NASA Contractor Report 3005



Michael R. Mendenhall

CONTRACT NAS1-14086 AUGUST 1978

FOR EARLY DOMESTIC DISSEMINATION

Because of its significant early commercial potential, this information, which has been developed under a U.S. Government program, is being disseminated within the United States in advance of general publication. This information may be duplicated and used by the recipient with the express limitation that it not be published. Release of this information to other domestic parties by the recipient shall be made subject to these limitations.

LOAN COPY ... RETUR

AFAL TECHNICA

NASA CR 3005 c.1

Foreign release may be made only with prior NASA approval and appropriate export licenses. This legend shall be marked on any reproduction of this information in whole or in part.

Date for general release August 1980





NASA Contractor Report 3005

A Computer Program To Calculate the Longitudinal Aerodynamic Characteristics of Upper-Surface-Blown Wing-Flap Configurations

Michael R. Mendenhall Nielsen Engineering & Research, Inc. Mountain View, California

Prepared for Langley Research Center under Contract NAS1-14086



and Space Administration

Scientific and Technical Information Office



TABLE OF CONTENTS

-- ...

-

L

Section	Page <u>No.</u>
SUMMARY	1
INTRODUCTION	2
DESCRIPTION OF PROGRAM	3
Calculation Procedure	3
Program Operation	4
Program Usage	7
Limitations	7
Run time	8
DESCRIPTION OF INPUT	8
Vortex-Lattice Arrangement	8
Spanwise distribution	9
Chordwise distribution	10
Coanda flap • • • • • • • • • • • • • • • • • • •	11
Jet Wake Specification	12
Input Variables	15
Sample Cases	28
DESCRIPTION OF OUTPUT	29
Sample Case	29
Error Messages and Program Stops	33
PROGRAM LISTING	35
REFERENCES	67
TABLE I • • • • • • • • • • • • • • • • • •	68
FIGURES 1 THROUGH 8	69

– On-line

- 1

SUMMARY

This document is a user's manual for the computer program developed to calculate the longitudinal aerodynamic characteristics of upper-surfaceblown (USB) wing-flap combinations. A vortex-lattice lifting-surface method is used to model the wing and multiple flaps. Each lifting surface may be of arbitrary planform having camber and twist, and the trailingedge flap system may consist of up to ten flaps with different spans and deflection angles. Coanda flaps are represented by multiple individual flap segments. The engine wake model consists of a series of closely spaced vortex rings with rectangular cross sections. The rings are positioned relative to a wake centerline which is located such that the lower boundary of the jet is tangent to the wing and flap upper surfaces. The two potential flow models are used to calculate the wing-flap loading distribution including the influence of the wakes from up to two engines on the semispan. The method is limited to the condition where the flow and geometry of the configurations are symmetric about the vertical plane containing the wing root chord. The results available from the program include total configuration forces and moments, individual lifting-surface load distributions, pressure distributions, individual flap hinge moments, and flow field calculation at arbitrary field points.

This program manual contains a description of the use of the program, instructions for preparation of input, a description of the output, program listing, and sample cases.

.....

INTRODUCTION

The short take-off and landing requirements for STOL aircraft necessitates a means of achieving very high lift coefficients on aircraft in both take-off and landing configuration. Recent experimental investigations of upper-surface-blown (USB) flap configurations have indicated the potential for efficient powered-lift performance at reduced ground noise levels. An upper surface blown flap is a STOL high lift device in which the jet efflux from turbofan engines mounted above the wing is allowed to impinge on the upper wing surface such that it becomes attached to the wing surface and flows aft over the wing and flap and is deflected by the trailing edge flap. A large amount of additional lift is produced through engine wake deflection and induced aerodynamic effects.

The purpose of the analysis in reference 1 is to provide an engineering prediction method using potential flow models and requiring little use of empirically determined information, to predict the static longitudinal aerodynamic characteristics of USB configurations. The method involves the combination of a vortex-lattice lifting-surface model of the wing and flaps and a vortex ring model of the rectangular jet wakes. The two flow models are combined by direct superposition, and a tangency boundary condition is satisfied on the wing and flap surfaces. Additional loading is placed on the flap surfaces to account for the turning of the jet wake, and induced aerodynamic effects are obtained by allowing the additional loading to influence the loading on all other lifting surfaces.

The computer program described in this report is an improved and extended version of the program of reference 2. An improved vortex-lattice lifting-surface method is used in which the trailing legs of the horseshoe vortices are allowed to bend around the flap surfaces so that all the trailing vorticity leaves the configuration tangent to the last flap. This is the same vortex lattice method described in reference 3. The jet centerline calculation has been automated so that, after starting with an arbitrary jet location, the centerline is positioned so that it lies parallel to the wing and flap upper surface. The rectangular jet crosssectional shape at all points along the length of the jet must be specified by the user.

This document is a user's manual for the computer program developed to carry out the calculations in the USB aerodynamic prediction method.

Principal reliance is made herein to reference 1 for a description of the details of the method and the calculation procedure. Reference 1 also contains calculated results and comparisons with data for a variety of configurations. The following sections of this report will provide a description of the program, a description of the input, a description of the output, a program listing, and sample cases. The notation used is the same as that of reference 1.

DESCRIPTION OF PROGRAM

The purpose of this section is to describe the USB aerodynamic prediction program in sufficient detail to permit a general understanding of the flow of the program and to make the user aware of the analytical models used to represent the jets and the lifting surfaces. Basically, the program models the lifting surfaces with horseshoe vortices whose circulation strengths are determined from a set of simultaneous equations provided by the flow tangency boundary condition applied at a finite set of control points distributed over the wing and flaps. The boundary conditions include interference velocities induced by some external source of disturbance such as the wake of a turbofan engine. The jet wake is modeled by a series of closely spaced ring vortices, rectangular in shape, arranged on the boundary of the jet. The strength of the vortices is specified by the initial velocity in the wake which is determined from the momentum in the jet. The jet is allowed to interact with the wing and flaps through the jet induced velocity field on the lifting-surface control points, and through additional loading on the wing and flaps. This additional loading represents the jet reaction force due to the deflection of the jet by the trailing edge flaps.

Calculation Procedure

The general flow of the program, shown in the flow chart in figure 1, proceeds as follows. After run identification information and certain reference quantities are read in, the wing geometry is input and the wing lattice layout is set up and then printed as output. This is accomplished in subroutine WNGLAT. Similar calculations for the flap surfaces are carried out in subroutine FLPLAT. This concludes the lifting-surface geometry specification; therefore, the influence coefficient matrix, which is the left-hand side of the equation set and a

.

з

function of geometry only, can be calculated in Subroutine INFMAT. The matrix is triangularized (Subroutine LINEQS) for use in the solution of the simultaneous equations. This concludes the first section of the program which need be performed only once in each calculation. Provision is made for the storage of the triangularized matrix (Subroutine FVNOUT) so that recomputation is not necessary in future runs considering the same geometry.

The next section of the main program is that part in which the solution is carried out. The first step is the input of the initial jet parameters (Subroutine JET) and the set up of the tangent jet centerlines (Subroutine JETCL) in preparation for induced velocity calculations. The jet induced velocity field at each lifting-surface control point is computed in Subroutine JET at this time. An additional component of induced velocity at each control point is induced by the additional loading on the flaps (Subroutine JETVEL). This additional loading represents the reaction force on the flaps caused by the deflection of the jet by the flaps. The right-hand side of the equation set is now computed in Subroutine RHSCLC. Solution of the equation set in Subroutine SOLVE produces the values for the circulation strengths of each horseshoe vortex describing the lifting surfaces. Given the circulation strengths and the induced velocity field, the load distributions on the lifting surfaces are calculated in Subroutine LOAD and resolved into total forces and moments in Subroutine FORCES.

The final calculation to be carried out, if requested, is the computation of the induced velocity field at specified field points (Subroutines VELSUM, JET, and JTCIRV). This option is provided so that the user may investigate the induced flow field in the vicinity of a horizontal tail position or other points of interest in the flow field.

Program Operation

The USB prediction program is written in FORTRAN IV and has been run on a CDC 6600 computer. The version described in this document was designed to be used under the FTN compiler with level 1 or 2 optimization. Other compilers can be used with only minor modifications, and lower optimization levels can be used with the only penalty being an increase in run time. No tapes other than standard input and output units are required for a typical run, although two available options allow jet wake parameters and an externally induced velocity field to be brought in via tape unit 4 and the storage of the influence matrix on tape unit 8 to save computer time on later runs.

The main program, USBMAIN, contains one item which is not a standard feature of all FTN compilers. Between cards USB195 and USB207 there are two calls to Subroutine REQFL, a subroutine unique to the CDC 6600. This is a request for an adjustment in the core memory to make room for the influence coefficient matrix, FVN, which is stored in a one-dimensional The purpose of this adjustment is to minimize the core storage array. used until the large array is required. FVN is dimensioned for unit length on card USB055. If Subroutine REQFL or its equivalent is not available, the following changes are required. First, remove cards USB195 through USB207. Second, change the dimension of the FVN array on card USB055 to a value which will cover the maximum number of elements in an influence coefficient matrix; that is, the square of the total number of vortex-lattice panels on the configuration of interest. Thus, the dimension of FVN can be made large enough to cover the largest array anticipated, or the minimum size array needed can be defined and the dimension changed as the number of vortex panels is increased. The maximum number of vortex panels allowed is 250.

There is an alternative solution which minimizes storage requirements for the FVN array when Subroutine REQFL is not available. Program USBMAIN can be turned into a subroutine with cards USB195-207 removed and the FVN dimension set at unity. A short main program can be written which consists of a blank common which sets the dimension of FVN to the required size and a call to Subroutine USBMAIN. In this way, a short five-card main program is all that need be recompiled to change the size of the FVN array. This alternate set up for a main program is illustrated in figure 2 to accommodate a maximum vortex lattice of 136 elements (for example). The changes to the current main program, USBMAIN, to make it a subroutine are also shown in this figure.

The following is a list of the components of the USB program and a brief description of the function of each.

Main Program:

USBMAIN - controls the flow of the calculation and handles some input and output duties Subroutines:

- WNGLAT reads in wing input data, lays out the vortex lattice on the the wing, and outputs wing geometric information
- FLPLAT reads in flap input data, lays out vortex lattice on the flaps including wing trailing legs which lie on the flaps, and outputs flap geometric information
- INFMAT calculates influence coefficient matrix
- FLVF calculates influence function for a finite length vortex
 filament
- SIVF calculates influence function for a semi-infinite length vortex filament
- RHSCLC calculates the right-hand side of the simultaneous equations for the vortex strengths
- LINEQS triangularizes the square influence coefficient matrix
- SOLVE solves for the circulation strengths
- LOAD calculates the forces on the bound and trailing vorticity associated with each area element using the traditional method
- LOADCP calculates the upper and lower surface pressure coefficients on each panel and the force associated with each area element
- FORCES calculates and outputs the spanwise loading distributions and total forces and moments and pressure distribution on the complete configuration
- VELSUM computes wing-flap induced velocity field at a specified point
- JET reads in initial jet parameters, outputs total jet configurations, and calculates jet wake induced velocities at specified points
- JETCL calculates the wake position parameters of USB jets which are tangent to the upper wing and flap surfaces
- CORECT corrects field point locations relative to vortex rings to avoid singularities
- QRING computes velocity components induced by a single, quadrilateral vortex ring at an arbitrary field point relative to the ring

Subroutines (Concluded)

JETVEL - calculates additional loading on flaps due to jet deflection

- JTCIRV calculates the velocity components induced by the additional loading on the flaps
- TRLG corrects horseshoe vortex trailing legs at flap junctions to eliminate unusually large local loadings near flap edges
- FVNOUT stores the aerodynamic influence coefficient matrix on tape 8 for future use
- FVNIN inputs the aerodynamic influence coefficient matrix from tape 8
- UVWOUT stores the jet parameters and jet induced velocities at control points on tape 4 for use in future runs
- UVWIN inputs the jet parameters and jet induced velocities at control points from tape 4

Program Usage

Limitations. - It should be remembered that the prediction method is made up of potential flow models which presume the flow to be attached to the lifting surfaces at all times. When applying the program to configurations at very high angles of attack or to configurations with very large flap deflections, the predicted results will generally indicate too much lift as separation may exist on portions of the real model.

The program is a model for the wing and flaps only; therefore, when comparing predicted results with measured characteristics on a complete configuration, the force and moment contributions due to such items as the fuselage, nacelles, and leading-edge slat must be included as additional items. This is illustrated in the data comparisons in reference 1.

There are certain limitations and requirements in laying out the vortex-lattice arrangement on the lifting surfaces. These are discussed in detail in the input section of this manual, but several of the more important items are noted as follows:

(1) Since the current version of the vortex-lattice method bends the trailing legs of the wing horseshoe vortices around the flaps, in laying out the geometry care must be taken that a flap surface not lie above the wing surface. For the same reason, flap surfaces may not overlap. (2) The program has the capability of computing the induced velocity field at any specified field point, but the modeling of the wing and flaps with horseshoe vortex singularities can cause numerical problems and unrealistic answers if a field point lies too near a singularity. A general rule to follow when computing induced velocities is that the field point should not be closer to a lifting surface than one-half the width of the nearest horseshoe vortex.

<u>Run time</u>. - Both the vortex-lattice lifting-surface and the vortex ring jet models can be time consuming in a typical calculation; consequently, their combination into the USB program creates a calculation procedure which can be very costly in terms of computer time. Estimating the computation time required for a calculation is difficult because of the variables involved. Size of the vortex lattice, number of flaps, number of jets, length of the jets, spacing of the vortex rings, and force calculation options all help determine the total run time for a calculation. A list of typical execution times for different combinations of the above parameters is presented in Table I. Explanations of the force calculation options are presented in the following section.

DESCRIPTION OF INPUT

This section describes the preparation of input for the USB computer program. In the following sections, some detailed information regarding the layout of the vortex lattice and the specification of the jet wake are presented. This is followed by a listing of all input variables and their format and positions in the input deck. The last topic in this section is a sample input deck illustrating a typical USB calculation.

Vortex-Lattice Arrangement

The vortex-lattice method used in the present USB program is identical to the version of the vortex-lattice method presented in references 3 and 4. The vortex-lattice method is capable of modeling the following characteristics of the wing and flap:

Wing

- · Mean camber surface may have camber and twist.
- · Leading-edge sweep angle need not be constant across semispan.
- Trailing-edge sweep angle need not be constant across semispan.

- Taper need not be linear and there may be discontinuities in the local wing chords.
- Non-zero dihedral angle is allowed, but it must be constant over the semispan.
- Thickness effects are neglected.
- Tip chord must be parallel to root chord.

Flaps

- A maximum of ten flaps may be considered, but no more than three flaps may be behind any one wing chordwise row of panels.
- · Each flap may have camber and twist.
- Leading- and trailing-edges must be straight and unbroken on each flap surface.
- Flap chord must have linear taper.
- Thickness effects are neglected.
- There may be slots between the flaps, but the leading edge of each flap lies in the plane of the adjacent upstream lifting surface.
- · Coanda flaps are modeled by multiple flap segments with no slots.

The vortex-lattice arrangement describing the wing and flaps is general enough to provide good flexibility in describing the lifting surfaces. A maximum of thirty (30) spanwise rows of vortices may be used, and each lifting-surface component can have a maximum of ten (10) chordwise vortices. The area elements on each lifting surface have a uniform chordwise length at each spanwise station. In the spanwise direction, the widths of the area elements may be varied to fit the loading situations; that is, in regions of large spanwise loading gradients, the element widths may be reduced to allow closer spacing and more detailed load predictions.

The maximum lattice size on the complete configuration is fixed at 250 in the program. The elements may be distributed in any proportion over the wing and flaps, and for the sake of economy, considerably less than this total number should be used for most calculations as illustrated by the run times in Table I. The following comments, based on the recommendations of Appendix A of reference 5 and the authors' experience, are offered as an aid to selecting the proper vortex-lattice arrangement for a wing-flap configuration.

<u>Spanwise distribution</u>. - Convergence of gross aerodynamic forces and moments to within 1 percent is obtained by using not less than fourteen

equally spaced spanwise rows of vortices. If an unequal spanwise spacing is required to create a locally dense region of vorticity, the initial spacing should be laid out approximately equal, with additional rows added in the regions of interest. The spanwise spacing can be adjusted small amounts to meet some additional requirements without changing the gross loading properties. For example, it is desirable that there be approximate symmetry in the widths of the vortex elements about the engine centerline station. This can cause some unusual distributions of lattice widths as illustrated in figure 3 where a typical lattice arrangement on the two-engine USB model of reference 6 is illustrated. In this case the number of spanwise vortices was limited to sixteen to minimize the total number of elements in the lattice. In this particular case, the only suggested modification in the spanwise layout would be to add two rows of vortices outboard of the jet to obtain more detail in the spanwise loading distribution. One additional row of vortices near the jet would also improve the spanwise loading.

<u>Chordwise distribution</u>. - Results in Appendix A of reference 5 indicate that four is the minimum number of chordwise vortices on the wing for best results and more than six vortices do not change the predicted loads appreciably. A larger number of chordwise vortices on the wing should be used if a chordwise pressure distribution is the goal of the predictions.

The number of chordwise vortices on the flaps is somewhat arbitrary. A rule of thumb is that the chord of the vortex element on the flap should not be greater than the chord of the wing elements. Generally, the chord of the flap elements will be much smaller than the wing elements. If gross forces are the objective of the prediction, two or three chordwise vortices per flap are all that are needed. If pressure distributions are desired, there should be three or more chordwise vortices per flap. The gross force will change very little with additional flap vortices.

Care should be taken in laying out vortices in regions of large jet interference. Since interference of the jet on the lifting surfaces is "felt" only at the control points of the area elements, small lateral changes in the wake boundary can cause large changes in the wake induced loading if the area elements on the flap are too large. This is caused by the covering and uncovering of area elements whose control points fall near the boundary of the jet. Results indicate that if a sufficient

number of elements are used in the wake region of the wing and flap, the element sizes will be sufficiently small so that results will not be unduly influenced by changes in wake location.

The chordwise distribution of lattice elements on the USB model in figure 3 should be considered a minimum lattice. Each of the three flap segments making up the Coanda flap (flaps 1, 2, and 3) have two rows of vortices as do each of the two flaps in the center flap region (flaps 4 and 5). The outboard flap (flap 6), or aileron, has but one row of vortices. This distribution is adequate for force and moment calculations, but additional lattice elements should be added if the pressure distribution is of interest.

<u>Coanda flap</u>. - The use of Coanda flaps on USB configurations presents some problems in setting up a vortex-lattice arrangement that are not evident when considering conventional flap systems. With conventional slotted flaps such as those used on externally blown flap configurations, each flap can be represented as a separate flap segment with a specified lattice arrangement. The flap size and deflection alge are well defined in this case.

A typical Coanda flap is specified by a radius of curvature and the slope of the trailing edge of the flap. The slope of the trailing edge is usually used to define the flap deflection angle; for example, $\delta_f = 32^{\circ}$ and 72° in reference 6. A vortex-lattice arrangement on a Coanda flap is determined by dividing the actual Coanda flap into not more than three individual flap segments with no gaps between the segments. Generally the flap segments have equal chords, but this is not a requirement. The deflection of each flap segment should be chosen to best represent the actual deflection of the Coanda flap. This is particularly important for power-on cases where the deflection of the jet wake contributes a large part of the total lift on the wing and flaps. It has been the experience of the author that a graphical representation of a section of the actual Coanda flap and the vortex-lattice model is useful in evaluating the quality of the lattice model. Minor adjustments in chord length and deflection angles as dictated by a drawing can improve the vortex-lattice model and the final results.

Jet Wake Specification

The vortex ring model used in the USB program is a modified version of the vortex ring model presented in reference 4. The present program will handle rectangular cross-section jets with centerlines positioned such that the lower boundary of the jet is parallel to the upper surfaces of the wing and flaps. The program automatically locates the jet wake in the correct position with respect to the wing and flap surfaces, but the user is required to specify some general jet parameters such as the spreading of the wake and its cross sectional shape at various points along the length of the wake. There are several critical points on the jet wake which must be defined carefully. A vortex ring model of a typical USB jet wake is developed as follows.

The first critical point in the jet description is the location of the exhaust nozzle and its shape. If the actual nozzle is not rectangular, it must be represented as a rectangular nozzle. Keep the width of the model the same as the actual nozzle and adjust the height to match the area of the exhaust nozzle. The inlet or initial point of the jet model may be located at the actual engine inlet location, or it may be located at some intermediate point between the inlet and exhaust locations. A good rule of thumb is that the jet model inlet should be at least one jet width ahead of the wing leading edge. The jet model is often shortened in this manner to reduce the number of vortex rings required to model the jet and thus conserve computation time. The initial jet shape must be identical to the chosen shape at the exhaust location.

These first two points describing the jet inlet and exhaust locations are required to initialize the jet model. The following points are chosen by the user to prescribe the expansion and cross sectional shape of the jet downstream of the exhaust nozzle. Usually, only three or four additional points along the jet are required. If some empirical knowledge of the jet to be modeled is available, it should be included in the specifications in order to get the best physical model possible. For example, if the observed lateral spreading of the wake is such that the entire Coanda flap is covered by the wake, the width should be chosen to fit this criteria. Using a typical decay schedule for the average velocity in the jet as described in reference 1, a nominal jet height can be estimated from the following relationship

$$\frac{P_{o}}{P} = \frac{U}{U_{o}}$$
(1)

where

$$\frac{P_o}{P} = \frac{a_o + b_o}{a + b}$$
(2)

In equation (2), a and b are the initial half-width and half-height, respectively; and a and b are the local values of half-width and halfheight. The actual procedure involves choosing a local average jet velocity, U/U_{o} , at a point downstream of the exhaust, x/h_{o} ; for example, see figure 4. Choosing the jet half-width at the point in question, and knowing the exhaust nozzle characteristics, the half-height of the jet can be obtained from equation (2). If the conditions of the jet wake are such that $b < b_0$, the user has the option of either choosing a smaller half-width or simply specifying $b = b_0$. This latter approach is not unreasonable as measured velocity profiles in the wake of a typical USB model indicate only small growth of the wake thickness while it is attached to the wing and flap surface (ref. 7). Another approach is to assume that the wake cross section aspect ratio is constant over the length of the wake. This approach is the most reliable to assure an acceptable jet model, and it should be used if no detailed information on the extent of the wake spreading is available.

The remaining points describing the jet model should be in the following approximate locations. There should be one point near the wing trailing edge ahead of the Coanda flap. Other points between the exhaust location and the wing trailing edge may be included, but they are not specifically required. Another point in the vicinity of the Coanda flap trailing edge us useful. The last point describing the jet should specify the end of the jet wake. A good rule of thumb for this point is that the jet should extend approximately one wing root chord aft of the flap trailing edge. If the user is uncertain about where to terminate the wake, it is better to be conservative and make the jet too long rather than too short. The penalty for a short jet is inaccurate induced loadings. The user should investigate the effect of jet length on a particular configuration by running one case with an extended jet and comparing predicted results. Generally, jets longer than suggested above are not required unless velocity fields a long distance aft of the wing and flaps are required. If this is the case, the jet should be lengthened

so that it extends approximately one wing chord beyond the axial station at which field points are desired.

Thus far in the description of the jet, only the height and width at various points along the centerline have been specified. Since the program automatically determines the height of the jet centerline above the wing, the z_j -coordinate need not be specified. If the lateral coordinate of the jet is not specified, the jet centerline is assumed to move aft at a constant spanwise station. Lateral motion of the jet can be specified by a variation of the y_j -coordinate. Note that the first two entires describing the jet, corresponding to the inlet and the exhaust, must be at $y_j = 0$. If some lateral motion is specified, remember that the jet is defined in a jet coordinate system as illustrated in figure 5. The program also automatically computes the slope of the centerline, θ , thus it need not be specified for typical USB calculations. The jet model shown in figure 5 was calculated from the jet parameters specified in the sample case in figure 7(a).

The last critical parameter to be specified is the spacing between the vortex rings. Ideally, the closer the rings, the more accurate the results; but the closer the spacing, the more rings required to make up the jet model and the longer the computation time needed to compute an induced velocity field. A compromise number for the ring spacing is a distance equal to approximately 0.2 of the minimum dimension of a ring. This is not a firm number, but it is generally a good estimate. The program has an option built into it that allows the spacing to vary along the jet through use of the variable DSFACT. This is simply a multiplying factor used to scale up the ring spacing to two or three times the initial value. This option should never be used in the vicinity of the wing and flaps as the accuracy of the induced velocity field at the control points will be reduced. It is permissible to increase the spacing downstream of the last flap. The use of this scaling factor is illustrated in the sample input decks.

The individual engine thrust (C_T) must be specified, and in the case of a two-engine USB configuration, this is just one-half the total thrust coefficient. On four-engine configurations, there is no requirement that the thrust of both engines on the semispan be the same; however, this is usually the case. The average velocity at the exhaust nozzle exit is calculated from the relation

$$\frac{V_{j}}{V} = \frac{1}{2} \left[1 + \sqrt{1 + 2C_{T} \frac{S}{A_{j}} \left(\frac{\rho}{\rho_{j}} \right)} \right]$$
(3)

and the vortex sheet strength on the jet boundary is

$$\frac{\gamma}{V} = \frac{V_j}{V} - 1 \tag{4}$$

If some empirical information on the jet exhaust exit velocity is known, the parameter ρ/ρ_j should be adjusted such that equation (3) produces the correct jet velocity ratio.

Input Variables

The purpose of this section is to describe the variables required for input to the USB program. Input forms are presented in figure 6; and for each item of input data shown in the figure, the following information is given. The format for each card and the program variable names are shown first. The card column fields into which the data are to be punched are also shown. Within each block representing the card columns is the FORTRAN format type. Data punched in I format are right justified in the fields, and data punched in F format can be punched anywhere in the field and must contain a decimal point. The name in parentheses at the left of each item in figure 6 is the program or subroutine where the item is read.

Note that all length parameters in the input list have dimensions; therefore, special care must be taken that all lengths and areas are input in a consistent set of units.

Item numbe:	<u>r l</u> is a single card containing the following indices:
NHEAD	number of run identification heading cards in Item 2 (no limit on number of cards)
NFVN = 0	calculate FVN influence matrix
= 1	input FVN influence matrix via tape 8
NUNIT = 0	no action required on calculated influence matrix
= 8	<pre>store influence matrix on tape 8 if NFVN = 0, or read influence matrix from tape 8 if NFVN = 1</pre>
NFPTS	number of field points at which velocity components are computed ($0 \le NFPTS < 50$)

NPRINT = 0 no optional output

- = 1 output velocity components (at lattice control points) induced by flap loading associated with jet turning
- = 2 also output force components on each individual panel of lattice

Item number 2 is a set of NHEAD cards containing hollerith information identifying the run and may start and end anywhere on the card. The cards are reproduced in the output just as they are read in.

Item number 3 consists of one card and contains the following information:

- SREF reference area used in forming aerodynamic coefficients
- REFL reference length used in forming aerodynamic moment coefficients
- XM,ZM X and Z coordinates of point about which pitching moment is calculated; wing coordinate system and positive directions are shown in figure 3 and sketch 1
- ETAJ jet turning efficiency, the ratio of the jet deflection angle to the maximum flap angle ($0 \le \eta \le 1.0$)



Sketch 1.- Wing parameters

The variable ETAJ in Item 3 is provided to assist in modeling the turning efficiency of typical USB configurations. Measurements have shown that the jet is often unable to remain attached over the full length of a highly deflected flap. The next eight items of input data describe the wing.

Item number 4 specifies the value of NWREG, the number of wing regions. The value of NWREG must be one or greater. The purpose of dividing the wing into regions is to handle discontinuities in local chord length. Region 1 must always extend from Y = 0 to the tip. The sequence and position of other regions is arbitrary. A wing with three regions is shown in sketch 1.

Item number 5 contains three quantities which are also shown in sketch 1. They are:

CRW	root chord of region 1, positive quantity
SSPAN	wing semispan, positive quantity
PHID	wing dihedral angle, degrees; positive dihedral is shown in the sketch

Items 6, 7, and 8 are data describing wing region number 1. Data input for this region determine the spanwise distribution of vortices for all wing regions and all flaps. The present program requires that the same spanwise distribution exist on all surfaces.

Item number 6 contains five indices. They are:

NCW	number of chordwise vortices on wing region 1, $1 \le NCW \le 10$
MSW	number of spanwise vortices on left wing panel, $1 \le MSW \le 30$
NTCW	twist and/or camber? $NTCW = 0$, no NTCW = 1, yes
NUNI	if wing has no twist and the camber distribution is similar at all spanwise stations, NUNI = 1; for all other cases NUNI = 0 (omit if NTCW = 0)
NPRESW	is the wing pressure distribution $(\Delta p/q)$ to be calculated and printed? NPRESW = 0, no NPRESW = 1, yes

Note that NPRESW applies to the calculation of the pressure difference on each panel of the wing lattice. This calculation is independent of the upper and lower surface pressure coefficient calculation governed by the index NLOAD in Item 19.

The minimum number of spanwise horseshoe vortices is determined by the wing-flap combination geometry. The program requires that vortex trailing legs lie at the following locations:

(a) the root chord and tip chord

- (b) the side edges of all wing regions
- (c) the side edges of all flaps
- (d) points where there are breaks in leading-edge or trailing-edge sweep

Item number 7 is a set of MSW+1 cards which specify the following:

- Y(I) Y coordinate of the Ith trailing leg on the left wing panel; Y is a negative number on the left wing panel, but positive values may be input and the program will change the sign [Y(1) = 0.0,Y(MSW + 1) = -SSPAN]
- PSIWLE(I) leading-edge sweep of wing section to the right of the Ith trailing leg, degrees; positive swept back (measured in wing planform plane)
- PSIWTE(I) trailing-edge sweep of wing section to the right of the Ith trailing leg, degrees; positive swept back (measured in wing planform plane)
- NFSEG(I) number of flaps behind wing section to the right of the I^{th} trailing leg $[0 \le NFSEG(I) \le 3]$

When I = 1, Y(I) = 0 and the other three quantities are omitted.

Item number 8 is included in the input data deck only if NTCW = 1 in item number 6. These data specify the twist and/or camber distribution of wing region number 1 in terms of the tangent of the local angle of attack of the camberline for a root chord angle of attack of zero degrees. The input data are:

ALPHAL(J) tan α_{ℓ} of the region 1 camberline at the vortex-lattice control points. If NUNI = 1, only data for the chordwise row adjacent to the root chord are input. The first value is for the control point nearest the leading edge. If NUNI = 0, data for all chordwise rows must be input starting nearest the root chord and working outboard. Data for each row start on a new card (omit if NTCW = 0).

The vortex-lattice control points are at the midspan of the three-quarter chordline of each elemental panel laid out by NCW, MSW, and the Y(I)'s of items 6 and 7.

Item numbers 9, 10, and 11 are input data for the other wing regions. If NWREG, item number 4, is one, items 9, 10, and 11 are omitted. If NWREG > 1, these items are repeated in sequence for regions 2 through NWREG.

Item number 9 contains two indices which locate this wing region spanwise relative to region 1. They specify the subscripts of the elements in the Y(I) array, input in item 7, associated with inboard and

outboard side edges of this region.

IIN	inboard side edge is at Y(IIN)
IOUT	outboard side edge is at Y(IOUT)
Item number	10 contains five quantities. They are:
NCW	number of chordwise vortices in this region, $1 \le NCW \le 10$
NTCW	<pre>twist and/or camber for this wing region? NTCW = 0, no NTCW = 1, yes</pre>
NUNI	if this wing region has no twist and the camber distri- bution is similar at all spanwise stations, NUNI = 1; for all other cases NUNI = 0 (omit if NTCW = 0 for this region)
CIN	inboard side-edge chord (see sketch 1), positive quantity
TESWP	sweep angle of the trailing edge of this region, degrees

The vortices are laid out using the value of NCW for this region and the portion of the Y(I) array beginning with Y(IIN) and ending with Y(IOUT).

Item number 11 is included in the input data deck if NTCW = 1 in item 10. These data specify the twist and/or camber distribution for this wing region. These data are prepared in the same manner as described under item number 8, the similar information for wing region 1.

Item number 12 specifies the number of flap regions and identifies the flap edges which require trailing leg position correction.

NFREG	number of flap regions (0 \leq NFREG \leq 10)
NIDF	number of flap edges at which trailing leg positions must be corrected (0 \leq NIDF \leq 3)
IDF(I)	location of flap edge where correction of trailing leg position is necessary; i.e., at Y(IDF)

For a wing alone, NFREG = 0 and items 13 through 16 are not included in the input data deck. A flap region is a particular flap arrangement behind some spanwise region of the wing. The program will handle a total of ten flaps, thus if there were ten spanwise flaps, there could be a maximum of ten regions.

Correction of the position of the horseshoe vortices trailing legs is necessary when adjacent flaps (spanwise neighbors) have different deflection angles and/or different chord lengths. This occurs when the inboard edge of one flap region shares the same Y-station as the outboard edge of the adjacent flap region. Use of this index is illustrated with the sample cases.

Item numbers 13, 14, 15, and 16 are input data describing the flaps. The user must exercise care in preparing these input data as the order of the items is important. Typically, item numbers 13 through 16 are arranged in the following manner. Item number 13, specifying the number of flaps (NINREG) in the first flap region and their extent, is followed by items 14, 15, and 16 for the first flap in this region. Items 14, 15, and 16 are repeated for each additional flap in the first region. The flaps must be specified in order, with the flap nearest the wing trailing edge occurring first (see sketch 2). When the first flap region is completely specified, items 13 through 16 are repeated for the second flap region, and so on. The sample cases in figures 7(a) and (b) illustrate the input for a wing with multiple flap regions with multiple flaps in each region.



Sketch 2.- Typical slotted flap

Item number 13 contains three indices required to describe the flaps in a particular region.

NINREG	number of flaps in this region, $1 \leq \text{NINREG} \leq 3$
IIN	inboard side edge lies at Y(IIN) of item 7
IOUT	outboard side edge lies at Y(IOUT) of item 7

The next three items of input data are repeated in sequence NINREG times beginning with the flap nearest the wing trailing edge and moving rear-ward.

Item number 14 contains four indices. They are:

NCF number of chordwise vortices on this flap, $1 \leq NCF \leq 10$

NTCF	<pre>twist and/or camber for this flap? NTCF = 0, no NTCF = 1, yes</pre>
NUNI	if this flap has no twist and the camber distribution is similar at all spanwise stations, NUNI = 1; for all other cases NUNI = 0 (omit if NTCF = 0 for this flap)
NPRESF	is a pressure distribution $(\Delta p/q)$ to be calculated and printed for this flap? NPRESF = 0, no NPRESF = 1, yes

The vortices are laid out using the value of NCF for this flap and the portion of the Y(I) array input as item 7 beginning with Y(IIN) and ending with Y(IOUT). IIN and IOUT were input in item 13.

Note that NPRESF applies to the calculation of the pressure difference on each panel of the flap lattice. This calculation is independent of the upper and lower surface pressure coefficient calculation governed by the index NLOAD in Item 19.

Item number 15 contains data which locate this flap with respect to the surface ahead of it, specify the inboard and outboard edge chords, and give the streamwise deflection angle.

GAPIN	the distance between the leading edge of this flap and the trailing edge of the preceding surface, measured in the plane of preceding surface at the inboard side of the flap
CRFIN	inboard side-edge chord of this flap
GAPOUT	the gap distance at the outboard edge of the flap (defined similar to GAPIN)
CRFOUT	outboard side edge of this flap
DELXZ	the streamwise deflection angle measured relative to the wing root chord direction, degrees

A streamwise plane containing the inboard edge of a double-slotted flap configuration is shown in sketch 2. The leading edge of each flap lies in the plane of the preceding surface. All quantities in item 15 are input as positive values.

In a typical USB configuration, the main flap around which the jet is deflected is a Coanda surface or a continuous flap. Generally, the flap is a single surface flap with a constant radius of curvature. A flap of this type is modeled with three straight flap segments with no gaps between them (GAPIN = 0.0 and GAPOUT = 0.0 in Item 15). The individual flap chords represent the actual surface length of the Coanda flap, and the flap deflection angles are chosen to best represent the

true deflection angles. Best results are usually achieved when the last flap segment has a deflection angle equal to the maximum deflection angle at the trailing edge of the Coanda flap. This is not the case for a deflection angle of 90°. In this extreme case, the last flap should be deflected a smaller amount. As mentioned in a previous section, a drawing of the section through the Coanda flap will aid in choosing the best vortex lattice model. One possible representation of a highly deflected Coanda flap is shown in sketch 3.



Sketch 3. Typical Coanda flap

Item number 16 is included in the input data deck if NTCF = 1 in item 14. These data specify the twist and/or camber distribution of this flap. They are prepared in the same manner as described under item number 8 for the wing except that the twist and/or camber angles are measured relative to the angle of the flap inboard side-edge chord. These angles are all measured in a streamwise plane.

Item number 17 is a set of NFPTS cards containing the X, Y, Zcoordinates, in the wing coordinate system, at which the total induced velocity components are to be calculated. There is one field point per card, and there can be no more than fifty points in this table. This item is omitted if NFPTS = 0 in item number 1.

Item number 18 contains one index.

NRHS the number of successive cases to be treated for this wing-flap combination, NRHS ≥ 1

The successive cases permitted by NRHS are those which affect only the right-hand side of the equation set for the circulation strengths (egs. (14) and (14) in ref. 5). Thus, the wing-flap geometry must

remain unchanged in successive cases. Changes are permitted in items 19 through 25; therefore, the successive cases may involve different angles of attack and/or different jet wakes.

The last six items of input data are repeated in sequence NRHS times.

Item number 19 contains thirteen quantities which are:

ALFA	wing root chord angle of attack relative to the free stream, degrees
KJET	<pre>index indicating manner of interference calculation KJET = 0, jet parameters and interference not calculated, power off KJET = 1, jet parameters input and interference velocities calculated KJET = 2, previously calculated jet parameters and interference velocities input via tape 4</pre>
KEI	<pre>index provided to allow multiple sets of jet parameters and induced velocities to be input via tape KEI when KJET = 2. Current version of the program is restricted to KEI = 4 (see the discussion at the end of item number 19 for the use of this index).</pre>
KUNIT	<pre>index indicating disposition of jet parameters KUNIT = 0, no action required for jet parameters and induced velocities KUNIT = 1, jet parameters and induced velocities stored on tape 4 for future use. KJET = 1 and KEI = 0.</pre>
NLOAD	index specifying force calculation method NLOAD = 1, traditional method; i.e., $\vec{V} \times \vec{F}$ on each panel NLOAD = 2, integration of pressure on each panel (not recommended when KJET > 0) NLOAD = 0, both methods
NJPNL	number of panels from which forces are omitted during total integrated force calculation (see the discussion at the end of item number 19 for the use of this index) (NJPNL \leq 30)
MFRC	<pre>index for force calculation option (see the discussion at the end of item number 19 for the use of this index) MFRC = 0, all horseshoe vortices on wing and flaps contribute to the velocity field used in force calculation (power off) MFRC = 1, induced velocities from horseshoe vortices are not used in force calculation (power on)</pre>
NCFJ	<pre>index for force calculation option (see the discussion at the end of item number 19 for the use of this index) NCFJ = -1, omit all induced velocities associated with jet from force calculation (power on) NCFJ = 0, include jet induced velocities in force calculation</pre>

	NCFJ = 1, include vortex ring jet model induced velocities in force calculation
NTLF	<pre>index for force calculation option (see the discussion at the end of item number 19 for the use of this index) NTLF = 0, forces on the bound portion of the trailing legs in each panel are included in force calculation NTLF = 1, all trailing leg forces neglected</pre>
NFJ	number of flaps in direct interference of jet $(1 \le \text{NFJ} \le 3)$
NFJN(I)	identification number of flaps in direct interference of jet, NFJ values, all flaps must be in same region and must be numbered in order

The index KEI is included to provide the user with the option of reading multiple sets of previously calculated jet parameters and interference velocities; however, some minor program modifications are required to tailor this option to the specific needs of the user. First, the tape unit numbers desired, in addition to tape 4, must be defined on the program card (USB001). Second, change the rewind command on card USB419 to apply to the general tape number KEI in place of the specific tape unit 4. The last modification required is to change READ(4) to READ(KEI) on card UIN014 in Subroutine UVWIN.

The index NJPNL is included so that the forces on certain specified panels can be neglected in the calculation of section normal forces and span load distributions. This is used only if there are certain portions of the wing on which forces were not measured and thus not included in section characteristics. A case in point is the data of reference 6 in which section normal force coefficients are computed from measured pressures, but pressure data are not available in the region of the nacelle. By omitting the forces on the wing panels which fall in the nacelle region, the predicted loadings can be compared directly with the data. When this option is used, the program also outputs the forces and moments computed considering all panels.

The three indices MFRC, NCFJ, and NTLF are included to provide options in the force calculation method. For power-off calculations, MFRC = 1 and NTLF = 1 will produce large savings in computer time at the sacrifice of accuracy in the final results. At low flap angles, $\delta_{\rm f} < 30^{\circ}$, predicted lift coefficients are three to fifteen percent higher when MFRC = 1. The smallest difference occurs at low angles of attack. At higher flap angles, $\delta_{\rm f} \simeq 70^{\circ}$, the difference in lift coefficient can be as large as 20 percent. For all power-off calculations, it is recommended that MFRC = 0, NCFJ = 0, and NTLF = 0.

For power on calculations, these three indices are more important. Because of the large additional loading on the flaps associated with the turning of the jet, large forces can occur as the result of a small perturbation velocity acting on a large circulation. Experience has shown that reliable results are obtained consistently if MFRC = 1 and NCFJ = -1. As before, computer time is conserved at small expense of accuracy if NTLF = 1.

Item number 20 contains the NJPNL panel numbers, JPNL(I), from which the forces are omitted (see item 19). These panel numbers may be anywhere on the wing and flap lattice, but they must be in ascending order in the input list.

Items 21 through 25 identify the initial jet wakes, and they are omitted if KJET = 0 or 2.

Item number 21 is a single card containing five indices pertaining to the jet calculation. They are:

NHEAD	number of heading cards to identify the jet model, NHEAD \geq 1. This index is independent of the similar index in Item 1.
NJET	number of jet wakes on the wing semispan; NJET = 1 for two-engine USB model. (NJET ≤ 2)
NVLP	number of panels excluded from jet interference calculation ($0 \le NVLP \le 100$) (see the discussion at the end of item number 21 for use of this index)
NCRCT	<pre>index indicating whether or not field point locations are corrected with respect to vortex ring locations (see the discussion at the end of item number 21 for use of this index) NCRCT = 0, corrections made NCRCT = 1, corrections not made (to be used for diagnostic purposes only)</pre>
JPRINT	<pre>index indicating whether or not optional output from the jet program is required (see the discussion at the end of item number 21 for use of this index) JPRINT = -1, minimum output JPRINT = 0, induced velocities at wing control points output from subroutine JET JPRINT = 1, individual jet velocities at each control point output from subroutine JET</pre>

The index NVLP is provided to allow exclusion of wing-flap lattice panels from the jet induced velocity calculation. Often there are panels on which the induced velocity field from an external source of

disturbance is not needed; for example, the panels on the wing which in reality are located inside the fuselage. There are also panels near the wing tip which are far removed from the jet wake. On thise configurations there is no point in calculating a very small perturbation velocity which will have no noticeable effect on the predicted loading distribution. The major effect of the use of this option is a savings in computer execution time, as the time required to calculate jet induced velocities at control points is directly proportional to the number of points. An example of the use of this option is shown with the sample cases.

The last two indices in item 21 are provided for diagnostic purposes only. For general program usage, these indices should be JPRINT = -1 and NCRCT = 0. NCRCT is an index used during program development to investigate a situation in which a control point was located very near the edge of a vortex ring. Unrealistically large velocities were induced until the relative positions between the control point and the vortex rings were corrected. This correction places the vortex rings on either side of the control point equidistant from the point. When the index JPRINT is equal to zero, jet induced velocities at the control points are output as they are computed. This is a duplication of output. If the user requires information regarding the contribution of each individual jet to the total induced velocity at a control point, JPRINT = 1 will cause this output to be printed.

Item number 22 is a set of NHEAD cards (from item 21) containing hollerith information identifying the jet. The information may start and end anywhere on the card and the information is reproduced in the output just as it is read in.

The following two items are repeated in sequence NJET times.

Item number 23 consists of one card which contains the following jet specifications:

CMU(J)	the thrust coefficient of the J'th jet on the left wing semispan. This value is usually the total C_{μ} of the configuration divided by the total number of jets
RHO(J)	the ratio, ρ _j /ρ, of J'th jet density to free stream density
XQ(J) YQ(J)	the coordinates, in the wing system, of the origin of the J'th jet model (YQ < 0)

- DS(J) the ring spacing of the vortex rings in the J'th jet; a typical value is 0.2 b_0 where b_0 is the initial height of a rectangular jet
- NCYL(J) the number of entires in item number 24 to specify J'th jet parameters

Item number 24 consists of NCYL(J) cards containing the following

information:

$\left. \begin{array}{c} \operatorname{XCLR}(J,N) \\ \operatorname{YCLR}(J,N) \\ \operatorname{ZCLR}(J,N) \end{array} \right\}$	the N'th set of coordinates specifying the centerline of the J'th jet in the jet coordinate system (fig. 5)
AJET (J,N)	the half width of the rectangular ring at the N'th point on the center of the J'th jet
BJET(J,N)	the half height at the same point
THETA (J,N)	the slope of the centerline in degrees at the point being considered; THETA is input equal to zero for USB jets
DSFACT (J,N)	scale factor for the spacing between the vortex rings downstream of the N'th point; in region of wing and flaps, the values should be 1.0; aft of the last flap, the values can be greater than 1.0 to save execution time

Item number 25 is a set of NVLP panel numbers, NVL, at which no jet velocities are calculated. This item is omitted if NVLP = 0. The panel numbers in the NVL list must be input in ascending order.

If successive cases are requested (NRHS > 1 in Item number 18), Items number 19 through 25 may be repeated here. It is recommended that the multiple case option be used only to change angle of attack, thus only Items 19 and 20 are actually repeated. Since the jet model can be assumed independent of angle of attack, this is not a severe limitation. The program will allow all Items 19 through 25 to be input for each run, but this will eliminate the option of placing the jet parameters in permanent storage for future use.

Upon completion of the calculations specified by the above input deck, the program returns to the beginning. Additional input decks, starting with Item 1, may be stacked one after another. If the option involving the storing and retreiving of the influence matrix and jet parameters are used, it is recommended that stacking of cases be avoided. Several sample cases illustrating various types of runs are discussed in the following section.

Sample Cases

In this section, sample cases are described to illustrate the input preparation and the use of the program. The first sample case is a complete calculative example involving a two-engine USB configuration with rectangular cross-section jets (ref. 6). Other sample input decks are provided to illustrate the options described in the previous section.

The vortex-lattice layout on the wing and flaps of the two-engine USB configuration from reference 6 is shown in figure 3. The Coanda flap deflection chosen for this case is 32°. This particular configuration and lattice arrangement are used extensively for the comparisons with data in reference 1.

The Coanda flap, located directly behind the engine, is modeled with three flaps. Each flap has a chord of approximately 13 percent of the wing chord. The deflection angles of flaps 1, 2, and 3 are 12°, 22°, and 32°, respectively. The midspan double slotted flaps, flaps 4 and 5, $(\delta_f = 15^\circ \text{ and } 32^\circ)$ and the aileron, flap 6, $(\delta_f = 20^\circ)$ are modeled as single flap segments as illustrated in figure 3. A total of 136 panels make up the vortex lattice model.

The vortex ring jet wake model is set up using the guidelines discussed in the Jet Wake Specification section. The actual inlet of the nacelle is located at X = 2.34 m (7.68 ft) ahead of the wing leading edge. This is a longer run length than required by the jet model; therefore, the model inlet is placed at $X_{0} = 0.61$ m (2.0 ft). The spanwise location of the centerline of the nozzle is at $Y_0 = -1.14$ m (-3.73 ft). For this particular case, a total thrust coefficient of two (C_{ij} = 2) is chosen; therefore, the individual engine thrust coefficient is equal to one (C $_{\rm m}$ = 1.0). Using information on nozzle exit velocities provided in reference 6, the density ratio, ρ/ρ_{i} = 1.25, is obtained from equation The expansion of the jet from the nozzle is specified in the follow-(3). ing manner. From figure 4, the jet velocity ratio at the flap trailing edge is approximately $U/U_0 = 0.7$. Lacking more detailed information on the actual spreading of the wake, it is assumed that the jet cross section maintains a constant aspect ratio (a/b = 6) over its entire length.

A complete input deck, set up for the above sample case, is shown in figure 7(a). This deck is organized to carry out the following series of calculations. The influence matrix is computed and stored on tape 8 where it is available for permanent storage if the user desires. Three

successive cases (NRHS = 3) are specified, the first being at $\alpha = 0^{\circ}$. A general jet model is specified (KJET = 1, KEI = 0), a tangent USB jet is set up by the program, and the jet induced velocities at wing-flap control points are computed. The jet parameters and induced velocity field are stored on tape 4 (KUNIT = 1) for use at other angles of attack and where they are available for permanent storage if desired. Notice that the wing panels which normally lie inside the fuselage are omitted from the jet induced velocity calculation (NVLP = 10). The force calculation is carried out twice, once considering the entire vortex lattice model, and the second time omitting the ten panels which fall in the nacelle region on the wing (NJPNL = 10). The last angles of attack, $\alpha = 8.5$ and 20°, use the set of jet induced velocities calculated at $\alpha = 0^{\circ}$ at the wing and flap control points (KJET = 2, KEI = 1) for a normal loading calculation. This ends the first input deck. The execution time for this calculation is approximately 50 seconds on the CDC 6600 computer.

A second input deck for the same model with greater flap deflection $(\delta_f = 72^\circ)$ is shown in figure 7(b). This deck is set up to calculate the influence matrix and store it on a permanent file if desired. One angle of attack is specified for this, and the calculation is carried out for a power-off condition. Typical execution time for this deck is approximately 100 seconds on the CDC 6600 computer.

DESCRIPTION OF OUTPUT

This section describes the output from the USB program. The contents of a typical set of output from one of the previously described sample cases is discussed. This is followed by a description of some of the program stops and error messages which may occur during execution of the program.

Sample Case

The output generated during the execution of the sample case shown in figure 7(a) is presented in figure 8. The contents of each page of output are described in the following paragraphs. For purposes of this discussion, a page of output is defined as the information printed immediately following a "new page" request in the print commands. Thus, a defined page of output may actually contain several printed pages of copy. The quantity of information on a page of output will depend, in part, on the size of the lattice used to represent the lifting surfaces. The first page of output, shown as figure 8(a), is headed by the program title "USB AERODYNAMIC PREDICTION PROGRAM," followed by the identification information on the several cards at the front of the input deck. This is followed by the reference quantities consisting of the reference area and length and the center of moment location. Next on the first page is the wing input data. All of the input describing the wing geometry and lattice arrangement is included in this section.

Output page 2 in figure 8(b) contains all the input data describing the flaps including the geometry and the lattice arrangement. Also printed on this page are the coordinates of the four corners of each flap in a coordinate system fixed in the flap with the origin at the leading edge of the inboard chord of the flap. The purpose of these coordinates is two-fold. First, they illustrate the slightly distorted shape of the flaps that occurs because the flaps are attached to swept trailing edges of the upstream surface. The flaps are required to span a certain length which is defined in planform; therefore, the actual surface must be longer when it is deflected around a swept hinge line. Second, the coordinates are useful in locating the flap loading center of pressure defined in the flap coordinate system and printed on a later page.

Output page 3 in figure 8(c) is headed with the title "HORSESHOE VORTEX PROPERTIES." This table lists all the properties of the lattice elements on each lifting surface. The numbers in parenthesis on the line defining the flap number and the region number is the absolute flap number to be used when specifying the flaps with direct jet interference. The quantities in the last column on this page labeled "ALPHAL(J)" are the input values of combined twist and camber. This table completes the configuration dependent information. The first item following the table is a list of the locations at which wing and flap trailing legs are corrected if requested (NIDF > 0). Following this is a single line containing the angle of attack and the option indices from Items 1 and 19 of the input deck. The next line of output contains the flap numbers on which direct jet interference occurs. The last line of output is the input value of the jet turning efficiency.

The fourth page of output headed with the title "INPUT JET PARA-METERS," is a listing of the jet input information as shown in figure 8(d). The variables printed are the same values input via the card deck

30

. .

with the addition of two columns of numbers. The variable SCL is the curvilinear distance measured along the centerline in the same units as the other centerline distance variables. The last column, identified as P, is the perimeter of the jet at the particular input station. The quantity "GAMMA/V" corresponds to equation (4).

The fifth page of output, figure 8(e), has the title "JET PARAMETERS FOR TANGENT USB JET." The first half of this page of output contains an expanded table of jet centerline parameters corresponding to the centerline of the jet, positioned so that it is tangent to the upper wing and flap surfaces, but displaced slightly upward so that it does not directly touch the lifting surfaces. The last half of this page contains the coordinates of the lower surface of the jet boundary. The coordinates XS,YS,ZS define the center of the bottom jet surface; and the coordinates XSN,YSN,ZSN and XST,YST,ZST define the corner points of the inboard and outboard edges, respectively, of the jet lower surface. These points are computed so that the lower jet surface is parallel to the wing and flap surfaces. The last line of output contains the panel numbers from which the jet induced velocities are omitted (NVLP > 0).

The next page of output shown in figure 8(f) is the first output from the program after the circulation strengths are computed. This page, labeled "HORSESHOE VORTEX STRENGTHS FOR ALPHA = xx.x DEGREES," contains the computed circulation strength on each lattice element. The circulation strengths (GAMMA/V) are printed in the last full column on the page. Also shown on this page are the externally induced jet velocities at each control point. These velocities, UEI, VEI, and WEI are made dimensionless by the free-stream velocity, and their positive directions are defined according to the wing coordinate system; that is, UEI is positive forward and WEI is positive downward. The unlabeled column of numbers on the right side of the page denotes the position of the panels relative to the jet wakes. A zero in this column indicates the panel to be outside the direct influence of the jet. A one (1) in this column indicates that the panel is near the jet boundary and is likely to receive direct interference from the jet. A number greater than 1 (i.e., jet number + 1) indicates that the panel is directly beneath the jet and is receiving maximum jet interference.

The output shown in figure 8(g) is headed at the top "AERODYNAMIC LOADING RESULTS FOR ALPHA = xx.xx DEG." This heading is preceded by a

heading "TRADITIONAL METHOD" or "PRESSURE INTEGRATION METHOD" which indicates the calculation procedure used to obtain the individual panel forces. The former method is the usual $\vec{V} \times \vec{I}$ technique generally used with vortex lattice schemes. The latter method involves the calculation of the upper and lower surface pressure coefficients using the Bernoulli equation. Next is a reiteration of the reference quantities. These are followed by the spanwise load distributions. On each lifting surface at each spanwise lattice station the span-load coefficient, the section normal-force coefficient, and the section axial-force coefficient are presented. These results are normal and axial to the plane of the particular lifting surface. Following the complete table of section coefficients are the wing-alone force and moment coefficients. These results are for both right and left wing panels. The axial force, CAW, and the drag force, CDW, are both defined as positive aft. The pitching moment is positive in the direction that tends to increase the angle of attack of the wing.

The next section of output on this page is the individual flap force and moment coefficients. These coefficients are for the flaps on the left side of the configuration only. CNF is normal to the individual flap surface and the center of pressure of the normal force on this flap is at XF(CNF) and YF(CNF) where these coordinates are in the flap coordinate system defined in figure 8(b). The axial-force coefficient, CAF, and its spanwise center of pressure, YF(CAF), follow. The spanwise force, CYF, and its center of pressure, XF(CYF), are the next items; and finally, the hinge-moment coefficient, CHF, is the last item. The sign convention of the flap hinge moments is such that a positive hinge moment would tend to increase the flap deflection angle. The hinge moments are taken about the flap leading edge. The last items on this page are the complete configuration force and moment coefficients. These are resolved into the wing coordinate system and the sign convention is consistent with that described for the wing alone.

If $\Delta p/q$ distributions are requested, they are output on the next page shown in figure 8(h). The chordwise location, X/C, at which the pressure coefficients are calculated corresponds to the location of the bound leg in each lattice element. It should be remembered that the pressure is constant over the entire lattice element.

1
The next page of output shown in figure 8(i) is output only if a second calculation of the forces with certain panels removed has been requested (NJPNL > 0). This page is identical to figure 8(g) with the addition of note at the top identifying the panel numbers from which the forces are omitted.

The last page of output containing the induced velocity field at specified field points is shown in figure 8(j). Note that both wing-flap perturbation velocities and total velocities are printed on this page. This concludes the output for the first angle of attack. If additional angles of attack are requested, the output starting with figure 8(e) is repeated for each angle of attack.

Error Messages and Program Stops

The following error messages may be printed during program execution.

"EXECUTION TERMINATED, ERROR IN DS"

is printed when the vortex spacing is input as zero or less than zero. This is a fatal error and program terminates at a "STOP" statement.

"JET x OUTBOARD OF WING TIP"

is printed as a warning only to indicate a possible error in the spanwise location of jet "x". Execution will continue, but the program will run into difficulties when it tries to compute jet induced velocities.

"JET x OUTBOARD OF FLAP y"

is printed when the spanwise location jet "x" is not compatible with the flap numbers specified for direct jet interference. This is a fatal error, and the program terminates execution at STOP 16 or STOP 36 in Subroutine JETCL.

The program has a number of error STOPs built into it to prevent the user from executing the program with incorrect input data. These STOP's are identified in the following table.

STOP NO.	SUBROUTINE/LOCATION	PROBABLE CAUSE
STOP	JET/JET 362	DS <u><</u> 0.0 in Item 23.
STOP 1	USBMAIN/USB 123	Normal stop at end of execution.
STOP 16	JETCL/JCL 101	Incorrect YQ in Item 23, or incorrect flap numbers, NFJN, input in Item 19.
STOP 27	JETCL/JCL 156	Too many entries in jet table in Item 24. Reduce number of entries as per Jet Wake Speci- fication section.
STOP 32	JETCL/JCL 202	Input jet length is too short to cover wing and flaps. Move last entry in table in Item 24 farther downstream.
STOP 36	JETCL/JCL 260	Same as STOP 16.
STOP 50	JETCL/JCL 343	Same as STOP 27.
STOP 52	JETCL/JCL 306	Same as STOP 32.
STOP 60	JETCL/JCL 380	Same as STOP 32.

PROGRAM LISTING

The USB aerodynamic prediction program consists of a main program, USBMAIN, and twenty-three subroutines. Each deck is identified by a three-letter code in columns 74-76 and each deck is sequenced with a three-digit number in columns 78-80. The table below will act as a table of contents for the program listing on the following pages.

PROGRAM	IDENTIFICATION	PAGE NO.
USBMAIN	USB	36
WNGLAT	WLT	38
FLPLAT	FLT	40
INFMAT	INF	42
FLVF	FLV	45
SIVF	SIV	45
RHSCLC	RHS	45
LINEQS	LIN	46
SOLVE	SOL	46
TRLG	TRL	46
LOAD	LOD	47
LOADCP	LCP	49
FORCES	FOR	50
VELSUM	VEL	53
JET	JET	55
JETCL	JCL	57
CORECT	CRT	62
QRING	QRG	63
JETVEL	JVL	63
JTCIRV	JCR	64
FVNOUT	FOT	65
FVNIN	FIN	66
UVWOUT	UOT	66
UVWIN	UIN	66

PROGRAM USBMAIN(INPUT,OUTPUT,TAPE5=JNPUT,TAPE6=OUTPHT,TAPE4,TAPE6) USB 001 Comparison and the state the second USA 003 TAPES IS THE INPUT AND OUTPUT UNIT FOR THE JET INDUCED VELOCITIES USB 004 TAPES IS THE INPUT AND OUTPUT UNIT FOR THE EVA ARRAY 1158 005 1158 004 038 007 188 008 WING AND MULTIPLE PLAP VORTER LATTICE PROGRAM WITH DEFLECTED WARE USB 009 U88 010 MODIFIED TO INCLUDE JET INDUCED VELOCITY FIELD CALCULATION U88 011 FROM USB JETS TANGENT TO UPPER SURFACE OF WING AND FLAPS 1188 012 U85 013 DIMENSION STATEMENT 188 014 U88 015 DINENSTON HEAD(20) U\$8 016 DIMENSION U(2), V(2), H(2), XPPT(50), YPPT(50), ZPPT(50) USB 017 U85 018 TYPE STATEMENT 1186 019 ė 1188 020 LOGICAL EXVEL U\$8 021 UBB 022 COMMON STATEMENTS 1488 028 Ċ USB 024 COMMON /REFOUA/ SSPAN, SREF, REFL, XH, ZH 1188 025 COMMON /INDEX/ HAN, HW, HTOT, NCHI(30), IMAX, NF8E6(30), LASTF(30) 1188 024 COMMON /CPDAT/ ALPHAL(250),XCP(250),YCP(250),2CP(250), 188 027 1 CALPHL(250), BALPHL(250) 188 028 COMMON / INDEXF/ NFREG, NFLAPS, IDFLAP(10,2), NCF(10), MSF(10), MF(10), UBB 020 1M3TART(10), HEND(10), NFSEGF(10) 1188 030 COMMON /8LDAT/ X8L(250), Y8L(250), Z8L(250), TP81(250), 8H(250) USB 031 COMMON /R8IDE/ CIR(250), UEI(250), VEI(250), NEI(250) US6 032 COMMON /ATAK/ SINALF, COBALF USB 033 COMMON /RVELS/ UP, VP, WP U88 034 COHMON /XYZCL/ NJET, NCYL (2), XQ(2), YQ(2), ZQ(2), GAHVJ(2), D8(2), UER OTS RH0(2),CHU(2),XCLR(2,25),YCLR(2,25),ZCLR(2,25),THETA(2,25), U88 034 BCLR(2,25), AJET(2,25), BJET(2,25), D8FACT(2,28), 1188 057 UCL(2,25), VCL(2,25), WCL(2,25), CFJ,CFK 189 038 COMMON /NFJCL/ NFJ,NFJN(3) U88 039 CONHON /CLDAT/ N#8(2),85(2,11),188(2,11),158(2,11),285(2,11), U88 040 T83(2,11),888(2,11),488(2,11),X8N(2,11),Y8N(2,11), USB 081 Z#N(2,11),X#T(2,11),Y#T(2,11),Z#T(2,11),D#8(2,11) U88 042 COMMON /PTDAT/ NPTJ(2,250),NCRCT U88 043 COHMON /NDIFF/ NIDF, 10F(10) U88 044 COMMON /LINSUL/ IP(300) 138 045 COMMON JETLY/ NVTLE 1198 044 COMMON /FPNL/ NPRINT, NJPNL, JPNL (30) 1188 047 COMMON /JETCIR/ JFLP(150),LJFLP,CIRJ(150),CNJ(150),CAJ(150) 1188 048 COMMON /FROVEL/ NFRC 188 049 COHHON /JETEFF/ ETAJ US6 050 COMMON /FRCTL/ NTLF 1188 051 UB8 052 BLANK COMMON -- INCREASE LENGTH IF REGEL PACKAGE NOT AVAILABLE USB 055 È USB 054 COMMON FUN(1) 1188 055 C 1158 056 FORMAT STATFHENTS USB 057 USB 056 701 FORMAT(1615) U85 059 TOR FORMAT(1H1,20%, 34HUSB AEBODYNAMIC PREDICTION PROGRAM //) 1188 060 703 FORMAT(20A4) USB 061 704 FORMAT(11,2044) 138 062 705 FORMAT(8F10.0) USB 06% TO FORMATCI/SX.STHREFERENCE QUANTITIES USED IN FORCE AND HOMENT CALCU USB 064 1LATION/10X, 4HAREA, 10X, 1H#, F11, 5/10X, 6HLENGTH, 5X, 1H#, F11, 5/10X, 188 065 213HHOMENT CENTER/15X, 2HXH, 7X, 1H#, F11, 5/15X, 2HZH, 7X, 1H#, F11, 5 U88 044 10×,2#10.3) US5 067 722 FORMAT(1H1,45%,27HHORSESHOE VORTEX PROPERTIES//12%,10(1H4),11H WIN USB 068 16 DATA ,10(1H+)) USB 069 723 FORMAT(/1X, 6HVORTEX, 2X, 34H=COORDINATES OF BOUND LEG HIDPOINT, 2X, USH 070 1 34H===COORDINATES OF CONTROL POINT===,2X,10HB.L. SHEEP,2X, 1158 071 2 10HHALF==1DTH, 5X, 7HSURFACE/1X, 6HNUHAFA, 102X, 5HBLOPE/6Y, 1HJ, 6X, USB 072 3 4HX8L(J),6X,6HY8L(J),6X,6HZ8L(J),6X,6HXCP(J),6X,6HYCP(J),6X, USB 073 4 6HZCP(J), 6X, 6HPSI(J), 7X, 5HSH(J), 3X, 9HALPHAL(J)/3 USB 074 724 PORMAT(#x,13,9(2x,F10.5)) 138 075 725 FORMAT(/12X, 10(1H=), 6HREGION, 12, 5H FLAP, 12, 6H DATA , 10(1H+), USR 076 2H (,I2,1H)) 138 077

726 FORMAT(1H1, 201, 39HHGRSESHOE VORTEX STRENGTHS FOR ALPHA ... 1155 078 1 F5.1.AH DEGREES//121, IN(1H+), 11H +ING DATA , IO(1H+)) ----727 FORMAT(/)1X,6HVORTEX,2X,34H====CONTROL POINT COORDINATE8====:2X, USB 080 34H+--EXTERNALLY INDUCED VELUCITIES--Z 1X-AHNUMBER USB 061 2 /6X.1HJ,6X,0HXCP(J),6X,6HYCP(J),6X,6HZCP(J),6X,6HUE1(J),6X, USB 082 3 6HVFI(J), 6X, 6HNEI(J), 5X, 7HGAMMA/V /) 085 083 728 FORMAT(4x,13,7(2x,F10,5),217) 188 084 732 FORMAT(F10.5,1415) 1188 085 754 FORMAT (1H1,28X,44HINDUCED VELOCITIES AT SPECIFIED FIELD PUINTS // USR 086 40%,61HI-FARFARE HING/FLAP FARFARE TARABAS HING/FLAPAVI HSR 087 2NF ----- VI/43X,23HPERTURBATION VELUCITIES / 1158 088 3 15X,1HX,9X,1HY,9X1HZ,4X,2(4X,6HU/VINF,4X6HV/VINF,4X6HV/VINF)) 1188 088 735 FORMAT(10X,9F10.5) 1158 086 198 091 736 FORMAT (//10X28HND JET INTERFERENCE ON FLAPS) 737 FORMAT (//10x25HJET INTERFERENCE ON FLAPS, STA) 188 092 738 FORMAT (// 10X,41HWING TRAILING LEGS CORRECTED AT Y(1), T = ,1014) USH 093 740 FORMAT (1H1,20%,18HTRADITIONAL METHOD) 1198 694 741 FORMAT (1H1, 20X, 27HPRESSURE INTEGRATION METHOD) 1158 098 USR 096 745 FORMAT (/10X, 24HJET TURNING EFFICIENCY # F5.2) 752 FORMAT (////IOXSHALPHA, 5X4HNEVN, 4X5HNUNIT, 2X5HNEPTS, SX6HNPRINT, 1138 097 3X4HKJET, 5X3HKEI, 4X5HKUNIT, 3X5HNLOAD, 5X5HNJPNL, 3X4HMFRC, 1158 688 4X4HNCFJ,4X4HNTLF,5X3HNFJ /5xF10.3,1318) 1188 400 755 FORMAT (1H1, 28X, 44HINOUCED VELOCITIES AT SPECIFIED FIELD POINTS // USB 100 ŧ 2NF -----I/43X, 23HPERTURBATION VELOCITIES / 1156 102 3 15x,1Hx,9x,1HY,9x1HZ,4x,2(4x,6HU/VINF,4x6HV/VINF,4X6HH/VINF 1) 1188 103 USB 104 С CONSTANTS 185 105 USA 106 • USR 107 DATA DTOR/.01745329/.FOURPI/12.56637062/.ZERD/0./ US6 106 NVTLFED USB 109 NJETEO CFK=0.0 USB 110 NFREAD U88 111 ĉ 058 112 OPTIONS FOR CALCULATING, STORING, AND REUSING FVN ARRAY..... ċ 1188 113 e NEVNES , NUNITED - CALCULATE EVN, DO NOT STORE 1138 114 CALCULATE FVN, STORE ON TAPES NEVNED , NUNITES U\$8 115 . READ FUN ARRAY FROM TAPES 188 116 NEVNEL , NUNITES C . 1188 117 NEPTSHNUHBER OF FIELD POINTS AT WHICH WING-FLAP INDUCED C USB 118 VELOCITIES ARE TO BE COMPUTED USB 119 1188 120 1000 READ (5.701) NHEAD, NEVN, NUNIT, NEPTS, NERINT 1188 121 1F(EOF(5)) 1,2 138 122 4 BTOP 1 U88 123 2 CONTINUE 188 124 IF (NEVN_GT.0 .AND, NUNIT.LE.0) NEVNED 1138 125 IF (NUNIT_NE_O _AND_ NUNIT_NE_6) NUNITES 1138 126 WRITE(6,702) USB 127 INPUT AND OUTPUT CASE IDENTIFYING INFORMATION 1158 128 ĉ DO 1 TEL.NHEAD USB 129 READ(5,703) HEAD USB 130 USB 131 3 #RITE(6,704) HEAD 1188 132 INPUT AND OUTPUT REFERENCE QUANTITIES AND HOMENT CENTER LOCATION U\$9 135 c USB 134 £ READ(5,705) SREF, REFL, XH, ZH , ETAJ 035 135 WRITE(6,706) SREF, REFL, XM, ZM USB 135 IF (ETAJ.LE.0.0) ETAJ#1.0 USH 137 C USB 138 INPUT AND OUTPUT WING DATA AND LAYOUT WING VORTEX LATTICE C USR 114 c U86 140 CALL WNGLAT 138 141 U85 142 C INPUT NUMBER OF FLAP REGIONS, NFREG U88 143 Ē. NIDE = NUMBER OF SEMISPAN STATIONS AT WHICH TRAILING LEGS 1138 144 FROM WING VORTICES MUST BE CORRECTED FOR DIFFERENTIAL ĉ 188 145 FLAP DEFLECTION ANGLES 085 146 ĉ IDF . SEMISPAN STATIONS CORRESPONDING TO FLAP JUNCTIONS C USB 147 (IDF NE. 1 OR IDF NE. MSH+1) USB 148 C USB 144 READ (5.701) NEREG.NIDE.(10F(1),1=1.NIDE) 188 150 ĉ 188 151 ċ INPUT DATA FOR ALL FLAPS AND LAY OUT VORTICES USA 152 C 1158 153 NELAPS BO 135 154 IF (NFREG.GT.0) CALL FLPLAT 188 155

c			1158	154
Č		COMPUTE BINE AND COBINE OF LOCAL ANGLE OF ATTACK DUE TO THIST AND	088	157
e		CAMBER	158	158
୍ଟ			038	159
		00 61 J81,0TUT ALE ANTANIALE AND ATEM	085	140
			085	101
		BALPHL(J)BBIN(ALF)	USB	182
c	•		1135	164
C		WRITE WING VORTEX DATA	086	165
e			V88	166
		WRITE(6,722)	086	147
			1180	168
		DU 30 KH1/MM B878WAATAW/TB97(K)3/NTOB	038	107
	50	WRITE(4.774) K.XBL(K).VBL(K).ZBL(K).XCP(K).YCP(K).ZCP(K).PSTGW.	1188	170
		1 BW(K),ALPHAL(K)	1188	172
		1F(NFLAP8,E0,0) 60 TO 65	188	173
ç			U\$8	174
ç		WRITE FLAP VORTEX DATA	086	175
C			USB	176
		NG TO ACTINCTARE NETHER, ST. THE ABOME, ST. NE	080	177
		NRITE(6,723)		170
		KL#MOTART (NF)	188	180
		KU=HEND(NP)	U85	181
		DO 55 K#KL,KU	UBB	182
		PSIGH=ATAH(TPSI(K))/DTOR	U\$8	183
	- 55	WRITE(\$,724) K,XBL(K),YBL(K),ZBL(K),XCP(K),YCP(X),ZCP(K),PBIGH,	USB	184
		1 BP(K);ALPHAL(K) PRUTTNUT	USE	145
	48	CONTINUE	0.50	108
C	••		1135	188
č		CORRECT TRAILING LES POSITIONS AT FLAP JUNCTIONS	U\$8	189
		1F (NIDF, LE, 0) 60 TO 44	UBB	190
		CALL TRLS	U\$6	191
		WRITE (4,738) (IDF(J),JR1,NIDF)	088	192
	••		035	143
- C			1198	184
C .		***************************************	135	194 199
0 0 0		*********	U85 U85 U85	194 199 196
0000		ADD CORE AREA FOR INFLUENCE COEFFICIENT NATRIX	U80 U80 U85 U88	194 199 196 197
		ADD CORE AREA FOR INFLUENCE COEFFICIENT MATRIX IF REGFL IS NOT AVAILABLE , REMOVE THIS SECTION AND INCREASE	U30 U30 U35 U35 U33	194 195 196 197 198
		ADD CORE AREA FOR INPLUENCE COEFFICIENT MATRIX IF REOFL IS NOT AVAILABLE, RENOVE THIS SECTION AND INCREASE THE DIMENSIONS OF FVN IN BLANK COMMON, ABOVE, TO MIDTENTOT UNDER WITH TOTAL NUMBER OF VONTATE ONLY ON ADD INCREASE	U35 U35 U35 U35 U35	194 195 196 196 198 199
		ADD CORE AREA FOR INPLUENCE COEFFICIENT MATRIX IF REOFLIS NOT AVAILABLE, RENOVE THIS SECTION AND INCREASE THE DIMFNSIONS OF FVN IN BLANK COMMON, ABOVE, TO MTOTAMTOT WHERE MTOT & TOTAL NUMBER OF VORTEX PANELS ON WING AND FLAP	USB USB USB USB USB USB USB USB USB	194 195 196 196 198 199 200 201
		ADD CORE AREA FOR INPLUENCE COEFFICIENT MATRIX IF REOFL IS NOT AVAILABLE, REMOVE THIS SECTION AND INCREASE THE DIMENSIONS OF FVN IN BLANK COMMON, ABOVE, TO MIDIENTOT WHERE MIDT & TOTAL NUMBER OF VORTEX PANELS ON MING AND FLAP IFLSSO	U35 U35 U35 U35 U35 U35 U35 U35 U35 U35	194 195 196 197 198 199 200 201 201
	***	ADD CORE AREA FOR INPLUENCE COEFFICIENT MATRIX IF REGFL IS NOT AVAILABLE, REMOVE THIS SECTION AND INCREASE THE DIMENSIONS OF FVN IN BLANK COMMON, ABOVE, TO MIDTENTOT WHERE MOT & TOTAL NUMBER OF VORTEX PANELS ON MING AND FLAP IFLESS CALL REGPL(IFLB)	U25 U25 U25 U25 U25 U25 U25 U25 U25 U25	194 195 196 197 198 200 201 201 202 203
		ADD CORE AREA FOR INPLUENCE COEFFICIENT MATRIX IF REOFL IS NOT AVAILABLE, REMOVE THIS SECTION AND INCREASE THE DIMENSIONS OF FVN IN BLANK COMMON, ABOVE, TO MIDTENTOT WHERE MIDT & TOTAL NUMBER OF VORTEX PANELS ON WING AND FLAP IFLSs6 CALL REOFL(IFLB) LFL=IFLA+NIOTENTOT=1	U30 U30 U30 U30 U30 U30 U30 U30 U30 U30	194 195 196 197 198 199 200 201 203 204
		ADD CORE AREA FOR INFLUENCE COEFFICIENT MATRIX IF REOFLIB NOT AVAILABLE, RENOVE THIS SECTION AND INCREASE THE DIMFNSIONS OF FVN IN BLANK COMMON, ABOVE, TO MTOTOMITOT MHERE MTOT = TOTAL NUMBER OF VORTEX PANELS ON MING AND FLAP IFLESS EALL REOFL(IFLB) LFLSTFLEAMIDIANTOT-1 CALL REOFL(LFL)	U20 U20 U20 U20 U20 U20 U20 U20 U20 U20	194 199 1996 1996 1996 201 201 203 203 203 203
		ADD CORE AREA FOR INPLUENCE COEFFICIENT MATRIX IF REGFL IS NOT AVAILABLE , REMOVE THIS SECTION AND INCREASE THE DIMENSIONS OF FVN IN BLANK COMMON, ABOVE, TO MIDTENTOT WHERE WHOT & TOTAL NUMBER OF VORTEX PANELS ON WING AND FLAP IFLSSS CALL REGFL(IFLB) LFLEIFLEANTOTANTOT-1 CALL REGFL(LFL)	U20 U20 U20 U20 U20 U20 U20 U20 U20 U20	194 199 199 199 199 199 199 201 201 201 201 205 205 205 205
		ADD CORE AREA FOR INPLUENCE COEFFICIENT MATRIX IF REOFL IS NOT AVAILABLE , REMOVE THIS SECTION AND INCREASE THE DIMENSIONS OF FVN IN BLANK COMMON, ABOVE, TO MIDTENTOT WHERE MTOT & TOTAL NUMBER OF VORTEX PANELS ON WING AND FLAP IFLSS6 CALL REOFL(IFLB) LFL=IFLA+NIOT=NIOT=1 CALL REOFL(IFL) IF (MFVM,GT,0) GO TO 210	U 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	194 1996 1996 1996 1990 1201 2001 2003 2004 56 78 2005 67 8
		ADD CORE AREA FOR INFLUENCE COEFFICIENT MATRIX IF REOFL IS NOT AVAILABLE, REMOVE THIS SECTION AND INCREASE THE DIMFNSIONS OF FVN IN BLANK COMMON, ABOVE, TO MITOTOMITOT WHERE MIDT & TOTAL NUMBER OF VORTEX PANELS ON WING AND FLAP IFLSs6 CALL REOFL(IFLS) LFL=IFLS+NIDIANTOT=1 CALL REOFL(LFL) MATHEMATICAL REOFL(IFL)	U38 U38 U385 U385 U385 U385 U385 U385 U3	1996 1996 1996 1996 1996 1996 1996 1996
	****	ADD CORE AREA FOR INFLUENCE COEFFICIENT MATRIX IF REGFL IS NOT AVAILABLE , RENOVE THIS SECTION AND INCREASE THE DIMENSIONS OF FVN IN BLANK COMMON, ABOVE, TO MIDTENTOT MHERE MIDT = TOTAL NUMBER OF VORTEX PANELS ON MING AND FLAP IFLSGS CALL REGFL(IFLS) LFL=IFLS.NTOTAMIDT=1 CALL REGFL(IFL) IF (NFVN.GT.0) GO TO 210 CALCULATE INFLUENCE COEFFICIENT LEFT MAND SIDE, FVN	U38 U38 U38 U38 U38 U38 U38 U38 U38 U38	
	****	ADD CORE AREA FOR INPLUENCE COEFFICIENT MATRIX IF REOFL IS NOT AVAILABLE , REMOVE THIS SECTION AND INCREASE THE DIMENSIONS OF FVN IN BLANK COMMON, ABOVE, TO MIDTENTOT WHERE WIDT & TOTAL NUMBER OF VORTEX PANELS ON MING AND FLAP IFLESS EALL REOFL(IFLB) LFL=IFLEAMIDIANTOT-1 CALL REOFL(LFL) CALLURATE INFLUENCE COEFFICIENT LEFT MAND SIDE, FVN FALL TURMAT	UUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUU	199678901222000012 20000012222200001 2000000000
	****	ADD CORE AREA FOR INPLUENCE COEFFICIENT MATRIX IF REOFLIS NOT AVAILABLE, RENOVE THIS SECTION AND INCREASE THE DIMENSIONS OF FVN IN BLANK COMMON, ABOVE, TO MIDTENTOT WHERE WTOT = TOTAL NUMBER OF VORTEX PANELS ON WING AND FLAP IFLSSG CALL REOFL(IFLS) LFL=IFLA+NIDIENTOT=I CALL REOFL(LFL) CALL REOFL(LFL) CALCULATE INFLUENCE COEFFICIENT LEFT MAND SIDE, FVN CALL INFMAT	UUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUU	199678901222222222222222222222222222222222222
	****	ADD CORE AREA FOR INFLUENCE COEFFICIENT MATRIX IF REGFL IS NOT AVAILABLE , REMOVE THIS SECTION AND INCREASE THE DIMENSIONS OF FVN IN BLANK COMMON, ABOVE, TO MTOTENTOT MHERE MTOT = TOTAL NUMBER OF VORTEX PANELS ON MING AND FLAP IFLOSG CALL REGFL(IFLS) LFL=IFLAENTOTENTOT=1 CALL REGFL(IFL) IF (MFVN.GT.0) GO TO 210 CALCULATE INFLUENCE COEFFICIENT LEFT MAND SIDE, FVN CALL INFMAT TRIANGLULARIZE LEFT MAND SIDE	UUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUU	1996789012322000012322222222222222222222222222
	****	ADD CORE AREA FOR INPLUENCE COEFFICIENT MATRIX IF REOFLIS NOT AVAILABLE, REMOVE THIS SECTION AND INCREASE THE DIMENSIONS OF FVN IN BLANK COMMON, ABOVE, TO MIDTENTOT WHERE WIDT & TOTAL NUMBER OF VORTEX PANELS ON MING AND FLAP IFLESS EALL REOFL(IFLB) LFL=IFLE+NTOTANTOT-I CALL REOFL(LFL) CALCULATE INFLUENCE COEFFICIENT LEFT MAND SIDE, FVN CALL INFMAT TRIANGLULARIZE LEFT MAND SIDE	UUS655555555555555555555555555555555555	
		ADD CORE AREA FOR INPLUENCE COEFFICIENT MATRIX IF REOFLIB NOT AVAILABLE, REMOVE THIS SECTION AND INCREASE THE DIMENSIONS OF FVN IN BLANK COMMON, ABOVE, TO MTOTENTOT WHERE MTOT & TOTAL NUMBER OF VORTEX PANELS ON WING AND FLAP IFLSSG CALL REOFL(IFLB) LFL=IFLA-NTOTENTOT=I CALL REOFL(LFL) CALCULATE INFLUENCE COEFFICIENT LEFT MAND SIDE, FVN CALL INFMAT TRIANGLULARIZE LEFT MAND SIDE CALL LINEDS(MTOT,FVN)	UUS00000000000000000000000000000000000	11111122222222222222222222222222222222
		ADD CORE AREA FOR INFLUENCE COEFFICIENT MATRIX IF REGFL IS NOT AVAILABLE , RENOVE THIS SECTION AND INCREASE THE DIMENSIONS OF FVN IN BLANK COMMON, ABOVE, TO MIDTENTOT MHERE MIDT & TOTAL NUMBER OF VORTEX PANELS ON MING AND FLAP IFLOSS CALL REGFL(IFLS) LFL=IFLENTOTAMIDT=1 CALL REGFL(IFLS) IF (MFVN.GT.0) GO TO 210 CALCULATE INFLUENCE COEFFICIENT LEFT MAND SIDE, FVN CALL INFMAT TRIANGLULARIZE LEFT MAND SIDE CALL LINEGS(MIDT,FVN) IC (LUNIT,ST.G) CALL FVNQUT(FVN,MIDT,NUNIT,IF)		11111112222222222222222222222222222222
		ADD CORE AREA FOR INPLUENCE COEFFICIENT MATRIX IF REOT IS NOT AVAILABLE, REMOVE THIS SECTION AND INCREASE THE DIMENSIONS OF FVN IN BLANK COMMON, ABOVE, TO MIDISHTOT WHERE WIDT & TOTAL NUMBER OF VORTEX PANELS ON MING AND FLAP IFLESS EALL REOFL(IFLB) LFLIFLEANTOTANTOT-I CALL REOFL(LFL) CALCULATE INFLUENCE COEFFICIENT LEFT MAND SIDE, FVN CALL INFMAT TRIANGLULARIZE LEFT MAND SIDE CALL LINEGS(MIDI,FVN) IF (MUNINFEN, MIDI,FUN) IF (MUNINFEN, MIDI,FUN) IF (MUNINFEN, MIDI,FUN)		111111199000000000000123454727272727
	210	ADD CORE AREA FOR INPLUENCE COEFFICIENT MATRIX IF REOFLIB NOT AVAILABLE, REMOVE THIS SECTION AND INCREASE THE DIMENSIONS OF FUN IN BLANK COMMON, ABOVE, TO MIDTENTOT WHERE WTOT & TOTAL NUMBER OF VORTEX PANELS ON WING AND FLAP IFLSO EALL REOFL(IFLB) LFL=IFLSAMIDIATOTATOT-1 CALL REOFL(LFL) CALCULATE INFLUENCE COEFFICIENT LEFT MAND SIDE, FUN CALL INFMAT TRIANGLULARIZE LEFT MAND SIDE CALL LINEQS(MIDT,FVN) IF (MUNIT,GID) CALL FUNQUI(FUN,MIDT,NUNIT,IP) COMTINUE		11111112222222222222222222222222222222
	210 211	ADD CORE AREA FOR INFLUENCE COEFFICIENT MATRIX IF REGFL 18 NOT AVAILABLE , REMOVE THIS SECTION AND INCREASE THE DIMENSIONS OF FVN IN BLANK COMMON, ABOVE, TO MTOTENTOT WHERE MTOT & TOTAL NUMBER OF VORTEX PANELS ON MING AND FLAP IFLSGS CALL REGFLIFES) LFL=IFLS.NTOTENTOT=1 CALL REGFLIFES) IF (MFVN.GT.0) GO TO 210 CALCULATE INFLUENCE COEFFICIENT LEFT MAND SIDE, FVN CALL INFMAT TRIANGLULARIZE LEFT MAND SIDE CALL LINEGS(MTOT,FVN) IF (MUNIT,GT.0) CALL FVNQUT(FVN,MTOT,NUNIT,IF) GO TO 211 CALL FVNN(FVN,MTOT,NUNIT,IF) COMTINUE IF (MFFR.LE.0) GD TO 212		11111112222222222222222222222222222222
	210 211	ADD CORE AREA FOR INPLUENCE COEFFICIENT MATRIX IF REOT IS NOT AVAILABLE, REMOVE THIS SECTION AND INCREASE THE DIMENSIONS OF FVN IN BLANK COMMON, ABOVE, TO MIDISHTOT WHERE WIDT & TOTAL NUMBER OF VORTEX PANELS ON WING AND FLAP IFLESS CALL REOFL(IFLB) LFLEIFLEANTOTANTOT-I CALL REOFL(LFL) CALCULATE INFLUENCE COEFFICIENT LEFT MAND SIDE, FVN CALL INFMAT TRIANGLULARIZE LEFT MAND SIDE CALL LINEGS(MTOT,FVN) TF (MUNIT,GT.0] CALL FVNQUT(FVN,MTOT,NUNIT,IP) GO TO 211 CALL FVNIN(FVN,MTOT,NUNIT,IP) CONTINUE TF (MEPTS,LE.O) GO TO 212 OD 202 KUTI,NFPTS		11111111112222222222222222222222222222
	210 211 209	ADD CORE AREA FOR INFLUENCE COEFFICIENT MATRIX IF REOFL IS NOT AVAILABLE , REMOVE THIS SECTION AND INCREASE THE DIMENSIONS OF FWN IN BLANK COMMON, ABOVE, TO MTOTATOT WHERE MTOT = TOTAL NUMBER OF VORTEX PANELS ON WING AND FLAP IFLSS CALL REOFL(IFLS) CALL REOFL(IFLS) CALL REOFL(IFLS) CALCULATE INFLUENCE COEFFICIENT LEFT MAND SIDE, FVN CALL INFMAT TRIANGLULARIZE LEFT MAND SIDE CALL LINEDS(MTOT,FVN) IF (NUMIT,ST.G) CALL FVMQUT(FVN,MTOT,NUNIT,IP) GO TO 211 CALL FVIN(FVN,MTOT,NUNIT,IP) COMTINUE IF (NFFS,LE.O) GO TO 212 OO 200 KJ=1,NFFTS NEAD (S,TOS) XFFT(KJ),YFFT(KJ),ZFFT(KJ)		11111111112222222222222222222222222222
	210 211 209	ADD CORE AREA FOR INPLUENCE COEFFICIENT MATRIX IF REOFL 18 NOT AVAILABLE , RENOVE THIS SECTION AND INCREASE THE DIMENSIONS OF FVN IN BLANK COMMON, ABOVE, TO MTOTENTOT WHERE MTOT & TOTAL NUMBER OF VORTEX PANELS ON MING AND FLAP IFLSs6 CALL REOFLIFLS) LFL=IFLS.NTOTENTOT=1 CALL REOFLIFLS) CALCULATE INFLUENCE COEFFICIENT LEFT MAND SIDE, FVN CALL INFMAT TRIANGLULARIZE LEFT MAND SIDE CALL LNEGS(MTOT,FVN) IF (MUNIT,GT.G) CALL FVNQUT(FVN,MTOT,NUNIT,IP) GO TO 211 CALL FUNKIFVN,HTOT,NUNIT,IP) COMTINUE F (MFFS.LE.G) GO TO 212 OD 209 KJ=1,NFFTS READ (S,TOS) XFFT(KJ),YFFT(KJ)		11111112222222222222222222222222222222
	210 211 209	ADD CORE AREA FOR INPLUENCE COEFFICIENT MATRIX IF REOTLIB NOT AVAILABLE, REMOVE THIS SECTION AND INCREASE THE DIMENSIONS OF FVN IN BLANK COMMON, ABOVE, TO MTOTENTOT WHERE WTOT & TOTAL NUMBER OF VORTEX PANELS ON WING AND FLAP IFLESS CALL REOFL(IFLB) LFLEIFLEANTOTANTOT-I CALL REOFL(LFL) CALLUATE INFLUENCE COEFFICIENT LEFT MAND SIDE, FVN CALL INFMAT TRIANGLULARIZE LEFT MAND SIDE CALL LINEDS(MTOT,FVN) TF (MUNIT,GT.0) CALL FVNOUT(FVN,MTOT,NUNIT,IP) GO TO 211 CALL FVNIN(FVN,MTOT,NUNIT,IP) CONTINUE IF (MFFS,LE.0) GO TO 212 OR 200 SON KUELNENTS READ (S,TOS) XFFT(KJ),YFFT(KJ) READ NIMBER OF RIGHT SIDES, AND FOR EACH FIND VORTEX		11111111122222222222222222222222222222
	210 211 209	ADD CORE AREA FOR INFLUENCE COEFFICIENT MATRIX IF REOFL IS NOT AVAILABLE , REMOVE THIS SECTION AND INCREASE THE DIMENSIONS OF FWN IN BLANK COMMON, ABOVE, TO MTOTATOT WHERE WTOT & TOTAL NUMBER OF VORTEX PANELS ON WING AND FLAP IFLSS CALL REOFL(IFLS) CALL REOFL(IFLS) CALL REOFL(IFLS) CALL REOFL(IFLS) CALL LINFUSHERCE COEFFICIENT LEFT HAND SIDE, FVN CALL INFMAT TRIANGLULARIZE LEFT HAND SIDE CALL LINEGS(MTOT,FVN) IF (MUNIT,GT.G) CALL FVNQUT(FVN,MTOT,NUNIT,IF) COMTINUE CALL FYTS,LE.G' GO TO 212 OD TO 211 CALL FYTS,LE.G' GO TO 212 OD 20° KJ=I,MFPTS READ (S,TOS) XFPT(KJ),YFPT(KJ),ZFPT(KJ) READ NUMBER OF RIGHT SIDES, AND FOR EACH FIND VORTEX STRENGTHS AND LOAD DIBTRIBUTION		11111112222222222222222222222222222222
	210 211 209	ADD CORE AREA FOR INPLUENCE COEFFICIENT MATRIX IF REOFL 18 NOT AVAILABLE , RENOVE THIS SECTION AND INCREASE THE DIMENSIONS OF FVN IN BLANK COMMON, ABOVE, TO MTOTENTOT WHERE MTOT & TOTAL NUMBER OF VORTEX PANELS ON MING AND FLAP IFLSSS CALL REOFLIFLS) LFL=IFLS.NTOTENTOT=1 CALL REOFLIFLS) CALCULATE INFLUENCE COEFFICIENT LEFT MAND SIDE, FVN CALL INFMAT TRIANGLULARIZE LEFT MAND SIDE CALL LINEGS(MTOT,FVN) IF (MUNIT,GT.G) CALL FVNQUT(FVN,MTOT,NUNIT,IF) GO TO 211 CALL FUNNIF(VN,HTOT,NUNIT,IF) CONTINUE F (MFFS.LE.G) GO TO 212 OD 200 KJ=1,NFFTS READ (S,TOS) XFFT(KJ),YFFT(KJ) READ NUMBER OF RIGHT SIDES, AND FOR EACH FIND VORTEX STRENGTES AND LOAD OISTRIBUTION		11111122222222222222222222222222222222
	210 211 209 212	ADD CORE AREA FOR INPLUENCE COEFFICIENT MATRIX IF REOT IS NOT AVAILABLE, REMOVE THIS SECTION AND INCREASE THE DIMENSIONS OF FVN IN BLANK COMMON, ABOVE, TO MIDTENTOT WHERE WHOT & TOTAL NUMBER OF VORTEX PANELS ON WING AND FLAP IFLESS CALL REOFL(IFLS) LFLEIFLEAMIDTANTOT-I CALL REOFL(IFL) CALL INFUGUENCE COEFFICIENT LEFT MAND SIDE, FVN CALL INFMAT TRIANGLULARIZE LEFT MAND SIDE CALL LINEDS(MIDT,FVN) IF (MUNIT,GT.0) CALL FVNQUT(FVN,MIDT,NUNIT,IF) GO TO 211 CALL SINGLULARIZE LEFT MAND SIDE CALL LINEDS(MIDT,FVN) IF (MUNIT,GT.0) CALL FVNQUT(FVN,MIDT,NUNIT,IF) GO TO 211 CALL FVNN(FVN,MIDT,NUNIT,IF) CONTINUE IF (MFFRS,LE,O) GO TO 212 OD 208 KJEI,NFFTS READ (S,TOS) XFFT(KJ),YFFT(KJ) READ NUMBER OF RIGHT SIDES, AND FOR EACH FIND VORTEX STRENGTMS AND LOAD DIBTRIBUTION		11111122222222222222222222222222222222
	210 211 209 212	ADD CORE AREA FOR INFLUENCE COEFFICIENT MATRIX IF REOFL IS NOT AVAILABLE , REMOVE THIS SECTION AND INCREASE THE DIMENSIONS OF FWN IN BLANK COMMON, ABOVE, TO MTOTATOT WHER MTOT & TOTAL NUMBER OF VORTEX PANELS ON WING AND FLAP IFLSS CALL REOFL(IFLS) CALL REOFL(IFLS) CALCULATE INFLUENCE COEFFICIENT LEFT MAND SIDE, FVN CALL INFMAT TRIANGLULARIZE LEFT MAND SIDE CALL LINEGS(MTOT,FVN) IF (MUNIT,GT.G) CALL FVMQUT(FVN,MTOT,NUNIT,IP) COMTINUE IF (MUNIT,GT.G) CALL FVMQUT(FVN,MTOT,NUNIT,IP) CALL FYNIN(FVN,MTOT,NUNIT,IP) COMTINUE IF (MIMER OF RIGHT SIDES, AND FOR EACH FIND VORTEX STREMGTMS AND LOAD DISTRIBUTION PRAD(5,701) NRHS OT 3 KARIANNA		11111122222222222222222222222222222222
	210 211 209 212	ADD CORE AREA FOR INFLUENCE COEFFICIENT MATRIX IF REOFL 18 NOT AVAILABLE , REMOVE THIS SECTION AND INCREASE THE DIMENSIONS OF FVN IN BLANK COMMON, ABOVE, TO MTOTAMOT WHERE MTOT = TOTAL NUMBER OF VORTEX PANELS ON MING AND FLAP IFLSs6 CALL REOFLIFUES) LFL=IFLS.MTOTAMTOT=1 CALL REOFLIFUES) LFL=IFLS.MTOTAMTOT=1 CALL THE INFLUENCE COEFFICIENT LEFT MAND SIDE, FVN CALL INFMAT TRIANGLULARIZE LEFT MAND SIDE CALL LINEOS(MTOT,FVN) IF (MUNIT,GT.0) CALL FVNQUT(FVN,MTOT,NUNIT,IF) GO TO 211 CALL FUNIN(FVN,MTOT,NUNIT,IF) CONTINUE READ (S,TOS) XFFT(KJ),YFFT(KJ),ZFFT(KJ) READ NUMBER OF RIGHT SIDES, AND FOR EACH FIND VORTEX STRENGTME AND LOAD DISTRIBUTION READ NUMBER OF RIGHT SIDES, AND FOR EACH FIND VORTEX STRENGTME AND LOAD DISTRIBUTION		11111122222222222222222222222222222222
	210 211 209 212	ADD CORE AREA FOR INPLUENCE COEFFICIENT MATRIX IF REOFL 18 NOT AVAILABLE , REMOVE THIS SECTION AND INCREASE THE DIMENSIONS OF FVN IN BLANK COMMON, ABOVE, TO MTOTENTOT WHERE MTOT & TOTAL NUMBER OF VORTEX PANELS ON MING AND FLAP IFLESS CALL REOFL(IFLS) LFLEIFLEAMTOTANTOTH CALL REOFL(IFLS) CALCULATE INFLUENCE COEFFICIENT LEFT MAND SIDE, FVN CALL INFMAT TRIANGLULARIZE LEFT MAND SIDE CALL LINEOS(MTOT,FVN) IF (NUMIT,GT.G) CALL FVNQUT(FVN,MTOT,NUNIT,IF) GO TO 211 CALL FUNIN(FVN,MTOT,NUNIT,IF) COMTINUE IF (MFFTS,LE.G) GO TO 212 OD 20 KJ=1,NFFT3 READ (S,TOS) XFFT(KJ),YFFT(KJ),ZFFT(KJ) READ NUMBER OF RIGHT SIDES, AND FOR EACH FIND VORTEX STREMGTHS AND LOAD DISTRIBUTION READ(S,TS) ALFAKJET,KEI,KUNIT,NLOAD,NJPNL,MFRC,MCFJ,NTLF, 1 NFJ,(NAJN(KJ),KJ=1,NJPNL)		11111122222222222222222222222222222222

ċ	OPTIONS FOR CALCULATING AND STORING JET INDUCED VELOCITY ARRAY	188 234
ç		139 235
5	AT TELEVIATION THOUGED AFTURE WAT OF THEORY	UB0 238 UB8 237
ē	#2 JET PARAMETERS AND INDUCED VELOCITIES INPUT	U\$6 238
C	· · · · · · · · · · · · · · · · · · ·	188 234
5	OPTIDAS FOR FORCE CALCULATION METHODS	1188 240
ç	NLOADE1 CONVENTIONAL METHOD	186 241
č	NLCADEC INTERNICO PRESSURES	088 245
Ċ		·ISB 244
ç	NFJ = NUMBER OF FLAPS IN OIRECT INTERFERENCE WITH JET	USR 245
č	JEAN A FEAL WONDERS WET HOULDE IN SAME MERIOM	135 247
C	NJPNLE NUMBER OF PANELS ON WHICH FORCES ARE NOT INCLUDED	USR 248
ç	(NJPAL_LE.30)	USB 249
č	JPALD PANEL AUARER	1138 251
-	IF (KR.GT.1) +RITE (6,702)	USB 252
	KRITE (6,752) ALFA, NEVN, NUNIT, NEPTS, NERINT, KJET, KEI, KUNIT,	USR 253-
	I NGTADANJPNCAPPRGANCFJANTLPANFJ CPJENČPJ	100 234
	1F (NFJ,EQ.0.AND,KJET,NE.0) ##ITE(6,736)	U88 256
	IF(NFJ_LE.0) GO TO TO	USB 257
	HWIIE (6,737) (NFUN(KU),KUB1,NFU) Wotte (6,705) etaj	138 235
	TO CONTINUE	U85 260
C		085 261
		U35 262
	SINALF#SIN(ALFA)	1188 264
	COBALF#COS(ALFA)	1188 265
	EXVELEXJET.NE.0 Ve ////////////////////////////////////	138 266
с	[" (KJE1#1) ///////	U85 267
Ċ	INPUT INITIAL JET PARAMETERS	USB 269
C	7. NTTHERA	188 270
	75 CALL JET (HTOT,XCP,YCP,ZCP,UE1,VEI,HEI,NTIHE)	U\$6 272
	NTIMEENTIME+1	USB 273
ç	PALANIATE TANCENT INT PENTRALTUE	USB 274
č	Callulait immeni ati stutation	1138 276
-	CALL JETCL	038 277
ç		USP 278
č	CAPCULATE DEA THROUGH AFENCIITER AN HINRANDAH CUMIKUP HUTHAR	138 280
_	72 CALL JET (MTOT,XCP,YCP,ZCP,UEI,VEI,WEI,NTIME)	1158 281
C	TE /KINTT \$ 41 50 TO 77	USR 282
C	STORE EXTERNALLY INDUCED VELOCITIES ON TAPE &	USA 284
	CALL UVWOUT	U38 285
	GO TO 77	1138 286
c		US5 288
ç	IF KJET=2, READ EXTERNALLY INDUCED VELOCITIES FROM TAPE 4	USB 289
C	A111 1114411 44841	US8 290
	DUM#CFK	188 292
	CFK=1,0	U85 293
	NTIMEN!	1138 244
e	PRINT INPUT JET PARAMETERS AND SET UP NPTJ(=,+) ARRAY	U88 296
	CALL JET (MTDT, XCP, YCP, ZCP, HEI, VEI, WEI, NTIME)	1185 297
	GENEDUP	135 298
	77 CONTINUE	USB 301
C		USB 301
c	ADJUST CIRCULATION ON WING-FLAP PANELS TO ACCOUNT FOR JET	US8 302
ç	HINFESS AND GALGE INDUCED VELUCITY AT CONTROL POINTS	035 303
	CALL JETVEL (MTIME)	USR 305
ç		USR 304
č	CALCULATE RIGHT MAND SICE OF EQUATIONS	US6 307
Č		188 304
	CALL RHSCLC(EXVFL)	US9 310

C				1
č		SOLVE FOR VORTICITY DISTRIBUTION FOR THIS RIGHT HAND SIDE	1188	112
ċ			11.0	111
-		CALL SOLVE/CTR.EVN.STOTE		313
e				214
ē		DETNT VIDTEX STRENCTHS	0.01	212
		sasal angle guerang	10.00	318
÷			138	317
			038	318
		###11E10#####1611	11201	319
		IF CANDISE YELD GUID BE	1.20	320
		IF (LJFLF,LE,0) GD 10 81	USB	321
		DO 82 NPHILIFLP	USR	322
		NF#J\$LP(NP)	US9	323
	85	CIR(NF)=CIP(NF)+CIRJ(NP)	USB	324
	81	DO BO NPE1,MH	U\$8	325
		GAMMA=CIR(NP)+FOURPI	138	326
	80	WRITE(6,728) NP;XCP(NP);YCP(NP);ZCP(NP);UEI(NP);VEI(NP);WEI(NP);	U85	327
	1	1 GAMMA / (NPTJ(J/NP),J#1/NJET)	039	328
		GR TO 89	1138	329
	85	CONTINUE	U.8.8	330
		DO 88 NP#1,4M	USB	331
		GAMMAHCIR(NP)+FOURPI	U\$15	332
	88	WRITE(6,728) NP,XCP(NP),YCP(NP),ZCP(NP),ZERO,ZERO,ZERO,GAHMA	1186	111
	89	IF(NPLAPS_EQ.0) GO TO 96	1.86	334
		DD 95 NFRI,NFLAPS	1198	114
		WRITE (6.725) 10FLAP(NF.1).10FLAP(NF.2).NF	1188	114
		WRITE(4,727)	1138	147
		MS#HSTART(NF)		114
		HERHEND (NE)	100	120
		TEL.NOT. FXVELS GO TO OP	1160	3.4.6
				340
			1100	341
			000	346
	•••	G GAMMA . (NETFILME) WELLMET	000	343
		AD TO AS	035	344
			1136	345
	76		Uab	340
		VU TJ NEBROJEC Almunetanijec	OBR	347
		GARTARCIN(NE)NEUUNEL	USM	348
		PRITE (BJ 720) "PJAGE(NE); TCP(NE); ZCP(NE); ZERD; ZERO; GARMA	0.00	344
	43		035	350
		IF (LJFLF,LE,G) 60 10 46	U88	351
		DO AS NEAL, LIFLE	486	352
		NFBJELP(NP)	U88	353
	- 83	CIR(NF)=CIR(NF)=CIRJ(NP)	U\$8	354
-	46	CONTINUE	138	355
5			U88	356
ç		ADJUST JET INDUCED CIRCULATION ON FLAP PANELS FOR LOAD CALC.	0.88	357
		HTINESS	088	358
-		CALL JETVEL (MTIME)	036	359
ç			188	340
		IP (NLOAD=1) 98,98,97	088	361
-	. 98	CONTINUE	U88	365
C			U85	363
ç		CALCULATE LOADS, FORCES AND HOMENTS - TRADITIONAL HETHOD	U85	344
5			USB	365
		IF (HFHC,GT,0) NFRC#1	080	366
		CALL LOAD(EXVEL)	U88	367
		WRITE (4,740)	USB	368
		CALL FORCES	USB	369
		NFRCEO	USB	370
		IF (NLOAD=1) 97,78,97	1156	\$71
	97	CONTINUE	U98	372
C			USR	375
C		CALCULATE LUADS; FORCES AND MOMENTS - PRESSURE METHOD	U\$6	374
C			U\$6	375
		IF (MFRC_GT_0) NFRC=1	1158	376
		CALL LOADCP (EXVEL)	U\$8	377
		WRITE (6,741)	USA	378
		CALL FORCES	1188	379
		NFRC=0	11\$5	580
C			U\$8	381
C		CALCULATE VELOCITIES AT SPECIFIED FIELD POINTS	088	\$83
C			USR	382
	78	IF (NFPTS, EQ. 0) GO TO 110	USR	384
		IF (NJET LE.O) GO TO 103	USB	385
		##ITE (6,755)	13B	386
		00 TO 107	0.59	347

_	SUBROUTINE ANGLAS	1	~L 7	001
C			WLT	002
C	THIS SUBROUTINE	READS IN THE WING INPUT DATA AND LAYS OUT THE	#LT	003
C	=ING VORTEX	LATTICE	#LT	004
C			WLT	005
C	COMMON STATEMENTS	B	41.7	006
C			wi T	007
	CONMON /TOLENC/ "	10	41.1	005
	COMMON /REFOUA/ S	SSPAN, SPEF, REFL, XH, ZH		0.09
	COMMON / WNGDAT/	Y(30), PSIHLE(30), PSIHTE(30), APHTH, CPHTH, TPHTH		010
	COMMON /INDEX/ M	SW. MW. MTOT. NEWI (30), IMAX. NERBERIANY, LARTERANY	41.1	
	COMMON /CPDAT/ AL	PHAL (250) . XCP(250) . YCP(250) . 7CP(250) .		013
	1 CALPHI (250) . SALE	PHI (250)		015
	COMMON ATL DATA X	TER (30) . XTEL (30) . XTER (250) . VTER (250) . 741 0/250)		013
	1 XTLL (250) ATTLL (2503.7111 (2503		014
	COMMON /BLOAT/ X	1.(250). VAL (250). 781 (250). TRATIZED	1.1	015
	COMMON JETI DATA S	TI X8/2501. FTI VI (2501 FTI 70/2801 FTI 71 /280)		010
	COMMON ZEDEDNAZ ("DA4(350).CONHP/350).COND//35A) 7540 7540	*11	017
	COMMON ACHORDAA O	HPDI + (10) - CONTECTON CTTORES		017
	COMMON (DOSDAT/N	DELSE ARDESETTAN ELADEATORAN W FITAN	41.1	014
			~LT	050
ř	DINENSTON STATEN		ALT	021
2	officially states		- L T	055
			-LT	053
	DIMENSIUM XIE(30	1	4LT	024
ç			HLT	125
ç	FORMAT STATEMENTS	5	WL T	024
С			- LT	027
	701 FORMAT(1015)		HLT	028
	702 FORMAT(8F10_0)		-LT	029
	703 FORMAT(//5x,15H=)	ING INPUT DATA1	WL 7	030
			-	

193	*RITE (6,734)	USB 38	8
102	CONTINUE	1158 38	9
	NTIMEsett	185 39	0
	Jå#1	USB 39	Ĥ.
	NCRCT=0	USR 39	ż.
	NO 105 Jai,«FPTS	1158 39	1
	XFP=xFPT(J)	1189 39	4
	YFPayFPT(J)	058 59	15
	ZFP#Z#P1(J)	1156 39	16
	CALL VELOUM (XFP,YFP,ZFP)	985 39	7
	IF (NJET "LE"D) GO TO 104	USA 19	A.
	CALL JET (JA, XFP, YFP, ZFP, U, V, #, NTIME)	038 39	÷.
	IJEUP	138 40	0
	VJ=VP	USR 40	1
	u jam b	135 40	2
	CALL JICIRV (XFP,YFP,ZFP,JA)	US4 40	3
	1)PatiPatud	US9 40	4
	VP=VP+VJ	138 40	5
	#Pamp+mJ	USB 40	6
¢	U,V,H ARE COMPONENTS OF TOTAL FLOW FIELD	. USP 40	7
	U (1)#U (1)+UP+COSALF	055 40	8
	A (1)=A (1)+Ab	USR 40	9
	W (1)## (1)+#P#SINALF	1158 41	0
	HRITE (6,735) XFP,YFP,ZFP,UP,VP,HP,U(1),V(1),W(1)	USR #1	1
	GD TO 105	088 41	ż.
104	UJ#UP+COSALF	1158 41	5
	VJEVP	1158 41	4
	*J=×P=SINALF	1158 41	5
	WRITE (6,735) XFP,YFP,ZFP,UP,VP,WP,UJ,VJ,WJ	1/88 41	6
105	CONTINUE	USA 41	7
110	CONTINUE	U39 41	8
-	IF (NRHB.GT.1) REWIND 4	039 41	9
75	CONTINUE	135 42	0
	GO TO 1000	135 42	
	END	USB 42	2
			-

.

	-			
	704	FURMAT(//10x,13HHEGION NUMBER(15)	≈L⊺	031
	705	FORMAT(15X,20HINBOARD FOGE CHORD #,F10,5/15X,RHSEMISPAN,11X,1Hm,	4L T	032
	1	IF10.5/15X.14HDIHEDRAL ANGLE.5X.1HA.F10.51	-1.T	031
	704	FORMAT//IEV.13.43H MODITICS ARE TO BE LATE OUT TH THIS PECTON/200		
		PURALLY ISANIST STATE TO BE LAID NOT IN THIS WEGINNZUR,	1	034
	1	IC, ICH BPANNISE BT, IS, IOH CHINKDAISE)	₩L T	035
	787	FORMATE/15x,59HSPANNISE LOCATIONS OF TRAILING VORTEY LEGS, SHEEP A	HLT.	036
	1	INGUER OF JOX ASHIETNE RECTTOL TO THE PIGHT AND MUNHED OF ELAPS RENT	1 17	
		The section//sty and successive and a section of a section of the		
		TAY THIS SECTION/FELSONGERARISE/FAINLE SHEP//I, ONTE SHEP//I,	4L I	1 2 0
	- 2	GANNUMBER/21%, HLOCATINA, S7%, BHOF +LAPS)	¥LT.	039
	708	FORMAT(3F10.0.15)	Ы Т	040
	104	PURAL(138,3713,374,12)	WLT	041
	710	FORMATC/15X,28HTHIS REGION EXTENDS FROM Y #,F10,5,7H TO Y #,F10,5)	жĻТ	042
	711	FORMAT(315.2F10.0)	w . T	641
		FORMAT//IRV. 2841-40485 STOF-FOCE FHORD - FIG SALEY INVESTIGATIONS FOC		844
	· · · e	LOWNER (1241524140044) SIDEAEDRE CHURD B'LIN'AAI24144 KAIFIAR EDR	ML I	044
-		LE BHEEP/SX/1HH/P10,57	HLT.	045
C			HLT.	044
		PRINETANTE .		
			ML T	045
		DATA DTOR/0,01745329/,PI/3,14159265/	HLT.	049
e			11.1	050
-		average would be the there are a set of the		0.50
- 5		INPUT NUMBER OF WING REGIONS	₩L T	051
ç			HLT	052
		READ (5,701) NWREG	H H	057
2			HLT.	0.94
Ģ		INPUT REGIUN I DATA AND LAT OUT FURTICES	WLT.	055
C			HE T	056
-		BEAD (8.702) CHW.332AU.84TD		
		narra (stive) en "jugi attrito	101	150
		NACGEI	464	056
		WRITE (6.703)	NIT.	059
		WRITE (A. TOA) WREG	- 1 F	
			- 1	0.00
		WHITE (0,703) CHRIJOPAN,PHID	HLT.	061
		TOL == (\$\$PAN=15,02=05)=+2	WLT.	042
		READ (5.701) NCH. HEW.NTCH.NUNT.NPRFED	ш " т	641
		n n n n n n n n n n n n n n n n n n n		
		DEAN STORE	NLT	0.66
		HTDT#HH	WLT.	085
		WHITE (6.706) HW.HEW.NCH	ы й т .	DAA
			MLT	007
		WRITE [6,707]	HLT.	068
		DO 10 IE1,IMAX	wĽT.	069
		#FAN /K. TNAN V/TN. #8TULE/TN. #8TWTE/TN. UPAR//YN	111	
		news (as the state of the state		070
		NGWIKIJENGW	HET	071
		IF (ILEG.1) HRITE (0,709) Y(I)	VLT.	072
		7F (T.WF.1)	H T	471
		ar sagingaan Subaba di Banki ulesi Ban uleses maturales una-also		
		INNITE (W//VY) T(I)/POINCE(I)/POINCE(I)/NPOEG(I)	WLT	074
		IF (Y(I)_GT_0_C) Y(I)==Y(I)	HL T	075
	10	CONTINUE	11.1	074
	••			
	• •		- L 1	0//
	- 11	NF SEG(I) = 4F SEG(I+1)	¥L7.	07B
		IF (NTCH.NE.0) GD TO 21	#LT	079
		DD 20 141-86	11 9	
				000
	εQ		45 C	oat
		GP TO 25	HLT	082
	21	IF (NUNI.NE.0) GO TO 23	HLT.	081
		NNRA TELEVISION TELEVISION		0.8.0
		nn se numettueter	-LT	001
		HN#HN+NCH	HLT	086
	22	READ (5,702) (ALPHAL(J),JUJNW,HN)	WÉT.	087
		6D TO 25	FI T	0.8.8
	£3	READ (3/108) (ALPHAU(3)/341/NC#)	HL T	004
		00 24 J#294	-4LT	090
		#JP#{{=[]#L	WUT	091
		DO 24 Met.NCW		0.02
	-		HLT	043
	24	ALPHAL(KK)BALPHAL(K)	HLT	094
	28	CONTINUE	WT	694
				0.04
2				0.40
C		LAY OUT REGION 1 WING VORTICES	₩L T	097
ĉ			WLT	098
		15 MB 414.0+P1/20FF		000
		1077 #3 #4 0 #7 17 0 #6 0 # 6 0 # 2 0 0		
		I THEN'S OF ICAN	HLT	100
		PHIEDTORAPHID	HL7	101
		SPHTWESTN(PHT)	щĨТ	102
		Parturner () ()	37÷	100
		LENIALUS/ENIAL	an l	103
		TEMIMESEMIN/CEMIN	WLT	104
		FNCHENCH	aL T	105
				101
		A & C & C & C & C & C & C & C & C & C &	- C 1	100
		KT2(1)#=68%	-11	107
		A711 - FOx		

	NUMARTE MR/FNC+	HLT ING
٢.		≈L ₹ 11>
ç	THUB UNER LADEGAISE BURG	HLT 111
L	DD 40 1#2.1HAX	ALT 112
	I*sI+1	HLT 114
	LASTF (1M)=U	ALT 115
	tlRY=Y(I*)	ALT 116
	TLLY#Y(I)	WLT 117
	TLRZWTLRY6TPHI#	HLT 114
	166716974978761671407083	-LT 119
	TPSTTFETAN(PSTWTE(T)+OTOR)	WLT 121
	DYSTLLYSTLRY	-11 122
	XLF(I)=XLE(IH)+DY+TP8ILE	WLT 123
	XTE(I)=XTE(I4)+DY+TP8ITE	#LT 124
	NLX=(XLE(])+XLE(I ^m))+0.5	HLT 125
	x1EK([M]#X1E(]M]	4LT 125
	NPET-TDETIS_TDETTF	-L' 12/
		WLT 120
	CTLL=CTLR+DY+DPSI	WLT 150
	C8L=(C7LR+C7LL)+0_5	-LT 131
	DCRD=CBL/FNC4	HLT 132
	CPRDL 4(IP)4CBL	ALT 133
	1 L X A X L L 1 17 3	
	TCONBR#DUHA+CTI R	WLT 135
	TCONBLEDUMARCTLL	*LT 137
¢		-LT 138
Ç	LOOP OVER VORTICES IN THIS ROP	4LT 139
Ç		WLT 140
	JJ#(1#2)#NC#	WLT 141
	10 41 JEIANGH TURÌTAS	
	FJmJ	417 184
	FACB#(FJ+0,75)/FNC#	#LT 145
	FACCH(FJ=0,25)/FNCH	WLT 196
	XCP(IV)=BLX=FACC+CBL	4LT 147
	XTLR(IV)=TLRX=FACD+CTLR	WLT 144
	Y1_R(IY)#TLNY 77: p/Tu)=t 07	#LT 149 WLT 150
	2768(1979-1676 2711 (TV)#TI (X#F4CB#CT))	wLT 151
	YTLI (IV)=TILLY	4LT 152
	ZTLL(TV)#TLLZ	ALT 153
	FTLXR(IV)#TLRX=FACC+CTLR	WLT 154
	FTLZR(TV)=TLRZ	HUT 155
	FTLXL(IV)aTLLX=FACC+CTLL	4LT 156
	F1	
	CONBRITYISTEONR	417 159
	CONBL(IV)=TCONAL	HLT 140
	41 CONTINUE	HLT 161
	40 CONTINUE	NUT 162
ç.		4LT 163
ř	FOUL DACK ULNCK ATAM MEGIDAS IN AKESENI	
•	TF (NHRFG.F0.1) GO TO 100	41 7 165
	DO 50 4=2,4-REG	-17 167
	WRITE (6,704) N	SLT 168
	READ (5,701) TIN, TOUT	4LT 169
	WRITE (6,710) V(11N),V(1007)	HLT 170
	READ (5,711) NEWANTUN,NUNIJEINATESMP NRUHTONIK-TIN	ALT 171
	NYORENSHENC.	417 178
	##ITE (6,700) NVIJ#, "8=,"CH	-LT 174
	WRITE (6,712) CIN, TESWP	#LT 175
c	· · · · · · · · · · · · · · · · · · ·	-LT 176
e .	LAY OUT VORTICES FOR THIS REGIUN	4LT 177
C	- E 1 Anna 11A 11	ALT 178
	F 76 A B	4LT 179 219 184
	DUMANTEMR/FNCM	-LT 160
с		<lt 182<="" td=""></lt>
Ċ	LUDB DVER CHURDHISE RONS	VLT 183
c		-LT 184
	IBEG#ITN+1	4LT 185
	DI 60 IMINEG,INUT	4LT 184

.

	14=1=1	HLT 187
		ALT 188
	SHIPT VUNTER DATA SO NEN VURTICES CAN BE INSPREED	HLT 189
	NF # 11M=A	HLT 190
	DO 61 JULATM	LT 101
61	NCWBUMENCWSUM+NCWI(J)	MLT 192
	MHEMWANCH	- 1 1 1 7 3
	HTOTEHE	WLT 194
	NCNSUMENCHBUM+1	WLT 196
	IF (I.EQ.IMAX) GO TO 63	WLT 197
	3=##++1	4LT 198
	K=J=NC=	4LT 199
۰z		NLT 200
	Rake:	WLT 201
	AUF(J)=AUF(R) Uf(B)=01_U(R)	NLT 202
		WLT 203
	1 (L (J) = 1 (L (L)) 77 (J) (L - T) (J / L)	WLT 204
	z (unio) mzi (unio) Will finevi i čes	HLT 205
		HLT 206
	ZTLL (J) #ZTLL (K)	WLT 207
	FTLXR(J)#FTLXR(K)	WLT 208
	PTLZR(J)#PTLZR(K)	WIT 316
	FTLXL(J)#FTLXL(K)	JIT 211
	FTLZL(J)#FTLZL(K)	NLT 212
	ELAREA(J)=ELAREA(K)	WLT 213
	CONBR(J)=CONBR(K)	HLT 214
	CONBL(J)=CONBL(K)	HLT 215
	ALMAL(J)#ALMAL(K)	HLT 216
	ALTALLAJOUSU TE fe ot novelus co to st	WLT 217
45	LF (K_BUI_NCHDUN) UU II) BC NÊWI/IMIEN/HI/IMIEN/H	WLT 218
•3	TLRYmy/TM)	HLT 219
	TLLYAYITY	WLT 220
	TLRZ=TLRY=TPHIH	PLT 221
	TLLZ#TLLY#TPHIM	WLT 222
	8LX=(XTE(1)+XTE(1H))+0.5	WIT 224
	TPSILESTAN(PSIWTE(I)+DTOR)	#17 225
	TPOITENTAN(TESHP+DTOR)	HLT 224
	PRINTE(I)HTERNP	HLT 227
	DPSISTPSILESTPSITE	HLT 228
		HLT 229
		WLT 230
		4LT 231
	COLE(CTLR+CTLL)+0,5	WLT 232
		WLT 233
	TLRYAXTF/TWY	WLT 234
	TLLXXXTE(I)	HLT 235
	XTER(IN)#XTE(IN)#CTLR	MC1 536
	XTEL(IH)=XTE(I)=CTLL	HLT 237
	TCONGREDUMANCTLR	WIT 314
	TGONBLEDUHA+CTLL	WLT 244
	IF (NTCH.NF.O.AND.I.EG.IBEG) READ (5,702) (XBL(M), HE1.NCH)	HLT 241
	IF (NTCH.NE.D.AND.I.ST.IBEG.AND.NUNI.EG.0) READ (5,702) (XBL(M).	WLT 242
	1 4819408)	#LT 243
	I DOB OULS MORTICES IN SUIS DOU	WLT 244
	COD OVER VORTICES IN THIS NDW	HET 245
	TIENC WALMAN	WLT 246
	00 76 Jas NCH	WLT 247
	1 ALL BY	WLY 248
	FJaj	WLT 249
	FACBa(FJ=0,75)/FNCw	
	FACC#(FJ=0,25)/FNCW	HLI 231
	XCP(IV)=BLX=FACC+CBL	-LI 232 WIT 251
	XTLR(IV)=TLRX=FACB+CTLR	WLT 254
	YTLR(IV)#TLRY	WLT 254
		467 256
	**LL[]V]=?LLX=PAGH+GT[L	HLT 257
	TILL((V)=(LLT) 97()/ftut=ft)/7	WLT 258
	£166149=1662 FT: xp/fxyat: px_Fiffert; p	#LT 259
	PTLZR(TV)ati RZ	4LT 260
	FTLXL(IV)=TLLX=FACC+CTLL	WLT 261
	FTLZL(IV)=TLLZ	+LT 263
		MLT 263

5		FLT	002
C	THIS SUBROUTINE READS IN THE FLAP DATA AND LAYS OUT THE FLAP	FLT	003
С	VORTICES INCLUDING THE WING VORTEX SEGMENTS IN THE FLAPS	FLT	004
ç		FLT	005
C	COMMON STATEMENTS	FLT	006
¢			007
	COMMON /CPDAT/ ALPHAL(230),XCP(230),VCP(250),2CP(250),	FI T	0.08
	1 CALPHL(250), SALPHL(250)		
	COMMON /BLDAT/ XBL(250),VBL(250),ZBL(250),YBSI(250),Sm(250)	FIT	010
	COMMON / ANGOAT/ Y(30),PSINLE(30),PSINTE(30),SPHIN,CPHIN,TPHIN	FIT	011
	COMMON /INDEX/ HSH, MH, HTUT, NCWI(50), IMAX, NF SEG(30) (LASTF(30)	81.7	012
	COMMON /TLDAT/ XTER(30), XTEL(30), XTLR(250), YTLR(250), ZTLR(250).	FLT	011
	1 XTLL(250), YTLL(250), ZTLL(250)	ET T	014
	COMMON / INDEXE/ NEREG,NELAPS,IDELAP(10,2),NCF(10),MSF(10),MF(10),	FIT	015
	14START(10), MEND(10), NFSEGF(10)	FLT	016
	COMMON /FLPDAT/ SDELXZ(10),CDELXZ(10),YF(30,10),SPHTF(10),	81.7	017
	1CPHIF(10)	FIT.	018
	COMMON / HKDATH/ XHKRW(30,3),YHKRW(30,3),ZWKRW(30,3),XWKLW(30,3).	FLT	010
	1Y=KL=(30,3),Z=KL=(30,3)	FIT	020
	COMMON /wKDATF/ XnKHF(30,2,10),YnKHF(30,2,10),ZwKHF(30,2,10),	FLT	021
	1XWKLF(10, 2, 10), YWKLF(10, 2, 10), ZWKLF(10, 2, 10)	FŪT.	022
	COMMON /FTLDAT/ FTLXR(250),FTLXL(250),FTLZR(250),FTLZL(250)	FLT	023
	CUMMON /LOCONS/ CONA(250),CUNBR(250),CONBL(250),TEMP,TEMP	FLT	024
	COMMAN /CHORDS/ CHRDLw(30),CRDOTF(10),CTIPF(10)	PLT.	025
	CUMMEN /FLAPLE/XWILE(10), YWILE(10), ZWILE(101, SWPPLE(10)	FLT	026
	CUMMON /PRSDAT/NPRESH,NPRESF(10),ELAREA(250),ELE(30)	FLT	027
5		FLT	028
5	FURPAT STATEMENTS	FLT	029
C		FLT	030
	TOT FURMATCINI,42,15HFLAP INPUT DATAS	FLT	031
	702 FURHAT(1015)	FLT	032
	713 FURMAT(/101,13HREGIUN NUMAFR,12/151,0HTHERF ARE12,21H FLAPS IN THI	FLT	035
	13 HEGIOVISX, CONTREY EXTEND FROM Y #, F10, 5, 7H TO Y #, F10, 5)	FLT	034
	704 PUMAT(5)10.0)	FLT	035
	104 FORMATIZISAJIHELAP NUMBER, T3, 381H(, 12, 1H)	FLT	036
	TREVALESTINGTARD EUGE GAP \$,F10,57	FLT	0 17
	TEVALE HOW THE EVER GAP 3,FIN,5720X,21HINBNARD ENGE CHORD 4,	FLT	034
	T = FIALL AND THUTHURND LOGE CHURD #FI0,5720X;21HDEFLEGTION ANGLE	FLT	039
		FLT	040

FLT 001 FLT 002

SUBROUTINE FLPLAT

C

с с с

		FLARFA(IV)=OCRD	4LT 264
		C(+FR(IV)=1C0+84	ALT 265
		CONBL(IV)=TCONBL	al T 264
		ALPHAL(IV)=0.0	NIT 267
		74 (NTCH.GT.O) ALPHAL(IN)#X8L(J)	
	70	CONTINUE	- 7 74
	60	CONTINUE	ALL SAV
			WLT 270
r .	34	0001000	115 T14
ž			4LT 272
5		CALCULATE UTHER WING VORTEX QUANTITIES	≈LT 273
C			«LT 274
	100	DINEC.S/CPHIW	*LT 275
		DO 101 Jai, Ma	4LT 276
		X8L(J)=(X7LL(J)+X7LR(J))*0,5	WLT 277
		Y8L(J)=(Y7LL(J)+Y7LR(J))+0,5	41 T 278
		ZBL(J)=(ZTLL(J)+ZTLR(J))+0.5	WIT 278
		VCP(J)mYBL(J)	- LT 214
		ZCP(J)#Z8((J)	
		TPST/1) #(XT) #(1) #XT) (/1) / (XT) P(1) #VT) / / XX, #BUTH	ALL COL
		A (1) A (A (A (A (A (A (A (A (A (A	ALT 585
		BIAD AFTISET COPACITA AND A A	-LT 283
		ECANEALJJECAREPLUJAN(J)ME.U	WLT 284
		CUVA[J]ITEFFTSH(J)	-LT 285
	101	CONTINUE	WL7 286
		RETURN	HLT 257
		END	ALT 288

\$

14=1=1

с с с с

С С С

TO& FORMAT(/20X13,41H VOHTICES ARE TO BE LATD OUT ON THIS FLAP/75X,12, FLT OUT 112H BPANNISE BY, 13, 10H CHORDWISES FLT 042 TOT FORMATI/ZOX, 21H8PAN-13E LOCATIONS UP/21X, 20HTRAILING VORTEX LEGS) FLT 045 708 FORMAT(241, F11, 5) FLT 044 TON FORMAT(/20X,41HXF,YF COURDINATES OF FOUR CORNERS OF FLAP/28X, PLT 045 1 25H(FLAP LIES IN ZERO PLANE)/S3X, 2HXF, 11X, 2HYF) FLT 046 710 FORMAT(231,2F13.5) FLT 047 FLT 046 CONSTANTS FLT 049 C FLT 050 0414 DTOR/0.01745329/ FLT 051 C FLT 052 #RITE (6.701) FLT 055 e FLT 054 C LOOP OVER REGIONS FLT 055 ē FLT 056 DO 100 NRE1, NFREG FLT 057 READ (5,702) NINREG, IIN, IDUT FLT 058 WRITE (6,703) NR, NINREG, Y(11N), Y(10UT) FLT 059 XTEDGISHTER(IIN) FLT 060 VTEDG1#V(IIN) FLT 061 ZTEDGI#YTFDGI#TPHIM FLT 062 XTEDGOSXTEL(IOUT+1) FLT 063 YTEDGOsY(TOUT) FLT 064 ZTEDGOBYTEDGO#TPHIW FLT 045 ANGEO.O FIT 066 FLT 067 LOOP OVER FLAPS IN THIS REGION FLT 048 ĉ FLT 069 DO 200 NFa1,NINREG FLT 070 NFLAPSENFLAP8+1 FLT 071 TOFLAPINFLAPS, 1) =NR FLT 072 IDFLAP (NFLAPS, 2)=NF FLT 073 NFBENFLAPS FLT 074 HSF(NFS)=IOUT=IIN FLT 075 NFSEGF (NFS) ENINREGENF FLT 076 #EAD (5,702) NCF(NF8), NTCF, NUNI, NPRESF(NFS) FLT 077 WEAD (5,704) GAPIN, CRPIN, GAPOUT, CRPDUT, DELKZ FLT 078 WRITE (6,705) NF, NFLAPS, GAPIN, GAPOUT, CRFIN, CRFOUT, DELXZ FLT 079 CROOTF(NF3)=CRF1N FLT OBO PLT OB1 CTIPF(NF8)=CRFOUT ANGREANG+DTOR FLT 082 SANGESIN(ANGR) FLT 083 PANGATOSTANGRY FIT 084 FLT 085 ANG=DEL XZ X*IN#XTEDGI=GAPIN+CANS FLT 086 Y#INEYTEDGI FLT 087 ZWIN#ZTEDGI+GAPIN*SANG FLT 088 X+ILE(NFS)=XHIN FLT 089 YHILE (NFS) HYNIN FLT 090 ZHILE (NF8)=ZHIN FLT 091 X-DUT=XTEDGO=GAPOUT+CANG FLT 092 FLT 093 VHOUTAVTEDGD ZHOUT#ZTEDGO+GAPOUT+BANG FLT 094 DELREDELXZEDTOR PLT 095 SDELR=SIN(DELR) FLT 094 CDELR#COS(DELR) FLT 097 SDELXZ(NES)=SDELR FLT 098 COFLXZ(NFS)=COELR FLT 099 XTEDGI=XHIN=CRFIN+CDELR FLT 100 ZTEDGISZWIN+CRFIN+SOELN FLT 101 XTEDGO=XHOUT=CRFQUT+COELR FUT 102 ZTEDGO#ZHOUT+CRFOUT+BDELR FLT 103 NVBNCF(NFS)+HSF(NFS) FLT 104 MF (NFS)#NV FLT 105 HSTART (NFS) SHTOT+1 FLT 106 HEND(NFS)=HTOT+NV FLT 107 HTOTEMPNO(NES) FLT 108 WRITE (6,706) NV.HSF(NF8),NCF(NF8) FLT 109 HSFP#MSF(NFS)+1 FLT 110 #RITE (8,707) FLT 111 K#114=1 FLT 112 00 210 J#1.H8FP FLT 113 FLT 114 KEK+5 YF(J. HFS)=Y(K) FLT 115 210 WRITE (6,7081 YF(J, NES) FLT 116 HSEHSTART(NFS) FLT 117

HEAHEND(NES) NCFFENCF (NF8) HOFFEHOF (NFS) IF INTOFINE OF GO TO PIR 00 211 K#H8.HE 211 ALPHAL(K)=0.0 60 10 216 212 IF (NUNI, NE. 0) GO TO 214 HNBHS=1 ON 213 JAFSH&, HE , NCFF NNEWNANCFF 213 READ (5,704) (ALPHAL(K), KEJNF, HN) 60 10 216 214 NOFLA-SANCEFAS READ (5,704) (ALPHAL(K), KEHS, NCFL) HNEHS-1 DO 215 K#2,#8FF KKB(K=1)+NCFF+HN 00 215 L=1, NCFF LL#KK+L LLLSL+H4 215 ALPHAL (LL) #ALPHAL (LLL) 216 CONTINUE LAY OUT VORTICES OXWEXWOUT-XETN DZW#ZHOUT=ZHIN XPD=DX++CDELR=DZ++SDELR YPO=YHDUT=YHIN ZFOEDXH+8DELR+DZH+CDELR TPHIF=ZFO/YFO PHIFEATAN(TPHIF) SPHIF (NFS)=BIN(PHIF) CPHIF(NFS)=COS(PHIF) TPSILE=XF0/YF0 TPATTER(XFO+CRFOUT+CRFIN)/YFO DPS1=TPSTLE=TPSITE FNCFFENCFF XLEING.O CTLLECRFIN CPHISCPHIF (NFS) SHPFLE(NFS) BATAN (TPSILE #CPHI) WRITE (8,709) xFF=0.0 YFF=0.0 WRITE (6,710) XFF, YFF XFF=+CRFIN wRITE (6,710) XFF, YFF XFFaxFO YFFsYF0/CPH1 WRITE (6.710) XFF.YFF XFF=XFO=CRFOUT WRITE (6,710) XFF.YFF KK243=1 C LOOP OVER CHORDWISE ROWS e C 00 220 1=2,48FP 14=1=1 TLRY#YF(IH,NFS) TLLYSYF(I,NFS) TLRZ#(TLRY=YHIN)#TPHIF TLLZ=(TLLY=Y=IN)=TPHIF DY=TLLY=TLRY XLEIMEXLEI XLET=XLETM+DY+TP\$ILE BLX#(XLEI+XLEIM)+0.5 CTLRECTLL CTLL=CTLR+DY=DPS1 CHL=(CTLL+CTLP)+0.5 DCRD#CRL /FNCFF BLZ#(TLHZ+TLLZ)+0.5 BLY#(TLPY+TLLY)+0.5 S#=0.5+0V/CPH1 ELAREshCRD+S+2.0 TCONATTEMP#S TOONBL STERROCTIL /FNCFF

.

£

FLT 114

FLT 119

FLT 120

FLT 121

FLT 122

FIT 126

FLT 124

FLT 125

FLT 326

FLT 127

FLT 128

FLT 129

FIT 130

FLT 151

FLT 132

FLT 134

FLT 134

FET 155

FLT 136

FLT 137

FLT 15A

FLT 139

FLT 140

FLT 141

FLT 142

FLT 143

FLT 144

FLT 145

FLT 146

FLT 147

FLT 148

FLT 144

FLT 150

FLT 151

FLT 152

FLT 153

FLT 154

FLT 155

FLT 156

FLT 157

FLT 158

FLT 159

FUT 160

FLT 161

FLT 162

FLT 163

FLT 164

FLT 165

FLT 166

FLT 147

FLT 164

FLT 169

FLT 170

FLT 171

PLT 172

FLT 173

FLT 174

FLT 175

FLT 176

FLT 177

FLT 178

FLT 179

FLT 180

PLT 181

FLT 182

FLT 185

FLT 184

FLT 185

FLT 186

FLT 187

FLT 186

FLT 189

FLT 190

FLT 191

FLT 192

FLT 195

FLT 194

FLT 195

£

£

£

£

	TCONBRETEMR+CTLR/FNCF#	FLT 196
ç		FLT 197
ç	LOOP OVER VORTICES IN THIS ROM	FLT 198
C		FLT 199
	DUMABOLI POULINAATIN	FLT 200
	DIMORTI JAADAL AAVIN	FLT 201
	DUMDERIZ +CDELR+Z=1N	FL1 202
	DUNE TLRZ+CDELR+ZWIN	FLT 203
	DUMP#TLLZ#CDELR+ZWIN	PLT 205
	DO 230 Kel,NCFF	FLT 206
	KKaKK+1	PLT 207
	FKak	FLT 208
	FACEB (FK=0,75)/FNCFF	FLT 209
	FALLU(FRU)(FRU)/FNUFF VP#F=D: V_FACC_CACB:	FLT 210
	YTI RERYI ETHOLTI ROFACA	PLT 211
	XTI FAXIFT-CTI +FACB	FL1 212
	FXTLR#XLEIM=CTLR#FAGC	FLT 213
	FXTLL=XLEI-CTLL+FACC	FL1 215
	XCP(KK)=XCPF+CDELR+DUMA	FLT 216
	XTLR(KK)#XTLRF+COELR+DUMB	FLT 217
	XTLL(KK)=XTLLF+CDELR+DUMC	FLT 218
	PTLXR(KK)#FXTLR#CDELR#DUMB	FLT 219
	Y 1 LAL (RK) FY A LLY CUCKAOUNC YRI (KK) FY A CUCKAOYA () (KK) SAA K	FLT 220
		FLT 221
	YTER(XK)STERY	FIT 331
	YTLL(KK)=TLLY	FLT 224
	YOL(KK)=BLY	FL1 225
	ZCP(KK)=+XCPF+SDELR+DUMD	FLT 226
	ZTLR(KK)=+XTLRF+SDELR+DUHE	FLT 227
	ZTLL(KK)==XTLLF+SDELR+OUMF	FLT 228
	FTL7L (VK) ==FX1L +\$OEL ++OUNE	FLT 224
	781 (KK)=(77) D(KK)=711 (KK))=0 E	FLT 230
	8W(KK)#5	FLT 231
	ELAREA(KK)BELARE	FLT 232
	TPSI(KK)=(TPSILE=FACB+OPSI)+CPHI	FLT 234
	CONA(KK)#TCONA	FLT 235
	CONBR(KK)=TCONBR	FLT 236
	CONBL(KK)=TCONBL	FLT 237
2	30 CONTINUE	FLT 238
~ ^c	CONTINUE	FLT 234
ž	LOCATE INTERSECTION OF WING TRATIING LEAS WITH THIS PLAN	PLT 240
č	COCHIC INICADECITOR OF HIME INHIGING COOD HIME INTO FURP	FL1 241
•	DXW#XWQUT#XWIN	FLT 241
	DAMRAHUNL+AHIN	PLT 244
	DIMMIMOUT-IMIN	FLT 245
	10utH=10ut+1	FLT 246
	DD 240 Jalin, Inuta	FLT 247
	JF#J41 98 (NE 80 NINDEC) (AR98/I)-N8-	FLT 248
	1. [ml ² cm ⁸ utuk5a] [w@il[]]#4L9	FLT 244
	FACs(YY=YWIN)/NYW	FLT 239
	X+KRH(J, NF)=X+IN+FAC+OXH	FLT 252
	YKRH(J,NF)HYY	FLT 253
	ZWKRW(J_NF)=Z#IN+FAC=DZ#	FLT 254
	YYEY(JP)	FLY 255
	FACE(YY=YHIV)/OY#	FLT 256
	145(8(J/NF)814F Wurtuff (Mf)814F	FLT 257
	THKLHGJARJETT ZHKLHGJA,NKARTHTN+FACANZH	FLT 258
2	40 CONTINUE	FLT 260
c		FLT 261
c	LOCATE INTERSECTION OF UPSTREAM FLAPS TRAILING LEGS WITH THIS FLA	P FLT 262
C		FLT 263
	IF (NF.ER.1) GO TO 270	FLT 264
	NPP ENP TEXTENSION A	FLT 265
	JEWARDENEET IEENEEAT	FLT 266
c	A. (= 4) A. (FLT 267
ē	LOOP IIVER UPSTREAM FLAPS	FLT 340
C		FLT 270
	DO 250 KEJF,JFF	FLT 271
	HSFUEHSF(K)	FLT 272
	NJØJFF+K+1	FLT 273

	SUBROUTINE INFHAT	INF	001
ç		INP	005
5	CALLULAIES INFLUENCE COEFFICIENT MATRIX	. Į №₽	003
2	204401 BTATENENTS	TNP	004
	CUMPUN STRIEPENTO	INF	005
L		INF	006
	CUMPUN FYNILL Compun ffindig (antigerigerigerigerigerigerigerigerigeriger	INF	007
	COMPON /FCPUAL/ SUECXZ(10),CDELXZ(10),4#(30,10),8#HIF(10),	INF	008
		INF	104
	CUMMON /#KDATH/ XWKH#(30,3),YWKR#(30,3),ZWKR#(30,3),X#KL#(30,3),	IN₽	010
	ITALH(SU)3)/ZHKLW(SU)3)	[NP	011
	CUMPUN / WRDAIF/ XHRHP (30,2,10), YWRHP (30,2,10), ZHRRF (30,2,10),	INF	012
	1 HALP(SU,2,10), THALP(30,2,10), ZWKLP(30,2,10)	THE	013
	COMPON / WNGDAT/ 7(30), PSIMLE(30), PSIMLE(30), SPHIW, CPHIW, TPHIW	148	014
	COMMON /INDEX/ MSH, TH, HILL, NCWI(30), IPAK, NFSEG(30), LASTE(30)	[NF	015
	COMPUN /CPDA1/ ALPHAL(250),XCP(250),YCP(250),ZCP(250),	INF	016
	1 CALPH((250), SALPH(250)	INF	017
	COMMON /TLDAT/ XIER(\$0), XTEL(\$0), XTER(250), YTER(250), ZTER(250),	TNF	018
	1 #10(250), 110(250), 210(250)	INF	014
	CUMMUN /FLVFRG/X1,Y1,Z1,X2,Y2,Z2,XP,YP,ZP,FU,FV,FH,AX,AZ	INF	050
	CIN+UN / INDEXE/ NF KEG, NF LAPS, IDFLAP(10,2), NCF(10), MSF(10), MF(10),	[NF	150
	$1 = 31 \times M(1(1))$, $m = M(1(1))$, $M = 3 \in Gr(10)$	INF	055
	CORDA ZADIFEZ ALDESIDE(10)	THE	053
•		INF	024
5		TNF	025
5	LOUP OVER ALL CUNIRUL POINTS	1+18	026
Ļ		INF	n27
		1.1	956
	CPAPELPAIN (1)	INE	054
	SPHFESPHIP(1)	TNF	050
		INF	031
		148	032
	D0 200 J=1,4T0T	INF	033
	xP2xCP(J)	INF	034
		1 N F	035
		1 NF	036
	IGASENO	INF	037
	CALMETALPHL(J)	1 N F	038
		ĮNF	134
		1.00	040
	IF (J_LL_HENU(JFLAP)) GA TA \$0	ŢN₽	141
	JELANEJELANA1	INF	04₽

C C	LOOP OVER Y LOCATIONS OF TRATITNE LACE ON THIS UPPERING THE	FLT 274
e	The second	FLT 275
•	DO 240 1=1.4851.	FLT 275
		FLT 277
		FLT 278
		FLT 279
		FLT 280
	XHKHF(J,N3,K)=XHIN+FACHDXH	FLT 281
	YWKRF(J,NS,K)EYY	FIT 282
	ZWKRF(J,NS,K)=ZmIN+FAC+DZm	FIT 341
	44#YF(JP,JF)	FLT 203
	FAC#{YY=YwIN}/DYm	
	X××LF(J,NS,K)#XxIN+FAC+DXx	L1 205
	YAKLE (JANSAK)BYY	PPL 299
	7 HKI F (J. N.S. K) # 7 H TN + F A P + D 2 +	PLT 287
260	CONTINUE	FLT 284
250	CONTINUE	FLT 284
270		FLT 290
300	CU11401E	FLT 291
100		FLT 292
100	CONTINCE	FLT 29%
	RETURN	F1 7 294
	END	
		FLI 295

			INF 043	
		SPHF1SPH1F(JFLAP)	[NF 644	
		CDY78=CDEL X7(JELAP)	INE OAS	
		ADVTA-ADEL VTE APS	THE ARA	
-		Preserve Carlor Carl		
с.			INF 047	
ε.		FLAP BOUNDARY CONDITION FACTORS	INF 048	
ē			INF 049	
-	**	R	THE OLA	
	30		149 030	C
		#VEALPHF9CALP	IND 051	
		RUBBALPACDXZ8+CPHFACALFABDXZB	1 NF 152	
			INE AST	
		•• · · · · · · · · · · · · · · · · · ·	146 033	
6			INF 054	
ç		WING BOUNDARY CONDITION FACTORS	INF 055	
c			THE 056	
	4.6	EVELAPHTWACAL F	THE ART	
			144 037	"
		A - C - C - C - C - C - C - C - C - C -	INF 058	
		RUSBALF	IN# 059	1
	50	CONTINUE	THE DAD	
			146 041	
- <u>e</u>		FOON HARM CHUMBAISE KUNS ON MINE ARAIICES	INF 062	C C
C			INF 063	
		0D 150 Takal,Haw	THE DAA	
		AFTIRO.	148 044	
			147 043	
			144 000	
		AP THEO &	INF 067	1
		LF#LA87F(IBH)	INF DAA	e
		NAFT-NFREG(ISH)	THE OAP	, i
		TELUET EN AL AN TO ISE		
		Trimariageaus on in 152	INP 070	L
		IP(NAFT_EG_1) GG TO 122	INF 071	
C			INF 072	
é		CONTRIBUTION OF FINITE TRAILING LEGS IN FLAPS AFT OF THIS ROW.	1NF 075	
6			145 018	
		NAFTHUNAFTU]	INF 075	C
		DD 120 IA8#1, NAFTM	INF 076	C
		TABPHTAB+1	INF 077	-
		VIEVUEDL/TRU.TARN	THE OTS	
		TIFTHKRH(IBH/IAB)	INF 074	
		5785MKWH(1384)148)	INF 080	
		X2=XxKR+(18+,148F)	INF 081	
		V2=YWK#W/TR#, 1488)	THE DEC	
		ZERZARRA (187)	1NF 003	
		CALL FLYF	INF 084	
		AFTUeAFTU+FU	INF 085	
		AFTVAAFTVAFV	THE DBA	
		A T Y W A A T Y A T Y	THE ART	
				-
		XI WARD-(IBUSIAD)	14F 086	ç
		AIMANK[A(IN+IV+)	INF OBT	C
		Z1=ZwKLw(I\$#v,IA#)	INF 090	C
		X2xXxKL x(T8x,T48P)	INF 091	
		VIEWERS WITHE TARES	THE AGO	
		Z2=CHKL=(I=+;LA=*)	IN6 043	
		CALL FLAF	INF 044	
		AP TURAFTURFU	INF 095	
		AFTVAAFTV-FV	TNF 096	
			THE AGT	
	140		Tut nAG	
C.			INF 099	
c		CONTRIBUTION OF BEHININFINITE TRAILING LEGS IN LAST AFT FLAP	IN# 108	
e			1NF 101	
	123	AX	THE 102	
			146 103	
		X1#XNXRP(ISH,NAPT)	INF 104	
		AJBARKWA(IZM ¹ NYLL)	INF 105	c
		ZIMZWKRW(ISW,NAFT)	INF 106	r
		TE (NTOF. (F.O) GO TO 231	THE 107	
				ç
		CURREL POSTION OF BING INSILING LEDS AT PLAN 50658	144 148	c
		OU ese Johishiph	INF 109	
		K=IDF(JD)	INF 110	
		DYB(Y1=Y(K))es2	TNF 111	
		TE (NY 1E, TOL) 60 TO 235	TNF 112	
			1 4 1 1 1 E	
	£35	CONTINUE	INP 115	
		GT TP 231	INF 114	
	235	AX==1.0	INF 115	
	. 2	AZB0.0	INF 114	
			TN# 114	
	K 31	Prove Turke		
-			T N E 1 1	
C			146 116	

		ARTINEARTINE)	INF -	120	
			INF	121	
			TNE	22	
		APTREAPTHER .	THE	191	
		X1mXHKLH(IS+,NAFI)			
		AI#AMKFM(I@M*/WWL1)	1.45	164	
		71#Z#KEW(ISHANAFT)	INF	125	
		TE (NTDE.(E.0) GO TH 241	INF	126	
-		COORSECT POSITION OF WING TRAILING LEGS AT FLAP ENGES	INF	127	
•			İNF	128	
		ATH+CIPEL XZ (Gr)	1.45	. 30	
		AZ= SOELXZ(LF)	146		
		DO 242 JOSIANIOF	100	130	
		K=10f(JD)	TNP	151	
		DV#/V1=V(K))++2	I NF	132	
		TE (DY 15 TOLS 60 TO 345	ŢNF	133	
		IF TO ALL AND AN AN AN AN AN	INF	4	
	242	CONTINUE	THE	145	
		GD TO 241			
	245	AX=+1.0	1.75	1.20	
		4Z=0_0	1.46	137	
	241	CONTINUE	ĮNF	136	
•			THE	139	
6			INF	140	
			TNE	141	
			TALE	142	
		AFTVEAFTV+FV	1.46	100	
		AFTW#AFTH+FH	I NP	145	
	125	CONTINUE	INF	144	
r			INF	145	
ž		A NOR OULD VIRTICES IN THIS BOW	INF	146	
5		FACE CARE ADDITION TO LETE ADD	TNP	147	
C			1.05	100	
		NCFCHNCHI(13H)	1.00	1.00	
		DC 140 ICW=1,NCMC	140	144	
		TETRASF+ICH	ŤNF	150	
r			1 MR	151	
2		CONTRACTOR OF BOUND IEC	INF	152	
5		CONTRIBUTION OF BOOMD FLO	THE	151	
Ç					
		XI=XTLL(I)		122	
		XZ#XTLR(I)	1.	122	
		Y1=YTLL(I)	INE	156	
		Y28YTLR(1)	1 N F	157	
		71#771 (3 3	1 N F	158	
			THE	159	
		ZZHZTLH(I)	TANE		
		CALL FLVF	1	1.00	
		UTOTAFU	T #b	101	
		VTOTEFV	INF	145	
			INF	165	,
			İNF	164	
-		the contract of the state	TNF	145	
ç			1.4	1	
C		NO SURFACES REMIND THIS HING KEN & INVILING LEAS IN HING PEAKE			
C			Las	187	
		▲X==1,0	(NF	166	•
		A7=0_	j nf	169	,
		CALL STVE	INF	170	1
			TNF	171	
			• • • •		
		AIDIEAIDIALA	1.46	110	
		WTQT&WTQT&F#	INF	173)
		X7=x5	INF	174	1
		¥1=¥2	INF	175	1
		21=22	INF	174	
			THE	177	1
			1.00	142	
		VIDIEVIDIOF	INP	1/4	<u>,</u>
		#TOT##TOT#F#	INF	160	•
		GN TO 136	TNF	181	Ι.
c			INF	182	2
ř		THERE ARE FLARS REWIND THIS ROW. COMPUTE THE DENCE OF	TNF	18	i i
ž		PERFECTED AND LESS OF THE STAR DIANE	THE		
5		ETUTIC PRETERIO FEAD TH FUE ATUM ETUME	1.00	100	
¢			14F	184	•
	135	¥1#XTLR(I)	INF	184	
		¥1#¥YLR(T)	INF	187	1
		Z1=Z7LR(I)	INF	184	4
		X2=X=KR+(15-,1)	INF	189	
		V2=V=KDW(TSA.1)	1	184	•
		73=7=×==718=.13	1	1.71	
		2 C = 2 = 1 = 2 = 2 = 2 = 2 = 2 = 2 = 2 = 2	1.1	171	
		CALL PLVP	TNF	145	
		UTOTAUTOT+FU	INF	193	1
		¥707#¥707+F¥	INF	194	4
			THE	194	•
			1.4.8	1 .4	
			1.75		

₽.

		¥1#¥TLL(I)	14F 197
		21=2711(1)	THE 19A
		XZEX#KI #(ISH.1)	TNF 199
		V28VWK1 + (18-1)	TNE 300
			THE 304
			THE 201
			146 202
			115 203
			1 1 204
*			
2		ARE CONTRAMITIONS FROM PANELS AFT OF MENO	145 208
2		TON FORMATEORIZON AND ANALY AND ANALY AND ANALY	146 207
۰.			146 208
			100 204
			146 210
	134		146 211
			145 212
	146		THE 51/
	• = v		THE 314
	150	CONTINUE	INF 216
		15(NELAPS.FG.0) GU TO 200	THE 217
c			TNP 218
č		INFLUENCE OF FLAP VORTICES == LOOP OVER FLAPS	INF 219
č			INF 220
-		DO 190 IFLAI.NFLAPS	INF 221
		NAFT=NFBEGF(IFL)	INF 222
		LFLP=IFL+NAFT	INF 221
C			INF 224
č		LOOP OVER CHORDHISE ROWS ON THIS FLAP	THE 225
č			INF 226
		MSFFENSF(IFL)	INF 227
		CDX=CDELXZ(IFL)	INF 228
		ADX=ADELXZ(IFL)	INF 229
		NCFF#NCF(IFL)	INF 230
		MATHMATART(IFL)	INF 231
		DO 175 IBH=1,HSFF	INF 232
		AFTUEC.	INF 235
		AFTYBO.	INF 234
		AFTHED.	INF 235
		IBABSHMBT+(IBN=1)+NCFF=1	INF 236
		IF(NAFT.EG.0) GO TO 163	INF 237
		IF(NAFT.EG.1) GO TO 161	INF 238
c			INP 239
Ċ		THO PLAPS BEHIND THIS ONE COMPUTE INFLUENCE OF FINITE	INF 240
Ċ		TRAILING LEGS ON THE FIRST ONE.	INF 241
c			TN# 242
		X1=XHKRF(IBH,1,IFL)	INF 243
		47#A4x8k(19#*?*1k)	IN# 244
		Z1=ZWKRF(I3+,1,IFL)	INF 245
		X2mxHKRF(ISH,2,IFL)	INF 246
		YZEYWKRF(ISH,2,IFL)	INF 247
		ZZ#ZWKRF(I8W,Z,IFL)	INF 248
		CALL FLYF	INF 249
		AF TUBAF TUEFU	INF 250
		AFTVBAFTV+FV	INF 251
		AFTWAAFTWAFM	INF 252
		KINANALF(I#W#I#I#IFL)	INF 253
		Y1=YHLF(13Fele)	INF 254
		21#2##LF(18##1;1FL)	INF 255
		X & X & X & X & X & X & X & X & X & X &	INF 256
		YEMY MALE (18472/176)	INF 257
		£6=4mmLr(10##664FL)	INF 258
		LALL FLVF AB91(#4691(_6))	INE 520
			INF 200
		4	146 201
~		B. 148-1 1-11	1 - COS
č		CONTRIBUTION OF SEMINITE TRAILING LEGS IN LAST FLAP AFT OF	TNF 244
ř		THIS ONF	TNP 24E
č		T TEM ATTN	148 244
•	161	X1=X+KRF(IS+,NAFT,IFL)	INF 347
		VIEVHKRF(ISH,+AFT,IFL)	THE DAN
		ZI=ZWKRF(IS=,NAFT,IFL)	INF 240
		AX==CDELXZ(LFLP)	INF 270
		AZ#SDEL XZ(LFLP)	INF 271
		CALL SIVF	INF 272
		ÁFTU#ÁFTU=FU	INF 273

		AFTVRAFTV-FV	1 N.F.	274
		4F T W 4 F T F 4	THE	275
		1 8 4 1 F (T R H . NAF T . TFI)	TNF	276
		VIEYWEIFTTSHANAFTATELY	TNF	217
			TNF	278
			TNF	279
			TNF	280
			15.8	281
			TNE	282
C.			THE	283
ř		LOOP OVER VORTICES IN THIS POR	TNF	284
č			1 NF	285
4	163	CONTINUE	TN#	286
		DO 170 TOWNI.NCFF	TNF	287
~			TNF	28.4
ž		THE DESCE OF BOUND LES	THE	289
ē.			THE	290
•		7=18459-17-4	TYF	201
		1400010-		
			INP	505
			[NP	547
			INP	244
			INF	295
			INF	246
			[NP	247
		CALL FLVF	INF	548
			INF	540
		VIDIEFY	INE	300
		нтотири	INE	301
		IF(NAFT_NE_0) GU TO 165	INF	205
5			INF	303
C		NO FLAPS BEHIND THIS ONE. COMPUTE INFLUENCE OF BEHISINFINITE	INF	304
ç		TRALING LEGS IN THE PLANE OF THIS FLAP,	INF	305
c			TNF	306
			INF	507
		AZ#SOX	ĮNF	308
		CALL SIVF	INF	509
		UTOTHUTOT+FU	I NF	510
		VTOTEVTOT+FV	ŤNF	311
		#T()T##TOT+F#	<u>I</u> NF	312
		x1=x5	i nf	313
		A1#A5	INF	\$14
		Z1=Z2	. INF	315
		CALL SIVE	INF	516
		UTOTEUTOT-FU	ŢNF	317
		VIOTEVIOTEFV	ĮNF	314
		wtOtmwtOietw	INF	319
		GO TO 167	INF	350
č			1 N F	371
ç		THERE ARE FLAPS BEHIND THIS ONE. COMPUTE THE INFLUENCE OF	INF	325
ç		FINITE TRAILING LEGS INT THIS FLAP	INF	351
Ç			INF	324
	165	X1#ATL#(T)	TNP	325
		YIAYTLR(I)	INF	350
		21#41LH[])	INF	327
		X2#AWKRF(18H,1,1FL)	108	328
		Y2#Y+KRF(IS+,I,IFL)	ŢNF	329
		CC#ZWKR+(IB#+1,IFL)	ŤNF	330
		CALL PLVF	[NF	5 \$ \$ \$
		UTOT=UTOT+FU	INF	332
		VIDIEVIDI+FV	INF	388
		итальноть на	T N P	334
		XIMATEL (I)	t n P	335
		Y1#YTLL([])	1 NF	336
			TNP	337
		X2#XWK[F(ISA)], IFL)	INF	534
		Y2#YWKLF(ISH,1,1FL)	INF	3 5 9
		Z2#ZWKLF(I\$*,1,IFL)	[NF	\$40
		CALL FLVF	ĮNP	541
		ΙΤΟΤΕΙΙΤΟΤ-ΕΟ	148	342
		VTNTEVTNT=FV	INF	\$43
		ь T(IT##T)IT#F #	7 N F	444
		UTOTRUTOT+APTU	INF	- 545
		VTOTEVTOT+AFTV	1 NF	546
		wT(TH+T()T+AFT+	ŢN	347
	167	JJ#[[+])#MT{\T+J	148	54A
		FVN(JJ)=UTOT+RU+VTOT+RV++TOT+RH	INF	349
	170	CONTINUE	1 NF	350

	140		1NF 552
c		LOOP OVER FLAP CONTROL POINTS	1KP 533 THP 354 THP 166
Ĉ		RETURN	INF 356
		END	TNP 358
¢			FLV 001 FLV 002
ĉ		APPLIES EQUATIONS FOR FINITE LENGTH VORTEX FILAMENT Influence functions, take from boring report da-9244	FLV 003
ĉ		SY RUSSERT PP. 88-89	FLV 005
č.			FLV 006 FLV 007
č		CUMMON STATEMENTS	FLV COM
		COMMON /TOLENC/ TOL	FLV 010
		COMMON /FTLV/ NYTLF	PLV 011 PLV 012
		XPD=XP=X1	PLV 013
		XT0=X2=X1 XPT=XP=X2	PLV 015
		2PD#2P=21 2TD=22-1	FLV 016
			FLV 018 FLV 019
		BPTHXPT+XPT+ZPT+ZPT BPDHXPD+XPD+ZPD+ZPD	FLV 020
			FLV 022
		FU=0.0	FLV 023 FLV 024
		FYSC.0 F==0.0	FLV 025
		\$16x=1.0 VPn=v=-v1	FLV 027
		¥T0#¥2+¥1	FLV 028 FLV 029
		ELSARXT0+XT0+YT0+YT0+ZT0	FLV 030
		EL#30RT(EL89) VTL=1.0	FLV 032
		IF (NYTLF.GT.0) VTL=0.0	FLV 034
		A#YTN+ZPO+ZTO+YPO	FLV 035 FLV 034
		C#XTO+YPO=YTO+XPO RADCL=SGRT(A+A+BSQ+C+C)	FLV 037
		IF (RADCL_LF_THL) GO TO 90 RISCRAPD+YPD+YPD	FLV 039
		RESGSPT+YPT+YPT	FLV 040 FLV 041
		R2=50RT(R250)	FLV 042
		#50##150=#250 C8TH1=(#\$0+2150)/(2.0+E!+R1)	FLV 044
		CSTH2=(RSD=ELSO)/(2,0+EL+R2)	FLV 046
		FACHAIGNe(CATHI-CATH2)/(RR+RADCL)	FLV 047
		FUBFII+AAFAC FVBFV+BaFACavTL	FLV 049
		FNEFW+CeFAC VTDa.vTD	FLV 050 FLV 051
		YPD#YP+Y1	FLV 052
1	100	**************************************	FLV 054
		RETURN	FLV 055 FLV 056
		F.40	FLV 057

TNF 151

	·		
	\$VBROUTINE RHSCLC(EXVEL)	RHS	001
ş	THIS SUBBRUTTUE FALSE AND ATES THE STOLE HAND AND AND	RHB	002
2	THIS SUCHULING CALCULAICA ING AIMAN MAND SIDE DE	843	003
2	THE EQUATIONS FOR HURSESHIE VURIER STRENGING.	RHS	014
5	THE ARGUMENT CAVEL TO TRUE IN EXTERNALLY INDUCED	RH3	004
Ç,	VELUCITIES ARE TO BE INCLUDED IN THE CALCULATION,	RHS	000
6	LOCTER: 5445.	RHS	007
		RHS	008
5		RHS	009
2		RHS	010
•	CONNEL A THREEF HEREE AFTARE THEITERA ST CARACTER HEREIGE HEREIGE	HHS	011
	U_{1} U_{1} U_{1} U_{2} U_{1} U_{2} U_{2	RH3	012
	PROVENTIAL STATE SECONDARY SECONDARY STATE STATE AND SECONDARY SECONDA	873	013
	(POLTETIN)	RH3	014
	ADMANY A ANDALY VIAL DELETING DELETING ADVENTABLE ADVENT	SHR	015
	COMMON / FROMAY ISSA NA MINTALECSVIFALMIE(SU), BPHIM, CPHIM, 1941M	SH2	018
	COMPON FINDER CONTENT CONTENTS OF FORTHER STREET	483	017
		413	014
	I CALPAL (EDU)JOALPAL(EDU)	RHS	014
	COMMON AND ALTAR COMPLE	RHS	050
~	CHARGE VERENJGIARCHICHGELF	рна	150
ž	OTHER WAND STOP FOR WINE CONTROL ONLY BE	PHS	125
	TEREVELS CO TO AS A LAG LIMITAUL PHILTS	RHZ	023
•	I LEAVELY ON THIS	843	024
2	LOOP OVER WING CONTROL HOINTE LOD FIRE STATE ON EXTENSION		025
ž	TABLERA ALOGINAL POLATA FUR LASE WITH NO PATRANALLY	843	726
	1.00000 442.001110	HH3	C 27

	61.800.177.5 \$1V5	
•	Soumunitet Stee	5JV 001
2		81V 000
2	ABBLIES FORCIDOS & REPERCISE OF RUDDERS PP. DRANA	314 001
ž	whettes experiment on Sentatoriatic Addiev Hitwater	314 004
2	CONNON BEATENENTS	SIV 005
•		81V AA1
	CONMON /FIVEFBG/X1.V1.V1.V2.V2.V2.V2.V0.V0.V0.FU.FU.FU.FV.AV.AV	91V AN
	CONMON JETI V/ NUTI E	11V 001
*		
•	XXXXPet1	STV 011
	22a7P=71	STV 012
	F#AZ#XX#AX#ZZ	STV 011
	CUP=+(AX+XX+AZ+ZZ)	81V 014
	x\$PZ8=xx+xx+ZZ+ZZ	817 01
	YYEYP-Y1	STV DI
	FUed.d	81V 011
	FVe0.0	81V 016
	FWa0.0	SIV 014
	SIGNUT, O	SIV 021
	VTL=1.0	SIV 021
	IF (NVTLP.GT.O) VTL=0.0	51V 022
	00 100 K#1,2	SIV 021
	D==AZ+YY	SIV 024
	Faixayy	51V 025
	RADCL#BORT(D+D+E+E+F#F)	SIV 024
	IF (RADCL,LE,TOL) GO TO 90	SIV 021
	BIGR#SORT(YY+YY+X8PZB)	SIV 028
	CSTHT#CUP/BIGR	SIV 024
	\$ ^H LR#51GR+SQRT(1.0+CSTHT+C\$THT)	SIV 030
	FACT#(CSTHT=1,0)/(SHLR#RADCL)#\$IGH	SIV 131
	FURFU+D=FACT	SIV 034
	FV#FV+E#FACT+VTL	SIV 033
	FHRFH+F+FACT	SIV 034
90	YYRYP+Y1	8IV 035
100	BIGHS=1.0	S1V 036
	RETURN	SIV 031
	END	\$IV 030

175 CUNTINUE

с с с

¢

		DHR	0.20
		040	010
	40 CIR(J)# \$ACP #CALPHL(J) + LUSALPHNALPHN((J)	803	031
	GO TO 55	RHS	0.32
e		RHS	033
C	LOOP OVER HING CONTROL POINTS FOR CASE WITH EXTERNALLY INDUCED	RHS	034
c	VELOCITIES INCLUDED	RHS	035
c		RH8	036
	45 CONTINUE	RHS	037
	DO 50 J=1,Ma	用 利 集	038
	50 CIR(J)#((SINALF#WEI(J))+CPHIW + VEI(J)+SPHIW)+CALPHL(J)	무너로	039
	1 +(CDSALF-UEI(J))=SALPHL(J)	***	040
	55 TP(NFLAP8_EQ.0) RETURN	RHS	041
C		RHS	042
č	RIGHT HAND SIDE FOR FLAP CONTROL POINTS (IF PRESENT)	RHE	043
č	······································	RHS	044
č	LOOP OVER FLAPS	RHS	045
č		RHS	046
	DD 90 JETLNELAPS	RHS	047
		845	048
		DHS	640
		DHR	050
			0.50
	avacaduc (actor) ata construit e construit e	040	AE 2
	CAUXELUX2#CUBACF =0042#01NACF	214	032
		8 H B	033
	OC#CPH+COXZ		033
	DDBCPH+SDX2		0.56
	MS#MSTART(JF)	N13	077
	MEEMEND(JF)	R M B	
	IFLEXVEL) GO TO 75	wna	0.24
c		NH B	080
c	LOOP OVER CONTROL POINTS ON FLAP WITHOUT EXTERNALLY INDUCED	808	0.01
с	VELOCITIES	RH3	0.02
C		RH3	063
	DO TO Jama,HE	PHS	064
	YO CIR(J)=DA+CALPHL(J)+CADX+SALPHL(J)	RHS	065
	GC TD 40	RH3	066
5		RHS	067
с	LOOP OVER CONTROL POINTS ON THIS FLAP FOR CASE WITH EXTERNALLY	RHS	068
Ē	INDUCED VELOCITIES INCLUDED	RHS	064
č		RH8	070
-	75 CONTINUE	RHS	071
	DO 80 J=43,4E	RHS	072
	CALBCAL PHL (J)	RHS	073
	SAL BAL PHI (J)	RH8	074
	RA CIR(J)=DA+CAL+CADX+SAL++EI(J)+(OC+CAL+SDXZ+SAL)	RHS	075
	1 + VEI(J)+SPH+CAL = UEI(J)+(SAL+CDXZ+DD+CAL)	RHS	076
	ON CONTINUE	RHS	077
		RHS	078
	f ND	RHS	079
	2.0		-

.

.

SURROUTINE LINEGS(N,A) Dimension A(N,N),IP(300) Common /Linsgl/IP IP(N)m1

JF(H.NE.K)IP(N)=+IP(N) TRA(H,K)

00 6 Km1,N

00 6 Kelan if(K.F0.n)g0 TO 5 KPIEK+1 Hex 00 1 IekPlan 1 Continue 1P(K)am

RH5 028

LIN 001 LIN 002 LIN 003 LIN 004 LIN 005

LIN BOB LIN 007 LIN 008 LIN 009 LIN 010 LIN 011

LIN 012

C C C

SUBDRITTNE TRIC	TRI	001
CONCOLLAT NED	TR	003
CHORECT TRATITING LEC BURTTIONS AT FLAD THRETTONS	TRI	0.01
Charles carles for controls as the controls	TPI	004
COMMON / WEDAT/ VILLA ORIALLIAN, OSTATE/IAN ADMIN CONTL. TONTA	70	0.05
CORPORT A ANGULTA CLOUTS STALL SUIT STATETSATATETSCHIPTETTA	781	004
$COMON \rightarrow T(N+1) + T(T)	701	007
LUMMIN FILDER FRANKER CONTRACT		
1 ATLLEDVITTLE (EDVI)/ILLEDVI		
C_{1}	1. INC	
]#37##1(107,-T="01(10),"#5CGP(10)	146	010
CUMMEN / KKDATW/ X4K44(30,5), Y4K84(30,3), Z4K84(30,3), X4K1,4(50,3),	TRL	011
14+HL4(30,3),ZHKL4(30,3)	TRL	012

.

	SUBPOUTINE SOLVE (8.4.N)	SDL 001
	DIMENSION B(1)	301 002
	OTHENATON A(N.N)	801, 005
	COMMON / INSOL/IP(300)	501 004
	TE (N. FD. 1360 TO 9	SOL 005
	NNtzNet	SDL 006
	DD T KEL-NHI	SOL 007
	KPINK+1	50L 60A
	HATP(K)	SOL 009
	TRR(N)	501 010
	B(H)#B(K)	SDL 011
	B(K)=T	501 012
	DO 7 INKPLAN	SOL 015
7	B(T)#B(T)+A(T,K)+T	301 014
	DO 8 K8#1,NM1	501, 015
	KM1#N=KB	SOL 016
	K#KH1+1	SOL 017
	B(K)=B(K)/A(K,K)	501, 018
	T==8(K)	SOL 019
	NO 8 Ist.KH1	SOL 020
R	BITTEBITT+A(I+K)+T	50L 021
	B(1)=B(1)/A(1,1)	301 055
	RETURN	50L 025
	END	SUF 054

A(M,K)HA(K,K)	LIN 019
ACK_KJET	LIN 115
TF(T_EQ_0_160 10 5	LIN 016
DD 2 TERPIAN	LIN 017
2 A(I,K)==A(I,K)/T	LIN 018
DO 4 JEKP1.N	LTN 019
784(H,J)	110 020
A(H.J)WA(K.J)	1.1N 021
A(K.J)BT	550 MTJ
1F(T.EG.D.)GU TO 4	LIN.023
DO S TEKPI-Y	LIN 024
X A(T.J)#A(T.J)+A(L.K)+7	LIN 025
4 CONTINUE	LIN 026
5 TF(A(K,K),EQ.0.)1P(N)=0	LIN 027
A CONTINUE	LIN 024
RETURN	P20 M11
END	LIN 030

46

C

ĉ.			125			
		DD 100 J#1,4IDF	TRL	015		
		HARIOL(2)=1	TRL	016		
		DD 110 K#1,3	TRL	017		
		THE HINT HAR A	*#1			
		2-RRE17171983=0.0V		014		
	110	CONTINUE	TRU	020		
	100	CONTINUE	THE	941		
		RETURN	TRL	520	c	
		END	TRU	023	ž	
					ž	
					C	
					c	
					C	
					-	11
		STRUCTINE TOYO(EXAEP)	100	001		
ç			100	5 005		
¢		COMMON STATEMENTS	100	003		
		COMMON /VORPOR/CX8L(250),CY8L(250),CZ8L(250),CYTLL(250),CYTLR(250)	1.07	004		
		1 , CZTLL(250),CZTL#(250)	LOU	005		
		COMMON /RVELS/UP, VP, XP	LO0	006		
		COMMON /RAIDE/ CIR(250), UEI(250), VEI(250), WEI(250)	LDD	007		
		COMMON /BLDAT/ XBL(250), YBL(250), ZBL(250), THEI(250), AM(250)	LOO	008		1
		COMMON / WNGDAT/ Y(30), PAINIF(30), PAINTF(30), SPHIW, COMTW. TPHIM	1.00	000		50
		COMMON /THOSE MEN. H. HTOT. NCWI/SAL THAY WERECISAL LARGE SAL	100			
		PRIMAR / THERE / THE TAN , WE I TAN , WE ATAME OF OCOLOGICAL TO A TAKE	1.00		С.	
			100	011		
			LUD	012		
		CUMPUN /ATAK/ SIMAL/ (CINAL)	100	013		
		COMMON / INDEAF/ NPREG, NFLAPS, LOPCAP(10,2), NCF(10), MSP(10), HF(10),	100	014		
		1H3TART(10), HEND(10), NFSEGF(10)	100	015		10
		CURRON /FLPOAT/ BDELX2(10),CDELX2(10),YF(30,10),8PH1F(10),	100	016		÷.
		1C#H[F(10)	1.00	017		æ1
		COMMON /FTLDAT/ FTLX#(250);FTLXL(250);FTLZ#(#50);FTL2L(250)	1,00	018	-	
		COMMON /LDCONS/ CONA(250),CONBR(250),CONBL(250),TEMP,TEMR	100	019	ç	
		COMMON /JETCIR/ JFLP(150);LJFLP, CIRJ(150);CNJ(150);CAJ(150)	LOD	020		
		COMMON /FRCTL/ NTLF	LOD	021		
C			LOD	022		
		LOGICAL EXVEL	LOD	023		
		DIMENSION VL(10),VR(10),WR(10),WL(10), GAMPWR(30),	LOD	024		
		1 GANFAR(30), GANBUN(30)	1.00	025		1
c			100	0.24		
ē		CALCULATE EDDCE COMPONENTS IN MY. Y. AND MY DIRECTIONS AT	100			5
ř		ADUND IEC MINETATE ON WINC	100		c	
ž		active fra storptista da stas	1.00		c	
ž			100	024	č	
÷		****	COD	0.50	-	
		Legastrikesoner b	00	031		
		artasarni tecuaalr	LOD	025		
		CPCABCOBALP #CPHIM	LOD	033		
		00 100 Jani'i Ma	L00	034		
		ŢPSJUTPSI(JH)	LOD	035		
		CALL VFLSUM(X8L(JW),YRL(JW),ZRL(JW))	F00	036		
		IF(,NOT,EXVEL) GO TO 10	LOD	037		
		UP=UP+UEI(J×)	Lan	038		
		VP=VP+VE1(J~)	LOD	039		
		WPRMP4WEI(JW)	LOn	040		
	10	FACT=Cnv4(J+)+CIR(J+)	ī on	041		
		CXBL(JW)##FACTA(CPSA+#P+CPHIW+VP+SPHIW)	inn	042		
		CYNI FJWYWFACTAFSPCAAUDASPHTWAFWPASTAAL RYATRATY	1.00	0.00	•	
		CZAL (JW)#FACTe(VPetPetActorCamperate)	100	0.000		
	100		100		e	
			100	043	ř	
		IT CALERAGE AGON AND IN CAN	CUN	046	ř	
ç			LON	047	· ·	
¢		BUUND LEG HIDPOINTS ON FLAPS	L00	0.48		
C			LON	049		
C		LOOP IVER FLAPS	LOD	050		
c			LOO	051		
		NN 200 JESI,NELAPS	LOO	152		
		CDX7 CDEL XZ(JF)	in	055		

TRL 015

.....

COMMON /NDIFF/ NIDF, IDF(10)

SDX2=SDFL×2(JF) LUD 054 CSUM#CDXZ+COSALF=SOX7+SINALF LUD 055 SSUM#COXZ+SINALF+SOXZ+COSALF LON 056 100 157 CPHECPHIF (JF) SPHESPHIF (JF) 100 058 100 059 CPSAF = CPH+SSUP SPCAFESPHACSUM LDN 060 LUS SAL CPCAF=CSUM+CPH 100 062 HSEHSTART(JF) HEBHEND(JF) 100.065 100 064 I DOP OVER HOUND LEG HIDPOINTS ON THIS FLAP 100 065 1.00 066 100 067 00 190 JC=+5, #F TPSJaTPS1(JC) 200 068 CALL VELSUP(XBL(JC), VBL(JC), ZBL(JC)) 100 000 IFC.NOT.EXVELS GU TO 110 100 070 1.00 071 UPEUP+UFI(JC) 100 072 VP#VP+VEI(JC) WPENP+NEI(JC) 1.09 075 100 074 ROTATE U AND W TO LIE IN THIS FLAP COORDINATE SYSTEM 1.0P 075 LOD 074 LOP 077 lo ⊭U≊UP LUP 078 NHEH LOD 079 UPEWU+COXZ=w#+8DXZ WPEWN+CDXZ+HU+8DXZ 100 080 LDD 081 FACT#CIR(JC)+CONA(JC) CYRL (JC) = FACT+ (HP+CPH+CPSAF-VP+SPH) 100 082 CYRL(JC)=FACT+(BPCAF=UP=SPH+(WP=SSUH)+TPBJ) LID 083 CZ8L(JC)#FACT+(VP+TP#J+CPCAF+UP+CPH) LOP 084 LOD NAS O CONTINUE 100 086 OD CONTINUE IF (LJFLP,LE,0) GO TO 201 LUN 087 CORRECT PANEL LOADING FOR JET TURNING FORCE 100 068 1.00 089 DO 199 JF=1.LJFLP 100 040 JC=JFLP(JF) LUD 091 CX8L(JC)=CX8L(JC) + CAJ(JF) CZBL(JC)+CZBL(JC) + CNJ(JF) 100 092 1.00 093 99 CONTINUE LOD 094 01 CONTINUE IF (NTLF.LE.0) GU TO 202 ELIMINATE ALL TRAILING LEG FORCES 100 095 L01 096 LOD 097 00 191 J#1,HTDT LUD 098 CYTLL(J)=0.0 100 099 CYTLR(J)=0,0 LOD 100 CZTLL(J)=0.0 100 101 CZ1LR(J)=0.0 100 102 41 CONTINUE 100 103 RETURN 02 CONTINUE LUD 104 L00 105 LOP 106 LOADS ON WING TRAILING LEG POINTS LOD 107 NCHCENCHI(1) LOD INA DO 50 ICHUL,NCHC 100 109 CALL VELSUMOFTLXR(ICH), YTLR(ICH), FTLZR(ICH)) 100 110 IF(NOT EXVEL) GO TO 20 102 111 VP#VP+VE1(ICH) LON 115 #PEWP+WET(ICH) 100 115 20 VR(ICW)=VP 100 114 WR(ICH)#HP L09 115 CALL VELSUM(FTLXL(ICH),YTLL(ICH),FTLZL(ICH)) L00 116 IF (NOT , EXVEL) GU TO SO 1.05 117 VP=VP+VEI(IC=) 105 118 WPEHP+HEI(ICH) LOD 119 SO VL(ICH)=VP 100 120 50 HE(ICH)#HP LOD 121 100 155 LHOP OVER NING CHORDWISE ROWS 100 125 LOD 124 100 125 TBASERO 00 1200 IS+#1,HSH 100 126 NCHCENCHI(ISH) LOD 127 1F(154.10.1) GD TO 95 LOD 12A ACHMENCHI(ISAH1) 100 124 JUEHING(NC+C,NC+H) LOP 130

£

			1.00.13	1
	60	49(1) 40(1)	L00 15	3
	••	TEINEWELLE NEWAL GO TO 60	100 15	4
		JLENCWM+1	100 13	5
		DO 45 JUJI - NGWC	L00 15	6
		I=I0ASF+J	LOD 13	17
		CALL VELBUM(FTLXR(I), YTLR(I), FTLZR(I))	LO9 13	18
		IF(.NOT.EXVEL) GO TO 62	LOD 13	19
		VP#VP+VEI(I)	LOD 14	0
		WP=WP+WEI(1)	LOD 14	1
	62	VR(J)=VP	E09 14	12
	65	wR(J)mwP	LOD 14	3
	44	CONTINUE	100 14	
		00 70 J#1,NCHC	100 10	
		1#10#3E#J #4/4 - UC #14/#T) V((V), VT((T), #T) 7) / T))		17
		TRE VELOUTET CALLETTETCELLETTE CELLETTE	100 14	1.
			100 14	10
		WPWWP+WEI(I)	100 15	50
	68	VL(J)sVP	100 15	51
	70	wL(J)=wP	L00 15	12
C			LOD 1	53
	93	DELGAMMO.0	100 1	54
		DB 1100 ICHELANCHC	100 11	22
		1#1043E41C#	100 11	17
		LIKHRUIK(I) DIWARDI CAMAN TRACTOR	100 1	37 88
			100 1	44
		FACREWDUMA+CONBR(I)	LOD 1	60
		CYTLL(1)BFACL+(HL(ICH)+SINALF)	LOD 14	61
		CYTER(I)#FACR+(WR(ICW)=BINALF)	LOP 14	62
		IF (IBW,EG,1) CYTLR(I)=-GYTLL(I)	L00 14	63
		CZTLL(I)#FACL#VL(ICH)	L00 1	64
		CZYLR(I)=FACR+VR(ICH)	100 10	63
		DELGAMBDELGAM+CIHN Contenting	100 10	
•	100	CANSUNATENTEDEL GAM	100 10	6 Å
	200		100 1	49
c`			LOD 1	70
č		TRAILING LEG LOADS ON FLAPS LOOP OVER FLAPS	100 1	71
C			100 1	72
		IF(NFLAPS,EQ.0) RETURN	L00 1	73
		DO 800 IFLAI, NFLAPS	LODI	74
		1.(IDETVA(IEC'S)*01 ⁴ 1) ON IN 215	100 1	13
ě.		THIS IN THE FIRST FLAP AFT OF THE WING. COMPLETE GANNA	100 1	<u> </u>
č		CONTRIBUTIONS FROM WING VORTICES AHEAD	Los	78
ē			100 1	79
-		HS=HSTART(IFL)	LOD 1	80
		MSFFEMSF(IFL)	CO0 1-	81
		NCFFENCF(IFL)	1 401	82
		VSTRTFSYF(1,IFL)	LOD 1	83
		DU 305 ISHWEI, MON	100 1	84
		1000-1000 TE (V(TRUNN) F. VRTRTEN CO TO 306	100 1	84
	3.04		100 1	A7
	304	GANFWR(1)=GAMSUM(JSW)	LOD 1	88
		DO 307 ISHF#2,H#FF	COD 1	89
		J388J38443	LON 1	90
		GAMFNR(ISHF)#GAMSUN(JSH)	LOP 1	91
	307	CONTINUE	LOD 1	92
_		GO TO 390	L00 1	93
č			100 1	44
5		THERE IS A FLAF AMERO UP THIS UNC. COMPLE GAMMA CONTRIDUCIONS	100 1	
ě		rout ing duar angay	LOD	97
č		LOOP OVER CHORDWISE ROWS ON THIS FLAP	1.00 1	98
č			100 1	99
-	316	CONTINUE	LUD 2	00
		NCFFENCF(IFL)	LDD 5	01
		HSFF#HSF(IFL)	C00 5	201
		HSBHSTART(IFL)	100.2	03
		00 335 18WP #1, M3FF	LOD 2	104
		Gampan(18#4)204~24K(1842)	100 2	0.5
	33		100 2	007
C		- weiner all reak	100 2	60
-				

С		COMPUTE THE TRAILING LEG LUADS ON THIS FLAP	100 209
С			LON 210
		CNXZ=CNELXZ(IFL)	L00 511
		SDXZ=SDELXZ(IFL)	00 212
		SALFPESINALFACOXZ+CUSALFASUXZ	
ç		ATCHT AND LEFT VELOCITIES IN EIDST ROW OF THIS FLAP	00 215
ř		wight and first differing on study over 14 1010 ters	LUD 216
•		f1=45ml	LOD 217
		DD 398 ICH#1,NCFF	100 214
		1=11+1C+	LOP 219
		CALL VELSUM(FILKR(T), VTLR(T), FTLZR(T))	FUP 550
		TET NAT EXVEL) GO TO 195	1.07 221
		HP#UP+UEI(I)	LOD 222
		VP=VP+VF1(I)	100 223
	105	WP/Teuteuteutetty74/1845047	100 228
	3+3	VR(truisvP	100 226
		FALL VELOW/FTLXL/T1.VTLL/T1.FTL/L/T33	100 227
		TF(_WUT_EXVEL) GO TU 596	Lup 228
		UPEUP+UEI(I)	LU0 554
		VP=VP+VEI(I)	LUD 530
		HPanPehfI(I)	100 231
	396	NL(ICH)#HP+CDXZ+UP+SDXZ	CUD 535
	249	AF(ICM)=Ah	LOD 235
č			100 234
č		Cone nate supported when on 1410 (Ent on Fore Exception	100 236
•		OD 500 ISHB1,MSFF	100 237
		14=0	LD0 538
		IF (ISW_ED.1.AND_YTLR(MS).GE.0.0) IV=1	1.00 239
		IF(ISW,EQ,1) GO TO 401	LD0 240
ç			(UD 343 (DU 541
ř		DEDATE HIGHT AND LETT TECOLITES	100 241
•		TT#MS+(TSM#1)#NCFF=1	100 244
		DO 400 ICHUI,NCFF	LOD 245
		VR(ICH)=VL(ICH)	100 244
		WR(ICH) = HL(ICH)	LDD 541
		ITII+ICW	L00 246
		CALL VELSUM(PILXL(1)) FILL(1)) PILXL(1))	100 360
		IPANDIACKYCL) OU IU 344 NPANDANFT(T)	100 251
		VPavP+VF1(1)	100 252
		HPENPENEI(I)	L00 255
	399	+ wL(1Cw)mwP+CDXZ+UP+8DxZ	LDD 254
	400	VL(ICW)#VP	LON 255
~	401	CONTINUE	100 256
2		LOUP OVER TRATIING LEG POINTS IN THIS POH	100 258
Ē		Fund Andre	1.00 259
-		DELGMR#GAMFWR(18#)	LND 260
		11=(13+-1)++CFF+H3-1	1.00 261
		DN 450 ICHE1,NCFF	FÜD 595
		I=II+IC#	L00 263
		CIRRECTR(1)	LUD 264
		EACRAATCE/CHRADINADACONBR/13	100 265
		FACLE (NELGHAR) FCOND (1)	100 267
		CYTLL(I)#FACL+(HL(ICH)+BALFP)	100 268
		CYTLR(])#FACR+(WR(]CH)+SALFP)	L00 269
		TF (IY,EQ,1) CYTLR(1)=CYTLL(1)	LOD 270
		CZTLL(I)=FACL+VL(IC*)	L00 271
		C.C.I.K.(1) #FALKEVN(1C*)	100 272
	450	OLLUMARUCLUMARLIAN CONTINIE	100 273
		GAMFAR(ISW)=DELGMR	
	500	CONTINUE	LOD 276
	800) CONTINUE	L00 277
		RETURN	100 278
		f v D	LUD 510 -

48

;

.

:

•

i

:

Т

1

,

	SUBROUTINE LUADCE (EXVEL)	LCP	001
ç	CALCULATE UPPER AND LOWER SURFACE PRESSURE COLFFICIENTS ON	LCP	200
c	FACH PANEL AT ITS CONTROL POINT USING THE HERNDULLI EQUATION,	LCP	003
C		LCP	004
	1	100	005
		100	007
	DETCAL EXVEL	I CP	004
c		I CP	009
-	COMMON /REFOUL/ SSPAN, SHEF, REFL, X4, ZM	I.C.P.	010
	CONHON /INDEX/ HSH, HS, HTTT, NCHI(30), IHAX, HFSEG(30), LASTF(30)	I ČP	011
	COMHON /CPDAT/ ALPHAL(250),¥CP(250),¥CP(250),ZCP(250),	LCP.	012
	1 CALPHL(250), SALPHL(250)	1 C P	013
	COMMON /BLDAT/ XBL(250), YHL(240), ZBL(250), TPSI(250), 5%(250)	100	014
	COMMIN / INDEXF/ NFREG, NFLAP8, IDFLAP(10,2), NCF(10), HSF(10), HF(10),	LCP	015
	THATARIE [10], MENDELO JANFSEGE (10)	LCP	010
	LUMUA XXIDI CINCIALE CUMUA XXIDI CINCIALE	LUF.	017
	COMPAR JELEAR BIANCICONCE COMPARIA JELEAR BIANCICO	100	010
	COMMON /VORFOR/CX81 (250).CY81 (250).C781 (250).CY11 (250).CY1LR(250)	Î ĈP	020
	1 . CZTLL(250).CZTLR(250)	I.C.P.	021
	COMMON /FLPDAT/ SDELXZ(10),COELXZ(10),YF(30,10),SPHIF(10),	LCP	520
	1CPH1F(10)	LCP.	023
	COMMON /LOCONS/ CONA(250),CONBR(250),CONBL(250),TEMP,TEMR	LCP	020
	CONMON /XYZCL/ NJET,NCYL(2),XG(2),YG(2),ZG(2),GARVJ(2),DS(2),	LCP	025
	1 RHO(2),CHU(2),XCLR(2,25),YCLR(2,25),ZCLR(2,25),THETA(2,25),	LCP	024
		LCP.	027
	3 USL(2)23) VU(2)23) VU(2)23) VU(2)23) USL(2)23) USL(2)23)	LUP	020
	1	I CP	030
	2 ZAN(2,11),XST(2,11),YAT(2,11),ZST(2,11),DSS(2,11)	I CP	031
	COMMON /JETCIR/ JFLP(150),LJFLP, CIRJ(150),CNJ(150),CAJ(150)	LCP.	032
e		LCP.	033
	701 FORMAT (1H1,5X,73HUPPER AND LOWER SURFACE PRESSURE COEFFICIENTS AT	LCP	034
	1 CONTROL POINTS, ALPHA = ,F6,2)	LCP	035
	702 FORMAT (//AX1HJ,4X6HXCP(J),4X6HYCP(J),4X6HZCP(J),7X2HUU,8X2HUL,	LCP	036
		LC.	057
	703 PURMAT ([5,3P10,4/3(F11,5/F10,5))	LUP	038
_			
C C	COMPLETE CONTINUELLE VELOCITY CONDUNENTS AT SING CONTROL POINTS		039
C C C	COMPUTE CONTINUUUS VELOCITY COMPONENTS AT WING CONTROL POINTS	LCP	039
C C C	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS Rades7.2957795	LCP LCP LCP	039 040 041 042
600	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS RAD#57.2957795 Alphama81n(Sinalf)#Rad	LCP LCP LCP	034 041 042 042
000	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS RADB57.2957795 Alpha=Abin(Sinalf)=Rad WRITE (6,701) Alpha	LCP LCP LCP LCP LCP	039 041 042 043 044
600	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS RADB57,2957795 Alphamabin(SinalP)=Rad WRITE (6,701) WRITE (6,702)	LCP LCP LCP LCP LCP LCP	037 041 042 042 043 044
6	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS RADBS7.2957795 Alpharasin(Sinalf)=Rad WRITE (6,701) Alpha WRITE (6,702) DG 20 Jai,MW	LCP LCP LCP LCP LCP LCP	039 041 041 042 043 044 045 046
666	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS RADES7,2957795 Alpmanasin(Sinalp)arad Write (6,701) Alpha Write (6,702) DD 20 Jai,MM Call Velsum (XCP(J),YCP(J),ZCP(J)) Uron: Jaum		039 041 041 042 043 044 045 045 045
CC	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS ALPHAWASIN(SINALF)=Rad WRITE (6,701) ALPHA WRITE (6,702) DO 20 J#1,MM CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)=UP UCPU(J)=UP		039 041 042 044 045 044 045 046
66	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS RADBS7,2957795 Alpharasin(Sinalf)erad WRITE (6,701) Alpha WRITE (6,702) DO 20 JB1,MM Call Velsum (xCP(J),YCP(J),ZCP(J)) UCPU(J)eup UCPL(J)eup VCPU(J)eup		039 041 042 042 045 046 046 046 046 046
	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS RAD#57,2957795 ALPMARASIN(SINALF)#RAD WRITE (6,701) ALPHA WRITE (6,702) DD 20 J#1,MM CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)#UP UCPU(J)#UP VCPU(J)#UP VCPU(J)#UP		0340 041 042 044 044 044 044 044 044 044 044 044
	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS ALPHARASIN(SINALF)=RAD WRITE (6,701) ALPHA WRITE (6,702) DO 20 Jai,MM CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)=UP UCPU(J)=UP VCPU(J)=UP VCPU(J)=UP VCPU(J)=UP		0340 041 041 042 045 045 045 045 045 045 045 045 045 045
	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS RADBS7,2957795 Alpmarasin(Sinalf)arad WRITE (6,701) Alpha WRITE (6,702) DO 20 JB1,HW Call Velsum (XCP(J),YCP(J),ZCP(J)) UCPU(J)=UP UCPU(J)=UP VCPU(J)=UP VCPU(J)=UP WCPU(J)=HP WCPU(J)=HP		0340 041 041 042 044 044 044 044 044 044 044 044 044
	COMPUTE CONTINUES VELOCITY COMPENENTS AT WING CONTROL POINTS ALPMARABIN(SINALF)erad WRITF (6,703) ALPMA WRITE (6,702) DO 20 Jai,NH CALL VELSHN (XCP(J),YCP(J),ZCP(J)) UCPU(J)eup VCPU(J)eup VCPU(J)eup VCPU(J)evp WCPU(J)evp WCPU(J)evp WCPU(J)evp WCPU(J)evp WCPU(J)evp WCPU(J)evp WCPU(J)evp WCPU(J)evp	LCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	0340 042 0442 0445 0445 0445 0445 0445 044
	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS ALPHARASIN(SINALF)ARAD WRITE (6,701) ALPHA WRITE (6,702) DO 20 Jai,MM CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)SUP UCPU(J)SUP VCPU(J)SUP VCPU(J)SUP WCPU WCPU(J)	LULULULULULULULULU CCCCCCCCCCCCCCCCCCCC	0340 0442 0442 0442 0445 0445 0445 0445 04
	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS RADB57,2957795 ALPMARASIN(SINALF)#RAD WRITE (6,701) ALPHA WRITE (6,702) DO 20 JB1,HW CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPL(J)#UP UCPL(J)#UP VCPL(J)#UP VCPL(J)#UP WCPL(J)#U		01000000000000000000000000000000000000
	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS RADBS7,2957795 ALPMAHASH(SINALF)=RAD WRITE (6,70) ALPMA WRITE (6,702) DD 20 Jai,HW CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)=UP UCPU(J)=UP VCPU(J)=UP VCPU(J)=WP VCPU(J)=WP WCPU(J)=WP WCPU(J)=WP WCPU(J)=WP WCPU(J)=WP COMPUTE CONTINUOUS VELOCITY COMPONENTS AT FLAP CONTROL POINTS		01444545478901234567
	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS RADB57,2957795 ALPHARASIN(SINALF)#RAD WRITE (6,701) ALPHA WRITE (6,702) DO 20 Jai.HM CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)#UP UCPU(J)#UP UCPU(J)#UP VCPU(J)#UP VCPU(J)#UP NCPU(J)#UP TF (NFLAPS.EG.0) GD TO 29 COMPUTE CONTINUOUS VELOCITY COMPONENTS AT FLAP CONTROL POINTS DO 30 JE-1 WELAPS		01000000000000000000000000000000000000
	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS RADB57,2957795 ALPMARASIN(SINALF)#RAD WRITE (6,701) ALPHA WRITE (6,702) DO 20 J#1,MM CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)#UP UCPU(J)#UP UCPU(J)#UP VCPU(J)#UP VCPU(J)#UP WCPU(J)#U		00000000000000000000000000000000000000
0 00 000	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS ALPMAHASIN(SINALF)ERAD MRITE (6,701) ALPMA MRITE (6,702) DD 20 Jai,MW CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)EUP UCPU(J)EUP VCPU(J)EUP VCPU(J)EUP VCPU(J)EUP VCPU(J)EUP COMPUTE CONTINUOUS VELOCITY COMPONENTS AT FLAP CONTROL POINTS DD 26 JFE1,NFLAPS NSBMSTART(JF) MESHFUD(JF)		00000000000000000000000000000000000000
	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS RADB57,2957795 ALPHARASIN(SINALF)=RAD WRITE (6,701) ALPHA WRITE (6,702) DO 20 Jai,MM CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)=UP UCPU(J)=UP UCPU(J)=UP UCPU(J)=HP WCPU(J)=HP MCPU(J)=HP MCPU(J)=HP TF (NFLAPS,EG,0) GD TO 29 COMPUTE CONTINUE IF (NFLAPS,EG,0) GD TO 29 COMPUTE CONTINUES VELOCITY COMPONENTS AT FLAP CONTROL POINTS DO 26 JF#1,NFLAPS NSANSTART(JF) MESHECN(JF) MESHEC		03•0 0441 0442 0443 0444 0444 0444 0444 0444 0444
	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS RADB57,2957795 ALPMARASIN(SINALF)#RAD WRITE (6,701) ALPHA WRITE (6,702) DO 20 J#1,MH CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)#UP UCPU(J)#UP UCPU(J)#UP VCPU(J)#UP VCPU(J)#UP WCPU(J)#UP WCPU(J)#UP NCPU(J)#UP COMPUTE CONTINUOUS VELOCITY COMPONENTS AT FLAP CONTROL POINTS OD 26 JF#1,NFLAPS NSBM51871(JF) MEEMEND(JF) DO 21 J#M5,ME CALL VELSUM (XCP(J),YCP(J),ZCP(J))		030 041 042 044 044 044 044 044 044 044 044 051 055 055 055 055 055 00 055 00 06 120 00 100 00 100 00 100 00 100 00 00 00 0
	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS RADBS7,2957795 ALPMAHABIN(SINALF)BRAD MRITE (6,701) ALPHA MRITE (6,702) DD 20 Jai,MM CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)BUP UCPU(J)BUP VCPU(J)BUP WCPU(J)BUP WCPU(J)BUP WCPU(J)BUP WCPU(J)BUP WCPU(J)BUP WCPU(J)BUP COMPUTE CONTINUOUS VELOCITY COMPONENTS AT FLAP CONTROL POINTS DD 26 JFB1,NFLAPS NSBMSTART(JF) MEBHED(JF) DD 21 JBMS,ME CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)BUP		03•0 0442 0443 0443 04445 04445 04445 04445 04445 055 055 0
	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS RADB57,2957795 ALPHARASIN(SINALF)#RAD WRITE (6,701) ALPHA WRITE (6,702) DO 20 J#1,MM CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)#UP UCPU(J)#UP UCPU(J)#UP VCPU(J)#UP VCPU(J)#UP NCPU(J)#UP COMPUTE CONTINUOUS VELOCITY COMPONENTS AT FLAP CONTROL POINTS DO 26 JF#1,NFLAPS NSANSTART(JF) MEEMECN(JF) DO 21 J#MS,ME CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)#UP		03•0 042 042 044 044 044 044 044 044 044 04
	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS ALPMARASIN(SINALF)ERAD MRITE (6,703) DO 20 Jai,MM CAL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)EUP VCPU(J)EUP VCPU(J)EUP VCPU(J)EUP VCPU(J)EUP COMPUTE CONTINUE IF (MPLAPS,EG.0) GO TO 29 COMPUTE CONTINUES VELOCITY COMPONENTS AT FLAP CONTROL POINTS DO 26 JFE1,NFLAPS MSAMSIARIJF) MESHEND(JF) DO 21 JEMS,ME CAL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)EUP VCPU(J)EUP		03•0 044 044 044 044 044 044 044 0
	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS RADBS7,2957795 ALPMAHABIN(SINALF)BRAD MRITE (6,701) ALPHA MRITE (6,702) DD 20 Jai,MM CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)BUP UCPU(J)BUP VCPU(J)BUP VCPU(J)BUP WCPU(J)BUP WCPU(J)BUP WCPU(J)BUP COMPUTE CONTINUOUS VELOCITY COMPONENTS AT FLAP CONTROL POINTS DD 26 JFB1,NFLAPS NSBMSTART(JF) MESHED(JF) DD 21 JBRS,ME CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)BUP VCPU(J)BUP		0340 0042 0042 0044 0044 0044 0044 0044
	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS RADS57,2957795 ALPHARASIN(SINALF)=RAD WRITE (6,701) ALPHA WRITE (6,702) DO 20 Jsi,MM CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)=UP UCPU(J)=UP UCPU(J)=UP VCPU(J)=HP NCPU(J)=HP NCPU(J)=HP COMPUTE CONTINUE IF (NFLAPS,EG,0) GD TH 29 COMPUTE CONTINUES VELOCITY COMPONENTS AT FLAP CONTROL POINTS DO 26 JF=1,NFLAPS NSANSIART(JF) MEENEND(JF) MEENEND(JF) MEENEND(JF) UCPU(J)=UP UCPU(J)=UP UCPU(J)=UP VCPU(J)=UP VCPU(J)=UP		0340 0442 0442 0443 0447 0447 0447 0447 0447 052 0555 05567 0560 0560 0560 0560 0560 056
	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS ALPMARASIN(SINALF)ERAD MRITE (6,703) ALPMA MRITE (6,703) DO 20 Jai,HW CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)EUP VCPU(J)EUP VCPU(J)EUP VCPU(J)EUP WCPU(J)EUP WCPU(J)EUP WCPU(J)EUP WCPU(J)EUP WCPU(J)EUP WCPU(J)EUP WCPU(J)EUP WCPU(J)EUP WCPU(J)EUP WCPU(J)EUP COMPUTE CONTINUOUS VELOCITY COMPONENTS AT PLAP CONTROL POINTS OO 26 JFE1,NFLAPS MSBMSIARIJES MESHENO(JF) DO 21 JENS,ME CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)EUP WCPU(J)EUP WCPU(J)EUP WCPU(J)EUP WCPU(J)EUP WCPU(J)EUP WCPU(J)EUP		0340 0442 0442 0442 0447 0447 0447 0447 04
500 ECC	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS RADBS7,2957795 ALPMA#ABIN(SINALF)BRAD MRITE (6,701) ALPMA MRITE (6,702) DD 20 Jai,MM CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)BUP UCPU(J)BUP VCPU(J)BUP VCPU(J)BUP VCPU(J)BUP VCPU(J)BUP NCPU(J)BUP NCPU(J)BUP NCPU(J)BUP NCPU(J)BUP NCPU(J)BUP NCPU(J)BUP NCPU(J)BUP NCPU(J)BUP COMPUTE CONTINUOUS VELOCITY COMPONENTS AT FLAP CONTROL POINTS DD 20 JFB1,NFLAPS NSBNSTBT(JF) MEBMEND(JF) DD 21 JBMS,ME CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)BUP VCPU(J)BUP NCPU NCPU		0340 0442 0442 0442 0444 0444 0447 0447 04
600 ECC	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS RADS7,2957795 ALPHARASIN(SINALF)#RAD WRITE (6,701) ALPHA WRITE (6,702) DO 20 J#1,MM CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)#UP UCPU(J)#UP UCPU(J)#UP VCPU(J)#UP VCPU(J)#UP KCPU(J)#UP COMPUTE CONTINUE IF (NFLAPS,CG,O) GD TO 29 COMPUTE CONTINUES VELOCITY COMPONENTS AT FLAP CONTROL POINTS DO 26 JF#1,NFLAPS NSANSIART(JF) MEENEEND(JF) DD 21 J#MS,ME CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)#UP VCPU(J)#UP VCPU(J)#UP VCPU(J)#UP VCPU(J)#UP VCPU(J)#UP VCPU(J)#UP VCPU(J)#UP VCPU(J)#UP VCPU(J)#UP VCPU(J)#UP VCPU(J)#UP VCPU(J)#UP VCPU(J)#UP VCPU(J)#UP VCPU(J)#UP VCPU(J)#UP VCPU(J)#UP VCPU(J)#UP		0340 0442 0442 0442 0444 045 045 045 055 055 055 0 00 00 00 00 00 00 00 00
	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS RADBS7,2957795 ALPMARASIN(SINALF)ERAD WRITE (6,703) ALPMA WRITE (6,703) DD 20 Jai,HW CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)EUP UCPU(J)EUP VCPU(J)EUP VCPU(J)EUP WCPU(J)EUP WCPU(J)EUP WCPU(J)EUP WCPU(J)EUP WCPU(J)EUP WCPU(J)EUP WCPU(J)EUP COMPUTE CONTINUOUS VELOCITY COMPONENTS AT PLAP CONTROL POINTS DD 26 JFE1,NFLAPS MSBMSIARIJE MSBMSIARIJE MESHEND(JF) DD 21 JENS,ME CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)EUP VCPU(J)EUP VCPU(J)EUP VCPU(J)EUP WCPU WCPU(J)EUP WCPU		0340 0442 0442 0442 0444 045 0453 0455 0557 0557 0557 0562 0567 0567 0567 0567 0567 0567 0567 0567
	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS RADBS7,2957795 ALPMA#ABIN(SINALF)BRAD WRITE (6,701) ALPMA WRITE (6,702) DD 20 Jai,MM CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)BUP VCPU(J)BUP VCPU(J)BUP VCPU(J)BUP VCPU(J)BUP VCPU(J)BUP VCPU(J)BUP VCPU(J)BUP VCPU(J)BUP VCPU(J)BUP VCPU(J)BUP VCPU(J)BUP VCPU(J)BUP VCPU(J)BUP VCPU(J)BUP COMPUTE CONTINUOUS VELOCITY COMPONENTS AT FLAP CONTROL POINTS DD 20 JFB1,NFLAPS NSBNSTBT(JF) MEBMEND(JF) DD 21 JBMS,ME CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)BUP VCPU VCPU(J)BUP VCPU		0340 0441 0442 0442 0444 0444 0444 0444 0444 0444 045 0553 0557 00 0557 00 0642 0445 0447 0447 0447 0447 0447 0447 0447 04567 0477 0557 00 0557 00 0557 00 00 00 00 00 00 00 00 00 0
	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS RADS7,2957795 ALPHARASIN(SINALF)#RAD WRITE (6,701) ALPHA WRITE (6,702) DO 20 J#1,MM CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)#UP UCPU(J)#UP UCPU(J)#UP VCPU(J)#UP VCPU(J)#UP NCPU(J)#UP COMPUTE CONTINUOUS VELOCITY COMPONENTS AT FLAP CONTROL POINTS DO 26 JF#1,NFLAPS NSANSIART(JF) MEENEND(JF) MEENEND(JF) DO 21 J#MS,ME CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)#UP VCPU		0340120000000000000000000000000000000000
	COMPUTE CONTINUOUS VELOCITY COMPONENTS AT WING CONTROL POINTS ALPMARASIN(SINALF)ERAD MRITE (6,701) ALPMA MRITE (6,703) DD 20 Jai,HW CALL VELSUM (XCP(J),YCP(J),ZCP(J)) UCPU(J)EUP UCPU(J)EUP VCPU(J)EUP VCPU(J)EUP VCPU(J)EUP NCPU(J)EUP NCPU(J)EUP COMPUTE CONTINUOUS VELOCITY COMPONENTS AT FLAP CONTROL POINTS DD 26 JFE1,NFLAPS NSBMSIARIJF) NCEEV(J)EUP VCPU(J)EUP		0340 0441 04577 0457 0457 0457 04577 0457 0457 0457 0457 0457 0457

001 200 003

		1.CP 074
-	THE CANDER SEA CONCIDENT SE	LC# 074
C	INCLUSE JEI CIRCULATION DA FEARD	LC# 080
		LC# 081
	NJEJFLFLJJ 2704 - 14 - 6404 (34579)(73)	LCP 052
		LCP 083
	35 CINCIANES DIALATOL/SREF	LCP 084
		LCP 085
	CAUGE AND ANTERNARY (1) ACONHI (J))	LCP ARE
		LCP 087
		LCP ABA
		1.CP 089
		LCP 090
c		LCH 041
•	TE INFLARS. FO. 0) GO TO 39	CC6 045
•		LCP 093
č	COMPUTE DISCUNTINUOUS VELUCITIES AT FLAP CONTROL POINTS	LCP N94
÷.		LCP OWS
•	ND 58 IF#1.NFLAP8	10. 049
	MSEMATART (JF)	1CP 197
	HENHEND (JF)	
	CDXZECDELXZ(JF)	1.69
	SPXZ#SDELXZ(JF)	100 100
	10 31 Ja43,4E	100 101
	CAYG=0,5+(CDNBR(J)+CDNBL(J))	100 102
	UP=CIR(J)+DUH/CAVG	
	UCPU(J)=UCPU(J)=UP=CD=Z	
	UCPL(J)=UCPL(J)+UP+CDXZ	100 100
	wCPU(J)==CPU(J)+UP+SOXZ	100 100
	+CPL(J)=+CPL(J)=UP+SDXZ	
	S1 CONTINUE	100 100
	3A CONTINUE	100 110
	39 CONTINUE	100 111
	IF (_NOT_EXVEL) GO TO 40	100 112
c	A REPORT OF A REPORT OF THE CONTROL BUILD	100 113
C	INCLUDE EXTERNALLY INDUCED VELOCITIES AT EACH CONTROL POINT	100 110
C		100 115
	00 40 J#1, MTUT	100 116
	UCPU(J)#UCPU(J)+UEI(J)	1 CP 117
	UCPL(J)=UCPL(J)+UEI(J)	100 118
	ACBACQJ#ACBHCQJ+AEI(Q)	100 119
	VCPL(J)=VCPL(J)+VEI(J)	100 130
	wCPU(J)=wCPU(J)+#EI(J)	100 120
	wCPL(J)#WCPL(J)+WEI(J)	100 120
	40 CONTINUE	100 133
	49 CONTINUE	100 120
C		1 08 125
ç	COMPUTE UPPER AND LOWER SUMPACE PRESSURE COMPULIENTS	100 126
C		ICP 127
		1 CP 128
	DART'BAS'OFINCATELY A MCLANDIATIVELLA (DChillians)	CP 129
	1 + (VCPU(J)==2)	108 130
	CPU(J)#1,0000 Mark a D available theorem F a scole (is attact to a filos) / (same	LCP 131
	$(le1_0=2,0+(lc1)+(lc1)+(lc2)$	100 132
	1 + (YUFULUJAAC) + (POFULUJAFE) #80////////////////////////////////////	LCP 133
	L=L(J)#1,070L	LCP 134
	uveaum (()))	1 CP 135
		1 CP 156
	DEPERTURN AND A VERY AND AND AND AND AND AND AND AND AND AND	1 CP 137
		1 CP 138
	SI CONTINUE	1.CP 139
<u> </u>	CONDUCT NORMAL EDUCE CONSECTOTENT ON FACH PANEL OF KING AND FLA	PS LCP 140
5		LCP 141
2	THETTAL TOP ADDIALS	10 142
	SO NO SE 181.HTHE	LCP 144
	r ¥BL / / 3ml . 0	LCP 144
	CYRL / 3186.0	LCP 145
	C78(f.1)=0	LCP 146
	r ¥T(1 (1)#0.0	LCP 147
		LCP 14A
	CZ711 (J3=0.0	LCP 149
	5% CZTIR(J)#0.0	LCP 150
	OUHB1.0/(TEHR+SREF)	LCP 151
	DD 55 .1#1.4T/T	LCP 152
	SPNL#(CONRL(J)+CONBR(J))+CUM+S+(J)	LCP 155
	CZBL(J)=(CPL(J)=CPH(J))+SP4L	LCP 154
	55 CONTINUE	LCP 155

49

- į

| | SUBP | | TNE | - 2-
 | ner | F.S | |
 | | | |
 | | |
 | | |
 | | | |
 | | FOR | 0.01 |
|--|---|---|---
---	--	--
---	--	--
--	--	
--	--	
---	--	---
---	---	---
		, .,
 | | | |
 | | | |
 | | |
 | | |
 | | | |
 | | FOR | 002 |
| | THIS | \$u | 880 | υT
 | I NE | 5 0 | AL. | CUI
 | LAT | E3 | тн | 2 3
 | 5 P A | NNI | SE
 | 101 | 0 | 013
 | 3 T R 1 | (#01 | TON | 8 AN
 | D | FOP | 003 |
| | | ŤH | EF | 0Þ
 | ĊĿ | i A | ND | . MI
 | | NT: | 5° F | 201
 | 4 T | HE | FOR
 | ĒF | 5 A. | eti
 | NG | ΠN | THE | VOR
 | TEN | F (1 P | 004 |
| | | Fİ | LAM | ΈN
 | 13 | | | |
 | | | |
 | | |
 | | |
 | | | |
 | | FOR | 005 |
| | | | |
 | | | |
 | | | |
 | | |
 | | |
 | | | |
 | | FOR | 006 |
| | COMMO | ٦N | STA | ٢E
 | MEN | UT S | | |
 | | | |
 | | |
 | | |
 | | | |
 | | FOR | 007 |
| | - | | |
 | | | |
 | | | |
 | | |
 | | |
 | | | |
 | | FOR | 008 |
| | COHMO |) N | /#1 | ¥.K
 | /31 | []] | 1.5 | 10
 | ņş A | UF. | |
 | _ | _ |
 | | |
 | | | |
 | | FÜR | 009 |
| | COHH(| N. | /BL | D ▲
 | 17 | XE | SL (| 25
 | 0), | YRI | . (2 | 50
 |),Z | 9L (| 520
 |)), [| r P S | 1()
 | 520. | 1,8- | (25 | 0)
 | | FOR | 010 |
| | COMMO | N | 1. | NG
 | DAI | ٢/ | Y (| 30
 |), P | 31 | HLE | (3)
 | | P 5 1 | HTE
 | (3) | <u>, , , , , , , , , , , , , , , , , , , </u> | SPI
 | -1 | CPF | Ξн, | TPFI
 | M | FOR | 011 |
| | CONN(| ON. | 11 | DL
 | 27 | .73 | 5×. | 38
 | 1 M T | 01 | , N [| - 1
 | (30 | 211 | MA)
 | (N | 35 | GΟ
 | 50), | LAS | 1111 | 303
 | | FOR | 012 |
| | | UN
174 | | ND
 | 6 A H | Υ. | | 1.12
 | G , N | CE | AP 3 |
 |) - L | | 10
 | 21 | NC. | • C
 | 101 | , + 3 + | (10 | 1146
 | (10), | FUR | 015 |
| | CONN | 8 T U | | 20
 | AT. | 23 | 5 D F | 1.7
 | 7/1 | 0.5 | | ,,
151
 | | 103 | . •
 | | | ۸١
 | | | |
 | | F 0 4 | 014 |
| | CPHT | | 65 | , , ,
 | · · · | | |
 | 211 | | |
 | | |
 | . (3) | |
 | , | | 1 |
 | | 5 N P | 016 |
| | сонн | אח | 751 | 1 0
 | AT. | | FŤI | XR
 | (25 | i0 1 | . F 1 | n xi
 | (2 | 503 | .F
 | TI 71 | | 50
 | | 11.71 | 125 | 03
 | | FOR | 017 |
| | CONNI | Ö٧ | /RE | FO
 | U. | 1 | SSP | AN
 | . SR | ΈĒ | RE | FL
 | Ŷн | . 2 |
 | | |
 | | | | ••
 | | FOR | 018 |
| | COMM | ŪN. | /CH | IDR
 | D5, | / 0 | HR | DL
 | . () | 10) | , CR | 100
 | Ť₹ (| 10) | .01
 | r t PI | F (1 | 0j
 | | | |
 | | FOR | 019 |
| | COMM | ON. | IV | ۱R₽
 | ΟR, | /C) | KBL | (2
 | 50) | ,ċ | YBL | (21
 | 50) | , C 2 | ÜL I
 | (25) | 55. | ĊY'
 | TLL | (250 | 1),0 | YTLR
 | (250) | FOR | 020 |
| | 1, | C 2 | TEL | . (2
 | 50 | 5.0 | C Z 7 | 'LR
 | (25 | 50) | |
 | | |
 | | |
 | | | |
 | | FOR | 150 |
| | COMM | ٥N | /1. | , D A
 | ۲/ | X١ | T C P | (3
 | n), | ΧT | EL (| 30
 |),× | 7LF | (5)
 | 50), | , Y T | ιP
 | (25) | 0),2 | TLR | (250
 |), | FOR | 220 |
| | 1 870 | ι(| 250) | 1,Y
 | 1,1 | | 520 | 1).
 | 271 | | 250 | ກຸ
 | | _ | |
 | | |
 | | | |
 | | FOR | 023 |
| | COMM | QN | /FL | AP.
 | LE. | /X) | ۲IL | E (
 | 10) | | ۳ĪL | EC
 | 10) | - Z - | TL
 | E (1) | . (0 | SW
 | PFLI | ECIC |)) |
 | | FOR | 024 |
| | COMM | ON. | 785 | 130
 | A1. | /N) | <u> </u> | 34
 | , NF | RE | 3+ (| 10
 |),t | ĻAP | E A
 | (25) | 0 | XLI
 | E (3) | 0) | |
 | | FOR | 025 |
| | COMM | ON | /** | 'NL
 | | | |
 | NJP | , NC | ۶ J P | ~ L
 | (30 | | |
 | | |
 | | | |
 | | FUR | 026 |
| | | | 0. | е т
 | | | - |
 | | | |
 | | |
 | | |
 | | | |
 | | FUR | 047 |
| | 111-6 | - 0 | | 91
 | | | |
 | | | |
 | | |
 | | |
 | | | |
 | | 500 | 120 |
| | DIME | N.8.1 | ON. | хC
 | 12 | ٥١. | . PA | E S
 | 120 | 11 | | |
 | | |
 | | |
 | | | |
 | | FOR | 030 |
| | | | |
 | | | • |
 | | | |
 | | |
 | | |
 | | | |
 | | | |
| | | | |
 | | | |
 | | | |
 | | |
 | | |
 | | | |
 | | FOR | 031 |
| | FORM | AT | 314 | TE
 | MEI | N73 | 3 |
 | | | |
 | | |
 | | |
 | | | |
 | | FOR | 031 |
| | FORM | A T | 374 | TE
 | MEI | N7: | 3 |
 | | | |
 | | |
 | | |
 | | | |
 | | FOR
FOR
FOR | 031
032
033 |
| 701 | FORM
FORM | 4 T : | 874
(1H0 | 17E
 | HE1 | NT: | 3
9н4 | ER
 | 001 | | # 1 C | : .4
 | r:#0 | 1. | R
 | ESUI | L T 8 | F
 | ŋR . | AL PH | | ,F6.
 | 2, | FOR
FOR
FOR | 031
032
033
034 |
| 701 | FORM
FORM
1 5H | AT
AT
DI | 874
(140
EG.) | 17E
 | ме:
5 X | , 34 | 3
9н4 | ER
 | 001 | / N Å | ۳ I C | : .,
 | r:#0 | I NC | e RI
 | E 8 U I | 18 | F
 | ŋe . | AL PH | 4A 8 | ,F6,
 | 2, | FOR
FOR
FOR
FOR | 031
032
033
034
035 |
| 701
702 | FORM
FORM
1 5H
FORM | AT
DI
AT | 314
(1+0 | 17E
 | HE
5X | . 34
0 HI | 9
9 H A
R E F | LER
FER
 | ENC | • NA | ⊬IC | : L!
 | 04)
171 | I∾0
:E8, | ; RI
/23
 | E 8 UI
X , 1, | L T 8
2 H W | F
 | רא ק
ה 19 | AL PH
PAN, | 1A =
. R, | ,F6.
3×,4
 | 2,
IHAREA | FOR
FOR
FOR
FOR
FOR | 031
032
033
034
035
036 |
| 701
702 | FOR4
FOR4
1 54
FOR4
1 56 | A T
- DI
- A T
- X
- I | 874
(1+0
(5,)
(77)
6411 | 1 TE
1 - 1
3 0 H
E NG
 | HE
5x | , 34
, 34
0 HI
/2 | 3
9HA
REF
3X | ER
FER
 | 001
ENC | NA
E
5) | ⊨10
AU4 | : L!
 | 04)
171 | 1 NC | ; RI
/23
 | E 8 UI
X , 1 | L T 8
2 H W | F
 | DR
G SI | AL.PF
PAN, | 1A =
, R, | ,F6.
3×,4
 | 2,
HAREA | FOR
FOR
FOR
FOR
FOR
FOR | 031
032
033
034
035
036
037 |
| 701
702
703 | FORM
FORM
1 5H
FORM
1 56
FORM | AT
 | 814
(1+0
(7/)
(7/)
6411 | 1 TE
3 + 1
3 + 1
3 + 1
3 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 +
1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 + 1
5 | ME
5x
122 | NT :
. 34
0 HI
/2:
7 Hi | 9 H A
RE F
3 X ,
S P 4 | ER
FER
 | 001
ENG
11. | - NA | ⊨10
AU4
DA0 | : LI
 | (140
171
187 | 1 NC
(F 8, | ; RI
/23
4UT
 | E 8 UI
X , 1,
I 0 M | L T 8
2H W
8/2 | F
I
N
 |)R
G 31
374 | AL.PP
PAN, | 1 E E | ,F8.
3X,4
 | Z,
IHAREA
LEFT | FOR
FOR
FOR
FOR
FOR
FOR
FOR | 031
032
033
034
035
036
037
036 |
| 701
702
703 | FORM
FORM
1 5H
FORM
1 56
FORM
1 WING | AT
DI
AT
X;
AT
,
P; | STA
(1+0)
(//)
6410
(//)
6410 | 1
301
201
201
201
201
201
201
201
201
201
2
 | HE
5x
5x
122 | NT:
.3°
0HI
/2:
7H: | 9 H A
REF
3 X 1
9 P 4 | ER
5 ER
 | 001
ENC
11,
13, | - NA
E
5) | ⊨ I C
QU/
DAC | C L(
 | - AO
ITI
IST | INC
(F8)
(R10 | 6 RI
723
907
 | E8UI
X,1,
IO* | L T 8
2HW
8/2 | F
I N
2 X
 | ק א
ק 31
374 | AL PH
PAN,
**** | 1A =
, R,
, t++ | ,F6,
3X,4

 | Z,
HAREA
LEFT | FOR
FOR
FOR
FOR
FOR
FOR
FOR
FOR | 031
032
033
034
035
036
036
039 |
| 701
702
703
704 | FORM
FORM
1 5H
FORM
1 6
FORM
1 154
1 156
1 | AT
DE
AT
X
T
AT
AT
DE
AT
DE
AT | 374
(1+(
(7/)
(7/)
(7/)
(7/)
(7/)
(7/)
(7/)
(7/ | 1 TE
1 1
3 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X
5 0 X | HE
5x
1,2
1,7
1,2
1,1
1,1
1,1
1,1
1,1
1,1
1,1
1,1
1,1
 | NT:
3300000000000000000000000000000000000 | 3
9HA
REF
324
4L/ | ER
5 ER
1 NH + 19 | 111
131
131
131
 | 194 | ⊨ I C
QU/
DAC
AT 1 |
 | 140
171
187 | 1 NC
1 NC
1 NC
1 NC | 9 RI
723
9UT
147
 | E8U
X,1,
IOM
(8/) | LT8
2HW
8/2
8/2 | F
I N
2 X
3 X | חת
5 5
374
, איו | AL PH
PAN;

 | ₩ ₩
₩,
₩++₩
₹D, | ,F6.
3×,4
*** | Z,
Sharea
Left | FOR
FOR
FOR
FOR
FOR
FOR
FOR
FOR
FOR | 031
032
0334
035
035
035
035
035
035
035
044
 |
| 701
702
703
704
705 | FORM
FORM
1 5H
FORM
1 16
FORM
1 15HC
FORM | AT
 | 874
(140
(27)
(77)
(77)
(77)
(77)
(77)
(77)
(77) | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
 | ME | NT:
3 0HI
7 HI
1 CI
1 CI | 9 HA
REF
3 P4
4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 | ER FLAF
 | 111
111
111
111
111 | ST C | HIC
QUA
DAC
ATJ
H.E
12, |
 | 181
181
187
- 3X | INC
E8,
RIC
,7, | 6 RI
723
907
177
 | E8U
X,1,
IOX
(87) | LT8
2HW
8/2
2); | F
I N
3 X
 | 미자
G SI
37년
• 8년 | AL PH
PAN,

Chof | A ≡
, P,
, ×××
}D, | ,F6,
3×,4

C,2×
 | Z,
IHAREA
LEFT
(, | FOR
FOR
FOR
FOR
FOR
FOR
FOR
FOR
FOR
FOR | 031
032
033
035
035
035
035
035
035
040
040
040 |
| 701
702
703
704
705
706 | FORM
FORM
1 5H
FORM
1 6
FORM
1 15HC
FORM
FORM | A T
- DI
- DI
- A T
- X + I
- X + I
- A T
- NDI
- A T
- A T
 | STA
(1H)
(24)
(27)
(27)
(24)
(24)
(24)
(24)
(24)
(24)
(24)
(24 | LTE
),1
)
)
)
)
)
)
)
)
)
)
)
)
)
 | HE | NT:
, 3'
0HI
/2:
7H:
0C:
R1:
1H: | 9 HA
REX
9 HA
1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | E RF # 4951
 | 111
111
134
134
140 | | HIC
QUA
DAC
ATJ
H.8
GIC | UNT
 | 131
131
137
137
137
137
137 | INC
E8,
RIE
,7, | 5 RI
723:
3UT
147
147
15
 | ESUI
X,1,
IO ^{N,}
(87, | LT8
2HW
8/2
2),
12, | F
IN
2X
3X
 | ля
G SH
37н
,8н
,8н | AL PF
PAN,

CHOF | (A =
, P,
,
,
,
,
,
,
,
,
,
,
,
,
,
,
,
,
, | ,F6,
3x,4

C,2X
 | Z,
HAREA
LEFT | FOR
FOR
FOR
FOR
FOR
FOR
FOR
FOR
FOR
FOR | 031
032
0334
035
035
035
035
035
040
041
041
041
044
044
044
044
044
044 |
| 701
702
703
704
705
706
705 | FORM
FORM
1 5H
FORM
1 16
FORM
1 15HC
FORM
FORM
FORM | AT
DI
AT
X;
AT
,
AT
AT
AT | STA
(1H)
(2,1)
(1H)
(1H)
(1H)
(1H)
(1H)
(1H)
(1H)
(1 | LTE
303
303
503
503
503
503
503
503
 | MEI
5 X 2 H 2 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H
1 H 1 H | NT:
30HI
74:
000
74:
000
114:
100
114:
100 | 3 9 HA
REF
3 9 + + (1)
+ +) 1
+ +) 1 | LE R
5 3 4 4 4 9 5 1 X 6
5 1 X 6 1 X 6 5 1 X 6 5 1 X 6 | 001
ENC
11,
138
3 27
4
1,4
1,4
1,4
1,4 | 194
197
197
197
197
197
197
197
197
197
197 | HIC
QUA
DAC
ATJ
4,8
GIC
E F |
 | TIAD
ITI
IST
,3X
PCA
2F1
12,
CE | INC
E8/
1918
12-0
54/0 | 23
407
477
477
47
47
 | ESU
X,1
10×
(8/
(8/
AP, | LT8
2HW
3/2
2),
12,
NT | F
IN
2X
3X
1X
CO
 | DR .
G SI
374
, 841
, 10
EFF | AL PH
PAN;

CHOP
(14)
I T I | A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A =
P,
A
P,
A
A =
P,
A
A =
P,
A
A
A
A A =
P,
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A | ,F6,
3×,4

C,2×
 | Z,
HAREA
LEFT | FOR
FOR
FOR
FOR
FOR
FOR
FOR
FOR
FOR
FOR | 031
03334
0335
0336
0356
0356
041
0442
0442
0442
0442
0442
0442
0442 |
| 701
702
703
704
705
706
705 | FORM
FORM
1 5H
FORM
1 16
FORM
1 16
FORM
FORM
FORM
FORM | AT
- DI
- DI | STA
(1H)
(J)
(J)
(J)
(J)
(J)
(J)
(J)
(J)
(J)
(J | LTE
) 1
) 0
0
0
0
0
0
0
0
0
0
0
0
0
0
 | MEI
5 x 2 H 2 H
1 2 H
1 2 H
1 2 H
1 2 H
1 2 H
1 2 H
1 2 H
1 2 H
1 2 H
1 2 H
1 2 H
2 H
1 2 H
2 H
1 2 H
2 H
2 H
2 H
2 H
2 H
2 H
2 H
2 H
2 H | NT:
, 3'
0HI
/2:
7H:
0C:
1H:
401
(H | S 9HA
REF
339+14
151
11111111111111111111111111111111 | LE F3N+1951XGG
 | 001
ENC
114
158
37
40
147
40
147 | 194
195
195
195
195
195
195
195
195
195
195 | HIC
QUA
DAC
ATJ
12,
GIC
E F | : LI
 | 111
131
131
131
131
131
131
12,
12,
12,
12,
12,
12,
12,
12,
12,
12 | 1140
1281
1271
1210
1210
1210 | 9 RI
723
907
1477
1477
1477
1477
 | ESU
X,1
104
(87
(87
04E | L T 8
2 H W
9 / 2
2) ,
1 2 ,
N T | 5
1
2
3
3
2
1
2
0
 | 08 5
574
.841
.10
EFF | AL PH
PAN,

CHOP
(14)
I T I | A =
, A,
, A,
, A,
, A,
, A,
, A,
, A,
, | ,F6,
3×,4

C,2× | Z,
HAREA
LEFT | FOR
FOR
FOR
FOR
FOR
FOR
FOR
FOR
FOR
FOR |
031
0334
03354
03356
0356
0356
0441
0442
0442
0442
0442
0442
0442
0442 |
| 701
702
703
704
705
706
707
707 | FORM
FORM
1 54
FORM
1 16
FORM
1 15
FORM
FORM
FORM
FORM
FORM | AT
- DI
- AT
- AT
- AT
- AT
- AT
- AT
- AT
- AT
- AT | STA
(14)
(27)
(4)
(14)
(14)
(17)
(17)
(17)
(15) | LTE 1
300
300
100
100
100
100
100
10
 | 5 2 H 2 H L H H L H H L H H L H H L H H L H | N 7 3 H2H +C 12 H +C 12 H +C 12 H +C 12 H +C 12 H +C 12 H +C 12 H +C 12 H +C 12 H +C 14 H +C 1 | 3 9 R39+4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | LE RFW #951XG
 | 001
11,
134
134
144
144
144
144
144
144
144
144 | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | MIC
QUA
DAC
ATJ
MIE
GIC
E MAT
9% | 100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
 | 111
131
131
131
131
121
121
121
121
121 |)IN(
(F8)
(17)
(12)
(12)
(13)
(13)
(14)
(14)
(14)
(14)
(14)
(14)
(14)
(14 | 3 RI
17/
17/
17/
17/
17/
17/
17/
17/
17/
17/
 | ESU
X,1,
104
(87)
AP,
04E | LT8
2HW
5/2
2);
12;
NT
W,9 | 1
1
1
1
2
2
3
2
1
2
0
0
1
2
0
1
2
0
1
2
0
1
2
0
1
2
0
1
2
0
1
2
0
1
2
1
2
 | 08 -
6 54
374
,844
,844
,10
EFF
340 | AL.PP
PAN,

CHOF
(1H)
ICIE
PN) | 14 =
, P,
,
,
,
,
,
,
,
,
,
,
,
,
,
,
,
,
, | ,F6,
3×,4

C,2×
 | 2,
Sharea
Left | FOR
FOR
FOR
FOR
FOR
FOR
FOR
FOR
FOR
FOR | 00003345
0003345
0003367
0000336
00000000000000000000000 |
| 701
702
703
704
705
704
705
705
705
705
705 | FORM
FORM
1 5H
FORM
1 16
FORM
1 3HC
FORM
FORM
FORM
FORM
FORM
FORM | AT
- DI
- DI
- X
P
P

 | ST1
(1)(()()()()()()()()()()()()()()()()() | LTE 1 100
3007 x 50
2007 x 50
2000 x 50
2000 x 50
2000 x | 5 2 H 2 H 2 H 2 H 2 H 2 H 2 H 2 H 2 H 2
 | N 3 H2H+C)2H0H5 | 3 9 A REP A A A A A A A A A A A A A A A A A A A | LE R FLAN + 951 XG C 3 | 001
11,
158
37
40
40
00
00
00
 | 1 NA 2 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | HIC
QUA
DAC
ATJ
M.2
GIC
E F
NAT
9% | С Ц
1 м т
2 0 0
1 л м
1 | 1111
131
131
131
131
131
121
121
121
121 | (1 %)
(2 8 / 1
(2 7)
(2 . (
(3 7)
(2 . (
(3 7)
(3 F
RI
1723
177
177
177
177
177
177
177
177
177
17 | ESU
x+1,
10,
40,
(B/)
(B/)
10,
40,
10,
10,
10,
10,
10,
10,
10,
1 | L T 8
2HW
3/2
2),
12,
NT
WT
 | F
IN
3×
3×
1×
CO | 08 | AL PH
PAN,

CHOP
(14)
I T I
I T I
Mw) | A | , F6.
3x, 4

C, 2x
 | 2,
Sharea
Left | FOR
FOR
FOR
FOR
FOR
FOR
FOR
FOR
FOR
FOR | 00003345
0003345
0003367
0000004445
04445
04445
04445
04445
04445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
0445
04500000000 |
| 701
702
703
704
705
706
706
707
708
710 | | AT
- AT
- AT
- AT
- AT
- AT
- AT
- AT
- AT
- AT
- AT
- AT
- AT
- AT
 | 874
(1)(
(1)(
(1)(
(1)(
(1)(
(1)(
(1)(
(1) | 1) 307 + 50 (11) 307 + 50 (12) 12 / 12 / 12 / 12 / 12 / 12 / 12 /
 | ME 5 2 H 2 H 12 H 12 H 12 H 12 H 12 H 12 H | N 3 H2H+C)2H0H59 | 5 9 R Z P + A + A + A + A + A + A + A + A + A + | E RF H + 4 5 1 X G C S T
 | 001
ENC
11,
138
37
40
1,
40
1,
40
1,
1,
1,
1,
1,
1,
1,
1,
1,
1,
1,
1,
1, | 1 NA
5 5 1
5 5 5 1
5 5 5 1
5 5 5 5 1
5 5 5 5 5 5
5 5 5 5 5 5
5 5 5 5 5 5 | HIC
QUA
DAC
ATJ
H.E
GIC
E F
NA'
9%, | C LI
 | 1111
131
137
137
137
271
271
271
271
271
271
271
271
271
27 | (INC)
(F8)
(17)
(12)
(17)
(17)
(17)
(17)
(17)
(17)
(17)
(17 | 23
117/
117/
117/
117/
117/
117/
117/
117
 | ESU
X, 1,
104
(B/)
AP,
0ME
HCD
AND | 873
873
872
878
872
878
878
878
878
878
878
878 | IN
2X
3X
12
00
14
 | 08 | AL.PH
PAN,

CHOP
(1H)
ITIE
HW)
COE | 44 m
, P,
33444
RD,
8013
ENTS | , F6.
3x, 4

C, 2x
 | Z,
HAREA
LEFT | FOR
FOR
FOR
FOR
FOR
FOR
FOR
FOR
FOR
FOR | 0000333456769012345678 |
| 701
702
703
704
705
704
705
706
707
708
710
711 | | AT
AT:
AT:
AT:
AT:
AT:
AT:
AT:
A | 874
(1)(
(1)(
(1)(
(1)(
(1)(
(1)(
(1)(
(1) | 1)))
1)))
1))
1)))
1)))
1)))
1)))
1)))
1))))
1))))
1)))))))))))))))))))
 | ME 5 2 H 2 H 2 H 2 H 2 H 2 H 2 H 2 H 2 H 2 | N 3 0/7#0814(N.7W | 5 9 R 2 2 4 4 5 1 1 7 1 | E ESN#4951XGC3 1#
 | 001
ENC
113
37
HCA
1.6
1.6
1.6
1.6
1.6
1.6
1.6
1.6
1.6
1.6 | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | MIC
QUA
DAC
ATJ
GIC
E MAT
9% | CT/
 | CIAO
ITI
IST
IST
IST
IST
IST
IST
IST
IST
IST | (INC)
(F8)
(17)
(12)
(17)
(17)
(17)
(17)
(17)
(17)
(17)
(17 | 23
307
177
177
177
177
177
177
177
177
177
1
 | E800
X,1,
104
(87)
AP,
04E
HCD
ANDA
FLA | 2 HW
2 HW
3 / 2
3 / 2
2) ,
1 2 ,
NT
W, 9
P C | 110
2X
3X
120
14
00
 | DR
G S
374
10
EFF
SHC
RDT | AL.PH
PAN,

CHOP
(1H)
ITIE
WW)
COEI
NATI | 44 =
1 R, R,
1 R, H, R, R, R, R, R, R, R, R, R, R, R, R, R, | , F6.
3×,4

C,2× | Z,
LEFT
,
S AND | FOR FOR R FOR FOR FOR FOR FOR FOR FOR FO | 00000000000000000000000000000000000000
 |
| 701
702
703
704
705
704
705
705
707
711 | F О R 4
F O R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4
F 0 R 4 F 0 R 4
F 0 R 4 F 0 R | AT:
- DU
- DU
- AT:
- AT: | STA
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()
(10)()())
(10)()()())
(10)()()()()()())
(10)()()()()()()()()()()()()()()()()()() | 1)) 3 5 7 L X X X X X X X X X X X X X X X X X X | ME 5 2H2HLAF(,HC2, TF
 | N 3 0/7+001240145949 | 5 9 R39+4,1+
8 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2)
9 F14,2) | E E SN #4951%GC3 T#4E | 001
ENC
11.
158
374
40
40
40
40
40
40
40
40
40
40
40
40
40
 | N E 5 L 10000000000000000000000000000000000 | MIC
QUA
DAC
ATJ
GIC
E I
S
QUA
(
2,1)
S
C
(
2,1)
S
C
(
2,1)
S
C
(
2,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,1)
S
C
(
12,
S
C
(
12,
S
C
(
12,
S
C
(
12,
S
C
(
12,
S
S
(
)
S
S
(
)
S
S
S
S
S
S
S
S
S
S
S
S | C LI I I I I I I I I I I I I I I I I I I
 | 1111 1314
111 1314
1217 1314
1217 1314
1217 1314
1217 1314
1314
1314
1314
1314
1314
1314
1314 | 1 NC
1 NC
1 R II
1 R II
1 R II
1 R II
1 R II
1 NC
1 | 23
307
177
177
177
177
177
177
177
177
177
1 | ESU
X+1
ION
(B/)
AP+
HCD
HCD
ANDE
LAP
 | LT8
2HW
3/2
12,
2
12,
2
12,
12,
12,
12,
12,
12,
12 | IN 2X 3X 120 X. | 08 | AL PH
PAN,

CHOP
(1H4
IFII
MW)
COEI
NATI
F, T | 44 =
, R,
, R,
 | , F6,
3x,4

C,2x
3
IEN1
3
IEN1

* | Z,
HAREA
LEFT
(,
S AND
S F
NF), | | 00000000000000000000000000000000000000 |
| 701
702
703
704
705
704
707
707
707
710
710 | FORM
FORM
1 50RM
1 50RM
1 50RM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM | A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T ()
A T () | STA
(10)(10)(10)(10)(10)(10)(10)(10)(10)(10) | 1))357LXCX2/XX/31NF
 | ME 15 X 2H2+L4
12 X 2H2+L4
12 X 2H2+L4
12 X 2H2
12 X 2H2 | N 3 0/7#0814(N.7W,XS | 3 9 R39+4,1++HI,)HIF38 | E E3N#4951XGC3 1744F | 001
ENC
113
3744
400
800
800
800
800
800
800
800
800
8
 | N E 5 L 450FEA DE2/7 | HIC
QUA
DAC
ATJE
GIC
E F
SAC
L A
(
X)) | C LI C LI C LI C LI C LI C LI C LI C LI
 | TIAD
ITII
3XA
2F1
3XA
2F2
5
5
5
5
5
5
5
5
5
5
5
5
5
5
5
5
5
5 | (1 NC)
(F 8)
(1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 6 RI
1 2 3 1 4 7 1 7 1 4 7 5 1 4 7 7 1 4 7 1 7 1 4 7 7 1 4 7 7 1 4 7 7 1 4 7 7 7 1 4 7 7 7 1 4 7 7 7 7
 | ESU
X, 1
ION
(B/)
AP,
HCD
HCD
HCD
HCD | L T 8
2 H W
3 / 2
3 / 2
1 2 ,
1 2 , 1 2 , 1 2 , 1 2 , 1 2 , 1 2 , 1 2 , 1 2 , 1 2 , 1 2 , 1 2 , 1 2 , 1 2 , 1 2 , 1 2 , 1 2 , 1 2 , 1 2 , 1 2 , | 110
110
110
111
111
111
111
111 | 08
5
5
7
10
5
7
10
5
7
10
5
7
10
10
10
10
10
10
10
10
10
10
10
10
10 | AL PH
PAN,

CHOP
(1144
IFII
NATI
F, 7)
F (C) | 4 = =
, R, R, R, R, R, R, R, R, R, R, R, R, R,
 | , # 6 .
3 x , 4

C , 2 x
3
1 E 11
S 1 E 1
S | 2,
HAREA
LEFT
(,
(,
()
()
()
()
()
()
()
()
()
()
()
()
() | FOR FORR FORR FORR FORR FORR FORR FORR | 00000000000000000000000000000000000000 |
| 701
702
703
704
705
704
707
707
707
707
710
710
711 | F 0 R 4
F 0 R 5
F 0 R 5
F 0 R 6
F 0 R 6 F 0 R 6
F 0 R 6 F 0 R 6
F 0 R 6 F 0 R | A T T T T T T T T T T T T T T T T T T T | STA
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()
(1)()()()(| 1))3522LKCX22/WX,/318//1 | ME 15 2 H 2 H L H H L H H L H H L H H H H H H
 | N , 0/7+08114(N.7W,X55 | 3 9 R39+A, ++HI,) HIF38H | LE L3N#1051XGC3 T#480012 | 001
ENG
113
374
400
100
100
100
100
100
100
100
100
10
 | N E S L SCOFELANDEZ X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E S L SCOFELANT X
N E | HIC
QUA
DAC
ATI
12,
GIC
E I
AC
ATI
ATI
ATI
ATI
ATI
ATI
ATI
ATI
ATI
ATI | C LU D UN21
 | 1111
133
HCA
221
133
HCA
221
P 20
R
F 1
C 20
20
R
F 1
C 20
20
C 20
C | (1 %)
(F 8)
(1 7)
(2 5)
(1 7)
(2 5)
(1 7)
(2 5)
(1 7)
(2 5)
(1 7)
(2 5)
(1 7)
(2 5)
(1 %)
(2 5)
(1 %)
(2 5)
(2 5) | RI 123 143 <td>ESU
x, 1,
104
(87)
AP,
HCD
HCD
HCD
FLAP
FCA</td> <td>L T 8
2 H W 2
2 J 7
1 Z 7
2 J 7
1 Z 7
2 J 7
7
7
7
7
7
7
7
7
7
7
7
7
7
7
7
7
7
7</td> <td>F</td> <td>08 5
5 5 H</td> <td>AL PH
AL PH
PAN,

CHOF
(144
IFIE
NATE
F, 7:
F(C)
HOP</td> <td>4 8
7
7
7
7
7
7
7
7</td> <td>, F6.
3x, 4

C, 2x
3
1E ~ 1
STE~
xF { C
7 x, 3
COF</td> <td>Z,
LEFT
(,
(,
(,
(,
(,
)
(,
)
(,
)
(,
)
(,
)
(</td> <td>FORR R R R R R R R R R R R R R R R R R R</td> <td>00000000000000000000000000000000000000</td> | ESU
x, 1,
104
(87)
AP,
HCD
HCD
HCD
FLAP
FCA
 | L T 8
2 H W 2
2 J 7
1 Z 7
2 J 7
1 Z 7
2 J 7
7
7
7
7
7
7
7
7
7
7
7
7
7
7
7
7
7
7 | F | 08 5
5 5 H | AL PH
AL PH
PAN,

CHOF
(144
IFIE
NATE
F, 7:
F(C)
HOP | 4 8
7
7
7
7
7
7
7
7
 | , F6.
3x, 4

C, 2x
3
1E ~ 1
STE~
xF { C
7 x, 3
COF | Z,
LEFT
(,
(,
(,
(,
(,
)
(,
)
(,
)
(,
)
(,
)
(| FORR R R R R R R R R R R R R R R R R R R | 00000000000000000000000000000000000000 |
| 701
702
703
704
705
706
706
707
707
710
710
711
712 | FOR4
FOR4
FOR5
FOR5
FOR5
FOR4
FOR4
FOR4
FOR4
FOR4
FOR4
FOR4
FOR4
FOR4
FOR4
FOR4
FOR4
FOR4
FOR4
FOR4
FOR4
FOR4
FOR4
FOR4
FOR4
FOR4
FOR4
FOR4
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FO
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FOR5
FO
FO
FO
FO
FO | A T I I A T I I A T I I A T I I A T I I A T I I A T I I A T T T T | STA
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(1 | 1)))))))
T , UNT ,/I)22/(X,/))
NFI)
NFI)
NFI)
NFI)
 | M 5 2H2+L+
12+2F(+HC2+F71+ | N , 0/7*0A114(N.7*,X55 | 3 9 R32P+L4511179 IC FGFC | E E3N#151XGC3 1#420
 | 001
EN(113
2754
50
113
2754
50
10
20
20
20
20
20
20
20
20
20
20
20
20
20 | N E 5 SUPERA DEJX T | HIC
QUA
DAC
ATJ
E
NA
QUA
C
C
C
C
C | C LI C C LI C LI C LI C LI C LI C LI C
 | 1111
133
HCA
271
HCA
271
133
HCA
200
200
RF
200
RF
GUR | (1 % C)
(F 8)
(1 % C)
(1 % C) | 3 RI
7 2 3
3 U T
1 4 7
1 7
1 7
1 7
1 7
1 7
1 7
1 7
1 | ESU
X, 1
104
(87)
AP,
HCD
HCD
HCD
FLAP
FO
 | L T 8
2 H W 2
2 J 7
1 Z 7
1 Z 7
1 Z 7
7
7
7
7
7
7
7
7
7
7
7
7
7
7
7
7
7
7 | IN 2X 3X 120 X + E00 X | 08 | AL PH
AL PH
A + + + +
C + OF
(1 + +
(1 + +
I T I
I T I
I T I
I T I
F (C
H OH) | 4
 | , F6.
3x, 4

C, 2x
3
1E~1
STE~
**F(C
7x, 3
COEP | 2,
HAREA
LEFT
(,
S AND
(S - F)
(HCHF)
(FICIE | F08
F08
F08
F08
F08
F08
F08
F08
F08
F08 | 00000000000000000000000000000000000000 |
| 701
702
703
704
705
706
706
706
706
707
709
710
712
711
712
713 | F0R4
F0R4
1 F0R4
1 F0R4
1 F0R4
1 F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4
F0R4 | A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T :
A T : | STA
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(194)
(1 | L)))))
T , UNT ,/I)
T , UNT ,/I)
INFII ,
NFII ,
NFII ,
 | M 5 2H2+L1
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1+L2)
12F(1 | N . 0/740A114(N.7W.X55 N | 3 9 R39+4,15,110
R39+4,15,110
F38+4,15,110
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,10
F38+0,100
F38+0,100
F38+0,100
F38+0,100
F38+0,100
F38+0,100
F38+0,100
F38+0,100
F38+0,100
F38+0,100
F38+0,100
F38+0,100
F38+0,100
F38+0,100
F38+0,100
F38+0,100
F38+0,100
F38+0,100
F38+0,100
F38+0,100
F38+0,100
F38+0,100
F38+0,1000
F38+0,100
F38+0,1000
F38+0,1000
F38 | LE F.3.449512GC
 | 001
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC113
ENC13 | N E 5 C FREAT DEST T A 1 | HIC
QUI
DAC
ATJ
GIC
SAC
SAC
SAC
SAC
SAC
SAC
SAC
SA | C IN D IN 2211
 | I A D I T I I J X A I I A I J X A I I A I J X A I I A I J X A I I A I J X A I I A I I I A I I I A I I I A I I I A I I I A I I I A I I I A I I I A I I I A I I I A I I I A I I I A I I I A I I I A I I I A I I A I I I A I I A I I I A I I I A I I I A I I I A I I I A I I I A I I I A I I A I I A I I A I I A I I A I I A I I A I I A I I A I A I A I A I | (1 %C)
(F 8)
(1 %C)
(1 | 3 RI
7 2 3
1 4 7
1 7
1 7
1 7
1 7
1 7
1 7
1 7
1 | ESU
X, 1
104
(B/
AP,E
HCD
ANDA
FLAP
FC
HCD
HCD
 | L T 8
2 H W 2
2 2 2 7
2 2 7
2 2 7
2 2 7
2 2 7
2 2 7
2 2 7
2 2 7
2 2 7
2 2 7
2 2 7
2 7 | F | DR | AL PH
PAN,

CHOF
(194
ITII
ITII
MW)
COEI
NATI
F,7)
F(C'
MOM | 14 =
, R,
A
RD,
RD,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC,
FIC, | , F 6 ,
3 x , 4

C , 2 x
3
IE N1
3
IE N1
3
IE N1
3
TE N1
7 x , 3
C OE F | 2,
HAREA
LEFT
(,
S AND
()
NF),
HCHF)
FICIE | | 03120334
03234
03334
034
035
034
04423
04423
04425
04425
04425
04425
04425
04425
04425
04425
04425
04425
0445
044 |
| 701
702
703
704
705
704
707
707
710
710
710
712
713
714 | FORЧ
FORЧ
1 FOR
1 FOR
1 FOR
1 FOR
1 FOR
FOR
FOR
FOR
FOR
FOR
FOR
FOR | A T (
A T (
A T)
A T T)
A T)
A T T)
A T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T)
A T) | STI
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971)
(1971 | 1))327LKCX2/XX,/31N,/ X
T , UN7 ,/1X2,,/31N,/ X
T , UGX,45(31123,F34)
740 7
 | M 5 (14)2+U+F(1+)2+ST X-1+X H | N . 0/7+0A114(N.7++X55 H | 3 9 R39+4,15,110
8 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10 P+1,10
10
10 P+1,10
10 P+1,10
10
10 br>10 P+1,10
10
10
10 P+1,10
10
10
10
10
10
10
10
10
10
10
10
10
1 | LE F.3.449512GC 0495120 x
 | 001
EN113
F113
F113
F113
F113
F113
F113
F113 | Image: State State Image: State Image: State Image: State | MIC
QUA
DAC
ATJ
GIC
E ATJ
GIC
E ATJ
ST
C O
A
C O
C O
C O
C O
C O
C O
C O
C O
C O
C O | LI T D D N 2 P LI T H D D N 2 P LI T H D LI
T H D LI T H D | 1 A D
I T I I J X A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I
HC A I | (1 NC)
(R III
(1 7)
(2 N)
(3 N)
(3 N)
(3 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N)
(4 N | 2 RI
2 3 UT
4 1 Y /
5 RI
4 1 Y /
5 RI
5 RI | ESU
X = 1
IOM
(B/
AP,
HCD
HCD
HCD
HCD
HCD
 | L T 8
2 H W 2
2 2) ,
1 2 7
2 2) ,
1 2 7
2 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7
2 1 2 7 7
2 1 2 7 7
2 1 2 7 7
2 1 2 7 7 7
2 1 2 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 | F) | DR | AL PH
PAN,

CHOF
(144
ITICIO
COEI
F, T)
F(C)
MON
F(C)
MON
F(C)
 | 4 | , F 6 ,
3 x , 4

C , 2 x
S
T E N1
S T E N
Y
F (C
7 x , 3
C O E F
H C D / | 2,
HAREA
LEFT
4,
15 AND
16 CHF
17 ICIE
(CL+C | F08
F08
F08
F08
F08
F08
F08
F08
F08
F08 | 03120334
00334
00334
0035
0041234
0041234
0041234
0051253
00512534
00556
00556
00556 |
| 701
702
703
704
705
704
707
707
710
710
710
712
713
714 | FORM
FORM
1 SHA
FORM
1 SFORM
1 SFORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM | A T III
A X A A A A A A A A A A A A A A A A A A | ST (()))
(())))
(()))))
(()))))
(()))))
(()))))
(()))))
(()))))) |
 | M 5 (14) 24 (1 | N , 0/7+0A114(N,7W,X55 N ,5
1 3 H2H+C)2H0H+59HY,72 , 5 | 3 9 R39+4,1+HI;)HIF38H 1) | E E3V #11/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1
 | 001 EN113 7 5 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | NA SUPPLIE SUPPLIE SUPPLIE SUPPLIE SUPPLIE SUPPLIE SUPPLIE | MIC
QUA
CAT
I
CO
QUA
CAT
I
CO
QUA
CO
QUA
CO
QUA
CO
QUA
CO
QUA
CO
QUA
CAT
I
CO
QUA
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT
I
CAT | LI T D D N 2 P LI T H D D N 2 P LI T H D D N 2 P LI T H D LI
T H D LI T | 1 A D
1 T I 3 T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T
1 S T | (1 NC)
(R II
(1 7)
(2 NN)
(2 NN)
(1 7)
(1 7)
(1 7)
(1 7)
(1 7)
(1 7)
(1 7)
(1 7)
(1 7)
(1 7) | R 1 <t< td=""><td>ESU
X, 1,
ION
(B/
ADHE
HCD
HCD
HCD
HCD
HCD
HCD
HCD</td><td>LT8
272
272
127
9
272
127
9
127
9
10
7
7
7
7
7
7
7
7
7
7
7
7
7
7
7
7
7
7</td><td>FIN 2 X X 1 Y 0 1 Y 1 Y 1 Y 1 Y 1 Y 1 Y 1 Y 1 Y 1</td><td>DR</td><td>AL PH
PAN,

CHOF
(194
IFIC

F(C)

*</td><td>A B
A A B
A A A A A A A A A A A A A A A A A A A</td><td>, # 6 .
3 x , 4

C , 2 x
3
IE N1
STEN
Y
F (C
7 x , 3
COEF
HCD
/</td><td>2,
LEFT
(,
()
()
()
()
()
()
()
()
()
()
()
()
()</td><td>F0R
F0R
F0R
F0R
F0R
F0R
F0R
F0R
F0R
F0R</td><td>03120334
033345035000000000000000000000000000000</td></t<> | ESU
X, 1,
ION
(B/
ADHE
HCD
HCD
HCD
HCD
HCD
HCD
HCD | LT8
272
272
127
9
272
127
9
127
9
10
7
7
7
7
7
7
7
7
7
7
7
7
7
7
7
7
7
7 | FIN 2 X X 1 Y 0 1 Y 1 Y 1 Y 1 Y 1 Y 1 Y 1 Y 1 Y 1
 | DR | AL PH
PAN,

CHOF
(194
IFIC

F(C)

* | A B
A A B
A A A A A A A A A A A A A A A A A A A | , # 6 .
3 x , 4

C , 2 x
3
IE N1
STEN
Y
F (C
7 x , 3
COEF
HCD /
 | 2,
LEFT
(,
()
()
()
()
()
()
()
()
()
()
()
()
() | F0R
F0R
F0R
F0R
F0R
F0R
F0R
F0R
F0R
F0R | 03120334
033345035000000000000000000000000000000 |
| 701
702
703
704
705
706
707
707
707
710
712
711
712
713
714
715 | FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM | A T DE A X A A NA A A A A A A A A A A A A A A | STH12210449277197711 XH | 1))))))))))))))))))))))))))))))))))))
 | M 5 (17) + H2 + C + H2 + C + H2 + C + H2 + C + HC 2 + F7 I + C 2 + I + I + I + I + I + I + I + I + I + | N + 0/7+0A114(N+7++X55 - + 52) | 3 9 R39+4,1+HI;)HIF38H 1)2 | E E3V #11/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1
 | 100
EN(11
158
158
158
158
158
158
158
1 | N E 5 C 4 C 4 C 2 A C 2 A C 4 C 4 C 4 C 4 C 4 C 4 C 4 C 4 C 4 C | HIC
QUA
DAC
ATJ
EL
I
CO
OX
OX | C LI T D D D 21
10 2 2 3 5 3 7 5 7 5 1 1 2
1 1 2 1 1 1 2 1 | TIAD
I TI I 37
HCTI
1 37
HCTI
2 2
3
C
2
2
4
5
1
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
3
1
1
1
3
1
1
1
3
1
1
1
1
1
1
1
1
1
1
1
1
1 | 1 N(
1 R II
1 R II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P II
1 P III
1 P II | R 1 <t< td=""><td>ESUI
X,1,
ION
(B/
AP,E
HCD
NAP,E
HCD
HCD
HCD
HCD
HCD
HCD
S/6</td><td>LT8
272
272
1779
2727
2779
2779
2779
2779
2</td><td>FIN 2 X X 120 X 120 X 1 20 X 1</td><td>DR</td><td>AL PH
PAN;
CHOF
(1H4
ITIL
MW)
COE
F,7:
F(C)
MOM
M,6:
TA</td><td>Image: Amage of the second
second second</td><td>, F6.
33,4

C,2X
3
TENT
STEN
XF(C
7X,3
COEF
HCD/</td><td>2,
LEFT
(,
(,
(,
(,
)
(,
)
(,
)
(,
)
(,
)
(,
)</td><td></td><td>03123345
000336
000336
0004123445
0004123445
0000552345
0000555
000555
000555
000555</td></t<> | ESUI
X,1,
ION
(B/
AP,E
HCD
NAP,E
HCD
HCD
HCD
HCD
HCD
HCD
S/6 | LT8
272
272
1779
2727
2779
2779
2779
2779
2 | FIN 2 X X 120 X 120 X 1 20 R | AL PH
PAN;
CHOF
(1H4
ITIL
MW)
COE
F,7:
F(C)
MOM
M,6:
TA
 | Image: Amage of the second | , F6.
33,4

C,2X
3
TENT
STEN
XF(C
7X,3
COEF
HCD/ | 2,
LEFT
(,
(,
(,
(,
)
(,
)
(,
)
(,
)
(,
)
(,
) | | 03123345
000336
000336
0004123445
0004123445
0000552345
0000555
000555
000555
000555 |
| 701
702
703
704
705
706
707
710
710
711
712
713
714
715
717 | FORM
FORM
1 5H
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM | A T []
A T []
A T]]
A T T]]
A T T T T T T T T T T T T T T T T T T T | S [[[] /]] /] /] /] /] /] /] /] / | 1))))))))))))))))))))))))))))))))))))
 | M 5 37 3 4 2 4 2 4 2 4 2 4 2 4 2 4 2 4 2 4 2 4 | N , 0/7+08114(N,7W,X55 N, 11
1 3 H2H+C)2H0H+59HY,12 , 52H | 5 9 R39+44571109 IDF 46H 1)2+ | E E SV # 15 1 X 0 1 X 0 2 2 2 X 0 1
X 0 1 | 100
EN(117
138
37
H14
50
H17
10
H17
10
H17
10
H17
10
H17
10
H17
10
H17
10
H17
10
H17
10
H17
10
H17
10
H17
10
H17
10
H17
10
H17
10
H17
10
H17
10
H17
10
H17
10
H17
10
H17
10
H17
H17
H17
H17
H17
H17
H17
H17
H17
H17 | N E 5 C 4 C 4 C 2 A C 4 C 4 C 4 C 4 C 4 C 4 C 4 C 4 C 4 C | HIC
QUA
DAC
ATJE
ENA
IZIO
ENA
IZIO
O X,
EF |
 | TIAD I I 3,3,4,4,4,4,4,4,4,4,4,4,4,4,4,4,4,4,4,4 | (1 N)
(2 E S)
(2 E S) |
 | ESUI
X, 1,
ION.
(B/)
HCD
HCD
HCD
HCD
HCD
HCD
HCD
HCD | L T 8 W 2 A 3 A 3 A 3 A 3 A 3 A 3 A 3 A 3 A 3 A | F 1 2 X 3 120 X 4 10 3 X 4 10 1 X 4 10 | DR SI
G SI
, 10FF C 10NX
RCNX C L
01H | AL
PH
PAN;

CHOF
(1H)
ITIL
MW)
COE
NATI
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C)
MON
F(C) | 4 | , F6.
3x, 4

C, 2x
3
TENT
STEN
7x, 3
COEP
MCD/ | 2,
LEFT
(,
''''''''''''''''''''''''''''''''''' | | 03123345
00037
0007
0007
0007
0007
0007
0007
00
 |
| 701
702
703
704
705
707
707
710
710
711
712
714
715
714
715 | FORM
FORM
FORM
FORM
FORM
FORM
FORM
FORM | A T T T T T T T T T T T T T T T T T T T | S 16/10/2010/2010/2010/2010/2010/2010/2010 | 1))))))))))))))))))))))))))))))))))))
 | E x 2H2+L+F(,HC2, F71, C 2x(Y | X , 0/7+0A114(N.7W,X55 N.,1/ | 5 9 R39+4,1+HI,)HIF38H 1)2+8
R39+4(45)H100 H10 H100 H100 H100 H100 H100 H100 | E E SV # 15 1 1 5 1 0 1 5 1 0 1 1 1 1 1 1 1 1 1
 | 110
EN11
57
54
51
51
51
51
51
51
51
51
51
51 | N E5 SCHRDN US/ T A US/ | HIC 0 A TIL 0 |
 | I I I I I I I I I I I I I I I I I I I | (1 N)
(F 8)
(1 7)
(2 4)
(3 4)
(3 4)
(3 4)
(3 7)
(3 7)(|
 | E 8 UI
X + 1
I 0 P +
C 0 P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P +
C 0 N A P + | L T 8 W 2 A 2 A 2 A 2 A 2 A 2 A 2 A 2 A 2 A 2 | F 1 2 X 3 1 2 0 X 4 E 0 3 X 4 E 0 3 X 4 E 0 3 X 4 E 0 3 X 4 E 0 3 X 4 E 0 3 X 4 E 0 4 C 0 | 08 SI 55 56 57 56 57 56 57 56 57 56 57 56 57 56 57 56 57 56 57 56 57 56 57 56 57 56 56 56 56 56 56 56 56 56 56 56 56 56 | AL
PP
PAN,

CHOF
(1H)
IFII
MW)
COEI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F,71
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
MONI
F(C)
M | 44 m
, R, A
, R, A | , #6.
3x,4

C,2x
3
IEN1
STEN
7x,3
COEF
MCD/ | 2,
HAREA
LEFT
(,
NF),
HCHF)
(FICIE
((CL+C | | 03123345
003376
003376
004423456
004423456
00552345
005555
00555
005556
005556
005556
005556
005556
005556
005556
005556
005556
005556
005556
005556
005556
005556
005556
005555
005556
005556
005555
005556
005555
005556
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
005555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
00555550
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
0055555
00555555 |
| 701
702
703
704
706
706
706
7706
7706
7707
710
711
711
711
711
711
7117
710
711
711 | FORM
FORM
1 5H
FORM
1 5GR
FORM
1 5GR
FORM
FORM
FORM
FORM
FORM
FORM
FORM
FOR | A A AXA ANA AAAAAAAAAAAAAAAAAAAAAAAAAAA | S [[[] |
 | E x 2H2+L+F(,HC2, F71, C 2x(Y) | 2 , 0/7+0R114(N,7W,X55 N, ,1/7
7 3 H2H+C)2H0H+59HY,72 , 52H(X | 5 9 R39+4,++HI,)HIF38H 1)2+8,4
H F39+(4)-100 HF38H 1)2+8,4
H F39+(4)-100 HF38H 1)2+8,4 | E E S + + + + + + + + + + + + + + + + +
 | 115
115
115
115
115
115
115
115 | N ES SCHRIDH DE/F E F RHSF | HIC 0 A TIL
GUA C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C A TIL
GI C |
 | I I I J I I J I I J I I J I I J I I J I I I J I | (1 × C)
(1 |
 | E & UI
X + 1 | 2 7 8
2 7 8
2 7 8
2 7 9
1 7 9
1 7 9
1 7 7
1 7 9
1 | FIN 2 X X 100 X 100 X 1 400 X | 0 R S S 7 H S S S 7 H S S S 7 H S S S 7 H S S S S | AL PP
PAN,

CHOF
(1H)
IFII
NATI
F(C'
HOM
F(C'
TA) | Image: A mage
 | , F6.
3x,4

C,2x
3
IENT
STEN
XF(C
7x,3
COEP | 2,
HAREA
LEPT
(,
''''''''''''''''''''''''''''''''''' | | 0312334500339004123450005512534500000000000000000000000000000000000 |

 RETURN
 ND

IN .			

LCP 156 LCP 157 LCP 158

	721	FIDMAT(1H)	P (19	063
	722	FIGMAT(/53,10(144),19,64660104,12,54 FLAP,12,13,10(144))	FDP	764
	725	FUBHAT (14)1	R Ü M	045
	725	FURMAT (/20%,26HFURCER CHITTED FROM PANELS,1015/46%,1015/46%,1015)	FOR	066
С			FUR	067
	796	FORMAT (14x,4HCXBL,11x,4HCYBL,8X5HCYTLL,7X5HCYTLH,	ŧΠR	068
	1	10×,4HCZRL,8X5HCZTLL,7X5HCZTLP)	FOR	069
c	-	CONSTANTS	FISH	070
ř			FOR	871
•		DATA 8100/57.2957795/	FOR	072
•			FOR	073
5		L TTUT-1		074
			509	075
	108	SPANEZ, DeSSPAN	104	075
		SHEFTHESREF/(2.+SPAN)	PUR	076
		ALFEASIN(SINALF)ARTUD	FOR	077
		IF (NTIME_GT.1) HRITE (6,723)	FUR	075
		WRITE (6,701) ALF	FUB	079
		IR (NTIME_GT.1) #RITE (6,725) (JPNL(K),K±1,NJPNL)	FQR	080
		WRITE(6,702) SPAN,SREF,REFL	FUR	081
		IF INTIME GT. 1) GO TO 99	FOR	560
c			FOR	083
ř.		DISTRIBUTE TRATIING FOR FORCES BETWEEN ADIACENT WING PANELS	FOR	084
ř			FOR	0.85
•	1.03	191851-0	FOR	0.8.6
	1.7.3	10405180	EUD	A 4 7
		JORGESENCHILI	200	
			FU4	400
		DO 90 I=1, H3HM	FUR	094
		NCW1=NCM7(I)	104	0.60
		NCH2=NCH1(I+1)	FOR	A91
		NTERNCH1	FOR	0.65
		IF (NCW1,GT,NCW2) NTEBNCH2	FUR	n95
		DO 91 J#1,NTE	FOR	094
		J1=TBASE1+J	# U 4	095
		JATTRARF2+1	FIR	094
		CYSe(CYTL) (11)+CYTLP(12))/2.0	FUR	097
				A04
			500	0.00
				1144
		CYTLR(J2)=CY3	FUR	100
		CZTLL(J1)=C~3	104	101
		CZTLR(J2)=CN3	FOR	105
	91	CONTINUE	FOR	103
		19A3E1=18A3E1+NCW1	FOR	104
		IBASE2#IRASE2+NCW2	FÜR	105
	90	CONTINUE	709	106
c			FOR	107
ř		NYATOYRUTE TRATIING LEG ENGRES HETAFEN ANIACENT FLAD DANELS	-	108
ř		AND BET TRATING IS SOUTH AND AND AT FLAD FOCES	FUB	100
ž		AND SET THEILING CENTURCES CAPAL TO ZEAD AT FEAF EDUES	109	10.4
۰.				110
			-	111
			FOR	112
		MUPIENCP(N)	FOR	113
		#3#H#H3F(N)#}	E U B	114
		JE FMSTART(N)=1	FDR	115
		[F (48#4,GT,0) GO TO 44	FOR	116
		D/1 98 J#1,+/CF1	FUR	117
		JBL≡JB+J	F () P	114
		CZTLR(JHL)=0.0	FOR	119
	9A	CZTIE (JBI)=0.0	FOP	120
		G0 T0 92	F.0.9	121
	a /i		FOU	1.2.2
			E03	100
			P (14	163
			P UR	150
		JDL5/D4-J	P 1 P	125
		JHL2#JHL+NCF1	FOR	159
		TP_CT_6T_17_60 TO 95	F()9	127
		CZTLL(JPL)#0,0	FOR	126
		CZTLR(JRL)=0.0	FOR	129
		CZTLR(J4L2)=0,0	FAR	130
		1F (I_FG_M8+4) CZTLL(18L2)=0.0	FUR	131
			FOP	113
	95	TF (T.) T. MSAM) 60 TH 96	FUB	112
			. UR	133
		したいにしてのべたなシーベルの 一方 一方 一方 一方 一方 一方 一方 一方 一方 一方 一方 一方 一方		134
	40	CYNELIWUC CYNELWUC	FUR	135
			P(19	136
		F*S#(EZTLLIJBL)+C4TL#(JHLP))/2,0	FÜR	137
		CYTLL(JH,)#CYS	FQR	136
		CYTLR(JRLP)=CYS	FОH	1 1 9
		CZTLL(JAL)#GNS	FDH	140

c

		C77+ D/ 18+ 31=FUR		
	61		FUB	141
	• • •		FOR	142
			F09	143
		CONTINUE	F118	144
	45	CONTINUE	FOR	145
	- 94	CONTINUE	FOR	146
c			FOR	1
		TF (NTINF.LE.I) GO TO 101	F.04	
C			FOR	
Ĉ.		THIT FORCES ON SELECTED PANELS ACCOUNTED TO THE ADDAY	P DR	144
ē		the second second second the second s	P U W	120
			FOR	151
			FOR	125
			FOR	153
		CIBL (JRL) = 0 . O	FOX	154
		CANT (THT)=0"0	F0#	155
		CZBL(JBL)=0.0	FOR	184
		CYTLL(JBL)=0.0	E.0.0	164
		CYTLR(J8L)=0.0	508	121
		CZT(1 (18))=0.0	F U #	120
	104		P U P	154
			EQR -	160
	101	Contract	FOR	161
5			FOR :	162
ç		CALCULATE WING LUADS	FOR 1	163
С			FOR	164
		wRITE (6,703)	#na	168
		##ITE(6,704)	FOR	1
		CON#SAEFTB/(2.+CPHI+)	505	
c			FUR (
ē		LOOP OVER CHORDELSE ROES	PUR	105
ē			FOR	164
		18445-4	FOR (170
			FOR 1	171
		DU 1 182, I***	FUR 1	172
		CT3=0.	FOR	173
		CN340.	FOR	174
		C48m0_0	F OR 1	178
		Y80T#(Y(T)+Y(I=1))/(2,+8\$PAN)	FOR	176
		NETATET	508	
		CHLOCACHROLP(NSTAT)	F1)4	
C			FOR	
ē		IDDE AVER AREA ELEMENTE IN DAM	A UNA 1	
		For the set freed to the	*U* 1	
C		•	FOR 1	61
		NGWWHNCHI(NSTAT)	FOR 1	581
		00 \$ K=1 NCAM	FOR 1	83
		X+38487467	FOR	84
		C73=C73+C79L(JJ)+C2+C4CL(JJ)+C7LL(JJ)-C7LP(JJ)	FOR	85
		CNS#CNS+CZRL(JJ)+0.5+/CZTLL(JJ)+CZTLP(JJ))	FOR .	
		CASECAS+CXBL (JJ)	FOR 4	
	2	CONTINUE	800 1	
	•			
		1986/18/37(3) //8//////////////////////////////////	FUR 1	84
			PUR 1	47
			FOR 1	91
		CHLIRMECHS&CPHIX+CYS&SPHIN	FDR 1	92
		INASE#IBASE+NCWN	FOR 1	93
		CN#CNUMH+2,0+8PAN/CHLOC	FOR 1	94
		CAS#CAB+TA+2,0+SPAN/CHLOC	FDR 1	95
	1	WRITE(6,705) WETAT, YROT, CHLOC, CNORH, CN , CAS	FOR	96
c	-		FD9 1	97
ě		CALCULATE FLAB LOADS	F09 4	
Ē				00
1.		LOND OVER SLADE	FOR 1	
ř			F 104 2	
•		TEANELARE SO AN CO TO FA	POR 2	101
		JE CHELEFOREN AND AND THE SU	F09 2	20
		DI/ EU NELSVELAFÖ	FOR 2	03
		HALLELOFICE) LUPLAPIN, 13, 10FLAPIN, 21	EUN 5	04
		PALIE (8,/04)	FOR 2	05
		NCFF#NCF(N)	FOR 2	06
		CPHIFF#CPHIF(N)	FOR 2	07
		SPHIFF=3PH1F(N)	FQ4 2	80
		CON#BREFTB/2.0	FU9 2	09
		JFH##SF(N)+1	FUB	10
		CROPTMCRONTF(N)	FUD	11
		DCHORDSCHODT=CTIPF(N)	EUD 2	
		JAI BHFUDINS	FUR 2	
		VOTRONAVTI I / 101 3	PUP 2	13
		**************************************	FOR 2	14
		TINDRVETFLIJNI TËDIL AVILUAD-HATODD	EUM 5	15
		F J = AN H T I NHRID T (I I NH)	F()9 2	16
		JDLEM3TART(N)=1	F09 2	17

č		LOOP OVER CHORDAISE ROAS ON THIS FLAP	n figa Frija	21
Ľ		DO 10 1=2.16H	6.116	55
		43TATE1=1	Fris FDD	55
		YBIT=(YF(1,1)+YF(NSTAT,N))/(2,+55PAN)	E C H	22
		CHLOCECRIIOT+(YROI+SSPAN=YINBRO)+OCH IRD/FBPAN	= <u>-</u>	52
		CY8=0,0	F ()	22
			F.)4	- 22
E.			FC9	55
ē		LUDP OVER AREA ELEMENTS IN THIS ROW	Frig	22
¢			FOR	22
		DD 40 Jal, NCFF	FOR	23
			F04	23
		CV3=CV3+CV4CL(J8C)+0; (CV1CL(J8C)+CV7CR(JR())	F09	53
		CASECAS & CYRLIJEL (JELIGEL) + CZTLE(JELI) + CZTLE(JELI)	FUR	23
	40	CONTINUE	F.()#	23
		T4=C(NV/SwfJBL)	FOR	21
		CYS=TA+CYS	FOR	23
			*[00	23
		Chackageral Vaget Can an	t Ü P	541
			Fright State	24
	30	WRITE(6,705) ASTAT, YBOT, CHLOC, CHORM, CN , CAR	F (19	24
	20	CONTINUE	FOR	24
c			FOR	24
ç		CALCULATE HING FONCES AND MUMENTS	FDR	241
	50	C14480 0	EUB	543
	50	CANED.0	កញ្ហា	241
		C ****0.0	FUE	241
		00 60 J#1, MM	808	25
		CYBLW=CXAL(J)	FOR	25
		CZBL+=CZBL(J)	FUR	25
		C2114882214433	F0#	254
		1F (J.(F.VC+T(1)) C/T(H==0.0	FUB	259
		CAMECANOCYALM	500	274
		CNW#CNn+CZ8Ln+CZ7LRn+CZ7LLn	FOR	251
		CHH#CHH#(XBL(J)+XH)=CZ8L4+(Z8L(J)=ZH)+CX8L#+(FTLX9(J)+XH)+CZTLR#	FOR	25
	40		FOR	592
		C4==2.+Cka	FOR	261
		CANER. CAN	P (19	242
		CH##2, ACH#/REFL	FOR	264
		CLH#CNN+COSALF=CAN#SINALF	FUR	265
		CUMBCNN#SINALF+CAM#COSALF	F()P	299
		WRITE (6,707)	FIR	267
		#PITE (6,709)	F () R	264
		#RITE(6,710) CNH, CAN, CL+, CD+, CHN	# (19	204
		CLTOCLW	FOR	271
		CDT#COW	FI)R	272
c			FIR	273
ē		CALCULATE FLAP FORCE AND HOMENTS	FOR	274
		IF (NFLAPS, EG. 0) GO TO INN	F () 4	275
¢			FDR	277
ç		LUUM UARM ELVAD	FOP	276
G			₹()R	279
			FOR	590
		CNF#0.0	104	201
		C4F=0.0	FOR	281
		CYF=0.0	FOR	284
		L ** #84 () E MYNERO - 0	FOR	285
		1	គ ុំព្រ	286
		C-ZAF 80.0	E Ü Å	287
		C"ZYF=0.0	FUR FUR	284
		HCFF#NCF(N)	FOR	294
		HS sHSTART(N)	FOR	291
		75 E76NPTN) 6047-6055 47600	FijP	205
		5	FOR	293
		X=L=X=[Lf(w]	FOR	294
				~ Y 3

G

1

•

YWL=Y#JLE(N) ZWL=ZHILF(N) CPHIFF CPHIF (N) SPHIFF#SPHIF(V) SPS0#SPH1FF+SDXZ SPCD#3PH1FF+CDXZ TPSILENTAN(SHPFLE(N)) CPSILE=COS(SWPFLE(N)) CAPD#COSALF*CDXZ=8INALF*S0XZ SAPONSINALF+COXZ+COSALF+SCXZ LOOP OVER VIRTICES ON THIS FLAP DO BO JEHS, HE CXHLF#CXBL(J) CYBLF#CYBL(J) CZBLF#CZBL(J) CZTLRF#CZTLR(J) CZTLLF=CZTLL(J) CYTLRF=CYTLR(J) CYTLLF=CYTLL(J) K#J=H5+1 IF (K.GT.NCFF.OR.YF(1.N).NE.0.03 GU TO 81 CZTLRF#0.0 CYTLRF=0.0 **B1 CONTINUE** DXWBL#XBL(J)=XWL DY#BL#YBL(J)=YWL DZ#BL#ZBL(J)=Z=L DXWTLREFTLXQ(J)=XWL DYHTLR#YTLR(J)#YHL DZNTLR#FTLZ#(J)=ZWL DXHTLL#FTLXL(J)=XHL PYWTLL=YTLL(J)=YWL PZHTLL#FTLZL(J)=ZHL DXFBL=DX#BL+CDXZ=DZ+BL+3DXZ DYFRL BOYWRL +CPHIFF+DXWRL+SPSD+DZWBL+SPCD DXFTLR=DX+TLR+CDXZ=DZ+TLR+SDXZ DYFTLR#DYHTLR+CPHIFF+DXHTLR+SP8D+DZHTLR+SPCD DXFTLL=DX=TLL+CDXZ=DZ=TLL+SDXZ DYFTLL=DY=TLL=CPHIFF+DX=TLL+SPSD+DZ=TLL+SPCD CNFBL#CZBLF+CPHIFF+CYBLF+SPHIFF CYFBL=CYRLF+CPHIFF=CZRLF+SPHIFF CNFTLR#CZTLRF*CPH1FF+CYTLRF*3PH1FF CYFTLR#CYTLRF*CPHIFF=CZTLRF*SPHIFF CNFTLL#CZTLLF#CPHIFF+CYTLLF#SPHIFF CYFTLL#CYTLLF*CPHIFF+CZTLLF*SPHIFF CAF#CAF+CYBLF CNF=CNF+CNFHL+CNFTLR+CNFTLL CYF=CYF+CYF8L+CYFTLP+CYFTLL CMXNF#CMXNF+DYFRL+CNFBL+DYFTLR+CNFTLR+DYFTLL+CNFTLL CHYNF#CHYNF+DXFBL+CNFBL+DXFTLP+CNFTLR+DXFTLL+CNFTLL CMZAF#CMZAF+DYFBL*CXBLF CHZYF#CHZYF+DXFBL+CYFRL+DXFTLR+CYFTLR+DXFTLL+CYFTLL CMF#CMF+(XBL(J)+XH)+(CZBLF+CDXZ=CXBLF+8DXZ)=(ZBL(J)=ZH) 1 *(CZBLF+SDXZ+CXBLF+CDXZ) CMF=CMF+(FTLXP(J)=XM)+CZTLRF+CDXZ=(FTLZR(J)=ZH)+CZTLRF+SDXZ CHF#CHF+(FTLXL(J)=XH)+CZTLLF+CDXZ=(FTLZL(J)=ZH)+CZTLLF+SDXZ 80 CONTINUE CNFF#CNF+CPHIFF+CYF+8PHIFF CLF=CNFF+CAPD+CAF+SAPD COF#CNFF#SAPD+CAF#CAPD XFCNF=999.999 VFCAF8999,999 XFCYF=999,999 TF (CHF,NE,0,0) XFCNFECHYNF/CNF IF CONF.NE.0.03 YFONFECHANF/ONF JF (CAF, NE. 0. 0) YFCAFECHZAF/CAF IF (CYF.NE.0.0) XFCYF.CHZYF/CYF CHF#CNF+(XFCNF+YFCNF+TPSILE)+CPSILE/REFL CHF=CHF/REFL WRITE (6,712) IDFLAP(N,1), IDFLAP(N,2), CNF, XFCNF, YFCNF, CAF, YFCAF, 1CYF, XFCYF, CHF CLT#CLT#2,*CLF CDT#CDT+2,+CDF CH1#CH1+2, +CHF TO CONTINUE

FIR 296

FDR 297

EU& 548

FU9 299

FOR 300

FOR 301

FOR 302

FOR 303

FOR 304

FOR 305

FOR 307

FOR 308

FOR 309

FOR 310

FOR 311

FU9 312

FOR 313

FOR 314

FOR 315

FOR 316

FOR 317

FOR 318

FUR 319

FOR 320

FOR 322

FOR 323

FOR 324

FOR 325

FOR 326

FOR 327

FUR 328

FUR 329

FOR 330 FOR 331

FOR 332

FUR 333

FOR 334

FOR 335

FOR 336

FOR 337

FOR 538 FOR 539

FOR 340

FOR 341

FOR 342

FOR 343

FDR 344

FOR 345

FOR 346

FOR 347

FOR 346

FU9 349

FOR 350

FOR 351

FOR 352 FOR 353

FDR 354

FOR 355

FOR 356

FUR 357

FUR 35A

FOR 154

FOR 360

FOR 361

FOR 362

FOR 383

FUR 364

FOR 365

FOR 366

FOR 367

FOR \$65

FOR 369

FOR 370

FOR 371

FOR 372

FOR 373

C			FOR	374
Ċ		CALCULATE COMPLETE CONFIGURATION FORCES AND HOMENTS	FOR	375
C			FOR	\$76
	100	*RJTE(6,713)	File	177
		#PITE (6,708)	FOR	178
		WRITE (6.714)	E ne	170
		CNT#CLT+COSALF+CDT+SINALF	5 (19	380
		CAT#CDT+CDSALF+CLT+SINALF	FOR	141
		CORL3=0.0	FOR	181
		IF (CLT_NE_U_0) COCLOSCOT/(CLT+CLT)	FOR	382
		NRITE(6,715) CNT, CAT, CLT, CDT, CHT, CDCLS	FOR	184
		1F (NPRINT.LE.1) 60 TO 505	109	185
		1F INTTHE.GT.11 GO TO 505	FOR	386
C		**** DERUG ****	*********	187
	797	FORHAT (1H)	+FIIP	188
	798	FORMAT (1H1, 10X, 27HSUMMARY OF FONCE COMPONENTS)	****	LAG
	799	FORMAT (15,5%,1PE12,4,2(3%,3E12,4))	#F()R	190
		WRITE (6,798)	****	191
		WRITE (6,797)	**08	192
		HAITE (6.796)	+FOR	191
		00 500 J#1.4w	+F(12	101
		WRITE (6.799) J.C. B. (3). CYRI (3). CYTLI (3). CYTLR(1).	+5.00	105
		(78) (1)	+F04	343
	500	CONTINUE	4FUR	107
	3.10	TE (NELARS LE AL GO TO EOS		347
		17 (NFL=F046640) 00 (1) 303	** 04	244
		DU JUI NELAVELAVE	*FDR	344
		WEITE (6,747)	*F()R	400
		J5HMSTART(N)	*F()R	401
		JEMMEND(N) /	*FUR	402
		DQ 502 J#J3+JF	4 F D9	403
		<pre>wRITE (6,799) J,CXBL(J),CYBL(J),CYTLL(J),CYTLP(J),</pre>	*FOR	404
	1	CZRL(J),CZTLL(J),CZTLR(J)	*F09	405
	502	CONTINUE	*FINR	406
	501	CONTINUE	*File	407
	505	CONTINUE	*E08	
c		teres DEBUG totat		
ē				404
č		CALCULATE PRESSURE DISTRIBUTIONS	FUR	
ř		checonale incompany of a who willing	FUR	114
		THEADED	FOR	412
		JACANANA CA AN DERNAM	FOR	413
•		IF LNIITE GIBIS REIOWN	F G R	414
5			EU.S	415
ç		WING PREASURE DISTRIBUTION	FOR	416
C			FOR	417
		JF (NPRESW,EQ.0) GO TO 300	F () P	41A
		WRITE (6,716)	# /) R	419
		INEADat	*0a	420
		WRITE (6,717)	FOR	421
		#RITE (6,718)	#08	422
¢			FIIR	423
Ċ		LOOP OVER CHURDWISE ROWS	FOR	424
C			E () P	125
-		TRASERO	FUD	
		D(1 200 T=2.THAV	F08	
		fNet-1		461
		1 -1-1 V807-/V/114V/1411//2 A4890441	F 1)#	421
			FII4	424
			FUR	430
			FOR	431
		VCHARNCH][[-]	FOR	432
		00 210 K#1, VCHW	F()9	433
		JJ#J843E+K	File	434
		XC(K)=(XLEE=XBL(JJ))/CHINC	ም (NR	435
		CN3=CZAL(JJ)+CZTLR(JJ)+CZTL((JJ)	FOR	436
		CY3=CYHL(JJ)+CYTLR(JJ)+CYTLL(JJ)	FUR	437
		CNORM=CNS+CPHI++CYS+SPHI+	#DR	435
		PRES(K)#CNORH+SREF/ELAREA(JJ)	# () P	459
	210	CONTINUE	FOR	440
		#RITE (6,719) YPUT,CHLOC,(XC(J),J#1.VCHW)	FOR	441
		#RITE (6,720) (PRES(J), J#1, NC+#)	FOR	443
		*PITE (6,721)	F08	1147
		1845EET845E+NCHN	F () 4	
	200	CONTINUE	F114	444
c			F () R	483
č		FLAP OPESSION DISTOLOUTIONS	F()8	444
č		Let Leebene uterstatilite	# () #	447
-	\$00	TE (NELAPS, ED. 0) GO TO 350	P () W	445
r.		1. C. P. C. C. C. D. D. D. 200	F.0.4	449
ř			F D P	450
•		L HAR HAR A LET O	FQA	451

52

ċ

E.

•		FDR	452					
G	AD 314 Jat 141 409	FOR	453		<u> </u>	[[##[]N /F[VFH6/3];T];7];#C;T2;CC;TP;TP;CP;F(;FV;FV;FA;#X;#C 	VEL 141	021
	DLA 310 MB12 VELAFA VELAMOREBETAN KU DA GA TU 310	F 09	454			14406 /#SIDE/ LI4(250),9E1(230)/VE1(230)/4E1(230)	VEL 1181	022
	$ \begin{array}{c} \left(\mathbf{N} \right) = \left(\mathbf{N} \right) = \left[\mathbf{C} \right]$	FOR	455		5	00000 /10157/010 105/100		620
		FOR	456			UNKON CERCIFIC NERF		025
		FUR	457		5		V#1	026
	1757071 105148/1.17271 105148/1.11.105148/1.21	FOR	458	-	ų,		1	027
36	LATTE (B)/223 IN EN CONTRACTORY CONTRACTORY	FOR	459	Ľ		Rev. v		0.28
	nukkentering autic (matta)	F{}P	460				VEL	029
		FOR	461			PE11		030
	PALTPANTE An 131 Tel.4755	FÜR	462				VEI	031
		#0 #	463				1	012
13	- VELINALE 1_0.751/FN/FF	FOR	464					011
36		#0#	465				441	014
	jrnengrin vezetik. Mensilaveri vijavetik, uj	F()#	466		1		VEL (18)	A 1 E
	rareautitis (1.) / FSPAN	FOR	467	~	~	I I I I I I I I I I I I I I I I I I I	VEL	034
		FOR	468	L		E (1)EPC CT (1) (ET)(P)		017
		FOR	469	•	1	r (Arwc _e uleu) Acium	V F 1	0.58
		FOR	470	5			VCL.	A14
		FOR	471	L L	1	HEFUENCE OF HINE ANEITED AN FUDE NAME CHOMMANDE HOME		000
		FOR	472	C			VE1	
-	9rr=8rm1r(~)	FOR	473		5	0 200 TSHEI, SA	VEL	
5 .	A TOP OVER ENDERING BONS	FOR	474		•	AFTENFSEG(ISH)	VEL	042
ç	· CONDETER HUMA	708	475			FTURO,	VEL	043
G		F.0.9	476			FTVEC	VEL	044
	DU 220 Tatita	100	477			FTW80,	VEL	145
	19年1年1 19年1年	#D8	478		ĩ	F(NAFT_EQ.0) GO TO 133	VEL	044
	YB(IT#([]+N]+TF(]M+N])/C+U]/30PAN	804	479		I	F(NAFT_E0.1) GD TO 131	VEL	047
	ALSRAKU1435LUNA BLANDAIVOHD	100		c			VEL	04 8
	CHLOC#CROOT+YF8 +OCHORD	F 0 5	400	c	t	NFLUENCE OF FINITE LENGTH NAKE PIECES REMIND THIS ROW	VEL	049
	DO 340 KHI,NOFF	F 0 6		C			VEL	050
	J8L#J8L+1	-	402		N	ISFT4BNSFT#1	VEL	051
	CNSHCZBL(JBL)+CZTLL(JBL)+CZTLR(JBL)				0	130 14881,NAFTH	VEL	652
	CYS=CYBL(JBL)+CYTLL(JRL)+CYTLP(JBL)		404		X	1 = X + K R + (13 - , 143)	VEL	053
	CNORH=CNS+CPF+CYS+BPF		403		Y	1=YwKR+(13w,148)	VEL	054
	PRES(K)=CNORM+SREF/ELAREA(JBL)		4 4 5 5		1	1=7=KR=(13++148)	VEI	955
3/	IG CONTINUE	FUE	4 487		- 7	439x14341	VEI	054
-	#RITE (6,719) YBOT, CHLDC, (XC(J), J=1,NCFF)	101	486			2xXWKR#(15+,143P)	VET	057
	+RITE (6.720) (PRES(J)+J=1+NCFF)	FO:	489		ŝ	JavaKou/(Sa. 1189)	VEL	058
	wRITE (6.721)	10	2 490				VEL	A50
5	LA CONTINUE	FO	R 491		- 2		VE1	0.60
	LA CONTINUE	- FO1	8 492					864
- ÷	I CONTINUE	₹ 04	R 493			FTU-AFTVARV		061
	TE CHITENI FO.GY RETURN	- #OI	R 494				VCL	0.02
		#01	R 495			10 - Mart 1970 M. 14 - Mart 1970 M.	VEL	003
		FO	R 496			() - M - M - M - M - M - M - M - M - M -	VEL	0.00
		FO	R 497			1914 (1949) 1914 (1949)	VEL.	0.6.5
	E-10					14244L4(134)1491	VEL	000
							VEL	
						CTARF(([]=)[V]b)	VEL	064
					4	CELNEL (10H, LASP)	VEI.	0.64
					5	ALL FLVF	VE1.	070
						PTURAFTU-FU	VEL	071
					4	P TV#AF TV#P V	VEL	075
					. 1	፦ T ከ # # F ካ	VFL	073
				_ 13	30 0	CNTINUE	VEL	074
				ç			VEL	075
				C	1	INFLUENCE UP SEMI#INFINITE TRAILING LEGS IN LAST AFT FLAP	VEL	076
				C	. .		VEL	077
	SUBROUTINE VELSUM(XX.vY.ZZ)	VEL	0.01	13	31 0	INTINIE	vti	078
C		VEL	0.02		L, L	FELASTF(18+)	VEL	079
č	CALCULATES VELOCITIES OUE TO VORTICES AND THETE WAKES AT	100	001			X==CDELXZ(LF)	VEI.	080
č	A FIFLOPOINT (XX,YY,77)		003			Z=SDELXZ(LF)	۷٤١.	041
ř			004		3	(]=X#KR6(]8+,447)	VEL	540
č	COMMON STATEMENTS	VEL	005		;	(1244KBW(ISK,NAFT) 1170KBW(ISK,NAFT)	VËL VEL	083
С		VEL	007		1	F INTOF. (E. 0) GG TU 231	VF1	084
	COMMON / WNGDAT/ Y(S0), PSIHLE(S0), PSIHTE(S0), BPHIM, CPHIM, TPHIN	VEL	008	r		CORDECT DISTINCION OF WING TRATITING LECS AT BLAS BORES	- FL	0.84
	COMMON /INDEX/ MSH,MH,MTOT,NCHI(30),IMAX,NFSEG(30),LASTF(30)	VEL,	009	÷		ACTION FOR THE ALL AND ANALYING FEAS AT AFAL EARS	VEL	0.8 5
	CNHMON /TLDAT/ XTER(30),XTEL(30),XTLP(250),YTLR(250),ZTLR(250),	VEL	010				VEL	007
	1 ¥TLL(250),YTLL(250),ZTLL(250)	VEL	011				VEL	0.00
	COMMON / INDEXF/ NEREG, NELAPS, INFLAP(10,2), NCF(10), MSF(10), MF(10),	VĒĻ	012			······································	VEL	004
	1HSTART(10), HEND(10), NEBEGE(10)	VEL	013	_		17 (VT_LE_1)/LJ Nº 10 235	VEL	640
	COMMON /FLPDAT/ \$DELX2(10),CDELX2(10),VF(30,10),SPHIF(10).	VEL	014	5	25 (VINITOR	VEL	191
	1CPH1#(10)	VEL	015	-		er (V 231	VEL	045
	COMMON /HEDATH/ XMKR#(30,3),Y#K9#(30,3),ZHKRH(30,3),X#KL+(30,3).	VEL	016	5	35 1	·····	VEL	093
	1 Y#KL #(30,3), Z#KL#(30,3)	VEI	017		_ 1	NZ#0,0	VEL	. 094
	COMMON /NKOATE/ XHKHE(30,2,10),YHKRE(30,2,10),ZHKRE(30,2,10),	VEI.	018	2	31 (THE TAUE	VEL	095
	1x+KLF(30,2.10),Y+KLF(30.2.10),Z+KLF(30,2.10)	VEL	019	C			VEL	194
	COMMON /RVELS/UP, VP, NP	VEI	020		. (ALL SIVE	ν٤ί	097
			•			AF TUBAF TU+FU	VEL	098

C

AFTHBAFTHOFF VEL 100 X1=XWK(W(IS+, NAFT) VEL 101 YIEYWKL + (18H, NAFT) VEL 102 ZI=ZHKLH(ISH,NAFT) VEL 103 IF (NIDF, LE. 0) GD TO 241 VEL 104 CALL FLVF CU=CU=FU C CORRECT POSITION OF WING TRAILING LEGS AT FLAP EDGES VEL 105 EV#CV=FV AX==CDELYZ(LF) VEL 106 AZ#BOELXZ(LF) VEL 107 **CHREWSEW** DD 242 JEL.NIDF VEL 108 KRIDF (.1) VEL 109 DT#(Y1=Y(K))++2 VEI 110 147 VSEC14(1) IF (DY, LE, THL) GO TO 245 VEL 111 242 CONTINUE VEL 112 GO TO 241 VEL 113 245 AX=+1.0 VEL 114 150 CONTINUE 4Z=0,0 VEL 115 241 CONTINUE VEL 116 С c VEL 117 CALL SIVE **VEL 118** AFTUEAFTU+FU C VEI 119 AFTVEAFTV+FV VEL 120 AFTNBAFTH+FH VEL 121 133 CONTINUE VEL 122 £ VEL 123 C LODP OVER VURTICES IN THIS WING CHUPDWISE ROW VEL 124 Ċ VEL 125 NCHCENCWI(ISH) VEL 126 DO 150 JEWRIANCHE VEL 127 Ĉ C VEL 128 ĉ INFLUENCE OF BOUND LEG VEI 129 C C VEL 130 T=IBASE+TCH VEL 131 AFTUER_0 XI#XTLL(I) VEL 132 AFTVB0.0 YI=YTLL(1) VEL 133 ZI#ZTLL(I) VEL 114 AFTWB0.0 X2=XTLR(T) VEL 135 YZEYTLR(1) VEL 136 C 22=2TLR(1) VEL 137 CALL FLVF C **VEL 138** CV#FU C VEL 139 CVOFV VEL 140 CWEFN VEL 141 IF(NAFT.NE.0) GO TO 145 VEL 142 VEL 143 NO FLAPS BEHIND THIS ROW. COMPUTE THE INFLUENCE OF INFINITE VEL 144 TRAILING LEGS IN WING PLANE C VEL 145 r VEL 146 AX==1.0 VEI 147 AZ=0.0 **VEL 148** CALL SIVE VEL 149 CUSCUSFU VEL 150 CV=CV+FV VEL 151 CHBCH+FH VEL 152 X1#X2 VEL 155 V1=V2 VEL 154 21=22 VEL 155 CALL SIVE VEL 156 EV=CU=FU VEL 157 CV#CV=FV VEL 158 C-BCNOFW VEL 159 GR TO 147 C VEL 160 c VEL 161 С THERE ARE FLAPS BEHIND THIS RON. COMPUTE INFLUENCE OF C VEL 162 C FINITE TRAILING LEGS IN WING PLANE ĉ VEL 163 C. VEL 164 145 XIEXTLR(1) VEL 165 YISYTLR(1) VEL 166 21=2719(1) VEL 167 X28XAKBW/TSs.11 VEL 16A Y2=Y=KR*(13*,1) VEL 169 Z2=Z#KR#(15+,1) VEL 170 CALL FLVF VEL 171 CU#CII+FU VE1 172 CV=CV+FV VEL 173 C4#C4+F# VEL 174 XI=XTLL(1) VEL 175

VEL 099

1=YTLL(]) VEL 176 VEL 177 Z1=Z7((1) X2=X+×L+(15++1) VEL 178 Y2#Y#KL(18++1) VEL 179 VEL 180 22=2+KL +(18++1) VEL 181 VE1 182 VEL 183 **VEL 184** VEL 185 CUECU+AFTU VEL 186 CV#CV+AFTV C-RCH+AFTH VEL 187 VEL 188 VEL 1A4 UPalip+C(1+VS VEL 190 VP=VP+CV+V8 VEL 191 HPENP+C++V8 VEL 192 200 IBASENTRASE+NCHC VEL 193 VEL 194 INFLUENCE OF FLAP VORTICES -- LOOP OVER FLAPS VEL 195 VEL 196 VEL 197 TF(NELAPS.EQ.0) RETURN DO 300 IFLAS.NFLAPS VEL 194 NCFFENCF(IFL) VEL 199 HSFF#HSF(IFL) VEL 200 VEL 201 CDX2=CDELX2(IFL) SOXZ#SDELXZ(IFL) VEL 202 VEL 203 NAFTENFSEGF(IFL) IBASE#HSTART(IFL) VEL 204 VEL 205 LOOP OVER CHOPDWISE ROWS OF VORTICES ON THIS FLAP VEL 206 VEL 207 VEL 20A 00 250 IS##1, MSFF VEL 209 VEL 210 VEL 211 VEL 212 1F(NAFT.E0.0) GD TO 212 VEL 214 IF (NAFT ER. 1) GD TO 210 VEI 214 INFLUENCE OF FINITE TRAILING LEGS IN FIRST FLAP AFT OF THIS ONE VEL 215 VEL 216 X1=XWKRF(IS++1+IFL) VEL 217 YINYHKRF(ISH, 1, IFL) VEL 214 VEL 219 ZIEZWKRF(TB#.1.IFL) K2KKKKRF(184,2,IFL) VEL 220 Y2=Y#KPF(18+,2,1FL) VEL 221 22=2WKRF(18+,2,1FL) VEL 222 CALL FLVF VEL 223 AFTURAFTU+FU VEL 224 AFTVEAFTV+FV VEL 225 AFTNEAFTR+FH VEL 226 XIEXEKLF(1SH,1,IFL) VE1 227 Y1#Y#KLF(18#+1,1FL) VEL 224 ZI=ZWKLF(ISH,1,IFL) VEL 229 ¥2#X+K(F(18+,2,1FL) VEL 230 Y28YWKLF(18+,2,1FL) VEL 281 Z2=ZWKLF(18++2,1FL) VEL 232 CALL FLVF VEL 233 AFTURAFTU+FU VEL 234 AFTVEAFTVEFV VEL 235 AFTWRAFTABFA VEL 236 VEL 237 CONTRIBUTION OF SEMI-INFINITE TRAILING LEGS IN SECOND FLAP VEL 21A VF1 239 210 XIEXHKRE(TSHANAFTATEL) VEL 240 YISYHKRF(IS+, NAFT, IFL) VEL 241 ZI=ZWKRF(ISH,NAFT,IFL) VEL 242 NFETFLANAFT VEL 243 AXB=COELXZ(NF) VEL 244 AZESDELXZ(NF) VFL 245 CALL STVP VEL 246 AFTURAFTU-FU VEL 247 AFTVEAFTVOFV VEL ZAB AFTWEAFTHOFF VEL 249 XIEXHKLF(IS+, NAFT, TFL) VEL 250 VIEVERLE(15+, NAFT, 1FL) VEL 251 ZI=ZWKLF(IS++NAFT+IFL) VEL 252 CALL STVF VEL 253

AFTVEAFTVEFV

AFTVEAFTV+FV AFTWEAFTH+F+ LOOP OVER VURTICES IN THIS CHORDHISE ROW С. 212 CONTINUE IINIBABE+(ISH-1)+NCFF-1 NO 220 ICH#1,NCFF INFLUENCE OF BOUND LES С Ê I#II+IC∺ XINXTLL(I) YISYTLL(1) ZI#ZTLL(I) X2#X1L#(1) YZ=YTLR(1) ZZHZTLR(I) CALL FLYF ÇU∎₽U CV=FV CHEFN IF (NAFT, NE. 0) GD TO 214 C NO FLAPS BEHIND THIS ONE. COMPUTE INFLUENCE OF SEMI-INFINITE TRAILING LEGS IN THE PLANE OF THIS FLAP c £ AXE COY7 47×80×7 CALL SIVE CV#CU+FU **CVECVABU** C>SCK4FW X1eX2 Y1#V2 71=72 CALL SIVP CU=CU=FU EVACV-FV CHECKOFH 60 70 216 C THERE ARE FLAPS BEHIND THIS ONE. COMPUTE INFLUENCE OF £ FINITE TRAILING LEGS IN THIS FLAP C c 21# XI=XTLR(I) YISYTLR(I) Z1=ZTLR(I) XZ#XWKRF(18+,1,1FL) Y2xYWKRF(I8+,1,IFL) ZZHZWKRF(18H,1,1FL) CALL PLYP CU#CU+FU CV#CV+FV CHECK+FN XIEXTLL(I) YI=YTLL(I) ZINZTLU(I) X2=X+KLF(18+,1,IFL) Y2=YHKLF(I8H,1,IFL) ZZ#ZWKLF(I#W,1,IFL) CALL FLVF CHECU-FH CV=CV=FV CHECHOFN CURCU+AFTU EVECV+AFTV CHECH+AFTH 216 V\$#C1R(I) UPBUP+CIJ#V8 VP#VP+CV+VB 220 WPEWP+CH+V8 250 CONTINUE 300 CONTINUE NVTLFO RETURN END

AFTURAFTU+FU

VE1 254

VEL 255

VEL 256

VEL 257

VEL 258

VEL 259

VEL 260

VEL 261

VF1 262

VEL 263

VEL 264

VEL 265

VE1 266

VEL 267

VEL 268

VEL 269

VEL 270

VEL 271

VEL 272

VEL 273

VEL 274

VEL 275

VEL 276

VEL 277

VEL 278

VEL 279

VEL 280

VEL 281

565 J3V

VEL 283

VEL 284

VEL 285

VEL 286

VEL 287

VEL 288

VEL 289

VEL 290

VEL 291

VEL 292

VEL 293

VEL 294

VEL 295

VEL 296

VEL 297

VEL 298

VEL 299

VEL 300

VEL 301

VEL 302

VEL 303

VEL 304

VEL 305

VEL 306

VEL 307

VEL 308

VEI. 309

VEL 310

VEL 311

VEL 312

VEL 313

VEL 314

VEL 315

VEL 316

VEL 317

VEL 318

VEL 319

VEL 320

VEL 321

VEL 322

VEL 323

VEL 324

VEL 325

VEL 327

VEL 32A

VEL 329

VEL 330

VEL 331

SUBROUTINE JET (NP, XP, YP, 7P, UP, VP, NP, NTIME) JET 001 JET 002 USB VERSION. JET IS REPRESENTED BY A SERIES OF DUADRILATERAL С JE7 003 VORTEX RINGS, LVING ON & PRESCRIBED PATH, C JET 004 C PARALLEL TO WING AND FLAP UPPER SURFACE JET 005 C JET 006 ALL FIELD POINT CUORDINATES ARE INPUT IN THE WING SYSTEM AND C JET 007 TRANSFORMED TO THE ENGINE SYSTEM FOR CALCULATIONS c JET DOB C JET CENTERLINE CONROINATES ARE INPUT IN ENGINE SYSTEM JET 009 ALL DUTPUT IS IN THE WING SYSTEM JET 010 c JET 011 ē. NCRCT # 0 CORRECT FIFLD POINT POSITIONS JET 012 HITH RESPECT TO VORTEX RINGS ĉ. JET 013 NCRCT # 1 DO NOT CORRECT FIELD POINT POSITIONS JET P14 JET 015 NTIME # 0 INPUT AND PRINT INITIAL JET PARAMETERS JET 016 C PRINT JET PARAMETERS AND CALCULATE £ NTIME .GT. 0 **JET 017** INDUCED VELOCITIES JET DIA IF CFK = 1.0, PRINT JET PARAMETERS JET 019 CINDUCED VELOCITIES INPUTS JET 020 C CALCULATE INDUCED VELOCITIES FROM C NTIME LT. 0 JET 021 c PREVIOUALY DESCRIBED JETS . NO DUTPUT JET 022 NVLP # NUMBER OF LATTICE ELEMENT CONTROL POINTS JET 025 AT WHICH NO JET VELOCITIES ARE TO BE C JET 024 COMPUTED (NVLP.LE.100) ĉ JET 025 PRINT INPUT JET PARAMETERS AND C CFK,GT,0,0 JET 026 BET UP NPTJ(PANT ARRAY JET 027 C JET 028 DPTIGNAL OUTPUT C JET 029 C HINIMUM OUTPUT JET 030 JPRINT # 0 NO OPTIONAL OUTPUT C JET 031 JPRINT # 1 INDIVIDUAL JET INDUCED VELOCITIES С JET 012 ĉ JET 035 DIMENSION TITLE(8), PJET(2), XP(250), YP(250), ZP(250), JET 034 XPR(250), YPR(250), ZPR(250), U(250), V(250), W(250), JET 035 UP(250), VP(250), #P(250), CT(2) JET 036 C JET 037 COMMON /XYZCL/ NJET,NCYL(2),XQ(2),YQ(2),ZQ(2),GAMVJ(2),DS(2), JET 038 1 RH0(2), CHU(2), XCLR(2, 25), YCLR(2, 25), ZCLR(2, 25), THETA(2, 25), JET 039 SCLR(2,25), AJET(2,25), BJET(2,25), DSFACT(2,25), JET DAD 2 UCL(2,25), VCL(2,25), HCL(2,25), CFJ,CFK JET 041 COMMON /CLDAT/ N58(2),55(2,11),X58(2,11),Y55(2,11),Z58(2,11), 381 042 T33(2,11),853(2,11),455(2,11),X8N(2,11),Y8N(2,11), JET 043 Z3H(2,11),X8T(2,11),Y8T(2,11),Z8T(2,11),085(2,11) JET 044 COMMON /CORNER/ XCRG(4), YCRG(4), ZCRG(4) JET 045 COMMON /PTDAT/ NPTJ(2,250), NCRCT JET DHA CONHON /VLDAT/ NVLP, NVL(101) JET DAT COMMON /NFJCL/ NFJ.NFJN(3) JET 048 COMMON /REFOURS SSPAN, SREF, REFL, XH, ZH JET 049 c JET 050 700 FORMAT (8F10.5) JET 051 701 FORMAT (1615) JET ASE TOR FURMAT (8410) JET 053 703 FORMAT (101,8410) JET 054 704 FORMAT (1H1, 3X, 20HINBUT JET PARAMETERS //) JET 655 705 FORMAT (6F10.5.15) JET 056 TO& FORMAT (//SX, 48HJET INDUCED VELOCITIES ARE INTITED IN PANELS 3FT 057 1015,9(/53x,1015)) • JET 058 TOT FORMAT (1H1, 37, 34H JET PARAMETERS FUR TANGENT USH JET //) JET 059 TOR FORMAT (6x, 12HINPUT VALUES) JET CHO 711 FORMAT(//2H (11,16H) JET PARAMETER8,10X,3HCT ,7X3HRHD,7X2HXD, JET 061 1 8x2HY0,8x2HZ0,8x4HD(3),5x4HNCYL,3x7HGAMMA/V /23x,6F10,4,18,F10,4/ JET 062 AXSHXCL, TXSHYCL, TXSHZCL, BXSHSCL, BXSHTHETA, TX1HA, 9X1HB JET 063 6X6HDSFACT,7X1HP) JET 064 712 FCRHAT (3x, 3F10, 5, 4F10, 4, 3F10, 3) JET 065 713 FORMAT (/3X4HNJET, 2X4HNVLP, 3X2HNP, 2X5HNCRCT, 2X6HJPRINT) JET 066 714 FORMAT (1516) JET 067 715 FORMAT (411HN, 712HX+, 812HY+, 812HZ+513HU/V, 913HV/V, 913HV/V) JET 068 716 FORMAT (15, 3F10, 3, 2x, 3(1PE12, 4), 215) JET 069 717 FORMAT C/11X.22HKING COORDINATE SYSTEM) JET 070 TIA FORMAT (/21.258/WELDCITTES INDUCED BY JET,12.20H - JET COORDINATE S JET ATE 1YSTEM/AYIHN.7XAMXP ,6XAHYP ,5X3M//YOX3KV/VOX3HA/V) JET AT2 719 FORMAT (// 5X.3AHSURFACE COURDINATE PARAMETERS FOR JET ,12, 3X, JET AT3 PAHLWING COORDIVATE SYSTEM) 1 1 JET DTA 720 FORMAT (/AY2HYS, 6X2HYS, 6X2HZS, 6X2HSS, 4X5HTHETA, 5X1HA, 7X1HH, JET 075 913+151, 513+181, 513+ZSA, 713+181, 513+181, 513+ZST, 513+DSS1 1 JET 076 721 FORMAT C///IOX, SUMERFOUTION TERMINATED, ERROR IN D& 3 JET 077

ន

	557	FARMAT (3x,7F8,3,2(2x,3F8,5),F8,1)	JE 1	078
C			JET	179
		P7=3.1415926	JET	080
		PAD=180,/PI	JET	081
C			JET	0.02
		IF (NTIME) 193,10,997	JET	083
C			JET	084
	10	READ(5,701) NHEAD;NJET;NVLP;NCHCT;JPRINT	JÉT	085
		IF (ENF(5)) 999,998	JET	086
	999	STOP 10	JET	087
	998	CONTINUE	JET	688
		NPRINTEJPRINT	JET	089
		NYLPZeNVLP	JE T	090
		IF (NPRINT_GT.1) NPRINTES	JET	091
		NABNPRINT.	JET	200
		HRITE (6,704)	JET	093
		DD 9 JEL,NHEAD	JE T	094
	-	READ(5,702) TITLE	JET	095
	9	WHITE (6,703) TITLE	JET	096
c			JET	097
ç		INPUT INDIVIOUAL JET PARAMETERS	JET	098
ç			JET	099
		HILL IN JULIANSEL	JET	100
		<pre>#E#U (3)/US1 E(U)/###U(U)/ #U(U)/YG(U)/ZG(U)/DS(U)/NCYL(U) C#U(U)/CT(U)</pre>	JET	101
			JET	105
		NUTUNCTL(J) 18 (Diofit) E. A.A. Ducitien A	JET	103
		IF (HTU(J)_LC_UU) HHD(J)#1.0	JET	104
		DU 11 NB1,NCT DEAD IS GAAL VOLDIT AL VELDIT AL TELETIAL AL TELETIAL AL TELETIAL	JET	105
		WERD (S)/NO/ ALLR(J)N)/ALLR(J)N)/AJET(J)N)/BJET(J,N)/	JET	106
		I HETALOJNJJUSPALILJNJ	JET	107
			151	108
		TF (DSFACT(JAN), E.O. D. DSFACT(JAN) BY A	121	104
	11	CONTINUE	187	
	••	AJ#4,0+AJET(J,1)+BJET(J,1)	JET	112
		DUNUSORT(2.0+CMU(J)+SREF/AJ+RHD(J) + 1.0)	38.7	
		GAHVJ(J)=0.5+(1.0 + DUM) = 1.0	JET	114
	14	CONTINUE	JET	
		IF (NVLP.GT.0) READ (5,701) (NVL(J),Jai,NVLPj	JET	116
c			JET	117
	997	CONTINUE	JET	110
		NPRINTENA	JET	119
		IF (NTIME,GT,0) WRITE (6,707)	JET	120
		IF (CFK,LE,0,0) GO TO 996	JET	121
		WRITE (6,708)	JET	122
		NPRINT#0	JET	123
_	996	CONTINUE	JET	124
<u> </u>			JET	125
		SET HP TABLE (IP JET GENTERLINE PARAMETERS	JET	126
Ľ			JET	127
		10 14 J0170321 801071.1300.0	JET	156
			327	129
		00 15 NB2-NCV	327	150
		SR # (YC)R(J-N)eXC(R(J-N=1))ee2 & /YC)A/J-NA/B/T H_ANAAAA	157	151
	(1 (ZCLR(J,N)=ZCLR(J,N=1))++2	367	132
	13	SCLR(J,N)=SCRT(SR) + SCLR(J,N=1)	151	133
	14	CONTINUE	15 1	115
¢			JET	136
ć		BEFTININTEA ONLENT	JET	137
C			JE T	138
		WRITE (6,713)	JET	139
		WRITE (6,714) NJET,NVLP,NP,NCRCT,NPRINT	JE T	140
		DD 45 NEL,NJET	JE T	141
		NCYBNCYL(4)	JET	142
		PJET(N)=4,0+(AJET(N,1) + BJET(N,1))	JET	143
		WRITE (6,711) N+CMU(N),RHO(N),XQ(N),YQ(N),ZQ(N),DS(N),NCY,GAHVJ(N)	JET	144
		00 15 Ja1,*CY	JET	145
		P=4,0+(AJET(N,J) + HJET(N,J))	JET	146
	15	HAITE (0,712) XULH(N,J),YCUR(V,J),ZCLR(N,J),8CUR(N,J),THETA(N,J),	JET	147
		A AJEI(N,J),HJET(N,J),USFACT(N,J),P	JET	143
		te (a)tel®ta®n) mi ti ma	JET	149
ž		DUTBUT SUPERCE COUPLEATES OF LET COMPLETE THE SET OF	JET	150
		NARNESTAN	JET	151
		*BITE (6.719) N	164	122
		A CALL A HAR CALL A C	JC (135
		+RITE (6.720)	16.1	160

		PI- 18 JELANS	
	18	APITE (5,722) x55(N,J), Y55(N,J), 255(N,J), 55(N,J), 758(N,J).	JET 155
		1 455(4, J), 455(N, J), x51(1, J), Y50(N, J), Z51(H, J), X81(H, J), Y51(N, J),	JET 157
	ž	2 25T(N,J),DS5(+.J)	JET 158
	45	CONTINUE	JET 159
		IF (NVLP.GT.O) #RITE(6,706) (NVL(J),J=1,KVLP)	JET 160
		IF ("TIVE,ED, 0) RETURN	JET 161
		GP TR 194	JET 162
	193	NPRINT==1	JET 163
		IF (NTIME_LT_=1) NVLPED	JET 164
	194	CONTINE	JET 165
		IF (NTTHE.GE.ml) NVL(NVLP+1)#NP+1	JET 160
Ļ			JET 167
		JF (CFK_GT_V_0) GU IN 46	JET 16R
		UU 142 JE184P	JET 169
			JET 170
	192	*F(0)*0,0	JET 171
c	• • •		JET 172
ē		BEGINNING OF LOOP OVER ALL JETS	361 175
-	46	DO 40 Mai, NJET	JET 170
		1F (DS(H).LE.0.0) GU TO 90	187 175
		N3=N35(M)	767 177
		VCLENCÝL(M)	157 178
		NFJ3=NFJ+3	JET 179
C			JET 180
C		TRANSFORM SURFACE COMPDINATES TO JET SYSTEM	JET 181
C			IET 1EZ
		JEM	JET 183
		D0 62 1=1,NS	JET 164
		x3(J,1)=x(J)=xS5(J,1)	JET 185
			JET 186
		x3/LJ/LJ/LJ#X4(JJ#X3/LJ/LJ/ VE6/1 Y5_U66/1 TS_U6// 25	JET 187
			JET 188
			JET 189
			JET 190
		75N(1-1)-20(1)-29N(1)-1	JET 191
		Z37(J,1)=Z9(J)=Z37(J,1)	JET 192
		T93(J,I)=T83(J,I)	JET 195
	62	CONTINUE	JE1 194
		00 19 J#1,NP	164 107
		uf(J)=0_0	1ET 107
		V(J)=0_0	167 108
	19	×(J)=0_0	JET 199
		SREND=SCLR(",NCL)	JET 200
ç			JET 201
C.		TRANSFORM FIELD POINT CONRDINATES TO ENGINE SYSTEM	JET 202
С			JET 203
	140	NUDIAI JEINA	JET 204
		Arm(J)= #Ar((J)+FU(M) VPD/?\= VD/?_VO/M\	JET 205
		7	JET 206
c	• • 1	4	JET 207
ž		CORPECT RIELD ROTATIONS IS DESCRIPT	JET 208
č		SET UP VPTJ(4.4) ARRAY TO TOFNITTEN DISTRED	JET 209
č		WE ANY MODEL IN INCOMENT MANELS NEAR DET	JET 210
-		CALL CORECT (NP.XPR.YPR.JPH. M.NTTHEN	JET 211
		TF CCFK,GT,0,0) GO TO 51	JET 212
		\$P==D5(H)/2.0	JE 1 215
		FACTOREDSS(W, 1)	161 214
		NSRE2	JE1 214
	50	CONTINUE	JET 217
C			1FT 214
С		REGINNING OF LOOP OVER ALL RINGS IN JET H	1FT 219
		DSR#DS(M)AFACTOR	JET 221
		GAMI#GAMVJ(M)#PJET(M)*DSR	JET 221
~		3× E3H + 0 5H	JET 727
ř			JET 223
ř		THE SUPPORT SPECIFICATION TO LUCATE VORTEX RINGS	JET 224
v	421	TE (OD-SSTR.NOD)) ANT ANT ANT	1ET 225
	422	1. (07+071-14041) 423,423,422	1ET 22-
		TE INSP. GT. NSN GO TO FI	155 T3L
		GU TO 421	JET 22H
	425	RG=HSS(M.NSR)	JET 229
	-	AGEASS(M. 1988)	JET 230
			JET 231

		THC=TEE/U_LED1/840
		VGEVSS(M.NRR)
		7G#783(H. N6R)+RG+C(3(THG)
		XGN#XSN(M.LSR)
		YGNEYSN(M, NSR)
		ZGN#ZSN(P,NSR)
		XGT=XST(M.NSR)
		YGT#YST(M, NSR)
		ZGT#ZST(M,NSR)
		FACTOREDSS(",NER)
		GD TO 430
	423	DELTA=(SR+S3(H,NSR+1))/(63(H,NSR)+S3(H,NSR+1))
		1F (NSR=NFJ3) 424,424,427
	427	THG#T55(H,NSR=1)+(T58(H,NSR)=T85(H,NSR=1))+DELTA
		THGETHG/RAD
		60 TO 426
	424	THGUTSS(M, NSR)/PAD
	426	8GE88S(H, NSR=1)+(855(H, NSR)=888(H, NSR=1))+DELTA
		AG#ASS(M,HSR+1)+(ASS(H,HSR)+ASS(H,NSR+1))+0FLTA
		XG#X53(H,N8R=1)+(X53(H,N8R)=X58(H,N5R=1))+DELTA = 8G+81N(THG)
		ZG#283(H, N8R+1)+(253(H, N3R)-Z58(H, NSR+1))+0FLTA + 86+CD8(THG)
		YG=Y55(H,N8R+1)+(Y85(H,N8R)=Y55(H,N8R=1))+DFLTA
		XGN#X8N(H,NBR=1)+(X8N(H,NSR)=X8N(H,NBR=1))+DELTA
		YGNEYSN(H, N8R-1)+(Y8N(H, NSR)=Y8N(H, NSR=1))+DP1 TA
		ZGN=25N(+,NSR-1)+(ZBN(H,NSR)-ZBN(H,NSR-1))+DELTA
		XGT#XST(MANSR=1)+(XST(MANSR)=XST(MANSR=1))ADFLTA
		YGT#YST(M.NBR=1)+(YST(M.NBR)=YBT(M.NBR=1))+DFLTA
		ZGT=ZST(H,N3R=1)+(Z8T(H,N8R)=Z8T(H,N8R=1))+DEI TA
		FACTOPEDSS(H,NBR-1)
	430	CONTINUE
	30	CONTINUE
c		CALCULATE INFLUENCE OF THIS RING ON ALL FIFLD POINTS
		ANTHOSIN(THG)
		CSTH#COB(THG)
		THGETHGERAD
		PGAMe4, De(AG+BG)
	31	GAMMARGANT/PGAM
		NL9!
		DO 38 Net.NP
		1F (NT(HF-LT.+1) 60 TO 138
		1F (NVI P.LE.0) GD TO 138
	334	TF (NONVI (NL)) 138.38.238
	236	NLBNL+1
		TE (NL.) F.NVLP3 GD TO 338
	138	CONTINUE
		XIPR=(XPR(N)=XG)=CSTH + (ZPR(N)=ZG)=SNTH
		ETARE (YPR(N)=YG)
		ZETARB+(XPR(N)+XG)+3NTH + (ZPR(N)+ZG)+CSTH
C		-
C		COMPUTE VELOCITY INDUCED BY A GUADRILATERAL BING
č		
-	35	CONTINUE
c		
-		SET UP CORNER POINTS OF RING
		SET UP CORNER POINTS OF RING XCRG(1)BXGT
		SET UP CORNER POINTS OF RING XCR0(1)=XGT VCR0(1)=XGT
		SET UP CORNER POINTS UP RING XCR0(1)=XGT VCR0(1)=XGT ZCR0(1)=ZGT
		\$2T UP CORNER POINTS UP RING XCRQ(1)=XGT VCRQ(1)=YGT ZCRQ(1)=ZGT XCRQ(2)=XGT=2.+8G+SNTH
		SET UP CORNER POINTS OF RING XCR0(1)=XGT VCR0(1)=VGT ZCR0(1)=ZGT XCR0(2)=XGT=2,*8G+SNTH VCR0(2)=XGT=2,*8G+SNTH VCR0(2)=VGT
		SET UP CORNER POINTS UP RING XCR0(1)=XGT ZCR0(1)=ZGT XCR0(2)=XGT=2,*8G+SNTH YCR0(2)=YGT ZCR0(2)=YGT ZCR0(2)=YGT ZCR0(2)=YGT
		\$2T UP CORNER POINTS UP RING XCR0(1)=XGT YCR0(1)=YGT ZCR0(1)=ZGT XCR0(2)=XGT=2,*BG+SNTH YCR0(2)=XGT=2,*BG+SNTH YCR0(2)=XGT=2,*BG+CSTH XCR0(3)=XGN=2,*BG+CSTH XCR0(3)=XGN=2,*BG+CSTH
		SET UP CORNER POINTS OF RING XCR0(1)=XGT YCR0(1)=YGT ZCR0(1)=ZGT XCR0(2)=XGT=2,*BG+SNTH YCR0(2)=YGT ZCR0(2)=ZGT+2,*BG+SNTH YCR0(2)=XGT=2,*BG+SNTH YCR0(3)=XGN=2,*BG+SNTH YCR0(3)=YGN
		<u><u><u>s</u></u><u>y</u><u></u><u>u</u><u>p</u><u>corner</u><u>points</u><u>of</u><u>ring</u> <u>x</u><u>c</u><u>r</u><u>a</u>(1)<u>a</u><u>x</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u>r</u><u>a</u><u></u><u>a</u><u></u><u>a</u><u></u><u>a</u><u>r</u><u>a</u><u></u><u>a</u><u>r</u><u>a</u><u></u><u>a</u><u>n</u><u>a</u><u></u><u>a</u><u></u></u>
		SET UP CORNER POINTS UP RING XCR0(1)=xGT XCR0(1)=yGT ZCR0(1)=xGT XCR0(2)=xGT=2,eBG+SNTH YCR0(2)=xGT=2,eBG+SNTH YCR0(2)=xGN=2,eBG+SNTH YCR0(2)=xGN=2,eBG+CSTH XCR0(1)=xGN ZCR0(1)=xGN XCR0(1)=xGN
		<u><u><u>s</u></u><u>y</u><u>u</u><u>p</u><u>corner</u><u>points</u><u>of</u><u>ring</u> <u>x</u><u>c</u><u>r</u><u>o</u>(1)=<u>x</u><u>c</u><u>r</u> <u>z</u><u>c</u><u>r</u><u>o</u>(1)=<u>x</u><u>c</u><u>r</u> <u>z</u><u>c</u><u>n</u><u>o</u>(1)=<u>x</u><u>c</u><u>r</u> <u>z</u><u>c</u><u>n</u><u>o</u>(1)=<u>x</u><u>c</u><u>r</u><u>o</u><u>x</u><u>s</u><u>s</u><u>n</u><u>r</u><u>n</u> <u>y</u><u>c</u><u>n</u><u>o</u>(2)=<u>x</u><u>c</u><u>r</u><u>o</u><u>z</u><u>s</u><u>s</u><u>n</u><u>r</u><u>n</u> <u>x</u><u>c</u><u>n</u><u>o</u>(2)=<u>x</u><u>c</u><u>n</u><u>z</u><u>s</u><u>s</u><u>n</u><u>r</u><u>n</u> <u>x</u><u>c</u><u>n</u><u>o</u>(2)=<u>x</u><u>c</u><u>n</u><u>z</u><u>s</u><u>s</u><u>n</u><u>r</u><u>n</u> <u>x</u><u>c</u><u>n</u><u>o</u>(2)=<u>x</u><u>c</u><u>n</u><u>s</u><u>s</u><u>n</u><u>r</u><u>n</u> <u>x</u><u>c</u><u>n</u><u>o</u>(2)=<u>x</u><u>c</u><u>n</u><u>s</u><u>s</u><u>n</u><u>r</u><u>n</u> <u>x</u><u>c</u><u>n</u><u>o</u>(2)=<u>x</u><u>c</u><u>n</u><u>s</u><u>s</u><u>n</u><u>s</u><u>n</u><u>n</u> <u>x</u><u>c</u><u>n</u><u>o</u>(2)=<u>x</u><u>c</u><u>n</u><u>s</u><u>n</u><u>s</u><u>n</u><u>s</u><u>n</u><u>n</u> <u>x</u><u>c</u><u>n</u><u>o</u>(2)=<u>x</u><u>c</u><u>n</u><u>s</u><u>n</u><u>s</u><u>n</u><u>s</u><u>n</u><u>n</u> <u>x</u><u>c</u><u>n</u><u>n</u><u>s</u><u>n</u><u>s</u><u>n</u><u>s</u><u>n</u><u>n</u> <u>x</u><u>c</u><u>n</u><u>o</u>(2)=<u>x</u><u>c</u><u>n</u><u>s</u><u>n</u><u>s</u><u>n</u><u>s</u><u>n</u><u>n</u><u>s</u><u>n</u><u>n</u><u>s</u><u>n</u><u>n</u><u>s</u><u>n</u><u>n</u><u>n</u><u>n</u><u>n</u><u>n</u><u>s</u><u>n</u><u>n</u><u>n</u><u>n</u><u>s</u><u>n</u><u>n</u><u>n</u><u>n</u><u>n</u><u>n</u><u>n</u><u>n</u><u>n</u><u>n</u><u>n</u><u>n</u><u>n</u></u>
		SET UP CORNER POINTS UP RING XCRQ(1)=xGT XCRQ(1)=xGT ZCRQ(1)=xGT ZCRQ(1)=xGT XCRQ(2)=xGT+2,*BG*3NTH YCRQ(2)=xGT+2,*BG*C3TH XCRQ(3)=xGN+2,*BG*C3TH YCRQ(3)=xGN ZCRQ(4)=xGN ZCRQ(4)=xGN YCRQ(2)=xGN ZCRQ(4)=xGN YCRQ(4)=xGN YCRQ(4)=ZGN
		SET UP CORNER POINTS UP RING XCR0(1)=XGT YCR0(1)=YGT ZCR0(1)=ZGT XCR0(2)=XGT=2,*BG*3NTH YCR0(2)=ZGT>2,*BG*3NTH YCR0(2)=ZGT>2,*BG*3NTH YCR0(2)=ZGT>2,*BG*3NTH YCR0(3)=ZG+2,*BG*3NTH YCR0(4)=ZG+2,*BG*3
		<u><u>S</u><u></u><u>S</u><u></u><u>S</u><u></u><u>S</u><u></u><u>S</u><u></u><u>S</u><u></u><u>S</u><u></u><u>S</u></u>
		SET UP CORNER POINTS UF RING XCRQ(1)=xGT XCRQ(1)=xGT YCRQ(1)=xGT XCRQ(2)=xGT+2,*BG*SNTH YCRQ(2)=xGT+2,*BG*SNTH YCRQ(2)=xGT+2,*BG*SNTH YCRQ(2)=xGN+2,*BG*SNTH YCRQ(2)=xGN+2,*BG*SNTH YCRQ(2)=xGN+2,*BG*SNTH YCRQ(2)=xGN+2,*BG*SNTH YCRQ(3)=xGN+2,*BG*SNTH YCRQ(4)=xGN XCRQ(4)=YGN ZCRQ(4)=YGN ZERP(N) Y=XPPR(N)
		<u><u>s</u><u>y</u><u>t</u><u>u</u><u>p</u><u>corker</u><u>points</u><u>u</u><u>p</u><u>ring</u> <u>x</u><u>c</u><u>r</u><u>a</u>(1) = <u>x</u><u>s</u><u>a</u> <u>z</u><u>c</u><u>r</u><u>a</u>(1) = <u>x</u><u>s</u><u>a</u> <u>z</u><u>c</u><u>r</u><u>a</u>(1) = <u>z</u><u>c</u><u>r</u> <u>z</u><u>c</u><u>r</u><u>a</u>(2) = <u>x</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>a</u><u>s</u><u>s</u><u>s</u><u>a</u><u>s</u><u>s</u><u>s</u><u>s</u><u>s</u><u>a</u><u>s</u><u>s</u><u>s</u><u>s</u><u>s</u><u>s</u><u>s</u><u>s</u><u>s</u><u>s</u><u>s</u><u>s</u><u>s</u></u>
		SET UP CORNER POINTS UF RING XCRQ(1)=xGT XCRQ(1)=xGT YCRQ(1)=xGT ZCRQ(1)=xGT XCRQ(1)=xGT XCRQ(1)=xGT XCRQ(2)=xGT-2,*GG*SNTH YCRQ(2)=xGT+2,*FG*C3TH XCRQ(3)=XGN YCRQ(2)=xGN ZCRQ(3)=XGN YCRQ(1)=xGN YCRQ(2)=xGN
		\$\$TUP CORNER POINTS UF RING XCR0(1)=xGT YCR0(1)=xGT ZCR0(1)=xGT ZCR0(1)=xGT XCR0(2)=xGT+2,*BG*S*** YCR0(2)=xGT ZCR0(2)=xGT+2,*BG*S*** YCR0(2)=xGT ZCR0(2)=xG** ZCR0(2)=xG** ZCR0(2)=xG** ZCR0(2)=xG** YCR0(4)=xG** YCR0(4)=xG** Y=YPR(*) ZALL DRING (X,Y,Z,UG,VG,*G) UGA##UG*GAM*A
		STT UP CORNER POINTS UF RING XCRQ(1)=xGT XCRQ(1)=xGT ZCRQ(1)=xGT ZCRQ(1)=xGT ZCRQ(1)=zGT XCRQ(2)=xGT-2,*KG*S*** YCRQ(2)=xGT+2,*KG*S*** YCRQ(2)=xGT+2,*KG*S*** YCRQ(2)=xGT+2,*KG*S*** YCRQ(2)=xGT+2,*KG*** YCRQ(2)=xGT ZCRQ(2)=zG**** YCRQ(4)=xGN
c		SET UP CORNER POINTS UF RING XCRQ(1)=XGT XCRQ(1)=XGT YCRQ(1)=YGT ZCRQ(1)=XGT XCRQ(1)=XGT XCRQ(1)=XGT XCRQ(2)=XGT XCRQ(2)=XGT XCRQ(2)=XGT+2,*FG*C3TH YCRQ(2)=XGN+2,*FG*C3TH YCRQ(3)=ZGN+2,*FG*C3TH YCRQ(3)=XGN YCRQ(4)=XGN YGATUS
c	37	\$\$T UP CORNER POINTS UP RING XCRQ(1)=xGT XCRQ(1)=xGT ZCRQ(1)=xGT ZCRQ(1)=xGT ZCRQ(1)=xGT XCRQ(2)=xGT-2,*BG*C3TH YCRQ(2)=xGT ZCRQ(2)=ZGT-2,*BG*C3TH YCRQ(3)=XGN ZCRQ(4)=ZGN XCRQ(4)=xGN YCRQ(4)=xGN YCRQ(4)=xGN YCRQ(4)=ZGN Ya*PR(N) Ya*PR(N) Ya*PR(N) YGA#=UG*GAMMA YGA#=UG*GAMMA YGA#=UG*GAMMA YGA#=UG*GAMMA YGA#=UG*GAGAMA YGA#=UG*GAGAMA

JET 232 JET 233 JET 234

JET 234 JET 235 JET 236 JET 236 JET 237 JET 239 JET 240 JET 241 JET 242

JET 243 JET 244 JET 244 JET 245 JET 246 JET 247

JET 246 JET 240 JET 240 JET 251 JET 251 JET 253 JET 253 JET 253 JET 255 JET 259 JET 259 JET 259 JET 259 JET 259 JET 261 JET 264 JET 264 JET 266 JET 268 JET 268 JET 268 JET 275 JET 275 JET 275 JET 275 JET 275 JET 276 JET 27

JET 283 JET 284 JET 285 JET 285 JET 286 JET 287

JET 287 JET 288 JET 289 JET 290 JET 291 JET 292

JET 292 JET 293 JET 294 JET 294 JET 295 JET 295 JET 295 JET 295 JET 295

JET 301 JET 302 JET 303 JET 504 JET 305

JET 305 JET 306 JET 507 JET 508

0000

C

		ACV]=ACV]+ACV.	JET 304
-	26	CONTINUE	JET 310
C .			JET 311
ĉ		NOTE., U(N),V(N),+(N) ARE VELUCITIES INDUCED IN ENGINE SYSTEM	JET 312
C			JET 313
		TE (SR.IT.SPEND) GD TO 20	357 314
	6.1		157 115
	••	- Construct	361 313
5			JE 1 310
5		TRANSPERM SURFACE CHIRDINATES RACK TO HING SYSTEM	JET 317
C			JET 318
		Лам	JET 319
		00 63 1=1,18	JET 324
		X55(J.T)#X0(J)+X55(J.T)	JET 521
			167 122
			JE1 366
		x31[]1]1=x0(]1=x31[]1]	361 363
		433(J,1)=423(J,1)+40(J)	JET 324
		A2N(] ¹]#A2n(] ¹])+AG(])	JET 325
		Y3T(J,1)=Y3(J,1)4Y0(J)	JFT 526
		233(J.1)=70(J)=233(J.1)	JET 327
		784(1.1)=70(1)=784(1.1)	167 128
		231(3))=20(3)=231(3)]	361 364
		TS3(J,I)==TS3(J,I)	JET 330
	63	CONTINUE	JET 331
		IF (CFK,GT,0,0) GU TO 40	JET 352
		DD 52 NHI.NP	JET 333
		UP (N) = UP (N) + U (N)	JET 334
		UPINS HUPINS AVINS	167 114
			167 374
	72		161 330
		IF (NPPINT) 40,40,42	JET 557
Ç			JET 338
C		OPTIONAL OUTPUT	JET 339
C			JET 340
	92	WRITE (6.718) H	JET 341
		DO BO NELLE	161 143
		une pu danger. Lake bar da a da ka ku unnanku unnanka dangan kuani unna unna	001 346
	30	HTTE [6,738] NJAPR(NJJTPR(NJJU(N)JV(N),V(N)	JET 343
	40	CONTINUE	JET 344
		IF (CPK,GT,0,0) RETURN	JET 345
	91	DO 41 N#1,NP	JET 196
		UP(N)==UP(N)	JET 347
		200 (N)#=~P(N)	167 148
	41	CONTINUE	167 JAN
	••		.121 344
		AF SUBBAL F I F AS AFTIGU	JET 350
		TE (NERINTALIA) REIDEN	JET 351
C			JET 352
C		OUTPUT INCHCED VELOCITIES IN WING SYSTEM	JET 553
C			IFT 354
		NRITE (6.717)	JET LEE
		WRITE (A. 715)	154 144
			JE1 318
		NO WE HELITE	JET 557
	4Z.	MHITE [0,710]N, KH(N), YH(N), CH(N), UP(N), VH(N), WH(N),	JET 35A
		L [N#TJ(J,~},Je1,NJET)	JET 359
		RETURN	JET 3NO
	90	WRITE (6,721)	IFT 341
		STOP	167 143
		END	100 302
		LTM	JET 303

SUBROUTINE JETCL	10
FALPHLATE THE FEATEDLAND AND ADDRESS	JLL 901
CALCULATE THE CENTERLINE POSTTIONS FOR USR JETS TANGENT	JCI 002
TO THE UPPER SURFACES OF THE WING AND FLAPS	JCL 003
MODIFIED TO SET UP SURFACE COURDINATE SPECIFICATION OF JET	JCL nna
	JCL 005
01-engine xcl(25), fc((25),2CL(25),4(25),8(25),TH(25),DF(25)	JCL 006
	JCL 007
COMPANY PRODUCTS TO SUDJESINCE (307) POINTE (307) BPHIN, CPHIN, TPHIM	361 008
COMMON ZAFJELZ MEJ.NEJNESS	
	117 VOA
CINERIA / NOCAT / NEWCO, NELEWS, IDELAP(10,2), NC#(10), MRF(10), MF(10),	JCL 010

```
JCL 011
                                 MSTART(10), MEND(10), NFSEGF(10)
         COMMON /BLDAT/ X8L(250), Y8L(250), Z8L(250), TP81(250), SH(250)
                                                                                                               JCL 012
         COMMON /CPDAT/ ALPHAL(250), XCP(250), YCP(250), ZCP(250),
                                                                                                               JCL 013
                               CALPHL (250) , SALPHL (250)
                                                                                                               JCL 014
         COMMON /INDEX/ HSW, HW, MTOT, NCWI(30), IMAX, NESEG(30), LASTE(30)
                                                                                                               JCL 015
         COMMON /XYZCL/ NJET, NCYL(2), XQ(2), YQ(2), ZQ(2), GAMVJ(2), NS(2),
                                                                                                               JCL 016

        1 RH0(2),CHU(2),XCLR(2,25),YCLR(2,25),ZCLR(2,25),THETA(2,25),

        8CLR(2,25),AJET(2,25),BJET(2,25),DSFACT(2,25),

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

        9

                                                                                                               JCL 017
                                                                                                               JCL 018
                                                                                                               JCL 019
         COMMON /CLDAT/ N88(2),88(2,11),X53(2,11),Y85(2,11),Z85(2,11),
                                                                                                               JCL 020
                               T85(2,11),838(2,11),485(2,11),X3N(2,11),Y8N(2,11),
                                                                                                               JCL 021
       1
                               ZSN(2,11),XST(2,11),YST(2,111,ZST(2,11),DSS(2,11)
                                                                                                               JCL 022
       2
С
                                                                                                               JCL 023
         ENTRP(XL,XU,YL,YU,X)=YL+(X=XL)+(YU=YL)/(XU=XL)
                                                                                                               JCL 024
                                                                                                               JCL 025
e
ć
                                                                                                               JCL 026
   701 FORMAT (/10X, 3HJET, IS, 2X, ZOHOUTBOARD OF WING TIP)
                                                                                                               JCL 027
   TOP FORMAT (/10%, 3HJET, 15, 2%, 16HOUTBOARD OF FLAP, 13//)
                                                                                                               JCL 026
                                                                                                               JCL 020
e
         RADa180.0/3.1415926
                                                                                                               JCL 030
                                                                                                               JCL 031
         LOOP OVER TOTAL NUMBER OF JETS
                                                                                                               JCL 032
¢
č
                                                                                                               JCL 033
         00 100 J#1, NJET
                                                                                                               JCL 034
         NCLANCYL(J)
                                                                                                               JCL 035
c
                                                                                                               JCL 036
           TRANSFORM JET TO WING CODRDINATE SYSTEM
c
                                                                                                               JCL 037
٠ė
                                                                                                               JCL 038
         DO 6 KELINCL
                                                                                                               JCL 039
         XCLR(J,K)=XQ(J)=XCLR(J,K)
                                                                                                               JCL 040
         YCLR(J,K)=YG(J)+YCLR(J,K)
                                                                                                               JCL 041
      6 ZCLR(J,K)=ZQ(J)=ZCLR(J,K)
                                                                                                               JCL 042
         NCHRMH/HRW
                                                                                                               JCL 043
         83(J,1)=0.0
                                                                                                               JCL 044
         X85(J,1)#XCLR(J,1)
                                                                                                               JCL 045
         Y88(J,1)#YCLR(J,1)
                                                                                                               JCL 046
         TS8(J.1)=0.0
                                                                                                               JCL 047
         885(J,1)=8JET(J,1)
                                                                                                               JCL 048
         A55( 1,1'RAJET(J,1)
                                                                                                               JCL 049
         rss(J.1)=DBFACT(J.1)
                                                                                                               JCL 050
         ¥98(J.2)=XCLR(J.2)
                                                                                                               JCL 051
         Y38(J,2)#YCLR(J,2)
                                                                                                               JCL 052
         T33(J,2)#0.0
                                                                                                               JCL 053
         858(1,2)=BJET(J,2)
                                                                                                               JCL 054
         ASS(J.2)=AJET(J.2)
                                                                                                               JCL 055
         088(J.2)=08FACT(J.2)
                                                                                                               JCL 056
         N38(J)#2
                                                                                                               JCL 057
E
                                                                                                               JCL OSB
         LOCATE INTERSECTION OF WING T.E. AND FLAP 1 L.E.
C
                                                                                                               JCL 059
Ċ
          MSTENCH+1
                                                                                                               JCL 061
         DD 10 IMMST, MH, NCH
                                                                                                               JCL 062
         Inst
                                                                                                               JCL 063
         INH1#I=NCH
                                                                                                               JCL 064
         1F (YCF(IW)=YG(J)) 11,12,10
     10 CONTINUE
                                                                                                               JCL 046
          WRITE (6,701) J
         GD TO 100
                                                                                                               JCL 069
           COORDINATES X8,28 AND XC,20 ARE ON WING
ĉ
C
     12 X0=X0L(14)
          28=28L(1=)
          XC=XCP(IW)
          ZC=ZCP(IW)
          60 TO 15
     11 XBHENTRP(YCP(IWH1), YCP(IH), XBL(IWH1), X8L(IW), YQ(J))
          ZB#ENTRP(YCP(IWH1), YCP(IW), Z6L(IWH1), Z8L(IW), YQ(J))
          XC=ENTRP(YCP(1wH1),YCP(1w),XCP(1wH1),XCP(1w),YQ(J))
          ZCHENTRP(YCP(IWH1),YCP(IH1,ZCP(IHH1),ZCP(IH),YQ(J))
     15 MFJENFJN(1)
          23$(J,1)=ENTRP(X8,XC,28,ZC,X8$(J,1))
          ZS&(J,2)=ExTRP(X8,XC,78,ZC,X8S(J,2))
83(J,2)=S3(J,1) + 8GRT((X33(J,2)+X33(J,1))++2
                                                                                                               JCL 083
JCL 084
                        + (YS5(J,2)+Y58(J,1))++2 + (Z55(J,2)+Z88(J,1))++2)
          ZD=Z35(J,1)=855(J,1)
          ZHBABS(ZU-ZO(J))
          IF (24.LE.1.0E=04) GO TO 14
```

JCL 060

JCL 065

JCL 067

JCL 068

JCL 070

JCL 071

JCL 072

JCL 073

JCL 074

JCL 075

JCL 076

JCL 077

JCL 078

JCL 079

JCL 080

JCL OB1

JCL 082

JCL 085

JCL 086

JCL 087

JCL 088

		DT 13 KHIANCL	JCL	089
	13	ZCLR(J,K)=ZCLR(J,K)=ZO(J)+ZD	JCL	090
		70(1)=70	361	
	10		JUL	240
		MSTELSTART (4+J)	JCL	095
		NOBHEND(HEJ)	JCL	094
		DO 16 IEMST, MND, MI	JCLI	095
		IFEI	JCL	096
		IFMSHIMA	JCL	097
		IF (YCP(IF)=YQ(J)) 21.22.16	JCL	098
	16	CONTINUE	101	000
	••	WRITE (6.702)		100
			101	
~		0.00 10	1000	101
2		CODARTULTER VE TE LUD VE TE LAE DU BLAR A	100	102
2		LUURDINATES AES ZES AND ATSZP ARE ON PLAP 1	JCL	103
C.	••		JUL	104
	22	XEWX8L(IF)	JCL	105
		Ztazel(IF)	JCL	106
		XF#XCP(IF)	JCL	107
		2f=2CP(1f)	JCL	108
		GO TO 25	JCL	10.
	21	XEHENTRP(YCP(IFH1),YCP(IF),X8L(IFH1),X8L(IF),YQ(J))	JCL	110
		ZEBENTRP(YCP(IFH1),YCP(IF),Z8L(IFH1),Z8L(IF1,YG(J))	JEL	111
		YEARNTOD (VCB(IEM1), VCD(IE), VCB(IEM1), VCB(IE), VC(J))	.101	
		TERNIDE (VCB/1801), VCB/181, 700/1801), 900/181, VCF13	101	
		2 = = = = = = = = = = = = = = = = = = =	101	
	83			
		208 (20 - 28) / (20 - 28)	166	115
		ZFE=(ZF=ZE)/(XF=XE)	JCL	110
		DF1=ATAN(-ZFE)	JCL	117
		XD=(2E+2B + XB+2CB + XE+2FE)/(2CB=2FE)	JCL	118
		ZD=ZB + (XD=XB)+ZCB	JĈĻ	119
		XFBLA=XE	JCL	120
		ZFBLA=ZE	JCL	121
		XFCPA=XF	JCL	122
		7FCPA a 7F	JCI	121
		NSS(I)=S	301	124
		Y96(), 1, 1, = VD	101	131
				163
			101	4 3 4
		Y33(J,3)#Y83(J,2)	JCL	129
		733(J,3)#783(J,2) 288(J,3)#20	JCL	128
		785(J,5)#783(J,2) 285(J,3)#20 788(J,3)#0,0	JCL JCL	126 127 128
		Y85(J,3)#Y83(J,2) 285(J,3)#20 785(J,3)#0,0 88(J,3)#85(J,2)+80RT((X85(J,3)#X55(J,2))+#2	JCL JCL JCL	128 127 128 129
		785(J,5)#783(J,2) 285(J,3)#00 788(J,3)#0,0 88(J,3)#8(J,2)*80RT((X88(J,3)+X88(J,2))++2 1 + (785(J,3)+Y88(J,2))++2 + (288(J,3)+288(J,2))++2)	JCL JCL JCL JCL	128 127 128 129 130
c	,	Y85(J,3)#Y83(J,2) 285(J,3)#20 88(J,3)#0,0 88(J,3)#88(J,2)+#0RT((X85(J,3)=X88(J,2))*+2 1 + (Y88(J,3)=Y88(J,2))#+2 + (Z83(J,3)=Z88(J,2))*+2)	JCL JCL JCL JCL	126 127 128 129 130 131
cc	,	<pre>Y85(J,3)#Y83(J,2) Z85(J,3)=20 T85(J,3)=0 T85(J,3)=0 (X85(J,3)=0,0 S8(J,3)=85(J,2)+80RT((X85(J,3)=X53(J,2))+*2</pre>	JCL JCL JCL JCL JCL JCL	126 127 128 129 130 131 132
		Y85(J,3)#Y83(J,2) 285(J,3)#20 785(J,3)#20 88(J,3)#85(J,2)+#0RT((X85(J,3)=X55(J,2))++2 88(J,3)#85(J,2)+#0RT((X85(J,3)=X55(J,2))++2 1 + (Y85(J,3)=Y85(J,2))++2 + (Z55(J,3)=Z85(J,2))++2) XD,Y0(J),ZD ARE COURDINATES DF #ING=FLAP INTERSECTION	JCL JCL JCL JCL JCL JCL	126 127 128 129 130 131 132
		<pre>T8S(J,3)#T8S(J,2) 28S(J,3)=20 T8S(J,3)=20 T8S(J,3)=0 T8S(J,3)=0 S8(J,3)=0 S8(J,2)+80RT((XSS(J,3)=XSS(J,2))++2 + (YSS(J,3)=YSS(J,2))++2 XD,YQ(J),ZD ARE COORDINATES OF WING-FLAP INTERSECTION AFT UP NFW CENTERING OVER WING- FIRST WO POINTS AFF UNCHANGED AFT UP NFW CENTERING OVER WING- FIRST WO POINTS AFF UNCHANGED</pre>	JCL JCL JCL JCL JCL JCL JCL	128 127 128 129 130 131 132 133
		<pre>Y85(J,5)#Y83(J,2) Z85(J,3)#00 T88(J,3)#0,0 S8(J,3)#0,0 S8(J,3)#85(J,2)+80RT((X85(J,3)=X53(J,2))++2 1 + (Y85(J,3)=Y85(J,2))++2 + (Z55(J,3)=Z85(J,2))++2) XD,Y0(J),ZD ARE CODRDINATES DF HING=FLAP INTERSECTION SET UP NEH CENTERLINE OVER WING, FIRST TWO POINTS ARE UNCHANGED</pre>	101 101 101 101 101 101 101	126 127 128 129 130 131 132 133 134
		<pre>T85(J,3)#T85(J,2) 285(J,3)=20 T85(J,3)=20 T85(J,3)=0 T85(J,3)=0 S8(J,3)=0 S8(J,2)+80RT((XS8(J,3)=XS8(J,2))++2 + (Y85(J,3)=Y88(J,2))++2 XD,Y0(J),ZD ARE COORDINATES OF WING-FLAP INTERSECTION BET UP NEW CENTERLINE OVER WING, FIRST TWO POINTS ARE UNCHANGED D0 34 y= 3</pre>	JCL JCL JCL JCL JCL JCL JCL	120 127 128 129 130 131 132 133 134 135
		<pre>Y85(J,5)#Y83(J,2) Z85(J,3)#00 T88(J,3)#00 T88(J,3)#00 S8(J,3)#8(J,2)*80RT((X83(J,3)=X53(J,2))**2 + (Y85(J,3)=Y88(J,2))**2 + (Z85(J,3)=Z88(J,2))**2) XD,Y0(J),ZD ARE CODRDINATES DF #ING=FLAP INTERSECTION SET UP NEW CENTERLINE OVER WING, FIRST TWO POINTS ARE UNCHANGED DD 26 I81,2</pre>	JCL JCL JCL JCL JCL JCL JCL JCL JCL	128 127 128 129 130 131 132 133 134 135 136
		<pre>Y85(J,3)#T83(J,2) Z85(J,3)#20 T88(J,3)#20 T88(J,3)#0,0 S8(J,3)#85(J,2)+#0RT((X85(J,3)=X35(J,2))++2 1 + (Y85(J,3)=Y85(J,2))++2 + (Z85(J,3)=Z85(J,2))++2) XD,Y0(J),ZD ARE COURDINATES DF #ING=FLAP INTERBECTION 8ET UP NEH CENTERLINE OVER WING, FIRBT TWO POINTS ARE UNCHANGED 00 26 1#1,2 YCL(1)=YCLR(J,1) </pre>	101 101 101 101 101 101 101	128 127 128 129 130 131 132 138 138 138 136
		<pre>Y85(J,3)#Y83(J,2) Z85(J,3)#20 T88(J,3)#00 T88(J,3)#0,0 S8(J,3)#8(J,2)*80RT((X88(J,3)=X88(J,2))+#2 + (Y88(J,3)=Y88(J,2))##2 + (Z88(J,3)=Z88(J,2))##2) XD,Y0(J),ZD ARE CODRDINATES DF #ING=FLAP INTERSECTION BET UP NEH CENTERLINE OVER WING, FIRBT TWO POINTS ARE UNCHANGED DD 26 I=1,2 YCL(1)=*CLR(J,1) YCL(1)=*CLR(J,1) </pre>	100 100 100 100 100 100 100 100 100 100	128 127 128 130 131 132 135 138 136 137 138
		<pre>YBS(J,3)#TBS(J,2) ZBS(J,3)#20 TBS(J,3)#0,0 SB(J,3)#BS(J,2)+#0RT((XSS(J,3)=XSS(J,2))++2 1 + (YBS(J,3)=YBS(J,2))++2 + (ZSS(J,3)=ZBS(J,2))++2) XD,Y0(J),ZD ARE CODRDINATES DF HING=FLAP INTERBECTION BET UP NEH CENTERLINE OVER WING, FIRBT TWO POINTS ARE UNCHANGED DD 26 I#1,2 YCL(1)#XCLR(J,1) ZCL(()#XCLR(J,1) ZCL(()#XCLR(J,1))</pre>	100 100 100 100 100 100 100 100 100 100	120 127 128 129 131 132 133 135 136 136 130
		<pre>YBS(J,3)#YBS(J,2) ZBS(J,3)#2D TBS(J,3)#00 BS(J,3)#00,0 SB(J,3)#00,0 SB(J,3)#00,0 SB(J,3)#B0(J,2)+80RT((XSS(J,3)=XSS(J,2))##2 + (YBS(J,3)=YBS(J,2))##2 XD,Y0(J),ZD ARE CONRDINATES DF #ING=FLAP INTERSECTION BET UP NEH CENTERLINE OVER WING, FIRST TWO POINTS ARE UNCHANGED D0 26 J#1,2 XCL(1)#XCLR(J,1) YCL(1)#XCLR(J,1) YCL(1)#XCLR(J,1) TH(1)#0,0</pre>	JCL JCL JCL JCL JCL JCL JCL JCL JCL JCL	120 127 120 130 131 132 135 136 136 136 130 130
		<pre>YBS(J,3)#YBS(J,2) ZBS(J,3)#20 TBS(J,3)#00,0 SB(J,3)#00,0 SB(J,3)#BS(J,2)*#QRT((XSS(J,3)=XSS(J,2))##2 1</pre>	JCL JCL JCL JCL JCL JCL JCL JCL JCL JCL	1207 1278 1301 1312 1334 1356 1367 1369 1341 1369 1341
		<pre>YBS(J,3)#YBS(J,2) YBS(J,3)#20 TBS(J,3)#20 TBS(J,3)#00(J,2)#0RT((XSS(J,3)=XSS(J,2))##2 \$ YBS(J,3)#03(J,2)#0RT((XSS(J,3)=XSS(J,2))##2 \$ YC,YG(J),ZD ARE COURDINATES DF #ING=FLAP INTERSECTION BET UP NEH CENTERLINE OVER WING, FIRST THO POINTS ARE UNCHANGED D0 26 I#1,2 YCL(I)#YCLR(J,I) YCL(I)#YCLR(J,I) ZCL(I)#ZCLR(J,I) ZCL(I)#ZCLR(J,I) H(I)#0,0 DF(I)#D6FACT(J,I) </pre>	JCLL JCLL JCLL JCLL JCLL JCLL JCLL JCLL	120 127 127 132 132 132 132 135 135 135 135 135 135 135 135 135 135
	26	<pre>YBS(J,3)#YBS(J,2) ZS(J,3)#20 TBS(J,3)#0,0 SS(J,3)#8(J,2)*\$0RT((XSS(J,3)=XSS(J,2))**2 + (YSS(J,3)=YBS(J,2))**2 + (ZSS(J,3)=ZBS(J,2))**2) XD,Y0(J),ZD ARE CODRDINATES DF #ING=FLAP INTERSECTION SET UP NEW CENTERLINE OVER WING, FIRST TWO POINTS ARE UNCHANGED DD 24 I#1,2 XCL(I)*XCLR(J,I) YCL(I)*XCLR(J,I) YCL(I)*CLR(J,I) ZCL(I)*ZCLR(J,I) TH(I)*0,0 DF(I)#05FACT(J,I) A(I)*AJET(J,I)</pre>	100 100 100 100 100 100 100 100 100 100	120 127 127 130 132 132 135 135 135 135 135 136 130 141 243
	26	<pre>TBS(J,3)#TBS(J,2) TBS(J,3)=20 TBS(J,3)=20 TBS(J,3)=20 TBS(J,3)=0 TBS(J,2)+80RT((XSS(J,3)=XSS(J,2))++2</pre>	JCLL JCLL JCLL JCLL JCLL JCLL JCLL JCLL	1278901234567890123444444444444444444444444444444444444
	26	<pre>YBS(J,3)#YBS(J,2) ZBS(J,3)#20 TBB(J,3)#00,0 SB(J,3)#00,0 SB(J,3)#8(J,2)*80RT((XSS(J,3)=XSS(J,2))##2 + (YBS(J,3)=YBS(J,2))##2 XD,YG(J),ZD ARE CODRDINATES DF #ING=FLAP INTERSECTION SET UP NEW CENTERLINE OVER WING, FIRST TWO POINTS ARE UNCHANGED DD 2& I=1,2 YCL(1)#XCLR(J,1) YCL(1)#YCLR(J,1) ZCL(1)#ZCLR(J,1) ZCL(1)#ZCLR(J,1) ZCL(1)#D0FACT(J,1) A(1)#AJET(J,1) LN3 LN3 LN3 LN3 LN3 LN3 LN3 LN3 LN3 LN3</pre>	JCLL JCLL JCLL JCLL JCLL JCLL JCLL JCLL	120 127 128 130 131 132 133 134 135 136 137 138 139 140 144 142 144 144
	26	<pre>YBS(J,3)#YBS(J,2) YBS(J,3)#20 TBS(J,3)#20 TBS(J,3)#20 TBS(J,3)#20 TBS(J,2)#0RT((XSS(J,3)=XSS(J,2))##2 \$</pre>	JCLLLJJCLLJJCLLJJCLLJJCLLJJCLLJJCLLJJC	120 127 128 130 131 132 133 133 133 135 137 138 137 138 141 243 144 144 144
	26	<pre>YBS(J,3)#YBS(J,2) ZBS(J,3)#2D TBS(J,3)#2D TBS(J,3)#00,0 SB(J,3)#BS(J,2)*80RT((XSS(J,3)#XSS(J,2))##2 4 (YBS(J,3)=YBS(J,2))##2 XD,Y0(J),ZD ARE CODRDINATES DF #ING=FLAP INTERSECTION BET UP NEH CENTERLINE OVER WING, FIRBT TWO POINTS ARE UNCHANGED OD 2& I#1,2 YCL(1)#YCLR(J,1) YCL(1)#YCLR(J,1) ZCL(1)#YCLR(J,1) ZCL(1)#ZCLR(J,1) ZCLR(J,1) ZCLR(J,1)#ZCLR(J,1) ZCLR(J,1) ZCLR(J,1)#ZCLR(J,1) ZCLR(J,1)#ZCLR(J,1) ZCLR(J,1)#ZCLR(J,1)#ZCLR(Z,2)#ZCLR ZCLR(Z,1)#ZCLR(Z,2)#ZCLR ZCLR(Z,1)#ZCLR(Z,2)#ZCLR ZCLR(Z,1)#ZCLR(Z,2)#ZCLR ZCLR(Z,1)#ZCLR(Z,2)#ZCLR ZCLR(Z,2)#ZCLR(Z,2)#ZCLR ZCLR(Z,2)#ZCLR(Z,2)#ZCLR ZCLR(Z,2)#ZCLR(Z,2)#ZCLR ZCLR(Z,2)#ZCLR(Z,2)#ZCLR ZCLR(Z,2)#ZCLR(Z,2)#ZCLR ZCLR(Z,2)#ZCLR(Z,2)#ZCLR ZCLR(Z,2)#ZCLR(Z,2)#ZCLR ZCLR(Z,2)#ZCLR(Z,2)#ZCLR ZCLR(Z,2)#ZCLR ZCLR(Z,2)#ZCLR ZCLR(Z,2)#ZCLR(Z,2)#ZCLR ZCLR(Z,</pre>	75777777777777777777777777777777777777	1207 1207 1301 1311 132 1334 1335 1336 1336 1345 1345 1345 1445 1444 1444 1444 1444
C C C E C	26 27 28	<pre>Tas(J,3)#Tas(J,2) Tas(J,3)#Tas(J,2) Tas(J,3)#20 Tas(J,3)#20 Tas(J,3)#0,0 Sa(J,3)#S(J,2)#0RT((XSS(J,3)=XSS(J,2))##2</pre>	75777777777777777777777777777777777777	1207 1227 1320 1311 1321 1331 1330 1330 1330 1330
	26 27 28	<pre>YBS(J,3)#YBS(J,2) YBS(J,3)#20 TBS(J,3)#20 TBS(J,3)#00,0 S8(J,3)#8(J,2)*80RT((XSS(J,3)=XSS(J,2))##2 * (YBS(J,3)=YBS(J,2))##2 * (YBS(J,3)=YBS(J,2))##2 XD,Y0(J),ZD ARE CODRDINATES DF #ING=FLAP INTERSECTION BET UP NEH CENTERLINE OVER WING, FIRBT TWO POINTS ARE UNCHANGED OD 26 I#1,2 YCL(1)#YCLR(J,1) YCL(1)#YCLR(J,1) YCL(1)#YCLR(J,1) YCL(1)#DYCLR(J,1) S(1)#BJET(J,1) B(1)#BJET(J,1) B(1)#BJET(J,1) LH3 LR3 IF (XCLR(J,LR) YCL(L)#YCLR(J,LR) YCL(L)#YCLN </pre>	7,7,7,7,7,7,7,7,7,7,7,7,7,7,7,7,7,7,7,	1207 127 127 130 130 133 133 133 133 133 133 133 133
	26 27 28	<pre>Tas(J,3)#Tas(J,2) Tas(J,3)#Tas(J,2) Tas(J,3)#20 Tas(J,3)#20 Tas(J,3)#20 Tas(J,3)#20 Tas(J,2)#20 Tas(J,2)#2</pre>	11111111111111111111111111111111111111	120 127 128 130 133 138 138 138 138 138 138 138 138 138
C C C C C C	26 27 28	<pre>YBS(J,3)#YBS(J,2) YBS(J,3)#20 TBS(J,3)#20 TBS(J,3)#00,0 SB(J,3)#83(J,2)#0RT((XSS(J,3)=XSS(J,2))##2</pre>	11111111111111111111111111111111111111	1207 127 11200 11200
CCC6C	26 27 28	<pre>Tas(J,3)#Tas(J,2) Tas(J,3)#Tas(J,2) Tas(J,3)#20 Tas(J,3)#20 Tas(J,3)#20 Tas(J,3)#20 Tas(J,3)#20 Tas(J,2)#2 Tas(J,2)#2 Tas(J,2)#2 Tas(J,2)#2 Tas(J,2)#2 Tas(J,2)#2 Tas(J,2)#2 Tas(J,1)#2 Tas(J,1) Tas</pre>	J L L L L L L L L L L L L L L L L L L L	1207 1270 1120 11200 112000 11200 11200 11200 11200 11200 11200 11200
	26 27 28	<pre>YBS(J,3)#YBS(J,2) ZBS(J,3)#20 TBS(J,3)#20 TBS(J,3)#0(J,2)*80RT((XSS(J,3)=XSS(J,2))##2 + (YBS(J,3)=YBS(J,2))##2 XD,YG(J),ZD ARE COURDINATES DF #ING=FLAP INTERSECTION BET UP NEW CENTERLINE OVER WING, FIRST TWO POINTS ARE UNCHANGED D0 26 I#1,2 XCL(1)#XCLR(J,1) YCL(1)#XCLR(J,1) ZCL(1)#ZCLR(J,1) ZCL(1)#ZCLR(J,1) TH(1)#0,0 DF(1)#D0FACT(J,1) A(1)#AJET(J,1) B(1)#BJET(J,1) B(1)#BJET(J,1) B(1)#BJET(J,1) B(1)#BJET(J,1) B(1)#BJET(J,1) CCL(1)#ZCLR(J,LR) YCL(1)#ZCLR(J,LR) YCL(1)#ZCLR(J,LR) A(1)#AJET(J,LR) B(1)#AJET(J,LR) B(1)#AJET(J,LR)</pre>	J J J J J J J J J J J J J J J J J J J	1207 127 127 127 127 127 127 127 127 127 12
	26 27 28	<pre>Tas(J,3)#Tas(J,2) Tas(J,3)#Eas(J,2) Tas(J,3)#Eas(J,2</pre>	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	$\begin{array}{c} 1 \\ 2 \\ 7 \\ 1 \\ 2 \\ 7 \\ 1 \\ 1 \\ 2 \\ 2 \\ 1 \\ 1 \\ 1 \\ 2 \\ 1 \\ 1$
	26 27 28	<pre>YBS(J,3)#YBS(J,2) YBS(J,3)#20 TBS(J,3)#20 TBS(J,3)#20 TBS(J,3)#20 TBS(J,2)#20 TBS(J,2)#20 TBS(J,2)#20 TBS(J,2)#20 TBS(J,2)#20 XD,Y0(J),ZD ARE COURDINATES DF #ING=FLAP INTERSECTION SET UP NEH CENTERLINE OVER WING, FIRST THO POINTS ARE UNCHANGED D0 26 I#1,2 YCL(1)#YCLR(J,1) YCL(1)#YCLR(J,1) YCL(1)#YCLR(J,1) YCL(1)#DCLR(J,1) YCL(1)#ZCLR(J,LR) YCL(1)#ZCLR(J,LR) YCL(1)#ZCLR(J,LR) YCL(1)#ZCLR(J,LR) YCL(1)#DCLR(J,LR) YCLR(J,LR) YCL(1)#DCLR(J,LR) YCLR(J,LR) /pre>	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1220 1112 1112 1112 1112 1112 1112 1112
	26 27 28	<pre>YBS(J,3)#YBS(J,2) YBS(J,3)#20 TBS(J,3)#20 TBS(J,3)#00,0 S8(J,3)#83(J,2)*80RT((XSS(J,3)#XSS(J,2))##2</pre>	JCL, L JCL, 1220 111220 111220 11121111111111111111	
	26 27 28	<pre>Yas(J,3)#Yas(J,2) Yas(J,3)#20 Tas(J,3)#20 Tas(J,3)#20 Tas(J,3)#20 Tas(J,3)#20 Tas(J,3)#20 Tas(J,3)#20 Tas(J,3)#20 XD,Y0(J),ZD ARE COORDINATES DF #ING=FLAP INTERSECTION SET UP NEW CENTERLINE OVER WING, FIRST TWO POINTS ARE UNCHANGED D0 26 J#1,2 YCL(J)#YCLR(J,1) YCL(J)#YCLR(J,1) YCL(J)#YCLR(J,1) TH(J)#0,0 DF(J)#D0FACT(J,1) A(J)#AJET(J,1) B(J)#BJET(J,1) B(J)#BJET(J,1) B(J)#BJET(J,LR) YCL(L)#YCLR(J,LR) YCL(L)#YCLR(J,LR) YCL(L)#YCLR(J,LR) YCL(L)#ZS(J,3)=BJET(J,LR) A(L)#AJET(J,LR) TH(L)#0,0 DF(L)#DDFACT(J,LR) TH(L)#0,0 DF(L)#DDFACT(J,LR) A(L)#AJET(J,LR) TH(L)#0,0 DF(L)#DDFACT(J,LR) TH(L)#0,0 DF(L)#DDFACT(J,LR) TH(L)#0,0 DF(L)#DDFACT(J,LR) TH(L)#0,0 DF(L)#DDFACT(J,LR) TH(L)#0,0 DF(L)#DDFACT(J,LR) TH(L)#0,0 DF(L)#DDFACT(J,LR) TH(L)#0,0 DF(L)#DDFACT(J,LR) TH(L)#0,0 DF(L)#DDFACT(J,LR) TH(L)#0,0 DF(L)#DDFACT(J,LR) TH(L)#0,0 DF(L)#DDFACT(J,LR) TH(L)#0,0 DF(L)#DDFACT(J,LR) TH(L)#0,0 DF(L)#DDFACT(J,LR) TH(L)#0,0 DF(L)#DDFACT(J,LR) TH(L)#0,0 DF(L)#DDFACT(J,LR) TH(L)#DDFACT(J,LR</pre>		12278012334567800123345678001233455780012335456780012335456780012335555555555555555555555555555555555
	26 27 28	<pre>YBS(J,3)#YBS(J,2) ZBS(J,3)#20 TBS(J,3)#20 TBS(J,3)#20 BS(J,3)#8(J,2)*80RT((XSS(J,3)=XSS(J,2))##2</pre>		11111111111111111111111111111111111111
	26 27 28	<pre>YBS(J,3)#YBS(J,2) YBS(J,3)#20 TBS(J,3)#20 TBS(J,3)#20 TBS(J,2)#20 TBS(J,2)#20 TBS(J,2)#20 TBS(J,2)#20 XD,Y0(J),ZD ARE COORDINATES OF #ING=FLAP INTERSECTION BET UP NEH CENTERLINE OVER WING, FIRST TWO POINTS ARE UNCHANGED DD 26 J#1,2 YCL(1)#YCLR(J,1) YCL(1)#YCLR(J,1) TH(1)#0,0 DF(1)#D0FACT(J,1) A(1)#AJET(J,1) B(1)#BJET(J,1) TF(I)CLR(J,LR) LR3 IF (YCLR(J,LR) YCL(1)#YCLR(J,LR) YCL(1)#YCLR(J,LR) A(1)#AJET(J,LR) TH(L)#0,0 DF(1)#D0FACT(J,LR) A(1)#AJET(J,LR) TF(L)#AJET(J,LR) TF(L)</pre>		11111111111111111111111111111111111111
	26 27 28 29	<pre>YBS(J,3)#YBS(J,2) ZBS(J,3)#20 TBS(J,3)#20 TBS(J,3)#20 BS(J,3)#8(J,2)*80RT((XBS(J,3)=XBS(J,2))##2</pre>	JCL JCL JCL JCL JCL JCL JCL JCL JCL JCL	11111111111111111111111111111111111111
	26 27 28	<pre>YBS(J,3)#YBS(J,2) ZBS(J,3)#2D TBS(J,3)#2D TBS(J,3)#2D TBS(J,3)#2C TBS(J,3)#2C TBS(J,2)#2D XD,YG(J),ZD ARE COORDINATES OF #ING=FLAP INTERBECTION BET UP NEH CENTERLINE OVER WING, FIRBT TWO POINTS ARE UNCHANGED DD 24 J#1,2 XCL(1)#XCLR(J,1) YCL(1)#XCLR(J,1) YCL(1)#XCLR(J,1) TH(1)#0,0 DF(1)#05ACT(J,1) A(1)#AJET(J,1) B(1)#BJET(J,1) B(1)#BJET(J,1) TH(1)=0,0 DF(1)#DSFACT(J,1) A(1)#AJET(J,1) B(1)#BJET(J,1) S(1)#BJET(J,LR) YCL(1)#XCLR(J,LR) YCL(1)#XCLR(J,LR) YCL(1)#XCLR(J,LR) TH(1)#0,0 DF(1)#DSFACT(J,LR) A(L)#AJET(J,LR) A(L)#AJET(J,LR) F(1)#BJET(J,LR) F(1)#</pre>		11111111111111111111111111111111111111
	26 27 28 29	<pre>Yas(J,3)#Yas(J,2) Yas(J,3)#20 Tas(J,3)#20 Tas(J,3)#20 Tas(J,3)#20 Tas(J,3)#20 Tas(J,3)#20 Tas(J,3)#20 Tas(J,2)#20 XD,Y0(J),ZD ARE COURDINATES DF #ING=FLAP INTERSECTION SET UP NEH CENTERLINE OVER WING, FIRST TWO POINTS ARE UNCHANGED D0 26 Im1,2 YCL(I)#YCLR(J,I) YCL(I)#YCLR(J,I) YCL(I)#YCLR(J,I) YCL(I)#ZCLR(J,I) YCL(I)#ZCLR(J,I) H(I)#0,0 DF(I)#D5FACT(J,I) H(I)#0,0 DF(I)#D5FACT(J,I) H(I)#0,0 IF(I)#D5FACT(J,I) XCL(I)#YCLR(J,I) YCL(I)#YCLR(J,I) YCL(I)#YCLR(J,I) YCL(I)#YCLR(J,I) H(I)#0,0 DF(I)#D5FACT(J,I) H(I)#0,0 IF(I)#D5FACT(J,I) H(I)#0,0 IF(I)#D5FACT(J,LR) YCL(L)#YCLR(J,R) YCL(L)#YCL,R] H(I)#0,0 IF(I)#D5FACT(J,LR) H(I)#0,0 IF(I)#D5FACT(J,LR) H(I)#0,0 IF(I)#D5FACT(J,LR) H(I)#0,0 IF(I)#D5FACT(J,LR) YCL(L)#YCL,OR,L,GT,Z5) STDP 27 YCL(L)#YC(J) YCL(L)#YC(J) YCL(L)#YC(J) YCLR(J,LR) YCL(L)#YC(J) YCL(L)#YC(J) YCL(L)#YC(J) YCLR(J,LR) YCL(L)#YC(J) YCL(L)#YC(J) YCLR(J,LR) YCL(L)#YC(J) YCL(L)#YC(J) YCL(L)#YC(J) YCL(L)#YC(J) YCL(L)#YC(J) YCL(L)#YC(J) YCL(L)#YC(J) YCL(L)#YC(J) YCL(L)#YC(J) YCL(L)#YC(J) YCL(L)#YC(J) YCLR(J,LR) YCL(L)#YC(J) YC</pre>		11111111111111111111111111111111111111
CCC8C	26 27 28 29	<pre>YTSI(J,3)#YTSI(J,2) YTSI(J,3)#Z0 TSI(J,3)#Z0 TSI(J,3)#Z0 TSI(J,3)#Z0 TSI(J,3)#Z0 TSI(J,3)#Z0 TSI(J,2)#Z0 SS(J,2)#Z0 /pre>		11111111111111111111111111111111111111
	26 27 28 29	<pre>Yas(J,3)#Yas(J,2) Yas(J,3)#20 Tas(J,3)#20 Tas(J,3)#20 Tas(J,3)#20 Tas(J,3)#20 ARE (J,3)#20 XD,Y0(J),ZD ARE COURDINATES DF #ING=FLAP INTERSECTION SET UP NEW CENTERLINE OVER WING, FIRST TWO POINTS ARE UNCHANGED D0 26 I#1,2 YCL(I)#YCLR(J,I) YCL(I)#YCLR(J,I) YCL(I)#YCLR(J,I) ZCL(I)#ZCLR(J,I) TH(I)#0,0 DF(I)#DFACT(J,I) A(I)#AJET(J,I) B(I)#BJET(J,I) B(I)#BJET(J,I) B(I)#BJET(J,I) A(I)#AJET(J,R) YCL(L)#YCLR(J,LR) YCL(L)#YCLR(J,LR) CCL(J#ZCLR(J,LR) A(L)#AJET(J,LR) B(I)#JET(J,LR) B(I)#JET(J,LR) B(I)#JET(J,LR) CCL(J#YCLR(J,LR) CCL(J#YCLR(J,LR) CCL(J#YCLR(J,LR) CCL(J#YCLR) YCL(J#YCL,NC,NCL,OR,L,GT,Z5) STOP 27 YCL(J#YCL3) A(I)#ENTEP(YCLR(J,LR-1),YCLR(J,LR),AJET(J,LR+1),AJET(J,LR),XD) A(L)#ENTEP(YCLR(J,LR-1),YCLR(J,LR),AJET(J,LR+1),BJET(J,LR),XD) B(L)#ENTEP(YCLR(J,LR-1),YCLR(J,LR),BJET(J,LR-1),BJET(J,LR),XD) B(L)#ENTEP(YCLR(J,LR-1),YCLR(J,LR),BJET(J,LR-1),BJET(J,LR),XD) B(L)#ENTEP(YCLR(J,LR-1),YCLR(J,LR),BJET(J,LR-1),BJET(J,LR),XD) B(L)#ENTEP(YCLR(J,LR-1),YCLR(J,LR),BJET(J,LR-1),BJET(J,LR),XD) B(L)#ENTEP(YCLR(J,LR-1),YCLR(J,LR),BJET(J,LR-1),BJET(J,LR),XD) B(L)#ENTEP(YCLR(J,LR)) B(I)#ENTEP(YCLR(J,LR),YCLR(J,LR),BJET(J,LR),XD) B(L)#ENTEP(YCLR(J,LR),YCLR(J,LR),BJET(J,LR),YD) B(L)#ENTEP(YCLR(J,LR),YCLR(J,LR),BJET(J,LR),YD) B(L)#ENTEP(YCLR(J,LR),YCLR(J,LR),BJET(J,LR),YD) B(L)#ENTEP(YCLR(J,LR),YCLR(J,LR),BJET(J,LR),YD) B(L)#ENTEP(YCLR(J,LR),YCLR(J,LR),BJET(J,LR),YD) B(L)#ENTEP(YCLR(J,LR),YCLR(J,LR),BJET(J,LR),YD) B(L)#ENTEP(YCLR(J,LR),YCLR(J,LR),BJET(J,LR),YD) B(L)#ENTEP(YCLR(J,LR),YCLR(J,LR),BJET(J,LR),YD) B(L)#ENTEP(YCLR),YCLR(J,LR),YD) B(L)#ENTEP(YCLR(J,LR),YCLR(J,LR),YD) B(L)#ENTEP(YCLR(J,LR),YCLR(J,LR),YD) B(L)#ENTEP(YCLR(J,LR),YCLR(J,LR),YD) B(L)#ENTEP(YCLR(J,LR),YD) B(L)#ENTEP(YCLR(J,LR),YD) B(L)#ENTEP(YCLR(J,LR),YD) B(L)#ENTEP(YCLR(J,LR),YD) B(L)#ENTEP(YCLR(J,LR),YD) B(L)#ENTEP(YCLR(J,LR),YD) B(L)#ENTEP(YCLR(J,LR),YD) B(L)#ENTEP(YCLR(J,LR),YD) B(L)#ENTEP(YCLR(J,LR),YD) B(L)#ENTEP(YCLR(J,LR),YD) B(L)#ENTEP(YCLR(J,LR),YD) B(L)#ENTEP(YCLR(J,LR),YD) B(L)#ENTEP(YCLR(J,LR),YD) B(L)#ENTEP(YCLR(J,LR),YD) B(L)#ENTEP(YCLR(J,LR)</pre>		11111111111111111111111111111111111111
	26 27 28 29	<pre>YTSI(J,3)#YTSI(J,2) YTSI(J,3)#Z0(J,2) YTSI(J,3)#Z0(J,2) YTSI(J,3)#Z0(J,2)#Z1 YTSI(J,3)#Z0(J,2)#Z1 YTSI(J,2)#Z1 XD,YQ(J),ZD ARE COORDINATES OF #ING#FLAP INTERBECTION BET UP NEH CENTERLINE OVER WING, FIRBT TWO POINTS ARE UNCHANGED DD 26 J#1,2 YTCL(I)#YTCLR(J,1) YTCL(I)#YTCLR(J,1) YTCL(I)#YTCLR(J,1) YT(I)#DJET(J,1) XCL(I)#YTCLR(J,1) XCL(I)#YTCLR(J,1) XCL(I)#YTCLR(J,1) XCL(I)#YTCLR(J,1) XCL(I)#YTCLR(J,1) XCL(I)#YTCLR(J,1) YTCL(I)#YTCLR(J,1) XCL(I)#YTCLR(J,1) XCL(I)#YTCL,1) XCL(I)#YTCL,1) XCL(I)#YTCLR(J,1) XCLR(J,1) XCL(I)#YTCLR(J,1) XCLR(J,1) XCL(I)#YTCLR(J,1) XCLR(J,1) XCL(I)#YTCLR(J,1) XCLR(J,1) XCL(I)#YTCLR(J,1) XCLR(J,1) XCLR(J</pre>		11111111111111111111111111111111111111
	26 27 28 29	<pre>Yas(J,3)#Yas(J,2) Yas(J,3)#20 Tas(J,3)#20 Tas(J,3)#20 Tas(J,3)#20 Tas(J,3)#20 ARE (J,3)#20 XD,Y0(J),ZD ARE COURDINATES DF #ING=FLAP INTERSECTION SET UP NEW CENTERLINE OVER WING, FIRST TWO POINTS ARE UNCHANGED D0 26 I#1,2 YCL(I)#YCLR(J,I) YCL(I)#YCLR(J,I) YCL(I)#YCLR(J,I) ZCL(I)#ZCLR(J,I) TH(I)#0,0 DF(I)#DFACT(J,I) A(I)#AJET(J,I) B(I)#BJET(J,I) B(I)#BJET(J,I) B(I)#BJET(J,I) B(I)#BJET(J,I) CCL(I)#YCLR(J,LR) YCL(L)#YCLR(J,LR) YCL(L)#YCLR(J,LR) YCL(L)#YCLR(J,LR) YCL(L)#YCLR(J,LR) YCL(L)#YCLR(J,LR) YCL(L)#YCLR(J,LR) YCL(L)#YCLR(J,LR) CCL(J#YO(J) A(L)#BJET(J,LR) B(I)#BJET(J,LR) B(I)#BJET(J,LR) B(I)#BJET(J,LR) CCL(J#YO(J) A(L)#BIET(J,LR) F(L,R) YCL(L)#YO(J) A(L)#BIET(J,LR) B(I)#ENTEP(YCLR(J,LR=1),YCLR(J,LR),AJET(J,LR=1),AJET(J,LR),XD) B(L)#ENTEP(YCLR(J,LR=1),YCLR(J,LR),AJET(J,LR=1),BJET(J,LR),XD) B(L)#ENTEP(YCLR(J,LR=1),YCLR(J,LR),BJET(J,LR=1),BJET(J,LR),XD) TH(L)#0,0 DF(L)=BYACT(J,LR=1) YCL(L)#YCLR(J,LR=1) YCL(L)#YCLR(J,LR=1) YCL(L)#YCLR(J,LR=1) YCL(L)#YCLR(J,LR=1) YCL(L)#YCLR(J,LR=1) YCL(L)#YCLR(J,LR=1) YCL(L)#YCLR(J,LR=1) YCL(L)#YCLR(J,LR=1) YCL(L)#YCLR(J,LR=1) YCL(L)#YCLR(J,LR=1) YCL(L)#YCLR(J,LR=1) YCL(L)#YCLR(J,LR=1) YCL(L)#YCLR(J,LR=1) YCL(L)#YCLR(J,LR=1) YCL(L)#YCLR(J,LR=1) YCL(L)#YCLR(J,LR=1) YCL(J,LR=1)</pre>		111111111111111111111111111111111111111
	26 27 28 29	<pre>YTSI(J,3)#YTSI(J,2) YTSI(J,3)#ZO(J,2) YTSI(J,3)#ZO(J,2) YTSI(J,3)#ZO(J,2)#ZO(T(XSS(J,3)=XSS(J,2))##Z) YTCSI(J,3)#ZO(J,2)#ZO(T(XSS(J,3)=XSS(J,2))##Z) XD,YO(J),ZD ARE COORDINATES OF #ING=FLAP INTERBECTION #ET UP NEW CENTERLINE OVER WING, FIRBT TWO POINTS ARE UNCHANGED DD 26 J#1,Z XCL(I)#XCLR(J,I) YCL(I)#XCLR(J,I) YCL(I)#XCLR(J,I) YCL(I)#ZCLR(J,I) YCL(I)#ZCLR(J,I) XCLR(J,I) YCL(I)#ZCLR(J,IR) YCLR(J,IR) YCL(I)#ZCLR(J,IR) YCLR(J,IR) YCL(I)#ZCLR(J,IR) YCL(I)#ZCLR(J,IR) YCLR(J,IR) YCL(I)#ZCLR(J,IR) YCLR(J,IR) YCL(I)#ZCLR(J,IR) YCLR(J,IR) YCL(I)#ZCLR(J,IR) /pre>		11111111111111111111111111111111111111

D\$\$(J,3)=DF(L) JCL 167 LDBL+1 JCL 168 L=LD+1 JCL 169 JCL 170 JET OVER HING COMPLETED, START ON FLAP 1 £ JCL 171 (PDINT LD IN TRANSITION REGION BETWEEN WING AND FLAP) C JCL 172 C JCL 173 THE FOLLOWING POINT (L) CORRESPONDS TO THE L.E. OF FLAP & ĉ JCL 174 JCL 175 NFK#1 JCL 176 XCL(L)=XD=B(L=2)+8IN(OF1) JCL 177 YCL(L)=YQ(J) JCL 178 ZCL(L)=ZD+B(L+2)=CO3(DF1) JCL 179 TH(L)= DF1+RAD JCL 180 OF (L)=DF (L=2) JCL 181 A(L)=A(L=2) JCL 182 8(1)#8(1=2) JCL 183 L#L+1 JCL 184 Ĉ. JCL 185 THE FOLLOWING POINT (L) CORRESPONDS TO THE T.E. OF FLAP 1 £. JCL 186 Ē JCL 187 FINCE (MEJ) JCL 188 IF (NFJ.LE.1) F#F#2.0 JCL 189 CF1=2,0+F+8QRT((XE+XF)++2 + (ZE+ZF)++2) JCL 190 xD=xD+CF1+COS(DF1) JCL 191 ZD#ZD+CF1+BIN(OF1) JCL 192 N\$\$(J)m# JCL 193 X33(J,4)=XD JCL 194 Y85(J,4)=Y85(J,3) JCL 195 258(J;4)=20 JCL 196 TSS(J,4)=DF1=RAD JCL 197 ##(J,4)=\$\$(J,3)+\$QRT((X##(J,4)=X#\$(J,3))++2 + JCL 198 (YSB(J,4)-YBB(J,3))++2 + (ZBB(J,4)-ZBB(J,3))++2) JCL 199 32 IF (XCLR(J.LR)=X0) 30,30,31 JCL 200 31 LRuLR+1 JCL 201 IF (LR.GT.NCL) STOP 32 JCL 202 60 TO 32 JCL 20% 30 A(L)=ENTRP(XCLR(J+LR=1)+XCLR(J+LR)+AJET(J+LR=1)+AJET(J+LR)+XO) JCL 204 B(L)=ENTRP(XCLR(J,LR+1),XCLR(J,LR),BJET(J,LR+1),BJET(J,LR),XD) JCL 205 XCL(L)=XD=B(L)=BIN(DP1) JCL 206 YCL(L)=YG(J) JCL 207 ZCL(L)=ZD=B(L)=CDB(DF1) JCL 208 TH(L)= DF1+RAD JCL 209 DF(LS=DSFACT(J,LR=1) JCL 210 888(J,4)#8(L) JCL 211 A55(J,4)=A(L) JCL 212 D55(J+4)=0F(L) JCL 213 L=L+1 JCL 214 C JCL 215 C NOW COMPUTE POINT LO IN TRANSITION REGION JCL 216 C JCL 217 XF=XCL(L=1) JCL 218 ZF=ZCL(L=1) JCL 219 XE=XCL(L=2) JCL 220 2E=ZCL(L+2) JCL 221 XC=XCL(L=4) JCL 222 ZC=ZCL(L=4) JCL 223 XB#XCL(L=5) JCL 224 ZB#ZCL(L=5) JCL 225 208=(20-28)/(xc+x8) JCL 226 ZFE=(ZF=ZE)/(XF=XE) JCL 227 XCL(LD)=(ZE = ZB + XB+ZCB = XE+ZFE)/(ZCB+ZFE) JCL 228 ZCL(LD)=ZB+(XCL(LD)=XA)+ZCB JCL 229 VCL(LD)=VQ(J) JCL 250 A(LO)=A(L+4) JCL 231 8(LD)#8(L=4) JCL 232 TH(LD)=0,5+(TH(LD=1)+TH(LD+1)) JCL 233 DF(LD)=DF(L=4) JCL 234 IF (XCL(LO)=XC) 34,34,33 JCL 235 33 XCL(LD)=(XC+XE)/2.0 JCL 236 2CL(LD)=(2C+ZE)/2.0 JCL 257 34 IF(NFJ=NFK) 50,50,35 JCL 238 35 NFKaNFK+1 JCL 239 LD≡L JCL 240 Ĩ#L∓1 JCL 241 XB#XE JCL 242 28=ZE JCL 243

XC=XF JCL 244 ZC#ZF JCL 245 C JCL 246 C COMPUTE INTERSECTION OF THO FLAPS JCL 247 (POINT LD IS IN TRANSITION REGION BETWEEN FLAPS) JCL 248 C JCL 249 MEJENEJN(NEK) JCL 250 MINNEFIMEJY JCL 251 HSTENSTART(MEJ) JCL 252 HNDEMEND(MFJ) JCL 255 DO 36 ISHST, HND, HI JCL 254 IFUI JCL 255 IFH1=1-H1 JCL 256 1F(YCP(1F)=YQ(J)) 41,42,36 JCL 257 36 CONTINUE JCL 258 WRITE (6,702) J,##J JCL 254 \$TOP 36 JCL 268 42 XFBLB=XBL(IF) JCL PAI 778L8#7817153 JCL 545 XFCPB=XCP(IF) JCL 245 ZFCP8=ZCP(IF) JCL 264 GO TO 45 JCL 265 41 XFBLEMENTRP(YCP(IFM1),YCP(IF),XBL(IFM1),XBL(IF),Y0(J)) ZFBLEMENTRP(YCP(IFM1),YCP(IF),ZBL(IFM1),ZBL(IF),Y0(J)) JCL 266 JCL 267 XFCPH=ENTRP(YCP(IFHI), YCP(IF), XCP(IFHI), XCP(IF), YQ(J)) JCL 268 EFCPB=ENTRP(YCP(IFH1),YCP(IF),ZCP(IFH1),ZCP(IF),YB(J)) 1CL 209 45 CONTINUE JCL 270 ZCB=(ZFCPA=ZFBLA)/(XFCPA=XFBLA) JCL 271 IFE=(ZFCPB=ZFBLB)/(XFCPB=XFBLB) JCL 272 DF2=ATAN(=ZFE) JCL 275 XD#(ZF8L8+ZF8LA+XF8LA+ZC8=XF8L8+ZFE)/(ZC8+ZFE) JCL 274 ZD#ZPSLA + (XD+XF8LA)+ZC8 JCL 275 JCL 276 ĉ XD, YO(J), ZD ARE COORDINATES OF INTERSECTION OF FLAPS JCL 277 FOLLOWING POINT (L) CORRESPONDS TO AFT FLAP L.E. JCL - 278 ¢ ¢ JCL 274 XCL(L)=XD=B(L=2)+\$IN(DF2) JCL 280 YCL(L)=YO(J) J.L 281 ZCL(L)=ZD=8(L=2)=CO\$(OF2) JCL >82 TH(L)= DF2+RAD JCL 285 OF(L)=0F(L=2) JCL 284 JCL 265 A(L)#A(L=2) #(L)##(L+2) JCL 286 Ç JCL 287 FOLLOWING POINT (L) CORRESPONDE TO AFT FLAF T.E. JCL 288 C Ė JCL 289 1=1+1 JCL 290 FRNCF (HEJ) JCL 291 IF (NFJ,EQ.NPK) FRF42.0 JCL 292 CF2=2,0+F+SQRT((XFBLB#XFCPB)++2 + (ZFBLB-ZFCPB)++2) JCL 293 X0=X0=CF2+C08(DF2) JCL 294 ZD#ZD+CF2+81N(DF2) JCL 295 M#N88(J)+1 JCL 296 NSS(J)#H JCL 297 JCL 298 X\$5(J,H)#XD 288(J,H)=20 JCL 299 Y88(J,H)=Y88(J,H=1) JCL 300 TSS(J,H)=DF2+RAD JCL 301 88(J,H)=55(J,H=1)+SQRT((X88(J,H)=X88(J,H=1))++2 + JCL SOZ (Z38(J,H)=Z88(J,H=1))++2) JCL 303 52 1F (XCLR(J,LR)=XD) 53,53,51 JCL 304 Si LRALR+1 JCL 305 IF (LR.GT.NCL) STOP SE JCL 3DA JCL 307 80 TO 52 53 A(L)MENTRP(XCLR(J,LR=1),XCLR(J,LR),AJET(J,LR=1),AJET(J,LR),XD) JEL NOR B(L)#ENTRP(XCLR(J,LR=1),XCLR(J,LR),BJET(J,LP=1),BJET(J,LR),XD) JCL \$09 JCL 310 B33(J,=)=B(1) A85(J,H)#A(L) JCL 311 XCL(L)=XD=B(L)+BIN(DF2) JCL 312 JCL 313 YCL(L)=YQ(J) ZCL(L)=ZD=B(L)=COS(DF2) JCL 314 TH(L)= DF2+RAD JCL 315 DF(L)=DSFACT(J,LR=1) JCL 316 JCL 317 035(J,H)=0F(L) L=L+1 JCL 118 JCL 314 C NOW COMPUTE POINT LD IN TRANSITION REGION BETHEEN FLAPS JCL 320 c JCL SEI c

			101	122
			JUL	366
			100	383
			100	175
		ZF#ZCL(L=Z)	JUL	365
		ZC54(ZC-ZR)/(XC-XB)	JCL	320
		ZFE=(ZF+ZE)/(XF+XE)	JCL	327
		xCL(10)=(ZE=28+X8+2C8+XE=2FE)/(ZC8=ZFE)	JCL	328
		ZCL(LD)=Z8+(XCL(LD)=X8)=ZCB	JCL	329
		YCL(LD)=YG(J)	JCL	330
		ATLDIBATL#41	JCL	331
			JEL	225
		1-(())=0,3=(1-(())=1)+(*(())+1))-	JCL	222
			JCL	334
		XFOLASXFRLB	JCL	335
		ZFBLA=ZFBLB	JCL	336
		XLCbYeXLChR	JCL	337
		ZFCPA=ZFCPB	JCL	338
		IF (XCL(LD)=XCL(LD=1)) 34,34,54	JCL	339
	54	XCL(LD)=(XCL(LD=1)+XCL(LD+1))/2.0	JCI.	140
		ZCL (LO)#(7CL (LD=1)+ZCL (LD+1))/2.0	301	141
		GO TO 34	101	303
		TE (L OT SK) ATTO BA	100	375
•			JUL	343
		RTNIEU CENTEDI INE SOUCIEICATION WITH A BABARD IN	JUL	244
2		FINISH LEVIERLINE SPECIFICATION HITH A PARABOLIC AND	JCL	345
5		PUINTS H AND I ARE LAST COMPUTED CENTERLINE POINTS ABOVE LAST	JCL	344
ç		FLAP, PDINT & IS THE END UF THE JET,	JCL	347
C .			JCL	348
		X***XCL(L=2)	JCL	349
		xI=xCL(L+1)	JEL	350
		ZM#ZCL(L=2)	JCI.	351
		718261 (1 - 1)	301	159
		TTH(4(7H-21)/(YT=XH)	105	161
			101	355
			JUL	324
		NORALLR(),	JCL	333
		T3=T1+(K2+Y1)#1H1#1#01040#EXP(+0*0342#1H1)	JCL	356
5			JCL	357
Ç.		CALCULATE CHEFFICIENTS OF PARABOLA	JCL	358
C			JCL	359
		#A=({XS-XI)/(Z#=ZI)+(XI-XH)/(ZI=ZH))/((Z#+ZS=ZI+ZI)/(Z#=ZI)	JCL	360
		1 -7.0+111	JCL	361
		SB=(XI=XH)/(ZI=ZH) = 2.00ZI#84	JCI.	162
		SCRXT # SANZTNTT # SRNZT	101	141
			101	144
			JUL	303
			JCL	300
			JEL	307
		AKLEKL	JCL	368
		DX=(X\$=XCL(L=1))/AKL + 0,0001	JĈĻ	349
	-56	CONTINUE	JCL	370
		AKL#0.5	JCL	371
		DU 55 I=1,KL	JOL	372
		17 (1.GT.1) AKL#1.0	301	\$71
		IF (IIEGIKL) AKLWIIS	30	176
		XCL (I) XCI (L+1)+DX+AKI	101	17=
		NC(())=V0(1)	366	313
		······································		3/8
		10/10/10/10/10/10/10/10/10/10/10/10/10/1	101	377
	37	17 [RULM[U\$UK]#AUU[U]] 30;30;80	JCL	378
	60		JCL	379
		IF (LR_GT_NCL) STOP 60	JÜL	380
		90 TO 57	JĈL	381
	58	A(L)=ENTRP(XCLR(J,LR=1),XCLR(J,LR),AJET(J,LR=1),AJET(J,LR),XCL(L))	JCL	383
		B(L)=ENTRP(XCLR(J,LR=1),XCLR(J,LR),BJET(J,LR=1),BJET(J.LR),XCL(L))	JCL	382
		TTH#1,0/(2,0=3A=ZCL(L)+38)	JCL	380
		TH(L)#wATAN(TTH)*RAD	JCL	344
		DF(L)=DAFACT(J-LR=1)	JCE	184
		TP CARACTMELLS GT. ABBETHEL HISSS THELSHTHEL HIS	101	184
			100	347
			JCL	200
	33		JUL	384
			JCL	390
		NCTL(J)=L	JCL	391
C			JCL	392
ć		LOCATE THE INTERSECTION OF THE EDGES OF THE JET WITH THE	101	101
ě		TRATING FORES OF THE LIFTING SURFACES	301	104
ē.		CONTERIO DE LOS DE CONTRACTO	101	105
ž		VEN/1	100	373
2		AGREGIEST EILE EINDIGHD ATHE UN JET	JUL	346
C.		XBT(J)=J, ETC, E QUIHQARD BIOL UP JEY	JCL	397
C			JCL	398

		7847	JCL 399
		//////////////////////////////////////	JCL 400
		Y8N(1.2)#¥88(J.2)	JCL 401
		¥ST(J,1)=XSS(J,1)	JCL 402
		x5T(J,2)=x95(J,2)	JCL 403
		YSN(J,1)=YSS(J,1) + AJET(J,1)	JCL 404
		YST(J,1)=YSS(J,1) = AJET(J,1)	JCL 405
		Z8N(J,1)=Z35(J,1) + AJET(J,1)+TPHIN	JLL 408
		28T(J,1)=28S(J,1) = AJET(J,1)ATPHIN	10 408
		ZSW(J,2)=Z8S(J,2) + A83(J,2)=(PH1)	JCL 400
		Z31(J,2)=Z33(J,2) = A33(J,2)=1=1=	JCL 410
		YBN(J/2)#Y88(J/2) + #88(J/2) V80/1.T1=V88/1.11 + 488/J.31	JCL 411
		$var(1,2) = var(1,2) = Aas(J_2)$	JCL 412
		var(J, t) = var(J, 3) = Asa(J, 3)	JCL 413
c			JCL 414
•		DD 500 KG#1,2	JCL 415
		YGEDG=YSN(J, 3)	JCL 416
		IF (KG,EQ,2) YOEDG=YOT(J:3)	
Ç.			.161 410
5		LOCATE INTERSECTION OF WIND THE AND FLAP I LOCA	161 420
¢		##T-07014	JCL 421
		NO SIA TANST.MY.NCH	JCL 422
		TNel	JCL 423
		IWHIRIANCH	JCL 424
		IF (YCP(IH)=YQEOG) 511,512,510	JCL 425
	510	CONTINUE	JCL 420
		GO TO 511	JUL 427
ç		CARDANIETT NE TE AND NO TO ADE ON WING	JCL 429
ç		COURDINATES XBILD AND XCILL ARE ON HING	JCL 430
C		VANVAL / TW1	JCL 431
	314	78=78((Tw)	JCL 432
		XC#XCP(IH)	JCL 433
		ZC=ZCP(IW)	JCL 434
		GO TO 515	JCL 435
	511	XBHENTRP(YCP(IWH1),YCP(IW),XBL(IWH1),XBL(IW),YGEDG)	151 4117
		ZBWENTRP(YCP(IWM1),YCP(IW),ZBL(IWM1),ZBL(IW),YQEDG)	JCL 437
		XCEENTRP(YCF(INH1),YCF(IR),XCF(IRH1),XCF(IR),YGEOG)	JCL 439
		ZUMENTRP(TUP(1001));TUP(10))ZUP(1001)ZUP(100)	JCL 440
	212	MTENEF(MEJ)	JCL 441
		HATAHATART(HFJ) + HI	JCL 442
		MNDEHEND(HFJ)	JCL 443
		DO 516 I=HST, HND, HI	JCL 444
		1F=1	JCL 445
		IFMIWIHH	
		IF (YCP(IF)=Y0E00) 321,522,510	JCL 447
	516	CONTINUE	.101 449
-		GU 1U 541	JCL 450
č		CODEDINATES XF. 28. AND XF.2F ARE ON FLAP 1	JCL 451
÷ř			JCL 452
	522	XEBXBI (IF)	JCL 453
		28=28L(1F)	JCL 454
		XF=XCP(IF)	JCL 455
		ZF=ZCP(IF)	JCL 456
		GO TO 525	JCL 497
	521	XESENTRP(YCP(IFM1),TCP(IF),XBL(IFM1),XBL(IF),THEDWJ	101 450
		ZENERINAR(ICRIIFALLATOR(IF))COL(ICAL)COL(IF),VOROUS	JCI 440
		ZF=FNTRP(VCP(IFM1).VCP(IF).ZCP(IF41).ZCP(IF).VGEDG)	JCL 461
	525	CONTINUE	JCL 462
		ZCB=(ZC=ZB)/(XC=XB)	JCL 463
		ZFE=(ZF+ZE)/(XF+XE)	JCL 464
		DF1=ATAN(=ZFE)	JCL 465
		x0=(ZE=Z8 + X8+ZC8 = XE+ZFE)/(ZC8=ZFE)	JCL 466
		ZD=Z8 + (XD=XB)+ZC8	JUL 467
		[P [KGw]] JU4/304/303 . valit timvD	301 440
	504	786/1.23m2D	JCL ATO
		GA TA 506	JCL 471
	501	5 X8T(J,3)=XD	JCL 472
		Z3T(J, \$)#ZD	JCL 473
	50/	L CONTINUE	JCL 474
		N# 5	JCL 475
- 0	:		JCL 476

LOCATE INTERSECTION OF JET SIDES WITH FLAP T.E. C £ 555 NEN+1 e Y0EDG=Y88(J,N) + A88(J,N) IF (K8.20.2) YOEDGEY88(J,N) - A88(J,N) IF (NFJ. E0. N=3) GO TO 554 DO 520 IMHST, HND, MI 1Fm1 1FH1#1+HI IF (VCP(1F)=V0EDG) 524,527,520 SPA CONTINUE SET YREXBL(IF) 28=28L(17) XC#XCP(IF) ZCHICP(IF) 60 10 328 526 XBBENTRP(YCP(IFH1),YCP(IF),X6L(IFH1),X8L(IF),Y0EDG) ZONENTAP(YCP(IFM1), YCP(IF), ZOL(IFM1), ZOL(IF), YOEDG) XC#ENTRP(VCP(IFH1), VCP(IF), XCP(IFH1), XCP(IF), VQEDG) ZCHENTRP(YCP(IPH1),YCP(IF),ZCP(IFH1),ZCP(IF),YQED6) 528 CONTINUE 60 10 558 556 MFJUNFJN(NFJ) 60 TO 559 SSA HEJENEJNENEZ 554 HIBNCF(HFJ) HATEHSTART(HPJ) + HI HNDEMEND(H#J) DO 550 ISHAT, HND, HI IFEI TFH1staH1 IF (YCP(IF)=YQED8) 551,552,558 **SSC CONTINUE** 80 10 551 552 XERXOL(IP) ZE=ZBL(JF) XF#XCP(IF) 2F#7CP(1F) 60 10 553 551 XEMENTRP(VCP(1FH1), VCP(1F), X8L(1FH1), X8L(1F), V9ED8) 2E=ENTRP(YCP(IFH1),YCP(IF), 28L(IFH1), 28L(IF), Y0ED0) XF#ENTAP(YCP(IFM1),YC#(IF),XCP(IFM1),XCP(IF),YGEDG) ZF#ENTRP(YCP(1##1),YCP(IF),ZCP(IF#1),ZCP(IF),YQEDG) 555 CONTINUE 2C8=(2C+28)/(xC+X8) ZFEN(ZF=ZE)/(XF=XE) OFZHATAN(+ZFE) IF (NPJ.E0. N-31 GD TO 557 xD=(ZE+ZB + X8+ZCB = xE+ZFE)/(ZCB-ZFE) ZD=Z8 + (XD=X8)+ZC8 JF (KG-1) 529,529,530 529 X5N(J,N)#XD Z\$v(J,v)#ZD VEN(J,N) = YOEDS 80 10 811 STO XST(J,N)#XD 281(J,N)#20 VST(J,N) SYUEDG 531 CONTINUE GR TO 555 557 FENCE (HEJ) F#F+2.0 CF2m2.0+F+SQRT((XE+XF)++2 + (ZE+2F)++2) XD#XD=CF2+COS(DF2) ZD=ZD+CF2+SIN(DF2) IF (KG+1) 540,540,547 546 X5N(J.N)#XD ZBN(JIN)#ZD YSN(J,N)=YGEDG GD TO 548 547 X37(J,N)=X0 ZST(J,N)=ZD YST (J,N)#YREDG SAN CONTINUE 500 CONTINUE e.

JCL 477

JCL 478

JCL 979

JCL 480

JCL 481

JCL 482

JCL 443

JCL 484

JCL 485

JCL 486

JCL 487

JCL 488

JCL 489

JCL 490

JCL 491

JCL 492

JCL 493

JCL 498

JEL 495

JCL 496

JCL 497

JCL 498

JCL 499

JCL 500

JCL 501

JCL SOR

JCL 503

JCL 504

JCL 505

JCL SON

JCL 507

JCL 508

JCL 509

JCL 510

JCL 511

JCL 512

JCL 513

JCL 514

JCL 315

JCL 516

JCL 917

JCL 518

JCL 519

JCL SEO

JCL 521

JCL 523

JCL 524

JCL 525

JCL 524

JCL 527

JCL 528

JCL 524

JCL 530

JCL 531

JCL 532

JCL 533

JCL 534

JCL 535

JCL 536

JCL 537

JCL 538

JCL 539

JCL 540

JCL 541

JCL 542

JCL 543

JCL 544

JCL 545

JCL 546

JCL 547

JCL 548

JCL 549

JCL 550

JCL 551

JCL 552

JCL 553

COMPLETE SURFACE SPECIFICATION OF JET BOUNDARY C JCL 554 C JCL 555 RENSE/ 11 JCL 556 THGETSS(J,H)/RAD JCL 557 XE=X35(J,+)=855(J,+)+\$1+(THG)+1.05 JEL SSA 00 63 I=1,L JCL 559 TFat JCL 560 IF (XE-XCL(1)) 63,63,64 JCL 561 63 CONTINUE JCL 562 64 DO 65 1+IF.L JCL 563 MRHA1 JCL 564 THGETH(I)/RAD JCL 565 X85(J,H)=XCL(I) + 8(1)+814(THG) JCL 566 288(J,+)=2CL(I) + 8(I)+COS(THE) JCL 567 Y88(J,H)#YCL(I) JCL SAB T88(J,H)#TH(1) JCL 569 88(J,H)=88(J,H=1) + BORT((X88(J,H)=X88(J,H=1))++2 + JCL 570 (288(J+H)=288(J+H=1))++2 1 JCL 571 N\$\$(J)#H JCI. 572 ASB(J,H)=A(I) JCL 573 838(J.F)#8(1) JCL 574 D\$\$(3,*)=0F(1) JCL 575 X\$N(J,H)=X88(J,H) JCL 576 Z\$N(J,H)=Z88(J,H) JCL 577 Y\$N(J,H)=Y85(J,H) + A88(J,H) JCL 578 X87(J,H)#¥38(J,H) JCL 579 YST(J,H)=YSS(J,H) = ASS(J,H) JCL 580 28T(J,H)=288(J,H) JCL 581 45 CONTINUE JCL 582 JCL 583 CHECK SURFACE COORDINATES FOR IRREGULARITIES JCL 584 ě JCL 585 NEJSENEJAS JCL SAM 74 DO 70 184FJ3,8 JCL 587 1101 JCL 588 IF (X8N(J.1).GE.X8N(J.1-1)) 60 TO 71 JCL 584 IF (XAT(J,1),GE,XAT(J,1=1)) 60 TO 71 JCL 590 TO CONTINUE JCL 591 60 10 15 JCL 542 71 HEHel JCL 593 NSS(J)=M JCL 594 00 73 1#11,H JCL 595 ×88(J,1)=×88(J,1+1) . JCL 596 ¥\$5(J.1)#¥58(J.1+1) JCL 597 288(J,1)=285(J,1+1) JCL 598 738(J.1)=788(J.1+1) JCI. 599 88(J.T)# 88(J.1+1) JCL 600 A35(J,1)#43\$(J,1+1) 883(J,1)#885(J,1+1) JCL 601 JCL 402 1 D89(J,1)=088(J,1+1) JCL 603 X8N(J,1)=X8N(J,1+1) JCL 604 Y8N(J.T)=Y8N(J.I+1) JCL 605 Z8N(J,1)=Z8N(J,1+1) JCL 606 ¥\$7(J,I)=¥87(J,I+1) JCL 607 YST(J,I)=YST(J,I+1) JCL 608 ZST(J,1)=ZST(J,1+1) JCL 609 73 CONTINUE JCL 610 60 10 74 JCL 611 75 CONTINUE JCL A12 e JCL 013 RAISE JET ABOVE SURFACE OF WING AND FLAPS C JCL 614 ċ JCL 615 H=05(J)+0.5 JCL 616 20(J)=20(J)=H JCL 617 00 81 1=1,H JCL 618 DHX#H=SIN(TSS(J,I)/RAD) JCL 619 DHZ#H+COB(TSS(J,1)/RAD) JCL 620 X88(J,T)=X68(J,1)=DHX JCL 021 X5N(J,1)=X8N(J,1)=OHX JCL 622 XST(J,1)=XST(J,1)=DHX ZSS(J,1)=ZSS(J,1)=DHZ JCL 625 JCL 624 ZSN(J,1)=ZSN(J,1)=DHZ JCL 625 ZST(J, I)=ZST(J, I)=DHZ JCL 626 81 CONTINUE JCL 627 00 82 1s1,L JCL 628 DHX#H+SIN(TH(I)/RAD) JCL 629 DHZ=H+COS(TH(1)/RAD) JCL 630 XCL(I)=XCL(I)=DHX JCL 631

	AUBROUTINE CORECT (NP. KPR. YPR. ZPR. M.NTIME)	CRT	001
C		ČRT	500
с	CORRECT FIELD POINT LOCATIONS TO AVOID VORTEX RING SINGULARITIES	CRT	003
C	MODIFIED FOR SURFACE SPECIFICATION OF QUADRILATERAL RINGS	CRT	004
C		CRT	005
ç	FIELD PDINT IDENTIFICATION	ÇRT	006
ç.	NPTJ # 0 POINT OUTSIDE JET, NOT CORRECTED	CRT	007
5	S PUINT NEAN JET, CONNECTED	CRT	008
Ę.	E 14H PUINT INSIDE JET ", CORRECTED	CRT	009
	NTYENETAN VD0/3501.V00/3501.700/3601	CHI	010
	COMPAN 1997() NIFT.NEV(2).90(2).90(2).70(2).CAMU1(2).DE(2).		011
	1 BH0(3), CHU(2), X(LB(2,25), Y(LB(2,25), 7(LD(2,25), THETA(2,25),	Cat	A13.
	8 BCLR(P.25), AJET(2.25), BJET(2.25), DFACT(2.25).	CRT	Ota.
	3 UCL (2.25), VCL (2.25), HCL (2.25), CFJ.CFK	CRT	015
	COMMON /CLDAT/ N33(2),33(2,11),X33(2,11),Y53(2,11),Z38(2,11),	CRT	016
	1 TS\$(2,11), PS\$(2,11), AS\$(2,11), X8N(2,11), Y8N(2,11),	CRT	017
	2 ZSN(2,11),X8T(2,11),Y8T(2,11),Z8T(2,11),DS8(2,11)	CRT	018
	TORON /FADTAN NTJ (2,250), NCRCD	CRT	019
	COMMON /NFJCL/ NFJ,NFJN(3)	CRT	020.
C		CRT	021
C	INITIALIZATION	CRT	220
C		CRT	023
	WAD=57_2957795	CRT	024
	IF (NTIME,LT.=1) GD TO 19	CRT	025
	DO 2 JEL,NP	CRT	050
	0 (1 () () () () () () () () ()	CRT	027
	INJETH1+	CRT	028
5	SEADEN ADDAY FOD BOTHTS TO SE CORDECTED	CRI	024
L	DEACH ARRAT FUR POINTS TO BE CORRECTED	CRI	0.50
		201	031
		607	0.32
		CRI	033
	YEARDON CONTRACTOR CONTRA	CPT	035
		CRI	036
	TF (X+XAA(H+K)) 12.13.4	681	037
	4 CONTINUE	087	010
	GO TO 3		0.37
	13 1F (KS.E9.1 .OR. KS.E0.KL) GO TO 3	CRT	041
	VG#Y53(M,K8)	CRT	042
	RG≡#\$\$(⊬,K\$)	CRT	043
	AGMASS(M ₂ KS)	CRT	044
	60 TO 9	CRT	045
	17 IF (KS,EQ.1) GO TO 3	CRT	046
	DELTA=(X+X35(H;K3=1))/(X33(H;K3)+X33(H;K3=1))	CRT	047
	YG=YS3(",K3+1) + (Y\$8(",K\$)=Y88(M,K3=1))+DELTA	CRT	048

_	42	ZCL(I)#ZCL(I)+DMZ Continue
000		TRANSFORM JET BACK TO JET COORDINATE SYSTEM
-		D0 61 I#1,L
		XCLR(J,I)=XQ(J)=XCL(I)
		YCL8(J,1)=YCL(T)=YQ(J)
		ZCLR(J,I)=ZQ(J)=ZCL(I)
		AJET(J.I)=A(I)
		BJET(J,I)#B(I)
		THETA(J,I)=TH(I)
		DSFACT(J,I)=DF(I)
	61	CONTINUE
	100	CONTINUE
		RETURN
		END

JCL 632 JCL 633 JCL 633 JCL 635 JCL 635 JCL 635 JCL 636 JCL 636 JCL 640 JCL 640 JCL 640 JCL 640 JCL 640 JCL 640 JCL 640 JCL 640 JCL 640

		ABBA83(-,K341) + (433(-,K3)#433(-,K341)140EL14		1264
		BG#B33(H,K3+)) + (B33(H,K3)=B33(H,K3=1))+DELTA	CRT	050
		YTEYR+4G	CRT	051
	•		604	
		TURTGAAG	LRI	1006
		IF (Y_LE_YI _AND, Y_GE_YD) GO TO 14	CRT	053
		YTEYT+BG	CRT	054
		TIETUARG	CHI	033
		JF (Y_LE,VI _AND, Y.GE,VO) GO TU 15	CRT	056
		60 10 1	C 9 7	057
	14	NPTJ(M ₂ J)EINJET	CRI	030
		60 TO 3	CRT	059
	1.8	UPT TEN. TANT	ČRŤ	0.6.0
	3	CONTINUE	CRT	001
с			CRT	240
-	10	TE INCRET OF TH PETURN	697	44.8
	14	IT LUCAULED AND ALLONG		
		NFJ3±NFJ+3	CNT	084
		DO 38 NELANP	CRT	045
		TE (UTTHE 17 -11 GO TO 31	COT	
		IF CHITCALIETI WU NJ EL		0.00
] (NPTJ(4,N)_L(,T) GU 10 38	CRI	0.07
	21	0=42	CRT	068
		190-2	ret	640
		PREIDEPARACITETI	CRI	070
		N3=N83(M)	CRT	071
		SRE=DS(H)/2.0	CRT	072
		USABUS(N)#FALIUR		073
	20		CRT	074
	521	IF (38,6T.88(M.N8)) GO TO 38	CRT	075
•			60.	
Ę.			CH I	078
C		USE SURFACE SPECIFICATION TO LUCATE VORTEX RINGS	CRT	077
C.			C R T	078
•		TE JAN-8876 NANIN HIT HIT HIT HIT		
	421	1 (34833(4)438)) 423,023,022	641	074
	422	N3R=N3R+1	CRT	080
		IF (NSR.GT.NS) 810P 1422	C#1	081
		60 TO 421	C D T	
	463	0 6 6 8 3 (^m , N 3 R)	CRI	003
		THGETES(H, VER)/RAD	CRT	084
		XG#X95(K_N8R)+8G#8IN(THG)	CRT	085
		YENEVEN (M. NAD)	697	0.84
		TUNITS (F, MGR)	CHI	007
		ZGN=ZSN(M,NBR)	CRT	088
		XGT=XST(M_N8R)	CRT	089
		VGTEVETIN, NEPT	CPT	
				0.70
		<u>Culm201(mynam)</u>	641	041
		FACTOREDSS(H,NSR)	<u>CRT</u>	092
		60 TO 30	CRT	190
	***	AF: 7 / 80-88/W N80-111//88/W.N801-88/W.N80-411		
		[F (N3KeNFJ3) 4Eét4E4.461	C III T	0 7 5
	427	THG=T38(H_N\$R=1)+(T38(H_N8R)=T88(H_N8R=1))+NP +4	691	
		THGETHC/PAD		
			ÇRT	097
		40 ILI 424	CRT	098
	424	THG#T35(H+NSR)/PAD	CRT	190
	426	RGERSSIM, NSP-11+/RSSIM, NEP1-BRSIM, NED-111, APF		
		WENNERS HUBBLISS COURSES CONSTRUCTION CONTINUES SALES	CHI	100
		NUMAGENTANATELITLAGENTANATITAGA(HANSR=1))+DELTA - BGASIN(THG)	CRT	101
		XGN=X3N(M,N3R=1)+(X3N(M,N3R)+X8N(M,N8R+1))+D<A	CRT	102
		YGNEYSN (M.NSR-1)+(YSN(M.NSR)-YSN(M.NRR-1))ADELTA		101
		76N#78N/H_N80#(14/78N/H_N801_74N/H_N80=1);=000=1;]=000	6.41	103
		Versere van tittering aan staan (1980) and tittering and the staat of the state of	ÇRT	104
		AUI=ADTUMYNOKHIJ+UXOT(MYNOR)+XOT(MYNORHI))+DELTA	CRT	105
		YGT#YST(MaNSR=1)+(YST(MaNSR)=YST(MaNSR=1))and ta	691	1.04
		ZGTHZSTIM, NSDALLA(ZSTIM, NSD.ZSTIM, NSD.ALLAN, SSD.C.)		100
		eri eri yransıyrı başırı manyezarı mənəkəsi jenelik Bartopəhadayu mədəli	CR 1	107
			CRT	108
	30	CONTINUE	697	100
		IF (J94.GT.0) GO TO 25		
			L H I	110
			CRT	111
		1=1+5 ⁴ +03K	CRT	112
		IF (XPR(N).GT.X) GO TO 20	C 8 7	
		.184m1	0 = 1	113
			CRT	114
		ALTAVIEC, DURGINIIMUJ	CRT	115
		YZ#YGT	CRY	114
		72=767+2,+86+CD3(186)		110
			C 9 1	117
			CRT	118
		▲#Z#=(XGN=%GT)±(Z2=ZGT) + (X2=%GT)±(Z6N=%GT)	CRT	110
		AXY#(XGN=XGT)+(Y2=YGT) = (X2=XGT)+(YGN=YCT)		
		PTARSOPT(AV7463 & AV7463 & AV7463	LRT	150
		TINTUNNILITATE T PAGRES 7 ARTRE)	CRT	121
		THE CONTRACT OF THE CONTRACT. OF THE CONTRACT. OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT. OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT. OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT. OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT. OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT. OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT. OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT. OF THE CONTRACT OF THE CONTRACT. OF THE CONTRACT OF THE CONTRACT. OF THE CONTRACT OF THE CONTRACT. OF THE CONTRACT OF THE CONTRACT. OF THE CONTRACT OF THE CONTRACT. OF THE CONTRACT OF THE CONTRACT. OF THE CONTRACT. OF THE CONTRACT O	CRT	122
		GO TO 20	CRT	122
	25	GO 10 20 CONTINUE	CRT	123
	25	CONTINUE ANTHERANY (THO)	CRT CRT CRT	122

	C&TH=CO\$(THG)	CRT	126
	X2#XGT=2.+BG+8NTH	CRT	127
	Y2=YGT	CRT	128
	Z2#ZGT+2.+BG+CBTH	CRT	129
	AYZ=(YGN=Y6T)+(Z2=ZGT) = (Y2=YGT)+(ZGN=ZGT)	CRT	130
	AXZ=+(XGN-XGT)+(Z2-ZGT) + (X2-XGT)+(ZGN-ZGT)	CRŤ	131
	AXYB(XGN=XGT)A(Y2=YGT) = (X2=XGT)+(YGN=YGT)	CRT	132
	#T1=\$Q#T{AYZ++2 + AXZ++2 + AXY++2}	C#1	133
	D2#{{XP#{N}=xGT}=AYZ + {YP#{N}=YGT}=AXZ + {ZP#{N}=ZGT}=AXY}/RTA	CRT	154
	IF (D2) 35,35,34	CRT	135
36	01=02	C RT	136
	G0 T0 20	CRT	137
35	DBARRD S+(D1+D2)	CRT	138
	XPR(N)#XPR(N) + (DSAR=D1)+CSTH	CRT	139
	ZPR(N)=ZPR(N) + (DBAR=D1)=BNTH	CRT	140
38	CONTINUE	CRT	141
	RETURN	CRT	142
	END	CRT	143

BUBROUTINE GRING (XP) YP) ZP, U, V) N)	QRG 001
COMPOSE THE ASPORTIA TURNEER BY & RANDHITPIENER ANGLES &	
VENALISMATENA AND COMPLANIES OF COMMEN POINTS IN S	121 STOLET UKU 003
XP.YP.ZP ARE FIELD FOINT COORDINATES IN JET AVANUE	
U.V.W ARE INDUCED VELOCITY COMPONENTS IN 1.Y.Z DIRECT	TONS ORG ODS
NORMALIZED WITH RESPECT TO RING STRENGTH	986 004
	976 010
COMMON/CORNER/XCRG(4),YCRG(4),ZCRG(4)	QR0 011
FPI#12,5663706	GRG 012
U=0,0	QR6 013
v=0,0	GRG 014
NEC.D	ORG 015
	QR6 014
TBFFTLRW[]]=TP	QRG 017
6020×0(1)-2+ 8=6087/168++3 + VB8++3 + 388++31	QR5 018
AD 20 Maile	UKS 014
ATBAX60 .	
YADAYAD	086 081
7AP#ZBP	080 025
A15	ORG 024
MEN+1	2RG 025
3F(H_GT_4) H#1	0PG 026
X8P=XCRQ(M)+XP	086 027
YBP=YCRG(H)+YP	QRG 028
28P=2CRQ(4)=2P	GRG 024
BEBORT(XRP++2 + TBP++2 + ZBP++2)	ARG 030
AYZEYAP*Z07*YBP*ZAP	ORG 031
****************	7RG 032
ANTOLAPHIN- ADDRIAL AVBOULV7443 & AV7443 & AVV443	DRG 033
ADREYAPYAP + VAPtYAP + ZAPe7RP	086 034
GKR#/A4814/1.0 # A08//A+811//AX82+FP11	080 814
URU+GK+AYZ	ORG ALT
VEV+GK+AYZ	ORG 038
W##+GK+AXY	CRG 039
CONTINUE	086 040
RETURN	0RG 041
END	086 085

	SUBROUTINE JETVEL (MTIME)	JVL	001
r		191	002
	HTTHEME, CALCULATE ADDITIONAL CIRCULATION ON BLAD TO ACCOUNT	1.01	
÷.	The state of the s	111	~~~
<u>۲</u>	AN THIS ANALYS AND CALCULE VENUES AND COLOR	141	
	DI THIS SUULT VERCENTURA CARACTER PRO PROSE SALA		005
<u> </u>	ATT-FER, CALCULATE INDOCED VELOCITY FIELD FOR FURLE CALC.	11	000
5	CPJM-1.0 , JET PUDEL AND JET CIRCULATION VELOCITIES	JAF	007
Ç	NUT USED IN PUNCE LALC.	TAF	000
C	CFJ# 0.0 , ALL JET VELOCITIES USED IN FORCE CALC,	JAL	009
C	CFJ# 1.0 , JET HODEL VELOCITIES USED IN FORCE CALC.	JAF	010
¢		JVL	011
	01HENSION AP(150);UJ(250);VJ(250);UJ(250)	JAF	012
C		JVL	013
	COMMON /INDEX/ MANAMA,MTOT,WCWI(30),IMAX,WF8ER(30),LASTF(30)	JVL	014
	CONNON / INDEXE/ NEREG.NELAPS, IDELAP(10.2), NCE(10), HEF(10), HEF(10).	JVL	015
	1M8TABT(10)-HEND(10)-NERFEF(10)	TVI.	016
	COMMON (CEDAT(A) PUAL(2263, VCB/2863, VCB/2863, TCB/2863,	101	
	(AL BUL / SEA), BAL BUL / SEAN	141	
	AUNAN ANG BANG AN ANAN	101	010
	COMUN /NVELS/UF/VF/AP	JVL	014
		746	020
	CUMMUN /XYZGL/ HJEISHCYL(Z)SKU(Z)SKU(Z)SKU(Z)SGU/J(Z)SGU/J)	1.6	021
	1 MHD(2),CHU(2),ACL#(2,25),TCL#(2,25),ZCL#(2,25),TMETA(2,25),	2AF	022
	2 BCLR(2,25),AJET(2,25),BJET(2,25),DBFACT(2,25),	JAF	023
	3 UCL(2,25), VGL(2,25), WCL(2,25), CFJ,GFK	JVL	024
	COMMON /CLDAT/ N\$#(2),58(2,11),X##(2,11),Y#8(2,11),Z#8(2,11),	JVL	025
	7 T T T T T T T T T T T T T T T T T T T	JVL	026
	2 Z#N(2,11),X#T(2,11),Y#T(2,11),Z#T(2,11),D3#(2,11)	JVL	027
	COMMON /PTDAT/ NPTJ(2,250),NCRCT	JVL	850
	COMMON /VLDAT/ NVLP,NVL(101)	J¥L	029
	COMMON /REFOUA/ SSPAN, SREF, REFL, XM, ZM	JVL	030
	COMMON /8LPAT/ XBL(250),YBL(250),ZBL(250),TPET(250),SW(250)	JVL.	031
	CONNON ZATAKZ BINALF.COBALF	JVL	612
	COWHON JHFJCL/ NFJ.NFJN(3)	JVL	011
	COMMON ATTERNA JELEVISOLATER, CTRATEROLANTICS, CATCING	311	014
	COMMON AFT BOATA SDEL TTTTO, CDEL TTTTO, TETT, AND SENTETION.	311	038
		111	A14
	I GAMAA JEBU JUDITA, USU I DU ZIAL	101	0.30
	CURAUN /IFFRE/NEALAURAURAURAURAURAURAURAU	111	110
	CONCRETE EINE	346	0.30
C.		1.1	034
	TAT FURNAT (//IVA, ganaghmart up jet jurwing funces /	JVL	040
		JAC	041
	748 PURMAT (1H1,15K,43HBUHMARY OF TUTAL JET INDUCED VELOCITY FIELD /	JAC	042
	A /20X, SAHUEI, VEI, HEI & VELUCITY COMPONENTS INDUCED BY YONTEX HING	JAF	043
	BJE HODEL / 201,76HUJ,4J,WJ & VELOCITA COMPONENTS INDUCED BY J	JAL	044
	CET DEFLECTION LUADING ON FLAPS //	JAF	045
	1 7X3HNCP, 7X3HXCP, 4X3HYCP, 4X3HZCP, 4X2HUJ, 10X2H4J, 10X2H4J,	JAL	044
	2 10X3HUEI, 4X3HVEI, 4X3HHEI)	JAC	047
	799 FORHAT (5x,15,10F12,8)	JVL	P##
	DATA FOURPI/12,54037062/	JAL	84 9
	NPENTOT	JVL	050
	IF (HTIHE=2) 10,50,50	JVL	051
	10 CONTINUE	J¥Ļ	052
	LJFLP80	JVL	053
	IF (NJET.LE.O) METURN	JVL	034
C		J¥L	055
C	ADD CIRCULATION ON FLAPS TO ACCOUNT FOR JET TURNING	JVL	054
C		JVL	057
	IF (NFREG.LE.O .DR. NFJ.EQ.O) RETURN	JVI.	058
C	IDENTIFY REGIONS OF JET INFLUENCE ON EACH FLAP	JVĹ	059
	Leo	JVL	0.40
	11=1	JVI.	0.61
	00 19 JB1.NJET	.111	0.62
	DD 20 NE1 NEJ	JVI.	063
			044
		311	044
	ADFL HADFL XZ (NF)	111	044
		191	0.00
	THE THE REPORT A CONTRACT AND A CONTRACT	111	
	IT INSUISII GUELIAGUELAEGNEEI Mammataatinei	111	100
		100	0.04
		146	070
	DO DI VINE ME	1 V L	0/1
	レイ ビー キャッチャート 1月 - ノーマイ・マート - マート	3 V L	072
	1 - (APTIG1936)661913 003 TO KI	JVL	073
	↓=↓↓	JAC	074
	AP(L)#8=(K)#4_0#8QPT((XCP(K)#X8L(K)]##2 + (ZCP(K)=ZRL(K)]##2)	JAF	075
	JFLP(L)=K	1AF	076
	A 1	.1VI	077
	a/ # # J + # F (()		

	21	CONTINUE	JVL 07A
		SNDEL = SDEL = SDEL 1	111 079
		ands	341 0.00
		GV3BC=U[]]=3NUEL#SREP/[2.0=CU3ALF#PTURPT]#ETAJ	JVC 080
		CNTECHI(J) + SNDEL + ETAJ	JAF UNI
¢		CALCULATE ADDITIONAL CIRCULATION ON FLAP PANELS	JVL 062
C		(NOTESHEPANEL HALF HIDIH)	JVL 083
		DO 22 KBI 1-L	JVL DA4
		The TEL DIA	111 085
		CINJ(K) HGV3KAP(K)/(2,00AJK3H(JK))	JAC 099
		ENJ(K)#ENT#AP(K)/AJ#EDEL	JVL 087
		CAJ(K)==CNT+AP(K)/AJ+BDEL .	JVL 088
c		NOTE CNJ(K) IS NORMAL FORCE CUEF. IN FLAP COORDINATE SYSTEM	JVL 089
÷.		PARKA TR AVIAL FORCE COLE IN ELAR COORTNATE SYSTEM	141 090
•		CARTA TO PETHE SAME COLF, IN THE CHARTANT STOLEN	10 0 0 0 0
	"	CONTINUE	346 041
		11=1+1	JVL 092
	20	CONTINUE	JVL 093
	19	CONTINUE	JVL 094
	• •		141 085
			1111 604
5			347 1148
C .		CALCULATE INFLUENCE OF THE ADDITIONAL CINCULATION	JAF 044
с.			TAF 048
		NLE1	JVL 099
•		1# (NPRINT.GT.O) #RITE (4,798)	JVL 100
			111 101
		ur uu	101 600
		03(v)=0.0	JAP IOS
		VJ(N)#0_0	JAF 103
		NJ (N) HO. D	JVL 104
		TE (NVLP.18.0) GD TD 125	JVI. 105
			141 104
		17 (News)[NCJ] 123/23/223	
	225	NLENL+1	JAC 101
		IF (NLALEANVLP) GO TO 28	JVL 108
			JVL 109
	1 38	E MAT 1 NUE	JVE 110
			791 111
		TTETCH(N)	34L 116
		ZZ=ZCP(N)	JVL 113
		CALL ITCTOV (XX.VV.77.W)	
			376 114
		TF (NPRINT_GT_0) WRITE (6,794) N.XX.VY.27.UP.VP.NP.	JVL 114
		IF (NPRINT,GT.C) WRITE (6,794) N,XX,VY,ZZ,UP,VP,WP,	JVL 114
		1 UEI(+), VE, G0, WRITE (6,790) N,XX,VV,2Z,UD,VB,VB, 1 UEI(+), VEI(N), VEI(N)	JVL 115 JVL 115
		1 UEI(N)#UEI(N)#UP	JVL 115 JVL 115 JVL 116 JVL 117
		TF (NPRING, GI, 6) WRITE (6,799) N,XX,VV,ZZ,UP,VP,NP, 1 UEI(N)#UEI(N)+UP VEI(N)#UEI(N)+UP VEI(N)#VEI(N)+VP	JVL 114 JVL 115 JVL 116 JVL 117 JVL 118
		JULI JULI	JVL 114 JVL 115 JVL 116 JVL 117 JVL 118 JVL 114
		TF (NPRIN', GT, 6) WRITE (6,799) N,XX,VY,ZZ,UP,VP,NP, 1 UEI(N)#UEI(N)+UP VEI(N)#VEI(N)+VP NEI(N)#VEI(N)+VP NEI(N)#VEI(N)+VP NEI(N)#VEI(N)+VP NEI(N)#VEI(N)+VP	JVL 114 JVL 115 JVL 116 JVL 117 JVL 118 JVL 110 JVL 120
		SUPRINT,GT.GO WRITE (4,790) N,XX,VY,2Z,UP,VB,NB, S UEI(N),VEI(N),WEI(N) VEI(N)#UEI(N)+UP VEI(N),WEI(N),WEI(N) VEI(N)#UEI(N)+WP UJ(N)#UF(N)+WP UJ(N)#UP VEI(N)#UP	JVL 114 JVL 115 JVL 116 JVL 117 JVL 118 JVL 114 JVL 120 JVL 120
		VIEI(N)=UEI(N)-UP UEI(N)=UEI(N)-UP UEI(N)=UEI(N)-UP UEI(N)=UEI(N)-UP UEI(N)=UEI(N)-UP UEI(N)=UEI(N)-UP UJ(N)=UEI(N)-UP UJ(N)=UEI(N)-UP UJ(N)=UEI(N)-UP UJ(N)=UEI(N)-UP UJ(N)=UEI(N)-UP UJ(N)=UEI(N)-UP UJ(N)=UEI(N)-UP UJ(N)=UE UJ(N)=UP UJ(N)=UP UJ(N)=UP UJ(N)=UP	JVL 114 JVL 115 JVL 115 JVL 117 JVL 118 JVL 118 JVL 121 JVL 121
	_	SUPPTNI,GG.0) WRITE (4,790) N,XX,VV,2Z,UD,VB,NB, SUPPTNI,GG.0) WRITE (4,790) N,XX,VV,2Z,UD,VB,NB, UEI(N)=UPU UEI(N)=UPI(N)+UP UEI(N)=VEI(N)+UP UEI(N)=WEI(N)+UP UEI(N)=WEI(N)+WP UJ(N)=UPI(N)+WP UJ(N)=UPI UDI(N)=UPI UDI(N)=UPI UDI(N)=UPI UDI(N)=UPI UDI(N)	JVL 115 JVL 115 JVL 116 JVL 117 JVL 118 JVL 118 JVL 119 JVL 121 JVL 122
	25	TF (NPENN, GT.6) WRITE (6,799) N,XX,VY,ZZ,UP,VP,NP, 1 UEI(N)=UEI(N)+UP VEI(N)=VEI(N)+VP NEI(N)=WEI(N)+VP NEI(N)=WEI(N)+VP UJ(N)=UP VJ(N)=UP UJ(N)=UP	JVL 115 JVL 115 JVL 116 JVL 117 JVL 118 JVL 110 JVL 121 JVL 121 JVL 122 JVL 123
	25	UIL(N)=UUIN,GT_0) WRITE (6,79%) N,XX,VY,ZZ,UP,VP,WP, S UEI(N)=UEI(N)=UP VEI(N)=VEI(N)=VP VEI(N)=VEI(N)=VP UJ(N)=UP UJ(N)=UP UJ(N)=UP UJ(N)=UP CONTINUE CONTINUE CONTINUE CONTINUE CONTINUE CONTINUE	JVL 114 JVL 115 JVL 117 JVL 117 JVL 118 JVL 118 JVL 121 JVL 121 JVL 123 JVL 123
	25	VILL VILL	JVL 114 JVL 115 JVL 116 JVL 117 JVL 118 JVL 120 JVL 121 JVL 122 JVL 123 JVL 123 JVL 125
	25	UIL(N)=UUL(N),GC_0) WRITE (6,79%) N,XX,VY,ZZ,UP,VP,WP, UEI(N)=UEI(N)=UP VEI(N)=VEI(N)=VP VEI(N)=VEI(N)=VP UJ(N)=UP UJ(N)=UP UJ(N)=UP UJ(N)=UP CONTINUE CONTIN	JVL 114 JVL 115 JVL 117 JVL 118 JVL 118 JVL 120 JVL 121 JVL 122 JVL 123 JVL 124 JVL 124 JVL 124
	25	TF (NPRINT,GT,G) MRITE (4,79%) N,XX,VY,ZZ,UP,VP,NP, S UEI(N)=UEI(N)+UP VEI(N)=VEI(N)+VP NEI(N)=NEI(N)+VP VI(N)=UP VJ(N)=UP CONTINUE IF (NPRINT,LE,0) RETURN MRITE (G,707) DQ 2A J#1/LJFLP N= 16(10)	JVL 114 JVL 115 JVL 116 JVL 117 JVL 118 JVL 120 JVL 121 JVL 122 JVL 123 JVL 124 JVL 125 JVL 126
	25	ULINA, GI, G) WRITE (6,79%) N,XX,VY,ZZ,UP,VP,NP, UEI(N)=UEI(N)+UP VEI(N)=VEI(N)+VP VEI(N)=VEI(N)+VP UJ(N)=UP UJ(N)=UP UJ(N)=UP UJ(N)=UP UJ(N)=UP CONTINUE CO	JVL 114 JVL 115 JVL 117 JVL 117 JVL 118 JVL 118 JVL 120 JVL 122 JVL 122 JVL 123 JVL 124 JVL 124 JVL 124 JVL 126 JVL 127
	25	TF (NPRINT,GE,G) WRITE (4,79%) N,XX,VY,ZZ,UP,VP,NP, UEI(N)=UEI(N)+UP VEI(N)=VEI(N)+VP LEI(N)=VEI(N)+VP VI(N)=VEI(N)+VP UJ(N)=UP VJ(N)=UP CONTINUE IF (NPRINT,LE,0) RETURN MRITE (G,707) DQ 2A Jm1,LJFLP NmJFLP(J) DUMCCIJ(J)+FOURPI	JVL 114 JVL 115 JVL 117 JVL 117 JVL 118 JVL 118 JVL 128 JVL 128 JVL 128 JVL 127 JVL 128
	25	UEI(N)=UEI(N),GC,G) WRITE (6,79%) N,XX,VY,ZZ,UP,VP,NP, UEI(N)=UEI(N)=UP VEI(N)=VEI(N)=VP VEI(N)=VEI(N)=VP UJ(N)=UP UJ(N)=UP UJ(N)=UP UJ(N)=UP CONTINUE CONTIN	JVL 114 JVL 115 JVL 116 JVL 117 JVL 118 JVL 120 JVL 121 JVL 122 JVL 123 JVL 124 JVL 125 JVL 125 JVL 125 JVL 126 JVL 128
	25	ULE(N)=UUA(,;,,,) WRITE (4,79%) N,XX,VY,ZZ,UP,VP,NP, UEI(N)=UEI(N)+UP VEI(N)=VEI(N)+VP VEI(N)=VEI(N)+VP LEI(N)=VEI(N)+VP UJ(N)=UP UJ(N)=UP UJ(N)=UP CONTINUE IF (NPRINT,LE,0) RETURN MRITE (6,797) DQ 2A Jm1,LJFLP NmJFLP(J) DUM=CI0J(J)+FOURPI WRITE (6,797) N,AP(J),DUM,CMJ(J),CAJ(J)	JVL 114 JVL 115 JVL 115 JVL 116 JVL 116 JVL 116 JVL 120 JVL 120 JVL 121 JVL 123 JVL 124 JVL 124
ر م ر	25 26	JULAN, GI, O, WRITE (A, 79%) N, XX, VY, ZZ, UP, VP, NP, I UEI(N)=UEI(N)+UP UEI(N)=VEI(N)+VP VEI(N)=VEI(N)+VP UJ(N)=UP UD(N)=UP UP UD(N)=UP UD(N)=UP UD(N) N=J(U)=UP N=J(U)=UP <t< td=""><td>JVL 114 JVL 115 JVL 116 JVL 116 JVL 110 JVL 120 JVL 121 JVL 122 JVL 123 JVL 123 JVL 123 JVL 124 JVL 125 JVL 126 JVL 126 JVL 126 JVL 128 JVL 128 JVL 128 JVL 128 JVL 128 JVL 128 JVL 131</td></t<>	JVL 114 JVL 115 JVL 116 JVL 116 JVL 110 JVL 120 JVL 121 JVL 122 JVL 123 JVL 123 JVL 123 JVL 124 JVL 125 JVL 126 JVL 126 JVL 126 JVL 128 JVL 128 JVL 128 JVL 128 JVL 128 JVL 128 JVL 131
\ c c	25	JULA JULA	JVL 114 JVL 115 JVL 115 JVL 116 JVL 116 JVL 116 JVL 120 JVL 121 JVL 122 JVL 123 JVL 125 JVL 125 JVL 125 JVL 126 JVL 127 JVL 130 JVL 131
1 0 0	25	JULAT, GI, GI WRITE (A, 799) N, XX, VY, ZZ, UP, VP, NP, I UEI(N)=UEI(N)+UP VEI(N)=VEI(N)+VP UEI(N), VEI(N) VEI(N)=VEI(N)+VP UJ(N)=UP UJ(N)=UP UD(N)=UP UJ(N)=UP UD(N)=UP UJ(N)=UP UD(N)=UP UJ(N)=UP UD(N)=UP UJ(N)=UP UD(N)=UP UD(N)=UP UD(N)=UP UD(N)=UP UD(N)=UP UD(N)=UP UD(N)=UP WRITE (6, 709) N, AP(J), DUM, CMJ(J), CAJ(J) MRITE (6, 709) N, AP(J), DUM, CMJ(J), CAJ(J) RETURN UP CONTINUE UD(N)=UP	JVL 114 JVL 115 JVL 115 JVL 116 JVL 118 JVL 120 JVL 121 JVL 122 JVL 122 JVL 125 JVL 125 JVL 127 JVL 127 JVL 127 JVL 127 JVL 130 JVL 132
	25 26 50	JULAG, JULAG,	JVL 114 JVL 115 JVL 116 JVL 116 JVL 116 JVL 116 JVL 121 JVL 121 JVL 123 JVL 123 JVL 123 JVL 125 JVL 125 JVL 125 JVL 128 JVL 132 JVL 132 JVL 132 JVL 132
1	25 26 50	JULAT, GI, G) WRITE (6,79%) N,XX,VY,ZZ,UP,VP,NP, IEI(N)=UEI(N)+UP UEI(N),VEI(N),VEI(N) VEI(N)=VEI(N)+VP UEI(N),VEI(N),VEI(N) VIOUS VEI(N)=VEI(N),VEI(N) VIOUS VEI(N)=VEI(N),VEI(N) VEI(N)=VEI(N)=VP VEI(N)=VEI(N) VIOUS VEI(N)	JVL 114 JVL 115 JVL 116 JVL 116 JVL 118 JVL 120 JVL 121 JVL 121 JVL 122 JVL 123 JVL 124 JVL 125 JVL 127 JVL 127 JVL 127 JVL 130 JVL 132
/ u u uu	25 26 50	TF (NPRINT,GT,G) WRITE (4,799) N,XX,VY,ZZ,UP,VP,NP, UEI(N)=UEI(N)=UP VEI(N)=VEI(N)=VP VEI(N)=VEI(N)=VP VI(N)=VEI(N)=VP UJ(N)=UP VJ(N)=UP CONTINUE IF (NPRINT,LE,G) RETURN MRITE (6,797) DQ 2A JR1,LJFLP NEJF(PJ) DUM=CIGJ(J)=FDURPI WRITE (6,799) N,AP(J),DUM,CNJ(J),CAJ(J) RETURN CONTINUE SET UP JET ASSUCIATED VELOCITY FIELD FOR USE IN FORCE CALC,	JVL 114 JVL 115 JVL 115 JVL 116 JVL 116 JVL 116 JVL 120 JVL 121 JVL 123 JVL 123 JVL 125 JVL 125 JVL 125 JVL 125 JVL 130 JVL 131 JVL 135 JVL 135
/ u u uuu	25 26 50	JELGUNARGENER JELGUNARGENER JELGUNARGENER UEIGNARGENER UEIGNARGENER UEIGNARGENER UEIGNARGENER UEIGNARGENER UEIGNARGENER VEIGNARGENER UEIGNARGENER VEIGNARGENER UEIGNARGENER VEIGNARGENER UIIGNARGENER UEIGNARGENER UIIGNARGENER UEIGNARGENER UIIIGNARGENER UIIIGNARGENE	JVL 114 JVL 115 JVL 116 JVL 116 JVL 118 JVL 120 JVL 121 JVL 122 JVL 122 JVL 123 JVL 124 JVL 124 JVL 125 JVL 130 JVL 130 JVL 136
/ u u uuu	25 26 50	JELUAR, SUDAR, ST. SUDAR, SUDA	JVL 114 JVL 115 JVL 116 JVL 116 JVL 116 JVL 116 JVL 120 JVL 121 JVL 123 JVL 123 JVL 125 JVL 125 JVL 125 JVL 126 JVL 130 JVL 131 JVL 135 JVL 135 JVL 135
/ u u uuu u	25 26 50	JET (NPRINT, GT.O) WRITE (6,799) N,XX,VY,ZZ,UP,VP,NP, UEI(N)&UEI(N)&UEI(N),VEI(N) VEI(N)&VEI(N),VEI(N) VEI(N)&VEI(N),VEI(N) VEI(N)&VEI(N),VEI(N) VEI(N)&VEI(N),VEI(N) VEI(N)&VEI(N),VEI(N) VEI(N)&VEI(N),VEI(N) UJ(N)&UE CONTINUE SET UP JET ASSUCIATED VELOCITY FIELD FOR USE IN FORCE CALC. IF (CFJ) 62,63,60 FEMORE CALL JET INDUCED VELOCITES FORM FORCE CALC.	JVL 114 JVL 115 JVL 116 JVL 116 JVL 118 JVL 120 JVL 121 JVL 121 JVL 122 JVL 123 JVL 124 JVL 125 JVL 125 JVL 127 JVL 127 JVL 130 JVL 130 JVL 137 JVL 137
/ u u uuu u	25 26 50	TF (NPRINT,GT,G) WRITE (4,799) N,XX,VY,ZZ,UP,VP,NP, UEI(N)=UEI(N)=UP VEI(N)=VEI(N)+UP VEI(N)=VEI(N)+VP LEI(N)=VEI(N)+VP UJ(N)=UP VJ(N)=UP VJ(N)=UP CONTINUE IF (NPRINT,LE,0) RETURN MRITE (6,797) DQ 2A JR1,LJFLP N=JFL[J] DUM=CIGJ(J)+FDURPI WRITE (6,799) N,AP(J),DUM,CNJ(J),CAJ(J) RETURN CONTINUE SET UP JET ASSUCIATED VELOCITY FIELD FOR USE IN FORCE CALC. IF (CFJ) 62,63,60 REMOVE ALL JET IMDUCED VELOCITIES FROM FORCE CALC.	JVL 114 JVL 115 JVL 116 JVL 116 JVL 116 JVL 116 JVL 120 JVL 120 JVL 121 JVL 123 JVL 123 JVL 124 JVL 125 JVL 125 JVL 125 JVL 130 JVL 130 JVL 135 JVL 135
¹ u u uuu u	25 26 50	TF (NPRINT,GT.0) WRITE (6,799) N,XX,VY,ZZ,UP,VP,NP, UEI(N)=UEI(N)=UEI(N),VEI(N),VEI(N) VEI(N)=VEI(N)=VP VEI(N)=VEI(N)=VP UJ(N)=UP UJ(N)=UP UJ(N)=UP CONTINUE CONTINUE RETURN CONTINUE SET UP JET ASSUCIATED VELOCITY FIELD FOR USE IN FORCE CALC, IF (CFJ) 62,63,60 REMOVE ALL JET IMDUCED VELOCITIES FROM FORCE CALC, OD 51, MRINE	JVL 114 JVL 115 JVL 116 JVL 116 JVL 118 JVL 120 JVL 120 JVL 121 JVL 122 JVL 123 JVL 124 JVL 124 JVL 124 JVL 124 JVL 130 JVL 137 JVL 137 JVL 137 JVL 137 JVL 137
/ u u uuu u	25 26 50	JELUAR (JURA) (JELAR) (A,799) N,XX,VY,ZZ,UP,VP,NP, UEI(N)=UEI(N)=UP VEI(N)=VEI(N)=VP VEI(N)=VEI(N)=VP VEI(N)=VEI(N)=VP VI(N)=VEI(N)=VP VI(N)=VP VJ(N)=VP CONTNUE IF (NPRINT,LE.0) RETURN MRITE (G,797) DU A JR1,LJFLP NEJF(J) DUM=CIGJ(J)=FDURPI WRITE (G,797) N,AP(J),DUM,CNJ(J),CAJ(J) RETURN CONTINUE SET UP JET ASSUCIATED VELOCITY FIELD FOR USE IN FORCE CALC. IF (CFJ) 62,63,60 REMOVE ALL JET INDUCED VELOCITIES FROM FORCE CALC. DI 51 NEI,NP	JVL 114 JVL 115 JVL 116 JVL 116 JVL 116 JVL 118 JVL 120 JVL 121 JVL 123 JVL 123 JVL 123 JVL 124 JVL 125 JVL 125 JVL 130 JVL 130 JVL 135 JVL 136 JVL 146 JVL 14
/ v v vov v	25 26 50	JELEVIENANGENON WEITE (6,799) N,XX,VY,ZZ,UP,VP,NP, UEI(N)=UEI(N)=UEI(N),VEI(N),VEI(N) VEI(N)=VEI(N)=VP VEI(N)=VEI(N)=VP UJ(N)=UP UJ(N)=UP UJ(N)=UP UJ(N)=UP CONTINUE CONTINUE SET UP JET ASSUCIATED VELOCITY FIELD FOR USE IN FORCE CALC. IF (CFJ) 62,63,60 REMOVE ALL JET IMDUCED VELOCITIES FROM FORCE CALC. DOI 51 NEL,NP VEI(N)=0,0	JVL 114 JVL 115 JVL 116 JVL 116 JVL 118 JVL 120 JVL 121 JVL 121 JVL 122 JVL 123 JVL 124 JVL 124 JVL 125 JVL 124 JVL 130 JVL 130 JVL 137 JVL 130 JVL 137 JVL 134 JVL 134 JVL 134
/ u u uuu u	25 26 50	JELUSACION METE (A,799) N,XX,VY,ZZ,UP,VP,NP, UEI(N)=UEI(N)=UP VEI(N)=VEI(N)+UP VEI(N)=VEI(N)+VP LEI(N)=VEI(N)+VP UJ(N)=UP VJ(N)=UP VJ(N)=UP CONTNUE IF (NPRINT,LE.0) RETURN MRITE (A,797) DQ 2A JR1,LJFLP N=JP(P(J) DUH=CIAJ(J)+FOURPT WRITE (A,799) N,AP(J),DUM,CNJ(J),CAJ(J) RETURN CONTINUE SET UP JET ASSUCIATED VELOCITY FIELD FOR USE IN FORCE CALC. IF (CFJ) 62,43,40 REMOVE ALL JET INDUCED VELOCITIES FROM FORCE CALC. DO 51 NB1,MP UEI(N)=0.0	JVL 114 JVL 115 JVL 116 JVL 116 JVL 116 JVL 118 JVL 120 JVL 121 JVL 123 JVL 123 JVL 123 JVL 125 JVL 125 JVL 126 JVL 127 JVL 130 JVL 131 JVL 135 JVL 135 JVL 136 JVL 135 JVL 13
/ u u uuu u	25 26 50	JELGUNANCE STORE S	JVL 114 JVL 115 JVL 116 JVL 116 JVL 118 JVL 120 JVL 121 JVL 122 JVL 122 JVL 123 JVL 124 JVL 124 JVL 124 JVL 124 JVL 124 JVL 130 JVL 137 JVL 147 JVL 14
/ u u uuu u	25 26 50 62	JULICAL STORMER STATE (4,799) N,XX,VY,ZZ,UP,VP,NP, UEI(N)=UEI(N)=UP VEI(N)=VEI(N)+UP VEI(N)=VEI(N)+VP LEI(N)=VEI(N)+VP VI(N)=VEI(N)+VP UJ(N)=UP VJ(N)=UP VJ(N)=UP CONTNUE IF (NPRINT,LE.0) RETURN MRITE (6,797) DQ 2A JR1,LJFLP N=JPLP(J) DUH=CIGJ(J)+FOURPT WRITE (6,799) N,AP(J),DUM,CNJ(J),CAJ(J) RETURN CONTINUE SET UP JET ASSUCIATED VELOCITY FIELD FOR USE IN FORCE CALC. IF (CFJ) 62,43,40 RETURN CONTINUE SET UP JET ASSUCIATED VELOCITIES FROM FORCE CALC. DD 51 NB1,NP VEI(N)=0.0 VEI(N)=0.0 VEI(N)=0.0 VEI(N)=0.0 VEI(N)=0.0 VEI(N)=0.0 VEI(N)=0.0 VEI(N)=0.0 VEINE	JVL 114 JVL 115 JVL 116 JVL 116 JVL 116 JVL 116 JVL 120 JVL 121 JVL 123 JVL 123 JVL 123 JVL 125 JVL 125 JVL 126 JVL 126 JVL 127 JVL 132 JVL 130 JVL 130 JVL 135 JVL 136 JVL 135 JVL 136 JVL 146 JVL 14
/ u u uuu u	25 26 50 62 51	JULIAN, GI, GI WRITE (A, 799) N, XX, VY, ZZ, UP, VP, NP, UEI(N)&UEI(N), VEI(N), VEI(N), VEI(N) UEI(N)&VEI(N), VP VEI(N)&VEI(N), VP UEI(N)&VEI(N), VP UEI(N)&VEI(N), VP UEI(N)&VEI(N), VP UEI(N)&VEI(N), VEI(N) VEI(N)&VEI(N), VEI(N) UEI(N)&VEI(N), VEI(N), VEI(N) VEI(N)&VEI(N) UEI(N)&VEI(N) UEI(N)&VEI(N)&VEI(N), VEI(N), VEI(N), VEI(N) UEI(N)&VEI(N)&VEI(N), VEI(N),	JVL 114 JVL 115 JVL 116 JVL 116 JVL 118 JVL 118 JVL 120 JVL 120 JVL 122 JVL 123 JVL 124 JVL 124 JVL 124 JVL 124 JVL 124 JVL 130 JVL 140 JVL 14
/ v v vov v v	25 26 50 62	JELUSION, GE.G. WRITE (A.799) N,XX,VY,ZZ,UP,VP,NP, UEI(N)=UEI(N)=UP VEI(N)=VEI(N)=VP VEI(N)=VEI(N)=VP VEI(N)=VEI(N)=VP VI(N)=VEI(N)=VP VI(N)=VEI(N)=VP VI(N)=VP CONTNUE IF (NPRINT,LE.0) RETURN MRITE (A.797) DQ 2A JR1,LJFLP N=JP[P(J) DUM=CIAJ(J)=FOURPI WRITE (A.799) N,AP(J),DUM,CNJ(J),CAJ(J) RETURN CONTINUE SET UP JET ASSUCIATED VELOCITY FIELD FOR USE IN FORCE CALC. IF (CFJ) 62,63,60 REMOVE ALL JET INDUCED VELOCITIES FROM FORCE CALC. DD 51 Na1,NP VEI(N)=0 VEI(N)=0.0 VEI(N)=0.0 VEI(N)=0.0 COMTINUE RETURN	JVL 114 JVL 115 JVL 116 JVL 116 JVL 116 JVL 116 JVL 120 JVL 121 JVL 123 JVL 123 JVL 123 JVL 124 JVL 125 JVL 125 JVL 126 JVL 126 JVL 130 JVL 131 JVL 130 JVL 135 JVL 136 JVL 140 JVL 14
1 u u uuu u uu	25 26 50 62	JULIAN, GI, GI WRITE (A, 799) N, XX, VY, ZZ, UP, VP, NP, UEI(N)&UEI(N), VEI(N), VEI(N), VEI(N) VEI(N)&VEI(N), VP VEI(N)&VEI(N), VP VEI(N)&VEI(N), VP UEI(N)&VEI(N), VP VEI(N)&VEI(N), VP UEI(N)&VEI(N), VEI(N) VEI(N)&VEI(N), VEI(N), VEI(N), VEI(N), VEI(N) VEI(N)&VEI(N), VEI(N), V	JVL 114 JVL 115 JVL 115 JVL 116 JVL 118 JVL 118 JVL 120 JVL 120 JVL 124 JVL 124 JVL 124 JVL 124 JVL 124 JVL 124 JVL 124 JVL 130 JVL 140 JVL 14
/ u u uuu u uu	25 26 50 62 51	JELVING, GI, GI, WRITE (A, 799) N, XX, VY, ZZ, UP, VP, NP, UEI(N)=UEI(N)=UP VEI(N)=VEI(N)=VP VEI(N)=VEI(JVL 114 JVL 115 JVL 116 JVL 116 JVL 116 JVL 116 JVL 120 JVL 120 JVL 121 JVL 123 JVL 123 JVL 125 JVL 124 JVL 125 JVL 126 JVL 126 JVL 127 JVL 128 JVL 130 JVL 140 JVL 14
1 v v vov v v v v	25 26 50 62 51 61	UEI(N)=UEI(N),GT,GT,MTTE (A,799) N,XX,VY,ZZ,UP,VP,NP, UEI(N)=UEI(N)=UEI(N),VEI(N),VEI(N) VEI(N)=VEI(N)=VEI(N)+VP UEI(N)=VEI(N)=VEI(N)+VP VU(N)=UEI(N)=VEI(N)+VP UU(N)=UP VJ(N)=UP VJ(N)=UP CONTINUE CONTINUE CONTINUE DU=CI=J(J)=FOURPI WHITE (6,799) N,AP(J),DUM,CMJ(J),CAJ(J) DU=CI=J(J)=FOURPI WHITE (6,799) N,AP(J),DUM,CMJ(J),CAJ(J) RETURN CONTINUE SET UP JET ASSUCIATED VELOCITY FIELD FOR USE IN FORCE CALC. IF (CFJ) 62,63,60 REMOVE ALL JET INDUCED VELOCITIES FROM FORCE CALC. IF (CFJ) 62,63,60 REMOVE ALL JET INDUCED VELOCITIES FROM FORCE CALC. UEI(N)=0,0 WEI(JVL 114 JVL 115 JVL 115 JVL 116 JVL 116 JVL 118 JVL 120 JVL 121 JVL 121 JVL 122 JVL 122 JVL 123 JVL 124 JVL 124 JVL 124 JVL 124 JVL 130 JVL 140 JVL 14
¹ u u uuu u uu	25 26 50 62 51 61	JULIUS SUBJUCTOR	JVL 114 JVL 115 JVL 116 JVL 116 JVL 116 JVL 116 JVL 120 JVL 120 JVL 120 JVL 121 JVL 123 JVL 123 JVL 124 JVL 125 JVL 124 JVL 125 JVL 126 JVL 12
¹ u u u u u u u	25 26 50 62 51	JEL SUDAR, ST, ST, ST, ST, ST, ST, ST, ST, ST, ST	JVL 114 JVL 115 JVL 115 JVL 116 JVL 116 JVL 118 JVL 120 JVL 120 JVL 121 JVL 122 JVL 122 JVL 123 JVL 124 JVL 124 JVL 126 JVL 124 JVL 126 JVL 12
1 v v vov v v v v	25 26 50 62 51 61	JEL SUDAR, ST. ST. ST. ST. ST. ST. ST. ST. ST. ST.	JVL 114 JVL 115 JVL 116 JVL 116 JVL 116 JVL 116 JVL 110 JVL 120 JVL 121 JVL 121 JVL 122 JVL 124 JVL 125 JVL 124 JVL 126 JVL 127 JVL 131 JVL 130 JVL 140 JVL 14
	25 26 50 62 51 61	JULIAN (GI,G) WRITE (A,799) N,XX,VY,ZZ,UP,VP,WP, UEI(N)=UEI(N)=UEI(N),VEI(N),VEI(N) UEI(N)=VEI(N)=VEI(N)+VP UEI(N)=VEI(N)=VEI(N)+VP VI(N)=VEI(N)=VEI(N)+VP UJ(N)=UP VJ(N)=UP VJ(N)=UP CONTINUE CONTINUE IF (NPRIVT_LE,0) RETURN WRITE (A,797) DQ 2A JR1,LJFLP WRITE (6,797) DQ 2A JR1,LJFLP WRITE (6,797) DQ 2A JR1,LJFLP WRITE (6,797) DQ 2A JR1,LJFLP WRITE (6,797) DUM=CIDJ(J)=FOURPI UWRITE (6,799) N,AP(J),DUM,CMJ(J),CAJ(J) RETURN CONTINUE SET UP JET ASSUCIATED VELOCITY FIELD FOR USE IN FORCE CALC. IF (CFJ) 62,63,60 REMOVE ALL JET INDUCED VELOCITIES FROM FORCE CALC. DO 51 NB1,NP UEI(N)=0,0 WEI(N)=0,0 WEI(N)=0,0 WEI(N)=0,0 WEI(N)=0,0 WEI(N)=0,0 WEI(N)=0,0 WEI(N)=UP(T)) UD 0 61 NR1,NP UEI(N)=UF(N)=U(N) WEI(N)=UF(N)=U(N) WEI(N)=U(N) WEI(N)=U(N)=U(N) WEI(N)=U(N) WEI(N)=U(N) WEI(N)=U(N) WEI(N)=U(N) WEI(N)=U(N) WEI(N)=U(N) WEI(N)=U(N) WEI(N)=U(N) WEI(N)=U(N) WEI(N)=U(N) WEI(N)=U(N) WEI(N)=U(N) WEI(N)=U(N) WEI(N)=U(N) WEI(N)=U(N) WEI(N)=U(N) WEI(N) WEI(N)=U(N) WEI(N) WEI(N)=U(N)	JVL 114 JVL 115 JVL 115 JVL 116 JVL 116 JVL 118 JVL 121 JVL 121 JVL 121 JVL 122 JVL 123 JVL 124 JVL 124 JVL 124 JVL 124 JVL 130 JVL 140 JVL 14
	25 26 50 62 51 61	JEL SUDAR, ST. ST. ST. ST. ST. ST. ST. ST. ST. ST.	JVL 114 JVL 115 JVL 116 JVL 116 JVL 116 JVL 118 JVL 121 JVL 121 JVL 121 JVL 122 JVL 124 JVL 124 JVL 124 JVL 124 JVL 124 JVL 124 JVL 124 JVL 131 JVL 130 JVL 130 JVL 130 JVL 130 JVL 130 JVL 140 JVL 14
/ u u uuu u uu	25 26 50 62 51 61	JEL VILLAN, GE, GO, WRITE (A, 799) N, XX, VY, ZZ, UP, VP, NP, UEI(N)=UEI(N)=UEI(N), VEI(N), VEI(N) VEI(N)=VEI(N)=VEI(N)+VP UEI(N)=VEI(N)=VEI(N)+VP UEI(N)=VEI(N)=VEI(N)+VP VI(N)=UP VI(N)=UP VI(N)=UP VI(N)=UP CONTINUE CONTINUE SET UP JET ASSUCIATED VELOCITY FIELD FOR USE IN FORCE CALC. IF (CFJ) 62,63,60 REMOVE ALL JET INDUCED VELOCITIES FROM FORCE CALC. IF (CFJ) 62,63,60 REMOVE ALL JET INDUCED VELOCITIES FROM FORCE CALC. IF (CFJ) 62,63,60 REMOVE ALL JET INDUCED VELOCITIES FROM FORCE CALC. UEI(N)=0,0 VEI(N)=0,0	JVL 114 JVL 115 JVL 115 JVL 116 JVL 116 JVL 118 JVL 121 JVL 121 JVL 121 JVL 122 JVL 123 JVL 124 JVL 124 JVL 124 JVL 124 JVL 124 JVL 124 JVL 130 JVL 130 JVL 130 JVL 130 JVL 130 JVL 130 JVL 130 JVL 130 JVL 130 JVL 140 JVL 140 JVL 140 JVL 140 JVL 140 JVL 140 JVL 151 JVL 151 JVL 151
	25 26 50 62 51 61 61	JEL SUDAR, ST. OF WEITE (A, 799) N, XX, VY, ZZ, UP, VP, NP, UEI(N)&UEI(N)&UEI(N), VEI(N), VEI(N) VEI(N)&VEI(N)&VP VEI(N)&VEI(N)&VP UJ(N)&UP VJ(N)&UP VJ(N)&UP VJ(N)&UP VJ(N)&UP UJ(N)&UP UJ(N)&UP CONTINUE SET (PPTINT, LE, 0) RETURN MRITE (G, 797) DUACIDJ(J)&FOURPI WRITE (G, 797) USI(N)&UP CONTINUE SET UP JET ASSUCIATED VELOCITIES FROM FORCE CALC. IF (CFJ) 62, 63, 60 REMOVE ALL JET INDUCED VELOCITIES FROM FORCE CALC. DO 51 NB1, NP UEI(N)B0,0 VE	JVL 114 JVL 115 JVL 116 JVL 116 JVL 118 JVL 118 JVL 118 JVL 121 JVL 121 JVL 121 JVL 122 JVL 123 JVL 124 JVL 124 JVL 124 JVL 124 JVL 124 JVL 124 JVL 131 JVL 131 JVL 130 JVL 130 JVL 130 JVL 130 JVL 141 JVL 140 JVL 14

		SUBROUTINE JICIAN (XX, YY, ZZ, N)	JCR	001
С			JCR	005
C		CALCULATE INDUCED VELOCITIES AT POINT XX.YY.ZZ DUE TO	JCR	003
С		JET CTREULATION VORTICES (NUPANEL NUPBER)	100	004
C.			100	005
5		CONTRACTOR ANTENENTS	JCP	007
C		LUMMUN SIXIETENIS COMMON AT NATA STERISOL STERISOL STERISOL ST. 8/2501. 71.8(250).	JCR	008
		YTU (250). YTU (250). 7TU (250)	10.9	0.09
	•	COMMON / INDEXE/ NEREG.NELAPS, IDFLAP(10,2), NCF(10), MSF(10), MF(10),	JCR	010
	1	MATART(10), HEND(10), NESEGE(10)	JCP	011
	•	COMMON /FLPDAT/ SDELXZ(10), CDELXZ(10), YF(30, 10), SPHIF(10),	108	015
	1	CPHIF(10)	10 8	013
		COKHON / * KDATF/ X*KPF(30,2,10), Y*KRF(30,2,10), Z*KRF(30,2,10),	100	014
	1	X#KLF(30,2,10),Y#KLF(30,2,10),Z#KLF(30,2,10)	100	01.
		COMMON /RVFL3/UP/VP/WP ADMUNN /RLNFDC/V1.V1.V1.V3.V3.V3.72.X8.V8.78.80.50.50.FU.FV.Fu.AV/A7	JCH	017
		COMMON AND ICLA NEWLINE INFINITY	JCR	014
		CONNER / NEGCC/ NEGTCESS (150) (150) (150) (150) (150) (150)	JER	019
~			JCR	050
•		YPaXX	JCR	n21
		ABBAA	JCR	055
		7P=22	JCP	023
		UPE0,0	JUN	0.24
		VPs0,0	100	026
		*P=0.0	304	027
Ç		471 4 4 m A	309	026
		175 40 151 B 1 5 AN OFTING	JCR	029
		JAENFIN(1)	108	030
		ITENFININES)	JCR	031
		HSMMSTART(JS)	JCA	032
		HENPENDIJE)	104	033
		IF (N.GE.M8 .AND, N.LE.ME) IFLAGH1	JCP	134
		JPNRO	104	- 35
-		IF (IFLAG,E0.0) GD TO 100	JCH	134
c		IDENTIFY FLAP NUMBER (JPN) CONTAINING PANEL N	100	018
		DN 155 KEL,NFJ	108	019
		JPNENPJN(R) Menuetidt/ 1013	JCR	040
		MEMEND(JEN)	104	041
		TE (N.GE.HS .AND. N.LE.HE) GO TO 100	JCF	042
	155	CONTINUE	.10 9	043
		STOP 14	JCP	044
	100	CONTINUE	JC	1 045
C			10	048
		DO 220 J=1,LJFLP	101	
		JP8J		049
		1=0F(F(0)) TE († 50 N) 60 TO 220	JC	050
c		IDENTIFY FLAP NUMBER (JFI) CONTAINING PANEL I	100	051
-		DO 150 K#1,NFJ	JCI	052
		JF JENF JV (K)	- 10	053
		MS#MSTART(JF])	JC	2 154
		HERMEND(JFI)	10	e n55
		JF (I.GF.MS .AND. I.LE.WF) GO TO 192	100	
	150	CUNTINUE	30	2 058
	163	CDY7=CDF1 ¥7(.161)	JC	1 054
	1.25	SOX7#SDFLYZ(JFT)	JC	1 060
		IFLaJF1	JC	a net
		HAFTENESE GE (JEI)	JC-	200 9
		HSFF=HSF(IFT)	JC	9 065

RETURN

END

JVL 120 JVL 121 JVL 122 JVL 123 JVL 123 JVL 124

JVL 124 JVL 125 JVL 126 JVL 127 JVL 128 JVL 128 JVL 130 JVL 131 JVL 132 JVL 133 JVL 133

JVL 135 JVL 136

JVL 137 JVL 138 JVL 139

JVL 140 JVL 141

JVL 142

JVL 145 JVL 144 JVL 144 JVL 144

JVL 147

JVL 148 JVL 149

JVL 151

JVL 152

JVL 153

TVL 154

.

HSFF#HSF(JF1)

T

JVL 159 JVL 150

		NCFF=NCF/JFI}	10.0	64.0
C.		INCATE SPANWISE ROW (ISA) CONTAINING PANEL T	100	ALE
•			JLH	
			364	000
		101 - 102 - 112 11 - 12 - 22 - 22 -	JER	067
			JCS	065
		Matanal+NCFF=1	JCR	990
		IF (TAGFAMBL AANDA IALEAMST) GO TO 156	JÇ₽	070
	157	CONTINUE	JCR	971
		\$TDP 15	10.0	072
	158	CONTINUE	100	
			JUW	074
C		INFLOENCE OF BOOND LEG	JCR	075
	100	X1#XTLL(])	- J C R	076
		Y1=YTLL(1)	JÜR	077
		Z1=ZTLL(1)	JCR	075
		x2=x1LR(T)	30.0	070
		Y28YTLR(T)	104	0.8.0
		7287718773	100	
			JLH	001
			108	0.95
		CC I P D	JCR	063
		CARA	JCR	084
		Chafw	JCR	085
e			JCR	086
		IF (NAFT_NE.0) GO TO 214	JCP	087
Ĉ			100	0.8.8
ē		NO FLADS RENIND THIS ONE. COMPUTE INFLUENCE OF SEMA-THEATTE	100	000
ž		TRATITUS IFSE IN THE BLANG DE THTE FILSENCE OF SEPIRINFINITE.	100	004
2		JUNTERAN FRAN TH THE AFAGE OF THTO AFAM	104	440
C			JCR	191
		*X#+C0X2	JCR	092
		AZ=SDXZ	JCR	091
		CALL SIVE	100	0.0.0
				0.44
			JCK	043
			JCR	096
			JCR	097
		x1=x2	JCR	098
		A18A5	JCR	0.9.9
		21=22	10.8	100
		CALL SIVF	100	101
		CURCU-FU	100	
			364	102
			JUR	105
			JCR	104
-			JCR	105
C			JCR	106
C		THERE ARE FLAPS BEHIND THIS DNE. COMPUTE INFLUENCE OF	JCR	107
c		FINITE TRAILING LEGS IN THIS FLAP	JCR	108
c			10.0	100
	214	Y1#XT: 0/11		
			160	110
			JUN	111
			JCR	115
		ALMANATILITIS STATES	JÇR	113
		TENTNAR (194)	JCR	114
		26#6#ARF(18#,1,1FL)	JCR	115
		CALL FLVF	JCR	116
		CUECU+FU	JCR	117
			JCR	118
		CHECHOFH	100	110
		X1#XTI F F T S	100	134
		V1=V1=1 / 11	100	120
		······································	JCR	141
			JCP	125
		ASHANGER (107) (107)	JCR	123
		YCEYHALF(IBH,1,IFL)	JCR	124
		22#2#RLP(13#,1,1PL)	JCR	125
		CALL FLVF	JCR	126
		CU4CU-FU	JCR	127
		CVeCv-FV	JCP	128
		CABCHafk	100	120
		AF TILEO . 0	100	111
		AFTVAS	364	130
			JCW	131
		ar inau u	JCR	135
		I" (NAFT_EU,1) GU TO 210	JCR	133
C			JCP	134
C		INFLUENCE OF FINITE TRATLING LEGS IN FIRST FLAP AFT OF THIS ONE	JCR	155
C			JCR	136
		X1=X+KAF(IS+,1,IFL)	JCR	137
		V18YWKRF(18+,1,1FL)	109	138
		21#2WKRF(18+,1,1FL)	100	150
		X2#X+KAF(15+,2.1FL)	303	140
		NAMES AND AND ADDRESS OF		

	*2#YWKRF(13+,2,1FL)	ICP Las
	22=2wxqF(]8+,2,1FL)	364 141
	CALL FLVF	JCH 142
	ÁF TURÁF TUFFU	104 143
	AF TVRAFTV+FV	JCR 144
	AFTWEAFTLAFA	JC9 145
		JCR 144
		JCR 147
	TITTAL ([34,],]PL)	JCR 148
	21=2==KUP(13=+1,I=L)	179 149
	X2=X&XLF(]3+,2,1F()	100 164
	Y2#YWKLF(13~,2,1FL)	
	Z2#Z#KLF(T3#,2,IFL)	JC4 151
	CALL FLVF	JC# 152
	AFTURAFTU+FU	JC# 155
	AFTVEAFTUEFU	JC9 154
		JC# 155
~		JCR 155
		JCP 157
ž	CONTRINCTION OF BEHINTE TRAILING LEGS IN SECOND FLAP	JCR 158
۰. د		JCR 159
£ .	IG XIEXWERF(ISH, VAFT, IFL)	JC9 160
	YIEY-KAF(IS-,NAFT,IFL)	100 161
	ZIEZEKRF(ISH,NAFT,IFL)	100 143
	NFEIFL+NAFT	100 141
	AYB=CDFLXZ(NF)	100 140
	AZ#SDELXZ(NF)	JCP 184
	CALL SIVF	104 165
	AFTUEAFTU-FU	JCK 166
	AFTVEAFTVEFV	JC4 147
	AFTHEAFTHEFH	JCR 168
	XI#XHKI F (TSH-NAFT-TFL)	JC# 169
		JCR 170
	n	JCP 171
	evenue. Evenenue	JCP 172
		JCR 173
		JCR 174
		JCR 175
	AF INEAF IWAP H	JCA 174
5	611-611- A F #11	JCR 177
		JCR 178
		JC9 179
		JCR 180
21	6 V3# CIRJ(JP)	JCR 181
	UP#U#+CU+v3	108 183
	VP#VP+CV+V8	100 102
	<pre>wpakp+C++v3</pre>	100 184
22	O CONTINUE	
	RETURN	JCR 185
	END	
		JU# 187

SUBROUTINE FUNDUT (A, N, NUMIT, TP)	FUT 001
DITENSION ALN,N), IP(N)	FOT 002
DETION	FOT 003
END	PDT 004
	FOT 005

65

.

SUBROUTINE EVNIN (A,N,NUNIT,IP)	FIN 001
DIMENSION A(N,N), IP(N)	FIN 002
READ (NUNIT) AJIP Return	FIN 003
END	FIN 005

	SUBROUTIN	EUYWNUT	101	001
	CONNON /T	NDEX/ HEW.RW HTOT.WOWTIIGS.THAN WERECISAL LARGETIAN	001	200
	CONMON /PI	$\frac{1}{2} \int \frac{1}{2} \int \frac{1}$		003
	COMMON /N	$\mathbf{T} = \{\mathbf{x}_{1}, \mathbf{y}_{2}, \mathbf{y}_{3}, \mathbf{y}_{$		004
		$T_{\mathcal{L}}(\mathcal{L}) = \{ (\mathcal{L}) : \mathcal{L}(\mathcal{L}) : \mathcal$	UUT	005
	1 RHU(2)/C/	HUL2), XCLR(2,25), TCLR(2,25), ZCLR(2,25), THETA(2,25),	UDT	006
	2	BCLR(2,25),AJET(2,25),BJET(2,25),DSFACT(2,25),	UOT	007
	3	UCL(2,25), VCL(2,25), WCL(2,25), CFJ,CFK	UDT	008
	COMMON /CL	LDAT/ N88(2),88(2,11),¥88(2,11),¥88(2,11),Z88(2,11),	UOT	009
	1	TSS(2,11), BSS(2,11), ASS(2,11), XSN(2,11), YSN(2,11),	UOT .	010
	2	ZSN(2,11),XST(2,11),Y8T(2,11),7ST(2,11),DSS(2,11)	UNT	011
	COMMON /VI	LDAT/ NVLP,NVL(101)	uur	510
C			100	013
	WRITE (4)	NJET,NCYL,NSS,XQ,YQ,ZQ,GAMVJ,DS,RHD,CMU,UEI,VEI,WEI,	101	014
	1	UCL, VCL, HCL, 38, X85, Y85, Z85, Y85, B85, A85, 055,	007	015
	2	XSN. YAN. ZSN. XST. YST. ZAT. XCI R. YCI R. 7CI R. THETA.	un t	016
	i.	AJET BJET DEFACT SCI B NYI P NYI		017
	087004			
	REI VAA		001	019
	5~0		UDT	014

	SUBROUTIN	E UV#IN (KEI)	UIN 001
L	COMMON /I	NDEX/ H8N, MN, MTOT, NCWI(30), 1MAY, NFSEG(30), LASTF(30)	UIN 003
	COMMON /R	SIDE/ CIR(250), UEI(250), VE1(250), WE1(250)	UIN 004
	COMMON /X	YZCL/ NJET,NCYL(2),XQ(2),YQ(2),ZQ(2),GAHVJ(2),05(2),	UIN 005
	1 RHD(2).C	HU(2), XCLR(2,25), YCLR(2,25), 2CLR(2,25), THETA(2,25),	UIN DOM
	2	SCLR(2,25),AJET(2,25),BJET(2,25),DSFACT(2,25),	UIN 007
	3	UCL(2,25), VCL(2,25), WCL(2,25), CFJ,CFK	UIN 008
	COMMON /C	LDAT/ NSS(2), SS(2,11), +SS(2,11), +SS(2,11), ZSS(2,11),	900 MIN
	1	TSS(2,11),BSS(2,11),ASR(2,111,YSN(2,11),YSN(2,11),	UIN 010
	2	Z\$4{2,11),X8T(2,11),Y9T(2,11),Z8T(2,11),D88(2,11)	UIN 011
	COMMON /V	LDAT/ NVLP,NVL(101)	UIN 012
C		,	UIN 013
	READ (4)	NJET,NCYL,NS9,XQ,YQ,ZQ,GAHVJ,QS,RHD,CHU,UFI,VEI,WEI,	UIN 014
	1	UCL;VCL;#CL,55;X85;Y55;285;T55;R59;A88;D58;	11IN 015
	2	XSN,YSN,ZSN,XST,YST,ZST,¥CLR,YCLR,ZCLR,THETA,	UI∾ 01e
	3	AJET, BJET, DSFACT, SCLR, NVLP, NVL	UIN 017
	RETURN		UIN 018
	END		UIN 019

REFERENCES

- Mendenhall, M. R. and Spangler, S. B.: Calculation of the Longitudinal Aerodynamic Characteristics of Upper-Surface-Blown Wing-Flap Configurations. NASA CR-3004, 1978.
- Mendenhall, M. R., Perkins, S. C., Jr., Goodwin, F. K., and Spangler, S. B.: Calculation of Static Longitudinal Aerodynamic Characteristics of STOL Aircraft with Upper-Surface-Blown Flaps. NASA CR-137646, April, 1975.
- Mendenhall, M. R., Goodwin, F. K., and Spangler, S. B.: A Computer Program to Calculate the Longitudinal Aerodynamic Characteristics of Wing-Flap Configurations with Externally Blown Flaps. NASA CR-2706, September, 1976.
- Mendenhall, M. R., Spangler, S. B., Nielsen, J. N., and Goodwin, F. K.: Calculation of the Longitudinal Aerodynamic Characteristics of Wing-Flap Configurations with Externally Blown Flaps. NASA CR-2705, September, 1976.
- Dillenius, M. F. E., Mendenhall, M. R., and Spangler, S. B.: Calculation of the Longitudinal Aerodynamic Characteristics of STOL Aircraft with Externally-Blown Jet-Augmented Flaps. NASA CR-2358, February, 1974.
- 6. Staff of the Langley Research Center: Wind-Tunnel Investigation of Aerodynamic Performance, Steady and Vibratory Loads, Surface Temperatures, and Acoustic Characteristics of a Large-Scale Twin-Engine Upper-Surface Blown Jet-Flap Configuration. NASA TN D-8235, November, 1976.
- 7. Bloom, A. M., Hohlweg, W. C., and Sleeman, W. C., Jr.: Wing-Surface-Jet Interaction Characteristics of an Upper-Surface Blown Model with Rectangular Exhaust Nozzles and a Radius Flap. NASA TN D-8187, December, 1976.

WING-FLAP PARAMETERS						JET PARAMETERS				
Vortex Lattice Panels	Input Option NFVN	FORCE OPTIONS			Input Option KJET	Length DS	Number of JETS NJET	NRHS	Execution Time in Seconds, CDC-6600	
94	0 0 1 1	0 1 1 1	0 -1 -1 -1	0 1 1 1	1 1 1 1	0 1 1 1	- 640 640 375	0 2 2 2	3 3 3 3 3	55 55 46 31
136	0 0 1 1 0 0 0 1 1	0 0 0 1 1 1 1	0 0 0 -1 -1 -1 -1 -1 -1	0 0 0 1 1 1 1	0 1 2 1 1 0 0 0	0 0 0 0 1 2 1 1 1	- - - 200 200 200 185 185	0 0 0 1 1 1 1 1	1 2 4 1 1 4 4 5	78 95 40 110 150 38 27 55 35 40
166	0 1 1 1 1	0 1 1 1 1	0 -1 -1 -1 -1 -1	0 1 1 1 1	1 1 1 1 1	0 1 2 1 1 1	- 650 650 385 385 385	0 2 2 2 2 2 2	3 3 1 3 2 1	205 130 42 100 80 64
175	0 1	0 1	0 -1	0 1	1 1	0 1	250	0 1	1 3	97 52

TABLE I. - TYPICAL EXECUTION TIMES FOR USB PREDICTION PROGRAM


Figure 1.- General flow chart of program USBMAIN.



Figure 1. - Continued.



Figure 1. - Concluded.

USB 002 COMMON FVN(18496) CALL USB USB 003 USB 004 STOP USA 005 END

PROGRAM USBMAIN(INPUT, DUTPUT, TAPES#INPUT, TAPE6#DUTPUT, TAPE4, TAPE8) USB 001

ADD CORE AREA FOR INFLUENCE COEFFICIENT MATRIX USB 197 IF REAFL IS NOT AVAILABLE , REMOVE THIS SECTION AND INCREASE USB 198 THE DIMENSIONS OF FVN IN BLANK COMMON, ABOVE, TO MIDIAMIOT WHERE MIDI = TOTAL NUMBER OF VORIEX PANELS ON WING AND FLAP USB 199 USB 200 USB 201 IFL8=0 USB 202 CALL REQFL(IFLB) USB 203 LFL=IFL8+MTOT*MTOT=1 USH 204 CALL REOFL(LFL) USB 205 USB 206

. -.

RETURN U\$84421 USB 422 END

Figure 2.- Alternate card decks defining program USBMAIN and subroutine USB.

72

C

Ĉ

С

Ċ

C

¢

C

С

¢

С

C

SUBROUTINE USB

• . .

USB 196

USB 001



Figure 3.- Vortex-lattice arrangement for the two-engine USB configuration of reference 6.





Figure 4.- Decay of the average velocity in an USB jet.

,









•---

OMIT ITEM 8 IF NTCW = 0

ITEM 8 FORMAT (8F10.0), NCW values, eight per card.
$(WNGLAT) \begin{pmatrix} 1 \\ ALPHAL(1) \end{pmatrix} \\ F \\ F \\ F \\ F \\ F \\ F \\ F \\ F \\ F \\$
ONTRY THEMS Q 10 MID 11 TE NEEDER = 1
If NWREG > 1, repeat items 9, 10, and 11 in sequence NWREG - 1 times.
ITEM 9 FORMAT (215)
ITEM 10 FORMAT (315, 2F10.0) 15 16 $15 16$ $15 16$ $15 16$ $15 16$ $15 16$ $15 16$ $15 16$ $15 16$ $15 16$ $15 16$ $15 16$ $15 16$ $16 16$
<u>OMIT ITEM 11 IF NTCW = 0</u>
<pre>IOUT - IIN sets of cards if NTCW = 1 and NUNI = 0 ITEM 11 FORMAT (8F10.0), NCW values, eight per card. One set of cards if NTCW = 1 and NUNI = 1. </pre>
(WNGLAT) F F F F F F F F I card if NTCW = 1 and NUNI = 1 IOUT - IIN cards if NTCW = 1 and NUNI = 0
$\frac{1112}{12} \text{ FORMAT (15), 1 Card (0 \le \text{NIDF} \le 3)}$
$(MAIN) \begin{array}{ c c c c c c c c c c c c c c c c c c c$
If NFREG = 0, omit items 13, 14, 15, and 16.
<code>NFREG</code> $>$ 0, repeat items 13, 14, 15, and 16 <code>NFREG</code> times (0 \leq <code>NFREG</code> \leq 10)
(b) Page 2.
Figure 6 Continued.



(c) Page 3.Figure 6.- Continued.

82

(MAIN)

Item 19 through end repeated NRHS times.



(d) Page 4.

Figure 6.- Continued.

79

	XCLR(J.N)	$YCLR(J,N)^{20}$	ZCLR(J,N) I	AJET(J.N)	50 BJET(J.N)	60 THETA(J.N)	70 DSFACT(J.N)	
(JET)	F	F	F	F	F	F	F) NCAT (1)
	┝ <i>╍╌──</i> ┼-							<pre> cards</pre>
								.)

.

ITEM 24 FORMAT (7F10.5), NCYL cards

OMIT ITEM 25 IF NVLP = 0

ITEM 25



END OF DATA

4

(e) Page 5.

Figure 6.- Concluded.

(ITEM)									
(1)	r	4	0 P 2	12 0 •ENGINE USR	CONFIGURA	TION , COA	NOA PLATE	DEFLECTE	D 32 DEG.
(2)	{			REF. NAS DELTA(A)	A 15 D-823 E 20 , PH	5 AVIAN ITER -	GLFY STAFF I(RNOT) #	41)v. 3 , I (, 1976 (TIP) ≋ ⇔ _e 17
(3)	C	844P 212,5	LE RUN L32	C(M1)=2 -2,48	.0 ▲LP 1,37	ЧА в 0 - 6 1.0	.5 . 20		
(4) (5)		1 6,25	17.5	.0					
(6)	r	0.5	16 1	0 1 = 10,71	0				
		-1	0.0	-10.71	ñ				
	1	+2.19	0.0	+10,71	3				
		-3,220	0.0	-10.71	5				
		+5,27	0.0	=10,71	3				
(7)	Ł	-6,05	0.0	=10.71 =10.71	3				
)	-8,160	0 0	-10.71	ź				
		=10,830	0.0 0.0	=10,71	2				
		-12.160	0.0	=10,71	2				
		-14.8	0 0	-10.71	i				
	Į	=16.2 =17.5	0,0	=10,71 =10,71	1				
	7	0.0508	0,0508	0.0508	0.0508	0.0508			
		0,0460	0,0460	0,0460	0.0460	0,0480 0,0460			
		0.0440	0.0440	0.0440	0.0440	0,0440			
	[0,0375	0.0375	0.0375	0,0375	0.0375			
		0.0350	0.0150	0.0350	0.0350	0,0350 0,0320			
(8)	{	0.0287	0.0287	0.0287	0.0287	0.0247			
		0.0205	0 0202	0.0202	0.0202	0.0244			
		0.0160	0,0160	0.0160	0,0160	0.0160			
		0.0076	0.0976	0.0076	9.0076	0.0076			
	l	0,0033 0,0009	0.0055 0.0009	0,0033 0,0009	0,0033	0,0033 •9,0009			
(12) (13)	`	3	33	9 13	-	•			
(14)		ź	0 0	1					
(15) (14)		0.0	1,026	0.0	0.86	12.0			
(15)		0.0	1.026	0.0	0.86	55'0			
(15)		0,0	1.026	0.0	9.86	35.0			
(14) (15)		9	0 0	1 . 0.088	0.95	15.0			
(14)		2	0 0	1	0.07				
(13)		1	13 17	1	V. 4E	35.0			
(15)	~	0.03	1.05	0.03	0,78	50.0			
		=3,12	=5,73	05					
		-3,12	=3,73	-,10					
		-3,12	•3.73	30					
(17)	{	-3,12	=5,73 =1,75	50					
		=3.12	-3,73	• 55					
		-3,12	-3.73	• 60					
	L	-3.12	+3,73 +3,73	- 70 - 80					
(18)		3		• •		1 -1			
(20)		11	12 16	17 21 1	55 59	27 31	32 3	1 K	,
(21) (22)		1	1 10 ECTANGULAR	U =1 JET ON LEFT	WING PAN	EL - VELOC	TTY DECAY	FROM TN	D-8187
(23)	~	1.0	1.25	2,	-5.73	-,26	.05	5	,
		4.6	0.	0.	1.542	.26	0.	1.	
(24)	{	11,0	0.	0. 0.	2.21	.37	°.	1.	
(25)	L	1870	2 3	4 5	3.0	50	0. 10	ž.	
(19)	(8.5	2	1 0	1 0	1 -1	1 3	1 2	3
	`		-		a) Samri	e case 1			-
					and a compt				

- ·

Figure 7.- Sample input decks for USB prediction program.

81

.

(ITEM)															
(1)	(°	0	8 2	ુ - દ∿	GINE US	ч с	OVEIG R	<u>. T T</u>	···., co	4~~A	PLATE	OFF	. ECTEC	7 5 7	EG.
(2)	<			9 1)	<u>F</u> F. NA 61 TATAN	5A z	1. 'www. 51. P	5'5 T	57 LA 50 -	9.10 ° 1 T	9 57AF	F = 3	• [•] • •	1976 נעזי	- 17
	5 SAMP	15	RUN 172		C(H1)#	۰ <u> </u>	<u>ا</u> د		= # 5		•			1. , -	
(3)	212.5		6.42		-2,48		1.37) . 9						
(4)	4 35		17.5		. 0										
(6)	5	16	· · · · ·	0	1										
	C ?.		0.0		-10.71		0								
	-1.		0.0		=10,71		0								
	-2.19		0.0		-10 71		3								
	*3.250		0.0		-10,71		3								
	-4.240		0.0		=10,71		5								
	-6-05		0.0		=10.71		3								
(7)	< -6,830		0.0		-10 71		3								
	+8,160		0.0		=10.71		ş								
	=10.830		0.0		=10.71		5								
	-12.160		0.0		=10,71		2								
	=13.5		0.1		=10,71		1								
	=14.8		0.0		=10,71		1								
	17.5		0.0		10 71		i								
	0.0508		0.0508		0.0508		0,0508		0.0508						
	0.0480		0.0480		0.0460		0.0480		0.0480						
	0.0440		0.0440		0,0440		0.0440		0,0440						
	0.0405		0.0405		0.0405		0.0405		0.0405						
	0.0375		0,0575		0,0375		0.0375		0.0375						
	0.0320		0.0320		0.0320		0.0320		0.0320						
(8) (0.0287		0.0287		0,0257		0.0287		0.0287						
	0.0244		0.0244		0.0244		0.0244		0.0244						
	0.0160		0.0160		0.0202		0.0160		0.0160						
	0.0118		0.0118		0.0118		0.0118		0.0118						
	0.0076		0.0076		0.0076		0.0076		0.0076						
	0,0035		0.0009		0,0005		0.0035		0.0033						
(12)	3	3	3	9	15		••••••								
(13)	3	3	4												
(14)	S S	0	1 105	1	0.0				26						
(13)	°-2	0	0	1	0.0		0.750		23,						
(15)	0,0		1.105		0.0		0,926		49						
(14)	2	0	0	1											
(13)	2	9	13		0.0		0,428		16.						
(14)	ž	0	0	i											
(15)	0,102		1.19		0.081		0.95		40.0						
(14)	5 0.0	Q	1.16	1	0.004		0.92		72.0						
(13)	1	13	17												
(14)	1	0	0	1											
(18)	0,03		1,05		0.05		0.78		50,0						
(19)	8.5		n	0	0	1	10	0	ο.	n	3	t	2	3	
(20)	11	12	10	17	21	55	26	27	31	32					

(b) Sample case 2.

Figure 7.- Concluded.

USB AERODYNAMIC PREDICTION PROGRAM

17,50000 # 0,00000

80 VORTICES ARE TO BE LAID OUT IN THIS REGION 16 SPANNISE BY 5 CHORDHISE

LE SWEEP

0,00000

1.00100

0,0000

0.00000

0.00000

0,0000

0,00000

0.00000

0,00000

0,00000

0,00000

0.00000

1.00000

0,00000

4.00000

SPANHISE LOCATIONS OF TRAILING VORTEX LEGS, SHEEP ANGLES OF

WING SECTION TO THE RIGHT AND NUMBER OF FLAPS BENIND THIS SECTION

TE SHEEP

=10.71000

-10,71000

-10,71000

-10,71000

=10.71000 =10.71000

-10,71000

-10,71000

-10,71000

-10.71000 -10.71000 -10.71000

-10,71000

-10.71000

-10,71000

-10,71000

NUMBER

OF FLAPS

6

۵

3

ŝ

3

3

3

3

2

2

2

2

1

1

1

1

PEFERENCE GUANTITIES USED IN FORCE AND MOMENT CALCULATION AREA = 212,50000

6,42000

-2,48000

INBOARD EDGE CHURD = 6,25000

1.37000

.

.

.

SAMPLE RUN L32

LENGTH

WING INPUT DATA

HOMENT CENTER

ХM

24

REGION NUMBER 1

SEMISPAN

DIHEDRAL ANGLE

SPANHISE

LOCATION

0,00000 =1,00000 =1,75000

-2,19000

-3,22000

-4,24000

-5.27000

-6,63000

-8,10000

.9.50000

-10,63000

-12,10000

-13,50000

-14.80080

-16.20000

-17.50000

2-ENGINE USB CUNFIGURATIUN , CUANDA PLATE DEFLECTED 32 DEG. HEF. NASA TN D-R235 BY LANGLEY STAFF NUN, 1976 DELTA(A) # 20 , PHI # 0 , I(ROOT) # 3 , I(TIP) # -,17 32 C(MU3220 ALPNA # 0 , 8,5 , 20

(a) Page l.

Figure 8.- Sample output from USB aerodynamic prediction program.

FLAP INPUT DATA REGION NUMBER 1 THERE ARE & FLAPS IN THIS REGION THEY EXTEND FROM Y = -1,75000 TO Y = +6,43000 FLAP NUMBER 1 (1) INHOARD EDGE GAP . . 0,00000 DUTBOARD EDGE GAP 0.00000 INHOARD FORE CHORD # 1.02600 OUTBOARD FOGE CHORD # .86000 DEFLECTION ANGLE 12.00000 12 VORTICES ARE TO BE LAID OUT ON THIS FLAP 6 SPANAISE BY 2 CHORDWISE SPANHISE LOCATIONS UP TRAILING YORTEX LEGS -1,75000 -2,19000 -3.22000 -4,24000 -5.27000 -6.05000 -6.65000 XF, YF COORDINATES OF FOUR CORNERS OF FLAP (FLAP LIES IN ZERO PLANE) XF Y۴ 0,00000 0.00000 +1,02600 0.00000 93980 =5.08393 .07980 -5.08393 FLAP NUMBER 2 (2) INBOARD EDGE GAP . 0.00000 DUTBOARD EDGE GAP . 0,00000 INBOARD EDGE CHORD . 1,02600 OUTBOARD EDGE CHORD . .86000 DEFLECTION ANGLE 22,00000 12 VORTICES ARE TO BE LAID OUT ON THIS FLAP 6 SPANAISE BY 2 CHORDHISE SPANWISE LOCATIONS OF TRAILING VORTEX LEGS -1.75000 -2.19000 -3,22000 -4.24000 -5,27000 -6,05000 -6.63000 XF,YF COORDINATES OF FOUR CORNERS OF FLAP (FLAP LIES IN ZFOO PLANE) XF YF 0.00000 0.00000 -1,02600 0.00000 -5.09485 1,05#31 -5.09485 .19431 FLAP NUMBER 3 (3) INBUARD EDGE GAP . 0.00000 OUTBOARD EDGE GAP . 0.00000 INPOARD EDGE CHORD 1.02600 .86000 DUTBOARD ENGE CHORD # DEFLECTION ANGLE # 32,00000 12 VORTICES ARE TO BE LAID DUT ON THIS FLAP 6 SPAN-ISE BY 2 CHORDWISE

SPANFISE LOCATIONS OF TRAILING VORTEX LEGS -1.75000 -2,19000 -3.55000 -4.24000 -5,27000 -6,05000 =6,85000 XEATE CONSULATES OF FOUR CORNERS OF FLAP (FLAP LIFS IN ZFED PLANES XF YF 0.00000 0.00000 -1.02600 0.0000 1,13427 =5.11470 27427 -5,11470 REGION NUMBER 2 THERE ARE 2 FLAPS IN THIS REGION THEY EXTEND FRUM Y # -6,83000 TO Y # -12,16000 FLAP NUMBER 1 (4) INBOARD EDGE GAP .11000 . OUTBUARD LOGE GAP . 08800 INBUARD FOGE CHURD . 1.19000 OUTBOARD LOGE CHORD . .95000 DEFLECTION ANGLE # 15,00000 8 VORTICES ARE TO BE LAID OUT ON THIS FLAP 4 SPANAISE BY 2 CHOPDHISE SPANFISE LUCATIONS OF TRAILING VORTEX LEGS -6,83000 -8,16000 -9.50000 -10,83000 =12,16000 XF, YF COORDINATES OF FOUR CORNERS OF FLAP (FLAP LIES IN ZERO PLANE) XF YF 0.00000 0.00000 -1,19000 0.00000 .99498 =5,33666 04498 -5.33666 FLAP NUMBER 2 (5) INBOARD EDGE GAP .08300 . OUTBOARD EDGE GAP . .06600 INBOARD EDGE CHORD 1.16000 OUTBOARD EDGE CHORD = ,92000 DEFLECTION ANGLE # 32.00000

(b) Page 2.
Figure 8.- Continued.

SPANHISE LOCATIONS OF THATLING VORTEX LEGS -P_16000 -9 50000 +10,95000 -12,16000 XE, YE CONRDINATES OF FOUR CORNERS OF FLAP (FLAP LIES IN ZERO PLANES 4 8 YF 0.00000 0.0000 -1,16000 0.00000 1,11933 -5.36605 .19933 -5.36605 REGION NUMBER 3 THERE ARE 1 FLAPS IN THIS REGION THEY EXTEND FOOH Y # -12, 16000 TO Y # -17,50000 FLAP NUMBER 1 (6) INBOARD EDGE GAP .03000 . OUTBUARD EDGE GAP .03000 . INBUARD ADGE CHORD # 1,05000 OUTBOARD EDGE CHORD # .78000 DEFLECTION ANGLE # 20,0000n 4 VORTICES ARE TO BE LAID OUT ON THIS FLAP 4 SPANAISE BY 1 CHORDWISE SPANNISE LUCATIONS OF TRAILING VORTEX LEGS +12,16000 -13,50000 -14.80000 +16.20000 -17,50000 XE, VE CONRDINATES OF FOUR CORNERS OF FLAP (FLAP LIES IN ZERO PLANES YF 0.00000 0.00000 -1,05000 0,00000 .944906 -5,35116 16906 +5,35116

8 VORTICES ARE TO BE LAID OUT ON THIS FLAP

4 SPANNISE BY 2 CHORDNISE

HURSESHOE VORTEX PRUPERTIES

ARARRAARA WING DATA AAAARRAARA

VORTEX	-COORDINATES	OF BOUND LEG	HID P UI∿T	COCRDINATI	ES OF CONTROL	PO1\1=++	8.L. S≈EEP	HALF##10TH	SURFACE
NUMBER									BLOPE
3	X8(())	48[(])	58F())	XCP(J)	YCP(J)	ZCP(J)	PSI(J)	8*(J)	ACHHAC(3)
	. 10777	. 50000	0.00000		- 50000	0 00000	- 54181	.50000	
;	-1.51886	- 50000	0.00000	-2 15040	- 50000	0 00000	-2-70711	50000	.05080
š	-2.76995	50000	0.00000	-3.38549	- 50000	0.00000	+4.86470	50000	.05080
4	-4,00103	.50000	0.00000	-4-61658	50000	0.00000	-7.00856	50000	.05080
5	-5,23212	- 50004	0,00000	-5.44766	.50000	0.00000	+9,13289	50000	.05080
6	-,29950	-1,37500	0.00000	- 59849	-1.37500	0,00000	-,54181	,37500	.94880
7	-1.49789	-1,37500	0,0000	·2,09648	-1.37500	0.00000	-2.70711	·3750D	
•	-2.69547	-1.37500	0.00000	•3,29447	=1,\$7500	0,00000	-4.86470	, 37500	.04800
	-3.84366	+1.37500	0.00000	-4,49246	-1,37500	0.00000	*7.00856	. 37500	.04800
10	-5,09145	-1.37500	0.00000	=5,69045	-1.37500	0,00000		,37500	.04800
	24307	=1,97000	0.00000	-,-0161	-1,97000	0,00000	-7 74744	.22000	******
14	-3 54883	-1 97000	0.00000	-2.31357	•1. •7000	0.00000	-2.70711	32000	- 04400
13	-1 82032	-1 97000	0.00000		-1 97000	0 00000	-7 00854	22000	-04600
	-4.99580	-1.97000	0.00000	-5,58154	1.97000	0.00000	-9.13289	.22000	-04600
16	28692	2.70500	0.00000		-2.70500	0.00000	-54181	51500	.04600
17	-1.43460	-2.70500	0.00000	-2.00844	-2.70500	0.00000	-2.70711	51500	.04400
18	2.56228	-2.70500	0.00000	=3.15612	-2.70500	0.00000	-4.86470	-51500	.04400
19	+3,72996	-2,70500	0.00000	=4.30380	-2.70500	0.00000	-7,00856	51500	.14401
20	•4.87764	●2,70500	0.00000	-5,45148	-2,70500	0,0000	+9,13269	51500	.04400
21	•.27723	=3,73n00	0.00000	-,83168	*3.73 000	0,00000	-,54181	s1000	.04050
22	=1,38615	-3,73000	0.0000	=1,94059	-3,73000	0,00000	-2.70711-	\$1000	.04050
53	-2,49304	-3,73000	0.00000	-3.04949	-3,73000	0,00000	-4.86470	,51000	.04050
54	=3,60395	-3,73000	0.00000	-4,15840	•3.73000	0.00000	-7.00856	,51000	.04050
52	-4,71205	-3,75000	0.00000	-5,26731	-3,73000	0,00000	#4 13K94	.51000	.04050
24	- 26733	-4.75500	0,00000	.00260	4,75500	0,0000		-11500	.13750
	-3 40780	-4 75500	0.00000	-2 0/387	-4 75500	0.00000	-0.84470	#31300	
20	-1 47794	-4.75500	0.00000	-4 01101	-4 75500	0.00000	-1.00856	51500	-01750
30	4.54807	-4.75500	0.00000	-5.08314	75500	0.00000	-9.13289	-51500	-03750
1 1	.25898	-5.66000	0.00000	.77693	=5.66000	0.00000	54161	39000	.03500
32	=1.29488	+5.66000	0.00000	-1.81283	-5.66000	0.00000	+2.70711	. 39000	.03500
33	-2,33078	-5,66000	0.00000	-2.84873	=5,66000	0.00000	=4.R6470	.39000	.03500
34	-3,36668	=5,66000	0.00000	#3.884#3	⇒5 ,66000	0,00000	#7 , 00856	.39000	.03500
35	-4,40258	-5,66000	0.00000	#4,92053	-5 ,66000	0,00000	+9,13289	.34000	.03500
36	25160	-6.44000	0.00000	-,75480	-6,44000	0.00000	-,54181	.39000	.03200
37	+1,25800	-6,44000	0.00000	=1,76119	-6,44000	0,00000	-2.70711	.39000	+03200
30	42,28437	-6.44000	0,00000	PZ 70754	-6.44000	0,00000	B8,08470	.34001	
37	-4 29710		0.00000	-0 78010	+0_44000 +5_44000	0.00000	-0 11280	e 34000	.03200
41	24162	-7.49500	0.00000	- 72487	-7.49500	0.00000	-54181	-64500	.02870
42	1,20811	-7.49500	0.00000	#1.69134		0.00000	.70711	.66500	.02870
	-2.17460	-7.49500	0.00000	-2.65785	•7.49500	0.00000	+4.8+470	. 66500	.02870
84	=3,14109	-7,49500	0,00000	-3.62434	-7.49500	0,0000	7.00056		.02870
45	-4.10756	-7 49500	0.00000	#4,59083	-7,49500	0,00000	-9,15289	.66500	.02870
46	-,22900	•8,83000	0.00000	-,68694	-8.83000	0.00000	+,54181	. 67000	
#7	-1,14499	-8,83000	0,00000	-1.60294	-8,83000	0,00000	-2,70711		.02440
48	-2,06098	-8,83000	0.00000	-2,51498	-8.83000	0,00000	-4,86470	.67000	.02440
49	-2,97697	-8,83000	0,00000	-3,43497	-8.A30D0	0,00000	=7,00056	.47000	*u5840
50	-3,89296	-10 11 000	0,00000	#4,35096	-8.83000	0.00000	+9,13284	.67000	.02960
	-1 01197	-10,10500	0,00000	- 54412	-10 16500	0.00000	-3 70711	* 7830U	
20	-1, Jaio/	410,18900	5.0000	-1,01401	+10,10370	0.00000	*e, /////	.00500	*"Euga
53	-1,44736	-19,18500	n.0000e	-2.38011	-10,16500	0,00000	-4,86475	11204	.esesa
24		-10 14500	0.00000	-4 11100	-10 10500	0 00000	-0 11280	100100	02020
72	20180	all 49500	0.00000		-11 49500	0.00000	- 54181	44500	-01600
50	a1.01898	-11,49400	0.00000	#1,43457	=11,49500	0.00000			.01600
58	-1.83414	+11,49500	0.00000	-2.24176	-11,49500	0.00000	4 86470	.66500	.01600
59	-2.64935	-11,49500	0.00000	-3.05694	-11.49500	0.00000	-7.00856	46500	.01600
60	-3.46453	-11,49900	0.00000	-3,67212	-11,49500	0,00000	-9,13289	66500	.01600
61	. 19117	-12,83000	0.00000	•.57351	+12.83000	0,00000	-,50181	.67000	.0118h
54	. 95586	-12,83000	0,00000	+1.33820	-12,73000	0,0000	-2,70711	.67000	.01180
63	-1,72054	-12.03000	0.0000	+2.10289	-12.43000	0.00000	-4.26470	.67000	+01180
64	-2,48525	-12,93400	0.00000	-2.46757	-12,93000	0.00000	-7.00856	.67000	.01180
65	-1,24991	-12.85000	0,000 P	-3.53226	-12.43000	0,00000	-9,13289	.67000	.01160

1

(c) Page 3.

Figure 8.- Continued.

_

66	· 17869	-14,15000	0,0000	53607	-14,15000	0.0000	•,54181	+65 000	,0076°
67	. 49344	=14,1500C	0.65000	-1.25082	-14,15000	0.00000	-2,70711	.65000	.00760
68	-1.60821	-14,15000	C. 300.0	1.96557	-14,15000	0.00000	-4.86470		.00760
49	2. \$2295	14,15000	r. naoun	-2.68033	14,15010	0.00000	■7.00856	.65000	.00760
70	-1.03771	-14,15000	0.00000	-3.395AA	-14,15000	0,00000	-9.13289	.65000	.00760
	14597	15.50000	0.00000	.49777	15.50000	0.00000	54181	70000	.00330
12	. 82961	-15.50000	0.00000	-1.16146	-15.50000	0.00000	-2.70711	70000	00330
73	1.49330	•15.50000	C.00000	1.82514	-15.50000	0.00000	-4.86470	70000	.00351
40		-15 50000	0.00000	-> //8881	-15.50000	0.00000	-7.00856	.70000	.00330
75	-2.62068	•15.50000	0.00000	1,15252	15.50000	0.00000	-9.13269	.70000	00330
-		-14 85000	0.00000		-16 85000	0.00000	.54181	65000	
77	- 74578	-16 85000	0 00000	-1 07209	-16 65000	0,0000	-2.70711	65000	
	-1 17840	-16 85000	0 00000	-1 -1 -1 - 71	-14 85000	0 00000	4.86470	-65000	.00090
**	~1 00102	-16 85400	0 00000	-2 20714	-16 85000	0.00000	7.00856	-65000	00090
80	-2,60345	-10.55000	00000	-2,90996	-16,85000	0.0000	-9,13289	.65000	00090

VORTEX	=COORDINATES	OF HOUND LEG	H10P01%T	CONROINAT	ES OF CONTROL	POINT=+#	B.L. SHEEP	HALF+SIDTH	SURFACE SLIPE
J	¥8L(J)	48L(J)	ZHL(J)	¥CP(J)	YCP(J)	ZCP(J)	P\$1(J)	5×(J)	ALPHAL(J)
61	-6.00198	-1.97000	.02648	-6.25111	-1,97000	.07943	-10.69925	,22017	0.00000
62		-1.97000	13239	-6.74939	-1.97000	.18534	=11,59966	,22017	0.0000
	5.86003	-2.70500	.02585	+6.10329	-2.70500	.07756	-10.69925	.51540	0,0000
84		-2.70500	12927	-6.58982	-2.70500	18098	-11,59966	.51500	0.00000
45	-5.66207	-3.73000	.02498	-5.89716	-3.73000	.07495	-10.69925	51039	0.0000
	6 13222	-3.73000	12492		-3.73000	.17488	=11.59966	51039	0,0000
	-5 06012	-4 75500	02411	-5.69100	4.75500	07234	+10.69925	.51540	0.0000
	-5 01745	-4 75500	12056	-5.14476	4.75500	16879	-11.59966	51540	0,00000
	5 28911	-5.66000	02334	-5.50899	-5.66000	.07003	+10.69925	39030	0,0000,0
	-8 72844	-5 55000	11672	-5 9/839	5 66000	14341	+11.59966	39030	0.00000
	-5 13849	-6 44600	02268	-5 38211	-6 44000	06805	-10.69925	. 19030	0.00000
42	+5,56553	-6,44000	11341	-5.77895	-6,44000	15877	=11,59766	, 39030	0.00000

ARARARARAREGION 1 FLAP 2 DATA ARARARARA (2)

VORTEX NUMBER	-COORDINATES	OF BOUND LEG	HIDPOINT	COORDINATES	OF CONTROL	POINT	8,L. SwEEP	HALFONIDTH	SURFACE SLOPE
J	X86(J)	48F(1)	28L(J)	XCP(J)	VCP(J)	ZCP(J)	P81(J)	\$=(J)	ALPHAL(J)
+3	-6,99203	-1,97000	,25953	+7,22814	-1.97000	.35494	-11,91515	.22066	0.0000
	#7.46435	-1,97000	45036	-7.70050	-1,97000	54577	=12,80576	.22064	0,00000
45	-0.82675	-2.70500	25341	-7,05733	-2.70500	\$4658	=11,91515	,51451	0.00000
96	.7.28792	-2.70500	43974	-7.51851	-2.70500	.53290	-12.80576	.51651	0,00000
	+6.99624	+3.73000	24488	-6.81907	-3.73000	33491	-11.91515	51149	0,00000
98	-7.04189	-3,73000	42493	-7.26472	-3,73000	.51494	=12,80576	.51140	0.0000
99	·6,36574	-4,75500	.23635	-6.58080	-4.75500	. 32324	-11,91515	.51651	0.0000
100	-6.79586	-4 75500	.41013	-7.01092	-4.75500	.49702	-12,80576	**1651	0,00000
101	-6,16222	-5,66000	22881	-6.37042	-5,66000	.31293	=11,91515	. 19114	0,00000
102	+6.57863	-5,66000	39706	-6.78684	-5. 66000	.48118	-12.80576	.39114	0.00000
103	•5.98681	-6,44000	22232	-6,18911	-6.44000	30405	+11, 91515	. 39114	0,0000
104	-0.39140	-6,44000	38579	+6,59370	-6,44000	.46752	-12,40576	. 19114	0.00000

VORTEX	 DPUINTCOOR	DINATES OF CONTROL	POINT=== f	B.L. SHFEP	HALF##IDTH	SURFACE
NUMBER						SLOPE

្រ	X6F(7)	Y4L(J)	26L (J)	XC#(J)	YEPIJY	76P(J)	P31(J)	8+(J)	ALPHAL (J)
105	-7,92658	-1.97000	.66096	-8,14258	-1,97000	,79593	-12.72527	.22150	0.0000
106	■8,35858	+1,97000	,93091	·8.57458	-1,97000	1.06548	-13,60679	.22150	0.00000
107	-7,73926	-2,70500	64538	-7,95017	-2.70500	77717	-12.72527	.51852	0.00000
108	-4,16108	-2,70500	90896	-5.37199	-2.70500	1.04075	=13.60679	.51852	0.00000
109	-7,47803	-3,73000	62365	-7.68184	-3.73000	.75100	-12.72527	51348	0.00000
110	-7.88565	-3,73000	67836	+8.08945	-3.73000	1.00571	=13.60679	-51348	0.00000
111	-7 21680	-4 75500	60192	-7,41351	-4.75500	.72484	12.72527	-51852	0.00000
112	-7.61021	-4 75500	84775	-7.80692	=4.75500	97667	-13.60679	.51852	0.00000
113	-6,98616	-5,66000	58274	-7.17659	-5.66000	70173	-12.72527	. 39266	0.00000
114	+7,36703	-5,66000	82073	•7.55747	-5.60000	93975	-13.60679	39266	0.00000
115	-6,78757	≈6, 44000	56620	+6.97240	-6.44000	68182	-12,72527	. 39266	0.00000
116	-7,15743	-6,44000	79744	-7.34247	-6,44000	.41306	-15.60679	. 39266	0.00000

AANAANAAAREGION 2 FLAP 1 DATA RAAAAAAAAA 5 43

VORTEX	-COORDINATES	OF BOUND LEG	MIDPOINT	CORDINATE:	OF CONTROL	POINTees	B.L. SwEFP	HALFENIDTH	SURFACE SLOPE
ſ	XBL(J)	Y8L(J)	ZRL(J)	XCP(J)	YCP(J)	ZCP(J)	PSI(J)	84(J)	ALPHAL (J)
117	-5,07977	-7,49500	03753	.5.35990	-7.49500	.11259	-10,87204	. 66585	0.00000
118	-5,64004	-7,49500	18765	-5,92017	-7.49500	26271	•12,10921	.66583	0.00000
119	-4,81451	-8,83000	03559	-5.08013	-8.83000	.10576	-10.67204	.67084	0.00000
120	-5,34574	-8,83000	17793	=5.61136	-8.83000	.24910	-12.10921	.67084	0.00000
121	•4 54925	-10,16500	03364	+4.80035	10.10500	10092	-10.87204	.66583	0.00000
122	-5.05145	-10,16500	16821	-5.30255	10.16500	23549	-12,10921	.66583	0.00000
123	-4,28498	-11,49500	.03170	+4.52162	11.49500	.09511	-10.87204	.66583	0.00000
124	-4.75826	-11,49500	15852	-4.99490	11,49500	22192	-12,10921	. 46583	0,00000

VORTEX	-COORDINATES	OF BOUND LEG	MIDPOINT	+=+COURDINA	TES OF CONTROL	₽01NT++#	B.L. SWEEP	HALFOHIDTH	SURFACE
J	X8F(3)	48L(J)	ZBL(J)	XCP(J)	YCP(J)	ZCP(J)	PST(J)	3+(J)	ALPHAL(J)
125	-6,25815	-7.49500	,39603	-6.49774	-7,49500	54574	-12.08921	.66950	0.00000
126	-6,73732	#7,49500	69545	-6.97691	-7:49500	.84516	-13,30854	.66950	0.00000
127	-5,93160	-8,83000	37539	-6.15844	+8,83000	51714	+12.05921	.67453	0.00000
128	=6,38528	■8,83000	.05688	-0.61212	-8,83000		-13,30854	67453	0.00000
129	-5,60505	=10,16500	35475	-5.81914	#10,16500	48853	-12.08921	.66950	0.00000
130	-6,03324	-10,16500	62231	+6.24733	=10,16500	75609	+13.30854	.66950	0.00000
131	=5,27972	-11,49500	33418	-5,48112	=11,49500	46003	-12.08921	466950	0.00000
132	-5,68252	=11,49500	.58588	+5,88392	-11,49500	71173	-13,30854	.66950	0.00000

VORTEX	+COORDINATES	S OF BUUND LEG	HIDPHINT	COPRDINA	TES OF CONTROL	POINT===	8.L. SHEEP	HALF-WIDTH	SURFACE SURFACE
ſ	¥HL(J)	A9F(1)	ZÜL(J)	YCP(J)	YCP(J)	ZCP(J)	P81(J)	84(3)	ALPHAL (J)
133 134 135 136	-4.09214 -3.82680 -3.55544 -3.28407	-12,83000 -14,15000 -15,50000 -16,85000	08688 08118 07534 06950	=4.56956 =4.27287 =3.96943 =3.66600	-12.83000 -14.15000 -15.50000 -16.85000	.26065 .24353 .22602 .20851	-10,75631 -10,75631 -10,75631 -10,75631	+67140 +65136 +70146 +65136	0_0000 0_00000 0_00000 0_00000

WING TRAILING LEGS CORRECTED AT Y(I), I = 3 9 13

ALPHA	NF VN	NUNIT	NFPTS	NPRIN	T KJFT	KE1	KUNIT	NLDAD	NJPKL	45 RČ	NCFJ	NTLF.	NFJ
0.000	O	8	12	0	1	9	1	1	10	1	#1		3
JET INTE	RFERENCE	ON FLAP	5 1	23									

1

JET TURNING EFFICIENCY = 1,00

(c) Page 3, concluded. Figure 8.- Continued.

ot

14,000 JET INDUCED VELOCITIES ARE DHITTED ON PANELS 1 2 3 4 5 6 7 8 9 10

(1) JET PARAMETERS C T RHD D(8) NCYL GAMMA/V 5 8,6141 ΧQ Y۵ ZQ 2.0000 =3.7300 THETA A 0500 DSFACT 1.0000 1.2500 -,2600 SCL 0.0000 XCL YCL ZCL 8 • 0.00000 0.00000 0,00000 0.0000 1,5420 ,2600 1.000 7,208 1.000 1.000 2.000 2.000 7.208 0.0000 2600 3700 4350 5000 1,5420 2,2100 4.0000 0,00000 0,00000 4,6000 0,00000 0,00000 0,00000 0.0000 0.0000 0.0000 11,00000 0.00000 11,0000 14.50000 0,00000 14,5000 2.6050

NJET NVLP NP NCRCT JPRINT 1 10 136 0 -1

ARE6 RECTANGULAR JET ON LEFT HING PANEL . VELOCITY DECAY FROM TH D-81A7

INPUT JET PARAMETERS

JET PARAMETERS FOR TANGENT USB JET

NJET NVLP NP NCPCT JPRINT 1 10 136 0 -1

(1) JET PARAM	ETERS	CT.	R 40	XQ	YQ	ZQ	D(8)	NCYL	GAMNAZV
		1.0000	1,2500	2.0000	-3,7300	•,2850	.0500	17	8,0141
×CL	YCL	ŽCL	SCL	THETA	▲	. 6	DSFACT	P	-
0.00000	0.00000	0.00000	0.0000	0.0000	1.5420	.2000	1.000	7,208	
4.60000	0.00000	0.00000	4,6000	0.0000	1.5420	2600	1.000	7,208	
7.54454	0.00000	.05061	7.5450	0.0000	1.8493	.3104	1.000	8.640	
7.57452	0.00000	.05094.	7.5750	-6.0000	1.8493	3104	1,000	8,640	
7.61431	0.00000	.04326	7.6155	=12.0000	1.8493	3106	1.000	8,640	
8.55796	0.00000	14078	8.5769	-12.0000	1.9475	3268	1.000	9, 197	
8,58291	0.00000	- 14578	8.6024	-17,0000	1 9475	3268	1,000	9,097	
8,61660	0.00000	*.15871	8.6384	-22.0000	1,9475	.3268	1.000	9,097	
9.51364	0.00000	• 50461	9,5999	+22,0000	2.0405	, 3421	1,000	9,530	
9.53872	0.00000	51442	9,6268	-27.0000	2,0405	3421	1.000	9,530	
9,57066	0.00000	-,53366	9,6641	-32,0000	2,0405	3421	1,000	9,530	
11.21597	0.00000	-1.52871	11 5869	-32,0000	2,2107	.3701	1,000	10,323	
11,08825	0,00000	-1,75973	12.2977	-13,5396	2,3096	, 3864	1,000	10,784	
13,24539	0,00000	-2,00748	13,6773	-8,3636	2,4630	4116	1.000	11,499	
14,60397	0.00000	-2,18302	15,0472	-6.5743	2,6164	.4369	5.000	12,213	
15,96240	0,00000	-2,32690	16,4137	-5,5922	2,7498	4621	5.000	12,928	
18,00155	0.00000	-2,50915	18,4605	-4,7016	2,4999	,5000	2,000	14,000	

SURFACE COURDINATE PARAMETERS FOR JET 1 (WING COORDINATE SYSTEM)

Xā	YB	Zs	88	THETA		8	XSN	YSN	ZSN	XST	YST	28T	Das
2.000	•3.730	025	0.000	0,000	1.542	.200	2.000	-2.188	-,025	5,000	-5,272	-,025	1.0
-2.000	=3.730	025	4.600	0.000	1.542	.260	•2.600	#2,18B	.025	-2,400	-5,272	-,025	1,0
-5.545	-3.730	025	7,545	0,000	1.849	311	-5,894	-1.881	025	=5,195	=5,579	•,025	1,0
.490	•3.730	.175	8,506	12.000	1,947	327	+6,921	=1.783	189	=6,059	=5,677	,162	1.0
.7.385	-3.730	.537	9.467	22.000	2.041	.342	-7,898	=1.689	.576	+6.873	-5.771	498	1.0
	-3.730	1.558	11.390	32,000	2.211	370	-7,655	-1.519	1.673	-8,384	-3,941	1,442	1,0
.9.798	-3.730	1.850	12.229	13.540	2.310	386	-9,798	-1.420	1.850	=9,798		1,850	1.0
-11.186	-3.730	2.130	13.647	8,364	2.463	412	=11,186	=1.267	2,130	+11,184	-6,193	2,130	1.0
+12.554	-3.730	2.332	15.031	6.574	2.416	.437	-12.554	-1.114	2.332	-12.554	-6.346	2,332	2.0
+13.918	+3.730	2.502	16.406	5,592	2.770	467	-13,918	- 960	2.502	-13,918	-6,500	2,502	2,0
=15,941	-3,730	2,722	18,461	4,702	3,000	500	=15,901	•,730	2,722	+15,961	-6,730	2,722	2,0
JET INC	UCED VEL	OCITIES	ARE OFIT	TED ON P	ANEL8	1	23	4 5	6	7 8	9 10		

1

(e) Page 5. Figure 8.- Continued.

ł.

n

********* *ING DATA *********

VIRTEX -----CONTROL POINT COORDINATES---- ---FXTERNALLY INDUCED VELOCITIES--NUMBER

J	XCP(J)	YCP(J)	2CP(J)	1151(33)	vfI(J)	WEI(J)	GAMMA/V	
1	92332	50000	0.00000	0,00000	0.0000	0.00000	2.14482	0
5	-2 15440	. 50000	0.00000	0.00000	0.00000	0.00000	1.24285	0
	- 7 205/0	- 50000	0 00000	0 00000	0 00000	0.00000	1.04368	Û
,		- 60000	0 00000	0 00000	0 00000	0.00000	87788	0
	44,01000	50000	0.00000	0.00000	0 00000	0 00000	54110	Ň
5	-5,84766	. 20000	0.00000	u.e0000	0,00000	0.00000		ž
6	89849	-1,37500	0.00000	00000	00000	0.00000	10041	
7	-2,09648	-1.37500	n.00000	0.00000	0.0000	0.00040	1.20732	0
8	-3.29447	-1.37500	0.00000	0,0000	0.00000	0,0000	1.15232	0
9	-4.49246	+1.37500	0.00000	0.00000	0.00000	0,00000	1,09840	0
10	-5.69045	•1.37500	0.00000	0.00000	0.00000	0.00000	89126	٥
	- 88161	-1 97000	0.00000	09692	.04619	. 12005	2.31207	1
	3 05700	-1 84400	0 00000	04774	- 01000	- 16630	1.36961	÷
12	e2.03/04	-1.77000	0.00000				1 1 34 1 1	
13	-3,23257	-1, 7000	0,00000	.05477	-14405	- 048137	1.446433	
14	44080	=1,97000	00000	• 04557	-,15447	. 48113	1.04042	
15	-5,58354	-1,97000	0.00000	- 43701	.36564	-1.80221	1.92570	
16	- 86076	-2.70500	0.00000	- 23548	03705	•.12117	2,38377	2
17	-2.00844	-2.70500	0.00000	- 26177	00913	-,15661	1,41173	2
	-3 15612	-2.70500	0.00000	. 41720	.08221	• 25853	1.41504	5
10	-4 30380	-2 70500	0 00000	- 30710	11612	. 50292	1.69922	ź
17	4,30300	-2.70300	0,00000		44784	-1 48414	3 50414	
50	-3,45140	2 10500	0.00000	. 30 344	.10334		3 1.053	5
21	-,83168	-3,73000	0.0000	.26212	•.01320		2,30732	
22	-1,94059	=3,73000	0.0000	27207	• 03130	-,10555	1.42707	
23	-3.04949	=3,73000	0,00000	. 26526	02620	-,22419	1.37441	2
24	-4 15840	=3,73000	0.00000	21572	.02580	-,45139	1.73034	5
25	5.26731	+3.73000	0.00000	30974	04257	=1.45977	2,67786	5
34	- 80240	-4.75500	0.00000	= 24048	.01628	11349	2.29208	2
	-1 87370	-4 75500	0,00000		#.01167	.16665	1.39571	2
<i>e 1</i>	-1.0/E/4	- / 75 - 00	0 00000	- 14748	- 08048	- 35520	1 \$4602	2
20	+5.48507		0.00000	10/00		- TRUAR	1 54444	
29	-4.01301	=4,75500	0.00000	• 12671	•.04321	•.300US	1.70400	
30	-5.08314	-4.75500	0.00000	-,20803	01774	-1.20012	2,49374	2
31	77693	-5,66000	0,00000	.08947	.03274	-,10300	2,15876	0
12	=1.81283	+5.66000	0.00000	.04535	.02150	• 14311	1,30398	0
	-3 8/871	-5 66000	0.00000	07532	08909	26389	1.28398	0
	-1 88461	5 66000	0.00000	14964	. 04186	+. 15334	1.37055	1
	03453	-5 66000	0 00000	10175	. 27117	98164	2.04085	1
37	44 48033		0.00000		47738	- 09300	3 63143	÷
30	-,75460	-0,44000	0.00000	.00032	03363		C	Ň
37	=1,76119	-0,44000	0.00000	.05030	.01236	• 12035	1.14434	
38	#2,76759	-6,44000	0,00000	.05275	.00614	17044	1.11173	0
39	-3,77399	-6.44000	0,00000	.06074	•.04334	-,25896	1.19502	0
40	-4.78039	-6 44000	0.00000	01764	-,13720	-,51742	1.53478	٥
41	. 72487	-7.49500	0.00000	.04067	02354	^7878	1.84486	0
42	-1 68136	-7.49500	0.00000	01569	.00613	09613	1.06388	0
	-7 46788	-7 //6800	0 00000	03843	- 01065	12748	84745	ō
43	42,83/03	-7 // 0500	0.00000	A1//87	- 01145	17104	95917	ň
	#2.02434			.0140/			1 0 3 8 1 5	Ň
45	•4.54083	#/ • 4 45 00	0.00000	.03110	. 03003	.24431	1.06717	
46	- 68699	-8.83000	0,00000	.01987	*01125	• 06418	1.01/42	0
47	-1.60299	-8.83000	0.00000	.01720	.00105	07642	91243	0
48	-2.51898	#8,83000	0,00000	.01048	• 00922	-,09251	,78453	0
д 9	1 41497	-8.83000	0.00000	00240	=_01862	11343	.75997	0
		-8 51000	0.0000	02437	. 02366	P. 13951	78206	0
	- 44013	-10 14800	0 00000	00846	00464	- 05249	1.19141	ō
21		-10 14500	0.00000	.00040			77367	Ň
56	e1,51401	=10,10500	P. 00000	.00410		-,00017		
53	-2,38011	=10,16500	0.00000	.00112	00542	● • 064%8	.05054	U
54	-3,24560	=10,16500	n_00000	-,00709.	-,00982	07986		0
55	-4.11109	-10,16500	0.00000	•.01913	•.01100	09163	.63588	0
54	61139	-11,49500	0.00000	.00237	85100		1.18051	Ċ
57	1 42657	-11.49500	0.00000	-00034		- 04821	64591	č
É.A	-2 24174	-11 49800	0.00000	00311	00381		53477	
30	-1 -1 -1 -1		0 00000				EACEL	
	-3.03094	-11,44900	0.00000	* .00814				9
60	=3.87212	-11,49900	0.00000	01483	•.00556	•.06579	.52036	0
61	-,57351	-12,83000	0.00000	•.00086	00029	-,03613	.97919	0
62	-1,33620	-12,63000	0.00000	-,00249	-,00159	+,03930	.53020	
63	+2.10289	-12.83000	0.00000	+ 00486	-,00265	•,04269	43667	
64		-12.83000	0.00000	00801	.00324	04625	40854	
1	-1 41234	12 83000	0.00000	01102	00310		41477	
	-3.03660							

(f) Page 6.

Figure 8.- Continued.

66	•.53607	-14,15000	0,0000	.00251	00099	+.05053	.78845
67	-1.25082	+14,15ncn	1,0000	- 00378		.03265	42299
88	=1.96557	-14,15000	n, nuənn	- 00543	00204	03487	34757
69	-2,68033	-14,15000	0.00000	- 0074B	15500	■ 03714	32753
70	-3,39508	-14,15100	0.0000	.00991	00195	- 05942	34062
71	•.49777	-15,50000	0.00000	00534	.00129	02599	59620
72	=1,16546	-15,50000	0.0000	00430	- 00155	- 02743	31535
73	■1.82514	=15,50AAC	0,00000	-, 10547	00109	.02891	25957
74	-2,48885	-15,50000	0,00000	00684	- 00168	-,03040	,24983
75	+3,15252	-15,50000	0.00000	.00841	- 00146	.03189	27241
76	- 45947	-16,55000	0.00000	.00370	- 00139	02236	38248
7.7	-1.07209	-10,85000	0,00000		•,00148	•,02336	19140
78	-1.68471	-16,85000	0.00000	.00527	- 00149	- 02437	15501
79	-2,29734	-16,85000	0,00000	- 00622	- 00141	-,02539	15439
80	-2,90995	-16,85000	r,0000n	.00727	-,00122	02639	18390

z ž Z 2 5 2 z ž 1 ۵

2 Z 2 z 2 ž 2 ž 2 ž 0 ō L

÷.

ÚRTEX.	====CONTROL	POINT COCROI	NATES	EXTERNALL	Y INDUCED W	ELOCITIES++	
J	XCP(J)	YCP(J)	ZCP(J)	DEI(J)	VEI(J)	=81(J)	GAMMA/V
F1	=6,25111	=1,97000	.07943	-1.04315	.24002	=3,73474	4,12804
82	+6.74939	1 97000	18534	69586	40877	.76168	1,10883
83	-6,10329	-2,70500	07756	83625	08058	-2.97140	5,98030
84	-6.54982	-2,70500	18098	84256	.05923	-1.35745	1.44610
85	-5.89714	-3,73000	07495	83671	.03877	-3.05872	4.06127
6.	=0.30729	-3,73000	17486	88588	.05621	-1.56276	1.58077
87	=5.69100	-4.75500	07234	+.75803	.08237	.84060	3.91051
88	-6.14476	+4.75500	.16879	77643	07538	+1.32764	1.55584
84	-5.50899	-5,66000	.07003	31653	26844	-2.02688	3.49021
0	-5,94829	-5.66000	. 16341	-18290	. 17169	.04156	1.34044
	-5.35211	-6.44000	06805	.20179	. 18917	-1.01608	1.17206
	-5.77895	-6.44000	15877		24477	-1.555A1	94563

VORTEX -----CONTROL POINT COORDINATES---- ---EXTERNALLY INDUCED VELOCITIES--NUMBER

J	XCP(J)	YCP(J)	ZCP(J)	UE1(1)	VEI(J)	WEI(J)	GTHHT	
43	•7,22819	-1,97000	.35494	.27008	,54887	1,49612	.50257	
94	-7,70050	-1,97000	.54577	98304	71504	3,52857	34916	
95	-7,05733	-2,70500	34658	+ 57877	11113	-,63377	87792	
96	-7,51851	-2,70500	\$3290	- 42745	11927	33741	53311	
97	-6.81907	3 73000	33491	. 66923	01011	- 97603	1.00555	
98	-7.26472	-3,73000	51496	.59078	00843	- 10999	.61875	
99	-6.58080	-4 75500	32324	50923	- 00889	+ 74599	1.00768	
100	•7.0109Z	=4,75500	49702	- 39188	04024	13707	62269	
101		=5,66000	31293	22091	08638	1.07398	85926	
102	·b.78684	=5,66000	48118	74761	20341	2,13528	.63168	
103	+8,18911		30405	■ 79931	.36075	-2.00404	92379	
104	≈6,59370	-6,44000	.46752	-1,18207	41403	-2.53475	.70103	

VORTEX ----CONTROL POINT COORDINATES---- ---EXTERNALLY INDUCED VELOCITIES--NUMBER

V-85 m								
J	XCP(J)	YCP(J)	ZCP(J)	UEI(J)	VEI(J)	WEI(J)	GAHMA/V	
105	+8,14258	-1,97000	,79593	2.34550	.95196	4,87413	43369	2
106	-8 57458	-1,97000	1,06588	3.50057	1.10241	7.05222	2391A	2
107	•7.95017	-2,70500	.77717	- 11331	26125	.85590	.68150	2
108	-8,37199	-2.70500	1.04075	.49023	40375	2.17079	.34456	ž
109	-7.68184	-3,73000	.75100	- 29221	08855	.27407	71028	2
110	-8,08945	-3,73000	1.00571	58708	31909	1.47926	33371	2
111	-7,41351	4 75400	72484	.02571	13087	50002	.09819	2
112	•7.80692	=4,75500	97067	94351	.36176	1.68856	.31467	ž
113	-7.17659	-5.66000	70:73	1.43965	47521	2.80425	64650	2
114	•7.55747	-5,66000	93973	2.55207	71987	4.17819	32442	ž
115	-6.97240	#8.44000	. 08182	-1.66008	+.57315	-2.A7095	61090	ō
116	-7.34247	-6.44000	91306	=1,94671	60945	-3,21932	31370	ō

(f) Page 6, continued.

Figure 8.- Continued.

VORTEX NUMBER	+CONTRUL	PUINT COORD	INATES====	EXTERNALL'	Y INDUCED	VELOCITIES	
J	XCP(J)	4CP(J)	ZCP(J)	UFI(J)	VEI(J)	₩€I(J)	GAMMA/V
117	=5,35990	.49500	,11259	.09863		34251	1.06147
118	-5,92017	-7,49500	.26271	- 16736	- 07326	42598	67494
119	-5,08013	-6 83000	10676	.04940	. 02562	+.16531	.85405
120	-5,61136	-8,83000	24910	. 16964	+.02610	- 18691	.54383
121	-4.80035	=10,16500	10092	03010	•.01136	+.10257	.73514
122	-5.30255	=10,16500	.23549	03861	01163	.11152	.46170
123	=4.52162	=11.49500	09511	- 02051	.00566	P. 07146	63827
124	-4,99490	-11,49500	20122	-,02473	.00591	07607	39313

000000000

0

Ó

0

0

!

.

XCP(J)	ACB(1)	2CP(J)	VEI(J)	VEI(J)	WEI(J)	GAMMA/V	
-6.49774	-7,49500	54574	24400	09938	52135	.78384	0
-6,97691	•7.49500	.84516	30767	- 13415	59526	.33704	0
-6,13844	-8.83000	.51714	.08993	+.01262	21295	.70232	ō
-6,61212	-8,63000	.800+3	- 10654	.04236	.23547	.30890	ŏ
-5.81914	+10.16500	46853	.04670	.01460	. 12242	62150	ō
-6.24733	-10,14500	.75609	.05313	.01888	9.13216	27004	ŏ
-5.48112	=11.49500	46003	- 02841		B.08169	56404	ō
-5,88392	-11,49500	71173	03162	.01009	08676	.24258	ō
	xCP(J) -6.49774 -6.97691 -6.15844 -6.61212 -5.81914 -6.24733 -5.48112 -5.86392	XCP(J) YCP(J) -6.49774 -7.49500 -6.97691 -7.49500 -6.5121 -8.63000 -5.81914 -10.16500 -6.24733 -10.16500 -5.86392 -11.49500	XCP(J) YCP(J) ZCP(J) -6.97691 -7.49500 .54574 -6.97691 -7.49500 .84516 -6.13844 -8.83000 .51714 -6.61212 -8.63000 .80083 -5.81914 -10.16500 .48853 -6.24733 -10.16500 .46803 -5.881912 -11.49500 .71173	XCP(J) YCP(J) ZCP(J) UFI(J) -6.49774 -7.49500 .54574 24400 -6.97691 -7.49500 .84516 50767 -6.13844 -8.63000 .51714 .08993 -6.61212 -6.653000 .80053 10654 -5.81914 -10.16500 .48853 00470 -6.24733 -10.14500 .75609 03513 -5.4812 -11.49500 .71173 032861	XCP(J) YCP(J) ZCP(J) UFT(J) VET(J) -6.49774 -7.49500 .54574 24400 09938 -6.97691 -7.49500 .64516 50767 13415 -6.15844 -8.65000 .51714 08993 03262 -6.61212 -6.65100 .80053 00654 04236 -6.61212 -6.65100 .80853 00670 01460 -6.6213 -0.14500 .75809 02313 01688 -6.612 -1.49500 .40033 02861 00768 -5.46392 -11.49500 .71173 03162 .01009	XCP(J) YCP(J) ZCP(J) UFI(J) VEI(J) MEI(J) -6.49774 -7.49500 .54574 24400 09938 52135 -6.97691 -7.49500 .84516 50767 13415 59526 -6.15844 -8.83000 .51714 08993 03262 21293 -6.0512 -6.85000 .80063 10654 01460 12242 -6.22733 -10.16500 .48853 04670 01460 12242 -6.24733 -10.16500 .75609 02361 00768 13216 -5.4812 -11.49500 .71173 03162 01009 08674	XCP(J) YCP(J) ZCP(J) UFT(J) VEI(J) MEI(J) GAMMA/V -6.09774 -7.49500 .54574 24400 09938 52135 .78389 -6.97691 -7.49500 .84516 30767 13415 59526 .33704 -6.15844 -8.83000 .51714 .08993 03262 21293 .70232 -6.01212 -6.08300 .80063 10654 03262 21293 .70232 -6.0212 -6.08300 .80063 00670 .01460 12242 .02150 -5.81914 -10.16500 .48853 004670 .01460 13216 .27004 -6.24733 -10.16500 .75609 .05313 01860 13216 .27004 -5.4812 -11.49500 .46003 02861 .00768 08169 .546404 -5.48392 -11.49500 .71173 .03162 .01009 .08676 .24256

ARAAAAAAAAREGION 3 FLAP 1 DATA AAAAAAAAAA (6)

NUMBER J XCP(J) YCP(J) ZCP(J) UEI(J) VEI(J) WE1(J) GAMM4/V 133 -4.56956 -4.27287 -12,83000 ,26065 -,01639 -,00422 -,05553 .79760 134 -14,15000 • 00270 • 00192 ,24353 •.01258 •.01007 -,04297 ,71568 - - -.62741 -3,96943 15,50000 -.03422 \$5995 136 =3,66600 -14.85000 .20851 -.00835 -.00152 -.02797 .51096

AFRODYNAMIC LOADING RESULTS FOR ALPHA # 0.00 DEG.

REFERENCE DUANTITIES #ING SPAN, 8 AREA LENGTM 35,00000 212,50000 6,42000

SPANNISE LUAD DISTRIBUTIONS ************** LOCAL STATION V/(8/2) CHURD, C CNORMAC/(2+8)

6,1554 5,9899 5,8774 5,7384

5,5445 5,3507 5,1795

5.0320 4.8325 4.5800 4.3275

16772 18886 24795

26912

25983 23304

20164

16699

TRADITIONAL PETHOD

- 02857 - 07857 - 11257

+,15457 - 21314 - 27171 - 32343

. 36800

- 42829 - 50457 - 58086

- 1

2 3

4

5

6 7

8

٠

8	

.

i

•			.10477	214107	0.0000
10	50457	4.5800	13877	2.1209	0.0000
11	.58084	4.3275	11632	1.6816	0.0000
12	.65684	4.0759	.09683	1.6630	0.0000
13	73314	3.6234	07912	1.4485	0.0000
14	.80837	3.5738	.06363	1.2464	0.0000
15	88571	3.3184	.04638	1.0205	0.0000
16	.96284	3,0631	.03051		0.0000
*****	**** REGI	DN 1 FLAP 1	********		
		LUCAL			
STATION	X\(6\5)	CHORD, C	CH08⊨+C/(S+8)	CNORM	CA
1	-,11257	1,0168	.14625	10,0487	+2,1375
2	-,15457	,9948	.15154	10,6632	-2,2682
3	-,21314	,9613	.15772	11,4847	-2,4430
4	-,27171	,9278	.15264	11,5165	-2,4497
5	+,32343	. 6982	.13490	10,5131	-2,2365
٠	•,36800	.8727	.05909	4,7391	=1,0082
*****	***** REGI	ON 1 FLAP 2	********		
		LOCAL			
STATION	Y/(8/2)	CHORD, C	CNURM#C/(2+8)	CNORM	CA
1	-,11257	1,0188	.02284	1,5705	•,633•
5	-,15457	,9948	.03756	2,6432	+1,0490
3	-,21314	,9613	04316	3,1429	-1,2710
4	= ,27171	19278	.04351	3,2673	+1,3221
5	•,32343	.898Z	.03962	3,0874	=1,2493
4	•,36800	.8727	.04275	3,4291	-1,3908
*****	***** REG1	ON 1 FLAP 3	********		
		1.004			

CNORM

1.9074

2,2071 2,9530 3,2828

3,4554 3,3993 3,1502

2.8050

2,4189 2,1209 1,6816

C.A.

0.0000

0.0000

0,0000

0.0000

0.0000

0,0000

0,0000

τ.

	-			-	-
STATION	Y/(8/2)	CHOPD, C	CNDRM+C/(2+8)	CNORM	CA
1	+,11257	1,0188	.01703	1,1704	•,7237
5	- 15457	.9948	02543	1,7891	+1,1144
3	.21314	9613	02582	1,8802	=1,1719
4	+,27171	.9278	02505	1,8896	-1,1778
5	• 32543	58982	02402	1.8716	-1,1665
•	= 36800	.8727	.02203	1,7567	+1,1152

(g) Page 7. Figure 8.- Continued.

********* REGIUN 2 FLAP 1 *********

	LOC			
Y/(8/2)	CHORD, C	CNORM+C/(2+B)	CNORM	C A
-,42829	1.1601	04779	2.9839	• 7738
50457	1.0999	03847	2.4485	- 6570
58086	1.0398	03294	2.2176	+ 5951
-,65686	9799	.02839	2.0278	-,5441
***** REGI	ON 2 FLAP 2	********		
	LUCAL			
Y/(8/2)	CHORD, C	CNORH+C/(2+8)	CNORM	C A
-,42829	1.1301	.02673	1,6555	-1.0442
- 50457	1.0699	.02411	1.5774	- 9949
58086	1.0098	02120	1.4735	. 9294
-,05080	,9499	.01923	1,4172	•,8939
**** REGI	ON 3 FLAP 1	********		
	LOCAL			
Y/(8/2)	CHORD, C	CN()###C/(2+8)	CNORM	CA
73314	1.0161	.02132	1.4686	•.5358
.80857	.9494	01913	1.4104	=.5146
-,88571	.8811	01677	1,3323	- 4841
96286	.8129	.01366	1.1761	- 4291
	Y/(R/2) -42829 -550457 -55086 -65686 -45686 -42829 -50857 -58086 -65886 -65886 -73518 -73518 -73518 -88571 -88571 -88571 -88571	LUC Y/(R/2) CHONO, C - 42829 1.1601 - 50857 1.0990 - 58066 1.0398 - 55666 .0398 - 55666 .0099 - 58066 1.0096 - 42829 1.1009 - 58086 1.0098 - 58086 1	LUCIE Y/(R/2) CHORD, C CHORM(C/(2+8)) -42829 1,1601 .04770 -50057 1,0999 .03847 -55086 1,0378 .03294 -55086 .0799 .02839 ***** RFGION 2 FLAP 2 ******** LUCAL Y/(B/2) CHORD, C CNORM(C/(2+8)) -42829 1,0098 .02128 -50866 1,0098 .02128 -55866 .0098 .01923 ***** REGION 3 FLAP 1 ******** LUCAL Y/(B/2) CHORD, C CNORM(C/(2+8)) -73514 1,0161 .02132 -50857 .0494 .01913 -608571 .0811 .01677 -90266 .0129 .01356	LUCA Y/(R/2) CHORD, C CHORM+C/(2+R) CMORM -42829 1.1601 .04770 2.5839 -50856 1.0999 .03847 2.4485 -50866 1.0398 .03294 2.2176 -55866 .9799 .02839 2.0278 ***** REGION 2 FLAP 2 ******** LUCAL Y/(8/2) CHORD, C CHORM+C/(2+B) CMORM -42829 1.1501 .02673 1.6555 -50457 1.0699 .02411 1.5776 -58066 1.0098 .02128 1.4173 -55866 .9499 .01923 1.4172 ***** REGION 3 FLAP 1 ******** LUCAL Y/(8/2) CHORD, C CHORM+C/(2+B) CMORM + (2829 1.101 .02132 1.4172 ***** REGION 3 FLAP 1 ******** LUCAL Y/(8/2) CHORD, C CHORM+C/(2+B) CMORM -73314 1.0161 .02132 1.4606 -70357 .9494 .01913 1.4104 -868571 .8811 .01677 1.3323

NING ALONE FORCE AND MOMENT CREFFICIENTS (NING CODRDINATE SYSTEM) CNN CAN CNN CAN 1.69265 0.00000

INDIVIOUAL FLAP FORCE AND MOMENT COEFFICIENTS AND LUCATIONS AT WHICH FORCES ACT (FLAP COORDINATE SYSTEMS - FLAP LIES IN XF,VF PLANE)

REGION	FLAP	CNF	XF (CNF)	YF (CNF)	CAF	YF (CAF)	CVF	XF(CYF)	CHF
1	1	.22742	17156	-2,24472	.04838	+2,29475	.00883	.18182	-,00880
1	2	06661	24951	=2,67411	. 02696	-2,67536	00397	.35126	+,00309
1	3	04037	29310	=2,54522	.02519	-2,57043	00189	.74495	-,00169
2	i	06487	09902	-2,38048	- 01741	-2.38048	.00549	.08451	=,003#3
S	2	04036	23147	-2,49709	.02546	-2,49709	00562	.22009	-,00178
3	1	03125	20063	-2.43794	• 01140	-2,43794	.00217	.20063	00111

COMPLETE CONFIGURATION FORCE AND MOMENT COEFFICIENTS (#ING COORDINATE SYSTEM) CN CA CL CD CM CD/(CL+CL) 2.69428 =.00000 2.69428 =.00000 =.41548 =.00000

Figure 8.- Continued.

(h) Page 8.

Y/(8/2)	CH040, C				
-,11257	1.01881		1/61	12500	.62500
•		DELTA	P/Os	15,83655	4,20090
≠,15457	.99479		X/C#	.12500	
		DELTA	P/G=	15.43857	5,68777
-,21314	.96130		X/C#	.12500	
		DELTA	P/Qz	10.51220	6.45717
27171	.92781		X/C=	.12500	. 62500
•		DELTA	P/Q=	16,47323	6,51968
•.32343	. 69823		X/C=	12500	. 62500
••••		DELTA	9792	15 18743	5,83870
.36800	. 87274		¥/C#	.12500	
•••••	•••••	DELTA	P/las.	5.24616	4.23209

Y/(8/2) CHORD, C .25000 45000 .85000 x/C= .05000 .65000 HELTA PIGE 5.48445 2.01911 1.09554 1.42619 9115# X/C# .05880 .25000 .45000 .65000 .85000 DELTA P/08 3.64095 1.92376 1.44374 1.44793 2.14914 -,11257 5,87741 .450ch 2/08 .05000 ,25000 . 65000 DELTA #/0# 3,95382 2.33030 2.42340 2,00127 3,27645 -.15457 5.73840 ¥/C# .05000 .25000 .45000 .05000 .85000 2,40592 4.37284 DELTA P/0= 4.15407 2,46014 2,96114 .45000 .21314 5.54454 X/C# _05000 ,25000 .45000 .65000 DELTA P/08 4.27362 2.57384 2.47886 12081 4,82972 .65000 +,27171 5,35067 X/C# .05000 .25000 .45000 .85000 DELTA P/0= 4,28371 2.60848 2,51560 5,95653 4.66454 X/C# .05000 .25000 -,32343 5,17951 .45000 .65000 .85000 DELTA P/9# 4,16788 2.51757 2.07897 2.04611 5.94028 -,36800 5,03199 #/C# .05000 .25000 .45000 .05000 .85000 DELTA P/08 4,01713 2,20933 3,05005 2,37350 2.37484 .05000 .85000 ¥/C# .05000 +,42829 #,83245 .25000 .45000 2,20154 DELTA P/9# 3,81764 1.96061 1,98486 2,12956 .45000 *.50#57 #.57996 X/CH .05000 ,25000 .85000 DELTA P/Q= 3,55262 1.05953 1,71295 1,70756 1.99222 4.32747 ¥/C# -,55086 .05000 .25000 .45000 .05000 .85000 DELTA P/G= 3,22016 1,78514 1,50328 1,42987 1,46939 -165686 4,07592 X/C= .05000 .45000 .05000 .85000 ,25000 DELTA P/0= 2,89630 1,31692 1,24036 1,58476 1,27667 =,73314 3,82345 X/C# .05000 .25000 .45000 .65000 .85000 1.14204 DELTA P/G# 2,56101 1,38670 1,06800 1.08482 ,25000 .65000 .85000 x/C= .05000 45000 DELTA P/08 2,20620 1,18358 ,97255 91847 95511 .05000 -.88571 5.31844 X/Cm _05000 .25000 .45000 .89000 75287 DELTA P/0= 1.79662 78161 .82091 ,95028 *,*4286 3,06311 1/02 .05000 .45000 .65000 ,25000 .R5000 DELTA P/RE 1.24867 .62486 50802 ,504n2

PRESSIRE OTSTRINUTIONS DELTA P/R

(h) Page 8, concluded. Figure 8.- Continued.

X/C= .12500 DELTA P/Q= 3,90010 Y/(8/2) CHORD, C .02500 2,95818 +,42829 1,13006 -,50457 1,06994 .62500 -,58086 1,00983 ,94994 -.65686 X/C# 12500 .62500 DELTA P/G# 2,35085 1,22736 .62500 X/C= .12500 DELTA P/Q# 2,53040 1,22995 X/C= .12500 DELTA P/G# 2,57590 . 62500 Y/(8/2) CHORD, C *,73314 1,01612 1,20335 X/C# .12500 DELTA P/G# 2.46658 ,62500 ,94938 1,27671 X/C= .12500 DELTA P/Q= 2,33549 .62500 .88571 1,19784

Y/(B/2) CHORD, C X/C= 12500 .62500 -,11257 1,01881 DELTA #/0# 1.84620 1.29472 .99479 X/C# .12500 .62500 +,15457 DELTA P/G# 3,28031 2,00618 ,96130 X/C= .12500 DELTA P/G= 3,88282 .62500 -,21314 5,40305 -,27171 X/C= .12500 DELTA P/Q# 4.03042 .42500 .92781 2,50424 •,32343 X/C# .12500 DELTA #/Q# 3,55335 .89823 .62500 2,62249 +,30800 .87274

******** REGION 1 FLAP 2 *********

Y/(8/2) CHORD, C +,11257 1,01881 X/C4 ,12500 DELTA P/Q+ 1,48539 +15457 ,99479 -,21314 .96130 -,27171 .92781 .32343 .89823 87274 -,36800

REARABAR REGION 2 FLAP 1 AREARABAR

Y/(8/2) CHORD, C ,62500 ¥/C# ,12500 -,42829 1,16006 DELTA P/D# 3,52626 2.24150 -.50457 1.09994 0ELTA #/0# 2,99227 .62500 1,90479 -,58086 1,03983 x/C= .12500 .62500 DELTA P/08 2.72453 1,71063 -.65686 .97994 .62500 X/C= .12500 DELTA P/G# 2.51010 1.54559

********* REGION 2 FLAP 2 *********

X/C# 12500 .62500 DELTA P/Q# 2.31661 99441 x/C# .12500 DELTA P/0# 2.19217 ,62500 96260 X/C= .12500 DELTA P/D= 2.05538 .62500 .69158 X/C# .12500 DELTA P/D# 1,98295 ,62500 85141

********** REGION 3 FLAP 1 *********

X/C= .25000 DELTA P/0# 1,46862 ×/C= _25000 DELTA P/04 1.41043

.88112 X/C# .25000 DELTA P/G# 1.33225

,81247 ¥/C= .25000 DELTA P/G= 1.17610 -. 96286

	SPANAISE LI	AD DISTRIB	UTIONS		
****	RARER LEFT	WING PANEL	********		
		LOCAL			
STATION	Y/(8/2)	CHURD, C	CNORM+C/(2+8)	CNDRH	C A
1	-,^2857	6,1554	.16772	1.9074	0,000
5	■_07857	5,9899	18886	2,2071	0_000
٤	• 11257	5,8774	.14276	1,7002	0.0000
4	- 15457	5,7384	.16067	1,9600	0.0000
S	-,21314	5,5445	.16522	2,0859	0,0000
6	-,27171	5,3507	15447	5,0508	0,0000
7	•,32343	5,1795	,13415	1,8131	0,0000
•	 36800	5.0320	.20164	2,8050	n.0000
9	• • • 5 8 5 4	4.8325	.16699	2,4189	0,0000
10	- 50457	4,5800	13877	2,1209	0,0000
11	 58086 	4.5275	.11632	1.8816	0,0000
15	02000	4,0759	.09593	1.6630	0.0000
13	-,73314	3,8234	_ 17912	1.4485	0,000
14	-,80857	3,5738	.06363	1.2464	0.0000
15	88571	3,3184	04838	1.0205	0,0000
16	-,96266	3,0631	.03051	.6972	0.0000
****	***** REGI	DN 1 FLAP 1	********		
		LOCAL			
STATION	Y/(8/2)	CHURD, C	CNORH+C/(2+8)	CNORM	C A
1	-11257	1 0188	14625	10.0487	-2.1375
S	- 15457	.9948	.15154	10,6632	-2,2682
3	-,21314	.9613	.15772	11,4847	-2,4430
4	27171	.9278	.15264	11,5165	=2,4497
5	-,32343	,8982	13490	10,5131	-2,23+3
6	•,36800	.0727	.05909	4,7391	-1.0082
*****	APRAA MEPT	IN 1 PLAP 2	*********		
	N 4 / D 433	EULAL ENUDA A		C	
BIAILON	7/(4/2)		CNUMM#C/(2#8)	LNURH	
1	11657	1,0105		1,5705	-1 0190
Ę	- 31314		.03/30	2,0432	-1.0840
,	- 21314	, 4013	.04310	1424	-1,2/10
	- 27171	. 42/0	.04331	3,28/3	-1,3221
2	-,32343	.0902	-03465	5.0879	-1,2493
•	•.38000	, 8727	.04675	3,429]	-1,3409
*****	AAAAA DECTI		********		
		LDCAL			
STATION	Y/(P/2)	CHURD, C	CND#H+C/(2+8)	CNORM	C A
1	11257	1.0188	.01703	1.1704	+.7239
ź	15457	9948	.02543	1,7891	-1.1144
3	- 21314	9613	.02582	1.8802	-1.1719
4	-,27171	9278	02505	1,8896	-1 1778
5	- 32343	.8982	.02402	1.0710	-1.1645
•	.36800	8727	2203	1.7667	-1.1152

AEPEDYNAMIC LEADING RESULTS FOR ALPHA # 0.00 DEG.

REFERENCE QUANTITIES NING SPAN, 6 AREA LENGTH 35.00000 212.50000 6.42000

.

FORCES OWITTED FROM PANELS 11 12 16 17 21 22 26 27 31 32

_

.]

Ì.

(i) page 9.Figure 8.- Continued.

97

.

:

.

.

(1) Page 9, concluded. Figure 8.- Continued.

11

CU-46	PLETE CONFIGUR	ATION FORCE	AND HOMENT	COEFFICIENTS	
	(*	ING COURDIN	TE SYSTEM		
C N	C A	Cl	CD	C M	CD/(CL+CL)
2,39496	.00000	2.39496	-,00000	-,49894	-,00000

********* REGIUN 2 FLAP 1 ********* LUCAL

********* REGION 2 FLAP 2 ******** LOCAL

********* REGION 3 FLAP 1 ********* LOCAL

HING ALONE FORCE AND MOMENT CREEFICIENTS (HING COORDINATE SYSTEM)

CL⊭

1,39334

YF (CNF)

-2,29472

-2.67411

-2,56522

-2.38048

-2,49709

-2,43794

1,1601

1,0999

1.0398

CHURD, C

1,1301

1,0699

1,0198

1,0161

9494

8811

8129

9499

CHURD, C CNORM+C/(2+B)

CHORD, C CNORM+C/(2+8)

C D H

0.00000

INDIVIDUAL FLAP FORCE AND HUMENT COEFFICIENTS AND LOCATIONS AT WHICH FORCES ACT (FLAP COORDINATE SYSTEMS - FLAP LIES IN XF, YF PLANE)

CAF

.02696

-,02519

- 01741

.,02546

-.01140

04770

03847

03294

02839

CNORM+C/(2+8)

.02673

.02411

.02126

,01923

.02132

01913

.01677

.01366

4/(8/2)

-,42829

-,50457

- 58086

+.65686

Y/(8/2)

-,42829

.50457

- 5A086

-. 65686

Y/(8/2)

• 73314

.80857

.88571

.96286

CAN

0.00000

XF(CNF)

17156

24951

29310

\$09902

23147

20063

STATION

2

3

a

STATION

2

3 4

STATION

1

2

3

4

CNW 1.39334

CNF

22742

06661

04037

.00487

,04036

03125

REGION FLAP

1 1

1 2

1 3

2 1

S 5

3 1 CNORM

2,8839

2,4485

2.2176

2.0278

CN(1HH

1.6555

1.4735

1,4172

CNORM

1.4686

1,4104

1,3323

1,1761

C Mw

.01989

YF(CAF)

-2,29475

-2,67536

.2.57043

-2.38048

-2.49709

-2.43794

C A

-,7738

- 6570

. 5951

5441

C &

-1,0442

9949 9294

-,8939

C A

•,5358

-.5146

4861

• 4291

CYF

.00883

.00397

00189

00349

00562

00217

XF(CYF)

,18182

35126

,74495

08451

.22009

.20063

CHF

.........

.00309

-,00169

.,00343

.00178

.00111

6	۵
•	x

INDUCED VELOCITIES AT SPECIFIED FIELD POINTS

ISSUES WING/FLAP SECONDARY WING/FLAP+JET+VINF SECOND

i

1

			PERTURNA	TION VELOC:	11153			
x	۲	Z	U/VINF	V/VINF	#/VINF	U/VINF	V/VINF	W/VINF
-3,12000	-3,73000	•.02500	.03105	•.02037	09951	=5,10382	.16240	09347
-3,12000	-3.73040	-,05000	- 02021	. 02243	.09688	-8,97772	- 30706	09861
-3,12000	-3,73000	-10000	- 11858	02635	.08676	-9,42103	.32430	11068
-3,12000	=3,73000	-,20000	.28675	.03285	05301	-9.59207	.33206	- 12144
-3,12000	-3,73000	-,30000	40719	03718	01395	·9.71448	+.33769	.12768
-3,12000	-3,73000	-,40000	48396	03960	02005	-9.79262	- 34144	- 14028
=3,12000	-3,73000	- 50000	- 52862	04065	04572	=9.83410	. 34368	- 16348
-3,12000	-3,73000	.55000	- 5424R	÷.04082	05562	-8.36598	28994	18978
-3,12000	-3,73000	57500	- 54781	04083	05994	-2,92109	.08679	.12452
-3,12000	-3,73000	-,60000	- 55223	04081	06388	-1.60829	03712	12054
=3,12000	-3.73000	.,70000	- 56285	.04038	07651	-1.54860	05177	12342
+3,12000	-3,73000	-,80000	. 56563	.03957	08539	•1,55117	02855	.13197

(j) Page 10.Figure 8.- Concluded.

1

h

1. Report No. NASA CR-3005	2. Government Acces	sion No.	3. Recipient's Catalo	ng No.			
4. Title and Subtitle A COMPUTER PROGRAM TO TUDINAL AERODYNAMIC C UPPER-SURFACE-BLOWN W	THE LONGI- ICS OF NFIGURATIONS	5. Renort Date August 1978 6. Performing Organization Code 369/C					
7. Author(s) Michael R. Mendenhall		8. Performing Organization Report No. NEAR TR 158					
9. Performing Organization Name and Address Nielsen Engineering & 510 Clyde Avenue Mountain View, Califo	Research, rnia 94043	Inc.	10. Work Unit No. 11. Contract or Grant NAS1-1408	t No. 6			
12. Sponsoring Agency Name and Address NASA Langley Research Cent	er		14. Sponsoring Agenc	r Report			
15. Supplementary Notes Langley Technical Mon Final Report	itors: Robe	ert C. Goetz	and Boyd Po	erry III			
16. Abstract This document is a user's manual for the computer program developed to calculate the longitudinal aerodynamic characteristics of upper surface blown (USB) wing-flap combinations. A vortex-lattice lifting-surface method is used to model the wing and multiple flaps, and the engine wake model consists of a series of closely spaced vortex rings with rectangular cross sections. The jet wake is positioned such that the lower boundary of the jet is tangent to the wing and flap upper surfaces. The two potential flow models are used to calculate the wing-flap loading distribution including the influence of the wakes from up to two engines on the semispan. The method is limited to the condition where the flow and geometry of the configurations are symmetric about the vertical plane containing the wing root chord. The results available from the program include total configuration forces and moments, individual lifting-surface load distributions, pressure distributions, flap hinge moments, and flow field calculation at arbitrary field points.							
the program, instruct of the output, progra	ions for pr m listing,	and sample c	input, a ases.	description			
17. Key Words (Suggested by Author(s)) Upper Surface Blown F USB STOL	18. Distribution Statemen FEDD DIST Subjec	^t RIBUTION t Category	02				
19. Security Classif. (of this report) UNCLASSIFIED	20. Security Classif. (c UNCLASSIF	of this page) 'IED	21. No. of Pages 101	22. Price*			
Available: NASA's Industrial Application Centers NASA-Langley, 1978							

¥.
