 * REV 3/99 *****
AERODYNAMIC METHODS FOR MISSILE CONFIGURATIONS

CONERR - INPUT ERROR CHECKING

ERROR CODES - N* DENOTES THE NUMBER OF OCCURENCES OF EACH ERROR
A - UNKNOWN VARIABLE NAME
B - MISSING EQUAL SIGN FOLLOWING VARIABLE NAME
C - NON-ARRAY VARIABLE HAS AN ARRAY ELEMENTDESIGNATION - (N)
D - NON-ARRAY VARIABLE HAS MULTIPLE VALUES ASSIGNED
E - ASSIGNED VALUES EXCEED ARRAY DIMENSION
F - SYNTAX ERROR

********** INPUT DATA CARDS **********

```
  1  $FLTCON NALPHA=8.,NMACH=1.,MACH=2.36,REN=3000000.,
  2          ALPHA=0.,4.,8.,12.,
  3          ALPHA(5)=16.,20.,24.,28.,$
  4  $REFQ XCG=18.75,$
  5  $AXIBOD LNOSE=11.25,DNOSE=3.75,LCENTR=26.25,DEXIT=2.,$
  6  $AXIBOD BASE=.TRUE.,BETAN=10.,JMACH=2.5,PRAT=4.,TRAT=4.,$
  7  $FINSET1 XLE=15.42,NPANEL=2.,PHIF=90.,270.,SWEEP=0.,STA=1.,
  8           CHORD=6.96,0.,SSPAN=1.875,5.355,
  9           ZUPPER=2*0.02238,LMAXU=0.238,0.238,
 10           LFLATU=0.524,0.524,LER=2*0.015,$
 11  $FINSET2 XLE=31.915,NPANEL=4.,PHIF=0.,90.,180.,270.,LER=2*0.015,
 12           SWEEP=0.,STA=1.,SSPAN=1.875,6.26,CHORD=5.585,2.792,
 13           ZUPPER=2*0.02238,LMAXU=2*0.288,LFLATU=2*0.428,$
 14 PART
 15 PLOT
 16 DAMP DB14
 17 PRESSURES
 18 SAVE
 19 NEXT CASE
 20  $TRIM SET=2.,$
 21 PRINT AERO TRIM
 22 PLOT
 23 NEXT CASE
```


*****

```
 * REV 3/99 *****     CASE   1
               AERODYNAMIC METHODS FOR MISSILE CONFIGURATIONS          PAGE
1
    CASE INPUTS
    FOLLOWING ARE THE CARDS INPUT FOR THIS CASE

  $FLTCON NALPHA=8.,NMACH=1.,MACH=2.36,REN=3000000.,

          ALPHA=0.,4.,8.,12.,

          ALPHA(5)=16.,20.,24.,28.,$

  $REFQ XCG=18.75,$

  $AXIBOD LNOSE=11.25,DNOSE=3.75,LCENTR=26.25,DEXIT=2.,$

  $AXIBOD BASE=.TRUE.,BETAN=10.,JMACH=2.5,PRAT=4.,TRAT=4.,$

  $FINSET1 XLE=15.42,NPANEL=2.,PHIF=90.,270.,SWEEP=0.,STA=1.,

           CHORD=6.96,0.,SSPAN=1.875,5.355,

           ZUPPER=2*0.02238,LMAXU=0.238,0.238,

           LFLATU=0.524,0.524,LER=2*0.015,$

  $FINSET2 XLE=31.915,NPANEL=4.,PHIF=0.,90.,180.,270.,LER=2*0.015,

           SWEEP=0.,STA=1.,SSPAN=1.875,6.26,CHORD=5.585,2.792,

           ZUPPER=2*0.02238,LMAXU=2*0.288,LFLATU=2*0.428,$

 PART

 PLOT

 DAMP DB14

 PRESSURES

 SAVE

 NEXT CASE

    * WARNING * THE REFERENCE AREA IS UNSPECIFIED, DEFAULT VALUE ASSUMED
    * WARNING * THE REFERENCE LENGTH IS UNSPECIFIED, DEFAULT VALUE ASSUMED
    * WARNING * CENTER SECTION DEFINED BUT BASE DIAMETER NOT INPUT
                CYLINDRICAL SECTION ASSUMED
    THE BOUNDARY LAYER IS ASSUMED TO BE TURBULENT
    THE INPUT UNITS ARE IN FEET, THE SCALE FACTOR IS   1.0000
1         *****
```

AXISYMMETRIC BODY DEFINITION

	NOSE	CENTERBODY	AFT BODY	TOTAL	
SHAPE	OGIVE	CYLINDER	--------		
LENGTH	11.250	26.250	0.000	37.500	FT
FINENESS RATIO	3.000	7.000	0.000	10.000	
PLANFORM AREA	28.280	98.437	0.000	126.717	FT**2
AREA CENTROID	7.016	24.375	0.000	20.501	FT
WETTED AREA	89.818	309.251	0.000	399.069	FT**2
VOLUME	66.789	289.922	0.000	356.711	FT**3
VOL. CENTROID	7.714	24.375	0.000	21.255	FT

MOLD LINE CONTOUR

LONGITUDINAL STATIONS	0.0000	1.1250	2.2500	3.3750	4.5000	5.6250
	6.7500	7.8750	9.0000	10.1250	11.2500	13.8750
	16.5000	19.1250	21.7500	24.3750	27.0000	29.6250
	32.2500	34.8750	37.5000*			
BODY RADII	0.0000	0.3644	0.6871	0.9693	1.2119	1.4159
	1.5819	1.7104	1.8020	1.8568	1.8750	1.8750
	1.8750	1.8750	1.8750	1.8750	1.8750	1.8750
	1.8750	1.8750*				

NOTE - * INDICATES SLOPE DISCONTINUOUS POINTS

FIN SET NUMBER 1 AIRFOIL SECTION

NACA S-3-23.8-04.5-52.4

X/C	X-UPPER	Y-UPPER	X-LOWER	Y-LOWER	MEAN LINE	THICKNESS
0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.00100	0.00100	0.00009	0.00100	-0.00009	0.00000	0.00019
0.00200	0.00200	0.00019	0.00200	-0.00019	0.00000	0.00038
0.00300	0.00300	0.00028	0.00300	-0.00028	0.00000	0.00057
0.00400	0.00400	0.00038	0.00400	-0.00038	0.00000	0.00076
0.00500	0.00500	0.00047	0.00500	-0.00047	0.00000	0.00095
0.00600	0.00600	0.00057	0.00600	-0.00057	0.00000	0.00113
0.00800	0.00800	0.00076	0.00800	-0.00076	0.00000	0.00151
0.01000	0.01000	0.00095	0.01000	-0.00095	0.00000	0.00189
0.02000	0.02000	0.00189	0.02000	-0.00189	0.00000	0.00378
0.03000	0.03000	0.00284	0.03000	-0.00284	0.00000	0.00567
0.04000	0.04000	0.00378	0.04000	-0.00378	0.00000	0.00756
0.05000	0.05000	0.00473	0.05000	-0.00473	0.00000	0.00945
0.06000	0.06000	0.00567	0.06000	-0.00567	0.00000	0.01134
0.08000	0.08000	0.00756	0.08000	-0.00756	0.00000	0.01513
0.10000	0.10000	0.00945	0.10000	-0.00945	0.00000	0.01891
0.12000	0.12000	0.01134	0.12000	-0.01134	0.00000	0.02269
0.14000	0.14000	0.01324	0.14000	-0.01324	0.00000	0.02647
0.16000	0.16000	0.01513	0.16000	-0.01513	0.00000	0.03025
0.18000	0.18000	0.01702	0.18000	-0.01702	0.00000	0.03403
0.20000	0.20000	0.01891	0.20000	-0.01891	0.00000	0.03782
0.22000	0.22000	0.02080	0.22000	-0.02080	0.00000	0.04160
0.24000	0.24000	0.02250	0.24000	-0.02250	0.00000	0.04500
0.26000	0.26000	0.02250	0.26000	-0.02250	0.00000	0.04500
0.28000	0.28000	0.02250	0.28000	-0.02250	0.00000	0.04500
0.30000	0.30000	0.02250	0.30000	-0.02250	0.00000	0.04500
0.32000	0.32000	0.02250	0.32000	-0.02250	0.00000	0.04500
0.34000	0.34000	0.02250	0.34000	-0.02250	0.00000	0.04500
0.36000	0.36000	0.02250	0.36000	-0.02250	0.00000	0.04500
0.38000	0.38000	0.02250	0.38000	-0.02250	0.00000	0.04500
0.40000	0.40000	0.02250	0.40000	-0.02250	0.00000	0.04500
0.42000	0.42000	0.02250	0.42000	-0.02250	0.00000	0.04500
0.45000	0.45000	0.02250	0.45000	-0.02250	0.00000	0.04500
0.50000	0.50000	0.02250	0.50000	-0.02250	0.00000	0.04500
0.55000	0.55000	0.02250	0.55000	-0.02250	0.00000	0.04500
0.60000	0.60000	0.02250	0.60000	-0.02250	0.00000	0.04500
0.65000	0.65000	0.02250	0.65000	-0.02250	0.00000	0.04500
0.70000	0.70000	0.02250	0.70000	-0.02250	0.00000	0.04500
0.75000	0.75000	0.02250	0.75000	-0.02250	0.00000	0.04500
0.80000	0.80000	0.01891	0.80000	-0.01891	0.00000	0.03782
0.82000	0.82000	0.01702	0.82000	-0.01702	0.00000	0.03403
0.84000	0.84000	0.01513	0.84000	-0.01513	0.00000	0.03025
0.86000	0.86000	0.01324	0.86000	-0.01324	0.00000	0.02647
0.88000	0.88000	0.01134	0.88000	-0.01134	0.00000	0.02269
0.90000	0.90000	0.00945	0.90000	-0.00945	0.00000	0.01891
0.92000	0.92000	0.00756	0.92000	-0.00756	0.00000	0.01513
0.94000	0.94000	0.00567	0.94000	-0.00567	0.00000	0.01134
0.96000	0.96000	0.00378	0.96000	-0.00378	0.00000	0.00756
0.98000	0.98000	0.00189	0.98000	-0.00189	0.00000	0.00378
1.00000	1.00000	0.00000	1.00000	0.00000	0.00000	0.00000

FIN SET NUMBER 2 AIRFOIL SECTION

NACA S-3-28.8-04.5-42.8

X/C	X-UPPER	Y-UPPER	X-LOWER	Y-LOWER	MEAN LINE	THICKNESS
0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.00100	0.00100	0.00008	0.00100	-0.00008	0.00000	0.00016
0.00200	0.00200	0.00016	0.00200	-0.00016	0.00000	0.00031
0.00300	0.00300	0.00023	0.00300	-0.00023	0.00000	0.00047
0.00400	0.00400	0.00031	0.00400	-0.00031	0.00000	0.00063
0.00500	0.00500	0.00039	0.00500	-0.00039	0.00000	0.00078
0.00600	0.00600	0.00047	0.00600	-0.00047	0.00000	0.00094
0.00800	0.00800	0.00063	0.00800	-0.00063	0.00000	0.00125
0.01000	0.01000	0.00078	0.01000	-0.00078	0.00000	0.00156
0.02000	0.02000	0.00156	0.02000	-0.00156	0.00000	0.00313
0.03000	0.03000	0.00234	0.03000	-0.00234	0.00000	0.00469
0.04000	0.04000	0.00313	0.04000	-0.00313	0.00000	0.00625
0.05000	0.05000	0.00391	0.05000	-0.00391	0.00000	0.00781
0.06000	0.06000	0.00469	0.06000	-0.00469	0.00000	0.00937
0.08000	0.08000	0.00625	0.08000	-0.00625	0.00000	0.01250
0.10000	0.10000	0.00781	0.10000	-0.00781	0.00000	0.01562
0.12000	0.12000	0.00937	0.12000	-0.00937	0.00000	0.01875
0.14000	0.14000	0.01094	0.14000	-0.01094	0.00000	0.02187
0.16000	0.16000	0.01250	0.16000	-0.01250	0.00000	0.02500
0.18000	0.18000	0.01406	0.18000	-0.01406	0.00000	0.02812
0.20000	0.20000	0.01562	0.20000	-0.01562	0.00000	0.03125
0.22000	0.22000	0.01719	0.22000	-0.01719	0.00000	0.03437
0.24000	0.24000	0.01875	0.24000	-0.01875	0.00000	0.03750
0.26000	0.26000	0.02031	0.26000	-0.02031	0.00000	0.04062
0.28000	0.28000	0.02187	0.28000	-0.02187	0.00000	0.04375
0.30000	0.30000	0.02250	0.30000	-0.02250	0.00000	0.04500
0.32000	0.32000	0.02250	0.32000	-0.02250	0.00000	0.04500
0.34000	0.34000	0.02250	0.34000	-0.02250	0.00000	0.04500
0.36000	0.36000	0.02250	0.36000	-0.02250	0.00000	0.04500
0.38000	0.38000	0.02250	0.38000	-0.02250	0.00000	0.04500
0.40000	0.40000	0.02250	0.40000	-0.02250	0.00000	0.04500
0.42000	0.42000	0.02250	0.42000	-0.02250	0.00000	0.04500
0.45000	0.45000	0.02250	0.45000	-0.02250	0.00000	0.04500
0.50000	0.50000	0.02250	0.50000	-0.02250	0.00000	0.04500
0.55000	0.55000	0.02250	0.55000	-0.02250	0.00000	0.04500
0.60000	0.60000	0.02250	0.60000	-0.02250	0.00000	0.04500
0.65000	0.65000	0.02250	0.65000	-0.02250	0.00000	0.04500
0.70000	0.70000	0.02250	0.70000	-0.02250	0.00000	0.04500
0.75000	0.75000	0.01981	0.75000	-0.01981	0.00000	0.03961
0.80000	0.80000	0.01585	0.80000	-0.01585	0.00000	0.03169
0.82000	0.82000	0.01426	0.82000	-0.01426	0.00000	0.02852
0.84000	0.84000	0.01268	0.84000	-0.01268	0.00000	0.02535
0.86000	0.86000	0.01109	0.86000	-0.01109	0.00000	0.02218
0.88000	0.88000	0.00951	0.88000	-0.00951	0.00000	0.01901
0.90000	0.90000	0.00792	0.90000	-0.00792	0.00000	0.01585
0.92000	0.92000	0.00634	0.92000	-0.00634	0.00000	0.01268
0.94000	0.94000	0.00475	0.94000	-0.00475	0.00000	0.00951
0.96000	0.96000	0.00317	0.96000	-0.00317	0.00000	0.00634
0.98000	0.98000	0.00158	0.98000	-0.00158	0.00000	0.00317
1.00000	1.00000	0.00000	1.00000	0.00000	0.00000	0.00000

GEOMETRIC RESULTS FOR FIN SETS

FIN SET NUMBER 1
(DATA FOR ONE PANEL ONLY)

SEGMENT NUMBER	PLAN AREA	ASPECT RATIO	TAPER RATIO	L.E. SWEEP	T.E. SWEEP	M.A.C. CHORD	T/C RATIO
FT	FT**2			DEG	DEG	FT	
1	12.1104	1.000	0.000	63.435	0.000	4.640	0.045
TOTAL	12.1104	1.000	0.000	63.435	0.000	4.640	0.045

FIN SET NUMBER 2
(DATA FOR ONE PANEL ONLY)

SEGMENT NUMBER	PLAN AREA	ASPECT RATIO	TAPER RATIO	L.E. SWEEP	T.E. SWEEP	M.A.C. CHORD	T/C RATIO
FT	FT**2			DEG	DEG	FT	
1	18.3666	1.047	0.500	32.495	0.000	4.344	0.045
TOTAL	18.3666	1.047	0.500	32.495	0.000	4.344	0.045

                                    BASE-JET PLUME INTERACTION FLOW PARAMETERS

       ******* FLIGHT CONDITIONS AND REFERENCE QUANTITIES *******
     MACH NO =   2.36   REYNOLDS NO = 3.000E+06 /FT
     SIDESLIP =   0.00 DEG   ROLL =   0.00 DEG
     REF AREA =   11.045 FT**2   MOMENT CENTER =   18.750 FT
     REF LENGTH =   3.75 FT   LAT REF LENGTH =   3.75 FT

          WARNING EXTRAPOLATION WILL BE REQUIRED FOR THE FOLLOWING
CONDITIONS:

          * ANGLE OF ATTACK GREATER THAN 8.0
          * BOATTAIL TERMINAL ANGLE GREATER THAN 12.0
          * NOZZLE EXIT TO BASE DIAMETER RATIO LESS THAN 0.8

               ----- BASE FLOW PARAMETERS -----   ---- INCREMENTAL DATA

     ALPHA   CP-BASE CA-BASE TB/TINF PB/PINF   DEL CN   DEL CM   DEL CA

      0.00   -0.1605   0.1149   3.9010   0.3742   0.0000   0.0000   0.0000
      4.00   -0.1605   0.1149   3.9010   0.3742   0.0000   0.0000   0.0000
      8.00   -0.1605   0.1149   3.9010   0.3742   0.0000   0.0000   0.0000
     12.00   -0.1605   0.1149   3.9010   0.3742   0.0000   0.0000   0.0000
     16.00   -0.1605   0.1149   3.9010   0.3742   0.0000   0.0000   0.0000
     20.00   -0.1605   0.1149   3.9010   0.3742   0.0000   0.0000   0.0000
     24.00   -0.1605   0.1149   3.9010   0.3742   0.0000   0.0000   0.0000
     28.00   -0.1605   0.1149   3.9010   0.3742   0.0000   0.0000   0.0000
1   *****

BODY ALONE PARTIAL OUTPUT

******* FLIGHT CONDITIONS AND REFERENCE QUANTITIES *******

MACH NO =	2.36	REYNOLDS NO =	3.000E+06 /FT
SIDESLIP =	0.00 DEG	ROLL =	0.00 DEG
REF AREA =	11.045 FT**2	MOMENT CENTER =	18.750 FT
REF LENGTH =	3.75 FT	LAT REF LENGTH =	3.75 FT

ALPHA	CA-FRIC	CA-PRES/WAVE	CA-BASE	CA-PROT	CA-SEP	CA-ALP
0.00	0.0560	0.0969	0.0897		0.0000	-0.0000
4.00	0.0558	0.0967	0.0895		0.0000	-0.0000
8.00	0.0549	0.0964	0.0889		0.0000	0.0000
12.00	0.0536	0.0958	0.0878		0.0000	0.0000
16.00	0.0518	0.0950	0.0863		0.0000	0.0000
20.00	0.0495	0.0939	0.0843		0.0000	-0.0000
24.00	0.0468	0.0926	0.0820		0.0000	0.0000
28.00	0.0437	0.0910	0.0792		0.0000	-0.0000

CROSS FLOW DRAG PROPORTIONALITY FACTOR = 1.00000

ALPHA	CN-POTEN	CN-VISC	CN-SEP	CM-POTEN	CM-VISC	CM-SEP	CDC
0.00	0.000	0.000	0.000	0.000	-0.000	0.000	0.740
4.00	0.196	0.047	0.000	0.697	-0.022	0.000	0.841
8.00	0.388	0.232	0.000	1.377	-0.108	0.000	1.044
12.00	0.571	0.665	0.000	2.026	-0.310	0.000	1.340
16.00	0.741	1.308	0.000	2.628	-0.610	0.000	1.500
20.00	0.894	2.005	0.000	3.170	-0.936	0.000	1.494
24.00	1.027	2.608	0.000	3.640	-1.218	0.000	1.374
28.00	1.136	3.330	0.000	4.028	-1.555	0.000	1.317

1 *****

FIN SET 1 CA PARTIAL OUTPUT

******* FLIGHT CONDITIONS AND REFERENCE QUANTITIES *******

MACH NO =	2.36	REYNOLDS NO =	3.000E+06 /FT
SIDESLIP =	0.00 DEG	ROLL =	0.00 DEG
REF AREA =	11.045 FT**2	MOMENT CENTER =	18.750 FT
REF LENGTH =	3.75 FT	LAT REF LENGTH =	3.75 FT

SINGLE FIN PANEL ZERO-LIFT AXIAL FORCE COMPONENTS

SKIN FRICTION	0.0047
SUBSONIC PRESSURE	0.0000
TRANSONIC WAVE	0.0000
SUPERSONIC WAVE	0.0065
LEADING EDGE	0.0011
TRAILING EDGE	0.0000
TOTAL CAO	0.0123

FIN AXIAL FORCE DUE TO ANGLE OF ATTACK

ALPHA	CA DUE TO LIFT (SINGLE PANEL)	CA-TOTAL (2 FINS)
0.00	0.0000	0.0246
4.00	0.0000	0.0245
8.00	0.0000	0.0243
12.00	0.0000	0.0240
16.00	0.0000	0.0236
20.00	0.0000	0.0231
24.00	0.0000	0.0224
28.00	0.0000	0.0217

FIN SET 1 CN, CM PARTIAL OUTPUT

******* FLIGHT CONDITIONS AND REFERENCE QUANTITIES *******

MACH NO =	2.36	REYNOLDS NO =	3.000E+06 /FT
SIDESLIP =	0.00 DEG	ROLL =	0.00 DEG
REF AREA =	11.045 FT**2	MOMENT CENTER =	18.750 FT
REF LENGTH =	3.75 FT	LAT REF LENGTH =	3.75 FT

NORMAL FORCE SLOPE AT ALPHA ZERO, CNA = 0.03132/DEG (1 PANEL)
CENTER OF PRESSURE FOR LINEAR CN = -0.35552 (CALIBERS FROM C.G.)
CENTER OF PRESSURE FOR NON-LINEAR CN = -0.34933 (CALIBERS FROM C.G.)

ALPHA	CN LINEAR	CN NON-LINEAR	CN TOTAL	CM LINEAR	CM NON-LINEAR	CM TOTAL
0.00	0.0000	0.0000	0.0000	-0.0000	-0.0000	0.0000
4.00	0.2498	0.0153	0.2651	-0.0888	-0.0053	-0.0941
8.00	0.4947	0.0541	0.5488	-0.1759	-0.0189	-0.1948
12.00	0.7300	0.1058	0.8358	-0.2595	-0.0370	-0.2965
16.00	0.9511	0.1649	1.1160	-0.3381	-0.0576	-0.3957
20.00	1.1537	0.2235	1.3771	-0.4102	-0.0781	-0.4882
24.00	1.3338	0.2774	1.6112	-0.4742	-0.0969	-0.5711
28.00	1.4879	0.3277	1.8156	-0.5290	-0.1145	-0.6435

FIN SET 2 CA PARTIAL OUTPUT

******* FLIGHT CONDITIONS AND REFERENCE QUANTITIES *******

MACH NO =	2.36	REYNOLDS NO =	3.000E+06 /FT
SIDESLIP =	0.00 DEG	ROLL =	0.00 DEG
REF AREA =	11.045 FT**2	MOMENT CENTER =	18.750 FT
REF LENGTH =	3.75 FT	LAT REF LENGTH =	3.75 FT

SINGLE FIN PANEL ZERO-LIFT AXIAL FORCE COMPONENTS

SKIN FRICTION	0.0072
SUBSONIC PRESSURE	0.0000
TRANSONIC WAVE	0.0000
SUPERSONIC WAVE	0.0092
LEADING EDGE	0.0096
TRAILING EDGE	0.0000
TOTAL CAO	0.0260

FIN AXIAL FORCE DUE TO ANGLE OF ATTACK

ALPHA	CA DUE TO LIFT (SINGLE PANEL)	CA-TOTAL (4 FINS)
0.00	0.0000	0.1041
4.00	0.0000	0.1039
8.00	0.0000	0.1031
12.00	0.0000	0.1018
16.00	0.0000	0.1001
20.00	0.0000	0.0978
24.00	0.0000	0.0951
28.00	0.0000	0.0919

FIN SET 2 CN, CM PARTIAL OUTPUT

******* FLIGHT CONDITIONS AND REFERENCE QUANTITIES *******

MACH NO =	2.36	REYNOLDS NO =	3.000E+06 /FT
SIDESLIP =	0.00 DEG	ROLL =	0.00 DEG
REF AREA =	11.045 FT**2	MOMENT CENTER =	18.750 FT
REF LENGTH =	3.75 FT	LAT REF LENGTH =	3.75 FT

NORMAL FORCE SLOPE AT ALPHA ZERO, CNA = 0.04956/DEG (1 PANEL)
CENTER OF PRESSURE FOR LINEAR CN = -4.39078 (CALIBERS FROM C.G.)
CENTER OF PRESSURE FOR NON-LINEAR CN = -4.42084 (CALIBERS FROM C.G.)

ALPHA	CN LINEAR	CN NON-LINEAR	CN TOTAL	CM LINEAR	CM NON-LINEAR	CM TOTAL
0.00	0.0000	0.0000	0.0000	-0.0000	-0.0000	0.0000
4.00	0.3952	0.0033	0.3985	-1.7351	-0.0146	-1.7497
8.00	0.7826	0.0264	0.8091	-3.4364	-0.1169	-3.5533
12.00	1.1549	0.0900	1.2449	-5.0709	-0.3980	-5.4689
16.00	1.5047	0.2185	1.7232	-6.6066	-0.9661	-7.5727
20.00	1.8251	0.3375	2.1626	-8.0138	-1.4919	-9.5056
24.00	2.1101	0.4759	2.5860	-9.2649	-2.1041	-11.3690
28.00	2.3540	0.6323	2.9863	-10.3358	-2.7955	-13.1313

AERODYNAMIC FORCE AND MOMENT SYNTHESIS

******* FLIGHT CONDITIONS AND REFERENCE QUANTITIES *******

MACH NO =	2.36	REYNOLDS NO =	3.000E+06 /FT
SIDESLIP =	0.00 DEG	ROLL =	0.00 DEG
REF AREA =	11.045 FT**2	MOMENT CENTER =	18.750 FT
REF LENGTH =	3.75 FT	LAT REF LENGTH =	3.75 FT

----------FIN SET 1 IN PRESENCE OF THE BODY----------

ALPHA	CN	CM	CA	CY	CLN	CLL
0.00	0.0000	0.0000	0.0246	0.0000	-0.0000	0.0000
4.00	0.3667	-0.1304	0.0246	-0.0000	0.0000	0.0000
8.00	0.7206	-0.2562	0.0246	-0.0000	0.0000	0.0000
12.00	1.0316	-0.3667	0.0246	-0.0000	0.0000	0.0000
16.00	1.2509	-0.4447	0.0246	-0.0000	0.0000	0.0000
20.00	1.4289	-0.5080	0.0246	-0.0000	0.0000	0.0000
24.00	1.6160	-0.5745	0.0246	-0.0000	0.0000	0.0000
28.00	1.7821	-0.6336	0.0246	-0.0000	0.0000	0.0000

AERODYNAMIC FORCE AND MOMENT SYNTHESIS

******* FLIGHT CONDITIONS AND REFERENCE QUANTITIES *******

MACH NO =	2.36	REYNOLDS NO =	3.000E+06 /FT
SIDESLIP =	0.00 DEG	ROLL =	0.00 DEG
REF AREA =	11.045 FT**2	MOMENT CENTER =	18.750 FT
REF LENGTH =	3.75 FT	LAT REF LENGTH =	3.75 FT

----------FIN SET 2 IN PRESENCE OF THE BODY----------

ALPHA	CN	CM	CA	CY	CLN	CLL
0.00	0.0000	0.0000	0.1041	0.0000	-0.0000	0.0000
4.00	0.3934	-1.7272	0.1041	0.0000	-0.0000	-0.0000
8.00	0.7753	-3.4042	0.1041	0.0000	-0.0000	0.0000
12.00	1.1790	-5.1767	0.1041	0.0000	-0.0000	-0.0000
16.00	1.5721	-6.9029	0.1041	0.0000	-0.0000	-0.0000
20.00	1.9600	-8.6060	0.1041	0.0000	-0.0000	-0.0000
24.00	2.3304	-10.2322	0.1041	0.0000	-0.0000	-0.0000
28.00	2.6810	-11.7717	0.1041	0.0000	-0.0000	-0.0000

1 *****

                AERODYNAMIC FORCE AND MOMENT SYNTHESIS

       ******* FLIGHT CONDITIONS AND REFERENCE QUANTITIES *******
     MACH NO =   2.36   REYNOLDS NO = 3.000E+06 /FT
     SIDESLIP =   0.00 DEG   ROLL =   0.00 DEG
     REF AREA =   11.045 FT**2   MOMENT CENTER =   18.750 FT
     REF LENGTH =   3.75 FT   LAT REF LENGTH =   3.75 FT

          ---------------FIN SET 1 PANEL CHARACTERISTICS-----------------

      ALPHA   PANEL   AEQ (PANEL AXIS SYS.)   PANEL CN

       0.00   1   0.0000   0.0000
       0.00   2   0.0000   0.0000
       0.00   3   0.0000   0.0000
       0.00   4   0.0000   0.0000

       4.00   1   5.4522   0.1834
       4.00   2   -5.4522   -0.1834
       4.00   3   0.0000   0.0000
       4.00   4   0.0000   0.0000

       8.00   1   10.3870   0.3603
       8.00   2   -10.3870   -0.3603
       8.00   3   0.0000   0.0000
       8.00   4   0.0000   0.0000

      12.00   1   14.7699   0.5158
      12.00   2   -14.7699   -0.5158
      12.00   3   0.0000   0.0000
      12.00   4   0.0000   0.0000

      16.00   1   18.0288   0.6255
      16.00   2   -18.0288   -0.6255
      16.00   3   0.0000   0.0000
      16.00   4   0.0000   0.0000

      20.00   1   20.8387   0.7144
      20.00   2   -20.8387   -0.7144
      20.00   3   0.0000   0.0000
      20.00   4   0.0000   0.0000

      24.00   1   24.0898   0.8080
      24.00   2   -24.0898   -0.8080
      24.00   3   0.0000   0.0000
      24.00   4   0.0000   0.0000

      28.00   1   27.3206   0.8911
      28.00   2   -27.3206   -0.8911
      28.00   3   0.0000   0.0000
      28.00   4   0.0000   0.0000

                AERODYNAMIC FORCE AND MOMENT SYNTHESIS

       ******* FLIGHT CONDITIONS AND REFERENCE QUANTITIES *******
     MACH NO =   2.36   REYNOLDS NO = 3.000E+06 /FT
     SIDESLIP =   0.00 DEG   ROLL =   0.00 DEG
     REF AREA =   11.045 FT**2   MOMENT CENTER =   18.750 FT
     REF LENGTH =   3.75 FT   LAT REF LENGTH =   3.75 FT

          ---------------FIN SET 2 PANEL CHARACTERISTICS-----------------

      ALPHA   PANEL   AEQ (PANEL AXIS SYS.)   PANEL CN

       0.00   1   0.0000   0.0000
       0.00   2   0.0000   0.0000
       0.00   3   0.0000   0.0000
       0.00   4   0.0000   0.0000

       4.00   1   0.0000   0.0000
       4.00   2   3.9491   0.1967
       4.00   3   0.0000   0.0000
       4.00   4   -3.9491   -0.1967

       8.00   1   -0.0000   -0.0000
       8.00   2   7.6781   0.3877
       8.00   3   0.0000   0.0000
       8.00   4   -7.6781   -0.3877

      12.00   1   0.0000   0.0000
      12.00   2   11.4134   0.5895
      12.00   3   0.0000   0.0000
      12.00   4   -11.4134   -0.5895

      16.00   1   0.0000   0.0000
      16.00   2   14.7634   0.7861
      16.00   3   0.0000   0.0000
      16.00   4   -14.7634   -0.7861

      20.00   1   0.0000   0.0000
      20.00   2   18.1403   0.9800
      20.00   3   0.0000   0.0000
      20.00   4   -18.1403   -0.9800

      24.00   1   -0.0000   -0.0000
      24.00   2   21.5607   1.1652
      24.00   3   0.0000   0.0000
      24.00   4   -21.5607   -1.1652

      28.00   1   0.0000   0.0000
      28.00   2   24.9264   1.3405
      28.00   3   0.0000   0.0000
      28.00   4   -24.9264   -1.3405

AERODYNAMIC FORCE AND MOMENT SYNTHESIS

******* FLIGHT CONDITIONS AND REFERENCE QUANTITIES *******

MACH NO =	2.36	REYNOLDS NO =	3.000E+06 /FT
SIDESLIP =	0.00 DEG	ROLL =	0.00 DEG
REF AREA =	11.045 FT**2	MOMENT CENTER =	18.750 FT
REF LENGTH =	3.75 FT	LAT REF LENGTH =	3.75 FT

CARRYOVER INTERFERENCE FACTORS - FIN SET 1

ALPHA	K-W(B)	K-B(W)	KK-W(B)	KK-B(W)	XCP-W(B)	XCP-B(W)	Y-CP/(B/2)
0.00	1.4031	0.4360	0.9347	0.3658	0.3555	1.0903	0.4055
4.00	1.3650	0.4360	0.9347	0.3658	0.3555	1.0903	0.3730
8.00	1.3042	0.4360	0.9347	0.3658	0.3555	1.0903	0.3524
12.00	1.2404	0.4360	0.9347	0.3658	0.3555	1.0903	0.3396
16.00	1.1819	0.4360	0.9347	0.3658	0.3555	1.0903	0.3327
20.00	1.1325	0.4360	0.9347	0.3658	0.3555	1.0903	0.3297
24.00	1.0934	0.4360	0.9347	0.3658	0.3555	1.0903	0.3267
28.00	1.0638	0.4360	0.9347	0.3658	0.3555	1.0903	0.3253

                  AERODYNAMIC FORCE AND MOMENT SYNTHESIS

       ******* FLIGHT CONDITIONS AND REFERENCE QUANTITIES *******
     MACH NO =   2.36   REYNOLDS NO = 3.000E+06 /FT
     SIDESLIP =   0.00 DEG   ROLL =   0.00 DEG
     REF AREA =   11.045 FT**2   MOMENT CENTER =   18.750 FT
     REF LENGTH =   3.75 FT   LAT REF LENGTH =   3.75 FT

            CARRYOVER INTERFERENCE FACTORS - FIN SET 2

      ALPHA   K-W(B)   K-B(W) KK-W(B) KK-B(W) XCP-W(B) XCP-B(W) Y-CP/(B/2)

       0.00   1.3517   0.1126   0.9359   0.3165   4.3908   4.5036   0.4216
       4.00   1.3142   0.1126   0.9359   0.3165   4.3908   4.5036   0.4264
       8.00   1.2558   0.1126   0.9359   0.3165   4.3908   4.5036   0.4302
      12.00   1.1960   0.1126   0.9359   0.3165   4.3908   4.5036   0.4326
      16.00   1.1430   0.1126   0.9359   0.3165   4.3908   4.5036   0.4326
      20.00   1.1000   0.1126   0.9359   0.3165   4.3908   4.5036   0.4304
      24.00   1.0673   0.1126   0.9359   0.3165   4.3908   4.5036   0.4275
      28.00   1.0438   0.1126   0.9359   0.3165   4.3908   4.5036   0.4246

    NOTE - XCP-W(B) USED FOR STABILITY ONLY DIFFERENT VALUES USED FOR HINGE
MOMENTS
1   *****

        FIN SET 1 PANEL BENDING MOMENTS (ABOUT EXPOSED ROOT CHORD)

       ******* FLIGHT CONDITIONS AND REFERENCE QUANTITIES *******
     MACH NO =   2.36   REYNOLDS NO = 3.000E+06 /FT
     SIDESLIP =   0.00 DEG   ROLL =   0.00 DEG
     REF AREA =   11.045 FT**2   MOMENT CENTER =   18.750 FT
     REF LENGTH =   3.75 FT   LAT REF LENGTH =   3.75 FT

   ALPHA   PANL 1   PANL 2   PANL 3   PANL 4   PANL 5   PANL 6   PANL 7
PANL 8

     0.0 0.00E+00 0.00E+00
     4.0 6.35E-02 -6.35E-02
     8.0 1.18E-01 -1.18E-01
    12.0 1.63E-01 -1.63E-01
    16.0 1.93E-01 -1.93E-01
    20.0 2.19E-01 -2.19E-01
    24.0 2.45E-01 -2.45E-01
    28.0 2.69E-01 -2.69E-01
1   *****

        FIN SET 2 PANEL BENDING MOMENTS (ABOUT EXPOSED ROOT CHORD)

       ******* FLIGHT CONDITIONS AND REFERENCE QUANTITIES *******
     MACH NO =   2.36   REYNOLDS NO = 3.000E+06 /FT
     SIDESLIP =   0.00 DEG   ROLL =   0.00 DEG
     REF AREA =   11.045 FT**2   MOMENT CENTER =   18.750 FT
     REF LENGTH =   3.75 FT   LAT REF LENGTH =   3.75 FT

   ALPHA   PANL 1   PANL 2   PANL 3   PANL 4   PANL 5   PANL 6   PANL 7
PANL 8

     0.0 0.00E+00 0.00E+00 0.00E+00 0.00E+00
     4.0 0.00E+00 9.81E-02 2.20E-08 -9.81E-02
     8.0 -9.49E-10 1.95E-01 3.31E-08 -1.95E-01
    12.0 8.85E-09 2.98E-01 5.61E-08 -2.98E-01
    16.0 1.94E-08 3.98E-01 7.89E-08 -3.98E-01
    20.0 2.83E-08 4.93E-01 1.01E-07 -4.93E-01
    24.0 -5.02E-08 5.82E-01 1.18E-07 -5.82E-01
    28.0 1.17E-08 6.66E-01 1.30E-07 -6.66E-01
1   *****

            FIN SET 1 PANEL HINGE MOMENTS (ABOUT HINGE LINE)

       ******* FLIGHT CONDITIONS AND REFERENCE QUANTITIES *******
     MACH NO =   2.36   REYNOLDS NO = 3.000E+06 /FT
     SIDESLIP =   0.00 DEG   ROLL =   0.00 DEG
     REF AREA =   11.045 FT**2   MOMENT CENTER =   18.750 FT
     REF LENGTH =   3.75 FT   LAT REF LENGTH =   3.75 FT

   ALPHA   PANL 1   PANL 2   PANL 3   PANL 4   PANL 5   PANL 6   PANL 7
PANL 8

     0.0 -0.00E+00 -0.00E+00
     4.0 -4.26E-02 4.26E-02
     8.0 -8.43E-02 8.43E-02
    12.0 -1.22E-01 1.22E-01
    16.0 -1.50E-01 1.50E-01
    20.0 -1.73E-01 1.73E-01
    24.0 -1.98E-01 1.98E-01
    28.0 -2.20E-01 2.20E-01
1   *****

            FIN SET 2 PANEL HINGE MOMENTS (ABOUT HINGE LINE)

       ******* FLIGHT CONDITIONS AND REFERENCE QUANTITIES *******
     MACH NO =   2.36   REYNOLDS NO = 3.000E+06 /FT
     SIDESLIP =   0.00 DEG   ROLL =   0.00 DEG
     REF AREA =   11.045 FT**2   MOMENT CENTER =   18.750 FT
     REF LENGTH =   3.75 FT   LAT REF LENGTH =   3.75 FT

   ALPHA   PANL 1   PANL 2   PANL 3   PANL 4   PANL 5   PANL 6   PANL 7
PANL 8

     0.0 -0.00E+00 -0.00E+00 -0.00E+00 -0.00E+00
     4.0 -0.00E+00 -1.08E-02 -2.33E-09 1.08E-02
     8.0 9.99E-11 -2.20E-02 -3.49E-09 2.20E-02
    12.0 -9.27E-10 -3.46E-02 -5.87E-09 3.46E-02
    16.0 -2.04E-09 -4.75E-02 -8.26E-09 4.75E-02
    20.0 -2.97E-09 -6.08E-02 -1.06E-08 6.08E-02
    24.0 5.31E-09 -7.42E-02 -1.25E-08 7.42E-02
    28.0 -1.25E-09 -8.73E-02 -1.38E-08 8.73E-02
1   *****

STATIC AERODYNAMICS FOR BODY-FIN SET 1 AND 2

******* FLIGHT CONDITIONS AND REFERENCE QUANTITIES *******

MACH NO =	2.36	REYNOLDS NO =	3.000E+06 /FT
SIDESLIP =	0.00 DEG	ROLL =	0.00 DEG
REF AREA =	11.045 FT**2	MOMENT CENTER =	18.750 FT
REF LENGTH =	3.75 FT	LAT REF LENGTH =	3.75 FT

	----- LONGITUDINAL -----			-- LATERAL DIRECTIONAL --		
ALPHA	CN	CM	CA	CY	CLN	CLL
0.00	0.000	0.000	0.371	0.000	-0.000	0.000
4.00	1.154	-1.462	0.371	0.000	-0.000	-0.000
8.00	2.427	-2.967	0.369	0.000	-0.000	0.000
12.00	3.920	-4.723	0.366	0.000	-0.000	-0.000
16.00	5.488	-6.531	0.362	0.000	-0.000	-0.000
20.00	7.038	-8.383	0.356	0.000	-0.000	-0.000
24.00	8.472	-10.194	0.350	0.000	-0.000	-0.000
28.00	9.949	-12.031	0.343	0.000	-0.000	-0.000

ALPHA	CL	CD	CL/CD	X-C.P.
0.00	0.000	0.371	0.000	-1.316
4.00	1.126	0.450	2.500	-1.267
8.00	2.352	0.703	3.345	-1.223
12.00	3.758	1.173	3.204	-1.205
16.00	5.176	1.860	2.782	-1.190
20.00	6.492	2.742	2.368	-1.191
24.00	7.597	3.765	2.018	-1.203
28.00	8.624	4.973	1.734	-1.209

X-C.P. MEAS. FROM MOMENT CENTER IN REF. LENGTHS, NEG. AFT OF MOMENT CENTER

               STATIC AERODYNAMICS FOR BODY-FIN SET 1 AND 2

       ******* FLIGHT CONDITIONS AND REFERENCE QUANTITIES *******
     MACH NO =   2.36   REYNOLDS NO = 3.000E+06 /FT
     SIDESLIP =   0.00 DEG   ROLL =   0.00 DEG
     REF AREA =   11.045 FT**2   MOMENT CENTER =   18.750 FT
     REF LENGTH =   3.75 FT   LAT REF LENGTH =   3.75 FT

                  ---------- DERIVATIVES (PER DEGREE) ----------
         ALPHA   CNA   CMA   CYB   CLNB   CLLB
          0.00   0.2739   -0.3603   -0.1931   0.4605   -0.0000
          4.00   0.3033   -0.3709   -0.2020   0.4512   -0.0105
          8.00   0.3455   -0.4073   -0.2089   0.4212   -0.0187
         12.00   0.3827   -0.4454   -0.2092   0.3321   -0.0110
         16.00   0.3898   -0.4575   -0.1980   0.1993   0.0080
         20.00   0.3729   -0.4579   -0.1841   0.0913   0.0320
         24.00   0.3638   -0.4559   -0.1690   0.0214   0.0486
         28.00   0.3749   -0.4624   -0.1595   -0.0245   0.0615

    PANEL DEFLECTION ANGLES (DEGREES)
    SET   FIN 1   FIN 2   FIN 3   FIN 4   FIN 5   FIN 6   FIN 7   FIN 8
      1   0.00   0.00
      2   0.00   0.00   0.00   0.00

    BODY ALONE LINEAR DATA GENERATED FROM VAN DYKE HYBRID THEORY

BODY ALONE DYNAMIC DERIVATIVES

******* FLIGHT CONDITIONS AND REFERENCE QUANTITIES *******

MACH NO =	2.36	REYNOLDS NO =	3.000E+06 /FT
SIDESLIP =	0.00 DEG	ROLL =	0.00 DEG
REF AREA =	11.045 FT**2	MOMENT CENTER =	18.750 FT
REF LENGTH =	3.75 FT	LAT REF LENGTH =	3.75 FT

DYNAMIC DERIVATIVES (PER DEGREE)

ALPHA	CNQ	CMQ	CAQ	CNAD	CMAD
0.00	0.221	-0.837	0.000	0.400	-0.267
4.00	0.221	-0.837	0.000	0.400	-0.267
8.00	0.221	-0.837	0.000	0.400	-0.267
12.00	0.221	-0.837	0.000	0.400	-0.267
16.00	0.221	-0.837	0.000	0.400	-0.267
20.00	0.221	-0.837	0.000	0.400	-0.267
24.00	0.221	-0.837	0.000	0.400	-0.267
28.00	0.221	-0.837	0.000	0.400	-0.267

PITCH RATE DERIVATIVES NON-DIMENSIONALIZED BY Q*LREF/2*V

BODY ALONE DYNAMIC DERIVATIVES

******* FLIGHT CONDITIONS AND REFERENCE QUANTITIES *******

MACH NO =	2.36	REYNOLDS NO =	3.000E+06 /FT
SIDESLIP =	0.00 DEG	ROLL =	0.00 DEG
REF AREA =	11.045 FT**2	MOMENT CENTER =	18.750 FT
REF LENGTH =	3.75 FT	LAT REF LENGTH =	3.75 FT

---------- DYNAMIC DERIVATIVES (PER DEGREE) ----------

ALPHA	CYR	CLNR	CLLR	CYP	CLNP	CLLP
0.00	0.242	-0.929	0.000	0.000	0.000	0.000
4.00	0.242	-0.929	0.000	0.000	0.000	0.000
8.00	0.242	-0.929	0.000	0.000	0.000	0.000
12.00	0.242	-0.929	0.000	0.000	0.000	0.000
16.00	0.242	-0.929	0.000	0.000	0.000	0.000
20.00	0.242	-0.929	0.000	0.000	0.000	0.000
24.00	0.242	-0.929	0.000	0.000	0.000	0.000
28.00	0.242	-0.929	0.000	0.000	0.000	0.000

YAW AND ROLL RATE DERIVATIVES NON-DIMENSIONALIZED BY R*LATREF/2*V
1 *****

BODY + 2 FIN SETS DYNAMIC DERIVATIVES

******* FLIGHT CONDITIONS AND REFERENCE QUANTITIES *******

MACH NO =	2.36	REYNOLDS NO =	3.000E+06 /FT
SIDESLIP =	0.00 DEG	ROLL =	0.00 DEG
REF AREA =	11.045 FT**2	MOMENT CENTER =	18.750 FT
REF LENGTH =	3.75 FT	LAT REF LENGTH =	3.75 FT

---------- DYNAMIC DERIVATIVES (PER DEGREE) ----------

ALPHA	CNQ	CMQ	CAQ	CNAD	CMAD
0.00	1.601	-6.584	0.000	0.833	-1.652
4.00	1.622	-6.652	0.000	0.833	-1.652
8.00	1.570	-6.442	0.000	0.833	-1.652
12.00	1.491	-6.125	0.000	0.833	-1.652
16.00	1.379	-5.667	0.000	0.833	-1.652
20.00	1.270	-5.219	0.000	0.833	-1.652
24.00	1.171	-4.819	0.000	0.833	-1.652
28.00	1.075	-4.418	0.000	0.833	-1.652

PITCH RATE DERIVATIVES NON-DIMENSIONALIZED BY Q*LREF/2*V

BODY + 2 FIN SETS DYNAMIC DERIVATIVES

******* FLIGHT CONDITIONS AND REFERENCE QUANTITIES *******

MACH NO =	2.36	REYNOLDS NO =	3.000E+06 /FT
SIDESLIP =	0.00 DEG	ROLL =	0.00 DEG
REF AREA =	11.045 FT**2	MOMENT CENTER =	18.750 FT
REF LENGTH =	3.75 FT	LAT REF LENGTH =	3.75 FT

---------- DYNAMIC DERIVATIVES (PER DEGREE) ----------

ALPHA	CYR	CLNR	CLLR	CYP	CLNP	CLLP
0.00	1.566	-6.755	0.000	-0.000	0.000	-0.422
4.00	1.533	-6.609	0.000	0.004	-0.019	-0.419
8.00	1.486	-6.403	0.000	0.009	-0.039	-0.420
12.00	1.443	-6.217	0.000	0.012	-0.055	-0.429
16.00	1.413	-6.085	0.000	0.015	-0.067	-0.437
20.00	1.398	-6.018	0.000	0.016	-0.072	-0.410
24.00	1.399	-6.023	-0.000	0.016	-0.068	-0.396
28.00	1.416	-6.098	-0.000	0.014	-0.062	-0.379

YAW AND ROLL RATE DERIVATIVES NON-DIMENSIONALIZED BY R*LATREF/2*V

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 * REV 3/99 *****     CASE   2
               AERODYNAMIC METHODS FOR MISSILE CONFIGURATIONS          PAGE
1
    CASE INPUTS
    FOLLOWING ARE THE CARDS INPUT FOR THIS CASE

  $TRIM SET=2.,$

 PRINT AERO TRIM

 PLOT

 NEXT CASE

    * WARNING * THE REFERENCE AREA IS UNSPECIFIED, DEFAULT VALUE ASSUMED
    * WARNING * THE REFERENCE LENGTH IS UNSPECIFIED, DEFAULT VALUE ASSUMED
    * WARNING * CENTER SECTION DEFINED BUT BASE DIAMETER NOT INPUT
                CYLINDRICAL SECTION ASSUMED
    THE BOUNDARY LAYER IS ASSUMED TO BE TURBULENT
    THE INPUT UNITS ARE IN FEET, THE SCALE FACTOR IS   1.0000
1         *****
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STATIC AERODYNAMIC COEFFICIENTS TRIMMED IN PITCH

******* FLIGHT CONDITIONS AND REFERENCE QUANTITIES *******

MACH NO = 2.36 REYNOLDS NO = 3.000E+06 /FT
SIDESLIP = 0.00 DEG ROLL = 0.00 DEG
REF AREA = 11.045 FT**2 MOMENT CENTER = 18.750 FT
REF LENGTH = 3.75 FT LAT REF LENGTH = 3.75 FT

ALPHA	DELTA	CL	CD	CN	CA
0.00	0.00	0.000	0.371	0.000	0.371
4.00	-3.50	0.794	0.430	0.822	0.373
8.00	-6.95	1.685	0.599	1.752	0.359
12.00	-10.69	2.716	0.917	2.847	0.332
16.00	-14.20	3.764	1.401	4.004	0.309
20.00	-17.89	4.725	2.027	5.134	0.289
24.00	-21.67	5.517	2.743	6.156	0.262
28.00	*NT*	*NT*	*NT*	*NT*	*NT*

PANELS FROM FIN SET 2 WERE DEFLECTED OVER THE RANGE -25.00 TO 20.00 DEG
PANEL 1 WAS FIXED
PANEL 2 WAS VARIED
PANEL 3 WAS FIXED
PANEL 4 WAS VARIED
*** END OF JOB ***