0586	.4403	.2252	.1481	.1327	.1593		.3293		-1.4636	-.2678	-.1426	-.0685	-.0400	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0101	-.0606	-.1128	-.2052	-.1963	-.1979	-.0771		.2533	.0072
40.000	-.0212		-.1073	-.2040	-.2501	-.1822	-.1712		.1694	-.0331
70.000	-.1991	-.1348	.0153	.1889	.1180	.1001	-.0398			
90.000	-.1351	-.0760	.0663	.2118	.0423	-.0049	-.1165			
105.000			.1091	.3083	-.0433	-.0645	-.1734			
110.000								-.3112		
120.000	-.1188	-.0163	.1936	.3853	-.2056	-.1626	-.1750	-.2593		
135.000			.2399	.3346	-.2168	-.1579	-.2111			
150.000	-.0367	.0530	.2368	.2332	-.2271	-.1569	-.1911			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8875)

ALPHA (3) = 4.026 BETA (2) = -3.864

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0220		.2052		-.0035	-.1441	-.2529			
180.000	-.0290	.0599	.1896	.2972						

ALPHA (3) = 4.153 BETA (3) = .177 MACH = .59640 Q = 594.21 P = 2386.5 RN/L = 4.8659

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2610	.3010	.3780	.4970	.5740
PHI															
.000	1.0680	.5284	.1159	.0285	-.0321			-.0691		-.0678	-.0507	-.0274	-.0006	.0266	.0237
20.000			.1400	.0448	-.0399	-.0735		-.0785		-.0786					
40.000			.2360	.0602	-.0112	-.0421		-.0828		-.0957	-.0573	-.0122	.0126	.0162	.0493
55.000			.2834	.1151	.0470	-.0235		-.0996		-.1553					
70.000			.2863	.1139	.0335	-.0017		-.1150		-.2095	-.2336	-.1204	-.0653	-.0371	
90.000		.4113	.3042	.1227	.0299	.0080		-.1288		-.3054	-.2577	-.1393	-.0695	-.0363	
120.000			.3014	.1674	.0780	.1097		-.0240		-.3726	-.3293	-.2612	-.0828	-.0532	
140.000										-.4668					
150.000			.2774	.1721	.1021	.1495		.3422		-.6359	-.3564	-.1469	-.0629	-.0344	
151.000									-.0572						
162.000									-.0425						
165.000										-1.2162	-.2750	-.1419	-.0610	-.0254	
169.000								.4166							
174.000							.5880								
180.000	1.0680	.4354	.2484	.1610	.1454	.1739		.3771		-1.4485	-.2569	-.1337	-.0567	-.0249	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0057	-.0510	-.1172	-.2009	-.1948	-.1986	-.0736		.2524	.0105
40.000	-.0143		-.1068	-.2007	-.2539	-.1905	-.1265		.1457	-.0469
70.000	-.2180	-.1625	-.0214	.1369	.0659	.0608	-.0630			
90.000	-.1390	-.0937	.0448	.1403	-.0235	-.0412	-.1355			
105.000			.1024	.1575	-.1055	-.0981	-.1809			
110.000								-.2971		
120.000	-.0733	.0013	.1765	.1689	-.2501	-.1977	-.1937	-.2419		
135.000			.2156	.2718	-.2584	-.1908	-.2247			
150.000	-.0174	.0595	.2127	.3359	-.2462	-.2112	-.2105			
165.000	-.0102		.1967		-.1018	-.2171	-.2307			
180.000	-.0094	.0730	.2031	.3849						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8875)

ALPHA (3) = 4.012 BETA (4) = 4.240 MACH = .59640 Q = 594.21 P = 2386.5 RN/L = 4.8659

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0446	.5045	.1029	.0195	-.0521			-.0796		-.0734	-.0600	-.0332	-.0050	.0232	.0159
20.000			.0954	.0080	-.0668	-.0872		-.0924		-.0954					
40.000			.1432	.0158	-.0521	-.0720		-.1054		-.1183	-.0853	-.0330	-.0093	.0040	.0427
60.000			.1591	.0156	-.0356	-.0893		-.1519		-.2021					
80.000			.1626	.0068	-.0588	-.0710		-.1732		-.2640	-.2603	-.1400	-.0768	-.0493	
90.000		.2403	.1822	.0139	-.0668	-.0729		-.2050		-.3696	-.2917	-.1462	-.0673	-.0370	
120.000			.2089	.0772	- 0043	.0269		-.1317		-.4492	-.3432	-.2537	-.0642	-.0367	
140.000										-.5266					
150.000			.2213	.1333	.0476	.0959		.2392		-.6904	-.3247	-.1454	-.0609	-.0329	
161.000									-.1777						
170.000									-.1583						
165.000										-1.2087	-.2730	-.1405	-.0637	-.0367	
169.000								.3565							
174.000							.5446								
180.000	1.0446	.4068	.2412	.1539	.1316	.1595		.3511		-1.4185	-.2679	-.1433	-.0744	-.0434	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0078	-.0566	-.1190	-.2060	-.2019	-.1992	-.0824		.2536	.0019
40.000	-.0080		-.1057	-.1946	-.2565	-.2137	-.1225		.1308	-.0514
70.000	-.2238	-.1860	-.0545	.0858	.0198	.0196	-.0900			
90.000	-.1529	-.1090	.0059	0702	-.0739	-.0780	-.1587			
105.000			.0419	.0785	-.1753	-.1369	-.2015			
110.000								-.3113		
120.000	-.0707	-.0320	.0904	.1251	-.3431	-.2554	-.2399	-.2533		
135.000			.1628	.3179	-.3516	-.2496	-.2583			
150.000	-.0165	.0361	.1804	.2829	-.3481	-.2908	-.2598			
155.000	-.0155		.1800		-.2092	-.3037	-.2565			
180.000	-.0261	.0547	.1945	.3177						

ALPHA (3) = 4.017 BETA (5) = 8.288 MACH = .59640 Q = 594.21 P = 2386.5 RN/L = 4.8659

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
P															
.000	.9922	.4769	.0829	.0017	-.0750			-.0931		-.0946	-.0733	-.0473	-.0183	.0094	-.0001
20.000			.0501	-.0182	-.0850	-.1011		-.1163		-.1187					
40.000			.0246	-.0437	-.1042	-.1160		-.1329		-.1610	-.1367	-.0757	-.0367	-.0159	.0354
60.000			.0461	-.0783	-.1181	-.1495		-.2043		-.2428					
80.000			.0440	-.0852	-.1418	-.1315		-.2244		-.2993	-.2797	-.1526	-.0866	-.0466	
90.000		.0604	.0616	-.0888	-.1534	-.1425		-.2607		-.4213	-.3028	-.1515	-.0660	-.0409	
120.000			.0965	-.0220	-.0975	-.0599		-.2417		-.5152	-.3652	-.2513	-.0578	-.0346	

AMES 11-073(OA148) -140A/B/C ORB FUSELAG (XE8875)

ALPHA (3) = 4.017 BETA (5) = 8.288

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.5862					
150.000			.1343	.0644	-.0272	.0217		.1068		-.7374	-.3133	-.1571	-.0845	-.0596	
151.000									-.3271						
162.000									-.2923						
165.000										-1.2033	-.2848	-.1661	-.0970	-.0712	
169.000								.2723							
174.000							.4521								
180.000	.9922	.3426	.2016	.1198	.0905	.1208		.2569		-1.4221	-.3035	-.1787	-.1136	-.0868	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0186	-.0598	-.1205	-.2052	-.1986	-.2031	-.0856		.2590	-.0109
40.000	-.0079		-.1070	-.1956	-.2662	-.2311	-.1171		.1252	-.0540
70.000	-.2290	-.2047	-.0861	.0405	-.0095	.0026	-.0938			
90.000	-.1505	-.1342	-.0409	.0244	-.1237	-.1189	-.1767			
105.000			.0051	.0318	-.2213	-.1730	-.2179			
110.000								-.2979		
120.000	-.0839	-.0669	.0420	.0196	-.4252	-.3135	-.2671	-.2511		
135.000			.1008	.1175	-.4606	-.3239	-.2967			
150.000	-.0515	-.0056	.1066	.2797	-.4878	-.3986	-.3138			
165.000	-.0551		.1063		-.3990	-.4097	-.2732			
180.000	-.0734	-.0011	.1348	.2270						

ALPHA (4) = 7.959 BETA (1) = -7.893 MACH = .59626 Q = 593.97 P = 2386.7 RN/L = 4.8657

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9835	.6264	.2150	.0982	.0333			-.0361		-.0367	-.0243	-.0091	.0232	.0617	.0707
20.000			.2959	.1574	.0420	-.0139		-.0285		-.0374					
40.000			.4781	.2453	.1415	.0809		.0078		-.0091	.0239	.0579	.0757	.0733	.1073
55.000			.5462	.3009	.2024	.1549		.0526		-.0248					
70.000			.5174	.3393	.2311	.1622		.0365		-.0780	-.1597	-.0827	-.0495	-.0415	
90.000		.6336	.4720	.3042	.2055	.1585		.0334		-.1548	-.1939	-.1199	-.0770	-.0631	
120.000			.3427	.2041	.1131	.1421		.0965		-.2644	-.3544	-.4104	-.3032	-.3031	
140.000										-.4111					
150.000			.1949	.0622	.0366	.1001		.4170		-.6617	-.5582	-.2496	-.1653	-.1497	
151.000									.0709						
162.000									.0145						
165.000										-1.4392	-.3804	-.2181	-.1382	-.1181	
169.000								.3893							
174.000							.5560								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8875)

ALPHA (4) = 7.959 BETA (1) = -7.893

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	.9835	.2739	.0732	.0707	.0238	.0621		.1701		-1.7102	-.3176	-.1825	-.1135	-.0934	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0512	.0009	-.0654	-.1480	-.1623	-.1774	-.0611		.2847	.0129
40.000	.0655		-.0507	-.1457	-.2145	-.1434	-.1415		.1892	-.0149
70.000	-.2659	-.1480	.0329	.2416	.1746	.1479	-.0087			
90.000	-.2635	-.1008	.0763	.2798	.1136	.0457	-.0934			
105.000			.0963	.4271	.0473	-.0157	-.1467			
110.000								-.2913		
120.000	-.3016	-.1459	.0896	.5512	-.1894	-.1498	-.1663	-.2758		
135.000			.1469	.3766	-.2284	-.1585	-.2207			
150.000	-.1298	-.0257	.1590	-.0112	-.2808	-.1467	-.1891			
165.000	-.0996		.1353		.0869	-.0575	-.2575			
180.000	-.0956	.0005	.1242	.1350						

ALPHA (4) = 7.971 BETA (2) = -3.863 MACH = .59626 Q = 593.97 P = 2386.7 RN/L = 4.8657

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0166	.6729	.2465	.1300	.0520			-.0208		-.0174	-.0097	.0090	.0391	.0749	.0808
20.000			.2962	.1602	.0611	.0001		-.0180		-.0258					
40.000			.4186	.2109	.1189	.0619		.0005		-.0188	.0043	.0482	.0626	.0737	.1123
55.000			.4367	.2545	.1656	.0751		-.0201		-.0879					
70.000			.3990	.2269	.1338	.0827		-.0408		-.1489	-.2095	-.1250	-.0814	-.0705	
90.000		.4992	.3709	.2059	.1137	.0827		-.0424		-.2261	-.2357	-.1445	-.0964	-.0807	
120.000			.2880	.1540	.0727	.1095		.0411		-.3310	-.3574	-.3593	-.2205	-.2141	
140.000										-.4597					
150.000			.1798	.0731	.0442	.0974		.3771		-.6974	-.4709	-.2039	-.1101	-.0903	
151.000									-.0018						
162.000									-.0372						
165.000										-1.3964	-.3340	-.1786	-.0902	-.0730	
169.000								.3897							
174.000							.5627								
180.000	1.0166	.2796	.1014	.0509	.0480	.0960		.2664		-1.6013	-.2879	-.1506	-.0722	-.0569	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0601	.0689	-.0585	-.1495	-.1584	-.1775	-.0591		.2798	.0211
40.000	.0696		-.0405	-.1451	-.2266	-.1568	-.1227		.1806	-.0315

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8875)

ALPHA (4) = 7.971 BETA (2) = -3.863

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.3059	-.2010	-.0198	.1882	.1264	.1127	-.0281			
90.000	-.2275	-.1290	.0359	.2107	.0496	.0058	-.1120			
105.000			.0681	.3335	-.0268	-.0589	-.1673			
110.000								-.2925		
120.000	-.2193	-.0655	.1662	.3343	-.2270	-.1730	-.1839	-.2627		
135.000			.2116	.1630	-.2536	-.1784	-.2272			
150.000	-.0770	.0298	.2101	.0793	-.2564	-.1725	-.1934			
165.000	-.0592		.1730		-.0307	-.1451	-.2399			
180.000	-.0541	.0347	.1659	.2970						

ALPHA (4) = 8.077 BETA (3) = .178 MACH = .59626 Q = 593.97 P = 2386.7 RN/L = 4.8657

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0238	.6733	.2571	.1423	.0593			-.0136		-.0117	-.0077	.0141	.0418	.0776	.0808
20.000			.2816	.1474	.0534	-.0023		-.0160		-.0311					
40.000			.3362	.1669	.0768	.0328		-.0224		-.0521	-.0336	.0175	.0442	.0570	.1071
55.000			.3132	.1441	.0714	-.0018		-.0914		-.1575					
70.000			.2777	.1223	.0347	.0058		-.1047		-.2124	-.2565	-.1533	-.1070	-.0859	
90.000		.3523	.2613	.1102	.0214	.0042		-.1184		-.2930	-.2764	-.1687	-.1058	-.0888	
120.000			.2185	.0948	.0197	.0699		-.0326		-.3979	-.3622	-.3171	-.1522	-.1297	
140.000										-.5246					
150.000			.1602	.0730	.0290	.0865		.3094		-.7199	-.4087	-.1763	-.0798	-.0589	
151.000									-.0983						
162.000									-.1139						
165.000										-1.3526	-.3012	-.1500	-.0675	-.0449	
169.000								.3609							
174.000							.5366								
180.000	1.0238	.2760	.1221	.0598	.0562	.1012		.3170		-1.5501	-.2778	-.1427	-.0660	-.0430	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0520	.0120	-.0591	-.1544	-.1594	-.1713	-.0560		.2838	.0213
40.000	.0673		-.0475	-.1453	-.2256	-.1763	-.1042		.1585	-.0325
70.000	-.3267	-.2231	-.0496	.1332	.0597	.0676	-.0444			
90.000	-.2310	-.1473	.0188	.1413	-.0174	-.0359	-.1232			
105.000			.0839	.1692	-.0924	-.0926	-.1767			
110.000								-.2889		
120.000	-.1471	-.0327	.1493	.1803	-.2443	-.1998	-.1898	-.2228		
135.000			.1514	.2705	-.2688	-.1961	-.2198			
150.000	-.0539	.0177	.1690	.4142	-.2741	-.2186	-.2084			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8875)

ALPHA (4) = 8.077 BETA (3) = .178

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0397		.1607		-.1247	-.2283	-.2223			
180.000	-.0423	.0397	.1746	.3925						

ALPHA (4) = 8.079 BETA (4) = 4.235 MACH = .59626 Q = 593.97 P = 2386.7 RN/L = 4.8657

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0063	.6587	.2501	.1275	.0509			-.0157		-.0203	-.0173	.0110	.0428	.0752	.0722
20.000			.2335	.1151	.0322	-.0148		-.0314		-.0463					
40.000			.2340	.0948	.0173	-.0256		-.0564		-.1017	-.0928	-.0278	.0044	.0302	.0893
55.000			.1903	.0320	-.0221	-.0856		-.1570		-.2170					
70.000			.1560	.0157	-.0547	-.0602		-.1639		-.2669	-.2870	-.1757	-.1248	-.1023	
90.000		.1980	.1551	.0138	-.0520	-.0612		-.1762		-.3553	-.2991	-.1776	-.1139	-.0878	
120.000			.1457	.0270	-.0394	.0179		-.1095		-.4608	-.3588	-.2796	-.1035	-.0808	
140.000										-.5662					
150.000			.1205	.0499	-.0209	.0538		.2200		-.7534	-.3593	-.1627	-.0675	-.0447	
161.000									-.2044						
162.000									-.2072						
165.000										-1.3266	-.2940	-.1482	-.0673	-.0461	
169.000								.3125							
174.000							.5021								
180.000	1.0063	.2529	.1222	.0573	.0497	.0945		.2962		-1.5251	-.2822	-.1539	-.0777	-.0596	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0466	.0068	-.0558	-.1509	-.1518	-.1739	-.0618		.2827	.0143
40.000	.0425		-.0473	-.1432	-.2323	-.2012	-.0989		.1572	-.0325
70.000	-.3081	-.2459	-.0869	.0728	.0173	.0251	-.0792			
90.000	-.2399	-.1654	-.0150	.0640	-.0759	-.0757	-.1500			
120.000			.0264	.0824	-.1781	-.1333	-.1948			
140.000								-.3117		
150.000	-.1171	-.0771	.0569	.1240	-.3198	-.2427	-.2177	-.2453		
165.000			.1410	.3711	-.3591	-.2526	-.2586			
173.000	-.0468	.0165	.1570	.3892	-.3730	-.3038	-.2515			
174.000	-.0447		.1465		-.2406	-.3124	-.2519			
180.000	-.0557	.0397	.1672	.2566						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8875)

ALPHA (4) = 8.076 BETA (5) = 8.290 MACH = .59626 Q = 593.97 P = 2386.7 RN/L = 4.8657

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9509	.6226	.2232	.1095	.0308			-.0356		-.0420	-.0292	-.0041	.0268	.0599	.0623
20.000			.1775	.0732	-.0115	-.0460		-.0634		-.0874					
40.000			.1170	.0136	-.0533	-.0916		-.1231		-.1742	-.1679	-.0997	-.0322	.0010	.0756
55.000			.0509	-.0739	-.1189	-.1726		-.2211		-.2780					
70.000			.0259	-.0902	-.1425	-.1280		-.2157		-.3056	-.3150	-.1996	-.1356	-.1179	
90.000		.0107	.0395	-.0912	-.1472	-.1240		-.2365		-.4045	-.3131	-.1811	-.1098	-.0881	
120.000			.0437	-.0526	-.1179	-.0615		-.2053		-.5166	-.3669	-.2481	-.0731	-.0596	
140.000										-.6150					
150.000			.0509	-.0044	-.0853	-.0165		.0951		-.7804	-.3318	-.1548	-.0765	-.0689	
161.000									-.3427						
165.000									-.3413						
180.000										-1.2831	-.3037	-.1676	-.0980	-.0857	
190.000								.2335							
195.000	.9509	.1782	.0792	.0306	.0041	.0584	.4133	.1991		-1.5135	-.3227	-.1899	-.1219	-.0997	

X/LB	.6920	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0479	.0021	-.0675	-.1603	-.1622	-.1794	-.0717		.2840	.0021
40.000	.0507		-.0513	-.1394	-.2363	-.2052	-.1126		.1439	-.0351
70.000	-.3323	-.2709	-.1242	.0147	-.0202	.0032	-.0871			
90.000	-.2299	-.1980	-.0790	.0067	-.1121	-.0925	-.1543			
105.000			-.0477	.0529	-.2462	-.1699	-.2152			
110.000								-.3125		
120.000	-.1285	-.1071	-.0088	.2440	-.4300	-.3050	-.2610	-.2602		
135.000			.0780	.3928	-.4461	-.3186	-.2999			
150.000	-.0713	-.0255	.0967	.1712	-.4670	-.3972	-.3071			
165.000	-.0772		.0995		-.3929	-.4074	-.2853			
180.000	-.0964	-.0100	.1221	.1797						

ALPHA (5) = 11.994 BETA (1) = -7.850 MACH = .59636 Q = 594.09 P = 2386.3 RN/L = 4.8671

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9135	.7603	.3583	.2144	.1355			.0326		.0282	.0273	.0486	.0760	.1207	.1357
20.000			.4471	.2862	.1686	.0879		.0599		.0427					
40.000			.5803	.3610	.2607	.1835		.1099		.0778	.0874	.1229	.1378	.1487	.1964
55.000			.5677	.3430	.2751	.1756		.0606		-.0185					
70.000			.4817	.3177	.2065	.1471		.0315		-.0885	-.1839	-.1210	-.0659	-.0681	
90.000		.5481	.3939	.2607	.1674	.1277		.0146		-.1739	-.2258	-.1629	-.1373	-.1312	
120.000			.2129	.0827	.0023	.0483		.0390		-.3198	-.4319	-.5559	-.4818	-.4960	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8875)

ALPHA (5) = 11.984 BETA (1) = -7.850

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.4815					
150.000			.0408	-.0593	-.0801	.0151		.3676		-.7626	-.6218	-.2943	-.2022	-.1949	
151.030									.0141						
160.000									-.0520						
164.000										-1.5629	-.4134	-.2393	-.1579	-.1520	
169.000								.3377							
174.000							.5018								
180.000	.9125	.0999	-.0520	-.0221	-.0609	.0009		.1064		-1.9801	-.3291	-.1882	-.1269	-.1285	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1205	.0362	-.0028	-.0891	-.1108	-.1424	-.0384		.3054	.0288
40.000	.1601		.0264	-.0811	.1818	-.1060	-.1170		.2111	.0001
70.000	-.4145	-.2253	.0007	.2347	.1796	.1638	.0153			
90.000	-.3033	-.1525	.0508	.2751	.1186	.0521	-.0851			
105.000			.0622	.4331	.0601	-.0048	-.1366			
110.000								-.2828		
120.000	-.4363	-.1982	.0246	.5383	-.2278	-.1814	-.1930	-.2971		
135.000			.0562	.3016	-.2845	-.1996	-.2527			
150.000	-.1705	-.0673	.0629	-.0850	-.3356	-.1672	-.2025			
155.000	-.1703		.0606		.0549	-.0648	-.2504			
180.000	-.1535	-.0900	.0289	.2328						

ALPHA (5) = 12.003 BETA (2) = -3.840 MACH = .59636 Q = 594.09 P = 2396.3 RN/L = 4.9671

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9486	.8004	.4001	.2523	.1588			.0553		.0446	.0505	.0687	.0996	.1395	.1474
20.000			.4458	.2808	.1737	.0956		.0658		.0474					
40.000			.5157	.3235	.2234	.1466		.0803		.0383	.0439	.0875	.1167	.1302	.1919
55.000			.4594	.2758	.1804	.0784		-.0144		-.0988					
70.000			.3759	.2089	.1125	.0741		-.0381		-.1544	-.2377	-.1614	-.1298	-.1215	
90.000		.4191	.3107	.1600	.0819	.0601		-.0469		-.2391	-.2623	-.1880	-.1505	-.1403	
120.000			.1761	.0524	-.0212	.0344		.0054		-.3712	-.4182	-.4711	-.3559	-.3471	
140.000										-.5174					
150.000			.0532	-.0321	-.0440	.0311		.3425		-.7742	-.5310	-.2343	-.1336	-.1457	
151.000									-.0422						
164.000									-.0950						
165.000										-1.5277	-.3607	-.1892	-.1134	-.1032	
169.000								.3436							
174.000							.5218								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE6875)

ALPHA (5) = 12.003 BETA (2) = -3.840

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	.9488	.1109	-.0181	-.0416	-.0278	.0323		.2138		-1.8637	-.2951	-.1512	-.0797	-.0737	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1343	.0779	.0056	-.0873	-.1140	-.1416	-.0332		.3071	.0389					
40.000	.1590		.0246	-.0774	-.1775	-.1213	-.0891		.1958	-.0088					
70.000	-.4313	-.2769	-.0684	.1626	.1214	.1216	-.0053								
90.000	-.3121	-.1785	.0001	.2026	.0564	.0190	-.0308								
100.000			.0428	.3336	-.0166	-.0482	-.1508								
110.000								-.2871							
120.000	-.2970	-.0631	.1028	.2435	-.2351	-.1825	-.1843	-.2736							
130.000			.0050	.1358	-.2535	-.1891	-.2358								
140.000	-.1616	-.0084	.0866	.2844	-.2063	-.1734	-.1914								
150.000	-.1162		.0733		-.0278	-.1286	-.2223								
160.000	-.0891	.0027	.1309	.4071											

ALPHA (5) = 12.008 BETA (3) = .180 MACH = .59636 Q = 594.09 P = 2385.3 RN/L = 4.8671

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9548	.8094	.4045	.2521	.1706			.0632		.0522	.0505	0656	.1032	.1416	.1502
20.000			.4137	.2620	.1573	.0887		.0585		.0321					
40.000			.4149	.2464	.1562	.0899		.0336		-.0247	-.0296	.0362	.0768	.1070	.1743
60.000			.3234	.1490	.0721	-.0212		-.1082		-.1741					
70.000			.2511	.0958	.0066	-.0031		-.1099		-.2222	-.2851	-.3027	-.1631	-.1560	
80.000		.2737	.2066	.0606	-.0062	-.0086		-.1206		-.3032	-.2987	-.2141	-.1650	-.1453	
90.000			.1249	.0116	-.0490	.0159		-.0435		-.4264	-.4054	-.3354	-.2495	-.2213	
100.000										-.5727					
140.000			.0494	-.0219	-.0473	.0340		.2842		-.7932	-.4444	-.1928	-.1049	-.0951	
150.000									-.1301						
160.000									-.1639						
170.000										-1.4776	-.3233	-.1562	-.0752	-.0648	
174.000								.3199							
178.000							.4908								
180.000	9548	.1134	-.0015	-.0314	-.0195	.0456		.2642		-1.7932	-.2857	-.1381	-.0650	-.0594	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1372	.0784	.0049	-.0954	-.1117	-.1368	-.0309		.3090	.0399					
40.000	.1526		.0210	-.0847	-.1952	-.1491	-.0780		.1988	-.0230					

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8975)

ALPHA (5) = 12.008 BETA (3) = .180

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.4515	-.3096	-.1079	.1014	.0574	.0789	-.0320			
90.000	-.3275	-.2057	-.0224	.1219	-.0288	-.0295	-.1120			
110.000			.0529	.1579	-.1040	-.0926	-.1704			
120.000								-.2679		
130.000	-.1913	-.0729	.1058	.2182	-.2498	-.2014	-.1945	-.2445		
135.000			.0767	.3542	-.3878	-.2195	-.2335			
150.000	-.1208	-.0401	.1322	.4971	-.2794	-.2289	-.2111			
165.000	-.0701		.1508		-.1416	-.2332	-.2217			
180.000	-.0630	.0230	.1662	.4154						

ALPHA (5) = 12.057 BETA (4) = 4.044 MACH = .59636 Q = 594.09 P = 2385.3 RN/L = 4.8671

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9351	.7894	.3885	.2451	.1506			.0496		.0399	.0450	.0583	.0948	.1394	.1415
20.000			.3597	.2227	.1193	.0583		.0252		.0017					
40.000			.2946	.1659	.0747	.0168		-.0383		-.0927	-.1046	-.0339	.0239	.0680	.1481
55.000			.1821	.0324	-.0423	-.1229		-.1895		-.2524					
70.000			.1273	-.0122	-.0897	-.0694		-.1714		-.2714	-.3204	-.2315	-.1865	-.1853	
90.000		.1172	.1119	-.0231	-.0912	-.0644		-.1816		-.3555	-.3136	-.2189	-.1678	-.1533	
110.000			.0815	-.0364	-.0835	-.0164		-.1075		-.4792	-.3914	-.3341	-.1663	-.1259	
120.000										-.6120					
130.000			.0165	-.0404	-.0940	.0045		.2027		-.8093	-.3853	-.1687	-.0791	-.0710	
135.000									-.2353						
150.000									-.2579						
165.000										-1.4152	-.3002	-.1469	-.0689	-.0587	
174.000								.2754							
180.000	.9351	.0748	0031	-.0349	-.0295	.0351	.4489	.2426		-1.7361	-.2944	-.1538	-.0775	-.0753	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
000	.1280	.0771	.0083	-.0330	-.1197	-.1387	-.0359		.3055	.0243
70.000	.1349		.0154	-.0255	-.2019	-.1724	-.0818		.1745	-.0218
90.000	-.4593	-.3237	-.1325	.0418	.0032	.0345	-.0624			
110.000	-.3315	-.2344	-.0840	.0142	-.0955	-.0697	-.1331			
125.000			-.0154	.0835	-.1991	-.1345	-.1830			
135.000								-.2948		
150.000	-.1729	-.1142	.0087	.0824	-.3394	-.2566	-.2276	-.2284		
165.000			.1092	.4114	-.3375	-.2421	-.2446			
180.000	-.0736	-.0071	.1539	.4372	-.3819	-.3008	-.2534			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE875)

ALPHA (5) = 12.057 BETA (4) = 4.244

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0713		.1370		-.2618	-.3274	-.2534			
180.000	-.0846	-.0001	.1256	.4524						

ALPHA (5) = 12.114 BETA (5) = 8.307 MACH = .59636 Q = 594.09 P = 2386.3 RN/L = 4.8671

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/B	.0010	.0030	.0230	.0460	.0700	.1120	.1590	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.8754	.7506	.3830	.2231	.1312			.0396		.0216	0319	.0481	.0879	.1305	.1296
30.000			.2895	.1620	.0728	.0171		-.0141		-.0421					
55.000			.1633	.0538	-.0249	-.0794		-.1290		-.1890	-.2085	-.1230	-.0410	.0315	.1167
80.000			.0206	-.1070	-.1641	-.2315		-.2848		-.3271					
90.000			-.0108	-.1103	-.1715	-.1414		-.2305		-.3250	-.3428	-.2528	-.2149	-.2128	
95.000		-.0358	-.0054	-.1146	-.1712	-.1264		-.2352		-.3973	-.3282	-.2144	-.1654	-.1590	
120.000			-.0216	-.1117	-.1494	-.0668		-.1908		-.5244	-.3765	-.2739	-.1078	-.0995	
140.000										-.6456					
150.000			-.0471	-.0840	-.1380	-.0464		.0797		-.8310	-.3416	-.1607	-.0549	-.0717	
160.000									-.3511						
165.000									-.3870						
169.000										-1.3763	-.3044	-.1576	-.0660	-.0931	
174.000								.1945							
180.000	.8759	.0047	-.0382	-.0636	-.0721	-.0105	.3669	.1460		-1.7936	-.3292	-.1917	-.1263	-.1249	

X/B	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1208	.0735	.0044	-.0980	-.1178	-.1441	-.0432		.3038	.0165
30.000	.1202		.0118	-.0923	-.2161	-.1874	-.1004		.1577	-.0406
70.000	-.4545	-.3686	-.1728	-.0286	-.0425	.0003	-.0780			
90.000	-.3404	-.2748	-.1499	-.0564	-.1548	-.0904	-.1408			
100.000			-.0991	-.0483	-.3049	-.1877	-.2186			
110.000								-.3274		
140.000	-.2041	-.1877	-.0694	.1034	-.4417	-.3211	-.2771	-.2497		
150.000			.0879	.4581	-.4715	-.3292	-.3003			
160.000	-.0926	-.0407	.0794	.3993	-.5186	-.4173	-.3308			
165.000	-.1280		.0405		-.4793	-.4312	-.2893			
180.000	-.1599	-.0926	.0408	.2073						

DATE 10 FEB 76 TABULATED F[illegible] - 0A148 (AMES 11-073-1)

A[illegible])A 8) -140A/9/C ORB FUSELAGE (XE8876) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 10[illegible] . XO
LREF = 474.8000 IN. YMRP = [illegible]00 IN. YO
BREF = 936.0680 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = -10.000 SPDBRK = .000
BDFLAP = -11.700 L-ELVN = 10.000
R-ELVN = -10.000 MACH = 1.400

ALPHA (1) = -4.004 BETA (1) = -3.853 MACH = 1.3930 Q = 598.57 P = 440.65 RN/L = 2.9057

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4887	.6953	.2057	.0762	-.0032			-.0540		-.0241	-.0157	-.0301	-.0353	-.0641	-.0572
20.000			.2648	.0914	.0081	-.0743		-.0525		-.0691					
40.000			.4483	.1262	.0584	-.0519		-.0973		-.1736	-.1796	-.1508	-.0876	-.0950	-.0639
55.000			.5987	.3170	.2318	.1102		.1215		.0757					
70.000			.6913	.4150	.3142	.2322		.2301		.1389	-.1923	-.1017	-.0595	.0207	
80.000		.9472	.7582	.4931	.3364	.2754		.2936		.0857	-.1724	-.1750	-.1000	.0126	
120.000			.8140	.6126	.4572	.4750		.5733		.1470	-.1078	-.3378	-.1283	-.0268	
140.000										.1111					
150.000			.7989	.6181	.5019	.5517		1.0189		-.1054	-.2956	-.1712	-.1077	-.0547	
151.000									.7442						
162.000									.8053						
165.000										-.1502	-.2523	-.1679	-.1185	-.0858	
169.000								1.0d05							
174.000							1.1431								
180.000	1.4887	1.0321	.7307	.5896	.5070	.5549		1.0050		-.2552	-.2877	-.1480	-.1257	-.1009	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0239	-.0263	-.0452	-.0984	-.1644	-.2101	-.2613		-.4382	-.4511
40.000	-.0702		-.0805	-.1107	-.1832	-.1208	-.2195		-.3989	-.3221
70.000	.0797	.0159	-.0472	.2001	.1509	.0400	-.1395			
90.000	.0913	.0507	.0551	.1986	.1144	.0482	-.0288			
105.000			.1985	.2459	.0266	-.0220	-.0545			
110.000								-.1875		
120.000	.0366	.0612	.3588	.2886	.0727	-.0577	-.0379	-.1464		
135.000			.4041	.4220	.1116	.0728	.0525			
150.000	-.0064	.0411	.3902	.4165	.1700	.1911	.1032			
165.000	-.0165		.3849		.4878	.3043	-.2384			
180.000	-.0163	.0187	.3806	.4183						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8876)

ALPHA (1) = -4.001 BETA (2) = .191 MACH = 1.3930 Q = 598.57 P = 440.65 RN/L = 2.8057

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4912	.6813	.2116	.0770	.0044			-.0519		-.0328	-.0096	-.0216	-.0360	-.0523	-.0559
20.000			.2461	.0894	.0058	-.0569		-.0457		-.0476					
40.000			.3902	.1105	.0477	-.0525		-.0531		-.1161	-.1276	-.1114	-.0578	-.0803	-.0476
55.000			.5087	.2348	.1639	.0440		.0744		.0352					
70.000			.5840	.3073	.2211	.1377		.1525		.0756	-.2494	-.1694	-.1122	.0021	
90.000		.8058	.6462	.3830	.2381	.1743		.2074		-.0117	-.2451	-.2434	-.1328	-.0069	
120.000			.7212	.5233	.3689	.3761		.4710		.0404	-.1912	-.4116	-.1788	-.0554	
140.000										-.0912					
150.000			.7456	.5913	.4496	.5142		.9530		-.1824	-.3058	-.1879	-.1407	-.0726	
161.000									.6568						
165.000									.7354						
169.000										-.1539	-.2853	-.1529	-.1275	-.0776	
174.000								1.0457							
180.000	1.4912	1.0183	.7361	.5817	.5152	.5564	1.1462	1.0321		-.3083	-.3065	-.1099	-.1203	-.0793	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0172	-.0184	-.0412	-.0970	-.1658	-.2096	-.2665		-.4395	-.4558
40.000	-.0443		-.0630	-.0970	-.1692	-.1275	-.2074		-.3980	-.3262
70.000	.0591	.0071	-.0006	.2355	.1109	.0083	-.1338			
90.000	.0675	.0349	.1548	.1893	.0648	-.0019	-.0606			
105.000			.2728	.2256	-.0165	-.0508	-.0842			
110.000								-.2130		
120.000	.0391	.0605	.3013	.1311	.0220	-.1167	-.1269	-.1994		
130.000			.3879	.3974	.0779	.0162	-.0201			
150.000	.0056	.0440	.4058	.4190	.1672	.0983	.0235			
165.000	.0003		.4097		.4213	.1910	-.3078			
180.000	-.0023	.0281	.4145	.4058						

ALPHA (1) = -3.983 BETA (3) = 4.275 MACH = 1.3930 Q = 598.57 P = 440.65 RN/L = 2.8057

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4745	.6658	.2089	.0691	.0090			-.0603		-.0358	-.0104	-.0178	-.0363	-.0704	-.0639
20.000			.2216	.0755	-.0042	-.0430		-.0502		-.0320					
40.000			.3248	.0836	.0256	-.0492		-.0382		-.0775	-.0727	-.0876	-.0569	-.0788	-.0391
55.000			.4135	.1568	.0992	-.0055		.0449		-.0003					
70.000			.4779	.2083	.1352	.0564		.0980		.0167	-.2996	-.2275	-.1443	-.0118	
90.000		.6512	.5393	.2769	.1337	.0800		.1223		-.1129	-.3125	-.3065	-.1555	-.0200	
120.000			.6265	.4318	.2791	.2726		.3567		-.0701	-.2603	-.4648	-.2412	-.0797	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8876)

ALPHA (1) = -3.983 BETA (3) = 4.275

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.2147					
150.000			.6890	.5525	.4028	.4441		.8745		-.2310	-.3125	-.1855	-.1776	-.1208	
161.000									.5527						
162.000									.6603						
165.000										-.1721	-.3209	-.1342	-.1438	-.1112	
169.000								1.0013							
174.000							1.1156								
180.000	1.4745	1.0003	.7405	.5784	.5156	.5368		1.0176		-.2727	-.2918	-.1575	-.1284	-.1062	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.0346	-.0173	-.0466	-.0353	-.1674	-.2077	-.2661		-.4480	-.4667					
40.000	-.0209		-.0382	-.0856	-.1708	-.1317	-.1965		-.4074	-.3286					
70.000	.0479	-.0272	.0053	.2385	.0932	-.0163	-.1537								
90.000	.0546	.0101	.1479	.2080	.0403	-.0504	-.0999								
105.000			.2540	.1891	-.0552	-.0863	-.1195								
110.000								-.2476							
120.000	.0232	.0485	.2700	.0232	-.0685	-.1937	-.2946	-.2464							
135.000			.3461	.3511	.0293	-.0590	-.0993								
150.000	-.0120	0239	.3678	.3740	.1218	.0122	-.0615								
165.000	-.0201		.3737		.3470	.1076	-.3348								
180.000	-.0236	.0244	.3932	.4246											

ALPHA (2) = .029 BETA (1) = -3.866 MACH = 1.3913 Q = 598.64 P = 441 83 RN/L = 2.9093

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.301	.3780	.4970	5740
PHI															
.000	1.4913	.8064	.3208	.1648	.0749			-.0155		-.0079	.0108	.0043	-.0005	-.0274	-.0290
20.000			.3699	.1900	.0888	-.0064		-.0042		-.0269					
40.000			.5403	.2456	.1609	.0414		-.0042		-.0556	-.0475	-.0615	-.0231	-.0463	-.0210
55.000			.6530	.3782	.2990	.1618		.1637		.1394					
70.000			.7049	.4335	.3316	.2352		.2360		.1816	-.1682	-.0742	-.0574	-.0332	
90.000		.9173	.7389	.4777	.3352	.2645		.3072		.1411	-.1555	-.1610	-.1020	-.0357	
120.000			.7442	.5409	.3933	.3713		.5767		.1550	-.1215	-.3294	-.1490	-.0708	
140.000										.1042					
150.000			.6889	.5038	.4000	.3866		.9930		-.1318	-.3566	-.2555	-.1533	-.0933	
161.000									.7242						
162.000									.7739						
165.000										-.2080	-.3199	-.2296	-.1598	-.0960	
169.000								1.0501							
174.000							1.0832								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8B76)

ALPHA (2) = .029 BETA (1) = -3.866

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.4913	.9005	.6092	.5050	.4038	.3643		.9661		-.3139	-.3428	-.2049	-.1761	-.0969	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0054	.0093	.0047	-.0409	-.1051	-.1494	-.1940		-.4038	-.4165
40.000	-.0090		-.0157	-.0489	-.1253	-.0511	-.1665		-.3870	-.2971
70.000	.0124	-.0713	-.1334	.0441	.0614	-.0245	-.1420			
90.000	.0383	-.0251	-.0900	.1244	.0239	-.0231	-.0888			
105.000			.0256	.1791	-.0583	-.0932	-.1288			
110.000								-.2341		
120.000	-.0216	-.0197	.2736	.2194	.0251	-.1188	-.1387	-.1906		
135.000			.3351	.3324	.0338	-.0321	-.0222			
150.000	-.0302	.0018	.3220	.3265	.0490	.1126	.0421			
165.000	-.0302		.3183		.4021	.2231	-.2624			
180.000	-.0267	.0128	.3086	.3091						

ALPHA (2) = .033 BETA (2) = .181 MACH = 1.3913 Q = 598.64 P = 441.83 RN/L = 2.9093

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4952	.8080	.3328	.1665	.0812			-.0132		-.0016	.0073	.0213	.0028	-.0207	-.0279
20.000			.3541	.1826	.0836	.0117		-.0101		-.0150					
40.000			.4747	.2109	.1375	.0318		.0024		-.0258	-.0109	-.0415	-.0123	-.0394	-.0178
55.000			.5570	.2945	.2265	.0995		.0950		.1011					
70.000			.5929	.3274	.2420	.1444		.1641		.1253	-.2161	-.1384	-.1084	-.0444	
80.000		.7759	.6295	.3710	.2444	.1744		.2281		.0511	-.2180	-.2226	-.1509	-.0465	
120.000			.6563	.4613	.3175	.2921		.4852		.0585	-.2051	-.3911	-.1679	-.0855	
140.000										-.0612					
150.000			.6419	.4836	.3746	.3504		.9422		-.2106	-.3612	-.2489	-.1561	-.0702	
151.000									.6455						
162.000									.7093						
165.000										-.2080	-.3334	-.2175	-.1669	-.0730	
169.000								1.0199							
174.000							1.0916								
180.000	1.4952	.8884	.6149	.4831	.4134	.3691		.9940		-.3622	-.3576	-.1676	-.1650	-.0740	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0034	.0179	.0081	-.0355	-.1020	-.1495	-.2065		-.4041	-.4219
40.000	.0074		.0042	-.0324	-.1109	-.0664	-.1583		-.3847	-.3087

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8876)

ALPHA (2) = .033 BETA (2) = .181

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.0056	-.0991	-.1292	.0688	.0206	-.0571	-.1677			
90.000	.0287	-.0419	.0168	.0976	-.0307	-.0623	-.1108			
105.000			.1622	.1301	-.1261	-.1223	-.1471			
110.000								-.2544		
120.000	.0112	.0059	.2865	.1846	.0006	-.1545	-.2236	-.2328		
135.000			.2648	.3312	.0764	-.0367	-.0798			
150.000	-.0044	.0256	.2938	.3402	.1111	.0489	-.0326			
165.000	-.0097		.3120		.3362	.1285	-.3034			
180.000	-.0131	.0173	.3211	.4091						

ALPHA (2) = .029 BETA (3) = 4.255 MACH = 1.3913 Q = 598.64 P = 441.83 RN/L = 2.9093

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4838	.7914	.3256	.1524	.0873			-.0183		-.0150	.0018	.0177	.0084	-.0294	-.0370
20.000			.3237	.1541	.0687	.0136		-.0135		-.0214					
40.000			.3999	.1685	.1017	.0170		.0035		-.0253	.0001	-.0213	-.0069	-.0527	-.0327
55.000			.4566	.2108	.1517	.0395		.0495		.0663					
70.000			.4881	.2264	.1563	.0685		.1032		.0750	-.2613	-.1973	-.1556	-.0508	
90.000		.6227	.5237	.2699	.1527	.0879		.1566		-.0363	-.2788	-.2804	-.1750	-.0536	
120.000			.5689	.3810	.2395	.2160		.3787		-.0451	-.2778	-.4609	-.1923	-.0687	
140.000										-.2118					
150.000			.5907	.4528	.3276	.2973		.8629		-.2649	-.3732	-.2490	-.2038	-.0859	
151.000									.5402						
159.000									.6288						
165.000										-.2197	-.3709	-.1896	-.1980	-.0953	
169.000								.9693							
174.000							1.0828								
180.000	1.4838	.8684	.6160	.4743	.4138	.3619		.9748		-.3316	-.3473	-.2167	-.1746	-.1049	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0185	.0193	.0049	-.0394	-.1038	-.1517	-.2111		-.4181	-.4349
40.000	.0169		.0214	-.0237	-.1075	-.0709	-.1586		-.3873	-.3088
70.000	-.0112	-.1224	-.1053	.0884	.0002	-.0860	-.1900			
90.000	.0200	-.0856	.0284	.0953	-.0579	-.1060	-.1426			
105.000			.1735	.1429	-.1621	-.1669	-.1809			
110.000								-.2848		
120.000	.0186	.0099	.2264	.0439	-.0791	-.2217	-.3205	-.2860		
135.000			.2821	.2867	-.0051	-.1042	-.1446			
150.000	-.0143	.0280	.3047	.2952	.0763	-.0346	-.1153			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8876)

ALPHA (2) = .029 BETA (3) = 4.255

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0234		.3046		.2477	.0561	-.3364			
180.000	-.0314	.0224	.3133	.3116						

ALPHA (3) = 3.961 BETA (1) = -3.871 MACH = 1.3919 Q = 599.88 P = 442.29 RN/L = 2.9174

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4813	.9293	.4428	.2648	.1588			.0417		.0325	.0397	.0347	.0524	.0232	.0162
20.000			.4872	.2917	.1726	.0801		.0567		.0208					
40.000			.6304	.3519	.2563	.1351		.0852		.0203	.0593	.0299	.0390	.0113	.0310
55.000			.6977	.4341	.3447	.2115		.1785		.1677					
70.000			.7051	.4468	.3383	.2355		.1914		.2131	-.1415	-.0497	-.0488	-.0916	
90.000		.8772	.7054	.4583	.3256	.2515		.2659		.1849	-.1343	-.1119	-.0980	-.0912	
120.000			.6624	.4633	.3285	.3065		.5747		.1644	-.1233	-.3221	-.2451	-.1553	
140.000										.1001					
150.000			.5764	.3849	.3039	.2939		.9679		-.1467	-.4034	-.3324	-.1904	-.1148	
151.000									.7018						
162.000									.7382						
165.000										-.2574	-.3654	-.2812	-.1699	-.0964	
169.000								1.0138							
174.000							1.0265								
180.000	1.4813	.7670	.4845	.4059	.3082	.2654		.9091		-.3637	-.3913	-.2449	-.2064	-.0818	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0348	.0456	.0537	.0225	-.0353	-.0789	-.1253		-.3734	-.3851
40.000	.0530		.0590	.0215	-.0561	.0253	-.1028		-.3727	-.2747
70.000	-.0538	-.1546	-.2073	-.0960	-.0239	-.0773	-.1691			
90.000	-.0193	-.0093	-.1712	.0520	-.0585	-.0955	-.1420			
105.000			-.1185	.1153	-.1054	-.2016	-.1753			
110.000								-.2824		
120.000	-.0953	-.1080	.2018	.1479	-.0167	-.1671	-.2211	-.2495		
135.000			.2288	.2314	-.0265	-.1323	-.0921			
150.000	-.0507	-.0030	.2296	.2358	-.0576	.0429	-.0308			
165.000	-.0401		.2287		.2828	.1698	-.2604			
180.000	-.0345	.0493	.2295	.2687						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8876)

ALPHA (3) = 3.962 BETA (2) = .187 MACH = 1.3919 Q = 599.88 P = 442.29 RN/L = 2.9174

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4880	.9350	.4459	.2658	.1661			.0494		.0359	.0357	.0490	.0463	.0253	.0195
20.000			.4656	.2752	.1676	.0869		.0523		.0218					
40.000			.5562	.3053	.2206	.1075		.0731		.0132	.0788	.0322	.0389	.0079	.0185
55.000			.5951	.3399	.2697	.1369		.1175		.1134					
70.000			.5982	.3383	.2535	.1519		.1225		.1614	-.1847	-.1082	-.1032	-.1128	
90.000		.7396	.6077	.3576	.2423	.1651		.2095		.1096	-.1926	-.1756	-.1498	-.0926	
120.000			.5906	.3943	.2695	.2427		.4918		.0817	-.2021	-.3709	-.2011	-.1041	
140.000										-.0023					
150.000			.5405	.3762	.2924	.2705		.9227		-.2260	-.4065	-.2962	-.1760	-.0710	
161.000									.6447						
162.000									.6942						
165.000										-.2522	-.3770	-.2651	-.1911	-.0616	
169.000								1.0168							
174.000							1.0075								
180.000	1.4680	.7538	.4969	.3800	.3254	.2791		.9674		-.4034	-.3989	-.2147	-.1942	-.0590	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0324	.0573	.0673	.0309	-.0324	-.0720	-.1485		-.3718	-.3859
40.000	.0611		.0735	.0374	-.0391	.0192	-.1059		-.3629	-.2834
70.000	-.0676	-.1804	-.2037	-.0346	-.0504	-.1117	-.1922			
90.000	-.0186	-.1264	-.1274	.0388	-.1243	-.1259	-.1614			
105.000			.0903	.0644	-.1832	-.2392	-.1955			
110.000								-.2905		
120.000	-.0233	-.0449	.1969	.1268	- 0370	-.1876	-.2594	-.2898		
135.000			.2058	.2442	.0262	-.0909	-.1287			
150.000	-.0176	.0025	.2086	.3400	.0765	-.0068	-.0840			
165.000	-.0190		.2218		.2669	.0703	-.3056			
180.000	-.0209	.0076	.2332	.3681						

ALPHA (3) = 3.963 BETA (3) = 4.246 MACH = 1.3919 Q = 599.88 P = 442.29 RN/L = 2.9174

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4720	.9205	.4404	.2570	.1757			.0384		.0273	.0283	.0483	.0512	.0208	.0140
20.000			.4265	.2434	.1518	.0793		.0327		.0182					
40.000			.4695	.2523	.1755	.0782		.0545		.0017	.0644	.0335	.0323	-.0089	-.0023
55.000			.4950	.2489	.1882	.0676		.0607		.0617					
70.000			.4874	.2367	.1654	.0777		.0607		.1091	-.2253	-.1623	-.1510	-.1182	
90.000		.5835	.5037	.2568	.1555	.0894		.1531		.0340	-.2445	-.2343	-.1946	-.0977	
120.000			.5101	.3238	.2004	.1701		.3964		-.0081	-.2846	-.4305	-.1721	-.0779	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8876)

ALPHA (3) = 3.953 BETA (3) = 4.24E

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.1902					
150.000			.4951	.3463	.2477	.2202		.8586		-.2863	-.4161	-.2999	-.1982	-.0653	
151.000									.5353						
152.000									.6033						
155.000										-.2648	-.4127	-.2338	-.2113	-.0705	
160.000								.9433							
174.000							1.0420								
180.000	1.4720	.7310	.4956	.3767	.3257	.2642		.9330		-.3781	-.3903	-.2575	-.2032	-.0856	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
000	.0218	.0574	.0653	.0282	-.0333	-.0833	-.1558		-.3787	-.3954
40.000	0497		.0305	.0474	-.0384	-.0006	-.1025		-.3569	-.2789
70.000	-.0246	-.1934	-.2045	-.0307	-.0712	-.1408	-.2211			
90.000	-.0178	-.1278	-.0374	.0205	-.1520	-.1446	-.1824			
100.000			.0947	.0370	-.2475	-.2691	-.2259			
110.000								-.3115		
150.000	-.0045	-.0247	.1553	.0263	-.1018	-.2556	-.3430	-.3678		
170.000			.2246	.2398	-.0591	-.1497	-.1843			
180.000	-.0164	.0105	.2353	.2171	-.0023	-.0802	-.1511			
190.000	-.0281		.2332		.2054	.0123	-.3446			
180.000	-.0369	.0505	.2377	.2604						

ALPHA (1) = 7.887 BETA (1) = -3.866 MACH = 1.3932 Q = 600.00 P = 441.59 RN/L = 2.9153

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4533	1.0523	.5615	.3772	.2479			.0988		.0936	.0877	.0708	.0939	.0946	.0807
20.000			.6046	.4012	.2675	.1653		.1211		.0848					
40.000			.7136	.4550	.3364	.2169		.1673		.0936	.1316	.1135	.1073	.0748	.0956
55.000			.7303	.4823	.3809	.2347		.1990		.1369					
70.000			.6981	.4545	.3412	.2363		.1930		.1873	-.1084	-.0295	-.0353	-.1112	
90.000		.8305	.6655	.4378	.3146	.2330		.1985		.2208	-.1163	-.0712	-.0875	-.1353	
100.000			.5790	.3868	.2498	.2316		.5435		.1771	-.1241	-.3245	-.3455	-.2915	
140.000										.0939					
150.000			.4623	.2835	.2259	.2112		.9303		-.1428	-.4421	-.3981	-.2225	-.1297	
151.000									.6813						
152.000									.7050						
155.000										-.3022	-.4060	-.3257	-.2101	-.0933	
160.000								.9654							
174.000							1.0301								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8876)

ALPHA (4) = 7.887 BETA (1) = -3.866

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.4533	.6273	.3679	.2893	.2240	.1927		.8801		-.4043	-.4246	-.2749	-.2218	-.0717	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0989	.1131	.1289	.0919	.0407	.0061	-.0549		-.3468	-.3619
40.000	.1371		.1466	.1044	.0227	.1080	-.0422		-.3322	-.2496
70.000	-.1331	-.2449	-.2643	-.2331	-.1371	-.1357	-.1754			
90.000	-.0919	-.1961	-.2376	-.0318	-.1330	-.1997	-.2129			
105.000			-.1163	.0275	-.1615	-.2677	-.2818			
110.000								-.3186		
160.000	-.1820	-.1736	.0761	.0655	-.0626	-.2000	-.2479	-.2987		
135.000			.0625	.1206	-.0502	-.1360	-.1283			
150.000	-.0880	-.0314	.0642	.1238	.0381	-.0050	-.0975			
165.000	-.0561		.0759		.2538	.1257	-.2882			
180.000	-.0482	-.0266	.1399	.3065						

ALPHA (4) = 7.954 BETA (2) = .189 MACH = 1.3932 Q = 600.00 P = 441.59 RN/L = 2.9153

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4562	1.0524	.5618	.3793	.2616			.1090		.0898	.0834	.0730	.0995	.0871	.0751
20.000			.5754	.3821	.2582	.1664		.1066		.0764					
40.000			.6311	.4003	.2955	.1771		.1390		.0638	.1049	.0321	.0911	.0622	.0770
50.000			.6174	.3804	.2953	.1480		.1212		.0800					
70.000			.5852	.3415	.2541	.1523		.1207		.1281	-.1530	-.0853	-.0975	-.1576	
90.000		.6877	.5075	.3338	.2300	.1468		.1324		.1461	-.1687	-.1294	-.1456	-.1699	
120.000			.5118	.3252	.2049	.1878		.4769		.1023	-.1953	-.3661	-.3328	-.1767	
140.000										.0104					
150.000			.4334	.2790	.2104	.1926		.8130		-.2297	-.4474	-.3448	-.1835	-.0769	
161.000									.6319						
162.000									.6798						
175.000															
169.000										-.2950	-.4166	-.2981	-.1990	-.0550	
174.000								.9869							
180.000	1.4562	.6103	.3780	.2850	.2367	.1959	.8496	.9399		-.4395	-.4359	-.2536	-.2100	-.0467	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0921	.1178	.1420	.1041	.0434	.0002	-.0705		-.3448	-.3563
40.000	.1209		.1530	.1178	.0330	.0899	-.0246		-.3388	-.2563

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8578)

ALPHA (4) = 7.964 BETA (2) = .189

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1385	-.2514	-.2756	-.1025	-.1512	-.1649	-.2227			
90.000	-.0790	-.1883	-.2302	-.0193	-.1969	-.2132	-.2094			
105.000			-.0376	.0442	-.2316	-.3054	-.2861			
110.000								-.3227		
120.000	-.0698	-.0838	.0944	.0422	-.0653	-.2168	-.2856	-.3411		
135.000			.0352	.1287	-.0282	-.1355	-.1707			
150.000	-.0397	-.0407	.0986	.3772	.0234	-.0037	-.1254			
165.000	-.0328		.1142		.2283	.0028	-.3162			
180.000	-.0394	-.0176	.1555	.3862						

ALPHA (4) = 7.961 BETA (3) = 4.247 MACH = 1.3932 Q = 600.00 P = 441.59 RN/L = 2.9153

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/B	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4442	1.0386	.5505	.3733	.2585			.1016		.0846	.0782	.0777	.0989	.0790	.0724
20.000			.5326	.3489	.2305	.1432		.0856		.0669					
40.000			.5359	.3358	.2424	.1327		.0949		.0324	.0569	.0750	.0754	.0410	.0530
55.000			.5017	.2812	.2073	.0681		.0580		.0199					
70.000			.4749	.2427	.1678	.0772		.0630		.0812	-.1980	-.1395	-.1491	-.0023	
90.000		.5419	.4705	.2386	.1515	.0817		.0829		.0774	-.2159	-.1679	-.1900	-.1688	
107.000			.4426	.2642	.1482	.1342		.4141		.0090	-.2645	-.4108	-.2287	-.1558	
140.000										-.1411					
150.000			.3980	.2611	.1680	1567		.8443		-.3013	-.4503	-.3397	-.1848	-.1577	
161.000									.5339						
162.000									.5823						
165.000										-.3020	-.4428	-.2667	-.2185	-.1582	
169.000								.9257							
174.000							.9849								
180.000	1.4442	.5978	.3769	.2853	.2398	.1835		.8991		-.4187	-.4226	-.2810	-.2147	-.1754	

X/B	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0834	.1251	.1326	.0998	.0355	-.0051	-.0956		-.3508	-.3604
40.000	.1019		.1620	.1214	.0333	.0756	-.0243		-.3436	-.2711
70.000	-.1252	-.2437	-.2676	-.1006	-.1456	-.1803	-.2610			
90.000	-.0654	-.1758	-.1789	-.0315	-.2175	-.2091	-.1990			
105.000			-.0003	.0045	-.2830	-.3391	-.2842			
110.000								-.3403		
120.000	-.0494	-.0615	.0981	-.0368	-.1358	-.2821	-.3719	-.4041		
135.000			.1815	.2283	-.0858	-.1784	-.2155			
150.000	-.0301	-.0174	.2029	.3945	-.0478	-.1313	-.1902			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8876)

ALPHA (1) = 7.361 BETA (3) = 4.247

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9930	1.0180	1.0460
PHI										
165.000	-.0354		.1464		.1737	-.0646	-.3485			
180.000	-.0509	-.0132	.1268	.2835						

ALPHA (5) = 11.871 BETA (1) = -3.849 MACH = 1.3930 Q = 600.10 P = 441.82 RN/L = 2.9227

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0060	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4014	1.1605	.6838	.4905	.3446			.1819		.1674	.1421	.1182	.1453	.1526	.1526
20.000			.7249	.5163	.3640	.2581		.1975		.1608					
40.000			.7958	.5533	.4259	.2953		.2444		.1572	.1606	.1707	.1757	.1463	.1727
60.000			.7618	.5163	.4049	.2408		.2006		.1352					
80.000			.6779	.4551	.3367	.2312		.1869		.1316	-.0727	-.0130	-.0216	-.1034	
90.000		.7731	.6215	.4106	.2992	.2102		.1807		.2303	-.1057	-.0360	-.0752	-.1403	
120.000			.4933	.3068	.1639	.1551		.4405		.1837	-.1269	-.3109	-.4483	-.4884	
140.000										.1039					
150.000			.3507	.1808	.1445	.1373		.8883		-.0748	-.4808	-.4359	-.2534	-.1618	
151.000									.6594						
152.000									.6788						
160.000										-.3417	-.4435	-.3689	-.2218	-.1070	
169.000								.9252							
174.000							.9262								
180.000	1.4014	.4832	.2585	.2102	.1421	.1148		.8390		-.4344	-.4482	-.3005	-.2101	-.0720	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9930	1.0180	1.0460
PHI										
.000	.1775	.1381	.2144	.1892	.1525	.0875	.0238		-.3209	-.3321
40.000	.0019		.2453	.2067	.1321	.1969	.0296		-.3221	-.2159
70.000	-.1883	-.3440	-.3727	-.2794	-.2477	-.2055	-.1327			
90.000	-.1575	-.2649	-.3075	-.0895	-.2238	-.2598	-.2297			
105.000			-.2670	.0049	-.2298	-.3282	-.3353			
115.000								-.2903		
130.000	-.1893	-.1950	-.0326	.0590	-.1373	-.2356	-.2704	-.3314		
135.000			-.0765	.1258	-.1039	-.1464	-.1781			
150.000	-.1100	-.1815	-.1855	.2381	-.0605	-.1533	-.2175			
165.000	-.0844		-.0377		.2107	.0129	-.3147			
180.000	-.1593	-.0879	-.0833	.3484						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (EB76)

ALPHA (5) = 11.913 BETA (2) = .191 MACH = 1.3930 Q = 600.10 P = 441.82 RN/L = 2.9227

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4052	1.1631	.6950	.4984	.3560			.1888		.1640	.1480	.1213	.14.2	.1521	.1515
20.000			.6910	.4891	.3452	.2395		.1788		.1447					
[illegible]			.7042	.4869	.3697	.2453		.1953		.1091	.1327	.1283	.1555	.1280	.1470
55.000			.6305	.4027	.3074	.1383		.1157		.0584					
[illegible]			.5630	.3395	.2469	.1431		.1162		.0376	-.1144	-.0742	-.0322	-.1755	
90.000		.6328	.5228	.3058	.2146	.1330		.1150		.1657	-.1512	-.0977	-.1353	-.2019	
[illegible]			.4235	.2488	.1327	.1232		.4084		.1107	-.1647	-.3603	-.4462	-.2214	
[illegible]										.0176					
[illegible]			.3270	.1866	.1385	.1224		.7054		-.2049	-.4748	-.3936	-.2011	-.1933	
[illegible]									5873						
[illegible]									.6583						
[illegible]										-.3308	-.4423	-.3274	-.1822	-.0572	
[illegible]								.8454							
[illegible]							.6858								
180.000	1.4052	.4630	.2653	.2019	.1583	.1232		.9013		-.4635	-.4673	-.2759	-.2045	-.2479	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1748	.1939	.2340	.1954	.1441	.0836	-.0046		-.3147	-.3243
40.000	.2010		.2520	.2099	.1294	.1854	.0391		-.3322	-.2433
70.000	-.2372	-.3640	-.4015	-.2155	-.2701	-.2849	-.2762			
90.000	-.1447	-.2447	-.3063	-.1105	-.2677	-.2985	-.2670			
105.000			-.2042	.0025	-.3137	-.3752	-.3645			
110.000								-.3643		
120.000	-.1032	-.1244	.0182	-.0455	-.1405	-.2531	-.3264	-.3811		
135.000			-.0033	.0717	-.0981	-.1701	-.2204			
150.000	-.0546	-.0960	-.0939	.3114	-.0195	-.1134	-.1678			
165.000	-.0452		-.0493		.2248	-.0338	-.3347			
180.000	-.0391	-.0340	-.0064	.3628						

ALPHA (5) = 11.909 BETA (3) = 4.252 MACH = 1.3930 Q = 600.10 P = 441.92 RN/L = 2.9227

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3320	1.1517	.6719	.4899	.3502			.1800		.1543	.1396	.1301	.1518	.1432	.1476
20.000			.5444	.4504	.3167	.2145		.1558		.1285					
40.000			.5[illegible]08	.4107	.3004	.1860		.1340		.0545	.0638	.0815	.1315	.1020	.1258
55.000			.5027	.2973	.2074	.0457		.0418		-.0077					
70.000			.4516	.2380	.1562	.0563		.0543		.0167	-.1580	-.1217	-.1544	-.2431	
[illegible]		.4889	.4301	.2148	.1377	.0701		.0600		.1039	-.1950	-.1516	-.1265	-.2515	
[illegible]			.3695	.1958	.0949	.0892		.3795		.0411	-.2452	-.3872	-.3853	-.1492	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8876)

ALPHA (5) = 11.939 BETA (3) = 4.262

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.0741					
150.000			.2939	.1765	.1155	.0995		.8000		-.3097	-.4818	-.3633	-.1745	-.0629	
161.000									.5318						
167.000									.5610						
180.000										-.3360	-.4609	-.2858	-.2035	-.0545	
193								.8970							
194.000							.8740								
190.000	1.3923	.4399	.2613	.2026	.1610	.1132		.8567		-.4450	-.4435	-.3013	-.2123	-.0753	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0+E0					
PHI															
0.000	.1651	.2089	.2245	.1897	.1401	.0806	-.0372		-.3159	-.3243					
41.000	.1782		.2530	.2082	.1255	.1804	.0499		-.3288	-.2640					
70.000	-.2131	-.3405	-.3826	-.2202	-.2437	-.3023	-.2774								
90.000	-.1215	-.2389	-.2693	-.1474	-.3061	-.3037	-.2789								
120.000			-.0951	-.0853	-.4073	-.4184	-.3977								
141.000								-.3713							
151.000	-.0184	-.0389	-.0081	-.1186	-.1737	-.3166	-.4310	-.4525							
161.000			-.0377	.1668	-.1025	-.1790	-.2237								
170.000	-.0425	-.0358	.0504	.2914	-.0428	-.1479	-.2190								
180.000	-.0393		-.0196		.2049	-.0914	-.3443								
190.000	-.0815	-.0600	-.0678	.357											

ALPHA (5) = 15.005 BETA (1) = -3.830 MACH = 1.3921 Q = [illegible]28 P = 442.53 P0/L = 2.9208

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
0.000	1.3294	1.2593	.6062	.6048	.4614			.2711		.2424	.2163	.1863	.2175	.2295	.2383
41.000			.8475	.6299	.4726	.3414		.2877		03					
70.000			.8705	.6430	.5115	.3782		.3142		52	.3553	.2204	.2531	.2318	.2589
90.000			.7599	.5328	.4159	.2312		.1861		09					
120.000			.6529	.4468	.3263	.2204		.1778			-.0679	-.0241	-.0210	-.1097	
141.000		.7071	.5694	.3725	.2706	.1804		.1593			-.0961	-.0270	-.0524	-.1375	
151.000			.4072	.2214	.0709	.0856		.3133				-.3058	-.5247	-.4170	
161.000															
170.000			.2487	.0950	.0611	.0626		.7807		-.0259	-.5169	-.4850	-.3129	-.3013	
180.000									.6277						
190.000									.6481						
200.000										-.3789	-.4716	-.4035	-.2407	-.1156	
210.000								.8562							
220.000							.7726								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8876)

ALPHA (6) = 15.905 BETA (1) = -3.830

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.3294	.3205	.1534	.1459	.0704	.0566		.7886		-.4577	-.4677	-.3114	-.1956	-.0670	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2728	.2931	.3437	.3241	.2321	.1729	.0908		-.2920	-.2992
40.000	.3130		.3851	.3368	.2137	.2728	.0970		-.3305	-.2162
70.000	-.2615	-.4497	-.5315	-.4699	-.4658	-.4105	-.3018			
90.000	-.1480	-.3171	-.3774	-.2010	-.7000	-.3297	-.3451			
105.000			-.2952	-.0413	-.3147	-.3887	-.3967			
110.000								-.3873		
120.000	-.2154	-.1950	-.1078	.0891	-.2027	-.2911	-.3027	-.3559		
135.000			-.0346	.0395	-.2121	-.1919	-.2251			
150.000	-.2972	-.3209	-.1855	.1516	-.3845	-.2768	-.3169			
165.000	-.1288		-.2061		.1633	-.0688	-.3297			
180.000	-.0817	-.0958	-.1052	.2384						

ALPHA (6) = 15.917 BETA (2) = .190 MACH = 1.3921 Q = 600.28 P = 442.53 RN/L = 2.9208

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3327	1.2653	.8085	.6111	.4659			.2730		.2480	.2134	.1957	.2289	.2294	.2387
20.000			.8116	.6013	.4478	.3203		.2601		.2285					
40.000			.7719	.5680	.4427	.3150		.2351		.1541	.1560	.1731	.2153	.2028	.2339
55.000			.6316	.4107	.3067	.1156		.0837		.0437					
70.000			.5304	.3246	.2283	.1269		.0969		.0494	-.1090	-.0843	-.0889	-.2047	
90.000		.5677	.4709	.2730	.1890	.1053		.0960		.1582	-.1396	-.0874	-.1257	-.2017	
130.000			.3509	.1692	.0958	.0574		.3257		.1147	-.1874	-.3428	-.5383	-.3260	
140.000										.0306					
150.000			.2292	.0917	.0626	.0631		.7801		-.2022	-.5072	-.4583	-.2439	-.1053	
151.000									.5715						
162.000									.6072						
165.000										-.3669	-.4689	-.3401	-.1887	-.0682	
169.000								.8671							
174.000							.7710								
180.000	1.3327	.2864	.1616	.1197	.0829	.0627		.8326		-.4912	-.4893	-.2892	-.1784	-.0586	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2641	.2909	.3554	.3384	.2315	.1601	.0744		-.2847	-.2998
40.000	.2897		.3806	.3497	.2167	.2735	.1123		-.3249	-.2634

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8876)

ALPHA (6) = 15.917 BETA (2) = .190

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.3559	-.4958	-.5589	-.4696	-.5115	-.4684	-.3001			
90.000	-.2142	-.3410	-.4095	-.2652	-.3831	-.3829	-.3369			
105.000			-.2932	-.0883	-.4197	-.4672	-.4431			
110.000								-.4330		
120.000	-.1212	-.1627	-.0890	-.0385	-.1965	-.2662	-.3458	-.4015		
135.000			.0009	.0154	-.1165	-.1977	-.2427			
150.000	-.1514	-.1729	-.1869	.2648	-.2638	-.2293	-.2681			
165.000	-.0792		-.1088		.2419	-.0810	-.3479			
180.000	-.0759	-.0571	-.0789	.2845						

ALPHA (6) = 15.907 BETA (3) = 4.290 MACH = 1.3921 Q = 600.28 P = 442.53 RN/L = 2.9208

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3311	1.2515	.7977	.5986	.4585			.2742		.2367	.2154	.1880	.2271	.2254	.2337
20.000			.7588	.5546	.4123	.2977		.2380		.1936					
40.000			.6600	.4842	.3645	.2362		.1630		.0793	.0702	.1095	.1722	.1696	.2032
55.000			.4973	.2993	.1985	.0144		-.0110		-.0454					
70.000			.4110	.2220	.1394	.0511		.0293		-.0147	-.1437	-.1301	-.1560	-.2972	
90.000		.4342	.3871	.1837	.1155	.0470		.0408		.1077	-.1781	-.1332	-.1826	-.2554	
120.000			.3069	.1269	.0247	.0451		.3106		.0599	-.2389	-.3798	-.5065	-.2084	
140.000										-.0432					
150.000			.2098	.0987	.0577	.0528		.6770		-.3128	-.5073	-.3932	-.1838	-.0796	
151.000									.5251						
152.000									.5462						
165.000										-.3671	-.4714	-.2932	-.1780	-.0575	
169.000								.8531							
174.000							.7359								
180.000	1.3311	.2723	.1610	.1265	.0901	.0537		.8143		-.4747	-.4611	-.3130	-.2015	-.0726	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2685	.3093	.3472	.3070	.2303	.1466	.0350		-.2808	-.2959
40.000	.2622		.3709	.3267	.2135	.2682	.1220		-.3237	-.2878
70.000	-.4140	-.4604	-.5126	-.4357	-.4735	-.3737	-.2797			
90.000	-.2276	-.3595	-.4085	-.2746	-.4075	-.3871	-.3524			
105.000			-.2559	-.1773	-.5170	-.5403	-.4932			
110.000								-.3833		
120.000	-.1015	-.1370	-.0489	-.1967	-.1830	-.2909	-.4083	-.3886		
135.000			-.1705	.0015	-.1705	-.2614	-.2817			
150.000	-.0753	-.0983	-.1103	.2330	-.0272	-.1368	-.2220			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8876)

ALPHA (6) = 15.907 BETA (3) = 4.290

SECTION (1 ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0587		-.0919		.2778	-.0807	-.3671			
180.000	-.0775	-.1050	-.1074	.2510						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8877) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 936.0680 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = -10.000 SPOBRK = .000
BDFLAP = -11.700 L-ELVN = 10.000
R-ELVN = -10.000 MACH = 1.250

ALPHA (1) = -4.016 BETA (1) = -3.849 MACH = 1.2454 Q = 599.63 P = 552.28 RN/L = 3.0204

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4191	.6378	.1886	.0653	-.0055			-.0186		-.0153	-.0189	-.0549	-.0733	-.1016	-.0556
20.000			.2290	.0749	-.0177	-.0622		-.0423		-.0753					
40.000			.4138	.1134	.0337	-.0535		-.1039		-.2109	-.2033	-.1562	-.0961	-.1298	-.0752
55.000			.5727	.3022	.2208	.1278		.0895		.0191					
70.000			.6734	.4129	.3146	.2766		.1944		.0744	-.2805	-.1342	-.0748	.0176	
90.000		.9322	.7434	.4952	.3440	.3350		.2442		.0129	-.2490	-.2443	-.0949	.0105	
120.000			.8127	.6199	.4907	.5353		.5044		.0725	-.1811	-.4253	-.1344	-.0269	
140.000										.0404					
150.000			.8034	.6335	.5464	.6167		.9401		-.2086	-.3994	-.2337	-.1325	-.0726	
151.000									.6591						
162.000									.7161						
165.000										-.2695	-.2987	-.2311	-.1442	-.0843	
169.000								.9967							
174.000							1.0884								
180.000	1.4191	1.0171	.7386	.5921	.5519	.6143		.9205		-.3772	-.3768	-.1849	-.1689	-.0951	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.0048	-.0259	-.0551	-.1186	-.1989	-.2523	-.2979		-.5417	-.5604					
40.000	-.0726		-.0879	-.1227	-.2073	-.1450	-.2751		-.4685	-.3641					
70.000	.0830	-.0016	-.0122	.3181	.1503	-.0034	-.1952								
90.000	.0957	.0442	.1795	.2774	.1254	.0128	-.0765								
105.000			.3062	.2760	.0483	-.0427	-.0933								
110.000								-.2841							
120.000	.0674	.0729	.4318	.2963	.0130	-.0340	-.0528	-.2164							
135.000			.4800	.4939	.0655	.0660	.0328								
150.000	.0343	.1039	.4747	.4823	.1563	.1506	.0554								
165.000	.0175		.4675		.4349	.2396	-.3063								
180.000	.0094	.1295	.4609	.4995											

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8877)

ALPHA (1) = -4.011 BETA (2) = .186 MACH = 1.2454 Q = 599.63 P = 552.28 RN/L = 3.0204

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4252	.6374	.1992	.0580	.0239			-.0073		.0037	-.0114	-.0576	-.0742	-.0986	-.0554
20.000			.2217	.0704	.0055	-.0343		-.0253		-.0368					
40.000			.3584	.0961	.0319	-.0284		-.0649		-.1500	-.1349	-.1329	-.0893	-.0991	-.0592
55.000			.4831	.2258	.1589	.0750		.0529		-.0272					
70.000			.5656	.3029	.2243	.1935		.1287		.0063	-.3470	-.2097	-.1243	-.0025	
90.000		.7906	.6324	.3770	.2454	.2408		.1638		-.0942	-.3334	-.3258	-.1308	-.0034	
120.000			.7183	.5246	.3935	.4527		.4026		-.0485	-.2802	-.5078	-.1917	-.0348	
140.000										-.1893					
150.000			.7542	.6042	.4954	.5792		.8707		-.2932	-.3715	-.2555	-.1699	-.0623	
151.000									.5722						
162.000									.6456						
165.000										-.2802	-.3576	-.1771	-.1751	-.0674	
169.000								.9650							
174.000							1.0817								
180.000	1.4252	1.0111	.7499	.6081	.5599	.6226		.9521		-.3607	-.4105	-.1531	-.1723	-.0688	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0033	-.0213	-.0534	-.1209	-.2010	-.2538	-.3122		-.5478	-.5699
40.000	-.0362		-.0683	-.1160	-.1966	-.1578	-.2619		-.4390	-.3752
70.000	.0719	-.0068	.1139	.3030	.1076	-.0384	-.2221			
90.000	.0803	.0421	.2319	.2672	.0510	-.0378	-.1112			
105.000			.3354	.2474	-.0204	-.0847	-.1330			
110.000								-.3110		
120.000	.0743	.1112	.3689	.1345	-.0556	-.1239	-.1604	-.2557		
135.000			.4560	.4577	.0119	-.0238	-.0558			
150.000	.0359	.1336	.4821	.4777	.1184	.0440	-.0330			
165.000	.0346		.4810		.3540	.1181	-.3584			
180.000	.0248	.1407	.4912	.5791						

ALPHA (1) = -4.020 BETA (3) = 4.275 MACH = 1.2454 Q = 599.63 P = 552.28 RN/L = 3.0204

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4125	.6245	.2014	.0516	.0220			-.0368		-.0063	-.0137	-.0523	-.0750	-.1030	-.0668
20.000			.2029	.0510	-.0034	-.0520		-.0152		-.0276					
40.000			.3015	.0594	.0165	-.0352		-.0282		-.0911	-.0978	-.1076	-.0822	-.0903	-.0344
55.000			.3946	.1390	.0839	.0205		.0232		-.0532					
70.000			.4619	.1898	.1217	.0961		.0692		-.0480	-.3927	-.2574	-.1402	-.0143	
90.000		.6425	.5227	.2588	.1295	.1290		.0820		-.1926	-.4020	-.3767	-.1279	-.0211	
120.000			.6192	.4242	.2806	.3499		.2882		-.1669	-.3520	-.5632	-.2674	-.050e	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8877)

ALPHA (1) = -4.020 BETA (3) = 4.275

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.3326					
150.000			.6927	.5582	.4300	.5183		.7879		-.3463	-.4004	-.1998	-.2269	-.0893	
151.000									.4660						
162.000									.5679						
165.000										-.2850	-.4229	-.1682	-.1943	-.1028	
169.000								.9189							
174.000							1.0484								
180.000	1.4125	.9887	.7457	.5963	.5474	.6042		.9373		-.3903	-.3628	-.1831	-.1684	-.1025	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0101	-.0214	-.0569	-.1195	-.2016	-.2500	-.3168		-.5590	-.5794
40.000	-.0132		-.0495	-.1078	-.2023	-.1634	-.2650		-.4772	-.3863
70.000	.0548	-.0186	.1459	.3061	.0860	-.0613	-.2463			
90.000	.0715	.0460	.2252	.2818	.0148	-.0944	-.1489			
105.000			.3109	.1930	-.0622	-.1258	-.1763			
110.000								-.3455		
120.000	.0577	.1290	.3185	.0407	-.1555	-.2402	-.2628	-.3072		
130.000			.4143	.4263	-.0475	-.1164	-.1524			
150.000	.0160	.1423	.4387	.4578	.0659	-.0589	-.1318			
165.000	.0074		.4480		.2861	.0314	-.3680			
180.000	.0069	.1194	.4651	.5150						

ALPHA (2) = .012 BETA (1) = -3.863 MACH = 1.2451 Q = 599.58 P = 552.51 RN/L = 3.0183

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4285	.7642	.3004	.1635	.0731			.0176		.0217	.0239	-.0088	-.0276	-.0583	-.0520
20.000			.3432	.1822	.0662	.0095		.0209		-.0225					
40.000			.5145	.2404	.1355	.0528		.0219		-.0746	-.0842	-.0681	-.0209	-.0858	-.0342
55.000			.6328	.3768	.2810	.1989		.1706		.0937					
70.000			.6873	.4347	.3232	.2820		.2353		.1255	-.2573	-.1057	-.0798	-.0394	
90.000		.9348	.7251	.4706	.3325	.3354		.2793		.0705	-.2372	-.2002	-.1279	-.0415	
105.000			.7370	.5442	.4057	.4820		.5141		.0829	-.1837	-.4166	-.1672	-.0839	
140.000										.0267					
150.000			.6893	.5115	.4251	.5232		.9186		-.2393	-.4637	-.3084	-.1741	-.0915	
160.000									.6372						
165.000									.6817						
165.000										-.3272	-.4061	-.3051	-.1878	-.0957	
169.000								.9631							
174.000							1.0486								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8877)

ALPHA (2) = .012 BETA (1) = -3.863

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.4286	.8847	.6115	.4947	.4229	.5198		.8805		-.4297	-.4325	-.2481	-.2086	-.0821	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0147	.0175	.0089	-.0473	-.1233	-.1776	-.2151		-.5024	-.5192
40.000	-.0189		-.0119	-.0457	-.1360	-.0598	-.2132		-.4438	-.3383
70.000	.0106	-.1095	-.1782	.1768	.0731	-.0578	-.2301			
90.000	.0374	-.0426	-.0496	.1479	.0473	-.0529	-.1401			
105.000			.1581	.1854	-.0245	-.1227	-.1677			
110.000								-.3071		
120.000	-.0026	-.0145	.3352	.2125	-.0497	-.1293	-.1308	-.2456		
135.000			.3918	.3755	-.0226	-.0301	-.0469			
150.000	.0068	.0482	.3820	.3711	.0487	.0655	-.0131			
165.000	.0034		.3766		.3688	.1631	-.3164			
180.000	.0020	.1033	.3599	.3745						

ALPHA (2) = .014 BETA (2) = .176 MACH = 1.2451 Q = 599.58 P = 552.51 RN/L = 3.0183

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4336	.7672	.3061	.1591	.0998			.0204		.0346	.0341	-.0054	-.0314	-.0628	-.0520
20.000			.3271	.1698	.0763	.0239		.0236		.0015					
40.000			.4513	.2046	.1212	.0590		.0473		-.0438	-.0380	-.0564	-.0333	-.0782	-.0287
55.000			.5375	.2899	.2120	.1442		.1337		.0465					
70.000			.5772	.3265	.2343	.1992		.1814		.0650	-.3175	-.1827	-.1403	-.0408	
90.000		.7632	.6150	.3582	.2371	.2405		.2109		-.0203	-.3118	-.2873	-.1652	-.0423	
120.000			.6509	.4581	.3179	.4099		.4293		-.0268	-.2768	-.4899	-.1633	-.0505	
140.000										-.1307					
150.000			.6471	.4914	.3793	.5015		.8576		-.3353	-.4737	-.3211	-.1909	-.0582	
151.000									.5589						
162.000									.6196						
165.000										-.3326	-.4038	-.2467	-.2091	-.0532	
169.000								.9370							
174.000							1.0447								
180.000	1.4336	.8761	.6251	.4878	.4327	.5322		.9154		-.4804	-.4684	-.2192	-.2136	-.0563	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0208	.0246	.0145	-.0453	-.1242	-.1796	-.2393		-.5083	-.5320
40.000	.0088		.0107	-.0376	-.1352	-.0774	-.2062		-.4526	-.3493

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8877)

ALPHA (2) = .014 BETA (2) = .176

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.0042	-.1099	-.1245	.1758	.0248	-.0937	-.2550			
90.000	.0229	-.0491	.0809	.1286	-.0208	-.0923	-.1635			
105.000			.2130	.1252	-.0934	-.1614	-.1942			
110.000								-.3461		
120.000	.0317	.0355	.3017	.1706	-.0822	-.1851	-.2276	-.2922		
135.000			.3260	.3712	.0010	-.0923	-.1240			
150.000	.0263	.0865	.3478	.3773	.0639	-.0154	-.1015			
165.000	.0201		.3637		.2939	.0600	-.3559			
180.000	.0169	.0888	.3760	.4694						

ALPHA (2) = .026 BETA (3) = 4.255 MACH = 1.2451 Q = 599.58 P = 552.51 RN/L = 3.0183

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0060	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4198	.7579	.3046	.1624	.1033			-.0038		.0210	.0273	-.0018	-.0278	-.0700	-.0599
20.000			.2986	.1445	.0787	-.0003		.0029		.0151					
40.000			.3780	.1538	.1007	.0160		.0454		-.0122	-.0210	-.0429	-.0384	-.0872	-.0326
55.000			.4375	.1941	.1424	.0566		.0892		.0163					
70.000			.4708	.2158	.1455	.0969		.1180		.0098	-.3575	-.2347	-.1791	-.0499	
90.000		.6164	.5097	.2568	.1419	.1324		.1386		-.1091	-.3724	-.3360	-.1696	-.0472	
120.000			.5609	.3712	.2254	.3210		.3234		-.1366	-.3652	-.5435	-.1739	-.0543	
140.000										-.3272					
150.000			.5918	.4531	.3173	.4427		.7747		-.3944	-.4434	-.2708	-.2318	-.0635	
160.000									.4545						
170.000									.5400						
180.000										-.3398	-.4793	-.2309	-.2287	-.0733	
160.000								.0885							
174.000							1.0143								
180.000	1.4198	.8571	.6245	.4839	.4188	.5106		.8969		-.4484	-.4187	-.2435	-.2086	-.0841	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0028	.0228	.0132	-.0456	-.1232	-.1790	-.2491		-.5200	-.5380
40.000	.0252		.0211	-.0305	-.1292	-.0852	-.2095		-.4702	-.3564
70.000	-.0082	-.1182	-.0767	.1690	-.0025	-.1260	-.2827			
90.000	.0243	-.0541	.0729	.1345	-.0662	-.1407	-.1963			
105.000			.2085	.1314	-.1493	-.2038	-.2358			
110.000								-.3746		
120.000	.0406	.0451	.2513	.0164	-.1695	-.2907	-.3253	-.3435		
135.000			.3237	.3326	-.0753	-.1691	-.2126			
150.000	.0129	.1017	.3501	.3481	.0207	-.1024	-.1877			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8877)

ALPHA (2) = .026 BETA (3) = 4.255

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	.0046		.3532		.2203	-.0125	-.3696			
180.000	-.0052	.0986	.3645	.3795						

ALPHA (3) = 3.987 BETA (1) = -3.868 MACH = 1.2451 Q = 599.58 P = 552.51 RN/L = 3.0187

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4202	.8990	.4214	.2764	.1578			.0542		.0564	.0526	.0434	.0288	-.0172	-.0094
20.000			.4685	.2913	.1617	.0851		.0741		.0349					
40.000			.6101	.3519	.2258	.1397		.1160		.0444	.0265	.0111	.0465	-.0229	.0088
55.000			.6861	.4397	.3284	.2272		.2229		.1554					
70.000			.5916	.4507	.3224	.2637		.2553		.1736	-.2275	-.0825	-.0775	-.1129	
90.000		.8591	.6094	.4405	.3153	.3030		.2992		.1236	-.2189	-.1398	-.1367	-.1094	
120.000			.6667	.4853	.3208	.3826		.5169		.0954	-.2012	-.4128	-.2849	-.1765	
140.000										.0234					
150.000			.5708	.3973	.3035	.3965		.8996		-.2560	-.5184	-.4001	-.1999	-.1017	
151.000									.6201						
162.000									.6506						
165.000										-.3799	-.4710	-.3639	-.2085	-.0816	
169.000								.9322							
174.000															
180.000	1.4202	.7531	.4688	.4059	.3093	.4149	1.0092	.8430		-.4849	-.4762	-.2983	-.2341	-.0560	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0362	.0712	.0892	.0370	-.0380	-.0949	-.1420		-.4702	-.4860
40.000	.0551		.0760	.0397	-.0521	.0394	-.1526		-.4379	-.3193
70.000	-.0593	-.1945	-.2572	-.0328	-.0121	-.1075	-.2533			
90.000	-.0293	-.1408	-.2015	.0521	-.0310	-.1158	-.1904			
105.000			.0077	.1167	-.1520	-.1918	-.2339			
110.000								-.3549		
120.000	-.0808	-.0954	.2353	.1481	-.0978	-.2297	-.1928	-.2840		
135.000			.2626	.2645	-.0844	-.1307	-.1351			
150.000	-.0166	.0580	.2643	.2705	-.0432	-.0001	-.0934			
165.000	-.0094		.2599		.2645	.1174	-.3161			
180.000	-.0095	.1019	.2657	.3147						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8877)

ALPHA (3) = 3.988 BETA (2) = .182 MACH = 1.2451 Q = 599.58 P = 552.51 RN/L = 3.0187

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0060	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4242	.8978	.4261	.2854	.1810			.0558		.0633	.0762	.0458	.0268	-.0135	-.0097
20.000			.4438	.2822	.1671	.0791		.0618		.0492					
40.000			.5346	.3086	.2100	.1138		.1125		.0501	.0386	.0160	.0246	-.0281	-.0040
55.000			.5786	.3469	.2539	.1502		.1869		.1054					
70.000			.5827	.3457	.2369	.1761		.2056		.1147	-.2776	-.1612	-.1384	-.1146	
90.000		.7276	.5808	.3609	.2316	.1912		.2419		.0458	-.2843	-.2204	-.1923	-.1074	
120.000			.5803	.3934	.2577	.3187		.4453		.0003	-.2783	-.4757	-.2237	-.1089	
140.000										-.0957					
150.000			.5381	.3879	.2853	.4061		.8412		-.3523	-.5246	-.3760	-.1950	-.0604	
151.000									.5480						
162.000									.5972						
165.000										-.3810	-.4511	-.2997	-.2225	-.046	
169.000								.9146							
174.000							.9999								
180.000	1.4242	.7419	.5022	.3872	.3205	.4246		.8803		-.5380	-.5168	-.2693	-.2340	-.0464	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0390	.0889	.0987	.0377	-.0352	-.0994	-.1625		-.4719	-.4945
40.000	.0632		.1011	.0501	-.0520	.0170	-.1500		-.4384	-.3221
70.000	-.0700	-.1891	-.2548	.0089	-.0590	-.1429	-.2804			
90.000	-.0239	-.1343	-.0717	.0343	-.1035	-.1567	-.2119			
105.000			.1208	.0724	-.2098	-.2201	-.2530			
110.000								-.3754		
120.000	-.0153	-.0342	.2195	.1057	-.1174	-.2662	-.2645	-.3248		
135.000			.0391	.2930	-.0477	-.1537	-.1984			
150.000	.0006	.0344	.2501	.4026	.0170	-.0733	-.1557			
164.000	.0051		.2694		.2273	.0000	-.1495			
180.000	.0077	.0400	.1830	.4323						

ALPHA (3) = 3.988 BETA (3) = 4.246 MACH = 1.2451 Q = 599.58 P = 552.51 RN/L = 3.0187

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0060	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4099	.8959	.4179	.2895	.1770			.0406		.0472	.0697	.0509	.0304	-.0173	-.0150
20.000			.4091	.2593	.1466	.0564		.0367		.0420					
40.000			.4550	.2557	.1720	.0721		.0727		.0412	.0463	.0134	.0086	-.0272	-.0232
55.000			.4694	.2473	.1756	.0641		.1296		.0697					
70.000			.4718	.2355	.1540	.0814		.1467		.0564	-.3152	-.2113	-.1857	-.1129	
90.000		.5740	.4859	.2494	.1466	.0905		.1793		-.0325	-.3392	-.2700	-.2245	-.0956	
120.000			.5017	.3159	.1830	.2213		.3564		-.1024	-.3547	-.5231	-.1713	-.0697	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8877)

ALPHA (3) = 3.989 BETA (3) = 4.246

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.3018					
150.000			.4940	.3540	.2305	.3329		.7637		-.4225	-.5185	-.3218	-.2178	-.0517	
151.000									.4495						
152.000									.5146						
165.000										-.3880	-.5262	-.2772	-.2449	-.0544	
170.000								.8614							
174.000							.1790								
180.000	1.4099	.7159	.5059	.3813	.3099	.3579		.8597		-.5034	-.4566	-.2911	-.2307	-.0680	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
130.000	.0162	.0643	.0944	.0372	-.0378	-.1023	-.1909		-.4809	-.5020
140.000	.0608		.1134	.0533	-.0491	-.0028	-.1434		-.4463	-.3230
150.000	-.0702	-.2045	-.0002	.0140	-.0829	-.1771	-.3047			
160.000	-.0854	-.1304	-.0221	.0118	-.1337	-.1817	-.2344			
165.000			.1111	.0360	-.2676	-.2608	-.2793			
170.000								-.3963		
174.000	.0188	-.0160	.1693	.0034	-.1923	-.3429	-.4276	-.3613		
176.000			.2585	.2625	-.1343	-.2169	-.2635			
180.000	.0126	.0534	.2718	.2420	-.0488	-.1479	-.2281			
185.000	.0018		.2665		.1834	-.0579	-.3805			
180.000	-.0122	.0959	.2713	.3032						

ALPHA (4) = 7.974 BETA (1) = -3.859 MACH = 1.2449 Q = 599.64 P = 552.75 RN/L = 3.0238

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
000	1.3876	1.0129	.5454	.3929	.2461			.1171		.1057	.0980	.0953	.0920	.0451	.0590
20.000			.5930	.3996	.2523	.1649		.1255		.0949					
40.000			.7014	.4564	.3244	.2238		.1852		.1248	.1277	.0859	.1165	.0463	.0794
55.000			.7203	.4658	.3855	.2478		.2370		.1644					
70.000			.6861	.4580	.3347	.2583		.2540		.2023	-.1902	-.0656	-.0655	-.1555	
90.000		.8166	.6550	.4308	.3000	.2595		.2998		.1691	-.2029	-.1034	-.1310	-.1832	
120.000			.5701	.3857	.2449	.2629		.5094		.1090	-.2082	-.4114	-.4397	-.2958	
140.000										.0250					
150.000			.4595	.2861	.2073	.2425		.8734		-.2312	-.5647	-.4802	-.2356	-.1193	
151.000									.6015						
160.000									.6228						
165.000										-.4317	-.5221	-.4107	-.2220	-.0837	
170.000								.8993							
174.000							.9717								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8877)

ALPHA (4) = 7.974 BETA (1) = -3.859

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.3876	.6100	.3701	.3050	.2214	.2104		.8087		-.5314	-.5137	-.3259	-.2284	-.0643	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1000	.1381	.1603	.1314	.0560	-.0012	-.0798		-.4470	-.4609					
40.000	.1290		.1910	.1386	.0301	.1029	-.0899		-.4010	-.2935					
70.000	-.1360	-.2603	-.3286	-.1465	-.0859	-.1482	-.2639								
90.000	-.0916	-.2063	-.2801	-.0257	-.1710	-.1784	-.2204								
105.000			-.0641	.0430	-.2214	-.2961	-.2572								
110.000								-.3723							
120.000	-.1688	-.1667	.1094	.0730	-.1152	-.2519	-.2909	-.3052							
135.000			.0923	.1734	-.0860	-.1549	-.1823								
150.000	-.0746	-.0359	.0866	.2200	.0195	-.0525	-.1530								
165.000	-.0349		.1211		.2534	.0690	-.3359								
180.000	-.0300	-.0007	.1985	.4236											

ALPHA (4) = 7.979 BETA (2) = .184 MACH = 1.2449 Q = 599.64 P = 552.75 RN/L = 3.0238

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0090	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3907	1.0239	.5524	.3964	.2652			.1219		.1059	.1069	.1063	.0925	.0491	.0563
20.000			.5691	.3869	.2503	.1551		.1274		.0901					
40.000			.6216	.4044	.2872	.1908		.1562		.1067	.1157	.0746	.0861	.0321	.0554
55.000			.6074	.3843	.2827	.1620		.1644		.1356					
70.000			.5746	.3527	.2393	.1675		.2016		.1514	-.2305	-.1417	-.1336	-.2084	
90.000		.6900	.5574	.3428	.2235	.1725		.2498		.1004	-.2578	-.1791	-.1916	-.1737	
120.000			.5062	.3265	.2017	.2068		.4557		.0226	-.2776	-.4651	-.3810	-.1721	
140.000										-.0787					
150.000			.4363	.2841	.2057	.2073		.8157		-.3535	-.5692	-.4325	-.2000	-.0702	
161.000									.5443						
169.000									.5824						
165.000										-.4256	-.4986	-.3402	-.2136	-.0486	
169.000								.8978							
174.000							.9290								
180.000	1.3907	.5959	.3899	.2906	.2359	.2160		.8531		-.5793	-.5503	-.3052	-.2283	-.0476	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.0930	.1547	.1924	.1381	.0574	-.0116	-.0905		-.4391	-.4604					
40.000	.1262		.2099	.1486	.0389	.0919	-.0764		-.4177	-.2974					

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8877)

ALPHA (4) = 7.979 BETA (2) = .184

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1401	-.2537	-.3244	-.1024	-.1131	-.1894	-.2735			
90.000	-.0808	-.1957	-.2674	-.0145	-.2252	-.2025	-.2395			
105.000			-.0419	.0597	-.2360	-.3179	-.2915			
110.000								-.3944		
120.000	-.0669	-.0806	.1123	.0399	-.1620	-.2928	-.3665	-.3369		
130.000			.1146	.2348	-.0908	-.1937	-.2469			
150.000	-.0181	-.0351	.1634	.4679	-.0281	-.1303	-.1954			
160.000	-.0131		.2135		.1746	-.0651	-.3637			
170.000	-.0109	.0033	.2566	.4503						

ALPHA (4) = 7.979 BETA (3) = 4.242 MACH = 1.2449 Q = 599.64 P = 552.75 PN/L = 3.0238

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3797	1.0111	.5438	.3906	.2567			.1057		.0824	.1016	.1019	.0956	.0485	.0495
20.000			.5365	.3564	.2210	.1237		.0918		.0673					
40.000			.5232	.3391	.2334	.1248		.0993		.0575	.0877	.0595	.0534	.0284	.0440
55.000			.4923	.2758	.1949	.0669		.0719		.0975					
70.000			.4626	.2399	.1527	.0777		.1230		.1068	-.2633	-.1914	-.1876	-.2444	
90.000		.5284	.4571	.2377	.1400	.0834		.1960		.0317	-.3062	-.2338	-.2391	-.1682	
120.000			.4325	.2562	.1395	.1305		.3879		-.0636	-.3445	-.5038	-.2293	-.1083	
140.000										-.2229					
150.000			.3956	.2600	.1572	.1583		.7581		-.4383	-.5722	-.3683	-.1955	-.0517	
161.000									.4496						
162.000									.4978						
165.000										-.4309	-.5515	-.3102	-.2297	-.0474	
169.000								.8397							
174.000							.9462								
180.000	1.3797	.5708	.3874	.2852	.2229	.1895		.8298		-.5494	-.4942	-.7213	-.2365	-.0852	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0870	.1475	.1892	.1328	.0492	-.0294	-.1247		-.4458	-.4575
40.000	.1019		.2137	.1460	.0336	.0779	-.0695		-.4614	-.3123
70.000	-.1147	-.2023	-.3225	-.0997	-.1450	-.2457	-.3110			
90.000	-.0973	-.1661	-.1636	-.0447	-.2291	-.1932	-.2908			
105.000			.0070	-.0017	-.3607	-.3220	-.3232			
110.000								-.4341		
120.000	-.0145	-.0665	.0820	-.0531	-.2191	-.3651	-.4641	-.3634		
130.000			.2072	.2574	-.1524	-.2455	-.2923			
150.000	-.0088	-.1047	.2529	.3382	-.0945	-.2066	-.2632			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8977)

ALPHA (4) = 7.978 BETA (3) = 4.242

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0198		.1393		.1177	-.1355	-.3905			
180.000	-.0366	.0037	.1673	.4053						

ALPHA (5) = 11.951 BETA (1) = -3.847 MACH = 1.2454 Q = 599.63 P = 552.28 RN/L = 3.0229

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0450	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3345	1.1262	.6744	.4659	.3502			.1990		.1541	.1464	.1392	.1656	.1268	.1415
20.000			.7177	.5124	.3581	.2411		.2047		.1593					
40.000			.7575	.5523	.4191	.3030		.2500		.1698	.2033	.1591	.1778	.1357	.1640
55.000			.7404	.5121	.3994	.2541		.2045		.1798					
70.000			.6595	.4516	.3199	.2409		.1954		.2160	-.1287	-.0551	-.0595	-.1565	
90.000		.7571	.6039	.4052	.2772	.2258		.2478		.2052	-.1765	-.0766	-.1210	-.1959	
120.000			.4798	.2976	.1545	.1759		.4926		.1272	-.2105	-.3922	-.5551	-.4375	
140.000										.0361					
150.000			.3431	.1784	.1229	.1472		.8526		-.1162	-.6051	-.5411	-.2768	-.1555	
[illegible]									.5981						
[illegible]									.5952						
165.000										-.4776	-.5635	-.4525	-.2397	-.1052	
[illegible]								.8655							
[illegible]							.9551								
[illegible]	1.3345	.4655	.2508	.1995	.1411	.1271		.7725		-.5692	-.5428	-.3403	-.2115	-.0531	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1834	.2895	.2342	.2183	.1243	.0980	-.0341		-.4251	-.4388
40.000	.2268		.3232	.2355	.1085	.1635	-.0322		-.3780	-.2727
70.000	-.2680	-.3932	-.4206	-.2280	-.2295	-.2195	-.2539			
[illegible]	-.1706	-.2774	-.2590	-.0920	-.2627	-.2395	-.2679			
[illegible]			-.2864	.0112	-.3021	-.3937	-.3108			
[illegible]								-.3932		
140.000	-.1939	-.2046	-.0078	.0536	-.1857	-.2871	-.3343	-.3860		
[illegible]			.0015	.1728	-.1477	-.1923	-.2317			
150.000	-.1112	-.2085	-.0449	.3228	-.0863	-.1540	-.2595			
[illegible]	-.0695		.0447		.1742	-.0277	-.3615			
180.000	-.0442	-.0497	.1002	.4360						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8877)

ALPHA (S) = 11.970 BETA (2) = .192 MACH = 1.2454 Q = 599.63 P = 552.28 RN/L = 3.0229

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3395	1.1338	.6782	.5013	.3698										
20.000			.6892	.4951	.3506	.2281		.2002		.1719	.1411	.1577	.1668	.1297	.1460
40.000			.6947	.4913	.3695	.2427		.1971		.1552					
55.000			.6234	.4055	.2952	.1448		.2057		.1157	.1590	.1340	.1483	.1093	.1410
70.000			.5514	.3475	.2274	.1539		.1196		.1112					
90.000		.6162	.5054	.3146	.1972	.1481		.1244		.1667	-.1761	-.1240	-.1326	-.2282	
120.000			.4143	.2490	.1231	.1409		.1985		.1413	-.2314	-.1475	-.1870	-.2613	
140.000								.4419		.0483	-.2713	-.4445	-.5655	-.2353	
150.000			.3212	.1866	.1241	.1337				-.0630					
151.000								.7526		-.3299	-.6021	-.4809	-.2218	-.0693	
162.000									.5302						
165.000									.5734						
169.000										-.4629	-.5270	-.3672	-.1990	-.0480	
174.000								.8669							
180.000	1.3395	.4427	.2683	.1931	.1572	.1282	.8030								
								.8381		-.6076	-.5789	-.3260	-.1942	-.0394	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1849	.3118	.3046	.2222	.1262	.0584	-.0401		-.4147	-.4363					
20.000	.2036		.3233	.2377	.1125	.1566	-.0168		-.4214	-.2860					
70.000	-.2423	-.3840	-.4326	-.2034	-.2637	-.2723	-.2605								
90.000	-.1485	-.2634	-.3462	-.1015	-.3126	-.2858	-.3035								
105.000			-.2123	0001	-.3634	-.4349	-.3249								
120.000	-.0871	-.1331	.0168	-.0234	-.2129	-.3234	-.3962	-.4387							
135.000			.0357	.1701	-.1417	-.2325	-.2921	-.3941							
150.000	-.0646	-.0902	.0168	.4403	-.0723	-.1707	-.2271								
165.000	-.0403		.0760		.1620	-.1047	-.3814								
180.000	-.0297	-.0182	.1325	.4623											

ALPHA (S) = 11.952 BETA (3) = 4.260 MACH = 1.2454 Q = 599.63 P = 552.28 RN/L = 3.0229

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0090	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3281	1.1189	.6655	.4959	.3517										
20.000			.6397	.4516	.3136	.2012		.1893		.1625	.1388	.1509	.1688	.1207	.1306
40.000			.5902	.4285	.2953	.1691		.1553		.1271					
55.000			.4989	.3536	.1953	.0274		.1349		.0474	.1039	.1094	.1155	.0720	.1104
70.000			.4249	.2235	.1334	.0648		.0375		.0495					
90.000		.4643	.4109	.2069	.1192	.0708		.0531		.1161	-.2091	-.1789	-.2012	-.3150	
120.000			.3544	.1882	.0826	.0934		.1709		.0778	-.2754	-.2077	-.2427	-.2531	
								.3985		-.0257	-.3339	-.4811	-.3730	-.1495	

TABULATED PRESSURE DATA - OA148 (AMES 11-073-1)

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8677)

ALPHA (5) = 11.962 BETA (3) = 4.260

SECTION (11)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000															
150.000			.2936	.1669	.1005	.0972		.7634		-.1610					
151.000										-.4412	-.6081	-.4116	-.1887	-.0509	
162.000									.4612						
165.000									.4880						
169.000										-.4658	-.5602	-.3352	-.1974	-.0466	
174.000								.8292							
180.000	1.3281	.4174	.2704	.1945	.1489	.1142	.9024								
								.8054		-.5798	-.5262	-.3534	-.2189	-.0662	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1767	.2893	.2947	.2125	.1168	.0301	-.0574		-.4195	-.4399					
40.000	.1795		.3111	.2281	.1067	.1539	-.0122		-.4205	-.2961					
70.000	-.2242	-.3683	-.4327	-.1972	-.2652	-.2836	-.3424								
80.000	-.1176	-.2522	-.2948	-.1505	-.3308	-.3068	-.2989								
105.000			-.0807	-.0939	-.4713	-.4666	-.3503								
110.000								-.4611							
120.000	-.0467	-.1063	.0257	-.1450	-.2535	-.4002	-.5121	-.4619							
135.000			.1075	.2135	-.1513	-.2409	-.2974								
150.000	-.0269	-.0362	.1810	.3535	-.0967	-.2198	-.2864								
165.000	-.0383		.1163		.1348	-.1705	-.3976								
180.000	-.0574	-.0495	.0684	.4459											

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8978) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 936.0680 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0600

PARAMETRIC DATA

RUDDER = -10.000 SPDBRK = .000
BDFLAP = -11.700 L-ELVN = 10.000
R-ELVN = -10.000 MACH = 1.100

ALPHA (1) = -4.062 BETA (1) = -3.838 MACH = 1.0993 Q = 599.81 P = 709.06 RN/L = 3.1886

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3353	.9579	.1373	.0757	.0017			-.0201		-.0621	0876	-.1434	-.1310	-.1038	-.0087
20.000			.1655	.0555	-.0373	-.0447		-.0675		-.1103					
40.000			.3532	.0951	-.0096	-.0682		-.1623		-.2536	-.2405	-.2035	-.1588	-.1502	-.0461
55.000			.5225	.2740	.1898	.0953		.0206		-.0614					
70.000			.6377	.3945	.3041	.2531		.1233		-.0148	-.4034	-.1753	-.0842	-.0060	
90.000		.8930	.7162	.4811	.3379	.3032		.1580		-.0821	-.3570	-.3271	-.0997	-.0108	
120.000			.7912	.6150	.4973	.5031		.4080		-.0160	-.2904	-.5466	-.1088	-.0250	
140.000										-.0320					
151.000			.7931	.6408	.5605	.5888		.8481		-.3028	-.5211	-.3314	-.1648	-.0454	
161.000									.5524						
162.000									.6106						
165.000										-.4487	-.4213	-.2812	-.1975	-.0385	
169.000								.9049							
174.000							1.0124								
180.000	1.3353	.9906	.7349	.5884	.5629	.5869		.8280		-.5710	-.4486	-.2296	-.2298	-.0353	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0758	-.0210	-.0674	-.1445	-.2233	-.2746	-.3257		-.6916	-.6550
40.000	-.0310		-.0734	-.1383	-.2288	-.1662	-.3273		-.4498	-.3707
70.000	.1424	.0639	.2656	.3579	.0816	-.1054	-.3337			
90.000	.1626	.1276	.3205	.3646	.0486	-.0925	-.2004			
105.000			.3873	.3861	-.0397	-.1267	-.1922			
110.000								-.4534		
130.000	.1555	.2247	.4867	.4305	-.1049	-.0980	-.1542	-.3118		
135.000			.5399	.5539	-.0217	.0199	-.0649			
150.000	.1779	.2979	.5344	.5333	.0691	.0831	-.0495			
165.000	.1738		.5159		.3055	.1313	-.3644			
180.000	.1815	.3054	.5010	.5989						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8878)

ALPHA (1) = -4.058 BETA (2) = .195 MACH = 1.0993 Q = 599.81 P = 709.06 RN/L = 3.1886

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3397	.5599	.1410	.0836	.0126			-.0109		-.0476	-.0841	-.1426	-.1266	-.0934	-.0180
20.000			.1577	.0698	-.0128	-.0420		-.0363		-.0846					
40.000			.3024	.0794	-.0123	-.0403		-.1078		-.1850	-.1931	-.1917	-.1448	-.1065	-.0039
55.000			.4344	.2007	.1251	.0568		-.0200		-.1075					
70.000			.5267	.2865	.2072	.1738		.0532		-.0884	-.4737	-.2462	-.1187	-.0192	
90.000		.7529	.5999	.3602	.2347	.2076		.0759		-.2003	-.4335	-.4091	-.1096	-.0236	
120.000			.6955	.5132	.3947	.4198		.3045		-.1611	-.3989	-.6261	-.1460	-.0276	
140.000										-.2581					
160.000			.7429	.6037	.5039	.5477		.7748		-.4252	-.5126	-.2845	-.2072	-.0187	
161.000									.4645						
162.000									.5390						
165.000										-.4522	-.4519	-.2225	-.2228	-.0146	
169.000								.8743							
174.000							1.0031								
180.000	1.3397	.9951	.7448	.5982	.5685	.5947		.8625		-.4804	-.5539	-.2048	-.2307	-.0132	
X LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.0669	-.0249	-.0791	-.1604	-.2404	-.2595	-.3162		-.6956	-.7081					
40.000	.0819		-.0729	-.1458	-.2031	-.1745	-.3119		-.4729	-.4068					
70.000	.1404	.1223	.2540	.3239	.0404	-.1428	-.3647								
90.000	.1566	.1854	.3152	.3253	-.0175	-.1405	-.2373								
105.000			.3780	.3064	-.1062	-.1790	-.2467								
110.000								-.4782							
120.000	.1700	.2556	.4239	.2685	-.1811	-.1914	-.2452	-.3666							
135.000			.5060	.5338	-.0872	-.0910	-.1362								
150.000	.1809	.3124	.5209	.5302	.0198	-.0317	-.1248								
165.000	.1907		.5169		.2243	.0218	-.3646								
180.000	.1887	.3234	.5218	.6522											

ALPHA (1) = -4.055 BETA (3) = 4.077 MACH = 1.0993 Q = 599.81 P = 709.06 RN/L = 3.1886

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X LB	.0000	.0080	.0230	.0460	.0700	.1120	1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3215	.5408	.1361	.0859	.0109			-.0168		-.0427	-.0899	-.1450	-.1370	-.1068	-.0225
20.000			.1373	.0645	-.0135	-.0513		-.0137		-.0664					
40.000			.2439	.0550	.0066	-.0201		-.0614		-.1399	-.1669	-.1935	-.1422	-.0920	.0243
55.000			.3486	.1096	.0643	.0202		-.0355		-.1404					
70.000			.4102	.1803	.1166	.1077		.0321		-.1499	-.5318	-.3070	-.1173	-.0110	
90.000		.5982	.4837	.2449	.1284	.1192		.0045		-.3081	-.5146	-.4744	-.1240	-.0111	
120.000			.5999	.4102	.2824	.3181		.1909		-.2935	-.4911	-.7014	-.2167	-.0411	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8078)

ALPHA (1) = -4.055 BETA (3) = 4.277

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.4825					
150.000			.6788	.5566	.4458	.4915		.6916		-.4811	-.5356	-.2689	-.2849	-.0364	
151.000									.3617						
162.000									.4589						
165.000										-.4282	-.5509	-.2323	-.2567	-.0304	
169.000								.8274							
174.000							.9685								
180.000	1.3215	.9602	.7441	.5812	.5583	.5806		.8473		-.5809	-.4240	-.2318	-.2196	-.0424	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0713	-.0246	-.0774	-.1535	-.2332	-.2877	-.3591		-.7113	-.6701
40.000	.0485		-.0733	-.1339	-.2258	-.1939	-.3418		-.5604	-.4599
70.000	.1619	.1253	.2281	.2974	-.0062	-.1699	-.3999			
90.000	.1816	.1814	.2810	.3025	-.0549	-.1991	-.2891			
105.000			.3309	.2440	-.1702	-.2339	-.2958			
110.000								-.5008		
120.000	.1896	.2366	.3584	.1502	-.2863	-.3013	-.3586	-.4163		
135.000			.4486	.5038	-.1671	-.2042	-.2295			
150.000	.1935	.2022	.4747	.6284	- 0508	-.1569	-.2246			
165.000	.1917		.4861		.1498	-.0730	-.4120			
180.000	.1855	.3066	.5067	.6206						

ALPHA (2) = .040 BETA (1) = -3.863 MACH = 1.0990 Q = 599.71 P = 709.30 RN/L = 3.1896

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3476	.7027	.2625	.1710	.0605			.0260		-.0068	-.0321	-.0910	-.0807	-.1018	-.0342
20.000			.2998	.1709	.0500	.0199		-.0008		-.0419					
40.000			.4735	.2251	.1091	.0704		-.0272		-.1119	-.1165	-.1195	-.0824	-.1052	-.0261
55.000			.5929	.3671	.2700	.1975		.1142		.0145					
70.000			.6647	.4315	.3285	.2881		.1681		.0415	-.3850	-.1382	-.1370	-.0449	
90.000		.8764	.7056	.4843	.3471	.3286		.2014		-.0207	-.3521	-.2377	-.1604	-.0457	
120.000			.7273	.5527	.4403	.4707		.4235		-.0111	-.2926	-.5513	-.1831	-.0846	
140.000										-.0677					
150.000			.6877	.5324	.4628	.5162		.8258		-.3709	-.6166	-.4157	-.1764	-.0572	
151.000									.5311						
162.000									.5745						
165.000										-.4947	-.4959	-.3822	-.2142	-.0448	
169.000								.8709							
174.000							.9775								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8878)

ALPHA (2) = .040 BETA (1) = -3.863

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.3476	.8523	.6157	.5068	.4635	.5102		.7877		-.6038	-.5291	-.3023	-.2559	-.0431	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1022	.0635	.0264	-.0330	-.1285	-.1710	-.2563		-.6616	-.6441					
40.000	.0256		.0376	-.0397	-.1323	-.0567	-.2851		-.4498	-.3627					
70.000	.0400	-.1393	.0627	.2700	.0466	-.1200	-.3532								
90.000	.0678	-.0821	.1609	.2764	.0059	-.1302	-.2352								
105.000			.2652	.2894	-.0753	-.1774	-.2442								
110.000								-.4655							
120.000	.0465	.0162	.4021	.3017	-.1440	-.1627	-.1947	-.3217							
135.000			.4611	.4374	-.1023	-.0674	-.1227								
150.000	.0778	.1710	.4634	.4108	-.0103	-.0037	-.1048								
165.000	.0946		.4301		.2598	.0634	-.3500								
180.000	.1052	.2177	.4158	.4627											

ALPHA (2) = .041 BETA (2) = .166 MACH = 1.0990 Q = 599.71 P = 709.30 RN/L = 3.1896

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3502	.7021	.2661	.1819	.0717			.0339		.0080	-.0333	-.0895	-.0862	-.0991	-.0212
20.000			.2845	.1691	.0511	.0152		.0256		-.0190					
40.000			.4117	.1980	.0906	.0702		.0026		-.0677	-.0904	-.1223	-.0824	-.0925	.0065
55.000			.5023	.2849	.1951	.1521		.0672		-.0276					
70.000			.5498	.3215	.2315	.2141		.1056		-.0237	-.4439	-.2189	-.1874	-.0583	
90.000		.7294	.5929	.3648	.2427	.2457		.1257		-.1274	-.4339	-.3156	-.1797	-.0520	
120.000			.6349	.4609	.3504	.3972		.3308		-.1410	-.3895	-.6123	-.1525	-.0418	
140.000										-.2294					
150.000			.6392	.5040	.4093	.4839		.7611		-.4948	-.5868	-.3887	-.2034	-.0303	
161.000									.4465						
162.000									.5057						
165.000										-.5048	-.5244	-.2971	-.2393	-.0263	
169.000								.8416							
174.000							.9669								
180.000	1.3502	.8546	.6242	.4961	.4631	.5165		.8198		-.5851	-.6190	-.2756	-.2548	-.0229	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.0961	.0482	.0080	-.0712	-.1029	-.1662	-.2529		-.6630	-.6826					
20.000	.0832		.0199	-.0602	-.1189	-.0645	-.2608		-.4621	-.3800					

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8878)

ALPHA (2) = .041 BETA (2) = .186

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	.0252	-.1368	.1291	.2480	.0051	-.1549	-.3742			
90.000	.0549	-.0612	.2232	.2219	-.0454	-.1533	-.2577			
105.000			.2868	.2104	-.1285	-.2102	-.2776			
120.000								-.4833		
135.000	.0706	.1114	.3520	.1956	-.1772	-.2333	-.2771	-.3655		
150.000			.3932	.4187	-.1041	-.1470	-.1910			
165.000	.0963	.1832	.4201	.4556	-.0273	-.0910	-.1786			
180.000	.0999		.4186		.1904	-.0351	-.3725			
	.1016	.2196	.4293	.5467						

ALPHA (2) = .036 BETA (3) = 4.252 MACH = 1.0990 Q = 599.71 P = 709.30 RN/L = 3.1896

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3368	.6967	.2604	.1777	.0708			.0319		.0133	-.0402	-.0900	-.0890	-.1034	-.0348
20.000			.2542	.1540	.0436	.0328		.0307		-.0053					
40.000			.3373	.1602	.0711	.0669		.0352		-.0390	-.0865	-.1304	-.0969	-.0936	.0176
55.000			.4008	.2035	.1243	.1104		.0405		-.0645					
70.000			.4385	.2238	.1373	.1532		.0537		-.0808	-.4904	-.2837	-.2129	-.0446	
90.000		.5805	.4609	.2568	.1502	.1745		.0608		-.2195	-.5035	-.3791	-.1684	-.0334	
120.000			.5428	.3734	.2534	.3219		.2329		-.2637	-.4861	-.6715	-.1703	-.0309	
140.000										-.4804					
150.000			.5836	.4699	.3552	.4406		.6803		-.5644	-.5962	-.3341	-.2614	-.0322	
160.000									.3506						
165.000									.4303						
170.000										-.5090	-.6230	-.2999	-.2801	-.0348	
174.000								.7974							
180.000	1.3368	.8356	.6237	.4836	.4573	.5069	.9402	.8086		-.6172	-.5051	-.3014	-.2492	-.0448	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0374	.0595	.0152	-.0629	-.1301	-.1968	-.2848		-.6762	-.6863
40.000	.1026		.0260	-.0412	-.1253	-.1032	-.2762		-.5357	-.4180
70.000	.0495	-.1039	.1079	.2148	-.0431	-.1933	-.4110			
90.000	.0942	-.0164	.1681	.2083	-.1089	-.2197	-.2980			
120.000			.0405	.1682	-.2055	-.2748	-.3237			
140.000								-.5049		
150.000	.1120	.1151	.2821	.0772	-.2817	-.3424	-.3818	-.4016		
165.000			.3725	.4021	-.1928	-.2559	-.2899			
180.000	.1184	.2034	.3987	.4157	-.0891	-.2047	-.2921			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8878)

ALPHA (2) = .036 BETA (3) = 4.252

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	.1115		.4045		.1183	-.1266	-.3945			
180.000	.0963	.2186	.4181	.4678						

ALPHA (3) = 4.006 BETA (1) = -3.864 MACH = 1.0989 Q = 599.58 P = 709.30 RN/L = 3.1896

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3362	.8352	.3913	.2696	.1642			.0905		.0506	.0198	-.0325	-.0263	-.0541	-.0374
20.000			.4351	.2770	.1527	.0867		.0888		.0306					
40.000			.5931	.3403	.2215	.1616		.0989		.0155	-.0117	-.0352	-.0034	-.0613	.0112
55.000			.6559	.4382	.3304	.2585		.1809		.0827					
70.000			.6686	.4447	.3376	.3066		.2015		.0872	-.3347	-.1307	-.1410	-.1077	
90.000		.8352	.6751	.4607	.3343	.3344		.2327		.0301	-.3478	-.1862	-.1992	-.1033	
130.000			.6440	.4713	.3676	.4215		.4265		-.0017	-.3194	-.5441	-.3114	-.1672	
140.000										-.0844					
150.000			.5674	.4176	.3628	.4375		.8043		-.3631	-.6815	-.4981	-.2114	-.0758	
151.000									.5081						
160.000									.5378						
165.000										-.5572	-.6072	-.4589	-.2267	-.0618	
168.000								.8367							
174.000							.9389								
180.000	1.3362	.7256	.4889	.3941	.3642	.4337		.7470		-.6633	-.5952	-.3552	-.2516	-.0472	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1538	.1788	.1402	.0392	-.0688	-.0948	-.2216		-.6421	-.6315
40.000	.1169		.1582	.0461	-.0686	-.0126	-.2516		-.4496	-.3592
70.000	-.0639	-.2418	-.3178	.1659	-.0138	-.1480	-.3902			
90.000	-.0042	-.1848	-.0893	.1453	-.0533	-.1754	-.2814			
105.000			.1486	.1806	-.1259	-.2388	-.3023			
110.000								-.4814		
120.000	-.0857	-.0879	.2914	.1455	-.1751	-.2363	-.2552	-.3478		
135.000			.3075	.3080	-.1585	-.1449	-.1914			
150.000	.0305	.1042	.3094	.3221	-.0772	-.0724	-.1691			
165.000	.0714		.3133		.1983	.0192	-.3557			
180.000	.0832	.1340	.3149	.3871						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8878)

ALPHA (3) = 4.004 BETA (2) = .194 MACH = 1.0989 Q = 599.58 P = 709.30 RN/L = 3.1896

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3414	.8402	.3949	.2765	.1672			.0993		.0548	.0225	-.0279	-.0310	-.0537	-.0379
20.000			.4121	.2682	.1476	.0787		.0948		.0397					
40.000			.5091	.2979	.1926	.1416		.1065		.0297	-.0129	-.0520	-.0264	-.0738	.0107
55.000			.5495	.3386	.2448	.1973		.1381		.0352					
70.000			.5574	.3403	.2393	.2323		.1458		.0275	-.3864	-.2141	-.2038	-.0977	
90.000		.6937	.5689	.3570	.2400	.2608		.1669		-.0580	-.4143	-.2684	-.2519	-.0993	
130.000			.5682	.4020	.2974	.3779		.3533		-.1154	-.3859	-.6081	-.2186	-.0869	
140.000										-.2191					
150.000			.5347	.4037	.3367	.4275		.7454		-.5190	-.6877	-.4696	-.2019	-.0465	
155.000									.4354						
160.000									.4831						
165.000										-.5596	-.5775	-.3554	-.2275	-.0364	
169.000								.8164							
174.000							.9282								
180.000	1.3414	.7207	.5075	.3951	.3688	.4		.7850		-.7063	-.6700	-.3341	-.2430	-.0367	

X/LB	.6620	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1547	.1712	.1317	.0439	-.0604	-.1158	-.2186		-.6393	-.6582
40.000	.1377		.1516	.0544	-.0556	-.0272	-.2352		-.4604	-.3539
80.000	-.0702	-.2540	-.2055	.1485	-.0517	-.1752	-.4032			
90.000	-.0338	-.1770	.0354	.1277	-.1060	-.1963	-.2803			
105.000			.1732	.1042	-.1834	-.2646	-.3128			
110.000								-.4944		
120.000	.0029	-.0416	.2403	.1059	-.2025	-.2829	-.3244	-.3771		
135.000			.2759	.3672	-.1352	-.2011	-.2491			
150.000	.0639	.0601	.3094	.4844	-.0616	-.1463	-.2261			
165.000	.0742		.3359		.1431	-.0853	-.3704			
180.000	.0735	.0925	.3425	.4929						

ALPHA (3) = 4.004 BETA (3) = 4.242 MACH = 1.0989 Q = 599.58 P = 709.30 RN/L = 3.1896

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3266	.8218	.3826	.2699	.1570			.0978		.0484	.0140	-.0286	-.0332	-.0593	-.0414
20.000			.3738	.2426	.1254	.0612		.0896		.0293					
40.000			.4219	.2455	.1481	.1026		.1028		.0224	-.0240	-.0765	-.0627	-.0919	.0058
55.000			.4389	.2409	.1565	.1380		.0949		-.0020					
70.000			.4445	.2393	.1471	.1697		.0980		-.0257	-.4340	-.2902	-.2597	-.0859	
90.000		.5413	.4683	.2498	.1448	.1960		.1117		-.1425	-.4737	-.3373	-.2605	-.0831	
120.000			.4840	.3151	.2170	.3180		.2665		-.2278	-.4687	-.6559	-.1889	-.0331	

DATE 10 FEB 76 TABULATED PRESSURE DATA - OA148 (AMES 11-073-1)

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8878)

ALPHA (3) = 4.004 BETA (3) = 4.242

SECTION 1 (ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.4257					
150.000			.4883	.3661	.2775	.3855		.6673		-.6070	-.6457	-.3860	-.2236	-.0419	
151.000									.3403						
160.000									.4040						
165.000										-.5663	-.6656	-.3567	-.2552	-.0419	
169.000								.7694							
170.000							.9043								
180.000	1.3266	.6927	.5067	.3795	.3598	.4373		.7672		-.6826	-.5777	-.3646	-.2514	-.0517	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1612	.1815	.1363	.0347	-.0716	-.1506	-.2403		-.6494	-.6719
40.000	.1781		.1454	.0450	-.0699	-.0579	-.2327		-.5223	-.3813
80.000	-.0465	-.2246	-.1464	.1247	-.0949	-.2264	-.4417			
90.000	.0121	-.1431	.0235	.0925	-.1542	-.2463	-.3192			
105.000			.1297	.0810	-.2625	-.3277	-.3639			
110.000								-.5063		
120.000	.0850	-.0034	.1917	.0185	-.3012	-.3833	-.4273	-.4029		
135.000			.2804	.2892	-.2424	-.3032	-.3390			
150.000	.1108	.1061	.3183	.2889	-.1456	-.2646	-.3331			
165.000	.0922		.3185		.0990	-.1732	-.3998			
180.000	.0712	.1394	.3146	.3585						

ALPHA ( ) = 8.022 BETA (1) = -3.857 MACH = 1.1003 Q = 600.35 P = 708.37 RN/L = 3.1925

SECTION 1 (ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
0	1.3561	.9675	.5031	.3716	.2566			.1454		.1293	.0705	.0413	.0444	.0089	.0219
30.000			.5190	.3915	.2581	.1778		.1449		.1250					
40.000			.6754	.4443	.3261	.2500		.1803		.1398	.0724	.0413	.0700	.0090	.0562
55.000			.6939	.4756	.3700	.2897		.2181		.1462					
70.000			.6618	.4491	.3335	.3067		.2248		.1305	-.2776	-.1209	-.1353	-.2278	
90.000		.7799	.6327	.4343	.3146	.3227		.2528		.0738	-.3240	-.1688	-.2047	-.2009	
105.000			.5938	.3948	.2853	.3624		.4256		.0050	-.3402	-.5242	-.5759	-.2707	
120.000										-.0921					
140.000			.4459	.3026	.2621	.3715		.7843		-.2628	-.7399	-.5927	-.2545	-.1043	
150.000									.4921						
151.000									.5108						
160.000										-.6137	-.6883	-.5130	-.2351	-.0775	
165.000								.8070							
169.000															
170.000							.9071								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8878)

ALPHA (4) = 8.022 BETA (1) = -2 857

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
160.000	1.3051	.5759	.3647	.2917	.2690	.3741		.7147		-.7200	-.6440	-.3998	-.2195	-.0535	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.2695	.2624	.2057	.1044	.0365	-.0247	-.1845		-.6095	-.6028					
40.000	.2560		.2320	.1230	.1213	.0203	-.2052		-.4439	-.3325					
70.000	-.0943	-.3326	-.4002	-.0120	-.0829	-.1861	-.4006								
90.000	-.0646	-.2560	-.3027	.0124	-.1303	-.2187	-.2849								
100.000			.0163	.0815	-.1969	-.2958	-.3402								
110.000	-.1660	-.1928	.1642	.1247	-.2242	-.2868	-.3125	-.4838							
130.000	-.0066	-.0991	.1598	.3429	-.1944	-.2286	-.2513	-.3643							
150.000	.0044		.1639	.4242	-.0855	-.1534	-.2404								
160.000	.0089	.0063	.2048		.1457	-.0542	-.3572								
			.2718	.4928											

ALPHA (4) = 8.002 BETA (2) = .186 MACH = 1.1003 Q = 600.35 P = 708.37 RN/L = 3.1925

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3118	.9639	.5220	.3784	.2579			.1510		.1211	.0779	.0402	.0383	.0129	.0169
20.000			.5371	.3697	.2445	.1698		.1474		.1109					
40.000			.5314	.3662	.2780	.2145		.1676		.1128	.0563	.0148	.0323	-.0. -	.0268
55.000			.5777	.3707	.2695	.2151		.1594		.0905					
70.000			.5467	.3403	.2297	.2338		.1633		.0695	-.3312	-.2086	-.2009	-.2094	
90.000		.6419	.5318	.3331	.2210	.2590		.1892		-.0053	-.3831	-.2515	-.2659	-.1	
120.000			.4952	.3240	.2285	.3419		.3645		-.0897	-.4077	-.5957	-.3549	-.1397	
140.000										-.2110					
150.000			.4239	.3000	.2505	.3702		.7261		-.5256	-.7439	-.5400	-.2110	-.08	
160.000									.4252						
165.000									.4597						
169.000										-.0093	-.6315	-.4033	-.2084	-.0403	
174.000								.7916							
180.000	1.3119	.5703	.3835	.2979	.2754	.3853	.8736	.7549		-.7671	-.7177	-.3793	-.2045	-.0478	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.2492	.2648	.2102	.1053	.0139	-.0253	-.1789		-.6145	-.6351					
40.000	.2617		.2274	.1242	.0977	.0182	-.1898		-.4602	-.3265					

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8878)

ALPHA (4) = 8.002 BETA (2) = .186

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1084	-.3458	-.3896	.0275	-.1076	-.2235	-.4158			
90.000	-.0662	-.2312	-.2193	.0170	-.1799	-.2396	-.2927			
105.000			.0443	.0541	-.2599	-.3168	-.3645			
110.000								-.5047		
120.000	-.0398	-.1126	.1231	.0888	-.2766	-.3363	-.3760	-.3969		
130.000			.1826	.3413	-.1654	-.2698	-.3130			
150.000	.0560	-.0348	.2337	.5591	-.1143	-.2197	-.2783			
165.000	.0795		.2865		.0837	-.1589	-.3773			
180.000	.0775	-.0008	.3114	.5182						

ALPHA (4) = 7.997 BETA (3) = 4.238 MACH = 1.1003 Q = 600.35 P = 708.37 RN/L = 3.1925

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0060	.0230	.0460	.0700	.1120	.1590	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2953	.9490	.5106	.3667	.2497			.1534		.1121	.0719	.0422	.0372	.0054	.0199
20.000			.4960	.3356	.2167	.1461		.1371		.0850					
40.000			.4988	.3195	.2207	.1632		.1452		.0750	.0202	-.0226	-.0125	-.0341	.0213
55.000			.4593	.2660	.1789	.1455		.1115		.0446					
70.000			.4279	.2389	.1408	.1723		.1182		.0164	-.3747	-.2854	-.2725	-.1818	
90.000		.4955	.4262	.2361	.1351	.2063		.1402		-.0785	-.4376	-.3192	-.3288	-.1441	
120.000			.4152	.2597	.1528	.3086		.2966		-.1868	-.4761	-.6363	-.2435	-.0914	
140.000										-.3410					
150.000			.3873	.2810	.1849	.3435		.6594		-.6241	-.7415	-.4470	-.1933	-.0477	
151.000									.3385						
160.000									.3045						
165.000										-.6160	-.6824	-.3943	-.2031	-.0456	
163.000								.7463							
174.000							.8684								
180.000	1.2953	.5466	.3970	.2851	.2600	.3823		.7374		-.7355	-.6343	-.4061	-.2273	-.0590	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2520	.2625	.2038	.0990	-.0084	-.0629	-.1859		-.6193	-.6411
40.000	.2767		.2217	.1154	.0238	.0059	-.1768		-.5138	-.3689
70.000	-.0987	-.3156	-.3484	.0235	-.1579	-.2663	-.4360			
90.000	-.0317	-.2043	-.1428	-.0107	-.2245	-.2899	-.3376			
105.000			.0254	.0311	-.2876	-.3984	-.4169			
110.000								-.5080		
120.000	.0489	-.0765	.1124	-.0176	-.3416	-.3926	-.5083	-.4152		
135.000			.2560	.3227	-.2608	-.3484	-.3669			
150.000	.0340	-.0005	.3025	.4239	-.1902	-.3182	-.3731			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8878)

ALPHA (4) = 7.997 BETA (3) = 4.238

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7230	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PH:										
165.000	.0963		.2796		.0228	-.2479	-.4190			
180.000	.0705	.0099	.2569	.4959						

ALPHA (5) = 11.963 BETA (1) = -3.838 MACH = 1.0980 Q = 599.15 P = 710.01 PN/L = 3.1917

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PH:															
.000	1.2511	1.0758	.6478	.4761	.3542			.2093		.1919	.1340	.1182	.1204	.0996	.2186
20.000			.6918	.5004	.3637	.2668		.2179		.1915					
40.000			.7572	.5380	.4176	.3236		.2596		.2156	.1402	.1219	.1437	.0998	.2551
60.000			.7116	.4994	.3841	.2903		.2268		.1792					
80.000			.6363	.4358	.3144	.2970		.2330		.1591	-.2387	-.1156	-.1216	-.2366	
97.000		.7147	.5765	.3920	.2776	.2973		.2544		.1072	-.3046	-.1470	-.1940	-.2843	
120.000			.4487	.2824	.1857	.3021		.4094		.0160	-.3508	-.5249	-.7358	-.3461	
140.000										-.0874					
150.000			.3202	.1840	.1555	.3133		.7666		-.2199	-.7907	-.6886	-.2932	-.1326	
151.000									.4792						
160.000									.4852						
165.000										-.6648	-.7398	-.5577	-.2627	-.0975	
169.000								.7819							
174.000							.8701								
180.000	1.2511	.4258	.2455	.1883	.1689	.3208		.6829		-.7665	-.6861	-.4276	-.1952	-.0509	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PH:										
.000	.3352	.3393	.2807	.1819	.1328	.0124	-.1567		-.5878	-.5990
40.000	.3540		.3114	.2110	.1767	.0563	-.1665		-.4383	-.3234
70.000	-.1350	-.3851	-.4639	-.1905	-.1716	-.1795	-.3706			
90.000	-.0683	-.3038	-.3870	-.0567	-.1802	-.1947	-.2685			
105.000			-.1489	.0478	-.3535	-.2920	-.3304			
130.000								-.4186		
120.000	-.1714	-.1926	.0581	.0955	-.2858	-.3661	-.3086	-.2328		
135.000			.0892	.2937	-.2468	-.2721	-.2756			
140.000	-.0465	-.1745	.0578	.4513	-.1575	-.2514	-.3456			
145.000	.0478		.1585		.0646	-.1194	-.3758			
160.000	.0873	-.0349	.2391	.5043						

DATE 10 FEB 76 TABULATED PRESSURE DATA - OA148 (AMES 11-073-1) (XE8878)

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE

ALPHA (51 = 11.957 BETA (21 = .194 MACH = 1.0980 Q = 599.15 P = 710.01 RN/L = 3.1917

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2564	1.0769	.6486	.4809	.3589			.2210		.1958	.1439	.1189	.1186	.1042	.1859
20.000			.6675	.4749	.3409	.2495		.2164		.1817					
40.000			.6635	.4692	.3007	.2654		.2214		.1772	.1034	.0776	.0961	.0793	.2003
60.000			.6930	.3804	.2687	.1977		.1511		.1295					
80.000			.5135	.3236	.2089	.2224		.1681		.1101	-.2902	-.2055	-.2022	-.3269	
100.000		.5746	.4749	.2905	.1847	.2416		.2003		.0451	-.3635	-.2338	-.2642	-.3020	
120.000			.3884	.2322	.1356	.2952		.3667		-.0660	-.4123	-.5740	-.6900	-.2039	
140.000										-.1960					
160.000			.3076	.1929	.1523	.3288		.7065		-.5128	-.7871	-.5996	-.2386	-.0924	
161.000									.4140						
162.000									.4380						
164.000										-.6552	-.6772	-.4501	-.1697	-.0403	
166.000								.7651							
168.000							.8326								
170.000	1.2564	.4143	.2621	.1989	.1703	.3307		.7238		-.8038	-.7548	-.4128	-.1804	-.0324	

X/LB	.8520	.7230	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.3084	.3461	.2837	.1806	.1225	.0124	-.1558		-.5927	-.6105
20.000	.3464		.3147	.2092	.1624	.0546	-.1450		-.4985	-.3250
40.000	-.1048	-.4257	-.4951	-.1674	-.1715	-.2812	-.3618			
60.000	-.0194	-.3039	-.3999	-.0956	-.3258	-.3072	-.2534			
80.000			-.1405	.0119	-.4711	-.3590	-.4064	-.4747		
100.000								-.4267		
120.000	-.0411	-.1307	.0497	.1132	-.5249	-.4230	-.4114			
140.000			.1974	.3332	-.2372	-.3100	-.3834			
160.000	.0135	-.0384	.1765	.5895	-.1799	-.2868	-.3342			
161.000	.0245		.2117		.0549	-.2084	-.4001			
162.000	.0149	-.0210	.2797	.5487						

ALPHA 51 = 11.999 BETA (31 = 4.256 MACH = 1.0980 Q = 599.15 P = 710.01 RN/L = 3.1917

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2442	1.0591	.6370	.4760	.3400			.2090		.1809	.1359	.1147	.1169	.0977	.1716
20.000			.6675	.4357	.3112	.2147		.1872		.1507					
40.000			.6665	.3916	.2781	.1924		.1742		.1234	.0520	.0332	.0527	.0392	.1728
60.000			.4814	.2875	.1624	.1053		.0822		.0837					
80.000			.3164	.2217	.1091	.1629		.1151		.0743	-.3346	-.2807	-.2829	-.3545	
100.000		.4394	.2799	.2037	.0967	.2002		.1473		-.0078	-.4146	-.3035	-.3347	-.3610	
120.000			.1662	.1805	.0805	.2633		.3121		-.1601	-.4742	-.6218	-.3881	-.1408	

AMES 11-073(OA14F, -140A/B/C ORB FUSELAGE (XE8978)

ALPHA (5) = 11.958 BETA (3) = 4.256

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.3063					
150.000			.2747	.1869	.0892	.3068		.6500		-.6249	-.7911	-.5005	-.1937	-.0533	
151.000									.3373						
162.000									.3661						
165.000										-.6586	-.7075	-.4219	-.1793	-.0415	
169.000								.7268							
174.000							.8186								
180.000	1.2442	.3948	.2660	.1910	.1502	.3243		.7086		-.7782	-.6670	-.4408	-.2050	-.0539	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.3000	.3313	.2746	.1638	.0853	-.0022	-.1610		-.5958	-.6135
[illegible]	.3420		.2083	.1901	.1344	.0509	-.1391		-.5252	-.3694
[illegible]	-.1061	-.4217	-.4699	-.1452	-.2429	-.3309	-.4328			
[illegible]	-.0496	-.2353	-.3491	-.1251	-.3818	-.3291	-.3703			
104.000			-.1346	-.0578	-.5478	-.4536	-.4690			
110.000								-.4522		
120.000	.0454	-.1115	.0312	-.0554	-.3866	-.5239	-.6197	-.4472		
135.000			.1700	.2919	-.2679	-.3633	-.4244			
150.000	.1102	-.0353	.2588	.4575	-.1999	-.3393	-.4068			
164.000	.1116		.2515		.0054	-.2992	-.4306			
180.000	.0853	-.0424	.2199	.5342						

AMES 11-073(OA148) - 40A/B/C ORB FUSELAGE (XE8879) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 936.0680 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = -10.000 SPOBRK = .000
BDFLAP = -11.700 L-ELVN = 10.000
R-ELVN = -10.000 MACH = .900

ALPHA (1) = -4.051 BETA (1) = -3.840 MACH = 89997 Q = 600.24 P = 1058.8 RN/L = 3.5827

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2100	.3664	-.0678	-.1119	-.1793			-.2138		-.2113	-.1868	-.0678	-.0298	.0089	-.0100
20.000			-.0420	-.1314	-.2303	-.2428		-.2589		-.2401					
40.000			.1576	-.1049	-.2092	-.2496		-.3551		-.4357	-.3967	-.1238	-.0819	-.0389	-.0260
55.000			.3479	.0992	.0056	-.0938		-.1931		-.2812					
70.000			.4740	.2284	.1350	.0729		-.0910		-.2265	-.7240	-.0101	.0653	.1091	
90.000		.7459	.5617	.3168	.1772	.1261		-.0615		-.3040	-.6553	-.0465	.0487	.1018	
120.000			.6495	.4667	.3408	.3375		.1933		-.2275	-.5776	-.1131	.0325	.0751	
140.000										-.1552					
150.000			.6523	.5002	.4112	.4285		.6738		-.2838	-.8585	-.0667	.0275	.0525	
151.000									.3399						
162.000									.3993						
165.000										-.8374	-.7754	-.0274	.0187	.0467	
169.000								.7355							
174.000							.8631								
180.000	1.2100	.8569	.5916	.4578	.4166	.4247		.6516		-.9420	-.7548	-.0018	.0139	.0365	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1282	-.1928	-.2338	-.3406	-.2992	-.3727	-.4907		-.4443	-.3155
40.000	-.2345		-.2338	-.3313	-.1676	-.3131	-.3164		-.3430	-.2816
70.000	.0310	-.0482	.0546	.1584	-.1565	-.3760	-.3439			
90.000	.0572	.0050	.1244	.1957	-.2082	-.3108	-.5045			
105.000			.1900	.2484	-.3133	-.3195	-.4908			
110.000								-.2323		
120.000	.0728	.0974	.2911	.3547	-.3701	-.3358	-.3853	-.2321		
135.000			.3566	.4524	-.2389	-.1894	-.2635			
150.000	.0787	.1421	.3629	.4678	-.1418	-.1391	-.2265			
165.000	.0725		.3441		.0753	-.0943	-.2224			
180.000	.0648	.1434	.3264	.5063						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8B79)

ALPHA (1) = -4.055 BETA (2) = .202 MACH = .89997 Q = 600.24 P = 1058.8 RN/L = 3.5827

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0090	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2106	.3641	-.0618	-.0963	-.1762			-.2054		-.2177	-.1946	-.0596	-.0196	.0151	-.0044
20.000			-.0514	-.1225	-.2104	-.2180		-.2297		-.2426					
40.000			.1031	-.1090	-.1981	-.2097		-.3042		-.3652	-.3400	-.0708	-.0315	-.0063	-.0104
55.000			.2530	.0210	-.0615	-.1304		-.2358		-.3424					
70.000			.3525	.1148	.0279	-.0133		-.1744		-.3227	-.7645	-.0360	.0529	.0945	
90.000		.5945	.4344	.1925	.0628	.0174		-.1678		-.4586	-.7253	-.0886	.0408	.0330	
110.000			.5431	.3940	.2317	.2406		.0736		-.4289	-.6736	-.1704	.0166	.0545	
140.000										-.4628					
150.000			.5975	.4570	.3505	.3830		.5905		-.7968	-.8436	-.0429	.0282	.0510	
161.000									.2385						
170.000									.3175						
180.000										-.8441	-.7396	-.0168	.0296	.0518	
174.000								.6991							
180.000	1.2106	.8468	.6045	.4561	.4201	.4336	.8461	.6873		-.9498	-.7618	-.0037	.0299	.0513	

X/LB	.9520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
.000	-.1233	-.2033	-.2380	-.3373	-.4091	-.3432	-.4975		-.4313	-.3084
40.000	-.1897		-.2359	-.3319	-.2038	-.3200	-.3856		-.3282	-.2497
70.000	.0244	-.0451	.0310	.1065	-.2250	-.4329	-.3299			
90.000	.0537	.0077	.0972	.1312	-.3051	-.3608	-.5194			
105.000			.1584	.1410	-.4247	-.4272	-.5397			
110.000								-.2373		
120.000	.0665	.0820	.2284	.2421	-.5177	-.4401	-.4932	-.2644		
135.000			.3173	.4622	-.3641	-.2837	-.3936			
150.000	.0858	.1456	.3420	.5339	-.2376	-.2566	-.3044			
165.000	.0858		.3451		-.0359	-.2142	-.2247			
180.000	.0844	.1588	.3498	.5384						

ALPHA (1) = -4.070 BETA (3) = 4.283 MACH = .89997 Q = 600.24 P = 1058.8 RN/L = 3.5827

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1914	.3426	-.0772	-.1007	-.1928			-.2115		-.2477	-.1836	-.0712	-.0258	.0131	-.0146
20.000			-.0765	-.1250	-.2137	-.2192		-.2223		-.2489					
40.000			.0401	-.1343	-.2009	-.2002		-.2661		-.3204	-.3068	-.0479	-.0082	.0065	.0115
55.000			.1476	-.0554	-.1225	-.1589		-.2642		-.3871					
70.000			.2329	.0035	-.0692	-.0822		-.2368		-.4030	-.8400	-.0940	.0564	.0854	
90.000		.4284	.3077	.0625	-.0512	-.0780		-.2539		-.5944	-.6626	-.2453	.0547	.0691	
180.000			.4242	.2395	.1110	.1278		-.0572		-.5973	-.8134	-.2615	-.0066	.0328	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8879)

ALPHA (1) = -4.070 BETA (3) = 4.283

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.8229					
150.000			.5229	.4028	.2854	.3192		.4956		-.8830	-.8556	-.0463	.0027	.0249	
151.000									.1218						
162.000									.2242						
165.000										-.8509	-.7561	-.0158	.0089	.0330	
169.000								.6481							
174.000							.8065								
180.000	1.1914	.8221	.5946	.4339	.4071	.4166		.6690		-.9378	-.7602	-.0113	.0148	.0368	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1322	-.2053	-.2360	-.3450	-.4061	-.3618	-.5005		-.4473	-.3055
40.000	-.1617		-.2274	-.3351	-.2688	-.3100	-.4445		-.3265	-.2164
70.000	.0183	-.0466	.0021	.0666	-.2884	-.4821	-.3114			
90.000	.0433	.0035	.0664	.0744	-.3687	-.4748	-.5441			
105.000			.1203	.0692	-.5034	-.5052	-.5912			
110.000								-.2491		
120.000	.0545	.0533	.1601	.0943	-.6494	-.5983	-.6534	-.2745		
135.000			.2635	.3812	-.4815	-.4792	-.5009			
150.000	.0678	.1e35	.2946	.5481	-.3472	-.4301	-.4162			
165.000	.0730		.3101		-.1196	-.3466	-.2239			
180.000	.0734	.1534	.3409	.5230						

ALPHA (2) = .045 BETA (1) = -3.859 MACH = .89957 Q = 599.75 P = 1058.8 RN/L = 3.5771

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2225	.5288	.0775	-.0016	-.0882			-.1522		-.1640	-.1842	-.0710	-.0139	.0341	.0348
20.000			.1187	-.0051	-.1091	-.1559		-.1836		-.1901					
40.000			.3017	.0452	-.0643	-.1141		-.2114		-.2404	-.2920	-.0818	-.0269	.0097	.0352
55.000			.4422	.2040	.1105	.0208		-.0844		-.1911					
70.000			.5085	.2762	.1720	.1153		-.0337		-.1756	-.6550	-.0875	.0268	.0626	
90.000		.7291	.5576	.3268	.1957	.1567		-.0092		-.2533	-.6346	-.1326	.0199	.0587	
120.000			.5859	.4080	.2933	.3047		.2104		-.2518	-.5999	-.2476	.0040	.0164	
140.000										-.2742					
150.000			.5438	.3895	.3156	.3582		.6457		-.3910	-.9868	-.2443	.0243	.0136	
151.000									.3089						
162.000									.3513						
165.000										-.9082	-.8592	-.1360	.0215	.0114	
169.000								.6936							
174.000							.8199								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8879)

ALPHA (2) = .045 BETA (1) = -3.859

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.2225	.7244	.4674	.3534	.3173	.3477		.6016		-1.0506	-.8509	-.0542	.0196	.0088	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0247	-.0740	-.1395	-.2533	-.2387	-.3571	-.5090		-.4408	-.3236
30.000	-.0763		-.1240	-.2349	-.1328	-.2697	-.3176		-.3429	-.2854
70.000	-.1038	-.2354	-.0228	.1332	-.1756	-.3726	-.2539			
90.000	-.0819	-.1504	.0606	.1698	-.2518	-.3487	-.4950			
110.000			.1365	.2187	-.3455	-.3049	-.5083			
150.000	-.0510	-.0193	.2453	.2948	-.4370	-.2964	-.3724	-.2565		
170.000			.3156	.3623	-.3362	-.2134	-.2781	-.2007		
180.000	-.0026	.0705	.3168	.3045	-.2387	-.1846	-.2391			
190.000	.0012		.2908		.0190	-.1429	-.2083			
210.000	.0805	.0809	.2744	.4184						

ALPHA (2) = .042 BETA (2) = .192 MACH = .89957 Q = 599.75 P = 1058.8 RN/L = 3.5771

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2270	.5317	.0827	.0078	-.0863			-.1491		-.1635	-.1747	-.0534	-.0045	.0372	.0411
20.000			.1076	-.0045	-.1044	-.1412		-.1679		-.1795					
40.000			.2435	.0195	-.0685	-.1072		-.1855		-.2099	-.2784	-.0527	.0041	.0253	.0547
55.000			.3423	.1227	.0367	-.0273		-.1333		-.2294					
70.000			.3908	.1622	.0740	.0353		-.1105		-.2546	-.7262	-.0877	.0196	.0493	
80.000		.5804	.4377	.2081	.0909	.0656		-.0974		-.3718	-.7100	-.1129	.0212	.0443	
120.000			.4894	.3132	.2003	.2221		.1051		-.4088	-.6820	-.1959	.0246	.0306	
140.000										-.5042					
160.000			.4980	.3627	.2614	.3183		.5724		-.8486	-.9468	-.1574	.0345	.0257	
171.000									.2154						
180.000									.2780						
189.000										-.9156	-.8564	-.0592	.0314	.0259	
174.000								.6628							
180.000	1.2270	.7149	.4805	.3541	.3199	.3540	.8084	.6393		-.9173	-.8824	-.0423	.0319	.0278	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0177	-.0687	-.1459	-.2631	-.2610	-.3576	-.5165		-.4382	-.3236
40.000	-.0573		-.1316	-.2472	-.1499	-.2875	-.4226		-.3167	-.2394

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8879)

ALPHA (2) = .042 BETA (2) = .192

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.1078	-.2060	-.0394	.0823	-.2449	-.4491	-.2601			
90.000	-.0575	-.1271	.0370	.1024	-.3183	-.4187	-.4340			
105.000			.1061	.1354	-.4356	-.4729	-.4826			
110.000								-.2444		
120.000	-.0149	-.0006	.1820	.2469	-.5031	-.4957	-.3737	-.2327		
130.000			.2611	.4026	-.3906	-.3460	-.3740			
150.000	.0216	.0740	.2822	.4649	-.3062	-.3139	-.3196			
165.000	.0233		.2838		-.1003	-.2775	-.2106			
180.000	.0174	.0961	.2934	.4757						

ALPHA (2) = .032 BETA (3) = 4.260 MACH = .89957 Q = 599.75 P = 1058.8 RN/L = 3.5771

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2090	.5109	.0697	.0053	-.0995			-.1507		-.1681	-.1905	-.0733	-.0095	.0333	.0303
20.000			.0714	-.0235	-.1185	-.1373		-.1652		-.1805					
40.000			.1587	-.0128	-.1019	-.1071		-.1759		-.2021	-.2819	-.0444	.0086	.0273	.0622
60.000			.2280	.0354	-.0377	-.0712		-.1711		-.2705					
80.000			.2685	.0539	-.0230	-.0325		-.1747		-.3263	-.7860	-.0890	.0195	.0435	
90.000		.4190	.3179	.0900	-.0154	-.0194		-.1816		-.4978	-.7978	-.1517	.0212	.0432	
100.000			.3965	.2097	.0936	.1376		-.0091		-.5671	-.7822	-.2381	.0281	.0278	
110.000										-.7850					
120.000			.4338	.3142	.2052	.2636		.4792		-.9388	-.9658	-.1295	.0245	.0162	
140.000									.1043						
150.000									.1852						
165.000										-.8486	-.8785	-.0831	.0207	.0172	
175.000								.6111							
180.000	1.2090	.6901	.4799	.3349	.3123	.3395	.7710	.6220		-1.0620	-.8690	-.0774	.0231	.0148	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0287	.0773	-.1435	-.2658	-.3429	-.3573	-.5101		-.4790	-.3582
40.000	-.0418		-.1311	-.2509	-.1745	-.3079	-.4616		-.3454	-.2156
70.000	-.1032	-.1790	-.0573	.0385	-.3056	-.4986	-.3467			
90.000	-.0559	-.1070	.0126	.0447	-.3814	-.4900	-.6054			
105.000			.0763	.0554	-.5127	-.5423	-.6080			
110.000								-.2465		
120.000	-.0130	-.0081	.1308	.0943	-.6420	-.6099	-.6571	-.2546		
135.000			.2271	.3457	-.5241	-.5138	-.5279			
150.000	.0195	.0707	.2591	.4513	-.3994	-.4820	-.4025			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8879)

ALPHA (2) = .032 BETA (3) = 4.260

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	.0129		.2653		-.1828	-.4148	-.2284			
180.000	.0083	.0953	.2900	.4277						

ALPHA (3) = 4.023 BETA (1) = -3.861 MACH = .30070 Q = 600.44 P = 1057.3 RN/L = 3.5793

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2096	.6834	.2290	.1144	.0132			-.0819		-.1000	-.1192	-.0536	.0077	.0760	.0916
20.000			.2729	.1163	.0089	- 0566		-.0964		-.1164					
40.000			.4283	.1723	.0735	.0079		-.0828		-.1280	-.1702	-.0393	.0252	.0663	.1182
55.000			.5086	.2818	.1870	.0963		-.0020		-.1017					
70.000			.5245	.3020	.1953	.1386		.0099		-.1261	-.5848	-.1642	-.0243	.0321	
90.000		.6934	.5339	.3205	.1984	.1674		.0321		-.2055	-.6246	-.2226	-.0227	.0270	
120.000			.5044	.3345	.2265	.2649		.2154		-.2538	-.6083	-.3760	-.0784	-.0529	
140.000										-.3498					
150.000			.4238	.2780	.2208	.2811		.6188		-.4720	-.9877	-.4400	.0136	-.0153	
151.000									.2844						
162.000									.3120						
165.000										-.9613	-.8332	-.4317	.0416	-.0053	
163.000															
174.000								.6534							
180.000	1.2096	.5803	.3455	.2519	.2222	.2744	.7787	.5553		-1.0874	-.9101	-.2861	.0504	.0063	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0631	.0184	-.0552	-.1674	-.1889	-.3333	- 4904		-.4569	-.3224
40.000	.0429		-.0362	-.1421	-.1017	-.2341	- 2969		-.3595	-.2663
70.000	-.2182	-.4539	-.1272	.0700	-.1851	-.3823	- 2005			
90.000	-.1650	-.3652	-.0392	.0969	-.2393	-.3099	- 3360			
105.000			.0804	.1094	-.3561	-.3044	- 5119			
110.000								-.2769		
120.000	-.1787	-.1787	.2023	.1094	-.4617	-.3005	- 3598	-.1884		
135.000			.2519	.2218	-.4355	-.2331	- 2879			
150.000	-.0806	-.0094	.2380	.1903	-.3213	-.2095	- 2372			
165.000	-.0633		.2141		-.0392	-.1796	- 2032			
180.000	-.0679	.0084	.1983	.3713						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8879)

ALPHA (3) = 4.017 BETA (2) = .197 MACH = .90070 Q = 600.44 P = 1057.3 RN/L = 3.5793

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2160	.6932	.2324	.1194	.0146			-.0771		-.0992	-.1189	-.0476	.0159	.0782	.0937
20.000			.2542	.1124	-.0037	-.0626		-.0916		-.1182					
40.000			.3517	.1426	.0393	-.0054		-.0873		-.1289	-.1844	-.0513	.0285	.0684	.1206
55.000			.3992	.1908	.1024	.0338		-.0685		-.1554					
70.000			.4067	.1920	.0937	.0690		-.0609		-.1929	-.6641	-.1570	-.0292	.0166	
90.000		.5445	.4178	.2100	.0972	.0919		-.0525		-.3033	-.7225	-.1871	-.0192	.0153	
120.000			.4214	.2597	.1523	.2082		.1287		-.3824	-.6923	-.3014	-.0090	-.0057	
140.000										-.5120					
150.000			.3908	.2637	.1901	.2603		.5524		-.9017	-1.0225	-.3845	.0549	.0100	
151.000									.1980						
160.000									.2451						
165.000										-.9767	-.9347	-.2235	.0501	.0140	
169.000								.6297							
174.000							.7605								
180.000	1.2160	.5583	.3581	.2503	.2288	.2848		.5972		-1.0436	-.9623	-.1698	.0461	.0126	

X/LB	.8520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0668	.0178	-.0609	-.1789	-.2021	-.3440	-.4990		-.4485	-.3185
40.000	.0575		-.0379	-.1492	-.1184	-.2799	-.4192		-.3190	-.2168
70.000	-.2301	-.4327	-.1278	.0416	-.2693	-.4722	-.2316			
90.000	-.1685	-.3400	-.0331	.0509	-.3551	-.4551	-.3406			
105.000			.0499	.0661	-.4595	-.5172	-.4293			
110.000								-.2608		
120.000	-.1160	-.1265	.1172	.1920	-.5525	-.5492	-.3075	-.2090		
135.000			.1744	.3900	-.4518	-.4301	-.2605			
150.000	-.0564	-.0178	.2029	.4727	-.3549	-.3887	-.2761			
165.000	-.0460		.2123		-.1565	-.3400	-.1975			
180.000	-.0449	.0176	.2245	.4202						

ALPHA (3) = 4.017 BETA (3) = 4.251 MACH = .90070 Q = 600.44 P = 1057.3 RN/L = 3.5793

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1998	.6657	.2199	.1145	.0029			-.0831		-.1028	-.1227	-.0546	.0064	.0777	.0820
20.000			.2137	.0806	-.0149	-.0589		-.0974		-.1246					
40.000			.2619	.0883	.0058	-.0321		-.0927		-.1474	-.2080	-.0899	.0126	.0584	.1163
55.000			.2821	.0863	.0160	-.0298		-.1167		-.2011					
70.000			.2866	.0794	-.0011	.0002		-.1245		-.2550	-.7260	-.1460	-.0245	.0152	
90.000		.3949	.3051	.0987	-.0007	.0142		-.1224		-.4058	-.7916	-.1954	-.0024	.0176	
120.000			.3812	.1664	.0716	.1358		.0330		-.5267	-.7700	-.3171	.0335	.0167	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8879)

ALPHA (3) = 4.017 BETA (3) = 4.251

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000															
150.000										-.7025					
151.000			.3379	.2196	.1308	.2139		.4660		-1.0220	-1.0027	-.3352	.0532	.0148	
162.000									.0925						
165.000									.1577						
169.000										-.9625	-.7144	-.2363	.0425	.0091	
174.000								.5800							
180.000	1.1998	.5484	.3583	.2358	.2195	.2696	.7346								
								.5762		-1.1068	-.9443	-.2729	.0473	-.0004	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.0610	.0148	-.0609	-.1890	-.2049	-.3497	-.5072								
40.000	.0570		-.0423	-.1609	-.1313	-.3031	-.4667		-.4871	-.3320					
70.000	-.2272	-.3911	-.1307	.0013	-.3290	-.5030	-.4219		-.3506	-.1981					
90.000	-.1619	-.2774	-.0599	.0003	-.4096	-.5033	-.6115								
105.000			.0069	.0244	-.5378	-.5861	-.6132								
110.000								-.2351							
120.000	-.0883	-.1199	.0564	.1096	-.6277	-.6403	-.6775	-.2358							
135.000			.1696	.3324	-.5411	-.5521	-.5709								
150.000	-.0423	.0067	.1848	.4505	-.4370	-.5235	-.3945								
165.000	-.0407		.1933		-.2376	-.4728	-.2175								
180.000	-.0563	.0261	.2199	.3215											

ALPHA (4) = 7.937 BETA (1) = -3.857 MACH = .90017 Q = 600.17 P = 1058.1 RN/L = 3.5825

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0030	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1732	.8123	.3739	.2261	.1164			-.0041		-.0244	-.0493	-.0082	.0443	.1255	.1570
20.000			.4168	.2469	.1195	.0334		-.0050		-.0346					
40.000			.5246	.3003	.1921	.1087		.0237		-.0241	-.0749	.0109	.0686	.1220	.1979
55.000			.5519	.3364	.2351	.1466		.0458		-.0436					
70.000			.5201	.3096	.1997	.1559		.0404		-.0830	-.5064	-.1798	-.0884	.0021	
90.000		.6361	.4914	.2963	.1862	.1682		.0558		-.1627	-.6068	-.2275	-.1010	-.0148	
120.000			.4104	.2517	.1530	.2039		.2139		-.2502	-.6499	-.4378	-.2517	-.1521	
140.000										-.3702					
150.000			.3009	.1698	.1266	.2108		.5948		-.4829	-.6200	-.4623	-.1567	-.0291	
151.000									.2609						
162.000									.2752						
165.000										-1.0143	-.6162	-.5107	-.1446	-.0108	
169.000								.6166							
174.000							.7409								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8879)

ALPHA (4) = 7.937 BETA (1) = -3.857

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.1732	.4263	.2142	.1551	.1364	.2100		.5146		-.8357	-.6301	-.5062	-.1128	.0116	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
000	.1462	..021	.0227	- 0881	-.1415	-.3053	-.4660		-.4933	-.3445
40.000	.1525		.0501	-.0541	-.0643	-.2392	-.3701		-.3889	-.2429
70.000	-.3736	-.5702	-.3718	.0326	-.1736	-.3896	-.3103			
90.000	-.2-97	-.4885	-.1615	.0224	-.2208	-.3415	-.4817			
100.000			.0010	.0293	-.2340	-.3670	-.5234			
110.000								-.2479		
120.000	-.2357	- 0381	.0769	.0061	-.3981	-.3561	-.3590	-.1811		
130.000			.0776	.1655	-.4276	-.2891	-.3065			
150.000	-.1522	-.1251	.0878	.2762	-.3403	-.2467	-.2512			
165.000	-.1244		.0892		-.0891	-.1979	-.2049			
180.000	-.1151	-.0766	.1114	.3709						

ALPHA (4) = 7.934 BETA (2) = .192 MACH = .90017 Q = 600.17 P = 1058.1 RN/L = 3.5825

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1805	.8196	.3734	.2302	.1176			-.0037		-.0290	-.0549	-.0048	.0529	.1275	.1543
20.000			.3910	.2238	.1043	.0326		-.0103		-.0471					
40.000			.4469	.2463	.1423	.0707		.0004		-.0487	-.1115	-.0398	.0536	.1088	.1840
55.000			.4354	.2364	.1354	.0648		-.0251		-.1057					
70.000			.3991	.2005	.0989	.0815		-.0284		-.1516	-.5937	-.2041	-.0993	-.0137	
80.000		.4903	.3829	.1903	.0906	.1038		-.0170		-.2521	-.6930	-.2089	-.0805	-.0184	
120.000			.3395	.1891	.0979	.1771		.1457		-.3614	-.7135	-.3014	-.1537	-.0609	
141.000										-.5058					
150.000			.2790	.1618	.1122	.2035		.5341		-.8916	-.6410	-.4695	-.0869	-.0024	
161.000									.1835						
172.000									.2180						
185.000										-1.0356	-.6714	-.4547	-.0788	.0136	
193.000								.5983							
174.000							.7125								
180.000	1.1805	.4160	.2392	.1620	.1433	.2227		.5587		-1.1834	-.6749	-.4856	-.0772	.0205	

X LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
000	.1450	.0971	.0195	-.0993	-.1520	-.3121	-.4743		-.4868	-.3468
40.000	.1514		.0433	-.0615	-.0773	-.2724	-.4155		-.3843	-.2045

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8979)

ALPHA (4) = 7.934 BETA (2) = .192

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.3064	-.6055	-.3422	-.0207	-.2309	-.4218	-.5143			
90.000	-.2462	-.4648	-.1959	-.0348	-.3150	-.3839	-.5471			
105.000			-.0557	-.0300	-.4105	-.4159	-.5454			
110.000								-.2047		
120.000	-.2056	-.2261	.0007	.0002	-.5238	-.4498	-.4264	-.2000		
125.000			0631	.2599	-.4597	-.3565	-.3600			
130.000	-.1191	-.1072	.1126	.3951	-.3776	-.3646	-.3024			
140.000	-.1079		.1139		-.1640	-.3252	-.2109			
150.000	-.1012	-.0694	.1205	.3391						

ALPHA (4) = 7.926 BETA (3) = 4.250 MACH = .90017 Q = 600.17 P = 1058.1 RN/L = 3.5825

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1657	.8015	.3578	.2248	.1033			-.0089		-.0315	-.0605	-.0339	.0530	.1203	.1453
20.000			.3353	.1928	.0746	.0157		-.0280		-.0612					
40.000			.3400	.1762	.0784	.0252		-.0375		-.0924	-.1605	-.1006	.0233	.0791	.1644
55.000			.3042	.1223	.0302	-.0089		-.0934		-.1567					
70.000			.2734	.0910	-.0056	.0158		-.0967		-.2071	-.6699	-.2074	-.1073	-.0358	
90.000		.3357	.2757	.0933	-.0040	.0369		-.0872		-.3328	-.7718	-.1991	-.0866	-.0154	
120.000			.2646	.1164	.0285	.1311		.0650		-.4732	-.7099	-.2699	-.0859	-.0108	
140.000										-.6564					
150.000			.2428	.1337	.0592	.1734		.4555		-1.0332	-.6701	-.4532	-.0745	.0171	
161.000									.0914						
165.000									.1361						
169.000										-1.0401	-.7020	-.4568	-.0638	.0139	
175.000								.5526							
179.000							.6961								
180.000	1.1657	.3398	.2409	.1472	.1309	.2124		.5412		-.8645	-.7175	-.4630	-.0925	.0019	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1425	.0915	.0097	-.1079	-.1657	-.3247	-.4788		-.5069	-.3676
40.000	.1496		.0286	-.0741	-.1029	-.2815	-.4504		-.3830	-.1940
70.000	-.3024	-.5763	-.3463	-.0805	-.3177	-.4394	-.5585			
90.000	-.2340	-.4363	-.2154	-.0932	-.4275	-.4053	-.5202			
105.000			-.1269	-.0779	-.5399	-.4446	-.5442			
110.000								-.2153		
120.000	-.1446	-.2192	-.0701	-.0172	-.6233	-.5515	-.4990	-.2498		
135.000			.0522	.2730	-.4931	-.4914	-.4124			
150.000	-.0959	-.0827	.1061	.3177	-.4119	-.5057	-.3459			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8879)

ALPHA (4) = 7.926 BETA (3) = 4.250

SECTION 1 (ORBITER FUSELAGE DEPENDENT VARIABLE CP

Y/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
155.000	-.0934		.1007		-.2371	-.4405	-.2056			
180.000	-.1008	-.0573	.1144	.3182						

ALPHA (5) = 11.969 BETA (1) = -3.847 MACH = .89890 Q = 599.14 P = 1059.2 RN/L = 3.5769

SECTION 1 (ORBITER FUSELAGE DEPENDENT VARIABLE CP

X LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1115	.9370	.5124	.3464	.2257			.0824		.0590	.0319	.0599	.1060	.1892	.2223
20.000			.5572	.3701	.2391	.1409		.0879		.0590					
40.000			.6261	.4096	.2927	.2032		.1205		.0611	.0124	.0703	.1207	.1854	.2697
60.000			.5794	.3861	.2566	.1571		.0631		-.0134					
80.000			.4960	.3063	.1846	.1569		.0579		-.0667	-.4370	-.1984	-.1480	-.0334	
100.000		.5661	.4453	.2662	.1576	.1519		.0660		-.1336	-.5572	-.2419	-.1696	-.0514	
120.000			.3047	.1488	.0678	.1492		.1983		-.2505	-.6660	-.5294	-.4179	-.2517	
140.000										-.3781					
160.000			.1733	.0547	.0398	.1490		.5748		-.5284	-.5952	-.5094	-.2364	-.0828	
180.000									.2447						
200.000									.2442						
220.000										-.8455	-.6063	-.5567	-.2119	-.0361	
240.000								.5862							
260.000	1.1115	.2661	.0957	.0595	.0547	.1540	.7051	.4764		-.7033	-.6148	-.5522	-.1941	-.0018	

Y LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2271	.1759	.0969	-.0184	-.0938	-.2714	-.4371		-.6199	-.4030
20.000	.2597		.1323	.0241	-.0297	-.2268	-.3949		-.4639	-.2632
40.000	-.4515	-.7281	-.2648	-.0371	-.2579	-.4019	-.7008			
60.000	-.3459	-.5971	-.1504	.0052	-.2740	-.3777	-.5476			
80.000			-.0352	.0457	-.3412	-.4424	-.5565			
100.000								-.2124		
120.000	-.3852	-.3208	-.0077	.0990	-.3806	-.4552	-.4235	-.1886		
140.000			-.0132	.1345	-.3916	-.3803	-.3565			
160.000	-.2545	-.2424	-.0167	.2332	-.3539	-.3386	-.3120			
180.000	-.2021		.0232		-.1333	-.2595	-.2340			
200.000	-.1601	-.1349	.0780	.3351						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8979)

ALPHA (5) = 11.976 BETA (2) = .196 MACH = .89890 Q = 599.14 P = 1059.2 RN/L = 3.5769

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1206	.9444	.5168	.3513	.2357			.0871		.0655	.0327	.0603	.1154	.1928	.2285
20.000			.5264	.3428	.2210	.1292		.0828		.0451					
[illegible]			.5190	.3375	.2274	.1421		.0790		.0149	-.0491	.0055	.0867	.1619	.2513
[illegible]			.4428	.2452	.1428	.0604		-.0232		-.0305					
[illegible]			.3711	.1903	.0674	.0785		-.0146		-.1173	-.5270	-.2225	-.1822	-.0813	
[illegible]		.4191	.3250	.1561	.0663	.0919		.0014		-.2079	-.6509	-.2065	-.1544	-.0713	
[illegible]			.2437	.1035	.0253	.1321		.1497		-.3405	-.7201	-.4221	-.3103	-.1312	
[illegible]										-.4935					
[illegible]			.1810	.0643	.0313	.1555		.5142		-.7741	-.5841	-.5271	-.2191	-.0269	
[illegible]									.1740						
[illegible]									.1943						
[illegible]										-.9158	-.5936	-.5459	-.2094	.0065	
[illegible]								.5707							
[illegible]							.6642								
[illegible]	1.1206	.2568	.1156	.0733	.0514	.1662		.5247		-.6740	-.6036	-.5487	-.2195	.0242	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2275	.1777	.0954	-.0199	-.0975	-.2765	-.4331		-.6048	-.4099
40.000	.2478		.1250	.0197	-.0429	-.2349	-.4159		-.4602	-.2242
[illegible]	-.4482	-.7371	-.3203	-.1016	-.3006	-.4218	-.7051			
[illegible]	-.3427	-.5943	-.2140	-.0665	-.3630	-.4034	-.5549			
[illegible]			-.0845	-.0204	-.4546	-.4775	-.5895			
110.000								-.2019		
120.000	-.2644	-.3068	-.0328	.0469	-.4613	-.5107	-.4987	-.2219		
[illegible]			-.2082	.2403	-.4295	-.4289	-.4256			
[illegible]	-.1943	-.2103	.0460	.3023	-.3445	-.4137	-.3566			
[illegible]	-.1438		.0889		-.1559	-.3421	-.2314			
180.000	-.1401	-.1095	.0481	.3420						

ALPHA (5) = 11.956 BETA (3) = 4.265 MACH = .89890 Q = 599.14 P = 1059.2 RN/L = 3.5769

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0090	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1093	.9282	.5042	.3409	.2193			.0752		.0518	.0204	.0504	.1066	.1869	.2143
20.000			.4709	.3017	.1830	.1079		.0548		.0144					
40.000			.4171	.2534	.1491	.0719		.0173		-.0560	-.1212	-.0750	.0350	.1233	.2210
55.000			.3070	.1236	.0321	-.0314		-.0993		-.1469					
70.000			.2502	.0790	-.0143	.0190		-.0727		-.1741	-.5972	-.3203	-.2260	-.1234	
90.000		.2511	.2262	.0610	-.0186	.0391		-.0539		-.2816	-.7267	-.2253	-.2126	-.0771	
120.000			.1927	.0482	-.0146	.1120		.0947		-.4404	-.6703	-.3583	-.2495	-.0521	

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AMES 11-073(OA148) -140A/B/C OPB FUSELAGE

ALPHA (5) = 11.956 BETA (3) = 4.265

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3760	.4970	.5740
PHI															
140.000										-.6301					
150.000			.1356	.0501	-.0105	.1358		.4514		-1.0080	-.6036	-.5274	-.2141	.0046	
151.000									.0914						
160.000									.1191						
165.000										-.9387	-.6198	-.5610	-.2222	.0144	
170.000								.5320							
180.000							.6398								
190.000	1.1093	.2301	.1257	.0624	.0530	.1595		.5139		-.6600	-.5917	-.5590	-.2322	-.0052	

X/LB	.6820	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
140.000	.2179	.1671	.0898	-.0300	-.1101	-.2781	-.4387		-.5624	-.4299
150.000	.0514		.1127	.0067	-.0564	-.2367	-.4477		-.4911	-.2389
160.000	-.4446	- 7333	-.2473	-.1154	-.3453	-.5062	-.6938			
165.000	- 3408	-.5942	-.2198	-.1162	-.4130	-.5189	-.5309			
170.000			-.1259	-.0725	-.5373	-.6210	-.5732			
180.000								-.2384		
190.000	-.2073	- 3925	-.0697	-.0314	-.5257	-.6085	-.6739	-.2944		
195.000			.0151	.2221	-.4415	-.4943	-.5659			
200.000	-.1517	-.1457	.0849	.3289	-.3913	-.4772	-.4306			
185.000	-.1404		.0863		-.1958	-.4145	-.2439			
190.000	-.1517	-.1199	.0738	.3381						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8880) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 936.0680 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = -10.000 SPDBRK = .000
BDFLAP = -11.700 L-ELVN = 10.000
R-ELVN = -10.000 MACH = .600

ALPHA (I) = -4.078 BETA (I) = -7.858 MACH = .59728 Q = 595.86 P = 2386.0 RN/_ = 4.8298

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0001	.1253	-.2232	-.2272	-.2309			-.1835		-.1626	-.1362	-.1004	-.0848	-.0716	-.0821
20.000			-.1980	-.2422	-.2875	-.2937		-.2464		-.2165					
40.000			.0217	-.2294	-.3098	-.3227		-.3770		-.3414	-.2815	-.2103	-.1762	-.1544	-.1504
55.000			.2757	.0498	-.0257	-.1258		-.1609		-.1764					
70.000			.4414	.2307	.1480	.0875		-.0428		-.1308	-.1383	-.0131	.0546	.0897	
90.000		.7384	.5439	.3307	.2011	.1339		-.0134		-.1828	-.1720	-.0458	.0319	.0789	
120.000			.6167	.4554	.3473	.3189		.1923		-.1486	-.1914	-.1750	-.0024	.0310	
140.000										-.1956					
150.000			.5698	.4112	.3359	.3408		.5584		-.3618	-.3258	-.1120	-.0439	-.0154	
160.000									.2436						
165.000									.2517						
169.000										-.9558	-.2523	-.1362	-.0630	-.0299	
174.000								.5639							
180.000	1.0001	.7027	.4318	.3385	.2849	.2796	.6977	.3557		-1.1916	-.2324	-.1402	-.0834	-.0486	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1234	-.1504	-.1976	-.2533	-.2560	-.3193	-.3450		-.3699	-.2651
40.000	-.2123		-.1839	-.2198	-.1818	-.2528	-.3114		-.3248	-.3366
70.000	-.0060	-.0506	.0071	.0957	-.1241	-.1594	-.1675			
90.000	.0223	.0032	.0662	.1529	-.1413	-.1644	-.1787			
105.000			.1208	.2696	-.2240	-.2070	-.2237			
110.000								-.3098		
120.000	.0082	.0514	.2133	.4565	-.2098	-.1868	-.1917	-.1979		
135.000			.2657	.4543	-.1584	-.1238	-.1786			
150.000	.0105	.0724	.2530	.3269	-.1343	-.1085	-.1797			
165.000	-.0043		.2117		.1001	-.0811	-.2027			
180.000	-.0269	.0338	.1684	.3268						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8B80)

ALPHA (1) = -4.062 BETA (2) = -3.836 MACH = .59728 Q = 595.86 P = 2386.0 RN/L = 4.8298

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0429	.1650	-.1802	-.1938	-.2181			-.1706		-.1428	-.1186	-.0828	-.0704	-.0532	-.0737
20.000			-.1771	-.1990	-.2506	-.2466		-.2062		-.1768					
40.000			.0040	-.1990	-.2676	-.2670		-.3119		-.2735	-.2115	-.1449	-.1218	-.1112	-.1129
55.000			.1988	-.0083	-.0645	-.1479		-.1866		-.2083					
70.000			.3335	.1239	.0509	.0043		-.1142		-.1971	-.1882	-.0464	.0238	.0651	
90.000		.5970	.4257	.2077	.0900	.0354		-.1057		-.2767	-.2250	-.0874	.0024	.0539	
120.000			.5211	.3606	.2515	.2279		.0776		-.2448	-.2376	-.2064	-.0139	.0249	
140.000										-.2781					
150.000			.5334	.3995	.3099	.3200		.5005		-.4151	-.2823	-.0954	-.0257	.0068	
151.000									.1508						
152.000									.1876						
155.000										-.9317	-.2157	-.1084	-.0353	.0040	
159.000								.5559							
174.000							.7048								
180.000	1.0429	.7231	.4699	.3622	.3182	.3129		.4590		-1.1579	-.2024	-.1072	-.0424	-.0074	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1176	-.1434	-.1880	-.2600	-.2526	-.3153	-.3452		-.3593	-.2502
40.000	-.1866		-.1731	-.2129	-.1809	-.2334	-.2764		-.2936	-.2737
70.000	-.0378	-.0938	-.0331	.0464	-.1695	-.1923	-.1887			
90.000	-.0007	-.0279	.0331	.0841	-.2037	-.2057	-.1916			
105.000			.0854	.1518	-.3044	-.2532	-.2485			
110.000								-.3056		
120.000	.0165	.0469	.1854	.3029	-.3107	-.2691	-.2585	-.2274		
135.000			.2597	.4144	-.2258	-.1777	-.2122			
150.000	.0483	.0328	.2653	.4492	-.1710	-.1710	-.2089			
164.000	.0304		.2394		.0036	-.1536	-.1832			
180.000	.0021	.0900	.2266	.4362						

ALPHA (1) = -4.051 BETA (3) = .183 MACH = .59728 Q = 595.86 P = 2386.0 RN/L = 4.8298

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0489	.1684	-.1849	-.1855	-.2141			-.1642		-.1382	-.1123	-.0839	-.0626	-.0503	-.0721
20.000			-.1714	-.1875	-.2320	-.2233		-.1831		-.1591					
40.000			-.0313	-.1993	-.2426	-.2331		-.2515		-.2265	-.1645	-.0991	-.0824	-.0793	-.0844
55.000			.1133	-.0659	-.1166	-.1807		-.2157		-.2314					
70.000			.2157	.0280	-.0431	-.0739		-.1859		-.2550	-.2247	-.0767	-.0012	.0424	
90.000		.4449	.2998	.0830	-.0219	-.0651		-.2003		-.3650	-.2732	-.1121	-.0194	.0313	
120.000			.4124	.2501	.1365	.1357		-.0538		-.3536	-.2948	-.2480	-.0432	.0011	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8880)

ALPHA (1) = -4.061 BETA (3) = .183

SECTION 1 (ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.3615					
150.000			.4783	.3582	.2612	.2707		.4052		-.4856	-.2589	-.1006	-.0324	.0068	
151.000									.0297						
162.000									.0866						
165.000										-.9327	-.2065	-.1027	-.0286	.0087	
169.000								.5184							
174.000							.6836								
180.000	1.0489	.7132	.4862	.3585	.3283	.3240		.5017		-1.1423	-.1945	-.0928	-.0307	.0106	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1192	-.1456	-.1931	-.2544	-.2454	-.3141	-.3468		-.3665	-.2513
40.000	-.1629		-.1721	-.2089	-.1814	-.2251	-.2466		-.2872	-.2307
70.000	-.0568	-.1120	-.0735	-.0054	-.2142	-.2255	-.2081			
90.000	-.0242	-.0535	-.0119	.0166	-.2674	-.2418	-.2086			
110.000			.0428	.0479	-.3843	-.3019	-.2678			
130.000	-.0023	.0080	.1052	.1732	-.4326	-.3598	-.3269	-.3160		
145.000			.2089	.4249	-.3252	-.2474	-.2532	-.2610		
150.000	.0364	.0829	.2354	.4574	-.2433	-.2453	-.2429			
155.000	.0394		.2299		-.0922	-.2318	-.1703			
160.000	.0328	.1055	.2459	.4484						

ALPHA (1) = -3.963 BETA (4) = 4.258 MACH = .59728 Q = 595.86 P = 2386.0 RN/L = 4.8298

SECTION 1 (ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0308	.1493	-.1941	-.1897	-.2251			-.1739		-.1459	-.1174	-.0889	-.0670	-.0566	-.0801
20.000			-.1927	-.1864	-.2329	-.2095		-.1741		-.1510					
40.000			-.0816	-.2020	-.2369	-.2132		-.2183		-.1923	-.1337	-.0760	-.0628	-.0661	-.0612
55.000			.0185	-.1242	-.1657	-.2027		-.2400		-.2489					
70.000			.0955	-.0723	-.1301	-.1432		-.2398		-.2986	-.2536	-.0939	-.0163	.0299	
90.000		.2720	.1681	-.0346	-.1280	-.1547		-.2814		-.4424	-.3081	-.1318	-.0333	.0192	
120.000			.2814	.1262	.0119	.0166		-.1949		-.4578	-.3499	-.3053	-.0868	-.0370	
140.000										-.4422					
150.000			.3953	.2920	.1831	.1966		.2883		-.5618	-.2578	-.1238	-.0620	-.0232	
151.000									-.1080						
152.000									-.0309						
164.000										-.9576	-.2149	-.1151	-.0543	-.0106	
169.000								.4542							
174.000							.6292								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8880)

ALPHA (1) = -3.953 BETA (4) = 4.258

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.0308	.6802	.4738	.3309	.3135	.3086		.4816		-1.1316	-.2037	-.1047	-.0439	-.0071	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.1202	-.1500	-.1939	-.2577	-.2505	-.3134	-.3447		-.3688	-.2498					
40.000	-.1424		-.1672	-.2025	-.1793	-.2151	-.2398		-.2634	-.2005					
70.000	-.0704	-.1362	-.1077	-.0443	-.2489	-.2405	-.2117								
90.000	-.0421	-.0865	-.0541	-.0455	-.3087	-.2762	-.2261								
105.000			-.0155	-.0389	-.4517	-.3319	-.2868								
110.000								-.3220							
120.000	-.0381	-.0537	.0071	.0029	-.5674	-.4539	-.3990	-.2990							
135.000			.1325	.2626	-.4385	-.3286	-.3047								
150.000	.0059	.0378	.1676	.4574	-.3561	-.3423	-.2908								
165.000	.0104		.1806		-.2068	-.3143	-.1689								
180.000	.0144	.0839	.2203	.4354											

ALPHA (1) = -3.995 BETA (5) = 8.327 MACH = .59728 Q = 595.86 P = 2386.0 RN/L = 4.8298

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9820	.1317	-.2091	-.2020	-.2466			-.1832		-.1651	-.1397	-.1075	-.0820	-.0725	-.0928
20.000			-.2114	-.2052	-.2428	-.2163		-.1828		-.1637					
40.000			-.1351	-.2208	-.2347	-.2047		-.1962		-.1826	-.1203	-.0657	-.0480	-.0503	-.0448
55.000			-.0614	-.1786	-.2022	-.2192		-.2473		-.2056					
70.000			-.0150	-.1597	-.1972	-.1948		-.2795		-.3292	-.2617	-.1051	-.0262	.0210	
90.000		.0898	.0400	-.1483	-.2194	-.2343		-.3474		-.5077	-.3315	-.1467	-.0406	.0037	
120.000			.1466	-.0064	-.1226	-.1111		-.3469		-.5518	-.4036	-.3523	-.1332	-.0738	
146.000										-.5250					
150.000			.2835	.2002	.0850	.0992		.1422		-.6402	-.2741	-.1585	-.1103	-.0744	
151.000									-.2707						
162.000									-.1804						
165.000										-.9931	-.2426	-.1589	-.0931	-.0614	
169.000								.3624							
174.000							.5438								
180.000	.9820	.6105	.4204	.2736	.2694	.2711		.3851		-1.1500	-.2375	-.1431	-.0864	-.0521	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.1321	-.1579	-.1948	-.2548	-.2482	-.3031	-.3359		-.3595	-.2491					
40.000	-.1257		-.1513	-.1955	-.1713	-.2019	-.2205		-.2317	-.1772					

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8880)

ALPHA (1) = -3.995 BETA (5) = 8.327

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.0879	-.1603	-.1470	-.0790	-.2799	-.2568	-.2201			
90.000	-.0640	-.1177	-.1173	-.0911	-.3427	-.2962	-.2404			
105.000			-.0682	-.0696	-.4934	-.3586	-.3012			
110.000								-.3255		
120.000	-.0742	-.1076	-.0882	-.2039	-.7034	-.5531	-.4521	-.3199		
125.000			.0238	.1013	-.5773	-.4206	-.3528			
130.000	-.0507	-.0363	.0686	.4041	-.5276	-.4567	-.3324			
135.000	-.0434		.0942		-.3496	-.4071	-.1803			
150.000	-.0387	.0206	.1523	.2984						

ALPHA (2) = -.053 BETA (1) = -7.896 MACH = .59646 Q = 594.33 P = 2386.5 RN/L = 4.8222

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0243	.3078	-.0761	-.1224	-.1493			-.1488		-.1275	-.1037	-.0810	-.0560	-.0310	-.0359
20.000			-.0300	-.1097	-.1755	-.2079		-.1795		-.1623					
40.000			.1938	-.0549	-.1401	-.1653		-.2336		-.2150	-.1614	-.1054	-.0841	-.0742	-.0657
55.000			.3921	.1834	.1032	.0068		-.0528		-.1012					
70.000			.4921	.2854	.1938	.1241		.0007		-.1056	-.1385	-.0322	.0188	.0412	
90.000		.7269	.5405	.3421	.2203	.1602		.0158		-.1614	-.1658	-.0617	-.0015	.0286	
120.000			.5399	.3883	.2816	.2739		.1678		-.1831	-.2311	-.2290	-.0747	-.0592	
140.000										-.2712					
150.000			.4471	.2953	.2368	.2553		.5073		-.4679	-.4096	-.1667	-.0898	-.0674	
151.000									.1822						
162.000									.1657						
165.000										-1.1193	-.3016	-.1743	-.0954	-.0723	
169.000								.5007							
174.000							.6482								
180.000	1.0243	.5684	.3078	.2335	.1908	.1997		.2844		-1.3590	-.2763	-.1681	-.1023	-.0744	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0655	-.0974	-.1508	-.2195	-.2335	-.3090	-.3495		-.3765	-.2599
40.000	-.1139		-.1276	-.1784	-.1612	-.2317	-.2925		-.3208	-.3297
70.000	-.1130	-.1286	-.0364	.0892	-.1227	-.1471	-.1569			
90.000	-.0707	-.0648	.0270	.1445	-.1361	-.1625	-.1724			
105.000			.0833	.2749	-.2144	-.1982	-.2182			
110.000								-.2943		
120.000	-.0954	-.0235	.1620	.4406	-.2301	-.1874	-.1821	-.1931		
125.000			.2180	.4013	-.2010	-.1499	-.1924			
150.000	-.0529	.0201	.2134	.2365	-.2001	-.1418	-.1958			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8880)

ALPHA (2) = -.053 BETA (1) = -7.896

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	- 0541		.1709		.0645	-.0984	-.1945			
180.000	-.0642	.0059	.1435	.2713						

ALPHA (2) = -.008 BETA (2) = -3.854 MACH = .59646 Q = 594.33 P = 2386.5 RN/L = 4.8222

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0653	.3541	-.0344	-.0970	-.1351			-.1299		-.1173	-.0953	-.0641	-.0402	-.0199	-.0271
20.000			-.0103	-.0768	-.1512	-.1708		-.1531		-.1345					
40.000			.1616	-.0447	-.1169	-.1432		-.1928		-.1752	-.1275	-.0721	-.0520	-.0497	-.0353
55.000			.3100	.1120	.0385	-.0353		-.0923		-.1478					
70.000			.3847	.1807	.0952	.0427		-.0781		-.1733	-.1887	-.0679	-.0104	.0127	
90.000		.5928	.4276	.2315	.1174	.0678		-.0732		-.2510	-.2249	-.0950	-.0242	.0078	
120.000			.4594	.3090	.2093	.2111		.0805		-.2741	-.2716	-.2335	-.0568	-.0269	
140.000										-.3425					
150.000			.4227	.2891	.2206	.2437		.4558		-.5155	-.3551	-.1390	-.0672	-.0342	
161.000									.0935						
162.000									.1065						
165.000										-1.1050	-.2720	-.1418	-.0629	-.0323	
169.000								.4944							
174.000							.6514								
181.000	1.0053	.5858	.3490	.2591	.2230	.2333		.3898		-1.3170	-.2470	-.1357	-.0672	-.0316	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0571	-.0985	-.1489	-.2190	-.2299	-.3041	-.3405		-.3680	-.2509
40.000	-.0969		-.1746	-.1731	-.1527	-.2154	-.2559		-.2925	-.2622
70.000	-.1435	-.1625	-.0817	.0363	-.1691	-.1876	-.1812			
90.000	-.0931	-.0992	-.0089	.0795	-.2061	-.2048	-.1951			
105.000			.0529	.1571	-.2930	-.2465	-.2465			
115.000								-.3043		
140.000	-.0630	-.0093	.1597	.3048	-.3185	-.2563	-.2376	-.2137		
145.000			.2245	.3508	-.2610	-.1972	-.2230			
150.000	-.0129	.0454	.2267	.3213	-.2249	-.1941	-.2173			
165.000	-.0124		.2048		-.0325	-.1758	-.1846			
180.000	-.0186	.0533	.1962	.3630						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8880)

ALPHA (2) = .029 BETA (3) = .176 MACH = .59646 Q = 594.33 P = 2386.5 RN/L = 4.8222

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0743	.3589	-.0313	-.0780	-.1314			-.1212		-.1100	-.0869	-.0584	-.0349	-.0144	-.0262
20.000			-.0178	-.0713	-.1377	-.1517		-.1396		-.1231					
40.000			.1112	-.0630	-.1200	-.1259		-.1619		-.1520	-.1018	-.0512	-.0304	-.0359	-.0160
55.000			.2189	.0410	-.0261	-.0722		-.1342		-.1833					
70.000			.2677	.0753	.0001	-.0341		-.1451		-.2286	-.2272	-.0978	-.0342	-.0056	
90.000		.4413	.3124	.1193	.0134	-.0191		-.1572		-.3288	-.2606	-.1233	-.0441	-.0055	
100.000			.3635	.2158	.1151	.1160		-.0362		-.3594	-.3059	-.2471	-.0529	-.0208	
110.000										-.4154					
120.000			.3787	.2631	.1754	.2077		.3713		-.5674	-.3190	-.1311	-.0531	-.0215	
131.000									-.0206						
142.000									.0161						
155.000										-1.0805	-.2496	-.1282	-.0524	-.0193	
169.000								.4634							
177.000							.6317								
191.000	1.0743	.5839	.3670	.2607	.2305	.2441		.4333		-1.3032	-.2381	-.1190	-.0515	-.0205	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0565	-.0941	-.1476	-.2188	-.2315	-.3039	-.3447		-.3758	-.2532
40.000	-.0785		-.1223	-.1722	-.1593	-.2095	-.2380		-.2835	-.2219
70.000	-.1614	-.1889	-.1180	-.0117	-.2113	-.2198	-.2040			
90.000	-.1062	-.1199	-.0372	.0055	-.2749	-.2510	-.2155			
105.000			.0254	.0409	-.3668	-.2908	-.2677			
110.000								-.3210		
120.000	-.0563	-.0258	.1038	.1197	-.4168	-.3381	-.3005	-.2378		
135.000			.1814	.3452	-.3395	-.2554	-.2541			
150.000	-.0016	.0491	.2016	.3954	-.2928	-.2659	-.2479			
165.000	-.0002		.1959		-.1334	-.2567	-.1718			
180.000	-.0004	.0569	.2126	.4019						

ALPHA (2) = .052 BETA (4) = 4.239 MACH = .59646 Q = 594.33 P = 2386.5 RN/L = 4.8222

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0534	.3358	-.0449	-.0879	-.1430			-.1298		-.1171	-.0968	-.0629	-.0399	-.0198	-.0314
20.000			-.0428	-.09.4	-.1496	-.1486		-.1367		-.1244					
40.000			.0443	-.0917	-.1392	-.1360		-.1563		-.1431	-.1015	-.0503	-.0300	-.0274	-.0051
55.000			.1070	-.0390	-.0825	-.1305		-.1788		-.2177					
70.000			.1481	-.0255	-.0801	-.0962		-.1980		-.2761	-.2527	-.1102	-.046i	-.0116	
90.000		.2733	.1857	-.0009	-.0844	-.1090		-.2328		-.4017	-.2953	-.1357	-.0489	-.0076	
120.000			.2637	.1122	.0078	.0290		-.1547		-.4524	-.3423	-.2684	-.0645	-.0278	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8880)

ALPHA (2) = .052 BETA (4) = 4.239

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.4893					
150.000			.3160	.2174	.1118	.1483		.2647		-.6298	-.2967	-.1383	-.0652	-.0380	
151.000									-.1421						
162.000									-.0948						
165.000										-1.0901	-.2492	-.1379	-.0669	-.0264	
169.000								.4056							
174.000							.5880								
180.000	1.0534	.5564	.3599	.2398	.2259	.2363		.4164		-1.2938	-.2398	-.1322	-.0660	-.0349	

X/LB	.6520	.7290	.7790	.8210	8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0843	-.1015	-.1489	-.2225	-.2290	-.2994	-.3384		-.3672	-.2496
40.000	-.0857		-.1171	-.1634	-.1548	-.2046	-.2327		-.2512	-.1873
70.000	-.1683	-.2053	-.1510	-.0648	-.2480	-.2405	-.2134			
90.000	-.1141	-.1399	-.0839	-.0530	-.3089	-.2663	-.2230			
105.000			-.0350	-.0488	-.4385	-.3282	-.2823			
110.000								-.3272		
120.000	-.0682	-.0725	.0180	.0261	-.5339	-.4174	-.3566	-.2699		
135.000			.1262	.2483	-.4456	-.3278	-.2994			
150.000	-.0205	.0177	.1559	.3718	-.3880	-.3472	-.2897			
165.000	-.0169		.1612		-.2518	-.3354	-.1722			
180.000	-.0182	.0490	.1904	.3657						

ALPHA (2) = .006 BETA (5) = 8.284 MACH = .59646 Q = 594.33 P = 2386.5 RN/L = 4.8222

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0016	.3117	-.0604	-.1023	-.1675			-.1436		-.1339	-.1063	-.0810	-.0517	-.0363	-.0442
20.000			-.0772	-.1133	-.1710	-.1601		-.1526		-.1439					
40.000			-.0302	-.1239	-.1651	-.1552		-.1611		-.1643	-.1177	-.0642	-.0351	-.0353	-.0007
55.000			.0058	-.1180	-.1445	-.1656		-.2131		-.2399					
70.000			.0330	-.1149	-.1535	-.1507		-.2486		-.3070	-.2698	-.1237	-.0531	-.0164	
80.000		.0855	.0639	-.1109	-.1750	-.1848		-.2954		-.4528	-.3124	-.1452	-.0514	-.0131	
100.000			.1303	-.0063	-.0990	-.0612		-.2880		-.5282	-.3819	-.2909	-.0765	-.0439	
140.000										-.5560					
150.000			.2151	.1334	.0267	.0592		.1252		-.6911	-.3021	-.1601	-.0972	-.0712	
151.000									-.2920						
162.000									-.2418						
165.000										-1.1131	-.2731	-.1656	-.1026	-.0757	
171.000								.3170							
174.000							.5049								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE888D)

ALPHA (2) = .006 BETA (5) = 8.284

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.0016	.4870	.3178	.1853	.1805	.1923		.3199		-1.3028	-.2746	-.1637	-.1059	-.0795	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0635	-.0973	-.1552	-.2260	-.2294	-.2949	-.3373		-.3550	-.2498
40.000	-.0565		-.1149	-.1648	-.1562	-.1959	-.2240		-.2331	-.1730
70.000	-.1732	-.2240	-.1860	-.0991	-.2762	-.2517	-.2135			
90.000	-.1206	-.1659	-.1247	-.0989	-.3498	-.3130	-.2484			
105.000			-.0815	-.1015	-.4882	-.3584	-.2971			
110.000								-.3184		
120.000	-.0932	-.1211	-.0666	-.2000	-.6697	-.5070	-.4144	-.2986		
135.000			.0296	.0766	-.5910	-.4227	-.3532			
150.000	-.0650	-.0472	.0554	.3476	-.5551	-.4685	-.3380			
165.000	-.0672		.0754		-.4341	-.4354	-.1887			
180.000	-.0708	-.0138	.1245	.2453						

ALPHA (3) = 3.903 BETA (1) = -7.902 MACH = .59628 Q = 593.97 P = 2386.5 RN/L = 4.3207

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0177	.4852	.0689	-.0103	-.0635			-.1006		-.0892	-.0722	-.0482	-.0215	.0145	.0135
20.000			.1371	.0190	-.0609	-.1100		-.1061		-.1032					
40.000			.3491	.1039	.0101	-.0335		-.1018		-.1014	-.0584	-.0148	-.0009	.0041	.0308
59.000			.4871	.2823	.1901	.1043		.0199		-.0493					
70.000			.5181	.3185	.2183	.1468		.0244		-.0843	-.1444	-.0552	-.0174	-.0085	
90.000		.6913	.5174	.3317	.2209	.1712		.0305		-.1542	-.1756	-.0919	-.0354	-.0233	
120.000			.4495	.3026	.2055	.2086		.1418		-.2268	-.2873	-.3133	-.1772	-.1767	
140.000										-.3415					
150.000			.3157	.1727	.1292	.1769		.4595		-.5741	-.4905	-.2112	-.1290	-.1152	
151.000									.1203						
162.000									.0874						
165.000										-1.2888	-.3466	-.2010	-.1205	-.1022	
169.000								.4401							
174.000							.6006								
180.000	1.0177	.4247	.1894	.1318	.0999	.1288		.2233		-1.5104	-.3045	-.1821	-.1120	-.0942	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0019	-.0428	-.0989	-.1777	-.2067	-.2937	-.3421		-.3845	-.2541
40.000	-.0175		-.0562	-.1300	-.1313	-.2058	-.2781		-.3113	-.3231

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8880)

ALPHA (3) = 3.903 BETA (1) = -7.902

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.2285	-.1955	-.0790	.0891	-.1071	-.1265	-.1406			
90.000	-.1680	-.1311	-.0073	.1449	-.1257	-.1526	-.1644			
105.000			.0423	.3023	-.1960	-.1836	-.2065			
110.000								-.2786		
120.000	-.2149	-.1032	.1030	.4515	-.2500	-.1929	-.1784	-.1893		
135.000			.1780	.3239	-.2468	-.1800	-.2043			
[illegible]	-.1110	-.0241	.1605	.1171	-.2597	-.1725	-.2063			
[illegible]	-.0494		.1442		.0356	-.1154	-.1934			
180.000	-.0833	-.0107	.1274	.2219						

ALPHA (3) = 3.907 BETA (2) = -3.865 MACH = .59628 Q = 593.97 P = 2386.5 RN/L = 4.8207

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0576	.5187	.1144	.0186	-.0435			-.0783		-.0686	-.0569	-.0350	-.0102	.0246	.0279
30.000			.1455	.0457	-.0525	-.0861		-.0899		-.0787					
40.000			.2998	.0858	.0076	-.0310		-.0904		-.0932	-.0487	-.0036	.0075	.0177	.0476
55.000			.3680	.2008	.1189	.0341		-.0446		-.1044					
70.000			.4053	.2162	.1161	.0687		-.0569		-.1509	-.1963	-.0904	-.0471	-.0282	
[illegible]		.5594	.4114	.2328	.1234	.0858		-.0543		-.2304	-.2272	-.1238	-.0644	-.0395	
120.000			.3803	.2394	.1431	.1675		.0670		-.3017	-.3090	-.2821	-.1264	-.1181	
140.000										-.4112					
150.000			.3059	.1852	.1262	.1744		.4129		-.6151	-.4173	-.1737	-.0899	-.0671	
161.000									.0379						
165.000									.0322						
169.000										-1.2570	-.3013	-.1640	-.0857	-.0569	
169.000								.4366							
174.000							.6063								
180.000	1.0576	.4395	.2283	.1577	.1329	.1554		.3235		-1.4969	-.2768	-.1498	-.0779	-.0553	

X LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
000	.0032	-.0373	-.0946	-.1781	-.2067	-.2934	-.3305		-.3769	-.2542
40.000	-.0029		-.0605	-.1254	-.1319	-.1940	-.2429		-.2978	-.2525
70.000	-.2657	-.2359	-.1212	.0300	-.1623	-.1700	-.1654			
90.000	-.1892	-.1685	-.0451	.0742	-.1992	-.1994	-.1909			
105.000			.0190	.1658	-.2721	-.2326	-.2363			
110.000								-.2920		
120.000	-.1539	-.0699	.1420	.2505	-.3224	-.2515	-.2161	-.1977		
[illegible]			.2006	.2732	-.2808	-.2102	-.2222			
180.000	-.0629	.0130	.2020	.2160	-.2744	-.2095	-.2215			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8880)

ALPHA (3) = 3.907 BETA (2) = -3.86F

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
RHI										
166.000	-.0505		.1784		-.0717	-.1982	-.1933			
180.000	-.0476	.0342	.1688	.3045						

ALPHA (3) = 3.934 BETA (3) = .18C MACH = .59629 Q = 593.97 P = 2386.5 RN/L = 4.8207

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
RHI															
000	1.0686	.5263	.1164	.0267	-.0342			-.0675		-.0652	-.0502	-.0252	-.0005	.0281	.0327
20.000			.1358	.0440	-.0416	-.0766		-.0755		-.0773					
40.000			.2332	.0582	-.0127	-.0442		-.0838		-.0939	-.0563	-.0097	.0116	.0160	.0533
60.000			.2805	.1135	.0428	-.0289		-.0952		-.1644					
80.000			.2870	.1104	.0724	-.0062		-.1189		-.2138	-.2360	-.1213	-.0691	-.0464	
100.000		.4105	.2987	.1236	.0269	.0051		-.1305		-.3045	-.2627	-.1426	-.0705	-.0496	
120.000			.2994	.1653	.0799	.1045		-.0249		-.3777	-.3302	-.2653	-.0920	-.0716	
140.000										-.4700					
157.000			.2739	.1721	.0967	.1450		.3369		-.6472	-.3641	-.1556	-.0658	-.0443	
161.000									-.0606						
165.000									-.0483						
169.000										-1.2283	-.2797	-.1433	-.0653	-.0344	
174.000								.4096							
180.000	.0626	.4287	.2403	.1641	.1414	.1713	.5830	.3715		-1.4367	-.2630	-.1395	-.0622	-.0381	

X/LB	.6520	.7290	.7790	8210	.8790	.9210	.9600	.9990	1.0180	1.0460
RHI										
000	.0069	-.0335	- 0993	-.1779	-.2037	-.2882	-.3303		-.3684	-.2487
40.000	.0047		-.0940	-.1194	-.1246	-.1865	-.2296		-.2743	-.2117
73.000	-.0779	-.2588	-.1526	-.0241	-.2115	-.2129	-.1957			
90.000	-.1912	- 1622	-.0699	-.0016	-.2706	-.2462	-.2071			
105.000			.0059	.0198	-.3503	-.2830	-.2634			
110.000								-.3085		
120.000	-.1184	-.0802	.1058	.0253	-.3976	-.3173	-.2642	-.2168		
134.000			.1604	.0735	-.3655	-.2627	-.2521			
150.000	-.0429	.0166	.1862	.3807	-.3119	-.2730	-.2424			
166.000	-.0310		.1802		-.1709	-.2724	-.1809			
180.000	-.0355	.0413	.1767	.3666						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8880)

ALPHA (3) = 3.986 BETA (4) = 4.226 MACH = .59628 Q = 593.97 P = 2386.5 RN/L = 4.8207

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0463	.5042	.1043	.0202	-.0503			-.0799		-.0768	-.0626	-.0347	-.0054	.0239	.0226
20.000			.0955	.0095	-.0695	-.0898		-.0907		-.0916					
40.000			.1479	.0031	-.0567	-.0712		-.1061		-.1229	-.0930	-.0372	-.0073	.0017	.0490
55.000			.1601	.0149	-.0397	-.0884		-.1537		-.2052					
70.000			.1650	.0092	-.0602	-.0718		-.1776		-.2648	-.2709	-.1432	-.0840	-.0568	
90.000		.2450	.1787	.0152	-.0673	-.0742		-.2039		-.3763	-.2896	-.1553	-.0769	-.0479	
110.000			.2093	.0756	-.0040	.0300		-.1317		-.4495	-.3499	-.2587	-.0724	-.0448	
140.000										-.5379					
150.000			.2226	.1354	.0478	.1000		.2392		-.6946	-.3333	-.1496	-.0701	-.0471	
160.000									-.1767						
165.000									-.1606						
175.000										-1.2211	-.2788	-.1482	-.0755	-.0466	
189.000								.3587							
194.000							.5479								
180.000	1.0463	.4015	2427	.1482	.1333	.1592		.3528		-1.4388	-.2672	-.1429	-.0772	-.0563	
X/B	.6520	.7230	.7790	.8210	.8790	.9210	.9600	.9930	1.0180	1.0460					
PHI															
.000	.0009	-.0414	-.1006	-.1768	-.2035	-.2810	-.3317		-.3712	-.2470					
40.000	.0095		-.0684	-.1210	-.1343	-.1856	-.2246		-.2477	-.1863					
70.000	-.2818	-.2763	-.1869	-.0771	-.2491	-.2433	-.2154								
90.000	-.1983	-.2031	-.1114	-.0713	-.3158	-.2681	-.2223								
105.000			-.0549	-.0525	-.4224	-.3211	-.2815								
110.000								-.3297							
120.000	-.1070	-.0949	.0046	.0214	-.5132	-.3922	-.3274	-.2505							
135.000			.1077	.2463	-.4563	-.3273	-.2916								
150.000	-.0493	-.0037	.1415	.2251	-.4142	-.3517	-.2843								
165.000	-.0449		.1471		-.2832	-.3399	-.1732								
180.000	-.0482	.0241	.1643	.2919											

ALPHA (3) = 4.029 BETA (5) = 8.276 MACH = .59628 Q = 593.97 P = 2386.5 RN/L = 4.8207

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9932	.4792	.0880	.0052	-.0648			-.0916		-.0908	-.0740	-.0438	-.0175	.0111	.0092
20.000			.0837	-.0197	-.0880	-.1043		-.1084		-.1196					
40.000			.0556	-.0523	-.1022	-.1175		-.1337		-.1627	-.1397	-.0727	-.0374	-.0192	.0386
55.000			.0511	-.0926	-.1182	-.1531		-.2035		-.2413					
70.000			.0411	-.0885	-.1390	-.1314		-.2263		-.3029	-.2844	-.1556	-.0866	-.0611	
90.000		.0838	.0823	-.0880	-.1523	-.1441		-.2582		-.4265	-.3043	-.1597	-.0737	-.0445	
110.000			.0939	-.0219	-.1017	-.0618		-.2376		-.5180	-.3675	-.2506	-.0630	-.0487	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8880)

ALPHA (α) = 4.029 BETA (β) = 8.276

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.5866					
150.000			.1389	.0658	-.0308	.0203		.1067		-.7393	-.3202	-.1630	-.0891	-.0696	
160.000									-.3145						
170.000									-.2883						
175.000										-1.2091	-.2917	-.1763	-.1009	-.0829	
178.000								.2755							
180.000	.9932	.3431	.2031	.0972	.0946	.1228	.4565	.2629		-1.4368	-.3060	-.1831	-.1154	-.0995	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0122	-.0454	-.1042	-.1852	-.1950	-.2808	-.3306		-.3708	-.2410
40.000	.0056		-.0658	-.1229	-.1348	-.1830	-.2228		-.2316	-.1624
80.000	-.2609	-.3016	-.2249	-.1216	-.2836	-.2636	-.2187			
120.000	-.2005	-.2159	-.1570	-.1186	-.3579	-.3003	-.2408			
150.000			-.0934	-.1073	-.4758	-.3513	-.2919			
160.000								-.3044		
168.000	-.1226	-.1337	-.0478	-.1199	-.6156	-.4675	-.3794	-.2771		
175.000			.0338	.0596	-.5833	-.4160	-.3431			
180.000	-.0781	-.0497	.0564	.2670	-.5812	-.4711	-.3370			
185.000	-.0929		.0631		-.4766	-.4495	-.1916			
180.000	-.0987	-.0355	.0990	.1949						

ALPHA (α) = 7.903 BETA (β) = -7.896 MACH = .59626 Q = 593.85 P = 2386.1 RN/L = 4.8197

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
000	.9816	.6309	.2209	.1005	.0320			-.0362		-.0308	-.0254	-.0059	.0205	.0641	.0764
20.000			.3001	.1581	.0476	-.0165		-.0958		-.0373					
40.000			.4780	.2523	.1484	.0772		.0108		-.0087	.0257	.0622	.0746	.0796	.1177
60.000			.5412	.3470	.2516	.1547		.0575		-.0261					
80.000			.5173	.3323	.2289	.1644		.0418		-.0842	-.1632	-.0888	-.0544	-.0587	
90.000		.6314	.4669	.3018	.2012	.1597		.0295		-.1615	-.1962	-.1268	-.0836	-.0816	
100.000			.3389	.2019	.1120	.1326		.0978		-.2714	-.3609	-.4192	-.3158	-.3223	
140.000										-.4216					
160.000			.1809	.0588	.0285	.0935		.4141		-.6700	-.5646	-.2608	-.1690	-.1590	
180.000									.0632						
200.000									.0101						
220.000										-1.4459	-.3870	-.2266	-.1441	-.1286	
240.000								.3866							
270.000							.5539								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8880)

ALPHA (1) = 7.903 BETA (1) = -7.856

SECTION 1 : ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	.3816	.2704	.0547	.0339	.0159	.0608		.1644		-1.7329	-.3183	-.1851	-.1194	-.1050	
X/LB	.8520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
[illegible]	.0695	.0184	-.0452	-.1252	-.1697	-.2655	-.3198		-.3758	-.2417					
[illegible]	.0963		-.0036	-.0688	-.0940	-.1669	-.2403		-.2939	-.2874					
[illegible]	-.0430	-.2560	-.1165	.0830	-.1005	-.1139	-.1251								
[illegible]	-.0401	-.1831	-.0485	.1460	-.1067	-.1470	-.1604								
[illegible]			.0003	.3207	-.1701	-.1692	-.1942								
[illegible]								-.2622							
[illegible]	-.2408	-.1835	.0547	.4810	-.2730	-.2027	-.1730	-.1872							
[illegible]			.1491	.2219	-.2870	-.2918	-.2169								
[illegible]	-.1044	-.0547	.1605	-.1057	-.3147	-.1857	-.2029								
[illegible]	-.1824		.1288		.0373	-.1096	-.1068								
[illegible]	-.1.63	-.0235	.1163	.1515											

ALPHA (1) = 7.912 BETA (2) = -3.851 MACH = .59526 Q = 593.85 P = 2386.1 RN/L = 4.8197

SECTION 1 : ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
[illegible]	1.0149	.6859	.2522	.1280	.0542			-.0142		-.0197	-.0122	.0120	.0375	.0735	.0870
[illegible]			.2995	.1583	.0650	.0042		-.0171		-.0211					
[illegible]			.4109	.2089	.1218	.0590		.0026		-.0185	.0018	.0403	.0628	.0716	.1221
[illegible]			.4319	.2+82	.1652	.0702		-.0187		-.0927					
[illegible]			.3960	.2224	.1283	.0744		-.0374		-.1505	-.2140	-.1271	-.0862	-.0810	
[illegible]		.4993	.3839	.1988	.1033	.0747		-.0453		-.2292	-.2433	-.1523	-.1004	-.0965	
[illegible]			.2916	.1510	.0721	.1040		.0384		-.3372	-.3650	-.3535	-.2264	-.2241	
[illegible]										-.4699					
[illegible]			.1811	.0738	.0418	.0922		.3761		-.6977	-.4835	-.2063	-.1125	-.1087	
[illegible]									-.0135						
[illegible]									-.0424						
[illegible]										-1.4022	-.3383	-.1814	-.1006	-.0825	
[illegible]								.3842							
[illegible]							.5614								
[illegible]	1.0149	.2760	.1026	.0622	.0511	.0908		2690		-1.6081	-.2893	-.1551	-.0836	-.0686	
X/LB	.8520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
[illegible]	.0788	.0348	-.0466	-.1278	-.1639	-.2550	-.3178		-.3693	-.2372					
[illegible]			-.0001	-.0705	-.0373	-.1598	-.2093		-.2808	-.2249					

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8880)

ALPHA (4) = 7.912 BETA (2) = -3.851

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.3792	-.3016	-.1643	.0209	-.1592	-.1622	-.1557			
90.000	-.2824	-.2252	-.0831	.0654	-.1629	-.1906	-.1846			
105.000			-.0078	.1464	-.2544	-.2237	-.2270			
110.000								-.2750		
120.000	-.2477	-.1097	.1440	.1472	-.3238	-.2504	-.2066	-.1908		
135.000			.1731	.1785	-.3116	-.2317	-.2310			
150.000	-.1078	-.0193	.1535	.1851	-.2835	-.2268	-.2109			
165.000	-.0941		.1203		-.0812	-.1915	-.1962			
180.000	-.0805	.0022	.1318	.3095						

ALPHA (4) = 8.059 BETA (3) = .184 MACH = .59626 Q = 593.85 P = 2386.1 RN/L = 4.8197

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0234	.6715	.2569	.1421	.0623			-.0141		-.0125	-.0057	.0113	.0464	.0817	.0914
20.000			.2770	.1481	.0554	-.0008		-.0195		-.0232					
40.000			.3318	.1602	.0765	.0296		-.0238		-.0527	-.0387	.0158	.0407	.0563	.1203
55.000			.3082	.1458	.0618	-.0065		-.0941		-.1562					
70.000			.2712	.1121	.0286	.0061		-.1162		-.2157	-.2634	-.1588	-.1116	-.0935	
90.000		.3459	.2548	.1016	.0167	.0056		-.1233		-.2990	-.2793	-.1772	-.1159	-.1021	
120.000			.2163	.0903	.0144	.0641		-.0388		-.4067	-.3645	-.3163	-.1576	-.1465	
140.000										-.5280					
150.000			.1606	.0682	.0229	.0790		.3025		-.7279	-.4128	-.1754	-.0889	-.0703	
151.000									-.1076						
162.000									-.1160						
165.000										-1.3546	-.3067	-.1581	-.0789	-.0548	
169.000								.3581							
174.000							.5296								
180.000	1.0234	.2686	.1123	.0665	.0554	.0995		.3111		-1.5679	-.2828	-.1469	-.0716	-.0572	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0729	.0278	-.0373	-.1332	-.1670	-.2653	-.3208		-.3702	-.2404
40.000	.0866		-.0038	-.0733	-.1023	-.1661	-.2134		-.2673	-.1972
70.000	-.3897	-.3293	-.1904	-.0326	-.2109	-.2080	-.1837			
90.000	-.2931	-.2464	-.1013	-.0092	-.2775	-.2490	-.2044			
105.000			-.0145	.0384	-.3407	-.2724	-.2521			
110.000								-.2881		
120.000	-.1766	-.1005	.0538	.0471	-.3872	-.3119	-.2617	-.2000		
135.000			.0909	.2524	-.3697	-.2736	-.2559			
150.000	-.0857	-.0285	.1295	.4226	-.3556	-.2908	-.2553			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8880)

ALPHA (4) = 8.059 BETA (3) = .184

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/L)	.6520	.7230	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0693		.1279							
180.000	-.0658	.0120	.1475	.3877	-.2021	-.2946	-.1845			

ALPHA (4) = 8.016 BETA (4) = 4.233 MACH = .59626 Q = 593.85 P = 2386.1 RN/L = 4.8197

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/L8	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0062	.6586	.2415	.1277	.0449			-.0174		-.0243	-.0110	.0102	.0402	.0740	.0844
20.000			.2268	.1074	.0229	-.0185		-.0375		-.0391					
40.000			.2312	.0814	.0080	-.0269		-.0690		-.1024	-.0972	-.0345	.0040	.0319	.1061
55.000			.1805	.0312	-.0263	-.0942		-.1629		-.2148					
70.000			.1533	.0106	-.0583	-.0714		-.1681		-.2606	-.2907	-.1721	-.1321	-.1137	
80.000		.1866	.1531	.0057	-.0687	-.0624		-.1828		-.3598	-.3010	-.1806	-.1158	-.0964	
100.000			.1430	.0234	-.0426	.0118		-.1172		-.4657	-.3699	-.2742	-.1021	-.0884	
120.000			.1229	.0452	-.0230	.0466		.2154		-.5760					
140.000									-.2101	-.7556	-.3626	-.1584	-.0756	-.0608	
150.000									-.2177						
160.000										-1.3234	-.2989	-.1524	-.0761	-.0487	
170.000								.3121							
180.000	1.0062	.2474	.1192	.0549	.0445	.0884	.4961								
								.2939		-1.5372	-.2891	-.1579	-.0837	-.0727	

X/L8	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0687	.0278	-.0421	-.1313	-.1671	-.2555	-.3152			
40.000	.0773		-.0040	-.0740	-.1075	-.1637	-.2128		-.3763	-.2497
80.000	-.3933	-.3606	-.2337	-.1011	-.2641	-.2578	-.2199		-.2365	-.1743
90.000	-.2689	-.2616	-.1448	-.0939	-.3309	-.2752	-.2291			
110.000			-.0837	-.0797	-.4510	-.3379	-.2879			
130.000	-.1592	-.1476	-.0476	.0087	-.4977	-.3844	-.3194	-.3399		
145.000			.0827	.3190	-.4723	-.3336	-.2969	-.2508		
150.000	-.0743	-.0253	.1095	.3479	-.4551	-.3611	-.2943			
165.000	-.0703		.1166		-.3197	-.3525	-.1767			
180.000	-.0835	.0046	.1432	.2144						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8880)

ALPHA (4) = 8.043 BETA (5) = 8.283 MACH = .59626 Q = 593.85 P = 2386.1 RN/L = 4.8197

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9504	.6230	.2216	.1139	.0239			-.0302		-.0389	-.0270	-.0044	.0292	.0669	.0688
20.000			.1689	.0706	-.0078	-.0535		-.0692		-.0825					
40.000			.1150	.0088	-.0609	-.0905		-.1231		-.1772	-.1705	-.0938	-.0393	.0063	.0851
55.000			.0500	-.0776	-.1298	-.1728		-.2298		-.2734					
70.000			.0189	-.0927	-.1486	-.1359		-.2246		-.2992	-.3095	-.1972	-.1524	-.1313	
90.000		.0066	.0348	-.0932	-.1505	-.1243		-.2402		-.4052	-.3156	-.1875	-.1165	-.1040	
120.000			.0527	-.0637	-.1258	-.0645		-.2080		-.5213	-.3655	-.2482	-.0761	-.0752	
140.000										-.6170					
150.000			.0458	-.0101	-.0948	-.0165		.0880		-.7810	-.3296	-.1554	-.0830	-.0722	
161.000									-.3492						
170.000									-.3506						
165.000										-1.3091	-.3037	-.1715	-.0993	-.0949	
160.000								.2268							
174.000							.4113								
180.000	.9504	.1848	.0779	.0088	.0109	.0504		.2029		-1.5434	-.3225	-.1981	-.1297	-.1129	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0575	.0180	-.0428	-.1342	-.1597	-.2600	-.3199		-.3717	-.2439
40.000	.0646		-.0062	-.0782	-.1091	-.1660	-.2086		-.2307	-.1553
70.000	-.3889	-.3832	-.2773	-.1630	-.3036	-.2777	-.2223			
90.000	-.2853	-.2860	-.2166	-.1581	-.3703	-.2919	-.2377			
105.000			-.1606	-.0955	-.5266	-.3775	-.3072			
110 000								-.3184		
120.000	-.1631	-.1791	-.1147	.1516	-.6107	-.4591	-.3658	-.2731		
135.000			.0111	.2975	-.5656	-.4062	-.3387			
150.000	-.1107	-.0741	.0515	.0739	-.5650	-.4453	-.3216			
165.000	-.1072		.0525		-.4385	-.4148	-.1963			
180.000	-.1227	-.0445	.0904	.1418						

ALPHA (5) = 11.974 BETA (1) = -7.860 MACH = .59650 Q = 594.19 P = 2385.7 RN/L = 4.8199

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9207	.7656	.3567	.2203	.1369			.0394		.0281	.0330	.0571	.0826	.1304	.1464
20.000			.4442	.2878	.1694	.0877		.0610		.0417					
40.000			.5855	.3692	.2641	.1808		.1122		.0746	.0896	.1205	.1361	.1569	.2078
55.000			.5693	.3806	.2759	.1724		.0693		-.0234					
70.000			.4821	.3155	.2075	.1530		.0349		-.0856	-.1847	-.1259	-.1018	-.1044	
90.000		.5441	.3933	.2451	.1639	.1219		.0157		-.1791	-.2250	-.1706	-.1448	-.1434	
120.000			.2124	.0768	-.0030	.0465		.0382		-.3297	-.4397	-.5687	-.4894	-.5091	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8880)

ALPHA (5) = 11.974 BETA (1) = -7.860

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000															
150.000										-.4886					
151.000			.0376	-.0667	-.0823	.0083		.3645		-.7697	-.6272	-.2920	-.2047	-.2119	
162.000									.0107						
165.000									-.0616						
169.000										-1.5825	-.4142	-.2461	-.1626	- 1624	
174.000								.3384							
180.000	.9207	.0984	-.0550	-.0641	-.0631	.0010	.4959	.1134		-2.0041	-.3265	-.1912	-.1278	-.1437	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1381	.0859	.0195	-.0735	-.1214	-.2298	-.2958		-.3720	-.2333
40.000	.1793		.0752	-.0048	-.0500	-.1216	-.1973		-.2938	-.2530
70.000	-.4896	-.3432	-.1503	.0672	-.1058	-.1122	-.1199			
90.000	-.3718	-.2542	-.0767	.1371	-.1100	-.1386	-.1493			
105.000			-.0353	.3240	-.1739	-.1703	-.1977			
110.000								-.2689		
120.000	-.4647	-.2191	.0157	.4797	-.2919	-.2128	-.1804	-.1959		
135.000			.0404	.0634	-.3190	-.2193	-.2328			
150.000	-.2115	-.1078	.0395	-.1010	-.3232	-.1936	-.2134			
165.000	-.2082		.0421		-.0229	-.1307	-.1962			
180.000	-.1758	-.1028	.0202	.3237						

ALPHA (5) = 11.993 BETA (2) = -3.842 MACH = .59650 Q = 594.19 P = 2385.7 RN/L = 4.8199

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9417	.8038	.3994	.2504	.1591			.0550		.0472	.0470	.0658	.0996	.1433	.1552
20.000			.4439	.2832	.1709	.0976		.0642		.0472					
40.000			.5096	.3159	.2132	.1428		.0737		.0369	.0416	.0821	.1141	.1359	.1991
55.000			.4479	.2680	.1719	.0683		-.0270		-.1020					
70.000			.3665	.2077	.1014	.0685		-.0441		-.1550	-.2460	-.1688	-.1392	-.1375	
80.000		.4146	.3004	.1527	.0746	.0585		-.0581		-.2440	-.2706	-.1959	-.1631	-.1655	
120.000			.1713	.0447	-.0222	.0388		-.0030		-.3790	-.4292	-.4797	-.3718	-.3640	
140.000										-.5334					
150.000			.0414	-.0390	-.0540	.0253		.3380		-.7876	-.5345	-.2339	-.1411	-.1623	
160.000									-.0546						
165.000									-.1052						
171.000										-1.5419	-.3649	-.1964	-.1230	-.1169	
174.000								.3344							
							.5157								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8880)

ALPHA (5) = 11.993 BETA (2) = -3.842

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	.9417	.1047	-.0243	-.0331	-.0312	.0281		.2097		-1.9252	-.2995	-.1558	-.0862	-.0853	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1450	.0359	.0276	-.0709	-.1238	-.2282	-.2856		-.3616	-.2331
20.000	.1773		.0739	-.0078	-.0614	-.1252	-.1873		-.2628	-.2066
40.000	-.5185	-.3914	-.2163	-.0144	-.1702	-.1613	-.1494			
80.000	-.3976	-.2659	-.1147	.0460	-.1959	-.1871	-.1754			
100.000			-.0358	.1007	-.2583	-.2238	-.2268			
140.000								-.2801		
160.000	-.3253	-.1115	.0509	.1476	-.3267	-.2534	-.1985	-.1910		
180.000			.0651	.1766	-.3042	-.2347	-.2245			
200.000	-.2094	-.1319	.0071	.3195	-.2849	-.2560	-.2358			
220.000	-.1979		.0095		-.0900	-.2080	-.1868			
240.000	-.1172	-.0345	.1183	.4261						

ALPHA (5) = 12.035 BETA (3) = .179 MACH = .59650 Q = 594.19 P = 2385.7 RN/L = 4.8199

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9555	.8118	.4031	.2559	.1663			.0621		.0484	.0542	.0745	.1064	.1483	.1568
20.000			.4138	.2589	.1561	.0927		.0536		.0334					
40.000			.4141	.2483	.1519	.0856		.0291		-.0302	-.0281	.0287	.0721	.1102	.1819
55.000			.3155	.1476	.0640	-.0321		-.1125		-.1823					
70.000			.2441	.0877	.0055	-.0091		-.1128		-.2249	-.2927	-.2111	-.1683	- 1642	
90.000		.2671	.2011	.0621	-.0118	-.0093		-.1206		-.3109	-.3002	-.2213	-.1657	-.1655	
120.000			.1203	.0105	-.0561	.0068		-.0494		-.4293	-.4097	-.3989	-.2535	-.2320	
140.000										-.5725					
150.000			.0419	-.0245	-.0468	.0317		.2756		-.8096	-.4410	-.1990	-.1072	-.1093	
160.000									-.1412						
170.000									-.1704						
180.000										-1.4762	-.3222	-.1652	-.0842	-.0801	
190.000								.3169							
200.000							.4863								
220.000	.9555	.1023	.0014	-.0182	-.0161	.0445		.2635		-1.7998	-.2870	-.1417	-.0714	-.0725	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1473	.0982	.0287	-.0682	-.1187	-.2226	-.2961		-.3619	-.2362
40.000	.1720		.0717	-.0052	-.0645	-.1300	-.1884		-.2376	-.1723

DATE 10 FEB 76 TABULATED PRESSURE DATA - OA148 (AMES 11-073-1) (XE8880)

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE

ALPHA (5) = 12.035 BETA (3) = .179

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.5373	-.4338	-.2544	-.0791	-.2402	-.2265	-.1931			
90.000	-.3950	-.3134	-.1535	-.0451	-.2850	-.2432	-.1984			
105.000			-.0490	.0128	-.3718	-.2865	-.2565			
110.000								-.3015		
120.000	-.2318	-.1447	.0033	.0351	-.3878	-.3142	-.2570	-.2165		
135.000			.0055	.2392	-.3985	-.2863	-.2584			
150.000	-.1515	-.0751	.1029	.4903	-.3672	-.3002	-.2556			
165.000	-.0941		.1193		-.2151	-.3029	-.1765			
180.000	-.0926	-.0129	.1384	.3977						

ALPHA (5) = 12.027 BETA (4) = 4.242 MACH = .59650 Q = 594.19 P = 2385.7 RN/L = 4.8199

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9342	.7855	.3885	.2439	.1405			.0447		.0420	.0518	.0644	.1006	.1455	.1493
20.000			.3533	.2171	.1173	.0607		.0162		-.0021					
40.000			.2856	.1543	.0742	.0092		-.0444		-.1015	-.1178	-.0390	.0206	.0717	.1510
55.000			.1720	.0220	-.0474	-.1294		-.1897		-.2534					
70.000			.1200	-.0209	-.0941	-.0836		-.1759		-.2877	-.3277	-.2361	-.1838	-.1921	
90.000		.1013	.1013	-.0311	-.0946	-.0715		-.1873		-.3627	-.3267	-.2203	-.1673	-.1716	
120.000			.0615	-.0413	-.0955	-.0254		-.1151		-.4805	-.3887	-.3308	-.1590	-.1368	
140.000										-.6165					
150.000			.0118	-.0405	-.0958	.0024		.1930		-.8176	-.3847	-.1772	-.0854	-.0798	
161.000									-.2448						
168.000									-.2614						
174.000										-1.4209	-.2980	-.1547	-.0755	-.0694	
180.000								.2681							
189.000							.4473								
174.000								.2367		-1.7674	-.2969	-.1505	-.0899	-.0897	
180.000	.9342	.0774	.0060	-.0325	-.0294	.0306									

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1403	.1005	.0306	-.0712	-.1240	-.2215	-.2936		-.3645	-.2327
40.000	.1566		.0633	-.0123	-.0653	-.1356	-.1886		-.2220	-.1454
70.000	-.5256	-.4579	-.2788	-.1460	-.2337	-.2713	-.2218			
90.000	-.3977	-.3427	-.2024	-.1451	-.3575	-.2788	-.2171			
105.000			-.1349	-.1232	-.4933	-.3563	-.2968			
110.000								-.3381		
120.000	-.2217	-.2086	-.1292	-.0825	-.5126	-.3908	-.3145	-.2441		
135.000			.0567	.3603	-.4702	-.3369	-.2999			
150.000	-.1375	-.0659	.1038	.3932	-.4783	-.3792	-.3060			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8880)

ALPHA (5) = 12.027 BETA (4) = 4.242

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0921		.0925		-.3630	-.3871	-.1793			
180.000	-.1179	-.0389	.0928	.4144						

ALPHA (5) = 12.061 BETA (5) = 8.297 MACH = .59650 Q = 594.19 P = 2385.7 RN/L = 4.8199

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.8736	.7482	.3586	.2204	.1250			.0420		.0241	.0341	.0560	.0907	.1260	.1361
20.000			.2837	.1556	.0704	.0197		-.0129		-.0376					
40.000			.1589	.0538	-.0244	-.0843		-.1337		-.1942	-.2234	-.1268	-.0404	.0208	.1295
55.000			.0167	-.1062	-.1700	-.2371		-.2808		-.3187					
70.000			-.0122	-.1169	-.1710	-.1432		-.2344		-.3208	-.3562	-.2551	-.2123	-.2351	
90.000		-.0729	-.0085	-.1145	-.1705	-.1202		-.2295		-.4020	-.3457	-.2197	-.1584	-.1774	
120.000			-.0211	-.0989	-.1508	-.0689		-.1855		-.5316	-.3849	-.2665	-.1057	-.1119	
140.000										-.6436					
150.000			-.0532	-.0754	-.1442	-.0490		.0778		-.8292	-.3567	-.1582	-.0794	-.0832	
151.000									-.3746						
162.000									-.3917						
165.000										-1.3594	-.3168	-.1632	-.1019	-.1081	
169.000								.1881							
174.000							.3709								
180.000	.8736	.0077	-.0373	-.0671	-.0711	-.0007		.1446		-1.6725	-.3326	-.2031	-.1423	-.1374	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1297	.0893	.0167	-.0746	-.1213	-.2184	-.2862		-.3451	-.2333
40.000	.1259		.0453	-.0114	-.0760	-.1438	-.1841		-.1974	-.1344
70.000	-.5118	-.4597	-.3312	-.2095	-.3322	-.3053	-.2328			
90.000	-.3893	-.3876	-.2769	-.2104	-.4129	-.3025	-.2128			
105.000			-.2237	-.1957	-.5786	-.3905	-.3180			
110.000								-.3296		
120.000	-.2445	-.2680	-.1715	.0297	-.6338	-.4909	-.3819	-.2787		
135.000			.0072	.4753	-.5930	-.4196	-.3482			
150.000	-.1210	-.0982	.0247	.3610	-.5934	-.4852	-.3477			
165.000	-.1457		-.0148		-.5292	-.4617	-.1947			
180.000	-.1021	-.1247	.0306	.0823						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8881) (05 AUG 75)

REFERENCE DATA

SREF = 8830.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 936.0680 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = 10.000 SPDBRK = .000
BDFLAP = -11.700 L-ELVN = -10.000
R-ELVN = 10.000 MACH = 1.400

ALPHA (1) = -3.955 BETA (1) = .178 MACH = 1.3929 Q = 599.69 P = 441.59 RN/L = 2.9281

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.5005	.6833	.2120	.0739	.0008			-.0556		-.0385	-.0160	-.0254	-.0408	-.0581	-.0631
20.000			.2459	.0858	-.0009	-.0612		-.0496		-.0547					
40.000			.3815	.1051	.0434	-.0578		-.0606		-.1195	-.1299	-.1176	-.0631	-.0889	-.0510
55.000			.5109	.2302	.1622	.0397		.0727		.0321					
70.000			.5967	.3061	.2189	.1356		.1525		.0718	-.2549	-.1787	-.1178	-.0049	
90.000		.8057	.6495	.3808	.2316	.1694		.2060		-.0181	-.2510	-.2509	-.1414	-.0181	
100.000			.7249	.5225	.3688	.3674		.4701		.0360	-.1957	-.4211	-.1854	-.0584	
140.000										-.1006					
150.000			.7504	.5883	.4504	.5089		.9591		-.1878	-.3140	-.1963	-.1472	-.0780	
151.000									.6611						
160.000									.7394						
165.000										-.1662	-.2940	-.1604	-.1339	-.0862	
169.000								1.0534							
174.000							1.1513								
180.000	1.5005	1.0243	.7417	.5774	.5153	.5552		1.0394		-.3126	-.3125	-.1161	-.1255	-.0874	

X/B	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0216	-.0235	-.0460	-.1008	-.1704	-.2131	-.2701		-.4472	-.4600
40.000	-.0496		-.0665	-.1039	-.1680	-.1907	-.3383		-.4614	-.3658
70.000	.0533	.0014	-.0035	.2297	.1444	.3119	.2859			
90.000	.0637	.0300	.1504	.1863	.0805	.1810	.2068			
105.000			.2757	.2234	-.0159	.0494	.1912			
110.000								-.0728		
130.000	.0323	.0537	.2982	.1220	.0188	-.1186	-.1033	-.0084		
135.000			.3850	.3854	.0733	.0089	-.0243			
150.000	.0013	.0395	.4023	.4124	.1649	.0940	.0190			
165.000	-.0067		.4054		.4203	.1881	-.3225			
180.000	-.0072	.0236	.4134	.4931						

TABULATED PRESSURE DATA - OA148 (AMES 11-073-1)

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8881)

ALPHA (2) = .028 BETA (1) = .177 MACH = 1.3894 Q = 599.62 P = 443.71 RN/L = 2.9315

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.5035	.8096	.3321	.1614	.0740			-.0171		-.0113	-.0019	.0204	.0018	-.0271	-.0364
20.000			.3531	.1741	.0755	.0038		-.0173		-.0238					
40.000			.4740	.2056	.1304	.0230		-.0060		-.0354	-.0214	-.0484	-.0209	-.0498	-.0255
55.000			.5573	.2908	.2199	.0940		.0899		.0966					
70.000			.5958	.3235	.2377	.1389		.1589		.1190	-.2251	-.1475	-.1180	-.0537	
90.000		.7788	.6280	.3677	.2384	.1659		.2234		.0472	-.2285	-.2319	-.1617	-.0543	
120.000			.6581	.4581	3156	.2881		.4827		.0518	-.2140	-.4045	-.1766	-.0708	
140.000										-.0679					
150.000			.6437	.4827	.3730	.3475		.9463		-.2186	-.3725	-.2603	-.1656	-.0781	
151.000									.6469						
152.000									.7116						
155.000										-.2165	-.3477	-.2278	-.1745	-.0798	
159.000								1.0262							
174.000							1.0979								
180.000	1.5035	.8926	.6160	.4699	.4140	.3649		1.0006		-.3735	-.3677	-.1776	-.1738	-.0847	
X /B	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0160	1.0460					
PHI															
.000	-.0098	.0102	-.0002	-.0448	-.1097	-.1536	-.2114		-.4171	-.4308					
40.000	-.0006		-.0043	-.0395	-.1160	-.1112	-.2809		-.4344	-.3396					
70.000	-.0101	-.1058	-.1349	.0662	.0172	.1897	.2192								
90.000	.0208	-.0515	.0165	.0935	-.0310	.0153	.1661								
105.000			.1644	.1241	-.1334	-.1254	.0877								
110.000								-.0926							
120.000	.0052	-.0013	.2650	.1812	-.0025	-.1604	-.2297	-.0760							
135.000			.2838	.3265	.0703	-.0446	-.0843								
150.000	-.0137	.0172	.2874	.3400	.1080	.0437	-.0390								
165.000	-.0161		.3072		.3368	.1245	-.3115								
180.000	-.0182	.0122	.3202	.4102											

ALPHA (3) = 3.945 BETA (1) = -3.872 MACH = 1.3917 Q = 599.67 P = 442.30 RN/L = 2.9226

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4912	.9370	.4363	.2626	.1514			.0357		.0275	.0365	.0295	.0421	.0155	.0145
20.000			.4831	.2881	.1685	.0732		.0513		.0155					
40.000			.6276	.3487	.2481	.1316		.0806		.0155	.0516	.0213	.0336	.0049	.0254
55.000			.6994	.4348	.3414	.2082		.1718		.1692					
70.000			.7053	.4464	.3378	.2307		.1860		.2133	-.1457	-.0556	-.0544	-.0962	
90.000		.8825	.7083	.4604	.3301	.2486		.2599		.1832	-.1394	-.1179	-.1032	-.0966	
120.000			.6545	.4647	.3252	.3019		.5747		.1641	-.1271	-.3300	-.2523	-.1594	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE0881)

ALPHA (3) = 3.945 BETA (1) = -3.872

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										.0986					
150.000			.5758	.3856	.3024	.2906		.9713		-.1495	-.4085	-.3420	-.2007	-.1217	
151.000									.7043						
162.000									.7429						
165.000										-.2618	-.3716	-.2882	-.1992	-.1019	
169.000								1.0200							
174.000							1.0237								
180.000	1.4912	.7724	.4867	.3617	.3055	.2667		.9329		-.3697	-.4013	-.2537	-.2132	-.0874	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0288	.0387	.0513	.0158	-.0419	-.0926	-.1321		-.3848	-.4000
40.000	.0515		.0522	.0153	-.0680	-.0542	-.2347		-.4313	-.3288
70.000	-.0589	-.1609	-.2113	-.1017	-.0295	.1446	.2260			
90.000	-.0241	-.1060	-.1772	.0482	-.0680	-.0953	.1549			
105.000			-.1232	.1123	-.1113	-.2114	-.0567			
110.000								-.0848		
120.000	-.1030	-.1112	.1996	.1479	-.0194	-.1711	-.2298	-.1175		
135.000			.2261	.2278	-.0314	-.1400	-.0950			
150.000	-.0562	-.0065	.2240	.2319	-.0586	.0403	-.0345			
165.000	-.0475		.2333		.2804	.1698	-.2688			
180.000	-.0395	.0458	.2247	.2645						

ALPHA (3) = 3.983 BETA (2) = .185 MACH = 1.3917 Q = 599.67 P = 442.30 RN/L = 2.9228

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4977	.9372	.4466	.2633	.1625			.0378		.0267	.0289	.0458	.0422	.0191	.0129
20.000			.4620	.2735	.1625	.0807		.0448		.0159					
40.000			.5575	.3046	.2154	.1018		.0704		.0060	.0726	.0273	.0335	.0026	.0143
55.000			.5975	.3410	.2643	.1334		.1100		.1059					
70.000			.5985	.3374	.2491	.1494		.1151		.1563	-.1915	-.1135	-.1108	-.1200	
90.000		.7405	.6057	.3538	.2397	.1597		.2032		.1046	-.1995	-.1832	-.1572	-.1021	
120.000			.5893	.3922	.2629	.2402		.4891		.0776	-.2099	-.3802	-.2127	-.1127	
140.000										-.0085					
150.000			.5394	.3717	.2855	.2670		.9242		-.2354	-.4178	-.3087	-.1832	-.0787	
151.000									.6480						
162.000									.6963						
165.000										-.2622	-.3908	-.2747	-.1987	-.0674	
169.000								1.0220							
174.000							1.0 14								

AMES 11-073(OA148) -140 W/B/C ORB FUSELAGE (XE8881)

ALPHA (3) = 3.983 BETA (2) = .185

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE :P

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.4977	.7552	.4948	.3676	.3198	.2737		.9721		-.4141	-.4087	-.2226	-.2025	-.0659	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9500	.9990	1.0180	1.0460
PHI										
.000	.0274	.0528	.0612	.0271	-.0338	-.0819	-.1107		-.3777	-.3922
40.000	.0557		.0685	.0343	-.0464	-.0570	-.1198		-.4093	-.3082
70.000	-.0742	-.1894	-.2129	-.0387	-.0614	.0603	.1131			
90.000	-.0239	-.1348	-.1341	.0326	-.1326	-.1244	.0164			
105.000			.0844	.0793	-.1900	-.2479	-.1512			
110.000								-.1179		
120.000	-.0321	-.0514	.1935	.1184	-.0394	-.1916	-.2167	-.2358		
135.000			.1990	.2503	.0257	-.0944	-.1147			
150.000	-.0248	-.0028	.2063	.3341	.0766	-.0097	-.0199			
165.000	-.0263		.2184		.2703	.0689	-.3000			
180.000	-.0261	.0003	.2306	.3693						

ALPHA (3) = 3.932 BETA (3) = 4.246 MACH = 1.3317 Q = 599.67 P = 442.30 RN/L = 2.9226

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE (P

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4836	.9255	.4377	.2591	.1682			.0302		.0206	.0206	.0454	.0469	.0152	.0076
20.000			.4254	.2406	.1462	.0739		.0254		.0122					
40.000			.4707	.2507	.1704	.0734		.0483		-.0035	.0594	.0278	.0249	-.0161	-.0081
55.000			.4856	.2459	.1848	.0652		.0543		.0566					
70.000			.4888	.2336	.1626	.0749		.0560		.1053	-.2311	-.1677	-.1581	-.1291	
90.000		.5873	.5042	.2570	.1489	.0845		.1444		.0293	-.2489	-.2426	-.2008	-.1056	
120.000			.5078	.3221	.1952	.1664		.3951		-.0122	-.2911	-.4378	-.1820	-.0849	
140.000										-.1947					
150.000			.4933	.3441	.2432	.2185		.8619		-.2937	-.4266	-.3128	-.2088	-.0714	
151.000									.5356						
162.000									.6066						
165.000										-.2720	-.4237	-.2440	-.2213	-.0758	
169.000								.9478							
174.000							1.0090								
180.000	1.4836	.7304	.4953	.3597	.3199	.2620		.9384		-.3870	-.4020	-.2679	-.2092	-.0917	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9500	.9990	1.0180	1.0460
PHI										
.000	.0156	.0499	.0586	.0245	-.0385	-.0871	-.1422		-.3738	-.3916
40.000	.0419		.0842	.0429	-.0448	-.0605	-.2176		-.3887	-.2867

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8881)

ALPHA (3) = 3.932 BETA 3) = -.246

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.0595	-.2006	-.2133	-.0376	-.0787	.0046	.0926			
90.000	-.0195	-.1348	-.0426	.0156	-.1574	-.1468	.0122			
105.000			.0934	.0362	-.2553	-.2770	-.1994			
110.000								-.1406		
127.000	-.0088	-.0337	.1504	.0185	-.1040	-.2613	-.3519	-.3252		
135.000			.2240	.2381	-.0700	-.1558	-.1910			
150.000	-.0235	.0153	.2330	.2057	-.0069	-.0853	-.1550			
165.000	-.0345		.2333		.2108	.0103	-.3221			
180.000	-.0450	.0492	.2360	.2618						

ALPHA (4) = 7.903 BETA (1) = .179 MACH = 1.3906 Q = 599.65 P = 443.00 RN/L = 2.9169

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0090	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4641	1.0580	.5633	.3811	.2571			.1023		.0850	.0764	.0668	.0331	.0796	.0698
20.000			.5778	.3786	.2550	.1610		.1018		.0747					
40.000			.6369	.4014	.2951	.1760		.1333		.0592	.0993	.0900	.0992	.0569	.0732
55.000			.6234	.3813	.2960	.1483		.1207		.0751					
70.000			.5886	.3451	.2552	.1507		.1183		.1256	-.1605	-.0879	-.1014	-.1645	
90.000		.6951	.5708	.3342	.2330	.1475		.1309		.1469	-.1757	-.1340	-.1510	-.1806	
120.000			.5121	.3224	.1996	.1838		.4806		.0995	-.1986	-.3723	-.3498	-.1919	
140.000										.0080					
150.000			.4339	.2723	.2028	.1899		.8066		-.2312	-.4575	-.3597	- 1961	-.0841	
161.000									.6319						
162.000									.6868						
165.000										-.3051	-.4311	-.3141	-.2104	-.0503	
169.000								.9860							
174.000							.8457								
180.000	1.4641	.6111	.3742	.2697	.2320	.1913		.9456		-.4495	-.4506	-.2636	-.2215	-.0521	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0868	.1134	.1357	.0991	.0408	-.0047	-.0738		-.3478	-.3616
40.000	.1178		.1495	.1124	.0282	-.0161	-.1249		-.3947	-.2831
70.000	-.1434	-.2629	-.2866	-.1121	-.1611	-.0147	.1161			
90.000	-.0879	-.2002	-.2408	-.0256	-.2051	-.2218	.0250			
105.000			-.0451	.0395	-.2403	-.3162	-.2628			
110.000								-.1323		
127.000	-.0810	-.0998	.0867	.0409	-.0936	-.2230	-.2940	-.3095		
135.000			.0890	.1183	-.0328	-.1406	-.1838			
150.000	-.0492	-.0521	.0894	.3691	.0221	-.0638	-.1299			

TABULATED PRESSURE DATA - OA148 (AMES 11-073-1)

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE0881)

ALPHA (A) = 7.903 BETA (B) = .179

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7230	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0405		.1083							
180.000	-.0369	-.0251	.1495	.3828	.2285	.0028	-.3233			

ALPHA (A) = 11.906 BETA (B) = -3.868 MACH = 1.3903 Q = 599.44 P = 443.00 RN/L = 2.9079

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4087	1.1535	.6794	.4881	.3401			.1786		.1589	.1347	.1115	.1394	.1445	.1457
20.000			.7259	.5135	.3587	.2521		.1941		.1555					
40.000			.7995	.5532	.4278	.2932		.2429		.1554	.1799	.1655	.1738	.1814	.1863
60.000			.7571	.5225	.4078	.2427		.1996		.1335					
80.000			.6852	.4604	.3391	.2318		.1863		.1287	-.0765	-.0150	-.0254	-.1086	
100.000		.7795	.6257	.4138	.3019	.2100		.1788		.2313	-.1115	-.0365	-.0791	-.1463	
120.000			.4954	.3084	.1606	.1544		.4384		.1840	-.1327	-.3172	-.4581	-.5114	
140.000										.1035					
150.000			.3497	.1775	.1410	.1285		.8910		-.0707	-.4939	-.4492	-.2768	-.1759	
160.000									.6609						
165.000									.6822						
169.000										-.3536	-.4565	-.3825	-.2324	-.1171	
174.000								.9297							
180.000	1.4087	.4851	.2517	.1719	.1357	.1116	.9280	.8370		-.4434	-.4623	-.3131	-.2212	-.1822	

X/LB	.6520	.7230	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1740	.1912	.2077	.1822	.1459	.0755	-.0289		-.3259	-.3384
40.000	.7203		.2304	.2018	.1268	.0380	-.0814		-.3909	-.2739
70.000	-.1019	-.3449	-.3806	-.2939	-.1881	-.0111	.0194			
90.000	-.1599	-.2832	-.3217	-.0967	-.1826	-.1898	-.0475			
105.000			-.2791	-.0038	-.1927	-.2734	-.1576			
115.000	-.0851	-.2077	-.0487	.0956	-.1412	-.2285	-.2362	-.2060		
135.000			-.0500	.1245	-.1098	-.1448	-.1711	-.2241		
150.000	-.1134	-.1955	-.1629	.2231	-.0691	-.1521	-.2191			
165.000	-.0957		-.1052		.2084	.0110	-.3269			
180.000	-.0899	-.0763	-.0713	.3374						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XEB881)

ALPHA (5) = 11.899 BETA (2) = .169 MACH = 1.3903 Q = 599.44 P = 443.00 RN/L = 2.9079

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4157	1.1748	.6866	.4580	.3544			.1878		.1554	.1402	.1196	.1382	.1539	.1457
20.000			.6939	.4920	.3452	.2397		.1762		.1402					
40.000			.7113	.4911	.3716	.2463		.1922		.1090	.1320	.1239	.1490	.1270	.1455
[illegible]			.6390	.4091	.3130	.1408		.1161		.0594					
[illegible]			.5709	.3435	.2482	.1415		.1153		.0664	-.1171	-.0757	-.0951	-.1786	
90.000		6.0-	.5283	.3104	.2170	.1323		.1165		.1665	-.1577	-.2997	-.1403	-.2054	
[illegible]			.4314	.2504	.1075	.1180		.4069		.1119	-.1834	-.3663	-.4592	-.2756	
[illegible]										.0173					
150.000			.3273	.1807	.1326	.1192		.7348		-.2141	-.4971	-.4181	-.2139	-.1022	
[illegible]									.5988						
[illegible]									.5664						
[illegible]										-.3331	-.4544	-.3416	-.2018	-.0656	
[illegible]								.8305							
[illegible]							.6715								
[illegible]	1.4157	.4536	.2508	.1826	.1517	.1180		.8940		-.4718	-.4819	-.2875	-.2156	-.0554	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9930	1.0180	1.0460
PHI										
.000	.1724	.1956	.2259	.1981	.1398	.0849	-.0089		-.3187	-.3349
40.000	.1995		.2489	.2090	.1269	.0378	-.0695		-.3732	-.2408
70.000	-.2500	-.3768	-.4174	-.2296	-.2354	-.1363	.0473			
90.000	-.1552	-.2553	-.3199	-.1190	-.2330	-.2609	-.1395			
105.000			-.2221	-.0039	-.2950	-.3436	-.2641			
110.000								-.2837		
[illegible]	-.1118	-.1355	.0095	-.0437	-.1478	-.2405	-.3104	-.3238		
135.000			-.0072	.0738	-.1074	-.1716	-.2121			
150.000	-.0779	-.1007	-.1156	.3232	-.0416	-.1277	-.1744			
165.000	-.0532		-.0556		.2233	-.0356	-.3296			
180.000	-.0462	-.0429	-.0226	.3600						

ALPHA (5) = 11.887 BETA (3) = 4.249 MACH = 1.3903 Q = 599.44 P = 443.00 RN/L = 2.9079

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4047	1.1602	.6752	.4926	.3524			.1764		.1504	.1352	.1229	.1520	.1442	.1461
20.000			.6488	.4535	.3142	.2126		.1527		.1255					
[illegible]			.6070	.4146	.3035	.1885		.1289		.0520	.0617	.0793	.1235	[illegible]	.1216
[illegible]			.5304	[illegible]	.2107	.0444		.0371		-.0111					
[illegible]			.4541	.2363	.1557	.0623		.0492		.0131	-.1639	-.1293	-.1600	-.2476	
[illegible]		.4910	.4306	.2123	.1337	.0567		.0582		.1021	-.2031	-.1598	-.1932	-.2529	
[illegible]			[illegible]	.1932	.0875	.0829		.3789		[illegible]	-.2553	-.3996	-.4207	[illegible]	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8R81)

ALPHA (5) = 11.887 BETA (3) = 4.249

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000															
150.000			.2883	.1717	.1105	.0933		8004		-.0723					
151.000										-.3177	-.4964	-.3822	-.1864	-.0710	
162.000									.5390						
165.000									.5664						
169.000										-.3467	-.4739	-.2989	-.2123	-.0623	
174.000								.9077							
180.000	1.4047	.4340	.2559	.1809	.1536	.1057	.8726								
								.8617		-.4586	-.4600	-.3105	-.2212	-.0809	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9610	.9990	1.0180	1.0460					
PHI															
.000	.1835	.2049	.2212	.1878	.1360	.0862	.0087		-.3196	-.3409					
40.000	.1781		.2478	.2048	.1222	.0159	-.0810		-.3532	-.2741					
70.000	-.2681	-.3581	-.4014	-.2308	-.2555	-.2510	-.0104								
90.000	-.1654	-.2435	-.2845	-.1540	-.3206	-.3230	-.2399								
105.000			-.1010	-.0911	-.4169	-.4350	-.4091								
140.000	-.0877	-.1068	-.0100	-.1182	-.1802	-.3184	-.4408	-.3710							
150.000			-.0593	.1614	-.1175	-.1856	-.2308	-.4698							
160.000	-.0521	-.0487	.0327	.2866	-.0472	-.1511	-.2232								
165.000	-.0482		-.0291		.2130	-.0951	-.3359								
180.000	-.0649	-.0650	-.0748	.3604											

ALPHA (6) = 15.870 BETA (1) = .160 MACH = 1.3887 Q = 599.91 P = 444.41 RN/L = 2.9066

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3459	1.2725	.8123	.6074	.4636			.2673		.2440	.2109	.1880	.2261	.2256	.2374
20.000			.8154	.6031	.4469	.3173		.2552		.2257					
40.000			.7816	.5721	.4459	.3124		.2394		.1590	.1583	.1681	.2162	.2002	.2316
65.000			.6436	.4181	.3101	.1199		.0838		.0434					
70.000			.5381	.3314	.2306	.1288		.0942		.0475	-.1134	-.0862	-.0961	-.2044	
90.000		.5770	.4770	.2750	.1902	.1039		.0923		.1559	-.1445	-.0906	-.1285	-.2089	
120.000			.3535	.1675	.0410	.0533		.3210		.1165	-.1889	-.3494	-.5474	-.3386	
140.000										.0306					
150.000			.2282	.0879	.0577	.0581		.7776		-.1945	-.5171	-.4756	-.2578	-.1165	
151.000									.5774						
164.000									.6113						
165.000										-.3775	-.4797	-.3584	-.1996	-.0768	
169.000								.8793							
174.000							.7909								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8881)

ALPHA 6 = 15.870 BETA (1) = .160

SECTION (HORIZONTAL FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0060	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.3459	.2854	.1558	.0988	.0792	.0547		.8340		-.5021	-.5011	-.2977	-.1858	-.0620	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.2630	.2882	.3635	.3364	.2303	.1571	.0747		-.2884	-.3097					
40.000	.2889		.3785	.3422	.2124	.0657	-.0376		-.3298	-.3076					
70.000	-.3581	-.5063	-.5692	-.4815	-.5030	-.2610	-.0977								
90.000	-.2206	-.3450	-.4200	-.2632	-.3623	-.3439	-.2552								
105.000			-.3009	-.0860	-.3987	-.4363	- 3720								
110.000								-.4018							
120.000	-.1293	-.1750	-.1000	-.0053	-.1982	-.2514	-.3241	-.3771							
135.000			-.0003	.0069	-.1281	-.1887	-.2382								
150.000	-.1705	-.1913	-.2034	.2588	-.3062	-.2562	-.2803								
165.000	-.0835		-.1187		.2443	-.0815	-.3474								
180.000	-.0846	-.0623	-.0852	.2900											

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8882) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 936.0680 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = 10.000 SPOBRK = .000
BDFLAP = -11.700 L-ELVN = -10.000
R-ELVN = 10.000 MACH = 1.250

ALPHA (I) = -4.001 BETA (I) = .172 MACH = 1.2466 Q = 600.03 P = 551.58 RN/L = 3.0277

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4350	.6390	.2059	.0577	.0238			-.0104		.0022	-.0097	-.0607	-.0792	-.1015	-.0547
20.000			.2199	.0700	.0049	-.0330		-.0254		-.0379					
40.000			.3628	.0944	.0325	-.0270		-.0668		-.1536	-.1370	-.1324	-.0913	-.0990	-.0566
55.000			.4871	.2239	.1579	.0803		.0537		-.0273					
70.000			.5675	.3046	.2244	.1967		.1297		.0063	-.3510	-.2139	-.1266	-.0042	
90.000		.7978	.6397	.3808	.2442	.2412		.1657		-.0942	-.3365	-.3307	-.1334	-.0062	
120.000			.7208	.5268	.3919	.4558		.4050		-.0495	-.2841	-.5116	-.1982	-.0416	
140.000										-.1882					
150.000			.7563	.6065	.4973	.5819		.8763		-.2986	-.3763	-.2591	-.1726	-.0644	
151.000									.5746						
162.000									.6503						
165.000										-.2846	-.3638	-.1808	-.1784	-.0690	
169.000								.9721							
174.000							1.0907								
180.000	1.4360	1.0177	.7539	.5995	.5620	.6266		.9593		-.3676	-.4163	-.1566	-.1747	-.0714	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.0036	-.0230	-.0554	-.1222	-.2034	-.2578	-.3074		-.5563	-.5742
40.000	-.0356		-.0682	-.1181	-.1686	-.2575	-.4154		-.5365	-.4279
70.000	.0654	-.0108	.1225	.3113	.2479	.3407	.2586			
90.000	.0768	.0395	.2328	.2754	.1478	.2462	.1970			
105.000			.3365	.2501	.0395	.1936	.1625			
110.000								-.1731		
120.000	.0709	.1096	.3710	.1309	-.0540	-.1031	.1312	-.0887		
135.000			.4583	.4570	.0112	-.0252	-.0423			
150.000	.0402	.1346	.4814	.4818	.1165	.0466	-.0320			
165.000	.0291		.4833		.3564	.1154	-.3629			
180.000	.0226	.1406	.4916	.5811						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8882)

ALPHA (α) = 0.0 BETA (β) = .171 MACH = 1.2457 Q = 599.87 P = 552.28 RN/L = 3.0295

SECTION ( ) ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4469	.7745	.3090	.1551	.1016			.0181		.0368	.0315	-.0087	-.0349	-.0664	-.0562
20.000			.3307	.1609	.0823	.0225		.0200		.0015					
40.000			.4584	.1996	.1232	.0452		.0457		-.0468	-.0466	-.0569	-.0349	-.0785	-.0317
55.000			.5432	.2903	.2127	.1336		.1338		.0470					
70.000			.5823	.3273	.2376	.1944		.1825		.0632	-.3201	-.1857	-.1433	-.0436	
90.000		.7743	.6230	.3682	.2390	.2411		.2128		-.0183	-.3133	-.2907	-.1699	-.0481	
120.000			.6585	.4616	.3205	.4140		.4334		-.0265	-.2777	-.4950	-.1685	-.0666	
140.000										-.1293					
150.000			.6498	.4925	.3873	.5010		.8674		-.3392	-.4796	-.3256	-.1949	-.0596	
151.000									.5644						
152.000									.6260						
155.000										-.3387	-.4107	-.2537	-.2118	-.0586	
159.000								.9459							
174.000							1.0544								
180.000	1.4469	.8842	.6288	.4816	.4304	.5337		.9229		-.4881	-.4783	-.2237	-.2191	-.0588	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0190	.0214	.0127	-.0495	-.1252	-.1798	-.2381		-.5167	-.5384
40.000	.0078		.0093	-.0331	-.1245	-.1624	-.3537		-.5021	-.3962
70.000	-.0101	-.1216	-.1284	.1738	.0958	.2602	.2247			
90.000	.0221	-.0530	.0779	.1314	.0136	.1597	.1721			
105.000			.2105	.1266	-.0861	.0011	.1430			
110.000								-.1879		
120.000	.0330	.0313	.3003	.1705	-.0826	-.1864	-.0128	-.1054		
140.000			.3209	.3778	.0032	-.0057	-.1281			
150.000	.0236	.0839	.3430	.3838	.0658	-.0161	-.1019			
165.000	.0151		.3642		.2953	.0598	-.3528			
180.000	.0114	.0878	.3771	.4703						

ALPHA (α) = 3.910 BETA (β) = -3.880 MACH = 1.2454 Q = 599.82 P = 552.51 RN/L = 3.0275

SECTION ( ) ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4327	.8992	.4194	.2737	.1484			.0513		.0542	.0593	.0407	.0253	-.0189	-.0099
20.000			.4655	.2875	.1561	.0828		.0644		.0327					
40.000			.6132	.3521	.2202	.1342		.1116		.0368	.0235	.0060	.0430	-.0252	.0052
55.000			.6905	.4423	.3286	.2305		.2240		.1539					
70.000			.7014	.4579	.3272	.2731		.2555		.1737	-.2303	-.0867	-.0784	-.1113	
90.000		.8901	.7072	.4689	.3273	.3097		.3012		.1252	-.2211	-.1445	-.1370	-.1097	
120.000			.6895	.4729	.3252	.3969		.5213		.0998	-.2015	-.4185	-.2848	-.1779	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8882)

ALPHA (3) = 3.910 BETA (1) = -3.880

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										.0250					
150.000			.5815	.4019	.3088	.4112		.9090		-.2559	-.5218	-.4089	-.2035	-.1079	
151.000									.6269						
162.000									.6589						
165.000										-.3851	-.4778	-.3680	-.2146	-.0885	
169.000								.9408							
174.000							1.0202								
180.000	1.4327	.7637	.4960	.3726	.3148	.4206		.8502		-.4899	-.4837	-.3015	-.2354	-.0716	

X/LB	.5520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0335	.0681	.0868	.0329	-.0444	-.1056	-.1748		-.4670	-.5073
40.000	.0485		.0698	.0336	-.0589	-.0720	-.3101		-.5114	-.3762
70.000	-.0561	-.1954	-.2595	-.0161	.0483	.2796	.2687			
90.000	-.0087	-.1418	-.2021	.0548	-.0097	.1541	.1966			
105.000			.0049	.1203	-.1330	-.0561	.1406			
110.000								-.1832		
120.000	-.0850	-.0976	.2412	.1495	-.0930	-.2280	.0121	-.1056		
135.000			.2727	.2686	-.0859	-.1318	-.1313			
150.000	-.0227	.0594	.2668	.2710	-.0456	.0023	-.0903			
165.000	-.0142		.2788		.2704	.1179	-.3266			
180.000	-.0087	.1039	.2686	.3101						

ALPHA (3) = 3.950 BETA (2) = .192 MACH = 1.2454 Q = 599.82 P = 552.51 RN/L = 3.0275

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4394	.9038	.4228	.2819	.1697			.0628		.0604	.0766	.0444	.0204	-.0181	-.0127
20.000			.4438	.2779	.1595	.0825		.0706		.0454					
40.000			.5389	.3082	.2024	.1068		.1118		.0488	.0411	.0105	.0236	-.0311	-.0069
55.000			.5822	.3464	.2476	.1501		.1838		.1063					
70.000			.5970	.3472	.2377	.1782		.2049		.1131	-.2839	-.1647	-.1420	-.1178	
90.000		.7324	.5957	.3619	.2326	.1906		.2427		.0430	-.2890	-.2269	-.1957	-.1100	
120.000			.5863	.3983	.2600	.3159		.4498		-.0013	-.2829	-.4818	-.2318	-.1145	
140.000										-.0968					
150.000			.5440	.3924	.2869	.4059		.8501		-.3572	-.5320	-.3835	-.1967	-.0641	
151.000									.5535						
162.000									.6037						
165.000										-.3864	-.4590	-.3056	-.2282	-.0513	
169.000								.9240							
174.000							1.0086								

AMES 11-073(OA148) -140A,B/C ORB FUSELAGE (XE8882)

ALPHA (3) = 3.950 BETA (3) = .192

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CF

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1560	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.4394	.7454	.5101	.3806	.3222	.4311		.8886		-.5458	-.5269	-.2741	-.2383	-.0505	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.0365	.0809	.0940	.0356	-.0415	-.1034	-.1649		-.4789	-.5034					
40.000	.0659		.0974	.0499	-.0565	-.0720	-.2866		-.4729	-.3525					
70.000	-.0757	-.1949	-.2591	.0081	-.0456	.1886	.1907								
90.000	-.0323	-.1386	-.0756	.0334	-.1012	.0356	.1201								
105.000			.1208	.0684	-.2106	-.1794	.0811								
110.000								-.2033							
120.000	-.0193	-.0396	.2205	.1065	-.1174	-.2680	-.2328	-.1258							
135.000			.2434	.2880	-.0483	-.1566	-.2014								
150.000	.0055	.0341	.2493	.4021	.0180	-.0758	-.1578								
165.000	.0057		.2679		.2315	-.0003	-.3537								
180.000	.0044	.0381	.2833	.4375											

ALPHA (3) = 3.915 BETA (3) = 4.246 MACH = 1.2454 Q = 599.82 P = 552.51 RN/L = 3.0275

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CF

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1560	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4232	.8940	.4210	.2917	.1764			.0426		.0455	.0600	.0507	.0298	-.0208	-.0188
20.000			.4114	.2618	.1447	.0553		.0351		.0363					
40.000			.4580	.2596	.1699	.0684		.0722		.0363	.0433	.0107	.0061	-.0498	-.0251
55.000			.4735	.2514	.1788	.0632		.1201		.0665					
70.000			.4756	.2369	.1561	.0760		.1477		.0643	-.3206	-.2161	-.1885	-.1160	
90.000		.5807	.4933	.2536	.1457	.0896		.1799		-.0357	-.3447	-.2775	-.2301	-.1014	
120.000			.5046	.3186	.1837	.2133		.3595		-.1043	-.3619	-.5308	-.1779	-.0734	
140.000										-.3054					
150.000			.4991	.3585	.2335	.3416		.7710		-.4291	-.5320	-.3328	-.2236	-.0529	
151.000									.4524						
162.000									.5197						
165.000										-.3943	-.5388	-.2818	-.2497	-.0544	
169.000								.8695							
174.000							.9903								
180.000	1.4232	.7232	.5073	.3665	.3128	.3641		.8678		-.5134	-.4685	-.2944	-.2357	-.0728	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.0129	.0773	.0909	.0385	-.0407	-.0953	-.1475		-.4761	-.4998					
40.000	.0611		.1059	.0549	-.0516	-.0755	-.2773		-.4272	-.3380					

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8882)

ALPHA (3) = 3.915 BETA (3) = 4.246

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.0594	-.2053	-.2248	.0180	-.0720	.1039	.1145			
90.000	-.0246	-.1352	-.0195	.0117	-.1336	-.0644	.0755			
105.000			.1080	.0257	-.2780	-.2580	.0242			
110.000										
120.000	.0136	-.0185	.1671	-.0103	-.1937	-.3472	-.4311	-.2182		
130.000			.2567	.2657	-.1360	-.2205	-.2662	-.1669		
150.000	.0105	.0353	.2744	.2451	-.0533	-.1565	-.2513			
165.000	-.0023		.2685		.1862	-.0575	-.3473			
180.000	-.0117	.0949	.2730	.3058						

ALPHA (4) = 7.875 BETA (1) = .170 MACH = 1.2457 Q = 599.87 P = 552.28 RN/L = 3.0295

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.4060	1.0276	.5496	.3955	.2621										
20.000			.5692	.3878	.2474	.1528		.1229		.0999	.1050	.1050	.0879	.0444	.0530
42.000			.6279	.4062	.2865	.1947		.1234		.0876					
55.000			.6158	.3893	.2856	.1679		.1549		.1067	.1072	.0714	.0816	.0303	.0537
70.000			.5818	.3554	.2418	.1692		.1675		.1362					
90.000		.6862	.5653	.3455	.2249	.1742		.2004		.1506	-.2345	-.1415	-.1360	-.2080	
120.000			.5114	.3296	.2012	.2081		.2551		.0999	-.2632	-.1845	-.1925	-.1793	
140.000								.4595		.0280	-.2811	-.4697	-.3958	-.1759	
150.000			.4406	.2892	.2072	.2140				-.0790					
161.000								.8220		-.3559	-.5766	-.4395	-.2051	-.0760	
162.000									.5486						
165.000									.5866						
183.000										-.4312	-.5051	-.3491	-.2160	-.0516	
174.000								.9056							
180.000	1.4060	.6045	.3928	.2875	.2384	.2164	.9368								
								.8603		-.5865	-.5594	-.3102	-.2292	-.0475	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0995	.1491	.1893	.1320	.0507	-.0138	-.0920		-.4460	-.4692
40.000	.1020		.2047	.1462	.0362	-.0152	-.2146		-.4349	-.3168
70.000	-.1304	-.2564	-.3287	-.1017	-.1079	.1469	.1562			
90.000	-.0838	-.1993	-.2701	-.0138	-.2281	-.0432	.1084			
105.000			-.0412	.0692	-.2963	-.3049	.0653			
110.000										
120.000	-.0712	-.0942	.1142	.0434	-.1629	-.2959	-.3370	-.2114		
135.000			.1133	.2443	-.0914	-.2023	.2503	-.1727		
150.000	-.0240	-.0354	.1612	.4697	-.0280	-.1307	-.1962			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8882)

ALPHA (4) = 7.875 BETA (1) = .70

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6580	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0170		.2085		.1783	-.0640	-.3584			
180.000	-.0109	-.0014	.2595	.4523						

ALPHA (5) = 11.893 BETA (1) = -3.862 MACH = 1.2456 Q = 600.06 P = 552.51 RN/L = 3.0278

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3475	1.1314	.671	.4868	.3473			.1941		.1634	.1424	.1336	.1623	.1255	.1350
20.000			.7189	.5121	.3596	.2392		.2033		.1547					
40.000			.7934	.5496	.4200	.3049		.2559		.1712	.2048	.1548	.1783	.1338	.1609
55.000			.7511	.5208	.3944	.2583		.2074		.1821					
70.000			.6779	.4587	.3221	.2488		.1995		.2144	-.1302	-.0555	-.0608	-.1574	
90.000		.7697	.6170	.4123	.2825	.2290		.2549		.2016	-.1800	-.0821	-.1255	-.2010	
120.000			.4851	.3013	.1563	.1777		.4854		.1262	-.2102	-.3980	-.5747	-.4550	
145.000										.0363					
160.000			.3466	.1802	.1241	.1472		.8609		-.1111	-.6129	-.5522	-.2857	-.1625	
161.000									.5936						
162.000									.6001						
165.000										-.4848	-.5723	-.4653	-.2489	-.1070	
168.000								.8735							
174.000							.9650								
180.000	1.3475	.4737	.2558	.1722	.1401	.1251		.7754		-.5752	-.5498	-.3532	-.2194	-.0690	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.1920	.2750	.2917	.2129	.1193	.0338	-.0605		-.4304	-.4478
40.000	.2232		.3198	.2269	.0946	-.0036	-.1623		-.4556	-.3128
70.000	-.2557	-.3860	-.4221	-.1788	-.0583	-.0140	.0535			
90.000	-.1709	-.2976	-.3674	-.0608	-.1497	-.0970	-.0598			
125.000			-.2723	.0288	-.2110	-.1159	-.1876			
145.000								-.2715		
160.000	-.2021	-.2146	-.0084	.0543	-.1629	-.2293	-.1614	-.2661		
165.000			.0013	.1696	-.1343	-.1645	-.1873			
170.000	-.1145	-.2131	-.0499	.3187	-.0772	-.1651	-.2394			
175.000	-.0738		.0521		.1786	-.0210	-.3668			
180.000	-.0034	-.0513	.1048	.4338						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE0882)

ALPHA (B) = 11.948 BETA (Z) = .178 MACH = 1.2456 Q = 600.06 P = 552.51 RN/L = 3.0278

SECTION: 1 ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3518	1.1412	.6782	.4905	.3648			.1998		.1672	.1367	.1552	.1610	.1242	.1376
20.000			.6908	.4927	.3484	.2253		.1966		.1503					
40.000			.7019	.4930	.3655	.2416		.2082		.1160	.1549	.1271	.1455	.1041	.1368
55.000			.6253	.4083	.2971	.1424		.1264		.1145					
70.000			.5691	.3479	.2299	.1545		.1278		.1641	-.1825	-.1298	-.1365	-.2334	
90.000		.6263	.5143	.3143	.2006	.1496		.2087		.1370	-.2369	-.1549	-.1900	-.2620	
120.000			.4222	.2526	.1256	.1438		.4466		.0436	-.2802	-.4544	-.5723	-.2395	
140.000										-.0666					
150.000			3865	.1834	.1273	.1341		.7648		-.3375	-.6144	-.4941	-.2285	-.0958	
157.000									.5350						
162.000									.5776						
168.000										-.4727	-.5390	-.3786	-.2048	-.0547	
169.000								.8791							
174.000							.8273								
180.000	1.3518	.4495	.2743	.1919	.1590	.1276		.8399		-.6195	-.5884	-.3336	-.2043	-.0467	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1809	.3140	.2990	.2197	.1241	.0558	-.0386		-.4257	-.4468					
40.000	.2015		.3218	.2349	.1002	.0117	-.1579		-.4356	-.2999					
55.000	-.2481	-.3873	-.4354	-.1975	-.2495	.0344	.0782								
90.000	-.1499	-.2655	-.3512	-.1027	-.2970	-.1421	.0522								
120.000			-.2185	.0051	-.3376	-.3713	-.0599								
140.000								-.2773							
150.000	-.0065	-.1382	.0166	-.0132	-.2031	-.3105	-.3442	-.2265							
165.000			.0304	.1721	-.1428	-.2289	-.2686								
180.000	-.0646	-.0349	.0190	.4381	-.0767	-.1766	-.2257								
180.000	-.0418		.0952		.1659	-.1041	-.3753								
180.000	-.0254	-.0046	.1607	.4565											

ALPHA (B) = 11.989 BETA (Z) = 4.251 MACH = 1.2456 Q = 600.06 P = 552.51 RN/L = 3.0278

SECTION: 1 ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3419	1.1299	.6694	.4969	.3512			.1830		.1606	.1388	.1461	.1677	.1217	.1292
20.000			.6450	.4557	.3120	.1981		.1585		.1262					
40.000			.5975	.4106	.2953	.1706		.1310		.0505	.1061	.1076	.1168	.0703	.1098
55.000			.4990	.2870	.1938	.0306		.0352		.0463					
70.000			.4400	.2299	.1373	.0653		.0602		.1214	-.2147	-.1849	-.2041	-.3190	
90.000		.4731	.4148	.2093	.1174	.0689		.1686		.0831	-.2795	-.2113	-.2453	-.2707	
120.000			.3575	.1887	.0806	.0896		.3981		-.0234	-.3372	-.4884	-.3926	-.1544	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8882)

ALPHA (5 = 11.969 BETA (3) = 4.251

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.1611					
150.000			.2948	.1642	.1029	.0934		.7708		-.4459	-.6190	-.4239	-.1966	-.0571	
151.000									.4653						
162.000									.4925						
165.000										-.4740	-.5684	-.3415	-.2050	-.0494	
169.000								.8399							
174.000							.9052								
180.000	1.3419	.4221	.2718	.1799	.1480	.1111		.8122		-.5902	-.5417	-.3575	-.2254	-.0668	
X/B	.6580	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
000	.1792	.2922	.2959	.2122	.1152	.0847	-.0404		-.4272	-.4531					
40.000	.1816		.3119	.2264	.0966	.0132	-.1344		-.4535	-.3156					
30.000	-.2318	-.3759	-.4378	-.2000	-.2695	-.0344	.0784								
30.000	-.1220	-.2595	-.3110	-.1556	-.3374	-.3045	.0978								
110.000			-.0848	-.0945	-.4733	-.4739	-.1546								
120.000								-.2396							
130.000	-.0037	-.1126	.0235	-.1464	-.2569	-.4076	-.5286	-.3121							
140.000			.0960	.2074	-.1588	-.2448	-.3041								
150.000	-.0319	-.0399	.1950	.3524	-.1026	-.2248	-.2950								
160.000	-.0418		.1205		.1352	-.1750	-.3698								
180.000	-.0574	-.0508	.0617	.4482											

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE6683) (05 AUG 75)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	1076.6800 IN.	XO	
LREF =	474.8000 IN.	YMRP =	.0000 IN.	YO	
BREF =	936.0680 IN.	ZMRP =	375.0000 IN.	ZO	
SCALE =	.0300				

PARAMETRIC DATA

RUDDER =	10.000	SPDBRK =	.000
BDFLAP =	-11.700	L-ELVN =	-10.000
R-ELVN =	10.000	MACH =	1.100

ALPHA (I) = -3.943 BETA (I) = .171 MACH = 1.0992 Q = 593.30 P = 708.59 RN/L = 3.1942

SECTION (11)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	4970	.5740
PHI															
.000	1.3533	.5699	.1466	.0878	.0144			-.0100		-.0493	-.0875	-.1432	-.1250	-.0954	-.0113
20.000			.1631	.0732	-.0095	-.0347		-.0308		-.0868					
40.000			.3030	.0855	-.0107	-.0364		-.1040		-.1823	-.1958	-.1947	-.1460	-.1097	-.0023
55.000			.4394	.2064	.1281	.0608		-.0165		-.1076					
70.000			.5305	.2950	.2086	.1785		.0547		-.0882	-.4816	-.2494	-.1216	-.0233	
90.000		.7588	.6040	.3649	.2360	.2151		.0768		-.2031	-.4393	-.4122	-.1124	-.0160	
120.000			.6989	.5179	.3946	.4259		.3085		-.1651	-.4055	-.6337	-.1513	- 0353	
140.000										-.2618					
150.000			.7494	.6067	.5068	.6517		.7821		-.4325	-.5232	-.2917	-.2148	- 0168	
161.000									.4673						
162.000									.5434						
165.000										-.4613	-.4632	-.2283	-.2298	- 0076	
169.000								.8816							
174.000							1.0132								
180.000	1.3538	.9891	.7526	.6086	.5704	.5991		.8705		-.4877	-.5602	-.2094	-.2338	- 0091	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0656	-.0258	-.0726	-.1553	-.2063	-.2567	-.3187		-.6984	-.7175
40.000	.0052		-.0723	-.1423	-.1836	-.2946	-.4936		-.5437	-.4588
70.000	.1506	.1300	.2778	.3574	.2798	.3237	.1929			
90.000	.1727	.1879	.3284	.3492	.1720	.2256	.1243			
105.000			.3974	.3284	.0530	.1823	.0972			
110.000								-.3247		
120.000	.1729	.2652	.4333	.2806	-.1655	.0489	.0576	-.2064		
135.000			.5066	.5498	-.0837	-.0283	.0385			
150.000	.1930	.3188	.5305	.5821	.0209	-.0301	-.0451			
165.000	.1976		.5247		.2280	.0247	-.3672			
180.000	.1886	.3269	.5261	.6568						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8883)

ALPHA (3) = .065 BETA (1) = .171 MACH = 1.0980 Q = 599.15 P = 710.01 RN/L = 3.1985

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0090	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3536	.7090	.2671	.1874	.0777			.0373		.0108	-.0316	-.0904	-.0839	-.1008	-.0308
20.000			.2881	.1692	.0521	.0245		.0261		-.0179					
40.000			.4174	.1985	.0927	.0748		.0029		-.0724	-.0924	-.1203	-.0810	-.0933	-.0059
55.000			.5099	.2887	.2002	.1523		.0673		-.0314					
70.000			.5897	.3284	.2331	.2141		.1061		-.0244	-.4480	-.2186	-.1892	-.0520	
90.000		.7407	.5991	.3700	.2485	.2495		.1279		-.1257	-.4369	-.3242	-.1822	-.0537	
120.000			.6438	.4693	.3579	.4030		.3340		-.1404	-.3903	-.6201	-.1527	-.0381	
140.000										-.2292					
160.000			.6466	.5121	.4184	.4890		.7693		-.4972	-.5937	-.3979	-.2049	-.0294	
151.000									.4513						
162.000									.5128						
165.000										-.5090	-.5293	-.2983	-.2445	-.0255	
159.000								.8514							
174.000							.9781								
180.000	1.3835	.8544	.6312	.4997	.4712	.5239		.8304		-.5910	-.6283	-.2776	-.2554	-.0284	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0987	.0487	.0061	-.0620	-.1102	-.1645	-.2610		-.6841	-.7015
40.000	.0528		.0170	-.0137	-.0984	-.1964	-.4409		-.5337	-.4449
70.000	.0265	-.1452	.1628	.2809	.2277	.2844	.1689			
90.000	.0581	-.0705	.2394	.259	.1280	.2060	.1119			
105.000			.3092	.2269	.0098	.1429	.0761			
110.000								-.3375		
120.000	.0704	.1346	.3572	.2258	-.1599	-.0153	.0420	-.2195		
135.000			.3976	.4325	-.1016	-.1153	.0103			
150.000	.0973	.1923	.4282	.4622	-.0248	-.0824	-.1156			
165.000	.0997		.4308		.1926	-.0313	-.3627			
180.000	.0998	.2263	.4286	.5438						

ALPHA (3) = 3.859 BETA (1) = -3.876 MACH = 1.0981 Q = 598.75 P = 709.30 RN/L = 3.1983

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0090	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3527	.8390	.3903	.2712	.1651			.0933		.0481	.0167	-.0289	-.0308	-.0605	-.0386
20.000			.4384	.2846	.1518	.0812		.0849		.0232					
40.000			.5910	.3402	.2234	.1513		.0950		.0061	-.0150	-.0393	-.0025	-.0693	.0125
55.000			.6680	.4367	.3368	.2557		.1863		.0812					
70.000			.6837	.4587	.3436	.3100		.2385		.0887	-.3377	-.1312	-.1404	-.0960	
90.000		.2489	.6891	.4732	.3496	.3419		.2415		.0309	-.3483	-.1898	-.2021	-.1011	
120.000			.6591	.4872	.3803	.4332		.4370		-.0007	-.3200	-.5496	-.3069	-.0888	

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AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE6983)

ALPHA (3) = 3.859 BETA (1) = -3.876

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.0827					
150.000			.5801	.4297	.3731	.4511		.8163		-.3502	-.6877	-.4997	-.2089	-.0813	
151.000									.5191						
162.000									.5484						
165.000										-.5867	-.6.69	-.4655	-.2234	-.06-	
159.000								.8481							
174.000							.9546								
180.000	1.3527	.7388	.4987	.3995	.3699	.4459		.7546		- 67.1	-.595?	-.36'8	-.2481	-.052-	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9930	1.0180	1.0460
PHI										
.000	.1622	.1855	.1353	.0412	-.0590	-.1480	- 2374		-.5667	- 5870
6.000	.1034		.1559	.0556	-.0944	- 1553	-.4407		- 5468	- 4-99
70.000	-.0590	- 2479	- 2848	.2128	.2296	3171	.2089			
90.000	- 0150	-.1731	-.0383	.2069	.1403	2175	1324			
105.000			1717	.1694	.0107	.1422	.0882			
110.000								-.3229		
120.000	- 0574	-.0858	.2957	.1857	-.1278	-.0116	.0679	-.2295		
140.000			.3344	.3191	-.1449	-.0783	.0304			
150.000	.0498	.1217	.3240	.3245	-.0697	-.0401	-.0575			
165.000	.0569		.3231		.2203	.0379	-.3627			
180.000	.0834	.1505	.3307	.3861						

ALPHA (3) = 3.908 BETA (2) = .189 MACH = 1.0981 Q = 598.75 P = 709.30 RN/L = 2.1983

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.497-	.5740
PHI															
.000	1.3579	.8497	.3338	.2797	.1659			.1013		.0532	.0193	-.0265	-.0298	-.0559	- 0307
30.000			.4201	.2743	.1511	.0843		.0960		.0382					
40.000			.5158	.3048	.1961	.1492		.1081		.0290	-.0165	-.0525	-.0249	-.07--	.0161
56.000			.5529	.3493	.2532	.2057		.1432		.0338					
70.000			.5677	.3481	.2455	.2403		.1502		.0268	-.3927	-.2155	-.207-	- 1995	
90.000		.7069	.5786	.3686	.2481	.2696		.1718		-.0596	-.4188	-.2710	-.2560	-.1-3-	
120.000			.5778	.4103	.3045	.3842		.3612		-.1158	-.3900	-.6149	-.2209	- 78--	
140.000										-.2185					
150.000			.5457	.4110	.3408	.4346		.7557		-.5134	-.6995	-.4824	-.2549	-.04-8	
151.000									.4447						
162.000									.4915						
165.000										-.5703	-.5970	-.3608	-.23-	-.0-	
159.000								.8265							
174.000							.9401								

AMES 11-073(OA148) -140A/B/C CRB FUSELAGE (XE8883)

ALPHA (B) = 3.908 BETA (B) = .189

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
000.000	1.3573	.7028	.5133	.3996	.3744	.4056		.7833		-.7158	-.6782	-.3395	-.2446	-.0339	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1607	.1741	.1388	.0481	-.0585	-.1041	-.2178		-.6521	-.6731					
40.000	.1476		.1600	.0592	-.0689	-.1386	-.4048		-.5190	-.4178					
70.000	-.0715	-.2544	-.1436	.1841	.1621	.2511	.1559								
90.000	-.0334	-.1804	.0405	.1612	.0544	.1588	.0878								
105.000			.1889	.1353	-.0628	.0932	.0479								
110.000								-.3446							
180.000	.0008	-.0300	.2564	.1214	-.1791	-.1461	.0034	-.2354							
135.000			.2913	.3787	-.1213	-.1722	-.0563								
150.000	.0685	.0811	.3247	.4693	-.0568	-.1415	-.2011								
165.000	.0736		.3383		.1494	-.0754	-.3567								
180.000	.0766	.0761	.3404	.4943											

ALPHA (B) = 3.913 BETA (B) = 4.243 MACH = 1.0981 Q = 598.75 P = 709.30 PN/L = 3.1383

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3426	.6340	.3921	.2777	.1610			.1013		.0476	.0127	-.0279	-.0335	-.0539	-.0433
20.000			.3829	.2478	.1326	.0608		.0906		.0277					
40.000			.4299	.2495	.1547	.1154		.1040		.0207	-.0268	-.0776	-.0523	-.0673	.0044
55.000			.4479	.2509	.1644	.1421		.0984		-.0070					
70.000			.4515	.2441	.1491	.1720		.1004		-.0285	-.4420	-.2926	-.2612	-.0973	
90.000		.5503	.4706	.2570	.1508	.2006		.1125		-.1445	-.4835	-.3441	-.2615	-.0573	
130.000			.4924	.3247	.2194	.3240		.2722		-.2291	-.4777	-.6683	-.1920	-.0485	
140.000										-.4260					
150.000			.4985	.3725	.2810	.3917		.6762		-.6154	-.6610	-.3951	-.2243	-.0332	
161.000									.3470						
162.000									.4104						
165.000										-.5768	-.6763	-.3603	-.2552	-.0397	
169.000								.7784							
174.000							.9168								
180.000	1.3426	.7032	.5142	.3834	.3635	.4436		.7770		-.6952	-.5871	-.3659	-.2574	-.0513	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
	.1767	.1869	.1332	.0361	-.0734	-.0898	-.2233		-.6561	-.6513					
	.1923		.1471	.0491	-.0730	-.1461	-.3694		-.5186	-.4274					

AMES 11-073(OA148) -140A ^ ORB FUSELAGE (XEB883)

ALPHA (3) = 3.913 BETA (3) = 4.243

SECTION ( ) ORBITER FUSELAGE DEPENDENT VAR P

X/LB	.6520	.7290	.7790	.8210	.8790	.92[illegible]	.9990	1.0180	1.0460
PHI									
70.000	-.0423	-.2307	-.1432	.1334	.0312	.165			
90.000	.0160	-.1529	.0291	.0995	-.0857	.085[illegible]			
105.000			.1322	.0708	-.2329	-.00[illegible]			
110.000							-.[illegible]10		
120.000	.0669	.0020	.1922	.0261	-.3008	-.372[illegible]	-.2388		
135.000			.2365	.3168	-.2443	-.3044	-.3356		
[illegible]	.1028	.0398	.3806	.2987	-.1503	-.2703	-.3351		
160.000	.04[illegible]		.3046		.0685	-.1778	-.3569		
180.000	.0812	.1360	.3199	.3603					

ALPHA ([illegible] = 8.122 BETA (1) = .173 MACH = 1.0972 Q = 598.87 P = 710.71 RN/L = 3.1996

SECTION (ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0060	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.3263	.5758	.5293	.3731	.2626			.1534		.1283	.0740	.0400	.0406	.0113	.0223
20.000			.5487	.3755	.2493	.1726		.1493		.1200					
40.000			.6014	.3924	.2922	.2185		.1718		.1387	.0517	.0118	.0307	-.0098	.0373
55.000			.5998	.3798	.2786	.2220		.1648		.1050					
70.000			.5560	.3508	.2375	.2455		.1694		.0709	-.3339	-.2117	-.2013	-.2138	
90.000		.5546	.5419	.3425	.2280	.2659		.1941		-.0032	-.3987	-.2503	-.2721	-.1817	
120.000			.4923	.3345	.2341	.3484		.3716		-.0906	-.4100	-.5916	-.3681	-.1461	
140.000										-.2107					
150.000			.4302	.3043	.2515	.3782		.7378		-.5327	-.7569	-.5513	-.2173	-.0681	
161.000									.4308						
162.000									.4655						
165.000										-.6221	-.6436	-.4107	-.2025	-.0431	
169.000															
174.000								.8003							
180.000	1.3263	.5775	.3910	.2994	.2750	.3905	.8927	.7601		-.7823	-.7280	-.3846	-.2030	-.0356	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2638	.2693	.2104	.1110	.0153	-.0149	-.1773		-.6287	-.6497
40.000	.2749		.2322	.1262	-.0122	-.0820	-.3265		-.5177	-.3997
70.000	-.1005	-.3410	-.3946	.0793	.0940	.2183	.1401			
90.000	-.0669	-.2225	-.2030	.0546	-.0330	.1373	.0907			
105.000			.0410	.0742	-.1432	.0666	.0363			
110.000								-.3543		
120.000	-.0412	-.1133	.1400	.0939	-.2414	-.2376	-.0274	-.2613		
135.000			.1909	.3676	-.1746	-.2285	-.1091			
150.000	.0609	-.0278	.2460	.5614	-.1136	-.2159	-.2518			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8883)

ALPHA (A) = 8.023 BETA (B) = .173

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	.0773		.2965		.0915	-.1555	-.3622			
180.000	.0799	.0331	.3215	.5233						

ALPHA (5) = 11.886 BETA (1) = -3.856 MACH = 1.0958 Q = 598.64 P = 710.95 RN/L = 3.1978

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1590	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2653	1.0785	.6504	.4802	.3536			.2072		.1921	.1335	.1120	.1210	.0956	.2204
20.000			.6972	.5032	.3677	.2681		.2184		.1934					
40.000			.7690	.5406	.4231	.3316		.2624		.2145	.1437	.1230	.1458	.1019	.2564
55.000			.7251	.5107	.3961	.3035		.2340		.1858					
70.000			.6543	.4459	.3237	.3047		.2364		.1650	-.2368	-.1065	-.1196	-.2354	
90.000		.7346	.5937	.4012	.2878	.3086		.2590		.1129	-.3054	-.1439	-.1878	-.2829	
120.000			.4620	.2900	.2018	.3042		.4160		.0212	-.3505	-.5248	-.7388	-.3452	
140.000										-.0811					
150.000			.3327	.1885	.1642	.3171		.7772		-.2162	-.7985	-.6975	-.2979	-.1380	
151.000									.4865						
162.000									.4916						
165.000										-.6725	-.7493	-.5682	-.2545	-.0994	
169.000								.7894							
174.000							.88 5								
180.000	1.2653	.4370	.2525	.1858	.1802	.3224		.6853		-.7716	-.6362	-.4353	-.1975	-.0527	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.3405	.3370	.2748	.1653	.0913	-.0038	-.1671		-.6094	-.6295
40.000	.3599		.3059	.1866	.0337	-.0442	-.2924		-.5358	-.4046
70.000	-.1322	-.3901	-.4710	.0263	-.0585	.1024	.1045			
90.000	-.0719	-.2979	-.3871	.0223	-.0824	-.0979	.0419			
105.000			-.0794	.0860	-.1353	-.2590	-.0035			
110.000								-.3383		
120.000	-.1828	-.1947	.0604	.1184	-.1867	-.2510	-.1043	-.2458		
135.000			.0729	.2952	-.2018	-.2009	-.1894			
150.000	-.0501	-.1735	.0765	.4636	-.1320	-.1853	-.2759			
165.000	.0530		.1600		.0895	-.0970	-.3961			
180.000	.0860	-.0401	.2451	.5103						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8883)

ALPHA (2) = 11.984 BETA (2) = .179 MACH = 1.0968 Q = 598.64 P = 710.95 RN/L = 3.1978

SECTION ( ) ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2720	1.0981	.6505	.4876	.3603			.2232		.2006	.1442	.1209	.1221	.1022	.1985
20.000			.6093	.4819	.3513	.2549		.2176		.1868					
40.000			.6792	.4785	.3651	.2787		.2300		.1819	.1066	.0833	.1018	.0765	.2067
60.000			.6005	.3964	.3868	.1991		.1603		.1282					
80.000			.5706	.3372	.4221	.2331		.1790		.1112	-.2896	-.2000	-.2046	-.3250	
90.000		.0781	.4673	.3070	.1.52	.2508		.2074		.0468	-.3659	-.2296	-.2681	-.3179	
100.000			.4023	.2464	.1490	.3013		.3776		-.0631	-.4155	-.5771	-.7160	-.2110	
120.000										-.1910					
140.000			.3131	.1995	.1557	.3363		.7214		-.5109	-.7989	-.6125	-.2456	-.0865	
160.000									.4251						
170.000									.4484						
180.000										-.6652	-.6882	-.4596	-.1998	-.0394	
190.000								.7774							
200.000							.8430								
220.000	1.2780	.4195	.2681	.2020	.1855	.3387		.7335		-.8231	-.7623	-.4181	-.1845	-.0340	
X/LB	.0000	.7280	.7780	.8210	.8790	.9210	.9600	.9990	1.0130	1.0460					
PHI															
.000	.3347	.3502	.2656	.1852	.1328	.0152	-.1522		-.6028	-.6251					
40.000	.2772		.3118	.2040	.0621	-.0205	-.2815		-.5126	-.3911					
70.000	-.1224	-.4289	-.4859	-.1389	-.1384	.1170	.1001								
90.000	-.0751	-.3105	-.3983	-.0736	-.1311	-.0038	.0628								
105.000			-.1350	.0163	-.1424	-.3111	-.0072								
110.000								-.3497							
140.000	-.0446	-.1330	.0487	.1086	-.3094	-.2472	-.1398	-.2529							
150.000			.1262	.3632	-.2303	-.2781	-.3022								
160.000	.0436	-.0926	.1740	.5854	-.1919	-.2923	-.2909								
165.000	.0924		.2552		.0610	-.2022	-.3844								
180.000	.1008	-.0201	.2822	.5558											

ALPHA (3) = 11.963 BETA (3) = 4.251 MACH = 1.0968 Q = 598.64 P = 710.95 RN/L = 3.1978

SECTION ( ) ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2572	1.0748	.6491	.4845	.3538			.2199		.1873	.1367	.1258	.1255	.0947	.2275
20.000			.6246	.4419	.3160	.2315		.1990		.1553					
40.000			.5783	.3982	.2903	.2040		.1803		.1238	.0519	.0377	.0554	.0370	.2321
60.000			.4747	.2895	.1797	.1107		.0896		.0827					
70.000			.4163	.2454	.1295	.1614		.1249		.0696	-.3381	-.2821	-.2835	-.3662	
90.000		.4401	.3901	.2685	.1073	.2014		.1592		-.0120	-.4184	-.3083	-.3344	-.2425	
120.000			.3400	.1927	.0913	.2858		.3239		-.1439	-.4794	-.6256	-.3786	-.1448	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8883)

ALPHA (S) = 11.963 BETA (S) = 4.251

SECTION (1 ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0090	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000															
150.000			.2331	.1862	.1106	.3096		.6636		-.3032					
151.000										-.6276	-.8046	-.5068	-.2011	-.0516	
[illegible]									.3481						
[illegible]									.3784						
[illegible]										-.6675	-.7160	-.4253	-.1810	-.0431	
[illegible]								.7395							
180.000	1.2572	.3973	.2764	.1903	.1644	.3290	.8294								
								.7206		-.7903	-.6914	-.4416	-.2072	-.0579	
X/LB	.6530	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
[illegible]	.3425	.3372	.2782	.1782	.1408	.0162	-.1633		-.5096	-.6200					
[illegible]	.3589		.2972	.1975	.0641	-.0246	-.2700		-.5485	-.4070					
[illegible]	-.1185	-.4191	-.4805	-.1441	-.1921	.0635	.0618								
[illegible]	-.0807	-.3036	-.3619	-.1225	-.2841	-.1290	.0405								
[illegible]			-.1225	-.0608	-.5252	-.3561	-.0459								
[illegible]								-.3732							
[illegible]	.0481	-.1088	.0864	-.0352	-.3745	-.4582	-.5026	-.2328							
[illegible]			.1576	.2565	-.2679	-.3612	-.3876								
[illegible]	-.1117	-.0300	.2207	.4964	-.1977	-.3429	-.4055								
[illegible]	.1197		.2530		.0126	-.2973	-.3691								
[illegible]	.0427	-.0345	.0266	.5403											

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8884) (05 AUG 75)

REFERENCE DATA

SREF = 8730.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 936.0000 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = 10.000 SPDBRK = .000
BOFLAP = -11.700 L-ELVN = -10.000
R-ELVN = 10.000 MACH = .900

ALPHA = -3.985 BETA (1) = .165 MACH = .89930 Q = 599.63 P = 1059.2 RN/L = 3.5295

SECTION (1 ORBITER FUSELAGE DEPENDENT VARIABLE CP

* Y	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1600	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	-.0348	.3748	-.0803	-.0903	-.1692			-.2046		-.2026	-.1774	-.0510	-.0164	.0190	-.0032
20.000			-.0401	-.1175	-.2055	-.2105		-.2267		-.2219					
40.000			-.0133	-.0973	-.1954	-.2028		-.2979		-.3407	-.3147	-.0631	-.0287	-.0022	-.0044
60.000			.0533	.0706	-.0516	-.1278		-.2274		-.3424					
80.000			.2033	.1250	.0375	-.0036		-.1677		-.3217	-.7699	-.0212	.0573	.0994	
90.000		.8059	.4432	.1983	.0664	.0257		-.1610		-.4555	-.7328	-.0723	.0418	.0902	
100.000			.5497	.3646	.2399	.2486		.0772		-.4292	-.6799	-.1695	.0204	.0625	
120.000										-.4644					
140.000			.6063	.4650	.3574	.3881		.5978		-.8072	-.8483	-.0246	.0298	.0526	
160.000									.2413						
165.000									.3227						
170.000										-.8550	-.7487	.0021	.0305	.0610	
175.000								.7095							
180.000	1.2288	.8591	.6139	.4595	.4271	.4401	.8584	.6982		-.9631	-.7458	.0137	.0308	.0578	
* Y	.8520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.1151	-.1893	-.2321	-.3328	-.3994	-.3443	-.5127		-.4571	-.3295					
20.000	-.1694		-.2292	-.3333	-.3498	-.4353	-.5411		-.3545	-.2494					
40.000	.0314	-.0016	.1013	.2131	.1281	.1298	-.0331								
60.000	.0670	.0429	.1577	.2229	.0334	.0291	-.0990								
80.000			.2121	.2222	-.0834	-.0328	-.1453								
90.000								-.3116							
100.000	.0832	.1141	.2728	.2868	-.2902	-.1731	-.2011	-.2342							
120.000			.3449	.4954	-.2386	-.1405	-.1993								
140.000	.0979	.1694	.3940	.5497	-.1690	-.1562	-.2338								
160.000	.0919		.3838		.0115	-.1433	-.2354								
180.000	.0899	.1683	.3807	.5480											

AMES 11-073(OA148) -140A B/C ORB FUSELAGE (XE8884)

ALPHA (2) = .057 BETA (1) = 165 MACH = .89710 Q = 598.28 P = 1060.7 RN/L = 3.5863

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1560	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2416	.5389	.0921	.0125	-.0789			-.1442		-.1551	-.1720	-.0513	-.0029	.0400	.0419
20.000			.1156	.0001	-.0972	-.1337		-.1623		-.1724					
40.000			.2483	.0262	-.0636	-.1029		-.1784		-.2085	-.2672	-.0453	.0058	.0233	.0605
55.000			.3452	.1290	.0471	-.0240		-.1301		-.2278					
70.000			.4018	.1732	.0795	.0397		-.1038		-.2516	-.7313	-.0725	.0173	.0527	
90.000		.5911	.4464	.2176	.0944	.0717		-.0937		-.3728	-.7144	-.1007	.0200	.0526	
120.000			.4990	.3194	.2068	.2338		.1104		-.4079	-.6856	-.1903	.0212	.0396	
140.000										-.5080					
150.000			.5052	.3713	.2683	.3257		.5834		-.8547	-.9610	-.1354	.0342	.0306	
151.000									.2208						
162.000									.2848						
165.000										-.9290	-.8696	-.0523	.0303	.0330	
169.000								.6713							
174.000							.8213								
180.000	1.2416	.7272	.4917	.3639	.3280	.3613		.6479		-.9290	-.8794	-.0260	.0306	.0298	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
000	-.0184	-.0712	-.1450	-.2556	-.2434	-.3530	-.5174		-.4491	-.3264
40.000	-.0550		-.1353	-.2453	-.2730	-.4217	-.5569		-.3620	-.2621
70.000	-.1040	-.1551	.0349	.1903	.1148	.1291	-.0295			
90.000	-.0546	-.0837	.1017	.1958	.0237	.0324	-.0923			
105.000			.1626	.2145	-.0937	-.0417	-.1483			
110.000								-.2865		
120.000	-.0043	.0300	.2272	.3038	-.2553	-.1656	-.1869	-.2209		
135.000			.2871	.4375	-.2556	-.1611	-.2088			
150.000	.0255	.0916	.3057	.4789	-.2228	-.1903	-.2330			
165.000	.0265		.3033		-.0475	-.1863	-.2125			
180.000	.0254	.1062	.3013	.4838						

ALPHA (3) = 3.888 BETA (1) = -3.885 MACH = .89803 Q = 598.38 P = 1060.0 RN/L = 3.5814

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1560	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2230	.6832	.2254	.1094	.0111			-.0866		-.1015	-.1188	-.0558	.0077	.0769	.0945
20.000			.2696	.1219	.0056	-.0635		-.0979		-.1188					
40.000			.4327	.1790	.0704	.0046		-.0842		-.1255	-.1601	-.0386	.0267	.0697	.1147
55.000			.5170	.2903	.1870	.1054		-.0019		-.0991					
70.000			.5372	.3132	.1964	.1500		.0084		-.1228	-.5825	-.1499	-.0125	.0394	
90.000		.7052	.5447	.3285	.2055	.1770		.0316		-.1992	-.6192	-.1965	-.0182	.0287	
120.000			.5132	.3459	.2385	.2749		.2207		-.2513	-.6099	-.3290	-.0732	-.0471	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8884)

ALPHA (3) = 3.888 BETA (1) = -3.885

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

Y/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.3469					
150.000			.4355	.2833	.2262	.2875		.6287		-.4526	-.9699	-.4254	.0190	-.0104	
161.000									.2911						
165.000									.3176						
170.000										-.9665	-.7734	-.4117	.0459	.0000	
175.000								.6618							
174.000							.7896								
180.000	1.2230	.5909	.3492	.2573	.2241	.2754		.5602		-1.0998	-.9350	-.2700	.0514	.0108	
X/LB	.6500	.7290	.7730	.8210	.8790	.9210	.9500	.9990	1.0180	1.0460					
PHI															
130.000	.0832	.0142	-.0526	-.1885	-.2121	-.3513	-.4967		-.5030	-.3657					
140.000	.0475		-.0450	-.1777	-.2137	-.4123	-.5757		-.4161	-.2723					
150.000	-.2104	-.3083	.0134	.2265	.1715	.1748	.0071								
160.000	-.1557	-.2869	.0812	.2495	.0868	.0717	-.0622								
165.000			.1582	.2657	-.0080	-.0038	-.1287								
170.000								-.2841							
180.000	-.1684	-.0935	.2721	.2435	-.2147	-.1278	-.1448	-.2190							
185.000			.3068	.2630	-.2368	-.1296	-.1857								
190.000	-.0609	.0423	.2847	.1857	-.2171	-.1279	-.2010								
195.000	-.0513		.2622		.0492	-.1017	-.2094								
200.000	-.0460	.0433	.2319	.3442											

ALPHA (3) = 4.092 BETA (2) = .164 MACH = .89303 Q = 598.39 P = 1060.0 RN/L = 3.5814

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

Y/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
130.000	1.2333	.6939	.2400	.1275	.0187			-.0749		-.0965	-.1181	-.0420	.0243	.0819	.0987
140.000			.2587	.1203	.0072	-.0468		-.0865		-.1131					
150.000			.3638	.1542	.0464	.0010		-.0802		-.1215	-.1618	-.0417	.0354	.0697	.1256
160.000			.4103	.2008	.1119	.0400		-.0607		-.1498					
170.000			.4170	.1996	.1016	.0749		-.0576		-.1894	-.6641	-.1469	-.0257	.0219	
175.000		.5595	.4302	.2173	.1059	.0090		-.0461		-.2094	-.7229	-.1599	-.0175	.0219	
180.000			.4205	.2630	.1621	.2139		.1360		-.3817	-.6960	-.2765	-.0103	-.0028	
185.000										-.5073					
190.000			.4021	.2712	.1989	.2669		.5651		-.9054	-1.0451	-.3836	.0548	.0135	
195.000									.2065						
198.000									.2534						
180.000										-.9860	-.9423	-.2315	.0522	.0166	
185.000								.6398							
174.000							.7778								

AMES 11-073(OA148) 140A/B/C ORB FUSELAGE (XE8884)

ALPHA (3) = 4.092 BETA (2) = .164

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.2333	.5825	.3719	.2628	.2332	.2887		.6039		-1.0533	-.9571	-.1789	.0493	.0186	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0713	.0183	-.0574	-.1792	-.1962	-.3368	-.5043		-.4655	-.3427
40.000	.0563		-.0435	-.1675	-.2120	-.4007	-.5419		-.3704	-.2569
70.000	-.2269	-.4021	-.0250	.1645	.0990	.1175	-.0299			
90.000	-.1645	-.2999	.0537	.1572	-.0008	.0188	-.0922			
105.000			.1262	.1602	-.1031	-.0509	-.1500			
110.000								-.2762		
120.000	-.1071	-.0892	.1799	.2358	-.3088	-.1833	-.1899	-.2157		
135.000			.2154	.4177	-.3031	-.1913	-.2182			
150.000	-.0502	.0065	.2284	.4636	-.2637	-.2126	-.2313			
165.000	-.0399		.2240		-.0951	-.2141	-.1962			
180.000	-.0380	.0284	.2349	.4290						

ALPHA (3) = 3.936 BETA (3) = 4.248 MACH = .89803 Q = 598.38 P = 1060.0 RN/L = 3.5814

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.2134	.6738	.2261	.1155	.0053			-.0776		-.1003	-.1265	-.0556	.0182	.0827	.0866
20.000			.2196	.0884	-.0125	-.0570		-.0928		-.1203					
40.000			.2692	.0893	.0036	-.0313		-.0892		-.1419	-.2025	-.0727	.0192	.0548	.1187
55.000			.2879	.0982	.0234	-.0224		-.1097		-.1958					
70.000			.2932	.0884	.0046	.0050		-.1220		-.2535	-.7294	-.1317	-.0232	.0081	
90.000		.3927	.3162	.1019	.0046	.0212		-.1207		-.4092	-.7975	-.1654	-.0063	.0157	
120.000			.3381	.1760	.0773	.1424		.0376		-.5235	-.7732	-.2727	.0291	.0186	
140.000										-.6948					
150.000			.3420	.2277	.1394	.2186		.4755		-1.0328	-1.0123	-.3232	.0512	.0150	
151.000									.0971						
162.000									.1626						
165.000										-.9974	-.7989	-.2301	.0425	.0105	
169.000								.5881							
174.000							.7448								
180.000	1.2134	.5517	.3633	.2415	.2195	.2759		.5831		-1.1225	-.9514	-.2260	.0473	.0032	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.0637	.0170	-.0512	-.1758	-.1864	-.3316	-.5063		-.4586	-.3247
40.000	.0535		-.0467	-.1588	-.2063	-.3904	-.5473		-.3336	-.2301

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8884)

ALPHA (B) = 3.998 BETA (B) = 4.248

SECTION ( ) ORBITER FUSELAGE DEPENDENT VARIABLE CP

	.6880	.7230	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
	-.2328	-.3913	-.0886	.0834	.0263	.0688	-.0620			
	-.1870	-.2723	-.0173	.0716	-.0814	-.0334	-.1211			
			.0379	.0818	-.2101	-.1099	-.1813			
								-.2766		
	-.0804	-.1113	.0835	.1464	-.4630	-.2607	-.2369	-.2301		
			.1811	.3502	-.4815	-.2639	-.2665			
		.0059	.2041	.4220	-.4148	-.3146	-.2792			
			.1903		-.2183	-.3747	-.2072			
		.0138	.2094	.3817						

ALPHA (B) = 0.008 BETA (B) = .163 MACH = .89820 Q = 598.15 P = 1059.3 PN/L = 3.5792

SECTION ( ) ORBITER FUSELAGE DEPENDENT VARIABLE CP

	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
	1.1985	.9640	.3841	.2405	.1265			.0061		-.0173	-.0498	-.0087	.0641	.1334	.1651
			.3985	.2319	.1145	.0398		-.0012		-.0349					
			.4575	.2490	.1426	.0833		.0089		-.0447	-.1101	-.0163	.0619	.1168	.1926
			.4447	.2430	.1438	.0721		-.0219		-.0964					
			.4095	.2086	.1005	.0890		-.0238		-.1433	-.5985	-.1764	-.0921	-.0113	
		.6086	.3966	.1992	.0954	.1073		-.0147		-.2455	-.5971	-.1976	-.0859	-.0129	
			.3504	.1893	.1017	.1802		.1498		-.3537	-.7195	-.2999	-.1509	-.0605	
										-.5002					
			.2855	.1696	.1197	.2072		.5456		-.8825	-.6324	-.4628	-.0647	.0049	
									.1918						
									.2246						
										-1.0275	-.6714	-.4799	-.0746	.0172	
								.6112							
							.7284								
	1.1955	.4243	.2460	.1648	.1410	.2231		.5658		-.8558	-.6970	-.4770	-.0700	.0225	

	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
	.1543	.1022	.0223	-.0986	-.1480	-.3091	-.4780		-.5079	-.3803
	.1598		.0419	-.0865	-.1777	-.3662	-.5376		-.3812	-.2613
	-.3054	-.6112	-.1083	.0927	.0526	.0853	-.0426			
	-.2440	-.4676	-.0332	.0798	-.0490	-.0077	-.1048			
			.0598	.0737	-.1411	-.0834	-.1649			
								-.2685		
	-.2041	-.2074	.0633	.0903	-.3695	-.2151	-.2014	-.2201		
			.1010	.2927	-.3791	-.2206	-.2374			
	-.1103	-.0953	.1327	.3601	-.3139	-.2446	-.2337			

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8884)

ALPHA (4) = 8.008 BETA (1) = .163

SECTION 1 ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
165.000	-.0356		.1335		-.1039	-.2292	-.1996			
180.000	-.0369	-.0551	.1359	.3542						

ALPHA (5) = 11.969 BETA (1) = .169 MACH = .89670 Q = 597.36 P = 1061.4 RN/L = 3.5769

SECTION 1 ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0030	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.1325	.9582	.5243	.3582	.2384			.0925		.0659	.0370	.0736	.1223	.1994	.2325
20.000			.5404	.3507	.2275	.1429		.0872		.0497					
40.000			.5461	.3511	.2412	.1544		.0846		.0218	-.0362	.0156	.0995	.1712	.2588
55.000			.4614	.2595	.1616	.0639		-.0115		-.0780					
77.000			.3890	.1939	.0996	.0897		-.0019		-.1175	-.5208	-.2279	-.1845	-.0807	
90.000		.4356	.3467	.1686	.0763	.0376		.0133		-.2058	-.6524	-.2192	-.1903	-.0589	
120.000			.2547	.1104	.0351	.1349		.1595		-.3379	-.7287	-.4375	-.3139	-.1221	
140.000										-.4893					
150.000			.1724	.0669	.0448	.1614		.5287		-.7359	-.5850	-.5290	-.1937	-.0269	
157.000									.1841						
160.000									.2014						
165.000										-.9429	-.6089	-.5439	-.2038	.0081	
169.000								.5824							
174.000							.6762								
180.000	1.1325	.2600	.1272	.0739	.0671	.1711		.5320		-.6859	-.5977	-.5456	-.2137	.0221	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	.2328	.1859	.1025	-.0163	-.0922	-.2698	-.4357		-.5915	-.4190
20.000	.2484		.1203	-.0032	-.1521	-.3242	-.6295		-.4452	-.2696
70.000	-.4605	-.7414	-.2211	-.0554	-.1317	-.0013	-.0736			
93.000	-.3423	-.5084	-.0798	-.0271	-.2234	-.0975	-.1337			
105.000			-.0030	.0238	-.3608	-.1820	-.2139			
110.000								-.2966		
120.000	-.2655	-.2935	.0104	.1009	-.4285	-.2684	-.2499	-.2415		
135.000			.0293	.2741	-.4103	-.2865	-.2742			
150.000	-.2016	-.2050	.0530	.3944	-.3632	-.3171	-.2837			
165.000	-.1473		.0933		-.1416	-.2898	-.2314			
180.000	-.1332	-.1104	.1039	.3518						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8285) (05 AUG 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = 1076.6800 IN. XO
LREF = 474.8000 IN. YMRP = .0000 IN. YO
BREF = 936.0580 IN. ZMRP = 375.0000 IN. ZO
SCALE = .0300

PARAMETRIC DATA

RUDDER = 10.000 SPDBRK = .000
BDFLAP = -11.700 L-ELVN = -10.000
R-ELVN = 10.000 MACH = .600

ALPHA (1) = -3.903 BETA (1) = .164 MACH = .59620 Q = 593.85 P = 2386.4 RN/L = 4.8166

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0367	.1648	-.1933	-.1920	-.2264			-.1713		-.1467	-.1163	-.0919	-.0670	-.0592	-.0812
20.000			-.1771	-.1909	-.2398	-.2297		-.1984		-.1637					
40.000			-.0353	-.2048	-.2511	-.2350		-.2582		-.2301	-.1674	-.1088	-.0884	-.0851	-.0955
55.000			.1080	-.0717	-.1234	-.1892		-.2229		-.2390					
70.000			.2052	.0170	-.0494	-.0801		-.1934		-.2597	-.2322	-.0832	-.0092	.0425	
90.000		.4318	.2870	.0771	-.0265	-.0704		-.2104		-.3687	-.2792	-.1187	-.0238	.0292	
120.000			.3986	.2344	.1258	.1231		-.0650		-.3636	-.2994	-.2571	-.0480	.0007	
140.000										-.3664					
150.000			.4648	.3435	.2420	.2583		.3931		-.4972	-.2645	-.1095	-.0433	-.0025	
91.000									.0161						
155.000									.0726						
165.000										-.9421	-.2127	-.1098	-.0388	.0038	
169.000								.5027							
174.000							.6704								
180.000	1.0367	.6995	.4708	.3468	.3167	.3125		.4907		-1.1371	-.2034	-.1027	-.0393	.0058	

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
.000	-.1292	-.1539	-.2005	-.2713	-.2643	-.3273	-.3637		-.3710	-.2580
40.000	-.1836		-.2229	-.2959	-.3189	-.2900	-.3465		-.2886	-.2020
70.000	-.1228	-.0304	.0492	.1484	.0743	.0526	-.0777			
90.000	.0031	.0097	.0947	.1571	-.0131	-.0402	-.1339			
105.000			.1272	.1736	-.1208	-.1023	-.1787			
110.000								-.2965		
120.000	.0170	.0549	.1832	.2644	-.2640	-.2033	-.2085	-.2358		
135.000			.2437	.4170	-.2317	-.1680	-.2117			
160.000	.0394	.0966	.2541	.4627	-.1933	-.1831	-.2154			
165.000	.0389		.2359		-.0505	-.1942	-.2382			
180.000	.0272	.0973	.2356	.4390						

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8885)

ALPHA (2) = .072 BETA (1) = .163 MACH = .59820 Q = 593.87 P = 2387.1 PN/L = 4.8288

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/B	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0649	.3457	-.0430	-.0898	-.1397			-.1342		-.1177	-.0977	-.0685	-.0424	-.0236	-.0342
20.000			-.0271	-.0796	-.1519	-.1623		-.1450		-.1293					
40.000			.1026	-.0719	-.1350	-.1357		-.1708		-.1635	-.1105	-.0596	-.0380	-.0389	-.0255
55.000			.2086	.0285	-.0361	-.0813		-.1469		-.1917					
70.000			.2573	.0657	-.0097	-.0438		-.1519		-.2391	-.2347	-.0999	-.0387	-.0027	
80.000		.4296	.3004	.1045	.0016	-.0208		-.1658		-.3343	-.2694	-.1382	-.0465	-.0094	
90.000			.3548	.2044	.1078	.1139		-.0423		-.3671	-.3166	-.2513	-.0563	-.0253	
100.000										-.4219					
110.000			.3676	.2564	.1618	.1984		.3639		-.5743	-.3235	-.1350	-.0603	-.0250	
120.000									-.0287						
130.000									.0101						
140.000										-1.0932	-.2575	-.1312	-.0608	-.0208	
150.000								.4522							
160.000							.6264								
180.000	1.0649	.5740	.3541	.2522	.2223	.2350		.4255		-1.3107	-.2368	-.1289	-.0603	-.0248	
X/B	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.0675	-.1058	-.1637	-.2380	-.2460	-.3170	-.3580		-.3769	-.2622					
20.000	-.0986		-.1710	-.2527	-.3000	-.2810	-.3462		-.2965	-.2008					
70.000	-.1255	-.1052	.0099	.1376	.0660	.0539	-.0662								
90.000	-.0797	-.0600	.0647	.1451	-.0185	-.0441	-.1218								
105.000			.1051	.1677	-.1151	-.1018	-.1727								
110.000								-.2917							
140.000	-.0231	.0223	.1779	.2116	-.2521	-.2009	-.1949	-.2266							
175.000			.2253	.3283	-.2498	-.1809	-.2142								
180.000	.0025	.0657	.2226	.3895	-.2351	-.2027	-.2219								
185.000	-.0308		.2044		-.0811	-.2079	-.2180								
180.000	-.0938	.0677	.2045	.3967											

ALPHA (3) = 4.077 BETA (1) = .160 MACH = .59680 Q = 595.04 P = 2386.4 PN/L = 4.8327

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/B	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0524	.5179	.1088	.0248	-.0456			-.0834		-.0723	-.0586	-.0312	-.0063	.0243	.0253
20.000			.1258	.0321	-.0541	-.0833		-.0870		-.0846					
40.000			.2309	.0516	-.0205	-.0505		-.0947		-.0999	-.0626	-.0169	.0031	.0116	.0108
55.000			.2736	.1047	.0375	-.0338		-.1065		-.1603					
70.000			.2782	.1043	.0277	-.0112		-.1237		-.2198	-.2360	-.1257	-.0709	-.0446	
80.000		.4005	.2907	.1151	.0225	-.0001		-.1352		-.3155	-.2688	-.1468	-.0738	-.0485	
90.000			.2926	.1571	.0695	.0961		-.0324		-.3754	-.3345	-.2700	-.0944	-.0715	

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8995)

ALPHA (3) = 4.077 BETA (1) = .160

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
140.000										-.4715					
150.000			.2666	.1581	.0902	.1380		.3343		-.6534	-.3661	-.1617	- 0733	-.0517	
151.000									-.0611						
162.000									-.0559						
165.000										-1.2287	-.2848	-.1544	-.0674	-.0413	
170.00								.4035							
174.000							.5748								
180.000	1.0524	.4232	.2346	.1534	.1379	.1587		.3660		-1.4438	-.2646	-.1403	-.0663	-.0441	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	-.0070	-.0474	-.1061	-.1985	-.2161	-.2973	-.3510		-.3900	-.2623					
40.000	-.0142		-.1110	-.2082	-.2806	-.2667	-.3222		-.3004	-.1931					
70.000	-.0869	-.1728	-.0286	.1320	.0659	.0578	-.0576								
90.000	-.1633	-.1032	.0268	.1380	-.0156	-.0361	-.1219								
105.000			.0851	.1628	-.0990	-.0956	-.1722								
1.. 000								-.2776							
120.000	-.0943	-.0172	.1664	.1935	-.2486	-.1913	-.1890	-.2216							
135.000			.2028	.2248	-.2658	-.1922	-.2166								
150.000	-.0354	.0427	.2020	.2026	-.2675	-.2093	-.2140								
165.000	-.0295		.1766		-.1073	-.2229	-.2146								
180.000	-.0393	.0370	.1681	.3681											

ALPHA (4) = 8.047 BETA (1) = .158 MACH = .59710 Q = 595.63 P = 2386.4 PN/L = 4.8084

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	1.0164	.6717	.2561	.1339	.0524			-.0232		-.02	-.0120	.0100	.0377	.0738	.0839
20.000			.2733	.1398	.0425	-.0091		-.0258		-.03					
40.000			.3285	.1513	.0689	.0224		-.0272		-.05	-.0373	.0114	.0358	.0541	.1034
55.000			.3107	.1398	.0653	-.0010		-.0959		-.16					
70.000			.2746	.1144	.0275	-.0020		-.1110		-.215	2608	-.1656	-.1116	-.0399	
90.000		.3482	.2582	.0935	.0136	.0020		-.1249		-.303	2791	-.1788	-.1160	-.1036	
120.000			.2175	.0959	.0158	.0588		-.0352		-.4021	.3703	-.3196	-.1544	-.1540	
140.000										-.5287					
150.000			.1525	.0635	.0207	.0778		.3038		-.7288	- 4178	-.1858	-.0921	-.0776	
161.000									-.1056						
1.. 000									-.1178						
170.000										-1.3585	776	-.1620	-.0816	-.0635	
180.000								.3544							
174.000							.5261								

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8885)

ALPHA (4) = 8.047 BETA (1) = .158

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0000	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
180.000	1.0164	.2626	.1153	.0590	.0489	.0969		.3064		-1.6043	-.2832	-.1447	-.0769	-.0633	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.0644	.0173	-.0478	-.1406	-.1812	-.2737	-.3322		-.3853	-.2535					
40.000	.0742		-.0445	-.1503	-.2527	-.2450	-.2837		-.2917	-.1859					
70.000	-.3452	-.2367	-.0624	.1295	.0723	.0696	-.0484								
90.000	-.2565	-.1602	.0050	.1362	-.0109	-.0386	-.1167								
105.000			.0697	.1604	-.0905	-.0950	-.1723								
110.000								-.2675							
120.000	-.1663	-.0452	.1397	.1808	-.2457	-.1997	-.1897	-.2259							
135.000			.1361	.2564	-.2772	-.2097	-.2224								
150.000	-.0765	-.0097	.1446	.3590	-.2816	-.2213	-.2178								
165.000	-.0666		.1330		-.1358	-.2289	-.2044								
180.000	-.0650	.0052	.1394	.3704											

ALPHA (5) = 12.045 BETA (1) = .156 MACH = 59710 Q = 595.63 P = 2386.4 RN/L = 4.8340

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.0001	.0080	.0230	.0460	.0700	.1120	.1580	.1660	.1770	.2040	.2510	.3010	.3780	.4970	.5740
PHI															
.000	.9438	.7999	.3988	.2492	.1592			.0536		.0431	.0454	.0669	.0957	.1352	.1434
20.000			.4092	.2526	.1517	.0829		.0493		.0277					
40.000			.4108	.2437	.1524	.0842		.0275		-.0231	-.0308	.0261	.0687	.1013	.1726
55.000			.3203	.1463	.0664	-.0292		-.1097		-.1853					
70.000			.2466	.0915	.0040	-.0100		-.1139		-.2274	-.2957	-.2110	-.1715	-.1649	
90.000		.2716	.2022	.0620	-.0099	-.0142		-.1252		-.3127	-.3062	-.2181	-.1743	-.1586	
120.000			.1180	.0040	-.0573	.0060		-.0542		-.4410	-.4231	-.4174	-.2681	-.2450	
140.000										-.5799					
150.000			.0422	-.0327	-.0541	.0237		.2771		-.8096	-.4554	-.2070	-.1212	-.1182	
151.000									-.1318						
162.000									-.1678						
165.000										-1.4991	-.3327	-.1729	-.0951	-.0847	
169.000								.3147							
174.000							.4822								
180.000	.9438	.0990	-.0126	-.0268	-.0242	.0347		.2578		-1.8347	-.2930	-.1546	-.0836	-.0753	
X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460					
PHI															
.000	.1342	.0848	.0104	-.0793	-.1316	-.2380	-.3100		-.3729	-.2408					
40.000	.1483		.0172	-.0906	-.2202	-.2141	-.2539		-.2709	-.1664					

AMES 11-073(OA148) -140A/B/C ORB FUSELAGE (XE8B85)

ALPHA (5) = 12.046 BETA (1) = .156

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CP

X/LB	.6520	.7290	.7790	.8210	.8790	.9210	.9600	.9990	1.0180	1.0460
PHI										
70.000	-.4874	-.3248	-.1196	.0922	.0511	.0697	-.0368			
90.000	-.3496	-.2267	-.0377	.1245	-.0239	-.0230	-.1072			
105.000			.0429	.1563	-.1044	-.0953	-.1669			
110.000								-.2779		
120.000	-.2193	-.0826	.1014	.2081	-.2524	-.2010	-.1906	-.2324		
135.000			.0631	.3580	-.2938	-.2229	-.2302			
150.000	-.1554	-.0805	.0948	.4700	-.2944	-.2397	-.2240			
165.000	-.0984		.1231		-.1446	-.2398	-.2023			
180.000	-.0937	-.0168	.1288	.3949						