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TECHNICAL REPORT BRL-TR-2892

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**ANALYTIC SOLUTIONS TO THE CLOSED BOMB**

FREDERICK W. ROBBINS  
FRANZ R. LYNN

MARCH 1988

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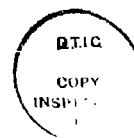
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program. The first assumes the covolume equals the reciprocal of the density; the second removes this restriction. /

# TABLE OF CONTENTS

|                                                                                                          | Page |
|----------------------------------------------------------------------------------------------------------|------|
| I. INTRODUCTION.....                                                                                     | 5    |
| II. GLOSSARY OF SYMBOLS.....                                                                             | 5    |
| III. ASSUMPTIONS.....                                                                                    | 6    |
| IV. ANALYSIS.....                                                                                        | 7    |
| V. FIRST SOLUTION: RESTRICTION ON THE COVOLUME.....                                                      | 10   |
| VI. SECOND SOLUTION: THE GENERAL COVOLUME.....                                                           | 12   |
| VII. VALIDATION CHECK OF THE GENERAL COVOLUME ANALYSIS.....                                              | 14   |
| REFERENCES.....                                                                                          | 15   |
| APPENDIX A FORTRAN LISTING OF BOTH ANALYSES AND A TEST<br>COMPUTER RUN OF GENERAL COVOLUME ANALYSIS..... | 17   |
| APPENDIX B AN IBHVC2 COMPUTER RUN TO COMPARE TO THE TEST<br>COMPUTER RUN .....                           | 53   |
| DISTRIBUTION LIST.....                                                                                   | 85   |



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## I. INTRODUCTION

Closed vessel tests are routinely performed to determine the linear burning rates of solid propellant for interior ballistic studies. There are several established techniques<sup>1,2,3,4,5</sup> for calculating burning rates from the experimentally recorded pressure-time data together with relevant properties of the test sample, igniter, and pressure vessel.

Generation of synthetic pressure traces to simulate closed vessel firings is done to validate new burning rate reduction programs, test extensions to existing models, assess the sensitivity of computational algorithms to different methods of smoothing and differentiating the fundamental pressure data, and provide predictions for guiding the decisions of test engineers. These needs became acutely evident in the JANNAF-sponsored round robin on closed bomb methods<sup>6</sup> when some easily communicated validation and comparison procedure would have been very useful.

The usual procedure<sup>1,7</sup> is the numerical integration of a burning rate law to yield the depth burned into the individual propellant grains of a charge with specified thermodynamic properties. The grain geometry determines burning surface area implying the mass-generation rate of combustion gases, which is in turn integrated. Once the mass of evolved gas is known, the energy equation and gas law yield the gas temperature and pressure at that instant. If  $\dot{P}$  is required, it may either be found analytically from the gas law and energy equation or via numerical differentiation of the pressure.

Alternatively, the general problem of synthesizing closed vessel pressure data can be simplified by means of a number of assumptions which then allow two closed-form finite solutions for a charge of single-perforated grains as detailed below. Seven algebraic formulas are derived which permit easy computer calculation of the pressure, depth burned, mass burned, their respective derivatives, and instantaneous surface area which can then be used as input to a burning rate reduction program. The first assumes the covolume equals the reciprocal of the density; the second removes this restriction.

## II. GLOSSARY OF SYMBOLS

|   |                                                  |
|---|--------------------------------------------------|
| a | constant grouping                                |
| b | constant grouping                                |
| c | constant grouping                                |
| d | initial perforation diameter of propellant grain |
| D | initial outer diameter of propellant grain       |
| f | constant grouping                                |
| g | constant grouping                                |
| H | energy loss proportionality constant             |
| k | constant grouping                                |

|             |                                                         |
|-------------|---------------------------------------------------------|
| $L$         | initial length of propellant grain                      |
| $m_a$       | mass of air                                             |
| $m_i$       | mass of igniter                                         |
| $m_p$       | mass of propellant burned at time $t$                   |
| $m_{po}$    | original mass propellant                                |
| $\dot{m}_p$ | mass-generation rate of propellant gases at time $t$    |
| $M$         | molecular weight of igniter and propellant gases        |
| $P$         | gas pressure at time $t$                                |
| $P_{act}$   | actual maximum pressure with energy loss                |
| $P_{theo}$  | theoretical maximum pressure with no energy loss        |
| $\dot{P}$   | time-rate-of-change of pressure at time $t$             |
| $R$         | universal gas constant                                  |
| $S$         | burning surface area of the charge                      |
| $t$         | elapsed time from ignition                              |
| $T$         | flame temperature of propellant, igniter gases, and air |
| $T_g$       | gas temperature                                         |
| $V(x)$      | volume of each propellant grain at distance burned $x$  |
| $V_b$       | volume of empty bomb                                    |
| $V_{free}$  | free volume for combustion gases                        |
| $x$         | depth burned into each grain at time $t$                |
| $x_{ext}$   | depth burned at grain extinction                        |
| $\dot{x}$   | linear burning rate at time $t$                         |
| $\alpha$    | exponent in burning rate law                            |
| $\beta$     | coefficient in burning rate law                         |
| $\eta$      | covolume of propellant and igniter gases                |
| $\rho$      | density of solid propellant                             |

### III. ASSUMPTIONS

A number of simplifying assumptions are made in order to render an analytic solution possible for a closed-form calculation. The propellant is taken to possess constant density, flame temperature, molecular weight, and covolume. The igniter material and air, if present, have the same molecular weight, flame temperature, heat capacity, and covolume as the propellant during combustion. Energy loss is considered as being proportional to the mass of propellant burned. The combustion gases are completely mixed, producing a uniform pressure and temperature throughout the bomb at all times related by the Noble-Abel equation of state. The propellant grains are identical single-perforated cylinders all the surfaces of which are ignited at  $t = 0$  and burn uniformly thereafter.

according to the linear burning rate law  $\dot{x} = \beta P^\alpha$  with  $\alpha = 1$ . The igniter, by contrast, is all burned at  $t = 0$ .

#### IV. ANALYSIS

For a charge of identical single-perforated propellant grains of uniform density, the mass-fraction burned at depth  $x$  may be expressed as

$$\frac{m_p}{m_{p0}} = \frac{V(0) - V(x)}{V(0)} \quad (4.01)$$

$$= \frac{\frac{1}{4} \pi L (D^2 - d^2) - \frac{1}{4} \pi (L - 2x) [(D - 2x)^2 - (d + 2x)^2]}{\frac{1}{4} \pi L (D^2 - d^2)}$$

that, upon rearrangement, yields

$$m_p = \frac{8m_{p0}}{L(D - d)} \left[ \frac{1}{4} (D - d + 2L)x - x^2 \right] \quad (4.02)$$

or

$$m_p = a(2bx - x^2) \quad (4.03)$$

with the constant groupings

$$a \equiv \frac{8m_{p0}}{L(D - d)} \quad (4.04)$$

and

$$b \equiv \frac{D - d + 2L}{8}$$

which is valid for depths burned over the range

$$0 \leq x \leq x_{\text{ext}} = \frac{1}{2} \min[L, \frac{1}{2}(D - d)]. \quad (4.05)$$

We write the equation of state in the form

$$PV_{\text{free}} = (m_p + m_i + m_a) \frac{R}{M} T_g$$

where

$$V_{\text{free}} = V_b - m_{p_0}/\rho - m_p(\eta - 1/\rho) - m_i\eta - m_a\eta \quad (4.06)$$

with

$$T_g = (m_p + m_i + m_a - m_p H) T / (m_p + m_i + m_a).$$

The heat loss correction factor  $m_p H$  is derived from

$$(m_p + m_i + m_a) c_v (T - T_g) = \text{heat loss}$$

where  $c_v$  is the heat capacity at constant volume

or

$$T_g = \frac{(m_p + m_i + m_a) c_v T - \text{heat loss}}{(m_p + m_i + m_a) c_v}.$$

Letting heat loss =  $H c_v T m_p$

then

$$T_g = \frac{(m_p + m_i + m_a - m_p H) T}{(m_p + m_i + m_a)}.$$

Substituting  $T_g$  into the equation of state

$$PV_{\text{free}} = \frac{R}{M} T(m_p + m_i + m_a - m_p H). \quad (4.07)$$

Since the actual maximum pressure,  $P_{\text{act}}$ , occurs when all the propellant is burned the numerical value of  $H$  is obtained from (4.07) yielding

$$H = 1 - \left\{ \frac{P_{\text{act}}}{RT} (v_b - (m_{p_0} + m_i + m_a)\eta) - (m_i + m_a) \right\} / m_{p_0}$$

$$\text{with} \quad 0 < P_{\text{act}} < P_{\text{theo}}. \quad (4.08)$$

With our original assumptions, substitution of

$$\dot{x} = \beta P^a = \beta P, \quad (4.09)$$

(4.06) and (4.03) into (4.07) then produces the differential equation

$$\begin{aligned} \frac{\dot{x}}{\beta} [v_b - m_{p_0}/\rho - a(2bx - x^2)(\eta - 1/\rho) - (m_i + m_a)\eta] \\ = [m_i + m_a + a(2bx - x^2)(1 - H)] \frac{RT}{M} \end{aligned} \quad (4.10)$$

subject to the initial condition  $x=0$  at time  $t=0$ .

Further, the total burning surface area (that is, the product of the number of grains and the surface area per grain) is

$$S = \frac{m_{p_0}}{\rho v(0)} \cdot \left\{ \pi(L - 2x)(D - 2x) + \pi(L - 2x)(d + 2x) + 2 \cdot \frac{1}{4} \pi \cdot [(D - 2x)^2 - (d + 2x)^2] \right\} \quad (4.11)$$

or

$$s = \frac{2a}{\rho} (b - x)$$

with a and b given in (4.04).

#### V. FIRST SOLUTION: RESTRICTION ON THE COVOLUME

We can suppose that the increase in free volume due to the burning of the charge is just balanced by the covolume taken up by the combustion gases. That is, we assume

$$\eta = \frac{1}{\rho}. \quad (5.01)$$

In this case we can simplify and rearrange (4.10) to produce

$$\dot{x} = \frac{\beta R T a (1 - H)}{M[V_b - m_{p_0}/\rho - (m_i + m_a)\eta]} \left[ \frac{m_i + m_a}{a(1-H)} + 2bx - x^2 \right]$$

or

$$\dot{x} = k[c^2 - (x - b)^2] \quad (5.02)$$

for the constant groupings

$$k \equiv \frac{\beta R T a (1 - H)}{M[V_b - m_{p_0}/\rho - (m_i + m_a)\eta]}$$

and

$$c^2 \equiv b^2 + \frac{m_i + m_a}{a(1 - H)}. \quad (5.03)$$

Making the substitution  $u = x - b$  implies

$$\dot{u} = k[c^2 - u^2]$$

or

$$\frac{du}{c^2 - u^2} = k dt, \quad (5.04)$$

the left hand side of which is a standard form once we observe that

$$b = 1/4 [1/2 (D - d) + L] > 1/4 \cdot 2 \min[L, 1/2 (D - d)] = x_{\text{ext}} > x \quad (5.05)$$

which guarantees that

$$c > b > b - x = |x - b| = |u| > 0 \quad (5.06)$$

so that

$$c^2 > u^2.$$

Then the solution is

$$\begin{aligned} \frac{1}{2c} \cdot \ln \left[ \frac{c+u}{c-u} \right] &= kt + C_1 \\ \frac{c-b+x}{c+b-x} &= C_2 e^{2kct}. \end{aligned} \quad (5.07)$$

But the required initial condition  $x=0$  at time  $t=0$  forces the integration constant

$$C_2 = \frac{c-b}{c+b} \quad (5.08)$$

which, when substituted into (5.07) produces, after some rearrangement,

$$x = \frac{e^{2kct} - 1}{\frac{1}{c-b} + \frac{1}{c+b} e^{2kct}} \quad (5.09)$$

which is valid for all times  $t$  such that

$$0 \leq t \leq \frac{1}{2kc} \cdot \ln \left[ \frac{c+b}{c-b} \cdot \frac{c-b+x_{\text{ext}}}{c+b-x_{\text{ext}}} \right]. \quad (5.10)$$

Once the special constant groupings have been computed, calculations at any time  $t$  in the above range proceed as follows. The depth burned,  $x$ , is found from (5.09), the linear burning rate,  $\dot{x}$ , from (5.02), the pressure,  $P$ , from (4.09), surface area,  $S$ , from (4.11), and the mass of propellant burned,  $m_p$ , from (4.03). We differentiate (4.09) in conjunction with (5.02) to determine  $\dot{P}$

$$\dot{P} = \frac{\dot{x}}{\beta} = \frac{-2k}{\beta} (x-b)\dot{x} \quad (5.11)$$

and differentiate (4.03) to determine  $\dot{m}_p$

$$\dot{m}_p = 2a(b-x)\dot{x}. \quad (5.12)$$

## VI. SECOND SOLUTION: THE GENERAL COVOLUME

If we place no restrictions on the covolume we can simplify (4.10) to

$$\begin{aligned} \frac{\dot{x}}{\beta} a(\eta - 1/\rho) & \left[ \frac{V_b - m_p/\rho - (m_i + m_a)\eta}{a(\eta - 1/\rho)} - 2bx + x^2 \right] \\ & = \frac{RT}{M} a(1-\eta) \left[ \frac{m_i + m_a}{a(1-\eta)} + 2bx - x^2 \right] \end{aligned}$$

or

$$\dot{x}[f + (x-b)^2] = g[c^2 - (x-b)^2] \quad (6.01)$$

for the constant groupings

$$f \equiv \frac{V_b - m_p / \rho - (m_i + m_a) \eta}{a(\eta - 1/\rho)} - b^2$$

and

$$g \equiv \frac{\beta RT(1 - H)}{M(\eta - 1/\rho)}. \quad (6.02)$$

As in the previous case, we make the substitution  $u = x - b$  and solve the resulting standard form thusly

$$\dot{u} \left[ \frac{f + u^2}{c^2 - u^2} \right] = g$$

$$\left[ \frac{f + c^2}{c^2 - u^2} - 1 \right] du = g dt$$

$$(f + c^2) \frac{1}{2c} \cdot \ln \left[ \frac{c + u}{c - u} \right] - u = gt + c_3$$

$$\frac{f + c^2}{2c} \cdot \ln \left[ \frac{c - b + x}{c + b - x} \right] - x + b = gt + c_3. \quad (6.03)$$

Imposition of the initial condition  $x=0$  at time  $t=0$  forces the integration constant

$$c_3 = \frac{f + c^2}{2c} \cdot \ln \left[ \frac{c - b}{c + b} \right] + b \quad (6.04)$$

so that elapsed time may be expressed as a function of depth burned

$$t = \frac{f + c^2}{2cg} \cdot \ln \left[ \frac{c - b + x}{c + b - x} \cdot \frac{c + b}{c - b} \right] - \frac{x}{g} \quad (6.05)$$

for any  $x$  up to  $x_{ext}$ . Because it is not possible to solve this equation for  $x$  as a function of  $t$  in a finite closed form, this method cannot be used in applications where a constant time between consecutive points is a requirement unless we are willing to iterate (6.05) with successive approximations to  $x$ .

Once the constant groupings have been computed, calculations at any depth burned  $x$  in the allowed range proceed as follows. The elapsed time,  $t$ , is found from (6.05), the linear burning rate,  $\dot{x}$ , from (6.01), the pressure,  $P$ , from (4.09), surface area,  $S$ , from (4.11), the mass of propellant burned,  $m_p$ , from (4.03), and the mass-generation rate,  $\dot{m}$ , from (5.12). We differentiate (4.09) in conjunction with (6.01) to determine  $\dot{P}$

$$\dot{P} = \frac{\ddot{x}}{\beta} = \frac{-2g(f + c^2)}{\beta} \cdot \frac{(x - b)\dot{x}}{[f + (x - b)^2]^2}. \quad (6.06)$$

## VII. VALIDATION CHECK OF THE GENERAL COVOLUME ANALYSIS

In Appendix A a FORTRAN listing is provided which incorporates solution techniques for both the restriction on the covolume and the general covolume (with an iterative procedure to get constant-time increments). A sample problem is also provided which was run with the general covolume solution technique with no heat loss. The output can be compared to the same run on IBHVG2<sup>8</sup> (a lumped parameter interior ballistic computer code) which is provided in Appendix B. As can be seen, all eight calculated variables are the same, as they should be, within the print accuracy of the computer codes. Similar runs and comparisons have been performed for the restriction on the covolume analysis with the same excellent agreement with IBHVG2.

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APPENDIX A  
FORTRAN LISTING OF BOTH ANALYSES  
AND A TEST COMPUTER RUN OF GENERAL COVOLUME ANALYSIS

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C  METHOD DUE TO WORK BY  F. W. ROBBINS  &  F. LYNN
C  DATE COMPLETED : OCTOBER 22, 1986
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C
      PROGRAM SPERF
C
CCCCCCCCCCCCCCCCCCCC**
C
C  A SERIES OF SUBROUTINES TO CALCULATE, FROM A CLOSED BOMB
C  SOLUTION, THE PRESSURE-TIME CURVE FOR A CLOSED BOMB.
C  ASSOCIATED VARIABLES CALCULATED ARE DISTANCE BURNT, BURNING
C  RATE, DP/DT, MASS BURNT, DM/DT, AND THE SURFACE AREA.
C  THERE ARE TWO POSSIBLE SOLUTIONS :
C
C      SOLN1 --> COVOLUME = 1/DENSITY,
C
C      SOLN2 --> COVOLUME <> DENSITY, BUT AN ITERATIVE
C                  PROCEDURE IS REQUIRED TO GET TIME AND
C                  PRESSURE AT A CONSTANT DELTA T
C
C  ANALYSIS ASSUMES A SINGLE PERFORATED GRAIN WITH AN IGNITOR
C  (ALL BURNT AT TIME = 0) WITH OR WITHOUT AIR OR HEAT LOSS
C  (AIR AND THE IGNITOR HAVE THE SAME THERMOCHEMISTRY AS THE
C  PROPELLANT. A BPN BURNING RATE LAW IS ASSUMED WITH N = 1.
C
CCCCCCCCCCCCCCCCCCCC**
      IMPLICIT DOUBLE PRECISION (A-H,O-Z)
C
      COMMON /SPECS/ BIGD,D,EL,EMI,EMPO,EMW,VB,BETA,R,TF,RHO,
+  ETA,PACT,EMAIR
      COMMON METHOD
      CHARACTER HH*1
      DATA HH/'Z'/'0C'/'
      DATA NINP/7/,NOUT/8/,TOL/1.0E-04/
C
CCCCCCCCCCCCCCCCCCCC**
C
C  THE INPUT VARIABLES ARE :
C  BIGD - OUTER GRAIN DIAMETER
C  D - PERFORATION DIAMETER
C  EL - GRAIN LENGTH
C  EMI - MASS OF THE IGNITOR
C  EMPO - MASS OF THE PROPELLANT
C  EMW - MOLECULAR WEIGHT
C  VB - VOLUME OF THE BOMB
C  BETA - BURNING RATE COEFFICIENT
C  TF - FLAME TEMPERATURE
C  RHO - DENSITY OF PROPELLANT
C  ETA - COVOLUME (IF ETA <= 0 OR 1/RHO, SOLN1 IS USED)
C  EMAIR - MASS OF AIR

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C PACT - ACTUAL MAXIMUM PRESSURE
C (USED TO DETERMINE HEAT LOSS; IF <= 0, HEAT LOSS
C NOT CONSIDERED)
C R - UNIVERSAL GAS CONSTANT
C (USED TO CORRECT FOR UNITS
C R = 33378.926 IN-LB F/LB MOLE DEGREE K
C DIMENSIONS OF GRAIN IN INCHES, BURNING RATE
C IN INCHES/SEC, WEIGHT IN POUNDS, VOLUME IN
C CUBIC INCHES, FLAME TEMPERATURE IN DEGREE K,
C DENSITY IN POUNDS/CUBIC INCH, COVOLUME IN
C CUBIC INCHES/POUND AND PRESSURE IN POUNDS/
C SQUARE INCH).
C
CCCCCCCCCCCCCCCCCCCC**
C
      OPEN(7,FILE='ENTER',STATUS='OLD')
      OPEN(8,FILE='OUTSYN',STATUS='NEW')
      REWIND(7)
      REWIND(8)
      READ (NINP,*) BIGD,D,EL,EMI,EMPO,EMW,VB,BETA
      READ (NINP,*) TF,RHO,ETA,EMAIR,PACT,R
      WRITE(NOUT,99)HH
      WRITE (NOUT,100) BIGD,D,EL,EMI,EMPO,EMW,VB,BETA,TF,
+   RHO,ETA,EMAIR,PACT,R
      METHOD = 2
      TESTR = 1.0/RHO
C
C METHOD = 1 FOR SOLN1 (COVOLUME = 1/DENSITY)
C METHOD = 2 FOR SOLN2 (COVOLUME <> 1/DENSITY)
C
      IF ( ABS( ETA - TESTR ) .LT. TOL ) METHOD = 1
      IF ( ETA .LT. TOL ) METHOD = 1
      CALL SBOMB
      99 FORMAT(A1)
      100 FORMAT (1X,26HGRAIN DIAMETER=,F20.6,/1X,
+           26HPERFORATION DIAMETER=,F20.6,/1X,
+           26HGRAIN LENGTH=,F20.6,/1X,
+           26HIGNITOR MASS=,F20.6,/1X,
+           26HPROPELLANT MASS=,F20.6,/1X,
+           26HMOLECULAR WEIGHT=,F20.6,/1X,
+           26HBOMB VOLUME=,F20.6,/1X,
+           26HBURNING RATE COEFFICIENT=,F20.6,/1X,
+           26HFLAME TEMPERATURE=,F20.6,/1X,
+           26HDENSITY=,F20.6,/1X,
+           26HCOVOLUME=,F20.6,/1X,
+           26HAIR MASS=,F20.6,/1X,
+           26HACTUAL MAXIMUM PRESSURE=,F20.6,/1X,
+           26HUNIVERSAL GAS CONSTANT=,F20.6//)
      CLOSE(7)
      CLOSE(8)
      END
C
C
      SUBROUTINE SBOMB
      IMPLICIT DOUBLE PRECISION (A-H,O-Z)

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COMMON /SPECS/ BIGD,D,EL,EMI,EMP0,EMW,VB,BETA,R,TF,RHO,
+ ETA,PACT,EMAIR
COMMON /CALCS/ T,TEXT,X,XEXT,XDOT,P,PDOT,EMP,EMPDOT,S
COMMON METHOD
CHARACTER HH*1
DATA NSTEP/1200/,ERROR/1.0E-7/,NOUT/8/
DATA MAXLIN /54/,HH/Z'OC'/
LCOUNT = 1
X = 0
T = 0
IF (METHOD .EQ. 1) GOTO 10
C
C INITIALIZE CONSTANTS
C
    CALL SOLN2 (0)
    GOTO 20
C
C INITIALIZE CONSTANTS
C
    10 CALL SOLN1 (0)
    20 CONTINUE
    WRITE(NOUT,98)HH
    WRITE(NOUT,101)
C
C GET DELTA T
C
    DELT = TEXT/NSTEP
C
C GET INITIAL GUESS FOR DISTANCE BURNT FOR
C USE IF METHOD = 2
C
    X = XEXT/NSTEP
    DO 30 I = 1,NSTEP
    IF (METHOD .NE. 1) GOTO 100
C
C USE METHOD 1
C
    T = I*DELT
    CALL SOLN1 (I)
    GOTO 200
    100 CONTINUE
C
C USE METHOD 2 WITH NEWTON-RAPHSON ITERATIVE PROCEDURE
C
    CALL SOLN2 (I)
    IF (ABS(1.0-T/(I*DELT)) .LT. ERROR) GOTO 200
    X = X-(T-I*DELT)*XDOT
    IF (X .LT. 0.0) X = (X+(T-I*DELT)*XDOT)/10.
    GOTO 100
    200 CONTINUE
    IF (LCOUNT .LE. MAXLIN) GOTO 5
    WRITE(NOUT,98)HH
    WRITE(NOUT,101)
    LCOUNT = 1
    5 CONTINUE

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        WRITE (NOUT,99) T,P,PDOT,XDOT,EMP,EMPDOT,S,X
        LCOUNT = LCOUNT + 1
30    CONTINUE
98    FORMAT(A1)
99    FORMAT (1X,8E12.5)
101   FORMAT (5X,4HTIME,6X,8HPRESSURE,6X,4HPDOT,8X,
+           4HXDOT,2X,16HPROPELLANT BURNT,2X,4HMDOT,
+           7X,7HSURFACE,2X,14HDISTANCE BURNT//)
        RETURN
        END
C
C
C
C
        SUBROUTINE SOLN1(IPASS)
            IMPLICIT DOUBLE PRECISION (A-H,O-Z)
            COMMON /SPECS/ BIGD,D,EL,EMI,EMPO,EMW,VB,BETA,R,TF,RHO,
+           ETA,PACT,EMAIR
            COMMON /CALCS/ T,TEXT,X,XEXT,XDOT,P,PDOT,EMP,EMPDOT,S
            COMMON METHOD
            DATA NOUT/8/
C
C SOLUTION METHOD 1 --> COVOLUME = 1/DENSITY
C
        IF(IPASS.GT.0) GOTO 100
C
C
C INITIALIZE CONSTANTS, SET COVOLUME <-- 1/DENSITY
C
        ETA=1.0/RHO
        A=8.0*EMPO/(EL*(BIGD-D))
        B=(BIGD-D+2.0*EL)/8.0
C
C CALCULATE THEORETICAL MAXIMUM PRESSURE
C (NO ENERGY LOSS)
C
        PTHEO=(EMPO+EMI+EMAIR)*R*TF/EMW/(VB-(EMPO+EMI+EMAIR)*ETA)
        WRITE (NOUT,79) PTHEO
C
C DETERMINE IF HEAT LOSS IS TO BE CONSIDERED
C
        IF (PACT .LE. 1.E-8) PACT = PTHEO
C
C CALCULATE HEAT LOSS FACTOR
C
        H=1.0-(PACT*EMW*(VB-(EMPO+EMI+EMAIR)*ETA)/(R*TF)-
+ (EMI+EMAIR))/EMPO
        XK=BETA*R*TF*A*(1.-H)/(EMW*(VB-EMPO/RHO-(EMI+EMAIR)*ETA))
        C=SQRT(B**2+(EMI+EMAIR)/(A*(1.-H)))
C
C CALCULATE DEPTH BURNED AT TIME OF GRAIN EXTINCTION
C
        XEXT=0.5*DMIN1(EL,0.5*(BIGD-D))
C
C CALCULATE TIME OF GRAIN EXTINCTION

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C      TEXT=1.0/(2.0*XK*C)*DLOG((C**2-B**2+XEXT*(C+B))/
$ (C**2-B**2-XEXT*(C-B)))
      WRITE(NOUT,77) H
      WRITE(NOUT,78) METHOD
      WRITE(7,77) H
      WRITE(7,78) METHOD

C
C      CALCULATE VARIABLES
C
C      DISTANCE BURNED
C      100 X=(EXP(2.0*XK*C*T)-1.0)/(1.0/(C-B)+1.0/(C+B)*EXP(2.0*XK*C*T))
C
C      BURNING RATE
C      XDOT=XK*(C**2-(X-B)**2)
C
C      PRESSURE
C      P=XDOT/BETA
C
C      RATE OF CHANGE OF PRESSURE
C      PDOT=-2.0*XK/BETA*(X-B)*XDOT
C
C      MASS PROPELLANT BURNT
C      EMP=A*(2.0*B*X-X**2)
C
C      RATE OF CHANGE OF MASS OF PROPELLANT
C      EMPDOT=2.0*A*(B-X)*XDOT
C
C      SURFACE
C      S=2.*A*(B-X)/RHO
C
C      77 FORMAT (1X,20HHEAT LOSS FACTOR -- ,F10.7)
C      78 FORMAT (1X,10HMETHOD -- ,I1)
C      79 FORMAT (1X,29HTHEORETICAL MAXIMUM PRESSURE ,E20.14)
C      RETURN
C      END

C
C      SUBROUTINE SOLN2(IPASS)
C      IMPLICIT DOUBLE PRECISION (A-H,O-Z)
C      COMMON /SPECS/ BIGD,D,EL,EMI,EMPO,EMW,VB,BETA,R,TF,RHO,
+ ETA,PACT,EMAIR
C      COMMON /CALCS/ T,TEXT,X,XEXT,XDOT,P,PDOT,EMP,EMPDOT,S
C      COMMON METHOD
C      DATA NOUT/8/

C
C      SOLUTION METHOD 2 --> COVOLUME <> 1/DENSITY

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C
C      IF(IPASS.GT.0) GOTO 100
C
C      INITIALIZE CONSTANTS
C
C      A=8.0*EMP0/(EL*(BIGD-D))
C      B=(BIGD-D+2.0*EL)/8.0
C
C      CALCULATE THEORETICAL MAXIMUM PRESSURE
C      (NO ENERGY LOSS)
C
C      PTHEO=(EMP0+EMI+EMAIR)*R*TF/EMW/(VB-(EMP0+EMI+EMAIR)*ETA)
C      WRITE (NOUT,79) PTHEO
C
C      DETERMINE IF HEAT LOSS IS TO BE CONSIDERED
C
C      IF (PACT .LE. 1.E-8) PACT = PTHEO
C
C      EVALUATE HEAT LOSS FACTOR
C
C      H=1.-(PACT*EMW*(VB-(EMP0+EMI+EMAIR)*ETA)/(R*TF)-(EMI+EMAIR))/EMP0
C      C=SQRT(B**2+(EMI+EMAIR)/(A*(1.-H)))
C      F=(VB-EMP0/RHO-(EMI+EMAIR)*ETA)/(A*(ETA-1.0/RHO))-B**2
C      G=BETA*R*TF*(1.-H)/(EMW*(ETA-1.0/RHO))
C
C      CALCULATE DEPTH BURNED AT TIME OF GRAIN EXTINCTION
C
C      XEXT=0.5*DMIN1(EL,0.5*(BIGD-D))
C
C      CALCULATE TIME OF GRAIN EXTINCTION
C
C      TEXT=(F+C**2)/(2.0*C*G)*DLOG((C**2-B**2+XEXT*(C+B))/
C      $ (C**2-B**2-XEXT*(C-B)))-XEXT/G
C      WRITE(NOUT,77) H
C      WRITE(NOUT,78) METHOD
C
C      CALCULATE VARIABLES
C
C      TIME
C
C      100 T=(F+C**2)/(2.0*C*G)*DLOG((C**2-B**2+X*(C+B))/
C      $ (C**2-B**2-X*(C-B)))-X/G
C
C      BURNING RATE
C
C      XDOT=G*(C**2-(X-B)**2)/(F+(X-B)**2)
C
C      PRESSURE
C
C      P=XDOT/BETA
C
C      RATE OF CHANGE OF PRESSURE
C
C      PDOT=-2.0*G*(F+C**2)*(X-B)*XDOT/(BETA*(F+(X-B)**2)**2)
C

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C MASS PROPELLANT BURNED
C
C     EMP=A*(2.0*B*X-X**2)
C
C RATE OF CHANGE OF MASS OF PROPELLANT
C
C     EMPDOT=2.0*A*(B-X)*XDOT
C
C SURFACE
C
C     S=2.*A*(B-X)/RHO
C
77 FORMAT (1X,20HHEAT LOSS FACTOR -- ,F10.7)
78 FORMAT (1X,10HMETHOD -- ,I1)
79 FORMAT (1X,29HTHEORETICAL MAXIMUM PRESSURE ,E20.14)
RETURN
END

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|                           |              |
|---------------------------|--------------|
| GRAIN DIAMETER=           | 0.250000     |
| PERFORATION DIAMETER=     | 0.050000     |
| GRAIN LENGTH=             | 1.000000     |
| IGNITOR MASS=             | 0.000200     |
| PROPELLANT MASS=          | 0.125000     |
| MOLECULAR WEIGHT=         | 28.000000    |
| BOMB VOLUME=              | 12.510000    |
| BURNING RATE COEFFICIENT= | 0.002000     |
| FLAME TEMPERATURE=        | 3400.000000  |
| DENSITY=                  | 0.060000     |
| COVOLUME=                 | 25.000000    |
| AIR MASS=                 | 0.000000     |
| ACTUAL MAXIMUM PRESSURE=  | 54099.685000 |
| UNIVERSAL GAS CONSTANT=   | 33378.926000 |

THEORETICAL MAXIMUM PRESSURE 0.54099684814499E+05  
 HEAT LOSS FACTOR -- 0.0000000  
 METHOD -- 2

| TIME        | PRESSURE    | PDOT        | XDOT        | PROPELLANT BURNT | MDOT        | SURFACE     | DISTANCE BURNT |
|-------------|-------------|-------------|-------------|------------------|-------------|-------------|----------------|
| 0.25398E-05 | 0.78207E+02 | 0.16731E+06 | 0.15641E+00 | 0.10895E-05      | 0.43014E+00 | 0.45833E+02 | 0.39618E-06    |
| 0.50796E-05 | 0.78633E+02 | 0.16823E+06 | 0.15727E+00 | 0.21849E-05      | 0.43248E+00 | 0.45833E+02 | 0.79453E-06    |
| 0.76194E-05 | 0.79062E+02 | 0.16914E+06 | 0.15812E+00 | 0.32864E-05      | 0.43484E+00 | 0.45833E+02 | 0.11950E-05    |
| 0.10159E-04 | 0.79492E+02 | 0.17006E+06 | 0.15898E+00 | 0.43938E-05      | 0.43721E+00 | 0.45833E+02 | 0.15977E-05    |
| 0.12699E-04 | 0.79925E+02 | 0.17099E+06 | 0.15985E+00 | 0.55072E-05      | 0.43959E+00 | 0.45833E+02 | 0.20026E-05    |
| 0.15239E-04 | 0.80361E+02 | 0.17192E+06 | 0.16072E+00 | 0.66267E-05      | 0.44198E+00 | 0.45833E+02 | 0.24097E-05    |
| 0.17779E-04 | 0.80799E+02 | 0.17286E+06 | 0.16160E+00 | 0.77523E-05      | 0.44439E+00 | 0.45833E+02 | 0.28190E-05    |
| 0.20318E-04 | 0.81239E+02 | 0.17380E+06 | 0.16248E+00 | 0.88840E-05      | 0.44681E+00 | 0.45833E+02 | 0.32306E-05    |
| 0.22858E-04 | 0.81682E+02 | 0.17475E+06 | 0.16336E+00 | 0.10022E-04      | 0.44924E+00 | 0.45833E+02 | 0.36444E-05    |
| 0.25398E-04 | 0.82127E+02 | 0.17570E+06 | 0.16425E+00 | 0.11166E-04      | 0.45169E+00 | 0.45833E+02 | 0.40604E-05    |
| 0.27938E-04 | 0.82574E+02 | 0.17666E+06 | 0.16515E+00 | 0.12316E-04      | 0.45415E+00 | 0.45833E+02 | 0.44787E-05    |
| 0.30478E-04 | 0.83024E+02 | 0.17762E+06 | 0.16605E+00 | 0.13473E-04      | 0.45662E+00 | 0.45833E+02 | 0.48993E-05    |
| 0.33018E-04 | 0.83476E+02 | 0.17859E+06 | 0.16695E+00 | 0.14636E-04      | 0.45911E+00 | 0.45832E+02 | 0.53222E-05    |
| 0.35557E-04 | 0.83931E+02 | 0.17956E+06 | 0.16786E+00 | 0.15805E-04      | 0.46161E+00 | 0.45832E+02 | 0.57474E-05    |
| 0.38097E-04 | 0.84388E+02 | 0.18054E+06 | 0.16878E+00 | 0.16981E-04      | 0.46413E+00 | 0.45832E+02 | 0.61749E-05    |
| 0.40637E-04 | 0.84848E+02 | 0.18152E+06 | 0.16970E+00 | 0.18163E-04      | 0.46665E+00 | 0.45832E+02 | 0.66047E-05    |
| 0.43177E-04 | 0.85311E+02 | 0.18251E+06 | 0.17062E+00 | 0.19351E-04      | 0.46920E+00 | 0.45832E+02 | 0.70369E-05    |
| 0.45717E-04 | 0.85775E+02 | 0.18351E+06 | 0.17155E+00 | 0.20546E-04      | 0.47175E+00 | 0.45832E+02 | 0.74714E-05    |
| 0.48256E-04 | 0.86243E+02 | 0.18451E+06 | 0.17249E+00 | 0.21747E-04      | 0.47432E+00 | 0.45832E+02 | 0.79083E-05    |
| 0.50796E-04 | 0.86713E+02 | 0.18551E+06 | 0.17343E+00 | 0.22955E-04      | 0.47690E+00 | 0.45832E+02 | 0.83475E-05    |
| 0.53336E-04 | 0.87185E+02 | 0.18652E+06 | 0.17437E+00 | 0.24170E-04      | 0.47950E+00 | 0.45832E+02 | 0.87892E-05    |
| 0.55876E-04 | 0.87660E+02 | 0.18754E+06 | 0.17532E+00 | 0.25391E-04      | 0.48211E+00 | 0.45832E+02 | 0.92333E-05    |
| 0.58416E-04 | 0.88138E+02 | 0.18856E+06 | 0.17628E+00 | 0.26619E-04      | 0.48474E+00 | 0.45832E+02 | 0.96798E-05    |
| 0.60955E-04 | 0.88618E+02 | 0.18959E+06 | 0.17724E+00 | 0.27853E-04      | 0.48738E+00 | 0.45832E+02 | 0.10129E-04    |
| 0.63495E-04 | 0.89101E+02 | 0.19062E+06 | 0.17820E+00 | 0.29095E-04      | 0.49003E+00 | 0.45832E+02 | 0.10580E-04    |
| 0.66035E-04 | 0.89586E+02 | 0.19166E+06 | 0.17917E+00 | 0.30343E-04      | 0.49270E+00 | 0.45831E+02 | 0.11034E-04    |
| 0.68575E-04 | 0.90074E+02 | 0.19270E+06 | 0.18015E+00 | 0.31597E-04      | 0.49539E+00 | 0.45831E+02 | 0.11490E-04    |
| 0.71115E-04 | 0.90565E+02 | 0.19375E+06 | 0.18113E+00 | 0.32859E-04      | 0.49809E+00 | 0.45831E+02 | 0.11949E-04    |
| 0.73654E-04 | 0.91058E+02 | 0.19481E+06 | 0.18212E+00 | 0.34128E-04      | 0.50080E+00 | 0.45831E+02 | 0.12410E-04    |
| 0.76194E-04 | 0.91555E+02 | 0.19587E+06 | 0.18311E+00 | 0.35403E-04      | 0.50353E+00 | 0.45831E+02 | 0.12874E-04    |
| 0.78734E-04 | 0.92053E+02 | 0.19694E+06 | 0.18411E+00 | 0.36685E-04      | 0.50627E+00 | 0.45831E+02 | 0.13340E-04    |
| 0.81274E-04 | 0.92555E+02 | 0.19801E+06 | 0.18511E+00 | 0.37975E-04      | 0.50903E+00 | 0.45831E+02 | 0.13809E-04    |
| 0.83814E-04 | 0.93059E+02 | 0.19909E+06 | 0.18612E+00 | 0.39271E-04      | 0.51180E+00 | 0.45831E+02 | 0.14281E-04    |
| 0.86354E-04 | 0.93566E+02 | 0.20018E+06 | 0.18713E+00 | 0.40574E-04      | 0.51459E+00 | 0.45831E+02 | 0.14755E-04    |
| 0.88893E-04 | 0.94076E+02 | 0.20127E+06 | 0.18815E+00 | 0.41885E-04      | 0.51739E+00 | 0.45831E+02 | 0.15231E-04    |
| 0.91433E-04 | 0.94589E+02 | 0.20236E+06 | 0.18918E+00 | 0.43202E-04      | 0.52021E+00 | 0.45831E+02 | 0.15710E-04    |
| 0.93973E-04 | 0.95104E+02 | 0.20347E+06 | 0.19021E+00 | 0.44527E-04      | 0.52304E+00 | 0.45831E+02 | 0.16192E-04    |
| 0.96513E-04 | 0.95622E+02 | 0.20457E+06 | 0.19124E+00 | 0.45859E-04      | 0.52589E+00 | 0.45831E+02 | 0.16677E-04    |
| 0.99053E-04 | 0.96143E+02 | 0.20569E+06 | 0.19229E+00 | 0.47199E-04      | 0.52875E+00 | 0.45830E+02 | 0.17164E-04    |
| 0.10159E-03 | 0.96667E+02 | 0.20681E+06 | 0.19333E+00 | 0.48545E-04      | 0.53163E+00 | 0.45830E+02 | 0.17653E-04    |
| 0.10413E-03 | 0.97194E+02 | 0.20794E+06 | 0.19439E+00 | 0.49899E-04      | 0.53453E+00 | 0.45830E+02 | 0.18146E-04    |
| 0.10667E-03 | 0.97723E+02 | 0.20907E+06 | 0.19545E+00 | 0.51260E-04      | 0.53744E+00 | 0.45830E+02 | 0.18641E-04    |
| 0.10921E-03 | 0.98256E+02 | 0.21021E+06 | 0.19651E+00 | 0.52629E-04      | 0.54037E+00 | 0.45830E+02 | 0.19139E-04    |
| 0.11175E-03 | 0.98791E+02 | 0.21135E+06 | 0.19758E+00 | 0.54005E-04      | 0.54331E+00 | 0.45830E+02 | 0.19639E-04    |
| 0.11429E-03 | 0.99329E+02 | 0.21251E+06 | 0.19866E+00 | 0.55389E-04      | 0.54627E+00 | 0.45830E+02 | 0.20142E-04    |
| 0.11683E-03 | 0.99871E+02 | 0.21366E+06 | 0.19974E+00 | 0.56780E-04      | 0.54925E+00 | 0.45830E+02 | 0.20648E-04    |
| 0.11937E-03 | 0.10041E+03 | 0.21483E+06 | 0.20083E+00 | 0.58179E-04      | 0.55224E+00 | 0.45830E+02 | 0.21157E-04    |
| 0.12191E-03 | 0.10096E+03 | 0.21600E+06 | 0.20192E+00 | 0.59585E-04      | 0.55525E+00 | 0.45830E+02 | 0.21668E-04    |
| 0.12445E-03 | 0.10151E+03 | 0.21718E+06 | 0.20302E+00 | 0.60999E-04      | 0.55827E+00 | 0.45830E+02 | 0.22183E-04    |
| 0.12699E-03 | 0.10206E+03 | 0.21836E+06 | 0.20413E+00 | 0.62421E-04      | 0.56131E+00 | 0.45830E+02 | 0.22700E-04    |
| 0.12953E-03 | 0.10262E+03 | 0.21955E+06 | 0.20524E+00 | 0.63851E-04      | 0.56437E+00 | 0.45829E+02 | 0.23219E-04    |
| 0.13207E-03 | 0.10318E+03 | 0.22075E+06 | 0.20636E+00 | 0.65288E-04      | 0.56744E+00 | 0.45829E+02 | 0.23742E-04    |
| 0.13461E-03 | 0.10374E+03 | 0.22195E+06 | 0.20748E+00 | 0.66733E-04      | 0.57053E+00 | 0.45829E+02 | 0.24268E-04    |
| 0.13715E-03 | 0.10431E+03 | 0.22316E+06 | 0.20862E+00 | 0.68186E-04      | 0.57364E+00 | 0.45829E+02 | 0.24796E-04    |

| TIME        | PRESSURE    | PDOT        | KDOT        | PROPELLANT BURNT | MDOT        | SURFACE     | DISTANCE BURNT |
|-------------|-------------|-------------|-------------|------------------|-------------|-------------|----------------|
| 0.13969E-03 | 0.10488E+03 | 0.22437E+06 | 0.20975E+00 | 0.69647E-04      | 0.57676E+00 | 0.45829E+02 | 0.25327E-04    |
| 0.14223E-03 | 0.10545E+03 | 0.22560E+06 | 0.21089E+00 | 0.71116E-04      | 0.57991E+00 | 0.45829E+02 | 0.25862E-04    |
| 0.14477E-03 | 0.10602E+03 | 0.22683E+06 | 0.21204E+00 | 0.72593E-04      | 0.58306E+00 | 0.45829E+02 | 0.26399E-04    |
| 0.14731E-03 | 0.10660E+03 | 0.22806E+06 | 0.21320E+00 | 0.74078E-04      | 0.58624E+00 | 0.45829E+02 | 0.26939E-04    |
| 0.14985E-03 | 0.10718E+03 | 0.22930E+06 | 0.21436E+00 | 0.75571E-04      | 0.58943E+00 | 0.45829E+02 | 0.27482E-04    |
| 0.15239E-03 | 0.10776E+03 | 0.23055E+06 | 0.21553E+00 | 0.77072E-04      | 0.59264E+00 | 0.45829E+02 | 0.28028E-04    |
| 0.15493E-03 | 0.10835E+03 | 0.23181E+06 | 0.21670E+00 | 0.78581E-04      | 0.59587E+00 | 0.45829E+02 | 0.28576E-04    |
| 0.15747E-03 | 0.10894E+03 | 0.23307E+06 | 0.21788E+00 | 0.80099E-04      | 0.59912E+00 | 0.45828E+02 | 0.29128E-04    |
| 0.16001E-03 | 0.10954E+03 | 0.23434E+06 | 0.21907E+00 | 0.81624E-04      | 0.60238E+00 | 0.45828E+02 | 0.29683E-04    |
| 0.16255E-03 | 0.11013E+03 | 0.23562E+06 | 0.22026E+00 | 0.83158E-04      | 0.60566E+00 | 0.45828E+02 | 0.30241E-04    |
| 0.16509E-03 | 0.11073E+03 | 0.23690E+06 | 0.22146E+00 | 0.84701E-04      | 0.60896E+00 | 0.45828E+02 | 0.30802E-04    |
| 0.16763E-03 | 0.11134E+03 | 0.23820E+06 | 0.22267E+00 | 0.86252E-04      | 0.61228E+00 | 0.45828E+02 | 0.31366E-04    |
| 0.17017E-03 | 0.11194E+03 | 0.23949E+06 | 0.22388E+00 | 0.87811E-04      | 0.61561E+00 | 0.45828E+02 | 0.31933E-04    |
| 0.17271E-03 | 0.11255E+03 | 0.24080E+06 | 0.22510E+00 | 0.89379E-04      | 0.61896E+00 | 0.45828E+02 | 0.32503E-04    |
| 0.17525E-03 | 0.11317E+03 | 0.24211E+06 | 0.22633E+00 | 0.90955E-04      | 0.62233E+00 | 0.45828E+02 | 0.33077E-04    |
| 0.17779E-03 | 0.11378E+03 | 0.24343E+06 | 0.22756E+00 | 0.92540E-04      | 0.62572E+00 | 0.45828E+02 | 0.33653E-04    |
| 0.18033E-03 | 0.11440E+03 | 0.24476E+06 | 0.22880E+00 | 0.94134E-04      | 0.62913E+00 | 0.45828E+02 | 0.34233E-04    |
| 0.18287E-03 | 0.11503E+03 | 0.24609E+06 | 0.23005E+00 | 0.95736E-04      | 0.63256E+00 | 0.45828E+02 | 0.34815E-04    |
| 0.18541E-03 | 0.11565E+03 | 0.24743E+06 | 0.23130E+00 | 0.97347E-04      | 0.63600E+00 | 0.45827E+02 | 0.35401E-04    |
| 0.18795E-03 | 0.11628E+03 | 0.24878E+06 | 0.23256E+00 | 0.98966E-04      | 0.63947E+00 | 0.45827E+02 | 0.35990E-04    |
| 0.19049E-03 | 0.11692E+03 | 0.25013E+06 | 0.23383E+00 | 0.10060E-03      | 0.64295E+00 | 0.45827E+02 | 0.36582E-04    |
| 0.19303E-03 | 0.11755E+03 | 0.25150E+06 | 0.23511E+00 | 0.10223E-03      | 0.64645E+00 | 0.45827E+02 | 0.37178E-04    |
| 0.19557E-03 | 0.11819E+03 | 0.25287E+06 | 0.23639E+00 | 0.10388E-03      | 0.64997E+00 | 0.45827E+02 | 0.37777E-04    |
| 0.19811E-03 | 0.11884E+03 | 0.25425E+06 | 0.23767E+00 | 0.10553E-03      | 0.65351E+00 | 0.45827E+02 | 0.38379E-04    |
| 0.20065E-03 | 0.11948E+03 | 0.25563E+06 | 0.23897E+00 | 0.10720E-03      | 0.65707E+00 | 0.45827E+02 | 0.38984E-04    |
| 0.20318E-03 | 0.12014E+03 | 0.25702E+06 | 0.24027E+00 | 0.10887E-03      | 0.66065E+00 | 0.45827E+02 | 0.39593E-04    |
| 0.20572E-03 | 0.12079E+03 | 0.25842E+06 | 0.24158E+00 | 0.11055E-03      | 0.66425E+00 | 0.45827E+02 | 0.40204E-04    |
| 0.20826E-03 | 0.12145E+03 | 0.25983E+06 | 0.24290E+00 | 0.11225E-03      | 0.66787E+00 | 0.45827E+02 | 0.40820E-04    |
| 0.21080E-03 | 0.12211E+03 | 0.26125E+06 | 0.24422E+00 | 0.11395E-03      | 0.67150E+00 | 0.45826E+02 | 0.41438E-04    |
| 0.21334E-03 | 0.12278E+03 | 0.26267E+06 | 0.24555E+00 | 0.11566E-03      | 0.67516E+00 | 0.45826E+02 | 0.42060E-04    |
| 0.21588E-03 | 0.12344E+03 | 0.26410E+06 | 0.24689E+00 | 0.11738E-03      | 0.67884E+00 | 0.45826E+02 | 0.42686E-04    |
| 0.21842E-03 | 0.12412E+03 | 0.26554E+06 | 0.24823E+00 | 0.11911E-03      | 0.68254E+00 | 0.45826E+02 | 0.43314E-04    |
| 0.22096E-03 | 0.12479E+03 | 0.26699E+06 | 0.24959E+00 | 0.12084E-03      | 0.68625E+00 | 0.45826E+02 | 0.43947E-04    |
| 0.22350E-03 | 0.12547E+03 | 0.26844E+06 | 0.25095E+00 | 0.12259E-03      | 0.68999E+00 | 0.45826E+02 | 0.44582E-04    |
| 0.22604E-03 | 0.12616E+03 | 0.26991E+06 | 0.25231E+00 | 0.12435E-03      | 0.69375E+00 | 0.45826E+02 | 0.45221E-04    |
| 0.22858E-03 | 0.12684E+03 | 0.27138E+06 | 0.25369E+00 | 0.12612E-03      | 0.69753E+00 | 0.45826E+02 | 0.45864E-04    |
| 0.23112E-03 | 0.12754E+03 | 0.27286E+06 | 0.25507E+00 | 0.12789E-03      | 0.70133E+00 | 0.45826E+02 | 0.46510E-04    |
| 0.23366E-03 | 0.12823E+03 | 0.27434E+06 | 0.25646E+00 | 0.12968E-03      | 0.70515E+00 | 0.45825E+02 | 0.47160E-04    |
| 0.23620E-03 | 0.12893E+03 | 0.27584E+06 | 0.25786E+00 | 0.13147E-03      | 0.70899E+00 | 0.45825E+02 | 0.47813E-04    |
| 0.23874E-03 | 0.12963E+03 | 0.27734E+06 | 0.25926E+00 | 0.13328E-03      | 0.71285E+00 | 0.45825E+02 | 0.48469E-04    |
| 0.24128E-03 | 0.13034E+03 | 0.27885E+06 | 0.26068E+00 | 0.13509E-03      | 0.71673E+00 | 0.45825E+02 | 0.49130E-04    |
| 0.24382E-03 | 0.13105E+03 | 0.28037E+06 | 0.26210E+00 | 0.13692E-03      | 0.72063E+00 | 0.45825E+02 | 0.49793E-04    |
| 0.24636E-03 | 0.13176E+03 | 0.28190E+06 | 0.26352E+00 | 0.13875E-03      | 0.72456E+00 | 0.45825E+02 | 0.50461E-04    |
| 0.24890E-03 | 0.13248E+03 | 0.28344E+06 | 0.26496E+00 | 0.14060E-03      | 0.72850E+00 | 0.45825E+02 | 0.51132E-04    |
| 0.25144E-03 | 0.13320E+03 | 0.28498E+06 | 0.26640E+00 | 0.14246E-03      | 0.73247E+00 | 0.45825E+02 | 0.51807E-04    |
| 0.25398E-03 | 0.13393E+03 | 0.28653E+06 | 0.26785E+00 | 0.14432E-03      | 0.73646E+00 | 0.45825E+02 | 0.52485E-04    |
| 0.25652E-03 | 0.13466E+03 | 0.28809E+06 | 0.26931E+00 | 0.14620E-03      | 0.74047E+00 | 0.45824E+02 | 0.53167E-04    |
| 0.25906E-03 | 0.13539E+03 | 0.28966E+06 | 0.27078E+00 | 0.14808E-03      | 0.74450E+00 | 0.45824E+02 | 0.53853E-04    |
| 0.26160E-03 | 0.13613E+03 | 0.29124E+06 | 0.27226E+00 | 0.14998E-03      | 0.74856E+00 | 0.45824E+02 | 0.54543E-04    |
| 0.26414E-03 | 0.13687E+03 | 0.29283E+06 | 0.27374E+00 | 0.15188E-03      | 0.75264E+00 | 0.45824E+02 | 0.55236E-04    |
| 0.26668E-03 | 0.13762E+03 | 0.29443E+06 | 0.27523E+00 | 0.15380E-03      | 0.75673E+00 | 0.45824E+02 | 0.55933E-04    |
| 0.26922E-03 | 0.13837E+03 | 0.29603E+06 | 0.27673E+00 | 0.15573E-03      | 0.76086E+00 | 0.45824E+02 | 0.56634E-04    |
| 0.27176E-03 | 0.13912E+03 | 0.29764E+06 | 0.27824E+00 | 0.15767E-03      | 0.76500E+00 | 0.45824E+02 | 0.57339E-04    |
| 0.27430E-03 | 0.13988E+03 | 0.29927E+06 | 0.27976E+00 | 0.15961E-03      | 0.76917E+00 | 0.45824E+02 | 0.58048E-04    |

| TIME        | PRESSURE    | PDOT        | XDOT        | PROPELLANT  | BURNT       | MDOT        | SURFACE     | DISTANCE | BURNT |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------|-------|
| 0.27684E-03 | 0.14064E+03 | 0.30090E+06 | 0.28128E+00 | 0.16157E-03 | 0.77335E+00 | 0.45824E+02 | 0.58760E-04 |          |       |
| 0.27938E-03 | 0.14141E+03 | 0.30254E+06 | 0.28281E+00 | 0.16354E-03 | 0.77757E+00 | 0.45823E+02 | 0.59477E-04 |          |       |
| 0.28192E-03 | 0.14218E+03 | 0.30418E+06 | 0.28435E+00 | 0.16552E-03 | 0.78180E+00 | 0.45823E+02 | 0.60197E-04 |          |       |
| 0.28446E-03 | 0.14295E+03 | 0.30584E+06 | 0.28590E+00 | 0.16751E-03 | 0.78606E+00 | 0.45823E+02 | 0.60921E-04 |          |       |
| 0.28700E-03 | 0.14373E+03 | 0.30751E+06 | 0.28746E+00 | 0.16952E-03 | 0.79034E+00 | 0.45823E+02 | 0.61649E-04 |          |       |
| 0.28954E-03 | 0.14451E+03 | 0.30918E+06 | 0.28903E+00 | 0.17153E-03 | 0.79464E+00 | 0.45823E+02 | 0.62381E-04 |          |       |
| 0.29208E-03 | 0.14530E+03 | 0.31087E+06 | 0.29060E+00 | 0.17355E-03 | 0.79897E+00 | 0.45823E+02 | 0.63117E-04 |          |       |
| 0.29462E-03 | 0.14609E+03 | 0.31256E+06 | 0.29219E+00 | 0.17559E-03 | 0.80332E+00 | 0.45823E+02 | 0.63857E-04 |          |       |
| 0.29716E-03 | 0.14689E+03 | 0.31427E+06 | 0.29378E+00 | 0.17763E-03 | 0.80770E+00 | 0.45823E+02 | 0.64601E-04 |          |       |
| 0.29970E-03 | 0.14769E+03 | 0.31598E+06 | 0.29538E+00 | 0.17969E-03 | 0.81210E+00 | 0.45822E+02 | 0.65350E-04 |          |       |
| 0.30224E-03 | 0.14849E+03 | 0.31770E+06 | 0.29699E+00 | 0.18176E-03 | 0.81652E+00 | 0.45822E+02 | 0.66102E-04 |          |       |
| 0.30478E-03 | 0.14930E+03 | 0.31943E+06 | 0.29861E+00 | 0.18384E-03 | 0.82097E+00 | 0.45822E+02 | 0.66858E-04 |          |       |
| 0.30732E-03 | 0.15012E+03 | 0.32117E+06 | 0.30023E+00 | 0.18593E-03 | 0.82544E+00 | 0.45822E+02 | 0.67619E-04 |          |       |
| 0.30986E-03 | 0.15093E+03 | 0.32292E+06 | 0.30187E+00 | 0.18803E-03 | 0.82993E+00 | 0.45822E+02 | 0.68383E-04 |          |       |
| 0.31240E-03 | 0.15176E+03 | 0.32468E+06 | 0.30351E+00 | 0.19014E-03 | 0.83445E+00 | 0.45822E+02 | 0.69152E-04 |          |       |
| 0.31494E-03 | 0.15258E+03 | 0.32645E+06 | 0.30517E+00 | 0.19227E-03 | 0.83900E+00 | 0.45822E+02 | 0.69925E-04 |          |       |
| 0.31748E-03 | 0.15341E+03 | 0.32823E+06 | 0.30683E+00 | 0.19441E-03 | 0.84356E+00 | 0.45822E+02 | 0.70702E-04 |          |       |
| 0.32002E-03 | 0.15425E+03 | 0.33002E+06 | 0.30850E+00 | 0.19655E-03 | 0.84816E+00 | 0.45821E+02 | 0.71484E-04 |          |       |
| 0.32256E-03 | 0.15509E+03 | 0.33182E+06 | 0.31018E+00 | 0.19871E-03 | 0.85278E+00 | 0.45821E+02 | 0.72269E-04 |          |       |
| 0.32510E-03 | 0.15594E+03 | 0.33363E+06 | 0.31187E+00 | 0.20089E-03 | 0.85742E+00 | 0.45821E+02 | 0.73059E-04 |          |       |
| 0.32764E-03 | 0.15679E+03 | 0.33544E+06 | 0.31357E+00 | 0.20307E-03 | 0.86209E+00 | 0.45821E+02 | 0.73853E-04 |          |       |
| 0.33018E-03 | 0.15764E+03 | 0.33727E+06 | 0.31528E+00 | 0.20527E-03 | 0.86679E+00 | 0.45821E+02 | 0.74652E-04 |          |       |
| 0.33272E-03 | 0.15850E+03 | 0.33911E+06 | 0.31700E+00 | 0.20747E-03 | 0.87151E+00 | 0.45821E+02 | 0.75455E-04 |          |       |
| 0.33525E-03 | 0.15936E+03 | 0.34096E+06 | 0.31873E+00 | 0.20969E-03 | 0.87625E+00 | 0.45821E+02 | 0.76262E-04 |          |       |
| 0.33779E-03 | 0.16023E+03 | 0.34282E+06 | 0.32046E+00 | 0.21192E-03 | 0.88102E+00 | 0.45820E+02 | 0.77074E-04 |          |       |
| 0.34033E-03 | 0.16110E+03 | 0.34468E+06 | 0.32221E+00 | 0.21417E-03 | 0.88582E+00 | 0.45820E+02 | 0.77890E-04 |          |       |
| 0.34287E-03 | 0.16198E+03 | 0.34656E+06 | 0.32396E+00 | 0.21642E-03 | 0.89065E+00 | 0.45820E+02 | 0.78711E-04 |          |       |
| 0.34541E-03 | 0.16286E+03 | 0.34845E+06 | 0.32573E+00 | 0.21869E-03 | 0.89550E+00 | 0.45820E+02 | 0.79536E-04 |          |       |
| 0.34795E-03 | 0.16375E+03 | 0.35035E+06 | 0.32750E+00 | 0.22097E-03 | 0.90037E+00 | 0.45820E+02 | 0.80365E-04 |          |       |
| 0.35049E-03 | 0.16464E+03 | 0.35226E+06 | 0.32929E+00 | 0.22327E-03 | 0.90528E+00 | 0.45820E+02 | 0.81199E-04 |          |       |
| 0.35303E-03 | 0.16554E+03 | 0.35418E+06 | 0.33108E+00 | 0.22557E-03 | 0.91021E+00 | 0.45820E+02 | 0.82038E-04 |          |       |
| 0.35557E-03 | 0.16644E+03 | 0.35611E+06 | 0.33289E+00 | 0.22789E-03 | 0.91516E+00 | 0.45820E+02 | 0.82881E-04 |          |       |
| 0.35811E-03 | 0.16735E+03 | 0.35805E+06 | 0.33470E+00 | 0.23022E-03 | 0.92015E+00 | 0.45819E+02 | 0.83729E-04 |          |       |
| 0.36065E-03 | 0.16826E+03 | 0.36000E+06 | 0.33652E+00 | 0.23256E-03 | 0.92516E+00 | 0.45819E+02 | 0.84581E-04 |          |       |
| 0.36319E-03 | 0.16918E+03 | 0.36196E+06 | 0.33836E+00 | 0.23492E-03 | 0.93019E+00 | 0.45819E+02 | 0.85438E-04 |          |       |
| 0.36573E-03 | 0.17010E+03 | 0.36393E+06 | 0.34020E+00 | 0.23729E-03 | 0.93526E+00 | 0.45819E+02 | 0.86300E-04 |          |       |
| 0.36827E-03 | 0.17103E+03 | 0.36592E+06 | 0.34205E+00 | 0.23967E-03 | 0.94035E+00 | 0.45819E+02 | 0.87166E-04 |          |       |
| 0.37081E-03 | 0.17196E+03 | 0.36791E+06 | 0.34392E+00 | 0.24206E-03 | 0.94547E+00 | 0.45819E+02 | 0.88038E-04 |          |       |
| 0.37335E-03 | 0.17290E+03 | 0.36992E+06 | 0.34579E+00 | 0.24447E-03 | 0.95062E+00 | 0.45819E+02 | 0.88913E-04 |          |       |
| 0.37589E-03 | 0.17384E+03 | 0.37193E+06 | 0.34768E+00 | 0.24689E-03 | 0.95580E+00 | 0.45818E+02 | 0.89794E-04 |          |       |
| 0.37843E-03 | 0.17479E+03 | 0.37396E+06 | 0.34957E+00 | 0.24933E-03 | 0.96100E+00 | 0.45818E+02 | 0.90679E-04 |          |       |
| 0.38097E-03 | 0.17574E+03 | 0.37600E+06 | 0.35148E+00 | 0.25177E-03 | 0.96624E+00 | 0.45818E+02 | 0.91570E-04 |          |       |
| 0.38351E-03 | 0.17670E+03 | 0.37805E+06 | 0.35339E+00 | 0.25424E-03 | 0.97150E+00 | 0.45818E+02 | 0.92465E-04 |          |       |
| 0.38605E-03 | 0.17766E+03 | 0.38011E+06 | 0.35532E+00 | 0.25671E-03 | 0.97679E+00 | 0.45818E+02 | 0.93365E-04 |          |       |
| 0.38859E-03 | 0.17863E+03 | 0.38218E+06 | 0.35725E+00 | 0.25920E-03 | 0.98211E+00 | 0.45818E+02 | 0.94270E-04 |          |       |
| 0.39113E-03 | 0.17960E+03 | 0.38426E+06 | 0.35920E+00 | 0.26170E-03 | 0.98746E+00 | 0.45817E+02 | 0.95180E-04 |          |       |
| 0.39367E-03 | 0.18058E+03 | 0.38635E+06 | 0.36116E+00 | 0.26421E-03 | 0.99283E+00 | 0.45817E+02 | 0.96094E-04 |          |       |
| 0.39621E-03 | 0.18156E+03 | 0.38846E+06 | 0.36312E+00 | 0.26674E-03 | 0.99824E+00 | 0.45817E+02 | 0.97014E-04 |          |       |
| 0.39875E-03 | 0.18255E+03 | 0.39058E+06 | 0.36510E+00 | 0.26928E-03 | 0.10037E+01 | 0.45817E+02 | 0.97939E-04 |          |       |
| 0.40129E-03 | 0.18355E+03 | 0.39270E+06 | 0.36709E+00 | 0.27184E-03 | 0.10091E+01 | 0.45817E+02 | 0.98869E-04 |          |       |
| 0.40383E-03 | 0.18455E+03 | 0.39484E+06 | 0.36909E+00 | 0.27441E-03 | 0.10146E+01 | 0.45817E+02 | 0.99804E-04 |          |       |
| 0.40637E-03 | 0.18555E+03 | 0.39700E+06 | 0.37110E+00 | 0.27699E-03 | 0.10202E+01 | 0.45817E+02 | 0.10074E-03 |          |       |
| 0.40891E-03 | 0.18656E+03 | 0.39916E+06 | 0.37313E+00 | 0.27959E-03 | 0.10257E+01 | 0.45816E+02 | 0.10169E-03 |          |       |
| 0.41145E-03 | 0.18758E+03 | 0.40134E+06 | 0.37516E+00 | 0.28220E-03 | 0.10313E+01 | 0.45816E+02 | 0.10264E-03 |          |       |

| TIME        | PRESSURE    | PDOT        | XDOT        | PROPELLANT BURNT | MDOT        | SURFACE     | DISTANCE    | BURNT |
|-------------|-------------|-------------|-------------|------------------|-------------|-------------|-------------|-------|
| 0.41399E-03 | 0.18860E+03 | 0.40352E+06 | 0.37720E+00 | 0.28483E-03      | 0.10369E+01 | 0.45816E+02 | 0.10359E-03 |       |
| 0.41653E-03 | 0.18963E+03 | 0.40572E+06 | 0.37926E+00 | 0.28747E-03      | 0.10426E+01 | 0.45816E+02 | 0.10455E-03 |       |
| 0.41907E-03 | 0.19066E+03 | 0.40793E+06 | 0.38132E+00 | 0.29013E-03      | 0.10482E+01 | 0.45816E+02 | 0.10552E-03 |       |
| 0.42161E-03 | 0.19170E+03 | 0.41016E+06 | 0.38340E+00 | 0.29280E-03      | 0.10539E+01 | 0.45816E+02 | 0.10649E-03 |       |
| 0.42415E-03 | 0.19275E+03 | 0.41239E+06 | 0.38549E+00 | 0.29548E-03      | 0.10597E+01 | 0.45816E+02 | 0.10747E-03 |       |
| 0.42669E-03 | 0.19380E+03 | 0.41464E+06 | 0.38759E+00 | 0.29818E-03      | 0.10655E+01 | 0.45815E+02 | 0.10845E-03 |       |
| 0.42923E-03 | 0.19485E+03 | 0.41690E+06 | 0.38970E+00 | 0.30089E-03      | 0.10713E+01 | 0.45815E+02 | 0.10944E-03 |       |
| 0.43177E-03 | 0.19591E+03 | 0.41917E+06 | 0.39183E+00 | 0.30362E-03      | 0.10771E+01 | 0.45815E+02 | 0.11043E-03 |       |
| 0.43431E-03 | 0.19698E+03 | 0.42145E+06 | 0.39396E+00 | 0.30636E-03      | 0.10830E+01 | 0.45815E+02 | 0.11143E-03 |       |
| 0.43685E-03 | 0.19805E+03 | 0.42375E+06 | 0.39611E+00 | 0.30912E-03      | 0.10889E+01 | 0.45815E+02 | 0.11243E-03 |       |
| 0.43939E-03 | 0.19913E+03 | 0.42606E+06 | 0.39827E+00 | 0.31189E-03      | 0.10948E+01 | 0.45814E+02 | 0.11344E-03 |       |
| 0.44193E-03 | 0.20022E+03 | 0.42838E+06 | 0.40044E+00 | 0.31468E-03      | 0.11007E+01 | 0.45814E+02 | 0.11445E-03 |       |
| 0.44447E-03 | 0.20131E+03 | 0.43072E+06 | 0.40262E+00 | 0.31749E-03      | 0.11067E+01 | 0.45814E+02 | 0.11547E-03 |       |
| 0.44701E-03 | 0.20241E+03 | 0.43306E+06 | 0.40481E+00 | 0.32030E-03      | 0.11128E+01 | 0.45814E+02 | 0.11650E-03 |       |
| 0.44955E-03 | 0.20351E+03 | 0.43542E+06 | 0.40702E+00 | 0.32314E-03      | 0.11188E+01 | 0.45814E+02 | 0.11753E-03 |       |
| 0.45209E-03 | 0.20462E+03 | 0.43780E+06 | 0.40924E+00 | 0.32599E-03      | 0.11249E+01 | 0.45814E+02 | 0.11857E-03 |       |
| 0.45463E-03 | 0.20573E+03 | 0.44018E+06 | 0.41147E+00 | 0.32885E-03      | 0.11310E+01 | 0.45813E+02 | 0.11961E-03 |       |
| 0.45717E-03 | 0.20685E+03 | 0.44258E+06 | 0.41371E+00 | 0.33173E-03      | 0.11372E+01 | 0.45813E+02 | 0.12066E-03 |       |
| 0.45971E-03 | 0.20798E+03 | 0.44499E+06 | 0.41596E+00 | 0.33463E-03      | 0.11434E+01 | 0.45813E+02 | 0.12171E-03 |       |
| 0.46225E-03 | 0.20911E+03 | 0.44742E+06 | 0.41823E+00 | 0.33754E-03      | 0.11496E+01 | 0.45813E+02 | 0.12277E-03 |       |
| 0.46479E-03 | 0.21025E+03 | 0.44986E+06 | 0.42051E+00 | 0.34047E-03      | 0.11559E+01 | 0.45813E+02 | 0.12383E-03 |       |
| 0.46733E-03 | 0.21140E+03 | 0.45231E+06 | 0.42280E+00 | 0.34341E-03      | 0.11622E+01 | 0.45813E+02 | 0.12491E-03 |       |
| 0.46986E-03 | 0.21255E+03 | 0.45477E+06 | 0.42510E+00 | 0.34637E-03      | 0.11685E+01 | 0.45812E+02 | 0.12598E-03 |       |
| 0.47240E-03 | 0.21371E+03 | 0.45725E+06 | 0.42742E+00 | 0.34935E-03      | 0.11749E+01 | 0.45812E+02 | 0.12707E-03 |       |
| 0.47494E-03 | 0.21487E+03 | 0.45974E+06 | 0.42975E+00 | 0.35234E-03      | 0.11813E+01 | 0.45812E+02 | 0.12815E-03 |       |
| 0.47748E-03 | 0.21605E+03 | 0.46225E+06 | 0.43209E+00 | 0.35535E-03      | 0.11877E+01 | 0.45812E+02 | 0.12925E-03 |       |
| 0.48002E-03 | 0.21722E+03 | 0.46477E+06 | 0.43445E+00 | 0.35837E-03      | 0.11942E+01 | 0.45812E+02 | 0.13035E-03 |       |
| 0.48256E-03 | 0.21841E+03 | 0.46730E+06 | 0.43681E+00 | 0.36141E-03      | 0.12007E+01 | 0.45811E+02 | 0.13145E-03 |       |
| 0.48510E-03 | 0.21960E+03 | 0.46985E+06 | 0.43919E+00 | 0.36447E-03      | 0.12072E+01 | 0.45811E+02 | 0.13257E-03 |       |
| 0.48764E-03 | 0.22079E+03 | 0.47241E+06 | 0.44159E+00 | 0.36755E-03      | 0.12138E+01 | 0.45811E+02 | 0.13369E-03 |       |
| 0.49018E-03 | 0.22200E+03 | 0.47498E+06 | 0.44399E+00 | 0.37064E-03      | 0.12204E+01 | 0.45811E+02 | 0.13481E-03 |       |
| 0.49272E-03 | 0.22321E+03 | 0.47757E+06 | 0.44641E+00 | 0.37375E-03      | 0.12270E+01 | 0.45811E+02 | 0.13594E-03 |       |
| 0.49526E-03 | 0.22442E+03 | 0.48017E+06 | 0.44884E+00 | 0.37687E-03      | 0.12337E+01 | 0.45810E+02 | 0.13708E-03 |       |
| 0.49780E-03 | 0.22564E+03 | 0.48279E+06 | 0.45129E+00 | 0.38001E-03      | 0.12404E+01 | 0.45810E+02 | 0.13822E-03 |       |
| 0.50034E-03 | 0.22687E+03 | 0.48542E+06 | 0.45375E+00 | 0.38317E-03      | 0.12472E+01 | 0.45810E+02 | 0.13937E-03 |       |
| 0.50288E-03 | 0.22811E+03 | 0.48807E+06 | 0.45622E+00 | 0.38635E-03      | 0.12540E+01 | 0.45810E+02 | 0.14053E-03 |       |
| 0.50542E-03 | 0.22935E+03 | 0.49073E+06 | 0.45871E+00 | 0.38954E-03      | 0.12608E+01 | 0.45810E+02 | 0.14169E-03 |       |
| 0.50796E-03 | 0.23060E+03 | 0.49340E+06 | 0.46121E+00 | 0.39275E-03      | 0.12677E+01 | 0.45810E+02 | 0.14286E-03 |       |
| 0.51050E-03 | 0.23186E+03 | 0.49609E+06 | 0.46372E+00 | 0.39598E-03      | 0.12746E+01 | 0.45809E+02 | 0.14403E-03 |       |
| 0.51304E-03 | 0.23312E+03 | 0.49879E+06 | 0.46625E+00 | 0.39923E-03      | 0.12815E+01 | 0.45809E+02 | 0.14521E-03 |       |
| 0.51558E-03 | 0.23439E+03 | 0.50151E+06 | 0.46879E+00 | 0.40249E-03      | 0.12885E+01 | 0.45809E+02 | 0.14640E-03 |       |
| 0.51812E-03 | 0.23567E+03 | 0.50425E+06 | 0.47134E+00 | 0.40577E-03      | 0.12955E+01 | 0.45809E+02 | 0.14759E-03 |       |
| 0.52066E-03 | 0.23695E+03 | 0.50699E+06 | 0.47391E+00 | 0.40907E-03      | 0.13025E+01 | 0.45809E+02 | 0.14879E-03 |       |
| 0.52320E-03 | 0.23825E+03 | 0.50976E+06 | 0.47649E+00 | 0.41239E-03      | 0.13096E+01 | 0.45808E+02 | 0.15000E-03 |       |
| 0.52574E-03 | 0.23954E+03 | 0.51254E+06 | 0.47909E+00 | 0.41572E-03      | 0.13168E+01 | 0.45808E+02 | 0.15121E-03 |       |
| 0.52828E-03 | 0.24085E+03 | 0.51533E+06 | 0.48170E+00 | 0.41908E-03      | 0.13239E+01 | 0.45808E+02 | 0.15243E-03 |       |
| 0.53082E-03 | 0.24216E+03 | 0.51814E+06 | 0.48432E+00 | 0.42245E-03      | 0.13311E+01 | 0.45808E+02 | 0.15366E-03 |       |
| 0.53336E-03 | 0.24348E+03 | 0.52096E+06 | 0.48696E+00 | 0.42584E-03      | 0.13384E+01 | 0.45808E+02 | 0.15489E-03 |       |
| 0.53590E-03 | 0.24481E+03 | 0.52380E+06 | 0.48962E+00 | 0.42925E-03      | 0.13457E+01 | 0.45807E+02 | 0.15613E-03 |       |
| 0.53844E-03 | 0.24614E+03 | 0.52666E+06 | 0.49228E+00 | 0.43267E-03      | 0.13530E+01 | 0.45807E+02 | 0.15738E-03 |       |
| 0.54098E-03 | 0.24748E+03 | 0.52953E+06 | 0.49497E+00 | 0.43612E-03      | 0.13604E+01 | 0.45807E+02 | 0.15863E-03 |       |
| 0.54352E-03 | 0.24883E+03 | 0.53241E+06 | 0.49766E+00 | 0.43958E-03      | 0.13678E+01 | 0.45807E+02 | 0.15990E-03 |       |
| 0.54606E-03 | 0.25019E+03 | 0.53531E+06 | 0.50038E+00 | 0.44307E-03      | 0.13752E+01 | 0.45806E+02 | 0.16116E-03 |       |
| 0.54860E-03 | 0.25155E+03 | 0.53823E+06 | 0.50310E+00 | 0.44657E-03      | 0.13827E+01 | 0.45806E+02 | 0.16244E-03 |       |

| TIME        | PRESSURE    | PDOT        | XDOT        | PROPELLANT BURNT | MDOT        | SURFACE     | DISTANCE BURNT |
|-------------|-------------|-------------|-------------|------------------|-------------|-------------|----------------|
| 0.55114E-03 | 0.25292E+03 | 0.54116E+06 | 0.50584E+00 | 0.45009E-03      | 0.13902E+01 | 0.45806E+02 | 0.16372E-03    |
| 0.55368E-03 | 0.25430E+03 | 0.54411E+06 | 0.50860E+00 | 0.45363E-03      | 0.13978E+01 | 0.45806E+02 | 0.16501E-03    |
| 0.55622E-03 | 0.25569E+03 | 0.54708E+06 | 0.51137E+00 | 0.45719E-03      | 0.14054E+01 | 0.45806E+02 | 0.16630E-03    |
| 0.55876E-03 | 0.25708E+03 | 0.55006E+06 | 0.51416E+00 | 0.46077E-03      | 0.14131E+01 | 0.45805E+02 | 0.16760E-03    |
| 0.56130E-03 | 0.25848E+03 | 0.55306E+06 | 0.51696E+00 | 0.46437E-03      | 0.14208E+01 | 0.45805E+02 | 0.16891E-03    |
| 0.56384E-03 | 0.25989E+03 | 0.55607E+06 | 0.51978E+00 | 0.46799E-03      | 0.14285E+01 | 0.45805E+02 | 0.17023E-03    |
| 0.56638E-03 | 0.26130E+03 | 0.55910E+06 | 0.52261E+00 | 0.47163E-03      | 0.14363E+01 | 0.45805E+02 | 0.17155E-03    |
| 0.56892E-03 | 0.26273E+03 | 0.56215E+06 | 0.52546E+00 | 0.47528E-03      | 0.14441E+01 | 0.45805E+02 | 0.17288E-03    |
| 0.57146E-03 | 0.26416E+03 | 0.56521E+06 | 0.52832E+00 | 0.47896E-03      | 0.14520E+01 | 0.45804E+02 | 0.17422E-03    |
| 0.57400E-03 | 0.26560E+03 | 0.56829E+06 | 0.53120E+00 | 0.48266E-03      | 0.14599E+01 | 0.45804E+02 | 0.17557E-03    |
| 0.57654E-03 | 0.26705E+03 | 0.57139E+06 | 0.53409E+00 | 0.48638E-03      | 0.14678E+01 | 0.45804E+02 | 0.17692E-03    |
| 0.57908E-03 | 0.26850E+03 | 0.57451E+06 | 0.53700E+00 | 0.49012E-03      | 0.14758E+01 | 0.45804E+02 | 0.17828E-03    |
| 0.58162E-03 | 0.26997E+03 | 0.57764E+06 | 0.53993E+00 | 0.49387E-03      | 0.14838E+01 | 0.45803E+02 | 0.17965E-03    |
| 0.58416E-03 | 0.27144E+03 | 0.58079E+06 | 0.54287E+00 | 0.49765E-03      | 0.14919E+01 | 0.45803E+02 | 0.18102E-03    |
| 0.58670E-03 | 0.27292E+03 | 0.58395E+06 | 0.54583E+00 | 0.50145E-03      | 0.15000E+01 | 0.45803E+02 | 0.18241E-03    |
| 0.58924E-03 | 0.27440E+03 | 0.58713E+06 | 0.54881E+00 | 0.50527E-03      | 0.15082E+01 | 0.45803E+02 | 0.18380E-03    |
| 0.59178E-03 | 0.27590E+03 | 0.59033E+06 | 0.55180E+00 | 0.50911E-03      | 0.15164E+01 | 0.45802E+02 | 0.18519E-03    |
| 0.59432E-03 | 0.27740E+03 | 0.59355E+06 | 0.55480E+00 | 0.51297E-03      | 0.15247E+01 | 0.45802E+02 | 0.18660E-03    |
| 0.59686E-03 | 0.27891E+03 | 0.59679E+06 | 0.55783E+00 | 0.51686E-03      | 0.15330E+01 | 0.45802E+02 | 0.18801E-03    |
| 0.59940E-03 | 0.28043E+03 | 0.60004E+06 | 0.56087E+00 | 0.52076E-03      | 0.15413E+01 | 0.45802E+02 | 0.18943E-03    |
| 0.60194E-03 | 0.28196E+03 | 0.60331E+06 | 0.56392E+00 | 0.52469E-03      | 0.15497E+01 | 0.45802E+02 | 0.19086E-03    |
| 0.60447E-03 | 0.28350E+03 | 0.60660E+06 | 0.56699E+00 | 0.52863E-03      | 0.15581E+01 | 0.45801E+02 | 0.19230E-03    |
| 0.60701E-03 | 0.28504E+03 | 0.60990E+06 | 0.57008E+00 | 0.53260E-03      | 0.15666E+01 | 0.45801E+02 | 0.19374E-03    |
| 0.60955E-03 | 0.28660E+03 | 0.61323E+06 | 0.57319E+00 | 0.53659E-03      | 0.15752E+01 | 0.45801E+02 | 0.19519E-03    |
| 0.61209E-03 | 0.28816E+03 | 0.61657E+06 | 0.57631E+00 | 0.54060E-03      | 0.15837E+01 | 0.45801E+02 | 0.19665E-03    |
| 0.61463E-03 | 0.28973E+03 | 0.61993E+06 | 0.57945E+00 | 0.54464E-03      | 0.15924E+01 | 0.45800E+02 | 0.19812E-03    |
| 0.61717E-03 | 0.29131E+03 | 0.62331E+06 | 0.58261E+00 | 0.54869E-03      | 0.16010E+01 | 0.45800E+02 | 0.19960E-03    |
| 0.61971E-03 | 0.29289E+03 | 0.62671E+06 | 0.58579E+00 | 0.55277E-03      | 0.16097E+01 | 0.45800E+02 | 0.20108E-03    |
| 0.62225E-03 | 0.29449E+03 | 0.63012E+06 | 0.58898E+00 | 0.55687E-03      | 0.16185E+01 | 0.45800E+02 | 0.20257E-03    |
| 0.62479E-03 | 0.29609E+03 | 0.63356E+06 | 0.59219E+00 | 0.56099E-03      | 0.16273E+01 | 0.45799E+02 | 0.20407E-03    |
| 0.62733E-03 | 0.29771E+03 | 0.63701E+06 | 0.59542E+00 | 0.56513E-03      | 0.16362E+01 | 0.45799E+02 | 0.20558E-03    |
| 0.62987E-03 | 0.29933E+03 | 0.64048E+06 | 0.59866E+00 | 0.56930E-03      | 0.16451E+01 | 0.45799E+02 | 0.20710E-03    |
| 0.63241E-03 | 0.30096E+03 | 0.64397E+06 | 0.60192E+00 | 0.57349E-03      | 0.16540E+01 | 0.45799E+02 | 0.20862E-03    |
| 0.63495E-03 | 0.30260E+03 | 0.64748E+06 | 0.60520E+00 | 0.57770E-03      | 0.16630E+01 | 0.45798E+02 | 0.21015E-03    |
| 0.63749E-03 | 0.30425E+03 | 0.65101E+06 | 0.60850E+00 | 0.58194E-03      | 0.16721E+01 | 0.45798E+02 | 0.21170E-03    |
| 0.64003E-03 | 0.30591E+03 | 0.65456E+06 | 0.61182E+00 | 0.58620E-03      | 0.16812E+01 | 0.45798E+02 | 0.21325E-03    |
| 0.64257E-03 | 0.30758E+03 | 0.65813E+06 | 0.61515E+00 | 0.59048E-03      | 0.16903E+01 | 0.45798E+02 | 0.21480E-03    |
| 0.64511E-03 | 0.30925E+03 | 0.66172E+06 | 0.61850E+00 | 0.59478E-03      | 0.16995E+01 | 0.45797E+02 | 0.21637E-03    |
| 0.64765E-03 | 0.31094E+03 | 0.66532E+06 | 0.62187E+00 | 0.59911E-03      | 0.17088E+01 | 0.45797E+02 | 0.21795E-03    |
| 0.65019E-03 | 0.31263E+03 | 0.66895E+06 | 0.62526E+00 | 0.60346E-03      | 0.17181E+01 | 0.45797E+02 | 0.21953E-03    |
| 0.65273E-03 | 0.31433E+03 | 0.67259E+06 | 0.62867E+00 | 0.60784E-03      | 0.17275E+01 | 0.45796E+02 | 0.22112E-03    |
| 0.65527E-03 | 0.31605E+03 | 0.67626E+06 | 0.63209E+00 | 0.61224E-03      | 0.17369E+01 | 0.45796E+02 | 0.22272E-03    |
| 0.65781E-03 | 0.31777E+03 | 0.67995E+06 | 0.63554E+00 | 0.61666E-03      | 0.17463E+01 | 0.45796E+02 | 0.22433E-03    |
| 0.66035E-03 | 0.31950E+03 | 0.68365E+06 | 0.63900E+00 | 0.62111E-03      | 0.17558E+01 | 0.45796E+02 | 0.22595E-03    |
| 0.66289E-03 | 0.32124E+03 | 0.68738E+06 | 0.64248E+00 | 0.62558E-03      | 0.17654E+01 | 0.45795E+02 | 0.22758E-03    |
| 0.66543E-03 | 0.32299E+03 | 0.69113E+06 | 0.64599E+00 | 0.63008E-03      | 0.17750E+01 | 0.45795E+02 | 0.22921E-03    |
| 0.66797E-03 | 0.32475E+03 | 0.69489E+06 | 0.64951E+00 | 0.63460E-03      | 0.17846E+01 | 0.45795E+02 | 0.23086E-03    |
| 0.67051E-03 | 0.32652E+03 | 0.69868E+06 | 0.65305E+00 | 0.63914E-03      | 0.17944E+01 | 0.45795E+02 | 0.23251E-03    |
| 0.67305E-03 | 0.32830E+03 | 0.70249E+06 | 0.65660E+00 | 0.64371E-03      | 0.18041E+01 | 0.45794E+02 | 0.23418E-03    |
| 0.67559E-03 | 0.33009E+03 | 0.70632E+06 | 0.66018E+00 | 0.64831E-03      | 0.18139E+01 | 0.45794E+02 | 0.23585E-03    |
| 0.67813E-03 | 0.33189E+03 | 0.71017E+06 | 0.66378E+00 | 0.65293E-03      | 0.18238E+01 | 0.45794E+02 | 0.23753E-03    |
| 0.68067E-03 | 0.33370E+03 | 0.71404E+06 | 0.66740E+00 | 0.65757E-03      | 0.18337E+01 | 0.45793E+02 | 0.23922E-03    |
| 0.68321E-03 | 0.33552E+03 | 0.71793E+06 | 0.67103E+00 | 0.66224E-03      | 0.18437E+01 | 0.45793E+02 | 0.24092E-03    |
| 0.68575E-03 | 0.33735E+03 | 0.72184E+06 | 0.67469E+00 | 0.66694E-03      | 0.18538E+01 | 0.45793E+02 | 0.24263E-03    |

| TIME        | PRESSURE    | PDOT        | XDOT        | PROPELLANT  | BURNT       | MDOT        | SURFACE     | DISTANCE | BURNT |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------|-------|
| 0.68829E-03 | 0.33918E+03 | 0.72578E+06 | 0.67837E+00 | 0.67166E-03 | 0.18639E+01 | 0.45793E+02 | 0.24435E-03 |          |       |
| 0.69083E-03 | 0.34103E+03 | 0.72973E+06 | 0.68206E+00 | 0.67640E-03 | 0.18740E+01 | 0.45792E+02 | 0.24608E-03 |          |       |
| 0.69337E-03 | 0.34289E+03 | 0.73371E+06 | 0.68578E+00 | 0.68118E-03 | 0.18842E+01 | 0.45792E+02 | 0.24781E-03 |          |       |
| 0.69591E-03 | 0.34476E+03 | 0.73771E+06 | 0.68952E+00 | 0.68597E-03 | 0.18945E+01 | 0.45792E+02 | 0.24956E-03 |          |       |
| 0.69845E-03 | 0.34664E+03 | 0.74173E+06 | 0.69328E+00 | 0.69080E-03 | 0.19048E+01 | 0.45791E+02 | 0.25131E-03 |          |       |
| 0.70099E-03 | 0.34853E+03 | 0.74578E+06 | 0.69705E+00 | 0.69565E-03 | 0.19151E+01 | 0.45791E+02 | 0.25308E-03 |          |       |
| 0.70353E-03 | 0.35043E+03 | 0.74984E+06 | 0.70085E+00 | 0.70053E-03 | 0.19256E+01 | 0.45791E+02 | 0.25486E-03 |          |       |
| 0.70607E-03 | 0.35234E+03 | 0.75393E+06 | 0.70467E+00 | 0.70543E-03 | 0.19360E+01 | 0.45791E+02 | 0.25664E-03 |          |       |
| 0.70861E-03 | 0.35426E+03 | 0.75804E+06 | 0.70851E+00 | 0.71036E-03 | 0.19466E+01 | 0.45790E+02 | 0.25843E-03 |          |       |
| 0.71115E-03 | 0.35619E+03 | 0.76217E+06 | 0.71237E+00 | 0.71532E-03 | 0.19572E+01 | 0.45790E+02 | 0.26024E-03 |          |       |
| 0.71369E-03 | 0.35813E+03 | 0.76632E+06 | 0.71625E+00 | 0.72030E-03 | 0.19678E+01 | 0.45790E+02 | 0.26205E-03 |          |       |
| 0.71623E-03 | 0.36008E+03 | 0.77050E+06 | 0.72016E+00 | 0.72532E-03 | 0.19785E+01 | 0.45789E+02 | 0.26388E-03 |          |       |
| 0.71877E-03 | 0.36204E+03 | 0.77470E+06 | 0.72408E+00 | 0.73035E-03 | 0.19893E+01 | 0.45789E+02 | 0.26571E-03 |          |       |
| 0.72131E-03 | 0.36401E+03 | 0.77892E+06 | 0.72803E+00 | 0.73542E-03 | 0.20001E+01 | 0.45789E+02 | 0.26756E-03 |          |       |
| 0.72385E-03 | 0.36600E+03 | 0.78317E+06 | 0.73200E+00 | 0.74051E-03 | 0.20110E+01 | 0.45788E+02 | 0.26941E-03 |          |       |
| 0.72639E-03 | 0.36799E+03 | 0.78744E+06 | 0.73598E+00 | 0.74564E-03 | 0.20220E+01 | 0.45788E+02 | 0.27127E-03 |          |       |
| 0.72893E-03 | 0.37000E+03 | 0.79173E+06 | 0.74000E+00 | 0.75078E-03 | 0.20330E+01 | 0.45788E+02 | 0.27315E-03 |          |       |
| 0.73147E-03 | 0.37201E+03 | 0.79605E+06 | 0.74403E+00 | 0.75596E-03 | 0.20440E+01 | 0.45787E+02 | 0.27503E-03 |          |       |
| 0.73401E-03 | 0.37404E+03 | 0.80039E+06 | 0.74808E+00 | 0.76117E-03 | 0.20552E+01 | 0.45787E+02 | 0.27693E-03 |          |       |
| 0.73654E-03 | 0.37608E+03 | 0.80475E+06 | 0.75216E+00 | 0.76640E-03 | 0.20663E+01 | 0.45787E+02 | 0.27883E-03 |          |       |
| 0.73908E-03 | 0.37813E+03 | 0.80914E+06 | 0.75626E+00 | 0.77166E-03 | 0.20776E+01 | 0.45787E+02 | 0.28075E-03 |          |       |
| 0.74162E-03 | 0.38019E+03 | 0.81355E+06 | 0.76038E+00 | 0.77696E-03 | 0.20889E+01 | 0.45786E+02 | 0.28267E-03 |          |       |
| 0.74416E-03 | 0.38226E+03 | 0.81798E+06 | 0.76452E+00 | 0.78228E-03 | 0.21003E+01 | 0.45786E+02 | 0.28461E-03 |          |       |
| 0.74670E-03 | 0.38434E+03 | 0.82244E+06 | 0.76869E+00 | 0.78762E-03 | 0.21117E+01 | 0.45786E+02 | 0.28656E-03 |          |       |
| 0.74924E-03 | 0.38644E+03 | 0.82692E+06 | 0.77288E+00 | 0.79300E-03 | 0.21232E+01 | 0.45785E+02 | 0.28852E-03 |          |       |
| 0.75178E-03 | 0.38855E+03 | 0.83143E+06 | 0.77709E+00 | 0.79841E-03 | 0.21347E+01 | 0.45785E+02 | 0.29048E-03 |          |       |
| 0.75432E-03 | 0.39066E+03 | 0.83596E+06 | 0.78133E+00 | 0.80385E-03 | 0.21464E+01 | 0.45785E+02 | 0.29246E-03 |          |       |
| 0.75686E-03 | 0.39279E+03 | 0.84052E+06 | 0.78558E+00 | 0.80931E-03 | 0.21580E+01 | 0.45784E+02 | 0.29445E-03 |          |       |
| 0.75940E-03 | 0.39493E+03 | 0.84510E+06 | 0.78986E+00 | 0.81481E-03 | 0.21698E+01 | 0.45784E+02 | 0.29645E-03 |          |       |
| 0.76194E-03 | 0.39708E+03 | 0.84971E+06 | 0.79417E+00 | 0.82033E-03 | 0.21816E+01 | 0.45784E+02 | 0.29846E-03 |          |       |
| 0.76448E-03 | 0.39925E+03 | 0.85434E+06 | 0.79850E+00 | 0.82589E-03 | 0.21935E+01 | 0.45783E+02 | 0.30049E-03 |          |       |
| 0.76702E-03 | 0.40142E+03 | 0.85900E+06 | 0.80285E+00 | 0.83148E-03 | 0.22054E+01 | 0.45783E+02 | 0.30252E-03 |          |       |
| 0.76956E-03 | 0.40361E+03 | 0.86368E+06 | 0.80722E+00 | 0.83709E-03 | 0.22174E+01 | 0.45783E+02 | 0.30457E-03 |          |       |
| 0.77210E-03 | 0.40581E+03 | 0.86839E+06 | 0.81162E+00 | 0.84274E-03 | 0.22295E+01 | 0.45782E+02 | 0.30662E-03 |          |       |
| 0.77464E-03 | 0.40802E+03 | 0.87312E+06 | 0.81605E+00 | 0.84842E-03 | 0.22416E+01 | 0.45782E+02 | 0.30869E-03 |          |       |
| 0.77718E-03 | 0.41025E+03 | 0.87788E+06 | 0.82049E+00 | 0.85413E-03 | 0.22538E+01 | 0.45782E+02 | 0.31077E-03 |          |       |
| 0.77972E-03 | 0.41248E+03 | 0.88267E+06 | 0.82496E+00 | 0.85987E-03 | 0.22661E+01 | 0.45781E+02 | 0.31286E-03 |          |       |
| 0.78226E-03 | 0.41473E+03 | 0.88748E+06 | 0.82946E+00 | 0.86564E-03 | 0.22784E+01 | 0.45781E+02 | 0.31496E-03 |          |       |
| 0.78480E-03 | 0.41699E+03 | 0.89232E+06 | 0.83398E+00 | 0.87144E-03 | 0.22908E+01 | 0.45780E+02 | 0.31707E-03 |          |       |
| 0.78734E-03 | 0.41926E+03 | 0.89718E+06 | 0.83853E+00 | 0.87727E-03 | 0.23033E+01 | 0.45780E+02 | 0.31919E-03 |          |       |
| 0.78988E-03 | 0.42155E+03 | 0.90207E+06 | 0.84310E+00 | 0.88314E-03 | 0.23158E+01 | 0.45780E+02 | 0.32133E-03 |          |       |
| 0.79242E-03 | 0.42385E+03 | 0.90699E+06 | 0.84769E+00 | 0.88904E-03 | 0.23284E+01 | 0.45779E+02 | 0.32348E-03 |          |       |
| 0.79496E-03 | 0.42616E+03 | 0.91193E+06 | 0.85231E+00 | 0.89497E-03 | 0.23411E+01 | 0.45779E+02 | 0.32564E-03 |          |       |
| 0.79750E-03 | 0.42848E+03 | 0.91690E+06 | 0.85696E+00 | 0.90093E-03 | 0.23538E+01 | 0.45779E+02 | 0.32781E-03 |          |       |
| 0.80004E-03 | 0.43081E+03 | 0.92190E+06 | 0.86163E+00 | 0.90692E-03 | 0.23666E+01 | 0.45778E+02 | 0.32999E-03 |          |       |
| 0.80258E-03 | 0.43316E+03 | 0.92693E+06 | 0.86632E+00 | 0.91295E-03 | 0.23795E+01 | 0.45778E+02 | 0.33218E-03 |          |       |
| 0.80512E-03 | 0.43552E+03 | 0.93198E+06 | 0.87104E+00 | 0.91901E-03 | 0.23925E+01 | 0.45778E+02 | 0.33439E-03 |          |       |
| 0.80766E-03 | 0.43789E+03 | 0.93706E+06 | 0.87579E+00 | 0.92510E-03 | 0.24055E+01 | 0.45777E+02 | 0.33661E-03 |          |       |
| 0.81020E-03 | 0.44028E+03 | 0.94217E+06 | 0.88056E+00 | 0.93123E-03 | 0.24186E+01 | 0.45777E+02 | 0.33884E-03 |          |       |
| 0.81274E-03 | 0.44268E+03 | 0.94731E+06 | 0.88536E+00 | 0.93739E-03 | 0.24317E+01 | 0.45776E+02 | 0.34108E-03 |          |       |
| 0.81528E-03 | 0.44509E+03 | 0.95247E+06 | 0.89019E+00 | 0.94358E-03 | 0.24450E+01 | 0.45776E+02 | 0.34333E-03 |          |       |
| 0.81782E-03 | 0.44752E+03 | 0.95766E+06 | 0.89504E+00 | 0.94981E-03 | 0.24583E+01 | 0.45776E+02 | 0.34560E-03 |          |       |
| 0.82036E-03 | 0.44996E+03 | 0.96288E+06 | 0.89992E+00 | 0.95607E-03 | 0.24716E+01 | 0.45775E+02 | 0.34788E-03 |          |       |
| 0.82290E-03 | 0.45241E+03 | 0.96813E+06 | 0.90482E+00 | 0.96236E-03 | 0.24851E+01 | 0.45775E+02 | 0.35017E-03 |          |       |

| TIME        | PRESSURE    | PDOT        | XDOT        | PROPELLANT  | BURNT       | MDOT        | SURFACE     | DISTANCE | BURNT |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------|-------|
| 0.82544E-03 | 0.45488E+03 | 0.97341E+06 | 0.90975E+00 | 0.96869E-03 | 0.24986E+01 | 0.45775E+02 | 0.35248E-03 |          |       |
| 0.82798E-03 | 0.45735E+03 | 0.97872E+06 | 0.91471E+00 | 0.97505E-03 | 0.25122E+01 | 0.45774E+02 | 0.35479E-03 |          |       |
| 0.83052E-03 | 0.45985E+03 | 0.98405E+06 | 0.91969E+00 | 0.98145E-03 | 0.25259E+01 | 0.45774E+02 | 0.35712E-03 |          |       |
| 0.83306E-03 | 0.46235E+03 | 0.98942E+06 | 0.92471E+00 | 0.98789E-03 | 0.25396E+01 | 0.45773E+02 | 0.35947E-03 |          |       |
| 0.83560E-03 | 0.46487E+03 | 0.99481E+06 | 0.92975E+00 | 0.99435E-03 | 0.25534E+01 | 0.45773E+02 | 0.36182E-03 |          |       |
| 0.83814E-03 | 0.46741E+03 | 0.10002E+07 | 0.93481E+00 | 0.10009E-02 | 0.25673E+01 | 0.45773E+02 | 0.36419E-03 |          |       |
| 0.84068E-03 | 0.46995E+03 | 0.10057E+07 | 0.93991E+00 | 0.10074E-02 | 0.25813E+01 | 0.45772E+02 | 0.36657E-03 |          |       |
| 0.84322E-03 | 0.47251E+03 | 0.10112E+07 | 0.94503E+00 | 0.10140E-02 | 0.25953E+01 | 0.45772E+02 | 0.36896E-03 |          |       |
| 0.84576E-03 | 0.47509E+03 | 0.10167E+07 | 0.95018E+00 | 0.10206E-02 | 0.26095E+01 | 0.45771E+02 | 0.37137E-03 |          |       |
| 0.84830E-03 | 0.47768E+03 | 0.10222E+07 | 0.95536E+00 | 0.10272E-02 | 0.26237E+01 | 0.45771E+02 | 0.37379E-03 |          |       |
| 0.85084E-03 | 0.48028E+03 | 0.10278E+07 | 0.96057E+00 | 0.10339E-02 | 0.26379E+01 | 0.45771E+02 | 0.37622E-03 |          |       |
| 0.85338E-03 | 0.48290E+03 | 0.10334E+07 | 0.96580E+00 | 0.10406E-02 | 0.26523E+01 | 0.45770E+02 | 0.37867E-03 |          |       |
| 0.85592E-03 | 0.48553E+03 | 0.10390E+07 | 0.97106E+00 | 0.10474E-02 | 0.26667E+01 | 0.45770E+02 | 0.38113E-03 |          |       |
| 0.85846E-03 | 0.48818E+03 | 0.10447E+07 | 0.97636E+00 | 0.10542E-02 | 0.26812E+01 | 0.45769E+02 | 0.38360E-03 |          |       |
| 0.86100E-03 | 0.49084E+03 | 0.10504E+07 | 0.98168E+00 | 0.10610E-02 | 0.26958E+01 | 0.45769E+02 | 0.38609E-03 |          |       |
| 0.86354E-03 | 0.49351E+03 | 0.10561E+07 | 0.98703E+00 | 0.10679E-02 | 0.27105E+01 | 0.45769E+02 | 0.38859E-03 |          |       |
| 0.86608E-03 | 0.49620E+03 | 0.10619E+07 | 0.99241E+00 | 0.10748E-02 | 0.27252E+01 | 0.45768E+02 | 0.39110E-03 |          |       |
| 0.86862E-03 | 0.49891E+03 | 0.10677E+07 | 0.99782E+00 | 0.10817E-02 | 0.27401E+01 | 0.45768E+02 | 0.39363E-03 |          |       |
| 0.87115E-03 | 0.50163E+03 | 0.10735E+07 | 0.10033E+01 | 0.10887E-02 | 0.27550E+01 | 0.45767E+02 | 0.39617E-03 |          |       |
| 0.87369E-03 | 0.50436E+03 | 0.10793E+07 | 0.10087E+01 | 0.10957E-02 | 0.27700E+01 | 0.45767E+02 | 0.39873E-03 |          |       |
| 0.87623E-03 | 0.50711E+03 | 0.10852E+07 | 0.10142E+01 | 0.11028E-02 | 0.27850E+01 | 0.45766E+02 | 0.40129E-03 |          |       |
| 0.87877E-03 | 0.50987E+03 | 0.10911E+07 | 0.10197E+01 | 0.11098E-02 | 0.28002E+01 | 0.45766E+02 | 0.40388E-03 |          |       |
| 0.88131E-03 | 0.51265E+03 | 0.10971E+07 | 0.10253E+01 | 0.11170E-02 | 0.28154E+01 | 0.45766E+02 | 0.40647E-03 |          |       |
| 0.88385E-03 | 0.51545E+03 | 0.11031E+07 | 0.10309E+01 | 0.11241E-02 | 0.28307E+01 | 0.45765E+02 | 0.40909E-03 |          |       |
| 0.88639E-03 | 0.51826E+03 | 0.11091E+07 | 0.10365E+01 | 0.11314E-02 | 0.28461E+01 | 0.45765E+02 | 0.41171E-03 |          |       |
| 0.88893E-03 | 0.52108E+03 | 0.11151E+07 | 0.10422E+01 | 0.11386E-02 | 0.28616E+01 | 0.45764E+02 | 0.41435E-03 |          |       |
| 0.89147E-03 | 0.52392E+03 | 0.11212E+07 | 0.10478E+01 | 0.11459E-02 | 0.28772E+01 | 0.45764E+02 | 0.41700E-03 |          |       |
| 0.89401E-03 | 0.52678E+03 | 0.11273E+07 | 0.10536E+01 | 0.11532E-02 | 0.28928E+01 | 0.45763E+02 | 0.41967E-03 |          |       |
| 0.89655E-03 | 0.52965E+03 | 0.11335E+07 | 0.10593E+01 | 0.11606E-02 | 0.29086E+01 | 0.45763E+02 | 0.42236E-03 |          |       |
| 0.89909E-03 | 0.53253E+03 | 0.11397E+07 | 0.10651E+01 | 0.11680E-02 | 0.29244E+01 | 0.45762E+02 | 0.42505E-03 |          |       |
| 0.90163E-03 | 0.53544E+03 | 0.11459E+07 | 0.10709E+01 | 0.11754E-02 | 0.29403E+01 | 0.45762E+02 | 0.42777E-03 |          |       |
| 0.90417E-03 | 0.53835E+03 | 0.11521E+07 | 0.10767E+01 | 0.11829E-02 | 0.29563E+01 | 0.45762E+02 | 0.43049E-03 |          |       |
| 0.90671E-03 | 0.54129E+03 | 0.11584E+07 | 0.10826E+01 | 0.11905E-02 | 0.29724E+01 | 0.45761E+02 | 0.43324E-03 |          |       |
| 0.90925E-03 | 0.54424E+03 | 0.11647E+07 | 0.10885E+01 | 0.11980E-02 | 0.29886E+01 | 0.45761E+02 | 0.43599E-03 |          |       |
| 0.91179E-03 | 0.54720E+03 | 0.11711E+07 | 0.10944E+01 | 0.12056E-02 | 0.30048E+01 | 0.45760E+02 | 0.43876E-03 |          |       |
| 0.91433E-03 | 0.55019E+03 | 0.11775E+07 | 0.11004E+01 | 0.12133E-02 | 0.30212E+01 | 0.45760E+02 | 0.44155E-03 |          |       |
| 0.91687E-03 | 0.55319E+03 | 0.11839E+07 | 0.11064E+01 | 0.12210E-02 | 0.30376E+01 | 0.45759E+02 | 0.44435E-03 |          |       |
| 0.91941E-03 | 0.55620E+03 | 0.11903E+07 | 0.11124E+01 | 0.12287E-02 | 0.30541E+01 | 0.45759E+02 | 0.44717E-03 |          |       |
| 0.92195E-03 | 0.55923E+03 | 0.11968E+07 | 0.11185E+01 | 0.12365E-02 | 0.30707E+01 | 0.45758E+02 | 0.45001E-03 |          |       |
| 0.92449E-03 | 0.56228E+03 | 0.12033E+07 | 0.11246E+01 | 0.12443E-02 | 0.30874E+01 | 0.45758E+02 | 0.45285E-03 |          |       |
| 0.92703E-03 | 0.56534E+03 | 0.12099E+07 | 0.11307E+01 | 0.12522E-02 | 0.31042E+01 | 0.45757E+02 | 0.45572E-03 |          |       |
| 0.92957E-03 | 0.56843E+03 | 0.12165E+07 | 0.11369E+01 | 0.12601E-02 | 0.31211E+01 | 0.45757E+02 | 0.45860E-03 |          |       |
| 0.93211E-03 | 0.57152E+03 | 0.12231E+07 | 0.11430E+01 | 0.12680E-02 | 0.31381E+01 | 0.45756E+02 | 0.46149E-03 |          |       |
| 0.93465E-03 | 0.57464E+03 | 0.12298E+07 | 0.11493E+01 | 0.12760E-02 | 0.31552E+01 | 0.45756E+02 | 0.46440E-03 |          |       |
| 0.93719E-03 | 0.57777E+03 | 0.12365E+07 | 0.11555E+01 | 0.12841E-02 | 0.31723E+01 | 0.45755E+02 | 0.46733E-03 |          |       |
| 0.93973E-03 | 0.58092E+03 | 0.12433E+07 | 0.11618E+01 | 0.12921E-02 | 0.31896E+01 | 0.45755E+02 | 0.47027E-03 |          |       |
| 0.94227E-03 | 0.58409E+03 | 0.12500E+07 | 0.11682E+01 | 0.13003E-02 | 0.32069E+01 | 0.45754E+02 | 0.47323E-03 |          |       |
| 0.94481E-03 | 0.58727E+03 | 0.12568E+07 | 0.11745E+01 | 0.13084E-02 | 0.32244E+01 | 0.45754E+02 | 0.47621E-03 |          |       |
| 0.94735E-03 | 0.59047E+03 | 0.12637E+07 | 0.11809E+01 | 0.13166E-02 | 0.32419E+01 | 0.45753E+02 | 0.47920E-03 |          |       |
| 0.94989E-03 | 0.59369E+03 | 0.12706E+07 | 0.11874E+01 | 0.13249E-02 | 0.32596E+01 | 0.45753E+02 | 0.48221E-03 |          |       |
| 0.95243E-03 | 0.59692E+03 | 0.12775E+07 | 0.11938E+01 | 0.13332E-02 | 0.32773E+01 | 0.45752E+02 | 0.48523E-03 |          |       |
| 0.95497E-03 | 0.60018E+03 | 0.12845E+07 | 0.12004E+01 | 0.13416E-02 | 0.32951E+01 | 0.45752E+02 | 0.48827E-03 |          |       |
| 0.95751E-03 | 0.60345E+03 | 0.12915E+07 | 0.12069E+01 | 0.13499E-02 | 0.33130E+01 | 0.45751E+02 | 0.49133E-03 |          |       |
| 0.96005E-03 | 0.60674E+03 | 0.12985E+07 | 0.12135E+01 | 0.13584E-02 | 0.33311E+01 | 0.45751E+02 | 0.49440E-03 |          |       |

| TIME        | PRESSURE    | PDOT        | XDOT        | PROPELLANT BURNT | MDOT        | SURFACE     | DISTANCE BURNT |
|-------------|-------------|-------------|-------------|------------------|-------------|-------------|----------------|
| 0.96259E-03 | 0.61005E+03 | 0.13056E+07 | 0.12201E+01 | 0.13669E-02      | 0.33492E+01 | 0.45750E+02 | 0.49749E-03    |
| 0.96513E-03 | 0.61337E+03 | 0.13127E+07 | 0.12267E+01 | 0.13754E-02      | 0.33674E+01 | 0.45750E+02 | 0.50060E-03    |
| 0.96767E-03 | 0.61671E+03 | 0.13199E+07 | 0.12334E+01 | 0.13840E-02      | 0.33857E+01 | 0.45749E+02 | 0.50372E-03    |
| 0.97021E-03 | 0.62007E+03 | 0.13271E+07 | 0.12401E+01 | 0.13926E-02      | 0.34041E+01 | 0.45749E+02 | 0.50686E-03    |
| 0.97275E-03 | 0.62345E+03 | 0.13343E+07 | 0.12469E+01 | 0.14013E-02      | 0.34226E+01 | 0.45748E+02 | 0.51002E-03    |
| 0.97529E-03 | 0.62685E+03 | 0.13416E+07 | 0.12537E+01 | 0.14100E-02      | 0.34413E+01 | 0.45748E+02 | 0.51320E-03    |
| 0.97783E-03 | 0.63027E+03 | 0.13489E+07 | 0.12605E+01 | 0.14187E-02      | 0.34600E+01 | 0.45747E+02 | 0.51639E-03    |
| 0.98037E-03 | 0.63370E+03 | 0.13563E+07 | 0.12674E+01 | 0.14276E-02      | 0.34788E+01 | 0.45747E+02 | 0.51960E-03    |
| 0.98291E-03 | 0.63716E+03 | 0.13637E+07 | 0.12743E+01 | 0.14364E-02      | 0.34977E+01 | 0.45746E+02 | 0.52283E-03    |
| 0.98545E-03 | 0.64063E+03 | 0.13711E+07 | 0.12813E+01 | 0.14453E-02      | 0.35167E+01 | 0.45746E+02 | 0.52607E-03    |
| 0.98799E-03 | 0.64412E+03 | 0.13786E+07 | 0.12882E+01 | 0.14543E-02      | 0.35359E+01 | 0.45745E+02 | 0.52934E-03    |
| 0.99053E-03 | 0.64763E+03 | 0.13861E+07 | 0.12953E+01 | 0.14633E-02      | 0.35551E+01 | 0.45745E+02 | 0.53262E-03    |
| 0.99307E-03 | 0.65116E+03 | 0.13937E+07 | 0.13023E+01 | 0.14723E-02      | 0.35744E+01 | 0.45744E+02 | 0.53592E-03    |
| 0.99561E-03 | 0.65471E+03 | 0.14013E+07 | 0.13094E+01 | 0.14814E-02      | 0.35939E+01 | 0.45743E+02 | 0.53923E-03    |
| 0.99815E-03 | 0.65828E+03 | 0.14089E+07 | 0.13166E+01 | 0.14906E-02      | 0.36134E+01 | 0.45743E+02 | 0.54257E-03    |
| 0.10007E-02 | 0.66187E+03 | 0.14166E+07 | 0.13237E+01 | 0.14998E-02      | 0.36331E+01 | 0.45742E+02 | 0.54592E-03    |
| 0.10032E-02 | 0.66548E+03 | 0.14243E+07 | 0.13310E+01 | 0.15090E-02      | 0.36528E+01 | 0.45742E+02 | 0.54929E-03    |
| 0.10058E-02 | 0.66911E+03 | 0.14321E+07 | 0.13382E+01 | 0.15183E-02      | 0.36727E+01 | 0.45741E+02 | 0.55268E-03    |
| 0.10083E-02 | 0.67275E+03 | 0.14399E+07 | 0.13455E+01 | 0.15277E-02      | 0.36927E+01 | 0.45741E+02 | 0.55609E-03    |
| 0.10108E-02 | 0.67642E+03 | 0.14477E+07 | 0.13528E+01 | 0.15371E-02      | 0.37127E+01 | 0.45740E+02 | 0.55952E-03    |
| 0.10134E-02 | 0.68011E+03 | 0.14556E+07 | 0.13602E+01 | 0.15466E-02      | 0.37329E+01 | 0.45740E+02 | 0.56296E-03    |
| 0.10159E-02 | 0.68381E+03 | 0.14636E+07 | 0.13676E+01 | 0.15561E-02      | 0.37532E+01 | 0.45739E+02 | 0.56643E-03    |
| 0.10185E-02 | 0.68754E+03 | 0.14715E+07 | 0.13751E+01 | 0.15656E-02      | 0.37736E+01 | 0.45738E+02 | 0.56991E-03    |
| 0.10210E-02 | 0.69129E+03 | 0.14796E+07 | 0.13826E+01 | 0.15752E-02      | 0.37942E+01 | 0.45738E+02 | 0.57341E-03    |
| 0.10235E-02 | 0.69506E+03 | 0.14876E+07 | 0.13901E+01 | 0.15849E-02      | 0.38148E+01 | 0.45737E+02 | 0.57693E-03    |
| 0.10261E-02 | 0.69884E+03 | 0.14958E+07 | 0.13977E+01 | 0.15946E-02      | 0.38355E+01 | 0.45737E+02 | 0.58047E-03    |
| 0.10286E-02 | 0.70265E+03 | 0.15039E+07 | 0.14053E+01 | 0.16044E-02      | 0.38564E+01 | 0.45736E+02 | 0.58403E-03    |
| 0.10312E-02 | 0.70648E+03 | 0.15121E+07 | 0.14130E+01 | 0.16142E-02      | 0.38774E+01 | 0.45735E+02 | 0.58761E-03    |
| 0.10337E-02 | 0.71034E+03 | 0.15204E+07 | 0.14207E+01 | 0.16241E-02      | 0.38984E+01 | 0.45735E+02 | 0.59121E-03    |
| 0.10362E-02 | 0.71421E+03 | 0.15286E+07 | 0.14284E+01 | 0.16340E-02      | 0.39196E+01 | 0.45734E+02 | 0.59483E-03    |
| 0.10388E-02 | 0.71810E+03 | 0.15370E+07 | 0.14362E+01 | 0.16440E-02      | 0.39410E+01 | 0.45734E+02 | 0.59846E-03    |
| 0.10413E-02 | 0.72201E+03 | 0.15454E+07 | 0.14440E+01 | 0.16540E-02      | 0.39624E+01 | 0.45733E+02 | 0.60212E-03    |
| 0.10439E-02 | 0.72595E+03 | 0.15538E+07 | 0.14519E+01 | 0.16641E-02      | 0.39839E+01 | 0.45732E+02 | 0.60580E-03    |
| 0.10464E-02 | 0.72991E+03 | 0.15623E+07 | 0.14598E+01 | 0.16743E-02      | 0.40056E+01 | 0.45732E+02 | 0.60950E-03    |
| 0.10489E-02 | 0.73389E+03 | 0.15708E+07 | 0.14678E+01 | 0.16845E-02      | 0.40274E+01 | 0.45731E+02 | 0.61321E-03    |
| 0.10515E-02 | 0.73789E+03 | 0.15794E+07 | 0.14758E+01 | 0.16947E-02      | 0.40493E+01 | 0.45731E+02 | 0.61695E-03    |
| 0.10540E-02 | 0.74191E+03 | 0.15880E+07 | 0.14838E+01 | 0.17050E-02      | 0.40713E+01 | 0.45730E+02 | 0.62071E-03    |
| 0.10566E-02 | 0.74595E+03 | 0.15966E+07 | 0.14919E+01 | 0.17154E-02      | 0.40934E+01 | 0.45729E+02 | 0.62449E-03    |
| 0.10591E-02 | 0.75002E+03 | 0.16053E+07 | 0.15000E+01 | 0.17258E-02      | 0.41157E+01 | 0.45729E+02 | 0.62829E-03    |
| 0.10616E-02 | 0.75411E+03 | 0.16141E+07 | 0.15082E+01 | 0.17363E-02      | 0.41381E+01 | 0.45728E+02 | 0.63211E-03    |
| 0.10642E-02 | 0.75822E+03 | 0.16229E+07 | 0.15164E+01 | 0.17468E-02      | 0.41606E+01 | 0.45727E+02 | 0.63595E-03    |
| 0.10667E-02 | 0.76235E+03 | 0.16317E+07 | 0.15247E+01 | 0.17574E-02      | 0.41832E+01 | 0.45727E+02 | 0.63981E-03    |
| 0.10693E-02 | 0.76651E+03 | 0.16406E+07 | 0.15330E+01 | 0.17681E-02      | 0.42059E+01 | 0.45726E+02 | 0.64370E-03    |
| 0.10718E-02 | 0.77068E+03 | 0.16496E+07 | 0.15414E+01 | 0.17788E-02      | 0.42288E+01 | 0.45725E+02 | 0.64760E-03    |
| 0.10743E-02 | 0.77489E+03 | 0.16586E+07 | 0.15498E+01 | 0.17896E-02      | 0.42518E+01 | 0.45725E+02 | 0.65153E-03    |
| 0.10769E-02 | 0.77911E+03 | 0.16676E+07 | 0.15582E+01 | 0.18004E-02      | 0.42749E+01 | 0.45724E+02 | 0.65547E-03    |
| 0.10794E-02 | 0.78336E+03 | 0.16767E+07 | 0.15667E+01 | 0.18113E-02      | 0.42981E+01 | 0.45723E+02 | 0.65944E-03    |
| 0.10820E-02 | 0.78763E+03 | 0.16859E+07 | 0.15753E+01 | 0.18222E-02      | 0.43215E+01 | 0.45723E+02 | 0.66343E-03    |
| 0.10845E-02 | 0.79192E+03 | 0.16951E+07 | 0.15838E+01 | 0.18332E-02      | 0.43450E+01 | 0.45722E+02 | 0.66744E-03    |
| 0.10870E-02 | 0.79624E+03 | 0.17043E+07 | 0.15925E+01 | 0.18443E-02      | 0.43686E+01 | 0.45721E+02 | 0.67148E-03    |
| 0.10896E-02 | 0.80058E+03 | 0.17136E+07 | 0.16012E+01 | 0.18554E-02      | 0.43924E+01 | 0.45721E+02 | 0.67553E-03    |
| 0.10921E-02 | 0.80494E+03 | 0.17230E+07 | 0.16099E+01 | 0.18666E-02      | 0.44162E+01 | 0.45720E+02 | 0.67961E-03    |
| 0.10947E-02 | 0.80933E+03 | 0.17324E+07 | 0.16187E+01 | 0.18779E-02      | 0.44402E+01 | 0.45719E+02 | 0.68371E-03    |
| 0.10972E-02 | 0.81374E+03 | 0.17418E+07 | 0.16275E+01 | 0.18892E-02      | 0.44644E+01 | 0.45719E+02 | 0.68783E-03    |

| TIME        | PRESSURE    | PDOT        | XDOT        | PROPELLANT  | BURNT       | MDOT        | SURFACE     | DISTANCE | BURNT |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------|-------|
| 0.10997E-02 | 0.81818E+03 | 0.17513E+07 | 0.16364E+01 | 0.19005E-02 | 0.44887E+01 | 0.45718E+02 | 0.69198E-03 |          |       |
| 0.11023E-02 | 0.82264E+03 | 0.17609E+07 | 0.16453E+01 | 0.19120E-02 | 0.45131E+01 | 0.45717E+02 | 0.69614E-03 |          |       |
| 0.11048E-02 | 0.82712E+03 | 0.17705E+07 | 0.16542E+01 | 0.19235E-02 | 0.45376E+01 | 0.45717E+02 | 0.70033E-03 |          |       |
| 0.11074E-02 | 0.83163E+03 | 0.17801E+07 | 0.16633E+01 | 0.19350E-02 | 0.45623E+01 | 0.45716E+02 | 0.70455E-03 |          |       |
| 0.11099E-02 | 0.83616E+03 | 0.17898E+07 | 0.16723E+01 | 0.19466E-02 | 0.45871E+01 | 0.45715E+02 | 0.70878E-03 |          |       |
| 0.11124E-02 | 0.84072E+03 | 0.17996E+07 | 0.16814E+01 | 0.19583E-02 | 0.46120E+01 | 0.45714E+02 | 0.71304E-03 |          |       |
| 0.11150E-02 | 0.84531E+03 | 0.18094E+07 | 0.16906E+01 | 0.19701E-02 | 0.46371E+01 | 0.45714E+02 | 0.71732E-03 |          |       |
| 0.11175E-02 | 0.84991E+03 | 0.18193E+07 | 0.16998E+01 | 0.19819E-02 | 0.46623E+01 | 0.45713E+02 | 0.72163E-03 |          |       |
| 0.11201E-02 | 0.85455E+03 | 0.18292E+07 | 0.17091E+01 | 0.19937E-02 | 0.46876E+01 | 0.45712E+02 | 0.72596E-03 |          |       |
| 0.11226E-02 | 0.85921E+03 | 0.18392E+07 | 0.17184E+01 | 0.20057E-02 | 0.47131E+01 | 0.45712E+02 | 0.73031E-03 |          |       |
| 0.11251E-02 | 0.86389E+03 | 0.18492E+07 | 0.17278E+01 | 0.20177E-02 | 0.47387E+01 | 0.45711E+02 | 0.73465E-03 |          |       |
| 0.11277E-02 | 0.86860E+03 | 0.18593E+07 | 0.17372E+01 | 0.20298E-02 | 0.47645E+01 | 0.45710E+02 | 0.73909E-03 |          |       |
| 0.11302E-02 | 0.87333E+03 | 0.18694E+07 | 0.17467E+01 | 0.20419E-02 | 0.47904E+01 | 0.45709E+02 | 0.74351E-03 |          |       |
| 0.11328E-02 | 0.87809E+03 | 0.18796E+07 | 0.17562E+01 | 0.20541E-02 | 0.48164E+01 | 0.45709E+02 | 0.74796E-03 |          |       |
| 0.11353E-02 | 0.88288E+03 | 0.18899E+07 | 0.17658E+01 | 0.20664E-02 | 0.48426E+01 | 0.45708E+02 | 0.75243E-03 |          |       |
| 0.11378E-02 | 0.88769E+03 | 0.19002E+07 | 0.17754E+01 | 0.20787E-02 | 0.48689E+01 | 0.45707E+02 | 0.75693E-03 |          |       |
| 0.11404E-02 | 0.89253E+03 | 0.19106E+07 | 0.17851E+01 | 0.20911E-02 | 0.48953E+01 | 0.45706E+02 | 0.76145E-03 |          |       |
| 0.11429E-02 | 0.89740E+03 | 0.19210E+07 | 0.17948E+01 | 0.21036E-02 | 0.49220E+01 | 0.45706E+02 | 0.76600E-03 |          |       |
| 0.11455E-02 | 0.90229E+03 | 0.19315E+07 | 0.18046E+01 | 0.21161E-02 | 0.49487E+01 | 0.45705E+02 | 0.77057E-03 |          |       |
| 0.11480E-02 | 0.90721E+03 | 0.19420E+07 | 0.18144E+01 | 0.21287E-02 | 0.49756E+01 | 0.45704E+02 | 0.77516E-03 |          |       |
| 0.11505E-02 | 0.91216E+03 | 0.19526E+07 | 0.18243E+01 | 0.21414E-02 | 0.50026E+01 | 0.45703E+02 | 0.77978E-03 |          |       |
| 0.11531E-02 | 0.91713E+03 | 0.19633E+07 | 0.18343E+01 | 0.21541E-02 | 0.50298E+01 | 0.45703E+02 | 0.78443E-03 |          |       |
| 0.11556E-02 | 0.92213E+03 | 0.19740E+07 | 0.18443E+01 | 0.21669E-02 | 0.50572E+01 | 0.45702E+02 | 0.78910E-03 |          |       |
| 0.11582E-02 | 0.92716E+03 | 0.19847E+07 | 0.18543E+01 | 0.21798E-02 | 0.50846E+01 | 0.45701E+02 | 0.79380E-03 |          |       |
| 0.11607E-02 | 0.93221E+03 | 0.19956E+07 | 0.18644E+01 | 0.21927E-02 | 0.51123E+01 | 0.45700E+02 | 0.79852E-03 |          |       |
| 0.11632E-02 | 0.93729E+03 | 0.20064E+07 | 0.18746E+01 | 0.22058E-02 | 0.51401E+01 | 0.45699E+02 | 0.80327E-03 |          |       |
| 0.11658E-02 | 0.94240E+03 | 0.20174E+07 | 0.18848E+01 | 0.22189E-02 | 0.51680E+01 | 0.45699E+02 | 0.80804E-03 |          |       |
| 0.11683E-02 | 0.94754E+03 | 0.20284E+07 | 0.18951E+01 | 0.22320E-02 | 0.51961E+01 | 0.45698E+02 | 0.81284E-03 |          |       |
| 0.11709E-02 | 0.95271E+03 | 0.20395E+07 | 0.19054E+01 | 0.22452E-02 | 0.52243E+01 | 0.45697E+02 | 0.81767E-03 |          |       |
| 0.11734E-02 | 0.95790E+03 | 0.20506E+07 | 0.19158E+01 | 0.22586E-02 | 0.52527E+01 | 0.45696E+02 | 0.82252E-03 |          |       |
| 0.11759E-02 | 0.96312E+03 | 0.20618E+07 | 0.19262E+01 | 0.22719E-02 | 0.52812E+01 | 0.45695E+02 | 0.82740E-03 |          |       |
| 0.11785E-02 | 0.96837E+03 | 0.20730E+07 | 0.19367E+01 | 0.22854E-02 | 0.53099E+01 | 0.45695E+02 | 0.83231E-03 |          |       |
| 0.11810E-02 | 0.97365E+03 | 0.20843E+07 | 0.19473E+01 | 0.22989E-02 | 0.53388E+01 | 0.45694E+02 | 0.83724E-03 |          |       |
| 0.11836E-02 | 0.97896E+03 | 0.20957E+07 | 0.19579E+01 | 0.23125E-02 | 0.53678E+01 | 0.45693E+02 | 0.84220E-03 |          |       |
| 0.11861E-02 | 0.98430E+03 | 0.21071E+07 | 0.19686E+01 | 0.23262E-02 | 0.53970E+01 | 0.45692E+02 | 0.84718E-03 |          |       |
| 0.11886E-02 | 0.98966E+03 | 0.21186E+07 | 0.19793E+01 | 0.23399E-02 | 0.54263E+01 | 0.45691E+02 | 0.85220E-03 |          |       |
| 0.11912E-02 | 0.99506E+03 | 0.21302E+07 | 0.19901E+01 | 0.23537E-02 | 0.54558E+01 | 0.45690E+02 | 0.85724E-03 |          |       |
| 0.11937E-02 | 0.10005E+04 | 0.21418E+07 | 0.20010E+01 | 0.23676E-02 | 0.54854E+01 | 0.45690E+02 | 0.86231E-03 |          |       |
| 0.11963E-02 | 0.10059E+04 | 0.21535E+07 | 0.20119E+01 | 0.23816E-02 | 0.55152E+01 | 0.45689E+02 | 0.86740E-03 |          |       |
| 0.11988E-02 | 0.10114E+04 | 0.21652E+07 | 0.20228E+01 | 0.23956E-02 | 0.55452E+01 | 0.45688E+02 | 0.87253E-03 |          |       |
| 0.12013E-02 | 0.10169E+04 | 0.21771E+07 | 0.20339E+01 | 0.24098E-02 | 0.55753E+01 | 0.45687E+02 | 0.87768E-03 |          |       |
| 0.12039E-02 | 0.10225E+04 | 0.21889E+07 | 0.20450E+01 | 0.24240E-02 | 0.56056E+01 | 0.45686E+02 | 0.88286E-03 |          |       |
| 0.12064E-02 | 0.10281E+04 | 0.22009E+07 | 0.20561E+01 | 0.24382E-02 | 0.56361E+01 | 0.45685E+02 | 0.88807E-03 |          |       |
| 0.12089E-02 | 0.10337E+04 | 0.22129E+07 | 0.20673E+01 | 0.24526E-02 | 0.56667E+01 | 0.45684E+02 | 0.89330E-03 |          |       |
| 0.12115E-02 | 0.10393E+04 | 0.22250E+07 | 0.20786E+01 | 0.24670E-02 | 0.56975E+01 | 0.45684E+02 | 0.89857E-03 |          |       |
| 0.12140E-02 | 0.10450E+04 | 0.22371E+07 | 0.20899E+01 | 0.24815E-02 | 0.57284E+01 | 0.45683E+02 | 0.90386E-03 |          |       |
| 0.12166E-02 | 0.10507E+04 | 0.22493E+07 | 0.21013E+01 | 0.24961E-02 | 0.57595E+01 | 0.45682E+02 | 0.90918E-03 |          |       |
| 0.12191E-02 | 0.10564E+04 | 0.22616E+07 | 0.21128E+01 | 0.25108E-02 | 0.57908E+01 | 0.45681E+02 | 0.91453E-03 |          |       |
| 0.12216E-02 | 0.10622E+04 | 0.22739E+07 | 0.21243E+01 | 0.25255E-02 | 0.58223E+01 | 0.45680E+02 | 0.91992E-03 |          |       |
| 0.12242E-02 | 0.10679E+04 | 0.22863E+07 | 0.21359E+01 | 0.25404E-02 | 0.58539E+01 | 0.45679E+02 | 0.92533E-03 |          |       |
| 0.12267E-02 | 0.10738E+04 | 0.22988E+07 | 0.21475E+01 | 0.25553E-02 | 0.58857E+01 | 0.45678E+02 | 0.93076E-03 |          |       |
| 0.12293E-02 | 0.10796E+04 | 0.23113E+07 | 0.21592E+01 | 0.25703E-02 | 0.59177E+01 | 0.45677E+02 | 0.93623E-03 |          |       |
| 0.12318E-02 | 0.10855E+04 | 0.23240E+07 | 0.21710E+01 | 0.25853E-02 | 0.59498E+01 | 0.45676E+02 | 0.94173E-03 |          |       |
| 0.12343E-02 | 0.10914E+04 | 0.23366E+07 | 0.21828E+01 | 0.26005E-02 | 0.59822E+01 | 0.45675E+02 | 0.94726E-03 |          |       |

| TIME        | PRESSURE    | PDOY        | XDOT        | PROPELLANT  | BURNT       | MDOT        | SURFACE     | DISTANCE | BURNT |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------|-------|
| 0.12369E-02 | 0.10974E+04 | 0.23494E+07 | 0.21947E+01 | 0.26157E-02 | 0.60146E+01 | 0.45675E+02 | 0.95282E-03 |          |       |
| 0.12394E-02 | 0.11034E+04 | 0.23622E+07 | 0.22067E+01 | 0.26310E-02 | 0.60473E+01 | 0.45674E+02 | 0.95841E-03 |          |       |
| 0.12420E-02 | 0.11094E+04 | 0.23751E+07 | 0.22187E+01 | 0.26464E-02 | 0.60802E+01 | 0.45673E+02 | 0.96403E-03 |          |       |
| 0.12445E-02 | 0.11154E+04 | 0.23881E+07 | 0.22308E+01 | 0.26619E-02 | 0.61132E+01 | 0.45672E+02 | 0.96968E-03 |          |       |
| 0.12470E-02 | 0.11215E+04 | 0.24011E+07 | 0.22430E+01 | 0.26775E-02 | 0.61464E+01 | 0.45671E+02 | 0.97536E-03 |          |       |
| 0.12496E-02 | 0.11276E+04 | 0.24142E+07 | 0.22552E+01 | 0.26931E-02 | 0.61798E+01 | 0.45670E+02 | 0.98107E-03 |          |       |
| 0.12521E-02 | 0.11338E+04 | 0.24274E+07 | 0.22675E+01 | 0.27089E-02 | 0.62133E+01 | 0.45669E+02 | 0.98682E-03 |          |       |
| 0.12547E-02 | 0.11399E+04 | 0.24406E+07 | 0.22799E+01 | 0.27247E-02 | 0.62471E+01 | 0.45668E+02 | 0.99259E-03 |          |       |
| 0.12572E-02 | 0.11462E+04 | 0.24539E+07 | 0.22923E+01 | 0.27406E-02 | 0.62810E+01 | 0.45667E+02 | 0.99840E-03 |          |       |
| 0.12597E-02 | 0.11524E+04 | 0.24673E+07 | 0.23048E+01 | 0.27566E-02 | 0.63151E+01 | 0.45666E+02 | 0.10042E-02 |          |       |
| 0.12623E-02 | 0.11587E+04 | 0.24808E+07 | 0.23174E+01 | 0.27727E-02 | 0.63494E+01 | 0.45665E+02 | 0.10101E-02 |          |       |
| 0.12648E-02 | 0.11650E+04 | 0.24943E+07 | 0.23300E+01 | 0.27889E-02 | 0.63839E+01 | 0.45664E+02 | 0.10160E-02 |          |       |
| 0.12674E-02 | 0.11714E+04 | 0.25079E+07 | 0.23427E+01 | 0.28051E-02 | 0.64186E+01 | 0.45663E+02 | 0.10219E-02 |          |       |
| 0.12699E-02 | 0.11778E+04 | 0.25216E+07 | 0.23555E+01 | 0.28215E-02 | 0.64534E+01 | 0.45662E+02 | 0.10279E-02 |          |       |
| 0.12724E-02 | 0.11842E+04 | 0.25354E+07 | 0.23684E+01 | 0.28379E-02 | 0.64885E+01 | 0.45661E+02 | 0.10339E-02 |          |       |
| 0.12750E-02 | 0.11906E+04 | 0.25492E+07 | 0.23813E+01 | 0.28544E-02 | 0.65237E+01 | 0.45660E+02 | 0.10399E-02 |          |       |
| 0.12775E-02 | 0.11971E+04 | 0.25631E+07 | 0.23943E+01 | 0.28710E-02 | 0.65591E+01 | 0.45659E+02 | 0.10460E-02 |          |       |
| 0.12801E-02 | 0.12037E+04 | 0.25771E+07 | 0.24073E+01 | 0.28877E-02 | 0.65948E+01 | 0.45658E+02 | 0.10521E-02 |          |       |
| 0.12826E-02 | 0.12102E+04 | 0.25912E+07 | 0.24204E+01 | 0.29045E-02 | 0.66306E+01 | 0.45657E+02 | 0.10582E-02 |          |       |
| 0.12851E-02 | 0.12168E+04 | 0.26053E+07 | 0.24336E+01 | 0.29214E-02 | 0.66666E+01 | 0.45656E+02 | 0.10644E-02 |          |       |
| 0.12877E-02 | 0.12235E+04 | 0.26195E+07 | 0.24469E+01 | 0.29384E-02 | 0.67028E+01 | 0.45655E+02 | 0.10706E-02 |          |       |
| 0.12902E-02 | 0.12301E+04 | 0.26338E+07 | 0.24602E+01 | 0.29555E-02 | 0.67392E+01 | 0.45654E+02 | 0.10768E-02 |          |       |
| 0.12928E-02 | 0.12368E+04 | 0.26482E+07 | 0.24737E+01 | 0.29726E-02 | 0.67758E+01 | 0.45653E+02 | 0.10831E-02 |          |       |
| 0.12953E-02 | 0.12436E+04 | 0.26627E+07 | 0.24871E+01 | 0.29899E-02 | 0.68126E+01 | 0.45652E+02 | 0.10894E-02 |          |       |
| 0.12978E-02 | 0.12504E+04 | 0.26772E+07 | 0.25007E+01 | 0.30072E-02 | 0.68496E+01 | 0.45651E+02 | 0.10957E-02 |          |       |
| 0.13004E-02 | 0.12572E+04 | 0.26918E+07 | 0.25143E+01 | 0.30247E-02 | 0.68867E+01 | 0.45650E+02 | 0.11021E-02 |          |       |
| 0.13029E-02 | 0.12640E+04 | 0.27065E+07 | 0.25281E+01 | 0.30422E-02 | 0.69241E+01 | 0.45649E+02 | 0.11085E-02 |          |       |
| 0.13055E-02 | 0.12709E+04 | 0.27213E+07 | 0.25418E+01 | 0.30599E-02 | 0.69617E+01 | 0.45648E+02 | 0.11149E-02 |          |       |
| 0.13080E-02 | 0.12779E+04 | 0.27361E+07 | 0.25557E+01 | 0.30776E-02 | 0.69995E+01 | 0.45646E+02 | 0.11214E-02 |          |       |
| 0.13105E-02 | 0.12848E+04 | 0.27510E+07 | 0.25696E+01 | 0.30954E-02 | 0.70375E+01 | 0.45645E+02 | 0.11279E-02 |          |       |
| 0.13131E-02 | 0.12918E+04 | 0.27661E+07 | 0.25837E+01 | 0.31133E-02 | 0.70757E+01 | 0.45644E+02 | 0.11345E-02 |          |       |
| 0.13156E-02 | 0.12989E+04 | 0.27812E+07 | 0.25977E+01 | 0.31314E-02 | 0.71141E+01 | 0.45643E+02 | 0.11410E-02 |          |       |
| 0.13182E-02 | 0.13060E+04 | 0.27963E+07 | 0.26119E+01 | 0.31495E-02 | 0.71528E+01 | 0.45642E+02 | 0.11477E-02 |          |       |
| 0.13207E-02 | 0.13131E+04 | 0.28116E+07 | 0.26261E+01 | 0.31677E-02 | 0.71916E+01 | 0.45641E+02 | 0.11543E-02 |          |       |
| 0.13232E-02 | 0.13202E+04 | 0.28269E+07 | 0.26405E+01 | 0.31860E-02 | 0.72306E+01 | 0.45640E+02 | 0.11610E-02 |          |       |
| 0.13258E-02 | 0.13274E+04 | 0.28424E+07 | 0.26549E+01 | 0.32044E-02 | 0.72699E+01 | 0.45639E+02 | 0.11677E-02 |          |       |
| 0.13283E-02 | 0.13347E+04 | 0.28579E+07 | 0.26693E+01 | 0.32229E-02 | 0.73094E+01 | 0.45638E+02 | 0.11745E-02 |          |       |
| 0.13309E-02 | 0.13420E+04 | 0.28735E+07 | 0.26839E+01 | 0.32415E-02 | 0.73490E+01 | 0.45636E+02 | 0.11813E-02 |          |       |
| 0.13334E-02 | 0.13493E+04 | 0.28892E+07 | 0.26985E+01 | 0.32603E-02 | 0.73889E+01 | 0.45635E+02 | 0.11881E-02 |          |       |
| 0.13359E-02 | 0.13566E+04 | 0.29049E+07 | 0.27133E+01 | 0.32791E-02 | 0.74290E+01 | 0.45634E+02 | 0.11950E-02 |          |       |
| 0.13385E-02 | 0.13640E+04 | 0.29208E+07 | 0.27281E+01 | 0.32980E-02 | 0.74694E+01 | 0.45633E+02 | 0.12019E-02 |          |       |
| 0.13410E-02 | 0.13715E+04 | 0.29367E+07 | 0.27429E+01 | 0.33170E-02 | 0.75099E+01 | 0.45632E+02 | 0.12088E-02 |          |       |
| 0.13436E-02 | 0.13789E+04 | 0.29528E+07 | 0.27579E+01 | 0.33361E-02 | 0.75507E+01 | 0.45631E+02 | 0.12158E-02 |          |       |
| 0.13461E-02 | 0.13865E+04 | 0.29689E+07 | 0.27729E+01 | 0.33554E-02 | 0.75916E+01 | 0.45630E+02 | 0.12229E-02 |          |       |
| 0.13486E-02 | 0.13940E+04 | 0.29851E+07 | 0.27880E+01 | 0.33747E-02 | 0.76328E+01 | 0.45628E+02 | 0.12299E-02 |          |       |
| 0.13512E-02 | 0.14016E+04 | 0.30014E+07 | 0.28033E+01 | 0.33941E-02 | 0.76743E+01 | 0.45627E+02 | 0.12370E-02 |          |       |
| 0.13537E-02 | 0.14093E+04 | 0.30178E+07 | 0.28185E+01 | 0.34137E-02 | 0.77159E+01 | 0.45626E+02 | 0.12442E-02 |          |       |
| 0.13563E-02 | 0.14170E+04 | 0.30343E+07 | 0.28339E+01 | 0.34333E-02 | 0.77578E+01 | 0.45625E+02 | 0.12513E-02 |          |       |
| 0.13588E-02 | 0.14247E+04 | 0.30508E+07 | 0.28494E+01 | 0.34531E-02 | 0.77999E+01 | 0.45624E+02 | 0.12586E-02 |          |       |
| 0.13613E-02 | 0.14325E+04 | 0.30675E+07 | 0.28649E+01 | 0.34730E-02 | 0.78422E+01 | 0.45622E+02 | 0.12658E-02 |          |       |
| 0.13639E-02 | 0.14403E+04 | 0.30842E+07 | 0.28805E+01 | 0.34929E-02 | 0.78848E+01 | 0.45621E+02 | 0.12731E-02 |          |       |
| 0.13664E-02 | 0.14481E+04 | 0.31011E+07 | 0.28962E+01 | 0.35130E-02 | 0.79276E+01 | 0.45620E+02 | 0.12804E-02 |          |       |
| 0.13690E-02 | 0.14560E+04 | 0.31180E+07 | 0.29120E+01 | 0.35332E-02 | 0.79706E+01 | 0.45619E+02 | 0.12878E-02 |          |       |
| 0.13715E-02 | 0.14640E+04 | 0.31350E+07 | 0.29279E+01 | 0.35535E-02 | 0.80138E+01 | 0.45617E+02 | 0.12952E-02 |          |       |

| TIME        | PRESSURE    | PDOT        | XDOT        | PROPELLANT BURNT | MDOT        | SURFACE     | DISTANCE BURNT |
|-------------|-------------|-------------|-------------|------------------|-------------|-------------|----------------|
| 0.13740E-02 | 0.14719E+04 | 0.31521E+07 | 0.29439E+01 | 0.35739E-02      | 0.80573E+01 | 0.45616E+02 | 0.13027E-02    |
| 0.13766E-02 | 0.14800E+04 | 0.31693E+07 | 0.29599E+01 | 0.35944E-02      | 0.81010E+01 | 0.45615E+02 | 0.13102E-02    |
| 0.13791E-02 | 0.14880E+04 | 0.31866E+07 | 0.29761E+01 | 0.36151E-02      | 0.81450E+01 | 0.45614E+02 | 0.13177E-02    |
| 0.13817E-02 | 0.14962E+04 | 0.32040E+07 | 0.29923E+01 | 0.36358E-02      | 0.81892E+01 | 0.45612E+02 | 0.13253E-02    |
| 0.13842E-02 | 0.15043E+04 | 0.32215E+07 | 0.30086E+01 | 0.36567E-02      | 0.82336E+01 | 0.45611E+02 | 0.13329E-02    |
| 0.13867E-02 | 0.15125E+04 | 0.32391E+07 | 0.30250E+01 | 0.36776E-02      | 0.82783E+01 | 0.45610E+02 | 0.13406E-02    |
| 0.13893E-02 | 0.15208E+04 | 0.32568E+07 | 0.30415E+01 | 0.36987E-02      | 0.83232E+01 | 0.45609E+02 | 0.13483E-02    |
| 0.13918E-02 | 0.15291E+04 | 0.32746E+07 | 0.30581E+01 | 0.37199E-02      | 0.83684E+01 | 0.45607E+02 | 0.13560E-02    |
| 0.13944E-02 | 0.15374E+04 | 0.32924E+07 | 0.30748E+01 | 0.37412E-02      | 0.84138E+01 | 0.45606E+02 | 0.13638E-02    |
| 0.13969E-02 | 0.15458E+04 | 0.33104E+07 | 0.30916E+01 | 0.37626E-02      | 0.84594E+01 | 0.45605E+02 | 0.13717E-02    |
| 0.13994E-02 | 0.15542E+04 | 0.33285E+07 | 0.31084E+01 | 0.37842E-02      | 0.85053E+01 | 0.45603E+02 | 0.13795E-02    |
| 0.14020E-02 | 0.15627E+04 | 0.33467E+07 | 0.31254E+01 | 0.38058E-02      | 0.85515E+01 | 0.45602E+02 | 0.13874E-02    |
| 0.14045E-02 | 0.15712E+04 | 0.33649E+07 | 0.31424E+01 | 0.38276E-02      | 0.85979E+01 | 0.45601E+02 | 0.13954E-02    |
| 0.14071E-02 | 0.15798E+04 | 0.33833E+07 | 0.31596E+01 | 0.38495E-02      | 0.86445E+01 | 0.45599E+02 | 0.14034E-02    |
| 0.14096E-02 | 0.15884E+04 | 0.34018E+07 | 0.31768E+01 | 0.38715E-02      | 0.86914E+01 | 0.45598E+02 | 0.14115E-02    |
| 0.14121E-02 | 0.15971E+04 | 0.34204E+07 | 0.31941E+01 | 0.38937E-02      | 0.87385E+01 | 0.45597E+02 | 0.14195E-02    |
| 0.14147E-02 | 0.16058E+04 | 0.34390E+07 | 0.32116E+01 | 0.39159E-02      | 0.87859E+01 | 0.45595E+02 | 0.14277E-02    |
| 0.14172E-02 | 0.16145E+04 | 0.34578E+07 | 0.32291E+01 | 0.39383E-02      | 0.88336E+01 | 0.45594E+02 | 0.14359E-02    |
| 0.14198E-02 | 0.16233E+04 | 0.34767E+07 | 0.32467E+01 | 0.39608E-02      | 0.88815E+01 | 0.45593E+02 | 0.14441E-02    |
| 0.14223E-02 | 0.16322E+04 | 0.34957E+07 | 0.32644E+01 | 0.39834E-02      | 0.89297E+01 | 0.45591E+02 | 0.14524E-02    |
| 0.14248E-02 | 0.16411E+04 | 0.35148E+07 | 0.32822E+01 | 0.40062E-02      | 0.89781E+01 | 0.45590E+02 | 0.14607E-02    |
| 0.14274E-02 | 0.16501E+04 | 0.35340E+07 | 0.33001E+01 | 0.40290E-02      | 0.90268E+01 | 0.45588E+02 | 0.14690E-02    |
| 0.14299E-02 | 0.16591E+04 | 0.35533E+07 | 0.33181E+01 | 0.40520E-02      | 0.90758E+01 | 0.45587E+02 | 0.14774E-02    |
| 0.14325E-02 | 0.16681E+04 | 0.35727E+07 | 0.33362E+01 | 0.40751E-02      | 0.91250E+01 | 0.45586E+02 | 0.14859E-02    |
| 0.14350E-02 | 0.16772E+04 | 0.35922E+07 | 0.33544E+01 | 0.40984E-02      | 0.91745E+01 | 0.45584E+02 | 0.14944E-02    |
| 0.14375E-02 | 0.16863E+04 | 0.36118E+07 | 0.33727E+01 | 0.41217E-02      | 0.92242E+01 | 0.45583E+02 | 0.15029E-02    |
| 0.14401E-02 | 0.16955E+04 | 0.36315E+07 | 0.33911E+01 | 0.41452E-02      | 0.92742E+01 | 0.45581E+02 | 0.15115E-02    |
| 0.14426E-02 | 0.17048E+04 | 0.36513E+07 | 0.34096E+01 | 0.41688E-02      | 0.93245E+01 | 0.45580E+02 | 0.15201E-02    |
| 0.14452E-02 | 0.17141E+04 | 0.36713E+07 | 0.34282E+01 | 0.41926E-02      | 0.93751E+01 | 0.45579E+02 | 0.15288E-02    |
| 0.14477E-02 | 0.17234E+04 | 0.36913E+07 | 0.34469E+01 | 0.42165E-02      | 0.94259E+01 | 0.45577E+02 | 0.15376E-02    |
| 0.14502E-02 | 0.17328E+04 | 0.37115E+07 | 0.34657E+01 | 0.42405E-02      | 0.94771E+01 | 0.45576E+02 | 0.15463E-02    |
| 0.14528E-02 | 0.17423E+04 | 0.37318E+07 | 0.34846E+01 | 0.42646E-02      | 0.95284E+01 | 0.45574E+02 | 0.15552E-02    |
| 0.14553E-02 | 0.17518E+04 | 0.37521E+07 | 0.35036E+01 | 0.42889E-02      | 0.95801E+01 | 0.45573E+02 | 0.15640E-02    |
| 0.14579E-02 | 0.17614E+04 | 0.37726E+07 | 0.35227E+01 | 0.43133E-02      | 0.96320E+01 | 0.45571E+02 | 0.15730E-02    |
| 0.14604E-02 | 0.17710E+04 | 0.37932E+07 | 0.35419E+01 | 0.43378E-02      | 0.96843E+01 | 0.45570E+02 | 0.15819E-02    |
| 0.14629E-02 | 0.17806E+04 | 0.38140E+07 | 0.35612E+01 | 0.43625E-02      | 0.97368E+01 | 0.45568E+02 | 0.15909E-02    |
| 0.14655E-02 | 0.17903E+04 | 0.38348E+07 | 0.35807E+01 | 0.43873E-02      | 0.97896E+01 | 0.45567E+02 | 0.16000E-02    |
| 0.14680E-02 | 0.18001E+04 | 0.38557E+07 | 0.36002E+01 | 0.44122E-02      | 0.98426E+01 | 0.45565E+02 | 0.16091E-02    |
| 0.14706E-02 | 0.18099E+04 | 0.38768E+07 | 0.36198E+01 | 0.44372E-02      | 0.98960E+01 | 0.45564E+02 | 0.16183E-02    |
| 0.14731E-02 | 0.18198E+04 | 0.38980E+07 | 0.36396E+01 | 0.44625E-02      | 0.99496E+01 | 0.45562E+02 | 0.16275E-02    |
| 0.14756E-02 | 0.18297E+04 | 0.39193E+07 | 0.36594E+01 | 0.44878E-02      | 0.10004E+02 | 0.45561E+02 | 0.16368E-02    |
| 0.14782E-02 | 0.18397E+04 | 0.39407E+07 | 0.36794E+01 | 0.45133E-02      | 0.10058E+02 | 0.45559E+02 | 0.16461E-02    |
| 0.14807E-02 | 0.18497E+04 | 0.39622E+07 | 0.36995E+01 | 0.45389E-02      | 0.10112E+02 | 0.45557E+02 | 0.16555E-02    |
| 0.14832E-02 | 0.18598E+04 | 0.39838E+07 | 0.37197E+01 | 0.45646E-02      | 0.10167E+02 | 0.45556E+02 | 0.16649E-02    |
| 0.14858E-02 | 0.18700E+04 | 0.40056E+07 | 0.37400E+01 | 0.45905E-02      | 0.10222E+02 | 0.45554E+02 | 0.16744E-02    |
| 0.14883E-02 | 0.18802E+04 | 0.40275E+07 | 0.37604E+01 | 0.46166E-02      | 0.10278E+02 | 0.45553E+02 | 0.16839E-02    |
| 0.14909E-02 | 0.18904E+04 | 0.40495E+07 | 0.37809E+01 | 0.46427E-02      | 0.10333E+02 | 0.45551E+02 | 0.16935E-02    |
| 0.14934E-02 | 0.19007E+04 | 0.40716E+07 | 0.38015E+01 | 0.46690E-02      | 0.10389E+02 | 0.45549E+02 | 0.17031E-02    |
| 0.14959E-02 | 0.19111E+04 | 0.40938E+07 | 0.38222E+01 | 0.46955E-02      | 0.10446E+02 | 0.45548E+02 | 0.17128E-02    |
| 0.14985E-02 | 0.19215E+04 | 0.41162E+07 | 0.38431E+01 | 0.47221E-02      | 0.10502E+02 | 0.45546E+02 | 0.17225E-02    |
| 0.15010E-02 | 0.19320E+04 | 0.41387E+07 | 0.38641E+01 | 0.47489E-02      | 0.10559E+02 | 0.45545E+02 | 0.17323E-02    |
| 0.15036E-02 | 0.19426E+04 | 0.41613E+07 | 0.38851E+01 | 0.47757E-02      | 0.10616E+02 | 0.45543E+02 | 0.17422E-02    |
| 0.15061E-02 | 0.19532E+04 | 0.41840E+07 | 0.39063E+01 | 0.48028E-02      | 0.10674E+02 | 0.45541E+02 | 0.17520E-02    |
| 0.15086E-02 | 0.19638E+04 | 0.42069E+07 | 0.39276E+01 | 0.48300E-02      | 0.10732E+02 | 0.45540E+02 | 0.17620E-02    |

| TIME        | PRESSURE    | PDOT        | XDOT        | PROPELLANT  | BURNY       | MOOT        | SURFACE     | DISTANCE | BURNT |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------|-------|
| 0.15112E-02 | 0.19745E+04 | 0.42299E+07 | 0.39491E+01 | 0.48573E-02 | 0.10790E+02 | 0.45538E+02 | 0.17720E-02 |          |       |
| 0.15137E-02 | 0.19853E+04 | 0.42530E+07 | 0.39706E+01 | 0.48848E-02 | 0.10848E+02 | 0.45536E+02 | 0.17821E-02 |          |       |
| 0.15163E-02 | 0.19961E+04 | 0.42762E+07 | 0.39923E+01 | 0.49124E-02 | 0.10907E+02 | 0.45535E+02 | 0.17922E-02 |          |       |
| 0.15188E-02 | 0.20070E+04 | 0.42996E+07 | 0.40141E+01 | 0.49402E-02 | 0.10966E+02 | 0.45533E+02 | 0.18023E-02 |          |       |
| 0.15213E-02 | 0.20180E+04 | 0.43230E+07 | 0.40360E+01 | 0.49681E-02 | 0.11026E+02 | 0.45531E+02 | 0.18126E-02 |          |       |
| 0.15239E-02 | 0.20290E+04 | 0.43467E+07 | 0.40580E+01 | 0.49962E-02 | 0.11085E+02 | 0.45530E+02 | 0.18228E-02 |          |       |
| 0.15264E-02 | 0.20401E+04 | 0.43704E+07 | 0.40801E+01 | 0.50244E-02 | 0.11146E+02 | 0.45528E+02 | 0.18332E-02 |          |       |
| 0.15290E-02 | 0.20512E+04 | 0.43943E+07 | 0.41024E+01 | 0.50528E-02 | 0.11206E+02 | 0.45526E+02 | 0.18436E-02 |          |       |
| 0.15315E-02 | 0.20624E+04 | 0.44183E+07 | 0.41248E+01 | 0.50813E-02 | 0.11267E+02 | 0.45524E+02 | 0.18540E-02 |          |       |
| 0.15340E-02 | 0.20736E+04 | 0.44424E+07 | 0.41473E+01 | 0.51100E-02 | 0.11328E+02 | 0.45523E+02 | 0.18645E-02 |          |       |
| 0.15366E-02 | 0.20849E+04 | 0.44667E+07 | 0.41699E+01 | 0.51389E-02 | 0.11389E+02 | 0.45521E+02 | 0.18751E-02 |          |       |
| 0.15391E-02 | 0.20963E+04 | 0.44911E+07 | 0.41926E+01 | 0.51679E-02 | 0.11451E+02 | 0.45519E+02 | 0.18857E-02 |          |       |
| 0.15417E-02 | 0.21078E+04 | 0.45157E+07 | 0.42155E+01 | 0.51970E-02 | 0.11513E+02 | 0.45517E+02 | 0.18964E-02 |          |       |
| 0.15442E-02 | 0.21193E+04 | 0.45403E+07 | 0.42385E+01 | 0.52264E-02 | 0.11575E+02 | 0.45515E+02 | 0.19071E-02 |          |       |
| 0.15467E-02 | 0.21308E+04 | 0.45651E+07 | 0.42614E+01 | 0.52558E-02 | 0.11638E+02 | 0.45514E+02 | 0.19179E-02 |          |       |
| 0.15493E-02 | 0.21424E+04 | 0.45901E+07 | 0.42849E+01 | 0.52855E-02 | 0.11701E+02 | 0.45512E+02 | 0.19288E-02 |          |       |
| 0.15518E-02 | 0.21541E+04 | 0.46152E+07 | 0.43083E+01 | 0.53153E-02 | 0.11764E+02 | 0.45510E+02 | 0.19397E-02 |          |       |
| 0.15544E-02 | 0.21659E+04 | 0.46404E+07 | 0.43318E+01 | 0.53452E-02 | 0.11828E+02 | 0.45508E+02 | 0.19506E-02 |          |       |
| 0.15569E-02 | 0.21777E+04 | 0.46657E+07 | 0.43554E+01 | 0.53754E-02 | 0.11892E+02 | 0.45506E+02 | 0.19617E-02 |          |       |
| 0.15594E-02 | 0.21896E+04 | 0.46912E+07 | 0.43792E+01 | 0.54056E-02 | 0.11956E+02 | 0.45505E+02 | 0.19728E-02 |          |       |
| 0.15620E-02 | 0.22015E+04 | 0.47169E+07 | 0.44031E+01 | 0.54361E-02 | 0.12021E+02 | 0.45503E+02 | 0.19839E-02 |          |       |
| 0.15645E-02 | 0.22136E+04 | 0.47426E+07 | 0.44271E+01 | 0.54667E-02 | 0.12086E+02 | 0.45501E+02 | 0.19951E-02 |          |       |
| 0.15671E-02 | 0.22256E+04 | 0.47686E+07 | 0.44513E+01 | 0.54975E-02 | 0.12152E+02 | 0.45499E+02 | 0.20064E-02 |          |       |
| 0.15696E-02 | 0.22378E+04 | 0.47946E+07 | 0.44755E+01 | 0.55284E-02 | 0.12217E+02 | 0.45497E+02 | 0.20177E-02 |          |       |
| 0.15721E-02 | 0.22500E+04 | 0.48208E+07 | 0.45000E+01 | 0.55595E-02 | 0.12284E+02 | 0.45495E+02 | 0.20291E-02 |          |       |
| 0.15747E-02 | 0.22623E+04 | 0.48472E+07 | 0.45245E+01 | 0.55908E-02 | 0.12350E+02 | 0.45493E+02 | 0.20406E-02 |          |       |
| 0.15772E-02 | 0.22746E+04 | 0.48737E+07 | 0.45492E+01 | 0.56223E-02 | 0.12417E+02 | 0.45491E+02 | 0.20521E-02 |          |       |
| 0.15798E-02 | 0.22870E+04 | 0.49003E+07 | 0.45740E+01 | 0.56539E-02 | 0.12484E+02 | 0.45489E+02 | 0.20637E-02 |          |       |
| 0.15823E-02 | 0.22995E+04 | 0.49271E+07 | 0.45990E+01 | 0.56857E-02 | 0.12552E+02 | 0.45487E+02 | 0.20754E-02 |          |       |
| 0.15848E-02 | 0.23120E+04 | 0.49540E+07 | 0.46241E+01 | 0.57177E-02 | 0.12620E+02 | 0.45485E+02 | 0.20871E-02 |          |       |
| 0.15874E-02 | 0.23247E+04 | 0.49811E+07 | 0.46493E+01 | 0.57498E-02 | 0.12688E+02 | 0.45484E+02 | 0.20988E-02 |          |       |
| 0.15899E-02 | 0.23373E+04 | 0.50083E+07 | 0.46747E+01 | 0.57821E-02 | 0.12757E+02 | 0.45482E+02 | 0.21107E-02 |          |       |
| 0.15925E-02 | 0.23501E+04 | 0.50357E+07 | 0.47002E+01 | 0.58146E-02 | 0.12826E+02 | 0.45480E+02 | 0.21226E-02 |          |       |
| 0.15950E-02 | 0.23629E+04 | 0.50632E+07 | 0.47259E+01 | 0.58473E-02 | 0.12895E+02 | 0.45478E+02 | 0.21346E-02 |          |       |
| 0.15975E-02 | 0.23758E+04 | 0.50909E+07 | 0.47516E+01 | 0.58801E-02 | 0.12965E+02 | 0.45476E+02 | 0.21466E-02 |          |       |
| 0.16001E-02 | 0.23888E+04 | 0.51187E+07 | 0.47776E+01 | 0.59131E-02 | 0.13035E+02 | 0.45474E+02 | 0.21587E-02 |          |       |
| 0.16026E-02 | 0.24018E+04 | 0.51467E+07 | 0.48036E+01 | 0.59463E-02 | 0.13106E+02 | 0.45472E+02 | 0.21709E-02 |          |       |
| 0.16052E-02 | 0.24149E+04 | 0.51748E+07 | 0.48299E+01 | 0.59797E-02 | 0.13177E+02 | 0.45469E+02 | 0.21831E-02 |          |       |
| 0.16077E-02 | 0.24281E+04 | 0.52031E+07 | 0.48562E+01 | 0.60133E-02 | 0.13248E+02 | 0.45467E+02 | 0.21954E-02 |          |       |
| 0.16102E-02 | 0.24414E+04 | 0.52315E+07 | 0.48827E+01 | 0.60470E-02 | 0.13320E+02 | 0.45465E+02 | 0.22078E-02 |          |       |
| 0.16128E-02 | 0.24547E+04 | 0.52601E+07 | 0.49094E+01 | 0.60809E-02 | 0.13392E+02 | 0.45463E+02 | 0.22202E-02 |          |       |
| 0.16153E-02 | 0.24681E+04 | 0.52889E+07 | 0.49362E+01 | 0.61150E-02 | 0.13464E+02 | 0.45461E+02 | 0.22327E-02 |          |       |
| 0.16179E-02 | 0.24815E+04 | 0.53178E+07 | 0.49631E+01 | 0.61493E-02 | 0.13537E+02 | 0.45459E+02 | 0.22453E-02 |          |       |
| 0.16204E-02 | 0.24951E+04 | 0.53469E+07 | 0.49902E+01 | 0.61838E-02 | 0.13610E+02 | 0.45457E+02 | 0.22579E-02 |          |       |
| 0.16229E-02 | 0.25087E+04 | 0.53761E+07 | 0.50174E+01 | 0.62184E-02 | 0.13684E+02 | 0.45455E+02 | 0.22706E-02 |          |       |
| 0.16255E-02 | 0.25224E+04 | 0.54055E+07 | 0.50448E+01 | 0.62533E-02 | 0.13758E+02 | 0.45453E+02 | 0.22834E-02 |          |       |
| 0.16280E-02 | 0.25362E+04 | 0.54350E+07 | 0.50723E+01 | 0.62883E-02 | 0.13832E+02 | 0.45451E+02 | 0.22963E-02 |          |       |
| 0.16306E-02 | 0.25500E+04 | 0.54648E+07 | 0.51000E+01 | 0.63236E-02 | 0.13907E+02 | 0.45448E+02 | 0.23092E-02 |          |       |
| 0.16331E-02 | 0.25639E+04 | 0.54946E+07 | 0.51279E+01 | 0.63590E-02 | 0.13983E+02 | 0.45446E+02 | 0.23222E-02 |          |       |
| 0.16356E-02 | 0.25779E+04 | 0.55247E+07 | 0.51558E+01 | 0.63946E-02 | 0.14058E+02 | 0.45444E+02 | 0.23352E-02 |          |       |
| 0.16382E-02 | 0.25920E+04 | 0.55549E+07 | 0.51840E+01 | 0.64304E-02 | 0.14134E+02 | 0.45442E+02 | 0.23483E-02 |          |       |
| 0.16407E-02 | 0.26061E+04 | 0.55853E+07 | 0.52123E+01 | 0.64664E-02 | 0.14211E+02 | 0.45440E+02 | 0.23615E-02 |          |       |
| 0.16433E-02 | 0.26204E+04 | 0.56158E+07 | 0.52407E+01 | 0.65026E-02 | 0.14288E+02 | 0.45438E+02 | 0.23748E-02 |          |       |
| 0.16458E-02 | 0.26347E+04 | 0.56465E+07 | 0.52693E+01 | 0.65390E-02 | 0.14365E+02 | 0.45435E+02 | 0.23882E-02 |          |       |

| TIME        | PRESSURE    | PDOT        | XDOT        | PROPELLANT BURNT | MDOT        | SURFACE DISTANCE BURNT  |
|-------------|-------------|-------------|-------------|------------------|-------------|-------------------------|
| 0.16483E-02 | 0.26490E+04 | 0.56774E+07 | 0.52981E+01 | 0.65755E-02      | 0.14443E+02 | 0.45433E+02 0.24016E-02 |
| 0.16509E-02 | 0.26635E+04 | 0.57084E+07 | 0.53270E+01 | 0.66123E-02      | 0.14521E+02 | 0.45431E+02 0.24151E-02 |
| 0.16534E-02 | 0.26780E+04 | 0.57396E+07 | 0.53561E+01 | 0.66493E-02      | 0.14599E+02 | 0.45429E+02 0.24286E-02 |
| 0.16560E-02 | 0.26927E+04 | 0.57710E+07 | 0.53853E+01 | 0.66865E-02      | 0.14678E+02 | 0.45426E+02 0.24423E-02 |
| 0.16585E-02 | 0.27074E+04 | 0.58026E+07 | 0.54147E+01 | 0.67239E-02      | 0.14757E+02 | 0.45424E+02 0.24560E-02 |
| 0.16610E-02 | 0.27221E+04 | 0.58343E+07 | 0.54443E+01 | 0.67614E-02      | 0.14837E+02 | 0.45422E+02 0.24698E-02 |
| 0.16636E-02 | 0.27370E+04 | 0.58662E+07 | 0.54740E+01 | 0.67992E-02      | 0.14917E+02 | 0.45419E+02 0.24837E-02 |
| 0.16661E-02 | 0.27519E+04 | 0.58983E+07 | 0.55039E+01 | 0.68372E-02      | 0.14998E+02 | 0.45417E+02 0.24976E-02 |
| 0.16687E-02 | 0.27670E+04 | 0.59305E+07 | 0.55339E+01 | 0.68754E-02      | 0.15079E+02 | 0.45415E+02 0.25116E-02 |
| 0.16712E-02 | 0.27821E+04 | 0.59630E+07 | 0.55641E+01 | 0.69138E-02      | 0.15161E+02 | 0.45412E+02 0.25257E-02 |
| 0.16737E-02 | 0.27972E+04 | 0.59956E+07 | 0.55945E+01 | 0.69524E-02      | 0.15243E+02 | 0.45410E+02 0.25399E-02 |
| 0.16763E-02 | 0.28125E+04 | 0.60284E+07 | 0.56250E+01 | 0.69912E-02      | 0.15325E+02 | 0.45408E+02 0.25541E-02 |
| 0.16788E-02 | 0.28279E+04 | 0.60613E+07 | 0.56557E+01 | 0.70303E-02      | 0.15408E+02 | 0.45405E+02 0.25685E-02 |
| 0.16814E-02 | 0.28433E+04 | 0.60945E+07 | 0.56866E+01 | 0.70695E-02      | 0.15491E+02 | 0.45403E+02 0.25829E-02 |
| 0.16839E-02 | 0.28588E+04 | 0.61278E+07 | 0.57176E+01 | 0.71090E-02      | 0.15575E+02 | 0.45400E+02 0.25973E-02 |
| 0.16864E-02 | 0.28744E+04 | 0.61613E+07 | 0.57469E+01 | 0.71486E-02      | 0.15659E+02 | 0.45398E+02 0.26119E-02 |
| 0.16890E-02 | 0.28901E+04 | 0.61950E+07 | 0.57802E+01 | 0.71885E-02      | 0.15744E+02 | 0.45396E+02 0.26265E-02 |
| 0.16915E-02 | 0.29059E+04 | 0.62289E+07 | 0.58118E+01 | 0.72286E-02      | 0.15829E+02 | 0.45393E+02 0.26413E-02 |
| 0.16941E-02 | 0.29218E+04 | 0.62630E+07 | 0.58435E+01 | 0.72689E-02      | 0.15914E+02 | 0.45391E+02 0.26561E-02 |
| 0.16966E-02 | 0.29377E+04 | 0.62972E+07 | 0.58754E+01 | 0.73094E-02      | 0.16000E+02 | 0.45388E+02 0.26709E-02 |
| 0.16991E-02 | 0.29537E+04 | 0.63317E+07 | 0.59075E+01 | 0.73502E-02      | 0.16087E+02 | 0.45386E+02 0.26859E-02 |
| 0.17017E-02 | 0.29699E+04 | 0.63663E+07 | 0.59397E+01 | 0.73911E-02      | 0.16174E+02 | 0.45383E+02 0.27010E-02 |
| 0.17042E-02 | 0.29861E+04 | 0.64011E+07 | 0.59722E+01 | 0.74323E-02      | 0.16261E+02 | 0.45381E+02 0.27161E-02 |
| 0.17068E-02 | 0.30024E+04 | 0.64362E+07 | 0.60048E+01 | 0.74737E-02      | 0.16349E+02 | 0.45378E+02 0.27313E-02 |
| 0.17093E-02 | 0.30188E+04 | 0.64714E+07 | 0.60376E+01 | 0.75154E-02      | 0.16437E+02 | 0.45376E+02 0.27466E-02 |
| 0.17118E-02 | 0.30353E+04 | 0.65068E+07 | 0.60705E+01 | 0.75572E-02      | 0.16526E+02 | 0.45373E+02 0.27620E-02 |
| 0.17144E-02 | 0.30518E+04 | 0.65424E+07 | 0.61037E+01 | 0.75993E-02      | 0.16616E+02 | 0.45370E+02 0.27774E-02 |
| 0.17169E-02 | 0.30685E+04 | 0.65781E+07 | 0.61370E+01 | 0.76416E-02      | 0.16705E+02 | 0.45368E+02 0.27930E-02 |
| 0.17195E-02 | 0.30852E+04 | 0.66141E+07 | 0.61705E+01 | 0.76842E-02      | 0.16796E+02 | 0.45365E+02 0.28086E-02 |
| 0.17220E-02 | 0.31021E+04 | 0.66503E+07 | 0.62042E+01 | 0.77270E-02      | 0.16886E+02 | 0.45363E+02 0.28243E-02 |
| 0.17245E-02 | 0.31190E+04 | 0.66867E+07 | 0.62381E+01 | 0.77700E-02      | 0.16977E+02 | 0.45360E+02 0.28401E-02 |
| 0.17271E-02 | 0.31361E+04 | 0.67233E+07 | 0.62721E+01 | 0.78132E-02      | 0.17069E+02 | 0.45357E+02 0.28560E-02 |
| 0.17296E-02 | 0.31532E+04 | 0.67601E+07 | 0.63064E+01 | 0.78567E-02      | 0.17161E+02 | 0.45355E+02 0.28720E-02 |
| 0.17322E-02 | 0.31704E+04 | 0.67971E+07 | 0.63408E+01 | 0.79004E-02      | 0.17254E+02 | 0.45352E+02 0.28880E-02 |
| 0.17347E-02 | 0.31877E+04 | 0.68342E+07 | 0.63754E+01 | 0.79443E-02      | 0.17347E+02 | 0.45349E+02 0.29042E-02 |
| 0.17372E-02 | 0.32051E+04 | 0.68716E+07 | 0.64102E+01 | 0.79885E-02      | 0.17441E+02 | 0.45347E+02 0.29204E-02 |
| 0.17398E-02 | 0.32226E+04 | 0.69092E+07 | 0.64452E+01 | 0.80329E-02      | 0.17535E+02 | 0.45344E+02 0.29367E-02 |
| 0.17423E-02 | 0.32402E+04 | 0.69470E+07 | 0.64804E+01 | 0.80776E-02      | 0.17630E+02 | 0.45341E+02 0.29532E-02 |
| 0.17448E-02 | 0.32579E+04 | 0.69851E+07 | 0.65158E+01 | 0.81225E-02      | 0.17725E+02 | 0.45338E+02 0.29697E-02 |
| 0.17474E-02 | 0.32757E+04 | 0.70233E+07 | 0.65514E+01 | 0.81676E-02      | 0.17821E+02 | 0.45336E+02 0.29863E-02 |
| 0.17499E-02 | 0.32936E+04 | 0.70617E+07 | 0.65872E+01 | 0.82130E-02      | 0.17917E+02 | 0.45333E+02 0.30029E-02 |
| 0.17525E-02 | 0.33116E+04 | 0.71004E+07 | 0.66231E+01 | 0.82586E-02      | 0.18014E+02 | 0.45330E+02 0.30197E-02 |
| 0.17550E-02 | 0.33296E+04 | 0.71392E+07 | 0.66593E+01 | 0.83045E-02      | 0.18111E+02 | 0.45327E+02 0.30366E-02 |
| 0.17575E-02 | 0.33478E+04 | 0.71783E+07 | 0.66956E+01 | 0.83506E-02      | 0.18209E+02 | 0.45324E+02 0.30535E-02 |
| 0.17601E-02 | 0.33661E+04 | 0.72176E+07 | 0.67322E+01 | 0.83970E-02      | 0.18307E+02 | 0.45322E+02 0.30706E-02 |
| 0.17626E-02 | 0.33845E+04 | 0.72571E+07 | 0.67690E+01 | 0.84436E-02      | 0.18406E+02 | 0.45319E+02 0.30877E-02 |
| 0.17652E-02 | 0.34030E+04 | 0.72968E+07 | 0.68059E+01 | 0.84905E-02      | 0.18505E+02 | 0.45316E+02 0.31050E-02 |
| 0.17677E-02 | 0.34216E+04 | 0.73367E+07 | 0.68431E+01 | 0.85376E-02      | 0.18605E+02 | 0.45313E+02 0.31223E-02 |
| 0.17702E-02 | 0.34402E+04 | 0.73769E+07 | 0.68805E+01 | 0.85850E-02      | 0.18705E+02 | 0.45310E+02 0.31397E-02 |
| 0.17728E-02 | 0.34590E+04 | 0.74173E+07 | 0.69180E+01 | 0.86326E-02      | 0.18806E+02 | 0.45307E+02 0.31573E-02 |
| 0.17753E-02 | 0.34779E+04 | 0.74579E+07 | 0.69558E+01 | 0.86805E-02      | 0.18908E+02 | 0.45304E+02 0.31749E-02 |
| 0.17779E-02 | 0.34969E+04 | 0.74987E+07 | 0.69938E+01 | 0.87287E-02      | 0.19010E+02 | 0.45301E+02 0.31926E-02 |
| 0.17804E-02 | 0.35160E+04 | 0.75397E+07 | 0.70320E+01 | 0.87771E-02      | 0.19112E+02 | 0.45298E+02 0.32104E-02 |
| 0.17829E-02 | 0.35352E+04 | 0.75810E+07 | 0.70704E+01 | 0.88257E-02      | 0.19215E+02 | 0.45295E+02 0.32283E-02 |

| TIME        | PRESSURE    | PDOT        | XDOT        | PROPELLANT  | BURNT       | MDOT        | SURFACE     | DISTANCE | BURNT |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------|-------|
| 0.17855E-02 | 0.35545E+04 | 0.76225E+07 | 0.71090E+01 | 0.88747E-02 | 0.19319E+02 | 0.45292E+02 | 0.32463E-02 |          |       |
| 0.17880E-02 | 0.35739E+04 | 0.76642E+07 | 0.71479E+01 | 0.89239E-02 | 0.19423E+02 | 0.45289E+02 | 0.32644E-02 |          |       |
| 0.17906E-02 | 0.35934E+04 | 0.77062E+07 | 0.71869E+01 | 0.89733E-02 | 0.19528E+02 | 0.45286E+02 | 0.32826E-02 |          |       |
| 0.17931E-02 | 0.36131E+04 | 0.77484E+07 | 0.72261E+01 | 0.90231E-02 | 0.19633E+02 | 0.45283E+02 | 0.33009E-02 |          |       |
| 0.17956E-02 | 0.36328E+04 | 0.77908E+07 | 0.72656E+01 | 0.90731E-02 | 0.19739E+02 | 0.45280E+02 | 0.33193E-02 |          |       |
| 0.17982E-02 | 0.36526E+04 | 0.78334E+07 | 0.73053E+01 | 0.91233E-02 | 0.19846E+02 | 0.45277E+02 | 0.33378E-02 |          |       |
| 0.18007E-02 | 0.36726E+04 | 0.78763E+07 | 0.73452E+01 | 0.91739E-02 | 0.19953E+02 | 0.45274E+02 | 0.33564E-02 |          |       |
| 0.18033E-02 | 0.36927E+04 | 0.79194E+07 | 0.73853E+01 | 0.92247E-02 | 0.20060E+02 | 0.45271E+02 | 0.33751E-02 |          |       |
| 0.18058E-02 | 0.37128E+04 | 0.79628E+07 | 0.74256E+01 | 0.92758E-02 | 0.20169E+02 | 0.45268E+02 | 0.33940E-02 |          |       |
| 0.18083E-02 | 0.37331E+04 | 0.80064E+07 | 0.74662E+01 | 0.93271E-02 | 0.20277E+02 | 0.45265E+02 | 0.34129E-02 |          |       |
| 0.18109E-02 | 0.37535E+04 | 0.80502E+07 | 0.75070E+01 | 0.93788E-02 | 0.20387E+02 | 0.45261E+02 | 0.34319E-02 |          |       |
| 0.18134E-02 | 0.37740E+04 | 0.80943E+07 | 0.75480E+01 | 0.94307E-02 | 0.20496E+02 | 0.45258E+02 | 0.34510E-02 |          |       |
| 0.18160E-02 | 0.37946E+04 | 0.81386E+07 | 0.75892E+01 | 0.94829E-02 | 0.20607E+02 | 0.45255E+02 | 0.34702E-02 |          |       |
| 0.18185E-02 | 0.38153E+04 | 0.81832E+07 | 0.76307E+01 | 0.95354E-02 | 0.20718E+02 | 0.45252E+02 | 0.34895E-02 |          |       |
| 0.18210E-02 | 0.38362E+04 | 0.82280E+07 | 0.76724E+01 | 0.95881E-02 | 0.20830E+02 | 0.45249E+02 | 0.35090E-02 |          |       |
| 0.18236E-02 | 0.38571E+04 | 0.82731E+07 | 0.77143E+01 | 0.96412E-02 | 0.20942E+02 | 0.45245E+02 | 0.35285E-02 |          |       |
| 0.18261E-02 | 0.38782E+04 | 0.83184E+07 | 0.77564E+01 | 0.96945E-02 | 0.21055E+02 | 0.45242E+02 | 0.35482E-02 |          |       |
| 0.18287E-02 | 0.38994E+04 | 0.83639E+07 | 0.77988E+01 | 0.97481E-02 | 0.21168E+02 | 0.45239E+02 | 0.35679E-02 |          |       |
| 0.18312E-02 | 0.39207E+04 | 0.84097E+07 | 0.78414E+01 | 0.98020E-02 | 0.21282E+02 | 0.45235E+02 | 0.35878E-02 |          |       |
| 0.18337E-02 | 0.39421E+04 | 0.84558E+07 | 0.78842E+01 | 0.98562E-02 | 0.21397E+02 | 0.45232E+02 | 0.36078E-02 |          |       |
| 0.18363E-02 | 0.39636E+04 | 0.85021E+07 | 0.79273E+01 | 0.99107E-02 | 0.21512E+02 | 0.45229E+02 | 0.36278E-02 |          |       |
| 0.18388E-02 | 0.39853E+04 | 0.85487E+07 | 0.79706E+01 | 0.99655E-02 | 0.21628E+02 | 0.45225E+02 | 0.36480E-02 |          |       |
| 0.18414E-02 | 0.40071E+04 | 0.85955E+07 | 0.80141E+01 | 0.10021E-01 | 0.21745E+02 | 0.45222E+02 | 0.36683E-02 |          |       |
| 0.18439E-02 | 0.40290E+04 | 0.86426E+07 | 0.80579E+01 | 0.10076E-01 | 0.21862E+02 | 0.45219E+02 | 0.36887E-02 |          |       |
| 0.18464E-02 | 0.40510E+04 | 0.86899E+07 | 0.81019E+01 | 0.10132E-01 | 0.21980E+02 | 0.45215E+02 | 0.37093E-02 |          |       |
| 0.18490E-02 | 0.40731E+04 | 0.87375E+07 | 0.81462E+01 | 0.10188E-01 | 0.22098E+02 | 0.45212E+02 | 0.37299E-02 |          |       |
| 0.18515E-02 | 0.40953E+04 | 0.87854E+07 | 0.81907E+01 | 0.10244E-01 | 0.22217E+02 | 0.45208E+02 | 0.37506E-02 |          |       |
| 0.18541E-02 | 0.41177E+04 | 0.88335E+07 | 0.82354E+01 | 0.10300E-01 | 0.22337E+02 | 0.45205E+02 | 0.37715E-02 |          |       |
| 0.18566E-02 | 0.41402E+04 | 0.88819E+07 | 0.82804E+01 | 0.10357E-01 | 0.22457E+02 | 0.45201E+02 | 0.37925E-02 |          |       |
| 0.18591E-02 | 0.41628E+04 | 0.89305E+07 | 0.83257E+01 | 0.10415E-01 | 0.22578E+02 | 0.45198E+02 | 0.38136E-02 |          |       |
| 0.18617E-02 | 0.41856E+04 | 0.89794E+07 | 0.83712E+01 | 0.10472E-01 | 0.22700E+02 | 0.45194E+02 | 0.38348E-02 |          |       |
| 0.18642E-02 | 0.42085E+04 | 0.90286E+07 | 0.84169E+01 | 0.10530E-01 | 0.22822E+02 | 0.45191E+02 | 0.38561E-02 |          |       |
| 0.18668E-02 | 0.42314E+04 | 0.90781E+07 | 0.84629E+01 | 0.10588E-01 | 0.22945E+02 | 0.45187E+02 | 0.38775E-02 |          |       |
| 0.18693E-02 | 0.42546E+04 | 0.91278E+07 | 0.85091E+01 | 0.10646E-01 | 0.23068E+02 | 0.45183E+02 | 0.38991E-02 |          |       |
| 0.18718E-02 | 0.42778E+04 | 0.91778E+07 | 0.85556E+01 | 0.10705E-01 | 0.23193E+02 | 0.45180E+02 | 0.39207E-02 |          |       |
| 0.18744E-02 | 0.43012E+04 | 0.92281E+07 | 0.86024E+01 | 0.10764E-01 | 0.23317E+02 | 0.45176E+02 | 0.39425E-02 |          |       |
| 0.18769E-02 | 0.43247E+04 | 0.92787E+07 | 0.86494E+01 | 0.10824E-01 | 0.23443E+02 | 0.45173E+02 | 0.39644E-02 |          |       |
| 0.18795E-02 | 0.43483E+04 | 0.93295E+07 | 0.86966E+01 | 0.10883E-01 | 0.23569E+02 | 0.45169E+02 | 0.39865E-02 |          |       |
| 0.18820E-02 | 0.43721E+04 | 0.93806E+07 | 0.87442E+01 | 0.10943E-01 | 0.23696E+02 | 0.45165E+02 | 0.40086E-02 |          |       |
| 0.18845E-02 | 0.43960E+04 | 0.94321E+07 | 0.87919E+01 | 0.11004E-01 | 0.23823E+02 | 0.45162E+02 | 0.40309E-02 |          |       |
| 0.18871E-02 | 0.44200E+04 | 0.94837E+07 | 0.88400E+01 | 0.11064E-01 | 0.23952E+02 | 0.45158E+02 | 0.40533E-02 |          |       |
| 0.18896E-02 | 0.44441E+04 | 0.95357E+07 | 0.88883E+01 | 0.11125E-01 | 0.24081E+02 | 0.45154E+02 | 0.40758E-02 |          |       |
| 0.18922E-02 | 0.44684E+04 | 0.95880E+07 | 0.89369E+01 | 0.11187E-01 | 0.24210E+02 | 0.45150E+02 | 0.40984E-02 |          |       |
| 0.18947E-02 | 0.44928E+04 | 0.96405E+07 | 0.89857E+01 | 0.11248E-01 | 0.24340E+02 | 0.45146E+02 | 0.41212E-02 |          |       |
| 0.18972E-02 | 0.45174E+04 | 0.96933E+07 | 0.90348E+01 | 0.11310E-01 | 0.24471E+02 | 0.45143E+02 | 0.41441E-02 |          |       |
| 0.18998E-02 | 0.45421E+04 | 0.97465E+07 | 0.90842E+01 | 0.11373E-01 | 0.24603E+02 | 0.45139E+02 | 0.41671E-02 |          |       |
| 0.19023E-02 | 0.45669E+04 | 0.97999E+07 | 0.91338E+01 | 0.11435E-01 | 0.24735E+02 | 0.45135E+02 | 0.41902E-02 |          |       |
| 0.19049E-02 | 0.45919E+04 | 0.98536E+07 | 0.91837E+01 | 0.11498E-01 | 0.24868E+02 | 0.45131E+02 | 0.42135E-02 |          |       |
| 0.19074E-02 | 0.46170E+04 | 0.99076E+07 | 0.92339E+01 | 0.11562E-01 | 0.25002E+02 | 0.45127E+02 | 0.42369E-02 |          |       |
| 0.19099E-02 | 0.46422E+04 | 0.99619E+07 | 0.92844E+01 | 0.11625E-01 | 0.25137E+02 | 0.45123E+02 | 0.42604E-02 |          |       |
| 0.19125E-02 | 0.46676E+04 | 0.10017E+08 | 0.93351E+01 | 0.11689E-01 | 0.25272E+02 | 0.45119E+02 | 0.42840E-02 |          |       |
| 0.19150E-02 | 0.46931E+04 | 0.10071E+08 | 0.93861E+01 | 0.11754E-01 | 0.25408E+02 | 0.45115E+02 | 0.43078E-02 |          |       |
| 0.19176E-02 | 0.47187E+04 | 0.10127E+08 | 0.94374E+01 | 0.11818E-01 | 0.25544E+02 | 0.45111E+02 | 0.43317E-02 |          |       |
| 0.19201E-02 | 0.47445E+04 | 0.10182E+08 | 0.94890E+01 | 0.11883E-01 | 0.25681E+02 | 0.45107E+02 | 0.43557E-02 |          |       |

| TIME        | PRESSURE    | PDOT        | XDOT        | PROPELLANT  | BURNT       | MDOT        | SURFACE     | DISTANCE | BURNT |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------|-------|
| 0.19226E-02 | 0.47704E+04 | 0.10238E+08 | 0.95409E+01 | 0.11949E-01 | 0.25820E+02 | 0.45103E+02 | 0.43799E-02 |          |       |
| 0.19252E-02 | 0.47965E+04 | 0.10294E+08 | 0.95930E+01 | 0.12015E-01 | 0.25958E+02 | 0.45099E+02 | 0.44042E-02 |          |       |
| 0.19277E-02 | 0.48227E+04 | 0.10351E+08 | 0.96455E+01 | 0.12081E-01 | 0.26098E+02 | 0.45095E+02 | 0.44286E-02 |          |       |
| 0.19303E-02 | 0.48491E+04 | 0.10407E+08 | 0.96982E+01 | 0.12147E-01 | 0.26238E+02 | 0.45091E+02 | 0.44532E-02 |          |       |
| 0.19328E-02 | 0.48756E+04 | 0.10464E+08 | 0.97512E+01 | 0.12214E-01 | 0.26379E+02 | 0.45087E+02 | 0.44779E-02 |          |       |
| 0.19353E-02 | 0.49022E+04 | 0.10522E+08 | 0.98045E+01 | 0.12281E-01 | 0.26521E+02 | 0.45083E+02 | 0.45027E-02 |          |       |
| 0.19379E-02 | 0.49290E+04 | 0.10579E+08 | 0.98581E+01 | 0.12349E-01 | 0.26663E+02 | 0.45079E+02 | 0.45277E-02 |          |       |
| 0.19404E-02 | 0.49560E+04 | 0.10637E+08 | 0.99120E+01 | 0.12417E-01 | 0.26807E+02 | 0.45075E+02 | 0.45528E-02 |          |       |
| 0.19430E-02 | 0.49831E+04 | 0.10696E+08 | 0.99662E+01 | 0.12485E-01 | 0.26951E+02 | 0.45070E+02 | 0.45780E-02 |          |       |
| 0.19455E-02 | 0.50103E+04 | 0.10754E+08 | 0.10021E+02 | 0.12553E-01 | 0.27095E+02 | 0.45066E+02 | 0.46034E-02 |          |       |
| 0.19480E-02 | 0.50377E+04 | 0.10813E+08 | 0.10075E+02 | 0.12622E-01 | 0.27241E+02 | 0.45062E+02 | 0.46289E-02 |          |       |
| 0.19506E-02 | 0.50652E+04 | 0.10873E+08 | 0.10130E+02 | 0.12692E-01 | 0.27387E+02 | 0.45058E+02 | 0.46546E-02 |          |       |
| 0.19531E-02 | 0.50929E+04 | 0.10932E+08 | 0.10186E+02 | 0.12762E-01 | 0.27534E+02 | 0.45053E+02 | 0.46804E-02 |          |       |
| 0.19557E-02 | 0.51208E+04 | 0.10992E+08 | 0.10242E+02 | 0.12832E-01 | 0.27682E+02 | 0.45049E+02 | 0.47063E-02 |          |       |
| 0.19582E-02 | 0.51488E+04 | 0.11053E+08 | 0.10298E+02 | 0.12902E-01 | 0.27831E+02 | 0.45045E+02 | 0.47324E-02 |          |       |
| 0.19607E-02 | 0.51769E+04 | 0.11113E+08 | 0.10354E+02 | 0.12973E-01 | 0.27980E+02 | 0.45040E+02 | 0.47586E-02 |          |       |
| 0.19633E-02 | 0.52052E+04 | 0.11174E+08 | 0.10410E+02 | 0.13044E-01 | 0.28131E+02 | 0.45036E+02 | 0.47850E-02 |          |       |
| 0.19658E-02 | 0.52337E+04 | 0.11235E+08 | 0.10467E+02 | 0.13116E-01 | 0.28282E+02 | 0.45031E+02 | 0.48115E-02 |          |       |
| 0.19684E-02 | 0.52623E+04 | 0.11297E+08 | 0.10525E+02 | 0.13188E-01 | 0.28433E+02 | 0.45027E+02 | 0.48382E-02 |          |       |
| 0.19709E-02 | 0.52911E+04 | 0.11359E+08 | 0.10582E+02 | 0.13260E-01 | 0.28586E+02 | 0.45023E+02 | 0.48650E-02 |          |       |
| 0.19734E-02 | 0.53200E+04 | 0.11421E+08 | 0.10640E+02 | 0.13333E-01 | 0.28739E+02 | 0.45018E+02 | 0.48919E-02 |          |       |
| 0.19760E-02 | 0.53491E+04 | 0.11484E+08 | 0.10698E+02 | 0.13406E-01 | 0.28894E+02 | 0.45013E+02 | 0.49190E-02 |          |       |
| 0.19785E-02 | 0.53783E+04 | 0.11547E+08 | 0.10757E+02 | 0.13480E-01 | 0.29049E+02 | 0.45009E+02 | 0.49463E-02 |          |       |
| 0.19811E-02 | 0.54077E+04 | 0.11610E+08 | 0.10815E+02 | 0.13554E-01 | 0.29205E+02 | 0.45004E+02 | 0.49737E-02 |          |       |
| 0.19836E-02 | 0.54373E+04 | 0.11674E+08 | 0.10875E+02 | 0.13628E-01 | 0.29361E+02 | 0.45000E+02 | 0.50012E-02 |          |       |
| 0.19861E-02 | 0.54670E+04 | 0.11738E+08 | 0.10934E+02 | 0.13703E-01 | 0.29519E+02 | 0.44995E+02 | 0.50289E-02 |          |       |
| 0.19887E-02 | 0.54969E+04 | 0.11802E+08 | 0.10994E+02 | 0.13778E-01 | 0.29677E+02 | 0.44991E+02 | 0.50568E-02 |          |       |
| 0.19912E-02 | 0.55270E+04 | 0.11867E+08 | 0.11054E+02 | 0.13854E-01 | 0.29836E+02 | 0.44986E+02 | 0.50848E-02 |          |       |
| 0.19938E-02 | 0.55572E+04 | 0.11932E+08 | 0.11114E+02 | 0.13930E-01 | 0.29996E+02 | 0.44981E+02 | 0.51129E-02 |          |       |
| 0.19963E-02 | 0.55876E+04 | 0.11998E+08 | 0.11175E+02 | 0.14006E-01 | 0.30157E+02 | 0.44976E+02 | 0.51412E-02 |          |       |
| 0.19988E-02 | 0.56182E+04 | 0.12064E+08 | 0.11236E+02 | 0.14083E-01 | 0.30319E+02 | 0.44972E+02 | 0.51697E-02 |          |       |
| 0.20014E-02 | 0.56489E+04 | 0.12130E+08 | 0.11298E+02 | 0.14160E-01 | 0.30482E+02 | 0.44967E+02 | 0.51983E-02 |          |       |
| 0.20039E-02 | 0.56798E+04 | 0.12196E+08 | 0.11360E+02 | 0.14238E-01 | 0.30645E+02 | 0.44962E+02 | 0.52271E-02 |          |       |
| 0.20065E-02 | 0.57108E+04 | 0.12263E+08 | 0.11422E+02 | 0.14316E-01 | 0.30809E+02 | 0.44957E+02 | 0.52560E-02 |          |       |
| 0.20090E-02 | 0.57421E+04 | 0.12331E+08 | 0.11484E+02 | 0.14394E-01 | 0.30974E+02 | 0.44952E+02 | 0.52851E-02 |          |       |
| 0.20115E-02 | 0.57735E+04 | 0.12398E+08 | 0.11547E+02 | 0.14473E-01 | 0.31140E+02 | 0.44948E+02 | 0.53143E-02 |          |       |
| 0.20141E-02 | 0.58050E+04 | 0.12466E+08 | 0.11610E+02 | 0.14553E-01 | 0.31307E+02 | 0.44943E+02 | 0.53437E-02 |          |       |
| 0.20166E-02 | 0.58368E+04 | 0.12535E+08 | 0.11674E+02 | 0.14632E-01 | 0.31475E+02 | 0.44938E+02 | 0.53733E-02 |          |       |
| 0.20191E-02 | 0.58687E+04 | 0.12604E+08 | 0.11737E+02 | 0.14712E-01 | 0.31644E+02 | 0.44933E+02 | 0.54030E-02 |          |       |
| 0.20217E-02 | 0.59008E+04 | 0.12673E+08 | 0.11802E+02 | 0.14793E-01 | 0.31813E+02 | 0.44928E+02 | 0.54329E-02 |          |       |
| 0.20242E-02 | 0.59331E+04 | 0.12742E+08 | 0.11866E+02 | 0.14874E-01 | 0.31984E+02 | 0.44923E+02 | 0.54630E-02 |          |       |
| 0.20268E-02 | 0.59655E+04 | 0.12812E+08 | 0.11931E+02 | 0.14955E-01 | 0.32155E+02 | 0.44918E+02 | 0.54932E-02 |          |       |
| 0.20293E-02 | 0.59982E+04 | 0.12883E+08 | 0.11996E+02 | 0.15037E-01 | 0.32327E+02 | 0.44913E+02 | 0.55236E-02 |          |       |
| 0.20318E-02 | 0.60310E+04 | 0.12953E+08 | 0.12062E+02 | 0.15120E-01 | 0.32500E+02 | 0.44908E+02 | 0.55541E-02 |          |       |
| 0.20344E-02 | 0.60640E+04 | 0.13024E+08 | 0.12128E+02 | 0.15202E-01 | 0.32674E+02 | 0.44903E+02 | 0.55849E-02 |          |       |
| 0.20369E-02 | 0.60971E+04 | 0.13096E+08 | 0.12194E+02 | 0.15286E-01 | 0.32849E+02 | 0.44897E+02 | 0.56158E-02 |          |       |
| 0.20395E-02 | 0.61305E+04 | 0.13168E+08 | 0.12261E+02 | 0.15369E-01 | 0.33025E+02 | 0.44892E+02 | 0.56468E-02 |          |       |
| 0.20420E-02 | 0.61640E+04 | 0.13240E+08 | 0.12328E+02 | 0.15453E-01 | 0.33202E+02 | 0.44887E+02 | 0.56780E-02 |          |       |
| 0.20445E-02 | 0.61977E+04 | 0.13313E+08 | 0.12395E+02 | 0.15538E-01 | 0.33380E+02 | 0.44882E+02 | 0.57094E-02 |          |       |
| 0.20471E-02 | 0.62316E+04 | 0.13386E+08 | 0.12463E+02 | 0.15623E-01 | 0.33559E+02 | 0.44877E+02 | 0.57410E-02 |          |       |
| 0.20496E-02 | 0.62657E+04 | 0.13459E+08 | 0.12531E+02 | 0.15708E-01 | 0.33738E+02 | 0.44871E+02 | 0.57727E-02 |          |       |
| 0.20522E-02 | 0.63000E+04 | 0.13533E+08 | 0.12600E+02 | 0.15794E-01 | 0.33919E+02 | 0.44866E+02 | 0.58047E-02 |          |       |
| 0.20547E-02 | 0.63345E+04 | 0.13608E+08 | 0.12669E+02 | 0.15881E-01 | 0.34100E+02 | 0.44861E+02 | 0.58367E-02 |          |       |
| 0.20572E-02 | 0.63691E+04 | 0.13682E+08 | 0.12738E+02 | 0.15968E-01 | 0.34283E+02 | 0.44855E+02 | 0.58690E-02 |          |       |

| TIME        | PRESSURE    | POOT        | XDOT        | PROPELLANT  | BURNY       | MOOT        | SURFACE     | DISTANCE | BURNY |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------|-------|
| 0.20598E-02 | 0.64040E+04 | 0.13758E+08 | 0.12808E+02 | 0.16055E-01 | 0.34466E+02 | 0.44850E+02 | 0.59014E-02 |          |       |
| 0.20623E-02 | 0.64390E+04 | 0.13833E+08 | 0.12878E+02 | 0.16143E-01 | 0.34650E+02 | 0.44844E+02 | 0.59341E-02 |          |       |
| 0.20649E-02 | 0.64743E+04 | 0.13909E+08 | 0.12949E+02 | 0.16231E-01 | 0.34836E+02 | 0.44839E+02 | 0.59669E-02 |          |       |
| 0.20674E-02 | 0.65097E+04 | 0.13985E+08 | 0.13019E+02 | 0.16320E-01 | 0.35022E+02 | 0.44833E+02 | 0.59998E-02 |          |       |
| 0.20699E-02 | 0.65453E+04 | 0.14062E+08 | 0.13091E+02 | 0.16409E-01 | 0.35209E+02 | 0.44828E+02 | 0.60330E-02 |          |       |
| 0.20725E-02 | 0.65811E+04 | 0.14140E+08 | 0.13162E+02 | 0.16498E-01 | 0.35398E+02 | 0.44822E+02 | 0.60663E-02 |          |       |
| 0.20750E-02 | 0.66171E+04 | 0.14217E+08 | 0.13234E+02 | 0.16589E-01 | 0.35587E+02 | 0.44817E+02 | 0.60999E-02 |          |       |
| 0.20776E-02 | 0.66533E+04 | 0.14295E+08 | 0.13307E+02 | 0.16679E-01 | 0.35777E+02 | 0.44811E+02 | 0.61336E-02 |          |       |
| 0.20801E-02 | 0.66897E+04 | 0.14374E+08 | 0.13379E+02 | 0.16770E-01 | 0.35968E+02 | 0.44805E+02 | 0.61674E-02 |          |       |
| 0.20826E-02 | 0.67263E+04 | 0.14453E+08 | 0.13453E+02 | 0.16862E-01 | 0.36161E+02 | 0.44800E+02 | 0.62015E-02 |          |       |
| 0.20852E-02 | 0.67631E+04 | 0.14532E+08 | 0.13526E+02 | 0.16954E-01 | 0.36354E+02 | 0.44794E+02 | 0.62358E-02 |          |       |
| 0.20877E-02 | 0.68002E+04 | 0.14612E+08 | 0.13600E+02 | 0.17047E-01 | 0.36548E+02 | 0.44788E+02 | 0.62702E-02 |          |       |
| 0.20903E-02 | 0.68374E+04 | 0.14692E+08 | 0.13675E+02 | 0.17140E-01 | 0.36743E+02 | 0.44783E+02 | 0.63049E-02 |          |       |
| 0.20928E-02 | 0.68748E+04 | 0.14773E+08 | 0.13750E+02 | 0.17233E-01 | 0.36940E+02 | 0.44777E+02 | 0.63397E-02 |          |       |
| 0.20953E-02 | 0.69124E+04 | 0.14854E+08 | 0.13825E+02 | 0.17327E-01 | 0.37137E+02 | 0.44771E+02 | 0.63747E-02 |          |       |
| 0.20979E-02 | 0.69502E+04 | 0.14936E+08 | 0.13900E+02 | 0.17422E-01 | 0.37335E+02 | 0.44765E+02 | 0.64099E-02 |          |       |
| 0.21004E-02 | 0.69883E+04 | 0.15018E+08 | 0.13977E+02 | 0.17517E-01 | 0.37535E+02 | 0.44759E+02 | 0.64453E-02 |          |       |
| 0.21030E-02 | 0.70265E+04 | 0.15100E+08 | 0.14053E+02 | 0.17613E-01 | 0.37735E+02 | 0.44753E+02 | 0.64809E-02 |          |       |
| 0.21055E-02 | 0.70650E+04 | 0.15183E+08 | 0.14130E+02 | 0.17709E-01 | 0.37937E+02 | 0.44747E+02 | 0.65167E-02 |          |       |
| 0.21080E-02 | 0.71037E+04 | 0.15267E+08 | 0.14207E+02 | 0.17805E-01 | 0.38139E+02 | 0.44741E+02 | 0.65527E-02 |          |       |
| 0.21106E-02 | 0.71425E+04 | 0.15351E+08 | 0.14285E+02 | 0.17902E-01 | 0.38343E+02 | 0.44735E+02 | 0.65889E-02 |          |       |
| 0.21131E-02 | 0.71816E+04 | 0.15435E+08 | 0.14363E+02 | 0.18000E-01 | 0.38547E+02 | 0.44729E+02 | 0.66253E-02 |          |       |
| 0.21157E-02 | 0.72209E+04 | 0.15520E+08 | 0.14442E+02 | 0.18098E-01 | 0.38753E+02 | 0.44723E+02 | 0.66618E-02 |          |       |
| 0.21182E-02 | 0.72605E+04 | 0.15605E+08 | 0.14521E+02 | 0.18197E-01 | 0.38960E+02 | 0.44717E+02 | 0.66986E-02 |          |       |
| 0.21207E-02 | 0.73002E+04 | 0.15691E+08 | 0.14600E+02 | 0.18296E-01 | 0.39168E+02 | 0.44711E+02 | 0.67356E-02 |          |       |
| 0.21233E-02 | 0.73402E+04 | 0.15777E+08 | 0.14680E+02 | 0.18396E-01 | 0.39377E+02 | 0.44705E+02 | 0.67728E-02 |          |       |
| 0.21258E-02 | 0.73804E+04 | 0.15864E+08 | 0.14761E+02 | 0.18496E-01 | 0.39587E+02 | 0.44698E+02 | 0.68102E-02 |          |       |
| 0.21284E-02 | 0.74208E+04 | 0.15951E+08 | 0.14842E+02 | 0.18597E-01 | 0.39798E+02 | 0.44692E+02 | 0.68478E-02 |          |       |
| 0.21309E-02 | 0.74614E+04 | 0.16039E+08 | 0.14923E+02 | 0.18698E-01 | 0.40010E+02 | 0.44686E+02 | 0.68856E-02 |          |       |
| 0.21334E-02 | 0.75022E+04 | 0.16127E+08 | 0.15004E+02 | 0.18800E-01 | 0.40223E+02 | 0.44679E+02 | 0.69236E-02 |          |       |
| 0.21360E-02 | 0.75433E+04 | 0.16216E+08 | 0.15087E+02 | 0.18903E-01 | 0.40438E+02 | 0.44673E+02 | 0.69618E-02 |          |       |
| 0.21385E-02 | 0.75846E+04 | 0.16305E+08 | 0.15169E+02 | 0.19006E-01 | 0.40653E+02 | 0.44667E+02 | 0.70002E-02 |          |       |
| 0.21411E-02 | 0.76261E+04 | 0.16395E+08 | 0.15252E+02 | 0.19109E-01 | 0.40870E+02 | 0.44660E+02 | 0.70388E-02 |          |       |
| 0.21436E-02 | 0.76679E+04 | 0.16485E+08 | 0.15336E+02 | 0.19213E-01 | 0.41088E+02 | 0.44654E+02 | 0.70777E-02 |          |       |
| 0.21461E-02 | 0.77099E+04 | 0.16576E+08 | 0.15420E+02 | 0.19318E-01 | 0.41307E+02 | 0.44647E+02 | 0.71167E-02 |          |       |
| 0.21487E-02 | 0.77521E+04 | 0.16667E+08 | 0.15504E+02 | 0.19423E-01 | 0.41527E+02 | 0.44641E+02 | 0.71560E-02 |          |       |
| 0.21512E-02 | 0.77945E+04 | 0.16758E+08 | 0.15589E+02 | 0.19529E-01 | 0.41748E+02 | 0.44634E+02 | 0.71955E-02 |          |       |
| 0.21538E-02 | 0.78372E+04 | 0.16851E+08 | 0.15674E+02 | 0.19635E-01 | 0.41971E+02 | 0.44627E+02 | 0.72352E-02 |          |       |
| 0.21563E-02 | 0.78801E+04 | 0.16943E+08 | 0.15760E+02 | 0.19742E-01 | 0.42194E+02 | 0.44621E+02 | 0.72751E-02 |          |       |
| 0.21588E-02 | 0.79233E+04 | 0.17037E+08 | 0.15847E+02 | 0.19849E-01 | 0.42419E+02 | 0.44614E+02 | 0.73152E-02 |          |       |
| 0.21614E-02 | 0.79667E+04 | 0.17130E+08 | 0.15933E+02 | 0.19957E-01 | 0.42645E+02 | 0.44607E+02 | 0.73556E-02 |          |       |
| 0.21639E-02 | 0.80103E+04 | 0.17224E+08 | 0.16021E+02 | 0.20066E-01 | 0.42872E+02 | 0.44601E+02 | 0.73962E-02 |          |       |
| 0.21665E-02 | 0.80542E+04 | 0.17319E+08 | 0.16108E+02 | 0.20175E-01 | 0.43100E+02 | 0.44594E+02 | 0.74370E-02 |          |       |
| 0.21690E-02 | 0.80983E+04 | 0.17415E+08 | 0.16197E+02 | 0.20285E-01 | 0.43329E+02 | 0.44587E+02 | 0.74780E-02 |          |       |
| 0.21715E-02 | 0.81426E+04 | 0.17510E+08 | 0.16285E+02 | 0.20395E-01 | 0.43560E+02 | 0.44580E+02 | 0.75193E-02 |          |       |
| 0.21741E-02 | 0.81872E+04 | 0.17607E+08 | 0.16374E+02 | 0.20506E-01 | 0.43792E+02 | 0.44573E+02 | 0.75607E-02 |          |       |
| 0.21766E-02 | 0.82321E+04 | 0.17704E+08 | 0.16464E+02 | 0.20618E-01 | 0.44025E+02 | 0.44566E+02 | 0.76024E-02 |          |       |
| 0.21792E-02 | 0.82771E+04 | 0.17801E+08 | 0.16554E+02 | 0.20730E-01 | 0.44259E+02 | 0.44559E+02 | 0.76444E-02 |          |       |
| 0.21817E-02 | 0.83225E+04 | 0.17899E+08 | 0.16645E+02 | 0.20843E-01 | 0.44494E+02 | 0.44552E+02 | 0.76865E-02 |          |       |
| 0.21842E-02 | 0.83681E+04 | 0.17997E+08 | 0.16736E+02 | 0.20956E-01 | 0.44731E+02 | 0.44545E+02 | 0.77289E-02 |          |       |
| 0.21868E-02 | 0.84139E+04 | 0.18096E+08 | 0.16828E+02 | 0.21070E-01 | 0.44969E+02 | 0.44538E+02 | 0.77715E-02 |          |       |
| 0.21893E-02 | 0.84600E+04 | 0.18196E+08 | 0.16920E+02 | 0.21184E-01 | 0.45208E+02 | 0.44531E+02 | 0.78144E-02 |          |       |
| 0.21919E-02 | 0.85063E+04 | 0.18296E+08 | 0.17013E+02 | 0.21299E-01 | 0.45448E+02 | 0.44524E+02 | 0.78575E-02 |          |       |
| 0.21944E-02 | 0.85529E+04 | 0.18397E+08 | 0.17106E+02 | 0.21415E-01 | 0.45690E+02 | 0.44517E+02 | 0.79008E-02 |          |       |

| TIME        | PRESSURE    | PDOT        | XDOT        | PROPELLANT BURNT | MDOT        | SURFACE     | DISTANCE    | BURNT |
|-------------|-------------|-------------|-------------|------------------|-------------|-------------|-------------|-------|
| 0.21969E-02 | 0.85998E+04 | 0.18498E+08 | 0.17200E+02 | 0.21531E-01      | 0.45932E+02 | 0.44509E+02 | 0.79444E-02 |       |
| 0.21995E-02 | 0.86469E+04 | 0.18600E+08 | 0.17294E+02 | 0.21648E-01      | 0.46176E+02 | 0.44502E+02 | 0.79882E-02 |       |
| 0.22020E-02 | 0.86943E+04 | 0.18702E+08 | 0.17389E+02 | 0.21766E-01      | 0.46422E+02 | 0.44495E+02 | 0.80322E-02 |       |
| 0.22046E-02 | 0.87419E+04 | 0.18805E+08 | 0.17484E+02 | 0.21884E-01      | 0.46668E+02 | 0.44487E+02 | 0.80765E-02 |       |
| 0.22071E-02 | 0.87898E+04 | 0.18909E+08 | 0.17580E+02 | 0.22003E-01      | 0.46916E+02 | 0.44480E+02 | 0.81210E-02 |       |
| 0.22096E-02 | 0.88379E+04 | 0.19013E+08 | 0.17676E+02 | 0.22123E-01      | 0.47165E+02 | 0.44472E+02 | 0.81658E-02 |       |
| 0.22122E-02 | 0.88864E+04 | 0.19118E+08 | 0.17773E+02 | 0.22243E-01      | 0.47416E+02 | 0.44465E+02 | 0.82108E-02 |       |
| 0.22147E-02 | 0.89351E+04 | 0.19223E+08 | 0.17870E+02 | 0.22363E-01      | 0.47667E+02 | 0.44457E+02 | 0.82561E-02 |       |
| 0.22173E-02 | 0.89840E+04 | 0.19329E+08 | 0.17968E+02 | 0.22485E-01      | 0.47920E+02 | 0.44450E+02 | 0.83016E-02 |       |
| 0.22198E-02 | 0.90332E+04 | 0.19435E+08 | 0.18066E+02 | 0.22607E-01      | 0.48175E+02 | 0.44442E+02 | 0.83473E-02 |       |
| 0.22223E-02 | 0.90827E+04 | 0.19542E+08 | 0.18165E+02 | 0.22729E-01      | 0.48430E+02 | 0.44434E+02 | 0.83934E-02 |       |
| 0.22249E-02 | 0.91325E+04 | 0.19650E+08 | 0.18265E+02 | 0.22853E-01      | 0.48687E+02 | 0.44427E+02 | 0.84396E-02 |       |
| 0.22274E-02 | 0.91825E+04 | 0.19758E+08 | 0.18365E+02 | 0.22977E-01      | 0.48946E+02 | 0.44419E+02 | 0.84861E-02 |       |
| 0.22300E-02 | 0.92329E+04 | 0.19867E+08 | 0.18466E+02 | 0.23101E-01      | 0.49205E+02 | 0.44411E+02 | 0.85329E-02 |       |
| 0.22325E-02 | 0.92835E+04 | 0.19976E+08 | 0.18567E+02 | 0.23227E-01      | 0.49466E+02 | 0.44403E+02 | 0.85799E-02 |       |
| 0.22350E-02 | 0.93343E+04 | 0.20086E+08 | 0.18669E+02 | 0.23353E-01      | 0.49728E+02 | 0.44395E+02 | 0.86272E-02 |       |
| 0.22376E-02 | 0.93855E+04 | 0.20197E+08 | 0.18771E+02 | 0.23479E-01      | 0.49992E+02 | 0.44388E+02 | 0.86748E-02 |       |
| 0.22401E-02 | 0.94369E+04 | 0.20308E+08 | 0.18874E+02 | 0.23607E-01      | 0.50257E+02 | 0.44380E+02 | 0.87226E-02 |       |
| 0.22427E-02 | 0.94887E+04 | 0.20420E+08 | 0.18977E+02 | 0.23735E-01      | 0.50523E+02 | 0.44372E+02 | 0.87706E-02 |       |
| 0.22452E-02 | 0.95407E+04 | 0.20533E+08 | 0.19081E+02 | 0.23863E-01      | 0.50791E+02 | 0.44364E+02 | 0.88190E-02 |       |
| 0.22477E-02 | 0.95930E+04 | 0.20646E+08 | 0.19186E+02 | 0.23993E-01      | 0.51060E+02 | 0.44355E+02 | 0.88676E-02 |       |
| 0.22503E-02 | 0.96455E+04 | 0.20760E+08 | 0.19291E+02 | 0.24123E-01      | 0.51330E+02 | 0.44347E+02 | 0.89164E-02 |       |
| 0.22528E-02 | 0.96984E+04 | 0.20874E+08 | 0.19397E+02 | 0.24253E-01      | 0.51602E+02 | 0.44339E+02 | 0.89656E-02 |       |
| 0.22554E-02 | 0.97516E+04 | 0.20989E+08 | 0.19503E+02 | 0.24385E-01      | 0.51875E+02 | 0.44331E+02 | 0.90150E-02 |       |
| 0.22579E-02 | 0.98050E+04 | 0.21105E+08 | 0.19610E+02 | 0.24517E-01      | 0.52150E+02 | 0.44323E+02 | 0.90646E-02 |       |
| 0.22604E-02 | 0.98588E+04 | 0.21221E+08 | 0.19718E+02 | 0.24650E-01      | 0.52426E+02 | 0.44314E+02 | 0.91146E-02 |       |
| 0.22630E-02 | 0.99128E+04 | 0.21338E+08 | 0.19826E+02 | 0.24783E-01      | 0.52704E+02 | 0.44306E+02 | 0.91648E-02 |       |
| 0.22655E-02 | 0.99672E+04 | 0.21455E+08 | 0.19934E+02 | 0.24917E-01      | 0.52982E+02 | 0.44297E+02 | 0.92153E-02 |       |
| 0.22681E-02 | 0.10022E+05 | 0.21574E+08 | 0.20044E+02 | 0.25052E-01      | 0.53263E+02 | 0.44289E+02 | 0.92660E-02 |       |
| 0.22706E-02 | 0.10077E+05 | 0.21693E+08 | 0.20153E+02 | 0.25188E-01      | 0.53544E+02 | 0.44280E+02 | 0.93171E-02 |       |
| 0.22731E-02 | 0.10132E+05 | 0.21812E+08 | 0.20264E+02 | 0.25324E-01      | 0.53828E+02 | 0.44272E+02 | 0.93684E-02 |       |
| 0.22757E-02 | 0.10188E+05 | 0.21932E+08 | 0.20375E+02 | 0.25461E-01      | 0.54112E+02 | 0.44263E+02 | 0.94200E-02 |       |
| 0.22782E-02 | 0.10243E+05 | 0.22053E+08 | 0.20487E+02 | 0.25599E-01      | 0.54398E+02 | 0.44255E+02 | 0.94719E-02 |       |
| 0.22807E-02 | 0.10300E+05 | 0.22175E+08 | 0.20599E+02 | 0.25738E-01      | 0.54686E+02 | 0.44246E+02 | 0.95241E-02 |       |
| 0.22833E-02 | 0.10356E+05 | 0.22297E+08 | 0.20712E+02 | 0.25877E-01      | 0.54975E+02 | 0.44237E+02 | 0.95766E-02 |       |
| 0.22858E-02 | 0.10413E+05 | 0.22420E+08 | 0.20826E+02 | 0.26017E-01      | 0.55265E+02 | 0.44228E+02 | 0.96293E-02 |       |
| 0.22884E-02 | 0.10470E+05 | 0.22544E+08 | 0.20940E+02 | 0.26158E-01      | 0.55557E+02 | 0.44220E+02 | 0.96823E-02 |       |
| 0.22909E-02 | 0.10527E+05 | 0.22668E+08 | 0.21055E+02 | 0.26299E-01      | 0.55851E+02 | 0.44211E+02 | 0.97357E-02 |       |
| 0.22934E-02 | 0.10585E+05 | 0.22793E+08 | 0.21170E+02 | 0.26441E-01      | 0.56145E+02 | 0.44202E+02 | 0.97893E-02 |       |
| 0.22960E-02 | 0.10643E+05 | 0.22919E+08 | 0.21286E+02 | 0.26584E-01      | 0.56442E+02 | 0.44193E+02 | 0.98432E-02 |       |
| 0.22985E-02 | 0.10701E+05 | 0.23045E+08 | 0.21403E+02 | 0.26728E-01      | 0.56740E+02 | 0.44184E+02 | 0.98974E-02 |       |
| 0.23011E-02 | 0.10760E+05 | 0.23172E+08 | 0.21520E+02 | 0.26873E-01      | 0.57039E+02 | 0.44175E+02 | 0.99519E-02 |       |
| 0.23036E-02 | 0.10819E+05 | 0.23300E+08 | 0.21638E+02 | 0.27018E-01      | 0.57340E+02 | 0.44166E+02 | 0.10007E-01 |       |
| 0.23061E-02 | 0.10879E+05 | 0.23429E+08 | 0.21757E+02 | 0.27164E-01      | 0.57643E+02 | 0.44156E+02 | 0.10062E-01 |       |
| 0.23087E-02 | 0.10938E+05 | 0.23558E+08 | 0.21876E+02 | 0.27311E-01      | 0.57947E+02 | 0.44147E+02 | 0.10117E-01 |       |
| 0.23112E-02 | 0.10998E+05 | 0.23688E+08 | 0.21996E+02 | 0.27458E-01      | 0.58252E+02 | 0.44138E+02 | 0.10173E-01 |       |
| 0.23138E-02 | 0.11059E+05 | 0.23818E+08 | 0.22117E+02 | 0.27607E-01      | 0.58560E+02 | 0.44129E+02 | 0.10229E-01 |       |
| 0.23163E-02 | 0.11119E+05 | 0.23950E+08 | 0.22238E+02 | 0.27756E-01      | 0.58868E+02 | 0.44119E+02 | 0.10285E-01 |       |
| 0.23188E-02 | 0.11180E+05 | 0.24082E+08 | 0.22360E+02 | 0.27906E-01      | 0.59179E+02 | 0.44110E+02 | 0.10342E-01 |       |
| 0.23214E-02 | 0.11242E+05 | 0.24215E+08 | 0.22483E+02 | 0.28056E-01      | 0.59490E+02 | 0.44100E+02 | 0.10399E-01 |       |
| 0.23239E-02 | 0.11303E+05 | 0.24348E+08 | 0.22606E+02 | 0.28208E-01      | 0.59804E+02 | 0.44091E+02 | 0.10456E-01 |       |
| 0.23265E-02 | 0.11365E+05 | 0.24483E+08 | 0.22730E+02 | 0.28360E-01      | 0.60119E+02 | 0.44081E+02 | 0.10514E-01 |       |
| 0.23290E-02 | 0.11428E+05 | 0.24618E+08 | 0.22855E+02 | 0.28513E-01      | 0.60435E+02 | 0.44071E+02 | 0.10572E-01 |       |
| 0.23315E-02 | 0.11490E+05 | 0.24754E+08 | 0.22981E+02 | 0.28667E-01      | 0.60754E+02 | 0.44062E+02 | 0.10630E-01 |       |

| TIME        | PRESSURE    | PDOT        | XDOT        | PROPELLANT BURNT | MDOT        | SURFACE     | DISTANCE BURNT |
|-------------|-------------|-------------|-------------|------------------|-------------|-------------|----------------|
| 0.23341E-02 | 0.11553E+05 | 0.24890E+08 | 0.23107E+02 | 0.28822E-01      | 0.61073E+02 | 0.44052E+02 | 0.10688E-01    |
| 0.23366E-02 | 0.11617E+05 | 0.25028E+08 | 0.23233E+02 | 0.28977E-01      | 0.61395E+02 | 0.44042E+02 | 0.10747E-01    |
| 0.23392E-02 | 0.11680E+05 | 0.25166E+08 | 0.23361E+02 | 0.29134E-01      | 0.61718E+02 | 0.44032E+02 | 0.10806E-01    |
| 0.23417E-02 | 0.11745E+05 | 0.25305E+08 | 0.23489E+02 | 0.29291E-01      | 0.62043E+02 | 0.44022E+02 | 0.10866E-01    |
| 0.23442E-02 | 0.11809E+05 | 0.25444E+08 | 0.23618E+02 | 0.29449E-01      | 0.62369E+02 | 0.44012E+02 | 0.10926E-01    |
| 0.23468E-02 | 0.11874E+05 | 0.25585E+08 | 0.23748E+02 | 0.29608E-01      | 0.62697E+02 | 0.44002E+02 | 0.10986E-01    |
| 0.23493E-02 | 0.11939E+05 | 0.25726E+08 | 0.23878E+02 | 0.29767E-01      | 0.63026E+02 | 0.43992E+02 | 0.11046E-01    |
| 0.23519E-02 | 0.12004E+05 | 0.25868E+08 | 0.24009E+02 | 0.29928E-01      | 0.63358E+02 | 0.43982E+02 | 0.11107E-01    |
| 0.23544E-02 | 0.12070E+05 | 0.26011E+08 | 0.24141E+02 | 0.30089E-01      | 0.63691E+02 | 0.43972E+02 | 0.11168E-01    |
| 0.23569E-02 | 0.12137E+05 | 0.26154E+08 | 0.24273E+02 | 0.30251E-01      | 0.64025E+02 | 0.43962E+02 | 0.11230E-01    |
| 0.23595E-02 | 0.12203E+05 | 0.26299E+08 | 0.24406E+02 | 0.30414E-01      | 0.64362E+02 | 0.43951E+02 | 0.11292E-01    |
| 0.23620E-02 | 0.12270E+05 | 0.26444E+08 | 0.24540E+02 | 0.30578E-01      | 0.64700E+02 | 0.43941E+02 | 0.11354E-01    |
| 0.23646E-02 | 0.12338E+05 | 0.26590E+08 | 0.24675E+02 | 0.30743E-01      | 0.65039E+02 | 0.43931E+02 | 0.11416E-01    |
| 0.23671E-02 | 0.12405E+05 | 0.26737E+08 | 0.24810E+02 | 0.30909E-01      | 0.65381E+02 | 0.43920E+02 | 0.11479E-01    |
| 0.23696E-02 | 0.12473E+05 | 0.26885E+08 | 0.24947E+02 | 0.31075E-01      | 0.65724E+02 | 0.43910E+02 | 0.11542E-01    |
| 0.23722E-02 | 0.12542E+05 | 0.27033E+08 | 0.25084E+02 | 0.31242E-01      | 0.66069E+02 | 0.43899E+02 | 0.11606E-01    |
| 0.23747E-02 | 0.12611E+05 | 0.27182E+08 | 0.25221E+02 | 0.31411E-01      | 0.66415E+02 | 0.43888E+02 | 0.11670E-01    |
| 0.23773E-02 | 0.12680E+05 | 0.27333E+08 | 0.25360E+02 | 0.31580E-01      | 0.66764E+02 | 0.43878E+02 | 0.11734E-01    |
| 0.23798E-02 | 0.12749E+05 | 0.27484E+08 | 0.25499E+02 | 0.31750E-01      | 0.67114E+02 | 0.43867E+02 | 0.11798E-01    |
| 0.23823E-02 | 0.12819E+05 | 0.27635E+08 | 0.25639E+02 | 0.31921E-01      | 0.67465E+02 | 0.43856E+02 | 0.11863E-01    |
| 0.23849E-02 | 0.12890E+05 | 0.27788E+08 | 0.25780E+02 | 0.32093E-01      | 0.67819E+02 | 0.43845E+02 | 0.11929E-01    |
| 0.23874E-02 | 0.12961E+05 | 0.27942E+08 | 0.25921E+02 | 0.32265E-01      | 0.68174E+02 | 0.43834E+02 | 0.11994E-01    |
| 0.23900E-02 | 0.13032E+05 | 0.28096E+08 | 0.26064E+02 | 0.32439E-01      | 0.68531E+02 | 0.43823E+02 | 0.12060E-01    |
| 0.23925E-02 | 0.13103E+05 | 0.28251E+08 | 0.26207E+02 | 0.32613E-01      | 0.68890E+02 | 0.43812E+02 | 0.12127E-01    |
| 0.23950E-02 | 0.13175E+05 | 0.28407E+08 | 0.26351E+02 | 0.32789E-01      | 0.69251E+02 | 0.43801E+02 | 0.12194E-01    |
| 0.23976E-02 | 0.13248E+05 | 0.28564E+08 | 0.26495E+02 | 0.32965E-01      | 0.69614E+02 | 0.43790E+02 | 0.12261E-01    |
| 0.24001E-02 | 0.13320E+05 | 0.28722E+08 | 0.26641E+02 | 0.33142E-01      | 0.69978E+02 | 0.43779E+02 | 0.12328E-01    |
| 0.24027E-02 | 0.13394E+05 | 0.28881E+08 | 0.26787E+02 | 0.33321E-01      | 0.70344E+02 | 0.43767E+02 | 0.12396E-01    |
| 0.24052E-02 | 0.13467E+05 | 0.29040E+08 | 0.26934E+02 | 0.33500E-01      | 0.70712E+02 | 0.43756E+02 | 0.12464E-01    |
| 0.24077E-02 | 0.13541E+05 | 0.29201E+08 | 0.27082E+02 | 0.33680E-01      | 0.71082E+02 | 0.43745E+02 | 0.12533E-01    |
| 0.24103E-02 | 0.13615E+05 | 0.29362E+08 | 0.27231E+02 | 0.33861E-01      | 0.71453E+02 | 0.43733E+02 | 0.12602E-01    |
| 0.24128E-02 | 0.13690E+05 | 0.29525E+08 | 0.27380E+02 | 0.34043E-01      | 0.71827E+02 | 0.43721E+02 | 0.12671E-01    |
| 0.24154E-02 | 0.13765E+05 | 0.29688E+08 | 0.27531E+02 | 0.34226E-01      | 0.72202E+02 | 0.43710E+02 | 0.12741E-01    |
| 0.24179E-02 | 0.13841E+05 | 0.29852E+08 | 0.27682E+02 | 0.34409E-01      | 0.72579E+02 | 0.43698E+02 | 0.12811E-01    |
| 0.24204E-02 | 0.13917E+05 | 0.30017E+08 | 0.27834E+02 | 0.34594E-01      | 0.72958E+02 | 0.43686E+02 | 0.12881E-01    |
| 0.24230E-02 | 0.13993E+05 | 0.30183E+08 | 0.27987E+02 | 0.34780E-01      | 0.73339E+02 | 0.43675E+02 | 0.12952E-01    |
| 0.24255E-02 | 0.14070E+05 | 0.30350E+08 | 0.28141E+02 | 0.34967E-01      | 0.73722E+02 | 0.43663E+02 | 0.13024E-01    |
| 0.24281E-02 | 0.14148E+05 | 0.30518E+08 | 0.28295E+02 | 0.35155E-01      | 0.74107E+02 | 0.43651E+02 | 0.13095E-01    |
| 0.24306E-02 | 0.14225E+05 | 0.30686E+08 | 0.28451E+02 | 0.35343E-01      | 0.74493E+02 | 0.43639E+02 | 0.13167E-01    |
| 0.24331E-02 | 0.14304E+05 | 0.30856E+08 | 0.28607E+02 | 0.35533E-01      | 0.74882E+02 | 0.43627E+02 | 0.13240E-01    |
| 0.24357E-02 | 0.14382E+05 | 0.31027E+08 | 0.28764E+02 | 0.35724E-01      | 0.75272E+02 | 0.43615E+02 | 0.13313E-01    |
| 0.24382E-02 | 0.14461E+05 | 0.31198E+08 | 0.28922E+02 | 0.35915E-01      | 0.75665E+02 | 0.43602E+02 | 0.13386E-01    |
| 0.24408E-02 | 0.14541E+05 | 0.31371E+08 | 0.29081E+02 | 0.36108E-01      | 0.76059E+02 | 0.43590E+02 | 0.13460E-01    |
| 0.24433E-02 | 0.14620E+05 | 0.31544E+08 | 0.29241E+02 | 0.36302E-01      | 0.76455E+02 | 0.43578E+02 | 0.13534E-01    |
| 0.24458E-02 | 0.14701E+05 | 0.31719E+08 | 0.29402E+02 | 0.36496E-01      | 0.76854E+02 | 0.43565E+02 | 0.13608E-01    |
| 0.24484E-02 | 0.14782E+05 | 0.31894E+08 | 0.29563E+02 | 0.36692E-01      | 0.77254E+02 | 0.43553E+02 | 0.13683E-01    |
| 0.24509E-02 | 0.14863E+05 | 0.32071E+08 | 0.29726E+02 | 0.36889E-01      | 0.77656E+02 | 0.43540E+02 | 0.13758E-01    |
| 0.24535E-02 | 0.14945E+05 | 0.32248E+08 | 0.29889E+02 | 0.37087E-01      | 0.78060E+02 | 0.43528E+02 | 0.13834E-01    |
| 0.24560E-02 | 0.15027E+05 | 0.32426E+08 | 0.30053E+02 | 0.37285E-01      | 0.78466E+02 | 0.43515E+02 | 0.13910E-01    |
| 0.24585E-02 | 0.15109E+05 | 0.32606E+08 | 0.30218E+02 | 0.37485E-01      | 0.78874E+02 | 0.43502E+02 | 0.13987E-01    |
| 0.24611E-02 | 0.15192E+05 | 0.32786E+08 | 0.30385E+02 | 0.37686E-01      | 0.79284E+02 | 0.43489E+02 | 0.14064E-01    |
| 0.24636E-02 | 0.15276E+05 | 0.32967E+08 | 0.30552E+02 | 0.37888E-01      | 0.79696E+02 | 0.43477E+02 | 0.14141E-01    |
| 0.24662E-02 | 0.15360E+05 | 0.33150E+08 | 0.30719E+02 | 0.38091E-01      | 0.80111E+02 | 0.43464E+02 | 0.14219E-01    |
| 0.24687E-02 | 0.15444E+05 | 0.33333E+08 | 0.30888E+02 | 0.38295E-01      | 0.80527E+02 | 0.43450E+02 | 0.14297E-01    |

| TIME        | PRESSURE    | PDOT        | XDOT        | PROPELLANT  | BURNT       | MOOT        | SURFACE     | DISTANCE | BURNT |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------|-------|
| 0.24712E-02 | 0.15529E+05 | 0.33518E+08 | 0.31058E+02 | 0.38500E-01 | 0.80945E+02 | 0.43437E+02 | 0.14376E-01 |          |       |
| 0.24738E-02 | 0.15614E+05 | 0.33703E+08 | 0.31229E+02 | 0.38706E-01 | 0.81365E+02 | 0.43424E+02 | 0.14455E-01 |          |       |
| 0.24763E-02 | 0.15700E+05 | 0.33890E+08 | 0.31401E+02 | 0.38913E-01 | 0.81788E+02 | 0.43411E+02 | 0.14534E-01 |          |       |
| 0.24789E-02 | 0.15787E+05 | 0.34077E+08 | 0.31573E+02 | 0.39121E-01 | 0.82212E+02 | 0.43398E+02 | 0.14614E-01 |          |       |
| 0.24814E-02 | 0.15873E+05 | 0.34266E+08 | 0.31747E+02 | 0.39331E-01 | 0.82638E+02 | 0.43384E+02 | 0.14695E-01 |          |       |
| 0.24839E-02 | 0.15961E+05 | 0.34456E+08 | 0.31921E+02 | 0.39541E-01 | 0.83067E+02 | 0.43371E+02 | 0.14776E-01 |          |       |
| 0.24865E-02 | 0.16048E+05 | 0.34646E+08 | 0.32097E+02 | 0.39753E-01 | 0.83497E+02 | 0.43357E+02 | 0.14857E-01 |          |       |
| 0.24890E-02 | 0.16137E+05 | 0.34838E+08 | 0.32273E+02 | 0.39965E-01 | 0.83930E+02 | 0.43344E+02 | 0.14939E-01 |          |       |
| 0.24916E-02 | 0.16225E+05 | 0.35031E+08 | 0.32451E+02 | 0.40179E-01 | 0.84365E+02 | 0.43330E+02 | 0.15021E-01 |          |       |
| 0.24941E-02 | 0.16315E+05 | 0.35225E+08 | 0.32629E+02 | 0.40394E-01 | 0.84802E+02 | 0.43316E+02 | 0.15103E-01 |          |       |
| 0.24966E-02 | 0.16404E+05 | 0.35420E+08 | 0.32809E+02 | 0.40610E-01 | 0.85241E+02 | 0.43302E+02 | 0.15187E-01 |          |       |
| 0.24992E-02 | 0.16494E+05 | 0.35616E+08 | 0.32989E+02 | 0.40827E-01 | 0.85682E+02 | 0.43288E+02 | 0.15270E-01 |          |       |
| 0.25017E-02 | 0.16585E+05 | 0.35813E+08 | 0.33170E+02 | 0.41045E-01 | 0.86126E+02 | 0.43274E+02 | 0.15354E-01 |          |       |
| 0.25043E-02 | 0.16676E+05 | 0.36011E+08 | 0.33353E+02 | 0.41264E-01 | 0.86571E+02 | 0.43260E+02 | 0.15439E-01 |          |       |
| 0.25068E-02 | 0.16768E+05 | 0.36211E+08 | 0.33536E+02 | 0.41485E-01 | 0.87019E+02 | 0.43246E+02 | 0.15524E-01 |          |       |
| 0.25093E-02 | 0.16860E+05 | 0.36411E+08 | 0.33721E+02 | 0.41706E-01 | 0.87468E+02 | 0.43232E+02 | 0.15609E-01 |          |       |
| 0.25119E-02 | 0.16953E+05 | 0.36613E+08 | 0.33906E+02 | 0.41929E-01 | 0.87920E+02 | 0.43218E+02 | 0.15695E-01 |          |       |
| 0.25144E-02 | 0.17046E+05 | 0.36816E+08 | 0.34093E+02 | 0.42153E-01 | 0.88375E+02 | 0.43203E+02 | 0.15781E-01 |          |       |
| 0.25170E-02 | 0.17140E+05 | 0.37020E+08 | 0.34280E+02 | 0.42378E-01 | 0.88831E+02 | 0.43189E+02 | 0.15868E-01 |          |       |
| 0.25195E-02 | 0.17234E+05 | 0.37225E+08 | 0.34469E+02 | 0.42604E-01 | 0.89289E+02 | 0.43174E+02 | 0.15955E-01 |          |       |
| 0.25220E-02 | 0.17329E+05 | 0.37431E+08 | 0.34658E+02 | 0.42832E-01 | 0.89750E+02 | 0.43159E+02 | 0.16043E-01 |          |       |
| 0.25246E-02 | 0.17424E+05 | 0.37638E+08 | 0.34849E+02 | 0.43060E-01 | 0.90213E+02 | 0.43145E+02 | 0.16131E-01 |          |       |
| 0.25271E-02 | 0.17520E+05 | 0.37847E+08 | 0.35041E+02 | 0.43290E-01 | 0.90678E+02 | 0.43130E+02 | 0.16220E-01 |          |       |
| 0.25297E-02 | 0.17617E+05 | 0.38056E+08 | 0.35233E+02 | 0.43521E-01 | 0.91146E+02 | 0.43115E+02 | 0.16309E-01 |          |       |
| 0.25322E-02 | 0.17714E+05 | 0.38267E+08 | 0.35427E+02 | 0.43753E-01 | 0.91615E+02 | 0.43100E+02 | 0.16399E-01 |          |       |
| 0.25347E-02 | 0.17811E+05 | 0.38479E+08 | 0.35622E+02 | 0.43986E-01 | 0.92087E+02 | 0.43085E+02 | 0.16489E-01 |          |       |
| 0.25373E-02 | 0.17909E+05 | 0.38692E+08 | 0.35818E+02 | 0.44221E-01 | 0.92562E+02 | 0.43070E+02 | 0.16580E-01 |          |       |
| 0.25398E-02 | 0.18008E+05 | 0.38907E+08 | 0.36015E+02 | 0.44456E-01 | 0.93038E+02 | 0.43055E+02 | 0.16671E-01 |          |       |
| 0.25423E-02 | 0.18107E+05 | 0.39122E+08 | 0.36214E+02 | 0.44693E-01 | 0.93517E+02 | 0.43040E+02 | 0.16763E-01 |          |       |
| 0.25449E-02 | 0.18206E+05 | 0.39339E+08 | 0.36413E+02 | 0.44931E-01 | 0.93998E+02 | 0.43024E+02 | 0.16855E-01 |          |       |
| 0.25474E-02 | 0.18307E+05 | 0.39557E+08 | 0.36613E+02 | 0.45171E-01 | 0.94481E+02 | 0.43009E+02 | 0.16948E-01 |          |       |
| 0.25500E-02 | 0.18407E+05 | 0.39776E+08 | 0.36815E+02 | 0.45411E-01 | 0.94967E+02 | 0.42993E+02 | 0.17041E-01 |          |       |
| 0.25525E-02 | 0.18509E+05 | 0.39997E+08 | 0.37017E+02 | 0.45653E-01 | 0.95455E+02 | 0.42978E+02 | 0.17135E-01 |          |       |
| 0.25550E-02 | 0.18611E+05 | 0.40218E+08 | 0.37221E+02 | 0.45896E-01 | 0.95945E+02 | 0.42962E+02 | 0.17229E-01 |          |       |
| 0.25576E-02 | 0.18713E+05 | 0.40441E+08 | 0.37426E+02 | 0.46140E-01 | 0.96437E+02 | 0.42946E+02 | 0.17324E-01 |          |       |
| 0.25601E-02 | 0.18816E+05 | 0.40665E+08 | 0.37632E+02 | 0.46386E-01 | 0.96932E+02 | 0.42930E+02 | 0.17419E-01 |          |       |
| 0.25627E-02 | 0.18920E+05 | 0.40891E+08 | 0.37839E+02 | 0.46633E-01 | 0.97430E+02 | 0.42914E+02 | 0.17515E-01 |          |       |
| 0.25652E-02 | 0.19024E+05 | 0.41117E+08 | 0.38047E+02 | 0.46881E-01 | 0.97929E+02 | 0.42898E+02 | 0.17612E-01 |          |       |
| 0.25677E-02 | 0.19128E+05 | 0.41345E+08 | 0.38257E+02 | 0.47130E-01 | 0.98431E+02 | 0.42882E+02 | 0.17708E-01 |          |       |
| 0.25703E-02 | 0.19234E+05 | 0.41574E+08 | 0.38467E+02 | 0.47381E-01 | 0.98936E+02 | 0.42866E+02 | 0.17806E-01 |          |       |
| 0.25728E-02 | 0.19340E+05 | 0.41805E+08 | 0.38679E+02 | 0.47633E-01 | 0.99442E+02 | 0.42849E+02 | 0.17904E-01 |          |       |
| 0.25754E-02 | 0.19446E+05 | 0.42037E+08 | 0.38892E+02 | 0.47886E-01 | 0.99952E+02 | 0.42833E+02 | 0.18002E-01 |          |       |
| 0.25779E-02 | 0.19553E+05 | 0.42270E+08 | 0.39106E+02 | 0.48140E-01 | 0.10046E+03 | 0.42816E+02 | 0.18101E-01 |          |       |
| 0.25804E-02 | 0.19661E+05 | 0.42504E+08 | 0.39321E+02 | 0.48396E-01 | 0.10098E+03 | 0.42800E+02 | 0.18201E-01 |          |       |
| 0.25830E-02 | 0.19769E+05 | 0.42740E+08 | 0.39538E+02 | 0.48653E-01 | 0.10149E+03 | 0.42783E+02 | 0.18301E-01 |          |       |
| 0.25855E-02 | 0.19878E+05 | 0.42977E+08 | 0.39756E+02 | 0.48912E-01 | 0.10201E+03 | 0.42766E+02 | 0.18402E-01 |          |       |
| 0.25881E-02 | 0.19987E+05 | 0.43215E+08 | 0.39975E+02 | 0.49172E-01 | 0.10253E+03 | 0.42749E+02 | 0.18503E-01 |          |       |
| 0.25906E-02 | 0.20097E+05 | 0.43454E+08 | 0.40195E+02 | 0.49433E-01 | 0.10306E+03 | 0.42733E+02 | 0.18605E-01 |          |       |
| 0.25931E-02 | 0.20208E+05 | 0.43695E+08 | 0.40416E+02 | 0.49695E-01 | 0.10358E+03 | 0.42715E+02 | 0.18707E-01 |          |       |
| 0.25957E-02 | 0.20319E+05 | 0.43938E+08 | 0.40639E+02 | 0.49959E-01 | 0.10411E+03 | 0.42698E+02 | 0.18810E-01 |          |       |
| 0.25982E-02 | 0.20431E+05 | 0.44181E+08 | 0.40862E+02 | 0.50224E-01 | 0.10464E+03 | 0.42681E+02 | 0.18914E-01 |          |       |
| 0.26008E-02 | 0.20544E+05 | 0.44426E+08 | 0.41087E+02 | 0.50490E-01 | 0.10518E+03 | 0.42664E+02 | 0.19018E-01 |          |       |
| 0.26033E-02 | 0.20657E+05 | 0.44673E+08 | 0.41314E+02 | 0.50758E-01 | 0.10571E+03 | 0.42646E+02 | 0.19122E-01 |          |       |
| 0.26058E-02 | 0.20771E+05 | 0.44920E+08 | 0.41541E+02 | 0.51027E-01 | 0.10625E+03 | 0.42629E+02 | 0.19228E-01 |          |       |

| TIME        | PRESSURE    | PDOT        | XDOT        | PROPELLANT BURNT | MDOT        | SURFACE     | DISTANCE BURNT |
|-------------|-------------|-------------|-------------|------------------|-------------|-------------|----------------|
| 0.26084E-02 | 0.20885E+05 | 0.45169E+08 | 0.41770E+02 | 0.51298E-01      | 0.10679E+03 | 0.42611E+02 | 0.19333E-01    |
| 0.26109E-02 | 0.21000E+05 | 0.45420E+08 | 0.42000E+02 | 0.51570E-01      | 0.10734E+03 | 0.42593E+02 | 0.19440E-01    |
| 0.26135E-02 | 0.21116E+05 | 0.45672E+08 | 0.42232E+02 | 0.51843E-01      | 0.10788E+03 | 0.42576E+02 | 0.19547E-01    |
| 0.26160E-02 | 0.21232E+05 | 0.45925E+08 | 0.42464E+02 | 0.52118E-01      | 0.10843E+03 | 0.42558E+02 | 0.19654E-01    |
| 0.26185E-02 | 0.21349E+05 | 0.46180E+08 | 0.42698E+02 | 0.52394E-01      | 0.10898E+03 | 0.42540E+02 | 0.19762E-01    |
| 0.26211E-02 | 0.21467E+05 | 0.46436E+08 | 0.42933E+02 | 0.52671E-01      | 0.10954E+03 | 0.42521E+02 | 0.19871E-01    |
| 0.26236E-02 | 0.21585E+05 | 0.46694E+08 | 0.43170E+02 | 0.52950E-01      | 0.11009E+03 | 0.42503E+02 | 0.19981E-01    |
| 0.26262E-02 | 0.21704E+05 | 0.46953E+08 | 0.43408E+02 | 0.53231E-01      | 0.11065E+03 | 0.42485E+02 | 0.20090E-01    |
| 0.26287E-02 | 0.21823E+05 | 0.47213E+08 | 0.43647E+02 | 0.53512E-01      | 0.11121E+03 | 0.42466E+02 | 0.20201E-01    |
| 0.26312E-02 | 0.21944E+05 | 0.47475E+08 | 0.43887E+02 | 0.53796E-01      | 0.11178E+03 | 0.42448E+02 | 0.20312E-01    |
| 0.26338E-02 | 0.22065E+05 | 0.47738E+08 | 0.44129E+02 | 0.54080E-01      | 0.11234E+03 | 0.42429E+02 | 0.20424E-01    |
| 0.26363E-02 | 0.22186E+05 | 0.48003E+08 | 0.44372E+02 | 0.54366E-01      | 0.11291E+03 | 0.42411E+02 | 0.20536E-01    |
| 0.26389E-02 | 0.22308E+05 | 0.48269E+08 | 0.44617E+02 | 0.54654E-01      | 0.11348E+03 | 0.42392E+02 | 0.20649E-01    |
| 0.26414E-02 | 0.22431E+05 | 0.48537E+08 | 0.44863E+02 | 0.54943E-01      | 0.11406E+03 | 0.42373E+02 | 0.20763E-01    |
| 0.26439E-02 | 0.22555E+05 | 0.48806E+08 | 0.45110E+02 | 0.55233E-01      | 0.11463E+03 | 0.42354E+02 | 0.20877E-01    |
| 0.26465E-02 | 0.22679E+05 | 0.49077E+08 | 0.45359E+02 | 0.55525E-01      | 0.11521E+03 | 0.42335E+02 | 0.20992E-01    |
| 0.26490E-02 | 0.22804E+05 | 0.49349E+08 | 0.45609E+02 | 0.55818E-01      | 0.11580E+03 | 0.42315E+02 | 0.21108E-01    |
| 0.26516E-02 | 0.22930E+05 | 0.49623E+08 | 0.45860E+02 | 0.56113E-01      | 0.11638E+03 | 0.42296E+02 | 0.21224E-01    |
| 0.26541E-02 | 0.23056E+05 | 0.49898E+08 | 0.46113E+02 | 0.56410E-01      | 0.11697E+03 | 0.42277E+02 | 0.21341E-01    |
| 0.26566E-02 | 0.23183E+05 | 0.50175E+08 | 0.46367E+02 | 0.56707E-01      | 0.11756E+03 | 0.42257E+02 | 0.21458E-01    |
| 0.26592E-02 | 0.23311E+05 | 0.50454E+08 | 0.46622E+02 | 0.57007E-01      | 0.11815E+03 | 0.42237E+02 | 0.21576E-01    |
| 0.26617E-02 | 0.23440E+05 | 0.50734E+08 | 0.46879E+02 | 0.57308E-01      | 0.11875E+03 | 0.42218E+02 | 0.21695E-01    |
| 0.26643E-02 | 0.23569E+05 | 0.51015E+08 | 0.47138E+02 | 0.57610E-01      | 0.11935E+03 | 0.42198E+02 | 0.21814E-01    |
| 0.26668E-02 | 0.23699E+05 | 0.51298E+08 | 0.47398E+02 | 0.57914E-01      | 0.11995E+03 | 0.42178E+02 | 0.21934E-01    |
| 0.26693E-02 | 0.23830E+05 | 0.51583E+08 | 0.47659E+02 | 0.58219E-01      | 0.12055E+03 | 0.42157E+02 | 0.22055E-01    |
| 0.26719E-02 | 0.23961E+05 | 0.51869E+08 | 0.47922E+02 | 0.58526E-01      | 0.12116E+03 | 0.42137E+02 | 0.22176E-01    |
| 0.26744E-02 | 0.24093E+05 | 0.52157E+08 | 0.48186E+02 | 0.58835E-01      | 0.12177E+03 | 0.42117E+02 | 0.22298E-01    |
| 0.26770E-02 | 0.24226E+05 | 0.52446E+08 | 0.48452E+02 | 0.59145E-01      | 0.12238E+03 | 0.42096E+02 | 0.22421E-01    |
| 0.26795E-02 | 0.24359E+05 | 0.52737E+08 | 0.48719E+02 | 0.59456E-01      | 0.12299E+03 | 0.42076E+02 | 0.22545E-01    |
| 0.26820E-02 | 0.24494E+05 | 0.53030E+08 | 0.48987E+02 | 0.59769E-01      | 0.12361E+03 | 0.42055E+02 | 0.22669E-01    |
| 0.26846E-02 | 0.24629E+05 | 0.53324E+08 | 0.49258E+02 | 0.60084E-01      | 0.12423E+03 | 0.42034E+02 | 0.22793E-01    |
| 0.26871E-02 | 0.24765E+05 | 0.53620E+08 | 0.49529E+02 | 0.60400E-01      | 0.12485E+03 | 0.42014E+02 | 0.22919E-01    |
| 0.26897E-02 | 0.24901E+05 | 0.53917E+08 | 0.49802E+02 | 0.60718E-01      | 0.12548E+03 | 0.41993E+02 | 0.23045E-01    |
| 0.26922E-02 | 0.25038E+05 | 0.54216E+08 | 0.50077E+02 | 0.61038E-01      | 0.12611E+03 | 0.41971E+02 | 0.23172E-01    |
| 0.26947E-02 | 0.25177E+05 | 0.54517E+08 | 0.50353E+02 | 0.61359E-01      | 0.12674E+03 | 0.41950E+02 | 0.23299E-01    |
| 0.26973E-02 | 0.25315E+05 | 0.54820E+08 | 0.50631E+02 | 0.61682E-01      | 0.12737E+03 | 0.41929E+02 | 0.23428E-01    |
| 0.26998E-02 | 0.25455E+05 | 0.55124E+08 | 0.50910E+02 | 0.62006E-01      | 0.12801E+03 | 0.41907E+02 | 0.23557E-01    |
| 0.27024E-02 | 0.25595E+05 | 0.55430E+08 | 0.51191E+02 | 0.62332E-01      | 0.12865E+03 | 0.41886E+02 | 0.23686E-01    |
| 0.27049E-02 | 0.25737E+05 | 0.55737E+08 | 0.51473E+02 | 0.62659E-01      | 0.12929E+03 | 0.41864E+02 | 0.23817E-01    |
| 0.27074E-02 | 0.25879E+05 | 0.56046E+08 | 0.51757E+02 | 0.62989E-01      | 0.12994E+03 | 0.41842E+02 | 0.23948E-01    |
| 0.27100E-02 | 0.26021E+05 | 0.56357E+08 | 0.52042E+02 | 0.63319E-01      | 0.13059E+03 | 0.41820E+02 | 0.24079E-01    |
| 0.27125E-02 | 0.26165E+05 | 0.56670E+08 | 0.52330E+02 | 0.63652E-01      | 0.13124E+03 | 0.41798E+02 | 0.24212E-01    |
| 0.27151E-02 | 0.26309E+05 | 0.56984E+08 | 0.52618E+02 | 0.63986E-01      | 0.13189E+03 | 0.41776E+02 | 0.24345E-01    |
| 0.27176E-02 | 0.26454E+05 | 0.57300E+08 | 0.52908E+02 | 0.64322E-01      | 0.13255E+03 | 0.41753E+02 | 0.24479E-01    |
| 0.27201E-02 | 0.26600E+05 | 0.57618E+08 | 0.53200E+02 | 0.64659E-01      | 0.13321E+03 | 0.41731E+02 | 0.24614E-01    |
| 0.27227E-02 | 0.26747E+05 | 0.57938E+08 | 0.53494E+02 | 0.64999E-01      | 0.13387E+03 | 0.41708E+02 | 0.24750E-01    |
| 0.27252E-02 | 0.26894E+05 | 0.58259E+08 | 0.53789E+02 | 0.65339E-01      | 0.13453E+03 | 0.41686E+02 | 0.24886E-01    |
| 0.27278E-02 | 0.27043E+05 | 0.58583E+08 | 0.54086E+02 | 0.65682E-01      | 0.13520E+03 | 0.41663E+02 | 0.25023E-01    |
| 0.27303E-02 | 0.27192E+05 | 0.58908E+08 | 0.54384E+02 | 0.66026E-01      | 0.13587E+03 | 0.41640E+02 | 0.25161E-01    |
| 0.27328E-02 | 0.27342E+05 | 0.59234E+08 | 0.54684E+02 | 0.66372E-01      | 0.13655E+03 | 0.41617E+02 | 0.25299E-01    |
| 0.27354E-02 | 0.27493E+05 | 0.59563E+08 | 0.54986E+02 | 0.66720E-01      | 0.13722E+03 | 0.41594E+02 | 0.25438E-01    |
| 0.27379E-02 | 0.27645E+05 | 0.59893E+08 | 0.55289E+02 | 0.67069E-01      | 0.13790E+03 | 0.41570E+02 | 0.25578E-01    |
| 0.27405E-02 | 0.27797E+05 | 0.60226E+08 | 0.55594E+02 | 0.67420E-01      | 0.13859E+03 | 0.41547E+02 | 0.25719E-01    |
| 0.27430E-02 | 0.27951E+05 | 0.60560E+08 | 0.55901E+02 | 0.67773E-01      | 0.13927E+03 | 0.41523E+02 | 0.25861E-01    |

| TIME        | PRESSURE    | POOT        | XDOT        | PROPELLANT  | BURNT       | MDOT        | SURFACE     | DISTANCE | BURNT |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------|-------|
| 0.27455E-02 | 0.28105E+05 | 0.60895E+08 | 0.56210E+02 | 0.68128E-01 | 0.13996E+03 | 0.41499E+02 | 0.26003E-01 |          |       |
| 0.27481E-02 | 0.28260E+05 | 0.61233E+08 | 0.56520E+02 | 0.68484E-01 | 0.14065E+03 | 0.41476E+02 | 0.26146E-01 |          |       |
| 0.27506E-02 | 0.28416E+05 | 0.61573E+08 | 0.56832E+02 | 0.68842E-01 | 0.14135E+03 | 0.41452E+02 | 0.26290E-01 |          |       |
| 0.27532E-02 | 0.28573E+05 | 0.61914E+08 | 0.57145E+02 | 0.69202E-01 | 0.14204E+03 | 0.41428E+02 | 0.26435E-01 |          |       |
| 0.27557E-02 | 0.28730E+05 | 0.62258E+08 | 0.57461E+02 | 0.69564E-01 | 0.14274E+03 | 0.41403E+02 | 0.26580E-01 |          |       |
| 0.27582E-02 | 0.28889E+05 | 0.62603E+08 | 0.57778E+02 | 0.69927E-01 | 0.14345E+03 | 0.41379E+02 | 0.26727E-01 |          |       |
| 0.27608E-02 | 0.29048E+05 | 0.62950E+08 | 0.58097E+02 | 0.70292E-01 | 0.14415E+03 | 0.41354E+02 | 0.26874E-01 |          |       |
| 0.27633E-02 | 0.29209E+05 | 0.63299E+08 | 0.58417E+02 | 0.70659E-01 | 0.14486E+03 | 0.41330E+02 | 0.27022E-01 |          |       |
| 0.27659E-02 | 0.29370E+05 | 0.63650E+08 | 0.58740E+02 | 0.71028E-01 | 0.14557E+03 | 0.41305E+02 | 0.27171E-01 |          |       |
| 0.27684E-02 | 0.29532E+05 | 0.64003E+08 | 0.59064E+02 | 0.71399E-01 | 0.14629E+03 | 0.41280E+02 | 0.27320E-01 |          |       |
| 0.27709E-02 | 0.29695E+05 | 0.64358E+08 | 0.59390E+02 | 0.71771E-01 | 0.14701E+03 | 0.41255E+02 | 0.27471E-01 |          |       |
| 0.27735E-02 | 0.29859E+05 | 0.64715E+08 | 0.59718E+02 | 0.72146E-01 | 0.14773E+03 | 0.41230E+02 | 0.27622E-01 |          |       |
| 0.27760E-02 | 0.30024E+05 | 0.65073E+08 | 0.60047E+02 | 0.72522E-01 | 0.14845E+03 | 0.41204E+02 | 0.27774E-01 |          |       |
| 0.27786E-02 | 0.30189E+05 | 0.65434E+08 | 0.60379E+02 | 0.72900E-01 | 0.14918E+03 | 0.41179E+02 | 0.27927E-01 |          |       |
| 0.27811E-02 | 0.30356E+05 | 0.65797E+08 | 0.60712E+02 | 0.73280E-01 | 0.14991E+03 | 0.41153E+02 | 0.28081E-01 |          |       |
| 0.27836E-02 | 0.30524E+05 | 0.66161E+08 | 0.61047E+02 | 0.73661E-01 | 0.15064E+03 | 0.41127E+02 | 0.28235E-01 |          |       |
| 0.27862E-02 | 0.30692E+05 | 0.66528E+08 | 0.61384E+02 | 0.74045E-01 | 0.15138E+03 | 0.41102E+02 | 0.28391E-01 |          |       |
| 0.27887E-02 | 0.30862E+05 | 0.66897E+08 | 0.61723E+02 | 0.74430E-01 | 0.15212E+03 | 0.41075E+02 | 0.28547E-01 |          |       |
| 0.27913E-02 | 0.31032E+05 | 0.67267E+08 | 0.62064E+02 | 0.74817E-01 | 0.15286E+03 | 0.41049E+02 | 0.28704E-01 |          |       |
| 0.27938E-02 | 0.31203E+05 | 0.67640E+08 | 0.62407E+02 | 0.75207E-01 | 0.15361E+03 | 0.41023E+02 | 0.28862E-01 |          |       |
| 0.27963E-02 | 0.31376E+05 | 0.68015E+08 | 0.62751E+02 | 0.75598E-01 | 0.15435E+03 | 0.40996E+02 | 0.29021E-01 |          |       |
| 0.27989E-02 | 0.31549E+05 | 0.68392E+08 | 0.63098E+02 | 0.75991E-01 | 0.15511E+03 | 0.40970E+02 | 0.29181E-01 |          |       |
| 0.28014E-02 | 0.31723E+05 | 0.68771E+08 | 0.63446E+02 | 0.76386E-01 | 0.15586E+03 | 0.40943E+02 | 0.29342E-01 |          |       |
| 0.28040E-02 | 0.31898E+05 | 0.69152E+08 | 0.63796E+02 | 0.76782E-01 | 0.15662E+03 | 0.40916E+02 | 0.29504E-01 |          |       |
| 0.28065E-02 | 0.32074E+05 | 0.69535E+08 | 0.64149E+02 | 0.77181E-01 | 0.15738E+03 | 0.40889E+02 | 0.29666E-01 |          |       |
| 0.28090E-02 | 0.32251E+05 | 0.69920E+08 | 0.64503E+02 | 0.77582E-01 | 0.15814E+03 | 0.40862E+02 | 0.29829E-01 |          |       |
| 0.28116E-02 | 0.32429E+05 | 0.70307E+08 | 0.64859E+02 | 0.77984E-01 | 0.15891E+03 | 0.40834E+02 | 0.29994E-01 |          |       |
| 0.28141E-02 | 0.32608E+05 | 0.70696E+08 | 0.65217E+02 | 0.78389E-01 | 0.15968E+03 | 0.40807E+02 | 0.30159E-01 |          |       |
| 0.28166E-02 | 0.32789E+05 | 0.71088E+08 | 0.65577E+02 | 0.78796E-01 | 0.16045E+03 | 0.40779E+02 | 0.30325E-01 |          |       |
| 0.28192E-02 | 0.32970E+05 | 0.71481E+08 | 0.65939E+02 | 0.79204E-01 | 0.16123E+03 | 0.40751E+02 | 0.30492E-01 |          |       |
| 0.28217E-02 | 0.33152E+05 | 0.71877E+08 | 0.66303E+02 | 0.79615E-01 | 0.16201E+03 | 0.40723E+02 | 0.30660E-01 |          |       |
| 0.28243E-02 | 0.33335E+05 | 0.72275E+08 | 0.66669E+02 | 0.80027E-01 | 0.16279E+03 | 0.40695E+02 | 0.30829E-01 |          |       |
| 0.28268E-02 | 0.33519E+05 | 0.72675E+08 | 0.67038E+02 | 0.80441E-01 | 0.16357E+03 | 0.40667E+02 | 0.30999E-01 |          |       |
| 0.28293E-02 | 0.33704E+05 | 0.73077E+08 | 0.67408E+02 | 0.80858E-01 | 0.16436E+03 | 0.40638E+02 | 0.31169E-01 |          |       |
| 0.28319E-02 | 0.33890E+05 | 0.73481E+08 | 0.67780E+02 | 0.81276E-01 | 0.16515E+03 | 0.40610E+02 | 0.31341E-01 |          |       |
| 0.28344E-02 | 0.34077E+05 | 0.73888E+08 | 0.68154E+02 | 0.81697E-01 | 0.16595E+03 | 0.40581E+02 | 0.31514E-01 |          |       |
| 0.28370E-02 | 0.34265E+05 | 0.74297E+08 | 0.68531E+02 | 0.82119E-01 | 0.16674E+03 | 0.40552E+02 | 0.31687E-01 |          |       |
| 0.28395E-02 | 0.34455E+05 | 0.74708E+08 | 0.68909E+02 | 0.82544E-01 | 0.16754E+03 | 0.40523E+02 | 0.31862E-01 |          |       |
| 0.28420E-02 | 0.34645E+05 | 0.75121E+08 | 0.69290E+02 | 0.82970E-01 | 0.16835E+03 | 0.40494E+02 | 0.32037E-01 |          |       |
| 0.28446E-02 | 0.34836E+05 | 0.75536E+08 | 0.69672E+02 | 0.83399E-01 | 0.16915E+03 | 0.40464E+02 | 0.32214E-01 |          |       |
| 0.28471E-02 | 0.35028E+05 | 0.75954E+08 | 0.70057E+02 | 0.83830E-01 | 0.16996E+03 | 0.40435E+02 | 0.32391E-01 |          |       |
| 0.28497E-02 | 0.35222E+05 | 0.76374E+08 | 0.70444E+02 | 0.84262E-01 | 0.17078E+03 | 0.40405E+02 | 0.32570E-01 |          |       |
| 0.28522E-02 | 0.35416E+05 | 0.76796E+08 | 0.70833E+02 | 0.84697E-01 | 0.17159E+03 | 0.40375E+02 | 0.32749E-01 |          |       |
| 0.28547E-02 | 0.35612E+05 | 0.77220E+08 | 0.71224E+02 | 0.85134E-01 | 0.17241E+03 | 0.40345E+02 | 0.32929E-01 |          |       |
| 0.28573E-02 | 0.35809E+05 | 0.77647E+08 | 0.71617E+02 | 0.85573E-01 | 0.17323E+03 | 0.40315E+02 | 0.33111E-01 |          |       |
| 0.28598E-02 | 0.36006E+05 | 0.78076E+08 | 0.72013E+02 | 0.86014E-01 | 0.17406E+03 | 0.40284E+02 | 0.33293E-01 |          |       |
| 0.28624E-02 | 0.36205E+05 | 0.78507E+08 | 0.72411E+02 | 0.86457E-01 | 0.17489E+03 | 0.40254E+02 | 0.33477E-01 |          |       |
| 0.28649E-02 | 0.36405E+05 | 0.78941E+08 | 0.72810E+02 | 0.86902E-01 | 0.17572E+03 | 0.40223E+02 | 0.33661E-01 |          |       |
| 0.28674E-02 | 0.36606E+05 | 0.79377E+08 | 0.73213E+02 | 0.87350E-01 | 0.17655E+03 | 0.40192E+02 | 0.33846E-01 |          |       |
| 0.28700E-02 | 0.36808E+05 | 0.79815E+08 | 0.73617E+02 | 0.87799E-01 | 0.17739E+03 | 0.40161E+02 | 0.34033E-01 |          |       |
| 0.28725E-02 | 0.37012E+05 | 0.80256E+08 | 0.74023E+02 | 0.88251E-01 | 0.17823E+03 | 0.40130E+02 | 0.34220E-01 |          |       |
| 0.28751E-02 | 0.37216E+05 | 0.80699E+08 | 0.74432E+02 | 0.88704E-01 | 0.17908E+03 | 0.40099E+02 | 0.34409E-01 |          |       |
| 0.28776E-02 | 0.37422E+05 | 0.81145E+08 | 0.74843E+02 | 0.89160E-01 | 0.17992E+03 | 0.40067E+02 | 0.34598E-01 |          |       |
| 0.28801E-02 | 0.37628E+05 | 0.81592E+08 | 0.75257E+02 | 0.89618E-01 | 0.18077E+03 | 0.40035E+02 | 0.34789E-01 |          |       |

| TIME        | PRESSURE    | PDOT        | XDOT        | PROPELLANT  | BURNT       | MDOT        | SURFACE     | DISTANCE | BURNT |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----------|-------|
| 0.28827E-02 | 0.37836E+05 | 0.82042E+08 | 0.75672E+02 | 0.90079E-01 | 0.18163E+03 | 0.40003E+02 | 0.34981E-01 |          |       |
| 0.28852E-02 | 0.38045E+05 | 0.82495E+08 | 0.76090E+02 | 0.90541E-01 | 0.18248E+03 | 0.39971E+02 | 0.35173E-01 |          |       |
| 0.28878E-02 | 0.38255E+05 | 0.82950E+08 | 0.76510E+02 | 0.91006E-01 | 0.18334E+03 | 0.39939E+02 | 0.35367E-01 |          |       |
| 0.28903E-02 | 0.38466E+05 | 0.83407E+08 | 0.76933E+02 | 0.91472E-01 | 0.18421E+03 | 0.39906E+02 | 0.35562E-01 |          |       |
| 0.28928E-02 | 0.38679E+05 | 0.83867E+08 | 0.77358E+02 | 0.91941E-01 | 0.18507E+03 | 0.39874E+02 | 0.35758E-01 |          |       |
| 0.28954E-02 | 0.38892E+05 | 0.84329E+08 | 0.77785E+02 | 0.92412E-01 | 0.18594E+03 | 0.39841E+02 | 0.35955E-01 |          |       |
| 0.28979E-02 | 0.39107E+05 | 0.84794E+08 | 0.78214E+02 | 0.92886E-01 | 0.18681E+03 | 0.39808E+02 | 0.36153E-01 |          |       |
| 0.29005E-02 | 0.39323E+05 | 0.85261E+08 | 0.78646E+02 | 0.93361E-01 | 0.18769E+03 | 0.39775E+02 | 0.36352E-01 |          |       |
| 0.29030E-02 | 0.39540E+05 | 0.85731E+08 | 0.79081E+02 | 0.93839E-01 | 0.18857E+03 | 0.39741E+02 | 0.36553E-01 |          |       |
| 0.29055E-02 | 0.39759E+05 | 0.86203E+08 | 0.79517E+02 | 0.94319E-01 | 0.18945E+03 | 0.39708E+02 | 0.36754E-01 |          |       |
| 0.29081E-02 | 0.39978E+05 | 0.86678E+08 | 0.79956E+02 | 0.94801E-01 | 0.19033E+03 | 0.39674E+02 | 0.36957E-01 |          |       |
| 0.29106E-02 | 0.40199E+05 | 0.87155E+08 | 0.80398E+02 | 0.95286E-01 | 0.19122E+03 | 0.39640E+02 | 0.37160E-01 |          |       |
| 0.29132E-02 | 0.40421E+05 | 0.87634E+08 | 0.80842E+02 | 0.95773E-01 | 0.19211E+03 | 0.39606E+02 | 0.37365E-01 |          |       |
| 0.29157E-02 | 0.40644E+05 | 0.88117E+08 | 0.81288E+02 | 0.96262E-01 | 0.19300E+03 | 0.39572E+02 | 0.37571E-01 |          |       |
| 0.29182E-02 | 0.40868E+05 | 0.88601E+08 | 0.81737E+02 | 0.96753E-01 | 0.19390E+03 | 0.39537E+02 | 0.37778E-01 |          |       |
| 0.29208E-02 | 0.41094E+05 | 0.89088E+08 | 0.82188E+02 | 0.97247E-01 | 0.19480E+03 | 0.39502E+02 | 0.37986E-01 |          |       |
| 0.29233E-02 | 0.41321E+05 | 0.89578E+08 | 0.82642E+02 | 0.97743E-01 | 0.19570E+03 | 0.39467E+02 | 0.38195E-01 |          |       |
| 0.29259E-02 | 0.41549E+05 | 0.90071E+08 | 0.83098E+02 | 0.98241E-01 | 0.19661E+03 | 0.39432E+02 | 0.38406E-01 |          |       |
| 0.29284E-02 | 0.41779E+05 | 0.90565E+08 | 0.83557E+02 | 0.98741E-01 | 0.19751E+03 | 0.39397E+02 | 0.38617E-01 |          |       |
| 0.29309E-02 | 0.42009E+05 | 0.91063E+08 | 0.84018E+02 | 0.99244E-01 | 0.19843E+03 | 0.39362E+02 | 0.38830E-01 |          |       |
| 0.29335E-02 | 0.42241E+05 | 0.91563E+08 | 0.84482E+02 | 0.99749E-01 | 0.19934E+03 | 0.39326E+02 | 0.39044E-01 |          |       |
| 0.29360E-02 | 0.42474E+05 | 0.92066E+08 | 0.84949E+02 | 0.10026E+00 | 0.20026E+03 | 0.39290E+02 | 0.39259E-01 |          |       |
| 0.29386E-02 | 0.42709E+05 | 0.92571E+08 | 0.85418E+02 | 0.10077E+00 | 0.20118E+03 | 0.39254E+02 | 0.39476E-01 |          |       |
| 0.29411E-02 | 0.42945E+05 | 0.93079E+08 | 0.85889E+02 | 0.10128E+00 | 0.20210E+03 | 0.39218E+02 | 0.39693E-01 |          |       |
| 0.29436E-02 | 0.43182E+05 | 0.93590E+08 | 0.86363E+02 | 0.10179E+00 | 0.20303E+03 | 0.39181E+02 | 0.39912E-01 |          |       |
| 0.29462E-02 | 0.43420E+05 | 0.94103E+08 | 0.86840E+02 | 0.10231E+00 | 0.20396E+03 | 0.39145E+02 | 0.40132E-01 |          |       |
| 0.29487E-02 | 0.43660E+05 | 0.94619E+08 | 0.87319E+02 | 0.10283E+00 | 0.20489E+03 | 0.39108E+02 | 0.40353E-01 |          |       |
| 0.29513E-02 | 0.43901E+05 | 0.95137E+08 | 0.87801E+02 | 0.10335E+00 | 0.20583E+03 | 0.39071E+02 | 0.40575E-01 |          |       |
| 0.29538E-02 | 0.44143E+05 | 0.95658E+08 | 0.88286E+02 | 0.10387E+00 | 0.20677E+03 | 0.39033E+02 | 0.40799E-01 |          |       |
| 0.29563E-02 | 0.44386E+05 | 0.96182E+08 | 0.88773E+02 | 0.10440E+00 | 0.20771E+03 | 0.38996E+02 | 0.41024E-01 |          |       |
| 0.29589E-02 | 0.44631E+05 | 0.96709E+08 | 0.89263E+02 | 0.10493E+00 | 0.20865E+03 | 0.38958E+02 | 0.41250E-01 |          |       |
| 0.29614E-02 | 0.44878E+05 | 0.97238E+08 | 0.89755E+02 | 0.10546E+00 | 0.20960E+03 | 0.38920E+02 | 0.41477E-01 |          |       |
| 0.29640E-02 | 0.45125E+05 | 0.97770E+08 | 0.90251E+02 | 0.10599E+00 | 0.21055E+03 | 0.38882E+02 | 0.41706E-01 |          |       |
| 0.29665E-02 | 0.45374E+05 | 0.98304E+08 | 0.90749E+02 | 0.10653E+00 | 0.21150E+03 | 0.38844E+02 | 0.41936E-01 |          |       |
| 0.29690E-02 | 0.45625E+05 | 0.98842E+08 | 0.91249E+02 | 0.10707E+00 | 0.21246E+03 | 0.38806E+02 | 0.42167E-01 |          |       |
| 0.29716E-02 | 0.45876E+05 | 0.99382E+08 | 0.91753E+02 | 0.10761E+00 | 0.21342E+03 | 0.38767E+02 | 0.42399E-01 |          |       |
| 0.29741E-02 | 0.46130E+05 | 0.99925E+08 | 0.92259E+02 | 0.10815E+00 | 0.21438E+03 | 0.38728E+02 | 0.42633E-01 |          |       |
| 0.29767E-02 | 0.46384E+05 | 0.10047E+09 | 0.92768E+02 | 0.10870E+00 | 0.21534E+03 | 0.38689E+02 | 0.42868E-01 |          |       |
| 0.29792E-02 | 0.46640E+05 | 0.10102E+09 | 0.93280E+02 | 0.10925E+00 | 0.21631E+03 | 0.38649E+02 | 0.43104E-01 |          |       |
| 0.29817E-02 | 0.46897E+05 | 0.10157E+09 | 0.93794E+02 | 0.10980E+00 | 0.21728E+03 | 0.38610E+02 | 0.43342E-01 |          |       |
| 0.29843E-02 | 0.47156E+05 | 0.10212E+09 | 0.94312E+02 | 0.11035E+00 | 0.21826E+03 | 0.38570E+02 | 0.43581E-01 |          |       |
| 0.29868E-02 | 0.47416E+05 | 0.10268E+09 | 0.94832E+02 | 0.11091E+00 | 0.21923E+03 | 0.38530E+02 | 0.43821E-01 |          |       |
| 0.29894E-02 | 0.47677E+05 | 0.10324E+09 | 0.95355E+02 | 0.11146E+00 | 0.22021E+03 | 0.38490E+02 | 0.44062E-01 |          |       |
| 0.29919E-02 | 0.47940E+05 | 0.10380E+09 | 0.95881E+02 | 0.11202E+00 | 0.22119E+03 | 0.38449E+02 | 0.44305E-01 |          |       |
| 0.29944E-02 | 0.48205E+05 | 0.10437E+09 | 0.96409E+02 | 0.11259E+00 | 0.22218E+03 | 0.38408E+02 | 0.44549E-01 |          |       |
| 0.29970E-02 | 0.48470E+05 | 0.10494E+09 | 0.96941E+02 | 0.11315E+00 | 0.22316E+03 | 0.38368E+02 | 0.44795E-01 |          |       |
| 0.29995E-02 | 0.48738E+05 | 0.10551E+09 | 0.97475E+02 | 0.11372E+00 | 0.22415E+03 | 0.38326E+02 | 0.45042E-01 |          |       |
| 0.30021E-02 | 0.49006E+05 | 0.10608E+09 | 0.98013E+02 | 0.11429E+00 | 0.22515E+03 | 0.38285E+02 | 0.45290E-01 |          |       |
| 0.30046E-02 | 0.49277E+05 | 0.10666E+09 | 0.98553E+02 | 0.11486E+00 | 0.22614E+03 | 0.38243E+02 | 0.45540E-01 |          |       |
| 0.30071E-02 | 0.49548E+05 | 0.10724E+09 | 0.99096E+02 | 0.11544E+00 | 0.22714E+03 | 0.38202E+02 | 0.45791E-01 |          |       |
| 0.30097E-02 | 0.49821E+05 | 0.10782E+09 | 0.99643E+02 | 0.11602E+00 | 0.22814E+03 | 0.38159E+02 | 0.46043E-01 |          |       |
| 0.30122E-02 | 0.50096E+05 | 0.10840E+09 | 0.10019E+03 | 0.11660E+00 | 0.22914E+03 | 0.38117E+02 | 0.46297E-01 |          |       |
| 0.30148E-02 | 0.50372E+05 | 0.10899E+09 | 0.10074E+03 | 0.11718E+00 | 0.23015E+03 | 0.38075E+02 | 0.46552E-01 |          |       |
| 0.30173E-02 | 0.50649E+05 | 0.10958E+09 | 0.10130E+03 | 0.11777E+00 | 0.23116E+03 | 0.38032E+02 | 0.46809E-01 |          |       |

| TIME        | PRESSURE    | PDOT        | XDOT        | PROPELLANT BURNT | MDOT        | SURFACE     | DISTANCE BURNT |
|-------------|-------------|-------------|-------------|------------------|-------------|-------------|----------------|
| 0.30198E-02 | 0.50929E+05 | 0.11017E+09 | 0.10186E+03 | 0.11836E+00      | 0.23217E+03 | 0.37989E+02 | 0.47067E-01    |
| 0.30224E-02 | 0.51209E+05 | 0.11077E+09 | 0.10242E+03 | 0.11895E+00      | 0.23318E+03 | 0.37946E+02 | 0.47326E-01    |
| 0.30249E-02 | 0.51491E+05 | 0.11137E+09 | 0.10298E+03 | 0.11954E+00      | 0.23420E+03 | 0.37902E+02 | 0.47587E-01    |
| 0.30275E-02 | 0.51775E+05 | 0.11197E+09 | 0.10355E+03 | 0.12014E+00      | 0.23521E+03 | 0.37858E+02 | 0.47849E-01    |
| 0.30300E-02 | 0.52060E+05 | 0.11258E+09 | 0.10412E+03 | 0.12074E+00      | 0.23623E+03 | 0.37815E+02 | 0.48113E-01    |
| 0.30325E-02 | 0.52347E+05 | 0.11319E+09 | 0.10469E+03 | 0.12134E+00      | 0.23726E+03 | 0.37770E+02 | 0.48378E-01    |
| 0.30351E-02 | 0.52635E+05 | 0.11380E+09 | 0.10527E+03 | 0.12194E+00      | 0.23828E+03 | 0.37726E+02 | 0.48645E-01    |
| 0.30376E-02 | 0.52925E+05 | 0.11441E+09 | 0.10585E+03 | 0.12255E+00      | 0.23931E+03 | 0.37681E+02 | 0.48913E-01    |
| 0.30402E-02 | 0.53216E+05 | 0.11503E+09 | 0.10643E+03 | 0.12316E+00      | 0.24034E+03 | 0.37636E+02 | 0.49182E-01    |
| 0.30427E-02 | 0.53509E+05 | 0.11565E+09 | 0.10702E+03 | 0.12377E+00      | 0.24138E+03 | 0.37591E+02 | 0.49453E-01    |
| 0.30452E-02 | 0.53804E+05 | 0.11627E+09 | 0.10761E+03 | 0.12438E+00      | 0.24241E+03 | 0.37546E+02 | 0.49726E-01    |
| 0.30478E-02 | 0.54100E+05 | 0.11690E+09 | 0.10820E+03 | 0.12500E+00      | 0.24345E+03 | 0.37500E+02 | 0.50000E-01    |

APPENDIX B  
AN IBHVG2 COMPUTER RUN TO  
COMPARE TO THE TEST COMPUTER RUN

\$COMM  
BASELINE TEST FOR CLOSED BOMB FOR FILE FOR SIMPCB

\$PDIS  
SHOW='CHWT' DECK='PROP' NTH=2

\$PDIS  
SHOW='DIAM' DECK='PROP' NTH=2

\$PDIS  
SHOW='SLOT' DECK='PROP' NTH=2

\$PDIS  
SHOW='VMU2' DECK='OUT'

\$PDIS  
SHOW='?MUZ12)' DECK='OUT'

\$PDIS  
SHOW='X28U12)' DECK='OUT'

\$PDIS  
SHOW='BRCH'

\$PDIS  
SHOW='TIME'

\$PDIS  
SHOW='FOOT'

\$PDIS  
SHOW='BR-L'

\$PDIS  
SHOW='WTB11'

\$PDIS  
SHOW='WTBR'

\$PDIS  
SHOW='SRF11'

\$PDIS  
SHOW='DB-L11'

\$HEAT

\$TSHL=.00384 HL=0.0

\$GUN

NAME='CLOSED BOMB' CHAM=12.51 GRVE=6.2 LAND=6.1  
G/L=1.66 TRAV=207.6 TWST=20

\$PROJ

NAME='M101' PRMT=95

\$RESI

NPTS=2 TRAV=0.1 PRES=10000000.10000000

\$INFO

RUN='CLOSED BOMB \*\*\* NO AIR \*\*\*' POUT=1.2,1.2,0  
DELT=2.539810158992E-6 DELP=2.539810158992E-6 EPS=.0000001

\$PROP

NAME='TEST PROPELLANT' CHWT=.125 GRAN='1P'

LEN=1.0 DIAM=.25 PD=.05 WEY=.1

RHO=.006 GAMA=1.2299 FORC=337762.94 COV=25.0 TEMP=3400

ALPH=1.0 BETA=.002

\$PKTH

NAME='BLK POWDER' CHWT=.0002

GAMA=1.2299 FORC=337762.94 COV=25.0 TEMP=3400

\$END

CLOSED BOMB \*\*\* NO AIR \*\*\*

18-HYG2.228

14-JCT-86

10:38:20

-----  
- GUN TUBE -  
-----

TYPE: CLOSED BOMB  
GROOVE DIAMETER (IN): 6.200  
TWIST (CAL/S/TURN): 20.0

CHAMBER VOLUME (IN3):  
LAND DIAMETER (IN):  
BORE AREA (IN2):

12.51  
6.100  
29.8275

TRAVEL (IN):  
GROOVE/LAND RATIO (-):  
HEAT-LOSS OPTION:

207.60  
1.660  
0

-----  
- PROJECTILE -  
-----

TYPE: M101

TOTAL WEIGHT (LB):

95.000

WEIGHT PREDICTOR OPTION:

0

-----  
- RESISTANCE -  
-----

AIR RESISTANCE OPTION:

1

WALL HEATING FRACTION:

0.000

FRICTION TABLE LENGTH:

2

1 TRAVEL (IN) PRESSURE (PSI)

1 TRAVEL (IN)

1 TRAVEL (IN)

1 TRAVEL (IN)

1 TRAVEL (IN)

1 1 0.00 10000000.

2 1.00 10000000.

-----  
- GENERAL -  
-----

MAX TIME STEP (S): .000003  
PRINT OPTIONS: 1 2 1 0 0 1  
GRADIENT MODEL: LAGRANGIAN

PRINT STEP (S):  
STORE OPTION:

.000003  
0

MAX RELATIVE ERROR (-):  
CONSTANT-PRESSURE OPTION:

.00000  
0

-----  
- RECOIL -  
-----

RECOIL OPTIONS:

0

TYPE:

RECOILING WEIGHT (LB):

0.

-----  
- PRIMER -  
-----

TYPE: BLK POWDER  
COVOLUME (IN3/LB):

25.000

GAMMA (-):  
FLAME TEMP (K):

1.2299  
3400.0

FORCE (FT-LB/LB):  
WEIGHT (LB):

337763.  
.000200

CLOSED 0348 \*\*\* NO AIR \*\*\*

922-794461

14-JC T-86

**10:38:20**

- CHARGE I -

TYPE: TEST PROPELLANT

EROSIVE COEFF (-) =

GRAIN LENGTH (IN):

INNER WEB (IN) =

0-00000

1.0000

00001.

**GRAINS:**

CHARGE IGN CODE:

GRAIN DIAMETER (IN) =

WEB RATIO:

44.210

IP

10

5000

000

WEIGHT (LB): .1250

CHARGE IGV AT (SI)=  
FREE DIAMETER (IN):

PERF DIAMETER (IN):

• 1250

2.

**09060**

| PROPERTIES AT LAYER BOUNDARIES OF PERF SURFACES |     |     |          | PROPERTIES AT LAYER BOUNDARIES OF 3RD |     |     |          | END SURFACES 4TH |     |     |          |
|-------------------------------------------------|-----|-----|----------|---------------------------------------|-----|-----|----------|------------------|-----|-----|----------|
| 1ST                                             | 2ND | 3RD | 4TH      | 1ST                                   | 2ND | 3RD | 4TH      | 1ST              | 2ND | 3RD | 4TH      |
| ---                                             | --- | --- | 6.00000  | ---                                   | --- | --- | 0.00000  | ---              | --- | --- | 0.00000  |
| ---                                             | --- | --- | 100.000  | ---                                   | --- | --- | 100.000  | ---              | --- | --- | 100.000  |
| ---                                             | --- | --- | 0.00000  | ---                                   | --- | --- | 0.00000  | ---              | --- | --- | 0.00000  |
| ---                                             | --- | --- | 1.2299   | ---                                   | --- | --- | 1.2299   | ---              | --- | --- | 1.2299   |
| ---                                             | --- | --- | 337763.  | ---                                   | --- | --- | 337763.  | ---              | --- | --- | 337763.  |
| ---                                             | --- | --- | 25.000   | ---                                   | --- | --- | 25.000   | ---              | --- | --- | 25.000   |
| ---                                             | --- | --- | 3400.0   | ---                                   | --- | --- | 3400.0   | ---              | --- | --- | 3400.0   |
| ---                                             | --- | --- | 1.0000   | ---                                   | --- | --- | 1.0000   | ---              | --- | --- | 1.0000   |
| ---                                             | --- | --- | 0.000000 | ---                                   | --- | --- | 0.000000 | ---              | --- | --- | 0.000000 |

54





CLOSED BOMB \*\*\* NO AIR \*\*\*

IBHVC2.228

14-OCT-86

10:38:23

TRAJECTORY VARIABLES: / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

TRAJ / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

TIME / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

PDOT / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

BR-L / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

W18(1) / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

W18 / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

SF(1) / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

DB-L(1) / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

|        |       |       |       |           |       |        |           |
|--------|-------|-------|-------|-----------|-------|--------|-----------|
| 129.63 | 23874 | 27734 | 25926 | 13328E-03 | 71285 | 45.825 | 48469E-04 |
| 130.34 | 24128 | 27885 | 26068 | 13509E-03 | 71673 | 45.825 | 49130E-04 |
| 131.05 | 24382 | 28037 | 26210 | 13692E-03 | 72063 | 45.825 | 49793E-04 |
| 131.76 | 24636 | 28190 | 26352 | 13875E-03 | 72456 | 45.825 | 50461E-04 |
| 132.48 | 24890 | 28344 | 26496 | 14060E-03 | 72850 | 45.825 | 51132E-04 |
| 133.20 | 25144 | 28498 | 26642 | 14246E-03 | 73247 | 45.825 | 51807E-04 |
| 133.93 | 25398 | 28653 | 26785 | 14432E-03 | 73646 | 45.825 | 52485E-04 |
| 134.66 | 25652 | 28809 | 26931 | 14620E-03 | 74047 | 45.824 | 53167E-04 |
| 135.39 | 25906 | 28966 | 27078 | 14808E-03 | 74450 | 45.824 | 53853E-04 |
| 136.13 | 26160 | 29124 | 27226 | 14998E-03 | 74856 | 45.824 | 54543E-04 |
| 136.87 | 26414 | 29283 | 27374 | 15188E-03 | 75264 | 45.824 | 55236E-04 |
| 137.62 | 26668 | 29443 | 27523 | 15380E-03 | 75673 | 45.824 | 55933E-04 |
| 138.37 | 26922 | 29603 | 27673 | 15573E-03 | 76086 | 45.824 | 56634E-04 |
| 139.12 | 27176 | 29764 | 27824 | 15767E-03 | 76500 | 45.824 | 57339E-04 |
| 139.88 | 27430 | 29927 | 27976 | 15961E-03 | 76917 | 45.824 | 58048E-04 |
| 140.64 | 27684 | 30090 | 28128 | 16157E-03 | 77335 | 45.823 | 58763E-04 |
| 141.41 | 27938 | 30254 | 28281 | 16354E-03 | 77757 | 45.823 | 59477E-04 |
| 142.18 | 28192 | 30418 | 28435 | 16552E-03 | 78183 | 45.823 | 60197E-04 |
| 142.95 | 28446 | 30584 | 28590 | 16751E-03 | 78606 | 45.823 | 60921E-04 |
| 143.73 | 28700 | 30751 | 28746 | 16952E-03 | 79034 | 45.823 | 61649E-04 |
| 144.51 | 28954 | 30918 | 28903 | 17153E-03 | 79464 | 45.823 | 62381E-04 |
| 145.30 | 29208 | 31087 | 29063 | 17355E-03 | 79897 | 45.823 | 63117E-04 |
| 146.09 | 29462 | 31256 | 29216 | 17559E-03 | 80332 | 45.823 | 63857E-04 |
| 146.89 | 29716 | 31427 | 29378 | 17763E-03 | 80770 | 45.823 | 64601E-04 |
| 147.69 | 29970 | 31598 | 29538 | 17969E-03 | 81210 | 45.822 | 65353E-04 |
| 148.49 | 30224 | 31773 | 29694 | 18176E-03 | 81652 | 45.822 | 66102E-04 |
| 149.30 | 30478 | 31943 | 29861 | 18384E-03 | 82097 | 45.822 | 66856E-04 |
| 150.12 | 30732 | 32117 | 30023 | 18593E-03 | 82544 | 45.822 | 67619E-04 |
| 150.93 | 30986 | 32292 | 30187 | 18803E-03 | 82993 | 45.822 | 68383E-04 |
| 151.76 | 31240 | 32468 | 30351 | 19014E-03 | 83445 | 45.822 | 69152E-04 |
| 152.58 | 31494 | 32645 | 30517 | 19227E-03 | 83900 | 45.822 | 69925E-04 |
| 153.41 | 31748 | 32823 | 30683 | 19441E-03 | 84356 | 45.822 | 70702E-04 |
| 154.25 | 32002 | 33002 | 30850 | 19655E-03 | 84816 | 45.821 | 71484E-04 |
| 155.09 | 32256 | 33142 | 31018 | 19871E-03 | 85278 | 45.821 | 72257E-04 |
| 155.94 | 32510 | 33363 | 31187 | 20089E-03 | 85742 | 45.821 | 73059E-04 |
| 156.79 | 32764 | 33544 | 31357 | 20307E-03 | 86204 | 45.821 | 73853E-04 |
| 157.64 | 33018 | 33727 | 31528 | 20527E-03 | 86679 | 45.821 | 74652E-04 |
| 158.50 | 33272 | 33911 | 31703 | 20747E-03 | 87151 | 45.821 | 75455E-04 |
| 159.36 | 33525 | 34096 | 31875 | 20969E-03 | 87625 | 45.820 | 76262E-04 |
| 160.23 | 33779 | 34282 | 32045 | 21192E-03 | 88102 | 45.820 | 77074E-04 |
| 161.10 | 34033 | 34468 | 32221 | 21417E-03 | 88582 | 45.820 | 77890E-04 |
| 161.98 | 34287 | 34656 | 32395 | 21642E-03 | 89065 | 45.820 | 78711E-04 |
| 162.86 | 34541 | 34845 | 32573 | 21869E-03 | 89550 | 45.820 | 79536E-04 |
| 163.75 | 34795 | 35035 | 32753 | 22097E-03 | 90037 | 45.820 | 80365E-04 |
| 164.64 | 35049 | 35226 | 32929 | 22327E-03 | 90528 | 45.820 | 81199E-04 |
| 165.54 | 35303 | 35418 | 33106 | 22557E-03 | 91021 | 45.820 | 82038E-04 |
| 166.44 | 35557 | 35611 | 33289 | 22789E-03 | 91516 | 45.820 | 82881E-04 |

CLOSED ROMB \*\*\* NO AIR \*\*\*

18HVC2.228

14-OCT-86

10:38:20

TRAJECTORY VARIABLES: / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

TRAJ / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

TIME / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

POUT / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

BR-L / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

WTB(1) / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

WTB / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

SRF(1) / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

DB-L(1) / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

|        |        |        |        |            |        |         |            |
|--------|--------|--------|--------|------------|--------|---------|------------|
| 167.35 | .35811 | .35805 | .33470 | .23022E-03 | .92015 | .45.819 | .83729E-04 |
| 168.26 | .36065 | .36000 | .33652 | .23256E-03 | .92516 | .45.819 | .64581E-04 |
| 169.18 | .36319 | .36196 | .33836 | .23492E-03 | .93019 | .45.819 | .95438E-04 |
| 170.10 | .36573 | .36393 | .34020 | .23729E-03 | .93526 | .45.819 | .86308E-04 |
| 171.03 | .36827 | .36592 | .34205 | .23967E-03 | .94035 | .45.819 | .87165E-04 |
| 171.96 | .37081 | .36791 | .34392 | .24206E-03 | .94547 | .45.819 | .88038E-04 |
| 172.90 | .37335 | .36992 | .34579 | .24447E-03 | .95062 | .45.819 | .88913E-04 |
| 173.84 | .37589 | .37193 | .34768 | .24689E-03 | .95580 | .45.818 | .89794E-04 |
| 174.79 | .37843 | .37396 | .34957 | .24933E-03 | .96103 | .45.818 | .90677E-04 |
| 175.74 | .38097 | .37600 | .35148 | .25177E-03 | .96624 | .45.818 | .91573E-04 |
| 176.70 | .38351 | .37805 | .35339 | .25424E-03 | .97152 | .45.818 | .92465E-04 |
| 177.66 | .38605 | .38011 | .35532 | .25671E-03 | .97679 | .45.818 | .93365E-04 |
| 178.63 | .38859 | .38218 | .35725 | .25920E-03 | .98211 | .45.818 | .94273E-04 |
| 179.60 | .39113 | .38426 | .35920 | .26170E-03 | .98746 | .45.817 | .95180E-04 |
| 180.58 | .39367 | .38635 | .36116 | .26421E-03 | .99283 | .45.817 | .96094E-04 |
| 181.56 | .39621 | .38846 | .36312 | .26674E-03 | .99824 | .45.817 | .97014E-04 |
| 182.55 | .39875 | .39056 | .36510 | .26928E-03 | 1.0037 | .45.817 | .97939E-04 |
| 183.55 | .40129 | .39270 | .36709 | .27184E-03 | 1.0091 | .45.817 | .98869E-04 |
| 184.55 | .40383 | .39484 | .36909 | .27441E-03 | 1.0146 | .45.817 | .99804E-04 |
| 185.55 | .40637 | .39700 | .37110 | .27699E-03 | 1.0202 | .45.817 | .10074E-03 |
| 186.56 | .40891 | .39916 | .37313 | .27959E-03 | 1.0257 | .45.815 | .10169E-03 |
| 187.58 | .41145 | .40134 | .37516 | .28220E-03 | 1.0313 | .45.815 | .10264E-03 |
| 188.60 | .41399 | .40352 | .37720 | .28483E-03 | 1.0369 | .45.815 | .10359E-03 |
| 189.63 | .41653 | .40572 | .37926 | .28747E-03 | 1.0426 | .45.815 | .10455E-03 |
| 190.66 | .41907 | .40793 | .38132 | .29013E-03 | 1.0482 | .45.816 | .10552E-03 |
| 191.70 | .42161 | .41016 | .38340 | .29280E-03 | 1.0539 | .45.816 | .10649E-03 |
| 192.75 | .42415 | .41239 | .38549 | .29548E-03 | 1.0597 | .45.815 | .10747E-03 |
| 193.80 | .42669 | .41464 | .38759 | .29818E-03 | 1.0655 | .45.815 | .10845E-03 |
| 194.85 | .42923 | .41690 | .38970 | .30089E-03 | 1.0713 | .45.815 | .10944E-03 |
| 195.91 | .43177 | .41917 | .39183 | .30362E-03 | 1.0771 | .45.815 | .11043E-03 |
| 196.98 | .43431 | .42145 | .39396 | .30636E-03 | 1.0830 | .45.815 | .11143E-03 |
| 198.05 | .43685 | .42375 | .39611 | .30912E-03 | 1.0889 | .45.815 | .11243E-03 |
| 199.13 | .43939 | .42606 | .39827 | .31189E-03 | 1.0948 | .45.814 | .11344E-03 |
| 200.22 | .44193 | .42838 | .40044 | .31468E-03 | 1.1007 | .45.814 | .11445E-03 |
| 201.31 | .44447 | .43072 | .40262 | .31749E-03 | 1.1067 | .45.814 | .11547E-03 |
| 202.41 | .44701 | .43306 | .40481 | .32030E-03 | 1.1128 | .45.814 | .11650E-03 |
| 203.51 | .44955 | .43542 | .40700 | .32314E-03 | 1.1188 | .45.814 | .11753E-03 |
| 204.62 | .45209 | .43780 | .40924 | .32594E-03 | 1.1249 | .45.814 | .11857E-03 |
| 205.73 | .45463 | .44018 | .41147 | .32885E-03 | 1.1310 | .45.813 | .11961E-03 |
| 206.85 | .45717 | .44258 | .41371 | .33173E-03 | 1.1372 | .45.813 | .12066E-03 |
| 207.98 | .45971 | .44499 | .41596 | .33463E-03 | 1.1434 | .45.813 | .12171E-03 |
| 209.11 | .46225 | .44742 | .41823 | .33754E-03 | 1.1496 | .45.813 | .12277E-03 |
| 210.25 | .46479 | .44986 | .42051 | .34047E-03 | 1.1559 | .45.813 | .12383E-03 |
| 211.40 | .46733 | .45231 | .42280 | .34341E-03 | 1.1622 | .45.813 | .12491E-03 |
| 212.55 | .46986 | .45477 | .42510 | .34637E-03 | 1.1685 | .45.812 | .12598E-03 |
| 213.71 | .47240 | .45725 | .42742 | .34935E-03 | 1.1749 | .45.812 | .12707E-03 |
| 214.87 | .47494 | .45974 | .42975 | .35234E-03 | 1.1813 | .45.812 | .12815E-03 |

10:38:20

14-OCT-86

18HVC2.228

CLOSED BOMB \*\*\* NO AIR \*\*\*

## TRAJECTORY VARIABLES:

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13:38:20

14-OCT-36

IBHWG2.228

CLOSED BOMB \*\*\* NU AIR \*\*\*

## TRAJECTORY VARIABLES:

1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/ 9/ 10/ 11/ 12/ 13/ 14/ 15/ 16/ 17/ 18/ 19/ 20/ 21/ 22/ 23/ 24/ 25/ 26/ 27/ 28/ 29/ 30/ 31/ 32/ 33/ 34/ 35/ 36/ 37/ 38/ 39/ 40/ 41/ 42/ 43/ 44/ 45/ 46/ 47/ 48/ 49/ 50/ 51/ 52/ 53/ 54/ 55/ 56/ 57/ 58/ 59/ 60/ 61/ 62/ 63/ 64/ 65/ 66/ 67/ 68/ 69/ 70/ 71/ 72/ 73/ 74/ 75/ 76/ 77/ 78/ 79/ 80/ 81/ 82/ 83/ 84/ 85/ 86/ 87/ 88/ 89/ 90/ 91/ 92/ 93/ 94/ 95/ 96/ 97/ 98/ 99/ 100/ 101/ 102/ 103/ 104/ 105/ 106/ 107/ 108/ 109/ 110/ 111/ 112/ 113/ 114/ 115/ 116/ 117/ 118/ 119/ 120/ 121/ 122/ 123/ 124/ 125/ 126/ 127/ 128/ 129/ 130/ 131/ 132/ 133/ 134/ 135/ 136/ 137/ 138/ 139/ 140/ 141/ 142/ 143/ 144/ 145/ 146/ 147/ 148/ 149/ 150/ 151/ 152/ 153/ 154/ 155/ 156/ 157/ 158/ 159/ 160/ 161/ 162/ 163/ 164/ 165/ 166/ 167/ 168/ 169/ 170/ 171/ 172/ 173/ 174/ 175/ 176/ 177/ 178/ 179/ 180/ 181/ 182/ 183/ 184/ 185/ 186/ 187/ 188/ 189/ 190/ 191/ 192/ 193/ 194/ 195/ 196/ 197/ 198/ 199/ 200/ 201/ 202/ 203/ 204/ 205/ 206/ 207/ 208/ 209/ 210/ 211/ 212/ 213/ 214/ 215/ 216/ 217/ 218/ 219/ 220/ 221/ 222/ 223/ 224/ 225/ 226/ 227/ 228/ 229/ 230/ 231/ 232/ 233/ 234/ 235/ 236/ 237/ 238/ 239/ 240/ 241/ 242/ 243/ 244/ 245/ 246/ 247/ 248/ 249/ 250/ 251/ 252/ 253/ 254/ 255/ 256/ 257/ 258/ 259/ 260/ 261/ 262/ 263/ 264/ 265/ 266/ 267/ 268/ 269/ 270/ 271/ 272/ 273/ 274/ 275/ 276/ 277/ 278/ 279/ 280/ 281/ 282/ 283/ 284/ 285/ 286/ 287/ 288/ 289/ 290/ 291/ 292/ 293/ 294/ 295/ 296/ 297/ 298/ 299/ 300/ 301/ 302/ 303/ 304/ 305/ 306/ 307/ 308/ 309/ 310/ 311/ 312/ 313/ 314/ 315/ 316/ 317/ 318/ 319/ 320/ 321/ 322/ 323/ 324/ 325/ 326/ 327/ 328/ 329/ 330/ 331/ 332/ 333/ 334/ 335/ 336/ 337/ 338/ 339/ 340/ 341/ 342/ 343/ 344/ 345/ 346/ 347/ 348/ 349/ 350/ 351/ 352/ 353/ 354/ 355/ 356/ 357/ 358/ 359/ 360/ 361/ 362/ 363/ 364/ 365/ 366/ 367/ 368/ 369/ 370/ 371/ 372/ 373/ 374/ 375/ 376/ 377/ 378/ 379/ 380/ 381/ 382/ 383/ 384/ 385/ 386/ 387/ 388/ 389/ 390/ 391/ 392/ 393/ 394/ 395/ 396/ 397/ 398/ 399/ 400/ 401/ 402/ 403/ 404/ 405/ 406/ 407/ 408/ 409/ 410/ 411/ 412/ 413/ 414/ 415/ 416/ 417/ 418/ 419/ 420/ 421/ 422/ 423/ 424/ 425/ 426/ 427/ 428/ 429/ 430/ 431/ 432/ 433/ 434/ 435/ 436/ 437/ 438/ 439/ 440/ 441/ 442/ 443/ 444/ 445/ 446/ 447/ 448/ 449/ 450/ 451/ 452/ 453/ 454/ 455/ 456/ 457/ 458/ 459/ 460/ 461/ 462/ 463/ 464/ 465/ 466/ 467/ 468/ 469/ 470/ 471/ 472/ 473/ 474/ 475/ 476/ 477/ 478/ 479/ 480/ 481/ 482/ 483/ 484/ 485/ 486/ 487/ 488/ 489/ 490/ 491/ 492/ 493/ 494/ 495/ 496/ 497/ 498/ 499/ 500/ 501/ 502/ 503/ 504/ 505/ 506/ 507/ 508/ 509/ 510/ 511/ 512/ 513/ 514/ 515/ 516/ 517/ 518/ 519/ 520/ 521/ 522/ 523/ 524/ 525/ 526/ 527/ 528/ 529/ 530/ 531/ 532/ 533/ 534/ 535/ 536/ 537/ 538/ 539/ 540/ 541/ 542/ 543/ 544/ 545/ 546/ 547/ 548/ 549/ 550/ 551/ 552/ 553/ 554/ 555/ 556/ 557/ 558/ 559/ 560/ 561/ 562/ 563/ 564/ 565/ 566/ 567/ 568/ 569/ 570/ 571/ 572/ 573/ 574/ 575/ 576/ 577/ 578/ 579/ 580/ 581/ 582/ 583/ 584/ 585/ 586/ 587/ 588/ 589/ 590/ 591/ 592/ 593/ 594/ 595/ 596/ 597/ 598/ 599/ 600/ 601/ 602/ 603/ 604/ 605/ 606/ 607/ 608/ 609/ 610/ 611/ 612/ 613/ 614/ 615/ 616/ 617/ 618/ 619/ 620/ 621/ 622/ 623/ 624/ 625/ 626/ 627/ 628/ 629/ 630/ 631/ 632/ 633/ 634/ 635/ 636/ 637/ 638/ 639/ 640/ 641/ 642/ 643/ 644/ 645/ 646/ 647/ 648/ 649/ 650/ 651/ 652/ 653/ 654/ 655/ 656/ 657/ 658/ 659/ 660/ 661/ 662/ 663/ 664/ 665/ 666/ 667/ 668/ 669/ 670/ 671/ 672/ 673/ 674/ 675/ 676/ 677/ 678/ 679/ 680/ 681/ 682/ 683/ 684/ 685/ 686/ 687/ 688/ 689/ 690/ 691/ 692/ 693/ 694/ 695/ 696/ 697/ 698/ 699/ 700/ 701/ 702/ 703/ 704/ 705/ 706/ 707/ 708/ 709/ 710/ 711/ 712/ 713/ 714/ 715/ 716/ 717/ 718/ 719/ 720/ 721/ 722/ 723/ 724/ 725/ 726/ 727/ 728/ 729/ 730/ 731/ 732/ 733/ 734/ 735/ 736/ 737/ 738/ 739/ 740/ 741/ 742/ 743/ 744/ 745/ 746/ 747/ 748/ 749/ 750/ 751/ 752/ 753/ 754/ 755/ 756/ 757/ 758/ 759/ 760/ 761/ 762/ 763/ 764/ 765/ 766/ 767/ 768/ 769/ 770/ 771/ 772/ 773/ 774/ 775/ 776/ 777/ 778/ 779/ 780/ 781/ 782/ 783/ 784/ 785/ 786/ 787/ 788/ 789/ 790/ 791/ 792/ 793/ 794/ 795/ 796/ 797/ 798/ 799/ 800/ 801/ 802/ 803/ 804/ 805/ 806/ 807/ 808/ 809/ 810/ 811/ 812/ 813/ 814/ 815/ 816/ 817/ 818/ 819/ 820/ 821/ 822/ 823/ 824/ 825/ 826/ 827/ 828/ 829/ 830/ 831/ 832/ 833/ 834/ 835/ 836/ 837/ 838/ 839/ 840/ 841/ 842/ 843/ 844/ 845/ 846/ 847/ 848/ 849/ 850/ 851/ 852/ 853/ 854/ 855/ 856/ 857/ 858/ 859/ 860/ 861/ 862/ 863/ 864/ 865/ 866/ 867/ 868/ 869/ 870/ 871/ 872/ 873/ 874/ 875/ 876/ 877/ 878/ 879/ 880/ 881/ 882/ 883/ 884/ 885/ 886/ 887/ 888/ 889/ 890/ 891/ 892/ 893/ 894/ 895/ 896/ 897/ 898/ 899/ 900/ 901/ 902/ 903/ 904/ 905/ 906/ 907/ 908/ 909/ 910/ 911/ 912/ 913/ 914/ 915/ 916/ 917/ 918/ 919/ 920/ 921/ 922/ 923/ 924/ 925/ 926/ 927/ 928/ 929/ 930/ 931/ 932/ 933/ 934/ 935/ 936/ 937/ 938/ 939/ 940/ 941/ 942/ 943/ 944/ 945/ 946/ 947/ 948/ 949/ 950/ 951/ 952/ 953/ 954/ 955/ 956/ 957/ 958/ 959/ 960/ 961/ 962/ 963/ 964/ 965/ 966/ 967/ 968/ 969/ 970/ 971/ 972/ 973/ 974/ 975/ 976/ 977/ 978/ 979/ 980/ 981/ 982/ 983/ 984/ 985/ 986/ 987/ 988/ 989/ 990/ 991/ 992/ 993/ 994/ 995/ 996/ 997/ 998/ 999/ 1000/

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278.91 280.43 281.96 283.50 285.04 286.60 288.16 289.73 291.31 292.89 294.49 296.09 297.71 299.33 300.96 302.60 304.25 305.91 307.58 309.25 310.94 312.63 314.33 316.05 317.77 319.50 321.24 322.99 324.75 326.52 328.30 330.09 331.89 333.70 335.52 337.35 339.18 341.03 342.89 344.76 346.64 348.53 350.43 352.34 354.26 356.19 358.13  
 .59685 .59940 .60194 .60447 .60701 .60955 .61209 .61463 .61717 .61971 .62225 .62479 .62733 .62987 .63241 .63495 .63749 .64003 .64257 .64511 .64765 .65019 .65273 .65527 .65781 .66035 .66289 .66543 .66797 .67051 .67305 .67559 .67813 .68067 .68321 .68575 .68829 .69083 .69337 .69591 .69845 .70099 .70353 .70607 .70861 .71115 .71369  
 .59679 .60004 .60331 .60660 .60990 .61323 .61657 .61993 .62331 .62671 .63012 .63356 .63701 .64048 .64397 .64748 .65095 .65446 .65795 .66142 .66491 .66839 .67187 .67536 .67885 .68234 .68583 .68932 .69281 .69630 .69979 .70328 .70677 .71026 .71375 .71724 .72073 .72422 .72771 .73120 .73469 .73818 .74167 .74516 .74865 .75214 .75563 .75912 .76261 .76610 .76959  
 .51686E-03 .52076E-03 .52469E-03 .52863E-03 .53260E-03 .53659E-03 .54063E-03 .54464E-03 .54869E-03 .55277E-03 .55687E-03 .56099E-03 .56513E-03 .56930E-03 .57349E-03 .57770E-03 .58194E-03 .58620E-03 .59048E-03 .59478E-03 .59911E-03 .60346E-03 .60784E-03 .61224E-03 .61665E-03 .62111E-03 .62558E-03 .63008E-03 .63461E-03 .63914E-03 .64371E-03 .64831E-03 .65293E-03 .65757E-03 .66224E-03 .66694E-03 .67166E-03 .67640E-03 .68118E-03 .68597E-03 .69080E-03 .69565E-03 .70053E-03 .70545E-03 .71036E-03 .71532E-03 .72030E-03  
 1.5330 1.5413 1.5497 1.5581 1.5665 1.5752 1.5837 1.5924 1.6010 1.6097 1.6185 1.6273 1.6362 1.6451 1.6540 1.6630 1.6721 1.6812 1.6903 1.6995 1.7088 1.7181 1.7275 1.7369 1.7463 1.7558 1.7654 1.7750 1.7846 1.7944 1.8041 1.8139 1.8238 1.8337 1.8437 1.8538 1.8639 1.8740 1.8842 1.8945 1.9048 1.9151 1.9256 1.9360 1.9465 1.9572 1.9676  
 .18801E-03 .18943E-03 .19085E-03 .19233E-03 .19374E-03 .19519E-03 .19665E-03 .19812E-03 .19963E-03 .20108E-03 .20257E-03 .20407E-03 .20558E-03 .20710E-03 .20862E-03 .21015E-03 .21173E-03 .21325E-03 .21483E-03 .21637E-03 .21793E-03 .21953E-03 .22112E-03 .22272E-03 .22433E-03 .22595E-03 .22758E-03 .22921E-03 .23086E-03 .23251E-03 .23418E-03 .23585E-03 .23753E-03 .23922E-03 .24092E-03 .24263E-03 .24435E-03 .24608E-03 .24781E-03 .24956E-03 .25131E-03 .25308E-03 .25485E-03 .25664E-03 .25843E-03 .26024E-03 .26205E-03



TRAJECTORY VARIABLES: / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

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1 WTB  
1 SRF(1)  
1 08-L(1)

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|--------|--------|--------|--------|------------|--------|--------|------------|
| 464.87 | .33560 | .99481 | .92975 | .99435E-03 | 2.5534 | 45.773 | .36182E-03 |
| 467.41 | .83814 | 1.0002 | .93481 | .10009E-02 | 2.5673 | 45.773 | .36419E-03 |
| 469.95 | .94068 | 1.0057 | .93991 | .10074E-02 | 2.5813 | 45.772 | .36657E-03 |
| 472.51 | .84322 | 1.0112 | .94503 | .10140E-02 | 2.5953 | 45.772 | .36896E-03 |
| 475.09 | .84575 | 1.0167 | .95018 | .10206E-02 | 2.6095 | 45.771 | .37137E-03 |
| 477.68 | .84830 | 1.0222 | .95536 | .10272E-02 | 2.6237 | 45.771 | .37379E-03 |
| 480.28 | .85084 | 1.0278 | .96057 | .10339E-02 | 2.6379 | 45.771 | .37622E-03 |
| 482.90 | .85338 | 1.0334 | .96580 | .10406E-02 | 2.6523 | 45.770 | .37867E-03 |
| 485.53 | .85592 | 1.0390 | .97106 | .10474E-02 | 2.6667 | 45.770 | .38113E-03 |
| 488.18 | .85846 | 1.0447 | .97636 | .10542E-02 | 2.6812 | 45.769 | .38360E-03 |
| 490.84 | .86100 | 1.0504 | .98169 | .10610E-02 | 2.6958 | 45.769 | .38609E-03 |
| 493.51 | .86354 | 1.0561 | .98703 | .10679E-02 | 2.7105 | 45.769 | .38859E-03 |
| 496.20 | .86608 | 1.0619 | .99241 | .10748E-02 | 2.7252 | 45.768 | .39110E-03 |
| 498.91 | .86862 | 1.0677 | .99782 | .10817E-02 | 2.7401 | 45.768 | .39363E-03 |
| 501.63 | .87115 | 1.0735 | 1.0033 | .10887E-02 | 2.7550 | 45.767 | .39617E-03 |
| 504.36 | .87369 | 1.0793 | 1.0087 | .10957E-02 | 2.7700 | 45.767 | .39873E-03 |
| 507.11 | .87623 | 1.0852 | 1.0142 | .11028E-02 | 2.7850 | 45.765 | .40129E-03 |
| 509.87 | .87877 | 1.0911 | 1.0197 | .11098E-02 | 2.8002 | 45.766 | .40388E-03 |
| 512.65 | .88131 | 1.0971 | 1.0253 | .11170E-02 | 2.8154 | 45.766 | .40647E-03 |
| 515.45 | .88385 | 1.1031 | 1.0309 | .11241E-02 | 2.8307 | 45.765 | .40909E-03 |
| 518.26 | .88639 | 1.1091 | 1.0365 | .11314E-02 | 2.8461 | 45.765 | .41171E-03 |
| 521.08 | .88893 | 1.1151 | 1.0422 | .11386E-02 | 2.8616 | 45.764 | .41435E-03 |
| 523.92 | .89147 | 1.1212 | 1.0478 | .11459E-02 | 2.8772 | 45.764 | .41700E-03 |
| 526.78 | .89401 | 1.1273 | 1.0535 | .11532E-02 | 2.8928 | 45.763 | .41967E-03 |
| 529.65 | .89655 | 1.1335 | 1.0593 | .11606E-02 | 2.9086 | 45.763 | .42235E-03 |
| 532.53 | .89909 | 1.1397 | 1.0651 | .11680E-02 | 2.9244 | 45.762 | .42505E-03 |
| 535.44 | .90163 | 1.1459 | 1.0709 | .11754E-02 | 2.9403 | 45.762 | .42777E-03 |
| 538.35 | .90417 | 1.1521 | 1.0767 | .11829E-02 | 2.9563 | 45.762 | .43049E-03 |
| 541.29 | .90671 | 1.1584 | 1.0826 | .11905E-02 | 2.9724 | 45.761 | .43324E-03 |
| 544.24 | .90925 | 1.1647 | 1.0885 | .11980E-02 | 2.9886 | 45.761 | .43599E-03 |
| 547.20 | .91179 | 1.1711 | 1.0944 | .12056E-02 | 3.0048 | 45.760 | .43876E-03 |
| 550.14 | .91433 | 1.1775 | 1.1004 | .12133E-02 | 3.0212 | 45.760 | .44155E-03 |
| 553.19 | .91687 | 1.1839 | 1.1064 | .12210E-02 | 3.0376 | 45.759 | .44435E-03 |
| 556.20 | .91941 | 1.1903 | 1.1124 | .12287E-02 | 3.0541 | 45.759 | .44717E-03 |
| 559.23 | .92195 | 1.1968 | 1.1185 | .12365E-02 | 3.0707 | 45.758 | .45001E-03 |
| 562.28 | .92449 | 1.2033 | 1.1246 | .12443E-02 | 3.0874 | 45.758 | .45285E-03 |
| 565.34 | .92703 | 1.2099 | 1.1307 | .12522E-02 | 3.1042 | 45.757 | .45572E-03 |
| 568.43 | .92957 | 1.2165 | 1.1369 | .12601E-02 | 3.1211 | 45.757 | .45860E-03 |
| 571.52 | .93211 | 1.2231 | 1.1430 | .12680E-02 | 3.1381 | 45.755 | .46149E-03 |
| 574.64 | .93465 | 1.2298 | 1.1493 | .12760E-02 | 3.1552 | 45.756 | .46440E-03 |
| 577.77 | .93719 | 1.2365 | 1.1555 | .12841E-02 | 3.1723 | 45.755 | .46733E-03 |
| 580.92 | .93973 | 1.2433 | 1.1618 | .12921E-02 | 3.1896 | 45.755 | .47027E-03 |
| 584.09 | .94227 | 1.2500 | 1.1682 | .13003E-02 | 3.2069 | 45.754 | .47323E-03 |
| 587.27 | .94481 | 1.2568 | 1.1745 | .13084E-02 | 3.2244 | 45.754 | .47621E-03 |
| 590.47 | .94735 | 1.2637 | 1.1809 | .13166E-02 | 3.2419 | 45.753 | .47923E-03 |
| 593.69 | .94989 | 1.2706 | 1.1874 | .13249E-02 | 3.2596 | 45.753 | .48221E-03 |
| 596.92 | .95243 | 1.2775 | 1.1938 | .13332E-02 | 3.2773 | 45.752 | .48523E-03 |

10:38:22

14-OCT-86

IRHVG2-228

CLOSED BOMB \*\*\* NO AIR \*\*\*

| TRAJECTORY VARIABLES: / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/ |        |        |        |            |        |        |           |  |  |
|-------------------------------------------------|--------|--------|--------|------------|--------|--------|-----------|--|--|
| TRAJ / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/                  |        |        |        |            |        |        |           |  |  |
| BRCH / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/                  |        |        |        |            |        |        |           |  |  |
| TIME / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/                  |        |        |        |            |        |        |           |  |  |
| PDOT / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/                  |        |        |        |            |        |        |           |  |  |
| BR-L / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/                  |        |        |        |            |        |        |           |  |  |
| WT8(1) / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/                |        |        |        |            |        |        |           |  |  |
| WTBR / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/                  |        |        |        |            |        |        |           |  |  |
| SRF(1) / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/                |        |        |        |            |        |        |           |  |  |
| DB-L(1) / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/               |        |        |        |            |        |        |           |  |  |
| 600.18                                          | .95497 | 1.2845 | 1.2004 | .13416E-02 | 3.2951 | 45.752 | .4827E-03 |  |  |
| 603.45                                          | .95751 | 1.2915 | 1.2069 | .13499E-02 | 3.3130 | 45.751 | .4913E-03 |  |  |
| 606.74                                          | .96005 | 1.2985 | 1.2135 | .13584E-02 | 3.3311 | 45.751 | .4944E-03 |  |  |
| 610.05                                          | .96259 | 1.3056 | 1.2201 | .13669E-02 | 3.3492 | 45.753 | .4974E-03 |  |  |
| 613.37                                          | .96513 | 1.3127 | 1.2267 | .13754E-02 | 3.3674 | 45.753 | .5006E-03 |  |  |
| 616.71                                          | .96767 | 1.3199 | 1.2334 | .13840E-02 | 3.3857 | 45.749 | .5037E-03 |  |  |
| 620.07                                          | .97021 | 1.3271 | 1.2401 | .13926E-02 | 3.4041 | 45.749 | .5068E-03 |  |  |
| 623.45                                          | .97275 | 1.3343 | 1.2469 | .14013E-02 | 3.4226 | 45.748 | .5100E-03 |  |  |
| 626.85                                          | .97529 | 1.3416 | 1.2537 | .14100E-02 | 3.4413 | 45.748 | .5132E-03 |  |  |
| 630.27                                          | .97783 | 1.3489 | 1.2605 | .14187E-02 | 3.4600 | 45.747 | .5165E-03 |  |  |
| 633.70                                          | .98037 | 1.3563 | 1.2674 | .14276E-02 | 3.4788 | 45.747 | .5196E-03 |  |  |
| 637.16                                          | .98291 | 1.3637 | 1.2743 | .14364E-02 | 3.4977 | 45.746 | .5228E-03 |  |  |
| 640.63                                          | .98545 | 1.3711 | 1.2813 | .14453E-02 | 3.5167 | 45.746 | .5260E-03 |  |  |
| 644.12                                          | .98799 | 1.3786 | 1.2882 | .14543E-02 | 3.5359 | 45.745 | .5293E-03 |  |  |
| 647.63                                          | .99053 | 1.3861 | 1.2953 | .14633E-02 | 3.5551 | 45.745 | .5326E-03 |  |  |
| 651.16                                          | .99307 | 1.3937 | 1.3023 | .14723E-02 | 3.5744 | 45.744 | .5359E-03 |  |  |
| 654.71                                          | .99561 | 1.4013 | 1.3094 | .14814E-02 | 3.5939 | 45.743 | .5392E-03 |  |  |
| 658.28                                          | .99815 | 1.4089 | 1.3166 | .14906E-02 | 3.6134 | 45.743 | .5425E-03 |  |  |
| 661.87                                          | 1.0007 | 1.4166 | 1.3237 | .14998E-02 | 3.6331 | 45.742 | .5459E-03 |  |  |
| 665.48                                          | 1.0032 | 1.4243 | 1.3310 | .15092E-02 | 3.6528 | 45.742 | .5492E-03 |  |  |
| 669.11                                          | 1.0058 | 1.4321 | 1.3382 | .15183E-02 | 3.6727 | 45.741 | .5526E-03 |  |  |
| 672.75                                          | 1.0083 | 1.4399 | 1.3455 | .15277E-02 | 3.6927 | 45.741 | .5560E-03 |  |  |
| 676.42                                          | 1.0108 | 1.4477 | 1.3528 | .15371E-02 | 3.7127 | 45.740 | .5595E-03 |  |  |
| 680.11                                          | 1.0134 | 1.4556 | 1.3602 | .15466E-02 | 3.7329 | 45.740 | .5629E-03 |  |  |
| 683.81                                          | 1.0159 | 1.4636 | 1.3676 | .15561E-02 | 3.7532 | 45.739 | .5664E-03 |  |  |
| 687.54                                          | 1.0185 | 1.4715 | 1.3751 | .15656E-02 | 3.7736 | 45.738 | .5699E-03 |  |  |
| 691.29                                          | 1.0210 | 1.4796 | 1.3826 | .15752E-02 | 3.7942 | 45.738 | .5734E-03 |  |  |
| 695.06                                          | 1.0235 | 1.4876 | 1.3901 | .15849E-02 | 3.8148 | 45.737 | .5769E-03 |  |  |
| 698.84                                          | 1.0261 | 1.4958 | 1.3977 | .15946E-02 | 3.8355 | 45.737 | .5804E-03 |  |  |
| 702.65                                          | 1.0285 | 1.5039 | 1.4053 | .16044E-02 | 3.8564 | 45.736 | .5840E-03 |  |  |
| 706.48                                          | 1.0312 | 1.5121 | 1.4130 | .16142E-02 | 3.8774 | 45.735 | .5876E-03 |  |  |
| 710.34                                          | 1.0337 | 1.5204 | 1.4207 | .16241E-02 | 3.8984 | 45.735 | .5912E-03 |  |  |
| 714.21                                          | 1.0362 | 1.5286 | 1.4284 | .16340E-02 | 3.9196 | 45.734 | .5948E-03 |  |  |
| 718.10                                          | 1.0388 | 1.5370 | 1.4362 | .16440E-02 | 3.9410 | 45.734 | .5984E-03 |  |  |
| 722.01                                          | 1.0413 | 1.5454 | 1.4442 | .16540E-02 | 3.9624 | 45.733 | .6021E-03 |  |  |
| 725.95                                          | 1.0439 | 1.5538 | 1.4519 | .16641E-02 | 3.9839 | 45.732 | .6058E-03 |  |  |
| 729.91                                          | 1.0464 | 1.5623 | 1.4598 | .16743E-02 | 4.0056 | 45.732 | .6095E-03 |  |  |
| 733.89                                          | 1.0489 | 1.5708 | 1.4678 | .16845E-02 | 4.0274 | 45.731 | .6132E-03 |  |  |
| 737.89                                          | 1.0515 | 1.5794 | 1.4758 | .16947E-02 | 4.0493 | 45.731 | .6169E-03 |  |  |
| 741.91                                          | 1.0540 | 1.5880 | 1.4838 | .17050E-02 | 4.0713 | 45.730 | .6207E-03 |  |  |
| 745.95                                          | 1.0566 | 1.5966 | 1.4919 | .17154E-02 | 4.0934 | 45.729 | .6244E-03 |  |  |
| 750.02                                          | 1.0591 | 1.6053 | 1.5003 | .17258E-02 | 4.1157 | 45.729 | .6282E-03 |  |  |
| 754.11                                          | 1.0616 | 1.6141 | 1.5082 | .17363E-02 | 4.1381 | 45.728 | .6321E-03 |  |  |
| 758.22                                          | 1.0642 | 1.6229 | 1.5164 | .17468E-02 | 4.1606 | 45.727 | .6359E-03 |  |  |
| 762.35                                          | 1.0667 | 1.6317 | 1.5247 | .17574E-02 | 4.1832 | 45.727 | .6398E-03 |  |  |
| 766.51                                          | 1.0693 | 1.6406 | 1.5332 | .17681E-02 | 4.2059 | 45.726 | .6437E-03 |  |  |
| 770.68                                          | 1.0718 | 1.6496 | 1.5414 | .17788E-02 | 4.2288 | 45.725 | .6476E-03 |  |  |

| TRAJECTORY VARIABLES: |        |        | I      |            |        | I      |            |      | I     |       |       | I     |       |       | I     |       |       | I     |       |  |
|-----------------------|--------|--------|--------|------------|--------|--------|------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
| / 1/                  | / 2/   | / 3/   | / 4/   | / 5/       | / 6/   | / 7/   | / 8/       | / 9/ | / 10/ | / 11/ | / 12/ | / 13/ | / 14/ | / 15/ | / 16/ | / 17/ | / 18/ | / 19/ | / 20/ |  |
| 774.89                | 1.0743 | 1.6586 | 1.5498 | .17896E-02 | 4.2518 | 45.725 | .65153E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 779.11                | 1.0769 | 1.6676 | 1.5562 | .18004E-02 | 4.2749 | 45.724 | .65547E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 783.36                | 1.0794 | 1.6767 | 1.5667 | .18113E-02 | 4.2981 | 45.723 | .65944E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 787.63                | 1.0820 | 1.6859 | 1.5753 | .18222E-02 | 4.3215 | 45.723 | .66343E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 791.92                | 1.0845 | 1.6951 | 1.5838 | .18332E-02 | 4.3450 | 45.722 | .66744E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 796.24                | 1.0870 | 1.7043 | 1.5925 | .18443E-02 | 4.3686 | 45.721 | .67148E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 800.58                | 1.0895 | 1.7136 | 1.6012 | .18554E-02 | 4.3924 | 45.721 | .67553E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 804.94                | 1.0921 | 1.7230 | 1.6099 | .18666E-02 | 4.4162 | 45.720 | .67961E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 809.33                | 1.0947 | 1.7324 | 1.6187 | .18779E-02 | 4.4402 | 45.719 | .68371E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 813.74                | 1.0972 | 1.7418 | 1.6275 | .18892E-02 | 4.4644 | 45.719 | .68783E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 818.18                | 1.0997 | 1.7513 | 1.6364 | .19005E-02 | 4.4887 | 45.718 | .69198E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 822.64                | 1.1023 | 1.7609 | 1.6453 | .19120E-02 | 4.5131 | 45.717 | .69614E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 827.12                | 1.1048 | 1.7705 | 1.6542 | .19235E-02 | 4.5376 | 45.717 | .70033E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 831.63                | 1.1074 | 1.7801 | 1.6633 | .19350E-02 | 4.5623 | 45.716 | .70455E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 836.16                | 1.1099 | 1.7898 | 1.6723 | .19466E-02 | 4.5871 | 45.715 | .70878E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 840.72                | 1.1124 | 1.7996 | 1.6814 | .19583E-02 | 4.6120 | 45.714 | .71304E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 845.31                | 1.1150 | 1.8094 | 1.6906 | .19701E-02 | 4.6371 | 45.714 | .71732E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 849.91                | 1.1175 | 1.8193 | 1.6998 | .19819E-02 | 4.6623 | 45.713 | .72163E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 854.55                | 1.1201 | 1.8292 | 1.7091 | .19937E-02 | 4.6875 | 45.712 | .72596E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 859.21                | 1.1226 | 1.8392 | 1.7184 | .20057E-02 | 4.7131 | 45.712 | .73031E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 863.89                | 1.1251 | 1.8492 | 1.7278 | .20177E-02 | 4.7387 | 45.711 | .73469E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 868.60                | 1.1277 | 1.8593 | 1.7372 | .20298E-02 | 4.7645 | 45.710 | .73909E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 873.33                | 1.1302 | 1.8694 | 1.7467 | .20419E-02 | 4.7904 | 45.709 | .74351E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 878.09                | 1.1328 | 1.8796 | 1.7562 | .20541E-02 | 4.8164 | 45.709 | .74796E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 882.86                | 1.1353 | 1.8899 | 1.7658 | .20664E-02 | 4.8426 | 45.708 | .75243E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 887.69                | 1.1378 | 1.9002 | 1.7754 | .20787E-02 | 4.8689 | 45.707 | .75693E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 892.53                | 1.1404 | 1.9106 | 1.7851 | .20911E-02 | 4.8953 | 45.706 | .76145E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 897.40                | 1.1429 | 1.9210 | 1.7948 | .21036E-02 | 4.9220 | 45.705 | .76602E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 902.29                | 1.1455 | 1.9315 | 1.8046 | .21161E-02 | 4.9487 | 45.705 | .77057E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 907.21                | 1.1480 | 1.9420 | 1.8144 | .21287E-02 | 4.9756 | 45.704 | .77516E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 912.16                | 1.1505 | 1.9526 | 1.8243 | .21414E-02 | 5.0025 | 45.703 | .77973E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 917.13                | 1.1531 | 1.9633 | 1.8343 | .21541E-02 | 5.0298 | 45.703 | .78443E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 922.13                | 1.1556 | 1.9740 | 1.8443 | .21669E-02 | 5.0572 | 45.702 | .78913E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 927.16                | 1.1582 | 1.9847 | 1.8543 | .21798E-02 | 5.0846 | 45.701 | .79380E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 932.21                | 1.1607 | 1.9956 | 1.8644 | .21927E-02 | 5.1123 | 45.703 | .79852E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 937.29                | 1.1632 | 2.0064 | 1.8746 | .22056E-02 | 5.1401 | 45.699 | .80327E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 942.40                | 1.1658 | 2.0174 | 1.8848 | .22189E-02 | 5.1683 | 45.699 | .80804E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 947.54                | 1.1683 | 2.0284 | 1.8951 | .22320E-02 | 5.1961 | 45.698 | .81284E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 952.71                | 1.1709 | 2.0395 | 1.9054 | .22452E-02 | 5.2243 | 45.697 | .81767E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 957.90                | 1.1734 | 2.0506 | 1.9158 | .22586E-02 | 5.2527 | 45.696 | .82252E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 963.12                | 1.1759 | 2.0618 | 1.9262 | .22719E-02 | 5.2812 | 45.695 | .82743E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 968.37                | 1.1785 | 2.0730 | 1.9367 | .22854E-02 | 5.3099 | 45.695 | .83231E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 973.65                | 1.1810 | 2.0843 | 1.9475 | .22989E-02 | 5.3388 | 45.694 | .83724E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 978.96                | 1.1836 | 2.0957 | 1.9579 | .23125E-02 | 5.3676 | 45.693 | .84220E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 984.30                | 1.1861 | 2.1071 | 1.9685 | .23262E-02 | 5.3974 | 45.692 | .84718E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 989.66                | 1.1886 | 2.1186 | 1.9793 | .23399E-02 | 5.4263 | 45.691 | .85220E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |
| 995.05                | 1.1912 | 2.1302 | 1.9901 | .23537E-02 | 5.4558 | 45.690 | .85724E-03 |      |       |       |       |       |       |       |       |       |       |       |       |  |



IBHV52.228

TRA 1

10:38:20

14-001-86

18HV62.228

CLOSED BOMB \*\*\* NO AIR \*\*\*

| TRAJECTORY VARIABLES: / 1/ |  |  |  |  |  |  |  |  |  |
|----------------------------|--|--|--|--|--|--|--|--|--|
| / 2/                       |  |  |  |  |  |  |  |  |  |
| / 3/                       |  |  |  |  |  |  |  |  |  |
| / 4/                       |  |  |  |  |  |  |  |  |  |
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| / 6/                       |  |  |  |  |  |  |  |  |  |
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| / 30/                      |  |  |  |  |  |  |  |  |  |
| / 31/                      |  |  |  |  |  |  |  |  |  |
| / 32/                      |  |  |  |  |  |  |  |  |  |
| / 33/                      |  |  |  |  |  |  |  |  |  |
| / 34/                      |  |  |  |  |  |  |  |  |  |
| / 35/                      |  |  |  |  |  |  |  |  |  |
| / 36/                      |  |  |  |  |  |  |  |  |  |
| / 37/                      |  |  |  |  |  |  |  |  |  |
| / 38/                      |  |  |  |  |  |  |  |  |  |
| / 39/                      |  |  |  |  |  |  |  |  |  |
| / 40/                      |  |  |  |  |  |  |  |  |  |
| / 41/                      |  |  |  |  |  |  |  |  |  |
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## TRAJECTORY VARIABLES:

1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 / 11 / 12 / 13 / 14 / 15 / 16 / 17 / 18 / 19 / 20 / 21 / 22 / 23 / 24 / 25 / 26 / 27 / 28 / 29 / 30 / 31 / 32 / 33 / 34 / 35 / 36 / 37 / 38 / 39 / 40 / 41 / 42 / 43 / 44 / 45 / 46 / 47 / 48 / 49 / 50 / 51 / 52 / 53 / 54 / 55 / 56 / 57 / 58 / 59 / 60 / 61 / 62 / 63 / 64 / 65 / 66 / 67 / 68 / 69 / 70 / 71 / 72 / 73 / 74 / 75 / 76 / 77 / 78 / 79 / 80 / 81 / 82 / 83 / 84 / 85 / 86 / 87 / 88 / 89 / 90 / 91 / 92 / 93 / 94 / 95 / 96 / 97 / 98 / 99 / 100 / 101 / 102 / 103 / 104 / 105 / 106 / 107 / 108 / 109 / 110 / 111 / 112 / 113 / 114 / 115 / 116 / 117 / 118 / 119 / 120 / 121 / 122 / 123 / 124 / 125 / 126 / 127 / 128 / 129 / 130 / 131 / 132 / 133 / 134 / 135 / 136 / 137 / 138 / 139 / 140 / 141 / 142 / 143 / 144 / 145 / 146 / 147 / 148 / 149 / 150 / 151 / 152 / 153 / 154 / 155 / 156 / 157 / 158 / 159 / 160 / 161 / 162 / 163 / 164 / 165 / 166 / 167 / 168 / 169 / 170 / 171 / 172 / 173 / 174 / 175 / 176 / 177 / 178 / 179 / 180 / 181 / 182 / 183 / 184 / 185 / 186 / 187 / 188 / 189 / 190 / 191 / 192 / 193 / 194 / 195 / 196 / 197 / 198 / 199 / 200 / 201 / 202 / 203 / 204 / 205 / 206 / 207 / 208 / 209 / 210 / 211 / 212 / 213 / 214 / 215 / 216 / 217 / 218 / 219 / 220 / 221 / 222 / 223 / 224 / 225 / 226 / 227 / 228 / 229 / 230 / 231 / 232 / 233 / 234 / 235 / 236 / 237 / 238 / 239 / 240 / 241 / 242 / 243 / 244 / 245 / 246 / 247 / 248 / 249 / 250 / 251 / 252 / 253 / 254 / 255 / 256 / 257 / 258 / 259 / 260 / 261 / 262 / 263 / 264 / 265 / 266 / 267 / 268 / 269 / 270 / 271 / 272 / 273 / 274 / 275 / 276 / 277 / 278 / 279 / 280 / 281 / 282 / 283 / 284 / 285 / 286 / 287 / 288 / 289 / 290 / 291 / 292 / 293 / 294 / 295 / 296 / 297 / 298 / 299 / 300 / 301 / 302 / 303 / 304 / 305 / 306 / 307 / 308 / 309 / 310 / 311 / 312 / 313 / 314 / 315 / 316 / 317 / 318 / 319 / 320 / 321 / 322 / 323 / 324 / 325 / 326 / 327 / 328 / 329 / 330 / 331 / 332 / 333 / 334 / 335 / 336 / 337 / 338 / 339 / 340 / 341 / 342 / 343 / 344 / 345 / 346 / 347 / 348 / 349 / 350 / 351 / 352 / 353 / 354 / 355 / 356 / 357 / 358 / 359 / 360 / 361 / 362 / 363 / 364 / 365 / 366 / 367 / 368 / 369 / 370 / 371 / 372 / 373 / 374 / 375 / 376 / 377 / 378 / 379 / 380 / 381 / 382 / 383 / 384 / 385 / 386 / 387 / 388 / 389 / 390 / 391 / 392 / 393 / 394 / 395 / 396 / 397 / 398 / 399 / 400 / 401 / 402 / 403 / 404 / 405 / 406 / 407 / 408 / 409 / 410 / 411 / 412 / 413 / 414 / 415 / 416 / 417 / 418 / 419 / 420 / 421 / 422 / 423 / 424 / 425 / 426 / 427 / 428 / 429 / 430 / 431 / 432 / 433 / 434 / 435 / 436 / 437 / 438 / 439 / 440 / 441 / 442 / 443 / 444 / 445 / 446 / 447 / 448 / 449 / 450 / 451 / 452 / 453 / 454 / 455 / 456 / 457 / 458 / 459 / 460 / 461 / 462 / 463 / 464 / 465 / 466 / 467 / 468 / 469 / 470 / 471 / 472 / 473 / 474 / 475 / 476 / 477 / 478 / 479 / 480 / 481 / 482 / 483 / 484 / 485 / 486 / 487 / 488 / 489 / 490 / 491 / 492 / 493 / 494 / 495 / 496 / 497 / 498 / 499 / 500 / 501 / 502 / 503 / 504 / 505 / 506 / 507 / 508 / 509 / 510 / 511 / 512 / 513 / 514 / 515 / 516 / 517 / 518 / 519 / 520 / 521 / 522 / 523 / 524 / 525 / 526 / 527 / 528 / 529 / 530 / 531 / 532 / 533 / 534 / 535 / 536 / 537 / 538 / 539 / 540 / 541 / 542 / 543 / 544 / 545 / 546 / 547 / 548 / 549 / 550 / 551 / 552 / 553 / 554 / 555 / 556 / 557 / 558 / 559 / 560 / 561 / 562 / 563 / 564 / 565 / 566 / 567 / 568 / 569 / 570 / 571 / 572 / 573 / 574 / 575 / 576 / 577 / 578 / 579 / 580 / 581 / 582 / 583 / 584 / 585 / 586 / 587 / 588 / 589 / 590 / 591 / 592 / 593 / 594 / 595 / 596 / 597 / 598 / 599 / 600 / 601 / 602 / 603 / 604 / 605 / 606 / 607 / 608 / 609 / 610 / 611 / 612 / 613 / 614 / 615 / 616 / 617 / 618 / 619 / 620 / 621 / 622 / 623 / 624 / 625 / 626 / 627 / 628 / 629 / 630 / 631 / 632 / 633 / 634 / 635 / 636 / 637 / 638 / 639 / 640 / 641 / 642 / 643 / 644 / 645 / 646 / 647 / 648 / 649 / 650 / 651 / 652 / 653 / 654 / 655 / 656 / 657 / 658 / 659 / 660 / 661 / 662 / 663 / 664 / 665 / 666 / 667 / 668 / 669 / 670 / 671 / 672 / 673 / 674 / 675 / 676 / 677 / 678 / 679 / 680 / 681 / 682 / 683 / 684 / 685 / 686 / 687 / 688 / 689 / 690 / 691 / 692 / 693 / 694 / 695 / 696 / 697 / 698 / 699 / 700 / 701 / 702 / 703 / 704 / 705 / 706 / 707 / 708 / 709 / 710 / 711 / 712 / 713 / 714 / 715 / 716 / 717 / 718 / 719 / 720 / 721 / 722 / 723 / 724 / 725 / 726 / 727 / 728 / 729 / 730 / 731 / 732 / 733 / 734 / 735 / 736 / 737 / 738 / 739 / 740 / 741 / 742 / 743 / 744 / 745 / 746 / 747 / 748 / 749 / 750 / 751 / 752 / 753 / 754 / 755 / 756 / 757 / 758 / 759 / 760 / 761 / 762 / 763 / 764 / 765 / 766 / 767 / 768 / 769 / 770 / 771 / 772 / 773 / 774 / 775 / 776 / 777 / 778 / 779 / 780 / 781 / 782 / 783 / 784 / 785 / 786 / 787 / 788 / 789 / 790 / 791 / 792 / 793 / 794 / 795 / 796 / 797 / 798 / 799 / 800 / 801 / 802 / 803 / 804 / 805 / 806 / 807 / 808 / 809 / 810 / 811 / 812 / 813 / 814 / 815 / 816 / 817 / 818 / 819 / 820 / 821 / 822 / 823 / 824 / 825 / 826 / 827 / 828 / 829 / 830 / 831 / 832 / 833 / 834 / 835 / 836 / 837 / 838 / 839 / 840 / 841 / 842 / 843 / 844 / 845 / 846 / 847 / 848 / 849 / 850 / 851 / 852 / 853 / 854 / 855 / 856 / 857 / 858 / 859 / 860 / 861 / 862 / 863 / 864 / 865 / 866 / 867 / 868 / 869 / 870 / 871 / 872 / 873 / 874 / 875 / 876 / 877 / 878 / 879 / 880 / 881 / 882 / 883 / 884 / 885 / 886 / 887 / 888 / 889 / 890 / 891 / 892 / 893 / 894 / 895 / 896 / 897 / 898 / 899 / 900 / 901 / 902 / 903 / 904 / 905 / 906 / 907 / 908 / 909 / 910 / 911 / 912 / 913 / 914 / 915 / 916 / 917 / 918 / 919 / 920 / 921 / 922 / 923 / 924 / 925 / 926 / 927 / 928 / 929 / 930 / 931 / 932 / 933 / 934 / 935 / 936 / 937 / 938 / 939 / 940 / 941 / 942 / 943 / 944 / 945 / 946 / 947 / 948 / 949 / 950 / 951 / 952 / 953 / 954 / 955 / 956 / 957 / 958 / 959 / 960 / 961 / 962 / 963 / 964 / 965 / 966 / 967 / 968 / 969 / 970 / 971 / 972 / 973 / 974 / 975 / 976 / 977 / 978 / 979 / 980 / 981 / 982 / 983 / 984 / 985 / 986 / 987 / 988 / 989 / 990 / 991 / 992 / 993 / 994 / 995 / 996 / 997 / 998 / 999 / 1000

| 1      | 2      | 3      | 4      | 5          | 6      | 7      | 8          |
|--------|--------|--------|--------|------------|--------|--------|------------|
| 2154.1 | 1.5518 | 4.6152 | 4.3083 | .53153E-02 | 11.764 | 45.513 | .19397E-02 |
| 2165.9 | 1.5544 | 4.6404 | 4.3318 | .53452E-02 | 11.828 | 45.508 | .19506E-02 |
| 2177.7 | 1.5569 | 4.6657 | 4.3554 | .53754E-02 | 11.892 | 45.505 | .19617E-02 |
| 2189.6 | 1.5594 | 4.6912 | 4.3792 | .54056E-02 | 11.956 | 45.505 | .19728E-02 |
| 2201.5 | 1.5620 | 4.7169 | 4.4031 | .54361E-02 | 12.021 | 45.503 | .19839E-02 |
| 2213.6 | 1.5645 | 4.7426 | 4.4271 | .54667E-02 | 12.086 | 45.501 | .19951E-02 |
| 2225.6 | 1.5671 | 4.7686 | 4.4513 | .54975E-02 | 12.152 | 45.499 | .20064E-02 |
| 2237.8 | 1.5696 | 4.7946 | 4.4755 | .55284E-02 | 12.217 | 45.497 | .20177E-02 |
| 2250.0 | 1.5721 | 4.8208 | 4.5003 | .55595E-02 | 12.284 | 45.495 | .20291E-02 |
| 2262.3 | 1.5747 | 4.8472 | 4.5245 | .55908E-02 | 12.350 | 45.493 | .20406E-02 |
| 2274.6 | 1.5772 | 4.8737 | 4.5492 | .56223E-02 | 12.417 | 45.491 | .20521E-02 |
| 2287.0 | 1.5798 | 4.9003 | 4.5740 | .56539E-02 | 12.484 | 45.489 | .20637E-02 |
| 2299.5 | 1.5823 | 4.9271 | 4.5993 | .56857E-02 | 12.552 | 45.487 | .20754E-02 |
| 2312.0 | 1.5848 | 4.9540 | 4.6241 | .57177E-02 | 12.620 | 45.485 | .20871E-02 |
| 2324.7 | 1.5874 | 4.9811 | 4.6493 | .57498E-02 | 12.688 | 45.484 | .20988E-02 |
| 2337.3 | 1.5899 | 5.0083 | 4.6747 | .57821E-02 | 12.757 | 45.482 | .21107E-02 |
| 2350.1 | 1.5925 | 5.0357 | 4.7002 | .58146E-02 | 12.826 | 45.480 | .21226E-02 |
| 2362.9 | 1.5950 | 5.0632 | 4.7259 | .58473E-02 | 12.895 | 45.478 | .21346E-02 |
| 2375.8 | 1.5975 | 5.0909 | 4.7515 | .58801E-02 | 12.965 | 45.476 | .21465E-02 |
| 2388.6 | 1.6001 | 5.1187 | 4.7776 | .59131E-02 | 13.035 | 45.474 | .21587E-02 |
| 2401.8 | 1.6025 | 5.1467 | 4.8036 | .59463E-02 | 13.106 | 45.472 | .21709E-02 |
| 2414.9 | 1.6052 | 5.1748 | 4.8299 | .59797E-02 | 13.177 | 45.469 | .21831E-02 |
| 2428.1 | 1.6077 | 5.2031 | 4.8562 | .60133E-02 | 13.248 | 45.467 | .21954E-02 |
| 2441.4 | 1.6102 | 5.2315 | 4.8827 | .60470E-02 | 13.320 | 45.465 | .22078E-02 |
| 2454.7 | 1.6128 | 5.2601 | 4.9094 | .60809E-02 | 13.392 | 45.463 | .22202E-02 |
| 2468.1 | 1.6153 | 5.2889 | 4.9364 | .61150E-02 | 13.464 | 45.461 | .22327E-02 |
| 2481.5 | 1.6179 | 5.3178 | 4.9631 | .61493E-02 | 13.537 | 45.459 | .22453E-02 |
| 2495.1 | 1.6204 | 5.3469 | 4.9902 | .61838E-02 | 13.610 | 45.457 | .22579E-02 |
| 2508.7 | 1.6229 | 5.3761 | 5.0174 | .62184E-02 | 13.684 | 45.455 | .22706E-02 |
| 2522.4 | 1.6255 | 5.4055 | 5.0448 | .62533E-02 | 13.758 | 45.453 | .22834E-02 |
| 2536.2 | 1.6280 | 5.4350 | 5.0723 | .62883E-02 | 13.832 | 45.451 | .22963E-02 |
| 2550.0 | 1.6306 | 5.4648 | 5.1000 | .63236E-02 | 13.907 | 45.449 | .23092E-02 |
| 2563.9 | 1.6331 | 5.4946 | 5.1279 | .63590E-02 | 13.983 | 45.446 | .23222E-02 |
| 2577.9 | 1.6356 | 5.5247 | 5.1558 | .63946E-02 | 14.058 | 45.444 | .23352E-02 |
| 2592.0 | 1.6382 | 5.5549 | 5.1843 | .64304E-02 | 14.134 | 45.442 | .23483E-02 |
| 2606.1 | 1.6407 | 5.5853 | 5.2123 | .64664E-02 | 14.211 | 45.440 | .23615E-02 |
| 2620.4 | 1.6433 | 5.6158 | 5.2407 | .65026E-02 | 14.288 | 45.438 | .23748E-02 |
| 2634.7 | 1.6458 | 5.6465 | 5.2693 | .65390E-02 | 14.365 | 45.435 | .23882E-02 |
| 2649.0 | 1.6483 | 5.6774 | 5.2981 | .65755E-02 | 14.442 | 45.433 | .24016E-02 |
| 2663.5 | 1.6509 | 5.7084 | 5.3270 | .66121E-02 | 14.521 | 45.431 | .24151E-02 |
| 2678.0 | 1.6534 | 5.7396 | 5.3561 | .66489E-02 | 14.599 | 45.429 | .24286E-02 |
| 2692.7 | 1.6560 | 5.7710 | 5.3853 | .66865E-02 | 14.678 | 45.425 | .24423E-02 |
| 2707.4 | 1.6585 | 5.8026 | 5.4147 | .67239E-02 | 14.757 | 45.424 | .24563E-02 |
| 2722.1 | 1.6610 | 5.8343 | 5.4443 | .67614E-02 | 14.837 | 45.422 | .24698E-02 |
| 2737.0 | 1.6636 | 5.8662 | 5.4745 | .67992E-02 | 14.917 | 45.419 | .24837E-02 |
| 2751.6 | 1.6661 | 5.8983 | 5.5049 | .68372E-02 | 14.998 | 45.417 | .24976E-02 |
| 2767.0 | 1.6687 | 5.9305 | 5.5353 | .68754E-02 | 15.074 | 45.415 | .25115E-02 |

10:38:20

14-0CT-86

18HVG2.228

CLOSED 60MR \*\*\* NO AIR \*\*\*

TRAJECTORY VARIABLES: / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

1 BUCH  
1 TIME  
1 PDOT  
1 BR-L  
1 WTB(1)  
1 WTB  
1 SRF(1)  
1 DB-L(1)

| / 1/   | / 2/   | / 3/   | / 4/   | / 5/       | / 6/   | / 7/   | / 8/       |
|--------|--------|--------|--------|------------|--------|--------|------------|
| 2782.1 | 1.6712 | 5.9630 | 5.5641 | .59138E-02 | 15.161 | 45.412 | .25257E-02 |
| 2797.2 | 1.6737 | 5.9956 | 5.5955 | .59524E-02 | 15.243 | 45.410 | .25399E-02 |
| 2812.5 | 1.6763 | 6.0284 | 5.6250 | .6912E-02  | 15.325 | 45.408 | .25541E-02 |
| 2827.9 | 1.6788 | 6.0613 | 5.6557 | .70303E-02 | 15.408 | 45.405 | .25685E-02 |
| 2843.3 | 1.6814 | 6.0945 | 5.6866 | .70695E-02 | 15.491 | 45.403 | .25829E-02 |
| 2858.8 | 1.6839 | 6.1278 | 5.7176 | .71090E-02 | 15.575 | 45.400 | .25973E-02 |
| 2874.4 | 1.6864 | 6.1613 | 5.7489 | .71486E-02 | 15.659 | 45.398 | .26119E-02 |
| 2890.1 | 1.6890 | 6.1950 | 5.7802 | .71885E-02 | 15.744 | 45.396 | .26265E-02 |
| 2905.9 | 1.6915 | 6.2289 | 5.8118 | .72286E-02 | 15.829 | 45.393 | .26413E-02 |
| 2921.8 | 1.6941 | 6.2630 | 5.8435 | .72689E-02 | 15.914 | 45.391 | .26561E-02 |
| 2937.7 | 1.6966 | 6.2972 | 5.8754 | .73094E-02 | 16.003 | 45.388 | .26709E-02 |
| 2953.7 | 1.6991 | 6.3317 | 5.9075 | .73502E-02 | 16.087 | 45.385 | .26859E-02 |
| 2969.9 | 1.7017 | 6.3663 | 5.9397 | .73911E-02 | 16.174 | 45.383 | .27013E-02 |
| 2986.1 | 1.7042 | 6.4011 | 5.9722 | .74323E-02 | 16.261 | 45.381 | .27161E-02 |
| 3002.4 | 1.7068 | 6.4362 | 6.0048 | .74737E-02 | 16.349 | 45.378 | .27313E-02 |
| 3018.8 | 1.7093 | 6.4714 | 6.0375 | .75154E-02 | 16.437 | 45.375 | .27466E-02 |
| 3035.3 | 1.7118 | 6.5068 | 6.0705 | .75572E-02 | 16.526 | 45.373 | .27620E-02 |
| 3051.8 | 1.7144 | 6.5424 | 6.1037 | .75993E-02 | 16.616 | 45.370 | .27774E-02 |
| 3068.5 | 1.7169 | 6.5781 | 6.1370 | .76416E-02 | 16.705 | 45.368 | .27930E-02 |
| 3085.2 | 1.7195 | 6.6141 | 6.1705 | .76842E-02 | 16.795 | 45.365 | .28086E-02 |
| 3102.1 | 1.7220 | 6.6503 | 6.2042 | .77270E-02 | 16.886 | 45.363 | .28243E-02 |
| 3119.0 | 1.7245 | 6.6867 | 6.2381 | .77700E-02 | 16.977 | 45.360 | .28401E-02 |
| 3136.1 | 1.7271 | 6.7233 | 6.2721 | .78132E-02 | 17.069 | 45.357 | .28560E-02 |
| 3153.2 | 1.7296 | 6.7601 | 6.3064 | .78567E-02 | 17.161 | 45.355 | .28720E-02 |
| 3170.4 | 1.7322 | 6.7971 | 6.3408 | .79004E-02 | 17.254 | 45.352 | .28880E-02 |
| 3187.7 | 1.7347 | 6.8342 | 6.3754 | .79443E-02 | 17.347 | 45.349 | .29042E-02 |
| 3205.1 | 1.7372 | 6.8716 | 6.4102 | .79885E-02 | 17.441 | 45.347 | .29204E-02 |
| 3222.5 | 1.7398 | 6.9092 | 6.4452 | .80329E-02 | 17.535 | 45.344 | .29367E-02 |
| 3240.2 | 1.7423 | 6.9470 | 6.4804 | .80776E-02 | 17.630 | 45.341 | .29532E-02 |
| 3257.9 | 1.7448 | 6.9851 | 6.5158 | .81225E-02 | 17.725 | 45.338 | .29697E-02 |
| 3275.7 | 1.7474 | 7.0233 | 6.5514 | .81676E-02 | 17.821 | 45.336 | .29863E-02 |
| 3293.6 | 1.7499 | 7.0617 | 6.5872 | .82130E-02 | 17.917 | 45.333 | .30029E-02 |
| 3311.6 | 1.7525 | 7.1004 | 6.6231 | .82586E-02 | 18.014 | 45.330 | .30197E-02 |
| 3329.6 | 1.7550 | 7.1392 | 6.6593 | .83045E-02 | 18.111 | 45.327 | .30366E-02 |
| 3347.8 | 1.7575 | 7.1783 | 6.6956 | .83506E-02 | 18.209 | 45.324 | .30535E-02 |
| 3366.1 | 1.7601 | 7.2176 | 6.7322 | .83973E-02 | 18.307 | 45.322 | .30706E-02 |
| 3384.5 | 1.7626 | 7.2571 | 6.7690 | .84436E-02 | 18.406 | 45.319 | .30877E-02 |
| 3403.0 | 1.7652 | 7.2968 | 6.8059 | .84905E-02 | 18.505 | 45.316 | .31052E-02 |
| 3421.6 | 1.7677 | 7.3367 | 6.8431 | .85376E-02 | 18.606 | 45.313 | .31223E-02 |
| 3440.2 | 1.7702 | 7.3769 | 6.8805 | .85850E-02 | 18.705 | 45.310 | .31397E-02 |
| 3459.0 | 1.7728 | 7.4173 | 6.9180 | .86326E-02 | 18.806 | 45.307 | .31573E-02 |
| 3477.9 | 1.7753 | 7.4579 | 6.9558 | .86805E-02 | 18.908 | 45.304 | .31749E-02 |
| 3496.9 | 1.7779 | 7.4997 | 6.9936 | .87287E-02 | 19.010 | 45.301 | .31926E-02 |
| 3516.0 | 1.7804 | 7.5397 | 7.0320 | .87771E-02 | 19.112 | 45.298 | .32104E-02 |
| 3535.2 | 1.7829 | 7.5810 | 7.0704 | .88257E-02 | 19.215 | 45.295 | .32283E-02 |
| 3554.5 | 1.7855 | 7.6225 | 7.1092 | .88747E-02 | 19.319 | 45.292 | .32463E-02 |
| 3573.9 | 1.7880 | 7.6642 | 7.1479 | .89239E-02 | 19.423 | 45.289 | .32644E-02 |

CLOSED BOMB \*\*\* NO AIR \*\*\*

14-001-86

10:38:20

IBHYG2.225

TRAJECTORY VARIABLES: / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

1 TRAJ 1 TRAJ 1 TRAJ 1 TRAJ 1 TRAJ 1 TRAJ 1 TRAJ

1 TIME 1 POF 1 BR-L 1 MTB(1) 1 WTR 1 SRF(1) 1 DB-L(1)

|        |        |        |        |            |        |        |           |
|--------|--------|--------|--------|------------|--------|--------|-----------|
| 3593.4 | 1.7905 | 7.7062 | 7.1869 | .89733E-02 | 19.528 | 45.286 | 32825E-02 |
| 3613.1 | 1.7931 | 7.7484 | 7.2261 | .90231E-02 | 19.633 | 45.283 | 33009E-02 |
| 3632.8 | 1.7955 | 7.7908 | 7.2656 | .90731E-02 | 19.739 | 45.280 | 33193E-02 |
| 3652.6 | 1.7982 | 7.8334 | 7.3053 | .91233E-02 | 19.846 | 45.277 | 33378E-02 |
| 3672.6 | 1.8007 | 7.8763 | 7.3452 | .91739E-02 | 19.953 | 45.274 | 33564E-02 |
| 3692.7 | 1.8033 | 7.9194 | 7.3853 | .92247E-02 | 20.060 | 45.271 | 33751E-02 |
| 3712.8 | 1.8058 | 7.9628 | 7.4256 | .92758E-02 | 20.169 | 45.268 | 33943E-02 |
| 3733.1 | 1.8083 | 8.0064 | 7.4662 | .93271E-02 | 20.277 | 45.265 | 34129E-02 |
| 3753.5 | 1.8109 | 8.0502 | 7.5070 | .93788E-02 | 20.387 | 45.261 | 34319E-02 |
| 3774.0 | 1.8134 | 8.0943 | 7.5480 | .94307E-02 | 20.496 | 45.258 | 34510E-02 |
| 3794.6 | 1.8160 | 8.1386 | 7.5892 | .94829E-02 | 20.607 | 45.255 | 34702E-02 |
| 3815.3 | 1.8185 | 8.1832 | 7.6307 | .95354E-02 | 20.718 | 45.252 | 34895E-02 |
| 3836.2 | 1.8210 | 8.2280 | 7.6724 | .95881E-02 | 20.830 | 45.249 | 35090E-02 |
| 3857.1 | 1.8236 | 8.2731 | 7.7143 | .96412E-02 | 20.942 | 45.245 | 35285E-02 |
| 3878.2 | 1.8261 | 8.3184 | 7.7564 | .96945E-02 | 21.055 | 45.242 | 35482E-02 |
| 3899.4 | 1.8287 | 8.3639 | 7.7988 | .97481E-02 | 21.168 | 45.239 | 35679E-02 |
| 3920.7 | 1.8312 | 8.4097 | 7.8414 | .98020E-02 | 21.282 | 45.235 | 35878E-02 |
| 3942.1 | 1.8337 | 8.4558 | 7.8842 | .98562E-02 | 21.397 | 45.232 | 36078E-02 |
| 3963.6 | 1.8363 | 8.5021 | 7.9273 | .99107E-02 | 21.512 | 45.229 | 36278E-02 |
| 3985.3 | 1.8388 | 8.5487 | 7.9706 | .99655E-02 | 21.628 | 45.225 | 36480E-02 |
| 4007.1 | 1.8414 | 8.5955 | 8.0141 | .10021E-01 | 21.745 | 45.222 | 36683E-02 |
| 4029.0 | 1.8439 | 8.6426 | 8.0579 | .10076E-01 | 21.862 | 45.219 | 36887E-02 |
| 4051.0 | 1.8464 | 8.6899 | 8.1019 | .10132E-01 | 21.980 | 45.215 | 37093E-02 |
| 4073.1 | 1.8490 | 8.7375 | 8.1462 | .10188E-01 | 22.098 | 45.212 | 37299E-02 |
| 4095.3 | 1.8515 | 8.7854 | 8.1907 | .10244E-01 | 22.217 | 45.209 | 37505E-02 |
| 4117.7 | 1.8541 | 8.8335 | 8.2354 | .10300E-01 | 22.337 | 45.205 | 37715E-02 |
| 4140.2 | 1.8566 | 8.8819 | 8.2804 | .10357E-01 | 22.457 | 45.201 | 37925E-02 |
| 4162.8 | 1.8591 | 8.9305 | 8.3257 | .10415E-01 | 22.578 | 45.198 | 38136E-02 |
| 4185.6 | 1.8617 | 8.9794 | 8.3712 | .10472E-01 | 22.700 | 45.194 | 38348E-02 |
| 4208.5 | 1.8642 | 9.0286 | 8.4169 | .10530E-01 | 22.822 | 45.191 | 38561E-02 |
| 4231.4 | 1.8668 | 9.0781 | 8.4629 | .10588E-01 | 22.945 | 45.187 | 38775E-02 |
| 4254.6 | 1.8693 | 9.1278 | 8.5091 | .10646E-01 | 23.068 | 45.183 | 38991E-02 |
| 4277.8 | 1.8719 | 9.1776 | 8.5555 | .10705E-01 | 23.193 | 45.180 | 39207E-02 |
| 4301.2 | 1.8744 | 9.2281 | 8.6024 | .10764E-01 | 23.317 | 45.176 | 39425E-02 |
| 4324.7 | 1.8769 | 9.2787 | 8.6494 | .10824E-01 | 23.443 | 45.173 | 39644E-02 |
| 4348.3 | 1.8795 | 9.3295 | 8.6966 | .10883E-01 | 23.569 | 45.169 | 39865E-02 |
| 4372.1 | 1.8820 | 9.3806 | 8.7442 | .10943E-01 | 23.696 | 45.165 | 40085E-02 |
| 4396.0 | 1.8845 | 9.4320 | 8.7919 | .11004E-01 | 23.823 | 45.162 | 40309E-02 |
| 4420.0 | 1.8871 | 9.4837 | 8.8400 | .11064E-01 | 23.952 | 45.158 | 40533E-02 |
| 4444.1 | 1.8896 | 9.5357 | 8.8883 | .11125E-01 | 24.081 | 45.154 | 40758E-02 |
| 4468.4 | 1.8922 | 9.5880 | 8.9367 | .11187E-01 | 24.210 | 45.150 | 40984E-02 |
| 4492.8 | 1.8947 | 9.6405 | 8.9857 | .11248E-01 | 24.340 | 45.145 | 41212E-02 |
| 4517.4 | 1.8972 | 9.6933 | 9.0348 | .11310E-01 | 24.471 | 45.143 | 41441E-02 |
| 4542.1 | 1.8998 | 9.7465 | 9.0842 | .11373E-01 | 24.603 | 45.139 | 41671E-02 |
| 4566.9 | 1.9023 | 9.7999 | 9.1338 | .11435E-01 | 24.735 | 45.135 | 41902E-02 |
| 4591.9 | 1.9049 | 9.8536 | 9.1837 | .11498E-01 | 24.868 | 45.131 | 42135E-02 |
| 4617.0 | 1.9074 | 9.9076 | 9.2333 | .11562E-01 | 25.002 | 45.127 | 42369E-02 |

10:38:20

14-0CT-86

1RMVG2.228

CLOSED BOMB \*\*\* NO AIR \*\*\*

TRAJECTORY VARIABLES: / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

1 BRCH  
1 TIME  
1 PDOT  
1 BR-L  
1 MTB(1)  
1 MTBR  
1 SPFL1  
1 DB-L(1)

| / 1/   | / 2/   | / 3/   | / 4/   | / 5/       | / 6/   | / 7/   | / 8/       |
|--------|--------|--------|--------|------------|--------|--------|------------|
| 4642.2 | 1.9099 | 9.9619 | 9.2844 | .11625E-01 | 25.136 | 45.123 | .42604E-02 |
| 4667.6 | 1.9125 | 10.017 | 9.3351 | .11689E-01 | 25.272 | 45.119 | .42840E-02 |
| 4693.1 | 1.9150 | 10.071 | 9.3861 | .11754E-01 | 25.408 | 45.115 | .43078E-02 |
| 4718.7 | 1.9175 | 10.127 | 9.4374 | .11818E-01 | 25.544 | 45.111 | .43317E-02 |
| 4744.5 | 1.9200 | 10.182 | 9.4890 | .11883E-01 | 25.681 | 45.107 | .43557E-02 |
| 4770.4 | 1.9225 | 10.238 | 9.5407 | .11949E-01 | 25.820 | 45.103 | .43799E-02 |
| 4796.5 | 1.9252 | 10.294 | 9.5930 | .12015E-01 | 25.958 | 45.099 | .44042E-02 |
| 4822.7 | 1.9277 | 10.351 | 9.6455 | .12081E-01 | 26.098 | 45.095 | .44285E-02 |
| 4849.1 | 1.9303 | 10.407 | 9.6982 | .12147E-01 | 26.238 | 45.091 | .44532E-02 |
| 4875.6 | 1.9328 | 10.464 | 9.7512 | .12214E-01 | 26.379 | 45.087 | .44779E-02 |
| 4902.2 | 1.9353 | 10.522 | 9.8045 | .12281E-01 | 26.521 | 45.083 | .45027E-02 |
| 4929.0 | 1.9379 | 10.579 | 9.8581 | .12349E-01 | 26.663 | 45.079 | .45277E-02 |
| 4956.0 | 1.9404 | 10.637 | 9.9120 | .12417E-01 | 26.807 | 45.075 | .45528E-02 |
| 4983.1 | 1.9430 | 10.69  | 9.9662 | .12485E-01 | 26.951 | 45.073 | .45780E-02 |
| 5010.3 | 1.9455 | 10.754 | 10.021 | .12553E-01 | 27.095 | 45.069 | .46034E-02 |
| 5037.7 | 1.9480 | 10.813 | 10.075 | .12622E-01 | 27.241 | 45.062 | .46289E-02 |
| 5065.2 | 1.9506 | 10.873 | 10.130 | .12692E-01 | 27.387 | 45.058 | .46546E-02 |
| 5092.9 | 1.9531 | 10.932 | 10.185 | .12762E-01 | 27.534 | 45.053 | .46804E-02 |
| 5120.8 | 1.9557 | 10.992 | 10.242 | .12832E-01 | 27.682 | 45.049 | .47063E-02 |
| 5148.8 | 1.9582 | 11.053 | 10.293 | .12902E-01 | 27.831 | 45.045 | .47324E-02 |
| 5176.9 | 1.9607 | 11.113 | 10.354 | .12973E-01 | 27.980 | 45.043 | .47586E-02 |
| 5205.2 | 1.9633 | 11.174 | 10.410 | .13044E-01 | 28.131 | 45.035 | .47850E-02 |
| 5233.7 | 1.9658 | 11.235 | 10.467 | .13116E-01 | 28.282 | 45.031 | .48115E-02 |
| 5262.3 | 1.9684 | 11.297 | 10.525 | .13188E-01 | 28.433 | 45.027 | .48382E-02 |
| 5291.1 | 1.9709 | 11.359 | 10.582 | .13260E-01 | 28.586 | 45.023 | .48650E-02 |
| 5320.0 | 1.9734 | 11.421 | 10.640 | .13333E-01 | 28.739 | 45.019 | .48919E-02 |
| 5349.1 | 1.9760 | 11.484 | 10.698 | .13406E-01 | 28.894 | 45.013 | .49190E-02 |
| 5378.3 | 1.9785 | 11.547 | 10.757 | .13480E-01 | 29.049 | 45.009 | .49463E-02 |
| 5407.7 | 1.9811 | 11.610 | 10.815 | .13554E-01 | 29.205 | 45.004 | .49737E-02 |
| 5437.3 | 1.9836 | 11.674 | 10.875 | .13628E-01 | 29.361 | 45.000 | .50012E-02 |
| 5467.0 | 1.9861 | 11.738 | 10.934 | .13703E-01 | 29.519 | 44.995 | .50289E-02 |
| 5496.9 | 1.9887 | 11.802 | 10.994 | .13778E-01 | 29.677 | 44.991 | .50568E-02 |
| 5527.0 | 1.9912 | 11.867 | 11.054 | .13854E-01 | 29.836 | 44.986 | .50848E-02 |
| 5557.2 | 1.9938 | 11.932 | 11.114 | .13930E-01 | 29.996 | 44.981 | .51129E-02 |
| 5587.6 | 1.9963 | 11.998 | 11.175 | .14006E-01 | 30.157 | 44.976 | .51412E-02 |
| 5618.2 | 1.9988 | 12.064 | 11.235 | .14083E-01 | 30.319 | 44.972 | .51697E-02 |
| 5648.9 | 2.0014 | 12.130 | 11.298 | .14160E-01 | 30.482 | 44.967 | .51983E-02 |
| 5679.8 | 2.0039 | 12.196 | 11.363 | .14238E-01 | 30.645 | 44.962 | .52271E-02 |
| 5710.8 | 2.0065 | 12.263 | 11.422 | .14316E-01 | 30.809 | 44.957 | .52560E-02 |
| 5742.1 | 2.0090 | 12.331 | 11.484 | .14394E-01 | 30.974 | 44.952 | .52851E-02 |
| 5773.5 | 2.0115 | 12.398 | 11.547 | .14473E-01 | 31.140 | 44.948 | .53143E-02 |
| 5805.0 | 2.0141 | 12.466 | 11.610 | .14553E-01 | 31.307 | 44.943 | .53437E-02 |
| 5836.8 | 2.0166 | 12.535 | 11.673 | .14632E-01 | 31.475 | 44.938 | .53733E-02 |
| 5868.7 | 2.0191 | 12.604 | 11.737 | .14712E-01 | 31.644 | 44.933 | .54030E-02 |
| 5900.8 | 2.0217 | 12.673 | 11.802 | .14793E-01 | 31.813 | 44.928 | .54329E-02 |
| 5933.1 | 2.0242 | 12.742 | 11.866 | .14874E-01 | 31.984 | 44.923 | .54630E-02 |
| 5965.5 | 2.0268 | 12.812 | 11.931 | .14955E-01 | 32.155 | 44.918 | .54934E-02 |

CLOSED ROMB \*\*\* ND AIR \*\*\*

14-OCT-86

13: 38:20

18-AUG-228

TRAJECTORY VARIABLES: / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/ 9/

1 TRAJ 1 TRAJ 1 TRAJ 1 TRAJ 1 TRAJ 1 TRAJ 1 TRAJ

1 TIME 1 POOT 1 BR-L 1 MTR 1 MTR 1 MTR 1 MTR 1 MTR

1 DB-L11

|        |        |        |        |            |        |        |            |
|--------|--------|--------|--------|------------|--------|--------|------------|
| 5998.2 | 2.0293 | 12.883 | 11.995 | 1.5037E-01 | 32.327 | 44.913 | .55235E-02 |
| 6031.0 | 2.0318 | 12.953 | 12.062 | 1.5120E-01 | 32.500 | 44.908 | .55541E-02 |
| 6065.0 | 2.0344 | 13.024 | 12.128 | 1.5202E-01 | 32.674 | 44.903 | .55849E-02 |
| 6097.1 | 2.0369 | 13.096 | 12.194 | 1.5286E-01 | 32.849 | 44.897 | .56158E-02 |
| 6130.5 | 2.0395 | 13.168 | 12.261 | 1.5369E-01 | 33.025 | 44.892 | .56468E-02 |
| 6164.0 | 2.0420 | 13.240 | 12.328 | 1.5453E-01 | 33.202 | 44.887 | .56780E-02 |
| 6197.7 | 2.0445 | 13.313 | 12.395 | 1.5538E-01 | 33.380 | 44.882 | .57094E-02 |
| 6231.6 | 2.0471 | 13.386 | 12.463 | 1.5623E-01 | 33.559 | 44.877 | .57410E-02 |
| 6265.7 | 2.0495 | 13.459 | 12.531 | 1.5708E-01 | 33.738 | 44.871 | .57727E-02 |
| 6300.1 | 2.0522 | 13.533 | 12.600 | 1.5794E-01 | 33.919 | 44.866 | .58047E-02 |
| 6334.5 | 2.0547 | 13.608 | 12.669 | 1.5881E-01 | 34.100 | 44.861 | .58367E-02 |
| 6369.1 | 2.0572 | 13.682 | 12.738 | 1.5968E-01 | 34.283 | 44.855 | .58690E-02 |
| 6404.0 | 2.0598 | 13.758 | 12.808 | 1.6055E-01 | 34.466 | 44.850 | .59014E-02 |
| 6439.0 | 2.0623 | 13.833 | 12.878 | 1.6143E-01 | 34.650 | 44.844 | .59341E-02 |
| 6474.3 | 2.0649 | 13.909 | 12.949 | 1.6231E-01 | 34.836 | 44.839 | .59669E-02 |
| 6509.7 | 2.0674 | 13.985 | 13.019 | 1.6320E-01 | 35.022 | 44.833 | .59998E-02 |
| 6545.3 | 2.0699 | 14.062 | 13.091 | 1.6409E-01 | 35.209 | 44.828 | .60330E-02 |
| 6581.1 | 2.0725 | 14.140 | 13.162 | 1.6498E-01 | 35.398 | 44.822 | .60663E-02 |
| 6617.1 | 2.0750 | 14.217 | 13.234 | 1.6589E-01 | 35.587 | 44.817 | .60993E-02 |
| 6653.3 | 2.0776 | 14.295 | 13.307 | 1.6679E-01 | 35.777 | 44.811 | .61336E-02 |
| 6689.7 | 2.0801 | 14.374 | 13.379 | 1.6770E-01 | 35.968 | 44.805 | .61674E-02 |
| 6726.3 | 2.0826 | 14.453 | 13.453 | 1.6862E-01 | 36.161 | 44.800 | .62015E-02 |
| 6763.1 | 2.0852 | 14.532 | 13.526 | 1.6954E-01 | 36.354 | 44.794 | .62358E-02 |
| 6800.2 | 2.0877 | 14.612 | 13.600 | 1.7047E-01 | 36.548 | 44.788 | .62702E-02 |
| 6837.4 | 2.0903 | 14.692 | 13.675 | 1.7140E-01 | 36.743 | 44.783 | .63049E-02 |
| 6874.8 | 2.0928 | 14.773 | 13.750 | 1.7233E-01 | 36.940 | 44.777 | .63397E-02 |
| 6912.4 | 2.0953 | 14.854 | 13.825 | 1.7327E-01 | 37.137 | 44.771 | .63747E-02 |
| 6950.2 | 2.0979 | 14.936 | 13.900 | 1.7422E-01 | 37.335 | 44.765 | .64099E-02 |
| 6988.3 | 2.1004 | 15.018 | 13.977 | 1.7517E-01 | 37.535 | 44.759 | .64453E-02 |
| 7026.5 | 2.1030 | 15.100 | 14.053 | 1.7613E-01 | 37.735 | 44.753 | .64809E-02 |
| 7065.0 | 2.1055 | 15.183 | 14.130 | 1.7709E-01 | 37.937 | 44.747 | .65167E-02 |
| 7103.7 | 2.1080 | 15.267 | 14.207 | 1.7805E-01 | 38.139 | 44.741 | .65527E-02 |
| 7142.5 | 2.1106 | 15.351 | 14.285 | 1.7902E-01 | 38.343 | 44.735 | .65889E-02 |
| 7181.6 | 2.1131 | 15.435 | 14.363 | 1.8000E-01 | 38.547 | 44.729 | .66253E-02 |
| 7220.9 | 2.1157 | 15.520 | 14.442 | 1.8098E-01 | 38.753 | 44.723 | .66618E-02 |
| 7260.5 | 2.1182 | 15.605 | 14.521 | 1.8197E-01 | 38.960 | 44.717 | .66986E-02 |
| 7300.2 | 2.1207 | 15.691 | 14.600 | 1.8296E-01 | 39.169 | 44.711 | .67356E-02 |
| 7340.2 | 2.1233 | 15.777 | 14.680 | 1.8396E-01 | 39.377 | 44.705 | .67728E-02 |
| 7380.4 | 2.1258 | 15.864 | 14.761 | 1.8496E-01 | 39.587 | 44.698 | .68102E-02 |
| 7420.8 | 2.1284 | 15.951 | 14.842 | 1.8597E-01 | 39.798 | 44.692 | .68478E-02 |
| 7461.4 | 2.1309 | 16.039 | 14.923 | 1.8698E-01 | 40.010 | 44.686 | .68855E-02 |
| 7502.2 | 2.1334 | 16.127 | 15.004 | 1.8800E-01 | 40.223 | 44.679 | .69235E-02 |
| 7543.3 | 2.1360 | 16.216 | 15.087 | 1.8903E-01 | 40.436 | 44.673 | .69618E-02 |
| 7584.6 | 2.1385 | 16.305 | 15.169 | 1.9006E-01 | 40.653 | 44.667 | .70002E-02 |
| 7626.1 | 2.1411 | 16.395 | 15.252 | 1.9109E-01 | 40.870 | 44.660 | .70388E-02 |
| 7667.9 | 2.1436 | 16.485 | 15.335 | 1.9213E-01 | 41.088 | 44.654 | .70777E-02 |
| 7709.9 | 2.1461 | 16.576 | 15.420 | 1.9318E-01 | 41.307 | 44.647 | .71167E-02 |

13:38:20

14-OCT-86

18HV62.228

CLOSED BOMB \*\*\* NO AIR \*\*\*

| TRAJECTORY VARIABLES: |        |        |        |            |        |        |            |  |  |
|-----------------------|--------|--------|--------|------------|--------|--------|------------|--|--|
| / 1/                  | / 2/   | / 3/   | / 4/   | / 5/       | / 6/   | / 7/   | / 8/       |  |  |
| 7752.1                | 2.1487 | 16.667 | 15.504 | .19423E-01 | 41.527 | 44.641 | .71560E-02 |  |  |
| 7794.5                | 2.1512 | 16.758 | 15.582 | .19529E-01 | 41.748 | 44.634 | .71955E-02 |  |  |
| 7837.2                | 2.1538 | 16.851 | 15.674 | .19635E-01 | 41.971 | 44.627 | .72352E-02 |  |  |
| 7880.1                | 2.1563 | 16.943 | 15.760 | .19742E-01 | 42.194 | 44.621 | .72751E-02 |  |  |
| 7923.3                | 2.1588 | 17.037 | 15.847 | .19849E-01 | 42.419 | 44.614 | .73152E-02 |  |  |
| 7966.7                | 2.1614 | 17.130 | 15.933 | .19957E-01 | 42.645 | 44.607 | .73555E-02 |  |  |
| 8010.3                | 2.1639 | 17.224 | 16.021 | .20065E-01 | 42.872 | 44.601 | .73962E-02 |  |  |
| 8054.2                | 2.1665 | 17.319 | 16.108 | .20175E-01 | 43.103 | 44.594 | .74370E-02 |  |  |
| 8098.3                | 2.1690 | 17.415 | 16.197 | .20285E-01 | 43.329 | 44.587 | .74780E-02 |  |  |
| 8142.6                | 2.1715 | 17.510 | 16.285 | .20395E-01 | 43.560 | 44.580 | .75193E-02 |  |  |
| 8187.2                | 2.1741 | 17.607 | 16.374 | .20506E-01 | 43.792 | 44.573 | .75607E-02 |  |  |
| 8232.1                | 2.1766 | 17.704 | 16.464 | .20618E-01 | 44.025 | 44.565 | .76024E-02 |  |  |
| 8277.1                | 2.1792 | 17.801 | 16.554 | .20730E-01 | 44.259 | 44.559 | .76444E-02 |  |  |
| 8322.5                | 2.1817 | 17.899 | 16.645 | .20843E-01 | 44.494 | 44.552 | .76865E-02 |  |  |
| 8368.1                | 2.1842 | 17.997 | 16.736 | .20956E-01 | 44.731 | 44.545 | .77289E-02 |  |  |
| 8413.9                | 2.1868 | 18.096 | 16.828 | .21070E-01 | 44.969 | 44.538 | .77715E-02 |  |  |
| 8460.0                | 2.1893 | 18.196 | 16.920 | .21184E-01 | 45.208 | 44.531 | .78144E-02 |  |  |
| 8506.3                | 2.1919 | 18.296 | 17.013 | .21299E-01 | 45.448 | 44.524 | .78575E-02 |  |  |
| 8552.9                | 2.1944 | 18.397 | 17.106 | .21415E-01 | 45.690 | 44.517 | .79008E-02 |  |  |
| 8599.8                | 2.1969 | 18.498 | 17.200 | .21531E-01 | 45.932 | 44.509 | .79444E-02 |  |  |
| 8646.9                | 2.1995 | 18.600 | 17.294 | .21648E-01 | 46.176 | 44.502 | .79882E-02 |  |  |
| 8694.3                | 2.2020 | 18.702 | 17.387 | .21766E-01 | 46.422 | 44.495 | .80322E-02 |  |  |
| 8741.9                | 2.2046 | 18.805 | 17.484 | .21884E-01 | 46.668 | 44.487 | .80765E-02 |  |  |
| 8789.8                | 2.2071 | 18.909 | 17.580 | .22003E-01 | 46.916 | 44.480 | .81213E-02 |  |  |
| 8837.9                | 2.2096 | 19.013 | 17.676 | .22123E-01 | 47.165 | 44.472 | .81658E-02 |  |  |
| 8886.4                | 2.2122 | 19.118 | 17.773 | .22243E-01 | 47.416 | 44.465 | .82109E-02 |  |  |
| 8935.1                | 2.2147 | 19.223 | 17.870 | .22363E-01 | 47.667 | 44.457 | .82561E-02 |  |  |
| 8984.0                | 2.2173 | 19.329 | 17.968 | .22485E-01 | 47.920 | 44.450 | .83015E-02 |  |  |
| 9033.2                | 2.2198 | 19.435 | 18.066 | .22607E-01 | 48.175 | 44.442 | .83473E-02 |  |  |
| 9082.7                | 2.2223 | 19.542 | 18.165 | .22729E-01 | 48.430 | 44.434 | .83934E-02 |  |  |
| 9132.5                | 2.2249 | 19.650 | 18.265 | .22853E-01 | 48.687 | 44.427 | .84396E-02 |  |  |
| 9182.5                | 2.2274 | 19.758 | 18.365 | .22977E-01 | 48.945 | 44.419 | .84861E-02 |  |  |
| 9232.9                | 2.2300 | 19.867 | 18.466 | .23101E-01 | 49.205 | 44.411 | .85329E-02 |  |  |
| 9283.5                | 2.2325 | 19.976 | 18.567 | .23227E-01 | 49.466 | 44.403 | .85799E-02 |  |  |
| 9334.3                | 2.2350 | 20.086 | 18.669 | .23353E-01 | 49.728 | 44.395 | .86272E-02 |  |  |
| 9385.5                | 2.2376 | 20.197 | 18.771 | .23479E-01 | 49.992 | 44.388 | .86748E-02 |  |  |
| 9436.9                | 2.2401 | 20.308 | 18.874 | .23607E-01 | 50.257 | 44.380 | .87226E-02 |  |  |
| 9488.7                | 2.2427 | 20.420 | 18.977 | .23735E-01 | 50.523 | 44.372 | .87706E-02 |  |  |
| 9540.7                | 2.2452 | 20.533 | 19.081 | .23863E-01 | 50.791 | 44.364 | .88190E-02 |  |  |
| 9593.0                | 2.2477 | 20.646 | 19.185 | .23993E-01 | 51.060 | 44.355 | .88676E-02 |  |  |
| 9645.5                | 2.2503 | 20.760 | 19.291 | .24123E-01 | 51.330 | 44.347 | .89164E-02 |  |  |
| 9698.4                | 2.2528 | 20.874 | 19.397 | .24253E-01 | 51.602 | 44.339 | .89656E-02 |  |  |
| 9751.6                | 2.2554 | 20.989 | 19.503 | .24385E-01 | 51.875 | 44.331 | .90150E-02 |  |  |
| 9805.0                | 2.2579 | 21.105 | 19.615 | .24517E-01 | 52.150 | 44.323 | .90645E-02 |  |  |
| 9858.8                | 2.2604 | 21.221 | 19.718 | .24650E-01 | 52.426 | 44.314 | .91146E-02 |  |  |
| 9912.8                | 2.2630 | 21.338 | 19.826 | .24783E-01 | 52.703 | 44.305 | .91649E-02 |  |  |
| 9967.2                | 2.2655 | 21.455 | 19.934 | .24917E-01 | 52.982 | 44.297 | .92153E-02 |  |  |

14-OCT-86

13:38:20

IBHVG2.228

TRAJECTORY VARIABLES: / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

TRAJ / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

BRCH / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

TIME / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

POOT / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

BR-L / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

WTB(L) / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

WTBR / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

SRE(L) / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

DB-L(1) / 1/ 2/ 3/ 4/ 5/ 6/ 7/ 8/

|        |        |        |        |            |        |        |            |
|--------|--------|--------|--------|------------|--------|--------|------------|
| 13022. | 2.2681 | 21.574 | 20.044 | .25052E-01 | 53.263 | 44.289 | .92663E-02 |
| 10377. | 2.2706 | 21.693 | 20.153 | .25188E-01 | 53.544 | 44.280 | .93171E-02 |
| 10132. | 2.2731 | 21.812 | 20.264 | .25324E-01 | 53.828 | 44.272 | .93684E-02 |
| 10188. | 2.2757 | 21.932 | 20.375 | .25461E-01 | 54.112 | 44.263 | .94203E-02 |
| 10243. | 2.2782 | 22.053 | 20.487 | .25599E-01 | 54.398 | 44.255 | .94719E-02 |
| 10300. | 2.2807 | 22.175 | 20.599 | .25738E-01 | 54.686 | 44.246 | .95241E-02 |
| 10356. | 2.2833 | 22.297 | 20.712 | .25877E-01 | 54.975 | 44.237 | .95765E-02 |
| 10413. | 2.2858 | 22.420 | 20.826 | .26017E-01 | 55.265 | 44.228 | .96293E-02 |
| 10470. | 2.2884 | 22.544 | 20.943 | .26158E-01 | 55.557 | 44.220 | .96823E-02 |
| 10527. | 2.2909 | 22.668 | 21.055 | .26299E-01 | 55.851 | 44.211 | .97357E-02 |
| 10585. | 2.2934 | 22.793 | 21.177 | .26441E-01 | 56.145 | 44.202 | .97893E-02 |
| 10643. | 2.2960 | 22.919 | 21.286 | .26584E-01 | 56.442 | 44.193 | .98432E-02 |
| 10701. | 2.2985 | 23.045 | 21.403 | .26728E-01 | 56.740 | 44.184 | .98974E-02 |
| 10760. | 2.3011 | 23.172 | 21.520 | .26873E-01 | 57.039 | 44.175 | .99519E-02 |
| 10819. | 2.3035 | 23.300 | 21.638 | .27018E-01 | 57.340 | 44.166 | .10007E-01 |
| 10879. | 2.3061 | 23.429 | 21.757 | .27164E-01 | 57.643 | 44.156 | .10062E-01 |
| 10938. | 2.3087 | 23.558 | 21.875 | .27311E-01 | 57.947 | 44.147 | .10117E-01 |
| 10998. | 2.3112 | 23.688 | 21.996 | .27458E-01 | 58.252 | 44.138 | .10173E-01 |
| 11059. | 2.3138 | 23.818 | 22.117 | .27607E-01 | 58.563 | 44.129 | .10229E-01 |
| 11119. | 2.3163 | 23.950 | 22.238 | .27756E-01 | 58.868 | 44.119 | .10285E-01 |
| 11180. | 2.3188 | 24.082 | 22.360 | .27906E-01 | 59.179 | 44.110 | .10342E-01 |
| 11242. | 2.3214 | 24.215 | 22.483 | .28056E-01 | 59.490 | 44.100 | .10399E-01 |
| 11303. | 2.3239 | 24.348 | 22.606 | .28208E-01 | 59.804 | 44.091 | .10456E-01 |
| 11365. | 2.3265 | 24.483 | 22.730 | .28360E-01 | 60.119 | 44.081 | .10514E-01 |
| 11428. | 2.3290 | 24.618 | 22.855 | .28513E-01 | 60.435 | 44.071 | .10572E-01 |
| 11490. | 2.3315 | 24.754 | 22.981 | .28667E-01 | 60.754 | 44.062 | .10630E-01 |
| 11553. | 2.3341 | 24.890 | 23.107 | .28822E-01 | 61.073 | 44.052 | .10688E-01 |
| 11617. | 2.3366 | 25.028 | 23.233 | .28977E-01 | 61.395 | 44.042 | .10747E-01 |
| 11680. | 2.3392 | 25.166 | 23.361 | .29134E-01 | 61.718 | 44.032 | .10806E-01 |
| 11745. | 2.3417 | 25.305 | 23.489 | .29291E-01 | 62.043 | 44.022 | .10866E-01 |
| 11809. | 2.3442 | 25.444 | 23.618 | .29449E-01 | 62.369 | 44.012 | .10925E-01 |
| 11874. | 2.3468 | 25.585 | 23.748 | .29608E-01 | 62.697 | 44.002 | .10986E-01 |
| 11939. | 2.3493 | 25.726 | 23.878 | .29767E-01 | 63.026 | 43.992 | .11045E-01 |
| 12004. | 2.3519 | 25.868 | 24.009 | .29928E-01 | 63.358 | 43.982 | .11107E-01 |
| 12070. | 2.3544 | 26.011 | 24.141 | .30089E-01 | 63.691 | 43.972 | .11164E-01 |
| 12137. | 2.3569 | 26.154 | 24.273 | .30251E-01 | 64.025 | 43.962 | .11230E-01 |
| 12203. | 2.3595 | 26.299 | 24.405 | .30414E-01 | 64.362 | 43.951 | .11292E-01 |
| 12270. | 2.3620 | 26.444 | 24.540 | .30578E-01 | 64.700 | 43.941 | .11354E-01 |
| 12338. | 2.3645 | 26.590 | 24.675 | .30743E-01 | 65.039 | 43.931 | .11415E-01 |
| 12405. | 2.3671 | 26.737 | 24.810 | .30909E-01 | 65.381 | 43.920 | .11479E-01 |
| 12473. | 2.3696 | 26.885 | 24.947 | .31075E-01 | 65.724 | 43.910 | .11542E-01 |
| 12542. | 2.3722 | 27.033 | 25.084 | .31242E-01 | 66.069 | 43.899 | .11606E-01 |
| 12611. | 2.3747 | 27.182 | 25.221 | .31411E-01 | 66.415 | 43.888 | .11670E-01 |
| 12680. | 2.3773 | 27.333 | 25.360 | .31580E-01 | 66.764 | 43.878 | .11734E-01 |
| 12749. | 2.3798 | 27.484 | 25.499 | .31750E-01 | 67.114 | 43.867 | .11798E-01 |
| 12819. | 2.3823 | 27.635 | 25.639 | .31921E-01 | 67.465 | 43.856 | .11863E-01 |
| 12890. | 2.3849 | 27.788 | 25.785 | .32093E-01 | 67.819 | 43.845 | .11929E-01 |

10:38:20

14-OCT-86

18HV62.228

CLOSED BOMB \*\*\* NO AIR \*\*\*

| TRAJECTORY VARIABLES: |        |        |        |            |        |        |            |  |  | 1 BRCH |  |
|-----------------------|--------|--------|--------|------------|--------|--------|------------|--|--|--------|--|
| / 1/                  | / 2/   | / 3/   | / 4/   | / 5/       | / 6/   | / 7/   | / 8/       |  |  |        |  |
| 12961.                | 2.3874 | 27.942 | 25.921 | 32265E-01  | 68.174 | 43.834 | .11994E-01 |  |  |        |  |
| 13032.                | 2.3902 | 28.096 | 26.064 | .32439E-01 | 68.531 | 43.823 | .12060E-01 |  |  |        |  |
| 13103.                | 2.3925 | 28.251 | 26.207 | .32613E-01 | 68.890 | 43.812 | .12127E-01 |  |  |        |  |
| 13175.                | 2.3950 | 28.407 | 26.351 | .32789E-01 | 69.251 | 43.801 | .12194E-01 |  |  |        |  |
| 13248.                | 2.3976 | 28.564 | 26.495 | .32965E-01 | 69.614 | 43.790 | .12261E-01 |  |  |        |  |
| 13320.                | 2.4001 | 28.722 | 26.641 | .33142E-01 | 69.978 | 43.779 | .12328E-01 |  |  |        |  |
| 13394.                | 2.4027 | 28.881 | 26.787 | .33321E-01 | 70.344 | 43.767 | .12396E-01 |  |  |        |  |
| 13467.                | 2.4052 | 29.040 | 26.934 | .33500E-01 | 70.712 | 43.755 | .12464E-01 |  |  |        |  |
| 13541.                | 2.4077 | 29.201 | 27.082 | .33680E-01 | 71.082 | 43.745 | .12533E-01 |  |  |        |  |
| 13615.                | 2.4103 | 29.362 | 27.231 | .33861E-01 | 71.453 | 43.733 | .12602E-01 |  |  |        |  |
| 13690.                | 2.4128 | 29.525 | 27.380 | .34043E-01 | 71.827 | 43.721 | .12671E-01 |  |  |        |  |
| 13765.                | 2.4154 | 29.688 | 27.531 | .34226E-01 | 72.202 | 43.710 | .12741E-01 |  |  |        |  |
| 13841.                | 2.4179 | 29.852 | 27.682 | .34409E-01 | 72.579 | 43.698 | .12811E-01 |  |  |        |  |
| 13917.                | 2.4204 | 30.017 | 27.834 | .34594E-01 | 72.958 | 43.686 | .12881E-01 |  |  |        |  |
| 13993.                | 2.4230 | 30.183 | 27.987 | .34780E-01 | 73.339 | 43.675 | .12952E-01 |  |  |        |  |
| 14070.                | 2.4255 | 30.350 | 28.141 | .34967E-01 | 73.722 | 43.663 | .13024E-01 |  |  |        |  |
| 14148.                | 2.4281 | 30.518 | 28.295 | .35155E-01 | 74.107 | 43.651 | .13095E-01 |  |  |        |  |
| 14225.                | 2.4306 | 30.686 | 28.451 | .35343E-01 | 74.493 | 43.639 | .13167E-01 |  |  |        |  |
| 14304.                | 2.4331 | 30.856 | 28.607 | .35533E-01 | 74.882 | 43.627 | .13240E-01 |  |  |        |  |
| 14382.                | 2.4357 | 31.027 | 28.764 | .35724E-01 | 75.272 | 43.615 | .13313E-01 |  |  |        |  |
| 14461.                | 2.4382 | 31.198 | 28.922 | .35915E-01 | 75.665 | 43.602 | .13386E-01 |  |  |        |  |
| 14541.                | 2.4408 | 31.371 | 29.081 | .36108E-01 | 76.059 | 43.590 | .13460E-01 |  |  |        |  |
| 14620.                | 2.4433 | 31.544 | 29.241 | .36302E-01 | 76.455 | 43.578 | .13534E-01 |  |  |        |  |
| 14701.                | 2.4459 | 31.719 | 29.402 | .36496E-01 | 76.854 | 43.565 | .13608E-01 |  |  |        |  |
| 14782.                | 2.4484 | 31.894 | 29.563 | .36692E-01 | 77.254 | 43.553 | .13683E-01 |  |  |        |  |
| 14863.                | 2.4509 | 32.071 | 29.726 | .36889E-01 | 77.656 | 43.540 | .13758E-01 |  |  |        |  |
| 14945.                | 2.4535 | 32.248 | 29.889 | .37087E-01 | 78.060 | 43.528 | .13834E-01 |  |  |        |  |
| 15027.                | 2.4560 | 32.426 | 30.053 | .37285E-01 | 78.466 | 43.515 | .13910E-01 |  |  |        |  |
| 15109.                | 2.4585 | 32.606 | 30.218 | .37485E-01 | 78.874 | 43.502 | .13987E-01 |  |  |        |  |
| 15192.                | 2.4611 | 32.786 | 30.385 | .37686E-01 | 79.284 | 43.489 | .14064E-01 |  |  |        |  |
| 15276.                | 2.4636 | 32.967 | 30.552 | .37888E-01 | 79.696 | 43.477 | .14141E-01 |  |  |        |  |
| 15360.                | 2.4662 | 33.150 | 30.719 | .38091E-01 | 80.111 | 43.464 | .14219E-01 |  |  |        |  |
| 15444.                | 2.4687 | 33.333 | 30.888 | .38295E-01 | 80.527 | 43.450 | .14297E-01 |  |  |        |  |
| 15529.                | 2.4712 | 33.518 | 31.058 | .38500E-01 | 80.945 | 43.437 | .14375E-01 |  |  |        |  |
| 15614.                | 2.4738 | 33.703 | 31.229 | .38706E-01 | 81.365 | 43.424 | .14455E-01 |  |  |        |  |
| 15700.                | 2.4763 | 33.890 | 31.401 | .38913E-01 | 81.788 | 43.411 | .14534E-01 |  |  |        |  |
| 15787.                | 2.4789 | 34.077 | 31.573 | .39121E-01 | 82.212 | 43.398 | .14614E-01 |  |  |        |  |
| 15873.                | 2.4814 | 34.266 | 31.747 | .39331E-01 | 82.638 | 43.386 | .14695E-01 |  |  |        |  |
| 15961.                | 2.4839 | 34.456 | 31.921 | .39541E-01 | 83.067 | 43.371 | .14776E-01 |  |  |        |  |
| 16048.                | 2.4865 | 34.646 | 32.097 | .39753E-01 | 83.497 | 43.357 | .14857E-01 |  |  |        |  |
| 16137.                | 2.4890 | 34.838 | 32.273 | .39965E-01 | 83.930 | 43.344 | .14939E-01 |  |  |        |  |
| 16225.                | 2.4916 | 35.031 | 32.451 | .40179E-01 | 84.365 | 43.330 | .15021E-01 |  |  |        |  |
| 16315.                | 2.4941 | 35.225 | 32.629 | .40394E-01 | 84.802 | 43.316 | .15103E-01 |  |  |        |  |
| 16404.                | 2.4966 | 35.420 | 32.807 | .40613E-01 | 85.241 | 43.302 | .15187E-01 |  |  |        |  |
| 16494.                | 2.4992 | 35.616 | 32.989 | .40837E-01 | 85.682 | 43.288 | .15270E-01 |  |  |        |  |
| 16585.                | 2.5017 | 35.813 | 33.173 | .41065E-01 | 86.126 | 43.274 | .15354E-01 |  |  |        |  |
| 16676.                | 2.5043 | 36.011 | 33.353 | .41294E-01 | 86.571 | 43.260 | .15439E-01 |  |  |        |  |

CLOSED BOMB \*\*\* NO AIR \*\*\*

14-001-86

10:36:20

18HV62-228

## TRAJECTORY VARIABLES:

| TRAJ | 1 | BRCH    |
|------|---|---------|
| 1    | 1 | TIME    |
| 2    | 1 | PUOT    |
| 3    | 1 | BR-L    |
| 4    | 1 | W18(1)  |
| 5    | 1 | W18(1)  |
| 6    | 1 | W18R    |
| 7    | 1 | SRF(1)  |
| 8    | 1 | DB-L(1) |

| 1      | 2      | 3      | 4      | 5          | 6      | 7      | 8          |
|--------|--------|--------|--------|------------|--------|--------|------------|
| 16768. | 2.5068 | 36.211 | 33.535 | .41485E-01 | 87.019 | 43.246 | .15524E-01 |
| 16860. | 2.5093 | 36.411 | 33.721 | .41705E-01 | 87.468 | 43.232 | .15609E-01 |
| 16953. | 2.5113 | 36.613 | 33.906 | .41929E-01 | 87.920 | 43.218 | .15695E-01 |
| 17046. | 2.5134 | 36.816 | 34.093 | .42153E-01 | 88.375 | 43.203 | .15781E-01 |
| 17140. | 2.5170 | 37.020 | 34.280 | .42378E-01 | 88.831 | 43.189 | .15868E-01 |
| 17234. | 2.5195 | 37.225 | 34.469 | .42604E-01 | 89.289 | 43.174 | .15955E-01 |
| 17329. | 2.5220 | 37.431 | 34.658 | .42832E-01 | 89.750 | 43.159 | .16043E-01 |
| 17424. | 2.5246 | 37.638 | 34.849 | .43060E-01 | 90.213 | 43.145 | .16131E-01 |
| 17520. | 2.5271 | 37.847 | 35.041 | .43290E-01 | 90.678 | 43.130 | .16220E-01 |
| 17617. | 2.5297 | 38.056 | 35.233 | .43521E-01 | 91.146 | 43.115 | .16309E-01 |
| 17714. | 2.5322 | 38.267 | 35.427 | .43753E-01 | 91.615 | 43.103 | .16399E-01 |
| 17811. | 2.5347 | 38.479 | 35.622 | .43986E-01 | 92.087 | 43.085 | .16489E-01 |
| 17909. | 2.5373 | 38.692 | 35.818 | .44221E-01 | 92.562 | 43.070 | .16580E-01 |
| 18008. | 2.5398 | 38.907 | 36.015 | .44456E-01 | 93.030 | 43.055 | .16671E-01 |
| 18107. | 2.5423 | 39.122 | 36.214 | .44693E-01 | 93.517 | 43.043 | .16763E-01 |
| 18206. | 2.5449 | 39.339 | 36.413 | .44931E-01 | 93.998 | 43.024 | .16855E-01 |
| 18307. | 2.5474 | 39.557 | 36.613 | .45171E-01 | 94.481 | 43.009 | .16948E-01 |
| 18407. | 2.5500 | 39.776 | 36.815 | .45411E-01 | 94.967 | 42.993 | .17041E-01 |
| 18509. | 2.5525 | 39.997 | 37.017 | .45653E-01 | 95.455 | 42.978 | .17135E-01 |
| 18611. | 2.5550 | 40.218 | 37.221 | .45896E-01 | 95.945 | 42.962 | .17229E-01 |
| 18713. | 2.5575 | 40.441 | 37.425 | .46140E-01 | 96.437 | 42.946 | .17324E-01 |
| 18816. | 2.5601 | 40.665 | 37.632 | .46386E-01 | 96.932 | 42.930 | .17419E-01 |
| 18920. | 2.5627 | 40.891 | 37.839 | .46633E-01 | 97.430 | 42.914 | .17515E-01 |
| 19024. | 2.5652 | 41.117 | 38.047 | .46881E-01 | 97.929 | 42.898 | .17612E-01 |
| 19128. | 2.5677 | 41.345 | 38.257 | .47130E-01 | 98.431 | 42.882 | .17709E-01 |
| 19234. | 2.5703 | 41.574 | 38.467 | .47381E-01 | 98.936 | 42.866 | .17806E-01 |
| 19340. | 2.5728 | 41.805 | 38.679 | .47633E-01 | 99.442 | 42.849 | .17904E-01 |
| 19446. | 2.5754 | 42.037 | 38.892 | .47886E-01 | 99.952 | 42.833 | .18002E-01 |
| 19553. | 2.5779 | 42.270 | 39.106 | .48140E-01 | 100.46 | 42.816 | .18101E-01 |
| 19661. | 2.5804 | 42.504 | 39.321 | .48396E-01 | 100.98 | 42.800 | .18201E-01 |
| 19769. | 2.5830 | 42.740 | 39.536 | .48653E-01 | 101.49 | 42.783 | .18301E-01 |
| 19878. | 2.5855 | 42.977 | 39.756 | .48912E-01 | 102.01 | 42.766 | .18402E-01 |
| 19987. | 2.5881 | 43.215 | 39.975 | .49172E-01 | 102.53 | 42.749 | .18503E-01 |
| 20097. | 2.5906 | 43.454 | 40.195 | .49433E-01 | 103.06 | 42.733 | .18605E-01 |
| 20208. | 2.5931 | 43.695 | 40.415 | .49695E-01 | 103.58 | 42.715 | .18707E-01 |
| 20319. | 2.5957 | 43.938 | 40.639 | .49959E-01 | 104.11 | 42.698 | .18810E-01 |
| 20431. | 2.5982 | 44.181 | 40.862 | .50224E-01 | 104.64 | 42.681 | .18914E-01 |
| 20544. | 2.6008 | 44.426 | 41.087 | .50490E-01 | 105.18 | 42.664 | .19018E-01 |
| 20657. | 2.6033 | 44.673 | 41.314 | .50758E-01 | 105.71 | 42.646 | .19122E-01 |
| 20771. | 2.6058 | 44.920 | 41.541 | .51027E-01 | 106.25 | 42.629 | .19228E-01 |
| 20885. | 2.6084 | 45.169 | 41.773 | .51298E-01 | 106.79 | 42.611 | .19333E-01 |
| 21000. | 2.6109 | 45.420 | 42.003 | .51570E-01 | 107.34 | 42.593 | .19440E-01 |
| 21116. | 2.6135 | 45.672 | 42.232 | .51843E-01 | 107.88 | 42.576 | .19547E-01 |
| 21232. | 2.6160 | 45.925 | 42.464 | .52118E-01 | 108.43 | 42.558 | .19654E-01 |
| 21349. | 2.6185 | 46.180 | 42.698 | .52394E-01 | 108.98 | 42.540 | .19762E-01 |
| 21467. | 2.6211 | 46.436 | 42.933 | .52671E-01 | 109.54 | 42.521 | .19871E-01 |
| 21585. | 2.6236 | 46.694 | 43.173 | .52953E-01 | 110.09 | 42.503 | .19981E-01 |

10:38:23

14-OCT-66

IBHVG2.228

CLOSED BOMB \*\*\* NO AIR \*\*\*

TRAJECTORY VARIABLES: / 1/ TRAJ 1 BRCH  
 / 2/ TRAJ 1 TIME  
 / 3/ TRAJ 1 PDI  
 / 4/ TRAJ 1 BR-L  
 / 5/ TRAJ 1 WTB(1)  
 / 6/ TRAJ 1 WTB  
 / 7/ TRAJ 1 SRF(1)  
 / 8/ TRAJ 1 DB-L(1)

| / 1/   | / 2/   | / 3/   | / 4/   | / 5/       | / 6/   | / 7/   | / 8/       |
|--------|--------|--------|--------|------------|--------|--------|------------|
| 21704. | 2.6262 | 46.953 | 43.408 | .53231E-01 | 110.65 | 42.485 | .20093E-01 |
| 21823. | 2.6287 | 47.213 | 43.647 | .53512E-01 | 111.21 | 42.465 | .20201E-01 |
| 21944. | 2.6312 | 47.475 | 43.887 | .53796E-01 | 111.78 | 42.448 | .20312E-01 |
| 22065. | 2.6338 | 47.738 | 44.129 | .54080E-01 | 112.34 | 42.429 | .20424E-01 |
| 22186. | 2.6363 | 48.003 | 44.372 | .54368E-01 | 112.91 | 42.411 | .20536E-01 |
| 22308. | 2.6389 | 48.269 | 44.617 | .54654E-01 | 113.48 | 42.392 | .20649E-01 |
| 22431. | 2.6414 | 48.537 | 44.863 | .54943E-01 | 114.06 | 42.373 | .20763E-01 |
| 22555. | 2.6439 | 48.806 | 45.110 | .55233E-01 | 114.63 | 42.354 | .20877E-01 |
| 22679. | 2.6465 | 49.077 | 45.359 | .55525E-01 | 115.21 | 42.335 | .20992E-01 |
| 22804. | 2.6490 | 49.349 | 45.609 | .55818E-01 | 115.80 | 42.315 | .21108E-01 |
| 22930. | 2.6516 | 49.623 | 45.863 | .56113E-01 | 116.38 | 42.296 | .21224E-01 |
| 23056. | 2.6541 | 49.898 | 46.113 | .56413E-01 | 116.97 | 42.277 | .21341E-01 |
| 23183. | 2.6566 | 50.175 | 46.367 | .56707E-01 | 117.56 | 42.257 | .21458E-01 |
| 23311. | 2.6592 | 50.454 | 46.622 | .57007E-01 | 118.15 | 42.237 | .21575E-01 |
| 23440. | 2.6617 | 50.734 | 46.879 | .57308E-01 | 118.75 | 42.218 | .21695E-01 |
| 23569. | 2.6643 | 51.015 | 47.138 | .57613E-01 | 119.35 | 42.198 | .21814E-01 |
| 23698. | 2.6668 | 51.298 | 47.398 | .57914E-01 | 119.95 | 42.178 | .21934E-01 |
| 23827. | 2.6693 | 51.583 | 47.659 | .58219E-01 | 120.55 | 42.157 | .22055E-01 |
| 23956. | 2.6719 | 51.869 | 47.922 | .58528E-01 | 121.16 | 42.137 | .22176E-01 |
| 24085. | 2.6744 | 52.157 | 48.185 | .58835E-01 | 121.77 | 42.117 | .22298E-01 |
| 24214. | 2.6770 | 52.446 | 48.452 | .59145E-01 | 122.38 | 42.095 | .22421E-01 |
| 24343. | 2.6795 | 52.737 | 48.719 | .59456E-01 | 122.99 | 42.076 | .22545E-01 |
| 24472. | 2.6820 | 53.030 | 48.987 | .59769E-01 | 123.61 | 42.055 | .22669E-01 |
| 24601. | 2.6845 | 53.324 | 49.258 | .60084E-01 | 124.23 | 42.034 | .22793E-01 |
| 24730. | 2.6871 | 53.620 | 49.529 | .60400E-01 | 124.85 | 42.014 | .22919E-01 |
| 24859. | 2.6897 | 53.917 | 49.802 | .60718E-01 | 125.48 | 41.993 | .23045E-01 |
| 25001. | 2.6922 | 54.216 | 50.077 | .61038E-01 | 126.11 | 41.971 | .23172E-01 |
| 25137. | 2.6947 | 54.517 | 50.353 | .61359E-01 | 126.74 | 41.950 | .23299E-01 |
| 25275. | 2.6973 | 54.820 | 50.631 | .61682E-01 | 127.37 | 41.929 | .23429E-01 |
| 25415. | 2.6998 | 55.124 | 50.910 | .62006E-01 | 128.01 | 41.907 | .23557E-01 |
| 25555. | 2.7024 | 55.430 | 51.191 | .62332E-01 | 128.65 | 41.886 | .23685E-01 |
| 25695. | 2.7049 | 55.737 | 51.473 | .62659E-01 | 129.29 | 41.864 | .23817E-01 |
| 25839. | 2.7074 | 56.046 | 51.757 | .62989E-01 | 129.94 | 41.842 | .23948E-01 |
| 26021. | 2.7100 | 56.357 | 52.042 | .63319E-01 | 130.59 | 41.820 | .24079E-01 |
| 26165. | 2.7125 | 56.670 | 52.330 | .63652E-01 | 131.24 | 41.798 | .24212E-01 |
| 26309. | 2.7151 | 56.984 | 52.616 | .63986E-01 | 131.89 | 41.776 | .24345E-01 |
| 26454. | 2.7176 | 57.300 | 52.908 | .64322E-01 | 132.55 | 41.753 | .24479E-01 |
| 26600. | 2.7201 | 57.618 | 53.203 | .64659E-01 | 133.21 | 41.731 | .24614E-01 |
| 26747. | 2.7227 | 57.938 | 53.494 | .64999E-01 | 133.87 | 41.708 | .24750E-01 |
| 26894. | 2.7252 | 58.259 | 53.789 | .65339E-01 | 134.53 | 41.686 | .24885E-01 |
| 27042. | 2.7278 | 58.583 | 54.086 | .65682E-01 | 135.20 | 41.663 | .25023E-01 |
| 27192. | 2.7303 | 58.908 | 54.384 | .66025E-01 | 135.87 | 41.640 | .25151E-01 |
| 27342. | 2.7328 | 59.234 | 54.684 | .66372E-01 | 136.55 | 41.617 | .25299E-01 |
| 27493. | 2.7354 | 59.563 | 54.985 | .66720E-01 | 137.22 | 41.594 | .25438E-01 |
| 27645. | 2.7379 | 59.893 | 55.289 | .67069E-01 | 137.90 | 41.570 | .25578E-01 |
| 27797. | 2.7405 | 60.226 | 55.594 | .67423E-01 | 138.59 | 41.547 | .25719E-01 |
| 27951. | 2.7430 | 60.560 | 55.901 | .67773E-01 | 139.27 | 41.523 | .25861E-01 |

TRAJECTORY VARIABLES: / 1/ TRAJ 1 BRCH  
 / 2/ TRAJ 1 TIME  
 / 3/ TRAJ 1 PDCI  
 / 4/ TRAJ 1 BR-L  
 / 5/ TRAJ 1 WTB(1)  
 / 6/ TRAJ 1 WTB  
 / 7/ TRAJ 1 SRF(1)  
 / 8/ TRAJ 1 OB-L(1)

| / 1/   | / 2/   | / 3/   | / 4/   | / 5/       | / 6/   | / 7/   | / 8/       |
|--------|--------|--------|--------|------------|--------|--------|------------|
| 28105. | 2.7455 | 60.895 | 56.213 | .58128E-01 | 139.96 | 41.499 | .26003E-01 |
| 28260. | 2.7481 | 61.233 | 56.520 | .68484E-01 | 140.65 | 41.479 | .26146E-01 |
| 28416. | 2.7506 | 61.573 | 56.832 | .68842E-01 | 141.35 | 41.452 | .26290E-01 |
| 28573. | 2.7532 | 61.914 | 57.145 | .69202E-01 | 142.04 | 41.428 | .26433E-01 |
| 28730. | 2.7557 | 62.258 | 57.461 | .69564E-01 | 142.74 | 41.403 | .26580E-01 |
| 28889. | 2.7582 | 62.603 | 57.778 | .69927E-01 | 143.45 | 41.379 | .26727E-01 |
| 29048. | 2.7608 | 62.950 | 58.097 | .70292E-01 | 144.15 | 41.354 | .26874E-01 |
| 29209. | 2.7632 | 63.299 | 58.417 | .70659E-01 | 144.86 | 41.330 | .27022E-01 |
| 29370. | 2.7659 | 63.650 | 58.743 | .71028E-01 | 145.57 | 41.305 | .27171E-01 |
| 29532. | 2.7684 | 64.003 | 59.064 | .71399E-01 | 146.29 | 41.280 | .27320E-01 |
| 29695. | 2.7709 | 64.358 | 59.391 | .71771E-01 | 147.01 | 41.255 | .27471E-01 |
| 29859. | 2.7735 | 64.715 | 59.718 | .72146E-01 | 147.73 | 41.230 | .27622E-01 |
| 30024. | 2.7760 | 65.073 | 60.047 | .72522E-01 | 148.45 | 41.204 | .27774E-01 |
| 30189. | 2.7786 | 65.434 | 60.379 | .72900E-01 | 149.18 | 41.179 | .27927E-01 |
| 30356. | 2.7811 | 65.797 | 60.712 | .73280E-01 | 149.91 | 41.153 | .28081E-01 |
| 30524. | 2.7836 | 66.161 | 61.047 | .73661E-01 | 150.64 | 41.127 | .28235E-01 |
| 30692. | 2.7862 | 66.528 | 61.384 | .74045E-01 | 151.38 | 41.102 | .28391E-01 |
| 30862. | 2.7887 | 66.897 | 61.723 | .74430E-01 | 152.12 | 41.075 | .28547E-01 |
| 31032. | 2.7913 | 67.267 | 62.064 | .74817E-01 | 152.86 | 41.049 | .28704E-01 |
| 31203. | 2.7938 | 67.640 | 62.407 | .75207E-01 | 153.61 | 41.023 | .28862E-01 |
| 31376. | 2.7963 | 68.015 | 62.751 | .75598E-01 | 154.35 | 40.995 | .29021E-01 |
| 31549. | 2.7989 | 68.392 | 63.098 | .75991E-01 | 155.11 | 40.970 | .29181E-01 |
| 31723. | 2.8014 | 68.771 | 63.446 | .76386E-01 | 155.86 | 40.943 | .29342E-01 |
| 31898. | 2.8040 | 69.152 | 63.796 | .76782E-01 | 156.62 | 40.918 | .29504E-01 |
| 32074. | 2.8065 | 69.535 | 64.149 | .77181E-01 | 157.38 | 40.889 | .29666E-01 |
| 32251. | 2.8090 | 69.920 | 64.503 | .77582E-01 | 158.14 | 40.862 | .29829E-01 |
| 32429. | 2.8116 | 70.307 | 64.859 | .77984E-01 | 158.91 | 40.834 | .29994E-01 |
| 32608. | 2.8141 | 70.696 | 65.217 | .78389E-01 | 159.68 | 40.807 | .30159E-01 |
| 32789. | 2.8166 | 71.088 | 65.577 | .78796E-01 | 160.45 | 40.779 | .30325E-01 |
| 32970. | 2.8192 | 71.481 | 65.939 | .79204E-01 | 161.23 | 40.751 | .30492E-01 |
| 33152. | 2.8217 | 71.877 | 66.303 | .79615E-01 | 162.01 | 40.723 | .30663E-01 |
| 33335. | 2.8243 | 72.275 | 66.669 | .80027E-01 | 162.79 | 40.695 | .30829E-01 |
| 33519. | 2.8268 | 72.675 | 67.038 | .80441E-01 | 163.57 | 40.667 | .30999E-01 |
| 33704. | 2.8293 | 73.077 | 67.408 | .80858E-01 | 164.36 | 40.638 | .31169E-01 |
| 33890. | 2.8319 | 73.481 | 67.780 | .81275E-01 | 165.15 | 40.613 | .31341E-01 |
| 34077. | 2.8344 | 73.898 | 68.154 | .81697E-01 | 165.95 | 40.581 | .31514E-01 |
| 34265. | 2.8370 | 74.297 | 68.531 | .82119E-01 | 166.74 | 40.552 | .31687E-01 |
| 34455. | 2.8395 | 74.708 | 68.909 | .82544E-01 | 167.54 | 40.523 | .31862E-01 |
| 34645. | 2.8420 | 75.121 | 69.290 | .82970E-01 | 168.35 | 40.494 | .32037E-01 |
| 34836. | 2.8445 | 75.536 | 69.672 | .83399E-01 | 169.15 | 40.464 | .32214E-01 |
| 35028. | 2.8471 | 75.954 | 70.057 | .83830E-01 | 169.96 | 40.435 | .32391E-01 |
| 35222. | 2.8497 | 76.374 | 70.444 | .84262E-01 | 170.78 | 40.405 | .32570E-01 |
| 35416. | 2.8522 | 76.796 | 70.833 | .84697E-01 | 171.59 | 40.375 | .32749E-01 |
| 35612. | 2.8547 | 77.220 | 71.224 | .85134E-01 | 172.41 | 40.345 | .32929E-01 |
| 35809. | 2.8573 | 77.647 | 71.617 | .85573E-01 | 173.23 | 40.315 | .33111E-01 |
| 36006. | 2.8598 | 78.076 | 72.013 | .86014E-01 | 174.06 | 40.284 | .33293E-01 |
| 36205. | 2.8624 | 78.507 | 72.411 | .86457E-01 | 174.89 | 40.254 | .33477E-01 |

CLOSED BOMB \*\*\* NO AIR \*\*\*

IBHV G2.228

14-OCT-66

10:38:20

## TRAJECTORY VARIABLES:

1 BRCH

1 TIME

1 PDDT

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1 DB-L(1)

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POOT  
BR-L  
WTB(1)  
WTBR  
SRF(1)  
DB-L(1)

181

LOCAL PRESSURE MAX DETECTED

\*UPDATE\* ERROR 40 PROJECTILE STUCK

10.44.10.UCLP, FA, TM160>C, 2.176KLS.

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