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A System for Aerodynamic Design and Analysis of Supersonic Aircraft

Part 4 - Test Cases

W. D. Middleton and J. L. Lundry

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A System for Aerodynamic Design and Analysis of Supersonic Aircraft

Part 4 - Test Cases

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Boeing Commercial Airplane Company
Seattle, Washington

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1.0 SUMMARY

An integrated system of computer programs has been developed for the design and analysis of supersonic configurations.

The system consists of an executive driver and eight basic computer programs including a plot module, which are used to build up the force coefficients of a selected configuration. Documentation of the system has been broken into four parts:

Part 1 - General Description and Theoretical Development (CR-3351)
Part 2 - User's Manual (CR-3352)
Part 3 - Computer Program Description (CR-3353)
Part 4 - Test Cases (CR-3354).

This part contains representative input and output to illustrate program usage.

These four documents supersede NASA contractor reports CR-2715, CR-2716, and CR-2717, which described an earlier version of the system.

2.0 TYPICAL CASE AND PROGRAM OUTPUT

Typical design and analysis cases and associated program output are presented in this section. The cases consist of:

- A wing design and analysis for Mach number = 2.7, in presence of fuselage and nacelles
- Analysis of configuration employing arbitrary fuselage cross-section solution

Wing Design and Analysis

The configuration for which the wing design is generated is shown in figure 2.0-1. The input data for the configuration is listed on pages 13 through 16, and consist of:

- Wing design at Mach number of 2.7 for C_L = .10 and optimum C_{mo}, with pressure constraints, in presence of fuselage and nacelles. A RESTART deck is first created, and the wing design is then performed using the RESTART option.
- Analysis of configuration drag-due-to-lift
- Skin friction drag
- Far-field and near-field wave drag analyses
- Drawing of configuration
- Wing pressure summary

The program output has been edited to reduce page count while illustrating output format.

The output begins with a listing of the basic geometry, separated into components (wing, fuselage, etc.). An uncambered wing was specified in the basic geometry, since the camber surface will be defined by the wing design program.

Configuration-dependent loadings. - Since the wing design case is to be performed with pressure limiting and in the presence of fuselage and nacelles, the corresponding pressure arrays must be computed. The near-field wave drag program is run first, to generate the wing thickness pressure data (page 20). Only the wing geometry is required for this calculation; output for the complete configuration from the near-field program is illustrated later (page 10).

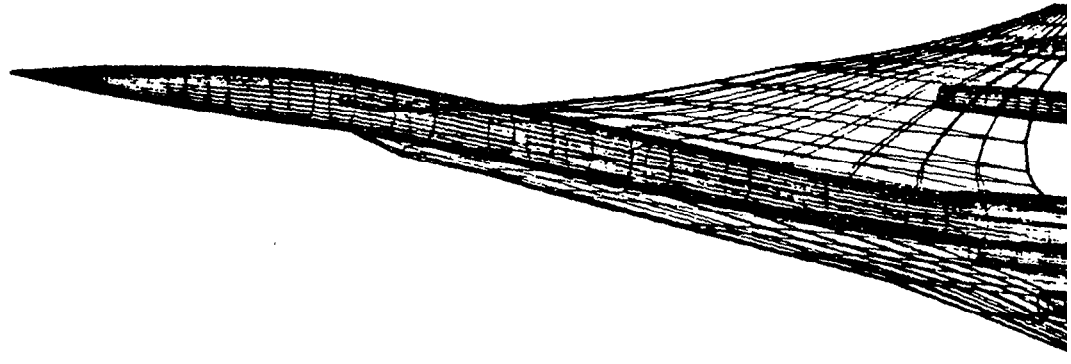

FIGURE 2.0-1.—TYPICAL PLOT PROGRAM DRAWING

The lift analysis program is executed next, to calculate the nacelle pressure field and the fuselage upwash pressure field. To obtain an approximate orientation between the fuselage and wing for the upwash field calculations, a previously defined camber surface was input using the TIFZC = 1.0 option. The ANLZ interface program inserts this definition into the basic geometry and prints it (page 24). The lift analysis program then computes the wing upwash field (page 29), the asymmetric fuselage buoyancy pressure field (page 30), the nacelle pressure field (page 32), and the loading on the wing due to the fuselage upwash field (page 36). The wing upwash loading is that for the basic wing angle of attack with all wing slopes zeroed; i.e., as computed with input WHUP = 1.0. The fuselage force coefficients are also calculated (page 35), and will be used in the wing design solution.

Wing design solution. - Much diagnostic output is available from the wing design module with print controls used in the program (input APRINT) to provide output flexibility. In the typical case shown, the print control was set at 2.0, to illustrate output format, and then edited. The design case shown uses all loadings; first to generate a RESTART deck, then to obtain a wing design for a specific design point using the RESTART option. The fuselage is included in the solution.

The optional pressure level constraint definition was requested. These are calculated and printed (page 38). Of the possible level constraints, the inboard shock C_p limit and overall C_p level (0.7 vacuum) were found to be limiting. The wing design program first prints the input data and checks the design and constraint options (the card 7 inputs) for consistency. The semispan stations, in program units, at which the camber surface will be calculated are next printed, followed by a listing of the component loadings to be used and the chordwise locations at which the camber surface will be interpolated. Tables of the configuration dependent loadings are also output.

Five Z ordinate constraint locations are specified in the input. These are checked to see if the Y and X values of the constraints respectively, are on a computed Y station and a note printed on the planform. (The Y values were shifted slightly and a note printed, page 40.)

The program next computes and prints the flat wing solution (page 51). This includes lift and drag coefficients, the lengthwise center of pressure position (as a fraction of overall wing length), and the drag-due-to-lift factor. Since the fuselage is used in the solution, the aerodynamic center location of the wing-fuselage combination (computed in the lift analysis program at the time of the fuselage upwash calculation, as noted above) is substituted for the aerodynamic center of the wing planform only.

The program then calculates the carryover lift distribution of all the camber-type loadings (page 51), and the associated force coefficients.

The program next cycles through all the component loadings (starting on page 56). For each, a table giving spanwise distributions of lift, drag, and pitching moment coefficients is printed. This is followed by the integrated

values of lift coefficient, drag coefficient, center of pressure position, drag-due-to-lift factor, the ratio of input reference area to gross planform area (S_{ref}/S_{prog}), the pitching moment change with design C_L, and the C_{mo} associated with the component C_L. This is followed by a tabulation of the interference drag coefficients associated with all other component loadings. The camber surface for the selected loading is then printed, together with the lifting pressure distribution and upper and lower wing surface pressure distributions. The camber surface inboard of the side-of-fuselage station is set to zero, since it is replaced by the fuselage shape. The individual camber surface data are not shown, but have the same format as the final solution (page 78).

The program next summarizes the force and interference drag coefficients of all the component loadings (page 73). The order of the data are:

1) Lift coefficients for all loadings and their respective C_{mo} contributions (for the exposed wing part)

2) Interference drag coefficients for all wing loadings (page 73)

3) Drag coefficients of wing-on-nacelle for all loadings (page 76)

4) Fuselage contribution to wing design point (lift, drag, and pitching moment), transferred from lift analysis program (page 77)

5) Lift, drag, and C_{mo} contributions of the carryover lift distributions (page 77)

All of these data, plus the configuration-dependent pressure distributions, are then punched into a RESTART deck, and the deck image printed (page 77). Only a portion of the RESTART listing is shown since it is quite long. (The size of the RESTART deck is a function of the number of loadings, whether fuselage is used, number of constraints, etc.)

With all component loading data defined, the program then solves for the wing designs requested on card 7, beginning on page 78. (If the design case is run from a RESTART deck, the program solution commences at this point.) The solution conditions are summarized (i.e., C_L, C_{mo}, Z constraints, etc.), followed by the optimized values of C_{mo}, K_E (drag-due-to-lift factor, $C_D/C_L{}^2$), and the associated loading combination factors A_i C_{L_i}. The respective contributions of exposed wing, fuselage, carryover lift, and nacelles to the configuration are then printed.

The solution pressure distribution is next printed and scanned for pressure constraint violations. If any occur (either in level or gradient), they are noted in the right-hand margin. At the conclusion of the pressure distribution print-out, the locations and magnitude of the largest solution pressure level and gradient are noted (page 91). If violations of input pressure limits occur, the solution repeats with a constraint added at the location of worst violation.

For the test case shown, a wing design was obtained in a subsequent run using RESTART. Since all of the basic solution data were preserved in the RESTART deck, it was not necessary to recalculate the configuration-dependent data. The RESTART deck is valid for any case having:

1) The same or fewer loadings (order can be changed)

2) Same fuselage geometry, angle of attack, and side of fuselage station

3) The same or fewer Z constraint locations (order can change). The value of Z at these locations can also be changed

4) Any C_L, C_{mo} or pressure constraint

In the particular test case shown, the second and third Z constraint locations (of the five available) were used. Solution pressure distributions were requested for all four camber surface options (C_L only, C_L plus pressure constraint, C_L plus C_{mo}, C_L plus C_{mo} plus pressure constraint). The resulting camber surface for C_L + C_p was requested to be output and also punched into cards. The inboard shock C_p limit was deleted and only an overall C_p limit (0.7 vacuum) was requested. A C_p gradient limit of .0025 was imposed on the entire wing upper surface. The loading order was changed from the case that produced the RESTART deck.

The output lists the inspection of the loading and Z constraint order of the input case relative to the RESTART data (page 81). The data in the restart file are then shuffled to correspond to the input case.

The solution commences for the C_L (and Z) case. It then continues by applying the pressure and C_{mo} constraints.

In order to illustrate program output, the solution for the wing design requested has been edited and is shown (beginning on page 82). The initial solution has a number of pressure violations, the worst of which is identified at 15 percent semispan and 10.4 percent chord (page 91), and a constraint applied there. The solution then recycles, and identifies a second constraint to be applied.

Subsequent solution cycles build up to five gradient constraints, one of which, the first one found, is found redundant (i.e., made unnecessary by a later constraint), as shown on page 96. That constraint is removed, together with the last constraint applied (since it involved a redundant constraint), as shown on page 96. The solution continues until the gradient constraint is everywhere satisfied, and then checks pressure level. In this case, level was already satisfied, so the final solution summary is printed, including a summary of the twelve largest pressure gradients on the wing upper surface for the final solution (page 99).

After the final optimization solution is obtained, the program calculates any requested camber surfaces. The spanwise drag summary and force coefficient

summary values are printed as was done for each of the component loadings in the RESTART file generation (page 100). This is followed by a summary of the source of the force coefficients (i.e., wing, fuselage, wing-carryover lift and wing-on-nacelle drag). The pressure coefficients acting on the wing upper and lower surface and the camber surface shape are then tabulated for the wing grid calculation points. The camber surface is then interpolated at the requested percent chord values, and printed (page 112).

Wing camber surface. - In the illustrative case, the requested camber surface design was analyzed in the lift analysis program. The updated definition is printed on page 117. In general, the wing shape would first be lofted to ensure a smooth chordwise and spanwise surface before the analysis was run.

Lift analysis. - Given the basic geometry definition and the camber surface obtained by the design program, the lift analysis program was used to calculate the lifting pressure solutions for the complete configuration, both tail-off and tail-on at a series of horizontal tail settings.

The camber surface definition punched by the wing design program was input into the lift analysis program. The wing camberline definition at 0.075 semispan (side-of-fuselage station in wing design program) was substituted for the zeros punched by the wing design program in the fuselage region, in order to allow calculation of the wing-fuselage intersection.

The lift analysis program output consists of the input, the wing-fuselage intersection definition, fuselage upwash definition (upwash in degrees), fuselage buoyancy field, the nacelle pressure field definition, camber surface data, and the wing lifting pressure coefficients.

Leading-edge suction data for a series of angles of attack are calculated for different leading-edge suction conditions: no suction, full theoretical leading-edge suction, the Polhamus (vortex lift) analogy, and attainable suction. The leading-edge thrust calculation output consists of:

- Sectional and total leading-edge thrust coefficients for a series of wing angles of attack (page 129). The sectional data are based on average wing chord, which is noted in the output.

- If attainable thrust data are also requested, the output includes normal section data (consistent with the definitions of ref. 1) shown on page 128, and the distribution of attainable thrust factor, K_T, in the same format as the leading-edge thrust coefficients.

- The configuration force coefficient summaries are expanded to include the leading-edge thrust effects at various angles of attack (pages 141 and 142) for both the cambered and flat wing solutions.

The force coefficient summary, tail-off, and without leading-edge suction, is shown on pages 139 and 140. The program first prints a table of lift, drag, and pitching moment coefficients for the wing at the input incidence, and also per degree angle of attack (flat plate solution at 1 degree). The increments due to the nacelles are also printed. This table is then repeated with the fuselage contribution added. The drag terms are then combined into two equations (nacelles on and off), and drag and pitching moment coefficients tabulated for a series of lift coefficients without wing leading-edge suction included. The data with leading-edge suction included follow.

For the particular case shown, the leading-edge thrust increments for the cambered wing at zero angle of attack (C_L = 0.096) are very small, as they should be, since that is the design condition for the wing.

The configuration streamwise lift distribution is next summed and printed and further broken into separate summations for wing-fuselage-canard, nacelles, and horizontal tail. These summations are cumulative and are divided by the total lift of the configuration.

The force coefficient and streamwise lift distribution data are repeated for each tail angle of attack, together with the contributions due to the horizontal tail. Data for a representative tail angle of attack of 2° are shown on page 145.

The spanwise lift distribution is printed last (page 154). This tabulation is for the wing-canard-nacelles combination only (excluding fuselage or horizontal tail).

If the limiting pressure option of the lift analysis program is requested, the output is the same except for two alterations:

1. The data at the configuration basic angle of attack become data at a specified angle of attack.

2. Notes are printed to call attention to the pressure limiting option.

Addition of a canard to the configuration produces an additional set of force coefficient summary data; i.e., data are printed both with and without the direct canard contribution.

Skin friction. - The skin friction program prints input, then a table of wetted areas, drag/dynamic pressure (D/q), and drag coefficient, for each input flight condition (page 155).

Far-field wave drag. - The far-field wave drag program prints an enriched area distribution for the fuselage (page 158), then the area distribution for different configuration component buildups at a series of theta (cutting plane inclination) values. The program next identifies and prints the area restraint points corresponding to the case restraint condition, followed by configuration data for the input configuration and one optimized subject to the restraint points. An optimized fuselage area distribution corresponding to the restraint case is then calculated and printed, followed by a drag summary for the configuration as input and with the optimized fuselage (page 165).

Near-field wave drag. - The near-field wave drag module, for wing-fuselage-nacelles, was executed next. The program input is first printed, followed by the wing fuselage intersection. Thickness pressure distributions for the empennage surfaces are then printed (page 168).

The nacelle terms are next printed. First the nacelle pressure field acting on the wing is output (edited out in this case, since it is the same as previously illustrated in the lift analysis program output). The interference pressure signatures associated with the nacelles and fuselage acting on one another are next calculated and printed, including the "image" signatures associated with reflections off the wing surface.

The buoyancy field of the fuselage acting on the wing is then summarized, followed by the wing definition and isolated thickness pressure solutions.

The isolated fuselage pressure distribution and the wing-on-fuselage signature is next tabulated (page 183), together with a running summation of the drag associated with these pressures. Each of these sums is divided by the total corresponding drag value.

The final drag summary (page 184) consists of wing section data, tabulated fuselage and nacelle drag coefficients, empennage drag, total drag and wetted areas.

The wing section data, at the solution spanwise stations, consist of the isolated wing section drag coefficient (CDW/C= drag of the element row divided by chord), interference drag of fuselage on wing section (CDBOW/C), interference drag of nacelles acting on the wing section (CDNOW/C), the sum of those section coefficients (SUM CD/C), and the fraction of the total wing wave drag for the section.

Drag of the wing-fuselage combination is next printed, including the isolated wing (CDW), isolated fuselage (CDB), fuselage-on-wing interference (CDB/W), wing-on-fuselage interference (CDW/B), and the total of those (CD WING-BODY).

A table of nacelle drag terms is then printed, giving the isolated wave drag and the interference terms for the nacelles at each input origin.

The total wave drag for the configuration is printed as TOTAL CD.

Plot program. - The plot program prints the program input and view data. A typical drawing from the program is presented on page 4.

Wing pressure summary. - Pressure data corresponding to different configuration components (wing, fuselage, nacelles) are listed beginning on page 186. Representative wing pressure data from the pressure summary program are shown for a lift coefficient of $C_L = 0.10$, at the wing pressure locations of the lift analysis output. These data are shown beginning on page 197. Note that the input has a line count limit per page (input DLINE), which is used to put a header on each page to identify pressure output.

Lift Analysis Employing Arbitrary Fuselage Option

Input for a case illustrating the arbitrary fuselage option and leading-edge thrust calculation is shown on page 200. The digitized fuselage geometry input option is required. The wing-fuselage intersection is input consistent with the fuselage definition.

For this case, the fuselage geometry is continuous although three segments in the basic geometry are used to input the definition. The discontinuity codes are therefore input as zeros, and the program creates a single continuous definition, as noted on page 205.

The print codes of the arbitrary fuselage input control the output detail. All print codes were set at 1.0, and the output edited to show representative data.

The axisymmetric solution for the equivalent body of revolution at zero angle of attack is performed first. The radius and first and second derivatives of the body area distribution are calculated and listed, followed by source characteristics data and the surface velocity components (u and v) and pressure coefficients at 50 equally spaced stations (pages 211 through 213).

The program next calculates and lists the shape of the fuselage Z reference axis, which is formed by connecting the centroids of the individual cross sections.

The cross flow solution is next calculated for all input cross-sections at the input angle of attack. A short frustrum of fuselage containing the cross section is interpolated from the fuselage geometry and the surface properties (u, v, w, and C_p) calculated for each defining point on the crosssection.

Representative data (the Y-Z pair has been converted to polar coordinates) are shown on pages 215 and 216. If the particular frustrum selected is in the vicinity of a lifting surface (e.g., within the X boundaries of the wing), the properties at the field points of interest external to the fuselage are also computed (page 216). These field points are at selected semispan stations and are located on the lifting surface, using geometry that was set up in the lift analysis geometry interface routine. The Z values shown in arbitrary fuselage output are with respect to the Z reference axis, rather than the Z coordinate system of the geometry input.

The axisymmetric and cross-flow solutions for surface and field points are combined and printed for the input angle of attack (page 216). The field point data are then interpolated to create the lifting surface upwash data (page 217). Surface pressure data are used to calculate the fuselage force coefficients, which are printed for a series of angles of attack (page 220) and also resolved into the lift and drag components acting along the Z reference axis, as used in the drag-bookkeeping of the lift analysis program.

```
GEOM NEW                                                                  1
969-500A  SYSTEM CHECK CASE                                               2
 1 -1 -1  1  1  1  0  8 13  1  9 19                    2  7  2  4  1       3
9898.  106.41 187.                                                        4
0.0    2.5    5.0    10.0   20.0   30.0   40.0   50.0   60.0   70.0      5-1
80.0   90.0   100.0                                                      5-2
77.328 4.968  0.     166.07                                             6-1
83.104 6.625  0.     160.133                                            6-2
53.165 9.51   0.     149.79                                             6-3
116.96 16.333 0.     125.35                                             6-4
168.98 31.25  0.     77.295                                             6-5
225.81 47.544 0.     32.681                                             6-6
225.81 47.545 0.     32.681                                             6-7
258.21 66.25  0.     14.445                                             6-8
0.0    0.57   0.714  0.872  1.05   1.145  1.2    1.23   1.249  1.17     8-1-1
0.937  0.546  0.0                                                        8-1-2
0.0    0.57   0.714  0.872  1.05   1.145  1.2    1.23   1.249  1.17     8-2-1
0.937  0.546  0.0                                                        8-2-2
0.0    0.55   0.712  0.872  1.054  1.156  1.213  1.235  1.237  1.127    8-3-1
0.883  0.507  0.0                                                        8-3-2
0.0    0.55   0.715  0.876  1.126  1.174  1.235  1.25   1.229  1.087    8-4-1
0.84   0.474  0.0                                                        8-4-2
0.0    0.57   0.727  0.902  1.098  1.22   1.289  1.315  1.262  1.105    8-5-1
0.842  0.473  0.0                                                        8-5-2
0.0    0.58   0.729  0.911  1.134  1.268  1.343  1.375  1.32   1.155    8-6-1
0.88   0.495  0.0                                                        8-6-2
0.0    0.134  0.261  0.495  0.88   1.155  1.32   1.375  1.32   1.155    8-7-1
0.88   0.495  0.0                                                        8-7-2
0.0    0.134  0.261  0.491  0.88   1.155  1.285  1.375  1.32   1.155    8-8-1
0.88   0.495  0.0                                                        8-8-2
0.0    16.67  33.33  50.0   66.67  83.33  100.0  116.67 133.33 150.0     10-1
166.66 183.33 200.0  216.67 233.33 250.0  266.67 283.3  295.0            10-2
10.0   8.55   7.10   5.64   4.17   2.73   1.28   -.14   -1.6   -3.04    11-1
-4.5   -5.9   -7.4   -8.85  -10.25 -11.7  -13.2  -14.6  -15.7            11-2
0.0    23.5   57.5   89.0   117.0  126.0  119.8  108.0  105.0  107.0     12-1
107.0  106.0  102.0  94.0   79.0   59.0   33.0   8.0    0.0              12-2
213.42 16.33         -5.8                                               16-1
0.0    2.008  15.47  21.525 28.017 32.067 35.04                          17
2.865  2.983  3.633  3.77   3.654  3.42   3.42                           18
218.67 31.25         -4.9                                               16-2
0.0    2.008  15.47  21.525 28.017 32.067 35.04                          17
2.865  2.983  3.633  3.77   3.654  3.42   3.42                           18
225.8  47.55  0.     38.75  262.5  47.55  10.    5.                      19-1
0.     32.5   67.5   100.                                               20-1
0.     1.5    1.5    0.                                                 21-1
270.   0.     -13.   24.2   282.5  0.     -.9    9.2                     19-2
0.     32.5   67.5   100.                                               20-2
0.     1.5    1.5    0.                                                 21-2
261.   2.     -14.   25.    277.   11.    -14.   9.                      22
0.     32.5   67.5   100.                                               23
0.     1.5    1.5    0.                                                 24
NFWD
WING THICKNESS PRESSURES                                                  2
0.                                                                        3
-1.    2.7                                                                4
4.97          -1.                                                         5
END
ANLZ
FUSELAGE AND NACELLE LOADINGS                                             2
1.     1.                                                                 3
```

```
12.     12.     1.                                                      4
                        1.              -1.                             5
-1.             1.              1.                                      6
2.7                                                                     7
0.      5.      10.     20.     30.     40.     50.     60.     70.     80.     9-1
50.     180.                                                            9-2
0.      5.      10.     20.     30.     40.     50.     60.     70.     80.     10-1
90.     100.                                                            10-2
0.      -.093   -.453   -1.478  -2.667  -3.896  -5.094  -6.213  -7.218  -8.082  11-1A
-8.781  -9.297                                                          11-1B
0.      -.093   -.453   -1.478  -2.667  -3.896  -5.094  -6.213  -7.218  -8.082  11-2A
-8.781  -9.297                                                          11-2B
0.      .066    -.144   -.857   -1.747  -2.715  -3.7    -4.662  -5.572  -6.406  11-3A
-7.143  -7.767                                                          11-3B
0.      .086    -.086   -.425   -1.04   -1.754  -2.528  -3.327  -4.138  -4.918  11-4A
-5.676  -6.39                                                           11-4B
0.      .232    .265    .02     -.410   -.958   -1.584  -2.258  -2.964  -3.685  11-5A
-4.41   -5.127                                                          11-5B
0.      .146    .268    .180    -.106   -.519   -1.017  -1.576  -2.184  -2.825  11-6A
-3.489  -4.169                                                          11-6B
0.      .281    .493    .561    .410    .149    -.211   -.647   -1.137  -1.669  11-7A
-2.239  -2.842                                                          11-7B
0.      .074    .436    .688    .717    .594    .387    .082    -.265   -.669   11-8A
-1.114  -1.598                                                          11-8B
0.      .28     .547    1.073   1.362   1.520   1.633   1.704   1.722   1.73    11-9A
1.704   1.647                                                           11-9B
0.      -.36    -.638   -.85    -.984   -1.141  -1.348  -1.556  -1.75   -1.973  11-10A
-2.211  -2.456                                                          11-10B
0.      -.336   -.655   -1.241  -1.760  -2.211  -2.557  -2.900  -3.264  -3.622  11-11A
-3.97   -4.308                                                          11-11B
0.      -.339   -.653   -1.208  -1.666  -2.015  -2.238  -2.412  -2.542  -2.627  11-12A
-2.646  -2.597                                                          11-12B
END
WDEZ
-500A CHECK CASE          17 LOADS  5 Z CONST.
40.     22.     0.      1.      4.9688  0.                              3
2.      1.      1.                                                      4
2.7     .01     .1      -17.    0.      2.      -1.             2.      2.      5
                                                1.                      6
1.      1.      1.      2.      5.                                      7
130.85  189.    243.39  189.    189.                                    7A
4.9688  4.9688  4.9688  6.625   8.2813                                  7B
-4.07   -10.16  -14.11  -8.32   -7.0                                    7C
0.      1.      2.      3.      4.      5.      6.      7.      8.      10.      8-1
12.     14.     16.     19.     22.     25.     28.     30.     32.     36.      8-2
38.     40.                                                             8-3
1.      2.      3.      4.      5.      6.      7.      8.      9.      10.      10-1
11.     16.     17.     14.     13.     15.     12.                      10-2
0.      66.25                                                           12A
207.    269.8                                                           12B
.7      74.     0.      40.     40.                                     17
0.      100.                                                            19A
0.      100.                                                            19B
.0025   .0025                                                           19C-1
.0025   .0025                                                           19C-2
END
```

```
MDEZ
-500A CHECK CASE        17 LOADS   2 Z CONST.  RESTART
40.     22.     0.      1.      4.9688 0.                                       3
2.      1.      2.                                                              4
2.7     .01     .1      -17.    0.      2.      2.      2.      2.      2.      5
                                        1.                                      6
1.      1.      3.      1.      -2.                                             7
2.      3.                                                                      7D
-10.16 -14.11                                                                   7E
0.      1.      2.      3.      4.      5.      6.      7.      8.      10.     8-1
12.     14.     16.     19.     22.     25.     28.     30.     32.     36.     8-2
38.     40.                                                                     8-3
1.      2.      3.      4.      5.      16.     17.     8.      9.      10.     10-1
11.     15.     6.      7.      12.     13.     14.                             10-2
0.      66.25                                                                   12
207.    269.8                                                                   13
0.      100.                                                                    18A
0.      100.                                                                    18B
-.137   -.137                                                                   18C
-.137   -.137                                                                   18C
0.      100.                                                                    19A
0.      100.                                                                    19B
.0025   .0025                                                                   19C
.0025   .0025                                                                   19C
        ****  **  RESTART DECK  ** NOT LISTED**   ****
END
ANLZ                                                                            1
969-500 CHECK CASE  17 LOAD  2 Z    LIFT ANALYSIS                               2
1.      1.              1.                                                      3
22.     12.     1.                              1.      -4.     100.            4
                        1.              -1.                                     5
-1.     2.      1.                      1.                                      6
2.7             1.                                                              7
0.      5.      10.     20.     30.     40.     50.     60.     70.     80.     9-1
90.     100.                                                                    9-2
0.      2.5     5.      7.5     10.     12.5    15.     17.5    20.     25.     10-1
30.     35.     40.     47.5    55.     62.5    70.     75.     80.     90.     10-2
95.     100.                                                                    10-3
0.      .066    -.012   -.867   -2.328 -3.809 -4.985 -5.760 -6.223 -6.578
-7.175 -8.498
0.      .066    -.012   -.867   -2.328 -3.809 -4.985 -5.760 -6.223 -6.578
-7.175 -8.498
0.      .066    -.012   -.867   -2.328 -3.809 -4.985 -5.760 -6.223 -6.578
-7.175 -8.498
0.      .066    -.012   -.867   -2.328 -3.809 -4.985 -5.760 -6.223 -6.578
-7.175 -8.498
0.      .061    .073    -.276   -.997  -1.798 -2.487 -2.995 -3.295 -3.464
-3.667 -4.245
0.      .019    -.012   -.403   -1.113 -1.896 -2.598 -3.149 -3.526 -3.763
-3.954 -4.444
0.      -.025   -.115   -.613   -1.402 -2.269 -3.069 -3.738 -4.243 -4.597
-4.859 -5.338
0.      -.056   -.198   -.810   -1.704 -2.679 -3.600 -4.397 -5.031 -5.499
-5.844 -6.360
0.      -.049   -.196   -.803   -1.682 -2.642 -3.557 -4.354 -4.989 -5.438
-5.759 -6.192
0.      -.039   -.198   -.851   -1.777 -2.789 -3.763 -4.622 -5.308 -5.782
-6.114 -6.431
0.      0.000   -.155   -.808   -1.748 -2.814 -3.880 -4.872 -5.732 -6.411
-7.001 -7.619
```

```
0.      .052    -.042   -.569   -1.381 -2.328 -3.300 -4.220 -5.028 -5.668
-6.218 -6.865
0.      .103    .064    -.327   -1.011 -1.848 -2.732 -3.585 -4.351 -4.962
-5.555 -6.222
0.      .185    .266    .071    -.434  -1.124 -1.887 -2.652 -3.359 -4.047
-4.695 -5.221
0.      .312    .488    .489    .174   -.330  -.956  -1.622 -2.307 -3.028
-3.746 -4.434
0.      .391    .679    .951    .938   .703   .347   -.082  -.574  -1.132
-1.709 -2.310
0.      .422    .792    1.379   1.737  1.945  2.059  2.108  2.112  2.058
1.913  1.630
0.      -.020   -.025   .027    .112   .162   .178   .233   .310   .311
.240   .080
0.      -.126   -.236   -.381   -.514  -.650  -.738  -.805  -.854  -.811
-.741  -.667
0.      -.225   -.431   -.788   -1.061 -1.278 -1.463 -1.565 -1.552 -1.490
-1.387 -1.245
0.      -.100   -.221   -.566   -1.001 -1.393 -1.782 -2.074 -2.228 -2.316
-2.376 -2.409
0.      -.319   -.618   -1.160 -1.625 -2.012 -2.315 -2.555 -2.743 -2.877
-2.920 -2.870
0.      2.                                                              22
0.      75.     75.01   100.                                            25A
.2      .2      0.      0.                                              25B
.1                                                                      27
END
SKFR                                                                    1
-500A SKIN FRICTION DRAG                                                2
1.      1.      1.      -1.     1.                                      3
2.                                                                      4
2.7     60.     0.      1.                                              5-1
1.1     35.     0.      1.                                              5-2
END
FFWD                                                                    1
FAR-FIELD WAVE DRAG                                                     2
1.      1.      1.      1.      1.                                      3
   1    2.7     50.     36.                                             4
END
NFWD                                                                    1
NEAR-FIELD WAVE DRAG                                                    2
1.      1.      1.      1.                                              3
0.      2.7                                                             4
4.97    -1.     -1.                                                     5
END
PLOT                                                                    1
969-500 CONFIGURATION                                                   2
1.      1.      1.      1.      1.                                      3
X Z                                             10.  ORT                4-1
X Y                                             10.  ORT                4-2
Y Z                                             10.  ORT                4-3
END
WPLT                                                                    1
WING PRESSURE SUMMARY                                                   2
1.      1.      1.      1.      1.                                      3
1.                      1.                                              4
.1                                                                      5
END
```

SUPERSONIC DESIGN/ANALYSIS SYSTEM

CONFIGURATION DESCRIPTION

**** **** **** **** **** WING **** **** **** **** ****

REFA = 9898.0000 CBAR = 106.4100 XBARIN = 187.0000

XO	=	77.3280	XO	=	83.1040	XO	=	93.1650
YO	=	4.5640	YO	=	6.6250	YO	=	9.5100
ZO	=	0.0000	ZO	=	0.0000	ZO	=	0.0000
CHORD	=	166.0700	CHORD	=	160.1330	CHORD	=	149.7900

PERCENT	CAMBER	HALF-THICKNESS		CAMBER	HALF-THICKNESS		CAMBER	HALF-THICKNESS	
CHORD	(Z)	UPPER	LOWER	(Z)	UPPER	LOWER	(Z)	UPPER	LOWER
0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2.5	0.0000	.5700	.5700	0.0000	.5700	.5700	0.0000	.5500	.5500
5.0	0.0000	.7140	.7140	0.0000	.7140	.7140	0.0000	.7120	.7120
10.0	0.0000	.8720	.8720	0.0000	.8720	.8720	0.0000	.8720	.8720
20.0	0.0000	1.0500	1.0500	0.0000	1.0500	1.0500	0.0000	1.0540	1.0540
30.0	0.0000	1.1450	1.1450	0.0000	1.1450	1.1450	0.0000	1.1560	1.1560
40.0	0.0000	1.2000	1.2000	0.0000	1.2000	1.2000	0.0000	1.2130	1.2130
50.0	0.0000	1.2300	1.2300	0.0000	1.2300	1.2300	0.0000	1.2350	1.2350
60.0	0.0000	1.2490	1.2490	0.0000	1.2490	1.2490	0.0000	1.2370	1.2370
70.0	0.0000	1.1700	1.1700	0.0000	1.1700	1.1700	0.0000	1.1270	1.1270
80.0	0.0000	.9370	.9370	0.0000	.9370	.9370	0.0000	.8830	.8830
90.0	0.0000	.5460	.5460	0.0000	.5460	.5460	0.0000	.5070	.5070
100.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

XO	=	116.9600	XO	=	168.9800	XO	=	225.8100
YO	=	16.3330	YO	=	31.2500	YO	=	47.5440
ZO	=	0.0000	ZO	=	0.0000	ZO	=	0.0000
CHORD	=	125.3500	CHORD	=	77.2950	CHORD	=	32.6810

PERCENT	CAMBER	HALF-THICKNESS		CAMBER	HALF-THICKNESS		CAMBER	HALF-THICKNESS	
CHORD	(Z)	UPPER	LOWER	(Z)	UPPER	LOWER	(Z)	UPPER	LOWER
0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2.5	0.0000	.5500	.5500	0.0000	.5700	.5700	0.0000	.5800	.5800
5.0	0.0000	.7150	.7150	0.0000	.7270	.7270	0.0000	.7290	.7290
10.0	0.0000	.8760	.8760	0.0000	.9020	.9020	0.0000	.9110	.9110
20.0	0.0000	1.1260	1.1260	0.0000	1.0980	1.0980	0.0000	1.1340	1.1340
30.0	0.0000	1.1740	1.1740	0.0000	1.2200	1.2200	0.0000	1.2680	1.2680
40.0	0.0000	1.2350	1.2350	0.0000	1.2690	1.2690	0.0000	1.3430	1.3430
50.0	0.0000	1.2500	1.2500	0.0000	1.3150	1.3150	0.0000	1.3750	1.3750
60.0	0.0000	1.2290	1.2290	0.0000	1.2620	1.2620	0.0000	1.3200	1.3200
70.0	0.0000	1.0870	1.0870	0.0000	1.1050	1.1050	0.0000	1.1550	1.1550
80.0	0.0000	.8400	.8400	0.0000	.8420	.8420	0.0000	.8800	.8800
90.0	0.0000	.4740	.4740	0.0000	.4730	.4730	0.0000	.4950	.4950
100.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

**** **** **** **** **** WING **** **** **** **** ****

XO	=	225.8100	XO	=	258.2100
YO	=	47.5450	YO	=	66.2500
ZO	=	0.0000	ZO	=	0.0000
CHORD	=	32.6810	CHORD	=	14.4450

PERCENT CHORD	CAMBER (Z)	HALF-THICKNESS UPPER	HALF-THICKNESS LOWER	CAMBER (Z)	HALF-THICKNESS UPPER	HALF-THICKNESS LOWER
0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2.5	0.0000	.1340	.1340	0.0000	.1340	.1340
5.0	0.0000	.2610	.2610	0.0000	.2610	.2610
10.0	0.0000	.4950	.4950	0.0000	.4910	.4910
20.0	0.0000	.8800	.8800	0.0000	.8800	.8800
30.0	0.0000	1.1550	1.1550	0.0000	1.1550	1.1550
40.0	0.0000	1.3200	1.3200	0.0000	1.2850	1.2850
50.0	0.0000	1.3750	1.3750	0.0000	1.3750	1.3750
60.0	0.0000	1.3200	1.3200	0.0000	1.3200	1.3200
70.0	0.0000	1.1550	1.1550	0.0000	1.1550	1.1550
80.0	0.0000	.8800	.8800	0.0000	.8800	.8800
90.0	0.0000	.4950	.4950	0.0000	.4950	.4950
100.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

**** **** **** **** **** FUSELAGE **** **** **** **** ****

X CENTERLINE	Z CENTERLINE	RADIUS	AREA	PERIMETER
0.0000	10.0000	0.0000	0.0000	0.0000
16.6700	8.5500	2.7350	23.5000	17.1846
33.3300	7.1000	4.2782	57.5000	26.8806
50.0000	5.6400	5.3226	85.0000	33.4426
66.6700	4.1700	6.1026	117.0000	38.3440
83.3300	2.7300	6.3330	126.0000	39.7915
100.0000	1.2800	6.1752	119.8000	38.8001
116.6700	-.1400	5.8632	108.0000	36.8398
133.3300	-1.6000	5.7812	105.0000	36.3245
150.0000	-3.0400	5.8360	107.0000	36.6688
166.6600	-4.5000	5.8360	107.0000	36.6688
183.3300	-5.9000	5.8087	106.0000	36.4971
200.0000	-7.4000	5.6580	102.0000	35.8018
216.6700	-8.8500	5.4700	94.0000	34.3692
233.3300	-10.2500	5.0146	79.0000	31.5078
250.0000	-11.7000	4.3336	59.0000	27.2290
266.6700	-13.2000	3.2410	33.0000	20.3639
283.3000	-14.6000	1.5558	8.0000	10.0265
295.0000	-15.7000	0.0000	0.0000	0.0000

**** **** **** **** **** NACELLE **** **** **** **** ****

XO =	213.4200	XC =	216.6700
YC =	16.3300	YC =	31.2500
ZO =	-5.8000	ZC =	-4.9000
DO =	-5.8000	DC =	-4.5000

X	RADIUS	X	RADIUS
0.0000	2.8650	0.0000	2.8650
2.0080	2.9830	2.0080	2.9830
15.4700	3.6330	15.4700	3.6330
21.5250	3.7700	21.5250	3.7700
28.0170	3.6540	28.0170	3.6540
32.0670	3.4200	32.0670	3.4200
35.0400	3.4200	35.0400	3.4200

**** FIN **** **** ****

XL =	225.8000	XL =	270.0000
YL =	47.5500	YL =	0.0000
ZL =	0.0000	ZL =	-13.0000
CL =	38.7500	CL =	24.2000
XU =	262.5000	XU =	282.5000
YU =	47.5500	YU =	0.0000
ZU =	10.0000	ZU =	-.9000
CU =	5.0000	CU =	9.2000

PERCENT CHORD	HALF THICK	PERCENT CHORD	HALF THICK
0.00	0.00	0.00	0.00
32.50	1.50	32.50	1.50
67.50	1.50	67.50	1.50
100.00	0.00	100.00	0.00

**** CANARD ****

XI =	261.0000
YI =	2.0000
ZI =	-14.0000
CI =	25.0000
XO =	277.0000
YO =	11.0000
ZO =	-14.0000
CO =	5.0000

PERCENT CHORD	UPPER ORD	LOWER ORD
0.000	0.000	0.000
32.500	1.500	1.500
67.500	1.500	1.500

WING THICKNESS PRESSURES

MACH NO.= 2.70000 NON= 40 NOPCT= 13 JBYMAX= 20 RATIO= 4.15385 XKIN= 2.00

PLANFORM BREAKPOINTS

	X	Y	CHORD
1	77.3280	0.0000	166.0700
2	77.3280	4.9680	166.0700
3	83.1040	6.6250	160.1330
4	93.1650	9.5100	149.7900
5	116.9600	16.3330	125.3500
6	168.9800	31.2500	77.2550
7	225.8100	47.5440	32.6810
8	225.8100	47.5450	32.6810
9	258.2100	66.2500	14.4450

	XLE	XTE	Y
0	77.3280	243.3980	0.0000
1	77.3280	243.3980	1.6563
2	77.3280	243.3980	3.3125
3	77.3306	243.3979	4.9688
4	83.1040	243.2370	6.6250
5	88.8799	243.0751	8.2813
6	94.6559	242.9146	9.9375
7	100.4320	242.7580	11.5938
8	106.2081	242.6014	13.2500
9	111.9843	242.4449	14.9063
10	117.7603	242.3710	16.5625
11	123.5362	242.8112	18.2188
12	129.3120	243.2515	19.8750
13	135.0878	243.6917	21.5313
14	140.8637	244.1320	23.1875
15	146.6395	244.5722	24.8438
16	152.4153	245.0124	26.5000
17	158.1912	245.4527	28.1563
18	163.9670	245.8929	29.8125
19	169.7430	246.4390	31.4688
20	175.5196	247.6807	33.1250
21	181.2962	248.9225	34.7813
22	187.0729	250.1642	36.4375
23	192.8495	251.4059	38.0938
24	198.6262	252.6477	39.7500
25	204.4028	253.8894	41.4063
26	210.1795	255.1311	43.0625
27	215.9561	256.3728	44.7188
28	221.7328	257.6146	46.3750
29	226.6523	258.8592	48.0313
30	229.5211	260.1134	49.6875
31	232.3900	261.3675	51.3438
32	235.2589	262.6217	53.0000
33	238.1278	263.8759	54.6563
34	240.9967	265.1300	56.3125
35	243.8656	266.3842	57.9688
36	246.7345	267.6383	59.6250
37	249.6033	268.8925	61.2813
38	252.4722	270.1467	62.9375
39	255.3411	271.4008	64.5938
40	258.2100	272.6550	66.2500

INBOARD WING END DEFINITION

CHORD	X	Y	Z	T
0.00	77.334972	4.970000	0.000000	0.000000
2.50	81.486542	4.970000	0.000000	1.893116
5.00	85.638113	4.970000	0.000000	2.371377
10.00	93.941255	4.970000	0.000000	2.896136
20.00	110.547538	4.970000	0.000000	3.487320
30.00	127.153822	4.970000	0.000000	3.802839
40.00	143.760105	4.970000	0.000000	3.985508
50.00	160.366389	4.970000	0.000000	4.085146

60.00	176.972672	4.970000	0.000000	4.148250
70.00	193.578955	4.970000	0.000000	3.885870
80.00	210.185239	4.970000	0.000000	3.112018
90.00	226.791522	4.970000	0.000000	1.813406
100.00	243.397806	4.970000	0.000000	0.000000

TABLE OF INPUT Z/C ORDINATES

XPCT	0.000000	2.500000	5.000000	10.000000	20.000000	30.000000	40.000000	50.000000
	60.000000	70.000000	80.000000	90.000000	100.000000			
Y/B/2								
0.0000	0.000000	.570000	.714000	.872000	1.050000	1.145000	1.200000	1.230000
	1.249000	1.170000	.937000	.546000	0.000000			
.0750	0.000000	.570000	.714000	.872000	1.050000	1.145000	1.200000	1.230000
	1.249000	1.170000	.937000	.546000	0.000000			
.1000	0.000000	.570000	.714000	.872000	1.050000	1.145000	1.200000	1.230000
	1.249000	1.170000	.937000	.546000	0.000000			
.1435	0.000000	.550000	.712000	.872000	1.054000	1.156000	1.213000	1.235000
	1.237000	1.127000	.883000	.507000	0.000000			
.2465	0.000000	.550000	.715000	.876000	1.126000	1.174000	1.235000	1.250000
	1.229000	1.027000	.840000	.474000	0.000000			
.4717	0.000000	.570000	.727000	.902000	1.098000	1.220000	1.289000	1.315000
	1.262000	1.105000	.842000	.473000	0.000000			
.7176	0.000000	.580000	.729000	.911000	1.134000	1.268000	1.343000	1.375000
	1.320000	1.155000	.880000	.495000	0.000000			
.7177	0.000000	.134000	.261000	.455000	.880000	1.155000	1.320000	1.375000
	1.320000	1.155000	.880000	.495000	0.000000			
1.0000	0.000000	.134000	.261000	.491000	.880000	1.155000	1.285000	1.375000
	1.320000	1.155000	.880000	.495000	0.000000			

TABLE OF THICKNESS PRESSURE COEFFICIENT

XPCT	0.00	5.00	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00	55.00
	60.00	65.00	70.00	75.00	80.00	85.00	90.00	95.00	100.00			
Y/B/2 /												
0.000	0.000000	.006944	.016258	.019883	.012100	.008105	.005858	.003148	.003392	.005418	.002986	.000498
	.000025	-.001675	-.003715	-.003831	-.007956	-.013311	-.017362	-.021657	-.026506			
.025	.002472	.007358	.013494	.014060	.010048	.008762	.008438	.005653	.003458	.002518	.000977	.000724
	.001533	-.000066	-.003171	-.006078	-.010209	-.014191	-.016542	-.020781	-.025441			
.050	.010571	.012328	.014545	.013202	.012433	.008006	.004842	.004145	.004182	.002954	.002535	.001214
	-.000911	-.002425	-.003435	-.006835	-.009836	-.013979	-.018773	-.023318	-.025725			
.075	.034829	.011251	.004463	.005836	.010024	.008224	.004507	.004798	.003645	.001006	.001591	.001314
	-.002111	-.003546	-.005804	-.010572	-.013655	-.016481	-.021647	-.025155	-.025637			
.100	.064223	.007445	-.005643	.005245	.007408	.004453	.003114	.003338	.001968	.001184	.001314	-.000474
	-.004273	-.005744	-.009803	-.013655	-.017023	-.020014	-.024399	-.027119	-.026292			
.125	.094526	.008343	-.006571	.002640	.004387	.003404	.001744	.001586	.001801	.000546	-.000711	-.001130
	-.003562	-.007331	-.012170	-.015528	-.018635	-.022074	-.025424	-.029155	-.028216			
.150	.135759	.006045	-.012237	.000461	.004208	.001774	-.000189	.001646	.001066	-.001598	-.001692	.000001
	-.004975	-.010341	-.012950	-.015033	-.019591	-.024022	-.025595	-.028546	-.029010			
.200	.055900	-.003643	-.010151	.001388	-.000928	-.001001	.000976	-.000645	-.002230	-.001442	-.002039	-.004481
	-.007514	-.011266	-.015569	-.019283	-.021760	-.025103	-.028760	-.030460	-.030119			
.250	.041245	-.005793	-.012424	-.002527	-.004273	-.005236	-.003171	-.000467	-.001435	-.003827	-.004231	-.005075
	-.008027	-.013307	-.017714	-.019822	-.022971	-.026980	-.030458	-.032145	-.031307			
.300	.026689	-.007746	-.011422	-.007394	-.004455	-.006740	-.005481	-.002664	-.003534	-.002357	-.005877	-.007817
	-.010795	-.014084	-.017460	-.022969	-.025959	-.029625	-.031085	-.033563	-.034950			
.350	.050571	.003520	-.007628	-.013163	-.008866	-.009234	-.004387	-.004050	-.004255	-.006299	-.006819	-.008768
	-.011579	-.016153	-.020865	-.023953	-.027187	-.030596	-.034653	-.035505	-.036353			
.400	.039571	.002548	-.009115	-.011229	-.011179	-.011320	-.008300	-.004464	-.004771	-.006072	-.008843	-.011672
	-.014722	-.017229	-.020885	-.025049	-.029730	-.033469	-.035710	-.037089	-.037173			
.450	.031586	-.001705	-.011886	-.014083	-.012916	-.008583	-.009524	-.007216	-.007530	-.009148	-.008860	-.012876
	-.015519	-.020041	-.023917	-.026390	-.030786	-.033216	-.037107	-.038960	-.039449			
.500	.021163	-.000188	-.011849	-.016231	-.017891	-.011679	-.007763	-.008171	-.007650	-.010426	-.013290	-.015286
	-.015718	-.021815	-.024102	-.028739	-.031976	-.035828	-.039115	-.040346	-.040618			
.600	.022800	.000999	-.009399	-.015007	-.014638	-.014811	-.014269	-.012165	-.013211	-.015136	-.017305	-.019188
	-.021544	-.026466	-.030246	-.033548	-.038021	-.040985	-.042776	-.043384	-.043992			
.700	-.000304	-.006177	-.012050	-.015676	-.016026	-.016438	-.017470	-.018502	-.018397	-.017964	-.019401	-.023025
	-.026660	-.033352	-.034045	-.038207	-.042464	-.045730	-.048062	-.050247	-.051843			
.800	.041274	.034620	.027967	.021319	.014682	.008045	.001626	-.004372	-.010370	-.016195	-.021627	-.027059
	-.031960	-.035423	-.038886	-.042275	-.045422	-.048569	-.051480	-.053427	-.055374			
.900	.046302	.042811	.039321	.035830	.032340	.027370	.021509	.015649	.009788	.003146	-.003917	-.010981
	-.018044	-.024205	-.029932	-.035660	-.041387	-.045430	-.048754	-.052075	-.055404			

.950	.048922	.045441	.041560	.038479	.034495	.030198	.025502	.021605	.017309	.011675	.005919	.000164
	-.005592	-.011398	-.017384	-.023371	-.029357	-.035344	-.041683	-.048353	-.055023			
1.000	.036066	.033667	.031267	.028868	.026469	.024070	.021670	.019271	.016542	.013053	.009564	.006075
	.002586	-.000904	-.004363	-.007800	-.011236	-.014672	-.018108	-.021544	-.024980			

```
PROGRAM CONTROL CARD
ANLZ
ENTER INPTS---TAPE INPUTS
EXIT INPTS
ENTER GEOM201---GEOMETRY INTERFACE WITH PROGRAM TEA201A
J2=  1
J3=  1
J5=  0
J7=  0
ENTER WRGEOM---WRITE GEOMETRY ON TAPE
EXIT WRGEOM
```

UPDATED WING DEFINITION

WING CAMBER SURFACE READ INTO BASIC GEOMETRY

**** **** **** **** **** WING **** **** **** **** ****

REFA = 9898.0000 CBAR = 106.4100 XBARIN = 187.0000

XO	=	77.3280		XO	=	83.1040		XO	=	93.1650	
YO	=	4.9680		YO	=	6.6250		YO	=	9.5100	
ZO	=	0.0000		ZO	=	0.0000		ZO	=	0.0000	
CHORD	=	166.0700		CHORD	=	160.1330		CHORD	=	149.7900	

PERCENT CHORD	CAMBER (Z)	HALF-THICKNESS UPPER	HALF-THICKNESS LOWER	CAMBER (Z)	HALF-THICKNESS UPPER	HALF-THICKNESS LOWER	CAMBER (Z)	HALF-THICKNESS UPPER	HALF-THICKNESS LOWER
0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2.5	-.0122	.5700	.5700	.0528	.5700	.5700	.0554	.5500	.5500
5.0	-.0244	.7140	.7140	.1057	.7140	.7140	.1107	.7120	.7120
10.0	-.4916	.8720	.8720	-.2306	.8720	.8720	-.1337	.8720	.8720
20.0	-1.9137	1.0500	1.0500	-1.3723	1.0500	1.0500	-1.0272	1.0540	1.0540
30.0	-3.6137	1.1450	1.1450	-2.7975	1.1450	1.1450	-2.1970	1.1560	1.1560
40.0	-5.4093	1.2000	1.2000	-4.3476	1.2000	1.2000	-3.4961	1.2130	1.2130
50.0	-7.1928	1.2300	1.2300	-5.9249	1.2300	1.2300	-4.8463	1.2350	1.2350
60.0	-8.8923	1.2490	1.2490	-7.4654	1.2490	1.2490	-6.1905	1.2370	1.2370
70.0	-10.4555	1.1700	1.1700	-8.9226	1.1700	1.1700	-7.4901	1.1270	1.1270
80.0	-11.8407	.9370	.9370	-10.2581	.9370	.9370	-8.7121	.8830	.8830
90.0	-13.0112	.5460	.5460	-11.4383	.5460	.5460	-9.8285	.5070	.5070
100.0	-13.9392	0.0000	0.0000	-12.4375	0.0000	0.0000	-10.8167	0.0000	0.0000

XO	=	116.9600		XO	=	168.9800		XO	=	225.8100	
YO	=	16.3330		YO	=	31.2500		YO	=	47.5440	
ZO	=	0.0000		ZO	=	0.0000		ZO	=	0.0000	
CHORD	=	125.3500		CHORD	=	77.2950		CHORD	=	32.6810	

PERCENT CHORD	CAMBER (Z)	HALF-THICKNESS UPPER	HALF-THICKNESS LOWER	CAMBER (Z)	HALF-THICKNESS UPPER	HALF-THICKNESS LOWER	CAMBER (Z)	HALF-THICKNESS UPPER	HALF-THICKNESS LOWER
0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2.5	.0929	.5500	.5500	.0918	.5700	.5700	.0327	.5800	.5800
5.0	.1857	.7150	.7150	.1836	.7270	.7270	.0654	.7290	.7290
10.0	.1361	.8760	.8760	.3253	.9020	.9020	.1308	.9110	.9110
20.0	-.2593	1.1260	1.1260	.3374	1.0980	1.0980	.2760	1.1340	1.1340
30.0	-.9758	1.1740	1.1740	.1843	1.2200	1.2200	.3550	1.2680	1.2680
40.0	-1.7870	1.2350	1.2350	-.0589	1.2890	1.2890	.3941	1.3430	1.3430
50.0	-2.6833	1.2500	1.2500	-.3757	1.3150	1.3150	.4175	1.3750	1.3750
60.0	-3.6234	1.2290	1.2250	-.7478	1.2620	1.2620	.4284	1.3200	1.3200
70.0	-4.5933	1.0870	1.0870	-1.1606	1.1050	1.1050	.4244	1.1550	1.1550
80.0	-5.5402	.8400	.8400	-1.6038	.8420	.8420	.4160	.8800	.8800
90.0	-6.4773	.4740	.4740	-2.0728	.4730	.4730	.3968	.4950	.4950
100.0	-7.3782	0.0000	0.0000	-2.5630	0.0000	0.0000	.3681	0.0000	0.0000

**** **** **** **** **** WING **** **** **** **** ****

XO = 225.8100		XO = 258.2100	
YO = 47.5450		YO = 66.2500	
ZO = 0.0000		ZO = 0.0000	
CHORD = 32.6810		CHORD = 14.4450	

PERCENT CHORD	CAMBER (Z)	HALF-THICKNESS UPPER	HALF-THICKNESS LOWER	CAMBER (Z)	HALF-THICKNESS UPPER	HALF-THICKNESS LOWER
0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2.5	.0327	.1340	.1340	-.0245	.1340	.1340
5.0	.0653	.2610	.2610	-.0490	.2610	.2610
10.0	.1308	.4950	.4950	-.0943	.4910	.4910
20.0	.2759	.8800	.8800	-.1745	.8800	.8800
30.0	.3549	1.1550	1.1550	-.2407	1.1550	1.1550
40.0	.3539	1.3200	1.3200	-.2911	1.2850	1.2850
50.0	.4173	1.3750	1.3750	-.3233	1.3750	1.3750
60.0	.4283	1.3200	1.3200	-.3484	1.3200	1.3200
70.0	.4242	1.1550	1.1550	-.3672	1.1550	1.1550
80.0	.4158	.8800	.8800	-.3795	.8800	.8800
90.0	.3966	.4950	.4950	-.3822	.4950	.4950
100.0	.3679	0.0000	0.0000	-.3751	0.0000	0.0000

FUSELAGE AND NACELLE LOADINGS

MACH NO.= 2.70000 XMAX= 272.65500 NON= 40 CBAR= 106.41000 XBAR= 187.00000

TIPZC= 1.00 TNOP= 0.00 SYMM= 1.00 SMOGC= 0.00

XESUC= 0.00 SBNS= 0.00 XNLRR= 0.00

NOPCT= 12 JBYMAX= 12 RATIO= 4.153854

	XPCT		YB2
1	0.000	1	0.000
2	5.000	2	5.000
3	10.000	3	10.000
4	20.000	4	20.000
5	30.000	5	30.000
6	40.000	6	40.000
7	50.000	7	50.000
8	60.000	8	60.000
9	70.000	9	70.000
10	80.000	10	80.000
11	90.000	11	90.000
12	100.000	12	100.000

PLANFORM BREAKPOINTS

	X	Y	Z	CHORD	AUX. CHORD
1	77.3280	0.0000	0.0000	166.0700	166.0700
2	77.3280	4.9680	0.0000	166.0700	166.0700
3	83.1040	6.6250	0.0000	160.1330	160.1330
4	93.1650	9.5100	0.0000	149.7900	149.7900
5	116.9600	16.3330	0.0000	125.3500	125.3500
6	168.9800	31.2500	0.0000	77.2950	77.2950
7	225.8100	47.5440	0.0000	32.6810	32.6810
8	225.8100	47.5450	0.0000	32.6810	32.6810
9	258.2100	66.2500	0.0000	14.4450	14.4450

	XLE	XTE	AUX XTE
0	77.3280	243.3980	243.3980
1	77.3280	243.3980	243.3980
2	77.3280	243.3980	243.3980
3	77.3306	243.3979	243.3979
4	83.1040	243.2370	243.2370
5	88.8799	243.0751	243.0751
6	94.6559	242.9146	242.9146
7	100.4320	242.7580	242.7580
8	106.2081	242.6014	242.6014
9	111.9843	242.4449	242.4449
10	117.7603	242.3710	242.3710
11	123.5362	242.8112	242.8112
12	129.3120	243.2515	243.2515
13	135.0878	243.6917	243.6917
14	140.8637	244.1320	244.1320
15	146.6395	244.5722	244.5722
16	152.4153	245.0124	245.0124
17	158.1912	245.4527	245.4527
18	163.9670	245.8929	245.8929
19	169.7430	246.4390	246.4390
20	175.5196	247.6807	247.6807
21	181.2962	248.9225	248.9225
22	187.0729	250.1642	250.1642
23	192.8495	251.4059	251.4059
24	198.6262	252.6477	252.6477
25	204.4028	253.8894	253.8894
26	210.1795	255.1311	255.1311
27	215.9561	256.3728	256.3728
28	221.7328	257.6146	257.6146
29	226.6523	258.8592	258.8592
30	229.5211	260.1134	260.1134
31	232.3900	261.3675	261.3675
32	235.2589	262.6217	262.6217
33	238.1278	263.8759	263.8759
34	240.9967	265.1300	265.1300
35	243.8656	266.3842	266.3842
36	246.7345	267.6383	267.6383
37	249.6033	268.8925	268.8925
38	252.4722	270.1467	270.1467
39	255.3411	271.4008	271.4008
40	258.2100	272.6550	272.6550

FUSELAGE DEFINITION

X	RAD	AREA	Z
0.00000	0.00000	0.00000	10.00000
16.67000	2.73501	23.50000	8.55000
33.33000	4.27818	57.50000	7.10000
50.00000	5.32255	89.00000	5.64000
66.67000	6.10264	117.00000	4.17000
83.33000	6.33301	126.00000	2.73000
100.00000	6.17523	119.80000	1.28000
116.67000	5.86323	108.00000	-.14000
133.33000	5.78122	105.00000	-1.60000
150.00000	5.83602	107.00000	-3.04000
166.66000	5.83602	107.00000	-4.50000

183.33000	5.80869	106.00000	-5.90000
200.00000	5.69804	102.00000	-7.40000
216.67000	5.47002	94.00000	-8.85000
233.33000	5.01463	79.00000	-10.25000
250.00000	4.33362	59.00000	-11.70000
266.67000	3.24102	33.00000	-13.20000
283.30000	1.59577	8.00000	-14.60000
295.00000	0.00000	0.00000	-15.70000

NACELLE GEOMETRY

ORIGIN (X,Y,Z)			X	RADIUS	AREA
213.42000	16.33000	-5.80000	0.00000	2.86500	25.78696
			2.00800	2.98300	27.55486
			15.47000	3.63300	41.46500
			21.52500	3.77000	44.65125
			28.01700	3.65400	41.94575
			32.06700	3.42000	36.74541
			35.04000	3.42000	36.74541

ORIGIN (X,Y,Z)			X	RADIUS	AREA
218.67000	31.25000	-4.90000	0.00000	2.86500	25.78696
			2.00800	2.98300	27.55486
			15.47000	3.63300	41.46500
			21.52500	3.77000	44.65125
			28.01700	3.65400	41.94575
			32.06700	3.42000	36.74541
			35.04000	3.42000	36.74541

WING SLOPES SET TO ZERO FOR UPWASH PRESSURE FIELD SOLUTION

FUSELAGE AREAS ABOVE AND BELOW WING

PER CENT CHORD	X	AREA ABOVE	AREA BELOW
0.00	79.01	100.08	25.03
5.00	88.63	89.74	34.93
10.00	96.87	83.90	37.51
20.00	112.35	77.51	32.66
30.00	128.02	78.63	26.78
40.00	144.01	84.62	21.89
50.00	160.36	91.27	15.85
60.00	176.97	103.09	3.65
70.00	193.58	102.02	2.02
80.00	210.18	96.69	1.33
90.00	226.79	84.77	.84
100.00	243.40	67.21	.79

TABLE OF INPUT Z/C ORDINATES

XPCT	0.00	5.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00
	90.00	100.00								
Y/B/2										
0.0000	0.00000	-.09300	-.45300	-1.47800	-2.66700	-3.89600	-5.09400	-6.21300	-7.21800	-8.08200
	-8.78100	-9.29700								
.0500	0.00000	-.09300	-.45300	-1.47800	-2.66700	-3.89600	-5.09400	-6.21300	-7.21800	-8.08200
	-8.78100	-9.29700								
.1000	0.00000	.06600	-.14400	-.85700	-1.74700	-2.71500	-3.70000	-4.66200	-5.57200	-6.40600
	-7.14300	-7.76700								
.2000	0.00000	.08600	-.00600	-.42500	-1.04000	-1.75400	-2.52800	-3.32700	-4.13000	-4.91800
	-5.67600	-6.39000								
.3000	0.00000	.23200	.26500	.02000	-.41000	-.95800	-1.58400	-2.25800	-2.96400	-3.68500
	-4.41000	-5.12700								
.4000	0.00000	.14600	.26800	.18000	-.10600	-.51900	-1.01700	-1.57600	-2.18400	-2.82500
	-3.48500	-4.16900								
.5000	0.00000	.28100	.49300	.56100	.41000	.14900	-.21100	-.64700	-1.13700	-1.66900
	-2.23900	-2.84200								
.6000	0.00000	.07400	.43600	.62800	.71700	.55400	.38700	.08200	-.26500	-.66900
	-1.11400	-1.55800								
.7000	0.00000	.26000	.54700	1.07300	1.36200	1.52000	1.63300	1.70400	1.72200	1.73000
	1.70400	1.64700								
.8000	0.00000	-.36000	-.63800	-.85000	-.98400	-1.14100	-1.34800	-1.55600	-1.75000	-1.97300
	-2.21100	-2.45600								
.9000	0.00000	-.33600	-.65500	-1.24100	-1.76000	-2.21100	-2.55700	-2.90000	-3.26400	-3.62200
	-3.97100	-4.30800								
1.0000	0.00000	-.33900	-.65300	-1.20800	-1.66600	-2.01500	-2.23800	-2.41200	-2.54200	-2.62700
	-2.64600	-2.59700								

WING-FUSELAGE INTERSECTION

CHORD	X	Y	Z
0.00	79.0121	5.4511	0.0000
5.00	88.6333	5.8758	.0469
10.00	96.8723	5.9072	-.3436
20.00	112.3515	5.6214	-1.7002
30.00	128.0245	5.3311	-3.4348
40.00	144.0140	5.0937	-5.3288
50.00	160.3630	4.7128	-7.3881
60.00	176.9700	3.0533	-10.3179
70.00	193.5770	2.5045	-11.9869
80.00	210.1840	2.1222	-13.4218
90.00	226.7910	1.7648	-14.5826
100.00	243.3980	1.6051	-15.4395

FUSELAGE UPWASH ACTING ON WING AT ALPHA= 0.00 DEG.
SLENDER BODY SOLUTION
CHARACTERISTICS PROPAGATED ALONG MACH LINES

XPCT	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00
Y/B/2											
0.000	-9.484	-7.452	-6.106	-6.765	-7.057	-6.755	-6.197	-5.893	-4.671	-2.908	-1.373
.025	-9.484	-7.452	-6.106	-6.765	-7.057	-6.755	-6.197	-5.893	-4.671	-2.908	-1.373
.050	-.398	.489	.509	-.352	-.854	-.860	-.902	-.794	-.410	.189	.631
.075	1.855	2.643	2.647	2.249	2.106	2.316	2.342	2.666	2.757	2.758	2.668
.100	2.626	2.982	2.878	2.723	2.737	2.935	2.948	3.244	3.145	2.902	2.622
.125	2.343	2.428	2.292	2.152	2.197	2.305	2.251	2.436	2.298	2.056	1.825
.150	1.865	1.851	1.725	1.658	1.654	1.712	1.634	1.748	1.639	1.450	1.234
.175	1.446	1.398	1.295	1.252	1.244	1.276	1.193	1.260	1.187	1.046	.854
.200	1.126	1.065	.986	.959	.951	.970	.906	.928	.881	.776	.622
.250	.710	.644	.608	.600	.596	.605	.569	.545	.548	.492	.409
.300	.471	.415	.402	.402	.405	.404	.385	.357	.358	.331	.291
.350	.324	.285	.284	.287	.292	.289	.282	.263	.251	.248	.222
.400	.225	.205	.210	.214	.219	.219	.215	.202	.189	.184	.179
.450	.156	.154	.161	.165	.170	.172	.168	.162	.154	.144	.140
.500	.118	.120	.127	.130	.135	.139	.135	.133	.126	.120	.113
.550	.093	.097	.103	.105	.110	.115	.113	.110	.107	.102	.098
.600	.076	.080	.085	.087	.091	.094	.095	.093	.091	.089	.085
.700	.055	.056	.060	.061	.063	.066	.068	.070	.069	.068	.066
.800	.037	.039	.041	.043	.045	.046	.047	.049	.050	.052	.053
.900	.023	.024	.025	.026	.027	.029	.030	.032	.033	.035	.036
1.000	.024	.021	.019	.017	.015	.015	.016	.016	.017	.017	.018

LIFTING PRESSURE COEFFICIENTS DUE TO ASYMMETRIC BODY VOLUME

XPCT	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00
Y/B/2											
0.000	.0164	.0353	-.0127	-.0253	-.0243	-.0307	-.0141	.0177	.0223	.0281	.0158
.025	.0164	.0353	-.0127	-.0253	-.0243	-.0307	-.0141	.0177	.0223	.0281	.0158
.050	.0164	.0353	-.0127	-.0253	-.0243	-.0307	-.0141	.0177	.0223	.0281	.0158
.075	.0164	.0353	-.0127	-.0253	-.0243	-.0307	-.0141	.0177	.0223	.0281	.0158
.100	.0404	.0122	-.0176	-.0262	-.0235	-.0334	-.0075	.0178	.0220	.0274	.0175
.125	.0379	.0084	-.0162	-.0235	-.0211	-.0278	-.0147	.0146	.0179	.0241	.0267
.150	.0362	.0054	-.0153	-.0215	-.0193	-.0237	-.0211	.0124	.0163	.0216	.0261
.175	.0350	.0025	-.0146	-.0200	-.0179	-.0205	-.0231	.0112	.0148	.0195	.0217
.200	.0340	.0006	-.0140	-.0188	-.0168	-.0179	-.0249	.0101	.0134	.0158	.0192
.250	.0277	-.0030	-.0133	-.0169	-.0153	-.0147	-.0233	-.0035	.0101	.0126	.0165
.300	.0209	-.0042	-.0131	-.0156	-.0141	-.0132	-.0202	-.0143	.0085	.0109	.0115
.350	.0141	-.0049	-.0131	-.0146	-.0133	-.0124	-.0162	-.0185	.0008	.0084	.0105
.400	.0050	-.0056	-.0129	-.0138	-.0126	-.0117	-.0128	-.0180	-.0115	.0072	.0086
.450	-.0009	-.0069	-.0122	-.0131	-.0122	-.0111	-.0110	-.0157	-.0165	-.0046	.0069
.500	-.0035	-.0083	-.0116	-.0126	-.0118	-.0106	-.0103	-.0123	-.0158	-.0130	-.0011
.550	-.0047	-.0095	-.0110	-.0121	-.0114	-.0102	-.0099	-.0104	-.0140	-.0154	-.0111
.600	-.0069	-.0107	-.0105	-.0116	-.0110	-.0099	-.0096	-.0094	-.0107	-.0138	-.0146
.700	-.0100	-.0099	-.0106	-.0108	-.0104	-.0095	-.0091	-.0085	-.0088	-.0088	-.0096
.800	-.0081	-.0094	-.0094	-.0095	-.0102	-.0102	-.0099	-.0094	-.0088	-.0085	-.0083
.900	-.0038	-.0055	-.0070	-.0083	-.0089	-.0089	-.0089	-.0094	-.0099	-.0097	-.0095
1.000	-.0008	-.0022	-.0027	-.0032	-.0040	-.0051	-.0062	-.0071	-.0080	-.0085	-.0085

MACELLES BELOW WING WITH ORIGINS AT

X= 213.42000 Y= 16.33000 Z= -5.80000
X= 218.67000 Y= 31.25000 Z= -4.90000

FOR NACELLE(S) AT X= 213.42000 Y= 16.33000 Z= -5.80000

X	R	AREA	CP	Y	F(Y)
213.420000	2.865000	25.786902	.044364	206.234617	0.000000
214.296000	2.917145	26.734131	.044364	206.979940	.071776
215.172000	2.968253	27.679093	.041510	207.727055	.088660
216.048000	3.023389	28.716925	.044722	208.465398	.089467
216.924000	3.078753	29.778283	.041297	209.202729	.087381
217.800000	3.132102	30.819232	.038072	209.944909	.082733
218.676000	3.183437	31.837746	.035034	210.692015	.077956
219.552000	3.232747	32.831689	.031741	211.444536	.073240
220.428000	3.280033	33.799196	.029018	212.201905	.068517
221.304000	3.325305	34.738638	.026436	212.964233	.063831
222.180000	3.368561	35.648295	.023974	213.731900	.059237
223.056000	3.409802	36.526524	.021627	214.504415	.054766
223.932000	3.449029	37.371759	.019384	215.281937	.050371
224.808000	3.486240	38.182510	.017069	216.064793	.046047
225.684000	3.521422	38.957048	.014794	216.852498	.041782
226.560000	3.554586	39.694273	.012784	217.645235	.037574
227.436000	3.585734	40.392998	.010884	218.443238	.033948
228.312000	3.614868	41.052037	.009062	219.246088	.032089
229.188000	3.645250	41.745016	.015208	220.045335	.034675
230.064000	3.678040	42.499407	.010698	220.840090	.031368
230.940000	3.705878	43.145178	.006120	221.646124	.023316
231.816000	3.728732	43.678952	.001725	222.464699	.013680
232.692000	3.746638	44.099478	-.002307	223.296016	.004201
233.568000	3.759598	44.405086	-.006083	224.139233	-.004928
234.444000	3.767611	44.594568	-.009717	224.995135	-.012406
235.320000	3.771953	44.697421	-.010834	225.860635	-.019361
236.196000	3.772455	44.709314	-.015373	226.735129	-.028106
237.072000	3.767133	44.583267	-.019720	227.624547	-.037803
237.948000	3.755979	44.319647	-.023882	228.528697	-.047469
238.824000	3.739023	43.920381	-.027744	229.446807	-.056711
239.700000	3.716263	43.387321	-.031271	230.380025	-.065428
240.576000	3.687701	42.722959	-.034632	231.327916	-.081908
241.452000	3.651176	41.880845	-.052835	232.298647	-.104960
242.328000	3.579379	40.249953	-.060489	233.349797	-.115289
243.204000	3.518753	38.898023	-.046477	234.377576	-.100671
244.080000	3.470769	37.844383	-.032996	235.375019	-.072147
244.956000	3.435395	37.076899	-.020238	236.339130	-.045849
245.832000	3.412632	36.587164	-.008520	237.271855	-.021072
246.708000	3.402478	36.369766	.002926	238.174245	.002586
247.584000	3.404934	36.422293	.013989	239.043270	.018817
248.460000	3.420000	36.745328	.023086	239.889816	.021894

NACELLE PRESSURE FIELD

X,PER CENT CHORD AND PRESSURE COEFFICIENT
GLANCE SOLUTION

NACELLES BELOW WING

Y/B/2												
0.000	77.328	243.398										
	0.000	100.000										
	0.00000	0.00000										
.050	77.328	238.690	238.700	238.995	239.290	239.584	239.879	240.174	240.469	240.764	241.058	241.353
	241.648	241.943	242.238	242.533	242.827	243.122	243.417	243.712				
	0.000	97.165	97.171	97.349	97.526	97.704	97.881	98.059	98.236	98.414	98.591	98.769
	98.946	99.124	99.301	99.479	99.656	99.834	100.011	100.189				
	0.00000	0.00000	.03894	.03836	.03778	.03721	.03663	.03606	.03550	.03493	.03436	.03379
	.03322	.03266	.03209	.03153	.03097	.03041	.02985	.02929				
.100	83.104	231.692	231.702	232.424	233.146	233.868	234.590	235.312	236.035	236.757	237.479	238.201
	238.923	239.645	240.367	241.090	241.812	242.534	243.256	243.875				
	0.000	92.790	92.796	93.247	93.698	94.149	94.600	95.051	95.502	95.953	96.404	96.855
	97.306	97.757	98.208	98.659	99.110	99.561	100.012	100.398				
	0.00000	0.00000	.04458	.04294	.04129	.03967	.03804	.03642	.03481	.03322	.03165	.03010
	.02858	.02706	.02556	.02408	.02261	.02115	.01971	.01848				
.150	94.656	225.394	225.404	226.499	227.595	228.690	229.786	230.882	231.977	233.073	234.169	235.264
	236.360	237.455	238.551	239.647	240.742	241.838	242.934	244.029				
	0.000	88.182	88.189	88.928	89.667	90.406	91.145	91.884	92.623	93.362	94.101	94.840
	95.579	96.318	97.057	97.796	98.535	99.274	100.013	100.752				
	0.00000	0.00000	.05210	.04913	.04616	.04322	.04030	.03741	.03461	.03186	.02915	.02648
	.02385	.02126	.01949	.02071	.01821	.01377	.00937	.00503				
.200	106.208	220.585	220.595	221.972	223.348	224.725	226.101	227.478	228.855	230.231	231.608	232.984
	234.361	235.738	237.114	238.491	239.867	241.244	242.620	243.846				
	0.000	83.858	83.866	84.875	85.884	86.893	87.903	88.912	89.921	90.930	91.940	92.949
	93.958	94.968	95.977	96.986	97.995	99.005	100.014	100.913				
	0.00000	0.00000	.06088	.05645	.05202	.04762	.04329	.03909	.03500	.03100	.02709	.02357
	.02379	.02120	.01450	.00784	.00131	-.00484	-.01032	-.01497				
.246	116.926	218.815	218.825	220.294	221.763	223.232	224.701	226.170	227.639	229.108	230.577	232.047
	233.516	234.985	236.454	237.923	239.392	240.861	242.330	243.541				
	0.000	81.261	81.269	82.441	83.612	84.784	85.956	87.127	88.299	89.470	90.642	91.814
	92.985	94.157	95.329	96.500	97.672	98.844	100.015	100.981				
	0.00000	0.00000	.06530	.06020	.05508	.05001	.04503	.04025	.03557	.03100	.02653	.02382
	.02370	.01693	.00914	.00153	-.00557	-.01187	-.01837	-.02450				
.247	116.973	218.815	218.825	220.294	221.763	223.232	224.701	226.170	227.639	229.108	230.578	232.047
	233.516	234.985	236.454	237.923	239.392	240.861	242.330	243.541				

	0.000	81.254	81.262	82.434	83.606	84.778	85.950	87.122	88.294	89.467	90.639	91.811
	92.983	94.155	95.327	96.499	97.671	98.843	100.015	100.981				
	0.00000	0.00000	.06530	.06020	.05508	.05001	.04503	.04025	.03557	.03100	.02653	.02382
	.02370	.01693	.00914	.00153	-.00557	-.01187	-.01837	-.02450				
.250	117.760	218.826	218.836	220.308	221.780	223.252	224.724	226.196	227.669	229.141	230.613	232.085
	233.557	235.029	236.501	237.974	239.446	240.918	242.390	243.553				
	0.000	81.105	81.113	82.294	83.476	84.657	85.839	87.020	88.201	89.383	90.564	91.746
	92.927	94.108	95.290	96.471	97.652	98.834	100.015	100.945				
	0.00000	0.00000	.06527	.06017	.05504	.04996	.04497	.04018	.03550	.03092	.02645	.02389
	.02360	.01674	.00895	.00133	-.00575	-.01205	-.01860	-.02445				
.300	129.312	221.119	221.129	222.710	224.292	225.873	227.455	229.037	230.618	232.200	233.781	235.363
	236.944	238.526	239.499	239.509	241.091	242.673	243.534	243.534				
	0.000	80.575	80.584	81.972	83.360	84.748	86.136	87.524	88.912	90.300	91.688	93.076
	94.464	95.852	96.707	96.716	98.104	99.492	100.248	100.248				
	0.00000	0.00000	.05970	.05472	.04975	.04483	.04004	.03541	.03088	.02648	.02271	.02319
	.01775	.01020	.00563	.04796	.03721	.02746	.02239	.02239				
.350	140.864	226.214	226.224	227.505	228.785	230.065	231.346	232.529	232.539	233.819	235.100	236.380
	237.661	238.941	240.222	241.502	242.783	244.063	244.661	244.661				
	0.000	82.645	82.655	83.899	85.139	86.379	87.619	88.764	88.774	90.014	91.254	92.494
	93.734	94.974	96.214	97.454	98.694	99.934	100.512	100.512				
	0.00000	0.00000	.05092	.04754	.04417	.04083	.03753	.03455	.08402	.07760	.07125	.06498
	.05881	.05320	.05106	.04549	.03756	.02970	.02606	.02606				
.400	152.415	226.431	226.441	227.769	229.097	230.425	231.753	232.642	232.652	233.980	235.307	236.635
	237.963	239.291	240.619	241.947	243.275	244.603	245.931	246.037				
	0.000	79.933	79.944	81.378	82.812	84.246	85.680	86.640	86.651	88.085	89.519	90.953
	92.387	93.821	95.255	96.639	98.123	99.557	100.992	101.107				
	0.00000	0.00000	.05957	.05540	.05122	.04709	.04300	.04033	.08399	.07713	.07040	.06375
	.05722	.05156	.04981	.04305	.03404	.02523	.01722	.01659				
.450	163.967	222.474	222.484	224.157	225.831	227.504	229.178	230.851	232.524	234.198	235.871	237.545
	239.218	239.706	239.716	241.389	243.063	244.736	246.371	246.371				
	0.000	71.414	71.427	73.469	75.512	77.554	79.597	81.640	83.682	85.725	87.767	89.810
	91.853	92.448	92.460	94.503	96.546	98.588	100.583	100.583				
	0.00000	0.00000	.07015	.06386	.05756	.05133	.04530	.03948	.03383	.02831	.02602	.02401
	.01426	.01146	.04967	.03699	.02510	.01428	.00288	.00288				
.472	168.957	222.002	222.012	223.746	225.481	227.215	228.949	230.683	232.418	234.152	235.886	237.621
	239.355	241.085	242.824	242.870	242.880	244.614	246.349	246.388				
	0.000	68.608	68.621	70.864	73.107	75.350	77.593	79.836	82.080	84.323	86.566	88.809
	91.052	93.295	95.538	95.598	95.611	97.854	100.097	100.148				
	0.00000	0.00000	.07180	.06511	.05841	.05180	.04541	.03926	.03328	.02766	.02812	.02118
	.01081	.00072	-.00837	-.00860	.02772	.01652	.00373	.00344				

.472	169.003	222.002	222.012	223.747	225.481	227.216	228.951	230.686	232.421	234.155	235.890	237.625
	239.360	241.095	242.829	242.899	242.909	244.644	246.379	246.388				
	0.000	68.583	68.596	70.841	73.086	75.331	77.576	79.820	82.065	84.310	86.555	88.800
	91.045	93.290	95.535	95.625	95.638	97.883	100.128	100.139				
	0.09000	0.00000	.07180	.06511	.05840	.05180	.04541	.03925	.03327	.02765	.02813	.02116
	.01078	.00069	-.00840	-.00874	-.00879	-.01686	-.02661	-.02665				
.500	175.520	222.794	222.804	224.582	226.361	228.139	229.917	231.695	233.474	235.252	237.030	238.808
	240.587	242.365	244.143	245.921	247.101	247.111	247.822	247.822				
	0.000	65.513	65.526	67.951	70.455	72.919	75.384	77.848	80.312	82.776	85.241	87.705
	90.169	92.634	95.098	97.562	99.196	99.210	100.196	100.196				
	0.00000	0.00000	.06910	.06252	.05594	.04946	.04320	.03718	.03131	.02612	.02621	.01837
	.00827	-.00154	-.01012	-.01821	-.02460	-.02465	-.02852	-.02852				
.550	187.073	227.153	227.163	228.602	230.041	231.480	232.918	234.357	235.796	237.235	238.673	240.112
	241.551	242.989	244.428	245.867	247.306	248.744	250.183	250.576				
	0.000	63.528	63.544	65.624	68.104	70.385	72.665	74.946	77.226	79.506	81.787	84.067
	86.348	88.628	90.908	93.189	95.469	97.750	100.030	100.652				
	0.00000	0.00000	.05808	.05368	.04929	.04494	.04066	.03654	.03251	.02856	.02469	.02167
	.02229	.01739	.01075	.00423	-.00214	-.00772	-.01295	-.01436				
.600	198.626	233.415	233.425	234.627	235.830	237.032	238.235	239.438	240.640	241.843	243.046	244.248
	245.451	246.654	247.856	249.059	250.261	251.464	252.667	253.869				
	0.000	64.397	64.416	66.642	68.868	71.095	73.321	75.547	77.773	79.999	82.226	84.452
	86.678	88.904	91.130	93.357	95.583	97.809	100.035	102.261				
	0.00000	0.00000	.04639	.04539	.04241	.03944	.03650	.03363	.03082	.02807	.02536	.02269
	.02007	.01823	.01912	.01619	.01179	.00738	.00306	-.00115				
.650	210.179	240.457	240.467	241.385	242.302	243.220	244.138	245.056	245.973	246.891	247.809	248.726
	249.644	250.562	251.479	252.397	253.315	254.232	255.150	255.928				
	0.000	67.356	67.378	69.420	71.461	73.503	75.544	77.586	79.627	81.669	83.710	85.752
	87.793	89.835	91.876	93.918	95.959	98.001	100.042	101.772				
	0.00000	0.00000	.04149	.03956	.03765	.03575	.03385	.03198	.03012	.02831	.02652	.02475
	.02301	.02128	.01957	.01788	.01657	.01662	.01647	.01513				
.700	221.733	247.875	247.885	248.494	249.103	249.712	250.322	250.931	251.540	252.150	252.759	253.368
	253.978	254.587	255.196	255.806	256.415	257.024	257.634	258.243				
	0.000	72.855	72.883	74.581	76.279	77.977	79.676	81.374	83.072	84.770	86.468	88.166
	89.864	91.562	93.260	94.959	96.657	98.355	100.053	101.751				
	0.00000	0.00000	.03650	.03540	.03430	.03321	.03212	.03103	.02994	.02887	.02780	.02674
	.02570	.02467	.02365	.02263	.02162	.02062	.01962	.01863				
.750	229.521	255.497	255.507	255.796	256.085	256.374	256.663	256.952	257.241	257.530	257.820	258.109
	258.398	258.687	258.976	259.265	259.554	259.843	260.132	260.421				
	0.000	84.909	84.942	85.387	86.832	87.777	88.722	89.667	90.612	91.557	92.502	93.447
	94.392	95.337	96.282	97.227	98.172	99.117	100.062	101.007				

	0.00000	0.00000	.03276	.03229	.03183	.03137	.03092	.03046	.03000	.02955	.02909	.02864
	.02818	.02773	.02727	.02682	.02637	.02592	.02547	.02503				
.800	235.259	262.622										
	0.000	100.000										
	0.00000	0.00000										
.850	240.997	265.130										
	0.000	100.000										
	0.00000	0.00000										
.900	246.734	267.638										
	0.000	100.000										
	0.00000	0.00000										
.950	252.472	270.147										
	0.000	100.000										
	0.00000	0.00000										
1.000	258.210	272.655										
	0.000	100.000										
	0.00000	0.00000										

FUSELAGE FORCE COEFFICIENTS BASED ON WING REF. GEOMETRY

	IGNORING WING DOWNWASH		INCLUDING WING DOWNWASH	
	AT ALPHA= 0.000	PER DEG.	AT ALPHA= 0.000	PER DEG.
CL	.000000	-.000000	.000091	-.000102
CD	.000001	-.000000	.000009	-.000002
CM	.003958	.000795	.003885	.000872

TABLE OF CAMBER CP AT BASIC ALPHA

XPCT	0.00	5.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00
	90.00	100.00								
Y/B/2										
0.000	.00059	.00234	.00696	.02069	.02422	.01954	.01743	.01728	.01208	.00763
	.00907	.01056								
.025	.00068	.00313	.00781	.02071	.02408	.01970	.01763	.01695	.01076	.00598
	.00969	.01136								
.050	.00278	.00595	.01066	.02089	.02366	.02033	.01811	.01529	.01388	.01164
	.01067	.00991								
.075	.00835	.01105	.01483	.02191	.02378	.02223	.02312	.01903	.01564	.01112
	.00711	.00667								
.100	.03805	.02526	.02358	.02042	.02035	.02027	.02018	.01777	.01549	.01008
	.00457	.00422								
.125	.05149	.03609	.02635	.01847	.01899	.01905	.01855	.01672	.01486	.00981
	.00376	.00283								
.150	.05897	.03921	.02707	.01710	.01795	.01819	.01726	.01588	.01421	.01001
	.00390	.00207								
.175	.05628	.03907	.02613	.01642	.01711	.01735	.01640	.01514	.01374	.01036
	.00463	.00180								
.200	.05768	.03894	.02654	.01558	.01666	.01655	.01591	.01456	.01328	.01067
	.00565	.00212								
.225	.05995	.03853	.02619	.01496	.01600	.01605	.01549	.01418	.01281	.01098
	.00685	.00282								
.250	.05321	.03734	.02531	.01450	.01537	.01587	.01512	.01385	.01244	.01124
	.00802	.00385								
.275	.05416	.03733	.02554	.01360	.01520	.01552	.01489	.01346	.01224	.01123
	.00887	.00501								
.300	.04832	.03527	.02411	.01354	.01505	.01522	.01460	.01314	.01217	.01119
	.00953	.00628								
.325	.04832	.03497	.02447	.01445	.01474	.01508	.01423	.01307	.01206	.01116
	.00991	.00745								
.350	.04905	.03480	.02460	.01493	.01468	.01473	.01403	.01310	.01198	.01116
	.01010	.00847								
.375	.04348	.03315	.02388	.01536	.01430	.01442	.01404	.01306	.01200	.01110
	.01017	.00924								
.400	.04407	.03379	.02506	.01603	.01374	.01441	.01397	.01302	.01204	.01101
	.01026	.00974								

.425	.03991	.03199	.02447	.01614	.01360	.01437	.01387	.01312	.01198	.01099
	.01036	.00954								
.450	.04013	.03221	.02437	.01712	.01359	.01420	.01395	.01307	.01194	.01109
	.01043	.00967								
.475	.04096	.03291	.02563	.01796	.01364	.01416	.01385	.01293	.01201	.01127
	.01048	.00979								
.500	.03714	.03123	.02554	.01833	.01413	.01391	.01360	.01288	.01218	.01127
	.01047	.01003								
.525	.03809	.03231	.02638	.01945	.01476	.01346	.01347	.01306	.01218	.01126
	.01065	.01034								
.550	.03547	.03093	.02641	.01933	.01512	.01330	.01362	.01300	.01214	.01146
	.01097	.01062								
.575	.03626	.03159	.02697	.02012	.01610	.01361	.01336	.01290	.01235	.01182
	.01143	.01115								
.600	.03751	.03280	.02804	.02115	.01658	.01392	.01303	.01310	.01277	.01234
	.01196	.01162								
.625	.03482	.03123	.02764	.02102	.01739	.01452	.01328	.01348	.01326	.01293
	.01244	.01180								
.650	.03567	.03223	.02875	.02242	.01888	.01608	.01421	.01378	.01373	.01347
	.01288	.01222								
.675	.03748	.03356	.02999	.02411	.02038	.01777	.01558	.01418	.01409	.01371
	.01317	.01259								
.700	.03604	.03347	.03089	.02590	.02202	.01933	.01707	.01487	.01395	.01360
	.01316	.01225								
.725	.03714	.03492	.03269	.02804	.02393	.02062	.01819	.01600	.01434	.01330
	.01292	.01267								
.750	.03316	.03180	.03044	.02750	.02403	.02115	.01878	.01678	.01492	.01381
	.01313	.01277								
.775	.03188	.03038	.02903	.02675	.02430	.02188	.01961	.01779	.01608	.01449
	.01383	.01317								
.800	.02793	.02754	.02714	.02585	.02425	.02230	.02040	.01857	.01700	.01548
	.01403	.01285								
.825	.02509	.02497	.02485	.02453	.02352	.02225	.02069	.01911	.01760	.01627
	.01502	.01380								
.850	.02283	.02276	.02269	.02256	.02217	.02147	.02046	.01933	.01808	.01695
	.01612	.01528								
.875	.02035	.02050	.02066	.02090	.02107	.02084	.02042	.01962	.01877	.01773
	.01660	.01501								
.900	.01820	.01842	.01864	.01908	.01945	.01980	.01966	.01942	.01883	.01818
	.01730	.01637								

.925	.01654	.01672	.01691	.01728	.01764	.01806	.01847	.01847	.01838	.01807
	.01764	.01722								
.950	.01364	.01409	.01454	.01533	.01590	.01647	.01687	.01726	.01736	.01726
	.01691	.01584								
.975	.01213	.01242	.01271	.01328	.01381	.01427	.01472	.01499	.01519	.01529
	.01493	.01457								
1.000	.00967	.00978	.00989	.01010	.01032	.01052	.01064	.01075	.01082	.01076
	.01069	.01063								

```
PROGRAM CONTROL CARD
WDEZ
ENTER INPTS---TAPE INPUTS
EXIT INPTS
ENTER GEOMETRY INTERFACE WITH TEA253A
J1=  1
ENTER KULCON--STD. SET OF PRESSURE LEVEL CONSTRAINTS

                    WING UPPER SURFACE CP CONSTRAINTS

     XM=2.700    XVAC= .7000    SWPLE= 74.000    DELB= 0.000    XRPC= 40.000    YVPC= 40.000
                CPVAC= -.13717    INBD. SHOCK CP= -.05990
                         T.E. SHOCK CP CONSTRAINTS
                                Y/B/2          CP
                        1       8.7494       -.15994
                        2      12.1774       -.15993
                        3      19.5042       -.15996
                        4      35.9117       -.15736
                        5      59.4672       -.13803
                        6      71.7653       -.16033
                        7      85.8830       -.13759
```

* *

TEA253, 17 LOADING VERSION OF DECEMBER 15, 1979.

OPTIMUM COMBINATION OF 17 WING LOADINGS

-500A CHECK CASE 17 LOADS 5 Z CONST.

* *

NUMBER OF PLANFORM BREAKPOINTS =	9.0	FLAT PLATE CONTROL FLAG =	0.0
NUMBER OF SEMISPAN ELEMENTS =	40.0	PRINT FLAG =	2.0
NUMBER OF SPAN STATIONS FOR CAMBER SURFACE =	22.0	SMOOTHING FLAG =	1.0
SPAN STATION FOR PARABOLIC APEX =	0.0	RESTART FLAG =	1.0

BASIC MACH NUMBER =	2.7000	DESIGN C-L =	.1000
CBAR =	106.4100	NUMBER OF LOADINGS =	-17.0000
PITCHING MOMENT CENTER AT	187.0000	NUMBER OF CAMBER ORDINATES =	12.0000
REFERENCE AREA =	9898.0000	NUMBER OF POINTS DEFINING ARBITRARY REGION =	2.0000
C-M-0 CONSTRAINT =	.0100	FUSELAGE ALPHA =	0.0000
SPAN STATION FOR SIDE-OF-BODY =	4.9688	NUMBER OF BODY CAMBER ORDINATES =	19.0000

NUMBER OF CHORDWISE AND SPANWISE LOCATIONS FOR

BODY BUOYANCY TABLES =	-11.0	21.0
BODY UPWASH LOADING TABLE =	-12.0	41.0
NACELLE BUOYANCY LOADING TABLES =	-20.0	25.0
WING UPPER SURFACE LIMITING PRESSURES =	-1.0	0.0
WING THICKNESS PRESSURES =	-21.0	20.0

CAMBER SURFACE OPTION FLAGS = 1.0 1.0 1.0 2.0

5 CONSTRAINTS ARE APPLIED ON ORDINATE

CONSTRAINT LOCATIONS

I	X(I)	Y(I)	Z(I)
1	130.850000	4.968800	-4.070000
2	189.000000	4.968800	-10.160000
3	243.390000	4.968800	-14.110000
4	189.000000	6.625000	-8.320000
5	189.000000	8.281300	-7.000000

PLANFORM DEFINITION

	X (LEADING EDGE)	Y	CHORD	X (TRAILING EDGE)
1	60.010500	0.000000	183.870300	243.880800
2	77.328000	4.968000	166.070000	243.398000
3	83.104000	6.625000	160.133000	243.237000
4	93.165000	9.510000	149.790000	242.955000
5	116.960000	16.333000	125.350000	242.310000
6	168.980000	31.250000	77.295000	246.275000
7	225.810000	47.544000	32.681000	258.491000
8	225.810000	47.545000	32.681000	258.491000
9	258.210000	66.250000	14.445000	272.655000

ORDINATES FOR BODY CAMBER LINE

I	X	Z	I	X	Z	I	X	Z	I	X	Z

1	0.00000	10.00000	2	16.67000	8.55000	3	33.33000	7.10000	4	50.00000	5.64000
5	66.67000	4.17000	6	83.33000	2.73000	7	100.00000	1.28000	8	116.67000	-.14000
9	133.33000	-1.60000	10	150.00000	-3.04000	11	166.66000	-4.50000	12	183.33000	-5.90000
13	200.00000	-7.40000	14	216.67000	-8.85000	15	233.33000	-10.25000	16	250.00000	-11.70000
17	266.67000	-13.20000	18	283.30000	-14.60000	19	295.00000	-15.70000			

VALUES OF SEMISPAN LOCATION AT WHICH WING CAMBER SURFACE WILL BE CALCULATED

0.0000	1.0000	2.0000	3.0000	4.0000	5.0000	6.0000	7.0000	8.0000	10.0000
12.0000	14.0000	16.0000	19.0000	22.0000	25.0000	28.0000	30.0000	32.0000	36.0000
38.0000	40.0000								

WING GRID SYSTEM PLTS SIDE-OF-FUSELAGE AT Y= 4.14063 AT EDGE OF ELEMENT ROW= 3

SPAN STATION OF ORDINATE CONSTRAINT 1 IS CHANGED FROM 4.96880 TO 4.96875

SPAN STATION OF ORDINATE CONSTRAINT 2 IS CHANGED FROM 4.96880 TO 4.96875

SPAN STATION OF ORDINATE CONSTRAINT 3 IS CHANGED FROM 4.96880 TO 4.96875

SPAN STATION OF ORDINATE CONSTRAINT 5 IS CHANGED FROM 8.28130 TO 8.28125

```
LOADING  1 FOR THIS CASE IS UNIFORM OR CONSTANT  (LOADING  1 IN THE LOADING DEFINITIONS)
LOADING  2 FOR THIS CASE IS   LINEAR CHORDWISE   (LOADING  2 IN THE LOADING DEFINITIONS)
LOADING  3 FOR THIS CASE IS   LINEAR SPANWISE    (LOADING  3 IN THE LOADING DEFINITIONS)
LOADING  4 FOR THIS CASE IS  QUADRATIC SPANWISE  (LOADING  4 IN THE LOADING DEFINITIONS)
LOADING  5 FOR THIS CASE IS QUADRATIC CHORDWISE  (LOADING  5 IN THE LOADING DEFINITIONS)
LOADING  6 FOR THIS CASE IS PARABOLIC CHORDWISE  (LOADING  6 IN THE LOADING DEFINITIONS)
LOADING  7 FOR THIS CASE IS   CUBIC CHORDWISE    (LOADING  7 IN THE LOADING DEFINITIONS)
LOADING  8 FOR THIS CASE IS SIMILAR TO FLAT WING (LOADING  8 IN THE LOADING DEFINITIONS)
LOADING  9 FOR THIS CASE IS MID-SPAN LOADING     (LOADING  9 IN THE LOADING DEFINITIONS)
LOADING 10 FOR THIS CASE IS  ELLIPTICAL C-SUB-P  (LOADING 10 IN THE LOADING DEFINITIONS)
LOADING 11 FOR THIS CASE IS LINEAR IN ARB.REGION (LOADING 11 IN THE LOADING DEFINITIONS)
LOADING 12 FOR THIS CASE IS BODY UPWASH LOADING  (LOADING 16 IN THE LOADING DEFINITIONS)
LOADING 13 FOR THIS CASE IS  NACELLE BUOYANCY    (LOADING 17 IN THE LOADING DEFINITIONS)
LOADING 14 FOR THIS CASE IS NACELLE BUOY(CAMBER) (LOADING 14 IN THE LOADING DEFINITIONS)
LOADING 15 FOR THIS CASE IS BODY UPWASH (CAMBER) (LOADING 13 IN THE LOADING DEFINITIONS)
LOADING 16 FOR THIS CASE IS  BODY BUOYANCY TERM  (LOADING 15 IN THE LOADING DEFINITIONS)
LOADING 17 FOR THIS CASE IS BODY BUOY. (CAMBER)  (LOADING 12 IN THE LOADING DEFINITIONS)
```

X/C(PERCENT) FOR INTERPOLATED CAMBER SURFACE ORDINATES

0.000000	5.000000	10.000000	20.000000	30.000000	40.000000	50.000000	60.000000	70.000000	80.000000
90.000000	100.000000								

DEFINITION OF AREITRARY REGION FOR LOADING 11.

Y

0.00000 66.25000

X

207.00000 269.80000

ARBITRARY REGION DEFINITION (LOADING 11)

FRACTION OF SEMISPAN

0.00000 1.00000

FRACTION OF LOCAL CHORD

.75942 .80235

```
NACELLE NUMBER  1, ORIGIN AT X =      213.42000000
                             Y =       16.33000000
                             Z =       -5.80000000

          NACELLE LONGITUDINAL COORDINATES (X HAS BEEN MULTIPLIED BY       1.00000000)

        0.000000    2.008000   15.470000   21.525000   28.017000   32.067000   35.040000

          NACELLE RADII (R HAS BEEN MULTIPLIED BY       1.00000000)

        2.865000    2.983000    3.633000    3.770000    3.654000    3.420000    3.420000


NACELLE NUMBER  2, ORIGIN AT X =      218.67000000
                             Y =       31.25000000
                             Z =       -4.90000000

          NACELLE LONGITUDINAL COORDINATES (X HAS BEEN MULTIPLIED BY       1.00000000)

        0.000000    2.008000   15.470000   21.525000   28.017000   32.067000   35.040000

          NACELLE RADII (R HAS BEEN MULTIPLIED BY       1.00000000)

        2.865000    2.983000    3.633000    3.770000    3.654000    3.420000    3.420000
```

BODY BUOYANCY PRESSURES AT THE FOLLOWING X/C (PERCENT)

0.00000	10.00000	20.00000	30.00000	40.00000	50.00000	60.00000	70.00000	80.00000	90.00000
100.00000									

AND AT THE FOLLOWING SPANWISE LOCATIONS (PERCENT SEMISPAN

0.00000	2.50000	5.00000	7.50000	10.00000	12.50000	15.00000	17.50000	20.00000	25.00000
30.00000	35.00000	40.00000	45.00000	50.00000	55.00000	60.00000	70.00000	80.00000	90.00000
100.00000									

BODY PRESSURES ON THE WING UPPER SURFACE

-.024240	-.054840	-.019742	.001566	.007149	.011196	-.001137	-.016041	-.021327	-.027707
-.034637									
-.024240	-.054840	-.019742	.001566	.007149	.011196	-.001137	-.016041	-.021327	-.027707
-.034637									
-.024240	-.054840	-.019742	.001566	.007149	.011196	-.001137	-.016041	-.021327	-.027707
-.034637									
-.024247	-.054832	-.019738	.001568	.007149	.011197	-.001139	-.016041	-.021327	-.027707
-.034637									
-.039544	-.039255	-.012049	.005120	.006819	.012886	-.003675	-.016137	-.021097	-.027051
-.032863									
-.039022	-.033584	-.010244	.004472	.006138	.010567	-.000149	-.013167	-.016876	-.023801
-.027867									
-.038863	-.029379	-.008855	.003978	.005639	.008638	.002993	-.011134	-.015103	-.021234
-.025682									
-.038900	-.025921	-.007719	.003532	.005254	.007203	.005571	-.010105	-.013581	-.018985
-.021290									
-.039049	-.022974	-.006748	.003253	.004546	.006162	.007757	-.009246	-.012211	-.015182
-.018958									
-.036232	-.018071	-.005120	.002744	.004479	.004480	.008656	-.003032	-.009079	-.011662
-.016107									
-.032105	-.014914	-.003528	.002571	.004164	.003728	.008427	.001389	-.007670	-.009904
-.010956									
-.027207	-.012716	-.002148	.002441	.003932	.003511	.006389	.005286	-.004007	-.007508
-.009595									
-.019296	-.010837	-.001230	.002339	.003750	.003340	.004611	.006803	.000449	-.006560
-.007717									
-.014483	-.008148	-.000948	.002258	.003604	.003206	.003386	.006652	.004703	-.001743
-.006266									
-.011307	-.005506	-.000663	.002343	.003460	.003087	.002858	.004729	.006129	.002386
-.002728									
-.009317	-.003141	-.000380	.002422	.003319	.002976	.002813	.003532	.005965	.005533
.001253									
-.005981	-.001044	-.000068	.002430	.003197	.002881	.002742	.002620	.004055	.005885
.005082									
-.000800	-.000228	.001339	.002457	.002596	.002790	.002640	.002555	.002478	.002632
.003563									
-.002572	-.000806	-.000395	.000316	.001596	.002286	.002753	.002704	.002558	.002467
.002406									
-.007133	-.005188	-.003310	-.001571	-.000695	-.000398	-.000059	.000881	.001820	.002170
.002508									
-.009529	-.008353	-.007788	-.007224	-.006450	-.005124	-.003758	-.002605	-.001425	-.000732
-.000535									

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THE MAXIMUM AND MINIMUM OF THE PRECEDING ARRAY ARE .01288613 -.05484029

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BODY PRESSURES ON THE WING LOWER SURFACE

-.007872	-.019531	-.032426	-.023713	-.017122	-.019487	-.015239	.001681	.000964	.000384
-.018792									
-.007872	-.019531	-.032426	-.023713	-.017122	-.019487	-.015239	.001681	.000964	.000384
-.018792									
-.007872	-.019531	-.032426	-.023713	-.017122	-.019487	-.015239	.001681	.000964	.000384
-.018792									
-.007871	-.019537	-.032425	-.023711	-.017122	-.019488	-.015237	.001681	.000964	.000384
-.018792									
.000829	-.027032	-.029669	-.021035	-.016726	-.020466	-.011211	.001669	.000928	.000362
-.015359									
-.001092	-.025205	-.026485	-.019035	-.014965	-.017314	-.014806	.001428	.001000	.000340
-.001158									
-.002631	-.023953	-.024120	-.017570	-.013665	-.015057	-.018061	.001232	.001170	.000386
.000453									
-.003920	-.023052	-.022271	-.016439	-.012655	-.013263	-.017553	.001049	.001258	.000512
.000379									
-.005074	-.022381	-.020770	-.015535	-.011881	-.011782	-.017189	.000896	.001200	.000615
.000241									
-.008525	-.021026	-.018451	-.014156	-.010790	-.010192	-.014635	-.006482	.001008	.000902
.000380									
-.011251	-.019127	-.016662	-.013020	-.009558	-.009486	-.011821	-.012903	.000793	.000980
.000568									
-.013140	-.017644	-.015250	-.012137	-.009319	-.008932	-.009797	-.013204	-.003239	.000849
.000885									
-.014314	-.016444	-.014094	-.011426	-.008810	-.008362	-.008191	-.011178	-.011094	.000655
.000836									
-.015360	-.015032	-.013122	-.010836	-.008563	-.007890	-.007656	-.009044	-.011840	-.006381
.000660									
-.014810	-.013756	-.012251	-.010250	-.008306	-.007526	-.007434	-.007612	-.009649	-.010659
-.003779									
-.014037	-.012629	-.011388	-.009677	-.008034	-.007270	-.007129	-.006854	-.007999	-.009864
-.009895									
-.012861	-.011722	-.010610	-.009168	-.007802	-.007050	-.006831	-.006746	-.006692	-.007943
-.009529									
-.010751	-.010087	-.009266	-.008299	-.007425	-.006755	-.006485	-.006327	-.006319	-.006209
-.006021									
-.010636	-.010180	-.009753	-.009194	-.008602	-.007898	-.007179	-.006697	-.006229	-.006080
-.005932									
-.010980	-.010722	-.010305	-.009897	-.009587	-.009278	-.008911	-.008481	-.008051	-.007529
-.007005									
-.010304	-.010505	-.010474	-.010443	-.010413	-.010257	-.009982	-.009706	-.009431	-.009222
-.005018									

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THE MAXIMUM AND MINIMUM OF THE PRECEDING ARRAY ARE .00168063 -.03242584

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BODY BUOYANCY LOADING

.016368	.035309	-.012684	-.025279	-.024272	-.030683	-.014102	.017721	.022291	.028090
.015845									
.016368	.035309	-.012684	-.025279	-.024272	-.030683	-.014102	.017721	.022291	.028090
.015845									
.016368	.035309	-.012684	-.025279	-.024272	-.030683	-.014102	.017721	.022291	.028090
.015945									
.016376	.035296	-.012687	-.025280	-.024271	-.030685	-.014098	.017722	.022291	.028090
.015846									
.040373	.012223	-.017620	-.026155	-.023544	-.033352	-.007537	.017805	.022025	.027412
.017505									
.037931	.008379	-.016241	-.023507	-.021103	-.027821	-.014656	.014595	.017876	.024141
.026709									
.036232	.005426	-.015261	-.021548	-.019304	-.023695	-.021054	.012366	.016274	.021620
.026135									
.034980	.002869	-.014551	-.020022	-.017509	-.020465	-.023124	.011155	.014839	.019497
.021669									
.033975	.000593	-.014022	-.018788	-.016827	-.017544	-.024946	.010142	.013412	.015797
.019199									
.027707	-.002955	-.013331	-.016900	-.015269	-.014672	-.023290	-.003450	.010087	.012564
.016487									
.020854	-.004213	-.013134	-.015592	-.014122	-.013214	-.020248	-.014292	.008462	.010884
.011524									
.014067	-.004928	-.013103	-.014578	-.013251	-.012443	-.016186	-.018490	.000768	.008356
.010480									
.004982	-.005607	-.012864	-.013765	-.012560	-.011702	-.012802	-.017981	-.011543	.007216
.008553									
-.000877	-.006884	-.012174	-.013094	-.012168	-.011096	-.011041	-.015696	-.016543	-.004638
.006925									
-.003503	-.008250	-.011588	-.012593	-.011765	-.010613	-.010332	-.012341	-.015778	-.013045
-.001051									
-.004720	-.009488	-.011008	-.012098	-.011353	-.010246	-.009943	-.010387	-.013964	-.015398
-.011147									
-.006880	-.010678	-.010542	-.011598	-.010599	-.009931	-.009573	-.009366	-.010747	-.013827
-.014611									
-.009951	-.009860	-.010605	-.010757	-.010421	-.009545	-.009126	-.008881	-.008797	-.008841
-.009584									
-.008064	-.009374	-.009358	-.009509	-.010198	-.010184	-.009932	-.009402	-.008787	-.008548
-.008338									
-.003847	-.005534	-.006996	-.008326	-.008892	-.008880	-.008852	-.009362	-.009872	-.009699
-.009513									
-.000776	-.002152	-.002686	-.003220	-.003963	-.005133	-.006183	-.007102	-.008006	-.008450
-.008482									

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THE MAXIMUM AND MINIMUM OF THE PRECEDING ARRAY ARE .04037274 -.03335185

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X/C (PERCENT) FOR BODY UPWASH LOADING

0.00000	5.00000	10.00000	20.00000	30.00000	40.00000	50.00000	60.00000	70.00000	80.00000
90.00000	100.00000								

AND SPANWISE LOCATIONS (PERCENT SEMISPAN)

0.00000	2.50000	5.00000	7.50000	10.00000	12.50000	15.00000	17.50000	20.00000	22.50000
25.00000	27.50000	30.00000	32.50000	35.00000	37.50000	40.00000	42.50000	45.00000	47.50000
50.00000	52.50000	55.00000	57.50000	60.00000	62.50000	65.00000	67.50000	70.00000	72.50000
75.00000	77.50000	80.00000	82.50000	85.00000	87.50000	90.00000	92.50000	95.00000	97.50000
100.00000									

BODY UPWASH LOADING

.000586	.002339	.006959	.020685	.024224	.019544	.017433	.017281	.012076	.007634
.009066	.010560								
.000682	.003135	.007812	.020713	.024081	.019705	.017630	.016946	.010756	.005981
.009689	.011357								
.002781	.005954	.010663	.020894	.023661	.020326	.018114	.015289	.013876	.011639
.010671	.009915								
.008385	.011046	.014832	.021912	.023782	.022235	.023115	.019026	.015638	.011121
.007107	.006674								
.038049	.029264	.023579	.020422	.020346	.020267	.020179	.017768	.015488	.010084
.004572	.004224								
.051493	.036095	.026353	.018465	.018994	.019053	.018549	.016721	.014859	.009809
.003763	.002834								
.058974	.039214	.027075	.017101	.017554	.018185	.017260	.015880	.014207	.010011
.003897	.002065								
.056276	.039074	.026133	.016420	.017115	.017355	.016396	.015137	.013741	.010365
.004625	.001600								
.057681	.038938	.026539	.015580	.016661	.016552	.015909	.014557	.013277	.010666
.005695	.002121								
.059994	.038528	.026186	.014963	.015998	.016093	.015492	.014179	.012807	.010976
.006891	.002822								
.053207	.037343	.025312	.014502	.015372	.015875	.015119	.013854	.012439	.011245
.008018	.003850								
.054163	.037327	.025545	.013595	.015196	.015524	.014887	.013456	.012239	.011226
.008867	.005008								
.048321	.035270	.024112	.013541	.015046	.015224	.014603	.013138	.012169	.011190
.009531	.006285								
.048325	.034970	.024472	.014450	.014744	.015083	.014234	.013069	.012065	.011159
.009913	.007450								
.049086	.034803	.024558	.014930	.014678	.014735	.014030	.013101	.011982	.011162
.010101	.008475								
.043479	.033154	.023883	.015360	.014300	.014418	.014035	.013063	.012003	.011097
.010168	.009238								
.044069	.033788	.025060	.016026	.013740	.014406	.013967	.013022	.012040	.011007
.010256	.009736								
.039905	.031990	.024470	.016138	.013596	.014373	.013867	.013119	.011983	.010993
.010361	.009537								
.040128	.032205	.024373	.017116	.013585	.014197	.013948	.013065	.011938	.011091
.010432	.009668								
.040958	.032911	.025628	.017959	.013638	.014157	.013854	.012930	.012012	.011271
.010476	.009793								
.037142	.031228	.025543	.018334	.014130	.013913	.013598	.012880	.012185	.011271
.010470	.010031								
.038093	.032309	.026380	.019446	.014765	.013462	.013473	.013064	.012177	.011257
.010655	.010342								
.035474	.030928	.026406	.019325	.015117	.013301	.013625	.013000	.012140	.011457

.010570	.010623								
.036256	.031593	.026965	.020117	.016103	.013610	.013362	.012903	.012354	.011815
.011430	.011152								
.037514	.032803	.028044	.021146	.016579	.013918	.013027	.013101	.012766	.012335
.011964	.011619								
.034816	.031226	.027636	.021024	.017395	.014524	.013278	.013483	.013262	.012931
.012443	.011804								
.035670	.032232	.028747	.022423	.018883	.016077	.014210	.013775	.013729	.013466
.012884	.012216								
.037482	.033555	.029985	.024108	.020379	.017768	.015581	.014184	.014086	.013712
.013166	.012595								
.036041	.033467	.030893	.025895	.022024	.019326	.017070	.014870	.013945	.013596
.013155	.012246								
.037145	.034918	.032691	.028043	.023527	.020623	.018188	.016003	.014337	.013302
.012525	.012665								
.033157	.031801	.030445	.027498	.024028	.021152	.018783	.016783	.014924	.013806
.013130	.012765								
.031882	.030381	.029028	.026752	.024302	.021879	.019608	.017790	.016084	.014488
.013828	.013168								
.027930	.027536	.027142	.025848	.024252	.022304	.020404	.018572	.016998	.015483
.014034	.012852								
.025091	.024972	.024853	.024532	.023525	.022245	.020686	.019109	.017598	.016273
.015020	.013804								
.022827	.022759	.022691	.022556	.022169	.021473	.020462	.019333	.018082	.016950
.016116	.015281								
.020346	.020503	.020661	.020900	.021075	.020836	.020416	.019624	.018767	.017726
.016596	.015005								
.018197	.018418	.018639	.019081	.019447	.019756	.019659	.019420	.018834	.018181
.017296	.016369								
.016539	.016723	.016907	.017275	.017643	.018057	.018472	.018473	.018377	.018066
.017643	.017219								
.013640	.014089	.014538	.015334	.015901	.016468	.016868	.017261	.017356	.017259
.016911	.015839								
.012135	.012420	.012705	.013276	.013808	.014266	.014724	.014987	.015187	.015294
.014932	.014570								
.005673	.009780	.009888	.010102	.010316	.010516	.010636	.010755	.010823	.010757
.010691	.010626								

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THE MAXIMUM AND MINIMUM OF THE PRECEDING ARRAY ARE .05999436 .00058643

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SEMISPAN LOCATION (PERCENT)FOR NACELLE BUOYANCY LOADING

0.00000	5.00000	10.00000	15.00000	20.00000	24.63906	24.65906	25.00000	30.00000	35.00000
40.00000	45.00000	47.15981	47.17981	50.00000	55.00000	60.00000	65.00000	70.00000	75.00000
80.00000	85.00000	90.00000	95.00000	100.00000					

X/C PERCENT FOR EACH SPAN STATION

0.000000	100.000000	100.000060	100.000120	100.000181	100.000241	100.000301	100.000361	100.000422	100.000482
100.000542	100.000602	100.000662	100.000723	100.000783	100.000843	100.000903	100.000963	100.001024	100.001084
0.000000	97.165010	97.171032	97.343557	97.526083	97.703609	97.881134	98.058660	98.236185	98.413711
98.591236	98.768762	98.946288	99.123813	99.301339	99.478864	99.656390	99.833915	100.011441	100.188967
0.000000	92.790119	92.796364	93.247333	93.698301	94.149270	94.600239	95.051208	95.502177	95.953146
96.404114	96.855083	97.306052	97.757021	98.207990	98.658959	99.109927	99.560896	100.011865	100.398212
0.000000	88.182111	88.188856	88.527853	89.666851	90.405848	91.144846	91.883843	92.622841	93.361838
94.100836	94.839833	95.578831	96.317828	97.056826	97.795823	98.534820	99.273818	100.012815	100.751813
0.000000	83.858219	83.865551	84.874825	85.884098	86.893372	87.902646	88.911920	89.921193	90.930467
91.939741	92.949014	93.958288	94.967562	95.976835	96.986109	97.995383	99.004657	100.013930	100.912714
0.000000	81.260581	81.268956	82.440593	83.612231	84.783868	85.955505	87.127143	88.298780	89.470417
90.642055	91.813692	92.985329	94.156967	95.328604	96.500241	97.671879	98.843516	100.015153	100.980929
0.000000	81.254037	81.262016	82.434087	83.606159	84.778230	85.950302	87.122373	88.294444	89.466516
90.638587	91.810659	92.982730	94.154802	95.326873	96.498945	97.671016	98.843088	100.015159	100.981247
0.000000	81.104986	81.113011	82.294401	83.475791	84.657180	85.838570	87.019960	88.201350	89.382739
90.564129	91.745519	92.926909	94.108299	95.289688	96.471078	97.652468	98.833858	100.015247	100.948746
0.000000	80.575073	80.583850	81.971905	83.359968	84.748027	86.136086	87.524145	88.912204	90.300263
91.688322	93.076381	94.464440	95.852499	96.706575	96.715751	98.103810	99.491869	100.248347	100.248347
0.000000	82.649125	82.658808	83.858779	85.138750	86.378720	87.618691	88.764151	88.773834	90.013805
91.253776	92.493747	93.733717	94.973688	96.213659	97.453630	98.693600	99.933571	100.512454	100.512454
0.000000	79.933015	79.943814	81.377864	82.811915	84.245965	85.680015	86.640212	86.651011	88.085062
89.519112	90.953163	92.387213	93.821263	95.255314	96.689364	98.123414	99.557465	100.991515	101.106727
0.000000	71.414306	71.426513	73.469133	75.511752	77.554372	79.596992	81.639612	83.682232	85.724852
87.767472	89.810092	91.852712	92.448200	92.460406	94.503026	96.545646	98.588266	100.583312	100.583312
0.000000	68.607764	68.620698	70.863832	73.106966	75.350100	77.593234	79.836368	82.079502	84.322636
86.565770	88.808904	91.052038	93.295172	95.538306	95.598170	95.611104	97.854238	100.097372	100.147868
0.000000	68.583019	68.595959	70.840861	73.085763	75.330665	77.575567	79.820469	82.065371	84.310273
86.555175	88.800077	91.044979	93.289881	95.534783	95.625433	95.638373	97.883275	100.128177	100.139237
0.000000	65.512610	65.526467	67.990743	70.455019	72.919295	75.383571	77.847847	80.312123	82.776399
85.240675	87.704950	90.169226	92.633502	95.097778	97.562054	99.195971	99.209828	100.196331	100.196331
0.000000	63.527670	63.543520	65.823933	68.104345	70.384757	72.665169	74.945581	77.225993	79.506406
81.786818	84.067230	86.347642	88.628054	90.908466	93.188879	95.469291	97.749703	100.030115	100.652380
0.000000	64.357380	64.415891	66.642096	68.868301	71.094506	73.320711	75.546916	77.773121	79.999326
82.225531	84.451736	86.677941	88.904146	91.130351	93.356556	95.582761	97.808966	100.035171	102.261376
0.000000	67.356037	67.378283	69.419782	71.461281	73.502780	75.544279	77.585778	79.627277	81.668776
83.710275	85.751774	87.793274	89.834773	91.876272	93.917771	95.959270	98.000769	100.042268	101.771747
0.000000	72.855263	72.883132	74.581246	76.279360	77.977473	79.675587	81.373701	83.071814	84.769928
86.468042	88.166156	89.864269	91.562383	93.260497	94.958610	96.656724	98.354838	100.052952	101.751065
0.000000	84.909301	84.941985	85.886996	86.832004	87.777011	88.722019	89.667026	90.612033	91.557041
92.502048	93.447055	94.392063	95.337070	96.282078	97.227085	98.172092	99.117100	100.062107	101.007115
0.000000	100.000000	100.000365	100.000731	100.001096	100.001462	100.001827	100.002193	100.002558	100.002924
100.003289	100.003655	100.004020	100.004386	100.004751	100.005116	100.005482	100.005847	100.006213	100.006578
0.000000	100.000000	100.000414	100.000829	100.001243	100.001657	100.002072	100.002486	100.002901	100.003315
100.003729	100.004144	100.004558	100.004972	100.005387	100.005801	100.006215	100.006630	100.007044	100.007459
0.000000	100.000000	100.000478	100.000957	100.001435	100.001914	100.002392	100.002870	100.003349	100.003827
100.004305	100.004784	100.005262	100.005741	100.006219	100.006697	100.007176	100.007654	100.008132	100.008611
0.000000	100.000000	100.000566	100.001132	100.001697	100.002263	100.002829	100.003395	100.003961	100.004526
100.005092	100.005658	100.006224	100.006789	100.007355	100.007921	100.008487	100.009053	100.009618	100.010184
0.000000	100.000000	100.000692	100.001385	100.002077	100.002769	100.003461	100.004154	100.004846	100.005538
100.006231	100.006923	100.007615	100.008307	100.009000	100.009692	100.010384	100.011076	100.011769	100.012461

NACELLE BUOYANCY LOADING

0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.000000	0.000000	.038936	.038355	.037783	.037206	.036632	.036064	.035495	.034927
.034358	.033791	.033225	.032659	.032092	.031526	.030967	.030409	.029852	.029294
0.000000	0.000000	.044585	.042938	.041291	.039666	.038041	.036422	.034811	.033218
.031646	.030102	.028575	.027061	.025565	.024076	.022610	.021147	.019710	.018479
0.000000	0.000000	.052097	.049132	.046164	.043224	.040295	.037414	.034610	.031858
.029149	.026479	.023849	.021260	.019492	.029714	.018210	.013770	.009372	.005027
0.000000	0.000000	.060878	.056453	.052016	.047623	.043291	.039094	.035005	.031004
.027086	.023573	.023787	.021204	.014502	.007839	.001306	-.004838	-.010320	-.014967
0.000000	0.000000	.065304	.060203	.055082	.050014	.045032	.040246	.035573	.031001
.026531	.023824	.023698	.016929	.009143	.001529	-.005569	-.011870	-.018369	-.024459
0.000000	0.000000	.065304	.060203	.055082	.050014	.045032	.040246	.035573	.031001
.026531	.023824	.023698	.016928	.009143	.001529	-.005570	-.011871	-.018370	-.024499
0.000000	0.000000	.065275	.060165	.055037	.049960	.044973	.040180	.035500	.030923
.026446	.023895	.023602	.016742	.008548	.001328	-.005752	-.012050	-.018604	-.024489
0.000000	0.000000	.059700	.054717	.049746	.044827	.040038	.035408	.030884	.026477
.022711	.023190	.017749	.010203	.005628	.047861	.037207	.027461	.022391	.022391
0.000000	0.000000	.050921	.047539	.044171	.040828	.037525	.034549	.084023	.077599
.071254	.064984	.058808	.053205	.051062	.045493	.037561	.029699	.026059	.026059
0.000000	0.000000	.059567	.055400	.051222	.047085	.042959	.040326	.083987	.077134
.070401	.063753	.057223	.051559	.049810	.043046	.034044	.025227	.017219	.016591
0.000000	0.000000	.070154	.063862	.057557	.051333	.045301	.039478	.033825	.028311
.026021	.024013	.014260	.011463	.049672	.036989	.025098	.014280	.002881	.002881
0.000000	0.000000	.071797	.065107	.058406	.051801	.045413	.039263	.033279	.027661
.028118	.021183	.010808	.000719	-.008372	-.008599	.027716	.016523	.003734	.003443
0.000000	0.000000	.071797	.065105	.058402	.051795	.045406	.039254	.033269	.027654
.028130	.021157	.010780	.000689	-.008400	-.008743	-.008752	-.016865	-.026605	-.026654
0.000000	0.000000	.069057	.062516	.055938	.049458	.043202	.037182	.031312	.026120
.026205	.018370	.008273	-.001542	-.010117	-.018209	-.024600	-.024654	-.028517	-.028517
0.000000	0.000000	.058077	.053683	.049293	.044940	.040658	.036536	.032506	.028558
.024693	.021671	.022290	.017395	.010750	.004229	-.002142	-.007722	-.012950	-.014359
0.000000	0.000000	.048355	.045392	.042406	.039441	.036505	.033628	.030824	.028069
.025357	.022689	.020069	.018231	.019122	.016194	.011753	.007381	.003056	-.001192
0.000000	0.000000	.041494	.039563	.037651	.035749	.033853	.031977	.030119	.028309
.026522	.024752	.023006	.021280	.019570	.017883	.016573	.016616	.016466	.015131
0.000000	0.000000	.036502	.035396	.034298	.033207	.032117	.031030	.029943	.028870
.027799	.026744	.025705	.024665	.023648	.022628	.021621	.020617	.019622	.018635
0.000000	0.000000	.032756	.032293	.031829	.031373	.030916	.030459	.030002	.029546
.029090	.028635	.028180	.027725	.027270	.026820	.026372	.025923	.025475	.025026
0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

****

THE MAXIMUM AND MINIMUM OF THE PRECEDING ARRAY ARE .08402283 -.02851722

****

X/C(PERCENT) FOR WING THICKNESS PRESSURE COEFFICIENT

0.00000	5.00000	10.00000	15.00000	20.00000	25.00000	30.00000	35.00000	40.00000	45.00000
50.00000	55.00000	60.00000	65.00000	70.00000	75.00000	80.00000	85.00000	90.00000	95.00000
100.00000									

SPANWISE LOCATION(PERCENT SEMISPAN)

0.00000	2.50000	5.00000	7.50000	10.00000	12.50000	15.00000	20.00000	25.00000	30.00000
35.00000	40.00000	45.00000	50.00000	60.00000	70.00000	80.00000	90.00000	95.00000	100.00000

WING THICKNESS PRESSURE COEFFICIENT

0.000000	.006944	.016258	.019883	.012100	.008105	.005858	.003148	.003392	.005418
.002986	.000498	.000025	-.001675	-.003715	-.003831	-.007956	-.013311	-.017362	-.021657
-.026506									
.002472	.007358	.013494	.014060	.010048	.008762	.008438	.005653	.003458	.002518
.000577	.000724	.001533	-.000066	-.003171	-.006078	-.010209	-.014191	-.016942	-.020781
-.025441									
.010571	.012328	.014945	.013202	.012433	.008006	.004842	.004145	.004182	.002954
.002535	.001214	-.000911	-.002425	-.003435	-.006835	-.009836	-.013979	-.018773	-.023318
-.025725									
.034829	.011251	.004463	.005836	.010024	.008224	.004507	.004798	.003645	.001006
.001591	.001314	-.002111	-.003546	-.005804	-.010572	-.013699	-.016481	-.021647	-.025155
-.025637									
.064223	.007445	-.005643	.005245	.007408	.004453	.003114	.003338	.001968	.001184
.001314	-.000474	-.004273	-.005744	-.009803	-.013655	-.017023	-.020014	-.024399	-.027119
-.026292									
.094526	.008343	-.006971	.002640	.004387	.003404	.001744	.001586	.001801	.000546
-.000711	-.001130	-.003562	-.007331	-.012170	-.015528	-.018639	-.022074	-.025424	-.029155
-.028216									
.135755	.006045	-.012237	.000461	.004208	.001774	-.000189	.001646	.001066	-.001598
-.001692	.000001	-.004575	-.010341	-.012950	-.015033	-.019591	-.024022	-.025995	-.028546
-.029010									
.055500	-.003643	-.010151	.001388	-.000528	-.001001	.000976	-.000645	-.002230	-.001442
-.002039	-.004481	-.007514	-.011266	-.015569	-.019283	-.021760	-.025103	-.028760	-.030460
-.030119									
.041245	-.005793	-.012424	-.002527	-.004273	-.005236	-.003171	-.000467	-.001435	-.003827
-.004231	-.005075	-.008027	-.013307	-.017714	-.019822	-.022971	-.026980	-.030458	-.032145
-.031307									
.028689	-.007746	-.011422	-.007394	-.004455	-.006740	-.005481	-.002664	-.003534	-.002357
-.005877	-.007817	-.010795	-.014084	-.017460	-.022969	-.025959	-.029625	-.031085	-.033563
-.034950									
.050571	.003520	-.007828	-.013163	-.008866	-.009234	-.004387	-.004050	-.004255	-.006299
-.006819	-.008768	-.011579	-.016153	-.020865	-.023953	-.027187	-.030596	-.034653	-.035505
-.036353									
.039571	.002548	-.009115	-.011229	-.011179	-.011320	-.008300	-.004464	-.004771	-.006072
-.008843	-.011672	-.014722	-.017229	-.020885	-.025049	-.029730	-.033469	-.035710	-.037089
-.037173									
.031586	-.001709	-.011886	-.014083	-.012916	-.008583	-.009524	-.007216	-.007530	-.009148
-.008860	-.012876	-.015519	-.020041	-.023917	-.026350	-.030786	-.033216	-.037107	-.038960
-.039449									
.021163	-.000188	-.011849	-.016231	-.017891	-.011679	-.007763	-.008171	-.007650	-.010426
-.013290	-.015286	-.018718	-.021815	-.024102	-.028739	-.031976	-.035828	-.039115	-.040346
-.040618									
.022800	.000999	-.009399	-.015007	-.014638	-.014811	-.014269	-.012165	-.013211	-.015136
-.017305	-.019188	-.021544	-.026466	-.030246	-.033548	-.038021	-.040985	-.042776	-.043384
-.043992									
-.000304	-.006177	-.012050	-.015676	-.016026	-.016438	-.017470	-.018502	-.018397	-.017964
-.019401	-.023025	-.026660	-.030352	-.034045	-.038207	-.042464	-.045730	-.048062	-.050247

-.051843									
.041274	.034620	.027567	.021319	.014682	.008045	.001626	-.004372	-.010370	-.016195
-.021627	-.027059	-.031960	-.035423	-.038886	-.042275	-.045422	-.048569	-.051480	-.053427
-.055374									
.046302	.042811	.039321	.035830	.032340	.027370	.021509	.015649	.009788	.003146
-.003517	-.010981	-.018044	-.024205	-.029932	-.035660	-.041387	-.045430	-.048754	-.052079
-.055404									
.048522	.045441	.041960	.038479	.034495	.030198	.025902	.021605	.017309	.011675
.005919	.000164	-.005592	-.011398	-.017384	-.023371	-.029357	-.035344	-.041683	-.048353
-.055023									
.036066	.033667	.031267	.028868	.026469	.024070	.021670	.019271	.016542	.013053
.009564	.006075	.002586	-.000904	-.004363	-.007800	-.011236	-.014672	-.018108	-.021544
-.024580									

****
THE MAXIMUM AND MINIMUM OF THE PRECEDING ARRAY ARE .13575932 -.05540366
****

UPPER WING SURFACE LIMITING CP TABLES

LIMIT C-P

Y STATIONS \ X STATIONS	0.00000	40.00000	40.01000	90.00000	100.00000
0.000	-.137200	-.137200	-.137200	-.137200	-.137200
7.498	-.137200	-.137200	-.137200	-.137200	-.137200
7.499	-.059900	-.059900	-.137200	-.137200	-.137200
40.000	-.137200	-.137200	-.137200	-.137200	-.137200
100.000	-.137200	-.137200	-.137200	-.137200	-.137200

****
THE MAXIMUM AND MINIMUM OF THE PRECEDING ARRAY ARE -.05990000 -.13720000
****

C-P GRADIENT

Y STATIONS \ X STATIONS	0.00000	100.00000
0.000	.002500	.002500
100.000	.002500	.002500

****
THE MAXIMUM AND MINIMUM OF THE PRECEDING ARRAY ARE .00250000 .00250000
****

**********OVERLAY 1, DEPART**********

**********OVERLAY 2, ENTER**********

FLAT WING FORCE COEFFICIENTS

C_L = .027674 C_D = .0004830 $\frac{XF}{L}$ = .720744 $\frac{C_M}{C_L}$ = -.089413 $\frac{C_D}{C_L^2}$ = .630680

CARD 9 PARAMETERS.

XF = .72074404 SCL9 = .02767378 KF = .63067975 AREA9 = 781.12998244 FACTOR = 1.08588281

NOTE XF HAS BEEN CHANGED TO THE WING-BODY VALUE OF .72240850

FUSELAGE CONTRIBUTION AND CARRY-OVER LIFT

FUSELAGE CL= .00000 CD= .000001 CM= .00396 XAC/XMAX= .72241 CMO= .00396

CARRY-OVER CP FOR LOADING 1 OF THIS CASE (UNIFORM OR CONSTANT)

XPCT	0.00	2.50	5.00	10.00	15.00	20.00	30.00	40.00	50.00	60.00
	70.00	80.00	90.00	100.00						
Y/B/2										
0.000	0.00000	0.00000	0.00000	0.00000	.09630	.62304	.97071	.86519	.87946	.91623
	.92619	.92994	.93711	.94577						
.025	0.00000	0.00000	0.00000	.06501	.42616	.79004	.95958	.86805	.89056	.91950
	.92996	.93619	.94577	.94861						
.050	0.00000	0.00000	.12229	.51139	.68957	.92138	.95009	.89851	.91921	.94254
	.94951	.95346	.95621	.96248						

CARRY-OVER CP FOR LOADING 2 OF THIS CASE (LINEAR CHORDWISE)

XPCT	0.00	2.50	5.00	10.00	15.00	20.00	30.00	40.00	50.00	60.00
	70.00	80.00	90.00	100.00						
Y/B/2										
0.000	0.00000	0.00000	0.00000	0.00000	.00142	.06664	.36453	.67686	.96834	1.27301
	1.58648	1.90212	2.22010	2.52535						
.025	0.00000	0.00000	0.00000	.00096	.04118	.14750	.45479	.75192	1.03806	1.33683
	1.64242	1.94943	2.25865	2.55742						
.050	0.00000	0.00000	.00180	.06079	.15682	.28980	.59494	.88637	1.17487	1.47199
	1.77306	2.07521	2.37899	2.67446						

CARRY-OVER CP FOR LOADING 3 OF THIS CASE (LINEAR SPANWISE)

XPCT	0.00	2.50	5.00	10.00	15.00	20.00	30.00	40.00	50.00	60.00
	70.00	80.00	90.00	100.00						
Y/B/2										
0.000	0.00000	0.00000	0.00000	0.00000	.02167	.14018	.25789	.26939	.29814	.32206
	.34178	.35670	.37042	.38695						
.025	0.00000	0.00000	0.00000	.01463	.09589	.18723	.26450	.27227	.29697	.31658
	.33648	.35249	.36906	.37757						
.050	0.00000	0.00000	.02751	.11506	.16473	.22604	.26219	.26853	.28578	.30380
	.31805	.32886	.33591	.34763						

CARRY-OVER CP FOR LOADING 4 OF THIS CASE (QUADRATIC SPANWISE)

XPCT	0.00	2.50	5.00	10.00	15.00	20.00	30.00	40.00	50.00	60.00
	70.00	80.00	90.00	100.00						
Y/B/2										
0.000	0.00000	0.00000	0.00000	0.00000	.00325	.02103	.04770	.06160	.07942	.09386
	.10975	.12440	.13857	.15651						
.025	0.00000	0.00000	0.00000	.00219	.01438	.02998	.05147	.06361	.07849	.09052
	.10630	.12132	.13789	.14856						
.050	0.00000	0.00000	.00413	.01726	.02662	.03812	.05191	.06051	.07072	.08193
	.09358	.10402	.11211	.12475						

CARRY-OVER CP FOR LOADING 5 OF THIS CASE (QUADRATIC CHORDWISE)

XPCT	0.00	2.50	5.00	10.00	15.00	20.00	30.00	40.00	50.00	60.00
	70.00	80.00	90.00	100.00						
Y/B/2										
0.000	0.00000	0.00000	0.00000	0.00000	.00001	.00553	.09926	.33707	.70933	1.21743
	1.86482	2.65616	3.59021	4.61365						
.025	0.00000	0.00000	0.00000	.00001	.00337	.02258	.15320	.41938	.81152	1.33153
	1.98563	2.77352	3.69596	4.70927						
.050	0.00000	0.00000	.00002	.00532	.02781	.07418	.26225	.57729	1.01423	1.57521
	2.26308	3.07872	4.02269	5.05936						

CARRY-OVER CP FOR LOADING 6 OF THIS CASE (PARABOLIC CHORDWISE)

XPCT	0.00	2.50	5.00	10.00	15.00	20.00	30.00	40.00	50.00	60.00
	70.00	80.00	90.00	100.00						

Y/B/2

0.000	0.00000	0.00000	0.00000	0.00000	.00578	.26180	1.28066	2.04496	2.43697	2.59806
	2.50489	2.12198	1.45454	.55340						
.025	0.00000	0.00000	0.00000	.00390	.16188	.55703	1.53518	2.17893	2.51120	2.62805
	2.49412	2.08975	1.41757	.51821						
.050	0.00000	0.00000	.00734	.23828	.58458	1.03181	1.88392	2.41147	2.67341	2.71471
	2.51126	2.05060	1.33446	.39642						

CARRY-OVER CP FOR LOADING 7 OF THIS CASE (CUBIC CHORDWISE)

XPCT	0.00	2.50	5.00	10.00	15.00	20.00	30.00	40.00	50.00	60.00
	70.00	80.00	90.00	100.00						

Y/B/2

0.000	0.00000	0.00000	0.00000	0.00000	.00004	.01375	.22907	.71179	1.35254	2.07141
	2.80120	3.46307	3.97680	4.25465						
.025	0.00000	0.00000	0.00000	.00002	.00837	.05449	.34415	.86313	1.51127	2.22088
	2.92907	3.56362	4.05129	4.31214						
.050	0.00000	0.00000	.00005	.01320	.06677	.17212	.56550	1.14244	1.82132	2.54046
	3.23874	3.84926	4.30418	4.53132						

CARRY-OVER CP FOR LOADING 8 OF THIS CASE (SIMILAR TO FLAT WING)

XPCT	0.00	2.50	5.00	10.00	15.00	20.00	30.00	40.00	50.00	60.00
	70.00	80.00	90.00	100.00						

Y/B/2

0.000	0.00000	0.00000	0.00000	0.00000	.11895	.71972	.95860	.70335	.64906	.62974
	.58656	.54645	.51755	.49668						
.025	0.00000	0.00000	0.00000	.08031	.49612	.86858	.90234	.68556	.64623	.62071
	.58170	.54743	.52345	.49698						
.050	0.00000	0.00000	.15106	.58574	.73984	.94529	.83652	.68599	.64869	.62206
	.58428	.55105	.52166	.50151						

CARRY-OVER CP FOR LOADING 9 OF THIS CASE (MID-SPAN LOADING)

XPCT	0.00	2.50	5.00	10.00	15.00	20.00	30.00	40.00	50.00	60.00
	70.00	80.00	90.00	100.00						

Y/B/2

0.000	0.00000	0.00000	0.00000	0.00000	.01390	.06996	.19463	.23598	.28493	.31943
	.35155	.37542	.39468	.41569						

.025	0.00000	0.00000	0.00000	.00939	.06153	.12652	.20703	.24119	.28115	.30956
	.34173	.36681	.38991	.39990						
.050	0.00000	0.00000	.01766	.07384	.11215	.15874	.20694	.23042	.25715	.28360
	.30659	.32340	.33296	.34778						

CARRY-OVER CP FOR LOADING 10 OF THIS CASE (ELLIPTICAL C-SUB-P)

XPCT	0.00	2.50	5.00	10.00	15.00	20.00	30.00	40.00	50.00	60.00
	70.00	80.00	90.00	100.00						
Y/B/2										
0.000	0.00000	0.00000	0.00000	0.00000	.10563	.68341	1.06339	.94603	.96007	.99917
	1.00862	1.01134	1.01786	1.02563						
.025	0.00000	0.00000	0.00000	.07131	.46746	.86629	1.05080	.94900	.97237	1.00308
	1.01305	1.01851	1.02744	1.02951						
.050	0.00000	0.00000	.13414	.56095	.75608	1.01001	1.04032	.98279	1.00461	1.02922
	1.03578	1.03912	1.04136	1.04702						

CARRY-OVER CP FOR LOADING 11 OF THIS CASE (LINEAR IN ARB.REGION)

XPCT	0.00	2.50	5.00	10.00	15.00	20.00	30.00	40.00	50.00	60.00
	70.00	80.00	90.00	100.00						
Y/B/2										
0.000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	0.00000	0.00000	.02362	.32721						
.025	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	0.00000	0.00000	.04939	.34623						
.050	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	0.00000	0.00000	.12447	.41152						

CARRY-OVER CP FOR LOADING 14 OF THIS CASE (NACELLE BUOY(CAMBER))

XPCT	0.00	2.50	5.00	10.00	15.00	20.00	30.00	40.00	50.00	60.00
	70.00	80.00	90.00	100.00						
Y/B/2										
0.000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	0.00000	0.00000	0.00000	0.00000						
.025	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	0.00000	0.00000	0.00000	0.00000						
.050	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	0.00000	0.00000	0.00000	.01053						

CARRY-OVER CP FOR LOADING 15 OF THIS CASE (BODY UPWASH (CAMBER))

XPCT	0.00	2.50	5.00	10.00	15.00	20.00	30.00	40.00	50.00	60.00
	70.00	80.00	90.00	100.00						
Y/B/2										
0.000	0.00000	0.00000	0.00000	0.00000	.00083	.00638	.02297	.02277	.01857	.01842
	.01651	.01280	.00866	.00439						
.025	0.00000	0.00000	0.00000	.00056	.00429	.01232	.02458	.02200	.01825	.01832
	.01607	.01259	.00862	.00455						
.050	0.00000	0.00000	.00106	.00534	.01175	.01719	.02397	.02119	.01907	.01845
	.01587	.01216	.00796	.00516						

CARRY-OVER CP FOR LOADING 17 OF THIS CASE (BODY BUOY. (CAMBER))

XPCT	0.00	2.50	5.00	10.00	15.00	20.00	30.00	40.00	50.00	60.00
	70.00	80.00	90.00	100.00						
Y/B/2										
0.000	0.00000	0.00000	0.00000	0.00000	.00166	.01431	.01565	-.02465	-.02607	-.02292
	-.01434	.01592	.02350	.02257						
.025	0.00000	0.00000	0.00000	.00112	.00552	.02316	.00323	-.02756	-.02487	-.02301
	-.01037	.01681	.02371	.02181						
.050	0.00000	0.00000	.00211	.01212	.02198	.01677	-.00961	-.02720	-.02542	-.02068
	-.00235	.01807	.02452	.01991						

DELTAT = 43.051 SEC., T = 120.260 SEC.

**********OVERLAY 3, DEPART**********

**********OVERLAY 4, ENTER**********

WING DATA FOR UNIFORM OR CONSTANT LOADING

-500A CHECK CASE 17 LOADS 5 Z CONST.

SPANWISE DISTRIBUTION OF SECTION DRAG, LIFT, AND PITCHING MOMENT

Y/B/2	CHORD	SECTION C_D	SECTION C_L	SECTION C_M
0.0000000	183.8703000	0.0000000	.7409791	-.6846031
.0250000	177.9359709	0.0000000	.7758576	-.7373163
.0500000	172.0016418	0.0000000	.8387161	-.8141599
.0750000	166.0673128	3.3005943	1.0000000	-.9656531
.1000000	160.1330000	1.6571119	1.0000000	-1.0192347
.1250000	154.1951859	1.2351355	1.0000000	-1.0764594
.1500000	148.2586941	1.0147177	1.0000000	-1.1383784
.1750000	142.3260032	.8688560	1.0000000	-1.2058524
.2000000	136.3933123	.7616416	1.0000000	-1.2787008
.2500000	124.6106675	.6020496	1.0000000	-1.4451936
.3000000	113.9394744	.4860840	1.0000000	-1.6352923
.3500000	103.2682813	.3920721	1.0000000	-1.8640200
.4000000	92.5970882	.3116769	1.0000000	-2.1461007
.4750000	76.6960487	.1999146	1.0000000	-2.7130599
.5500000	63.0912977	.1024920	1.0000000	-3.4670189
.6250000	49.4865467	.0054751	1.0000000	-4.6326307
.7000000	35.8817958	-.1934503	1.0000000	-6.6821074
.7500000	30.5922280	-.0261624	1.0000000	-8.0063824
.8000000	27.3627760	.1156519	1.0000000	-9.0987203
.9000000	20.9038880	.2639042	1.0000000	-12.3067406
.9500000	17.6744440	.2982024	1.0000000	-14.7858920
1.0000000	14.4450000	.1423408	1.0000000	-18.3990688

C_L = .938398 C_D = .647137 X_{CP}/L = .714230 K_E = .734889

S_{REF}/S_{PROG} = .920576 C_M/C_L = -.072722 C_{M_0} = .019665

INTERFERENCE DRAG OF LOADING	2	(LINEAR CHORDWISE)	ON LOADING	1	(UNIFORM OR CONSTANT)	IS	.10231654E+01
INTERFERENCE DRAG OF LOADING	3	(LINEAR SPANWISE)	ON LOADING	1	(UNIFORM OR CONSTANT)	IS	.35039819E+00
INTERFERENCE DRAG OF LOADING	4	(QUADRATIC SPANWISE)	ON LOADING	1	(UNIFORM OR CONSTANT)	IS	.20308640E+00
INTERFERENCE DRAG OF LOADING	5	(QUADRATIC CHORDWISE)	ON LOADING	1	(UNIFORM OR CONSTANT)	IS	.12990968E+01
INTERFERENCE DRAG OF LOADING	6	(PARABOLIC CHORDWISE)	ON LOADING	1	(UNIFORM OR CONSTANT)	IS	.10858082E+01
INTERFERENCE DRAG OF LOADING	7	(CUBIC CHORDWISE)	ON LOADING	1	(UNIFORM OR CONSTANT)	IS	.14564210E+01
INTERFERENCE DRAG OF LOADING	8	(SIMILAR TO FLAT WING)	ON LOADING	1	(UNIFORM OR CONSTANT)	IS	.41858183E+00
INTERFERENCE DRAG OF LOADING	9	(MID-SPAN LOADING)	ON LOADING	1	(UNIFORM OR CONSTANT)	IS	.38410405E+00
INTERFERENCE DRAG OF LOADING	10	(ELLIPTICAL C-SUB-P)	ON LOADING	1	(UNIFORM OR CONSTANT)	IS	.69050946E+00
INTERFERENCE DRAG OF LOADING	11	(LINEAR IN ARB.REGION)	ON LOADING	1	(UNIFORM OR CONSTANT)	IS	.47913647E-01
INTERFERENCE DRAG OF LOADING	12	(BODY UPWASH LOADING)	ON LOADING	1	(UNIFORM OR CONSTANT)	IS	.89386004E-02
INTERFERENCE DRAG OF LOADING	13	(NACELLE BUOYANCY)	ON LOADING	1	(UNIFORM OR CONSTANT)	IS	.38898980E-02
INTERFERENCE DRAG OF LOADING	14	(NACELLE BUOY(CAMBER))	ON LOADING	1	(UNIFORM OR CONSTANT)	IS	.38651355E-02
INTERFERENCE DRAG OF LOADING	15	(BODY UPWASH (CAMBER))	ON LOADING	1	(UNIFORM OR CONSTANT)	IS	.89386004E-02
INTERFERENCE DRAG OF LOADING	16	(BODY BUOYANCY TERM)	ON LOADING	1	(UNIFORM OR CONSTANT)	IS	-.12192229E-02
INTERFERENCE DRAG OF LOADING	17	(BODY BUOY. (CAMBER))	ON LOADING	1	(UNIFORM OR CONSTANT)	IS	-.12192229E-02

WING DATA FOR LINEAR CHORDWISE LOADING

-500A CHECK CASE 17 LOADS 5 Z CONST.

SPANWISE DISTRIBUTION OF SECTION DRAG, LIFT, AND PITCHING MOMENT

Y/B/2	CHORD	SECTION C_D	SECTION C_L	SECTION C_M
0.0000000	183.8703000	0.0000000	1.0304408	-1.0853247
.0250000	177.9359709	0.0000000	1.0842251	-1.1772021
.0500000	172.0016418	0.0000000	1.2019391	-1.3400753
.0750000	166.0673128	9.2040320	1.5353429	-1.7384981
.1000000	160.1330000	4.2764267	1.4813029	-1.7557094
.1250000	154.1951859	2.9091103	1.4257831	-1.7721304
.1500000	148.2586941	2.1907665	1.3705787	-1.7887608
.1750000	142.3260032	1.6985205	1.3164632	-1.8061928
.2000000	136.3933123	1.3400964	1.2610986	-1.8227249
.2500000	124.6106675	.8456834	1.1525173	-1.8573661
.3000000	113.9394744	.5429984	1.0541804	-1.8986017
.3500000	103.2682813	.3337954	.9545433	-1.9387488
.4000000	92.5970882	.1807071	.8562749	-1.9807354
.4750000	76.6960487	.0447480	.7089350	-2.0419893
.5500000	63.0912977	-.0230801	.5855549	-2.1258485
.6250000	45.4865467	-.0532896	.4595197	-2.2041408
.7000000	35.8817958	-.0637880	.3334651	-2.2833640
.7500000	30.5922200	-.0215504	.2845165	-2.3231641
.8000000	27.3627760	.0018455	.2534717	-2.3492104
.9000000	20.9038880	.0104314	.1946116	-2.4256879
.9500000	17.6744440	.0121131	.1638400	-2.4521667
1.0000000	14.4450000	.0058130	.1387727	-2.5710255

C_L = .908184 C_D = 1.318621 X_{CP}/L = .746702 K_E = 1.598717

S_{REF}/S_{PROG} = .920576 C_M/C_L = -.155925 C_{M_0} = -.056531

INTERFERENCE	DRAG OF LOADING	1	(UNIFORM OR CONSTANT)	ON LOADING	2	(	LINEAR CHORDWISE	)	IS	.64364882E+00
INTERFERENCE	DRAG OF LOADING	3	(LINEAR SPANWISE)	ON LOADING	2	(	LINEAR CHORDWISE	)	IS	.24262255E+00
INTERFERENCE	DRAG OF LOADING	4	(QUADRATIC SPANWISE)	ON LOADING	2	(	LINEAR CHORDWISE	)	IS	.63023334E-01
INTERFERENCE	DRAG OF LOADING	5	(QUADRATIC CHORDWISE)	ON LOADING	2	(	LINEAR CHORDWISE	)	IS	.19323477E+01
INTERFERENCE	DRAG OF LOADING	6	(PARABOLIC CHORDWISE)	ON LOADING	2	(	LINEAR CHORDWISE	)	IS	.11180534E+01
INTERFERENCE	DRAG OF LOADING	7	(CUBIC CHORDWISE)	ON LOADING	2	(	LINEAR CHORDWISE	)	IS	.21009367E+01
INTERFERENCE	DRAG OF LOADING	8	(SIMILAR TO FLAT WING)	ON LOADING	2	(	LINEAR CHORDWISE	)	IS	.38056696E+00
INTERFERENCE	DRAG OF LOADING	9	(MID-SPAN LOADING)	ON LOADING	2	(	LINEAR CHORDWISE	)	IS	.26843382E+00
INTERFERENCE	DRAG OF LOADING	10	(ELLIPTICAL C-SUB-P)	ON LOADING	2	(	LINEAR CHORDWISE	)	IS	.70224616E+00
INTERFERENCE	DRAG OF LOADING	11	(LINEAR IN ARB.REGION)	ON LOADING	2	(	LINEAR CHORDWISE	)	IS	.82978527E-01
INTERFERENCE	DRAG OF LOADING	12	(BODY UPWASH LOADING)	ON LOADING	2	(	LINEAR CHORDWISE	)	IS	.77874850E-02
INTERFERENCE	DRAG OF LOADING	13	(NACELLE BUOYANCY)	ON LOADING	2	(	LINEAR CHORDWISE	)	IS	.47299289E-02
INTERFERENCE	DRAG OF LOADING	14	(NACELLE BUOY(CAMBER))	ON LOADING	2	(	LINEAR CHORDWISE	)	IS	.48627514E-02
INTERFERENCE	DRAG OF LOADING	15	(BODY UPWASH (CAMBER))	ON LOADING	2	(	LINEAR CHORDWISE	)	IS	.77874850E-02
INTERFERENCE	DRAG OF LOADING	16	(BODY BUOYANCY TERM)	ON LOADING	2	(	LINEAR CHORDWISE	)	IS	.35710821E-02
INTERFERENCE	DRAG OF LOADING	17	(BODY BUOY. (CAMBER))	ON LOADING	2	(	LINEAR CHORDWISE	)	IS	.35710821E-02

WING DATA FOR LINEAR SPANWISE LOADING

-500A CHECK CASE 17 LOADS 5 Z CONST.

SPANWISE DISTRIBUTION OF SECTION DRAG, LIFT, AND PITCHING MOMENT

Y/B/2	CHORD	SECTION C_D	SECTION C_L	SECTION C_M
0.0000000	183.8703000	0.0000000	.2525087	-.2420911
.0250000	177.9359709	0.0000000	.2592104	-.2555449
.0500000	172.0016418	0.0000000	.2596480	-.2602915
.0750000	166.0673128	-.0997087	.2250000	-.2172719
.1000000	160.1330000	.0476291	.3000000	-.3057704
.1250000	154.1951859	.1468015	.3750000	-.4036723
.1500000	148.2586941	.2434453	.4500000	-.5122703
.1750000	142.3260032	.3415453	.5250000	-.6330725
.2000000	136.3933123	.4407127	.6000000	-.7672205
.2500000	124.6106675	.6381552	.7500000	-1.0838952
.3000000	113.9394744	.8306880	.9000000	-1.4717630
.3500000	103.2682813	1.0074897	1.0500000	-1.9572210
.4000000	92.5970882	1.1627807	1.2000000	-2.5753208
.4750000	76.6960487	1.3200792	1.4250000	-3.8661103
.5500000	63.0912977	1.3938537	1.6500000	-5.7205812
.6250000	49.4865467	1.3085471	1.8750000	-8.6861825
.7000000	35.8817958	.5532467	2.1000000	-14.0324256
.7500000	30.5922200	1.2209422	2.2500000	-18.0143604
.8000000	27.3627760	1.9458399	2.4000000	-21.8369286
.9000000	20.9038880	3.0278861	2.7000000	-33.2281995
.9500000	17.6744440	3.3840299	2.8500000	-42.1397923
1.0000000	14.4450000	2.1109035	3.0000000	-55.1972064

C_L = 1.020415 C_D = .803212 X_{CP}/C_L = .778783 K_E = .771394

S_{REF}/S_{PROG} = .920576 C_M/C_L = -.238127 C_{M_0} = -.147398

INTERFERENCE	DRAG OF	LOADING	1	(UNIFORM OR CONSTANT)	ON LOADING	3	(	LINEAR SPANWISE	) IS	.63674552E+00
INTERFERENCE	DRAG OF	LOADING	2	(LINEAR CHORDWISE)	ON LOADING	3	(	LINEAR SPANWISE	) IS	.60669978E+00
INTERFERENCE	DRAG OF	LOADING	4	(QUADRATIC SPANWISE)	ON LOADING	3	(	LINEAR SPANWISE	) IS	.84049302E+00
INTERFERENCE	DRAG OF	LOADING	5	(QUADRATIC CHORDWISE)	ON LOADING	3	(	LINEAR SPANWISE	) IS	.48665792E+00
INTERFERENCE	DRAG OF	LOADING	6	(PARABOLIC CHORDWISE)	ON LOADING	3	(	LINEAR SPANWISE	) IS	.53437582E+00
INTERFERENCE	DRAG OF	LOADING	7	(CUBIC CHORDWISE)	ON LOADING	3	(	LINEAR SPANWISE	) IS	.40801873E+00
INTERFERENCE	DRAG OF	LOADING	8	(SIMILAR TO FLAT WING)	ON LOADING	3	(	LINEAR SPANWISE	) IS	.42218818E+00
INTERFERENCE	DRAG OF	LOADING	9	(MID-SPAN LOADING)	ON LOADING	3	(	LINEAR SPANWISE	) IS	.81204084E+00
INTERFERENCE	DRAG OF	LOADING	10	(ELLIPTICAL C-SUB-P)	ON LOADING	3	(	LINEAR SPANWISE	) IS	.60785884E+00
INTERFERENCE	DRAG OF	LOADING	11	(LINEAR IN ARB.REGION)	ON LOADING	3	(	LINEAR SPANWISE	) IS	.22845559E-01
INTERFERENCE	DRAG OF	LOADING	12	(BODY UPWASH LOADING)	ON LOADING	3	(	LINEAR SPANWISE	) IS	.89064209E-02
INTERFERENCE	DRAG OF	LOADING	13	(NACELLE BUOYANCY)	ON LOADING	3	(	LINEAR SPANWISE	) IS	.60074967E-02
INTERFERENCE	DRAG OF	LOADING	14	(NACELLE BUOY(CAMBER))	ON LOADING	3	(	LINEAR SPANWISE	) IS	.61280688E-02
INTERFERENCE	DRAG OF	LOADING	15	(BODY UPWASH (CAMBER))	ON LOADING	3	(	LINEAR SPANWISE	) IS	.89064209E-02
INTERFERENCE	DRAG OF	LOADING	16	(BODY BUOYANCY TERM)	ON LOADING	3	(	LINEAR SPANWISE	) IS	-.56987245E-02
INTERFERENCE	DRAG OF	LOADING	17	(BODY BUOY. (CAMBER))	ON LOADING	3	(	LINEAR SPANWISE	) IS	-.56987245E-02

WING DATA FOR QUADRATIC SPANWISE LOADING

-500A CHECK CASE 17 LOADS 5 Z CONST.

SPANWISE DISTRIBUTION OF SECTION DRAG, LIFT, AND PITCHING MOMENT

Y/B/2	CHORD	SECTION C_D	SECTION C_L	SECTION C_M
0.0000000	183.8703000	0.0000000	.0750825	-.0760386
.0250000	177.9359709	0.0000000	.0754547	-.0786823
.0500000	172.0016418	0.0000000	.0689196	-.0730062
.0750000	166.0673128	-.0148210	.0337500	-.0325508
.1000000	160.1330000	-.0106840	.0600000	-.0611541
.1250000	154.1951859	-.0059496	.0937500	-.1009181
.1500000	148.2586941	.0047266	.1350000	-.1536811
.1750000	142.3260032	.0241550	.1837500	-.2215754
.2000000	136.3933123	.0547097	.2400000	-.3068882
.2500000	124.6106675	.1584249	.3750000	-.5419476
.3000000	113.9394744	.3321835	.5400000	-.8830578
.3500000	103.2682813	.5872595	.7350000	-1.3700547
.4000000	92.5970882	.9311920	.9600000	-2.0602566
.4750000	76.6960487	1.5881547	1.3537500	-3.6728048
.5500000	63.0912977	2.3892806	1.8150000	-6.2926394
.6250000	49.4865467	3.1386761	2.3437500	-10.8577281
.7000000	35.8817958	2.5837886	2.9400000	-19.6453959
.7500000	30.5922200	4.3301090	3.3750000	-27.0215406
.8000000	27.3627760	6.6331422	3.8400000	-34.9390858
.9000000	20.9038880	11.5393502	4.8600000	-59.8107591
.9500000	17.6744440	13.8329805	5.4150000	-80.0656054
1.0000000	14.4450000	9.9778850	6.0000000	-110.3944127

C_L = 1.033028 C_D = 1.386804 X_{CP}/L = .829257 K_E = 1.299545

S_{REF}/S_{PROG} = .920576 C_M/C_L = -.367456 C_{M_0} = -.282821

INTERFERENCE	DRAG OF LOADING	1	(UNIFORM OR CONSTANT)	ON LOADING	4	(QUADRATIC SPANWISE)	IS	.62736569E+00
INTERFERENCE	DRAG OF LOADING	2	(LINEAR CHORDWISE)	ON LOADING	4	(QUADRATIC SPANWISE)	IS	.39317855E+00
INTERFERENCE	DRAG OF LOADING	3	(LINEAR SPANWISE)	ON LOADING	4	(QUADRATIC SPANWISE)	IS	.10849325E+01
INTERFERENCE	DRAG OF LOADING	5	(QUADRATIC CHORDWISE)	ON LOADING	4	(QUADRATIC SPANWISE)	IS	.18173971E+00
INTERFERENCE	DRAG OF LOADING	6	(PARABOLIC CHORDWISE)	ON LOADING	4	(QUADRATIC SPANWISE)	IS	.26965117E+00
INTERFERENCE	DRAG OF LOADING	7	(CUBIC CHORDWISE)	ON LOADING	4	(QUADRATIC SPANWISE)	IS	.76266267E-01
INTERFERENCE	DRAG OF LOADING	8	(SIMILAR TO FLAT WING)	ON LOADING	4	(QUADRATIC SPANWISE)	IS	.42212865E+00
INTERFERENCE	DRAG OF LOADING	9	(MID-SPAN LOADING)	ON LOADING	4	(QUADRATIC SPANWISE)	IS	.86919906E+00
INTERFERENCE	DRAG OF LOADING	10	(ELLIPTICAL C-SUB-P)	ON LOADING	4	(QUADRATIC SPANWISE)	IS	.53074482E+00
INTERFERENCE	DRAG OF LOADING	11	(LINEAR IN ARB.REGION)	ON LOADING	4	(QUADRATIC SPANWISE)	IS	.12635168E-01
INTERFERENCE	DRAG OF LOADING	12	(BODY UPWASH LOADING)	ON LOADING	4	(QUADRATIC SPANWISE)	IS	.93904734E-02
INTERFERENCE	DRAG OF LOADING	13	(NACELLE BUOYANCY)	ON LOADING	4	(QUADRATIC SPANWISE)	IS	.56882128E-02
INTERFERENCE	DRAG OF LOADING	14	(NACELLE BUOY(CAMBER))	ON LOADING	4	(QUADRATIC SPANWISE)	IS	.56817448E-02
INTERFERENCE	DRAG OF LOADING	15	(BODY UPWASH (CAMBER))	ON LOADING	4	(QUADRATIC SPANWISE)	IS	.93904734E-02
INTERFERENCE	DRAG OF LOADING	16	(BODY BUOYANCY TERM)	ON LOADING	4	(QUADRATIC SPANWISE)	IS	-.69059739E-02
INTERFERENCE	DRAG OF LOADING	17	(BODY BUOY. (CAMBER))	ON LOADING	4	(QUADRATIC SPANWISE)	IS	-.69059739E-02

WING DATA FOR QUADRATIC CHORDWISE LOADING

-500A CHECK CASE 17 LOADS 5 Z CONST.

SPANWISE DISTRIBUTION OF SECTION DRAG, LIFT, AND PITCHING MOMENT

Y/B/2	CHORD	SECTION C_D	SECTION C_L	SECTION C_M
0.0000000	183.8703000	0.0000000	1.2784237	-1.4314443
.0250000	177.9359709	0.0000000	1.3542643	-1.5639696
.0500000	172.0016418	0.0000000	1.5393742	-1.8292001
.0750000	166.0673128	20.5433533	2.0953106	-2.5471186
.1000000	160.1330000	8.7279131	1.9482452	-2.4720900
.1250000	154.1951859	5.4335563	1.8063640	-2.3957685
.1500000	148.2586941	3.6948174	1.6699972	-2.3185237
.1750000	142.3260032	2.5939508	1.5391643	-2.2403737
.2000000	136.3933123	1.8401508	1.4136106	-2.1609783
.2500000	124.6106675	.9155585	1.1801007	-2.0004189
.3000000	113.9394744	.4417547	.9862118	-1.8587696
.3500000	103.2682813	.1832257	.8103185	-1.7132826
.4000000	92.5970882	.0494848	.6521216	-1.5625683
.4750000	76.6960487	-.0238760	.4472006	-1.3253038
.5500000	63.0912977	-.0336361	.3030308	-1.1260418
.6250000	49.4865467	-.0235783	.1867437	-.9117863
.7000000	35.8817958	-.0118634	.0985121	-.6831120
.7500000	30.5922200	-.0037483	.0709259	-.5852896
.8000000	27.3627760	-.0006476	.0573173	-.5361054
.9000000	20.9038880	.0002949	.0331486	-.4160124
.9500000	17.6744440	.0003210	.0243553	-.3666668
1.0000000	14.4450000	.0000840	.0159021	-.2960719

C_L = -.917156 C_D = 2.443697 X_{CP}/L = .771586 K_E = 2.905101

S_{REF}/S_{PROG} = .920576 C_M/C_L = -.219685 C_{M_0} = -.115568

INTERFERENCE	DRAG OF LOADING	1	(UNIFORM OR CONSTANT)	ON LOADING	5	(QUADRATIC CHORDWISE)	IS	.67869697E+00
INTERFERENCE	DRAG OF LOADING	2	(LINEAR CHORDWISE)	ON LOADING	5	(QUADRATIC CHORDWISE)	IS	.15462319E+01
INTERFERENCE	DRAG OF LOADING	3	(LINEAR SPANWISE)	ON LOADING	5	(QUADRATIC CHORDWISE)	IS	.22332096E+00
INTERFERENCE	DRAG OF LOADING	4	(QUADRATIC SPANWISE)	ON LOADING	5	(QUADRATIC CHORDWISE)	IS	.40595091E-01
INTERFERENCE	DRAG OF LOADING	6	(PARABOLIC CHORDWISE)	ON LOADING	5	(QUADRATIC CHORDWISE)	IS	.10871594E+01
INTERFERENCE	DRAG OF LOADING	7	(CUBIC CHORDWISE)	ON LOADING	5	(QUADRATIC CHORDWISE)	IS	.25862438E+01
INTERFERENCE	DRAG OF LOADING	8	(SIMILAR TO FLAT WING)	ON LOADING	5	(QUADRATIC CHORDWISE)	IS	.38682850E+00
INTERFERENCE	DRAG OF LOADING	9	(MID-SPAN LOADING)	ON LOADING	5	(QUADRATIC CHORDWISE)	IS	.22661207E+00
INTERFERENCE	DRAG OF LOADING	10	(ELLIPTICAL C-SUB-P)	ON LOADING	5	(QUADRATIC CHORDWISE)	IS	.74315813E+00
INTERFERENCE	DRAG OF LOADING	11	(LINEAR IN ARB.REGION)	ON LOADING	5	(QUADRATIC CHORDWISE)	IS	.11815789E+00
INTERFERENCE	DRAG OF LOADING	12	(BODY UPWASH LOADING)	ON LOADING	5	(QUADRATIC CHORDWISE)	IS	.72914616E-02
INTERFERENCE	DRAG OF LOADING	13	(NACELLE BUOYANCY)	ON LOADING	5	(QUADRATIC CHORDWISE)	IS	.55921646E-02
INTERFERENCE	DRAG OF LOADING	14	(NACELLE BUOY(CAMBER))	ON LOADING	5	(QUADRATIC CHORDWISE)	IS	.57711289E-02
INTERFERENCE	DRAG OF LOADING	15	(BODY UPWASH (CAMBER))	ON LOADING	5	(QUADRATIC CHORDWISE)	IS	.72914616E-02
INTERFERENCE	DRAG OF LOADING	16	(BODY BUOYANCY TERM)	ON LOADING	5	(QUADRATIC CHORDWISE)	IS	.78471345E-02
INTERFERENCE	DRAG OF LOADING	17	(BODY BUOY. (CAMBER))	ON LOADING	5	(QUADRATIC CHORDWISE)	IS	.78471345E-02

WING DATA FOR PARABOLIC CHORDWISE LOADING

-500A CHECK CASE 17 LOADS 5 Z CONST.

SPANWISE DISTRIBUTION OF SECTION DRAG, LIFT, AND PITCHING MOMENT

Y/B/2	CHORD	SECTION C_D	SECTION C_L	SECTION C_M
0.0000000	183.8703000	0.0000000	1.4918569	-1.3920160
.0250000	177.9359709	0.0000000	1.5616343	-1.4986357
.0500000	172.0016418	0.0000000	1.6969013	-1.6571091
.0750000	166.0673128	20.1788866	2.0958223	-2.0240226
.1000000	160.1330000	7.8382618	1.9519514	-1.9876665
.1250000	154.1951859	4.3186374	1.8077768	-1.9457020
.1500000	148.2586941	2.5984321	1.6700273	-1.9015996
.1750000	142.3260032	1.4857344	1.5413147	-1.8574220
.2000000	136.3933123	.7666169	1.4136746	-1.8076085
.2500000	124.6106675	-.0556687	1.1807351	-1.7056409
.3000000	113.9394744	-.2671402	.9890278	-1.6160990
.3500000	103.2682813	-.3572581	.8097647	-1.5097623
.4000000	92.5970882	-.3646828	.6506635	-1.3961539
.4750000	76.6960487	-.2814565	.4461853	-1.2107668
.5500000	63.0912977	-.1735157	.3048003	-1.0547873
.6250000	45.4865467	-.0971247	.1871818	-.8657440
.7000000	35.8817958	-.0440606	.0979882	-.6538384
.7500000	30.5922200	-.0224900	.0727424	-.5817122
.8000000	27.3627760	-.0119420	.0563689	-.5126734
.9000000	20.9038880	-.0035512	.0340052	-.4181693
.9500000	17.6744440	-.0015461	.0226865	-.3352567
1.0000000	14.4450000	-.0008254	.0176197	-.3235271

C_L = .917738 C_D = 1.898913 X_{CP}/L = .649284 K_E = 2.254591

S_{REF}/S_{PROG} = .920576 C_M/C_L = .093689 C_{M_0} = .171954

INTERFERENCE DRAG OF LOADING	1	(UNIFORM OR CONSTANT)	ON LOADING	6	(PARABOLIC CHORDWISE)	IS	.69567929E+00
INTERFERENCE DRAG OF LOADING	2	(LINEAR CHORDWISE)	ON LOADING	6	(PARABOLIC CHORDWISE)	IS	.15511059E+01
INTERFERENCE DRAG OF LOADING	3	(LINEAR SPANWISE)	ON LOADING	6	(PARABOLIC CHORDWISE)	IS	-.83636579E-01
INTERFERENCE DRAG OF LOADING	4	(QUADRATIC SPANWISE)	ON LOADING	6	(PARABOLIC CHORDWISE)	IS	-.32124631E+00
INTERFERENCE DRAG OF LOADING	5	(QUADRATIC CHORDWISE)	ON LOADING	6	(PARABOLIC CHORDWISE)	IS	.23367527E+01
INTERFERENCE DRAG OF LOADING	7	(CUBIC CHORDWISE)	ON LOADING	6	(PARABOLIC CHORDWISE)	IS	.29347350E+01
INTERFERENCE DRAG OF LOADING	8	(SIMILAR TO FLAT WING)	ON LOADING	6	(PARABOLIC CHORDWISE)	IS	.43607022E+00
INTERFERENCE DRAG OF LOADING	9	(MID-SPAN LOADING)	ON LOADING	6	(PARABOLIC CHORDWISE)	IS	-.16618351E+00
INTERFERENCE DRAG OF LOADING	10	(ELLIPTICAL C-SUB-P)	ON LOADING	6	(PARABOLIC CHORDWISE)	IS	.79891375E+00
INTERFERENCE DRAG OF LOADING	11	(LINEAR IN ARB.REGION)	ON LOADING	6	(PARABOLIC CHORDWISE)	IS	.62792273E-01
INTERFERENCE DRAG OF LOADING	12	(BODY UPWASH LOADING)	ON LOADING	6	(PARABOLIC CHORDWISE)	IS	.10579684E-01
INTERFERENCE DRAG OF LOADING	13	(NACELLE BUOYANCY)	ON LOADING	6	(PARABOLIC CHORDWISE)	IS	-.71926887E-03
INTERFERENCE DRAG OF LOADING	14	(NACELLE BUOY(CAMBER))	ON LOADING	6	(PARABOLIC CHORDWISE)	IS	-.17097632E-02
INTERFERENCE DRAG OF LOADING	15	(BODY UPWASH (CAMBER))	ON LOADING	6	(PARABOLIC CHORDWISE)	IS	.10579684E-01
INTERFERENCE DRAG OF LOADING	16	(BODY BUOYANCY TERM)	ON LOADING	6	(PARABOLIC CHORDWISE)	IS	.24555767E-02
INTERFERENCE DRAG OF LOADING	17	(BODY BUOY. (CAMBER))	ON LOADING	6	(PARABOLIC CHORDWISE)	IS	.24555767E-02

WING DATA FOR CUBIC CHORDWISE LOADING

-500A CHECK CASE- 17 LOADS 5 Z CONST.

SPANWISE DISTRIBUTION OF SECTION DRAG, LIFT, AND PITCHING MOMENT

Y/B/2	CHORD	SECTION C_D	SECTION C_L	SECTION C_M
0.0000000	183.8703000	0.0000000	1.6743403	-1.8106806
.0250000	177.9359709	0.0000000	1.7684340	-1.9715936
.0500000	172.0016418	0.0000000	1.9896526	-2.2782602
.0750000	166.0673128	35.3585023	2.6813748	-3.1255759
.1000000	160.1330000	12.7189556	2.4041958	-2.9305143
.1250000	154.1951859	6.5668783	2.1464516	-2.7396457
.1500000	148.2586941	3.5719216	1.9079441	-2.5536004
.1750000	142.3260032	1.8845395	1.6880103	-2.3726690
.2000000	136.3933123	.8869616	1.4855457	-2.1966715
.2500000	124.6106675	-.0662791	1.1328753	-1.8636558
.3000000	113.9394744	-.2547749	.8660933	-1.5891311
.3500000	103.2682813	-.2772574	.6447660	-1.3309541
.4000000	92.5970882	-.2212142	.4648260	-1.0906457
.4750000	76.6960487	-.1185524	.2641371	-.7695335
.5500000	63.0912977	-.0514043	.1471457	-.5393152
.6250000	49.4865467	-.0185481	.0710055	-.3430368
.7000000	35.8817958	-.0049047	.0270621	-.1862264
.7500000	30.5922200	-.0018927	.0167959	-.1377539
.8000000	27.3627760	-.0008447	.0119952	-.1115673
.9000000	20.9038880	-.0001467	.0053629	-.0670433
.9500000	17.6744440	-.0000544	.0032270	-.0483903
1.0000000	14.4450000	-.0000181	.0018157	-.0337054

C_L = .941360 C_D = 3.238542 X_{CP}/C_L = .738846 K_E = 3.654586

S_{REF}/S_{PROG} = .920576 C_M/C_L = -.135795 C_{M_0} = -.039647

INTERFERENCE DRAG OF LOADING	1	(UNIFORM OR CONSTANT)	ON LOADING	7	(	CUBIC CHORDWISE	)	IS	.73422896E+00
INTERFERENCE DRAG OF LOADING	2	(LINEAR CHORDWISE)	ON LOADING	7	(	CUBIC CHORDWISE	)	IS	.17606960E+01
INTERFERENCE DRAG OF LOADING	3	(LINEAR SPANWISE)	ON LOADING	7	(	CUBIC CHORDWISE	)	IS	.93876901E-01
INTERFERENCE DRAG OF LOADING	4	(QUADRATIC SPANWISE)	ON LOADING	7	(	CUBIC CHORDWISE	)	IS	-.97730768E-01
INTERFERENCE DRAG OF LOADING	5	(QUADRATIC CHORDWISE)	ON LOADING	7	(	CUBIC CHORDWISE	)	IS	.28630475E+01
INTERFERENCE DRAG OF LOADING	6	(PARABOLIC CHORDWISE)	ON LOADING	7	(	CUBIC CHORDWISE	)	IS	.14767188E+01
INTERFERENCE DRAG OF LOADING	8	(SIMILAR TO FLAT WING)	ON LOADING	7	(	CUBIC CHORDWISE	)	IS	.42649220E+00
INTERFERENCE DRAG OF LOADING	9	(MID-SPAN LOADING)	ON LOADING	7	(	CUBIC CHORDWISE	)	IS	.22495083E-01
INTERFERENCE DRAG OF LOADING	10	(ELLIPTICAL C-SUB-P)	ON LOADING	7	(	CUBIC CHORDWISE	)	IS	.81793658E+00
INTERFERENCE DRAG OF LOADING	11	(LINEAR IN ARB.REGION)	ON LOADING	7	(	CUBIC CHORDWISE	)	IS	.11747034E+00
INTERFERENCE DRAG OF LOADING	12	(BODY UPWASH LOADING)	ON LOADING	7	(	CUBIC CHORDWISE	)	IS	.88236513E-02
INTERFERENCE DRAG OF LOADING	13	(NACELLE BUOYANCY)	ON LOADING	7	(	CUBIC CHORDWISE	)	IS	.28543932E-02
INTERFERENCE DRAG OF LOADING	14	(NACELLE BUOY(CAMBER))	ON LOADING	7	(	CUBIC CHORDWISE	)	IS	.20891465E-02
INTERFERENCE DRAG OF LOADING	15	(BODY UPWASH (CAMBER))	ON LOADING	7	(	CUBIC CHORDWISE	)	IS	.88236513E-02
INTERFERENCE DRAG OF LOADING	16	(BODY BUOYANCY TERM)	ON LOADING	7	(	CUBIC CHORDWISE	)	IS	.88373409E-02
INTERFERENCE DRAG OF LOADING	17	(BODY BUOY. (CAMBER))	ON LOADING	7	(	CUBIC CHORDWISE	)	IS	.88373409E-02

WING DATA FOR SIMILAR TO FLAT WING LOADING

500A CHECK CASE 17 LOADS 5 Z CONST.

SPANWISE DISTRIBUTION OF SECTION DRAG, LIFT, AND PITCHING MOMENT

Y/B/2	CHORD	SECTION C_D	SECTION C_L	SECTION C_M
0.0000000	183.8703000	0.0000000	.5434963	-.4724073
.0250000	177.9359709	0.0000000	.5691256	-.5082664
.0500000	172.0016418	0.0000000	.6128107	-.5575616
.0750000	166.0673128	1.8664880	.7247645	-.6491072
.1000000	160.1330000	.9114675	.7239781	-.6876589
.1250000	154.1951859	.6717984	.7245380	-.7293288
.1500000	148.2586941	.5347547	.7248917	-.7743584
.1750000	142.3260032	.4510624	.7241321	-.8228484
.2000000	136.3933123	.3894324	.7247107	-.8759540
.2500000	124.6106675	.2917641	.7243249	-.9962990
.3000000	113.9394744	.2206788	.7236802	-1.1333854
.3500000	103.2682813	.1591373	.7251365	-1.3006335
.4000000	92.5970882	.1162004	.7249074	-1.5047883
.4750000	76.6960487	.0373438	.7253645	-1.9167506
.5500000	63.0912977	-.0131295	.7206785	-2.4503363
.6250000	49.4865467	-.0611555	.7206592	-3.2901674
.7000000	35.8817958	-.1658846	.7207985	-4.7677397
.7500000	30.5922200	-.0684138	.7169425	-5.6943666
.8000000	27.3627760	.0191805	.7248072	-6.5434973
.9000000	20.9038880	.1213058	.7160235	-8.7668630
.9500000	17.6744440	.1170849	.7302133	-10.7407216
1.0000000	14.4450000	-.0103981	.6921443	-12.7026977

C_L = .678982 C_D = .320126 X_{CP}/L = .687279 K_E = .694392

S_{REF}/S_{PROG} = .920576 C_M/C_L = -.003665 C_{M_0} = .061117

INTERFERENCE DRAG OF LOADING	1	(UNIFORM OR CONSTANT)	ON LOADING	8 (SIMILAR TO FLAT WING) IS	.47810373E+00
INTERFERENCE DRAG OF LOADING	2	(LINEAR CHORDWISE)	ON LOADING	8 (SIMILAR TO FLAT WING) IS	.72981651E+00
INTERFERENCE DRAG OF LOADING	3	(LINEAR SPANWISE)	ON LOADING	8 (SIMILAR TO FLAT WING) IS	.22216488E+00
INTERFERENCE DRAG OF LOADING	4	(QUADRATIC SPANWISE)	ON LOADING	8 (SIMILAR TO FLAT WING) IS	.93440478E-01
INTERFERENCE DRAG OF LOADING	5	(QUADRATIC CHORDWISE)	ON LOADING	8 (SIMILAR TO FLAT WING) IS	.90933065E+00
INTERFERENCE DRAG OF LOADING	6	(PARABOLIC CHORDWISE)	ON LOADING	8 (SIMILAR TO FLAT WING) IS	.84925893E+00
INTERFERENCE DRAG OF LOADING	7	(CUBIC CHORDWISE)	ON LOADING	8 (SIMILAR TO FLAT WING) IS	.10479959E+01
INTERFERENCE DRAG OF LOADING	9	(MID-SPAN LOADING)	ON LOADING	8 (SIMILAR TO FLAT WING) IS	.25651027E+00
INTERFERENCE DRAG OF LOADING	10	(ELLIPTICAL C-SUB-P)	ON LOADING	8 (SIMILAR TO FLAT WING) IS	.51676393E+00
INTERFERENCE DRAG OF LOADING	11	(LINEAR IN ARB.REGION)	ON LOADING	8 (SIMILAR TO FLAT WING) IS	.30963558E-01
INTERFERENCE DRAG OF LOADING	12	(BODY UPWASH LOADING)	ON LOADING	8 (SIMILAR TO FLAT WING) IS	.68617906E-02
INTERFERENCE DRAG OF LOADING	13	(NACELLE BUOYANCY)	ON LOADING	8 (SIMILAR TO FLAT WING) IS	.23138061E-02
INTERFERENCE DRAG OF LOADING	14	(NACELLE BUOY(CAMBER))	ON LOADING	8 (SIMILAR TO FLAT WING) IS	.22320805E-02
INTERFERENCE DRAG OF LOADING	15	(BODY UPWASH (CAMBER))	ON LOADING	8 (SIMILAR TO FLAT WING) IS	.68617906E-02
INTERFERENCE DRAG OF LOADING	16	(BODY BUOYANCY TERM)	ON LOADING	8 (SIMILAR TO FLAT WING) IS	-.12214831E-02
INTERFERENCE DRAG OF LOADING	17	(BODY BUOY. (CAMBER))	ON LOADING	8 (SIMILAR TO FLAT WING) IS	-.12214831E-02

WING DATA FOR MID-SPAN LOADING LOADING

-500A CHECK CASE 17 LOADS 5 Z CONST.

SPANWISE DISTRIBUTION OF SECTION DRAG, LIFT, AND PITCHING MOMENT

Y/B/2	CHORD	SECTION C_D	SECTION C_L	SECTION C_M
0.0000000	183.8703000	0.0000000	.2438398	-.2400920
.0250000	177.9359709	0.0000000	.2467261	-.2499534
.0500000	172.0016418	0.0000000	.2333518	-.2403143
.0750000	166.0673128	-.1855101	.1443867	-.1394275
.1000000	160.1330000	-.0753609	.2430000	-.2476740
.1250000	154.1951859	.0513519	.3588867	-.3863270
.1500000	148.2586941	.2441944	.4876875	-.5551729
.1750000	142.3260032	.5035015	.6253242	-.7540487
.2000000	136.3933123	.8157565	.7680000	-.9820422
.2500000	124.6106675	1.5162709	1.0546875	-1.5242277
.3000000	113.9394744	2.1670303	1.3230000	-2.1634917
.3500000	103.2682813	2.5894863	1.5526875	-2.8942405
.4000000	92.5970882	2.6803517	1.7280000	-3.7084619
.4750000	76.6960487	2.1431346	1.8656367	-5.0615841
.5500000	63.0912977	1.1294074	1.8376875	-6.3712974
.6250000	49.4865467	.0676815	1.6479492	-7.6343401
.7000000	35.8817958	-.7319339	1.3230000	-8.8404281
.7500000	30.5922200	-.4426227	1.0546875	-8.4442314
.8000000	27.3627760	-.2695892	.7680000	-6.9878172
.9000000	20.9038880	-.0785277	.2430000	-2.9905380
.9500000	17.6744440	-.0176841	.0676875	-1.0008201
1.0000000	14.4450000	0.0000000	0.0000000	0.0000000

C_L = 1.006442 C_D = .958250 X_{CP}/L = .737826 K_E = .946022

S_{REF}/S_{PROG} = .520576 C_M/C_L = -.133183 C_{M_0} = -.039760

INTERFERENCE DRAG OF LOADING	1	(UNIFORM OR CONSTANT)	ON LOADING	9	(MID-SPAN LOADING)	IS	.61955265E+00
INTERFERENCE DRAG OF LOADING	2	(LINEAR CHORDWISE)	ON LOADING	9	(MID-SPAN LOADING)	IS	.66511574E+00
INTERFERENCE DRAG OF LOADING	3	(LINEAR SPANWISE)	ON LOADING	9	(MID-SPAN LOADING)	IS	.61178595E+00
INTERFERENCE DRAG OF LOADING	4	(QUADRATIC SPANWISE)	ON LOADING	9	(MID-SPAN LOADING)	IS	.36405787E+00
INTERFERENCE DRAG OF LOADING	5	(QUADRATIC CHORDWISE)	ON LOADING	9	(MID-SPAN LOADING)	IS	.47130326E+00
INTERFERENCE DRAG OF LOADING	6	(PARABOLIC CHORDWISE)	ON LOADING	9	(MID-SPAN LOADING)	IS	.59489530E+00
INTERFERENCE DRAG OF LOADING	7	(CUBIC CHORDWISE)	ON LOADING	9	(MID-SPAN LOADING)	IS	.32051809E+00
INTERFERENCE DRAG OF LOADING	8	(SIMILAR TO FLAT WING)	ON LOADING	9	(MID-SPAN LOADING)	IS	.40692601E+00
INTERFERENCE DRAG OF LOADING	10	(ELLIPTICAL C-SUB-P)	ON LOADING	9	(MID-SPAN LOADING)	IS	.65036463E+00
INTERFERENCE DRAG OF LOADING	11	(LINEAR IN ARB.REGION)	ON LOADING	9	(MID-SPAN LOADING)	IS	.23018317E-01
INTERFERENCE DRAG OF LOADING	12	(BODY UPWASH LOADING)	ON LOADING	9	(MID-SPAN LOADING)	IS	.79266912E-02
INTERFERENCE DRAG OF LOADING	13	(NACELLE BUOYANCY)	ON LOADING	9	(MID-SPAN LOADING)	IS	.75846101E-02
INTERFERENCE DRAG OF LOADING	14	(NACELLE BUOY(CAMBER))	ON LOADING	9	(MID-SPAN LOADING)	IS	.78755040E-02
INTERFERENCE DRAG OF LOADING	15	(BODY UPWASH (CAMBER))	ON LOADING	9	(MID-SPAN LOADING)	IS	.79266912E-02
INTERFERENCE DRAG OF LOADING	16	(BODY BUOYANCY TERM)	ON LOADING	9	(MID-SPAN LOADING)	IS	-.63519582E-02
INTERFERENCE DRAG OF LOADING	17	(BODY BUOY. (CAMBER))	ON LOADING	9	(MID-SPAN LOADING)	IS	-.63519582E-02

WING DATA FOR ELLIPTICAL C-SUB-P LOADING

-500A CHECK CASE 17 LOADS 5 Z CONST.

SPANWISE DISTRIBUTION OF SECTION DRAG, LIFT, AND PITCHING MOMENT

Y/B/2	CHORD	SECTION C_D	SECTION C_L	SECTION C_M
0.0000000	183.8703000	0.0000000	.8081013	-.7459886
.0250000	177.9359709	0.0000000	.8464344	-.8037283
.0500000	172.0016418	0.0000000	.9161951	-.8887942
.0750000	166.0673128	4.0272333	1.0969019	-1.0592267
.1000000	160.1330800	2.0134078	1.0944862	-1.1155383
.1250000	154.1951859	1.4896608	1.0913724	-1.1748181
.1500000	148.2586941	1.2109786	1.0875546	-1.2380487
.1750000	142.3260032	1.0225942	1.0830253	-1.3059686
.2000000	136.3933123	.8809468	1.0777755	-1.3781524
.2500000	124.6106675	.6642700	1.0650704	-1.5392330
.3000000	113.9394744	.5013410	1.0493331	-1.7159663
.3500000	103.2682813	.3671283	1.0304247	-1.9207322
.4000000	92.5970882	.2523555	1.0081667	-2.1636271
.4750000	76.6960487	.1012107	.9679844	-2.6261996
.5500000	63.0912977	-.0200863	.9186811	-3.1850848
.6250000	49.4865467	-.1188577	.8586872	-3.9779808
.7000000	35.8817958	-.2495864	.7855571	-5.2491771
.7500000	30.5922200	-.1327417	.7275816	-5.8252966
.8000000	27.3627760	-.0559510	.6600000	-6.0051554
.9000000	20.9038880	-.0171411	.4794789	-5.9088222
.9500000	17.6744440	-.0202055	.3434749	-5.0785826
1.0000000	14.4450000	0.0000000	0.0000000	0.0000000

C_L = .919593 C_D = .704535 X_{CP}/C_L = .698576 K_E = .833127

S_{REF}/S_{PROG} = .920576 C_M/C_L = -.032611 C_{M_0} = .056157

INTERFERENCE	DRAG OF LOADING	1	(UNIFORM OR CONSTANT)	ON LOADING	10	(ELLIPTICAL C-SUB-P)	IS	.64301279E+00
INTERFERENCE	DRAG OF LOADING	2	(LINEAR CHORDWISE)	ON LOADING	10	(ELLIPTICAL C-SUB-P)	IS	.10858789E+01
INTERFERENCE	DRAG OF LOADING	3	(LINEAR SPANWISE)	ON LOADING	10	(ELLIPTICAL C-SUB-P)	IS	.25877885E+00
INTERFERENCE	DRAG OF LOADING	4	(QUADRATIC SPANWISE)	ON LOADING	10	(ELLIPTICAL C-SUB-P)	IS	.50984738E-01
INTERFERENCE	DRAG OF LOADING	5	(QUADRATIC CHORDWISE)	ON LOADING	10	(ELLIPTICAL C-SUB-P)	IS	.14114995E+01
INTERFERENCE	DRAG OF LOADING	6	(PARABOLIC CHORDWISE)	ON LOADING	10	(ELLIPTICAL C-SUB-P)	IS	.11683525E+01
INTERFERENCE	DRAG OF LOADING	7	(CUBIC CHORDWISE)	ON LOADING	10	(ELLIPTICAL C-SUB-P)	IS	.15950166E+01
INTERFERENCE	DRAG OF LOADING	8	(SIMILAR TO FLAT WING)	ON LOADING	10	(ELLIPTICAL C-SUB-P)	IS	.41397692E+00
INTERFERENCE	DRAG OF LOADING	9	(MID-SPAN LOADING)	ON LOADING	10	(ELLIPTICAL C-SUB-P)	IS	.33412505E+00
INTERFERENCE	DRAG OF LOADING	11	(LINEAR IN ARB.REGION)	ON LOADING	10	(ELLIPTICAL C-SUB-P)	IS	.51424904E-01
INTERFERENCE	DRAG OF LOADING	12	(BODY UPWASH LOADING)	ON LOADING	10	(ELLIPTICAL C-SUB-P)	IS	.87877092E-02
INTERFERENCE	DRAG OF LOADING	13	(NACELLE BUOYANCY)	ON LOADING	10	(ELLIPTICAL C-SUB-P)	IS	.37142217E-02
INTERFERENCE	DRAG OF LOADING	14	(NACELLE BUOY(CAMBER))	ON LOADING	10	(ELLIPTICAL C-SUB-P)	IS	.36905653E-02
INTERFERENCE	DRAG OF LOADING	15	(BODY UPWASH (CAMBER))	ON LOADING	10	(ELLIPTICAL C-SUB-P)	IS	.87877092E-02
INTERFERENCE	DRAG OF LOADING	16	(BODY BUOYANCY TERM)	ON LOADING	10	(ELLIPTICAL C-SUB-P)	IS	-.60339457E-03
INTERFERENCE	DRAG OF LOADING	17	(BODY BUOY. (CAMBER))	ON LOADING	10	(ELLIPTICAL C-SUB-P)	IS	-.60339457E-03

WING DATA FOR LINEAR IN ARB.REGION LOADING

-500A CHECK CASE 17 LOADS 5 Z CONST.

SPANWISE DISTRIBUTION OF SECTION DRAG, LIFT, AND PITCHING MOMENT

Y/B/2	CHORD	SECTION C_D	SECTION C_L	SECTION C_M
0.0000000	183.8703000	0.0000000	.0187166	-.0240494
.0250000	177.9359709	0.0000000	.0222453	-.0294023
.0500000	172.0016418	0.0000000	.0330299	-.0448368
.0750000	166.0673128	.0297979	.0616407	-.0862135
.1000000	160.1330000	.0177093	.0592837	-.0860842
.1250000	154.1951859	.0144923	.0569714	-.0860018
.1500000	148.2586941	.0125904	.0549009	-.0862639
.1750000	142.3260032	.0112886	.0527255	-.0863935
.2000000	136.3933123	.0106126	.0504083	-.0863034
.2500000	124.6106675	.0091127	.0461518	-.0866953
.3000000	113.9394744	.0071764	.0417737	-.0864064
.3500000	103.2682813	.0057950	.0379867	-.0873131
.4000000	92.5970882	.0044761	.0344443	-.0889059
.4750000	76.6960487	.0033491	.0283843	-.0893258
.5500000	63.0912977	.0022245	.0233737	-.0912043
.6250000	49.4865467	.0014684	.0186241	-.0944196
.7000000	35.8817958	.0008995	.0140135	-.0998637
.7500000	30.5922200	.0004789	.0105990	-.0894748
.8000000	27.3627760	.0004990	.0100900	-.0963532
.9000000	20.9038880	.0002184	.0080285	-.1021034
.9500000	17.6744440	.0003026	.0077911	-.1190188
1.0000000	14.4450000	.0000724	.0031771	-.0599920

C_L = .036341 C_D = .007827 X_{CP}/C_L = .867118 K_E = 5.926806

S_{REF}/S_{PROG} = .520576 C_M/C_L = -.464468 C_{M_0} = -.013475

INTERFERENCE DRAG OF LOADING 1 (UNIFORM OR CONSTANT) ON LOADING 11 (LINEAR IN ARB.REGION) IS .23639751E-01
INTERFERENCE DRAG OF LOADING 2 (LINEAR CHORDWISE) ON LOADING 11 (LINEAR IN ARB.REGION) IS .52561739E-01
INTERFERENCE DRAG OF LOADING 3 (LINEAR SPANWISE) ON LOADING 11 (LINEAR IN ARB.REGION) IS .17463824E-01
INTERFERENCE DRAG OF LOADING 4 (QUADRATIC SPANWISE) ON LOADING 11 (LINEAR IN ARB.REGION) IS .12611221E-01
INTERFERENCE DRAG OF LOADING 5 (QUADRATIC CHORDWISE) ON LOADING 11 (LINEAR IN ARB.REGION) IS .83857132E-01
INTERFERENCE DRAG OF LOADING 6 (PARABOLIC CHORDWISE) ON LOADING 11 (LINEAR IN ARB.REGION) IS .10236341E-01
INTERFERENCE DRAG OF LOADING 7 (CUBIC CHORDWISE) ON LOADING 11 (LINEAR IN ARB.REGION) IS .68683434E-01
INTERFERENCE DRAG OF LOADING 8 (SIMILAR TO FLAT WING) ON LOADING 11 (LINEAR IN ARB.REGION) IS .12342622E-01
INTERFERENCE DRAG OF LOADING 9 (MID-SPAN LOADING) ON LOADING 11 (LINEAR IN ARB.REGION) IS .20313330E-01
INTERFERENCE DRAG OF LOADING 10 (ELLIPTICAL C-SUB-P) ON LOADING 11 (LINEAR IN ARB.REGION) IS .24743975E-01
INTERFERENCE DRAG OF LOADING 12 (BODY UPWASH LOADING) ON LOADING 11 (LINEAR IN ARB.REGION) IS .16029899E-03
INTERFERENCE DRAG OF LOADING 13 (NACELLE BUOYANCY) ON LOADING 11 (LINEAR IN ARB.REGION) IS .52218628E-03
INTERFERENCE DRAG OF LOADING 14 (NACELLE BUOY(CAMBER)) ON LOADING 11 (LINEAR IN ARB.REGION) IS .83542928E-03
INTERFERENCE DRAG OF LOADING 15 (BODY UPWASH (CAMBER)) ON LOADING 11 (LINEAR IN ARB.REGION) IS .16029899E-03
INTERFERENCE DRAG OF LOADING 16 (BODY BUOYANCY TERM) ON LOADING 11 (LINEAR IN ARB.REGION) IS .33633272E-03
INTERFERENCE DRAG OF LOADING 17 (BODY BUOY. (CAMBER)) ON LOADING 11 (LINEAR IN ARB.REGION) IS .33633272E-03

WING DATA FOR BODY UPWASH LOADING LOADING

-500A CHECK CASE 17 LOADS 5 Z CONST.

SPANWISE DISTRIBUTION OF SECTION DRAG, LIFT, AND PITCHING MOMENT

Y/B/2	CHORD	SECTION C_D	SECTION C_L	SECTION C_M
0.0000000	183.8703000	0.0000000	.0139769	-.0112423
.0250000	177.9359709	0.0000000	.0138662	-.0116748
.0500000	172.0016418	0.0000000	.0151156	-.0135039
.0750000	166.0673128	0.0000000	.0166801	-.0151758
.1000000	160.1330000	0.0000000	.0172572	-.0156729
.1250000	154.1951855	0.0000000	.0172070	-.0161961
.1500000	148.2586941	0.0000000	.0170400	-.0169045
.1750000	142.3260032	0.0000000	.0164459	-.0175208
.2000000	136.3933123	0.0000000	.0163657	-.0186371
.2500000	124.6106675	0.0000000	.0158895	-.0210103
.3000000	113.9394744	0.0000000	.0154420	-.0236210
.3500000	103.2682813	0.0000000	.0157440	-.0276593
.4000000	92.5970882	0.0000000	.0156086	-.0319170
.4750000	76.6960487	0.0000000	.0157590	-.0411578
.5500000	63.0912977	0.0000000	.0156845	-.0529778
.6250000	49.4865467	0.0000000	.0168077	-.0764560
.7000000	35.8817958	0.0000000	.0194006	-.1278469
.7500000	30.5922200	0.0000000	.0202607	-.1604922
.8000000	27.3627760	0.0000000	.0205327	-.1854320
.9000000	20.9038880	0.0000000	.0187712	-.2308672
.9500000	17.6744440	0.0000000	.0161591	-.2391584
1.0000000	14.4450000	0.0000000	.0105055	-.1933489

C_L = .015524 C_D = 0.000000 X_{CP}/L = .674688 K_E = 0.000000

S_{REF}/S_{PROG} = .520576 C_M/C_L = .028597 C_{M_0} = .001898

INTERFERENCE DRAG OF LOADING 1 (UNIFORM OR CONSTANT) ON LOADING 12 (BODY UPWASH LOADING) IS 0.
INTERFERENCE DRAG OF LOADING 2 (LINEAR CHORDWISE) ON LOADING 12 (BODY UPWASH LOADING) IS 0.
INTERFERENCE DRAG OF LOADING 3 (LINEAR SPANWISE) ON LOADING 12 (BODY UPWASH LOADING) IS 0.
INTERFERENCE DRAG OF LOADING 4 (QUADRATIC SPANWISE) ON LOADING 12 (BODY UPWASH LOADING) IS 0.
INTERFERENCE DRAG OF LOADING 5 (QUADRATIC CHORDWISE) ON LOADING 12 (BODY UPWASH LOADING) IS 0.
INTERFERENCE DRAG OF LOADING 6 (PARABOLIC CHORDWISE) ON LOADING 12 (BODY UPWASH LOADING) IS 0.
INTERFERENCE DRAG OF LOADING 7 (CUBIC CHORDWISE) ON LOADING 12 (BODY UPWASH LOADING) IS 0.
INTERFERENCE DRAG OF LOADING 8 (SIMILAR TO FLAT WING) ON LOADING 12 (BODY UPWASH LOADING) IS 0.
INTERFERENCE DRAG OF LOADING 9 (MID-SPAN LOADING) ON LOADING 12 (BODY UPWASH LOADING) IS 0.
INTERFERENCE DRAG OF LOADING 10 (ELLIPTICAL C-SUB-P) ON LOADING 12 (BODY UPWASH LOADING) IS 0.
INTERFERENCE DRAG OF LOADING 11 (LINEAR IN ARB.REGION) ON LOADING 12 (BODY UPWASH LOADING) IS 0.
INTERFERENCE DRAG OF LOADING 13 (NACELLE BUOYANCY) ON LOADING 12 (BODY UPWASH LOADING) IS 0.
INTERFERENCE DRAG OF LOADING 14 (NACELLE BUOY(CAMBER)) ON LOADING 12 (BODY UPWASH LOADING) IS 0.
INTERFERENCE DRAG OF LOADING 15 (BODY UPWASH (CAMBER)) ON LOADING 12 (BODY UPWASH LOADING) IS 0.
INTERFERENCE DRAG OF LOADING 16 (BODY BUOYANCY TERM) ON LOADING 12 (BODY UPWASH LOADING) IS 0.
INTERFERENCE DRAG OF LOADING 17 (BODY BUOY. (CAMBER)) ON LOADING 12 (BODY UPWASH LOADING) IS 0.

WING DATA FOR NACELLE BUOYANCY LOADING

-500A CHECK CASE 17 LOADS 5 Z CONST.

SPANWISE DISTRIBUTION OF SECTION DRAG, LIFT, AND PITCHING MOMENT

Y/B/2	CHORD	SECTION C_D	SECTION C_L	SECTION C_M
0.0000000	183.8703000	0.0000000	.0001173	-.0001541
.0250000	177.9359709	0.0000000	.0004694	-.0006371
.0500000	172.0016418	0.0000000	.0009759	-.0013649
.0750000	166.0673128	0.0000000	.0017408	-.0024904
.1000000	160.1330000	0.0000000	.0020751	-.0030665
.1250000	154.1951859	0.0000000	.0029497	-.0044669
.1500000	148.2586941	0.0000000	.0032910	-.0051617
.1750000	142.3260032	0.0000000	.0038770	-.0062537
.2000000	136.3933123	0.0000000	.0045904	-.0076394
.2500000	124.6106675	0.0000000	.0054555	-.0098394
.3000000	113.9394744	0.0000000	.0072213	-.0145887
.3500000	103.2682813	0.0000000	.0088303	-.0200926
.4000000	92.5970882	0.0000000	.0105369	-.0267138
.4750000	76.6960487	0.0000000	.0093157	-.0277860
.5500000	63.0912977	0.0000000	.0096136	-.0355341
.6250000	49.4865467	0.0000000	.0092359	-.0454217
.7000000	35.8817958	0.0000000	.0081753	-.0574132
.7500000	30.5922200	0.0000000	.0043955	-.0370185
.8000000	27.3627760	0.0000000	.0003417	-.0032440
.9000000	20.9038880	0.0000000	0.0000000	0.0000000
.9500000	17.6744440	0.0000000	0.0000000	0.0000000
1.0000000	14.4450000	0.0000000	0.0000000	0.0000000

C_L = .005585 C_D = 0.000000 X_{CP}/C_L = .857603 K_E = 0.000000

S_{REF}/S_{PROG} = .920576 C_M/C_L = -.440087 C_{M_0} = -.001935

INTERFERENCE DRAG OF LOADING 1 (UNIFORM OR CONSTANT) ON LOADING 13 (NACELLE BUOYANCY) IS 0.
INTERFERENCE DRAG OF LOADING 2 (LINEAR CHORDWISE) ON LOADING 13 (NACELLE BUOYANCY) IS 0.
INTERFERENCE DRAG OF LOADING 3 (LINEAR SPANWISE) ON LOADING 13 (NACELLE BUOYANCY) IS 0.
INTERFERENCE DRAG OF LOADING 4 (QUADRATIC SPANWISE) ON LOADING 13 (NACELLE BUOYANCY) IS 0.
INTERFERENCE DRAG OF LOADING 5 (QUADRATIC CHORDWISE) ON LOADING 13 (NACELLE BUOYANCY) IS 0.
INTERFERENCE DRAG OF LOADING 6 (PARABOLIC CHORDWISE) ON LOADING 13 (NACELLE BUOYANCY) IS 0.
INTERFERENCE DRAG OF LOADING 7 (CUBIC CHORDWISE) ON LOADING 13 (NACELLE BUOYANCY) IS 0.
INTERFERENCE DRAG OF LOADING 8 (SIMILAR TO FLAT WING) ON LOADING 13 (NACELLE BUOYANCY) IS 0.
INTERFERENCE DRAG OF LOADING 9 (MID-SPAN LOADING) ON LOADING 13 (NACELLE BUOYANCY) IS 0.
INTERFERENCE DRAG OF LOADING 10 (ELLIPTICAL C-SUB-P) ON LOADING 13 (NACELLE BUOYANCY) IS 0.
INTERFERENCE DRAG OF LOADING 11 (LINEAR IN ARB.REGION) ON LOADING 13 (NACELLE BUOYANCY) IS 0.
INTERFERENCE DRAG OF LOADING 12 (BODY UPWASH LOADING) ON LOADING 13 (NACELLE BUOYANCY) IS 0.
INTERFERENCE DRAG OF LOADING 14 (NACELLE BUOY(CAMBER)) ON LOADING 13 (NACELLE BUOYANCY) IS 0.
INTERFERENCE DRAG OF LOADING 15 (BODY UPWASH (CAMBER)) ON LOADING 13 (NACELLE BUOYANCY) IS 0.
INTERFERENCE DRAG OF LOADING 16 (BODY BUOYANCY TERM) ON LOADING 13 (NACELLE BUOYANCY) IS 0.
INTERFERENCE DRAG OF LOADING 17 (BODY BUOY. (CAMBER)) ON LOADING 13 (NACELLE BUOYANCY) IS 0.

WING DATA FOR NACELLE BUOY(CAMBER) LOADING

-500A CHECK CASE 17 LOADS 5 Z CONST.

SPANWISE DISTRIBUTION OF SECTION DRAG, LIFT, AND PITCHING MOMENT

Y/B/2	CHORD	SECTION C_D	SECTION C_L	SECTION C_M
0.0000000	183.8703000	0.0000000	0.0000000	0.0000000
.0250000	177.9359709	0.0000000	0.0000000	0.0000000
.0500000	172.0016418	0.0000000	.0005270	-.0007286
.0750000	166.0673128	.0000098	.0011026	-.0015967
.1000000	160.1330000	.0000505	.0022512	-.0033640
.1250000	154.1951859	.0000842	.0030837	-.0047637
.1500000	148.2586941	.0000889	.0035857	-.0057315
.1750000	142.3260032	.0001106	.0042018	-.0069687
.2000000	136.3933123	.0001169	.0044740	-.0077184
.2500000	124.6106675	.0001232	.0050177	-.0094440
.3000000	113.9394744	.0001981	.0065090	-.0134726
.3500000	103.2682813	.0003435	.0090738	-.0209320
.4000000	92.5970882	.0004111	.0107703	-.0277956
.4750000	76.6960487	.0001840	.0085935	-.0267043
.5500000	63.0912977	.0001954	.0091722	-.0352659
.6250000	49.4865467	.0001840	.0091641	-.0460260
.7000000	35.8817958	.0001716	.0078710	-.0558633
.7500000	30.5922200	.0000764	.0044344	-.0374589
.8000000	27.3627760	0.0000000	0.0000000	0.0000000
.9000000	20.9038880	0.0000000	0.0000000	0.0000000
.9500000	17.6744440	0.0000000	0.0000000	0.0000000
1.0000000	14.4450000	0.0000000	0.0000000	0.0000000

C_L = .005427 C_D = .000149 X_{CP}/L = .880224 K_E = 5.047276

S_{REF}/S_{PROG} = .520576 C_M/C_L = -.498049 C_{M_0} = -.002195

INTERFERENCE DRAG OF LOADING	1	(UNIFORM OR CONSTANT)	ON LOADING	14	(NACELLE BUOY(CAMBER))	IS	.30789983E-02
INTERFERENCE DRAG OF LOADING	2	(LINEAR CHORDWISE)	ON LOADING	14	(NACELLE BUOY(CAMBER))	IS	.52257253E-02
INTERFERENCE DRAG OF LOADING	3	(LINEAR SPANWISE)	ON LOADING	14	(NACELLE BUOY(CAMBER))	IS	.35511552E-02
INTERFERENCE DRAG OF LOADING	4	(QUADRATIC SPANWISE)	ON LOADING	14	(NACELLE BUOY(CAMBER))	IS	.32236902E-02
INTERFERENCE DRAG OF LOADING	5	(QUADRATIC CHORDWISE)	ON LOADING	14	(NACELLE BUOY(CAMBER))	IS	.67058934E-02
INTERFERENCE DRAG OF LOADING	6	(PARABOLIC CHORDWISE)	ON LOADING	14	(NACELLE BUOY(CAMBER))	IS	.72528388E-03
INTERFERENCE DRAG OF LOADING	7	(CUBIC CHORDWISE)	ON LOADING	14	(NACELLE BUOY(CAMBER))	IS	.44834225E-02
INTERFERENCE DRAG OF LOADING	8	(SIMILAR TO FLAT WING)	ON LOADING	14	(NACELLE BUOY(CAMBER))	IS	.16147160E-02
INTERFERENCE DRAG OF LOADING	9	(MID-SPAN LOADING)	ON LOADING	14	(NACELLE BUOY(CAMBER))	IS	.42430126E-02
INTERFERENCE DRAG OF LOADING	10	(ELLIPTICAL C-SUB-P)	ON LOADING	14	(NACELLE BUOY(CAMBER))	IS	.30658499E-02
INTERFERENCE DRAG OF LOADING	11	(LINEAR IN ARB.REGION)	ON LOADING	14	(NACELLE BUOY(CAMBER))	IS	.77832864E-03
INTERFERENCE DRAG OF LOADING	12	(BODY UPWASH LOADING)	ON LOADING	14	(NACELLE BUOY(CAMBER))	IS	.26474509E-04
INTERFERENCE DRAG OF LOADING	13	(NACELLE BUOYANCY)	ON LOADING	14	(NACELLE BUOY(CAMBER))	IS	.84853164E-04
INTERFERENCE DRAG OF LOADING	15	(BODY UPWASH (CAMBER))	ON LOADING	14	(NACELLE BUOY(CAMBER))	IS	.26474509E-04
INTERFERENCE DRAG OF LOADING	16	(BODY BUOYANCY TERM)	ON LOADING	14	(NACELLE BUOY(CAMBER))	IS	.14152583E-04
INTERFERENCE DRAG OF LOADING	17	(BODY BUOY. (CAMBER))	ON LOADING	14	(NACELLE BUOY(CAMBER))	IS	.14152583E-04

WING DATA FOR BODY UPWASH (CAMBER) LOADING

-500A CHECK CASE 17 LOADS 5 Z CONST.

SPANWISE DISTRIBUTION OF SECTION DRAG, LIFT, AND PITCHING MOMENT

Y/B/2	CHORD	SECTION C_D	SECTION C_L	SECTION C_M
0.0000000	183.8703000	0.0000000	.0128081	-.0110956
.0250000	177.9359709	0.0000000	.0134354	-.0119597
.0500000	172.0016418	0.0000000	.0143089	-.0130270
.0750000	166.0673128	.0004930	.0166001	-.0151758
.1000000	160.1330000	.0008163	.0172572	-.0156729
.1250000	154.1951859	.0006285	.0172070	-.0161961
.1500000	148.2586941	.0004838	.0170400	-.0169045
.1750000	142.3260032	.0002617	.0164459	-.0175208
.2000000	136.3933123	.0002389	.0163657	-.0186371
.2500000	124.6106675	.0000856	.0158895	-.0210103
.3000000	113.9394744	-.0000005	.0154420	-.0236210
.3500000	103.2682813	.0000618	.0157440	-.0276593
.4000000	92.5970882	.0000532	.0156086	-.0319170
.4750000	76.6960487	.0000220	.0157590	-.0411578
.5500000	63.0912977	-.0000388	.0156845	-.0529778
.6250000	49.4865467	-.0000517	.0168077	-.0764560
.7000000	35.8817958	-.0000527	.0194006	-.1278469
.7500000	30.5922200	-.0000092	.0202607	-.1604922
.8000000	27.3627760	.0000351	.0205327	-.1854320
.9000000	20.9038880	.0000364	.0187712	-.2308672
.9500000	17.6744440	.0000230	.0161591	-.2391584
1.0000000	14.4450000	-.0000290	.0105055	-.1933489

C_L = .015524 C_D = .000169 X_{CP}/L = .674688 K_E = .699850

S_{REF}/S_{PROG} = .920576 C_M/C_L = .028597 C_{M_0} = .001898

INTERFERENCE DRAG OF LOADING 1 (UNIFORM OR CONSTANT) ON LOADING 15 (BODY UPWASH (CAMBER)) IS .11120444E-01
INTERFERENCE DRAG OF LOADING 2 (LINEAR CHORDWISE) ON LOADING 15 (BODY UPWASH (CAMBER)) IS .16288633E-01
INTERFERENCE DRAG OF LOADING 3 (LINEAR SPANWISE) ON LOADING 15 (BODY UPWASH (CAMBER)) IS .50914483E-02
INTERFERENCE DRAG OF LOADING 4 (QUADRATIC SPANWISE) ON LOADING 15 (BODY UPWASH (CAMBER)) IS .20480721E-02
INTERFERENCE DRAG OF LOADING 5 (QUADRATIC CHORDWISE) ON LOADING 15 (BODY UPWASH (CAMBER)) IS .20187526E-01
INTERFERENCE DRAG OF LOADING 6 (PARABOLIC CHORDWISE) ON LOADING 15 (BODY UPWASH (CAMBER)) IS .19847536E-01
INTERFERENCE DRAG OF LOADING 7 (CUBIC CHORDWISE) ON LOADING 15 (BODY UPWASH (CAMBER)) IS .23783585E-01
INTERFERENCE DRAG OF LOADING 8 (SIMILAR TO FLAT WING) ON LOADING 15 (BODY UPWASH (CAMBER)) IS .76443509E-02
INTERFERENCE DRAG OF LOADING 9 (MID-SPAN LOADING) ON LOADING 15 (BODY UPWASH (CAMBER)) IS .56578670E-02
INTERFERENCE DRAG OF LOADING 10 (ELLIPTICAL C-SUB-P) ON LOADING 15 (BODY UPWASH (CAMBER)) IS .12037537E-01
INTERFERENCE DRAG OF LOADING 11 (LINEAR IN ARB.REGION) ON LOADING 15 (BODY UPWASH (CAMBER)) IS .61432316E-03
INTERFERENCE DRAG OF LOADING 12 (BODY UPWASH LOADING) ON LOADING 15 (BODY UPWASH (CAMBER)) IS .16866864E-03
INTERFERENCE DRAG OF LOADING 13 (NACELLE BUOYANCY) ON LOADING 15 (BODY UPWASH (CAMBER)) IS .39688290E-04
INTERFERENCE DRAG OF LOADING 14 (NACELLE BUOY(CAMBER)) ON LOADING 15 (BODY UPWASH (CAMBER)) IS .37133955E-04
INTERFERENCE DRAG OF LOADING 16 (BODY BUOYANCY TERM) ON LOADING 15 (BODY UPWASH (CAMBER)) IS -.31567252E-04
INTERFERENCE DRAG OF LOADING 17 (BODY BUOY. (CAMBER)) ON LOADING 15 (BODY UPWASH (CAMBER)) IS -.31567252E-04

WING DATA FOR BODY BUOYANCY TERM LOADING

-500A CHECK CASE 17 LOADS 5 Z CONST.

SPANWISE DISTRIBUTION OF SECTION DRAG, LIFT, AND PITCHING MOMENT

Y/B/2	CHORD	SECTION C_D	SECTION C_L	SECTION C_M
0.0000000	183.8703000	0.0000000	.0012641	-.0027451
.0250000	177.9359709	0.0000000	.0012700	-.0028105
.0500000	172.0016418	0.0000000	.0012588	-.0028548
.0750000	166.0673128	0.0000000	.0012437	-.0029140
.1000000	160.1330000	0.0000000	-.0000396	-.0023112
.1250000	154.1951859	0.0000000	-.0006370	-.0015439
.1500000	148.2586941	0.0000000	-.0013826	-.0004348
.1750000	142.3260032	0.0000000	-.0019969	.0005585
.2000000	136.3933123	0.0000000	-.0026085	.0017496
.2500000	124.6106675	0.0000000	-.0045430	.0052927
.3000000	113.9394744	0.0000000	-.0059994	.0087494
.3500000	103.2682813	0.0000000	-.0071244	.0125373
.4000000	92.5970882	0.0000000	-.0084620	.0176063
.4750000	76.6960487	0.0000000	-.0103947	.0282701
.5500000	63.0912977	0.0000000	-.0112426	.0393574
.6250000	49.4865467	0.0000000	-.0105727	.0491154
.7000000	35.8817958	0.0000000	-.0096781	.0645191
.7500000	30.5922200	0.0000000	-.0095240	.0761374
.8000000	27.3627760	0.0000000	-.0093313	.0848538
.9000000	20.9038880	0.0000000	-.0083775	.1034578
.9500000	17.6744440	0.0000000	-.0066866	.0994544
1.0000000	14.4450000	0.0000000	-.0053449	.0985091

C_L = -.005353 C_D = 0.000000 X_{CP}/L = .687748 K_E = 0.000000

S_{REF}/S_{PROG} = .920576 C_M/C_L = -.004867 C_{M_0} = -.000475

INTERFERENCE DRAG OF LOADING 1 (UNIFORM OR CONSTANT) ON LOADING 16 (BODY BUOYANCY TERM) IS 0.
INTERFERENCE DRAG OF LOADING 2 (LINEAR CHORDWISE) ON LOADING 16 (BODY BUOYANCY TERM) IS 0.
INTERFERENCE DRAG OF LOADING 3 (LINEAR SPANWISE) ON LOADING 16 (BODY BUOYANCY TERM) IS 0.
INTERFERENCE DRAG OF LOADING 4 (QUADRATIC SPANWISE) ON LOADING 16 (BODY BUOYANCY TERM) IS 0.
INTERFERENCE DRAG OF LOADING 5 (QUADRATIC CHORDWISE) ON LOADING 16 (BODY BUOYANCY TERM) IS 0.
INTERFERENCE DRAG OF LOADING 6 (PARABOLIC CHORDWISE) ON LOADING 16 (BODY BUOYANCY TERM) IS 0.
INTERFERENCE DRAG OF LOADING 7 (CUBIC CHORDWISE) ON LOADING 16 (BODY BUOYANCY TERM) IS 0.
INTERFERENCE DRAG OF LOADING 8 (SIMILAR TO FLAT WING) ON LOADING 16 (BODY BUOYANCY TERM) IS 0.
INTERFERENCE DRAG OF LOADING 9 (MID-SPAN LOADING) ON LOADING 16 (BODY BUOYANCY TERM) IS 0.
INTERFERENCE DRAG OF LOADING 10 (ELLIPTICAL C-SUB-P) ON LOADING 16 (BODY BUOYANCY TERM) IS 0.
INTERFERENCE DRAG OF LOADING 11 (LINEAR IN ARB.REGION) ON LOADING 16 (BODY BUOYANCY TERM) IS 0.
INTERFERENCE DRAG OF LOADING 12 (BODY UPWASH LOADING) ON LOADING 16 (BODY BUOYANCY TERM) IS 0.
INTERFERENCE DRAG OF LOADING 13 (NACELLE BUOYANCY) ON LOADING 16 (BODY BUOYANCY TERM) IS 0.
INTERFERENCE DRAG OF LOADING 14 (NACELLE BUOY(CAMBER)) ON LOADING 16 (BODY BUOYANCY TERM) IS 0.
INTERFERENCE DRAG OF LOADING 15 (BODY UPWASH (CAMBER)) ON LOADING 16 (BODY BUOYANCY TERM) IS 0.
INTERFERENCE DRAG OF LOADING 17 (BODY BUOY. (CAMBER)) ON LOADING 16 (BODY BUOYANCY TERM) IS 0.

WING DATA FOR BODY BUOY. (CAMBER) LOADING

-500A CHECK CASE 17 LOADS 5 Z CONST.

SPANWISE DISTRIBUTION OF SECTION DRAG, LIFT, AND PITCHING MOMENT

Y/B/2	CHORD	SECTION C_D	SECTION C_L	SECTION C_M
0.0000000	183.8703000	0.0000000	-.0010258	-.0001834
.0250000	177.9359709	0.0000000	-.0008650	-.0003047
.0500000	172.0016418	0.0000000	-.0002472	-.0009537
.0750000	166.0673128	.0005867	.0012437	-.0029140
.1000000	160.1330000	.0005146	-.0080396	-.0023112
.1250000	154.1951859	.0002164	-.0006370	-.0015439
.1500000	148.2586941	.0001188	-.0013826	-.0004348
.1750000	142.3260032	.0001144	-.0019969	.0005585
.2000000	136.3933123	.0001008	-.0026085	.0017496
.2500000	124.6106675	.0000502	-.0045430	.0052927
.3000000	113.9394744	.0000442	-.0059994	.0087494
.3500000	103.2682813	.0000425	-.0071244	.0125373
.4000000	92.5970882	.0000490	-.0084620	.0176063
.4750000	76.6960487	.0000450	-.0103947	.0282701
.5500000	63.0912977	.0000269	-.0112426	.0393574
.6250000	49.4865467	.0000108	-.0105727	.0491154
.7000000	35.8817958	-.0000128	-.0096781	.0645191
.7500000	30.5922200	.0000004	-.0095240	.0761374
.8000000	27.3627760	.0000161	-.0093313	.0848538
.9000000	20.9038880	.0000176	-.0083775	.1034578
.9500000	17.6744440	.0000120	-.0066866	.0994544
1.0000000	14.4450000	.0000064	-.0053449	.0989091

C_L = -.005353 C_D = .000110 X_{CP}/L = .687748 K_E = 3.845625

S_{REF}/S_{PROG} = .520576 C_M/C_L = -.004867 C_{M_0} = -.000475

INTERFERENCE DRAG OF LOADING 1 (UNIFORM OR CONSTANT) ON LOADING 17 (BODY BUOY. (CAMBER)) IS -.26416243E-02
INTERFERENCE DRAG OF LOADING 2 (LINEAR CHORDWISE) ON LOADING 17 (BODY BUOY. (CAMBER)) IS -.16408864E-02
INTERFERENCE DRAG OF LOADING 3 (LINEAR SPANWISE) ON LOADING 17 (BODY BUOY. (CAMBER)) IS -.28823097E-02
INTERFERENCE DRAG OF LOADING 4 (QUADRATIC SPANWISE) ON LOADING 17 (BODY BUOY. (CAMBER)) IS -.23858845E-02
INTERFERENCE DRAG OF LOADING 5 (QUADRATIC CHORDWISE) ON LOADING 17 (BODY BUOY. (CAMBER)) IS .12895944E-02
INTERFERENCE DRAG OF LOADING 6 (PARABOLIC CHORDWISE) ON LOADING 17 (BODY BUOY. (CAMBER)) IS -.60288567E-02
INTERFERENCE DRAG OF LOADING 7 (CUBIC CHORDWISE) ON LOADING 17 (BODY BUOY. (CAMBER)) IS -.37072132E-03
INTERFERENCE DRAG OF LOADING 8 (SIMILAR TO FLAT WING) ON LOADING 17 (BODY BUOY. (CAMBER)) IS -.18437432E-02
INTERFERENCE DRAG OF LOADING 9 (MID-SPAN LOADING) ON LOADING 17 (BODY BUOY. (CAMBER)) IS -.35455539E-02
INTERFERENCE DRAG OF LOADING 10 (ELLIPTICAL C-SUB-P) ON LOADING 17 (BODY BUOY. (CAMBER)) IS -.26581127E-02
INTERFERENCE DRAG OF LOADING 11 (LINEAR IN ARB.REGION) ON LOADING 17 (BODY BUOY. (CAMBER)) IS .31931193E-03
INTERFERENCE DRAG OF LOADING 12 (BODY UPWASH LOADING) ON LOADING 17 (BODY BUOY. (CAMBER)) IS -.55353417E-04
INTERFERENCE DRAG OF LOADING 13 (NACELLE BUOYANCY) ON LOADING 17 (BODY BUOY. (CAMBER)) IS .16881730E-05
INTERFERENCE DRAG OF LOADING 14 (NACELLE BUOY(CAMBER)) ON LOADING 17 (BODY BUOY. (CAMBER)) IS .41270669E-05
INTERFERENCE DRAG OF LOADING 15 (BODY UPWASH (CAMBER)) ON LOADING 17 (BODY BUOY. (CAMBER)) IS -.55353417E-04
INTERFERENCE DRAG OF LOADING 16 (BODY BUOYANCY TERM) ON LOADING 17 (BODY BUOY. (CAMBER)) IS .11020170E-03

FORCE COEFFICIENTS OF COMPONENT AND INTERFERENCE LOADINGS

-500A CHECK CASE 17 LOADS 5 Z CONST.

GROSS WING AREA = 10751.967507 SREF/SPROG = .920576

CL 1 =	.938398	FOR UNIFORM OR CONSTANT	LOADING
CL 2 =	.508184	FOR LINEAR CHORDWISE	LOADING
CL 3 =	1.020415	FOR LINEAR SPANWISE	LOADING
CL 4 =	1.033028	FOR QUADRATIC SPANWISE	LOADING
CL 5 =	.917156	FOR QUADRATIC CHORDWISE	LOADING
CL 6 =	.917738	FOR PARABOLIC CHORDWISE	LOADING
CL 7 =	.541360	FOR CUBIC CHORDWISE	LOADING
CL 8 =	.678982	FOR SIMILAR TO FLAT WING	LOADING
CL 9 =	1.006442	FOR MID-SPAN LOADING	LOADING
CL10 =	.919593	FOR ELLIPTICAL C-SUB-P	LOADING
CL11 =	.036341	FOR LINEAR IN ARB.REGION	LOADING
CL12 =	.015524	FOR BODY UPWASH LOADING	LOADING
CL13 =	.005585	FOR NACELLE BUOYANCY	LOADING
CL14 =	.005427	FOR NACELLE BUOY(CAMBER)	LOADING
CL15 =	.015524	FOR BODY UPWASH (CAMBER)	LOADING
CL16 =	-.005353	FOR BODY BUOYANCY TERM	LOADING
CL17 =	-.005353	FOR BODY BUOY. (CAMBER)	LOADING

C-M-0 1 =	.019665
C-M-0 2 =	-.056531
C-M-0 3 =	-.147398
C-M-0 4 =	-.282821
C-M-0 5 =	-.115568
C-M-0 6 =	.171954
C-M-0 7 =	-.039647
C-M-0 8 =	.061117
C-M-0 9 =	-.039760
C-M-010 =	.056157
C-M-011 =	-.013475
C-M-012 =	.001898
C-M-013 =	-.001935
C-M-014 =	-.002195
C-M-015 =	.001898
C-M-016 =	-.000475
C-M-017 =	-.000475

CD 1 1/(CL 1)(CL 1) =	.734889
CD 2 2/(CL 2)(CL 2) =	1.598717
CD 3 3/(CL 3)(CL 3) =	.771394
CD 4 4/(CL 4)(CL 4) =	1.299545
CD 5 5/(CL 5)(CL 5) =	2.905101
CD 6 6/(CL 6)(CL 6) =	2.254591
CD 7 7/(CL 7)(CL 7) =	3.654586
CD 8 8/(CL 8)(CL 8) =	.694392
CD 9 9/(CL 9)(CL 9) =	.546022
CD1010/(CL10)(CL10) =	.833127
CD1111/(CL11)(CL11) =	5.926806
CD1212/(CL12)(CL12) =	0.000000
CD1313/(CL13)(CL13) =	0.000000
CD1414/(CL14)(CL14) =	5.047276
CD1515/(CL15)(CL15) =	.699850
CD1616/(CL16)(CL16) =	0.000000
CD1717/(CL17)(CL17) =	3.845625

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(CD 1 2+CD 2 1)/(CL 1)(CL 2) =      1.955807
(CD 1 3+CD 3 1)/(CL 1)(CL 3) =      1.030899
(CD 1 4+CD 4 1)/(CL 1)(CL 4) =       .856674
(CD 1 5+CD 5 1)/(CL 1)(CL 5) =      2.298004
(CD 1 6+CD 6 1)/(CL 1)(CL 6) =      2.068602
(CD 1 7+CD 7 1)/(CL 1)(CL 7) =      2.479878
(CD 1 8+CD 8 1)/(CL 1)(CL 8) =      1.407326
(CD 1 9+CD 9 1)/(CL 1)(CL 9) =      1.062697
(CD 110+CD10 1)/(CL 1)(CL10) =      1.545317
(CD 111+CD11 1)/(CL 1)(CL11) =      2.098184
(CD 112+CD12 1)/(CL 1)(CL12) =       .613575
(CD 113+CD13 1)/(CL 1)(CL13) =       .742238
(CD 114+CD14 1)/(CL 1)(CL14) =      1.363543
(CD 115+CD15 1)/(CL 1)(CL15) =      1.376919
(CD 116+CD16 1)/(CL 1)(CL16) =       .242709
(CD 117+CD17 1)/(CL 1)(CL17) =       .768572
(CD 2 3+CD 3 2)/(CL 2)(CL 3) =       .516477
(CD 2 4+CD 4 2)/(CL 2)(CL 4) =       .486263
(CD 2 5+CD 5 2)/(CL 2)(CL 5) =      4.176234
(CD 2 6+CD 6 2)/(CL 2)(CL 6) =      3.202446
(CD 2 7+CD 7 2)/(CL 2)(CL 7) =      4.516908
(CD 2 8+CD 8 2)/(CL 2)(CL 8) =      1.800696
(CD 2 9+CD 9 2)/(CL 2)(CL 9) =      1.021350
(CD 210+CD10 2)/(CL 2)(CL10) =      2.141058
(CD 211+CD11 2)/(CL 2)(CL11) =      4.106716
(CD 212+CD12 2)/(CL 2)(CL12) =       .552343
(CD 213+CD13 2)/(CL 2)(CL13) =       .932551
(CD 214+CD14 2)/(CL 2)(CL14) =      2.046866
(CD 215+CD15 2)/(CL 2)(CL15) =      1.707646
(CD 216+CD16 2)/(CL 2)(CL16) =      -.734539
(CD 217+CD17 2)/(CL 2)(CL17) =      -.397024
(CD 3 4+CD 4 3)/(CL 3)(CL 4) =      1.826576
(CD 3 5+CD 5 3)/(CL 3)(CL 5) =       .758622
(CD 3 6+CD 6 3)/(CL 3)(CL 6) =       .481315
(CD 3 7+CD 7 3)/(CL 3)(CL 7) =       .522493
(CD 3 8+CD 8 3)/(CL 3)(CL 8) =       .930812
(CD 3 9+CD 9 3)/(CL 3)(CL 9) =      1.386409
(CD 310+CD10 3)/(CL 3)(CL10) =       .923560
(CD 311+CD11 3)/(CL 3)(CL11) =      1.087000
(CD 312+CD12 3)/(CL 3)(CL12) =       .562227
(CD 313+CD13 3)/(CL 3)(CL13) =      1.054165
(CD 314+CD14 3)/(CL 3)(CL14) =      1.747839
(CD 315+CD15 3)/(CL 3)(CL15) =       .883630
(CD 316+CD16 3)/(CL 3)(CL16) =      1.043254
(CD 317+CD17 3)/(CL 3)(CL17) =      1.570912
(CD 4 5+CD 5 4)/(CL 4)(CL 5) =       .234667
(CD 4 6+CD 6 4)/(CL 4)(CL 6) =      -.054422
(CD 4 7+CD 7 4)/(CL 4)(CL 7) =      -.022073
(CD 4 8+CD 8 4)/(CL 4)(CL 8) =       .735049
(CD 4 9+CD 9 4)/(CL 4)(CL 9) =      1.186186
(CD 410+CD10 4)/(CL 4)(CL10) =       .612370
(CD 411+CD11 4)/(CL 4)(CL11) =       .672493
(CD 412+CD12 4)/(CL 4)(CL12) =       .585546
(CD 413+CD13 4)/(CL 4)(CL13) =       .985952
(CD 414+CD14 4)/(CL 4)(CL14) =      1.588477
(CD 415+CD15 4)/(CL 4)(CL15) =       .713254
(CD 416+CD16 4)/(CL 4)(CL16) =      1.248827
(CD 417+CD17 4)/(CL 4)(CL17) =      1.680273
(CD 5 6+CD 6 5)/(CL 5)(CL 6) =      4.067812
(CD 5 7+CD 7 5)/(CL 5)(CL 7) =      6.311627
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(CD 5 8+CD 8 5)/(CL 5)(CL 8) =      2.081406
(CD 5 9+CD 9 5)/(CL 5)(CL 9) =       .756086
(CD 510+CD10 5)/(CL 5)(CL10) =      2.554699
(CD 511+CD11 5)/(CL 5)(CL11) =      6.060954
(CD 512+CD12 5)/(CL 5)(CL12) =       .512102
(CD 513+CD13 5)/(CL 5)(CL13) =      1.091764
(CD 514+CD14 5)/(CL 5)(CL14) =      2.506719
(CD 515+CD15 5)/(CL 5)(CL15) =      1.929936
(CD 516+CD16 5)/(CL 5)(CL16) =     -1.558296
(CD 517+CD17 5)/(CL 5)(CL17) =     -1.860960
(CD 6 7+CD 7 6)/(CL 6)(CL 7) =      5.106313
(CD 6 8+CD 8 6)/(CL 6)(CL 8) =      2.062705
(CD 6 9+CD 9 6)/(CL 6)(CL 9) =       .464150
(CD 610+CD10 6)/(CL 6)(CL10) =      2.331036
(CD 611+CD11 6)/(CL 6)(CL11) =      2.189650
(CD 612+CD12 6)/(CL 6)(CL12) =       .742573
(CD 613+CD13 6)/(CL 6)(CL13) =      -.140335
(CD 614+CD14 6)/(CL 6)(CL14) =      -.197663
(CD 615+CD15 6)/(CL 6)(CL15) =      2.135644
(CD 616+CD16 6)/(CL 6)(CL16) =      -.499832
(CD 617+CD17 6)/(CL 6)(CL17) =       .727340
(CD 7 8+CD 8 7)/(CL 7)(CL 8) =      2.306891
(CD 7 9+CD 9 7)/(CL 7)(CL 9) =       .362048
(CD 710+CD10 7)/(CL 7)(CL10) =      2.787390
(CD 711+CD11 7)/(CL 7)(CL11) =      5.441474
(CD 712+CD12 7)/(CL 7)(CL12) =       .603779
(CD 713+CD13 7)/(CL 7)(CL13) =       .542938
(CD 714+CD14 7)/(CL 7)(CL14) =      1.286522
(CD 715+CD15 7)/(CL 7)(CL15) =      2.231227
(CD 716+CD16 7)/(CL 7)(CL16) =     -1.753700
(CD 717+CD17 7)/(CL 7)(CL17) =     -1.680133
(CD 8 9+CD 9 8)/(CL 8)(CL 9) =       .970850
(CD 810+CD10 8)/(CL 8)(CL10) =      1.490647
(CD 811+CD11 8)/(CL 8)(CL11) =      1.755059
(CD 812+CD12 8)/(CL 8)(CL12) =       .650975
(CD 813+CD13 8)/(CL 8)(CL13) =       .610183
(CD 814+CD14 8)/(CL 8)(CL14) =      1.043947
(CD 815+CD15 8)/(CL 8)(CL15) =      1.376191
(CD 816+CD16 8)/(CL 8)(CL16) =       .336061
(CD 817+CD17 8)/(CL 8)(CL17) =       .843322
(CD 910+CD10 9)/(CL 9)(CL10) =      1.063719
(CD 911+CD11 9)/(CL 9)(CL11) =      1.184723
(CD 912+CD12 9)/(CL 9)(CL12) =       .507328
(CD 913+CD13 9)/(CL 9)(CL13) =      1.349387
(CD 914+CD14 9)/(CL 9)(CL14) =      2.218700
(CD 915+CD15 9)/(CL 9)(CL15) =       .869445
(CD 916+CD16 9)/(CL 9)(CL16) =      1.178985
(CD 917+CD17 9)/(CL 9)(CL17) =      1.837074
(CD1011+CD1110)/(CL10)(CL11) =      2.279200
(CD1012+CD1210)/(CL10)(CL12) =       .615553
(CD1013+CD1310)/(CL10)(CL13) =       .723210
(CD1014+CD1410)/(CL10)(CL14) =      1.353813
(CD1015+CD1510)/(CL10)(CL15) =      1.458747
(CD1016+CD1610)/(CL10)(CL16) =       .122573
(CD1017+CD1710)/(CL10)(CL17) =       .662540
(CD1112+CD1211)/(CL11)(CL12) =       .284130
(CD1113+CD1311)/(CL11)(CL13) =      2.572870
(CD1114+CD1411)/(CL11)(CL14) =      8.182322
(CD1115+CD1511)/(CL11)(CL15) =      1.373016
(CD1116+CD1611)/(CL11)(CL16) =     -1.728856
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(CD1117+CD1711)/(CL11)(CL17) =      -3.370219
(CD1213+CD1312)/(CL12)(CL13) =       0.000000
(CD1214+CD1412)/(CL12)(CL14) =        .314232
(CD1215+CD1512)/(CL12)(CL15) =        .699850
(CD1216+CD1612)/(CL12)(CL16) =       0.000000
(CD1217+CD1712)/(CL12)(CL17) =        .666069
(CD1314+CD1413)/(CL13)(CL14) =       2.799612
(CD1315+CD1513)/(CL13)(CL15) =        .457762
(CD1316+CD1613)/(CL13)(CL16) =       0.000000
(CD1317+CD1713)/(CL13)(CL17) =       -.056467
(CD1415+CD1514)/(CL14)(CL15) =        .754984
(CD1416+CD1614)/(CL14)(CL16) =       -.487150
(CD1417+CD1714)/(CL14)(CL17) =       -.629209
(CD1516+CD1615)/(CL15)(CL16) =        .379849
(CD1517+CD1715)/(CL15)(CL17) =       1.045918
(CD1617+CD1716)/(CL16)(CL17) =       3.845625

CD WING-LIFT-ON-NACELLES  1 =         .002214
CD WING-LIFT-ON-NACELLES  2 =         .002290
CD WING-LIFT-ON-NACELLES  3 =         .002385
CD WING-LIFT-ON-NACELLES  4 =         .001882
CD WING-LIFT-ON-NACELLES  5 =         .001639
CD WING-LIFT-ON-NACELLES  6 =         .002983
CD WING-LIFT-ON-NACELLES  7 =         .002105
CD WING-LIFT-ON-NACELLES  8 =         .001428
CD WING-LIFT-ON-NACELLES  9 =         .003208
CD WING-LIFT-ON-NACELLES 10 =         .002254
CD WING-LIFT-ON-NACELLES 11 =        -.000199
CD WING-LIFT-ON-NACELLES 12 =         .000032
CD WING-LIFT-ON-NACELLES 13 =        0.000000
CD WING-LIFT-ON-NACELLES 14 =        -.000037
CD WING-LIFT-ON-NACELLES 15 =         .000032
CD WING-LIFT-ON-NACELLES 16 =        0.000000
CD WING-LIFT-ON-NACELLES 17 =        -.000022
```

BODY TERMS

C-L = .00000 C-D = .000001 C-M = .003958 XF = .722408 ALPHA = 0.0000 C-M-O = .0040

LIFT, DRAG, AND MOMENT INCREMENTS
DUE TO BODY CARRY-OVER OF WING LIFT

I	TYPE OF WING LIFT LOADING	C_L	C_D	C_{M_0}	I
1	UNIFORM OR CONSTANT	.118087	.010218	.032211	1
2	LINEAR CHORDWISE	.165426	.014306	.006471	2
3	LINEAR SPANWISE	.038359	.003319	.008246	3
4	QUADRATIC SPANWISE	.010797	.000934	.001282	4
5	QUADRATIC CHORDWISE	.207604	.017927	-.016454	5
6	PARABOLIC CHORDWISE	.238506	.020679	.060852	6
7	CUBIC CHORDWISE	.271403	.023469	-.003038	7
8	SIMILAR TO FLAT WING	.086744	.007505	.032202	8
9	MID-SPAN LOADING	.035774	.003096	.006029	9
10	ELLIPTICAL C-SUB-P	.128893	.011153	.035316	10
11	LINEAR IN ARB.REGION	.003426	.000294	-.001259	11
12	BODY UPWASH LOADING	.002127	.000184	.000919	12
13	NACELLE BUOYANCY	.000086	.000007	-.000035	13
14	NACELLE BUOY(CAMBER)	.000009	.000001	-.000004	14
15	BODY UPWASH (CAMBER)	.002049	.000178	.000770	15
16	BODY BUOYANCY TERM	.000182	.000016	-.000350	16
17	BODY BUOY. (CAMBER)	-.000069	-.000007	-.000295	17

DELTAT = .133 SEC., T = 352.632 SEC.

RESTART DATA PUNCHED. DECK IMAGE FOLLOWS.

```
500A CHECK CASE      17 LOADS  5 Z CONST.                                    RESTART
 21  20  12  41  20  25  11  21  19  17  22  46  45  43  42  40  39  37  35  34
 31  29  27  24  20  16  13  10   9   8   6   6   5   5   1   2   3   4   5   6
  7   8   9  10  11  16  17  14  13  15  12
  1   2   3   4   5
 .1191476730185E+01  .1534428639162E+01  .9087405066411E+00  .7644940146196E+00
 .1820708848452E+01  .1639994119269E+01  .2016659122735E+01  .8254669316500E+00
 .9239419752643E+00  .1227608179328E+01  .6587031944276E-01  .8228658347138E-02
 .3580945524998E-02  .6392600797960E-02  .1846586873770E-01 -.1122387007235E-02
-.3554202101491E-02  .1534428639162E+01  .2427780080256E+01  .7818654929743E+00
 .4199683702871E+00  .3202295793615E+01  .2457163223169E+01  .3554925237197E+01
 .1022192040696E+01  .8594030379052E+00  .1646104470565E+01  .1247750749080E+00
 .7168969463028E-02  .4354257625232E-02  .9287206478495E-02  .2216388939792E-01
 .3287451445264E-02  .1776891262518E-02  .9087405066411E+00  .7818654929743E+00
 .1478635459000E+01  .1772495924767E+01  .6535893046765E+00  .4149395903314E+00
 .4620329209898E+00  .5931757679546E+00  .1310740343277E+01  .7978055913054E+00
 .3710783868196E-01  .8199034661907E-02  .5530355474795E-02  .8910458432598E-02
 .1288609826385E-01 -.5246107285099E-02 -.7899491574557E-02  .7644940146196E+00
 .4199683702871E+00  .1772495924767E+01  .2553316434969E+01  .2046760160099E+00
-.4749723514470E-01 -.1975969800181E-01  .4746204069039E+00  .1135306358888E+01
 .5355260912320E+00  .2324121210674E-01  .8644641609286E-02  .5236430457342E-02
 .8198127086431E-02  .1053004703725E-01 -.6357471719036E-02 -.8553859055572E-02
 .1820708848452E+01  .3202295793615E+01  .6535893046765E+00  .2046760160099E+00
 .4499216647775E+01  .3151970262296E+01  .5016485168863E+01  .1193212617412E+01
 .6424838972035E+00  .1983525475198E+01  .1859791226190E+00  .6712342389830E-02
 .5148010836262E-02  .1148604354911E-01  .2529648833381E-01  .7223881357517E-02
 .8411050647326E-02  .1639994119269E+01  .2457163223169E+01  .4149395903314E+00
-.4749723514470E-01  .3151970262296E+01  .3496186211052E+01  .4061077166638E+01
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TEA253, 17 LOADING VERSION OF DECEMBER 15, 1979.

OPTIMUM COMBINATION OF 17 WING LOADINGS

-500A CHECK CASE 17 LOADS 2 Z CONST. RESTART

* *

NUMBER OF PLANFORM BREAKPOINTS =	9.0	FLAT PLATE CONTROL FLAG =	0.0
NUMBER OF SEMISPAN ELEMENTS =	40.0	PRINT FLAG =	2.0
NUMBER OF SPAN STATIONS FOR CAMBER SURFACE =	22.0	SMOOTHING FLAG =	1.0
SPAN STATION FOR PARABOLIC APEX =	0.0	RESTART FLAG =	2.0

BASIC MACH NUMBER =	2.7000	DESIGN C-L =	.1000
CBAR =	106.4100	NUMBER OF LOADINGS =	-17.0000
PITCHING MOMENT CENTER AT	187.0000	NUMBER OF CAMBER ORDINATES =	12.0000
REFERENCE AREA =	9898.0000	NUMBER OF POINTS DEFINING ARBITRARY REGION =	2.0000
C-M-O CONSTRAINT =	.0100	FUSELAGE ALPHA =	0.0000
SPAN STATION FOR SIDE-OF-BODY =	4.9688	NUMBER OF BODY CAMBER ORDINATES =	19.0000

NUMBER OF CHORDWISE AND SPANWISE LOCATIONS FOR

BODY BUOYANCY TABLES =	0.0	21.0
BODY UPWASH LOADING TABLE =	0.0	0.0
NACELLE BUOYANCY LOADING TABLES =	0.0	0.0
WING UPPER SURFACE LIMITING PRESSURES =	2.0	2.0
WING THICKNESS PRESSURES =	-21.0	0.0

CAMBER SURFACE OPTION FLAGS = 1.0 1.0 3.0 1.0

PLANFORM DEFINITION

	X (LEADING EDGE)	Y	CHORD	X (TRAILING EDGE)
1	60.010500	0.000000	183.870300	243.880800
2	77.328000	4.968000	166.070000	243.398000
3	83.104000	6.625000	160.133000	243.237000
4	93.165000	9.510000	149.790000	242.955000
5	116.960000	16.333000	125.350000	242.310000
6	168.980000	31.250000	77.295000	246.275000
7	225.810000	47.544000	32.681000	258.491000
8	225.810000	47.545000	32.681000	258.491000
9	258.210000	66.250000	14.445000	272.655000

ORDINATES FOR BODY CAMBER LINE

I	X	Z	I	X	Z	I	X	Z	I	X	Z
1	0.00000	10.00000	2	16.67000	8.55000	3	33.33000	7.10000	4	50.00000	5.64000
5	66.67000	4.17000	6	83.33000	2.73000	7	100.00000	1.28000	8	116.67000	-.14000
9	133.33000	-1.60000	10	150.00000	-3.04000	11	166.66000	-4.50000	12	183.33000	-5.90000
13	200.00000	-7.40000	14	216.67000	-8.85000	15	233.33000	-10.25000	16	250.00000	-11.70000
17	266.67000	-13.20000	18	283.30000	-14.60000	19	295.00000	-15.70000			

VALUES OF SEMISPAN LOCATION AT WHICH WING CAMBER SURFACE WILL BE CALCULATED

0.0000	1.0000	2.0000	3.0000	4.0000	5.0000	6.0000	7.0000	8.0000	10.0000
12.0000	14.0000	16.0000	19.0000	22.0000	25.0000	28.0000	30.0000	32.0000	36.0000
38.0000	40.0000								

WING GRID SYSTEM PUTS SIDE-OF-FUSELAGE AT Y= 4.14063 AT EDGE OF ELEMENT ROW= 3

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LOADING  1 FOR THIS CASE IS UNIFORM OR CONSTANT  (LOADING  1 IN THE LOADING DEFINITIONS)
LOADING  2 FOR THIS CASE IS   LINEAR CHORDWISE   (LOADING  2 IN THE LOADING DEFINITIONS)
LOADING  3 FOR THIS CASE IS   LINEAR SPANWISE    (LOADING  3 IN THE LOADING DEFINITIONS)
LOADING  4 FOR THIS CASE IS  QUADRATIC SPANWISE  (LOADING  4 IN THE LOADING DEFINITIONS)
LOADING  5 FOR THIS CASE IS QUADRATIC CHORDWISE  (LOADING  5 IN THE LOADING DEFINITIONS)
LOADING  6 FOR THIS CASE IS BODY UPWASH LOADING  (LOADING 16 IN THE LOADING DEFINITIONS)
LOADING  7 FOR THIS CASE IS  NACELLE BUOYANCY    (LOADING 17 IN THE LOADING DEFINITIONS)
LOADING  8 FOR THIS CASE IS SIMILAR TO FLAT WING (LOADING  8 IN THE LOADING DEFINITIONS)
LOADING  9 FOR THIS CASE IS MID-SPAN LOADING     (LOADING  9 IN THE LOADING DEFINITIONS)
LOADING 10 FOR THIS CASE IS  ELLIPTICAL C-SUB-P  (LOADING 10 IN THE LOADING DEFINITIONS)
LOADING 11 FOR THIS CASE IS LINEAR IN ARB.REGION (LOADING 11 IN THE LOADING DEFINITIONS)
LOADING 12 FOR THIS CASE IS  BODY BUOYANCY TERM  (LOADING 15 IN THE LOADING DEFINITIONS)
LOADING 13 FOR THIS CASE IS PARABOLIC CHORDWISE  (LOADING  6 IN THE LOADING DEFINITIONS)
LOADING 14 FOR THIS CASE IS   CUBIC CHORDWISE    (LOADING  7 IN THE LOADING DEFINITIONS)
LOADING 15 FOR THIS CASE IS BODY BUOY. (CAMBER)  (LOADING 12 IN THE LOADING DEFINITIONS)
LOADING 16 FOR THIS CASE IS BODY UPWASH (CAMBER) (LOADING 13 IN THE LOADING DEFINITIONS)
LOADING 17 FOR THIS CASE IS NACELLE BUOY(CAMBER) (LOADING 14 IN THE LOADING DEFINITIONS)
```

X/C(PERCENT) FOR INTERPOLATED CAMBER SURFACE ORDINATES

0.000000	5.000000	10.000000	20.000000	30.000000	40.000000	50.000000	60.000000	70.000000	80.000000
90.000000	100.000000								

DEFINITION OF AREITRARY REGION FOR LOADING 11.

```
Y
          0.00000    66.25000

X
        207.00000   269.80000
```

ARBITRARY REGION DEFINITION (LOADING 11)

```
FRACTION OF SEMISPAN
          0.00000     1.00000

FRACTION OF LOCAL CHORD
           .75942      .80235
```

```
NACELLE NUMBER  1, ORIGIN AT X =     213.42000000
                             Y =      16.33000000
                             Z =      -5.80000000

          NACELLE LONGITUDINAL COORDINATES (X HAS BEEN MULTIPLIED BY       1.00000000)

         0.000000    2.008000   15.470000   21.525000   28.017000   32.067000   35.040000

          NACELLE RADII (R HAS BEEN MULTIPLIED BY       1.00000000)

         2.865000    2.983000    3.633000    3.770000    3.654000    3.420000    3.420000


NACELLE NUMBER  2, ORIGIN AT X =     218.67000000
                             Y =      31.25000000
                             Z =      -4.90000000

          NACELLE LONGITUDINAL COORDINATES (X HAS BEEN MULTIPLIED BY       1.00000000)

         0.000000    2.008000   15.470000   21.525000   28.017000   32.067000   35.040000

          NACELLE RADII (R HAS BEEN MULTIPLIED BY       1.00000000)

         2.865000    2.983000    3.633000    3.770000    3.654000    3.420000    3.420000


          UPPER WING SURFACE LIMITING CP TABLES

LIMIT C-P
                X STATIONS
               0.00000   100.00000
  Y STATIONS
    0.000      -.137000    -.137000
  100.000      -.137000    -.137000


  C-P GRADIENT
                X STATIONS
               0.00000   100.00000
  Y STATIONS
    0.000       .002500     .002500
  100.000       .002500     .002500
```

```
        THE FOLLOWING LOADINGS HAVE BEEN REQUESTED
   1     2     3     4     5    16    17     8     9    10    11    15     6     7    12    13    14

        THE RESTART LOADINGS ARE
   1     2     3     4     5     6     7     8     9    10    11    16    17    14    13    15    12

        THE LOADING ORDER OF THE RESTART DATA WILL BE CHANGED TO
   1     2     3     4     5    16    17     8     9    10    11    15     6     7    12    13    14


                 THE FOLLOWING ORDINATE CONSTRAINT NUMBERS HAVE BEEN REQUESTED    2   3
                                  THE RESTART ORDINATE CONSTRAINT NUMBERS ARE    1   2   3   4   5
        THE ORDINATE CONSTRAINT NUMBERS IN THE RESTART DATA WILL BE REORDERED TO    2   3   1   4   5

                2 CONSTRAINTS ARE APPLIED ON ORDINATE

                      CONSTRAINT LOCATIONS

          I          X(I)            Y(I)            Z(I)

          1      189.000000       4.968750      -10.160000
          2      243.390000       4.968750      -14.110000


                CARD 9 PARAMETERS.

XF =       .72240850   SCL9 =       .02767378   KF =       .63067975   AREA9 =    781.12998244   FACTOR =      1.08588281

   *NOTE*  XF HAS BEEN CHANGED TO THE WING-BODY VALUE OF       .72240850

RESTART DATA HAVE BEEN READ.

                          FLAT WING SOLUTION IS NOT USED.
                            C-M-0 CONSTRAINT IS     USED.
       PRESSURE GRADIENT (AND LEVEL) CONSTRAINT IS     USED.
                      WING THICKNESS PRESSURE IS     USED.
                       BODY BUOYANCY PRESSURE IS     USED.
                         BODY UPWASH PRESSURE IS     USED.
                            NACELLE PRESSURE IS     USED.
                         FUSELAGE CARRY-OVER IS     USED.
                        ORDINATE CONSTRAINTS IS     USED.
```

```
                    ************************************
                    SOLUTION FOR DESIGN C  =      .100000
                                         L
                    ************************************

          AT Y =    4.969 AND X =  189.000, Z IS CONSTRAINED TO  -10.160
          AT Y =    4.969 AND X =  243.390, Z IS CONSTRAINED TO  -14.110

EIGENVALUE ANALYSIS OF SOLUTION

NUMBER OF NEGATIVE EIGENVALUES=  0
NUMBER OF ZERO EIGENVALUES    =  6
NUMBER OF CONSTRAINTS         =  6

SOLUTION APPEARS STABLE


                    A C-L
                     I   I
  C
   M          K
    O          E     I = 1          2          3          4          5          6          7          8          9          10
                        11         12         13         14         15         16         17

 .013926    .456045   .454081   -.314688    .328932   -.205366    .034234    .015524    .005585   -.072666   -.027753   -.227976
                      .005024   -.005353    .011167    .096651   -.007201   -.003255    .004375

LAGRANGE MULTIPLIERS  -.089054   -.000077    .000567    .000183   -.000080    .000076

              CONFIGURATION FORCE AND MOMENT BREAKDOWN

                                                        C
                                      C          C          M
                                       L          D          O

                          WING    .09131     .003684    .006975
                      FUSELAGE    .00000     .000001    .003958
       WING INDUCED ON FUSELAGE   .00869     .000751    .002992
       WING INDUCED ON NACELLES  0.00000     .000125   0.000000
                                 -------    --------   --------
                        TOTALS    .10000     .004560    .013926

        -500A CHECK CASE       17 LOADS   2 Z CONST.  RESTART

                          ******************************
                          SOLUTION PRESSURE DISTRIBUTION
                          ******************************
                                                                  LOWER      UPPER      UPPER
   Y           X        X-PRIME      LIFTING     THICKNESS      SURFACE    SURFACE    SURFACE
  ---         -        -------         C            C             C          C        DC / DX
  B/2         L         CHORD          P            P             P          P          P

 .075000     .081451   0.000000     .185051      .034829      .111295   -.073755   -.003838
 .075000     .098708    .022097     .183317      .024409      .095341   -.087976   -.003917
 .075000     .118242    .047110     .182173      .012614      .077690   -.104484   -.004034
 .075000     .137776    .072123     .182466      .008248      .068186   -.114280   -.002198
 .075000     .157310    .097136     .183949      .004852      .060247   -.123702   -.002339
 .075000     .176845    .122149     .151775      .005071      .046234   -.105541    .005177
```

								CP GRAD. LIMIT= .00250
.075000	.196379	.147162	.116281	.005758	.031951	-.084330	.005036	
								CP GRAD. LIMIT= .00250
.075000	.215913	.172175	.081951	.007693	.019498	-.062453	.005237	
								CP GRAD. LIMIT= .00250
.075000	.235448	.197188	.048745	.009788	.007767	-.040978	.005104	
								CP GRAD. LIMIT= .00250
.075000	.254982	.222201	.034122	.009225	.003537	-.030586	.002118	
.075000	.274516	.247214	.022725	.008324	.000692	-.022033	.002001	
.075000	.294050	.272227	.012265	.006572	-.002536	-.014801	.001662	
.075000	.313585	.297240	.002665	.004712	-.005442	-.008106	.001563	
.075000	.333119	.322254	.000342	.004637	-.004910	-.005252	.000541	
.075000	.352653	.347267	-.000481	.004782	-.003654	-.003173	.000462	
.075000	.372187	.372280	-.000697	.004284	-.002738	-.002040	.000221	
.075000	.391722	.397293	-.000397	.003707	-.001642	-.001245	.000164	
.075000	.411256	.422306	-.003127	.002468	-.003895	-.000768	.000090	
.075000	.430790	.447319	-.005945	.001148	-.006414	-.000468	.000056	
.075000	.450324	.472332	-.008527	.001267	-.007374	.001152	.000421	
.075000	.469859	.497345	-.010968	.001560	-.008092	.002876	.000410	
.075000	.489393	.522358	-.002182	.001467	-.004673	-.002491	-.001493	
.075000	.508927	.547371	.007879	.001329	-.000793	-.008671	-.001481	
.075000	.528462	.572384	.017787	-.000219	.001603	-.016184	-.001835	
.075000	.547996	.597397	.027445	-.001933	.003707	-.023738	-.001799	
.075000	.567530	.622410	.044883	-.002754	.011725	-.033158	-.002300	
.075000	.587064	.647424	.062816	-.003472	.020226	-.042590	-.002240	
.075000	.606599	.672437	.080199	-.004559	.028082	-.052116	-.002267	
.075000	.626133	.697450	.096932	-.005689	.035571	-.061360	-.002182	
.075000	.645667	.722463	.098357	-.007946	.033378	-.064979	-.000678	
.075000	.665201	.747476	.097278	-.010331	.029703	-.067575	-.000570	
.075000	.684736	.772489	.095246	-.011978	.026289	-.068957	-.000251	
.075000	.704270	.797502	.092160	-.013543	.022431	-.069729	-.000118	
.075000	.723804	.822515	.098368	-.014952	.023267	-.075101	-.001337	
.075000	.743338	.847528	.104308	-.016343	.023975	-.080333	-.001180	
.075000	.762873	.872541	.108888	-.018810	.022928	-.085960	-.001297	
.075000	.782407	.897554	.112007	-.021394	.021032	-.090975	-.001115	
.075000	.801941	.922567	.104652	-.023230	.012488	-.092164	-.000109	
.075000	.821475	.947580	.113403	-.024985	.021212	-.092190	.000098	
.075000	.841010	.972593	.132676	-.025373	.034674	-.098002	-.001445	
.075000	.860544	.997607	.128602	-.025614	.025073	-.103529	-.001214	
.075000	.862413	1.000000	.128131	-.025637	.024123	-.104007	-.001191	
.100000	.108601	0.000000	.281612	.064223	.185672	-.095941	-.003742	
.100000	.137776	.038742	.230030	.020229	.110546	-.119484	-.003861	
.100000	.157310	.064682	.197218	.003602	.073936	-.123282	.001330	
.100000	.176845	.090622	.165952	-.003188	.047937	-.118015	.001205	
.100000	.196379	.116562	.136170	-.002036	.034940	-.101231	.005618	
								CP GRAD. LIMIT= .00250
.100000	.215913	.142502	.107718	.003612	.029549	-.078169	.005486	
								CP GRAD. LIMIT= .00250
.100000	.235448	.168442	.080351	.006043	.021482	-.058868	.004267	
								CP GRAD. LIMIT= .00250
.100000	.254982	.194382	.054040	.007165	.012636	-.041404	.004143	
								CP GRAD. LIMIT= .00250
.100000	.274516	.220322	.039389	.006207	.007664	-.031725	.001787	
.100000	.294050	.246262	.028636	.004674	.004101	-.024534	.001676	
.100000	.313585	.272202	.018768	.003858	.001699	-.017070	.001776	
.100000	.333119	.298142	.009714	.003164	-.000176	-.009890	.001683	
.100000	.352653	.324082	.007688	.003222	-.000168	-.007856	.000360	
.100000	.372187	.350022	.006799	.003337	.000282	-.006517	.000088	
.100000	.391722	.375962	.006475	.002627	.000189	-.006286	.000025	

.100000	.411256	.401902	.006074	.001938	.000044	-.006030	.000841	
.100000	.430790	.427842	-.000945	.001531	-.003570	-.002625	.000800	
.100000	.450324	.453782	-.007671	.001194	-.006969	.000702	.000885	
.100000	.469859	.479722	-.014197	.001261	-.009863	.004334	.000866	
.100000	.489393	.505662	-.015994	.001112	-.010882	.005111	-.002232	
.100000	.508927	.531602	-.001214	.000184	-.005368	-.004154	-.002227	
.100000	.528462	.557542	.013476	-.001047	-.000201	-.013677	-.002462	
.100000	.547996	.583482	.027979	-.003018	.004131	-.023847	-.002433	
.100000	.567530	.609422	.042100	-.004550	.009076	-.033024	-.001829	
.100000	.587064	.635362	.055670	-.005313	.015152	-.040518	-.001777	
.100000	.606599	.661302	.068755	-.006662	.020401	-.048354	-.002036	
.100000	.626133	.687243	.081256	-.008767	.024599	-.056656	-.001959	
.100000	.645667	.713183	.086216	-.010819	.024679	-.061537	-.000412	
.100000	.665201	.739123	.083755	-.012817	.020711	-.063044	-.000312	
.100000	.684736	.765063	.080409	-.014670	.016446	-.063963	-.000138	
.100000	.704270	.791003	.076075	-.016417	.011792	-.064282	-.000013	
.100000	.723804	.816943	.078155	-.018037	.010404	-.067751	-.001216	
.100000	.743338	.842883	.082848	-.019588	.010353	-.072495	-.001066	
.100000	.762873	.868823	.086250	-.021665	.009132	-.077118	-.001079	
.100000	.782407	.894763	.088259	-.023940	.007016	-.081243	-.000905	
.100000	.801941	.920703	.082191	-.025525	-.000003	-.082195	.000013	
.100000	.821475	.946643	.123866	-.026936	.035536	-.088330	-.001994	
.100000	.841010	.972583	.122084	-.026745	.027506	-.094578	-.001340	
.100000	.860544	.998523	.119057	-.026316	.019370	-.099687	-.001117	
.100000	.861656	1.000000	.118843	-.026292	.018893	-.099950	-.001104	
.125000	.135764	0.000000	.301553	.054526	.225246	-.076307	-.007056	
.125000	.157310	.029714	.258447	.043309	.149701	-.108746	-.007113	
.125000	.176845	.056653	.220588	.006305	.091253	-.129336	.001701	
.125000	.196379	.083592	.185363	-.001946	.062874	-.122489	.001593	
.125000	.215913	.110531	.153256	-.004947	.043448	-.109808	.005358	
								CP GRAD. LIMIT= .00250
.125000	.235448	.137470	.125539	.000231	.037739	-.087799	.005238	
								CP GRAD. LIMIT= .00250
.125000	.254982	.164409	.098820	.003143	.030263	-.068557	.004098	
								CP GRAD. LIMIT= .00250
.125000	.274516	.191348	.073085	.004085	.021308	-.051776	.003982	
								CP GRAD. LIMIT= .00250
.125000	.294050	.218287	.056954	.004027	.016167	-.040787	.001985	
.125000	.313585	.245226	.045815	.003498	.013053	-.032762	.001881	
.125000	.333119	.272165	.035509	.002668	.010056	-.025453	.001697	
.125000	.352653	.299104	.025967	.001774	.007377	-.018591	.001609	
.125000	.372187	.326042	.022923	.001662	.006588	-.016334	.000470	
.125000	.391722	.352981	.020685	.001599	.006179	-.014506	.000450	
.125000	.411256	.379920	.018971	.001715	.006211	-.012760	.000392	
.125000	.430790	.406859	.016194	.001629	.005382	-.010812	.000742	
.125000	.450324	.433798	.009378	.000953	.001570	-.007809	.000706	
.125000	.469859	.460737	.002817	.000276	-.002116	-.004932	.000681	
.125000	.489393	.487676	-.003584	-.000401	-.005721	-.002137	.000667	
.125000	.508927	.514615	-.003255	-.000833	-.006460	-.003205	-.001034	
.125000	.528462	.541554	.002661	-.001059	-.004825	-.007486	-.001025	
.125000	.547996	.568493	.008451	-.002029	-.003997	-.012449	-.001265	
.125000	.567530	.595432	.014018	-.003340	-.003622	-.017640	-.001232	
.125000	.587064	.622371	.027697	-.005248	.001483	-.026214	-.002215	
.125000	.606599	.649310	.042677	-.007279	.007375	-.035302	-.002158	
.125000	.626133	.676249	.057137	-.009871	.012446	-.044691	-.002229	
.125000	.645667	.703188	.068955	-.012384	.016158	-.052797	-.000138	
.125000	.665201	.730127	.064990	-.014193	.011809	-.053181	-.000045	
.125000	.684736	.757065	.060204	-.015968	.007084	-.053119	.000092	
.125000	.704270	.784004	.054497	-.017644	.001998	-.052499	.000209	

.125000	.723804	.810943	.052846	-.019391	-.001321	-.054167	-.001296	
.125000	.743338	.837882	.057286	-.021242	-.001973	-.059259	-.001154	
.125000	.762873	.864821	.060502	-.023067	-.003212	-.063715	-.000990	
.125000	.782407	.891760	.086460	-.024872	.018974	-.067486	-.000824	
.125000	.801941	.918699	.088448	-.026819	.014521	-.073927	-.002298	
.125000	.821475	.945638	.115332	-.028830	.032248	-.083083	-.002108	
.125000	.841010	.972577	.117952	-.028731	.028636	-.089316	-.001300	
.125000	.860544	.999516	.117918	-.028225	.023645	-.094274	-.001085	
.125000	.860895	1.000000	.117850	-.028216	.023496	-.094355	-.001081	
.150000	.162926	0.000000	.316852	.135759	.273438	-.043414	-.012743	
.150000	.176845	.019963	.286367	.083970	.205225	-.081143	-.012757	
.150000	.196379	.047981	.243878	.011284	.109636	-.134242	-.012815	
.150000	.215913	.075998	.205130	-.003461	.073859	-.131271	.001725	
.150000	.235448	.104016	.168813	-.011217	.046932	-.121881	.005708	
								CP GRAD. LIMIT= .00250
.150000	.254982	.132033	.141773	-.004102	.043378	-.098394	.005600	
								CP GRAD. LIMIT= .00250
.150000	.274516	.160051	.115636	.001214	.038477	-.077158	.004283	
								CP GRAD. LIMIT= .00250
.150000	.294050	.188069	.090400	.003314	.030810	-.059590	.004176	
								CP GRAD. LIMIT= .00250
.150000	.313585	.216086	.072851	.003425	.024920	-.047931	.001779	
.150000	.333119	.244104	.061185	.002061	.020439	-.040746	.001682	
.150000	.352653	.272121	.050298	.000906	.016556	-.033742	.001655	
.150000	.372187	.300139	.040150	-.000184	.013099	-.027051	.000962	
.150000	.391722	.328157	.036083	.000844	.012873	-.023209	.000889	
.150000	.411256	.356174	.032578	.001574	.012631	-.019947	.000501	
.150000	.430790	.384192	.029553	.001249	.011573	-.017980	.000448	
.150000	.450324	.412209	.024911	.000415	.008956	-.015955	.000547	
.150000	.469859	.440227	.017971	-.001077	.004219	-.013753	.000515	
.150000	.489393	.468245	.011246	-.001632	.000526	-.010720	.000842	
.150000	.508927	.496262	.004644	-.001685	-.002603	-.007246	.000833	
.150000	.528462	.524280	.001987	-.000870	-.004136	-.006123	.000186	
.150000	.547996	.552297	-.000133	-.000228	-.005765	-.005632	-.000700	
.150000	.567530	.580315	-.002415	-.003016	-.010906	-.008491	-.000675	
.150000	.587064	.608333	.001038	-.005869	-.012669	-.013707	-.002651	
.150000	.606599	.636350	.018298	-.008876	-.006322	-.024620	-.002602	
.150000	.626133	.664368	.035101	-.011091	.000589	-.034513	-.002169	
.150000	.645667	.692385	.051350	-.012553	.007974	-.043375	-.002096	
.150000	.665201	.720403	.052415	-.013800	.007045	-.045369	.000151	
.150000	.684736	.748421	.047303	-.014967	.002758	-.044545	.000248	
.150000	.704270	.776438	.041337	-.017443	-.003266	-.044603	.000023	
.150000	.723804	.804456	.036240	-.019986	-.008986	-.045226	-.001277	
.150000	.743338	.832474	.039400	-.022469	-.010858	-.050258	-.001144	
.150000	.762873	.860491	.041404	-.024436	-.012792	-.054196	-.000667	
.150000	.782407	.888509	.094338	-.025542	.036321	-.058017	-.001910	
.150000	.801941	.916526	.094470	-.026838	.028768	-.065701	-.001781	
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.150000	.841010	.972562	.094332	-.028755	.016308	-.078024	-.001123	
.150000	.860140	1.000000	.090568	-.029010	.008384	-.082184	-.000921	
.175000	.190090	0.000000	.323595	.095830	.236217	-.087378	-.008279	
.175000	.215913	.038582	.266091	.022810	.133258	-.132832	-.008293	
.175000	.235448	.067768	.224142	-.003204	.085373	-.138770	.002967	CP LEVEL LIMIT= -.1370
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.175000	.254982	.096953	.183557	-.010439	.056947	-.126610	.002885	
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.175000	.274516	.126139	.156047	-.004859	.051159	-.104888	.005461	
								CP GRAD. LIMIT= .00250

.175000	.294050	.155324	.130770	.001001	.047151	-.083619	.003761	
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.175000	.313585	.184510	.106306	.001418	.038106	-.068199	.003663	
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.175000	.333119	.213695	.087608	.001297	.031279	-.056329	.001953	
.175000	.352653	.242881	.075292	.000565	.026890	-.048403	.001864	
.175000	.372187	.272066	.063697	.000390	.023416	-.040280	.001958	
.175000	.391722	.301252	.052979	.000396	.020491	-.032488	.000874	
.175000	.411256	.330437	.047719	.000459	.018720	-.029000	.000807	
.175000	.430790	.359623	.042976	.000292	.016978	-.025998	.000583	
.175000	.450324	.388808	.038669	-.000340	.014989	-.023680	.000535	
.175000	.469859	.417994	.032573	-.000920	.011787	-.020786	.000792	
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.175000	.528462	.505550	.011495	-.001907	.000647	-.010849	.000586	
.175000	.547996	.534736	.004445	-.002126	-.003962	-.008406	.000592	
.175000	.567530	.563921	-.002710	-.003355	-.009632	-.006922	.000100	
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.175000	.782407	.884961	.080475	-.026531	.027854	-.052620	-.001732	
.175000	.801941	.914147	.076963	-.027979	.018186	-.058778	-.001219	
.175000	.821475	.943332	.074572	-.029220	.011086	-.063486	-.001046	
.175000	.841010	.972518	.066699	-.029531	.000182	-.066517	-.000569	
.175000	.859404	1.000000	.056328	-.029565	-.012055	-.068383	-.000383	
.200000	.217253	0.000000	.332710	.055900	.200193	-.132516	-.003221	
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.200000	.294050	.119731	.169890	-.005597	.058430	-.111460	.005383	
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								CP GRAD. LIMIT= .00250
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.200000	.372187	.241551	.088166	-.000989	.032501	-.055665	.002051	
.200000	.391722	.272006	.075998	-.000131	.029594	-.046403	.002276	
.200000	.411256	.302461	.064798	.000896	.027220	-.037578	.000773	
.200000	.430790	.332916	.058292	-.000091	.023794	-.034498	.000712	
.200000	.450324	.363371	.052253	-.001069	.020611	-.031642	.000665	
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.200000	.547996	.515646	.015158	-.002803	.001668	-.013491	.000904	
.200000	.567530	.546101	.003477	-.004291	-.006241	-.009718	.000915	
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.200000	.606599	.607011	-.013479	-.008040	-.019458	-.005978	-.002662	
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.200000	.645667	.667921	.021470	-.012808	-.006422	-.027892	-.002639	
.200000	.665201	.698376	.038202	-.015429	-.000512	-.038714	-.002570	
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.200000	.723804	.789741	.016333	-.021252	-.018451	-.034789	.000615	
.200000	.743338	.820196	.013169	-.023110	-.022390	-.035559	-.000562	
.200000	.762873	.850651	.071098	-.025151	.031801	-.039297	-.001497	
.200000	.782407	.881106	.064223	-.027378	.018999	-.045224	-.001355	
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.200000	.821475	.942015	.055280	-.030189	.000878	-.054401	-.000898	
.200000	.841010	.972470	.041662	-.030307	-.015188	-.056850	-.000421	
.200000	.858668	1.000000	.027024	-.030119	-.031088	-.058112	-.000249	
.250000	.271579	0.000000	.331232	.041245	.184483	-.146750	-.001915	CP LEVEL LIMIT= -.1370
.250000	.294050	.038346	.279029	.005170	.123391	-.155637	-.001825	CP LEVEL LIMIT= -.1370
.250000	.313585	.071681	.234615	-.008668	.088289	-.146326	.004423	CP LEVEL LIMIT= -.1370
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.250000	.333119	.105016	.193940	-.011431	.066380	-.127560	.005111	
								CP GRAD. LIMIT= .00250
.250000	.352653	.138350	.170052	-.004833	.063622	-.106430	.005060	
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.250000	.372187	.171685	.146634	-.003284	.056049	-.090585	.003131	
								CP GRAD. LIMIT= .00250
.250000	.391722	.205020	.125006	-.004370	.046653	-.078353	.002046	
.250000	.411256	.238354	.111049	-.005012	.041059	-.069990	.001981	
.250000	.430790	.271689	.097613	-.004340	.037039	-.060574	.002407	
.250000	.450324	.305024	.085257	-.002899	.034151	-.051106	.001693	
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.250000	.567530	.505031	.033265	-.004316	.009454	-.023811	.001774	
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.250000	.606599	.571701	.001176	-.006356	-.008720	-.009896	.001465	
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.250000	.665201	.671705	-.001042	-.015220	-.019998	-.018956	-.001444	
.250000	.684736	.705039	.002894	-.017926	-.021280	-.024094	-.000223	
.250000	.704270	.738374	.002098	-.019332	-.022763	-.024861	-.000145	
.250000	.723804	.771709	.000607	-.021189	-.025125	-.025732	-.000222	
.250000	.743338	.805043	-.001510	-.023375	-.028234	-.026724	-.000597	
.250000	.762873	.838378	.056391	-.026048	.024336	-.032054	-.001391	
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.250000	.801941	.905047	.038227	-.030628	-.003685	-.041912	-.000953	
.250000	.821475	.938382	.033266	-.031753	-.012298	-.045564	-.000803	
.250000	.841010	.971717	.014190	-.031781	-.033282	-.047473	-.000236	
.250000	.857584	1.000000	-.000761	-.031307	-.048811	-.048050	-.000090	
.300000	.325903	0.000000	.323352	.028689	.168687	-.154665	-.001082	CP LEVEL LIMIT= -.1370
.300000	.352653	.049923	.266338	-.007690	.106126	-.160212	-.000904	CP LEVEL LIMIT= -.1370
.300000	.372187	.086380	.225017	-.010421	.084433	-.140584	.004750	CP LEVEL LIMIT= -.1370
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.300000	.391722	.122837	.194366	-.009582	.072162	-.122204	.004226	
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.300000	.411256	.155293	.170292	-.006848	.065384	-.104908	.004006	
								CP GRAD. LIMIT= .00250
.300000	.430790	.195750	.146510	-.004705	.058161	-.088349	.003966	
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.300000	.469859	.268663	.116993	-.006270	.045475	-.071518	.002317	
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.300000	.528462	.378033	.083226	-.003152	.035053	-.048173	.001255	
.300000	.547996	.414490	.073044	-.003193	.030435	-.042609	.001475	
.300000	.567530	.450947	.062577	-.002424	.025977	-.036600	.000638	
.300000	.587064	.487403	.052176	-.004990	.018217	-.033960	.000635	
.300000	.606599	.523860	.037158	-.006803	.009179	-.027979	.001868	
.300000	.626133	.560317	.019609	-.008431	-.000793	-.020402	.001703	
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.300000	.665201	.633230	-.005886	-.012981	-.018970	-.013084	-.000099	
.300000	.684736	.669687	-.013020	-.015413	-.026450	-.013429	-.000064	
.300000	.704270	.706143	-.018198	-.018137	-.032851	-.014652	-.001546	
.300000	.723804	.742600	-.011995	-.022154	-.032921	-.020926	-.001473	
.300000	.743338	.779057	-.006448	-.024707	-.031855	-.025407	-.000946	
.300000	.762873	.815513	.054225	-.027096	.024532	-.029693	-.001648	
.300000	.782407	.851970	.048433	-.029683	.012203	-.036231	-.001152	
.300000	.801941	.888427	.042475	-.030747	.001702	-.040773	-.001032	
.300000	.821475	.924883	.038160	-.032318	-.006389	-.044549	-.000815	
.300000	.841010	.961340	.025901	-.033878	-.021490	-.047391	-.000479	
.300000	.860544	.997797	.043523	-.034889	-.005539	-.049062	-.000323	
.300000	.861725	1.000000	.042052	-.034950	-.007050	-.049142	-.000313	
.350000	.380227	0.000000	.315979	.050571	.188387	-.127592	-.004081	
.350000	.391722	.023669	.293343	.028298	.155978	-.137365	-.003927	CP LEVEL LIMIT= -.1370
.350000	.411256	.063893	.254487	.000367	.110627	-.143859	.002823	CP LEVEL LIMIT= -.1370
								CP GRAD. LIMIT= .00250
.350000	.430790	.104117	.217880	-.008267	.085760	-.132121	.002556	
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								CP GRAD. LIMIT= .00250
.350000	.469859	.184565	.168442	-.010192	.064329	-.104113	.004433	
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.350000	.508927	.265013	.134439	-.007779	.053245	-.081194	.003119	
								CP GRAD. LIMIT= .00250
.350000	.528462	.305237	.119887	-.004352	.050856	-.069030	.001726	
.350000	.547996	.345461	.107920	-.004081	.046011	-.061909	.001703	
.350000	.567530	.385684	.096121	-.004196	.040862	-.055259	.001581	
.350000	.587064	.425908	.083969	-.005314	.033972	-.049936	.001092	
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.350000	.782407	.828147	.037625	-.029106	.011414	-.026211	-.003100	
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.350000	.865865	1.000000	.082092	-.036353	.014979	-.067113	-.001566	
.400000	.434551	0.000000	.295014	.039571	.170273	-.124741	-.004295	
.400000	.450324	.036223	.271446	.012749	.132813	-.138633	-.004014	CP LEVEL LIMIT= -.1370
.400000	.469859	.081083	.241094	-.004702	.101606	-.139489	.001519	CP LEVEL LIMIT= -.1370
.400000	.489393	.125942	.213706	-.010212	.084551	-.129154	.003197	

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.400000	.508927	.170802	.188509	-.011208	.073639	-.114870	.003708	
								CP GRAD. LIMIT= .00250
.400000	.528462	.215661	.166253	-.011223	.064730	-.101524	.002280	
.400000	.547996	.260521	.149847	-.010685	.058464	-.091383	.002964	
								CP GRAD. LIMIT= .00250
.400000	.567530	.305380	.133855	-.007887	.054605	-.079250	.002623	
								CP GRAD. LIMIT= .00250
.400000	.587064	.350239	.120784	-.004465	.052395	-.068389	.001721	
.400000	.606599	.395099	.107757	-.004741	.046509	-.061248	.001718	
.400000	.626133	.439958	.094067	-.005811	.038700	-.055367	.001380	
.400000	.645667	.484818	.080259	-.008002	.029614	-.050645	.001070	
.400000	.665201	.529677	.064873	-.010522	.019617	-.045256	.001419	
.400000	.684736	.574537	.048564	-.013169	.009140	-.039424	.001395	
.400000	.704270	.619396	.030153	-.015695	-.002485	-.032638	.001944	
.400000	.723804	.664256	.008976	-.018271	-.015829	-.024805	.001739	
.400000	.743338	.709115	-.010127	-.021644	-.029181	-.019054	-.000081	
.400000	.762873	.753974	-.020001	-.025421	-.039301	-.019300	-.000128	
.400000	.782407	.798834	-.030460	-.029621	-.050137	-.019677	-.000052	
.400000	.801941	.843693	.046946	-.032997	.009556	-.037390	-.004321	
.400000	.821475	.888553	.104646	-.035197	.050662	-.053984	-.003899	
.400000	.841010	.933412	.101041	-.036632	.037501	-.063540	-.001715	
.400000	.860544	.978272	.094329	-.037136	.024645	-.069683	-.001314	
.400000	.870006	1.000000	.086056	-.037173	.013792	-.072264	-.001251	
.475000	.516037	0.000000	.276152	.026375	.150461	-.125692	-.004222	
.475000	.528462	.034447	.262050	.007550	.125749	-.136300	-.003838	
.475000	.547996	.088607	.237274	-.009380	.098262	-.139012	.000708	CP LEVEL LIMIT= -.1370
.475000	.567530	.142767	.213952	-.014681	.083337	-.130615	.002428	
.475000	.587064	.196927	.190370	-.015388	.072932	-.117438	.003325	
								CP GRAD. LIMIT= .00250
.475000	.606599	.251087	.171492	-.010099	.070242	-.101250	.002991	
								CP GRAD. LIMIT= .00250
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.475000	.645667	.359407	.138168	-.007674	.058281	-.079887	.002039	
.475000	.665201	.413567	.123159	-.008186	.050965	-.072194	.001272	
.475000	.684736	.467727	.107928	-.010244	.041384	-.066543	.001531	
.475000	.704270	.521887	.091906	-.012391	.031299	-.060607	.001274	
.475000	.723804	.576047	.074772	-.015663	.019503	-.055270	.001297	
.475000	.743338	.630207	.054869	-.019420	.006080	-.048789	.001774	
.475000	.762873	.684367	.039866	-.023046	-.001088	-.040954	.001119	
.475000	.782407	.738527	.073908	-.026749	.035926	-.037981	.000570	
.475000	.801941	.792687	.044604	-.030823	.008901	-.035703	.000568	
.475000	.821475	.846847	.036834	-.034324	-.005464	-.042299	-.001913	
.475000	.841010	.901007	.030962	-.038142	-.019551	-.050513	-.001770	
.475000	.860544	.955167	.020007	-.039692	-.037540	-.057547	-.001370	
.475000	.876714	1.000000	.011845	-.040034	-.050261	-.062105	-.001280	
.550000	.597534	0.000000	.259710	.021982	.140160	-.119551	-.004405	
.550000	.626133	.096389	.229968	-.009827	.097135	-.132834	-.000026	
.550000	.645667	.162228	.210471	-.015777	.082819	-.127652	.002554	
								CP GRAD. LIMIT= .00250
.550000	.665201	.228067	.190333	-.014570	.075346	-.114987	.003668	
								CP GRAD. LIMIT= .00250
.550000	.684736	.293905	.170312	-.011288	.070104	-.100208	.003523	
								CP GRAD. LIMIT= .00250
.550000	.704270	.359744	.153269	-.010219	.063547	-.089722	.002158	
.550000	.723804	.425583	.136737	-.011633	.054432	-.082305	.001181	
.550000	.743338	.491422	.120813	-.014866	.043376	-.077437	.001175	
.550000	.762873	.557260	.103003	-.017657	.031691	-.071313	.001274	

.550000	.782407	.623099	.084140	-.021983	.018043	-.066097	.001202	
.550000	.801941	.688938	.117748	-.026503	.054548	-.063200	.000686	
.550000	.821475	.754777	.088339	-.031512	.029147	-.059192	.001078	
.550000	.841010	.820616	.062766	-.036404	.005890	-.056876	-.000687	
.550000	.860544	.886454	.050692	-.040258	-.008250	-.058942	-.000336	
.550000	.880078	.952293	.033153	-.041885	-.029337	-.062490	-.000811	
.550000	.894233	1.000000	.023528	-.042305	-.041302	-.064830	-.000743	
.625000	.679032	0.000000	.239842	.017024	.128436	-.111407	-.005780	
.625000	.704270	.108449	.220786	-.010926	.093482	-.127304	-.000099	
.625000	.723804	.192388	.204089	-.015014	.081953	-.122136	.002514	
								CP GRAD. LIMIT= .00250
.625000	.743338	.276327	.184947	-.015140	.073665	-.111281	.002828	
								CP GRAD. LIMIT= .00250
.625000	.762873	.360267	.166450	-.013905	.066652	-.099799	.002083	
.625000	.782407	.444206	.148831	-.015688	.056545	-.092286	.001562	
.625000	.801941	.528145	.131282	-.019134	.044461	-.086821	.001250	
.625000	.821475	.612084	.112803	-.023938	.030449	-.082354	.000455	
.625000	.841010	.696023	.138352	-.030897	.056466	-.081886	-.000413	
.625000	.860544	.779962	.117162	-.037361	.035179	-.081983	-.000200	
.625000	.880078	.863901	.101731	-.042707	.018003	-.083728	-.000137	
.625000	.899613	.947840	.091214	-.045056	.006639	-.084576	-.000244	
.625000	.911751	1.000000	.083922	-.045955	-.001070	-.084992	-.000133	
.700000	.760529	0.000000	.216493	-.000304	.102167	-.114326	-.004120	
.700000	.782407	.129655	.211963	-.014201	.086977	-.124986	-.000059	
.700000	.801941	.245420	.195922	-.016400	.078070	-.117851	.002127	
.700000	.821475	.361185	.178304	-.018479	.068185	-.110120	.002410	
.700000	.841010	.476950	.160656	-.018739	.059553	-.101103	.001415	
.700000	.860544	.592715	.141175	-.026130	.042530	-.098645	.000434	
.700000	.880078	.708480	.121043	-.034751	.023882	-.097161	.000133	
.700000	.899613	.824245	.148371	-.044048	.043428	-.104943	-.002764	
.700000	.919147	.940010	.148191	-.049810	.034322	-.113869	-.001674	
.700000	.929270	1.000000	.147180	-.051843	.030344	-.116835	-.001301	
.750000	.797155	0.000000	.200073	.020485	.114332	-.085741	-.005576	
.750000	.821475	.169049	.197679	.001491	.095562	-.102117	-.000624	
.750000	.841010	.304831	.182516	-.008262	.079356	-.103160	.000066	
.750000	.860544	.440612	.164098	-.016573	.062805	-.101292	.000567	
.750000	.880078	.576394	.145018	-.027295	.043069	-.101949	-.000284	
.750000	.899613	.712175	.124732	-.037385	.023048	-.101684	-.000013	
.750000	.919147	.847956	.107505	-.047018	.004895	-.102611	-.000755	
.750000	.938681	.983738	.163790	-.053032	.040456	-.123334	-.004638	
.750000	.941021	1.000000	.166574	-.053609	.040934	-.125639	-.004627	
.800000	.824138	0.000000	.178725	.041274	.124032	-.054692	-.006766	
.800000	.841010	.131115	.182241	.023830	.109588	-.072653	-.004308	
.800000	.860544	.282922	.172620	.003818	.085581	-.087039	-.002743	
.800000	.880078	.434729	.154444	-.014416	.059545	-.094899	-.001789	
.800000	.899613	.586536	.135294	-.030640	.034714	-.100580	-.000978	
.800000	.919147	.738342	.115927	-.041485	.014544	-.101384	-.000048	
.800000	.938681	.890149	.101093	-.050906	-.002170	-.103263	-.000740	
.800000	.952817	1.000000	.092703	-.055374	-.010785	-.103489	.000026	
.900000	.878104	0.000000	.134081	.046302	.104286	-.029795	-.006804	
.900000	.899613	.218797	.139614	.030472	.093672	-.045941	-.003099	
.900000	.919147	.417509	.126874	.007462	.065811	-.061063	-.004584	
.900000	.938681	.616221	.110783	-.020043	.030975	-.079808	-.003070	
.900000	.958215	.814933	.089656	-.042594	-.000817	-.090473	-.002496	
.900000	.976408	1.000000	.079965	-.055404	-.017670	-.097635	-.001643	

.950000	.905087	0.000000	.110650	.048922	.094760	-.015890	-.008981
.950000	.919147	.169159	.123108	.036952	.090314	-.032794	-.004258
.950000	.938681	.404179	.115314	.016838	.067731	-.047583	-.004481
.950000	.958215	.639199	.098709	-.010144	.033802	-.064908	-.003721
.950000	.977750	.874220	.080654	-.038415	-.002030	-.082684	-.005683
.950000	.988204	1.000000	.074881	-.055023	-.021095	-.095976	-.006013
1.000000	.932070	0.000000	.130188	.036066	.091243	-.038945	-.010338
1.000000	.958215	.384889	.144202	.017367	.080975	-.063227	-.002137
1.000000	.977750	.672452	.125656	-.002457	.054012	-.071643	-.001706
1.000000	.997284	.960016	.110120	-.022232	.027971	-.082149	-.003594
1.000000	1.000000	1.000000	.108912	-.024980	.024700	-.084212	-.003552

MINIMUM OF (C_P UPPER SURFACE - C_P LIMIT) = -.0232 AT 30.0000 PERCENT SEMISPAN AND 4.9923 PERCENT CHORD

MAXIMUM OF (C_P GRADIENT - LIMITING C_P GRADIENT) = .00321 AT 15.00 PERCENT SEMISPAN AND 10.40 PERCENT CHORD.

DELTAT = 1.320 SEC., T = 14.100 SEC.

SUMMARY OF PRESSURE LEVEL AND PRESSURE GRADIENT CONSTRAINT CYCLES

CYCLE NUMBER	CM0	KE	MOST CRITICAL DELTA C_P (POSITIVE IS SATISFACTORY)	PLANFORM LOCATION (IN PERCENT) SPANWISE	PLANFORM LOCATION (IN PERCENT) CHORDWISE	MOST CRITICAL C_P GRADIENT INCREMENT (NEGATIVE IS SATISFACTORY)	PLANFORM LOCATION (IN PERCENT) SPANWISE	PLANFORM LOCATION (IN PERCENT) CHORDWISE
1	.01393	.45605	-.023212	30.0000	4.9923	.003208	15.0000	10.4016

```
                    ************************************
                    SOLUTION FOR DESIGN C  =     .100000
                                          L
                    WITH  1 CONSTRAINTS ON PRESSURE GRADIENT
                    ************************************

        PLANFORM LOCATION OF SOLUTION PRESSURE CONSTRAINTS (  1 GRADIENT AND  0 LEVEL)

                                                  SPANWISE  CHORDWISE
                                                  (PERCENT) (PERCENT)

                         GRADIENT CONSTRAINT AT    15.0000   10.4016
                 AT Y =    4.969 AND X =  189.000, Z IS CONSTRAINED TO  -10.160
                 AT Y =    4.969 AND X =  243.390, Z IS CONSTRAINED TO  -14.110

EIGENVALUE ANALYSIS OF SOLUTION

NUMBER OF NEGATIVE EIGENVALUES=  0
NUMBER OF ZERO EIGENVALUES    =  7
NUMBER OF CONSTRAINTS         =  7

SOLUTION APPEARS STABLE

                        A C-L
                         I   I
  C
   M          K
    0          E      I = 1         2         3         4         5         6         7         8         9        10
                         11        12        13        14        15        16        17

 .008186    .481763   .578898   -.773611   .407975   -.209873   .460879   .015524   .005585   -.350744   .007819   -.116196
                     -.006389   -.005353   .212930   -.122639  -.009490  -.013782   .010036

LAGRANGE MULTIPLIERS  -.095544    .139090  -.000239    .000679   .000201  -.000126   .000083

                CONFIGURATION FORCE AND MOMENT BREAKDOWN

                                                      C
                                      C         C      M
                                       L         D      0

                          WING    .09157    .003925   .002095
                      FUSELAGE    .00000    .000001   .003958
        WING INDUCED ON FUSELAGE  .00843    .000729   .002132
        WING INDUCED ON NACELLES 0.00000    .000162  0.000000
                                 -------   --------  --------
                        TOTALS    .10000    .004818   .008186

                    SUMMARY OF PRESSURE LEVEL AND PRESSURE GRADIENT CONSTRAINT CYCLES

                                                                  MOST CRITICAL
                                  MOST CRITICAL                    C  GRADIENT
                                    DELTA C                         P
                C                        P       PLANFORM LOCATION    INCREMENT      PLANFORM LOCATION
  CYCLE        M       K       (POSITIVE  IS    (IN  PERCENT)     (NEGATIVE  IS     (IN  PERCENT)
 NUMBER        0       E       SATISFACTORY)  SPANWISE  CHORDWISE  SATISFACTORY)  SPANWISE  CHORDWISE

    1    .01393   .45605      -.023212      30.0000    4.9923       .003208      15.0000    10.4016
    2    .00819   .48176      -.002576      75.0000  100.0000       .001818      80.0000   100.0000
```

```
*************************************
SOLUTION FOR DESIGN C  =      .100000
                      L
WITH  2 CONSTRAINTS ON PRESSURE GRADIENT
*************************************

PLANFORM LOCATION OF SOLUTION PRESSURE CONSTRAINTS (  2 GRADIENT AND  0 LEVEL)

                                          SPANWISE  CHORDWISE
                                          (PERCENT) (PERCENT)

                GRADIENT CONSTRAINT AT     15.0000   10.4016
                GRADIENT CONSTRAINT AT     80.0000  100.0000
          AT Y =    4.969 AND X =  189.000, Z IS CONSTRAINED TO  -10.160
          AT Y =    4.969 AND X =  243.390, Z IS CONSTRAINED TO  -14.110

EIGENVALUE ANALYSIS OF SOLUTION

NUMBER OF NEGATIVE EIGENVALUES=  0
NUMBER OF ZERO EIGENVALUES    =  8
NUMBER OF CONSTRAINTS         =  8

SOLUTION APPEARS STABLE
                    A C-L
                     I   I
  C
   M          K
    O          E     I = 1          2          3          4          5          6          7          8          9         10
                        11         12         13         14         15         16         17

 .007659    .483942    .537748   -.703492    .452621   -.228360    .382731    .015524    .005585   -.341309    .003836   -.131465
                       .004045   -.005353    .210300   -.091063   -.013005   -.011805    .005106

          CONFIGURATION FORCE AND MOMENT BREAKDOWN

                                                      C
                                      C          C     M
                                       L          D     O

                          WING     .09165    .003944    .001634
                      FUSELAGE     .00000    .000001    .003958
     WING INDUCED ON FUSELAGE     .00835    .000723    .002067
     WING INDUCED ON NACELLES    0.00000    .000171   0.000000
                                  -------   --------   --------
                        TOTALS     .10000    .004839    .007659

                SUMMARY OF PRESSURE LEVEL AND PRESSURE GRADIENT CONSTRAINT CYCLES

                                                                  MOST CRITICAL
                                                                   C  GRADIENT
                                  MOST CRITICAL                     P
                                   CELTA C                                                                
                                        P        PLANFORM LOCATION      INCREMENT      PLANFORM LOCATION
          C .                                                                                                
   CYCLE    M        K       (POSITIVE  IS      (IN  PERCENT)       (NEGATIVE  IS      (IN  PERCENT)
  NUMBER    O        E       SATISFACTORY)   SPANWISE  CHORDWISE    SATISFACTORY)   SPANWISE  CHORDWISE

     1   .01393   .45605     -.023212       30.0000     4.9923       .003208       15.0000    10.4016
     2   .00819   .48176     -.002576       75.0000   100.0000       .001818       80.0000   100.0000
     3   .00766   .48394      .004064       75.0000   100.0000       .002163        7.5000    19.7188
```

```
                    ************************************
                    SOLUTION FOR DESIGN C  =     .100000
                                         L
                    WITH  3 CONSTRAINTS ON PRESSURE GRADIENT
                    ************************************

      PLANFORM LOCATION OF SOLUTION PRESSURE CONSTRAINTS (  3 GRADIENT AND  0 LEVEL)

                                                  SPANWISE  CHORDWISE
                                                  (PERCENT) (PERCENT)

                    GRADIENT CONSTRAINT AT     15.0000   10.4016
                    GRADIENT CONSTRAINT AT     80.0000  100.0000
                    GRADIENT CONSTRAINT AT      7.5000   19.7188
            AT Y =    4.969 AND X =  189.000, Z IS CONSTRAINED TO  -10.160
            AT Y =    4.969 AND X =  243.390, Z IS CONSTRAINED TO  -14.110

EIGENVALUE ANALYSIS OF SOLUTION

NUMBER OF NEGATIVE EIGENVALUES=  0
NUMBER OF ZERO EIGENVALUES    =  9
NUMBER OF CONSTRAINTS         =  9

SOLUTION APPEARS STABLE


                      A C-L
                       I   I
  C
   M          K
    O          E     I = 1          2          3          4          5          6          7          8          9         10
                        11         12         13         14         15         16         17

 .007878    .489059   .404737   -.518072    .251853   -.130544    .283558    .015524    .005585   -.222034    .006953   -.060127
                     -.000018   -.005353    .120052   -.055397    .001213   -.011197    .004794

LAGRANGE MULTIPLIERS -.097388    .155020    .019920    .035394   -.000340    .000696    .000217   -.000132    .000092

              CONFIGURATION FORCE AND MOMENT BREAKDOWN

                                                      C
                                   C          C          M
                                    L          D          O

                        WING    .09153     .003994    .001549
                    FUSELAGE    .00000     .000001    .003958
      WING INDUCED ON FUSELAGE  .00847     .000734    .002370
      WING INDUCED ON NACELLES 0.00000     .000162   0.000000
                                -------    --------   --------
                      TOTALS    .10000     .004891    .007878

                    SUMMARY OF PRESSURE LEVEL AND PRESSURE GRADIENT CONSTRAINT CYCLES

                                                                  MOST CRITICAL
                                MOST CRITICAL                      C  GRADIENT
                                  DELTA C                           P
                C                       P       PLANFORM LOCATION    INCREMENT      PLANFORM LOCATION
      CYCLE     M       K      (POSITIVE  IS     (IN  PERCENT)     (NEGATIVE  IS     (IN  PERCENT)
```

NUMBER	0	E	SATISFACTORY)	SPANWISE	CHORDWISE	SATISFACTORY)	SPANWISE	CHORDWISE
1	.01393	.45605	-.023212	30.0000	4.9923	.003208	15.0000	10.4016
2	.00819	.48176	-.002576	75.0000	100.0000	.001818	80.0000	100.0000
3	.00766	.48394	.004064	75.0000	100.0000	.002163	7.5000	19.7188
4	.00788	.48906	-.002328	7.5000	100.0000	.000083	15.0000	13.2033

```
************************************
SOLUTION FOR DESIGN C  =     .100000
                      L
WITH  4 CONSTRAINTS ON PRESSURE GRADIENT
************************************
```

PLANFORM LOCATION OF SOLUTION PRESSURE CONSTRAINTS (4 GRADIENT AND 0 LEVEL)

	SPANWISE (PERCENT)	CHORDWISE (PERCENT)
GRADIENT CONSTRAINT AT	15.0000	10.4016
GRADIENT CONSTRAINT AT	80.0000	100.0000
GRADIENT CONSTRAINT AT	7.5000	19.7188
GRADIENT CONSTRAINT AT	15.0000	13.2033

AT Y = 4.969 AND X = 189.000, Z IS CONSTRAINED TO -10.160
AT Y = 4.969 AND X = 243.390, Z IS CONSTRAINED TO -14.110

EIGENVALUE ANALYSIS OF SOLUTION

NUMBER OF NEGATIVE EIGENVALUES= 0
NUMBER OF ZERO EIGENVALUES = 10
NUMBER OF CONSTRAINTS = 10

SOLUTION APPEARS STABLE

C_{M_0}	K_E	A_I C-L I = 1	2	3	4	5	6	7	8	9	10
		11	12	13	14	15	16	17			
.006466	.494090	.502381	-.471214	.418141	-.241072	.181513	.015524	.005585	-.130037	-.046114	-.195309
		-.001081	-.005353	.061108	.040831	.006210	-.057662	.007584			
LAGRANGE MULTIPLIERS		-.093627	-.109462	.015848	.001985	.330800	-.000358	.000716	.000212	-.000184	.000118

CONFIGURATION FORCE AND MOMENT BREAKDOWN

C_L C_D C_{M_0}

WING	.09144	.004055	.000780
FUSELAGE	.00000	.000001	.003958
WING INDUCED ON FUSELAGE	.00856	.000741	.001727
WING INDUCED ON NACELLES	0.00000	.000144	0.000000
TOTALS	.10000	.004941	.006466

SUMMARY OF PRESSURE LEVEL AND PRESSURE GRADIENT CONSTRAINT CYCLES

CYCLE NUMBER	C_M 0	K ε	MOST CRITICAL DELTA C_P (POSITIVE IS SATISFACTORY)	PLANFORM LOCATION (IN PERCENT) SPANWISE	CHORDWISE	MOST CRITICAL C_P GRADIENT INCREMENT (NEGATIVE IS SATISFACTORY)	PLANFORM LOCATION (IN PERCENT) SPANWISE	CHORDWISE
1	.01393	.45605	-.023212	30.0000	4.9923	.003208	15.0000	10.4016
2	.00819	.48176	-.002576	75.0000	100.0000	.001818	80.0000	100.0000
3	.00766	.48394	.004064	75.0000	100.0000	.002163	7.5000	19.7188
4	.00788	.48506	-.002328	7.5000	100.0000	.000083	15.0000	13.2033
5	.00647	.49409	-.010882	7.5000	100.0000	.000544	40.0000	30.5380

PRESSURE GRADIENT CONSTRAINT REMOVED AT 15.0000 10.4016

****
SOLUTION FOR DESIGN C_L = .100000
WITH 3 CONSTRAINTS ON PRESSURE GRADIENT
****

PLANFORM LOCATION OF SOLUTION PRESSURE CONSTRAINTS (3 GRADIENT AND 0 LEVEL)

	SPANWISE (PERCENT)	CHORDWISE (PERCENT)
GRADIENT CONSTRAINT AT	80.0000	100.0000
GRADIENT CONSTRAINT AT	7.5000	19.7188
GRADIENT CONSTRAINT AT	15.0000	13.2033

AT Y = 4.969 AND X = 189.000, Z IS CONSTRAINED TO -10.160
AT Y = 4.969 AND X = 243.390, Z IS CONSTRAINED TO -14.110

EIGENVALUE ANALYSIS OF SOLUTION

NUMBER OF NEGATIVE EIGENVALUES= 0
NUMBER OF ZERO EIGENVALUES = 9
NUMBER OF CONSTRAINTS = 9

SOLUTION APPEARS STABLE

O	E	I = 1	2	3	4	5	6	7	8	9	10
		11	12	13	14	15	16	17			
.006752	.493281	.467312	-.504048	.360035	-.199734	.233989	.015524	.005585	-.176698	-.024322	-.139461
		-.000472	-.005353	.092200	-.003509	.003917	-.039906	.006425			

CONFIGURATION FORCE AND MOMENT BREAKDOWN

	C_L	C_D	C_{M_O}
WING	.09149	.004042	.000856
FUSELAGE	.00000	.000001	.003958
WING INDUCED ON FUSELAGE	.00851	.000737	.001938
WING INDUCED ON NACELLES	0.00000	.000153	0.000000
TOTALS	.10000	.004933	.006752

SUMMARY OF PRESSURE LEVEL AND PRESSURE GRADIENT CONSTRAINT CYCLES

CYCLE NUMBER	C_{M_O}	K E	MOST CRITICAL DELTA C_P (POSITIVE IS SATISFACTORY)	PLANFORM LOCATION (IN PERCENT) SPANWISE	CHORDWISE	MOST CRITICAL C_P GRADIENT INCREMENT (NEGATIVE IS SATISFACTORY)	PLANFORM LOCATION (IN PERCENT) SPANWISE	CHORDWISE
1	.01393	.45605	-.002576	75.0000	100.0000	.001818	80.0000	100.0000
2				75.0000	100.0000		7.5000	19.7188
3				7.5000	100.0000		15.0000	13.2033
4	.00675	.49328	-.008152	7.5000	100.0000	.000177	40.0000	30.5380

****
SOLUTION FOR DESIGN C_L = .100000
WITH 4 CONSTRAINTS ON PRESSURE GRADIENT
****

PLANFORM LOCATION OF SOLUTION PRESSURE CONSTRAINTS (4 GRADIENT AND 0 LEVEL)

	SPANWISE (PERCENT)	CHORDWISE (PERCENT)
GRADIENT CONSTRAINT AT	80.0000	100.0000
GRADIENT CONSTRAINT AT	7.5000	19.7188
GRADIENT CONSTRAINT AT	15.0000	13.2033
GRADIENT CONSTRAINT AT	40.0000	30.5380

AT Y = 4.969 AND X = 189.000, Z IS CONSTRAINED TO -10.160
AT Y = 4.969 AND X = 243.390, Z IS CONSTRAINED TO -14.110

EIGENVALUE ANALYSIS OF SOLUTION

NUMBER OF NEGATIVE EIGENVALUES= 0
NUMBER OF ZERO EIGENVALUES = 10

NUMBER OF CONSTRAINTS = 10

SOLUTION APPEARS STABLE

C_{M_0}	K_E	A_I C_I-L I = 1 / 11	2 / 12	3 / 13	4 / 14	5 / 15	6 / 16	7 / 17	8	9	10
.006701	.494912	.357264	-.512106	.280708	-.137505	.290272	.015524	.005585	-.214286	.004036	-.051302
		-.000164	-.005353	.132323	-.063854	.000497	-.015030	.004927			
LAGRANGE MULTIPLIERS		-.099042	.014086	.020793	.195586	.050482	-.000382	.000715	.000224	-.000135	.000088

CONFIGURATION FORCE AND MOMENT BREAKDOWN

	C_L	C_D	C_{M_0}
WING	.09154	.004045	.000550
FUSELAGE	.00000	.000001	.003958
WING INDUCED ON FUSELAGE	.00846	.000733	.002193
WING INDUCED ON NACELLES	0.00000	.000170	0.000000
TOTALS	.10000	.004949	.006701

SUMMARY OF PRESSURE LEVEL AND PRESSURE GRADIENT CONSTRAINT CYCLES

CYCLE NUMBER	C_{M_0}	K_E	MOST CRITICAL DELTA C_P (POSITIVE IS SATISFACTORY)	PLANFORM LOCATION (IN PERCENT) SPANWISE	CHORDWISE	MOST CRITICAL C_P GRADIENT INCREMENT (NEGATIVE IS SATISFACTORY)	PLANFORM LOCATION (IN PERCENT) SPANWISE	CHORDWISE
1	.01393	.45605	-.002576	75.0000	100.0000	.001818	80.0000	100.0000
2				75.0000	100.0000		7.5000	19.7188
3				7.5000	100.0000		15.0000	13.2033
4	.00675	.49328	-.008152	7.5000	100.0000	.000177	40.0000	30.5380
5	.00670	.49491	.003387	7.5000	100.0000	-.000143	55.0000	29.3905

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SUMMARY OF PRESSURE LEVEL AND PRESSURE GRADIENT CONSTRAINT CYCLES

CYCLE NUMBER	C_{MO}	K_E	MOST CRITICAL DELTA C_P (POSITIVE IS SATISFACTORY)	PLANFORM LOCATION (IN PERCENT) SPANWISE	CHORDWISE	MOST CRITICAL C_P GRADIENT INCREMENT (NEGATIVE IS SATISFACTORY)	PLANFORM LOCATION (IN PERCENT) SPANWISE	CHORDWISE
1	.01393	.45605	-.002576	75.0000	100.0000	.001818	80.0000	100.0000
2				75.0000	100.0000		7.5000	19.7188
3				7.5000	100.0000		15.0000	13.2033
4	.00675	.49328	-.008152	7.5000	100.0000	.000177	40.0000	30.5380
5	.00670	.49491	.003387	7.5000	100.0000	-.000143	55.0000	29.3905

LARGEST VALUES OF WING UPPER SURFACE
LONGITUDINAL PRESSURE GRADIENT
DUE TO BODY BUOYANCY AND UPWASH LOADINGS,
AND TO WING THICKNESS PRESSURES

	LARGEST GRADIENTS	PLANFORM LOCATION (IN PERCENT) SPANWISE	CHORDWISE
1	.003433	15.00	10.40
2	.003433	15.00	13.20
3	.003323	17.50	12.61
4	.003283	20.00	11.97
5	.003157	10.00	11.66
6	.003157	10.00	14.25
7	.003062	25.00	10.50
8	.003062	25.00	13.84
9	.003016	12.50	11.05
10	.003016	12.50	13.75
11	.002404	7.50	17.22
12	.002404	7.50	19.72

-500A CHECK CASE   17 LOADS   2 Z CONST.   RESTART

CAMBER SURFACE CORRESPONDING TO OPTION 3

-500A CHECK CASE 17 LOADS 2 Z CONST. RESTART

SPANWISE DISTRIBUTION OF SECTION DRAG, LIFT, AND PITCHING MOMENT

Y / B/2	CHORD	SECTION C D	SECTION C L	SECTION C M
0.0000000	183.8703000	0.0000000	.0540048	-.0495770
.0250000	177.9359709	0.0000000	.0558236	-.0531981
.0500000	172.0016418	0.0000000	.0609919	-.0604227
.0750000	166.0673128	.0065876	.0705934	-.0720166
.1000000	160.1330000	.0031637	.0707387	-.0742736
.1250000	154.1951859	.0032817	.0715354	-.0772711
.1500000	148.2586941	.0038745	.0717060	-.0796592
.1750000	142.3260032	.0046526	.0729392	-.0839199
.2000000	136.3933123	.0046158	.0739919	-.0886566
.2500000	124.6106675	.0050787	.0765331	-.1012409
.3000000	113.9394744	.0062162	.0843362	-.1273321
.3500000	103.2682813	.0060869	.0937846	-.1643200
.4000000	92.5970882	.0059194	.1037702	-.2122126
.4750000	76.6960487	.0051676	.1133420	-.2941041
.5500000	63.0912977	.0046003	.1295261	-.4368569
.6250000	49.4965467	.0024983	.1463835	-.6702042
.7000000	35.8817958	-.0028853	.1636016	-1.0906670
.7500000	30.5922200	-.0001596	.1595493	-1.2751699
.8000000	27.3627760	.0010617	.1423244	-1.2914908
.9000000	20.9038880	.0015865	.1230618	-1.5135131
.9500000	17.6744440	.0026784	.1073894	-1.5903061
1.0000000	14.4450000	.0031998	.1135719	-2.0902180

SPANWISE INTEGRATION BY TRAPAZOID RULE = 311.569918 FOR KOPT, LOADNO(KOPT), KVAR = 18 0 2

Y	F(Y)	Y	F(Y)	Y	F(Y)	Y	F(Y)	Y	F(Y)
0.00000	44.26499	.39873	42.83636	.79745	41.40773	1.19618	39.97909	1.59490	38.55047
1.99363	37.12099	2.39236	35.69184	2.79108	34.26360	3.18981	32.83537	3.98726	29.99881
4.78471	27.42982	5.58217	24.86084	6.37962	22.29185	7.57580	18.46383	8.77197	15.18862
9.96815	11.91341	11.16433	8.63819	11.96178	7.36478	12.75924	6.58732	14.35414	5.03241
15.15159	4.25495	15.94904	3.47749						

SPANWISE INTEGRATION BY TRAPAZOID RULE = 8584.574660 FOR KOPT, LOADNO(KOPT), KVAR = 18 0 3

Y	F(Y)	Y	F(Y)	Y	F(Y)	Y	F(Y)	Y	F(Y)
0.00000	1959.38534	.39873	1834.95356	.79745	1714.59975	1.19618	1598.32793	1.59490	1486.13839
1.99363	1377.96822	2.39236	1273.90755	2.79108	1173.99455	3.18981	1078.16126	3.98726	899.92852
4.78471	752.39516	5.58217	618.06119	6.37962	496.92659	7.57580	340.91299	8.77197	230.69410
9.96815	141.92924	11.16433	74.61840	11.96178	54.23998	12.75924	43.39282	14.35414	25.32513
15.15159	18.10461	15.94904	12.09296						

SPANWISE INTEGRATION BY TRAPAZOID RULE = 26.254753 FOR KOPT, LOADNO(KOPT), KVAR = 18 0 4

Y	F(Y)	Y	F(Y)	Y	F(Y)	Y	F(Y)	Y	F(Y)
0.00000	2.39052	.39873	2.39128	.79745	2.52554	1.19618	2.82226	1.59490	2.72701
1.99363	2.65546	2.39236	2.55932	2.79108	2.49916	3.18981	2.42955	3.98726	2.29590

4.78471	2.31333	5.58217	2.33156	6.37962	2.31323	7.57580	2.09273	8.77197	1.96732
9.96815	1.74393	11.16433	1.41322	11.96178	1.17505	12.75924	.93754	14.35414	.61930
15.15159	.45694	15.94904	.39495						

SPANWISE INTEGRATION BY TRAPAZOID RULE = 1.160212 FOR KOPT, LOADNO(KOPT), KVAR = 18 0 5

Y	F(Y)	Y	F(Y)	Y	F(Y)	Y	F(Y)	Y	F(Y)
0.00000	0.00000	.39873	0.00000	.79745	0.00000	1.19618	.26336	1.59490	.12196
1.99363	.12182	2.39236	.13829	2.79108	.15942	3.18981	.15156	3.98726	.15235
4.78471	.17051	5.58217	.15133	6.37962	.13195	7.57580	.09541	8.77197	.06987
9.96815	.02976	11.16433	-.02492	11.96178	-.00118	12.75924	.00699	14.35414	.00798
15.15159	.01140	15.94904	.01113						

SPANWISE INTEGRATION BY TRAPAZOID RULE = -1240.910355 FOR KOPT, LOADNO(KOPT), KVAR = 18 0 6

Y	F(Y)	Y	F(Y)	Y	F(Y)	Y	F(Y)	Y	F(Y)
0.00000	-97.14070	.39873	-97.61612	.79745	-103.60077	1.19618	-115.10616	1.59490	-110.38091
1.99363	-106.47709	2.39236	-101.47840	2.79108	-98.52153	3.18981	-95.58612	3.98726	-91.10960
4.78471	-95.80402	5.58217	-101.55979	6.37962	-105.45409	7.57580	-100.26391	8.77197	-100.78030
9.96815	-95.12157	11.16433	-81.38382	11.96178	-69.16519	12.75924	-56.04143	14.35414	-38.32992
15.15159	-28.75187	15.94904	-25.27693						

C_L = .100000 C_D = .004949 X_{CP}/L = .720063 K_E = .494912

S_{REF}/S_{PROG} = .920576 C_M/C_L = -.087667 C_{M_0} = .006701

CONFIGURATION FORCE AND MOMENT BREAKDOWN

	C_L	C_D	C_{M_0}
WING	.09154	.004045	.000550
FUSELAGE	.00000	.000001	.003958
WING INDUCED ON FUSELAGE	.00846	.000733	.002193
WING INDUCED ON NACELLES	0.00000	.000170	0.000000
TOTALS	.10000	.004949	.006701

Y / B/2	X / LENGTH	X-PRIME / CHORD	Z / CHORD	Z	LIFTING C_P	THICKNESS C_P	LOWER SURFACE C_P	UPPER SURFACE C_P
0.00000	-.00000	0.00000	0.00000	0.00000	.01695	0.00000	-.00758	-.02453
0.00000	.02057	.02379	0.00000	0.00000	.02229	.00330	-.00663	-.02893
0.00000	.04010	.04638	0.00000	0.00000	.02737	.00644	-.00573	-.03310
0.00000	.05964	.06897	0.00000	0.00000	.03352	.01048	-.00339	-.03691
0.00000	.07517	.09156	0.00000	0.00000	.03989	.01469	-.00077	-.04066
0.00000	.09871	.11415	0.00000	0.00000	.03682	.01728	.00008	-.03674
0.00000	.11824	.13675	0.00000	0.00000	.02812	.01892	-.00012	-.02825
0.00000	.13778	.15934	0.00000	0.00000	.02050	.01843	-.00192	-.02242
0.00000	.15731	.18193	0.00000	0.00000	.01441	.01491	-.00597	-.02038

0.00000	.17684	.20452	0.00000	0.00000	.01107	.01174	-.00813	-.01920
0.00000	.19638	.22711	0.00000	0.00000	.01870	.00993	-.00273	-.02143
0.00000	.21591	.24970	0.00000	0.00000	.02633	.00813	.00267	-.02366
0.00000	.23545	.27229	0.00000	0.00000	.03395	.00710	.00885	-.02511
0.00000	.25498	.29488	0.00000	0.00000	.04158	.00609	.01504	-.02655
0.00000	.27452	.31748	0.00000	0.00000	.04773	.00491	.01877	-.02896
0.00000	.29405	.34007	0.00000	0.00000	.05344	.00369	.02177	-.03167
0.00000	.31358	.36266	0.00000	0.00000	.05915	.00321	.02553	-.03363
0.00000	.33312	.38525	0.00000	0.00000	.06486	.00332	.02987	-.03500
0.00000	.35265	.40784	0.00000	0.00000	.06778	.00371	.03268	-.03510
0.00000	.37219	.43043	0.00000	0.00000	.06546	.00463	.03262	-.03284
0.00000	.39172	.45302	0.00000	0.00000	.06314	.00527	.03230	-.03084
0.00000	.41126	.47561	0.00000	0.00000	.06081	.00417	.03023	-.03058
0.00000	.43079	.49821	0.00000	0.00000	.05849	.00307	.02816	-.03033
0.00000	.45032	.52080	0.00000	0.00000	.05882	.00195	.02637	-.03244
0.00000	.46986	.54339	0.00000	0.00000	.05938	.00083	.02462	-.03476
0.00000	.48939	.56598	0.00000	0.00000	.05993	.00035	.02350	-.03643
0.00000	.50893	.58857	0.00000	0.00000	.06049	.00013	.02265	-.03784
0.00000	.52846	.61116	0.00000	0.00000	.06225	-.00035	.02269	-.03955
0.00000	.54800	.63375	0.00000	0.00000	.06523	-.00112	.02364	-.04158
0.00000	.56753	.65634	0.00000	0.00000	.06821	-.00193	.02455	-.04366
0.00000	.58706	.67894	0.00000	0.00000	.07119	-.00286	.02535	-.04584
0.00000	.60660	.70153	0.00000	0.00000	.07381	-.00372	.02596	-.04785
0.00000	.62613	.72412	0.00000	0.00000	.07143	-.00377	.02404	-.04739
0.00000	.64567	.74671	0.00000	0.00000	.06905	-.00382	.02212	-.04693
0.00000	.66520	.76930	0.00000	0.00000	.06667	-.00542	.01865	-.04802
0.00000	.68474	.79189	0.00000	0.00000	.06429	-.00729	.01492	-.04937
0.00000	.70427	.81448	0.00000	0.00000	.06475	-.00951	.01218	-.05257
0.00000	.72380	.83707	0.00000	0.00000	.06681	-.01193	.01001	-.05680
0.00000	.74334	.85966	0.00000	0.00000	.06887	-.01409	.00808	-.06079
0.00000	.76287	.88226	0.00000	0.00000	.07093	-.01592	.00650	-.06443
0.00000	.78241	.90485	0.00000	0.00000	.07287	-.01778	.00436	-.06851
0.00000	.80194	.92744	0.00000	0.00000	.07441	-.01972	.00024	-.07417
0.00000	.82148	.95003	0.00000	0.00000	.07595	-.02166	-.00388	-.07983
0.00000	.84101	.97262	0.00000	0.00000	.07748	-.02385	-.00825	-.08573
0.00000	.86054	.99521	0.00000	0.00000	.07902	-.02604	-.01262	-.09164
0.00000	.86468	1.00000	0.00000	0.00000	.07934	-.02651	-.01355	-.09289
.02500	.02715	0.00000	0.00000	0.00000	.01705	.00247	-.00506	-.02211
.02500	.04010	.01548	0.00000	0.00000	.02074	.00398	-.00497	-.02571
.02500	.05964	.03883	0.00000	0.00000	.02631	.00627	-.00484	-.03115
.02500	.07917	.06217	0.00000	0.00000	.03207	.00885	-.00431	-.03638
.02500	.09871	.08552	0.00000	0.00000	.03801	.01172	-.00340	-.04141
.02500	.11824	.10886	0.00000	0.00000	.03882	.01359	-.00320	-.04202
.02500	.13778	.13220	0.00000	0.00000	.03124	.01386	-.00413	-.03537
.02500	.15731	.15555	0.00000	0.00000	.02495	.01361	-.00493	-.02988
.02500	.17684	.17889	0.00000	0.00000	.02282	.01174	-.00528	-.02805
.02500	.19638	.20224	0.00000	0.00000	.02162	.00999	-.00495	-.02657
.02500	.21591	.22558	0.00000	0.00000	.02921	.00939	.00175	-.02746
.02500	.23545	.24893	0.00000	0.00000	.03680	.00879	.00845	-.02835
.02500	.25498	.27227	0.00000	0.00000	.04440	.00862	.01558	-.02882
.02500	.27452	.29562	0.00000	0.00000	.05199	.00847	.02273	-.02926
.02500	.29405	.31896	0.00000	0.00000	.05649	.00738	.02571	-.03078
.02500	.31358	.34231	0.00000	0.00000	.06028	.00608	.02772	-.03256
.02500	.33312	.36565	0.00000	0.00000	.06406	.00497	.02952	-.03414
.02500	.35265	.38900	0.00000	0.00000	.06785	.00394	.03221	-.03564
.02500	.37219	.41234	0.00000	0.00000	.06793	.00323	.03231	-.03562
.02500	.39172	.43569	0.00000	0.00000	.06472	.00279	.03046	-.03426
.02500	.41126	.45903	0.00000	0.00000	.06151	.00224	.02851	-.03301
.02500	.43079	.48237	0.00000	0.00000	.05830	.00152	.02638	-.03192

.02500	.45032	.50572	0.00000	0.00000	.05598	.00095	.02456	-.03142
.02500	.46986	.52906	0.00000	0.00000	.05639	.00083	.02370	-.03268
.02500	.48939	.55241	0.00000	0.00000	.05679	.00076	.02290	-.03390
.02500	.50893	.57575	0.00000	0.00000	.05720	.00114	.02253	-.03467
.02500	.52846	.59910	0.00000	0.00000	.05761	.00152	.02217	-.03544
.02500	.54800	.62244	0.00000	0.00000	.06059	.00082	.02315	-.03744
.02500	.56753	.64579	0.00000	0.00000	.06368	.00007	.02418	-.03950
.02500	.58706	.66913	0.00000	0.00000	.06677	-.00125	.02464	-.04213
.02500	.60660	.69248	0.00000	0.00000	.06986	-.00270	.02497	-.04489
.02500	.62613	.71582	0.00000	0.00000	.06942	-.00409	.02296	-.04646
.02500	.64567	.73917	0.00000	0.00000	.06730	-.00545	.01985	-.04745
.02500	.66520	.76251	0.00000	0.00000	.06518	-.00711	.01642	-.04876
.02500	.68474	.79586	0.00000	0.00000	.06306	-.00904	.01273	-.05033
.02500	.70427	.80920	0.00000	0.00000	.06299	-.01094	.01005	-.05294
.02500	.72380	.83254	0.00000	0.00000	.06609	-.01280	.00893	-.05716
.02500	.74334	.85589	0.00000	0.00000	.06918	-.01452	.00795	-.06123
.02500	.76287	.87923	0.00000	0.00000	.07227	-.01580	.00739	-.06487
.02500	.78241	.90258	0.00000	0.00000	.07521	-.01714	.00646	-.06874
.02500	.80194	.92592	0.00000	0.00000	.07692	-.01893	.00248	-.07444
.02500	.82148	.94927	0.00000	0.00000	.07863	-.02072	-.00150	-.08013
.02500	.84101	.97261	0.00000	0.00000	.09967	-.02289	.01347	-.08620
.02500	.86054	.99596	0.00000	0.00000	.09764	-.02506	.00536	-.09228
.02500	.86393	1.00000	0.00000	0.00000	.09730	-.02544	.00397	-.09333
.05000	.05430	0.00000	0.00000	0.00000	.01915	.01057	.00409	-.01506
.05000	.07517	.03075	0.00000	0.00000	.02631	.01165	.00225	-.02406
.05000	.09871	.05490	0.00000	0.00000	.03103	.01258	.00044	-.03059
.05000	.11824	.07905	0.00000	0.00000	.04051	.01385	.00134	-.03917
.05000	.13778	.10320	0.00000	0.00000	.04836	.01483	.00218	-.04618
.05000	.15731	.12735	0.00000	0.00000	.04553	.01399	.00261	-.04292
.05000	.17684	.15150	0.00000	0.00000	.04282	.01318	.00312	-.03970
.05000	.19638	.17565	0.00000	0.00000	.04192	.01281	.00498	-.03694
.05000	.21591	.19980	0.00000	0.00000	.04102	.01244	.00684	-.03418
.05000	.23545	.22395	0.00000	0.00000	.04618	.01031	.01091	-.03527
.05000	.25498	.24810	0.00000	0.00000	.05139	.00817	.01501	-.03639
.05000	.27452	.27225	0.00000	0.00000	.05660	.00660	.01966	-.03694
.05000	.29405	.29640	0.00000	0.00000	.06181	.00507	.02436	-.03745
.05000	.31358	.32055	0.00000	0.00000	.06384	.00456	.02665	-.03719
.05000	.33312	.34470	0.00000	0.00000	.06530	.00422	.02852	-.03679
.05000	.35265	.36885	0.00000	0.00000	.06677	.00416	.03066	-.03611
.05000	.37219	.39300	0.00000	0.00000	.06824	.00418	.03288	-.03536
.05000	.39172	.41715	0.00000	0.00000	.06567	.00376	.03175	-.03392
.05000	.41126	.44130	0.00000	0.00000	.06144	.00317	.02925	-.03219
.05000	.43079	.46545	0.00000	0.00000	.05722	.00282	.02700	-.03022
.05000	.45032	.48960	0.00000	0.00000	.05300	.00262	.02489	-.02811
.05000	.46986	.51375	0.00000	0.00000	.05126	.00217	.02310	-.02816
.05000	.48939	.53790	0.00000	0.00000	.05140	.00153	.02156	-.02985
.05000	.50893	.56205	0.00000	0.00000	.05154	.00070	.01982	-.03172
.05000	.52846	.58620	0.00000	0.00000	.05168	-.00032	.01789	-.03380
.05000	.54800	.61035	0.00000	0.00000	.05374	-.00122	.01756	-.03618
.05000	.56753	.63450	0.00000	0.00000	.05836	-.00196	.01938	-.03897
.05000	.58706	.65865	0.00000	0.00000	.06297	-.00260	.02129	-.04168
.05000	.60660	.68280	0.00000	0.00000	.06759	-.00309	.02335	-.04424
.05000	.62613	.70695	0.00000	0.00000	.07070	-.00391	.02405	-.04665
.05000	.64567	.73110	0.00000	0.00000	.07007	-.00555	.02137	-.04870
.05000	.66520	.75525	0.00000	0.00000	.06945	-.00715	.01874	-.05071
.05000	.68474	.77940	0.00000	0.00000	.06883	-.00860	.01625	-.05258
.05000	.70427	.80355	0.00000	0.00000	.06873	-.01013	.01393	-.05480
.05000	.72380	.82770	0.00000	0.00000	.07167	-.01213	.01256	-.05911
.05000	.74334	.85185	0.00000	0.00000	.07461	-.01416	.01116	-.06345

.05000	.76287	.87600	0.00000	0.00000	.07756	-.01647	.00948	-.06808
.05000	.78241	.90015	0.00000	0.00000	.08051	-.01879	.00778	-.07272
.05000	.80194	.92430	0.00000	0.00000	.08516	-.02098	.00476	-.08040
.05000	.82148	.94845	0.00000	0.00000	.08981	-.02318	.00174	-.08807
.05000	.84101	.97260	0.00000	0.00000	.13311	-.02441	.03833	-.09478
.05000	.86054	.99675	0.00000	0.00000	.13002	-.02557	.02861	-.10142
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.10000	.64567	.71318	-.03322	-5.31949	.06162	-.01082	.01238	-.04924
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.10000	.74334	.84288	-.03537	-5.66330	.06987	-.01959	.00386	-.06601
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.90000	.91915	.41751	-.01311	-.27396	.14004	.00746	.07239	-.06765
.90000	.93868	.61622	-.01573	-.32883	.13198	-.02004	.04157	-.09040
.90000	.95822	.81493	-.01477	-.30874	.11426	-.04259	.01149	-.10278
.90000	.97641	1.00000	-.01245	-.26020	.09411	-.05540	-.01060	-.10471
.95000	.90509	0.00000	0.00000	0.00000	.02889	.04892	.05388	.02499
.95000	.91915	.16916	-.00424	-.07486	.10338	.03695	.08045	-.02293
.95000	.93868	.40418	-.01409	-.24902	.12674	.01684	.07344	-.05329
.95000	.95822	.63920	-.02162	-.38204	.12178	-.01014	.04534	-.07644
.95000	.97775	.87422	-.02363	-.41771	.10501	-.03841	.01015	-.09486
.95000	.98820	1.00000	-.02409	-.42573	.09386	-.05502	-.01161	-.10547
1.00000	.93207	0.00000	0.00000	0.00000	.01245	.03607	.03237	.01993
1.00000	.95822	.38489	-.01961	-.28327	.12092	.01737	.06934	-.05159
1.00000	.97775	.67245	-.02690	-.38854	.12096	-.00246	.05166	-.06925
1.00000	.99728	.96002	-.02901	-.41904	.10555	-.02223	.02569	-.07987
1.00000	1.00000	1.00000	-.02870	-.41458	.10289	-.02498	.02169	-.08120

MINIMUM OF $(C_P$ - $C_P)$ = .0034 AT 7.5000 PERCENT SEMISPAN AND 100.0000 PERCENT CHORD

UPPER SURFACE LIMIT

DELTAT = 86.571 SEC., T = 120.195 SEC.

TABLE OF INTERPOLATED ORDINATES FROM DESIGN PROGRAM (Z/C, PER CENT)

XPCT	0.00	5.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00
	90.00	100.00								
Y/B/2										
0.0000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	0.00000	0.00000								
.0250	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	0.00000	0.00000								
.0500	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	0.00000	0.00000								
.0750	0.00000	.06554	-.01206	-.86730	-2.32809	-3.80942	-4.98499	-5.75995	-6.22298	-6.57773
	-7.17473	-8.49757								
.1000	0.00000	.06101	.07325	-.27616	-.99747	-1.79843	-2.48688	-2.99494	-3.29531	-3.46423
	-3.66733	-4.24471								
.1250	0.00000	.01875	-.01169	-.40322	-1.11276	-1.89641	-2.59784	-3.14922	-3.52596	-3.76261
	-3.95362	-4.44425								
.1500	0.00000	-.02500	-.11532	-.61301	-1.40201	-2.26940	-3.06923	-3.73795	-4.24252	-4.59714
	-4.85524	-5.33752								
.1750	0.00000	-.05590	-.19785	-.81032	-1.70421	-2.67907	-3.59953	-4.39711	-5.03143	-5.49911
	-5.84379	-6.35994								
.2000	0.00000	-.04932	-.19554	-.80266	-1.68237	-2.64186	-3.55706	-4.35402	-4.98886	-5.43817
	-5.75909	-6.19182								
.2500	0.00000	-.03904	-.19849	-.85106	-1.77716	-2.78889	-3.76293	-4.62160	-5.30753	-5.78198
	-6.11392	-6.43065								
.3000	0.00000	-.00027	-.15481	-.80757	-1.74784	-2.81372	-3.88027	-4.87200	-5.73246	-6.41061
	-7.00127	-7.61935								
.3500	0.00000	.05201	-.04247	-.56862	-1.38083	-2.32754	-3.30044	-4.21955	-5.02843	-5.66821
	-6.21831	-6.86466								
.4000	0.00000	.10317	.06388	-.32722	-1.01079	-1.84825	-2.73194	-3.58496	-4.35071	-4.96202
	-5.55502	-6.22197								
.4750	0.00000	.18513	.26619	.07105	-.43374	-1.12413	-1.88711	-2.65188	-3.35870	-4.04683
	-4.65468	-5.22130								
.5500	0.00000	.31205	.48791	.48867	.17413	-.32991	-.95587	-1.62229	-2.30683	-3.02824
	-3.74634	-4.43376								
.6250	0.00000	.39135	.67938	.95068	.93805	.70336	.34673	-.08179	-.57408	-1.13245
	-1.70868	-2.30971								
.7000	0.00000	.42187	.79214	1.37871	1.73731	1.94517	2.05860	2.10771	2.11239	2.05772
	1.91254	1.63035								
.7500	0.00000	-.02017	-.02498	.02682	.11235	.16171	.17834	.23303	.30957	.31128
	.24006	.07950								

.8000	0.00000	-.12649	-.23563	-.38109	-.51423	-.64952	-.73831	-.80529	-.85392	-.81143
	-.74067	-.66673								
.9000	0.00000	-.22453	-.43068	-.78780	-1.06061	-1.27781	-1.46309	-1.56508	-1.55189	-1.48969
	-1.38730	-1.24473								
.9500	0.00000	-.10029	-.22147	-.56612	-1.00086	-1.39345	-1.78228	-2.07427	-2.22834	-2.31606
	-2.37619	-2.40874								
1.0000	0.00000	-.31851	-.61798	-1.15980	-1.62546	-2.01217	-2.31484	-2.55492	-2.74296	-2.87737
	-2.91973	-2.87004								

**********OVERLAY 4, DEPART**********

**********OVERLAY 1, ENTER**********

DELTAT = .062 SEC., T = 120.257 SEC.

969-500 CHECK CASE 17 LOAD 2 Z LIFT ANALYSIS

MACH NO.= 2.70000 XMAX= 272.65500 NON= 40 CBAR= 106.41000 XBAR= 187.00000

TIFZC= 1.00 TNOM= 0.00 SYMM= 1.00 SMOGO= 0.00

XESUC= 1.00 SBNS= 0.00 XNLRR= 0.00

NOPCT= 12 JBYMAX= 22 RATIO= 4.153854

	XPCT
1	0.000
2	5.000
3	10.000
4	20.000
5	30.000
6	40.000
7	50.000
8	60.000
9	70.000
10	80.000
11	90.000
12	100.000

	YB2
1	0.000
2	2.500
3	5.000
4	7.500
5	10.000
6	12.500
7	15.000
8	17.500
9	20.000
10	25.000
11	30.000
12	35.000
13	40.000
14	47.500
15	55.000
16	62.500
17	70.000
18	75.000
19	80.000
20	90.000
21	95.000
22	100.000

PLANFORM BREAKPOINTS

	X	Y	Z	CHORD	AUX. CHORD
1	77.3280	0.0000	0.0000	166.0700	166.0700
2	77.3280	4.9680	0.0000	166.0700	166.0700
3	83.1040	6.6250	0.0000	160.1330	160.1330
4	93.1650	9.5100	0.0000	149.7900	149.7900
5	116.9600	16.3330	0.0000	125.3500	125.3500
6	168.9800	31.2500	0.0000	77.2950	77.2950
7	225.8100	47.5440	0.0000	32.6810	32.6810
8	225.8100	47.5450	0.0000	32.6810	32.6810
9	258.2100	66.2500	0.0000	14.4450	14.4450

	XLE	XTE	AUX XTE
	77.3280	243.3980	243.3980
1	77.3280	243.3980	243.3980
2	77.3280	243.3980	243.3980
3	77.3306	243.3979	243.3979
4	83.1040	243.2370	243.2370
5	88.8799	243.0751	243.0751
6	94.6559	242.9146	242.9146
7	100.4320	242.7580	242.7580
8	106.2081	242.6014	242.6014
9	111.9843	242.4449	242.4449
10	117.7603	242.3710	242.3710
11	123.5362	242.8112	242.8112
12	129.3120	243.2515	243.2515
13	135.0878	243.6917	243.6917
14	140.8637	244.1320	244.1320
15	146.6395	244.5722	244.5722
16	152.4153	245.0124	245.0124
17	158.1912	245.4527	245.4527
18	163.9670	245.8929	245.8929

19	169.7430	246.4390	246.4390
20	175.5196	247.6807	247.6807
21	181.2962	248.9225	248.9225
22	187.0729	250.1642	250.1642
23	192.8495	251.4059	251.4059
24	198.6262	252.6477	252.6477
25	204.4028	253.8894	253.8894
26	210.1795	255.1311	255.1311
27	215.9561	256.3728	256.3728
28	221.7328	257.6146	257.6146
29	226.6523	258.8592	258.8592
30	229.5211	260.1134	260.1134
31	232.3900	261.3675	261.3675
32	235.2589	262.6217	262.6217
33	238.1278	263.8759	263.8759
34	240.9967	265.1300	265.1300
35	243.8656	266.3842	266.3842
36	246.7345	267.6383	267.6383
37	249.6033	268.8925	268.8925
38	252.4722	270.1467	270.1467
39	255.3411	271.4008	271.4008
40	258.2100	272.6550	272.6550

HORIZONTAL TAIL PLANFORM

	X	Y	Z	CHORD
1	261.0000	2.0000	-14.0000	25.0000
2	277.0000	11.0000	-14.0000	9.0000

BY	HXLE	HXTE
1	260.3889	286.0000
2	263.3333	286.0000
3	266.2778	286.0000
4	269.2222	286.0000
5	272.1667	286.0000
6	275.1111	286.0000
7	278.0556	286.0000

WING DOWNWASH AT TAIL SHIFTED PER W-B INTSCTN

FUSELAGE DEFINITION

X	RAD	AREA	Z
0.00000	0.00000	0.00000	10.00000
16.67000	2.73501	23.50000	8.55000
33.33000	4.27818	57.50000	7.10000
50.00000	5.32255	89.00000	5.64000
66.67000	6.10264	117.00000	4.17000
83.33000	6.33301	126.00000	2.73000
100.00000	6.17523	119.80000	1.28000
116.67000	5.86323	108.00000	-.14000
133.33000	5.78122	105.00000	-1.60000
150.00000	5.83602	107.00000	-3.04000
166.66000	5.83602	107.00000	-4.50000
183.33000	5.80869	106.00000	-5.90000
200.00000	5.69804	102.00000	-7.40000
216.67000	5.47002	94.00000	-8.85000
233.33000	5.11463	79.00000	-10.25000
250.00000	4.33362	59.00000	-11.70000
266.67000	3.24102	33.00000	-13.20000
283.30000	1.59577	8.00000	-14.60000
295.00000	0.00000	0.00000	-15.70000

NACELLE GEOMETRY

ORIGIN (X,Y,Z)			X	RADIUS	AREA
213.42000	16.33000	-5.8000	0.00000	2.86500	25.78696
			2.00800	2.98300	27.95486
			15.47000	3.63300	41.46500
			21.52500	3.77000	44.65125
			28.31700	3.65400	41.94575
			32.06700	3.42000	36.74541
			35.34000	3.42000	36.74541

ORIGIN (X,Y,Z)			X	RADIUS	AREA
218.67000	31.25000	-4.90000	0.00000	2.86500	25.78696
			2.00800	2.98300	27.95486
			15.47000	3.63300	41.46500
			21.52500	3.77000	44.65125
			28.31700	3.65400	41.94575
			32.06700	3.42000	36.74541
			35.34000	3.42000	36.74541

TABLE OF INPUT Z/C ORDINATES

XPCT	0.00	5.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00
	90.00	100.00								
Y/B/2										
0.0000	0.00000	.06600	-.01200	-.86700	-2.32800	-3.80900	-4.98500	-5.76000	-6.22300	-6.57800
	-7.17500	-8.49800								
.0250	0.00000	.06600	-.01200	-.86700	-2.32800	-3.80900	-4.98500	-5.76000	-6.22300	-6.57800
	-7.17500	-8.49800								
.0500	0.00000	.06600	-.01200	-.86700	-2.32800	-3.80900	-4.98500	-5.76000	-6.22300	-6.57800
	-7.17500	-8.49800								
.0750	0.00000	.06600	-.01200	-.86700	-2.32800	-3.80900	-4.98500	-5.76000	-6.22300	-6.57800
	-7.17500	-8.49800								
.1000	0.00000	.06100	.07300	-.27600	-.99700	-1.79800	-2.48700	-2.99500	-3.29500	-3.46400
	-3.66700	-4.24500								
.1250	0.00000	.01900	-.01200	-.40300	-1.11300	-1.89600	-2.59800	-3.14900	-3.52600	-3.76300
	-3.95400	-4.44400								
.1500	0.00000	-.02500	-.11500	-.61300	-1.41200	-2.26900	-3.06900	-3.73800	-4.24300	-4.59700
	-4.85900	-5.33800								
.1750	0.00000	-.05600	-.19800	-.81000	-1.70400	-2.67900	-3.60000	-4.39700	-5.23100	-5.49900
	-5.84400	-6.36000								
.2000	0.00000	-.04900	-.19600	-.80300	-1.68200	-2.64200	-3.55700	-4.35400	-4.98900	-5.43800
	-5.75900	-6.19200								
.2500	0.00000	-.03900	-.19800	-.85100	-1.77700	-2.78900	-3.76300	-4.62200	-5.30800	-5.78200
	-6.11400	-6.43100								
.3000	0.00000	0.00000	-.15500	-.80800	-1.74800	-2.81400	-3.88000	-4.87200	-5.73200	-6.41100
	-7.00100	-7.61900								
.3500	0.00000	.05200	-.04200	-.56900	-1.38100	-2.32800	-3.30000	-4.22000	-5.02800	-5.66800
	-6.21800	-6.86500								
.4000	0.00000	.10300	.06400	-.32700	-1.01100	-1.84800	-2.73200	-3.58500	-4.35100	-4.96200
	-5.55500	-6.22200								
.4750	0.00000	.18500	.26600	.07100	-.43400	-1.12400	-1.88700	-2.65200	-3.35900	-4.04700
	-4.69500	-5.22100								
.5500	0.00000	.31200	.48800	.48900	.17400	-.33000	-.95600	-1.62200	-2.30700	-3.02800
	-3.74600	-4.43400								
.6250	0.00000	.39100	.67900	.95100	.93800	.70300	.34700	-.08200	-.57400	-1.13200
	-1.70900	-2.31000								
.7000	0.00000	.42200	.79200	1.37900	1.73700	1.94500	2.05900	2.10800	2.11200	2.05800
	1.91300	1.63000								
.7500	0.00000	-.02000	-.02500	.02700	.11200	.16200	.17800	.23300	.31000	.31100
	.24000	.08000								

.8000	0.00000	-.12600	-.23600	-.38100	-.51400	-.65000	-.73800	-.80500	-.85400	-.81100
	-.74100	-.66700								
.9000	0.00000	-.22500	-.43100	-.78800	-1.06100	-1.27800	-1.46300	-1.56500	-1.55200	-1.49000
	-1.38700	-1.24500								
.9500	0.00000	-.10000	-.22100	-.56600	-1.00100	-1.39300	-1.78200	-2.07400	-2.22800	-2.31600
	-2.37500	-2.40900								
1.0000	0.00000	-.31900	-.61800	-1.16000	-1.62500	-2.01200	-2.31500	-2.55500	-2.74300	-2.87700
	-2.92000	-2.87000								

WING-FUSELAGE INTERSECTION

CHORD	X	Y	Z
0.00	79.0121	5.4511	0.0000
5.00	88.7088	5.8986	.1029
10.00	97.2530	6.0289	.0677
20.00	112.9240	5.8282	-.9220
30.00	128.2004	5.4041	-3.2695
40.00	143.7560	4.3799	-6.3255
50.00	160.3630	3.9108	-8.2785
60.00	176.9700	4.0266	-9.5656
70.00	193.5770	4.5399	-10.3344
80.00	210.2270	5.0374	-10.7010
90.00	226.7910	4.6971	-11.9154
100.00	243.3980	3.5024	-14.1126

FUSELAGE UPWASH ACTING ON WING AT ALPHA= 0.00 DEG.
SLENDER BODY SOLUTION
CHARACTERISTICS PROPAGATED ALONG MACH LINES

KPCT	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.0
Y/B/2											
0.000	-9.484	-7.612	-6.374	-7.243	-7.754	-7.616	-7.206	-7.136	-5.721	-3.719	-1.872
.025	-9.484	-7.612	-6.374	-7.243	-7.754	-7.616	-7.206	-7.136	-5.721	-3.719	-1.872
.050	-.398	.851	1.136	.528	.274	.533	.636	1.031	1.476	1.933	2.279
.075	1.855	2.612	2.590	2.166	1.989	2.169	2.169	2.460	2.542	2.562	2.492
.100	2.626	3.458	3.637	3.747	3.836	3.690	3.206	2.693	1.781	.825	.125
.125	2.343	2.571	2.491	2.451	2.443	2.374	2.107	1.930	1.465	.886	.404
.150	1.865	1.876	1.756	1.706	1.699	1.704	1.568	1.569	1.355	1.042	.709
.175	1.446	1.398	1.295	1.254	1.246	1.272	1.182	1.235	1.148	.991	.781
.200	1.126	1.064	.985	.958	.950	.967	.900	.917	.866	.757	.597
.250	.710	.647	.611	.604	.601	.614	.581	.562	.571	.521	.445
.300	.471	.423	.414	.415	.417	.425	.414	.394	.411	.396	.365
.350	.324	.289	.291	.295	.303	.302	.298	.283	.279	.283	.263
.400	.225	.218	.215	.219	.225	.226	.225	.215	.204	.205	.203
.450	.156	.156	.164	.168	.173	.176	.175	.170	.163	.156	.155
.500	.118	.122	.130	.133	.138	.142	.140	.138	.133	.128	.122
.550	.093	.098	.105	.107	.112	.117	.115	.114	.111	.107	.103
.600	.076	.080	.086	.088	.092	.096	.097	.095	.093	.091	.088
.700	.055	.058	.060	.061	.063	.066	.068	.070	.069	.068	.066
.800	.037	.038	.040	.043	.045	.046	.046	.048	.050	.051	.052
.900	.023	.024	.025	.026	.027	.028	.029	.031	.032	.034	.035
1.000	.024	.021	.019	.017	.015	.015	.016	.016	.017	.018	.018

INCREMENTAL FUSELAGE UPWASH ON WING PER DEGREE ALPHA
SLENDER BODY SOLUTION
CHARACTERISTICS PROPAGATED ALONG MACH LINES

XPCT	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00
Y/B/2											
0.000	-1.725	-1.723	-1.588	-1.507	-1.514	-1.531	-1.523	-1.489	-1.401	-1.223	-.962
.025	-1.725	-1.723	-1.588	-1.507	-1.514	-1.531	-1.523	-1.489	-1.401	-1.223	-.962
.050	.035	.052	.056	.068	.084	.105	.108	.130	.150	.133	.110
.075	.445	.453	.422	.418	.419	.434	.433	.437	.427	.379	.312
.100	.545	.662	.708	.746	.771	.743	.666	.542	.401	.271	.158
.125	.469	.510	.491	.489	.491	.475	.441	.384	.317	.247	.173
.150	.369	.369	.348	.340	.342	.339	.325	.309	.281	.246	.199
.175	.285	.278	.257	.250	.251	.252	.250	.244	.232	.214	.187
.200	.223	.215	.198	.192	.191	.191	.189	.184	.175	.163	.146
.250	.143	.136	.125	.121	.120	.121	.119	.117	.113	.109	.101
.300	.097	.092	.086	.084	.083	.084	.084	.083	.082	.080	.077
.350	.070	.066	.061	.060	.060	.060	.059	.059	.058	.057	.055
.400	.052	.049	.046	.045	.044	.044	.044	.044	.043	.043	.042
.450	.040	.037	.036	.035	.034	.034	.034	.034	.034	.033	.033
.500	.031	.030	.028	.028	.027	.027	.027	.027	.027	.026	.026
.550	.025	.024	.023	.023	.022	.022	.022	.022	.022	.022	.021
.600	.020	.020	.019	.019	.019	.018	.018	.018	.018	.018	.018
.700	.014	.014	.014	.014	.013	.013	.013	.013	.013	.013	.013
.800	.011	.011	.011	.011	.011	.011	.010	.010	.010	.010	.010
.900	.009	.009	.009	.009	.009	.009	.009	.008	.008	.008	.008
1.000	.008	.008	.008	.008	.008	.008	.007	.007	.007	.007	.007

FUSELAGE UPWASH ACTING ON TAIL AT ALPHA= 0.00 DEG.

XPCT	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.0
Y/B/2											
0.000	1.653	7.019	14.279	22.134	28.658	30.349	26.534	17.932	8.322	1.008	-3.094
.100	1.653	7.019	14.279	22.134	28.658	30.349	26.534	17.932	8.322	1.008	-3.094
.200	9.126	10.482	11.439	11.617	11.156	9.863	7.906	5.900	3.921	2.106	.511
.300	6.859	6.819	6.594	6.155	5.567	4.886	3.976	3.042	2.224	1.469	.770
.400	4.554	4.332	4.055	3.723	3.339	2.930	2.521	2.114	1.533	1.113	.723
.500	3.101	2.921	2.714	2.493	2.250	1.996	1.743	1.498	1.207	.924	.666
.600	2.206	2.087	1.942	1.792	1.639	1.475	1.310	1.149	.995	.821	.640
.700	1.636	1.558	1.462	1.359	1.256	1.152	1.043	.933	.827	.721	.620
.800	1.256	1.201	1.145	1.075	1.003	.932	.861	.789	.715	.638	.567
.900	.992	.954	.915	.875	.828	.779	.730	.682	.633	.582	.530
1.000	.797	.776	.750	.723	.695	.668	.634	.601	.567	.533	.500

INCREMENTAL FUSELAGE UPWASH ON TAIL PER DEGREE ALPHA

XPCT	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.0
Y/B/2											
0.000	-.897	.078	1.526	3.321	5.025	5.899	5.544	4.143	2.469	1.163	.358
.100	-.897	.078	1.526	3.321	5.025	5.899	5.544	4.143	2.469	1.163	.358
.200	1.228	1.539	1.803	1.970	2.034	1.927	1.678	1.369	1.046	.746	.486
.300	1.074	1.116	1.110	1.086	1.039	.972	.851	.719	.589	.468	.356
.400	.750	.733	.706	.672	.633	.589	.541	.470	.401	.336	.275
.500	.530	.518	.485	.459	.432	.403	.374	.345	.304	.264	.226
.600	.389	.372	.354	.336	.313	.299	.280	.261	.242	.219	.194
.700	.297	.285	.272	.259	.247	.234	.221	.208	.196	.184	.171
.800	.235	.226	.217	.208	.199	.190	.181	.173	.164	.156	.147
.900	.190	.184	.178	.172	.165	.159	.153	.147	.142	.136	.130
1.000	.157	.154	.149	.145	.141	.137	.133	.129	.124	.120	.116

FUSELAGE AREAS ABOVE AND BELOW WING

PER CENT CHORD	X	AREA ABOVE	AREA BELOW
0.00	79.01	100.08	25.03
5.00	88.71	88.98	35.67
10.00	97.25	78.48	42.75
20.00	112.92	67.87	41.98
30.00	128.20	76.68	28.71
40.00	143.76	94.33	12.16
50.00	160.36	99.01	8.11
60.00	176.97	97.68	9.06
70.00	193.58	89.77	14.27
80.00	210.23	75.07	22.92
90.00	226.79	65.22	20.39
100.00	243.40	59.75	8.26

LIFTING PRESSURE COEFFICIENTS DUE TO ASYMMETRIC BODY VOLUME

XPCT	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00
Y/B/2											
0.000	.0175	.0582	-.0068	-.0724	-.0425	.0076	.0256	.0384	.0264	-.0070	-.0222
.025	.0175	.0582	-.0068	-.0724	-.0425	.0076	.0256	.0384	.0264	-.0070	-.0222
.050	.0175	.0582	-.0068	-.0724	-.0425	.0076	.0256	.0384	.0264	-.0070	-.0222
.075	.0175	.0582	-.0068	-.0724	-.0425	.0076	.0256	.0384	.0264	-.0070	-.0222
.100	.0443	.0392	-.0295	-.0745	-.0249	.0111	.0269	.0387	.0248	-.0061	-.0220
.125	.0432	.0324	-.0282	-.0667	-.0275	.0077	.0217	.0313	.0309	-.0078	-.0210
.150	.0427	.0270	-.0282	-.0610	-.0297	.0053	.0176	.0275	.0335	.0035	-.0179
.175	.0424	.0226	-.0287	-.0566	-.0309	.0036	.0144	.0253	.0321	.0084	-.0093
.200	.0409	.0185	-.0296	-.0530	-.0320	.0021	.0130	.0230	.0296	.0158	-.0025
.250	.0365	.0121	-.0324	-.0475	-.0342	-.0003	.0112	.0174	.0220	.0256	.0055
.300	.0310	.0061	-.0331	-.0436	-.0334	-.0023	.0075	.0127	.0193	.0238	.0173
.350	.0262	.0027	-.0315	-.0406	-.0323	-.0040	.0035	.0098	.0158	.0187	.0220
.400	.0195	-.0001	-.0304	-.0382	-.0314	-.0103	.0016	.0086	.0114	.0162	.0185
.450	.0131	-.0044	-.0294	-.0362	-.0305	-.0169	-.0005	.0049	.0086	.0125	.0157
.500	.0045	-.0152	-.0296	-.0346	-.0295	-.0206	-.0024	.0022	.0074	.0088	.0128
.550	.0004	-.0235	-.0302	-.0328	-.0282	-.0220	-.0060	.0004	.0041	.0077	.0090
.600	-.0086	-.0241	-.0306	-.0309	-.0272	-.0223	-.0131	-.0016	.0015	.0049	.0074
.700	-.0232	-.0276	-.0296	-.0277	-.0254	-.0230	-.0197	-.0146	-.0044	-.0009	.0010
.800	-.0193	-.0213	-.0246	-.0267	-.0277	-.0259	-.0241	-.0226	-.0207	-.0184	-.0161
.900	.0004	-.0054	-.0176	-.0188	-.0207	-.0231	-.0245	-.0258	-.0256	-.0243	-.0230
1.000	.0108	.0088	.0044	.0017	.0002	-.0025	-.0163	-.0170	-.0178	-.0192	-.0208

NACELLES BELOW WING WITH ORIGINS AT

X= 213.42000 Y= 16.33000 Z= -5.80000
X= 218.67000 Y= 31.25000 Z= -4.90000

NACELLE PRESSURE FIELD

X,PER CENT CHORD AND PRESSURE COEFFICIENT
GLANCE SOLUTION

NACELLES BELOW WING

Y/B/2												
0.000	77.328	243.398										
	0.000	100.000										
	0.00000	0.00000										
.050	77.328	238.690	238.700	238.995	239.290	239.584	239.879	240.174	240.469	240.764	241.058	241.353
	241.648	241.943	242.238	242.533	242.827	243.122	243.417	243.712				
	0.000	97.165	97.171	97.349	97.526	97.704	97.881	98.059	98.236	98.414	98.591	98.769
	98.946	99.124	99.301	99.479	99.656	99.834	100.011	100.189				
	0.00000	0.00000	.03894	.03836	.03778	.03721	.03663	.03606	.03550	.03493	.03436	.03379
	.03322	.03266	.03209	.03153	.03097	.03041	.02985	.02929				
.100	83.104	231.692	231.702	232.424	233.146	233.868	234.590	235.312	236.035	236.757	237.479	238.201
	238.923	239.645	240.367	241.090	241.812	242.534	243.256	243.875				
	0.000	92.790	92.796	93.247	93.698	94.149	94.600	95.051	95.502	95.953	96.404	96.855
	97.306	97.757	98.208	98.659	99.110	99.561	100.012	100.398				
	0.00000	0.00000	.04458	.04294	.04129	.03967	.03804	.03642	.03481	.03322	.03165	.03010
	.02858	.02706	.02556	.02408	.02261	.02115	.01971	.01848				
.150	94.656	225.394	225.434	226.499	227.595	228.690	229.786	230.882	231.977	233.073	234.169	235.264
	236.360	237.455	238.551	239.647	240.742	241.838	242.934	244.029				
	0.000	88.182	88.189	88.928	89.667	90.406	91.145	91.884	92.623	93.362	94.101	94.840
	95.579	96.318	97.057	97.796	98.535	99.274	100.013	100.752				
	0.00000	0.00000	.05210	.04913	.04615	.04322	.04030	.03741	.03461	.03186	.02915	.02648
	.02385	.02126	.01949	.02071	.01821	.01377	.00937	.00503				
.200	106.208	220.585	220.595	221.972	223.348	224.725	226.101	227.478	228.855	230.231	231.608	232.984
	234.361	235.738	237.114	238.491	239.867	241.244	242.620	243.846				
	0.000	83.858	83.866	84.875	85.884	86.893	87.903	88.912	89.921	90.930	91.940	92.949
	93.958	94.968	95.977	96.986	97.995	99.005	100.014	100.913				
	0.00000	0.00000	.05588	.05645	.05202	.04762	.04329	.03909	.03500	.03100	.02709	.02357
	.02379	.02120	.01450	.00784	.00131	-.00484	-.01032	-.01497				
.246	116.926	218.815	218.825	220.294	221.763	223.232	224.701	226.170	227.639	229.108	230.577	232.047
	233.516	234.985	236.454	237.923	239.392	240.861	242.330	243.541				
	0.000	81.261	81.269	82.441	83.612	84.784	85.956	87.127	88.299	89.470	90.642	91.814
	92.985	94.157	95.329	96.500	97.672	98.844	100.015	100.981				
	0.00000	0.00000	.06530	.06020	.05508	.05001	.04503	.04025	.03557	.03100	.02653	.02382
	.02370	.01693	.00914	.00153	-.00557	-.01187	-.01837	-.02450				
.247	116.973	218.815	218.825	220.294	221.763	223.232	224.701	226.170	227.639	229.108	230.578	232.047
	233.516	234.985	236.454	237.923	239.392	240.861	242.330	243.541				

	0.000	81.254	81.262	82.434	83.606	84.778	85.950	87.122	88.294	89.467	90.639	91.811
	92.983	94.155	95.327	96.499	97.671	98.843	100.015	101.981				
	0.00000	0.00000	.06530	.06020	.05508	.05001	.04503	.04025	.03557	.03100	.02653	.02382
	.02370	.01693	.00914	.00153	-.00557	-.01187	-.01837	-.02450				
.250	117.760	218.826	218.836	220.308	221.781	223.252	224.724	226.196	227.669	229.141	230.613	232.085
	233.557	235.029	236.501	237.974	239.446	240.918	242.390	243.553				
	0.000	81.135	81.113	82.294	83.476	84.657	85.839	87.020	88.201	89.383	90.564	91.746
	92.927	94.118	95.290	96.471	97.652	98.834	100.015	100.949				
	0.00000	0.00000	.06527	.06017	.05504	.04996	.04497	.04018	.03550	.03092	.02645	.02389
	.02360	.01674	.00895	.00133	-.00575	-.01205	-.01860	-.02449				
.300	129.312	221.119	221.129	222.710	224.292	225.873	227.455	229.037	230.618	232.200	233.781	235.363
	236.944	238.526	239.499	239.509	241.091	242.673	243.534	243.534				
	0.000	80.575	80.584	81.972	83.360	84.748	86.136	87.524	88.912	90.300	91.688	93.076
	94.464	95.852	96.707	96.716	98.104	99.492	100.248	100.248				
	0.00000	0.00000	.05970	.05472	.04975	.04483	.04004	.03541	.03088	.02648	.02271	.02319
	.01775	.01020	.00563	.04786	.03721	.02746	.02235	.02239				
.350	140.864	226.214	226.224	227.505	228.785	230.065	231.346	232.529	232.539	233.819	235.100	236.380
	237.661	238.941	240.222	241.502	242.783	244.063	244.661	244.661				
	0.000	82.649	82.659	83.899	85.139	86.379	87.619	88.764	88.774	90.014	91.254	92.494
	93.734	94.974	96.214	97.454	98.694	99.934	100.512	100.512				
	0.00000	0.00000	.05092	.04754	.04417	.04083	.03753	.03455	.08402	.07760	.07125	.06498
	.05881	.05329	.05106	.04549	.03756	.02970	.02606	.02606				
.400	152.415	226.431	226.441	227.769	229.097	230.425	231.753	232.642	232.652	233.980	235.307	236.635
	237.963	239.291	240.619	241.947	243.275	244.603	245.931	246.037				
	0.000	79.933	79.944	81.378	82.812	84.246	85.680	86.640	86.651	88.085	89.519	90.953
	92.387	93.821	95.255	96.689	98.123	99.557	100.992	101.107				
	0.00000	0.00000	.05957	.05540	.05122	.04709	.04300	.04033	.08399	.07713	.07040	.06375
	.05722	.05156	.04981	.04305	.03404	.02523	.01722	.01659				
.450	163.967	222.474	222.484	224.157	225.831	227.504	229.178	230.851	232.524	234.198	235.871	237.545
	239.218	239.706	239.716	241.389	243.063	244.736	246.371	246.371				
	0.000	71.414	71.427	73.469	75.512	77.554	79.597	81.640	83.682	85.725	87.767	89.810
	91.853	92.448	92.460	94.503	96.545	98.588	100.583	100.583				
	0.00000	0.00000	.07015	.06386	.05756	.05133	.04530	.03948	.03383	.02831	.02602	.02401
	.01426	.01146	.04967	.03699	.02513	.01428	.00288	.00288				
.472	168.957	222.012	222.012	223.746	225.481	227.215	228.949	230.683	232.418	234.152	235.886	237.621
	239.355	241.089	242.824	242.873	242.883	244.614	246.349	246.388				
	0.000	68.638	68.621	70.864	73.107	75.350	77.593	79.836	82.080	84.323	86.566	88.809
	91.052	93.295	95.538	95.598	95.611	97.854	100.097	100.148				
	0.00000	0.00000	.07180	.06511	.05841	.05180	.04541	.03926	.03328	.02766	.02812	.02118
	.01081	.00072	-.00837	-.00860	.02772	.01652	.00373	.00344				

.472	169.003	222.012	222.012	223.747	225.481	227.216	228.951	230.686	232.421	234.155	235.890	237.625
	239.360	241.095	242.829	242.899	242.909	244.644	246.379	246.388				
	0.000	68.583	68.596	70.841	73.086	75.331	77.576	79.820	82.065	84.310	86.555	88.800
	91.045	93.290	95.535	95.625	95.638	97.883	100.128	100.139				
	0.00000	0.00000	.07180	.06511	.05843	.05180	.04541	.03925	.03327	.02765	.02813	.02116
	.01078	.03069	-.03840	-.00874	-.00879	-.01686	-.02661	-.02665				
.500	175.520	222.794	222.804	224.582	226.361	228.139	229.917	231.695	233.474	235.252	237.030	238.808
	240.587	242.365	244.143	245.921	247.101	247.111	247.822	247.822				
	0.000	65.513	65.526	67.991	70.455	72.919	75.384	77.848	80.312	82.776	85.241	87.705
	90.169	92.634	95.098	97.562	99.196	99.210	100.196	100.196				
	0.00000	0.00000	.06910	.06252	.05594	.04946	.04320	.03718	.03131	.02612	.02621	.01837
	.03827	-.03154	-.01012	-.01821	-.02460	-.02465	-.02852	-.02852				
.550	187.073	227.153	227.163	228.602	230.041	231.480	232.918	234.357	235.796	237.235	238.673	240.112
	241.551	242.989	244.428	245.867	247.305	248.744	250.183	250.576				
	0.000	63.528	63.544	65.824	68.104	70.385	72.665	74.946	77.226	79.506	81.787	84.067
	86.348	88.628	90.908	93.189	95.469	97.750	100.030	100.652				
	0.00000	0.00000	.05808	.05368	.04929	.04494	.04066	.03654	.03251	.02856	.02469	.02167
	.02229	.01739	.01075	.00423	-.00214	-.00772	-.01295	-.01436				
.600	198.626	233.415	233.425	234.627	235.830	237.032	238.235	239.438	240.640	241.843	243.046	244.248
	245.451	246.654	247.856	249.059	250.261	251.464	252.667	253.869				
	0.000	64.397	64.416	66.642	68.868	71.095	73.321	75.547	77.773	79.999	82.226	84.452
	86.678	88.904	91.130	93.357	95.583	97.809	100.035	102.261				
	0.00000	0.00000	.04839	.04539	.04241	.03944	.03650	.03363	.03082	.02807	.02536	.02269
	.02007	.01823	.01912	.01619	.01175	.00738	.00306	-.00119				
.650	210.179	240.457	240.467	241.385	242.302	243.220	244.138	245.056	245.973	246.891	247.809	248.726
	249.644	250.562	251.479	252.397	253.315	254.232	255.150	255.928				
	0.000	67.356	67.378	69.420	71.461	73.503	75.544	77.586	79.627	81.669	83.710	85.752
	87.793	89.835	91.876	93.918	95.959	98.001	100.042	101.772				
	0.00000	0.00000	.04149	.03956	.03765	.03575	.03385	.03198	.03012	.02831	.02652	.02475
	.02301	.02128	.01957	.01788	.01657	.01662	.01647	.01513				
.700	221.733	247.875	247.885	248.494	249.103	249.712	250.322	250.931	251.540	252.150	252.759	253.368
	253.978	254.587	255.196	255.806	256.415	257.024	257.634	258.243				
	0.000	72.855	72.883	74.581	76.279	77.977	79.676	81.374	83.072	84.770	86.468	88.166
	89.864	91.562	93.260	94.959	96.657	98.355	100.053	101.751				
	0.00000	0.00000	.03650	.03540	.03431	.03321	.03212	.03103	.02994	.02887	.02780	.02674
	.02570	.02467	.02365	.02263	.02162	.02062	.01962	.01863				
.750	229.521	255.497	255.507	255.796	256.085	256.374	256.663	256.952	257.241	257.530	257.820	258.109
	258.398	258.687	258.976	259.265	259.554	259.843	260.132	260.421				
	0.000	84.919	84.942	85.887	86.832	87.777	88.722	89.667	90.612	91.557	92.502	93.447
	94.392	95.337	96.282	97.227	98.172	99.117	100.062	101.007				

	0.00000	0.00000	.03276	.03229	.03183	.03137	.03092	.03046	.03000	.02955	.02909	.02864
	.02818	.02773	.02727	.02682	.02637	.02592	.02547	.02503				
.800	235.259	262.622										
	0.000	100.000										
	0.00000	0.00000										
.850	240.997	265.130										
	0.000	100.000										
	0.00000	0.00000										
.900	246.734	267.638										
	0.000	100.000										
	0.00000	0.00000										
.950	252.472	270.147										
	0.000	100.000										
	0.00000	0.00000										
1.000	258.210	272.655										
	0.000	100.000										
	0.00000	0.00000										

DEBUG PARAMETER =10

WING INPUT DATA FOR ATTAINABLE L.E. SUCTION
RNCBAR= 100.00000 (MILLIONS)

Y/B/2 PER CENT	TMAX/C PER CENT	AT X/C PER CENT	L.E.R./C PER CENT
0.00	0.0000	0.0000	0.0000
7.50	0.0000	0.0000	0.0000
7.50	2.4980	60.0000	.2000
10.00	2.4980	60.0000	.2000
14.35	2.4740	60.0000	.2000
24.65	2.5000	50.0000	.2000
47.17	2.6300	50.0000	.2000
71.76	2.7500	50.0000	.2000
71.77	2.7500	50.0000	.2000
100.00	2.7500	50.0000	0.0000

WING AIRFOIL DATA

Y/B/2	CHORD	CN/C	TN/CN	RLE,N/CN	CT,N/CT	RN,N	CPLIM	KT(CT**.6)
0.000000	NORMAL MACH NO. IS SUPERSONIC, XMN= 2.700							
.025000	NORMAL MACH NO. IS SUPERSONIC, XMN= 2.700							
.050000	NORMAL MACH NO. IS SUPERSONIC, XMN= 2.700							
.075000	NORMAL MACH NO. IS SUPERSONIC, XMN= 2.700							
.100000	160.13300	.76924	.07549	.02192	17.09601	31.92138	-2.38978	.02171
.125000	154.19519	.76915	.07510	.02194	17.11190	30.72165	-2.38701	.02161
.150000	148.25869	.74985	.07563	.02217	17.55255	28.79754	-2.37959	.02135
.175000	142.32600	.68313	.07906	.02311	19.26795	25.19456	-2.36381	.02079
.200000	136.39331	.62278	.08279	.02414	21.13483	22.00291	-2.34727	.02027
.225000	130.46062	.56794	.08687	.02527	23.17570	19.19253	-2.33003	.01980
.250000	124.61067	.48187	.09177	.02632	27.37178	15.52155	-2.30233	.01833
.275000	119.27507	.48189	.09129	.02632	27.36875	14.85801	-2.29638	.01834
.300000	113.93947	.48189	.09182	.02632	27.36875	14.19336	-2.29025	.01834
.325000	108.60388	.48189	.09234	.02632	27.36875	13.52870	-2.28379	.01835
.350000	103.26828	.48189	.09286	.02632	27.36875	12.86405	-2.27695	.01835
.375000	97.93268	.48189	.09339	.02632	27.36875	12.19940	-2.26971	.01834
.400000	92.59709	.48189	.09391	.02632	27.36875	11.53475	-2.26202	.01833
.425000	87.26149	.48189	.09443	.02632	27.36875	10.87010	-2.25382	.01832
.450000	81.92590	.48189	.09496	.02632	27.36875	10.20545	-2.24505	.01831
.475000	76.69635	.43250	.09547	.02632	30.43130	8.59262	-2.22097	.01701
.500000	72.16113	.43247	.09593	.02633	30.44070	8.08297	-2.21267	.01699
.525000	67.62621	.43247	.09637	.02633	30.44070	7.57500	-2.20345	.01695
.550000	63.09130	.43247	.09681	.02633	30.44070	7.06703	-2.19356	.01691
.575000	58.55638	.43247	.09725	.02633	30.44070	6.55906	-2.18290	.01686
.600000	54.02146	.43247	.09770	.02633	30.44070	6.05110	-2.17135	.01681
.625000	49.48655	.43247	.09814	.02633	30.44070	5.54313	-2.15876	.01674
.650000	44.95163	.43247	.09858	.02633	30.44070	5.03516	-2.14492	.01666
.675000	40.41671	.43247	.09902	.02633	30.44070	4.52719	-2.12960	.01656
.700000	35.88180	.43247	.09947	.02633	30.44070	4.01922	-2.11245	.01645
.725000	32.20694	.47952	.08619	.01913	20.48364	4.63094	-1.72967	.01123
.750000	NORMAL MACH NO. IS SUPERSONIC, XMN= 1.350							
.775000	NORMAL MACH NO. IS SUPERSONIC, XMN= 1.350							
.800000	NORMAL MACH NO. IS SUPERSONIC, XMN= 1.350							
.825000	NORMAL MACH NO. IS SUPERSONIC, XMN= 1.350							
.850000	NORMAL MACH NO. IS SUPERSONIC, XMN= 1.350							
.875000	NORMAL MACH NO. IS SUPERSONIC, XMN= 1.350							
.900000	NORMAL MACH NO. IS SUPERSONIC, XMN= 1.350							
.925000	NORMAL MACH NO. IS SUPERSONIC, XMN= 1.350							
.950000	NORMAL MACH NO. IS SUPERSONIC, XMN= 1.350							
.975000	NORMAL MACH NO. IS SUPERSONIC, XMN= 1.350							
1.000000	NORMAL MACH NO. IS SUPERSONIC, XMN= 1.350							

** LEADING EDGE THRUST **
COEFFICIENTS BASED ON REFERENCE AREA OR AVERAGE CHORD

SPANWISE DISTRIBUTION REF AREA= 9898.0000 AVG. CHORD= 80.4501

SPAN STATION, Y/B/2	FLAT WING, CT/ALPHA**2	CAMBERED WING, CT AT ALPHA (IN DEGREES) OF *** -4.0	-2.0	0.0	2.0	4.0	6.0
0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
.025000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
.050000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
.075000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
.100000	.000025	.000031	.000048	.000012	.000195	.000595	.001214
.125000	.000033	.000355	.000044	.000031	.000318	.000903	.001786
.150000	.000039	.000457	.000080	.000012	.000251	.000797	.001651
.175000	.000048	.000536	.000090	.000018	.000320	.000997	.002049
.200000	.000058	.000631	.000088	.000033	.000436	.001297	.002617
.225000	.000064	.000716	.000120	.000023	.000424	.001323	.002720
.250000	.000073	.000789	.000119	.000038	.000537	.001616	.003275
.275000	.000077	.000924	.000173	.000017	.000456	.001491	.003121
.300000	.000084	.000981	.000180	.000020	.000501	.001623	.003386
.325000	.000092	.000975	.000152	.000043	.000648	.001966	.003999
.350000	.000098	.001074	.000180	.000035	.000640	.001994	.004098
.375000	.000106	.001136	.000182	.000046	.000729	.002231	.004552
.400000	.000109	.001246	.000225	.000028	.000657	.002110	.004389
.425000	.000116	.001339	.000245	.000027	.000683	.002214	.004619
.450000	.000125	.001367	.000229	.000045	.000817	.002544	.005226
.475000	.000132	.001552	.000291	.000028	.000762	.002493	.005222
.500000	.000140	.001717	.000336	.000023	.000780	.002606	.005501
.525000	.000143	.001885	.000408	.000009	.000687	.002441	.005272
.550000	.000152	.002052	.000458	.000006	.000697	.002530	.005506
.575000	.000162	.002052	.000418	.000019	.000855	.002927	.006233
.600000	.000169	.002208	.000470	.000013	.000838	.002945	.006334
.625000	.000177	.002380	.000522	.000010	.000844	.003125	.006551
.650000	.000181	.002438	.000534	.000010	.000865	.003199	.006713

.675000	.000190	.002532	.000553	.000010	.000880	.003162	.006855
.700000	.000223	.002858	.000611	.000016	.001072	.003780	.008139
.725000	.000154	.002136	.000501	.000002	.000638	.002409	.005316
.750000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
.775000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
.800000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
.825000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
.850000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
.875000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
.900000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
.925000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
.950000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
.975000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
TOTAL	.000078	.000956	.000189	.000015	.000436	.001452	.003061

ATTAINABLE THRUST FACTORS, KT

SPANWISE DISTRIBUTION

SPAN STATION	CAMBERED WING, KT AT ALPHA (IN DEGREES) OF ***					
Y/B/2	-4.0	-2.0	0.0	2.0	4.0	6.0
0.000000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
.025000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
.050000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
.075000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
.100000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
.125000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
.150000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
.175000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
.200000	1.0000	1.0000	1.0000	1.0000	1.0000	.9859
.225000	1.0000	1.0000	1.0000	1.0000	1.0000	.9158
.250000	1.0000	1.0000	1.0000	1.0000	1.0000	.7379
.275000	1.0000	1.0000	1.0000	1.0000	1.0000	.7402
.300000	1.0000	1.0000	1.0000	1.0000	1.0000	.6861
.325000	1.0000	1.0000	1.0000	1.0000	.9237	.6034
.350000	1.0000	1.0000	1.0000	1.0000	.8887	.5769
.375000	1.0000	1.0000	1.0000	1.0000	.8047	.5246
.400000	1.0000	1.0000	1.0000	1.0000	.8040	.5182
.425000	1.0000	1.0000	1.0000	1.0000	.7533	.4845
.450000	.9675	1.0000	1.0000	1.0000	.6665	.4327
.475000	.8013	1.0000	1.0000	1.0000	.6030	.3869
.500000	.7259	1.0000	1.0000	1.0000	.5653	.3610
.525000	.6589	1.0000	1.0000	1.0000	.5642	.3555
.550000	.5991	1.0000	1.0000	1.0000	.5284	.3314
.575000	.5712	1.0000	1.0000	.9656	.4617	.2933
.600000	.5191	1.0000	1.0000	.9280	.4367	.2758
.625000	.4689	1.0000	1.0000	.8735	.4061	.2554
.650000	.4342	1.0000	1.0000	.8087	.3760	.2365
.675000	.3988	.9894	1.0000	.7464	.3465	.2178
.700000	.3435	.8590	1.0000	.6131	.2879	.1817
.725000	.2596	.6193	1.0000	.5359	.2415	.1502
.750000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
.775000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
.800000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
.825000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
.850000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
.875000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
.900000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
.925000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
.950000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
.975000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1.000000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

ATTAINABLE THRUST FACTORS FOR FLAT WING

SPANWISE DISTRIBUTION

SPAN STATION	KT AT ALPHA (IN DEGREES) OF ***					
Y/B/2	-4	-2	0	2	4	6
0.000000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
.025000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
.050000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
.075000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
.100000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
.125000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
.150000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
.175000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
.200000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
.225000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
.250000	1.0000	1.0000	1.0000	1.0000	1.0000	.8397
.275000	1.0000	1.0000	1.0000	1.0000	1.0000	.7935
.300000	1.0000	1.0000	1.0000	1.0000	1.0000	.7356
.325000	1.0000	1.0000	1.0000	1.0000	1.0000	.6771
.350000	1.0000	1.0000	1.0000	1.0000	1.0000	.6328
.375000	.9495	1.0000	1.0000	1.0000	.9495	.5837
.400000	.9015	1.0000	1.0000	1.0000	.9015	.5542
.425000	.8372	1.0000	1.0000	1.0000	.8372	.5146
.450000	.7703	1.0000	1.0000	1.0000	.7703	.4735
.475000	.6676	1.0000	1.0000	1.0000	.6676	.4104
.500000	.6187	1.0000	1.0000	1.0000	.6187	.3803
.525000	.5859	1.0000	1.0000	1.0000	.5859	.3602
.550000	.5417	1.0000	1.0000	1.0000	.5417	.3330
.575000	.4970	1.0000	1.0000	1.0000	.4970	.3055
.600000	.4599	1.0000	1.0000	1.0000	.4599	.2827
.625000	.4224	.9705	1.0000	.9705	.4224	.2597
.650000	.3910	.8983	1.0000	.8983	.3910	.2404
.675000	.3543	.8141	1.0000	.8141	.3543	.2178
.700000	.2979	.6844	1.0000	.6844	.2979	.1831
.725000	.2378	.5463	1.0000	.5463	.2378	.1462
.750000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
.775000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
.800000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
.825000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
.850000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
.875000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
.900000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
.925000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
.950000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
.975000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1.000000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

FUSELAGE FORCE COEFFICIENTS BASED ON WING REF. GEOMETRY

IGNORING WING DOWNWASH		INCLUDING WING DOWNWASH	
AT ALPHA= 0.000	PER DEG.	AT ALPHA= 0.000	PER DEG.
.000000	-.000000	-.000198	-.000043
.000001	-.000000	-.000017	-.000001
.003958	.000795	.004090	.000824

TABLE OF CAMBER CP AT BASIC ALPHA

XPCT	0.00 90.00	5.00 100.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00
Y/B/2										
0.000	.00029 .03142	.00161 .07038	.00562	.02642	.06298	.10238	.11251	.08341	.05382	.03527
.025	.00037 .03443	.00227 .07468	.00671	.02814	.06519	.10355	.11136	.08238	.05311	.03501
.050	.00189 .04749	.00483 .09308	.01033	.03357	.07225	.10772	.10774	.07721	.05013	.03435
.075	.00616 .06787	.01010 .09111	.01699	.04634	.09434	.11815	.09471	.06753	.04108	.03533
.100	.03776 .04925	.03774 .07567	.04537	.07026	.09031	.10231	.08867	.06381	.03834	.02714
.125	.05681 .04148	.05433 .06716	.06012	.07897	.09267	.09524	.08699	.06393	.03812	.02308
.150	.07431 .03454	.06892 .05824	.07234	.08710	.09683	.09947	.08568	.06449	.03838	.01972
.175	.08916 .02884	.08196 .05074	.08317	.09524	.10172	.10051	.08675	.06462	.03795	.01721
.200	.09998 .02302	.09327 .04335	.09397	.10279	.10704	.10187	.08731	.06439	.03691	.01612
.225	.11267 .01776	.10485 .03674	.10394	.11075	.11169	.10391	.08821	.06435	.03643	.01565
.250	.12097 .01417	.11504 .03103	.11419	.11827	.11631	.10664	.08953	.06467	.03660	.01595
.275	.13223 .01479	.12711 .02836	.12504	.12485	.12186	.11000	.09172	.06572	.03818	.01838
.300	.14186 .01801	.13506 .02880	.13152	.13124	.12749	.11381	.09415	.06791	.04085	.02164
.325	.14792 .02229	.14367 .02998	.14037	.13797	.13211	.11737	.09651	.07065	.04355	.02462
.350	.15516 .02734	.15023 .03274	.14641	.14311	.13657	.12040	.09962	.07404	.04654	.02914
.375	.15929 .03189	.15516 .03506	.15096	.14793	.13979	.12392	.10368	.07774	.05087	.03411
.400	.16470 .03589	.16212 .03642	.15790	.15189	.14292	.12866	.10816	.08205	.05600	.03945

.425	.17041 .03811	.16405 .03503	.15884	.15399	.14716	.13365	.11268	.08738	.06212	.04509
.450	.17143 .03978	.16827 .03416	.16382	.16016	.15190	.13830	.11772	.09282	.06885	.05073
.475	.17386 .04190	.17203 .03411	.16895	.16500	.15664	.14308	.12235	.09896	.07646	.05694
.500	.17574 .04764	.17379 .03825	.17147	.16822	.16100	.14640	.12645	.10472	.08412	.06393
.525	.17786 .05549	.17915 .04639	.17716	.17299	.16403	.14545	.13155	.11202	.09167	.07213
.550	.18257 .06493	.17961 .05160	.17667	.17172	.16491	.15332	.13804	.11882	.09954	.08110
.575	.18061 .07513	.18043 .06359	.17925	.17530	.16913	.15741	.14226	.12465	.10681	.08989
.600	.17985 .08659	.18153 .07769	.18060	.17737	.17084	.15992	.14595	.13053	.11476	.09989
.625	.17979 .09921	.17898 .08459	.17818	.17430	.16972	.16117	.14982	.13731	.12370	.11109
.650	.17521 .11200	.17654 .09999	.17692	.17387	.16975	.16205	.15404	.14390	.13347	.12297
.675	.17207 .12468	.17209 .11576	.17198	.17116	.16885	.16480	.15920	.15220	.14387	.13433
.700	.17197 .13318	.17272 .11623	.17346	.17348	.17210	.16944	.16523	.15912	.15137	.14268
.725	.17959 .13613	.17979 .12467	.17988	.17825	.17511	.17076	.16574	.15958	.15252	.14470
.750	.16676 .13696	.16645 .12963	.16615	.16542	.16439	.16184	.15867	.15482	.14994	.14381
.775	.15541 .13325	.15584 .12838	.15614	.15642	.15601	.15470	.15201	.14813	.14347	.13811
.800	.14632 .12323	.14737 .11444	.14841	.14898	.14857	.14672	.14385	.14025	.13533	.12965
.825	.13807 .11879	.13861 .11352	.13914	.14007	.13990	.13856	.13605	.13236	.12832	.12381
.850	.13077 .11516	.13051 .11227	.13025	.12972	.12902	.12810	.12631	.12419	.12096	.11785
.875	.12023 .11082	.12072 .10603	.12122	.12164	.12157	.12082	.11978	.11813	.11637	.11377
.900	.11257 .10725	.11275 .10501	.11293	.11328	.11343	.11354	.11276	.11180	.11060	.10935

.925	.10913	.10882	.10863	.10826	.10788	.10760	.10733	.10640	.10533	.10394
	.10239	.10085								
.950	.10554	.10584	.10613	.10626	.10534	.10442	.10270	.10094	.09885	.09655
	.09287	.08523								
.975	.09778	.09709	.09639	.09500	.09329	.09096	.08863	.08576	.08271	.07941
	.07482	.07024								
1.000	.07240	.07108	.06975	.06711	.06446	.06172	.05843	.05514	.05209	.04962
	.04716	.04470								

TABLE OF FLAT PLATE CP AT 1 DEG ANGLE OF ATTACK

XPCT	0.00 90.00	5.00 130.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00
Y/B/2										
0.000	.00044 .01260	.00148 .01589	.00410	.01181	.01641	.01935	.02134	.01893	.01523	.01268
.025	.00050 .01287	.00193 .01612	.00455	.01193	.01659	.01962	.02129	.01884	.01513	.01259
.050	.00177 .01393	.00352 .01737	.00609	.01231	.01718	.02070	.02140	.01828	.01474	.01242
.075	.00515 .01512	.00627 .01610	.00822	.01330	.01963	.02324	.02133	.01794	.01317	.01190
.100	.02153 .01265	.01648 .01442	.01390	.01521	.01792	.02054	.01987	.01772	.01435	.01209
.125	.03137 .01237	.02239 .01381	.01735	.01508	.01761	.01973	.01946	.01808	.01532	.01293
.150	.03925 .01263	.02684 .01352	.01981	.01548	.01759	.01952	.01924	.01849	.01620	.01371
.175	.04141 .01310	.02974 .01345	.02145	.01623	.01776	.01931	.01927	.01875	.01699	.01440
.200	.04673 .01365	.03290 .01358	.02412	.01678	.01820	.01910	.01946	. 1894	.01754	.01509
.225	.05325 .01427	.03583 .01385	.02614	.01748	.01834	.01926	.01960	.01921	.01786	.01586
.250	.05229 .01495	.03836 .01410	.02793	.01817	.01854	.01963	.01977	.01942	.01817	.01663
.275	.05799 .01564	.04185 .01440	.03056	.01833	.01922	.01987	.02012	.01941	.01859	.01724
.300	.05697 .01641	.04319 .01479	.03139	.01936	.01985	.02022	.02028	.01948	.01919	.01781
.325	.06151 .01695	.04634 .01534	.03423	.02141	.02037	.02073	.02027	.01986	.01944	.01841
.350	.06752 .01738	.04962 .01613	.03667	.02308	.02120	.02085	.02055	.02033	.01978	.01906
.375	.06479 .01788	.05092 .01689	.03809	.02486	.02145	.02109	.02115	.02069	.02024	.01942
.400	.07044 .01852	.05527 .01775	.04209	.02686	.02148	.02183	.02161	.02111	.02067	.01963

.425	.06845 .01928	.05568 .01783	.04330	.02817	.02218	.02252	.02208	.02178	.02184	.01997
.450	.07353 .01991	.05931 .01852	.04546	.03111	.02304	.02338	.02291	.02206	.02102	.02051
.475	.07913 .02035	.06368 .01927	.04980	.03388	.02408	.02394	.02331	.02221	.02150	.02116
.500	.07533 .02071	.06348 .02037	.05179	.03598	.02597	.02424	.02344	.02266	.02229	.02149
.525	.08124 .02152	.06872 .02137	.05569	.03961	.02806	.02413	.02393	.02366	.02271	.02181
.550	.07871 .02258	.06818 .02280	.05769	.04055	.02976	.02470	.02508	.02414	.02310	.02266
.575	.08362 .02411	.07229 .02445	.06098	.04380	.03317	.02636	.02531	.02460	.02416	.02392
.600	.08978 .02593	.07769 .02581	.06559	.04769	.03647	.02812	.02547	.02588	.02578	.02571
.625	.08525 .02766	.07591 .02727	.06656	.04895	.03888	.03083	.02718	.02774	.02774	.02786
.650	.09018 .02935	.08085 .02860	.07137	.05407	.04409	.03607	.03175	.02965	.02990	.03000
.675	.09777 .03055	.08669 .02973	.07673	.06021	.04959	.04204	.03577	.03192	.03193	.03144
.700	.09618 .03128	.08871 .02972	.08135	.06705	.05589	.04801	.04142	.03512	.03264	.03199
.725	.10245 .03130	.09585 .03113	.08926	.07558	.06343	.05360	.04629	.03980	.03496	.03211
.750	.09491 .03271	.09066 .03182	.08642	.07724	.06653	.05758	.05013	.04381	.03799	.03463
.775	.09580 .03579	.09072 .03375	.08613	.07834	.07021	.06225	.05481	.04874	.04317	.03783
.800	.08754 .03752	.08581 .03373	.08408	.07904	.07309	.06623	.05962	.05327	.04769	.04244
.825	.08219 .04212	.08131 .03784	.08043	.07839	.07407	.06896	.06304	.05723	.05164	.04664
.850	.07822 .04760	.07750 .04424	.07677	.07532	.07294	.06941	.06505	.06037	.05544	.05096
.875	.07476 .05098	.07459 .04436	.07442	.07375	.07280	.07060	.06784	.06409	.06017	.05575
.900	.07046 .05558	.07061 .05127	.07077	.07108	.07085	.07050	.06858	.06632	.06313	.05976

.925	.06744	.06753	.06761	.06779	.06797	.06785	.06771	.06620	.06436	.06203
	.05944	.05685								
.950	.06192	.06272	.06352	.06475	.06516	.06556	.06518	.06478	.06334	.06123
	.05785	.05080								
.975	.05783	.05817	.05850	.05917	.05956	.05941	.05926	.05826	.05697	.05535
	.05204	.04873								
1.000	.04637	.04617	.04598	.04558	.04519	.04466	.04342	.04217	.04089	.03950
	.03811	.03672								

969-500 CHECK CASE 17 LOAD 2 Z LIFT ANALYSIS MACH NUMBER = 2.7000

HORIZONTAL TAIL CONTRIBUTION EXCLUDED
FORCE COEFFICIENTS

	CAMBER	FP AT 1 DEG	NAC ON WING	WING ON NAC
CD	.45856194E-02	.47817213E-03	.31703598E-03	.20211557E-03
CL	.91218165E-01	.27397233E-01	.54803295E-02	
CMXBAR	-.42493154E-02	-.32026329E-02	-.24191785E-02	

(CAMBER CL INCLUDES -.00459 DUE TO ASYMMETRIC FUSELAGE VOLUME)

INTERFERENCE DRAG COEFFICIENTS

FLAT WING PRESSURES ON CAMBERED SURFACE CD = .11473676E-02

CAMBERED WING PRESSURES ON FLAT SURFACE CD = .15918835E-02

NACELLE PRESSURES ON FLAT SURFACE CD = .95649834E-04

FLAT WING PRESSURES ON NACELLE CD = .47718215E-04

INCLUDE FUSELAGE TERMS
FORCE COEFFICIENTS

	CAMBER	FP AT 1 DEG	NAC ON WING	WING ON NAC
CD	.45696691E-02	.47742514E-03	.31703598E-03	.20211557E-03
CL	.91010254E-01	.27354434E-01	.54803295E-02	
CMXBAR	-.15969795E-03	-.23786252E-02	-.24191785E-02	

(CAMBER CL INCLUDES -.00459 DUE TO ASYMMETRIC FUSELAGE VOLUME)

INTERFERENCE DRAG COEFFICIENTS

FLAT WING PRESSURES ON CAMBERED SURFACE CD = .11436987E-02

CAMBERED WING PRESSURES ON FLAT SURFACE CD = .15884293E-02

NACELLE PRESSURES ON FLAT SURFACE CD = .95649834E-04

FLAT WING PRESSURES ON NACELLE CD = .47718215E-04

POLAR W/O NAC CD = .004570 + .099879(CL - .091010) + .638043(CL - .091010)**2

POLAR WITH NAC CD = .005089 + .105120(CL - .096491) + .638043(CL - .096491)**2

*** NO LEADING EDGE SUCTION ***

	CAMBERED WING				FLAT WING	
	W/O NACELLES		WITH NACELLES		W/O NAC	WITH NAC
CL	CD	CM	CD	CM	CD	CD
0.00	.003764	.00775	.003886	.00581	0.000000	-.000010
.01	.010666	.00688	.000770	.00494	.000064	.000137
.02	.010695	.00602	.000781	.00407	.001255	.000211
.03	.010851	.00515	.000923	.00320	.000574	.000512
.04	.011135	.00428	.001187	.00233	.001021	.000941
.05	.011547	.00341	.001581	.00146	.001595	.001498
.06	.012186	.00254	.002103	.00059	.002297	.002182
.07	.012753	.00167	.002752	-.00028	.003126	.002994
.08	.013547	.00080	.003529	-.00114	.004083	.003934
.09	.014469	-.00007	.004433	-.00201	.005168	.005001
.10	.015519	-.00094	.005466	-.00288	.006380	.006196
.11	.016696	-.00181	.006625	-.00375	.007720	.007518
.12	.018001	-.00268	.007913	-.00462	.009188	.008968
.13	.019434	-.00355	.009328	-.00549	.010783	.010546
.14	.010994	-.00442	.010870	-.00636	.012506	.012251
.15	.012682	-.00529	.012541	-.00723	.014356	.014084
.16	.014497	-.00616	.014338	-.00810	.016334	.016044
.17	.016440	-.00703	.016264	-.00897	.018439	.018132
.18	.018511	-.00790	.018317	-.00984	.020673	.020348
.19	.020709	-.00877	.020498	-.01071	.023033	.022691
.20	.023035	-.00964	.022806	-.01158	.025522	.025162

CMXBAR W/O NAC = -.000160 -(.091010 -CL)(-.086956) FOR CL = 0. , CMXBAR = .007754

CMXBAR WITH NAC = -.002579 -(.096491 -CL)(-.086956) FOR CL = 0. , CMXBAR = .005812

PROGRAM WING AREA= 10659.6317
REFERENCE AREA = 9898.0000

FORCE COEFFICIENTS INCLUDING LEADING EDGE SUCTION

CAMBERED WING
NACELLES OFF

ALPHA (DEGREES)	NO SUCTION CL	NO SUCTION CD	FULL L.E. SUCTION CL	FULL L.E. SUCTION CD	POLHAMUS ANALOGY CL	POLHAMUS ANALOGY CD	ATTAINABLE THRUST CL	ATTAINABLE THRUST CD
-4.0	-.0184	.001280	-.0185	.000331	-.0218	.001671	-.0203	.000875
-3.0	.0089	.000670	.0089	.000175	.0072	.000944	.0082	.000345
-2.0	.0363	.001015	.0363	.000327	.0356	.001171	.0362	.000838
-1.0	.0637	.002315	.0637	.002287	.0636	.002322	.0637	.002287
0.0	.0910	.004570	.0910	.004554	.0911	.004568	.0910	.004554
1.0	.1184	.007779	.1184	.007628	.1189	.007770	.1184	.007628
2.0	.1457	.011944	.1457	.011507	.1473	.011939	.1460	.011527
3.0	.1731	.017063	.1731	.016194	.1762	.017106	.1745	.016375
4.0	.2004	.023137	.2005	.021587	.2057	.023297	.2038	.022270
5.0	.2278	.030166	.2279	.027987	.2357	.030542	.2338	.029249
6.0	.2551	.038150	.2553	.035097	.2662	.038867	.2643	.037322

NACELLES ON

ALPHA (DEGREES)	NO SUCTION CL	NO SUCTION CD	FULL L.E. SUCTION CL	FULL L.E. SUCTION CD	POLHAMUS ANALOGY CL	POLHAMUS ANALOGY CD	ATTAINABLE THRUST CL	ATTAINABLE THRUST CD
-4.0	-.0129	.001226	-.0130	.000276	-.0164	.001617	-.0149	.000821
-3.0	.0144	.000759	.0144	.000264	.0126	.000933	.0137	.000434
-2.0	.0418	.001248	.0418	.001060	.0411	.001303	.0417	.001170
-1.0	.0691	.002691	.0691	.002663	.0690	.002698	.0691	.002663
0.0	.0965	.005089	.0965	.005073	.0965	.005088	.0965	.005073
1.0	.1238	.008442	.1238	.008290	.1244	.008432	.1238	.008290
2.0	.1512	.012750	.1512	.012313	.1528	.012745	.1515	.012333
3.0	.1786	.018012	.1786	.017143	.1817	.018055	.1800	.017325
4.0	.2059	.024230	.2060	.022779	.2112	.024390	.2093	.023363
5.0	.2333	.031402	.2334	.029223	.2411	.031778	.2393	.030485
6.0	.2606	.039529	.2608	.036476	.2717	.040246	.2698	.038702

FORCE COEFFICIENTS INCLUDING LEADING EDGE SUCTION

FLAT WING
NACELLES OFF

ALPHA (DEGREES)	NO SUCTION CL	NO SUCTION CD	FULL L.E. SUCTION CL	FULL L.E. SUCTION CD	POLHAMUS ANALOGY CL	POLHAMUS ANALOGY CD	ATTAINABLE THRUST CL	ATTAINABLE THRUST CD
-4.0	-.1194	.007639	-.1095	.006397	-.1139	.007953	-.1122	.007022
-3.0	-.0821	.004297	-.0821	.003597	-.0846	.004429	-.0832	.003815
-2.0	-.0547	.001910	-.0547	.001598	-.0558	.001949	-.0549	.001622
-1.0	-.0274	.000477	-.0274	.000400	-.0276	.000482	-.0274	.000400
0.0	0.0000	0.000000	0.0000	0.000000	0.0000	0.000000	0.0000	0.000000
1.0	.0274	.000477	.0274	.000400	.0276	.000482	.0274	.000400
2.0	.0547	.001910	.0547	.001598	.0558	.001949	.0549	.001622
3.0	.0821	.004297	.0821	.003597	.0846	.004429	.0832	.003815
4.0	.1194	.007639	.1095	.006397	.1139	.007953	.1122	.007022
5.0	.1368	.011936	.1369	.010000	.1438	.012548	.1420	.011341
6.0	.1641	.017187	.1644	.014408	.1742	.018243	.1724	.016785

NACELLES ON

ALPHA (DEGREES)	NO SUCTION CL	NO SUCTION CD	FULL L.E. SUCTION CL	FULL L.E. SUCTION CD	POLHAMUS ANALOGY CL	POLHAMUS ANALOGY CD	ATTAINABLE THRUST CL	ATTAINABLE THRUST CD
-4.0	-.1139	.007065	-.1040	.005824	-.1084	.007379	-.1067	.006448
-3.0	-.0766	.003867	-.0766	.003167	-.0791	.003999	-.0777	.003375
-2.0	-.0492	.001623	-.0492	.001312	-.0504	.001662	-.0494	.001335
-1.0	-.0219	.000334	-.0219	.000256	-.0222	.000339	-.0219	.000256
0.0	.0055	0.000000	.0055	0.000000	.0055	0.000000	.0055	0.000000
1.0	.0329	.000621	.0328	.000543	.0331	.000626	.0328	.000543
2.0	.0602	.002196	.0602	.001985	.0613	.002236	.0604	.001999
3.0	.0875	.004727	.0876	.004327	.0901	.004859	.0887	.004235
4.0	.1149	.008212	.1150	.006971	.1194	.008526	.1177	.007595
5.0	.1423	.012652	.1424	.010717	.1492	.013264	.1475	.012058
6.0	.1695	.018048	.1699	.015268	.1797	.019103	.1779	.017645

CONFIGURATION STREAMWISE LIFT DISTRIBUTION

		BASIC LIFT DISTRIBUTION				INCREMENT PER DEGREE ALPHA		
X	X/L	W-B-C	NAC	TAIL	SUM	W-B-C	TAIL	SUM
4.154	.01408	.00067	0.00000	0.00000	.00067	.00043	0.00000	.00048
8.308	.02816	.00163	0.00000	0.00000	.00163	.00115	0.00000	.00115
12.462	.04224	.00284	0.00000	0.00000	.00284	.00201	0.00000	.00201
16.615	.05632	.00428	0.00000	0.00000	.00428	.00303	0.00000	.00303
20.769	.07040	.00577	0.00000	0.00000	.00577	.00408	0.00000	.00408
24.923	.08449	.00730	0.00000	0.00000	.00730	.00516	0.00000	.00516
29.077	.09857	.00887	0.00000	0.00000	.00887	.00626	0.00000	.00626
33.231	.11265	.01041	0.00000	0.00000	.01041	.00733	0.00000	.00733
37.385	.12673	.01192	0.00000	0.00000	.01192	.00839	0.00000	.00839
41.539	.14081	.01341	0.00000	0.00000	.01341	.00942	0.00000	.00942
45.692	.15489	.01492	0.00000	0.00000	.01492	.01044	0.00000	.01044
49.846	.16897	.01643	0.00000	0.00000	.01643	.01147	0.00000	.01147
54.000	.18305	.01790	0.00000	0.00000	.01790	.01247	0.00000	.01247
58.154	.19713	.01918	0.00000	0.00000	.01918	.01342	0.00000	.01342
62.308	.21121	.02021	0.00000	0.00000	.02021	.01421	0.00000	.01421
66.462	.22529	.02105	0.00000	0.00000	.02105	.01489	0.00000	.01489
70.616	.23937	.02169	0.00000	0.00000	.02169	.01542	0.00000	.01542
74.769	.25346	.02219	0.00000	0.00000	.02219	.01577	0.00000	.01577
78.923	.26754	.02298	0.00000	0.00000	.02298	.01615	0.00000	.01615
83.077	.28162	.02470	0.00000	0.00000	.02470	.01674	0.00000	.01674
87.231	.29570	.02787	0.00000	0.00000	.02787	.01837	0.00000	.01837
91.385	.30978	.03230	0.00000	0.00000	.03230	.02087	0.00000	.02087
95.539	.32386	.03811	0.00000	0.00000	.03811	.02421	0.00000	.02421
99.692	.33794	.04455	0.00000	0.00000	.04455	.02874	0.00000	.02874
103.846	.35202	.05178	0.00000	0.00000	.05178	.03469	0.00000	.03469
108.000	.36610	.05940	0.00000	0.00000	.05940	.04154	0.00000	.04154
112.154	.38018	.06734	0.00000	0.00000	.06734	.04923	0.00000	.04923
116.308	.39426	.07638	0.00000	0.00000	.07638	.05880	0.00000	.05880
120.462	.40834	.08566	0.00000	0.00000	.08566	.06941	0.00000	.06941
124.616	.42243	.09508	0.00000	0.00000	.09508	.08083	0.00000	.08083
128.769	.43651	.10494	0.00000	0.00000	.10494	.09349	0.00000	.09349
132.923	.45059	.11672	0.00000	0.00000	.11672	.10792	0.00000	.10792
137.077	.46467	.13007	0.00000	0.00000	.13007	.12315	0.00000	.12315
141.231	.47875	.14518	0.00000	0.00000	.14518	.13911	0.00000	.13911
145.385	.49283	.16286	0.00000	0.00000	.16286	.15685	0.00000	.15685
149.539	.50691	.18270	0.00000	0.00000	.18270	.17567	0.00000	.17567
153.693	.52099	.20432	0.00000	0.00000	.20432	.19508	0.00000	.19508
157.846	.53507	.22761	0.00000	0.00000	.22761	.21536	0.00000	.21536
162.000	.54915	.25324	0.00000	0.00000	.25324	.23746	0.00000	.23746
166.154	.56323	.27991	0.00000	0.00000	.27991	.26002	0.00000	.26002
170.308	.57732	.30756	0.00000	0.00000	.30756	.28289	0.00000	.28289
174.462	.59140	.33696	0.00000	0.00000	.33696	.30711	0.00000	.30711
178.616	.60548	.36742	0.00000	0.00000	.36742	.33227	0.00000	.33227
182.770	.61956	.39835	0.00000	0.00000	.39835	.35760	0.00000	.35760
186.923	.63364	.42943	0.00000	0.00000	.42943	.38325	0.00000	.38325
191.077	.64772	.46148	0.00000	0.00000	.46148	.41076	0.00000	.41076
195.231	.66180	.49331	0.00000	0.00000	.49331	.43840	0.00000	.43840
199.385	.67588	.52452	0.00000	0.00000	.52452	.46602	0.00000	.46602
203.539	.68996	.55543	0.00000	0.00000	.55543	.49465	0.00000	.49465
207.693	.70404	.58583	0.00000	0.00000	.58583	.52432	0.00000	.52432
211.847	.71812	.61529	0.00000	0.00000	.61529	.55397	0.00000	.55397
216.000	.73220	.64380	0.00000	0.00000	.64380	.58362	0.00000	.58362
220.154	.74629	.67225	.00046	0.00000	.67271	.61538	0.00000	.61538
224.308	.76037	.70028	.00582	0.00000	.70610	.64765	0.00000	.64766
228.462	.77445	.72882	.01603	0.00000	.74485	.68141	0.00000	.68141

232.616	.78853	.75972	.02642	0.00000	.78614	.71928	0.00000	.71928
236.770	.80261	.79314	.03781	0.00000	.83095	.76138	0.00000	.76138
240.924	.81569	.82836	.04655	0.00000	.87491	.80606	0.00000	.80606
245.077	.83177	.86087	.05216	0.00000	.91303	.84900	0.00000	.84900
249.231	.84485	.88505	.05352	0.00000	.93857	.88377	0.00000	.88377
253.385	.85893	.90722	.05505	0.00000	.96227	.91713	0.00000	.91713
257.539	.87301	.92582	.05634	0.00000	.98216	.94803	0.00000	.94803
261.693	.88709	.93871	.05680	0.00000	.99550	.97412	0.00000	.97412
265.847	.90118	.94561	.05680	0.00000	1.00240	.99270	0.00000	.99270
270.000	.91526	.94796	.05680	0.00000	1.00475	1.00225	0.00000	1.00226
274.154	.92934	.94719	.05680	0.00000	1.00398	1.00293	0.00000	1.00293
278.308	.94342	.94613	.05680	0.00000	1.00293	1.00213	0.00000	1.00213
282.462	.95750	.94517	.05680	0.00000	1.00197	1.00141	0.00000	1.00141
286.616	.97158	.94438	.05680	0.00000	1.00118	1.00084	0.00000	1.00084
290.770	.98566	.94373	.05680	0.00000	1.00052	1.00037	0.00000	1.00037
294.924	.99974	.94321	.05680	0.00000	1.00001	1.00001	0.00000	1.00001
295.000	1.00000	.94320	.05680	0.00000	1.00000	1.00000	0.00000	1.00000

969-500 CHECK CASE 17 LOAD 2 Z LIFT ANALYSIS MACH NUMBER = 2.7000

HORIZONTAL TAIL ALPHA= 2.000

HORIZONTAL TAIL COEFFICIENTS BASED ON WING GEOMETRY

	AT GIVEN ALPHA	PER DEGREE
CL	.000616	.000712
CD	.000017	.000012
CM	-.000486	-.000589

FORCE COEFFICIENTS

	CAMBER	FP AT 1 DEG	NAC ON WING	WING ON NAC
CD	.45863293E-02	.48985789E-03	.31703598E-03	.20211557E-03
CL	.91625893E-01	.28066777E-01	.54833295E-02	
CMXBAR	-.64603491E-03	-.29678965E-02	-.24191785E-02	

(CAMBER CL INCLUDES -.00459 DUE TO ASYMMETRIC FUSELAGE VOLUME)

INTERFERENCE DRAG COEFFICIENTS

FLAT WING PRESSURES ON CAMBERED SURFACE

CD = .11754687E-02

CAMBERED WING PRESSURES ON FLAT SURFACE

CD = .15991741E-02

NACELLE PRESSURES ON FLAT SURFACE

CD = .95649834E-04

FLAT WING PRESSURES ON NACELLE

CD = .47718215E-04

POLAR W/O NAC CD = .004586 + .098859(CL - .091626) + .621845(CL - .091626)**2

POLAR WITH NAC CD = .005105 + .103967(CL - .097106) + .621849(CL - .097106)**2

*** NO LEADING EDGE SUCTION ***

	CAMBERED WING				FLAT WING	
	W/O NACELLES		WITH NACELLES		W/O NAC	WITH NAC
CL	CD	CM	CD	CM	CD	CD
0.00	.003749	.00904	.001873	.00720	0.000000	-.000039
.01	.003563	.00799	.001768	.00615	.000062	.000036
.02	.003596	.00693	.000786	.00509	.000249	.000205
.03	.003856	.00587	.000929	.00403	.000560	.000499
.04	.004143	.00481	.001196	.00297	.001995	.000917
.05	.004549	.00376	.001588	.00192	.001555	.001460
.06	.005082	.00270	.002104	.00086	.002239	.002127
.07	.005739	.00164	.002744	-.00020	.003047	.002918
.08	.006521	.00058	.003509	-.00126	.003980	.003834
.09	.007427	-.00047	.004398	-.00231	.005037	.004874
.10	.008458	-.00153	.005412	-.00337	.006218	.006038
.11	.009613	-.00259	.006549	-.00443	.007524	.007327
.12	.010892	-.00365	.007812	-.00549	.008955	.008740
.13	.012296	-.00473	.009198	-.00654	.010509	.010278
.14	.013824	-.00576	.010709	-.00760	.012188	.011940
.15	.015476	-.00682	.012344	-.00866	.013992	.013726
.16	.017253	-.00788	.014104	-.00972	.015919	.015637
.17	.019154	-.00893	.015988	-.01077	.017971	.017672
.18	.021180	-.00999	.017997	-.01183	.020148	.019831
.19	.023329	-.01105	.020129	-.01289	.022449	.022115
.20	.025604	-.01211	.022387	-.01395	.024874	.024523

CMXBAR W/O NAC = -.003646 -(.091626 -CL)(-.105744) FOR CL = 0. , CMXBAR = .009043

CMXBAR WITH NAC = -.003065 -(.097106 -CL)(-.105744) FOR CL = 0. , CMXBAR = .007203

PROGRAM WING AREA= 10659.6317
REFERENCE AREA = 9898.0000

FORCE COEFFICIENTS INCLUDING LEADING EDGE SUCTION

CAMBERED WING
NACELLES OFF

ALPHA (DEGREES)	NO SUCTION CL	NO SUCTION CD	FULL L.E. SUCTION CL	FULL L.E. SUCTION CD	POLHAMUS ANALOGY CL	POLHAMUS ANALOGY CD	ATTAINABLE THRUST CL	ATTAINABLE THRUST CD
-4.0	-.0206	.001325	-.0207	.000376	-.0241	.001717	-.0226	.000920
-3.0	.0074	.000671	.0074	.000176	.0056	.000845	.0067	.000346
-2.0	.0355	.000996	.0355	.000309	.0348	.001052	.0354	.000819
-1.0	.0636	.002302	.0636	.002274	.0635	.002309	.0636	.002274
0.0	.0916	.004586	.0916	.004571	.0917	.004585	.0916	.004571
1.0	.1197	.007851	.1197	.007599	.1202	.007841	.1197	.007699
2.0	.1478	.012095	.1478	.011659	.1493	.012091	.1481	.011679
3.0	.1758	.017319	.1758	.016450	.1790	.017362	.1773	.016631
4.0	.2039	.023523	.2039	.022172	.2091	.023683	.2073	.022656
5.0	.2320	.030706	.2321	.028527	.2398	.031082	.2380	.029789
6.0	.2600	.038869	.2602	.035316	.2711	.039586	.2692	.038042

NACELLES ON

ALPHA (DEGREES)	NO SUCTION CL	NO SUCTION CD	FULL L.E. SUCTION CL	FULL L.E. SUCTION CD	POLHAMUS ANALOGY CL	POLHAMUS ANALOGY CD	ATTAINABLE THRUST CL	ATTAINABLE THRUST CD
-4.0	-.0152	.001271	-.0153	.000322	-.0186	.001662	-.0171	.000866
-3.0	.0129	.000760	.0129	.000265	.0111	.000934	.0122	.000435
-2.0	.0410	.001229	.0410	.001141	.0403	.001284	.0409	.001052
-1.0	.0690	.002677	.0690	.002550	.0689	.002684	.0690	.002650
0.0	.0971	.005105	.0971	.005090	.0972	.005104	.0971	.005090
1.0	.1252	.008513	.1252	.008362	.1257	.008504	.1252	.008362
2.0	.1532	.012901	.1532	.012465	.1548	.012897	.1535	.012484
3.0	.1813	.018268	.1813	.017399	.1845	.018311	.1827	.017581
4.0	.2094	.024615	.2094	.023165	.2146	.024776	.2128	.023749
5.0	.2374	.031942	.2375	.029763	.2453	.032318	.2435	.031025
6.0	.2655	.040248	.2657	.037195	.2765	.040965	.2747	.039421

FORCE COEFFICIENTS INCLUDING LEADING EDGE SUCTION

FLAT WING
NACELLES OFF

ALPHA (DEGREES)	NO SUCTION CL	NO SUCTION CD	FULL L.E. SUCTION CL	FULL L.E. SUCTION CD	POLHAMUS ANALOGY CL	POLHAMUS ANALOGY CD	ATTAINABLE THRUST CL	ATTAINABLE THRUST CD
-4.0	-.1123	.007838	-.1124	.006596	-.1168	.008152	-.1151	.007221
-3.0	-.0842	.004409	-.0842	.003709	-.0867	.004541	-.0853	.003917
-2.0	-.0561	.001959	-.0561	.001648	-.0573	.001999	-.0563	.001672
-1.0	-.0281	.000490	-.0281	.000412	-.0283	.000495	-.0281	.000412
0.0	0.0000	0.000000	0.0000	0.000000	0.0000	0.000000	0.0000	0.000000
1.0	.0281	.000490	.0281	.000412	.0283	.000495	.0281	.000412
2.0	.0561	.001959	.0561	.001648	.0573	.001999	.0563	.001672
3.0	.0842	.004409	.0842	.003709	.0867	.004541	.0853	.003917
4.0	.1123	.007838	.1124	.006596	.1168	.008152	.1151	.007221
5.0	.1403	.012246	.1405	.010311	.1473	.012858	.1456	.011652
6.0	.1684	.017635	.1687	.014856	.1784	.018691	.1767	.017233

NACELLES ON

ALPHA (DEGREES)	NO SUCTION CL	NO SUCTION CD	FULL L.E. SUCTION CL	FULL L.E. SUCTION CD	POLHAMUS ANALOGY CL	POLHAMUS ANALOGY CD	ATTAINABLE THRUST CL	ATTAINABLE THRUST CD
-4.0	-.1168	.007264	-.1169	.006123	-.1113	.007578	-.1096	.006647
-3.0	-.0787	.003979	-.0788	.003279	-.0812	.004111	-.0799	.003487
-2.0	-.0507	.001673	-.0507	.001361	-.0518	.001712	-.0508	.001385
-1.0	-.0226	.000346	-.0226	.000269	-.0229	.000351	-.0226	.000269
0.0	.0055	0.000000	.0055	0.000000	.0055	0.000000	.0055	0.000000
1.0	.0335	.000633	.0335	.000555	.0338	.000638	.0335	.000555
2.0	.0615	.002246	.0616	.001935	.0627	.002285	.0618	.001959
3.0	.0897	.004839	.0897	.004139	.0922	.004971	.0908	.004347
4.0	.1177	.008411	.1178	.007170	.1222	.008725	.1205	.007794
5.0	.1458	.012963	.1460	.011028	.1528	.013575	.1510	.012369
6.0	.1739	.018495	.1742	.015716	.1839	.019551	.1822	.018093

CONFIGURATION STREAMWISE LIFT DISTRIBUTION

		BASIC LIFT DISTRIBUTION				INCREMENT PER DEGREE ALPHA		
X	X/L	W-B-C	NAC	TAIL	SUM	W-B-C	TAIL	SUM
4.154	.01408	.00067	0.00000	0.00000	.00067	.00046	0.00000	.00046
8.308	.02816	.00162	0.00000	0.00000	.00162	.00112	0.00000	.00112
12.462	.04224	.00282	0.00000	0.00000	.00282	.00196	0.00000	.00196
16.615	.05632	.00425	0.00000	0.00000	.00425	.00295	0.00000	.00295
20.769	.07040	.00574	0.00000	0.00000	.00574	.00398	0.00000	.00398
24.923	.08449	.00725	0.00000	0.00000	.00725	.00503	0.00000	.00503
29.077	.09857	.00881	0.00000	0.00000	.00881	.00610	0.00000	.00610
33.231	.11265	.01034	0.00000	0.00000	.01034	.00715	0.00000	.00715
37.385	.12673	.01184	0.00000	0.00000	.01184	.00817	0.00000	.00817
41.539	.14081	.01332	0.00000	0.00000	.01332	.00918	0.00000	.00918
45.692	.15489	.01482	0.00000	0.00000	.01482	.01018	0.00000	.01018
49.846	.16897	.01633	0.00000	0.00000	.01633	.01118	0.00000	.01118
54.000	.18305	.01779	0.00000	0.00000	.01779	.01216	0.00000	.01216
58.154	.19713	.01906	0.00000	0.00000	.01906	.01307	0.00000	.01307
62.308	.21121	.02008	0.00000	0.00000	.02008	.01385	0.00000	.01385
66.462	.22529	.02091	0.00000	0.00000	.02091	.01451	0.00000	.01451
70.616	.23937	.02156	0.00000	0.00000	.02156	.01503	0.00000	.01503
74.769	.25346	.02205	0.00000	0.00000	.02205	.01537	0.00000	.01537
78.923	.26754	.02283	0.00000	0.00000	.02283	.01574	0.00000	.01574
83.077	.28162	.02455	0.00000	0.00000	.02455	.01631	0.00000	.01631
87.231	.29570	.02770	0.00000	0.00000	.02770	.01790	0.00000	.01790
91.385	.30978	.03210	0.00000	0.00000	.03210	.02034	0.00000	.02034
95.539	.32386	.03787	0.00000	0.00000	.03787	.02359	0.00000	.02359
99.692	.33794	.04427	0.00000	0.00000	.04427	.02801	0.00000	.02801
103.846	.35202	.05146	0.00000	0.00000	.05146	.03381	0.00000	.03381
108.000	.36610	.05902	0.00000	0.00000	.05902	.04049	0.00000	.04049
112.154	.38018	.06692	0.00000	0.00000	.06692	.04798	0.00000	.04798
116.308	.39426	.07589	0.00000	0.00000	.07589	.05731	0.00000	.05731
120.462	.40834	.08512	0.00000	0.00000	.08512	.06765	0.00000	.06765
124.616	.42243	.09448	0.00000	0.00000	.09448	.07878	0.00000	.07878
128.769	.43651	.10428	0.00000	0.00000	.10428	.09111	0.00000	.09111
132.923	.45059	.11598	0.00000	0.00000	.11598	.10518	0.00000	.10518
137.077	.46467	.12925	0.00000	0.00000	.12925	.12002	0.00000	.12002
141.231	.47875	.14426	0.00000	0.00000	.14426	.13558	0.00000	.13558
145.385	.49283	.16183	0.00000	0.00000	.16183	.15286	0.00000	.15286
149.539	.50691	.18154	0.00000	0.00000	.18154	.17121	0.00000	.17121
153.693	.52099	.20303	0.00000	0.00000	.20303	.19013	0.00000	.19013
157.846	.53507	.22616	0.00000	0.00000	.22616	.20989	0.00000	.20989
162.000	.54915	.25163	0.00000	0.00000	.25163	.23144	0.00000	.23144
166.154	.56323	.27813	0.00000	0.00000	.27813	.25342	0.00000	.25342
170.308	.57732	.30561	0.00000	0.00000	.30561	.27571	0.00000	.27571
174.462	.59140	.33483	0.00000	0.00000	.33483	.29931	0.00000	.29931
178.616	.60548	.36509	0.00000	0.00000	.36509	.32383	0.00000	.32383
182.770	.61956	.39582	0.00000	0.00000	.39582	.34853	0.00000	.34853
186.923	.63364	.42671	0.00000	0.00000	.42671	.37352	0.00000	.37352
191.077	.64772	.45855	0.00000	0.00000	.45855	.40034	0.00000	.40034
195.231	.66180	.49018	0.00000	0.00000	.49018	.42727	0.00000	.42727
199.385	.67588	.52120	0.00000	0.00000	.52120	.45419	0.00000	.45419
203.539	.68996	.55191	0.00000	0.00000	.55191	.48209	0.00000	.48209
207.693	.70404	.58212	0.00000	0.00000	.58212	.51101	0.00000	.51101
211.847	.71812	.61139	0.00000	0.00000	.61139	.53991	0.00000	.53991
216.000	.73220	.63972	0.00000	0.00000	.63972	.56881	0.00000	.56881
220.154	.74629	.66799	.00046	0.00000	.66845	.59976	0.00000	.59976
224.308	.76037	.69584	.00578	0.00000	.70162	.63122	0.00000	.63122
228.462	.77445	.72420	.01593	0.00000	.74013	.66411	0.00000	.66411

232.616	.78853	.75490	.02625	0.00000	.78116	.70103	0.00000	.70103
236.770	.80261	.78811	.03757	0.00000	.82568	.74205	0.00000	.74206
240.924	.81669	.82310	.04626	0.00000	.86936	.78561	0.00000	.78561
245.077	.83077	.85541	.05183	0.00000	.90724	.82745	0.00000	.82745
249.231	.84485	.87944	.05318	0.00000	.93262	.86134	0.00000	.86134
253.385	.85893	.90147	.05470	0.00000	.95617	.89386	0.00000	.89386
257.539	.87301	.91995	.05598	0.00000	.97593	.92397	0.00000	.92397
261.693	.88709	.93275	.05644	-.00052	.98857	.94940	-.00006	.94933
265.847	.90118	.93961	.05644	-.00080	.99525	.96750	.00141	.96891
270.001	.91526	.94195	.05644	.00165	1.00004	.97682	.00569	.98251
274.154	.92934	.94118	.05644	.00494	1.00256	.97748	.01131	.98879
278.308	.94342	.94014	.05644	.00748	1.00406	.97670	.01739	.99408
282.462	.95750	.93918	.05644	.00790	1.00352	.97599	.02239	.99838
286.616	.97158	.93839	.05644	.00634	1.00117	.97544	.02538	1.00082
290.770	.98566	.93774	.05644	.00634	1.00052	.97498	.02538	1.00036
294.924	.99974	.93723	.05644	.00634	1.00001	.97463	.02538	1.00001
295.000	1.00000	.93722	.05644	.00634	1.00000	.97462	.02538	1.00000

TABLE OF COMBINED CAMBER AND FLAT PLATE CP FOR CL = .1000 ALPHA = .1031

XPCT / Y/B/2	0.00	5.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00
0.000	.000336	.001766	.006047	.027639	.064674	.104377	.114715	.085360	.055385	.036578	.032718	.072016
.025	.000419	.002474	.007178	.029372	.066901	.105569	.113552	.084324	.054669	.036310	.035755	.076341
.050	.002076	.005159	.011957	.034839	.074019	.109853	.109943	.079096	.051654	.035634	.048927	.094870
.075	.006588	.013743	.017839	.047711	.096369	.120547	.096875	.069378	.042440	.036553	.069422	.092774
.100	.039983	.039444	.046801	.071828	.092162	.104432	.090719	.065638	.039824	.028383	.050556	.077158
.125	.060048	.056635	.061907	.080529	.094487	.101277	.088991	.065798	.039703	.024418	.042756	.068585
.150	.078352	.071685	.074380	.088691	.098647	.101483	.088665	.066397	.040049	.021135	.035837	.059630
.175	.093433	.085023	.085381	.096913	.103554	.102505	.088736	.066550	.039702	.018693	.030193	.052123
.200	.104795	.096659	.096460	.104519	.108918	.103843	.089319	.066338	.038718	.017674	.024431	.044747
.225	.118160	.107741	.106636	.112553	.113585	.105898	.090227	.066327	.038267	.017286	.019232	.038171
.250	.126358	.118995	.117069	.120140	.118218	.108664	.091564	.066668	.038478	.017664	.015709	.032480
.275	.138207	.131325	.128186	.126741	.123838	.112052	.093798	.067724	.040094	.020155	.016405	.029846
.300	.147736	.139509	.134759	.133235	.129534	.115897	.096237	.069920	.042816	.023481	.019698	.029523
.325	.154261	.148444	.143599	.140173	.134212	.119508	.098601	.072702	.045556	.026515	.024038	.031557
.350	.162025	.155347	.150186	.145493	.138751	.122552	.101736	.076138	.048575	.031105	.029128	.034391
.375	.165974	.161436	.154883	.150496	.142000	.126097	.105862	.079876	.052962	.036107	.033738	.036801
.400	.171967	.167820	.162243	.154655	.145132	.130910	.110287	.084222	.058130	.041478	.037802	.038254
.425	.177467	.169793	.163305	.156893	.149444	.135971	.114953	.089627	.064171	.047144	.043102	.036871

.450	.178960	.174387	.168487	.163372	.154279	.140677	.120079	.095098	.071020	.052842	.041829	.035971
.475	.182007	.178595	.174083	.168489	.159127	.145551	.124754	.101249	.078680	.059118	.043998	.036096
.500	.183506	.180335	.176814	.171928	.163682	.148903	.128868	.107053	.086322	.066147	.049778	.040348
.525	.186239	.186139	.182805	.177072	.166921	.151940	.134013	.114458	.094016	.074377	.057708	.048597
.550	.190687	.186639	.182615	.175901	.167975	.155864	.140629	.121309	.101926	.083434	.067259	.053953
.575	.189229	.187883	.185535	.179820	.172553	.160127	.144866	.127187	.109301	.092356	.077617	.066109
.600	.189106	.189535	.187363	.182291	.174603	.162820	.148572	.133195	.117418	.102544	.089262	.080355
.625	.188581	.186809	.185038	.179351	.173724	.164352	.152620	.140174	.126557	.113959	.102063	.087402
.650	.184513	.184873	.184278	.179446	.174292	.166772	.157213	.146949	.136551	.126061	.115028	.102937
.675	.182148	.181026	.179884	.177371	.173962	.169134	.162893	.155496	.147158	.137572	.127836	.118825
.700	.181877	.181864	.181851	.180390	.177861	.174387	.169498	.162744	.154733	.145980	.136400	.119299
.725	.190257	.189668	.189079	.186038	.181648	.176291	.170508	.163584	.156129	.148009	.139357	.127880
.750	.176542	.175803	.175063	.173381	.171245	.167773	.163842	.159342	.153860	.147376	.140336	.132912
.775	.165292	.165191	.165024	.164499	.163253	.161114	.157662	.153153	.147913	.142010	.136936	.131861
.800	.155348	.156215	.157082	.157133	.156108	.153545	.149999	.145740	.140251	.134025	.127095	.117913
.825	.146547	.146989	.147432	.148155	.147533	.145674	.142552	.138256	.133647	.128617	.123137	.117419
.850	.138840	.138512	.138164	.137489	.136539	.135253	.133016	.130415	.126674	.123104	.119968	.116832
.875	.127939	.128414	.128890	.129239	.129075	.128102	.126772	.124736	.122570	.119520	.116079	.110604
.900	.119837	.120031	.120225	.120612	.120739	.120804	.119829	.118634	.117104	.115510	.112983	.110293
.925	.115954	.115777	.115600	.115246	.114893	.114600	.114309	.113229	.111961	.110336	.108523	.106710

.950	.111921	.112303	.112684	.112941	.112062	.111182	.109415	.107617	.105379	.102859	.098833	.090470
.975	.103743	.103082	.102422	.101102	.099435	.097090	.094744	.091769	.088585	.085113	.081190	.075267
1.000	.077180	.075837	.074493	.071806	.069119	.066322	.062907	.059493	.056301	.053695	.051090	.048484

WING SPANWISE LIFT DISTRIBUTION

CAMBERED WING		FLAT WING	NACELLE INC
Y/B/2	LIFT FRACTION AT Y/B/2	LIFT FRACTION AT Y/B/2	LIFT FRACTION AT Y/B/2
0.000000	.017438	.014256	0.000000
.025000	.035283	.028764	.001472
.050000	.037227	.029711	.009887
.075000	.040121	.031329	.016866
.100000	.037999	.031524	.022456
.125000	.037056	.031720	.027762
.150000	.036449	.031885	.032440
.175000	.035986	.031752	.035468
.200000	.035388	.031661	.037619
.225000	.034595	.031470	.038117
.250000	.033987	.031108	.038047
.275000	.033951	.030973	.045138
.300000	.033885	.030512	.041977
.325000	.033742	.030203	.048749
.350000	.033444	.029855	.056489
.375000	.032845	.029226	.058397
.400000	.032258	.028821	.060079
.425000	.031212	.028039	.055595
.450000	.030318	.027408	.049948
.475000	.029346	.026836	.039812
.500000	.028477	.026067	.037911
.525000	.027871	.025606	.035783
.550000	.026881	.024805	.035195
.575000	.025934	.024196	.033327
.600000	.024834	.023794	.031066
.625000	.023346	.023019	.027529
.650000	.021859	.022619	.024219
.675000	.020182	.022137	.020298
.700000	.018515	.021403	.016601
.725000	.016832	.020896	.011840
.750000	.015068	.020632	.008208
.775000	.013393	.020447	.001791
.800000	.011733	.020192	0.000000
.825000	.010394	.019594	0.000000
.850000	.009110	.018710	0.000000
.875000	.008047	.017961	0.000000
.900000	.007096	.016807	0.000000
.925000	.006383	.015347	0.000000
.950000	.005724	.013694	0.000000
.975000	.004593	.011252	0.000000
1.000000	.001388	.003767	0.000000

END OF DATA ***STOP

----TOTAL ELAPSED TIME, CP= 55.211 ----

-500A SKIN FRICTION DRAG

NUMBER OF MACH-ALTITUDE COMBINATIONS = 2 NUMBER OF MACH-REYNOLDS COMBINATIONS = 0

NWAF= 8 NWAFOR= 13 NFUSOR= 19 NPOD= 2 NPODOR= 7 NFIN= 2 NFINOR= 4 NCANOR= 3

J1= 1 J2= 1 J3= 1 J4= -1 J5= 1

NCAN= 1 NO. OF EXTRA PARTS= 0 TOTAL NACELLE OVERLAP AREA= 0.00000 REFERENCE AREA= 9898.0000

	MACH NO.	ALTITUDE/1000	TEMPERATURE DEVIATION	SCALE FACTOR
1	2.70	60.000	0.00000	1.00000
2	1.10	35.000	0.00000	1.00000

	XFUS	PFUS
1	0.00000	0.00000
2	16.67000	17.18460
3	33.33000	26.88060
4	50.00000	33.44260
5	66.67000	38.34400
6	83.33000	39.79150
7	100.00000	38.80010
8	116.67000	36.83980
9	133.33000	36.32450
10	150.00000	36.66880
11	166.66000	36.66880
12	183.33000	36.49710
13	200.00000	35.80180
14	216.67000	34.36920
15	233.33000	31.50780
16	250.00000	27.22900
17	266.67000	20.36390
18	283.33000	10.02650
19	295.00000	0.00000

WING PLANFORM

	X	Y	Z	CHORD LENGTH
1	77.32800	4.96800	0.00000	166.07000
2	83.10400	6.62500	0.00000	160.13300
3	93.16500	9.51000	0.00000	149.79000
4	116.96000	16.33300	0.00000	125.35000
5	168.98000	31.25000	0.00000	77.29500
6	225.81000	47.54400	0.00000	32.68100
7	225.81000	47.54500	0.00000	32.68100
8	258.21000	66.25300	0.00000	14.44500

WING AIRFOIL AT SIDE OF FUSELAGE

	X/C	Z/C
1	0.00	0.0000
2	2.50	.5700
3	5.00	.7140
4	10.00	.8720
5	20.00	1.0500
6	30.00	1.1450
7	40.00	1.2000
8	50.00	1.2300

9	60.00	1.2490
10	70.00	1.1700
11	80.00	.9370
12	90.00	.5460
13	100.00	0.0000

THE NO. OF WING PARTITIONS IS 53

NACELLE GEOMETRY 1

	X	RADIUS	PERIMETER
1	0.0000	2.8650	18.0013
2	2.0080	2.9830	18.7427
3	15.4700	3.6330	22.8268
4	21.5250	3.7700	23.6876
5	28.0170	3.6540	22.9588
6	32.0670	3.4200	21.4885
7	35.0400	3.4200	21.4885

NACELLE GEOMETRY 2

	X	RADIUS	PERIMETER
1	0.0000	2.8650	18.0013
2	2.0080	2.9830	18.7427
3	15.4700	3.6330	22.8268
4	21.5250	3.7700	23.6876
5	28.0170	3.6540	22.9588
6	32.0670	3.4200	21.4885
7	35.0400	3.4200	21.4885

INPUT DATA FOR FIN 1

ROOT AIRFOIL

225.80000	47.55000	0.00000	38.75000

TIP AIRFOIL

262.50000	47.55000	10.00000	5.00000

INPUT DATA FOR FIN 2

ROOT AIRFOIL

270.00000	0.00000	-13.00000	24.20000

TIP AIRFOIL

282.50000	0.00000	-.90000	9.20000

INPUT DATA FOR CANARD 1

ROOT AIRFOIL

261.00000	2.00000	-14.00000	25.00000

TIP AIRFOIL

277.00000	11.00000	-14.00000	9.00000

Z/C COORDINATES FOR CANARD 1

	PERCENT CHORD	Z
1	0.00000	0.00000
2	32.50000	1.50000
3	67.50000	1.50000

NO EXTRA PARTS

DRAG COEFFICIENT CALCULATIONS

MACH NO.= 2.70000 ALTITUDE= 60000.00000

TEMPERATURE VARIATION= 0.00000 INPUT SCALE= 1.00000

	SWET	D/Q	CDF
FUSELAGE	7842.972763	8.046658	.000813
WING	18316.576094	21.935649	.002216
NACELLES	3151.292786	4.254190	.000430
FIN1	875.000000	1.296285	.000131
FIN2	404.140000	.630591	.000064
CANARD	612.000000	.951778	.000096
TOTAL	30801.981643	37.115151	.003750

DRAG COEFFICIENT CALCULATIONS

MACH NO.= 1.10000 ALTITUDE= 35000.00000

TEMPERATURE VARIATION= 0.00000 INPUT SCALE= 1.00000

	SWET	D/Q	CDF
FUSELAGE	7842.972763	11.199600	.001132
WING	18316.576094	30.186749	.003050
NACELLES	3151.292786	5.802858	.000586
FIN1	875.000000	1.760317	.000178
FIN2	404.140000	.853285	.000086
CANARD	612.000000	1.288193	.000130
TOTAL	30801.981643	51.091000	.005162

PROGRAM CONTROL CARD
FFWD
ENTER INPTS---TAPE INPUTS
EXIT INPTS
ENTER GEOMNO---GEOMETRY INTERFACE WITH PROGRAM T380
FAR-FIELD WAVE DRAG

FAR-FIELD WAVE DRAG

FUSELAGE 1 AREA DISTRIBUTION (D/Q = 5.64631)

N	X	Z	R	S	N	X	Z	R	S
0	0.0000	10.0000	0.0000	0.0000	50	147.5000	-2.8240	5.8284	106.7199
1	2.9500	9.7434	.7805	1.9136	51	150.4500	-3.0794	5.8370	107.0351
2	5.9000	9.4868	1.3012	5.3195	52	153.4000	-3.3380	5.8408	107.1755
3	8.8500	9.2302	1.7477	9.5962	53	156.3500	-3.5965	5.8420	107.2198
4	11.8000	8.9736	2.1478	14.4929	54	159.3000	-3.8550	5.8415	107.2007
5	14.7500	8.7170	2.5132	19.8427	55	162.2500	-4.1135	5.8398	107.1370
6	17.7000	8.4604	2.8490	25.4990	56	165.2000	-4.3721	5.8373	107.0461
7	20.6500	8.2036	3.1592	31.3552	57	168.1500	-4.6251	5.8350	106.9627
8	23.6000	7.9468	3.4490	37.3701	58	171.1000	-4.8729	5.8329	106.8844
9	26.5500	7.6901	3.7204	43.4837	59	174.0500	-5.1206	5.8298	106.7736
10	29.5000	7.4333	3.9745	49.6279	60	177.0000	-5.3684	5.8254	106.6106
11	32.4500	7.1766	4.2113	55.7162	61	179.9500	-5.6161	5.8190	106.3783
12	35.4000	6.9187	4.4277	61.5902	62	182.9000	-5.8639	5.8102	106.0565
13	38.3500	6.6603	4.6278	67.2818	63	185.8500	-6.1268	5.7980	105.6119
14	41.3000	6.4020	4.8161	72.8675	64	188.8000	-6.3922	5.7828	105.0556
15	44.2500	6.1436	4.9947	78.3745	65	191.7500	-6.6576	5.7646	104.3959
16	47.2000	5.8852	5.1656	83.8271	66	194.7000	-6.9231	5.7435	103.6333
17	50.1500	5.6268	5.3309	89.2804	67	197.6500	-7.1885	5.7194	102.7662
18	53.1000	5.3666	5.4941	94.8280	68	200.6000	-7.4522	5.6923	101.7943
19	56.0500	5.1065	5.6497	100.2781	69	203.5500	-7.7088	5.6620	100.7150
20	59.0000	4.8464	5.7949	105.4964	70	206.5000	-7.9654	5.6279	99.5060
21	61.9500	4.5862	5.9270	110.3623	71	209.4500	-8.2220	5.5894	98.1469
22	64.9000	4.3261	6.0431	114.7272	72	212.4000	-8.4786	5.5455	96.6135
23	67.8500	4.0680	6.1362	118.2910	73	215.3500	-8.7352	5.4952	94.8687
24	70.8000	3.8130	6.2048	120.9510	74	218.3000	-8.9870	5.4357	92.8242
25	73.7500	3.5580	6.2567	122.9836	75	221.2500	-9.2349	5.3669	90.4892
26	76.7000	3.3031	6.2947	124.4797	76	224.2000	-9.4828	5.2908	87.9427
27	79.6500	3.0481	6.3198	125.4758	77	227.1500	-9.7307	5.2082	85.2159
28	82.6000	2.7931	6.3322	125.9661	78	230.1000	-9.9786	5.1192	82.3284
29	85.5500	2.5369	6.3295	125.8599	79	233.0500	-10.2265	5.0240	79.2949
30	88.5000	2.2803	6.3144	125.2591	80	236.0000	-10.4822	4.9227	76.1302
31	91.4500	2.0237	6.2897	124.2821	81	238.9500	-10.7388	4.8148	72.8285
32	94.4000	1.7671	6.2569	122.9909	82	241.9000	-10.9954	4.6994	69.3811
33	97.3500	1.5105	6.2170	121.4265	83	244.8500	-11.2520	4.5757	65.7747
34	100.3000	1.2544	6.1701	119.6001	84	247.8000	-11.5086	4.4419	61.9839
35	103.2500	1.0032	6.1158	117.5049	85	250.7500	-11.7675	4.2943	57.9349
36	106.2000	.7519	6.0577	115.2818	86	253.7000	-12.0329	4.1296	53.5767
37	109.1500	.5006	5.9984	113.0362	87	256.6500	-12.2984	3.9510	49.0426
38	112.1000	.2493	5.9406	110.8700	88	259.6000	-12.5638	3.7592	44.3960
39	115.0500	-.0020	5.8879	108.9101	89	262.5500	-12.8293	3.5538	39.6764
40	118.0000	-.2566	5.8473	107.4130	90	265.5000	-13.0947	3.3334	34.9073
41	120.9500	-.5151	5.8206	106.4343	91	268.4500	-13.3498	3.0937	30.0687
42	123.9000	-.7736	5.8020	105.7567	92	271.4000	-13.5982	2.8340	25.2311
43	126.8500	-1.0321	5.7897	105.3073	93	274.3500	-13.8465	2.5554	20.5141
44	129.8000	-1.2906	5.7827	105.0528	94	277.3000	-14.0949	2.2576	16.0117
45	132.7500	-1.5492	5.7809	104.9872	95	280.2500	-14.3432	1.9403	11.8279
46	135.7000	-1.8047	5.7854	105.1525	96	283.2000	-14.5916	1.6071	8.1140
47	138.6500	-2.0596	5.7943	105.4742	97	286.1500	-14.8679	1.2762	5.1167
48	141.6000	-2.3144	5.8053	105.8767	98	289.1000	-15.1453	.9320	2.7287
49	144.5500	-2.5692	5.8171	106.3087	99	292.0500	-15.4226	.5497	.9493
50	147.5000	-2.8240	5.8284	106.7199	100	295.0000	-15.7000	0.0000	0.0000

EXIT START

FAR-FIELD WAVE DRAG

CASE NO. 1

MACH = 2.700 NX = 50 NTHETA = 36

S(X) COMPONENT BUILDUP AT THETA = -90.000

S(B),CAPTURE = .0000 S(P),CAPTURE = 103.1476

X	S(B)	S(BW)	S(BWP)	S(BWPF)	S(BWPFC)
25.0799	0.0000	0.0000	0.0000	0.0000	0.0000
30.4299	12.1826	12.1826	12.1826	12.1826	12.1826
35.7799	28.5733	28.5733	28.5733	28.5733	28.5733
41.1299	46.3976	46.3976	46.3976	46.3976	46.3976
46.4799	64.2596	64.2596	64.2596	64.2596	64.2596
51.8299	81.8788	81.8788	81.8788	81.8788	81.8788
57.1799	99.3691	99.3691	99.3691	99.3691	99.3691
62.5299	115.5583	115.5583	115.5583	115.5583	115.5583
67.8799	129.0135	129.0135	129.0135	129.0135	129.0135
73.2299	139.8853	139.8853	139.8853	139.8853	139.8853
78.5799	148.3366	148.6481	148.6481	148.6481	148.6481
83.9299	154.3777	159.6266	159.6266	159.6266	159.6266
89.2799	157.7145	170.8025	170.8025	170.8025	170.8025
94.6299	158.2070	180.7992	180.7992	180.7992	180.7992
99.9799	156.4359	189.7780	189.7780	189.7780	189.7780
105.3299	153.4846	198.1341	198.1341	198.1341	198.1341
110.6799	150.0538	206.4578	206.4578	206.4578	206.4578
116.0299	146.6765	215.4002	215.4002	215.4002	215.4002
121.3799	143.7128	224.8070	224.8070	224.8070	224.8070
126.7299	141.5199	235.0581	235.0581	235.0581	235.0581
132.0799	140.3103	246.3607	246.3607	246.3607	246.3607
137.4299	139.9647	258.3852	258.3852	258.3852	258.3852
142.7799	140.0481	270.1812	270.1812	270.1812	270.1812
148.1299	140.2153	281.4249	281.4249	281.4249	281.4249
153.4799	140.0873	291.7769	291.7769	291.7769	291.7769
158.8299	139.7141	301.1180	301.1180	301.1180	301.1180
164.1799	139.0568	309.0111	309.0111	309.0111	309.0111
169.5299	138.1196	315.0193	315.0193	315.0193	315.0193
174.8799	136.6939	318.2880	318.2880	318.2880	318.2880
180.2299	134.3240	318.2520	318.2520	318.2520	318.2520
185.5799	130.3446	313.1722	313.1722	313.1722	313.1722
190.9299	125.0448	303.7664	303.7664	303.7664	303.7664
196.2799	118.8412	289.1110	291.7120	291.7120	291.7120
201.6299	111.9526	269.6392	279.0355	279.0355	279.0355
206.9799	104.0157	243.9940	266.7539	266.7539	266.7539
212.3299	95.0056	213.2935	252.0591	252.0591	252.0591
217.6799	84.7320	181.7758	234.6600	234.6600	234.6600
223.0299	73.2233	150.8403	210.2419	210.2419	210.2419
228.3799	60.4757	120.6372	180.5574	180.6568	180.9836
233.7299	46.3546	92.5964	147.7510	148.6905	151.9090
239.0799	31.6746	68.0795	117.0324	119.6958	126.7459
244.4299	18.0724	47.6340	92.6948	97.8635	103.2317
249.7799	6.9649	31.1704	75.0041	82.9392	82.9392
255.1299	.1348	19.3153	63.1490	73.3085	73.3085
260.4799	-.0000	12.5721	56.4058	66.5559	66.5559
265.8299	-.0000	4.4654	48.2991	56.2408	56.2408
271.1799	-.0000	.0426	43.8763	49.4599	49.4599
276.5299	-.0000	-.0000	43.8337	47.4801	47.4801
281.8799	-.0000	-.0000	43.8337	45.9287	45.9287
287.2299	-.0000	-.0000	43.8337	44.4770	44.4770
292.5799	-.0000	-.0000	43.8337	43.8337	43.8337

INTERNAL RESTRAINT POINTS (XI*)

SN= 0.0000 SB= 43.8337 ELL= 438.8092

XF	SF
166.7475	252.2119
298.3902	60.3861
307.1664	58.3856
315.9426	56.6068
324.7188	54.0944
333.4950	51.5436
342.2711	49.7277
351.0473	48.6929
359.8235	48.1410
368.5997	47.7763
377.3759	47.1703
386.1521	46.1370
394.9282	45.1928
403.7044	44.7113
412.4806	44.4596
421.2568	44.2394
430.0330	44.0305

FAR-FIELD WAVE DRAG

CASE NO. 1

MACH = 2.700 NX = 50 NTHETA = 36

S(X) COMPONENT BUILDUP AT THETA = 0.000

S(B).CAPTURE = .0000 S(P).CAPTURE = 103.1476

X	S(B)	S(BW)	S(BWP)	S(BWPF)	S(BWPFC)
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
8.7762	11.3791	11.3791	11.3791	11.3791	11.3791
17.5524	28.0948	28.0948	28.0948	28.0948	28.0948
26.3285	46.1601	46.1601	46.1601	46.1601	46.1601
35.1047	63.9203	63.9203	63.9203	63.9203	63.9203
43.8809	81.1552	81.1552	81.1552	81.1552	81.1552
52.6571	97.0451	97.0451	97.0451	97.0451	97.0451
61.4333	109.9154	109.9154	109.9154	109.9154	109.9154
70.2095	119.2583	125.6065	125.6065	125.6065	125.6065
78.9856	124.4676	150.5517	150.5517	150.5517	150.5517
87.7618	125.3983	172.6008	172.6008	172.6008	172.6008
96.5380	122.9679	193.8689	193.8689	193.8689	193.8689
105.3142	118.5517	216.4757	216.4757	216.4757	216.4757
114.0904	114.0388	227.8218	227.8218	228.5475	228.5475
122.8666	110.4307	230.6383	230.6383	233.7304	233.7304
131.6427	108.6744	230.1202	230.1202	235.2313	235.2313
140.4189	108.5425	227.0038	229.6021	233.9539	233.9539
149.1951	108.9440	222.1522	231.3899	231.3899	231.3899
157.9713	109.3794	216.0361	230.8575	230.8575	230.8575
166.7475	109.3504	208.8214	224.0323	224.0323	224.0323
175.5237	108.7787	201.2679	218.2851	218.2851	218.2851
184.2998	107.7584	193.0684	215.6801	215.6801	215.6801
193.0760	106.0109	184.9219	211.3747	211.3747	211.3747
201.8522	103.1446	176.5426	201.9538	201.9538	201.9538
210.6284	98.8614	167.9196	190.4038	190.4038	190.4038
219.4046	93.0833	158.5692	180.4861	180.4861	180.4861
228.1808	85.7537	149.1330	171.0499	171.0499	171.0499
236.9569	76.7882	138.5027	160.4196	160.4196	160.4196
245.7331	66.2492	124.3498	146.2666	146.2666	146.2666
254.5093	54.1822	106.0381	130.5590	130.5590	132.0347
263.2855	40.6162	85.0542	116.2182	116.2182	119.2582
272.0617	26.1776	64.1655	100.9078	101.1003	101.7992
280.8379	12.5480	45.0470	81.9173	86.5040	88.3116
289.6140	2.7715	30.4645	65.0100	68.7866	70.2961
298.3902	-.0000	23.3220	59.4772	59.4772	60.3506
307.1664	-.0000	19.4181	62.5498	62.5498	62.8885
315.9426	-.0000	16.0406	64.1671	64.1671	64.1671
324.7188	-.0000	13.2528	60.9072	60.9072	60.9072
333.4950	-.0000	10.8888	55.9833	55.9833	55.9833
342.2711	-.0000	8.7568	52.5905	52.5905	52.5905
351.0473	-.0000	6.7430	50.5767	51.0345	51.0345
359.8235	-.0000	5.4913	49.3250	51.9733	51.9733
368.5997	-.0000	4.6909	48.5246	53.3406	53.3406
377.3759	-.0000	4.0172	47.8509	52.7584	52.7584
386.1521	-.0000	3.3597	47.2334	47.2910	47.2910
394.9282	-.0000	2.8337	46.6674	46.6674	46.6674
403.7044	-.0000	2.3192	46.1529	46.1529	46.1529
412.4806	-.0000	1.8563	45.6900	45.6900	45.6900
421.2568	-.0000	1.4448	45.2785	45.2785	45.2785
430.0330	-.0000	.7842	44.6179	44.6179	44.6179
438.8092	-.0000	-.0000	43.8337	43.8337	43.8337

FAR-FIELD WAVE DRAG

CASE NO. 1

MACH = 2.700 NX = 50 NTHETA = 36

S(X) COMPONENT BUILDUP AT THETA = 45.000

S(B),CAPTURE = .0000 S(P),CAPTURE = 103.1476

X	S(B)	S(BW)	S(BWP)	S(BWPF)	S(BWPFC)
-17.7341	0.0000	0.0000	0.0000	0.0000	0.0000
-9.5633	6.9659	6.9659	6.9659	6.9659	6.9659
-1.3924	17.8290	17.8290	17.8290	17.8290	17.8290
6.7784	30.1669	30.1669	30.1669	30.1669	30.1669
14.9493	42.8592	42.8592	42.8592	42.8592	42.8592
23.1202	55.2434	55.2434	55.2434	55.2434	55.2434
31.2910	67.2372	67.2372	67.2372	67.2372	67.2372
39.4619	78.7604	78.7604	78.7604	78.7604	78.7604
47.6327	89.2437	89.2437	89.2437	89.2437	89.2437
55.8036	97.9326	97.9326	97.9326	97.9326	97.9326
63.9745	104.3836	104.3836	104.3836	104.3836	104.3836
72.1453	108.1647	110.1640	110.1640	110.1640	110.1640
80.3162	109.2864	121.2086	121.2086	121.2086	121.2086
88.4871	108.2939	131.6287	131.6287	131.6287	131.6287
96.6579	105.6712	143.5652	143.5652	143.5652	143.5652
104.8288	102.1440	155.8935	155.8935	155.8935	155.8935
112.9996	98.6095	167.9930	167.9930	167.9930	167.9930
121.1705	95.6442	180.1015	180.1015	180.1015	180.1015
129.3414	93.8983	191.6472	191.6472	191.6472	191.6472
137.5122	93.5094	203.5282	203.5282	203.5282	203.5282
145.6831	93.7645	221.4535	221.4535	221.8875	221.8875
153.8539	94.1618	231.5410	231.5410	235.2769	235.2769
162.0248	94.4835	228.4255	228.4255	234.9871	234.9871
170.1957	94.6699	220.7695	222.4421	225.6029	225.6029
178.3665	94.6253	212.6914	219.6915	219.7999	219.7999
186.5374	94.1712	204.1210	217.5503	217.5503	217.5503
194.7083	93.2206	196.3536	214.2892	214.2892	214.2892
202.8791	91.8600	188.8590	211.4839	211.4839	211.4839
211.0500	90.1530	181.0923	206.6089	206.6089	206.6089
219.2208	87.9025	173.2308	199.4028	199.4028	199.4028
227.3917	84.8515	164.8139	189.2781	189.2781	189.2781
235.5626	80.8255	155.1614	177.0783	177.0783	177.0783
243.7334	75.7658	144.3492	166.2660	166.2660	166.2660
251.9043	69.5963	131.9702	156.0206	156.0206	156.0206
260.0752	62.5904	118.6287	148.4344	148.4344	148.4344
268.2460	54.7384	102.2790	138.1367	138.1367	138.1367
276.4169	46.0062	82.1842	119.5291	119.5291	119.5291
284.5877	36.5150	63.4389	102.6323	102.6475	104.5604
292.7586	26.5963	47.1185	90.2000	93.4060	96.8021
300.9295	16.6656	32.1684	80.0167	84.1257	85.6774
309.1003	7.8058	19.7561	67.6358	69.1825	71.2817
317.2712	1.8965	10.8845	56.6358	57.8866	59.0039
325.4420	-.0000	7.1064	50.9405	56.2036	56.4487
333.6129	-.0000	5.7140	49.5477	55.9358	55.9358
341.7838	-.0000	4.6244	48.4581	50.0389	50.0389
349.9546	-.0000	3.7582	47.6319	47.6319	47.6319
358.1255	-.0000	3.0537	46.8874	46.8874	46.8874
366.2964	-.0000	2.3903	46.2240	46.2240	46.2240
374.4672	-.0000	1.8080	45.6417	45.6417	45.6417
382.6381	-.0000	.8775	44.7112	44.7112	44.7112
390.8089	-.0000	-.0000	43.8337	43.8337	43.8337

FAR-FIELD WAVE DRAG

CASE NO. 1

MACH = 2.700 NX = 50 NTHETA = 36

SBAR(X*) AVERAGE EQUIVALENT BODY

X*	SBAR(B)	SBAR(BW)	SBAR(BWP)	SBAR(BWPF)	SBAR(BWPFC)	SBAR(RESTRAINED)	DELTA SBAR
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
8.7762	12.0019	12.0017	12.0017	12.0017	12.0017	5.6527	-6.3490
17.5524	29.2040	29.2036	29.2036	29.2036	29.2036	15.6800	-13.5236
26.3285	47.6961	47.6954	47.6954	47.6954	47.6954	28.2279	-19.4675
35.1047	65.8924	65.8915	65.8914	65.8914	65.8914	42.5498	-23.3417
43.8809	83.5417	83.5381	83.5380	83.5380	83.5380	58.1637	-25.3743
52.6571	99.5204	99.5248	99.5248	99.5248	99.5248	74.7054	-24.8194
61.4333	112.4254	112.4028	112.4027	112.4027	112.4027	91.8734	-20.5293
70.2095	121.7892	125.4084	125.4083	125.4083	125.4083	109.4028	-16.0055
78.9856	127.0695	140.2771	140.2770	140.2770	140.2770	127.0498	-13.2272
87.7618	128.1211	155.2586	155.2585	155.2583	155.2583	144.5815	-10.6768
96.5380	125.7939	170.3693	170.3690	170.3692	170.3692	161.7681	-8.6011
105.3142	121.5899	185.7741	185.7737	185.7695	185.7695	178.3759	-7.3936
114.0904	117.1366	199.6932	199.6921	199.7863	199.7863	194.1593	-5.6270
122.8666	113.5481	211.8003	211.8010	212.3984	212.3984	208.8524	-3.5460
131.6427	111.7098	222.6471	222.6293	224.0304	224.0304	222.1557	-1.8747
140.4189	111.4153	232.0500	232.5071	234.3352	234.3352	233.7155	-.6196
149.1951	111.7404	239.1570	241.3936	242.6368	242.6368	243.0865	.4497
157.9713	112.0878	243.4408	248.3255	249.2979	249.2979	249.6415	.3437
166.7475	112.0587	244.3167	251.3354	252.2118	252.2118	252.2118	.0000
175.5237	111.5325	242.2005	251.3598	252.1575	252.1575	248.7349	-3.4226
184.2998	110.4487	236.8439	249.6158	250.3469	250.3469	241.3102	-9.0367
193.0760	108.6595	228.1103	245.2570	245.9615	245.9615	231.1442	-14.8173
201.8522	105.7555	216.2438	236.5620	237.3084	237.3083	218.9034	-18.4049
210.6284	101.2718	201.1086	223.5019	224.1515	224.1514	205.0754	-19.0760
219.4046	95.2898	183.2674	207.4108	208.0153	208.0152	190.0597	-17.9555
228.1808	87.8000	163.4039	189.6375	190.2694	190.2688	174.2076	-16.0612
236.9569	78.6723	143.2580	171.7543	172.3270	172.3287	157.8450	-14.4837
245.7331	67.9892	121.9241	152.9106	153.5223	153.4940	141.2889	-12.2051
254.5093	55.7127	99.4377	133.5705	134.1554	134.6959	124.8621	-9.8338
263.2855	41.9104	77.4567	115.1341	116.1101	118.5835	108.9109	-9.6726
272.0617	27.0921	56.3290	96.6445	98.8072	101.8685	93.8307	-8.0378
280.8379	13.0814	37.1465	78.3842	81.3039	83.5599	80.1144	-3.4455
289.6140	2.9608	22.7022	64.1419	66.5562	67.7374	68.4725	.7351
298.3902	-.0000	15.9268	58.1223	59.9382	60.3861	60.3861	.0000
307.1664	-.0000	12.8782	57.0412	58.2938	58.3856	58.3856	.0000
315.9426	-.0000	10.2534	55.7295	56.6146	56.6068	56.6068	.0000
324.7188	-.0000	8.1087	53.3211	54.0935	54.0944	54.0944	.0000
333.4950	-.0000	6.4107	50.7807	51.5439	51.5436	51.5436	.0000
342.2711	-.0000	5.0339	48.8696	49.7277	49.7277	49.7277	.0000
351.0473	-.0000	3.8778	47.7121	48.6930	48.6929	48.6929	.0000
359.8235	-.0000	3.0360	46.8694	48.1410	48.1410	48.1410	.0000
368.5997	-.0000	2.4482	46.2819	47.7763	47.7763	47.7763	.0000
377.3759	-.0000	1.9573	45.7910	47.1704	47.1703	47.1703	.0000
386.1521	-.0000	1.5493	45.3830	46.1370	46.1370	46.1370	.0000
394.9282	-.0000	1.1859	45.0196	45.1928	45.1928	45.1928	.0000
403.7044	-.0000	.8820	44.7157	44.7113	44.7113	44.7113	.0000
412.4806	-.0000	.6257	44.4595	44.4596	44.4596	44.4596	.0000
421.2568	-.0000	.4059	44.2397	44.2394	44.2394	44.2394	.0000
430.0330	-.0000	.1968	44.0305	44.0305	44.0305	44.0305	.0000
438.8092	-.0000	-.0000	43.8337	43.8337	43.8337	43.8337	0.0000

FAR-FIELD WAVE DRAG

CASE NO. 1

MACH = 2.700 NX = 50 NTHETA = 36

OPTIMUM FUSELAGE AREA DISTRIBUTION WITH RESTRAINTS AT

X= 166.7475

N	X	Z	R	S	N	X	Z	R	S
0	0.0000	10.0000	0.0000	0.0000	25	219.4046	-9.0798	4.8541	74.0220
1	8.7762	9.2366	.9984	3.1318	26	228.1808	-9.8173	4.6580	68.1633
2	17.5524	8.4732	1.9288	11.6874	27	236.9569	-10.5655	4.3917	60.5909
3	26.3285	7.7094	2.7382	23.5553	28	245.7331	-11.3289	4.0862	52.4558
4	35.1047	6.9445	3.4628	37.6713	29	254.5093	-12.1058	3.6786	42.5131
5	43.8809	6.1759	4.0807	52.3147	30	263.2855	-12.8955	3.0288	28.8190
6	52.6571	5.4057	4.6925	69.1779	31	272.0617	-13.6539	2.2653	16.1215
7	61.4333	4.6318	5.3229	89.0120	32	280.8379	-14.3927	1.5552	7.5982
8	70.2095	3.8641	5.7666	104.4678	33	289.6140	-15.1936	.9946	3.1078
9	78.9856	3.1055	5.9726	112.0674	34	298.3902	-15.7000	.0000	.0000
10	87.7618	2.3445	6.0442	114.7710	35	307.1664	-15.7000	.0000	.0000
11	96.5380	1.5811	6.0049	113.2816	36	315.9426	-15.7000	.0000	.0000
12	105.3142	.8273	5.8785	108.5626	37	324.7188	-15.7000	.0000	.0000
13	114.0904	.0797	5.7505	103.8877	38	333.4950	-15.7000	.0000	.0000
14	122.8666	-.6830	5.7097	102.4195	39	342.2711	-15.7000	.0000	.0000
15	131.6427	-1.4521	5.7291	103.1137	40	351.0473	-15.7000	.0000	.0000
16	140.4189	-2.2124	5.7837	105.0896	41	359.8235	-15.7000	.0000	.0000
17	149.1951	-2.9708	5.8461	107.3713	42	368.5997	-15.7000	.0000	.0000
18	157.9713	-3.7386	5.8513	107.5595	43	377.3759	-15.7000	.0000	.0000
19	166.7475	-4.5048	5.8360	106.9976	44	386.1521	-15.7000	.0000	.0000
20	175.5237	-5.2444	5.7336	103.2772	45	394.9282	-15.7000	.0000	.0000
21	184.2998	-5.9886	5.5516	96.8243	46	403.7044	-15.7000	.0000	.0000
22	193.0760	-6.7770	5.3300	89.2487	47	412.4806	-15.7000	.0000	.0000
23	201.8522	-7.5611	5.1383	82.9458	48	421.2568	-15.7000	.0000	.0000
24	210.6284	-8.3245	4.9981	78.4810	49	430.0330	-15.7000	.0000	.0000
25	219.4046	-9.0798	4.8541	74.0220	50	438.8092	-15.7000	0.0000	0.0000

FAR-FIELD WAVE DRAG

CASE NO. 1

MACH = 2.700 NX = 50 NTHETA = 36

D/Q ASSOCIATED WITH VARIOUS VALUES OF THETA

N	THETA	D/Q
0	-90.000	28.65329
1	-85.000	29.22563
2	-80.000	28.43829
3	-75.000	29.69811
4	-70.000	35.49232
5	-65.000	48.90192
6	-60.000	35.62741
7	-55.000	27.90356
8	-50.000	23.16432
9	-45.000	19.48911
10	-40.000	17.17064
11	-35.000	15.22777
12	-30.000	13.86501
13	-25.000	12.56168
14	-20.000	12.01092
15	-15.000	11.71940
16	-10.000	11.75206
17	-5.000	11.54817
18	0.000	11.13785
19	5.000	12.07890
20	10.000	12.02875
21	15.000	9.76255
22	20.000	9.80635
23	25.000	9.14972
24	30.000	8.06093
25	35.000	8.07897
26	40.000	8.92078
27	45.000	9.85579
28	50.000	10.80535
29	55.000	11.06812
30	60.000	12.63037
31	65.000	12.47798
32	70.000	11.91886
33	75.000	11.49588
34	80.000	14.29868
35	85.000	19.43561
36	90.000	39.27422

WING VOLUME CHECK

EXACT VOLUME = 17632.03878

EQUIVALENT BODY VOLUME = 17629.61553

ENTIRE AIRCRAFT

D/Q = 17.24067

CDW = .17418332E-02

OPT. CDW*= .15922366E-02

DRAG OF TRANSFERRED AREA DISTRIBUTIONS

OPTIMUM EQ. BODY CDW*= .66855002E-03

AVERAGE EQ. BODY CDW*= .81814663E-03

POTENTIAL CDW* CHANGE= -.14959661E-03

EXIT OUT

SUCCESS STOP REACHED

NEAR-FIELD WAVE DRAG

MACH NO.= 2.79000 NON= 40 NOPCT= 13 JBYMAX= 2[illegible] RATIO= 4.15385 XXIN= 2.00

PLANFORM BREAKPOINTS

	X	Y	CHORD
1	77.3280	0.0000	166.0700
2	77.3280	4.9688	166.0700
3	83.1040	6.6250	160.1330
4	93.1650	9.5100	149.7900
5	116.9600	16.3330	125.3500
6	168.9800	31.2500	77.2950
7	225.8100	47.5440	32.6810
8	225.8100	47.5450	32.6810
9	258.2100	66.2500	14.4450

	XLE	XTE	Y
0	77.3280	243.3980	0.0000
1	77.3280	243.3980	1.6563
2	77.3280	243.3980	3.3125
3	77.3306	243.3979	4.9688
4	83.1040	243.2370	6.6250
5	88.8799	243.0751	8.2813
6	94.6559	242.9146	9.9375
7	100.4320	242.7580	11.5938
8	106.2081	242.6[illegible]14	13.2500
9	111.9843	242.4449	14.9063
10	117.7603	242.3710	16.5625
11	123.5362	242.8112	18.2188
12	129.3120	243.2515	19.8750
13	135.0878	243.6917	21.5313
14	140.8637	244.1320	23.1875
15	146.6395	244.5722	24.8438
16	152.4153	245.0124	26.5000
17	158.1912	245.4527	28.1563
18	163.9670	245.8929	29.8125
19	169.7430	246.4390	31.4688
20	175.5196	247.6807	33.1250
21	181.2962	248.9225	34.7813
22	187.0729	250.1642	36.4375
23	192.8495	251.4059	38.0938
24	198.6262	252.6477	39.7500
25	204.4028	253.8894	41.4063
26	210.1795	255.1311	43.0625
27	215.9561	256.3728	44.7188
28	221.7328	257.6146	46.3750
29	226.6523	258.8592	48.0313
30	229.5211	260.1134	49.6875
31	232.3900	261.3675	51.3438
32	235.2589	262.6217	53.0000
33	238.1278	263.8759	54.6563
34	240.9967	265.1300	56.3125
35	243.8656	266.3842	57.9688
36	246.7345	267.6383	59.6250
37	249.6033	268.8925	61.2813
38	252.4722	270.1467	62.9375
39	255.3411	271.4008	64.5938
40	258.2100	272.6550	66.2500

EMPENNAGE INPUT

CANARD 1

X	Y	Z	CHORD
261.00000	2.00000	-14.00000	25.30000
277.00000	11.00000	-14.00000	9.30000

X/C	0.000	32.500	67.500
Z/C	0.000	1.500	1.500

FIN 1

X	Y	Z	CHORD
225.80000	47.55000	0.00000	38.75000
262.50000	47.55000	10.00000	5.00000

X/C	0.000	32.500	67.500	100.000
Z/C	0.000	1.500	1.500	0.000

FIN 2

X	Y	Z	CHORD
270.00000	0.00000	-13.00000	24.20000
282.50000	0.00000	-.90000	9.20000

X/C	0.000	32.500	67.500	100.000
Z/C	0.000	1.500	1.500	0.000

FUSELAGE INPUT

	X	AREA	RAD.	Z
1	0.00000	0.00000	0.00000	10.00000
2	16.67000	23.50007	2.73501	8.55000
3	33.33000	57.51118	4.27818	7.10000
4	50.00000	89.00028	5.32256	5.64000
5	66.67000	117.00037	6.10265	4.17000
6	83.33000	126.00040	6.33302	2.73000
7	100.00000	119.80038	6.17524	1.28000
8	116.67000	118.00034	5.86323	-.14000
9	133.33000	115.00033	5.78123	-1.60000
10	150.00000	107.00034	5.83602	-3.04000
11	166.66000	107.00034	5.83602	-4.50000
12	183.33000	106.00034	5.80869	-5.90000
13	200.00000	102.00032	5.69804	-7.40000
14	216.67000	94.00030	5.47002	-8.85000
15	233.33000	79.00025	5.01463	-10.25000
16	250.00000	59.00019	4.33362	-11.70000
17	266.67000	33.00011	3.24102	-13.20000
18	283.30000	8.00003	1.59577	-14.60000
19	295.00000	0.00000	0.00000	-15.70000

WING-BODY INTERSECTION

X/C	X	Y	Z	Z REL. FUS CL	T
0.00	77.334972	4.970000	3.248178	-3.197477	0.000000
2.50	81.486542	4.970000	2.889338	-2.818902	1.893116
5.00	85.638113	4.970000	2.529234	-2.535560	2.371377
10.00	93.941255	4.970000	1.807005	-2.121001	2.896136
20.00	110.547538	4.970000	.381529	-2.056785	3.487320
30.00	127.153822	4.970000	-1.058750	-2.815760	3.802839
40.00	143.760105	4.970000	-2.500981	-3.705971	3.985508
50.00	160.366389	4.970000	-3.948459	-4.173305	4.085146
60.00	176.972672	4.970000	-5.366091	-4.076826	4.148250
70.00	193.578955	4.970000	-6.822222	-3.469586	3.885873
80.00	210.185239	4.970000	-8.285939	-2.733911	3.112018
90.00	226.791522	4.970000	-9.700548	-2.503202	1.813406
100.00	243.397806	4.970000	-11.125724	-2.459134	0.000000

TABLE OF THICKNESS CP FOR CANARD 1

XPCT	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00
Y/B/2											
0.000	.000936	.003019	.005914	.008964	.011208	.010786	.008624	.005510	.002689	.001178	-.000094
.100	.003196	.005191	.007263	.009155	.009744	.009196	.007214	.004915	.002879	.001033	.000218
.200	.019129	.015004	.010828	.006178	.002961	.001809	.002345	.002759	.002328	.001455	.000341
.300	.031854	.024083	.015615	.006520	-.001283	-.004135	-.003364	-.000716	.000825	.001122	.000830
.400	.034921	.029734	.019962	.009639	-.000204	-.005969	-.007387	-.005091	-.002061	-.000174	.001721
.600	.042234	.035531	.027321	.017466	.007487	-.001679	-.007421	-.009873	-.009704	-.007376	-.004851
.800	.045172	.036916	.030144	.023523	.016412	.009155	.002333	-.004238	-.008506	-.010447	-.012387
1.000	.030719	.028520	.025438	.022355	.018797	.014980	.011164	.007946	.005158	.002370	-.000418

TABLE OF THICKNESS CP FOR FIN 1

XPCT	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00
Y/B/2											
0.000	.023163	.015795	.009929	.001280	-.004790	-.004794	-.008411	-.016636	-.019829	-.017861	-.016626
.100	.036235	.024278	.012591	-.000819	-.009144	-.008495	-.012001	-.023460	-.026663	-.022615	-.019596
.200	.055239	.030200	.013628	-.002496	-.011758	-.012541	-.014711	-.026307	-.031862	-.028586	-.024020
.300	.042899	.031200	.014288	-.002657	-.013740	-.016217	-.019163	-.029730	-.036192	-.034809	-.030089
.400	.056024	.033882	.014953	-.003047	-.015775	-.019600	-.023734	-.030827	-.038312	-.039674	-.037908
.600	.053975	.029116	.012938	-.003203	-.016860	-.026046	-.032186	-.037063	-.041223	-.045329	-.044572
.800	.032107	.018311	.004589	-.008989	-.021011	-.028141	-.035208	-.041747	-.048285	-.048865	-.049274
1.000	-.015019	-.020436	-.025859	-.031281	-.036704	-.039279	-.041207	-.043135	-.045063	-.046990	-.048918

TABLE OF THICKNESS CP FOR FIN 2

XPCT	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00
Y/B/2											
0.000	.029787	.021047	.013422	.006298	-.001728	-.008557	-.014315	-.019754	-.022348	-.022974	-.023150
.100	.032664	.026993	.019037	.009503	-.001844	-.011560	-.019654	-.025878	-.029180	-.030011	-.030313
.200	.038999	.031046	.023026	.012700	.000638	-.010923	-.020824	-.028331	-.033595	-.035303	-.036406
.300	.034564	.031379	.025549	.015963	.005043	-.007390	-.019015	-.028961	-.036340	-.038957	-.040717
.400	.035787	.031670	.025973	.018889	.008331	-.003046	-.015542	-.026388	-.035770	-.039827	-.043034
.600	.031785	.028318	.024410	.017175	.009531	.000970	-.007701	-.017190	-.026773	-.033473	-.039857
.800	.026563	.024363	.019137	.013910	.007422	.000844	-.006172	-.013732	-.021292	-.027519	-.033688
1.000	.012716	.012716	.009624	.004873	.000122	-.004184	-.007670	-.011156	-.014630	-.017894	-.021159

NACELLE GEOMETRY

ORIGIN (X,Y,Z)			X	RADIUS	AREA
213.42000	16.33000	-5.80000	0.00000	2.86500	25.78696
			2.90800	2.98300	27.95486
			15.47000	3.63300	41.46500
			21.52500	3.77000	44.65125
			28.01700	3.65400	41.94575
			32.06700	3.42000	36.74541
			35.04000	3.42000	36.74541

ORIGIN (X,Y,Z)			X	RADIUS	AREA
218.67000	31.25000	-4.90000	0.00000	2.86500	25.78696
			2.90800	2.98300	27.95486
			15.47000	3.63300	41.46500
			21.52500	3.77000	44.65125
			28.01700	3.65400	41.94575
			32.06700	3.42000	36.74541
			35.04000	3.42000	36.74541

BUOYANCY FIELD OF BODY ON NACELLES

NACELLE(S) AT Y= 16.33000

NEAR-FIELD PRESSURE SIGNATURE
1 SHOCK WAVES
X= 40.327595 CP1= 0.000000 CP2= .030001

X	CP1	CP2
40.327595	0.000000	.030001
44.033112		.026950
50.843892		.021823
56.926388		.018580
63.483881		.014730
69.555957		.012277
74.998998		.011348
80.517585		.010319
87.302912		.006797
94.938039		.001826
102.609547		-.002773
109.697519		-.005811
117.007755		-.009063
123.984012		-.011204
130.215530		-.011618
136.884263		-.012846
142.644043		-.011819
147.218941		-.008410
151.777926		-.005140
156.795446		-.003031
161.968787		-.001348
167.057272		.000362
172.873931		.000418
179.082225		-.000328
185.246281		-.000931
191.274681		-.001212
197.178343		-.001208
203.123801		-.001304
209.296352		-.001845
215.456068		-.002302
221.669225		-.002837
227.956127		-.003454
234.113758		-.003726
240.563898		-.004595
247.325650		-.005978
254.060075		-.007149

NACELLE(S) AT Y= 31.25000

NEAR-FIELD PRESSURE SIGNATURE
1 SHOCK WAVES
X= 72.628082 CP1= 0.000000 CP2= .021389

X	CP1	CP2
72.628082	0.000000	.021389
74.447441		.020381
82.026877		.016504
88.600618		.014051
95.737514		.011140
102.178876		.009284
107.761702		.008582

113.435126	.007804
121.750536	.005141
129.133976	.001381
137.497711	-.002097
145.042852	-.004394
152.842565	-.006854
160.141077	-.008473
166.434875	-.008786
173.288443	-.009715
178.893694	-.008938
182.955459	-.006360
187.022235	-.003887
191.722336	-.002292
196.642342	-.001019
201.473454	.000274
207.281766	.000316
213.602388	-.000248
219.857163	-.000704
225.927876	-.000917
231.830878	-.000913
237.798810	-.000986
244.044726	-.001395
250.273244	-.001741
256.567026	-.002146

BUOYANCY FIELD OF NACELLES ON BODY

FUSELAGE AREAS IN WING REGION

X	ABOVE WING	BELOW WING
78.99560	98.06314	27.50636
82.31686	95.46325	30.40788
85.63811	92.68369	32.38036
88.95937	90.09752	33.92025
92.28063	87.36410	35.37125
95.60188	86.28918	34.93134
98.92314	84.92259	34.30375
102.24440	82.92105	33.27061
105.56565	81.15397	32.38676
108.88691	79.61466	31.64687
112.20817	80.10917	29.23447
115.52942	80.80452	27.02542
118.85068	81.79984	25.06012
122.17194	82.88677	23.20592
125.49319	84.16780	21.45818
128.81445	85.60502	19.55221
132.13571	87.29778	17.78533
135.45696	89.37818	16.25018
138.77822	91.37120	14.72435
142.09948	93.27044	13.21373
145.42073	94.32728	12.46649
148.74199	95.30534	11.70581
152.06325	96.16679	10.92047
155.38450	96.98225	10.14033
158.70576	97.75114	9.36693
162.02702	97.55982	9.51393
165.34827	97.35379	9.65687
168.66953	97.21788	9.82405
171.99079	96.99147	9.96146
175.31204	96.67216	10.06864

178.63330	95.40127	11.00764
181.95456	94.02884	11.93843
185.27581	92.61261	12.87775
188.59707	91.15984	13.78551
191.91833	89.37663	14.65720
195.23958	87.32984	15.72788
198.56084	85.17696	16.76835
201.88210	83.09556	17.85481
205.20335	80.79379	18.84639
208.52461	78.28525	19.73581
211.84587	76.56591	19.53488
215.16712	74.65957	19.22885
218.48838	72.57083	18.81863
221.80964	70.31452	18.31084
225.13089	67.90019	17.70980
228.45215	65.67272	16.68599
231.77341	63.30426	15.60233
235.09466	61.08084	14.60461
238.41592	58.56302	13.47601
241.73718	55.76944	12.23472

NACELLE(S) AT Y= 16.33000

NEAR-FIELD PRESSURE SIGNATURE
2 SHOCK WAVES

X= 248.541395 CP1= 0.000000 CP2= .016753
X= 286.764136 CP1= -.019098 CP2= .001530

X	CP1	CP2
248.541395	0.000000	.016753
249.189815		.016220
250.650333		.015036
252.119571		.013848
253.587419		.012680
255.042645		.011554
256.494676		.010451
257.945631		.009365
259.395275		.008298
260.843849		.007250
262.105574		.006617
262.765709		.007267
264.169974		.006314
266.289349		.003868
268.403553		.001472
270.508823		-.000866
272.417123		-.002744
274.270005		-.004475
276.456277		-.006884
278.688618		-.009346
280.880254		-.011676
283.027566		-.013866
286.240921		-.018293
286.764136	-.019098	.001530
287.287357		.001191
288.423157		.001019
289.553791		.000859
290.675282		.000718
291.789468		.000592
292.893674		.000488
293.985499		.000411

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295.075320                                  .000338

          NACELLE(S) AT Y=  31.25000

     NEAR-FIELD PRESSURE SIGNATURE
            2 SHOCK WAVES
        X=  287.038228     CP1=    0.000000     CP2=     .011956
        X=  327.777125     CP1=    -.013025     CP2=     .000795

          X                CP1                CP2
     287.038228          0.000000            .011956
     288.107939                              .011371
     289.755897                              .010473
     291.399648                              .009589
     293.024340                              .008738
     294.642440                              .007903
     296.256748                              .007083


          BUOYANCY FIELD OF NACELLES ON NACELLE

NACELLE AT Y=  16.33000   Z=  -5.80000
NACELLE AFT END AT X= 248.46000

PRESSURE SIGNATURE FROM NACELLE AT Y= -16.33000   Z=  -5.80000
     X            CP
  283.133      0.00000

PRESSURE SIGNATURE FROM NACELLE AT Y=  31.25000   Z=  -4.90000
     X            CP
  245.608      0.00000
  245.609       .01893
  246.614       .01798
  248.020       .01667
  249.435       .01535

PRESSURE SIGNATURE FROM NACELLE AT Y= -31.25000   Z=  -4.90000
     X            CP
  324.817      0.00000

     COMPOSITE SIGNATURE
     X            CP
    0.000      0.00000
  245.608      0.00000
  245.609       .01893
  246.614       .01798
  248.020       .01667
  249.435       .01535

NACELLE AT Y=  31.25000   Z=  -4.90000
NACELLE AFT END AT X= 253.71000

PRESSURE SIGNATURE FROM NACELLE AT Y=  16.33000   Z=  -5.80000
     X            CP
  240.358      0.00000
  240.359       .01893
  241.364       .01798
  242.770       .01667
  244.185       .01535
```

245.600	.01405
247.004	.01281
248.405	.01158
249.807	.01038
251.208	.00920
252.608	.00804
253.841	.00733

PRESSURE SIGNATURE FROM NACELLE AT Y= -16.33000 Z= -5.80000

X	CP
319.567	0.00000

PRESSURE SIGNATURE FROM NACELLE AT Y= -31.25000 Z= -4.90000

X	CP
361.416	0.00000

COMPOSITE SIGNATURE

X	CP
1.000	0.00000
240.358	0.00000
240.359	.01893
241.364	.01798
242.770	.01667
244.185	.01535
245.600	.01405
247.004	.01281
248.405	.01158
249.807	.01038
251.208	.00920
252.608	.00804
253.841	.00733

BOUYANCY FIELD OF NACELLE ON ITSELF(IMAGE EFFECT)

NACELLE AT Y= 16.33000 Z= -5.80000

X	CP
1.000	0.00000
232.389	0.00000
232.390	.02197
232.438	.02192
233.783	.02041
235.130	.01892
236.486	.01742
237.841	.01595
239.189	.01454
240.535	.01315
241.882	.01178
243.229	.01044
244.578	.00912
245.779	.00833
246.501	.00914
247.814	.00794
249.699	.00487

BUOYANCY FIELD OF OTHER IMAGE NACELLES

PRESSURE SIGNATURE FROM NACELLE AT Y= -16.33000 Z= -5.80000

X	CP
288.000	0.00000

PRESSURE SIGNATURE FROM NACELLE AT Y= 31.25000 Z= -4.90000

X	CP
253.785	0.00000

PRESSURE SIGNATURE FROM NACELLE AT Y= -31.25000 Z= -4.90000

X	CP
327.704	0.00000

NO EFFECT

BOUYANCY FIELD OF NACELLE ON ITSELF(IMAGE EFFECT)

NACELLE AT Y= 31.25000 Z= -4.90000

X	CP
1.000	0.00000
233.394	0.00000
233.395	.02422
233.696	.02384
235.006	.02220
236.317	.02058
237.637	.01896
238.958	.01736
240.271	.01582
241.584	.01431
242.899	.01282
244.214	.01136
245.531	.00992
246.713	.00906
247.455	.00995
248.739	.00864
250.551	.00529
252.363	.00202
254.174	-.00119

BUOYANCY FIELD OF OTHER IMAGE NACELLES

PRESSURE SIGNATURE FROM NACELLE AT Y= 16.33000 Z= -5.80000

X	CP
248.535	0.00000
248.536	.01675
249.184	.01622
250.644	.01504
252.113	.01385
253.581	.01268
255.036	.01155

PRESSURE SIGNATURE FROM NACELLE AT Y= -16.33000 Z= -5.80000

X	CP
322.454	0.00000

PRESSURE SIGNATURE FROM NACELLE AT Y= -31.25000 Z= -4.90000

X	CP
363.293	0.00000

COMPOSITE SIGNATURE

X	CP
1.000	0.00000
248.535	0.00000
248.536	.01675
249.184	.01622
250.644	.01504

252.113	.01385
253.581	.01268
255.036	.01155

FUSELAGE DATA AND PRESSURE FIELD ACTING ON WING

X	R	AREA	CP	Y	F(Y)
0.000000	0.000000	0.000000	.100652	0.000000	0.000000
5.900000	1.134201	3.830417	.091103	3.130679	.148984
11.800000	2.059176	13.320996	.070564	6.635614	.154546
17.700000	2.844897	25.426294	.041354	10.565034	.129324
23.600000	3.437564	37.123729	.031026	14.978632	.104722
29.500000	3.967615	49.454854	.024325	19.549273	.089156
35.400000	4.422238	61.437582	.014505	24.309084	.070684
41.300000	4.810474	72.698526	.012070	29.235393	.058911
47.200000	5.165604	83.828574	.009575	34.244732	.054454
53.100000	5.519234	95.352574	.010591	39.282910	.049518
59.000000	5.812001	106.121003	.003634	44.423575	.032618
64.900000	6.045904	114.834503	-.002900	49.736950	.008761
70.800000	6.195919	120.603895	-.010545	55.260715	-.013309
76.700000	6.287812	124.207758	-.013702	60.930253	-.027894
82.600000	6.331048	125.921846	-.017987	66.721813	-.043489
88.500000	6.330581	124.712819	-.021066	72.698224	-.053763
94.400000	6.245443	122.539577	-.020010	78.736509	-.055748
100.300000	6.167590	119.503575	-.023954	84.831763	-.061641
106.200000	6.032329	114.319412	-.019952	91.070995	-.056715
112.100000	5.925882	110.320412	-.013555	97.237964	-.040355
118.000000	5.851664	107.574327	-.006632	103.324102	-.024663
123.900000	5.810850	106.078961	-.003905	109.326462	-.014543
129.800000	5.787185	105.216692	-.001669	115.285814	-.006466
135.700000	5.792359	105.404912	.003245	121.172838	.001739
141.600000	5.815263	106.240143	.001478	127.015395	.002005
147.500000	5.831301	106.826936	.000127	132.875173	-.001576
153.400000	5.838243	107.081451	-.001267	138.757761	-.004468
159.300000	5.839392	107.123621	-.001642	144.654878	-.005817
165.200000	5.837117	107.040141	-.001933	150.560586	-.005796
171.100000	5.836885	107.031627	-.001684	156.461168	-.006257
177.000000	5.828881	106.738322	-.002814	162.381240	-.008852
182.900000	5.810442	106.064052	-.003482	168.327486	-.011045
188.800000	5.785318	105.148821	-.004336	174.290496	-.013616
194.700000	5.745943	103.722411	-.005541	180.289247	-.016577
200.600000	5.693782	101.847774	-.004977	186.320068	-.017880
206.500000	5.636215	99.798749	-.007118	192.364443	-.022049
212.400000	5.550124	96.773228	-.009539	198.480361	-.028685
218.300000	5.435404	92.814012	-.011534	204.668077	-.034313
224.200000	5.292076	87.583665	-.013044	210.927541	-.038625
230.100000	5.120513	82.371466	-.014194	217.257820	-.040103
236.000000	4.933236	76.456389	-.012314	223.627506	-.040381
241.900000	4.715935	69.869160	-.016290	230.072495	-.045988
247.800000	4.447074	62.129622	-.019013	236.646794	-.050171
253.700000	4.139234	53.825726	-.019064	243.318854	-.051832
259.600000	3.772468	44.709618	-.022089	250.138699	-.054137
265.500000	3.335893	34.960219	-.022318	257.133623	-.050431
271.400000	2.847493	25.472723	-.019924	264.258523	-.042301
277.300000	2.273697	16.241080	-.017316	271.597598	-.029909
283.200000	1.637849	8.121575	-.006312	279.167536	-.005395
289.100000	.849950	2.269533	.023198	286.968337	.034512
295.000000	.000010	.000000	.164521	294.999975	.062392

BODY PRESSURE FIELD ACTING ON WING

XPCT	0.000000	5.000000	10.000000	15.000000	20.000000	25.000000	30.000000	35.000000
	40.000000	45.000000	50.000000	55.000000	60.000000	65.000000	70.000000	75.000000
	80.000000	85.000000	90.000000	95.000000	100.000000			
Y/B/2								
0.0000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
	0.000000	0.000000	0.000000	0.000000	0.000000			
.0250	-.036061	-.039409	-.041007	-.028666	-.014230	-.005254	.001266	-.000418
	-.003213	-.004029	-.004318	-.006616	-.008895	-.011554	-.013617	-.018743
	-.023971	-.027168	-.027954	-.031630	-.035004			
.0500	-.021732	-.026761	-.029445	-.027074	-.015088	-.006706	-.000787	.000922
	-.001366	-.002727	-.002892	-.003839	-.005398	-.007182	-.008585	-.010970
	-.015024	-.018179	-.019627	-.020427	-.023512			
.0750	-.013571	-.020114	-.022323	-.024093	-.017638	-.008541	-.003129	.000732
	-.000237	-.001846	-.002326	-.002489	-.003790	-.005088	-.006639	-.007749
	-.010581	-.013611	-.015607	-.016124	-.017935			
.1000	-.012847	-.017923	-.019502	-.020791	-.015179	-.007417	-.002823	.000627
	-.000050	-.001472	-.002016	-.002110	-.003022	-.004066	-.005306	-.006146
	-.007983	-.010683	-.012807	-.013834	-.014192			
.1250	-.012452	-.016496	-.017624	-.018513	-.013445	-.006640	-.002625	.000554
	.000393	-.001157	-.001805	-.001846	-.002439	-.003348	-.004354	-.005302
	-.006363	-.008531	-.010639	-.012068	-.012477			
.1500	-.012254	-.015284	-.016261	-.016815	-.012121	-.006059	-.002486	.000500
	.000209	-.000912	-.001571	-.001649	-.001987	-.002822	-.003650	-.004622
	-.005203	-.006762	-.008761	-.010361	-.011221			
.2000	-.011651	-.013398	-.014395	-.014395	-.010165	-.005227	-.002307	.000305
	.000394	-.000543	-.001209	-.001425	-.001494	-.002018	-.002641	-.003326
	-.004089	-.004565	-.005786	-.007389	-.008715			
.2500	-.011327	-.012132	-.013166	-.012706	-.008724	-.004636	-.002194	-.000031
	.000432	-.000254	-.000914	-.001255	-.001272	-.001390	-.001962	-.002454
	-.003025	-.003652	-.003980	-.004881	-.006230			
.3000	-.010854	-.011305	-.012310	-.011405	-.007434	-.004073	-.002017	-.000189
	.000385	-.000351	-.000635	-.001026	-.001163	-.001198	-.001432	-.001890
	-.002309	-.002788	-.003322	-.003564	-.004263			
.3500	-.010214	-.010831	-.011197	-.009875	-.006344	-.003613	-.001879	-.000327
	.000348	.000119	-.000404	-.000839	-.001053	-.001076	-.001130	-.001394
	-.001771	-.002121	-.002515	-.002962	-.003226			
.4000	-.009776	-.010474	-.010214	-.008410	-.005389	-.003224	-.001767	-.000451
	.000318	.000265	-.000194	-.000582	-.000861	-.001009	-.001036	-.001061
	-.001291	-.001612	-.001896	-.002222	-.002578			
.4500	-.009619	-.009964	-.009378	-.007089	-.004529	-.002884	-.001674	-.000566
	.000292	.000323	.000013	-.000348	-.000658	-.000845	-.000951	-.001948
	-.001992	-.001132	-.001410	-.001652	-.001902			

.5000	-.009505	-.009132	-.008060	-.005806	-.003717	-.002506	-.001525	-.001589
	.000272	.000298	.000156	-.000161	-.000435	-.000693	-.000818	-.000932
	-.000900	-.000929	-.000978	-.001210	-.001432			
.6000	-.008066	-.006553	-.004952	-.003436	-.002586	-.001814	-.001171	-.000514
	.000152	.000261	.000279	.000131	-.000084	-.000285	-.000461	-.000635
	-.000719	-.000804	-.000823	-.000822	-.000838			
.7000	-.004198	-.003210	-.002673	-.002137	-.001676	-.001273	-.000970	-.000452
	-.000034	.000232	.000243	.000254	.000245	.000113	-.000018	-.000149
	-.000267	-.000375	-.000482	-.000588	-.000640			
.8000	-.005863	-.005070	-.004310	-.003555	-.002909	-.002516	-.002124	-.001745
	-.001452	-.001159	-.000866	-.000564	-.000260	.000044	.000217	.000224
	.000232	.000240	.000227	.000134	.000041			
.9000	-.006964	-.006853	-.006742	-.006632	-.006353	-.005753	-.005153	-.004560
	-.003991	-.003422	-.002853	-.002563	-.002274	-.001985	-.001695	-.001477
	-.001262	-.001047	-.000832	-.000612	-.000389			
.9500	-.006817	-.006899	-.006891	-.006800	-.006708	-.006617	-.006525	-.006433
	-.006152	-.005646	-.005141	-.004635	-.004151	-.003672	-.003193	-.002745
	-.002504	-.002263	-.002022	-.001782	-.001565			
1.0000	-.006388	-.006453	-.006518	-.006583	-.006648	-.006713	-.006746	-.006673
	-.006600	-.006527	-.006453	-.006380	-.006307	-.006233	-.005872	-.005460
	-.005048	-.004635	-.004234	-.003843	-.003453			

TABLE OF INPUT Z/C ORDINATES

XPCT	0.000000	2.500000	5.000000	10.000000	20.000000	30.000000	40.000000	50.000000
	60.000000	70.000000	80.000000	90.000000	100.000000			
Y/B/2								
0.0000	0.000000	.570000	.714000	.872000	1.050000	1.145000	1.200000	1.230000
	1.249000	1.170000	.937000	.546000	0.000000			
.0750	0.000000	.570000	.714000	.872000	1.050000	1.145000	1.200000	1.230000
	1.249000	1.170000	.937000	.546000	0.000000			
.1000	0.000000	.570000	.714000	.872000	1.050000	1.145000	1.200000	1.230000
	1.249000	1.170000	.937000	.546000	0.000000			
.1435	0.000000	.550000	.712000	.872000	1.054000	1.156000	1.213000	1.235000
	1.237000	1.127000	.883000	.507000	0.000000			
.2465	0.000000	.550000	.715000	.876000	1.126000	1.174000	1.235000	1.250000
	1.229000	1.087000	.840000	.474000	0.000000			
.4717	0.000000	.570000	.727000	.902000	1.098000	1.220000	1.289000	1.315000
	1.262000	1.105000	.842000	.473000	0.000000			
.7176	0.000000	.580000	.729000	.911000	1.134000	1.268000	1.343000	1.375000
	1.323000	1.155000	.880000	.495000	0.000000			
.7177	0.000000	.134000	.261000	.495000	.880000	1.155000	1.323000	1.375000
	1.323000	1.155000	.880000	.495000	0.000000			
1.0000	0.000000	.134000	.261000	.491000	.880000	1.155000	1.285000	1.375000
	1.323000	1.155000	.880000	.495000	0.000000			

TABLE OF THICKNESS PRESSURE COEFFICIENT

XPCT	0.00	5.00	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00	55.00
	60.00	65.00	70.00	75.00	80.00	85.00	90.00	95.00	100.00			
Y/B/2 /												
0.000	0.000000	.007170	.015604	.020428	.012819	.007865	.005974	.003529	.002812	.005289	.003304	.000610
	.000152	-.001317	-.003687	-.004127	-.007770	-.013485	-.017613	-.021552	-.026497			
.025	.003041	.007597	.013418	.014380	.009967	.007963	.008165	.005861	.003422	.002533	.001087	.000594
	.001559	.000311	-.002879	-.006005	-.010052	-.014310	-.017087	-.020648	-.025434			
.050	.010922	.011778	.015375	.013404	.012495	.008391	.004970	.003866	.004276	.002871	.002567	.001463
	-.000674	-.002346	-.003480	-.006733	-.010088	-.014021	-.018803	-.023427	-.026348			
.075	.035252	.010922	.005619	.005186	.009274	.008633	.004339	.004305	.003885	.001149	.001523	.001519
	-.001796	-.003711	-.005686	-.010280	-.013897	-.016423	-.021423	-.025755	-.027664			
.100	.063484	.007606	-.005832	.004326	.007405	.004839	.002678	.003111	.002021	.001266	.001829	-.000366
	-.003839	-.006215	-.009534	-.013781	-.017182	-.020044	-.024426	-.028057	-.029888			
.125	.093881	.006994	-.006321	.002554	.004161	.003532	.001622	.001258	.001580	.000938	.000032	-.001399
	-.003455	-.007375	-.012354	-.015596	-.018509	-.021982	-.025638	-.029706	-.032115			
.150	.134019	.005073	-.013585	-.000361	.003829	.002311	-.000514	.001041	.001054	-.000970	-.001206	-.000325
	-.004684	-.010333	-.013588	-.014760	-.019421	-.023992	-.026220	-.029063	-.032545			
.200	.050562	-.005362	-.009171	.000629	-.001390	-.000911	.000930	-.000705	-.002468	-.001060	-.001078	-.004266
	-.007965	-.011249	-.015678	-.019392	-.021709	-.025176	-.028614	-.031297	-.033276			
.250	.040388	-.005437	-.012109	-.004102	-.005150	-.004461	-.002725	-.000705	-.001555	-.003226	-.003445	-.004986
	-.008411	-.013225	-.017519	-.020188	-.023189	-.026820	-.030447	-.033170	-.034130			
.300	.027464	-.006830	-.011186	-.009507	-.006044	-.005854	-.004518	-.002754	-.003994	-.001840	-.004837	-.007419
	-.011106	-.014519	-.017332	-.022887	-.026212	-.029832	-.031124	-.034303	-.037307			
.350	.049026	.003487	-.008105	-.014616	-.010099	-.008770	-.003495	-.003807	-.004303	-.005877	-.006262	-.008351
	-.011633	-.015311	-.021072	-.023907	-.027272	-.030745	-.034898	-.036203	-.038299			
.400	.040508	.001383	-.010266	-.012447	-.011350	-.010549	-.007385	-.004559	-.005187	-.005759	-.008216	-.011057
	-.014561	-.017424	-.021129	-.025144	-.029718	-.033393	-.036282	-.038076	-.038768			
.450	.032317	-.002309	-.013220	-.015857	-.013420	-.007985	-.008624	-.006773	-.007686	-.009128	-.008486	-.012453
	-.014931	-.020065	-.023851	-.026846	-.030958	-.033339	-.037421	-.040173	-.042339			
.500	.018080	-.002692	-.013524	-.017028	-.017993	-.011116	-.007332	-.007855	-.007451	-.010319	-.012963	-.014798
	-.018562	-.021491	-.024274	-.028923	-.032109	-.036115	-.039599	-.041182	-.042446			
.600	.020832	-.001276	-.010419	-.015099	-.014386	-.014226	-.013563	-.011754	-.012966	-.015004	-.017231	-.019086
	-.021376	-.026206	-.029886	-.033133	-.037964	-.041284	-.043432	-.044431	-.045429			
.700	.001309	-.004798	-.010905	-.014763	-.015341	-.015964	-.017024	-.018084	-.018067	-.017739	-.019248	-.022903
	-.026568	-.031291	-.034013	-.038356	-.042826	-.046340	-.048955	-.051593	-.054323			
.800	.041524	.034978	.028432	.021860	.015246	.008632	.002186	-.003937	-.010060	-.015977	-.021424	-.026871
	-.031840	-.035512	-.039184	-.042754	-.045989	-.049224	-.052261	-.054495	-.056729			
.900	.045388	.041996	.038604	.035212	.031820	.026961	.021219	.015478	.009736	.003179	-.003818	-.010815
	-.017811	-.024014	-.029836	-.035658	-.041480	-.045631	-.049070	-.052509	-.055948			

.950	.046237	.043128	.040019	.036910	.033164	.029021	.024878	.020736	.016593	.011001	.005276	-.000449
	-.006174	-.011970	-.018023	-.024077	-.030130	-.036184	-.042747	-.049790	-.056832			
1.000	.034935	.032540	.030145	.027750	.025356	.022961	.020566	.018172	.015467	.012048	.008628	.005209
	.001790	-.001630	-.005037	-.008433	-.011830	-.015227	-.018623	-.022020	-.025417			

THICKNESS PRESSURE + BODY PRESSURE

XPCT	0.00	5.00	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00	55.00
	60.00	65.00	70.00	75.00	80.00	85.00	90.00	95.00	100.00			
Y/B/2 /												
0.000	0.000000	.007170	.015634	.020428	.012819	.007865	.005974	.003529	.002812	.005289	.003304	.000610
	.000152	-.001317	-.003687	-.004127	-.007770	-.013485	-.017613	-.021552	-.026497			
.025	-.033020	-.031812	-.027588	-.014286	-.004263	.002709	.009431	.005443	.000209	-.001496	-.003232	-.006022
	-.007336	-.011242	-.016496	-.024748	-.034023	-.041477	-.045041	-.052278	-.060438			
.050	-.010811	-.014983	-.014070	-.013670	-.002593	.001685	.004183	.004788	.002909	.000144	-.000325	-.002375
	-.006072	-.009528	-.012065	-.017702	-.025111	-.032200	-.038430	-.043854	-.049860			
.075	.021681	-.009192	-.016704	-.018906	-.008364	.000092	.001209	.005037	.003647	-.000697	-.003803	-.000970
	-.005536	-.008810	-.012325	-.018029	-.024478	-.030034	-.037031	-.041880	-.045599			
.100	.050637	-.010317	-.025335	-.016465	-.007774	-.002578	-.000146	.003737	.001971	-.000206	-.000188	-.002476
	-.006861	-.010271	-.014839	-.019927	-.025165	-.030727	-.037232	-.041892	-.044079			
.125	.081419	-.009512	-.023945	-.015959	-.009284	-.003108	-.001002	.001812	.001672	-.000219	-.001773	-.003245
	-.005893	-.010723	-.016707	-.020898	-.024872	-.030513	-.036276	-.041773	-.044592			
.150	.121765	-.008211	-.026847	-.017176	-.008292	-.003748	-.003000	.001541	.001263	-.001882	-.002777	-.001973
	-.006671	-.013155	-.017238	-.019382	-.024624	-.030755	-.034981	-.039424	-.043766			
.200	.038911	-.018760	-.023566	-.013766	-.011555	-.006138	-.001377	-.000400	-.002074	-.001603	-.002287	-.005690
	-.009459	-.013267	-.018319	-.022717	-.025798	-.029741	-.034401	-.038687	-.041991			
.250	.029062	-.017569	-.025275	-.016808	-.013874	-.009096	-.004918	-.000737	-.001122	-.003480	-.004359	-.006241
	-.009682	-.014615	-.019481	-.022642	-.026214	-.030472	-.034427	-.037952	-.040360			
.300	.016610	-.018135	-.023496	-.020912	-.013477	-.009927	-.006535	-.002943	-.003608	-.001891	-.005472	-.008445
	-.012269	-.015717	-.018765	-.024777	-.028522	-.032621	-.034446	-.037866	-.041570			
.350	.038812	-.017344	-.019302	-.024492	-.016442	-.012383	-.005373	-.004134	-.003955	-.005759	-.006666	-.009191
	-.012686	-.017387	-.022201	-.025301	-.029043	-.032866	-.037413	-.039165	-.041525			
.400	.030732	-.009091	-.020480	-.020857	-.016738	-.013772	-.009151	-.005111	-.004870	-.005495	-.008410	-.011638
	-.015422	-.018432	-.022135	-.026205	-.031009	-.035005	-.038178	-.040298	-.041346			
.450	.022698	-.012273	-.022597	-.022945	-.017953	-.010869	-.010298	-.007339	-.007394	-.008806	-.008473	-.012800
	-.015589	-.020910	-.024802	-.027794	-.031950	-.034471	-.038831	-.041825	-.044241			
.500	.008575	-.011825	-.021583	-.022834	-.021707	-.013622	-.008857	-.008443	-.007179	-.010021	-.012808	-.014959
	-.018997	-.022184	-.025091	-.029825	-.033009	-.037044	-.040577	-.042392	-.043878			
.500	.012766	-.007829	-.015371	-.018535	-.016972	-.016040	-.014734	-.012268	-.012813	-.014743	-.016952	-.018955

	-.021459	-.026491	-.030347	-.033768	-.038683	-.042088	-.044255	-.045252	-.046267			
.700	-.002888	-.009008	-.013579	-.016903	-.017018	-.017237	-.017894	-.018536	-.018101	-.017507	-.019005	-.022650
	-.026324	-.030177	-.034031	-.038506	-.043093	-.046715	-.049437	-.052181	-.054962			
.800	.035661	.029918	.024122	.018305	.012338	.006116	.000062	-.005682	-.011512	-.017135	-.022290	-.027436
	-.032101	-.035469	-.038967	-.042529	-.045757	-.048984	-.052034	-.054361	-.056688			
.900	.038424	.035143	.031861	.028581	.025467	.021208	.016066	.010918	.005745	-.000243	-.006671	-.013378
	-.020085	-.025999	-.031531	-.037135	-.042742	-.046678	-.049902	-.053121	-.056337			
.950	.039420	.036229	.033128	.030110	.026455	.022404	.018353	.014302	.010442	.005354	.000135	-.005084
	-.010325	-.015642	-.021217	-.026822	-.032635	-.038447	-.044778	-.051571	-.058398			
1.000	.028547	.026087	.023628	.021168	.018708	.016249	.013820	.011499	.008868	.005521	.002175	-.001171
	-.004517	-.007863	-.010909	-.013893	-.016878	-.019862	-.022857	-.025863	-.028869			

BODY PRESSURE DATA

X	CPB	CPW/B	BODY DRAG	WING INTF.
2.950000	.095878	0.000000	.060976	0.000000
8.850000	.180834	0.000000	.215200	0.000000
14.750000	.055959	0.000000	.379617	0.000000
20.650000	.036190	0.000000	.462943	0.000000
26.550000	.027675	0.000000	.537883	0.000000
32.450000	.019415	0.000000	.591464	0.000000
38.350000	.013288	0.000000	.622084	0.000000
44.250000	.010823	0.000000	.649031	0.000000
50.150000	.010083	0.000000	.672410	0.000000
56.050000	.007112	0.000000	.687352	0.000000
61.950000	.000367	0.000000	.688161	0.000000
67.850000	-.006723	0.000000	.680347	0.000000
73.750000	-.012123	0.000000	.672022	0.000000
79.650000	-.015845	0.000000	.661589	0.000000
85.550000	-.019527	.009768	.667313	-.010480
91.450000	-.020538	.013311	.675655	-.030365
97.350000	-.021982	.006850	.684860	-.040818
103.250000	-.021953	.007066	.701601	-.060541
109.150000	-.016753	.009677	.713931	-.086608
115.050000	-.010093	.011143	.719931	-.110854
120.950000	-.005268	.010623	.720901	-.118011
126.850000	-.002787	.008588	.721407	-.123717
132.750000	.000788	.006276	.721360	-.125078
138.650000	.002361	.005305	.721643	-.122753
144.550000	.000802	.004646	.721739	-.120717
150.450000	-.000570	.003863	.721710	-.119998
156.350000	-.001455	.002850	.721710	-.119998
162.250000	-.001787	.002310	.721710	-.119998
168.150000	-.001808	.002122	.721791	-.120346
174.050000	-.002249	.001426	.721924	-.120654
179.950000	-.003148	.000117	.722110	-.120680
185.850000	-.003909	-.001201	.722997	-.119682
191.750000	-.004939	-.002227	.724180	-.117729
197.650000	-.005259	-.003569	.725586	-.114238
203.550000	-.006947	-.005518	.728607	-.104148
209.450000	-.008328	-.007923	.732774	-.089639
215.350000	-.010536	-.010078	.739586	-.065791
221.250000	-.012289	-.012377	.752041	-.019879
227.150000	-.013619	-.015329	.765811	.036851
233.050000	-.013254	-.018523	.782368	.121536
238.950000	-.014302	-.021318	.804035	.239744
244.850000	-.017652	-.023706	.830278	.368735
250.750000	-.019038	-.024824	.867081	.544371
256.650000	-.023576	-.024965	.909181	.731321
262.550000	-.022204	-.022138	.950103	.880655
268.450000	-.021121	-.012199	.997962	.981827
274.350000	-.018620	-.004827	1.034569	1.016561
280.250000	-.011814	.000313	1.052332	1.014840
286.150000	.008443	.002365	1.041251	1.003480
292.050000	.093860	.002163	1.000000	1.000000

NEAR-FIELD WAVE DRAG MACH NO.= 2.7000

SECTION DRAG COEFFICIENTS

Y/B/2	CDW/C	CDBOW/C	CDNOW/C	SUM CD/C	DRAG FR.	CHORD
0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	166.07000
.02500	0.00000	0.00000	0.00000	0.00000	0.00000	166.07000
.05000	0.00000	0.00000	0.00000	0.00000	0.00000	166.07000
.07500	.00046	-.00003	-.00005	.00039	.02962	166.06731
.10000	.00133	-.00007	-.00013	.00113	.08379	160.13300
.12500	.00148	-.00010	-.00015	.00122	.08730	154.19519
.15000	.00152	-.00013	-.00017	.00122	.08366	148.25869
.20000	.00096	-.00016	-.00019	.00062	.03884	136.39331
.25000	.00097	-.00018	-.00019	.00061	.03502	124.61067
.30000	.00093	-.00018	-.00023	.00051	.02694	113.93947
.35000	.00101	-.00018	-.00037	.00046	.02174	103.26828
.40000	.00103	-.00018	-.00041	.00045	.01908	92.59709
.45000	.00109	-.00018	-.00033	.00058	.02180	81.92590
.50000	.00098	-.00017	-.00025	.00056	.01874	72.16113
.60000	.00103	-.00013	-.00026	.00064	.01594	54.02146
.70000	.00104	-.00008	-.00029	.00068	.01129	35.88180
.80000	.00184	-.00010	0.00000	.00174	.02196	27.36278
.90000	.00211	-.00014	0.00000	.00197	.01900	20.91389
.95000	.00183	-.00011	0.00000	.00171	.01400	17.67444
1.00000	.00128	-.00005	0.00000	.00123	.00818	14.44500

DRAG TERMS

CDW= .001154 CDB= .000468 CDB/W= -.000131 CDW/B= .000128 CD WING-BODY= .001519

NACELLE DRAG COEFFICIENTS

NACELLE(S) AT Y=	16.33000	31.25000
Z=	-5.80000	-4.90000
WETTED AREA	1535.75183	1535.75183
ISOL. CDWAVE	.00016	.00016
BODY-ON-NACELLE CD	-.00030	-.00000
NACELLE-ON-BODY CD	-.00002	-.00001
OTHER NACELLES EFFECT CD		
DIRECT EFFECT	.00000	-.00002
NAC-ON-ITSELF(IMAGE)	-.00001	.00000
OTHER NAC IMAGES	0.00000	-.00001
WING-ON-NACELLE CD	-.00013	-.00001
NACELLE-ON-WING CD	-.00020	

SUM NACELLE CD= .00002

EMPENNAGE DRAG COEFFICIENTS

CANARD 1 = .00002
FIN 1 = .00007
FIN 2 = .00003

TOTAL CD= .001659 REF. AREA= 9898.0000
BODY SWET= 7872.03 WING SWET= 18015.25

----TOTAL ELAPSED TIME, CP= 29.675 ----

PROGRAM CONTROL CARD
WPLT

PROGRAM WPLT, WING SURFACE PRESSURE SUMMARY

WING PRESSURE SUMMARY

DWL= 1.00 DWT= 1.00 DN= 1.00 DF= 1.00 DPRINT= 1.00 LINES/PAGE= 53
KLIFT= 2 KTHIK= 1 KNPF= 1 KFUSG= 1

WING PLANFORM DATA

Y/B/2	Y	XLE	XTE	CHORD
0.0000	0.00000	77.32800	243.39800	166.07000
.0250	1.65625	77.32800	243.39800	166.07000
.0500	3.31250	77.32800	243.39800	166.07000
.0750	4.96875	77.33061	243.39793	166.06731
.1000	6.62500	83.10400	243.23700	160.13300
.1250	8.28125	88.87992	243.07511	154.19519
.1500	9.93750	94.65589	242.91459	148.25869
.1750	11.59375	100.43211	242.75802	142.32600
.2000	13.25000	106.20813	242.60145	136.39331
.2250	14.90625	111.98425	242.44488	130.46062
.2500	16.56250	117.76033	242.37100	124.61067
.2750	18.21875	123.53617	242.81124	119.27507
.3000	19.87500	129.31200	243.25148	113.93947
.3250	21.53125	135.08734	243.69172	108.60388
.3500	23.18750	140.86367	244.13195	103.26828
.3750	24.84375	146.63951	244.57219	97.93268
.4000	26.50000	152.41534	245.01243	92.59709
.4250	28.15625	158.19118	245.45267	87.26149
.4500	29.81250	163.96701	245.89291	81.92590
.4750	31.46875	169.74295	246.43900	76.69605
.5000	33.12500	175.51960	247.68073	72.16113
.5250	34.78125	181.29625	248.92246	67.62621
.5500	36.43750	187.07289	250.16419	63.09130
.5750	38.09375	192.84954	251.40592	58.55638
.6000	39.75000	198.62619	252.64765	54.02146
.6250	41.40625	204.40284	253.88938	49.48655
.6500	43.06250	210.17948	255.13111	44.95163
.6750	44.71875	215.95613	256.37284	40.41671
.7000	46.37500	221.73278	257.61457	35.88180
.7250	48.03125	226.65226	258.85920	32.20694
.7500	49.68750	229.52115	260.11337	30.59222
.7750	51.34375	232.39003	261.36753	28.97750
.8000	53.00000	235.25892	262.62169	27.36278
.8250	54.65625	238.12780	263.87586	25.74805
.8500	56.31250	240.99669	265.13002	24.13333
.8750	57.96875	243.86557	266.38418	22.51861
.9000	59.62500	246.73446	267.63835	20.90389
.9250	61.28125	249.60334	268.89251	19.28917
.9500	62.93750	252.47223	270.14667	17.67444
.9750	64.59375	255.34111	271.40084	16.05972
1.0000	66.25000	258.21000	272.65500	14.44500

TABLE OF CAMBER CP AT BASIC ALPHA
ALPHA=0.0000 DEG.

XPCT	0.00 90.00	5.00 100.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00
Y/B/2										
0.000	.00029 .03142	.00161 .07038	.00562	.02642	.06298	.10238	.11251	.08341	.05382	.03527
.025	.00037 .03443	.00227 .07468	.00671	.02814	.06519	.10355	.11136	.08238	.05311	.03501
.050	.00189 .04749	.00480 .09308	.01033	.03357	.07225	.10772	.10774	.07721	.05013	.03435
.075	.00616 .06787	.01013 .09111	.01699	.04634	.09434	.11815	.09471	.06753	.04138	.03533
.100	.03776 .04925	.03774 .07567	.04537	.07026	.09031	.10231	.08867	.06381	.03834	.02714
.125	.05681 .04148	.05433 .06716	.06012	.07897	.09267	.09524	.08699	.06393	.03812	.02308
.150	.07431 .03454	.06892 .05824	.07234	.08710	.09683	.09947	.08568	.06449	.03838	. 1972
.175	.08916 .02884	.08196 .05074	.08317	.09524	.10172	.10051	.08675	.06462	.03795	.01721
.200	.09998 .02312	.09327 .04335	.09397	.10279	.10704	.10187	.08731	.06439	.03691	.01612
.225	.11267 .01776	.10405 .03674	.10394	.11075	.11169	.10391	.08821	.06435	.03643	.01565
.250	.12097 .01417	.11504 .03103	.11419	.11827	.11631	.10664	.08953	.06467	.03660	.01595
.275	.13223 .01479	.12701 .02836	.12504	.12485	.12186	.11000	.09172	.06572	.03818	.01838
.300	.14186 .01831	.13506 .02800	.13152	.13124	.12749	.11381	.09415	.06791	.04085	.02164
.325	.14792 .02229	.14367 .02998	.14037	.13797	.13211	.11737	.09651	.07065	.04355	.02462
.350	.15516 .02734	.15023 .03274	.14641	.14311	.13657	.12040	.09962	.07404	.04654	.02914
.375	.15929 .03189	.15516 .03506	.15096	.14793	.13979	.12392	.10368	.07774	.05187	.03411
.400	.16470 .03589	.16212 .03642	.15790	.15189	.14292	.12866	.10806	.08205	.05630	.03945

.425	.17041 .03811	.16435 .03503	.15884	.15399	.14716	.13365	.11268	.08738	.06202	.04509
.450	.17143 .03978	.16827 .03436	.16380	.16016	.15190	.13830	.11772	.09282	.06885	.05073
.475	.17386 .04190	.17203 .03411	.16895	.165[illegible]0	.15664	.14308	.12235	.09896	.07646	.05694
.500	.17574 .04764	.17379 .03825	.17147	.16822	.16100	.14640	.12645	.10472	.08402	.06393
.525	.17786 .05549	.17935 .04639	.17706	.17299	.16403	.14945	.13155	.11202	.09167	.07213
.550	.18257 .06493	.17961 .05160	.17667	.17172	.16491	.15332	.13934	.11882	.09954	.08110
.575	.18061 .07513	.18043 .06359	.17925	.17530	.16913	.15741	.14226	.12465	.10681	.08989
.600	.17985 .08659	.18153 .07769	.18060	.17737	.17084	.15592	.14595	.13053	.11476	.9989
.625	.17979 .09921	.17898 .08459	.17818	.17430	.16972	.16117	.14982	.13731	.12370	.11109
.650	.17521 .11210	.17654 .09999	.17692	.17387	.16975	.16305	.15494	.14390	.13347	.12297
.675	.17217 .12468	.17209 .11576	.17198	.17116	.16885	.16480	.15920	.15220	.14387	.13433
.700	.17197 .13318	.17272 .11623	.17346	.17348	.17210	.16544	.16523	.15912	.15137	.14268
.725	.17969 .13613	.17979 .12467	.17988	.17825	.17511	.17076	.16574	.15958	.15252	.14470
.750	.16676 .13696	.16645 .12963	.16615	.16542	.16439	.16184	.15867	.15482	.14994	.14381
.775	.15541 .13325	.15584 .12838	.15614	.15642	.15601	.15470	.15201	.14813	.14347	.13811
.800	.14632 .12323	.14737 .11444	.14841	.14898	.14857	.14672	.14385	.14025	.13533	.12965
.825	.13817 .11879	.13861 .11352	.13914	.14007	.13990	.13856	.13605	.13236	.12832	.12381
.850	.13077 .11516	.13051 .11227	.13025	.12972	.12902	.12810	.12631	.12419	.12096	.11785
.875	.12023 .11082	.12072 .10693	.12122	.12164	.12157	.12082	.11978	.11813	.11637	.11377
.900	.11257 .10725	.11275 .10501	.11293	.11328	.11343	.11354	.11276	.11180	.11060	.10935

.925	.10900 .10239	.10882 .10085	.10863	.10826	.10788	.10760	.10733	.10640	.10533	.10394
.950	.10554 .09287	.10584 .08523	.10613	.10626	.10534	.10442	.10270	.10094	.09885	.09655
.975	.09778 .07432	.09739 .07024	.09639	.09500	.09329	.09096	.08863	.08576	.08271	.07941
1.000	.07240 .04716	.07108 .04470	.06975	.06711	.06446	.06172	.05843	.05514	.05209	.04962

TABLE OF FLAT PLATE CP AT 1 DEG ANGLE OF ATTACK

XPCT Y/B/2	0.00 90.00	5.00 100.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00
0.000	.00044 .01260	.00148 .01589	.00410	.01181	.01641	.01935	.02134	.01893	.01523	.01268
.025	.00050 .01287	.00193 .01612	.00455	.01193	.01659	.01962	.02129	.01884	.01513	.01259
.050	.00177 .01393	.00352 .01737	.00609	.01231	.01718	.02070	.02140	.01828	.01474	.01242
.075	.00515 .01512	.00627 .01610	.00822	.01330	.01963	.02324	.02103	.01794	.01317	.01190
.100	.02160 .01265	.01648 .01442	.01390	.01521	.01792	.02054	.01987	.01772	.01435	.01209
.125	.03137 .01237	.02239 .01381	.01735	.01508	.01761	.01973	.01946	.01808	.01532	.01293
.150	.03925 .01263	.02684 .01352	.01981	.01548	.01759	.01952	.01924	.01849	.01620	.01371
.175	.04141 .01310	.02974 .01345	.02145	.01623	.01776	.01931	.01927	.01875	.01699	.01440
.200	.04673 .01365	.03290 .01358	.02412	.01678	.01820	.01910	.01946	.01894	.01754	.01509
.225	.05325 .01427	.03583 .01385	.02614	.01748	.01834	.01926	.01960	.01921	.01786	.01586
.250	.05229 .01495	.03836 .01410	.02793	.01817	.01854	.01963	.01977	.01942	.01817	.01663
.275	.05799 .01564	.04185 .01440	.03056	.01833	.01922	.01987	.02012	.01941	.01859	.01724

.300	.05697	.04319	.03139	.01936	.01985	.02022	.02028	.01948	.01939	.01781
	.01641	.01479								
.325	.06151	.04634	.03423	.02141	.02037	.02073	.02027	.01986	.01944	.01841
	.01695	.01534								
.350	.06752	.04962	.03667	.02308	.02120	.02085	.02055	.02033	.01978	.01906
	.01738	.01603								
.375	.06479	.05092	.03819	.02486	.02145	.02109	.02115	.02069	.02024	.01942
	.01788	.01689								
.400	.07044	.05527	.04209	.02686	.02148	.02183	.02161	.02111	.02067	.01963
	.01852	.01775								
.425	.06845	.05568	.04330	.02817	.02218	.02252	.02238	.02178	.02184	.01997
	.01928	.01783								
.450	.07313	.05931	.04546	.03111	.02304	.02[illegible]8	.02291	.02206	.02132	.02051
	.01991	.01852								
.475	.07913	.06368	.04980	.03388	.02408	.02394	.02331	.02221	.02150	.02116
	.02035	.01927								
.500	.07533	.06348	.05179	.03598	.02597	.02424	.02344	.02266	.02229	.02149
	.02071	.02037								
.525	.08124	.06872	.05569	.03961	.02806	.02413	.02393	.02366	.02271	.02181
	.02152	.02137								
.550	.07871	.06818	.05769	.04055	.02976	.02470	.02508	.02414	.02310	.02266
	.02258	.02280								
.575	.08352	.07229	.06098	.04380	.03317	.02636	.02531	.02460	.02416	. 2392
	.02411	.02445								
.600	.08978	.07769	.06559	.04769	.03647	.02812	.02547	.02588	.02578	.02571
	.02593	.02581								
.625	.08525	.07591	.06656	.04895	.03888	.03083	.02718	.02774	.02774	.02786
	.02766	.02727								
.650	.09018	.08185	.07137	.05407	.04409	.03607	.03175	.02960	.02997	.03000
	.02935	.02860								
.675	.09777	.08669	.07670	.06021	.04959	.04204	.03577	.03192	.03193	.03144
	.03065	.02973								
.700	.09618	.08871	.08135	.06705	.05589	.04801	.04142	.03512	.03264	.03199
	.03128	.02972								
.725	.10245	.09585	.08926	.07558	.06343	.05360	.04529	.03980	.03496	.03211
	.03130	.03113								
.750	.09491	.09066	.08642	.07724	.06653	.05758	.05013	.04381	.03799	.03463
	.03271	.03182								
.775	.09580	.09372	.08613	.07834	.07021	.06225	.05481	.04874	.04307	.03783
	.03579	.03375								

.800	.08754	.08581	.08408	.07904	.07309	.06623	.05962	.05327	.04769	.04244
	.03752	.03373								
.825	.08219	.08131	.08043	.07839	.07407	.06896	.06304	.05723	.05164	.04664
	.04212	.03784								
.850	.07822	.07750	.07677	.07532	.07294	.06941	.06535	.06037	.05544	.05096
	.04760	.04424								
.875	.07476	.07459	.07442	.07375	.07280	.07060	.06784	.06409	.06017	.05575
	.05098	.04435								
.900	.07046	.07061	.07077	.07108	.07085	.07050	.06858	.06632	.06313	.05976
	.05558	.05127								
.925	.06744	.06753	.06761	.06779	.06797	.06785	.06771	.06620	.06436	.06203
	.05944	.05685								
.950	.06192	.06272	.06352	.06475	.06516	.06556	.06518	.06478	.06334	.06123
	.05785	.05083								
.975	.05783	.05817	.05850	.05917	.05956	.05941	.05926	.05826	.05697	.05535
	.05234	.04873								
1.000	.04637	.04617	.04598	.04558	.04519	.04466	.04342	.04217	.04089	.03950
	.03811	.03672								

NACELLE PRESSURE FIELD

Y/B/2 PER CENT CHORD AND PRESSURE COEFFICIENT

NACELLES BELOW WING

0.000	0.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.001	100.001
	100.001	100.001	100.001	100.001	100.001	100.001	100.001	100.001				
	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000				
.025	0.000	99.361	99.367	99.407	99.447	99.488	99.528	99.568	99.609	99.649	99.689	99.729
	99.770	99.810	99.850	99.891	99.931	99.971	100.011	100.052				
	0.00000	0.03800	.03667	.03654	.03642	.03630	.03618	.03606	.03593	.03581	.03569	.03557
	.03545	.03532	.03520	.03508	.03496	.03484	.03472	.03460				
.050	0.000	97.165	97.171	97.349	97.526	97.704	97.881	98.059	98.236	98.414	98.591	98.769
	98.946	99.124	99.301	99.479	99.656	99.834	100.011	100.189				
	0.00000	0.00000	.03894	.03836	.03778	.03721	.03663	.03606	.03550	.03493	.03436	.03379
	.03322	.03266	.03209	.03153	.03097	.03041	.02985	.02929				
.075	0.000	95.021	95.027	95.339	95.651	95.962	96.273	96.585	96.896	97.208	97.519	97.831
	98.142	98.454	98.765	99.077	99.388	99.700	100.011	100.323				
	0.00000	0.00000	.04156	.04047	.03938	.03829	.03722	.03615	.03507	.03400	.03294	.03189
	.03083	.02980	.02878	.02775	.02675	.02575	.02475	.02377				
.100	0.000	92.790	92.796	93.247	93.698	94.149	94.600	95.051	95.502	95.953	96.404	96.855

	97.306	97.757	98.208	98.659	99.110	99.561	100.012	100.398				
	0.00000	0.00000	.04458	.04294	.04129	.03967	.03804	.03642	.03481	.03322	.03165	.03010
	.02858	.02706	.02556	.02408	.02261	.02115	.01971	.01848				
.125	0.000	90.497	90.504	91.098	91.692	92.287	92.881	93.475	94.070	94.664	95.258	95.852
	96.447	97.041	97.635	98.229	98.824	99.418	100.012	100.456				
	0.00000	0.00000	.04809	.04582	.04354	.04130	.03906	.03683	.03463	.03249	.03038	.02829
	.02624	.02420	.02219	.02021	.01872	.01902	.01856	.01718				
.15	0.000	88.182	88.189	88.928	89.667	90.406	91.145	91.884	92.623	93.362	94.101	94.840
	95.579	96.318	97.057	97.796	98.535	99.274	100.013	100.752				
	0.00000	0.00000	.05210	.04913	.04616	.04322	.04030	.03741	.03461	.03186	.02915	.02648
	.02385	.02126	.01949	.02071	.01821	.01377	.00937	.00503				
.200	0.000	83.858	83.866	84.875	85.884	86.893	87.903	88.912	89.921	90.930	91.940	92.949
	93.958	94.968	95.977	96.986	97.995	99.005	100.014	100.913				
	0.00000	0.00000	.06188	.05645	.05202	.04762	.04329	.03909	.03500	.03100	.02709	.02357
	.02379	.02120	.01450	.00784	.00131	-.00484	-.01032	-.01497				
.246	0.000	81.261	81.269	82.441	83.612	84.784	85.956	87.127	88.299	89.470	90.642	91.814
	92.985	94.157	95.329	96.500	97.672	98.844	100.015	100.981				
	0.00000	0.00000	.06530	.06023	.05508	.05001	.04503	.04025	.03557	.03100	.02653	.02382
	.02370	.01693	.00914	.00153	-.00557	-.01187	-.01837	-.02450				
.247	0.000	81.254	81.262	82.434	83.606	84.778	85.950	87.122	88.294	89.467	90.639	91.811
	92.983	94.155	95.327	96.499	97.671	98.843	100.015	100.981				
	0.00000	0.00000	.06530	.06023	.05508	.05001	.04503	.04025	.03557	.03100	.02653	.02382
	.02370	.01693	.00914	.00153	-.00557	-.01187	-.01837	-.02450				
.250	0.000	81.105	81.113	82.294	83.476	84.657	85.839	87.020	88.201	89.383	90.564	91.746
	92.927	94.108	95.290	96.471	97.652	98.834	100.015	100.949				
	0.00000	0.00000	.06527	.06017	.05504	.04996	.04497	.04018	.03550	.03092	.02645	.02389
	.02360	.01674	.00895	.00133	-.00575	-.01205	-.01860	-.02449				
.300	0.000	80.575	80.584	81.972	83.360	84.748	86.136	87.524	88.912	90.300	91.688	93.076
	94.464	95.852	96.707	96.716	98.104	99.492	100.248	100.248				
	0.00000	0.00000	.05970	.05472	.04975	.04483	.04004	.03541	.03088	.02648	.02271	.02319
	.01775	.01020	.00563	.04786	.03721	.02746	.02235	.02239				
.350	0.000	82.649	82.659	83.899	85.139	86.379	87.615	88.764	88.774	90.014	91.254	92.494
	93.734	94.974	96.214	97.454	98.694	99.934	100.512	101.512				
	0.00000	0.00000	.05092	.04754	.04417	.04083	.03753	.03455	.08402	.07760	.07125	.06498
	.05881	.05320	.05106	.04549	.03756	.02970	.02606	.02606				
.400	0.000	79.933	79.944	81.378	82.812	84.246	85.680	86.640	86.651	88.085	89.519	90.953
	92.387	93.821	95.255	96.689	98.123	99.557	100.992	101.107				
	0.00000	0.00000	.05957	.05540	.05122	.04709	.04300	.04033	.08399	.07713	.07040	.06375
	.05722	.05156	.04981	.04375	.03404	.02523	.01722	.01659				
.450	0.000	71.414	71.427	73.469	75.512	77.554	79.597	81.640	83.682	85.725	87.767	89.810

	91.853	92.448	92.460	94.503	96.546	98.588	100.583	100.583				
	0.00000	0.00000	.07015	.06386	.05756	.05133	.04530	.03948	.03383	.02831	.02602	.02401
	.01426	.01146	.04967	.03699	.02513	.01428	.00288	.00288				
.472	0.000	68.608	68.621	73.864	73.107	75.350	77.593	79.836	82.080	84.323	86.566	88.809
	91.052	93.295	95.538	95.598	95.611	97.854	100.097	100.148				
	0.00000	0.00000	.07180	.06511	.05841	.05180	.04541	.03926	.03328	.02766	.02812	.02118
	.01081	.00072	-.00837	-.00860	.02772	.01652	.00373	.00344				
.472	0.000	68.583	68.596	70.841	73.086	75.331	77.576	79.820	82.065	84.310	86.555	88.800
	91.045	93.290	95.535	95.625	95.638	97.883	100.128	100.139				
	0.00000	0.00000	.07180	.06511	.05840	.05180	.04541	.03925	.03327	.02765	.02813	.02116
	.01078	.00069	-.00840	-.00874	.02755	.01637	.00355	.00348				
.500	0.000	65.513	65.526	67.991	70.455	72.919	75.384	77.848	80.312	82.776	85.241	87.705
	90.169	92.634	95.098	97.562	99.196	99.210	100.196	100.196				
	0.00000	0.00000	.06910	.06252	.05594	.04946	.04320	.03718	.03131	.02612	.02621	.01837
	.00827	-.00154	-.01012	-.01821	-.02460	.00952	.00446	.00446				
.600	0.000	64.397	64.416	66.642	68.868	71.095	73.321	75.547	77.773	79.999	82.226	84.452
	86.678	88.904	91.130	93.357	95.583	97.809	100.035	102.261				
	0.00000	0.00000	.04839	.04539	.04241	.03944	.03650	.03363	.03082	.02807	.02536	.02269
	.02007	.01823	.01912	.01619	.01175	.00738	.00306	-.00119				
.700	0.000	72.855	72.883	74.581	76.279	77.977	79.676	81.374	83.072	84.770	86.468	88.166
	89.864	91.562	93.260	94.959	96.657	98.355	100.053	101.751				
	0.00000	0.00000	.03650	.03540	.03430	.03321	.03212	.03103	.02994	.02887	.02780	.02674
	.02570	.02467	.02365	.02263	.02162	.02062	.01962	.01863				
.800	0.000	100.000	100.000	100.001	100.001	100.001	100.002	100.002	100.003	100.003	100.003	100.004
	100.004	100.004	100.005	100.005	100.005	100.006	100.006	100.007				
	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000				
.900	0.000	100.000	100.000	100.001	100.001	100.002	100.002	100.003	100.003	100.004	100.004	100.005
	100.005	100.006	100.006	100.007	100.007	100.008	100.008	100.009				
	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000				
.950	0.000	100.000	100.001	100.001	100.002	100.002	100.003	100.003	100.004	100.005	100.005	100.006
	100.006	100.007	100.007	100.008	100.008	100.009	100.010	100.010				
	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000				
1.000	0.000	100.000	100.001	100.001	100.002	100.003	100.003	100.004	100.005	100.006	100.006	100.007
	100.008	100.008	100.009	100.010	100.010	100.011	100.012	100.012				
	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000				

PRESSURE COEFFICIENTS DUE TO FUSELAGE AREA DISTRIBUTION

ABOVE-WING PRESSURE COEFFICIENTS

XPCT	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.0
Y/B/2											
0.000	-.0247	-.0659	-.0253	.0280	.0124	-.0084	-.0179	-.0255	-.0263	-.0108	-.0145
.025	-.0247	-.0659	-.0253	.0280	.0124	-.0084	-.0179	-.0255	-.0263	-.0108	-.0145
.050	-.0247	-.0659	-.0253	.0280	.0124	-.0084	-.0179	-.0255	-.0263	-.0108	-.0145
.075	-.0247	-.0659	-.0253	.0280	.0124	-.0084	-.0179	-.0255	-.0263	-.0108	-.0145
.100	-.0406	-.0566	-.0065	.0312	.0047	-.0100	-.0187	-.0257	-.0253	-.0108	-.0119
.125	-.0401	-.0497	-.0041	.0280	.0059	-.0078	-.0152	-.0207	-.0256	-.0116	-.0028
.150	-.0400	-.0443	-.0014	.0256	.0069	-.0062	-.0125	-.0187	-.0252	-.0127	-.0035
.175	-.0400	-.0400	.0012	.0238	.0077	-.0051	-.0105	-.0174	-.0224	-.0144	-.0062
.200	-.0402	-.0357	.0037	.0223	.0084	-.0041	-.0098	-.0156	-.0198	-.0177	-.0083
.250	-.0390	-.0281	.0089	.0200	.0095	-.0026	-.0085	-.0118	-.0144	-.0193	-.0112
.300	-.0364	-.0213	.0111	.0184	.0098	-.0014	-.0061	-.0088	-.0133	-.0158	-.0163
.350	-.0344	-.0174	.0118	.0172	.0103	-.0005	-.0042	-.0074	-.0105	-.0122	-.0158
.400	-.0301	-.0144	.0105	.0163	.0103	.0004	-.0029	-.0064	-.0078	-.0109	-.0119
.450	-.0249	-.0113	.0103	.0155	.0104	.0022	-.0018	-.0044	-.0065	-.0083	-.0108
.500	-.0164	.0003	.0109	.0149	.0102	.0036	-.0008	-.0030	-.0054	-.0062	-.0084
.550	-.0126	.0084	.0118	.0140	.0098	.0045	-.0001	-.0020	-.0037	-.0058	-.0061
.600	-.0044	.0087	.0125	.0129	.0095	.0053	.0008	-.0011	-.0025	-.0040	-.0056
.700	.0087	.0115	.0125	.0111	.0090	.0067	.0040	.0013	-.0003	-.0012	-.0021
.800	.0073	.0082	.0103	.0113	.0115	.0102	.0088	.0073	.0055	.0036	.0017
.900	-.0100	-.0049	.0067	.0072	.0083	.0099	.0105	.0110	.0104	.0094	.0084
1.000	-.0188	-.0171	-.0129	-.0104	-.0093	-.0071	.0063	.0066	.0069	.0078	.0089

BELOW-WING PRESSURE COEFFICIENTS

XPCT	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00
Y/B/2											
0.000	-.0072	-.0077	-.0321	-.0444	-.0302	-.0007	.0077	.0129	.0001	-.0178	-.0366
.025	-.0072	-.0077	-.0321	-.0444	-.0302	-.0007	.0077	.0129	.0001	-.0178	-.0366
.050	-.0072	-.0077	-.0321	-.0444	-.0302	-.0007	.0077	.0129	.0001	-.0178	-.0366
.075	-.0072	-.0078	-.0321	-.0444	-.0302	-.0007	.0077	.0129	.0001	-.0178	-.0366
.100	.0037	-.0175	-.0360	-.0432	-.0203	.0011	.0083	.0130	-.0005	-.0169	-.0338
.125	.0031	-.0173	-.0323	-.0387	-.0216	-.0001	.0065	.0106	.0053	-.0125	-.0238
.150	.0027	-.0173	-.0296	-.0354	-.0229	-.0009	.0051	.0088	.0083	-.0092	-.0213
.175	.0024	-.0174	-.0275	-.0328	-.0232	-.0015	.0039	.0079	.0097	-.0060	-.0155
.200	.0007	-.0172	-.0259	-.0307	-.0237	-.0020	.0032	.0074	.0098	-.0019	-.0108
.250	-.0026	-.0150	-.0235	-.0275	-.0248	-.0029	.0028	.0057	.0076	.0063	-.0057
.300	-.0054	-.0152	-.0219	-.0251	-.0237	-.0037	.0014	.0039	.0060	.0080	.0010
.350	-.0082	-.0147	-.0208	-.0234	-.0223	-.0045	-.0003	.0024	.0054	.0064	.0063
.400	-.0106	-.0146	-.0199	-.0220	-.0211	-.0100	-.0013	.0022	.0036	.0052	.0066
.450	-.0117	-.0147	-.0192	-.0208	-.0202	-.0148	-.0023	.0006	.0021	.0042	.0049
.500	-.0119	-.0148	-.0187	-.0197	-.0193	-.0170	-.0033	-.0008	.0019	.0026	.0044
.550	-.0123	-.0150	-.0184	-.0188	-.0184	-.0175	-.0061	-.0016	.0004	.0019	.0028
.600	-.0130	-.0154	-.0181	-.0180	-.0176	-.0170	-.0123	-.0027	-.0009	.0009	.0018
.700	-.0145	-.0161	-.0171	-.0166	-.0164	-.0163	-.0157	-.0133	-.0046	-.0022	-.0011
.800	-.0121	-.0131	-.0143	-.0154	-.0160	-.0156	-.0153	-.0153	-.0152	-.0148	-.0144
.900	-.0096	-.0102	-.0109	-.0116	-.0124	-.0132	-.0140	-.0148	-.0151	-.0148	-.0145
1.000	-.0080	-.0082	-.0085	-.0087	-.0091	-.0096	-.0100	-.0105	-.0109	-.0114	-.0119

TABLE OF THICKNESS PRESSURE COEFFICIENT

XPCT	0.00	5.00	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00	55.00
	60.00	65.00	70.00	75.00	80.00	85.00	90.00	95.00	100.00			
Y/B/2												
0.000	3.000000	.007170	.015634	.020428	.012819	.007865	.005974	.003529	.002812	.005289	.003304	.000610
	.000152	-.001317	-.003687	-.004127	-.007770	-.013485	-.017613	-.021552	-.026497			
.025	.003041	.007597	.013418	.014380	.009967	.007963	.008165	.005861	.003422	.002533	.001087	.000594
	.001559	.000311	-.002879	-.006005	-.010052	-.014310	-.017087	-.020648	-.025434			
.050	.010922	.011778	.015375	.013424	.012495	.008391	.004970	.003866	.004276	.002871	.002567	.001463
	-.000674	-.002346	-.003480	-.006733	-.010088	-.014021	-.018803	-.023427	-.026348			
.075	.035252	.010922	.005619	.005186	.009274	.008633	.004339	.004305	.003885	.001149	.001523	.001519
	-.001746	-.003711	-.005686	-.010280	-.013897	-.016423	-.021423	-.025755	-.027664			
.100	.063484	.007606	-.005832	.004326	.007405	.004839	.002678	.003111	.002021	.001266	.001829	-.000366
	-.003839	-.005205	-.009534	-.013781	-.017182	-.020044	-.024426	-.028057	-.029888			
.125	.093881	.016994	-.006321	.002554	.004161	.003532	.001622	.001258	.001580	.000938	.000032	-.001399
	-.003455	-.007375	-.012354	-.015596	-.018509	-.021982	-.025638	-.029706	-.032115			
.150	.134019	.005073	-.010585	-.000361	.003829	.002311	-.000514	.001141	.001054	-.000970	-.001206	-.000325
	-.004684	-.010333	-.013588	-.014760	-.019421	-.023992	-.026220	-.029063	-.032545			
.200	.050562	-.005362	-.009171	.000629	-.001390	-.000911	.000930	-.000705	-.002468	-.001060	-.001078	-.004266
	-.007965	-.011249	-.015678	-.019392	-.021709	-.025176	-.028614	-.031297	-.033276			
.250	.040388	-.005437	-.012109	-.004102	-.005150	-.004461	-.002725	-.000705	-.001555	-.003226	-.003445	-.004986
	-.008411	-.013225	-.017519	-.020188	-.023189	-.026820	-.030447	-.033070	-.034130			
.300	.027464	-.006830	-.011186	-.009507	-.006044	-.005854	-.004518	-.002754	-.003994	-.001840	-.004837	-.007419
	-.011106	-.014519	-.017332	-.022887	-.026212	-.029832	-.031124	-.034303	-.037307			
.350	.049026	.003487	-.008105	-.014616	-.010099	-.008770	-.003495	-.003307	-.004303	-.005877	-.006262	-.008351
	-.011633	-.016311	-.021072	-.023907	-.027272	-.030745	-.034898	-.036203	-.038299			
.400	.040508	.001383	-.010266	-.012447	-.011350	-.010549	-.007385	-.004559	-.005187	-.005759	-.008216	-.011057
	-.014561	-.017424	-.021129	-.025144	-.029719	-.033393	-.036282	-.038176	-.038768			
.450	.032317	-.002309	-.013220	-.015857	-.013423	-.007985	-.008624	-.006773	-.007686	-.009128	-.008486	-.012453
	-.014931	-.020065	-.023851	-.026846	-.030953	-.033339	-.037421	-.040173	-.042339			
.500	.018080	-.002692	-.013524	-.017028	-.017990	-.011116	-.007332	-.007855	-.007451	-.010319	-.012963	-.014798
	-.018562	-.021491	-.024274	-.028923	-.032109	-.036115	-.039599	-.041182	-.042446			
.600	.020832	-.001276	-.013419	-.015099	-.014386	-.014226	-.013563	-.011754	-.012966	-.015004	-.017231	-.019086
	-.021376	-.026206	-.029886	-.033133	-.037964	-.041284	-.043432	-.044431	-.045429			
.700	.001309	-.004798	-.011905	-.014763	-.015341	-.015964	-.017024	-.018184	-.018067	-.017739	-.019248	-.022903
	-.026568	-.030291	-.034013	-.038356	-.042825	-.046340	-.048955	-.051593	-.054323			
.800	.041524	.034978	.028432	.021863	.015245	.008632	.002186	-.003937	-.010060	-.015977	-.021424	-.026871
	-.031840	-.035512	-.039184	-.042754	-.045989	-.049224	-.052261	-.054495	-.056729			
.900	.045388	.041996	.038604	.035212	.031820	.026961	.021215	.015478	.009736	.003179	-.003818	-.010815

	-.017811	-.024014	-.029836	-.035658	-.041480	-.045631	-.049070	-.052509	-.055948			
.950	.046237	.043128	.040019	.036910	.033164	.029021	.024878	.020736	.016593	.011001	.005276	-.000449
	-.006174	-.011970	-.018023	-.024077	-.030130	-.036184	-.042747	-.049790	-.056832			
1.000	.034935	.032540	.030145	.027750	.025355	.022961	.020566	.018172	.015467	.012048	.008628	.005209
	.001790	-.001630	-.005037	-.008433	-.011830	-.015227	-.018623	-.022020	-.025417			

WING PRESSURE COEFFICIENT DATA AT ALPHA= .128 DEG. CL= .1000

Y/B/2	X/C	CP LIFT	CP THICK	CP NACELLE UPPER	CP NACELLE LOWER	CP FUSELAGE UPPER	CP FUSELAGE LOWER	CP TOTAL UPPER	CP TOTAL LOWER
0.0000	0.0000	.00035	0.00000	0.00000	0.00000	-.02466	-.00719	-.02483	-.00702
0.0000	.0500	.00180	.00717	0.00000	0.00000	-.04529	-.00747	-.03932	.00060
0.0000	.1000	.00615	.01560	0.00000	0.00000	-.06592	-.00775	-.05339	.01093
0.0000	.2000	.02793	.01282	0.00000	0.00000	-.02534	-.03214	-.02649	-.00536
0.0000	.3000	.06508	.00597	0.00000	0.00000	.02800	-.04443	.00143	-.00591
0.0000	.4000	.10486	.00281	0.00000	0.00000	.01236	-.03017	-.03726	.02507
0.0000	.5000	.11525	.00333	0.00000	0.00000	-.00838	-.00073	-.06270	.06027
0.0000	.6000	.08583	.00015	0.00000	0.00000	-.01791	.00765	-.06068	.05072
0.0000	.7000	.05577	-.00369	0.00000	0.00000	-.02550	.01288	-.05707	.03708
0.0000	.8000	.03690	-.00777	0.00000	0.00000	-.02629	.00011	-.05251	.01079
0.0000	.9000	.03303	-.01761	0.00000	0.00000	-.01081	-.01778	-.04494	-.01887
0.0000	1.0000	.07241	-.02650	0.00000	0.00000	-.01446	-.03663	-.07717	-.02692
.0250	0.0000	.00043	.00304	0.00000	0.00000	-.02466	-.00719	-.02183	-.00394
.0250	.0500	.00252	.00760	0.00000	0.00000	-.04529	-.00747	-.03895	.00139
.0250	.1000	.00729	.01342	0.00000	0.00000	-.06592	-.00775	-.05615	.00932
.0250	.2000	.02967	.00997	0.00000	0.00000	-.02534	-.03214	-.03021	-.00734
.0250	.3000	.06732	.00817	0.00000	0.00000	.02800	-.04443	.00251	-.00260
.0250	.4000	.10636	.00342	0.00000	0.00000	.01236	-.03017	-.03725	.02628
.0250	.5000	.11408	.00109	0.00000	0.00000	-.00838	-.00073	-.06433	.05740
.0250	.6000	.08479	.00156	0.00000	0.00000	-.01791	.00765	-.05875	.05161
.0250	.7000	.05505	-.00288	0.00000	0.00000	-.02550	.01288	-.05590	.03753
.0250	.8000	.03662	-.01035	0.00000	0.00000	-.02629	.00011	-.05465	.00837
.0250	.9000	.03608	-.01799	0.00000	0.00000	-.01081	-.01778	-.04594	-.01683
.0250	1.0000	.07674	-.02543	0.00000	.03475	-.01446	-.03663	-.07827	.01106
.0500	0.0000	.00212	.01092	0.00000	0.00000	-.02466	-.00719	-.01480	.00479
.0500	.0500	.00525	.01178	0.00000	0.00000	-.04529	-.00747	-.03614	.00693
.0500	.1000	.01111	.01538	0.00000	0.00000	-.06592	-.00775	-.05610	.01318
.0500	.2000	.03515	.01249	0.00000	0.00000	-.02534	-.03214	-.03042	-.00207
.0500	.3000	.07445	.00497	0.00000	0.00000	.02800	-.04443	-.00425	-.00223
.0500	.4000	.11037	.00428	0.00000	0.00000	.01236	-.03017	-.03855	.02929
.0500	.5000	.11048	.00257	0.00000	0.00000	-.00838	-.00073	-.06105	.05707
.0500	.6000	.07955	-.00167	0.00000	0.00000	-.01791	.00765	-.05836	.04675
.0500	.7000	.05202	-.00348	0.00000	0.00000	-.02550	.01288	-.05499	.03541
.0500	.8000	.03594	-.01009	0.00000	0.00000	-.02629	.00011	-.05435	.00801
.0500	.9000	.04927	-.01883	0.00000	0.00000	-.01081	-.01778	-.05425	-.01194
.0500	1.0000	.09530	-.02635	0.00000	.02989	-.01446	-.03663	-.08846	.01456
.0750	0.0000	.00672	.03525	0.00000	0.00000	-.02467	-.00719	.00723	.03142
.0750	.0500	.01090	.01192	0.00000	0.00000	-.04529	-.00747	-.03982	.00892
.0750	.1000	.01804	.00562	0.00000	0.00000	-.06592	-.00775	-.06933	.00689
.0750	.2000	.04804	.00927	0.00000	0.00000	-.02533	-.03215	-.04008	.00115
.0750	.3000	.09686	.00434	0.00000	0.00000	.02800	-.04443	-.01609	.00834
.0750	.4000	.12113	.00388	0.00000	0.00000	.01235	-.03017	-.04433	.03428

Y/B/2	X/C	CP LIFT	CP THICK	CP NACELLE UPPER	CP NACELLE LOWER	CP FUSELAGE UPPER	CP FUSELAGE LOWER	CP TOTAL UPPER	CP TOTAL LOWER
.0750	.5000	.09740	.00152	0.00000	0.00000	-.00838	-.00073	-.05556	.04949
.0750	.6000	.16983	-.00175	0.00000	0.00000	-.01791	.00765	-.05457	.14082
.0750	.7000	.14277	-.00569	0.00000	0.00000	-.02550	.01288	-.05257	.02858
.0750	.8000	.13685	-.01390	0.00000	0.00000	-.02629	.00011	-.05861	.00464
.0750	.9000	.16980	-.02142	0.00000	0.00000	-.01081	-.01778	-.06713	-.00430
.0750	1.0000	.19318	-.02766	0.00000	.02479	-.01446	-.03663	-.08872	.00708
.1000	0.0000	.14052	.06348	0.00000	0.00000	-.04058	.00368	.00264	.18742
.1000	.0500	.13986	.00761	0.00000	0.00000	-.04860	-.00689	-.16092	.02064
.1000	.1000	.14715	-.00583	0.00000	0.00000	-.05661	-.01746	-.08602	.10029
.1000	.2000	.17221	.00740	0.00000	0.00000	-.00650	-.03598	-.03520	.00753
.1000	.3000	.19261	.00268	0.00000	0.00000	.03121	-.04325	-.01242	.00573
.1000	.4000	.10494	.00202	0.00000	0.00000	.00473	-.02035	-.04572	.13445
.1000	.5000	.19122	.00183	0.00000	0.00000	-.01002	.00112	-.05380	.14856
.1000	.6000	.06608	-.00384	0.00000	0.00000	-.01866	.00827	-.05554	.03748
.1000	.7000	.14018	-.00953	0.00000	0.00000	-.02571	.01299	-.05533	.12355
.1000	.8000	.12868	-.01718	0.00000	0.00000	-.02535	-.00051	-.05687	-.00335
.1000	.9000	.15087	-.02443	0.00000	0.00000	-.01076	-.01690	-.06062	-.01589
.1000	1.0000	.17752	-.02989	0.00000	.01975	-.01186	-.03384	-.08051	-.00522
.1250	0.0000	.16083	.09388	0.00000	0.00000	-.04010	.00314	.02337	.12743
.1250	.0500	.15719	.00699	0.00000	0.00000	-.04489	-.00708	-.06649	.02851
.1250	.1000	.16234	-.00632	0.00000	0.00000	-.04968	-.01730	-.08717	.00755
.1250	.2000	.18891	.00416	0.00000	0.00000	-.00406	-.03228	-.04035	.01234
.1250	.3000	.19493	.00162	0.00000	0.00000	.02801	-.03871	-.01783	.11037
.1250	.4000	.10177	.00158	0.00000	0.00000	.00591	-.02159	-.04340	.13088
.1250	.5000	.08948	.00003	0.00000	0.00000	-.00782	-.00019	-.05253	.04468
.1250	.6000	.06625	-.00345	0.00000	0.00000	-.01520	.00650	-.05178	.03617
.1250	.7000	.14009	-.01235	0.00000	0.00000	-.02072	.01063	-.05311	.01832
.1250	.8000	.12474	-.11851	0.00000	0.00000	-.02559	.00529	-.05647	-.00885
.1250	.9000	.14307	-.02564	0.00000	0.00000	-.01164	-.01246	-.05881	-.01657
.1250	1.0000	.16893	-.03211	0.00000	.01857	-.00282	-.02382	-.06940	-.00290
.1500	0.0000	.17933	.13402	0.00000	0.00000	-.03997	.00272	.05438	.17641
.1500	.0500	.17236	.00507	0.00000	0.00000	-.04216	-.00729	-.07326	.03396
.1500	.1000	.17488	-.01159	0.00000	0.00000	-.04434	-.01730	-.09237	.10955
.1500	.2000	.18938	.00383	0.00000	0.00000	-.00138	-.02959	-.04209	.11878
.1500	.3000	.19909	-.00051	0.00000	0.00000	.02564	-.03537	-.02442	.01366
.1500	.4000	.10197	.00105	0.00000	0.00000	.00686	-.02288	-.04307	.02916
.1500	.5000	.08915	-.00121	0.00000	0.00000	-.00622	-.00091	-.05200	.04246
.1500	.6000	.16686	-.00468	0.00000	0.00000	-.01255	.00516	-.05066	.03381
.1500	.7000	.14045	-.01359	0.00000	0.00000	-.01870	.00876	-.05251	.01540
.1500	.8000	.12148	-.01942	0.00000	0.00000	-.02516	.00831	-.05532	-.00037
.1500	.9000	.13615	-.02622	0.00000	.04484	-.01274	-.00922	-.05704	.12747
.1500	1.0000	.15997	-.03254	0.00000	.00945	-.00345	-.02133	-.06598	-.01444
.1750	0.0000	.19447	.19229	0.00000	0.00000	-.04003	.00239	.00503	.14192
.1750	.0500	.18577	-.00314	0.00000	0.00000	-.04002	-.00750	-.08305	.13524

Y/B/2	X/C	CP LIFT	CP THICK	CP NACELLE UPPER	CP NACELLE LOWER	CP FUSELAGE UPPER	CP FUSELAGE LOWER	CP TOTAL UPPER	CP TOTAL LOWER
.1750	.1000	.08592	-.00988	0.00000	0.00000	-.04001	-.01739	-.09285	.01569
.1750	.2000	.09732	.00122	0.00000	0.00000	.00117	-.02754	-.04627	.02234
.1750	.3000	.10400	.00021	0.00000	0.00000	.02379	-.03277	-.02800	.01944
.1750	.4000	.10299	-.00071	0.00000	0.00000	.00766	-.02322	-.04454	.02757
.1750	.5000	.08922	-.00114	0.00000	0.00000	-.00508	-.00148	-.05083	.04199
.1750	.6000	.06702	-.00632	0.00000	0.00000	-.01052	.00387	-.05035	.03106
.1750	.7000	.04013	-.01463	0.00000	0.00000	-.01741	.00787	-.05210	.01330
.1750	.8000	.01905	-.02057	0.00000	0.00000	-.02244	.00970	-.05253	-.00134
.1750	.9000	.03052	-.02742	0.00000	.03986	-.01440	-.00595	-.05708	.02176
.1750	1.0000	.05246	-.03291	0.00000	-.00040	-.00621	-.01553	-.06535	-.02261
.2000	0.0000	.10596	.05056	0.00000	0.00000	-.04020	.00072	-.04262	.10426
.2000	.0500	.09748	-.00536	0.00000	0.00000	-.03793	-.00822	-.09204	.03516
.2000	.1000	.09706	-.00917	0.00000	0.00000	-.03566	-.01716	-.09337	.02220
.2000	.2000	.10494	-.00139	0.00000	0.00000	.00367	-.02591	-.05019	.02517
.2000	.3000	.10937	.00193	0.00000	0.00000	.02229	-.03067	-.03147	.12495
.2000	.4000	.10432	-.00247	0.00000	0.00000	.00836	-.02357	-.04627	.02602
.2000	.5000	.08981	-.00108	0.00000	0.00000	-.00412	-.00199	-.05010	.04184
.2000	.6000	.06681	-.00796	0.00000	0.00000	-.00977	.00322	-.05114	.02866
.2000	.7000	.03916	-.01568	0.00000	0.00000	-.01556	.00744	-.05081	.01134
.2000	.8000	.01805	-.02171	0.00000	0.00000	-.01983	.00981	-.05056	-.00287
.2000	.9000	.02477	-.02861	0.00000	.03469	-.01765	-.00190	-.05865	.11656
.2000	1.0000	.04509	-.03328	0.00000	-.01024	-.00829	-.01090	-.06411	-.03178
.2250	0.0000	.11949	.04548	0.00000	0.00000	-.03962	-.00094	-.05389	.10428
.2250	.0500	.10864	-.00540	0.00000	0.00000	-.03575	-.00875	-.09547	.04016
.2250	.1000	.10729	-.01064	0.00000	0.00000	-.03188	-.01657	-.09616	.02643
.2250	.2000	.11299	-.00327	0.00000	0.00000	.00628	-.02470	-.05349	.02852
.2250	.3000	.11404	-.00090	0.00000	0.00000	.02115	-.02907	-.03677	.02706
.2250	.4000	.10638	-.00201	0.00000	0.00000	.00891	-.02421	-.04629	.02697
.2250	.5000	.09072	-.00226	0.00000	0.00000	-.00336	-.00246	-.05098	.04064
.2250	.6000	.06681	-.00819	0.00000	0.00000	-.00911	.00299	-.05070	.02821
.2250	.7000	.03871	-.01660	0.00000	0.00000	-.01367	.00655	-.04963	.10931
.2250	.8000	.01768	-.02245	0.00000	0.00000	-.01713	.00871	-.04842	-.00490
.2250	.9000	.01959	-.02953	0.00000	.03157	-.01848	.00218	-.05780	.01401
.2250	1.0000	.03852	-.03370	0.00000	-.01458	-.00972	-.00823	-.06268	-.03725
.2500	0.0000	.12765	.04039	0.00000	0.00000	-.03905	-.00259	-.06249	.10163
.2500	.0500	.11995	-.00544	0.00000	0.00000	-.03357	-.00929	-.09898	.04525
.2500	.1000	.11777	-.01211	0.00000	0.00000	-.02810	-.01599	-.09909	.03079
.2500	.2000	.12059	-.00515	0.00000	0.00000	.00888	-.02349	-.05657	.03165
.2500	.3000	.11868	-.00272	0.00000	0.00000	.02000	-.02747	-.04206	.02915
.2500	.4000	.10915	-.00155	0.00000	0.00000	.00946	-.02475	-.04667	.02827
.2500	.5000	.09206	-.00345	0.00000	0.00000	-.00260	-.00293	-.05207	.13965
.2500	.6000	.06715	-.00841	0.00000	0.00000	-.00846	.00277	-.05044	.02794
.2500	.7000	.03893	-.01752	0.00000	0.00000	-.01178	.00566	-.04877	.00761
.2500	.8000	.01808	-.02319	0.00000	0.00000	-.01443	.00762	-.04666	-.10653
.2500	.9000	.01608	-.03045	0.00000	.02858	-.01930	.00626	-.05779	.01243

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GEOM NEW                                                                                  1
-633 WITH ARBITRARY FUSELAGE DEFINITION  DIGITIZED    TOTWT
  1 -1  1  1  1  1    17 20  3 19 20 19 20 19  2        2 14  1  4  1  4
7700.  100.83 170.
0.     .2     .6     2.     5.     10.    16.    22.    30.    40.     5-1
50.    61.    65.    72.5   75.    80.    85.    90.    95.    100.    5-2
71.    3.54   -4.417 179.
78.98  5.667  -4.474 155.22
84.23  7.083  -4.605 140.77
97.44  10.625 -5.193 119.64
104.04 12.396 -5.477 111.74
110.64 14.167 -5.653 104.98
117.24 15.938 -5.667 98.21
130.43 19.479 -5.414 84.72
135.80 21.250 -5.296 79.18
140.05 23.021 -5.107 74.77
143.63 24.792 -4.936 71.03
149.53 28.333 -4.584 64.81
152.03 30.104 -4.410 62.14
156.41 33.646 -4.049 57.44
166.12 42.500 -3.387 46.93
189.38 63.750 -2.497 21.73
197.13 70.833 -2.333 13.33
0.     .25    .32    .61    .93    1.22   1.235  1.435  1.615  1.76
1.845  1.9    1.92   1.9    1.855  1.81   1.23   .7     .29    0.
0.     .227   .399   .676   .666   1.058  1.232  1.38   1.536  1.646   5.67A
1.711  1.749  1.743  1.712  1.686  1.449  1.118  .742   .383   0.      5.67B
0.     .209   .367   .615   .822   1.059  1.234  1.362  1.469  1.568   7.083-A
1.612  1.643  1.616  1.562  1.518  1.328  1.043  .719   .382   0.      7.083-B
0.     .228   .4     .679   .933   1.2    1.41   1.548  1.68   1.78    10.625-A
1.81   1.717  1.63   1.428  1.352  1.182  .944   .662   .357   0.      10.625-B
0.     .252   .45    .72    1.02   1.312  1.542  1.694  1.84   1.942   12.396-A
1.96   1.81   1.71   1.465  1.375  1.185  .935   .64    .36    0.      12.396-B
0.     .263   .464   .786   1.081  1.39   1.63   1.792  1.94   2.05    14.167-A
2.068  1.85   1.72   1.458  1.367  1.167  .899   .608   .324   0.      14.167-B
0.     .259   .456   .774   1.064  1.369  1.6    1.761  1.909  2.018   15.938-A
1.988  1.736  1.628  1.418  1.339  1.145  .869   .582   .302   0.      15.938-B
0.     .192   .337   .572   .786   1.011  1.182  1.301  1.41   1.55    19.479-A
1.582  1.473  1.411  1.282  1.227  1.041  .796   .538   .283   0.      19.479-B
0.     .152   .27    .467   .653   .819   1.002  1.094  1.179  1.339   21.25-A
1.409  1.389  1.355  1.198  1.157  .976   .75    .511   .272   0.      21.25-B
0.     .126   .214   .354   .495   .66    .841   .597   1.119  1.246   23.021-A
1.299  1.29   1.267  1.184  1.131  .962   .75    .514   .274   0.      23.021-B
0.     .10    .16    .26    .40    .585   .80    .58    1.14   1.23    24.792-A
1.264  1.267  1.257  1.169  1.103  .946   .751   .518   .276   0.      24.792-B
0.     .05    .10    .19    .32    .533   .775   1.025  1.17   1.21    28.333-A
1.236  1.241  1.243  1.165  1.081  .910   .727   .513   .287   0.      28.333-B
0.     .015   .039   .12    .3     .51    .765   1.02   1.195  1.21    30.104-A
1.21   1.215  1.22   1.16   1.075  .865   .69    .48    .28    0.      30.104-B
0.     .01    .026   .092   .23    .461   .74    1.0    1.15   1.161   33.646-A
1.165  1.17   1.172  1.171  1.073  .868   .663   .458   .253   0.      33.646-B
0.     .01    .03    .102   .25    .509   .80    1.1    1.25   1.251   42.5-A
1.256  1.262  1.264  1.256  1.119  .915   .69    .484   .271   0.      42.5-B
0.     .0086  .025   .086   .215   .43    .72    .58    1.08   1.1     63.75-A
1.11   1.124  1.129  1.087  .956   .786   .606   .427   .243   0.      63.B
0.     .0056  .018   .056   .141   .283   .46    .63    .73    .744    70.833-A
.76    .783   .791   .806   .752   .643   .534   .425   .316   0.      70.833-B
0.     6.67   9.58   12.42  15.83  19.17  22.92  26.72  32.15  37.47   10A-1
41.67  46.75  51.0   56.67  61.67  66.67  73.33  81.67  90.    102.5   10A-2
0.                                                                     Y0-1
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0.                                                                                YC-2
-.75   -.75   -.75   -.75   -.75   -.75   -.75   -.75   -.75   -.75              ZO-1
-.75   -.75   -.75   -.75   -.75   -.75   -.75   -.75   -.75                      ZO-2
 0.0000  .2290  .4597  .6762  .8589 1.0009 1.0878 1.1344 1.1355 1.1122
 1.0519  .9880  .9086  .7912  .6486  .4841  .3204  .1430 0.0000
-1.408 -1.383 -1.314 -1.215 -1.076  -.907  -.694  -.437  -.227   .002
  .198   .376   .524   .671   .794   .895   .955   .988  1.008
 0.0000  .2732  .5648  .8417 1.0674 1.2683 1.4314 1.5346 1.5697 1.5500
 1.4918 1.4218 1.2820 1.1320  .9587  .7603  .5167  .2310 0.0000
-1.617 -1.604 -1.542 -1.432 -1.279 -1.078  -.818  -.543  -.263   .048
  .318   .552   .814  1.041  1.261  1.467  1.626  1.696  1.706
 0.0000  .3604  .7299 1.0851 1.3606 1.6570 1.8555 1.9631 1.9876 1.9672
 1.8834 1.7641 1.6050 1.4325 1.2516 1.0127  .7282  .3431 0.0000
-1.831 -1.822 -1.766 -1.631 -1.466 -1.185  -.880  -.501  -.126   .258
  .612   .883  1.174  1.448  1.726  2.014  2.205  2.294  2.300
 0.0000  .4584  .8701 1.3090 1.6852 2.0135 2.2627 2.3968 2.4425 2.4111
 2.3297 2.1348 1.9539 1.7426 1.5361 1.2760  .8707  .4055 0.0000
-2.096 -2.081 -2.008 -1.849 -1.613 -1.281  -.883  -.454  -.022   .458
  .821  1.210  1.538  1.908  2.295  2.701  2.899  2.970  2.994
 0.0000  .4937 1.0176 1.5373 1.9701 2.3372 2.6069 2.7605 2.8131 2.7956
 2.6749 2.4842 2.2818 2.0659 1.8270 1.5334 1.0250  .5024 0.0000
-2.336 -2.316 -2.244 -2.077 -1.778 -1.387  -.915  -.423   .105   .599
 1.070  1.523  1.950  2.367  2.805  3.260  3.456  3.544  3.579
 0.0000  .5672 1.1486 1.7413 2.2745 2.6757 2.9451 3.1313 3.2156 3.2115
 3.0845 2.8663 2.6535 2.4083 2.1575 1.7638 1.1677  .5818 0.0000
-2.605 -2.588 -2.514 -2.312 -1.942 -1.457  -.980  -.413   .156   .722
 1.246  1.737  2.198  2.705  3.245  3.750  3.963  4.065  4.102
 0.0000  .6645 1.3028 1.9631 2.5222 2.9658 3.2956 3.4589 3.5893 3.5999
 3.4916 3.2418 2.9786 2.7196 2.4366 1.9588 1.3243  .6659 0.0000
-2.931 -2.897 -2.804 -2.576 -2.185 -1.670 -1.069  -.426   .221   .872
 1.461  2.026  2.560  3.118  3.744  4.256  4.484  4.600  4.644
 0.0000  .7493 1.4894 2.2242 2.8445 3.3455 3.7155 3.9246 4.0365 4.0747
 3.9721 3.7105 3.4240 3.1173 2.7500 2.1774 1.4712  .7101 0.0000
-3.329 -3.293 -3.155 -2.889 -2.444 -1.834 -1.192  -.479   .234   .960
 1.672  2.344  2.962  3.590  4.306  4.776  5.079  5.242  5.280
 0.0000  .8612 1.7139 2.5332 3.2462 3.8035 4.1806 4.4189 4.5297 4.5397
 4.4392 4.0984 3.7754 3.4372 2.9540 2.2898 1.5746  .7570 0.0000
-3.750 -3.680 -3.496 -3.168 -2.640 -1.940 -1.155  -.323   .523  1.250
 2.018  2.756  3.453  4.149  4.812  5.252  5.535  5.708  5.767
 0.0000  .8934 1.7300 2.5765 3.2911 3.8810 4.3054 4.5867 4.7244 4.7672
 4.7229 4.4884 4.1349 3.7430 3.2290 2.5072 1.7498  .8429 0.0000
-4.056 -3.986 -3.791 -3.448 -2.960 -2.290 -1.492  -.663   .164   .999
 1.818  2.625  3.397  4.160  4.900  5.416  5.732  5.958  6.034
 0.0000  .9393 1.8335 2.7156 3.4294 4.0259 4.4564 4.7570 4.9431 5.0143
 4.9629 4.7661 4.4230 3.9546 3.3542 2.6263 1.7779  .9547 0.0000
-4.382 -4.317 -4.109 -3.728 -3.196 -2.481 -1.649  -.822   .056   .930
 1.843  2.692  3.524  4.292  4.995  5.578  5.951  6.160  6.248
 0.0000  .9888 1.9960 2.8805 3.6218 4.2320 4.6756 4.9653 5.1601 5.2440
 5.2176 5.0228 4.6731 4.1676 3.5200 2.7401 1.8405  .9201 0.0000
-4.777 -4.713 -4.490 -4.085 -3.482 -2.694 -1.818  -.920  -.041   .882
 1.809  2.723  3.601  4.401  5.088  5.681  6.121  6.372  6.457
 0.0000  .8532 1.9318 2.9616 3.7885 4.4300 4.9157 5.2527 5.4338 5.5380
 5.4933 5.2963 4.9120 4.3490 3.6476 2.8830 1.8943  .9124 0.0000
-5.064 -5.001 -4.848 -4.417 -3.760 -2.952 -2.026 -1.109  -.177   .794
 1.792  2.723  3.631  4.490  5.207  5.772  6.263  6.550  6.658
 0.0000 1.0578 2.0958 3.0549 3.9002 4.5699 5.0542 5.3999 5.6020 5.6973
 5.7041 5.5357 5.1617 4.6328 3.9504 3.0829 2.1206 1.0584 0.0000
-5.575 -5.499 -5.243 -4.798 -4.141 -3.283 -2.382 -1.451  -.469   .520
 1.460  2.380  3.437  4.310  5.101  5.776  6.277  6.590  6.689
 0.0000 1.1070 2.1618 3.1532 3.9696 4.7238 5.2553 5.6160 5.8241 5.9366
```

```
5.9185 5.7165 5.3307 4.7701 4.0464 3.1747 2.1924 1.1160 0.0000
-5.965 -5.881 -5.577 -5.081 -4.446 -3.546 -2.623 -1.672  -.678   .367
 1.410  2.452  3.465  4.366  5.157  5.842  6.341  6.662  6.773
0.0000 1.1520 2.2518 3.2560 4.1834 4.8549 5.4076 5.8065 6.0396 6.1719
6.1606 5.9539 5.5623 4.9825 4.2314 3.3279 2.2874 1.1466 0.0000
-6.419 -6.306 -5.977 -5.424 -4.696 -3.925 -2.956 -1.961  -.938   .157
 1.243  2.331  3.345  4.298  5.158  5.872  6.406  6.749  6.848
0.0000 1.2092 2.3920 3.3867 4.3066 5.0692 5.6679 6.0467 6.2734 6.3798
6.3303 6.0962 5.7265 5.1143 4.3377 3.4530 2.3549 1.1594 0.0000
-6.864 -6.728 -6.336 -5.744 -5.036 -4.183 -3.194 -2.167 -1.107   .004
 1.362  2.399  3.318  4.326  5.169  5.839  6.408  6.748  6.865
0.0000 1.3206 2.3937 3.4323 4.3204 5.0691 5.7021 6.1313 6.4108 6.5505
6.5242 6.3241 5.8662 5.2682 4.4418 3.4828 2.3931 1.1560 0.0000
-7.174 -7.044 -6.653 -6.056 -5.302 -4.439 -3.456 -2.442 -1.355  -.206
  .909  2.040  3.158  4.149  5.064  5.777  6.315  6.672  6.775
0.0000 1.2391 2.3480 3.4123 4.4138 4.9959 5.6590 6.1314 6.4152 6.5046
6.4496 6.2252 5.7865 5.1424 4.3511 3.4287 2.3633 1.2012 0.0000
-7.334 -7.194 -6.813 -6.171 -5.267 -4.568 -3.609 -2.619 -1.535  -.403
  .761  1.871  2.953  3.959  4.799  5.484  6.033  6.368  6.478
102.51 116.17 126.   131.75 140.75 148.33 156.67 166.17 177.08 197.5    108-1
201.92 206.67 213.67 219.17 225.67 231.67 238.68 248.33 256.67 273.33   108-2
0.0000 1.2391 2.3480 3.4123 4.4138 4.9959 5.6590 6.1314 6.4152 6.5046
6.4496 6.2252 5.7865 5.1424 4.3511 3.4287 2.3633 1.2012 0.0000
-7.334 -7.194 -6.813 -6.171 -5.267 -4.568 -3.609 -2.619 -1.535  -.403
  .761  1.871  2.953  3.959  4.799  5.484  6.033  6.368  6.478
0.0000 1.1804 2.2721 3.3576 4.1891 4.9302 5.5463 6.0244 6.3253 6.4447
6.3290 6.0538 5.5685 4.9154 4.1630 3.2405 2.2604 1.1629 0.0000
-7.124 -7.018 -6.684 -6.075 -5.365 -4.525 -3.620 -2.631 -1.525  -.443
  .689  1.735  2.744  3.673  4.449  5.114  5.555  5.856  5.970
0.0000 1.0945 2.1341 3.1382 4.0534 4.7823 5.3975 5.8760 6.1582 6.2442
6.1456 5.8627 5.3955 4.7940 4.0183 3.1618 2.1677 1.1577 0.0000
-6.893 -6.786 -6.510 -6.056 -5.403 -4.671 -3.784 -2.774 -1.720  -.659
  .451  1.484  2.464  3.338  4.107  4.710  5.192  5.468  5.579
0.0000 1.0287 2.0562 3.0385 3.9539 4.7196 5.2855 5.7432 6.0113 6.1031
6.0165 5.7394 5.2857 4.6665 3.9258 3.0571 2.0885 1.0872 0.0000
-6.767 -6.699 -6.467 -6.051 -5.438 -4.657 -3.834 -2.843 -1.825  -.785
  .311  1.349  2.290  3.172  3.912  4.514  4.978  5.248  5.345
0.0000  .9692 1.8905 2.6898 3.7483 4.5337 5.1481 5.5954 5.8681 5.9564
5.8603 5.5832 5.1399 4.5434 3.8018 2.9643 2.0031 1.0178 0.0000
-6.534 -6.484 -6.315 -5.964 -5.487 -4.766 -3.913 -2.976 -2.011  -.982
  .108  1.080  2.010  2.868  3.590  4.192  4.625  4.899  4.992
0.0000  .9872 1.9277 2.8883 3.8231 4.6545 5.2559 5.6037 5.7825 5.8017
5.6415 5.3333 4.8796 4.2720 3.5463 2.7339 1.8715  .8527 0.0000
-6.336 -6.291 -6.128 -5.839 -5.350 -4.717 -3.792 -2.830 -1.805  -.794
  .178  1.135  2.009  2.796  3.452  3.973  4.362  4.601  4.686
0.0000  .9489 1.8252 2.7173 3.6152 4.4334 5.0448 5.4445 5.6560 5.6586
5.4877 5.0650 4.6544 4.1260 3.4235 2.6447 1.8352  .9196 0.0000
-6.106 -6.034 -5.861 -5.567 -5.152 -4.561 -3.743 -2.844 -1.869  -.893
  .077  1.219  1.921  2.553  3.193  3.672  4.027  4.262  4.346
0.0000  .8876 1.7158 2.6074 3.5028 4.3322 5.0954 5.4570 5.5981 5.5817
5.3883 5.0767 4.5691 3.9802 3.2986 2.5409 1.7384  .8772 0.0000
-5.880 -5.817 -5.657 -5.427 -5.060 -4.559 -3.809 -2.866 -1.854  -.888
  .040  .902  1.762  2.443  3.019  3.483  3.830  4.037  4.097
0.0000  .8294 1.6469 2.4980 3.4166 4.3077 5.0792 5.4879 5.6392 5.5629
5.3082 4.9314 4.4259 3.8182 3.1449 2.4059 1.6262  .8125 0.0000
-5.587 -5.554 -5.435 -5.258 -4.938 -4.503 -3.794 -2.884 -1.903  -.888
  .057  .919  1.671  2.327  2.861  3.283  3.578  3.761  3.835
0.0000  .8279 1.6382 2.5624 3.4849 4.5381 5.2350 5.5152 5.6045 5.4963
5.2474 4.8427 4.3678 3.7571 3.0878 2.3498 1.5581  .7597 0.0000
-5.027 -5.003 -4.910 -4.754 -4.577 -4.193 -3.423 -2.372 -1.380  -.391
```

```
  .522  1.340  2.113  2.736  3.258  3.666  3.969  4.139  4.179
0.0000  .8026 1.6062 2.5201 3.5091 4.5382 5.2800 5.5430 5.6329 5.5259
5.2814 4.8642 4.3558 3.7508 3.1929 2.3396 1.5862  .7914 0.0000
-4.879 -4.861 -4.780 -4.667 -4.430 -4.071 -3.329 -2.320 -1.302  -.322
  .598  1.427  2.174  2.800  3.234  3.731  4.008  4.181  4.243
0.0000  .8472 1.6881 2.6012 3.5285 4.5087 5.2341 5.5210 5.5956 5.5124
5.2725 4.8153 4.3622 3.7612 3.0961 2.3686 1.6303  .8129 0.0000
-4.744 -4.736 -4.673 -4.519 -4.242 -3.797 -3.036 -2.073 -1.068  -.075
  .842  1.798  2.449  3.086  3.589  3.986  4.282  4.462  4.525
0.0000  .8423 1.7101 2.5983 3.5508 4.3785 5.1053 5.5009 5.6083 5.5244
5.2955 4.8806 4.3893 3.7960 3.1389 2.4242 1.6590  .8563 0.0000
-4.423 -4.406 -4.326 -4.183 -3.884 -3.401 -2.639 -1.733  -.725   .263
 1.186  2.109  2.822  3.456  3.987  4.382  4.690  4.865  4.930
0.0000  .8471 1.6924 2.5786 3.4610 4.3198 5.0727 5.4706 5.5735 5.5016
5.2618 4.8670 4.4085 3.8126 3.1352 2.4135 1.6121  .8013 0.0000
-4.148 -4.154 -4.051 -3.862 -3.557 -3.090 -2.373 -1.440  -.466   .543
 1.452  2.374  3.092  3.757  4.278  4.706  5.003  5.194  5.258
0.0000  .8877 1.6821 2.5308 3.3752 4.2117 4.8404 5.2459 5.3655 5.3238
5.1144 4.7564 4.2859 3.7278 3.0745 2.3584 1.5752  .7861 0.0000
-3.750 -3.723 -3.600 -3.375 -3.018 -2.527 -1.781  -.918   .036  1.004
 1.896  2.743  3.494  4.144  4.661  5.083  5.381  5.561  5.632
0.0800  .9134 1.7776 2.5923 3.2758 3.8645 4.3618 4.6706 4.8227 4.8697
4.7396 4.4808 4.0730 3.5630 2.9443 2.2648 1.5283  .7276 0.0000
-3.782 -3.727 -3.474 -3.073 -2.515 -1.846 -1.086  -.269   .595  1.500
 2.336  3.179  3.901  4.546  5.131  5.555  5.905  6.094  6.162
0.0000  .9112 1.7648 2.6060 3.3045 3.8787 4.3520 4.6680 4.8231 4.8243
4.6918 4.4039 4.0127 3.4947 2.9270 2.2494 1.4970  .7300 0.0000
-3.380 -3.284 -3.030 -2.604 -2.080 -1.438  -.670   .120   .985  1.837
 2.665  3.467  4.158  4.790  5.316  5.728  6.044  6.243  6.308
0.0000 1.0361 1.9559 2.7755 3.4737 4.0856 4.4919 4.7523 4.7649 4.6969
4.4914 4.2079 3.7694 3.2850 2.6581 1.8420 1.2321  .5673 0.0000
-2.47  -2.34  -2.018 -1.572 -.957  -.176  .674   1.674  2.382  3.235
3.98   4.585  5.243  5.805  6.323  6.739  6.936  7.066  7.108
0.0000 1.0361 1.9559 2.7755 3.4737 4.0856 4.4919 4.7523 4.7649 4.6969
4.4914 4.2079 3.7694 3.2850 2.6581 1.8420 1.2321  .5673 0.0000
-2.08  -1.954 -1.629 -1.183 -.568  .213   1.063  2.063  2.771  3.624
4.369  4.974  5.632  6.194  6.712  7.128  7.325  7.455  7.497
0.0000 1.0361 1.9559 2.7755 3.4737 4.0856 4.4919 4.7523 4.7649 4.6969
4.4914 4.2079 3.7694 3.2850 2.6581 1.8420 1.2321  .5673 0.0000
-1.38  -1.254 -.929  -.483  .132   .913   1.763  2.763  3.471  4.324
5.069  5.674  6.332  6.894  7.412  7.828  8.025  8.155  8.197
273.34 280.                                                          10C
0.0000 1.0361 1.9559 2.7755 3.4737 4.0856 4.4919 4.7523 4.7649 4.6969
4.4914 4.2079 3.7694 3.2850 2.6581 1.8420 1.2321  .5673 0.0000
-1.38  -1.254 -.929  -.483  .132   .913   1.763  2.763  3.471  4.324
5.069  5.674  6.332  6.894  7.412  7.828  8.025  8.155  8.197
0.0000 1.0361 1.9559 2.7755 3.4737 4.0856 4.4919 4.7523 4.7649 4.6969
4.4914 4.2079 3.7694 3.2850 2.6581 1.8420 1.2321  .5673 0.0000
-1.08  -.954  -.629  -.183  .432   1.213  2.063  3.063  3.771  4.624
5.369  5.974  6.632  7.194  7.712  8.128  8.325  8.455  8.497
189.65 14.83         -4.                                             16-1
0.     3.     6.     9.     12.    15.    18.    20.    22.    23.
24.6   26.6   28.6   30.7
2.687  2.8    2.92   3.04   3.17   3.28   3.365  3.41   3.45   3.46
3.445  3.375  3.306  3.233
189.65 30.25         -4.                                             16-2
0.     3.     6.     9.     12.    15.    18.    20.    22.    23.
24.6   26.6   28.6   30.7
2.687  2.8    2.92   3.04   3.17   3.28   3.365  3.41   3.45   3.46
3.445  3.375  3.306  3.233
```

```
230.4   0.      6.33    45.13   258.3   0.      30.09   10.                     19
0.      30.     68.2    100.
0.      1.25    1.50    0.
244.5   3.6     2.2     34.2    264.2   17.5    2.2     8.3                     22
0.      40.1    62.1    100.
0.      1.5     1.5     0.
ANLZ
-633    MODEL    DIGITIZED CROSS SECTIONS  TOTWT  11-6-79
2.      1.              1.                                                      3
21.     14.     1.      0.                                                      4
0.      2.      0.      1.      0.      -1.                                     5
-10.    2.      2.                                                              6
2.4                                                                             7
0.      5.      10.     15.     20.     25.     30.     40.     50.     60.     9-1
70.     80.     90.     100.                                                    9-2
0.      6.47    7.5     10.     15.     17.5    20.     22.5    27.5    30.     10-1
32.5    35.     40.     42.5    47.5    50.     60.     70.     80.     90.     10-2
100.                                                                            10-3
0.      -.319   -.644   -.971   -1.299  -1.629  -1.962  -2.619  -3.23   -3.82
-4.402  -4.978  -5.563  -6.16
0.      -.319   -.644   -.971   -1.299  -1.629  -1.962  -2.619  -3.23   -3.82
-4.402  -4.978  -5.563  -6.16
0.      -.338   -.667   -.963   -1.272  -1.601  -2.008  -2.704  -3.312  -3.876  5.313-1
-4.512  -5.155  -5.775  -6.415                                                  5.313-2
0.      -.217   -.509   -.844   -1.194  -1.594  -1.982  -2.717  -3.396  -3.956  7.083-1
-4.58   -5.245  -5.892  -6.526                                                  7.083-2
0.      -.02    -.18    -.46    -.8     -1.13   -1.48   -2.12   -2.73   -3.3    10.625-1
-3.86   -4.4    -4.95   -5.48                                                   10.625-2
0.      .029    -.059   -.284   -.545   -.819   -1.095  -1.643  -2.188  -2.73   12.396-1
-3.26   -3.8    -4.33   -4.85                                                   12.396-2
0.      .087    .055    -.11    -.319   -.54    -.77    -1.25   -1.74   -2.23   14.167-1
-2.72   -3.18   -3.67   -4.15                                                   14.167-2
0.      .13     .149    .041    -.109   -.286   -.49    -.93    -1.35   -1.8    15.938-1
-2.25   -2.68   -3.13   -3.59                                                   15.938-2
0.      .14     .197    .142    .031    -.099   -.24    -.53    -.87    -1.22   19.479-1
-1.53   -1.9    -2.27   -2.68                                                   19.479-2
0.      .1622   .211    .1169   .0356   -.0773  -.2056  -.4619  -.75    -1.0387 21.25-1
-1.3248-1.5785-1.9207-2.3177                                                    21.25-2
0.      .036    .071    .0405   -.0318  -.1313  -.2413  -.4513  -.6713  -.8813  23.021-1
-1.1313-1.4113-1.7113-2.0813                                                    23.021-2
0.      .067    .005    -.0321  -.0851  -.1565  -.2433  -.4117  -.6044  -.8062  24.792-1
-1.0435-1.311  -1.5986-1.9328                                                   24.792-2
0.      -.092   -.1678  -.2277  -.2813  -.333   -.3933  -.5159  -.6699  -.8503  28.333-1
-1.058  -1.29   -1.5421-1.8143                                                  28.333-2
0.      -.137   -.24    -.31    -.367   -.42    -.48    -.604   -.75    -.918   30.104-1
-1.11   -1.32   -1.55   -1.8                                                    30.104-2
0.      -.1716  -.3052  -.414   -.4924  -.5694  -.6361  -.7644  -.9329  -1.1028 33.646-1
-1.275  -1.4795-1.6976-1.9357                                                   33.646-2
0.      -.19    -.34    -.47    -.56    -.65    -.72    -.85    -1.03   -1.2    35.417-1
-1.36   -1.56   -1.77   -2.                                                     35.417-2
0.      -.2     -.35    -.5     -.61    -.79    -.91    -1.18   -1.4    -1.61   42.5-1
-1.81   -2.04   -2.28   -2.56                                                   42.5-2
0.      -.18    -.34    -.49    -.64    -.81    -.98    -1.31   -1.63   -1.94   49.583-1
-2.23   -2.51   -2.8    -3.11                                                   49.583-2
0.      -.16    -.33    -.51    -.68    -.87    -1.05   -1.44   -1.82   -2.2    56.667-1
-2.59   -2.98   -3.37   -3.77                                                   56.667-2
0.      -.17    -.36    -.54    -.73    -.92    -1.11   -1.51   -1.93   -2.35   63.75-1
-2.78   -3.22   -3.65   -4.1                                                    63.75-2
0.      -.21    -.39    -.59    -.77    -.97    -1.17   -1.57   -2.02   -2.45   70.833-1
-2.92   -3.37   -3.82   -4.25                                                   70.833-2
```

```
0.      100.                                                                    12
-5.14   -5.14                                                                   13
80.     87.9    95.9    103.8   111.74  119.7   127.6   143.5   159.3   175.2   14-1
151.1   207.    222.8   238.7                                                   14-2
4.88    5.22    5.4     5.54    5.58    5.58    5.58    5.58    5.58    5.58    15-1
5.58    5.58    5.5     4.17                                                    15-2
-4.33   -4.21   -4.04   -3.92   -3.67   -3.5    -3.33   -2.92   -2.58   -2.17   16-1
-1.75   -1.25   -.83    -.33                                                    16-2
84.2    85.6    84.9    81.6    76.5    71.5    67.4    62.4    57.4    51.5    17-1
49.2    52.8    54.1    46.3                                                    17-2
54.1    54.7    55.     54.99   54.5    52.3    49.6    42.     37.4    36.5    18-1
34.2    30.6    25.6    21.8                                                    18-2
5.0     10.                                                                     22
1.      1.      1.      1.                                                      28
END
```

```
PROGRAM CONTROL CARD
ANLZ
ENTER INPTS---TAPE INPUTS
EXIT INPTS
ENTER GEOM201---GEOMETRY INTERFACE WITH PROGRAM TEA201A
J2=  2
J3=  1
J5=  0
J7=  1
ENTER WRGEOM---WRITE GEOMETRY ON TAPE
EXIT WRGEOM
```

```
ENTER INBONN--GEOMETRY INTERFACE FOR ARBITRARY CROSS SECTION PROGRAM
   THERE ARE  3 FUSELAGE SEGMENTS IN BASIC GEOMETRY
              1 FUSELAGE SEGMENTS FOR BONNER PROGRAM
        DISC(1)=1.0 DISC(2)=0.0 DISC(3)=0.0 DISC(4)=0.0
              SEGMENT NO.=  1 FUSELAGE STATIONS= 40

   PRINT CODES   D12=1.0   D13=1.0   D14=1.0   D15=1.0

EXIT INBONN
```

-633 MODEL DIGITIZED CROSS SECTIONS TOTWT 11-6-79

MACH NO.= 2.40000 XMAX= 250.00000 NON= 40 CBAR= 103.83000 XBAR= 170.00000

TIFZC= 1.00 TNOM= 0.00 SYMM= 2.00 SMOGO= 0.00

XESUC= 0.00 SBNS= 0.00 XNLRR= 0.00

ARBITRARY FUSELAGE CROSS-SECTION OPTION SELECTED (AJ2=2.)

NOPCT= 14 JBYMAX= 21 RATIC= 3.863484

	XPCT
1	0.000
2	5.000
3	10.000
4	15.000
5	20.000
6	25.000
7	30.000
8	40.000
9	50.000
10	60.000
11	70.000
12	80.000
13	90.000
14	100.000

	YB2
1	0.000
2	6.470
3	7.500
4	10.000
5	15.000
6	17.500
7	20.000
8	22.500
9	27.500
10	30.000
11	32.500
12	35.000
13	40.000
14	42.500
15	47.500
16	50.000
17	60.000
18	70.000
19	80.000
20	90.000
21	100.000

PLANFORM BREAKPOINTS

	X	Y	Z	CHORD	AUX. CHORD
1	71.0000	0.0000	-4.4170	179.0000	179.0000
2	71.0000	3.5400	-4.4170	179.0000	179.0000
3	78.9800	5.6670	-4.4740	155.2200	155.2200
4	84.2300	7.0833	-4.6050	140.7700	140.7700
5	97.4400	10.6250	-5.1930	119.6400	119.6400
6	104.0400	12.3960	-5.4770	111.7400	111.7400
7	110.6400	14.1670	-5.6530	104.9800	104.9800
8	117.2400	15.9380	-5.6670	98.2100	98.2100
9	130.4300	19.4790	-5.4140	84.7200	84.7200
10	135.8000	21.2500	-5.2960	79.1800	79.1800
11	140.0500	23.0210	-5.1070	74.7700	74.7700
12	143.6300	24.7920	-4.9360	71.0300	71.0300
13	149.5300	28.3330	-4.5840	64.8100	64.8100
14	152.0300	30.1040	-4.4100	62.1400	62.1400
15	156.4100	33.6460	-4.0490	57.4400	57.4400
16	166.1200	42.5000	-3.3870	46.9300	46.9300
17	189.3800	63.7500	-2.4970	21.7300	21.7300
18	197.1300	70.8330	-2.3330	13.3300	13.3300

	XLE	XTE	AUX XTE
0	71.0000	250.0000	250.0000
1	71.0000	250.0000	250.0000
2	71.0062	249.9877	249.9877
3	77.6499	236.8335	236.8335
4	84.2311	224.9993	224.9993
5	90.8355	221.0397	221.0397
6	97.4398	217.0801	217.0801
7	104.0392	215.7802	215.7802
8	110.6385	215.6200	215.6200
9	117.2379	215.4501	215.4501
10	123.8341	215.3000	215.3000
11	130.4302	215.1500	215.1500
12	135.7997	214.9800	214.9800
13	140.0493	214.8200	214.8200
14	143.6291	214.6600	214.6600
15	146.5798	214.5000	214.5000
16	149.5303	214.3400	214.3400
17	152.0300	214.1700	214.1700
18	154.2198	214.0100	214.0100
19	156.4096	213.8500	213.8500
20	158.3517	213.6900	213.6900
21	160.2937	213.5300	213.5300
22	162.2357	213.3700	213.3700
23	164.1778	213.2100	213.2100
24	166.1198	213.0500	213.0500
25	168.0581	212.8884	212.8884
26	169.9964	212.7267	212.7267
27	171.9348	212.5650	212.5650
28	173.8731	212.4034	212.4034
29	175.8114	212.2417	212.2417
30	177.7497	212.0800	212.0800
31	179.6881	211.9184	211.9184
32	181.6264	211.7567	211.7567
33	183.5647	211.5950	211.5950
34	185.5030	211.4334	211.4334
35	187.4413	211.2717	211.2717
36	189.3797	211.1100	211.1100
37	191.3173	210.9475	210.9475
38	193.2548	210.7850	210.7850
39	195.1924	210.6225	210.6225
40	197.1300	210.4600	210.4600

HORIZONTAL TAIL PLANFORM

	X	Y	Z	CHORD
1	244.5000	3.6000	2.2000	34.2000
2	264.2000	17.5000	2.2000	8.3000

BY	HXLE	HXTE
2	244.4173	278.7260
3	246.9270	277.9362
4	249.4368	277.1463
5	251.9465	276.3564
6	254.4562	275.5666
7	256.9660	274.7767
8	259.4757	273.9868
9	261.9854	273.1970
10	264.4951	272.4071

WING DOWNWASH AT TAIL SHIFTED PER W-B INTSCTN

NACELLE GEOMETRY

ORIGIN (X,Y,Z)			X	RADIUS	AREA
189.65000	14.83000	-4.00000	0.00000	2.68700	22.68225
			3.00000	2.80000	24.63014
			6.00000	2.92000	26.78654
			9.00000	3.04000	29.03341
			12.00000	3.17000	31.56962
			15.00000	3.28000	33.79859
			18.00000	3.36500	35.57304
			20.00000	3.41000	36.53084
			22.00000	3.45000	37.39289
			23.00000	3.46000	37.60998
			24.60000	3.44500	37.28459
			26.60000	3.37500	35.78479
			28.60000	3.30600	34.33654
			30.70000	3.23300	32.83691

ORIGIN (X,Y,Z)			X	RADIUS	AREA
189.65000	30.25000	-4.00000	0.00000	2.68700	22.68225
			3.00000	2.80000	24.63014
			6.00000	2.92000	26.78654
			9.00000	3.04000	29.03341
			12.00000	3.17000	31.56962
			15.00000	3.28000	33.79859
			18.00000	3.36500	35.57304
			20.00000	3.41000	36.53084
			22.00000	3.45000	37.39289
			23.00000	3.46000	37.60998
			24.60000	3.44500	37.28459
			26.60000	3.37500	35.78479
			28.60000	3.30600	34.33654
			30.70000	3.23300	32.83691

TWIST ANGLES AND PERCENT SPAN LOCATIONS

ATWIST =	-5.1400	-5.1400
YTWIST =	0.0000	100.0000

TABLE OF INPUT Z/C ORDINATES

XPCT	0.00	5.00	10.00	15.00	20.00	25.00	30.00	40.00	50.00	60.00
	70.00	80.00	90.00	100.00						
Y/B/2										
0.0000	0.00000	-.31900	-.64400	-.97100	-1.29900	-1.62900	-1.96200	-2.61900	-3.23000	-3.82000
	-4.40200	-4.97800	-5.56300	-6.16000						
.0647	0.00000	-.31900	-.64400	-.97100	-1.29900	-1.62900	-1.96200	-2.61900	-3.23000	-3.82000
	-4.40200	-4.97800	-5.56300	-6.16000						
.0753	0.00000	-.33800	-.66700	-.96300	-1.27200	-1.60100	-2.00800	-2.70400	-3.31200	-3.87600
	-4.51200	-5.15500	-5.77500	-6.41500						
.1000	0.00000	-.21700	-.50900	-.84400	-1.19400	-1.59400	-1.98200	-2.71700	-3.39600	-3.95600
	-4.58000	-5.24500	-5.89200	-6.52600						
.1500	0.00000	-.02000	-.18000	-.46000	-.80000	-1.13000	-1.48000	-2.12000	-2.73000	-3.30000
	-3.86000	-4.40000	-4.95000	-5.48000						
.1750	0.00000	.02900	-.05900	-.28400	-.54500	-.81900	-1.09600	-1.64300	-2.18800	-2.73000
	-3.26000	-3.80000	-4.33000	-4.85000						
.2000	0.00000	.08700	.05500	-.11000	-.31900	-.54000	-.77000	-1.25000	-1.74000	-2.23000
	-2.72000	-3.18000	-3.67000	-4.15000						
.2250	0.00000	.13000	.14900	.04100	-.10900	-.28600	-.49000	-.93000	-1.35000	-1.80000
	-2.25000	-2.68000	-3.13000	-3.59000						
.2750	0.00000	.14000	.19700	.14200	.03100	-.09900	-.24000	-.53000	-.87000	-1.22000
	-1.53000	-1.90000	-2.27000	-2.68000						
.3000	0.00000	.16220	.21100	.11699	.03560	-.07730	-.20560	-.46190	-.75000	-1.03870
	-1.32480	-1.57850	-1.92070	-2.31770						
.3250	0.00000	.03600	.07100	.04050	-.03180	-.13130	-.24130	-.45130	-.67130	-.88130
	-1.13130	-1.41130	-1.71130	-2.08130						
.3500	0.00000	.06700	.00500	-.03210	-.08510	-.15650	-.24330	-.41170	-.60440	-.80620
	-1.04350	-1.31100	-1.59860	-1.93280						
.4000	0.00000	-.09200	-.16780	-.22770	-.28130	-.33300	-.39330	-.51590	-.66990	-.85030
	-1.05800	-1.29000	-1.54210	-1.81430						
.4250	0.00000	-.13700	-.24000	-.31000	-.36700	-.42000	-.48000	-.60400	-.75000	-.91800
	-1.11000	-1.32000	-1.55000	-1.80000						
.4750	0.00000	-.17160	-.30520	-.41400	-.49240	-.56940	-.63610	-.76440	-.93290	-1.10280
	-1.27500	-1.47950	-1.69760	-1.93570						
.5000	0.00000	-.19000	-.34000	-.47000	-.56000	-.65000	-.72000	-.85000	-1.03000	-1.20000
	-1.36000	-1.56000	-1.77000	-2.00000						
.6000	0.00000	-.20000	-.35000	-.50000	-.61000	-.79000	-.91000	-1.18000	-1.40000	-1.61000
	-1.81000	-2.04000	-2.28000	-2.56000						
.7000	0.00000	-.18000	-.34000	-.49000	-.64000	-.81000	-.98000	-1.31000	-1.63000	-1.94000
	-2.23000	-2.51000	-2.80000	-3.11000						

.8000	0.00000	-.16000	-.33000	-.51000	-.68000	-.87000	-1.05000	-1.44000	-1.82000	-2.20000
	-2.59000	-2.98000	-3.37000	-3.77000						
.9000	0.00000	-.17000	-.36000	-.54000	-.73000	-.92000	-1.11000	-1.51000	-1.93000	-2.35000
	-2.78000	-3.22000	-3.65000	-4.10000						
1.0000	0.00000	-.21000	-.39000	-.59000	-.77000	-.97000	-1.17000	-1.57000	-2.02000	-2.45000
	-2.92000	-3.37000	-3.82000	-4.25000						

WING-FUSELAGE INTERSECTION

CHORD	X	Y	Z
0.00	83.0000	4.8800	-4.3300
5.00	87.9000	5.2200	-4.2100
10.00	95.9000	5.4000	-4.0400
15.00	103.8000	5.5400	-3.9200
20.00	111.7400	5.5800	-3.6700
25.00	119.7000	5.5800	-3.5000
30.00	127.6000	5.5800	-3.3300
40.00	143.5000	5.5800	-2.9200
50.00	159.3000	5.5800	-2.5800
60.00	175.2000	5.5800	-2.1700
70.00	191.1000	5.5800	-1.7500
80.00	207.0000	5.5800	-1.2500
90.00	222.8000	5.5000	-.8300
100.00	238.7000	4.1700	-.3300

INPUT EQUIVALENT BODY GEOMETRIC CHARACTERISTICS

X	R	DRDX	D2RDX2
.0000	.0056	.1955	-.0082
6.6700	1.1803	.1567	-.0035
9.5800	1.6116	.1495	-.0023
12.4200	2.0398	.1433	-.0031
15.8300	2.4983	.1289	-.0040
19.1700	2.9107	.1165	-.0028
22.9200	3.3179	.1096	-.0018
26.7200	3.7381	.1027	-.0021
32.1500	4.2355	.0890	-.0028
37.4700	4.6948	.0731	-.0035
41.6700	4.9584	.0567	-.0021
46.7500	5.2088	.0567	-.0002
51.0000	5.4759	.0552	-.0009
56.6700	5.7317	.0453	-.0009
61.6700	5.9591	.0445	-.0005
66.6700	6.1764	.0400	-.0011
73.3300	6.4125	.0312	-.0013
81.6700	6.6275	.0291	-.0015
90.0000	6.7476	.0063	-.0015
102.5000	6.6745	-.0110	-.0010
116.1700	6.4466	-.0202	-.0005
126.0000	6.2225	-.0237	-.0002
131.7500	6.0829	-.0239	.0000
140.7500	5.8729	-.0227	-.0002
148.3300	5.7047	-.0257	-.0000
156.6700	5.4586	-.0225	.0006
166.1700	5.3209	-.0139	.0007
177.0800	5.1761	-.0090	.0004
197.5000	5.1565	-.0024	.0008
201.9200	5.1443	.0014	.0007
206.6700	5.1725	.0041	.0001
213.6700	5.1816	-.0035	-.0012
219.1700	5.1707	-.0094	-.0017
225.6700	5.0520	-.0207	-.0006
231.6700	4.9142	-.0183	.0008
238.6800	4.8249	-.0098	.0010
248.3300	4.7685	-.0027	.0005
256.6700	4.7687	.0000	.0002
273.3300	4.7687	0.0000	-.0000
280.0000	4.7687	0.0000	.0000

EQUIV. BODY DIMENSIONS AND SOURCE CHAR. AT MACH= 2.400

	X	R	DRDX	F(X)	XK	AK	DRDXM
1	.0000	.0056	.1955	.0004	-.0123	.0327	.1754
2	5.6000	1.0393	.1608	.1574	3.3980	-.0118	.1523
3	11.2000	1.8561	.1463	.2540	7.1504	-.0048	.1367
4	16.8000	2.6221	.1251	.2967	11.0793	-.0086	.1156
5	22.4300	3.2611	.1155	.3270	15.2851	.0034	.1055
6	28.0000	3.8615	.0998	.3245	19.5752	-.0050	.0926
7	33.6000	4.3642	.0849	.2839	24.0784	-.0048	.0767
8	39.2000	4.8116	.0665	.2919	28.7024	-.0061	.0563
9	44.8000	5.1107	.0567	.2799	33.6499	.0100	.0565
10	50.4000	5.4409	.0557	.2663	38.5294	-.0039	.0516
11	56.0000	5.7014	.0461	.2530	43.5611	-.0012	.0449
12	61.6000	5.9559	.0445	.2260	48.6057	.0021	.0423
13	67.2000	6.1974	.0393	.1930	53.6789	-.0033	.0356
14	72.8000	6.3958	.0319	.1513	58.8459	-.0011	.0281
15	78.4000	6.5542	.0244	.1034	64.1003	-.0009	.0207
16	84.0000	6.6715	.0163	.0549	69.4446	-.0020	.0116
17	89.6000	6.7449	.0069	.0095	74.8845	-.0005	.0026
18	95.2000	6.7408	-.0015	-.0281	80.4933	.0001	-.0055
19	100.8000	6.6927	-.0091	-.0580	86.1983	.0009	-.0121
20	106.4000	6.6230	-.0145	-.0823	91.9503	.0018	-.0164
21	112.0000	6.5278	-.0181	-.1010	97.7581	.0012	-.0196
22	117.6000	6.4165	-.0209	-.1133	103.6008	.0009	-.0221
23	123.2000	6.2886	-.0231	-.1187	109.4798	.0011	-.0237
24	128.8000	6.1546	-.0239	-.1207	115.3723	.0014	-.0239
25	134.4000	6.0200	-.0237	-.1251	121.2659	.0011	-.0231
26	140.0000	5.8900	-.0227	-.1313	127.1495	-.0003	-.0233
27	145.6000	5.7559	-.0248	-.1246	133.0204	-.0011	-.0257
28	151.2000	5.6227	-.0252	-.1099	138.9328	.0026	-.0240
29	156.8000	5.4558	-.0224	-.0895	144.8969	.0015	-.0200
30	162.4000	5.3735	-.0172	-.0749	150.6765	.0012	-.0147
31	168.0000	5.2954	-.0129	-.0619	156.4468	-.0011	-.0116
32	173.6000	5.2186	-.0104	-.0505	162.2144	-.0003	-.0093
33	179.2000	5.1657	-.0082	-.0412	167.9298	-.0003	-.0072
34	184.8000	5.1551	-.0064	-.0331	173.5311	-.0004	-.0056
35	190.4000	5.1662	-.0050	-.0199	179.1287	-.0002	-.0043
36	196.0000	5.1598	-.0033	-.0016	184.7427	.0009	-.0013
37	201.6000	5.1446	.0012	.0018	190.3758	.0010	.0031
38	207.2000	5.1745	.0041	-.0165	195.9107	-.0026	.0030
39	212.8000	5.1819	.0035	-.0479	201.4944	-.0039	-.0035
40	218.4000	5.1754	-.0082	-.0781	207.1087	-.0024	-.0129
41	224.0000	5.0863	-.0179	-.0747	212.9031	.0002	-.0210
42	229.6000	4.9603	-.0197	-.0573	218.7780	.0064	-.0176
43	235.2000	4.8625	-.0140	-.0402	224.5912	.0023	-.0106
44	240.8000	4.8062	-.0078	-.0257	230.3140	-.0004	-.0056
45	246.4000	4.7747	-.0038	-.0152	235.9828	-.0005	-.0023
46	252.0000	4.7686	-.0012	-.0095	241.5962	-.0008	-.0004
47	257.6000	4.7687	.0000	-.0066	247.1960	-.0009	.0000
48	263.2000	4.7687	.0000	-.0047	252.7960	-.0004	.0000
49	268.8000	4.7687	.0000	-.0034	258.3960	-.0002	.0000
50	274.4000	4.7687	-.0000	-.0023	263.9960	-.0001	-.0000
51	280.0000	4.7687	-.0000	-.0011			

EQUIVALENT BODY SURFACE VELOCITIES AT MACH= 2.400

	X	U	VR	CP
1	2.8000	-.0517	.1663	.0758
2	8.4000	-.0415	.1460	.0616
3	14.0000	-.0353	.1319	.0531
4	19.6000	-.0267	.1125	.0408
5	25.2000	-.0232	.1033	.0358
6	30.8000	-.0182	.0919	.0282
7	36.4000	-.0122	.0757	.0187
8	42.0000	-.0045	.0561	.0059
9	47.6000	-.0062	.0562	.0092
10	53.2000	-.0048	.0514	.0070
11	58.8000	-.0027	.0447	.0034
12	64.4000	-.0025	.0422	.0033
13	70.0000	-.0003	.0356	-.0006
14	75.6000	.0020	.0282	-.0048
15	81.2000	.0041	.0208	-.0087
16	86.8000	.0069	.0116	-.0140
17	92.4000	.0093	.0027	-.0186
18	98.0000	.0111	-.0055	-.0223
19	103.6000	.0121	-.0123	-.0244
20	109.2000	.0120	-.0166	-.0242
21	114.8000	.0114	-.0198	-.0233
22	120.4000	.0108	-.0224	-.0220
23	126.0000	.0098	-.0240	-.0201
24	131.6000	.0084	-.0241	-.0173
25	137.2000	.0068	-.0233	-.0141
26	142.8000	.0059	-.0235	-.0124
27	148.4000	.0061	-.0258	-.0129
28	154.0000	.0044	-.0241	-.0093
29	159.6000	.0021	-.0201	-.0046
30	165.2000	-.0002	-.0147	.0002
31	170.8000	-.0011	-.0116	.0020
32	176.4000	-.0016	-.0092	.0030
33	182.0000	-.0019	-.0072	.0037
34	187.6000	-.0019	-.0056	.0038
35	193.2000	-.0019	-.0043	.0038
36	198.8000	-.0027	-.0013	.0053
37	204.4000	-.0039	.0031	.0077
38	210.0000	-.0029	.0030	.0058
39	215.6000	.0004	-.0035	-.0008
40	221.2000	.0041	-.0130	-.0085
41	226.8000	.0065	-.0211	-.0134
42	232.4000	.0035	-.0176	-.0073
43	238.0000	-.0031	-.0136	-.0003
44	243.6000	-.0018	-.0056	.0037
45	249.2000	-.0026	-.0023	.0053
46	254.8000	-.0027	-.0004	.0054
47	260.4000	-.0022	.0000	.0045
48	266.0000	-.0017	.0000	.0035
49	271.6000	-.0014	.0000	.0028
50	277.2000	-.0011	-.0000	.0023

REFERENCE AXIS DATA

X	ZR	DZRDX	D2ZRDX2
0.0000	-.7500	.0857	-.0008
6.6700	-.2180	.0738	-.0028
9.5800	-.0107	.0644	-.0026
12.4200	.1532	.0587	-.0015
15.8300	.3576	.0555	-.0023
19.1700	.5282	.0436	-.0032
22.9200	.6602	.0330	-.0021
26.7200	.7773	.0275	-.0017
32.1500	.9003	.0166	-.0022
37.4700	.9568	.0034	-.0022
41.6700	.9473	-.0050	-.0021
46.7500	.9046	-.0167	-.0014
51.0000	.8044	-.0195	-.0009
56.6700	.7250	-.0264	-.0012
61.6700	.5383	-.0319	.0001
66.6700	.4057	-.0255	.0008
73.3300	.2453	-.0238	.0002
81.6700	.0493	-.0225	.0002
90.0000	-.1294	-.0199	.0003
102.5000	-.3480	-.0154	.0003
116.1700	-.5265	-.0133	-.0000
126.0000	-.6584	-.0146	-.0000
131.7500	-.7463	-.0142	.0001
140.7500	-.8578	-.0136	.0004
148.3300	-.9689	-.0088	.0006
156.6700	-.9894	-.0033	.0003
166.1700	-1.0306	-.0041	.0003
177.0800	-1.0721	.0041	.0008
197.5000	-.6856	.0197	.0027
201.9200	-.5977	.0335	.0034
206.6700	-.3693	.0514	.0025
213.6700	.0254	.0561	.0009
219.1700	.3332	.0616	.0009
225.6700	.7775	.0667	-.0007
231.6700	1.1684	.0543	-.0006
238.6800	1.4608	.0620	.0008
248.3300	2.3299	.0667	-.0012
256.6700	2.7186	.0451	-.0017
273.3300	3.4185	.0441	.0002
280.0000	3.7185	.0458	.0003

CONTOUR AT X= 140.75

Z	Y	Z	Y	Z	Y	Z	Y
-5.676	0.000	-5.626	.969	-5.457	1.891	-5.106	2.890
-4.629	3.748	-3.908	4.534	-3.055	5.148	-2.118	5.595
-1.153	5.868	-.124	5.956	.966	5.860	1.938	5.583
2.868	5.140	3.726	4.543	4.448	3.802	5.050	2.964
5.483	2.103	5.757	1.018	5.850	0.000		

CONTOUR AT X= 148.33

Z	Y	Z	Y	Z	Y	Z	Y
-5.367	0.000	-5.322	.987	-5.159	1.928	-4.870	2.888
-4.381	3.823	-3.748	4.655	-2.823	5.256	-1.861	5.604
-.836	5.783	.175	5.802	1.147	5.642	2.104	5.333
2.978	4.880	3.765	4.272	4.421	3.546	4.942	2.734
5.331	1.872	5.570	.893	5.655	0.000		

CONTOUR AT X= 145.53

Z	Y	Z	Y	Z	Y	Z	Y
-5.481	0.000	-5.434	.981	-5.269	1.914	-4.957	2.889
-4.473	3.795	-3.817	4.610	-2.909	5.216	-1.956	5.601
-.953	5.814	.064	5.859	1.080	5.722	2.043	5.426
2.937	4.976	3.750	4.372	4.431	3.641	4.982	2.819
5.387	1.920	5.639	.939	5.727	0.000		

CONTOUR AT X= 148.33

Z	Y	Z	Y	Z	Y	Z	Y
-5.367	0.000	-5.322	.987	-5.159	1.928	-4.870	2.888
-4.381	3.823	-3.748	4.655	-2.823	5.256	-1.861	5.604
-.836	5.783	.175	5.802	1.147	5.642	2.104	5.333
2.978	4.880	3.765	4.272	4.421	3.546	4.942	2.734
5.331	1.872	5.570	.893	5.655	0.000		

SURF. PROPERTIES AT X= 148.33

THET	R	U/U0	V/U0	W/U0	CP
-90.0000	5.3671	.0103	-.0000	.0138	-.0210
-79.4916	5.4129	.0102	-.0000	.0141	-.0209
-69.5118	5.5175	.0101	-.0002	.0151	-.0206
-59.3292	5.6622	.0098	-.0012	.0170	-.0202
-48.8909	5.8146	.0095	-.0040	.0198	-.0198
-38.8432	5.9760	.0093	-.0098	.0216	-.0195
-28.2416	5.9661	.0089	-.0174	.0187	-.0187
-18.3724	5.9147	.0080	-.0205	.0148	-.0169
-8.2275	5.8425	.0071	-.0237	.0118	-.0151
1.7267	5.8143	.0062	-.0279	.0075	-.0134
11.4915	5.7569	.0053	-.0289	.0023	-.0116
21.5284	5.7333	.0045	-.0301	-.0032	-.0099
31.3947	5.7165	.0038	-.0304	-.0097	-.0085
41.3896	5.6942	.0031	-.0284	-.0168	-.0071
51.2646	5.6675	.0025	-.0247	-.0227	-.0057
61.0483	5.6477	.0020	-.0200	-.0276	-.0047
70.6555	5.6499	.0017	-.0142	-.0316	-.0040
80.8945	5.6413	.0014	-.0070	-.0344	-.0035
90.0000	5.6549	.0014	.0000	-.0353	-.0033

FIELD PROPERTIES AT X= 148.33

THET	R	U/U0	V/U0	W/U0	CP
-18.3166	5.8778	.0080	-.0206	.0148	-.0169
-18.3166	5.8778	.0080	-.0206	.0148	-.0169
-18.3166	5.8778	.0080	-.0206	.0148	-.0169
-18.3166	5.8778	.0080	-.0206	.0148	-.0169
-17.5533	7.4292	.0076	-.0167	.0110	-.0158
-14.5865	9.1490	.0073	-.0143	.0076	-.0150
-12.6310	10.8885	.0071	-.0124	.0055	-.0145
-10.7312	12.6164	.0070	-.0110	.0041	-.0143
-9.6515	14.3700	.0070	-.0098	.0032	-.0142
-8.4103	17.9108	.0070	-.0080	.0022	-.0141
-8.3554	21.4779	.0071	-.0067	.0017	-.0142
-8.0634	25.0391	.0071	-.0058	.0013	-.0143
-7.2712	28.5529	.0071	-.0052	.0011	-.0143
-5.8437	32.0412	.0072	-.0046	.0008	-.0144
-4.7577	35.5390	.0072	-.0042	.0006	-.0144
-3.9395	39.0505	.0072	-.0039	.0005	-.0145
-3.2564	42.5685	.0073	-.0036	.0004	-.0145
-2.4499	49.6285	.0073	-.0031	.0003	-.0147
-1.8444	56.6958	.0074	-.0027	.0002	-.0148
-1.3731	63.7681	.0074	-.0024	.0001	-.0149
-1.1033	70.8461	.0075	-.0022	.0001	-.0150

FUSELAGE UPWASH ACTING ON WING AT ALPHA= 0.00 DEG.

XPCT	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00
Y/B/2											
0.000	-.959	.084	.739	1.096	1.032	.488	-.226	-1.051	-3.800	-1.980	-1.276
.025	-.959	.084	.739	1.096	1.032	.488	-.226	-1.051	-3.800	-1.980	-1.276
.050	-.959	.085	.739	1.096	1.032	.488	-.226	-1.050	-3.800	-1.979	-1.278
.075	-.520	.307	.791	1.111	1.073	.523	.047	-.718	-2.812	-4.050	-1.953
.100	-.018	.452	.677	.819	.757	.441	.230	-.225	-.647	-2.040	-1.817
.125	.179	.446	.538	.575	.502	.267	.145	-.122	-.370	-1.267	-1.289
.150	.256	.373	.429	.417	.345	.177	.099	-.071	-.229	-.755	-.911
.175	.273	.321	.348	.308	.230	.120	.050	-.064	-.171	-.523	-.663
.200	.250	.276	.264	.227	.141	.086	.016	-.063	-.139	-.417	-.508
.250	.202	.183	.156	.104	.063	.032	-.016	-.058	-.100	-.288	-.323
.300	.134	.114	.079	.047	.033	.002	-.025	-.050	-.092	-.208	-.223
.350	.089	.066	.040	.031	.012	-.008	-.025	-.042	-.080	-.153	-.162
.400	.056	.036	.027	.017	.002	-.011	-.023	-.035	-.068	-.117	-.124
.450	.032	.024	.019	.008	-.003	-.012	-.020	-.029	-.058	-.092	-.097
.500	.020	.017	.011	.002	-.005	-.012	-.018	-.025	-.050	-.075	-.078
.550	.014	.011	.005	-.001	-.006	-.011	-.016	-.023	-.044	-.062	-.064
.600	.011	.006	.001	-.003	-.007	-.011	-.015	-.022	-.039	-.052	-.054
.700	.002	-.001	-.003	-.005	-.008	-.010	-.013	-.021	-.032	-.038	-.039
.800	-.002	-.004	-.005	-.007	-.008	-.009	-.014	-.020	-.027	-.029	-.030
.900	-.005	-.006	-.006	-.007	-.009	-.012	-.015	-.019	-.023	-.023	-.023
1.000	-.006	-.007	-.009	-.011	-.012	-.014	-.016	-.018	-.018	-.019	-.019

INCREMENTAL FUSELAGE UPWASH ON WING PER DEGREE ALPHA

XPCT	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00
Y/B/2											
0.000	.152	.298	.406	.594	.790	.982	1.151	1.060	1.151	.741	.368
.025	.152	.298	.406	.594	.790	.982	1.151	1.060	1.151	.741	.368
.050	.152	.298	.406	.594	.790	.982	1.151	1.060	1.151	.741	.368
.075	.212	.333	.426	.604	.773	.950	1.114	1.097	1.055	1.138	.622
.100	.272	.363	.415	.466	.503	.548	.618	.655	.644	.635	.523
.125	.242	.306	.333	.348	.361	.364	.386	.401	.403	.403	.373
.150	.215	.241	.259	.261	.264	.258	.266	.273	.276	.278	.270
.175	.171	.194	.202	.201	.201	.195	.198	.200	.201	.202	.198
.200	.147	.154	.158	.157	.153	.151	.151	.152	.153	.154	.152
.250	.102	.103	.103	.100	.097	.097	.096	.097	.097	.097	.096
.300	.072	.071	.069	.067	.067	.067	.067	.067	.067	.067	.067
.350	.053	.051	.049	.049	.049	.049	.049	.049	.049	.049	.049
.400	.040	.038	.038	.037	.037	.037	.037	.037	.038	.037	.037
.450	.031	.030	.030	.029	.029	.029	.030	.030	.030	.030	.029
.500	.024	.024	.024	.024	.024	.024	.024	.024	.024	.024	.024
.550	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020	.020
.600	.017	.017	.017	.016	.017	.017	.017	.017	.017	.017	.017
.700	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012	.012
.800	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009	.009
.900	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007	.007
1.000	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006	.006

FUSELAGE UPWASH ACTING ON TAIL AT ALPHA= 0.00 DEG.

XPCT	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00
Y/B/2											
0.000	4.031	4.012	.960	-2.506	-4.358	-4.170	-3.982	-3.793	-3.605	-3.224	-2.697
.100	4.031	4.012	.960	-2.506	-4.358	-4.170	-3.982	-3.793	-3.605	-3.224	-2.697
.200	4.031	4.012	.960	-2.506	-4.358	-4.170	-3.982	-3.793	-3.605	-3.224	-2.697
.300	-3.106	-2.936	-2.545	-2.155	-2.049	-1.995	-1.942	-1.889	-1.836	-1.789	-1.748
.400	-1.708	-1.511	-1.313	-1.181	-1.163	-1.146	-1.128	-1.111	-1.093	-1.080	-1.075
.500	-.982	-.872	-.763	-.756	-.749	-.741	-.734	-.727	-.720	-.715	-.716
.600	-.686	-.540	-.528	-.525	-.522	-.518	-.515	-.511	-.508	-.505	-.507
.700	-.391	-.389	-.387	-.386	-.384	-.382	-.380	-.378	-.377	-.375	-.376
.800	-.298	-.297	-.296	-.295	-.294	-.293	-.292	-.291	-.290	-.289	-.289
.900	-.235	-.234	-.234	-.233	-.232	-.232	-.231	-.231	-.230	-.230	-.229
1.000	-.189	-.189	-.189	-.189	-.188	-.188	-.188	-.187	-.187	-.187	-.186

INCREMENTAL FUSELAGE UPWASH ON TAIL PER DEGREE ALPHA

XPCT	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00
Y/B/2											
0.000	-1.082	-1.053	-.050	1.085	1.690	1.623	1.556	1.489	1.422	1.263	1.037
.100	-1.082	-1.053	-.050	1.085	1.690	1.623	1.556	1.489	1.422	1.263	1.037
.200	-1.082	-1.053	-.050	1.085	1.690	1.623	1.556	1.489	1.422	1.263	1.037
.300	.817	.818	.815	.811	.796	.778	.760	.742	.724	.701	.673
.400	.464	.463	.461	.458	.453	.447	.442	.436	.431	.425	.416
.500	.297	.296	.296	.294	.292	.290	.288	.286	.284	.281	.278
.600	.206	.206	.205	.204	.204	.203	.202	.201	.200	.199	.198
.700	.152	.151	.151	.150	.150	.150	.149	.149	.148	.148	.147
.800	.116	.116	.115	.115	.115	.115	.115	.115	.114	.114	.114
.900	.091	.091	.091	.091	.091	.091	.091	.091	.091	.091	.091
1.000	.074	.074	.074	.074	.074	.074	.074	.074	.074	.074	.074

SUMMARY OF FUSELAGE FORCE COEFFICIENTS VERSUS ALPHA

	IGNORING WING DOWNWASH				INCLUDING WING DOWNWASH			
ALPHA	CL	CM	CD	CDC*	CL	CM	CD	CDC*
0.000	-.001227	-.000064	.000525	.000037	-.001227	-.000064	.000525	.000037
2.000	-.000722	.001745	.000508	.000027	-.000722	.001745	.000508	.000027
4.000	-.000218	.003554	.000526	.000052	-.000218	.003554	.000526	.000052
6.000	.000287	.005363	.000579	.000112	.000287	.005363	.000579	.000112
8.000	.000791	.007171	.000667	.000207	.000791	.007171	.000667	.000207
10.000	.001295	.008980	.000790	.000338	.001295	.008980	.000790	.000338

*=DRAG OF LIFT DISTRIBUTION ACTING ALONG CENTROID (Z) AXIS

FORCE COEFFICIENTS FOR WING-FUSELAGE BUILDUP

FUSELAGE FORCE COEFFICIENTS BASED ON WING REF. GEOMETRY

	IGNORING WING DOWNWASH		INCLUDING WING DOWNWASH	
	AT ALPHA= 0.000	PER DEG.	AT ALPHA= 0.000	PER DEG.
CL	-.001227	.000252	-.001227	.000252
CD	.000037	.000004	.000037	.000004
CM	-.000064	.000904	-.000064	.000904

REFERENCES

1. Carlson, Harry W.; Mack, Robert J.; and Barger, Raymond L.: Estimation of Attainable Leading-Edge Thrust for Wings at Subsonic and Supersonic Speeds. NASA TP-1500, 1979.

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
NASA CR-3354		

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15. Supplementary Notes

Langley Technical Monitor: B. L. Shrout
Part 4 of final report

16. Abstract

An integrated system of computer programs has been developed for the design and analysis of supersonic configurations. The system uses linearized theory methods for the calculation of surface pressures and supersonic area rule concepts in combination with linearized theory for calculation of aerodynamic force coefficients. Interactive graphics are optional at the user's request.

The description of the design and analysis system is broken into four parts, covered in four separate documents:

Part 1 - General Description and Theoretical Development (NASA CR-3351)
Part 2 - User's Manual (NASA CR-3352)
Part 3 - Computer Program Description (NASA CR-3353)
Part 4 - Test Cases (NASA CR-3354).

This part contains representative test cases and associated program output.

These four documents supersede NASA contractor reports CR-2715, CR-2716, and CR-2717, which described an earlier version of the system.

17. Key Words (Suggested by Author(s))	18. Distribution Statement
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