

MPR ASSOCIATES, INC.

BIG ROCK POINT NUCLEAR POWER PLANT
DISC IMPACT VELOCITY FOR CONTAINMENT
VENTILATION SYSTEM CHECK VALVE
CLOSURE

MPR-644

Revision 1

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Prepared for
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I. INTRODUCTION

The Big Rock Point Nuclear Power Plant reactor building ventilation system circulates air from outside the containment, through the reactor building, and then returns it to the atmosphere during normal operation. In the event of a reactor scram or high radiation level alarm, check valves located in the intake and exit piping for the ventilation system are closed to provide isolation of the containment from the atmosphere. This report presents the results of an analysis performed to determine the check valve disc closing velocity at impact with the disc seat following a check valve trip on high containment pressure during a postulated design basis loss of coolant accident for the cases summarized below.

- Reference case representing the present configuration at Big Rock Point
- Case with the valve disc held at 45° rather than at the full open position of 75° to accomplish a reduction in the valve stroke on closing and the resulting peak pressure in the air cylinder.
- Case with the valve disc at the full open position but with a larger air cylinder to reduce the peak air cylinder pressure during the closing transient.

The impact velocity can be used as input for a structural analysis of the disc and valve body for the postulated accident conditions.

The method of analysis described in this report uses a control volume approach to solve the mass, energy, and momentum equations throughout the appropriate region of the ventilation system piping. The valve internals are modeled to allow the torque on the valve disc to be determined from the solution of the mass, energy, and momentum conservation equations. This torque is in turn used to integrate the equation of motion for the valve disc. Effects on the valve geometry as a result of changes in disc position during the closing transient are included.

A description of the transient considered in the analysis and the corresponding results are provided in Section II of this report. The computer model used for the valve and associated ventilation system piping is described in Section III. A brief description of the computer program used in the analysis including basic equations employed is provided in Section IV.

Revision 1 of this report was prepared to update the analyses and explore the effect of possible modifications to reduce air cylinder peak pressure during the closing transient. Changes incorporated in this revision are summarized below.

- ° The computer program utilized for the closing transient analysis was expanded to include direct calculation of the air system blowdown and repressurization during the closing transient.

- ° The pressure drop characteristic of the solenoid valve was increased to assure a closing time of about 5 seconds for no-flow test conditions.
- ° The disc weight and moment of inertia were decreased based on parameters utilized in John Henry Associates analysis of the valve as described in JHA-79-138.
- ° Results are reported for two modifications to reduce peak air cylinder pressure during the closing transient; (1) valve disc held open at 45° to reduce the stroke and (2) a larger air cylinder. Both modifications reduce peak air pressure to an acceptable level.

MPR wishes to acknowledge the cooperation of Mr. Greg Withrow (CPCo) during the course of this effort.

II. TRANSIENTS ANALYZED AND RESULTS

A schematic of the reactor building ventilation system is provided in Figure II-1. This figure shows the intake and exit piping along with the check valve and butterfly valve in each line to provide isolation of the containment from the atmosphere in the event of an accident.

During normal operation the isolation valves are kept open by pressure from an air cylinder which exerts a torque on the disc. Following a trip signal the air in the cylinder is released and a preloaded spring forces the disc shut. For the transients analyzed in this report a loss of coolant accident is assumed to occur accompanied by a rise in containment pressure as shown in Figure II-2 (Reference 4). A trip signal for the air cylinder occurs with a 1.7 psi containment pressure rise followed by a one hundred millisecond time delay before the vent valve for the air cylinder is opened (Reference 5).

Following the release of pressure in the air cylinder the disc is forced shut due to the spring load, its own weight, and the air flow in the piping. The most severe transient occurs for the exhaust line check valve. Since the steady state air flow is already in a direction tending

to close the check valve, raising the containment pressure accelerates the flow which exerts the principal closing moment on the disc. For the intake line check valve the initial air flow is in a direction which tends to open the check valve and in addition this line contains the air intake fans which tend to prevent reverse air flow in the piping, at least during the initial phase of the transient.

The results presented in this report are for the exhaust line check valve. The butterfly valve upstream of the check valve is assumed to remain full open during the transient conservatively providing the maximum amount of air flow across the disc. The disc closing velocity is a function of pressure and flow rate in the exhaust line. Once the disc has moved about five degrees into the flow stream, from the full open position, the pressure drop across the disc provides the dominant torque resulting in slamming of the disc against the seat. The air flow rate in the exhaust line at the time the disc moves into the flow stream strongly affects the closing velocity.

The time required for the disc to move into the flow stream depends on the decay rate of the air pressure in the cylinder. The faster the decay rate, the less time will be required for the disc to begin to move and, consequently, the less time there will be for the rising containment

pressure to accelerate the exit flow in the discharge piping. Thus, a slower decay rate results in a more conservative result. To assure conservative results the pressure drop characteristic (K factor) for the two series solenoid vent valves was set at a value which resulted in a calculated valve closing time of about 5 seconds for the original air cylinder. This is based on oral reports of observed check valve closing times during tests with no ventilation flow conducted by Big Rock Point personnel.

The three cases for which analyses were performed and the results of the analyses are summarized below:

Reference Case (Disc at 75°)

This case represents the present configuration of the Big Rock Point containment check valve. The pressure drop characteristics of the two air system solenoid vent valves which are installed in service were set to 500.

This value resulted in a closing time of 4.96 seconds for the containment ventilation check valve for the case of no flow in the ventilation system. This value is conservatively higher than the closing times reported for tests performed by Big Rock Point personnel.

The results of the analysis for this case indicate a maximum disc centerline velocity of about 23 ft/sec. The valve trip occurs at 0.256 seconds after initiation of the containment

pressure rise transient and the disc slams shut at about 2.53 seconds. The computer printout for this case is included in Appendix B. Plots of various parameters calculated by the computer program as a function of time are provided in figures II-3 through II-8 and are briefly discussed below:

- Figure II-3 - Disc centerline velocity. The centerline velocity at impact is calculated to be 23.0 ft/sec corresponding to an impact energy of 2627 ft-lb.
- Figure II-4 - Disc angle. The valve trip is initiated 100 milliseconds following a 1.7 psi rise in containment pressure. The trip occurs at 0.256 seconds at which time the air cylinder vent valves are opened. The valve is shut at 2.53 seconds.
- Figure II-5 - Pressure drop across the valve disc and pressure drop across the total valve. For most of the transient the pressure drop across the disc is considerably smaller than the total across the valve. At about 2.3 seconds into the transient the disc has moved into the flow stream enough to begin to be affected by the flow. The angular position at this time is 70° (initial position at 75°). The pressure drop across the valve increases during the initial portion of the transient due to the increasing flow rate caused by the containment air pressure rise. As the disc nears the closure point the pressure drop across the valve is due primarily to the pressure drop across the disc. The pressure drop across the disc peaks at 35.2 psi about 10 milliseconds following the disc slam. This coincides with a pressure rise on the upstream side of the disc as the flow is stopped and a drop in pressure on the downstream side as flow to this side is cut off.

- Figure II-6 - Pressures in the air cylinder and the vent system. The valve begins to close when the air cylinder pressure reaches 63.9 psia. Once the disc moves into the flow stream to the extent that the fluid pressure drop across the disc exerts the dominant moment, the disc closes very rapidly compressing the air left in the air system. As shown in this figure the peak pressure in the air cylinder reaches 312.3 psia (297.6 psig). The pressure in the remainder of the vent system rises at a much slower rate.
- Figure II-7 - Flow rates into the region above the disc, around the disc, and through the valve seat are shown in this figure. The figure indicates that the majority of the flow is under the disc during the first 2.4 seconds of the transient. As the disc nears the seat the flows rapidly go to zero.
- Figure II-8 - This figure shows the moments on the disc due to the air cylinder/spring actuator, the disc weight, the fluid pressure drop across the disc and the sum of all moments acting on the disc. Negative moments tend to close the disc. The figure demonstrates that the release of pressure in the air cylinder reduces the total moment on the disc. At 1.94 seconds the total moment becomes negative and the disc begins to close. Once the disc moves into the flow stream the fluid moment becomes dominant and the disc closes rapidly.

Valve Disc Held Partially Open (Disc at 45° for an opening of 15°)

Information received from CPCo indicates that the valve manufacturer considers that the air cylinder can withstand a peak pressure of 200 psig without impairment of its subsequent operability. The peak air pressure calculated for the reference case was over 200 psig. One temporary modification

which could reduce the peak air cylinder pressure is to reduce the angle at which the disc is held open. This limits the closing stroke, but on the other hand, the disc is held in the air stream and the fluid moment on the disc is increased. This forces the valve to begin the closing transient with a somewhat higher pressure in the air cylinder. Trial and error attempts indicated that if the valve disc were held open at 45° instead of the 75° for the reference case, the peak pressure in the air cylinder would not exceed 200 psig.

The results of the analysis for this case indicate a maximum disc centerline velocity of about 11.0 ft/sec. The disc slams shut at about 0.55 seconds. The computer program print-out for this case is included in Appendix C. Plots of various parameters calculated by the computer program as a function of time are provided in figures II-9 through II-14 and are briefly discussed below:

- Figure II-9 - Disc centerline velocity. The centerline velocity at impact is calculated to be 11.0 ft/sec.
- Figure II-10 - Disc angle. Air cylinder vent valves are opened at 0.256 seconds as in the reference case. The valve is shut at 0.55 seconds.
- Figure II-11 - Pressure drop across the valve disc and pressure drop across the total valve. Since the valve disc is held in the flow stream the pressure drop across the disc is significantly higher than for the reference case at equivalent flows through the valve. The pressure drop across the disc peaks at 15.94 psi about 7.0 milliseconds following the disc slam.

- Figure II-12 - Pressures in the air cylinder and the vent system. Because the valve disc is held in the flow stream the fluid moment is higher and the valve begins to close when the air cylinder pressure reaches 98.8 psi. For this case the peak pressure in the air cylinder reaches 211.8 psia (197.1 psig). The pressure in the remainder of the vent system rises at a much slower rate.
- Figure II-13 - Flow rates into the region above the disc, around the disc, and through the valve seat are shown in this figure. The ratio of flow over the disc to flow under the disc is somewhat greater than for the reference case due to the smaller initial disc angle.
- Figure II-14 - This figure shows the moments on the disc due to the air cylinder/spring actuator, the disc weight, the fluid pressure drop across the disc and the total moment acting on the disc. The fluid moment builds up faster for this case than for the reference case because the initial valve disc position is in the flow stream. At 0.42 seconds the total moment becomes negative and the disc begins to close.

Larger Air Cylinder (Three Inches Added to Length)

A permanent modification to reduce the peak air cylinder pressure to below 200 psig is installation of a new air cylinder with more volume under the piston. In this way the ratio between the air cylinder volume with the valve open and the air cylinder volume with the valve closed is reduced.

The increased air cylinder volume also increases the total volume in the air system. This increased volume increases the time required to vent the air system and close

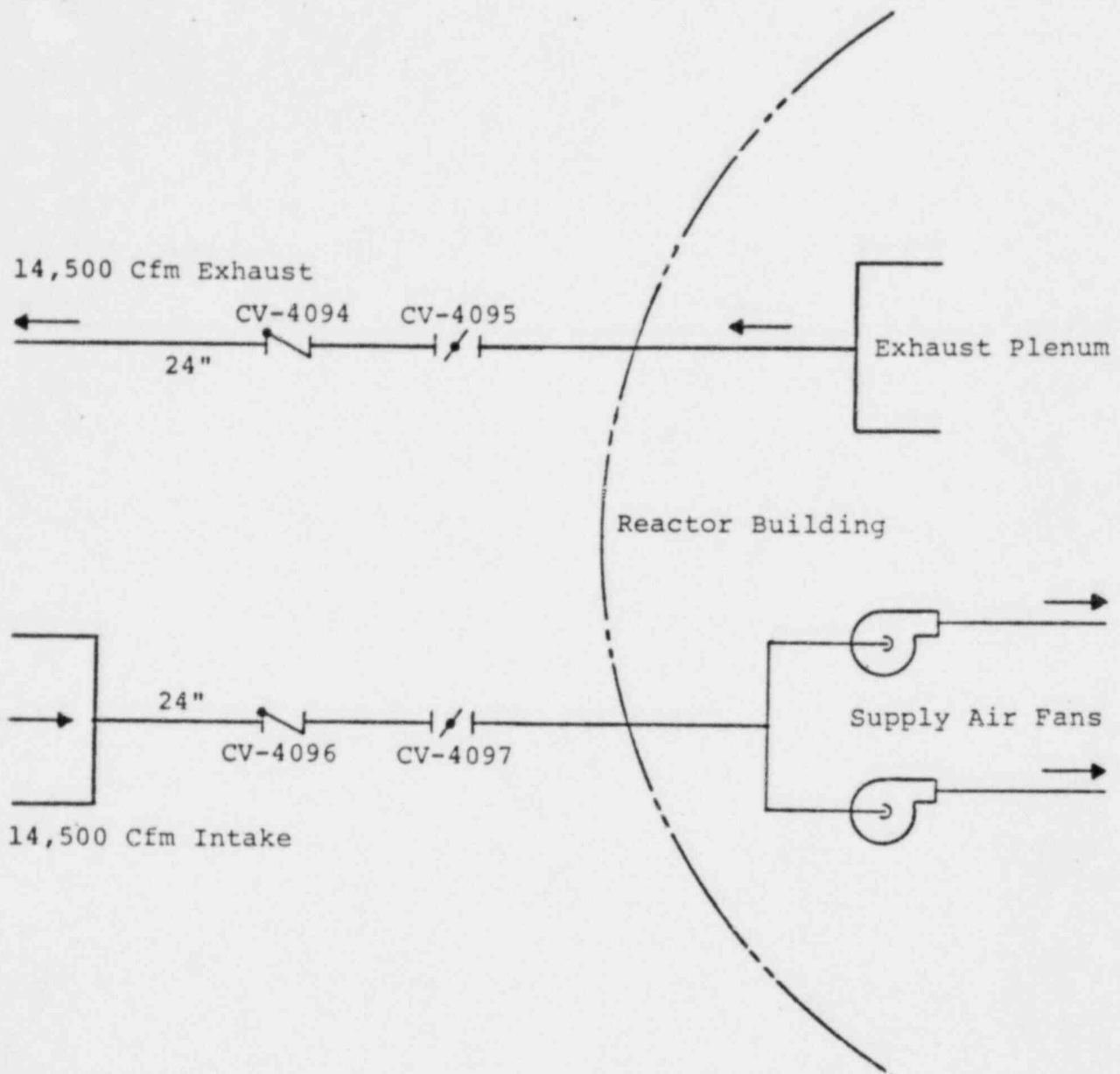
the valve. There is a technical specification requirement for Big Rock Point that the closure time for the containment ventilation isolation check valve be less than six seconds. Calculation of closure time under no flow conditions indicated that the increased air system volume would increase valve closure time by about 1.12 seconds. Since valve closure times under no flow conditions have been reported to be less than about 4.5 seconds, the valves can be expected to meet the technical specification requirements of a 6 second closure with the larger air cylinder.

The results of the analysis for this case indicate a maximum disc centerline velocity of about 23.8 ft/sec. The disc slams shut at about 2.91 seconds. The computer program printout for this case is included in Appendix D. Plots of various parameters calculated by the computer program as a function of time are provided in figures II-15 through II-20 and are briefly discussed below.

Figure II-15 - Disc centerline velocity. The centerline velocity at impact is calculated to be 23.8 ft/sec. This is higher than for the reference case because the air system venting time has increased somewhat which allows higher flows through the valve due to the increasing containment pressure. The energy at which must be absorbed at impact due to this velocity is 2813 ft-lb.

Figure II-16 - Disc angle. Air cylinder vent valves are opened at 0.256 seconds as in the reference case. The valve is shut at 2.91 seconds.

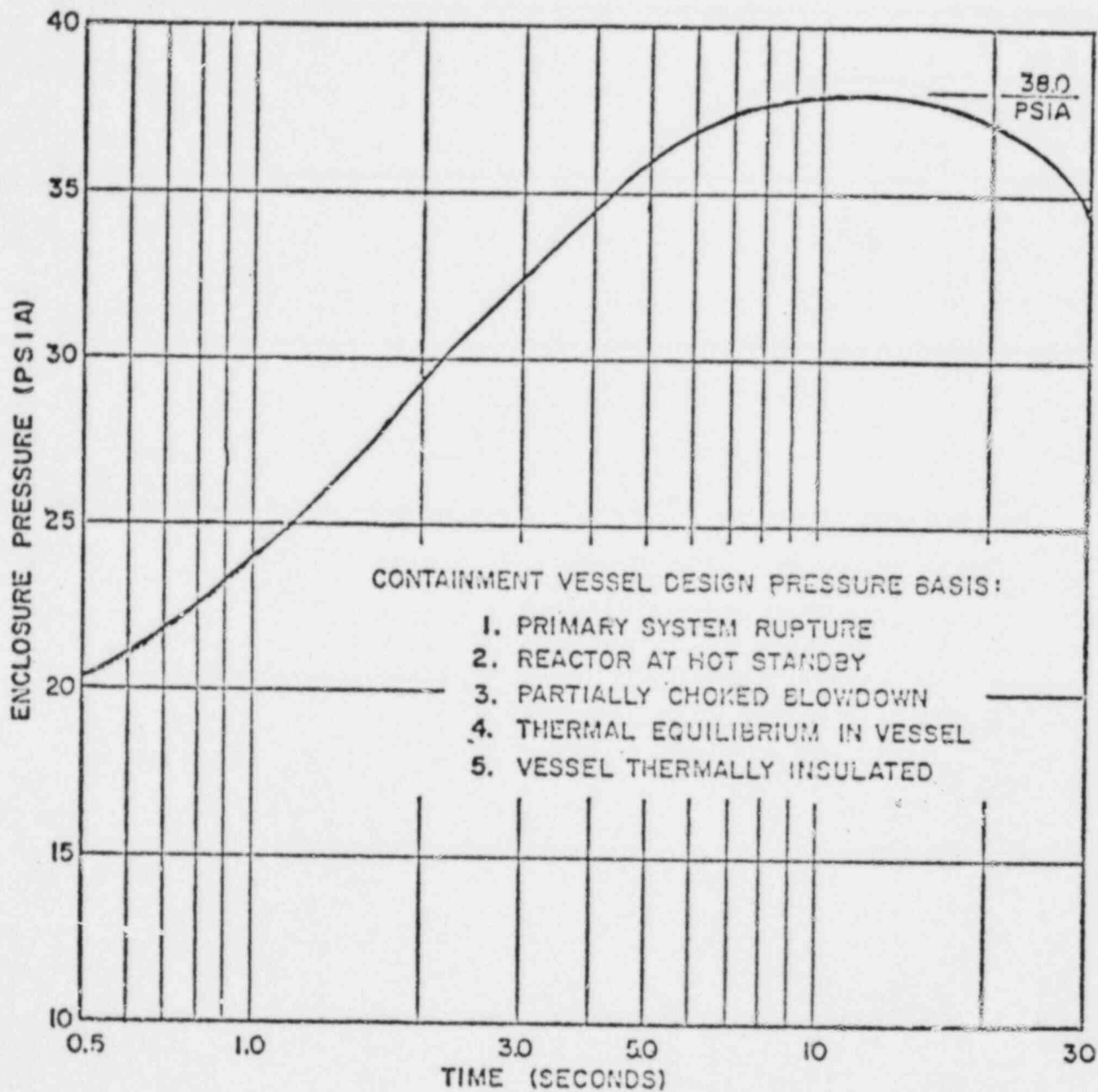
- Figure II-17 - Pressure drops across the valve disc and the total valve. The pressure drop across the disc peaks at 36.84 psi about 11 milliseconds following the disc slams.
- Figure II-18 - Pressures in the air cylinder and the vent system. The valve begins to close when the air cylinder pressure reaches a value of 63.95. The increased air cylinder volume has decreased the peak pressure from the reference case to a value of 141.9 psia (127.2 psig).
- Figure II-19 - Flow rates into the region above the disc, around the disc and through the valve.
- Figure II-20 - This figure shows the moments on the disc due to the air cylinder/spring actuator, the disc weight, the fluid pressure drop across the disc and the total moment acting on the disc. At 2.30 seconds the total moment becomes negative and the disc begins to close.



SCHMATIC
OF
REACTOR BUILDING VENTILATION SYSTEM

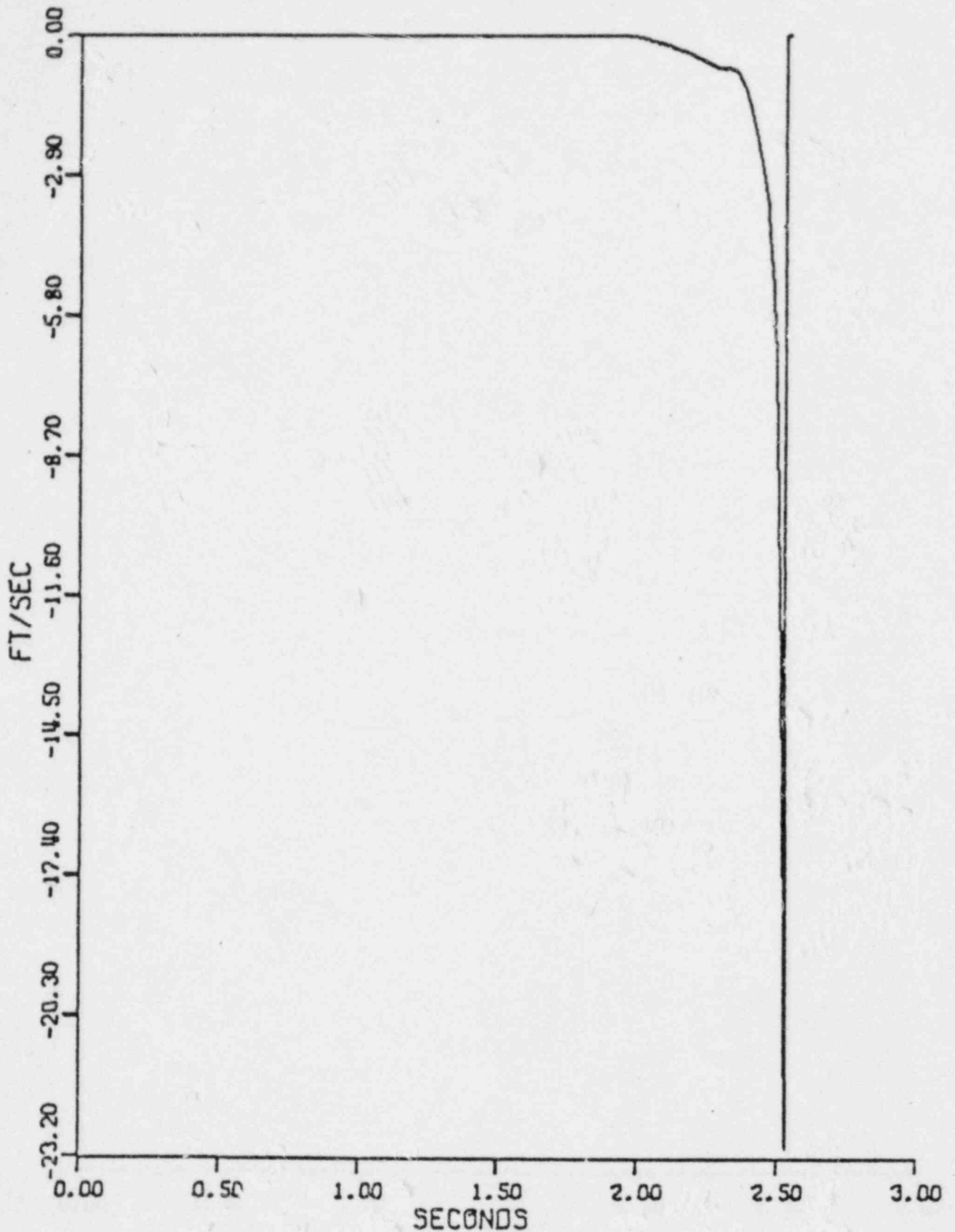
FIGURE II-1

POOR ORIGINAL



CONTAINMENT PRESSURE TRANSIENT
BIG ROCK POINT PLANT

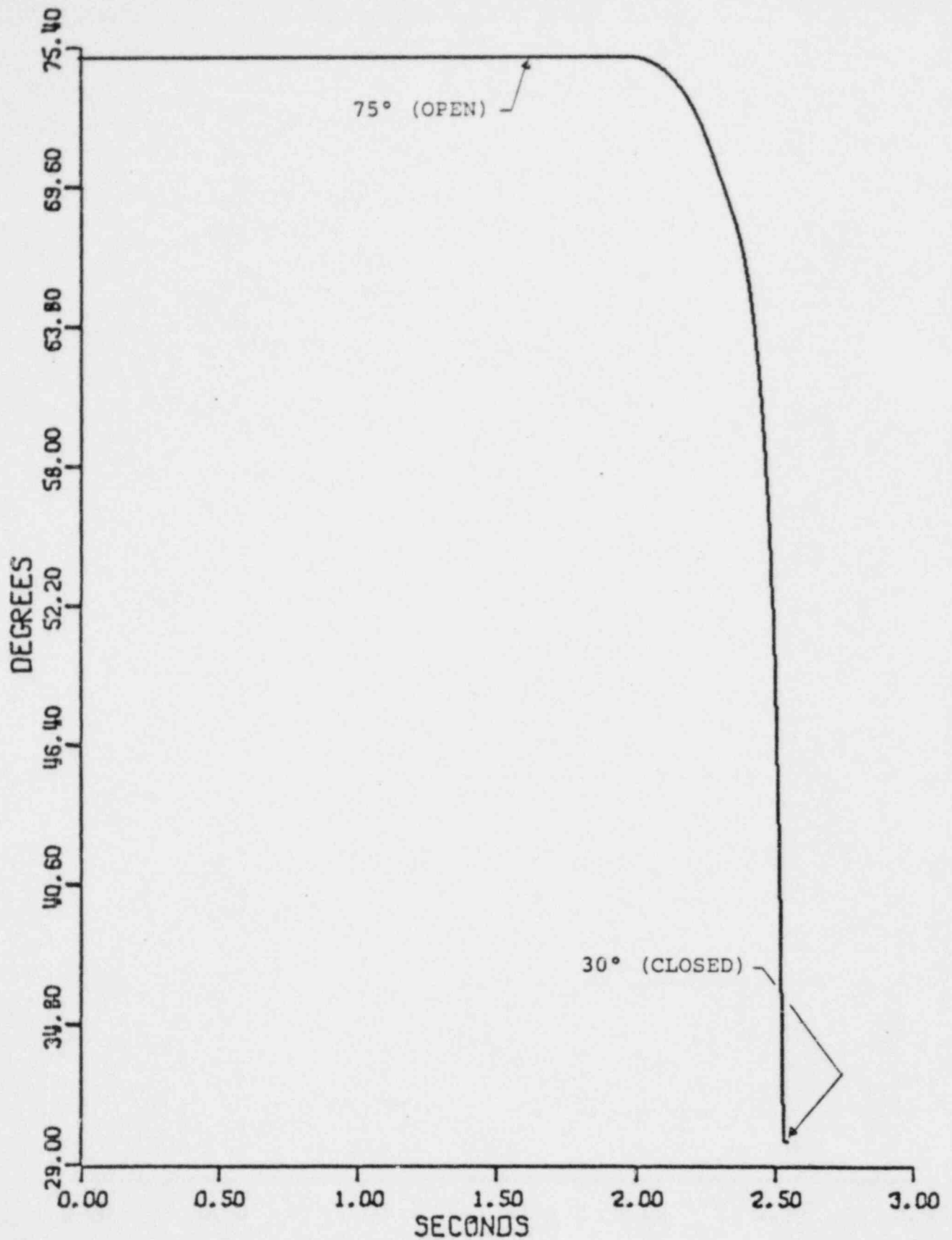
FIGURE II-2



BIG ROCK POINT CHECK VALVE - REFERENCE CASE WITH $K(190L)=500$ -- TRANSIENT

DISC CENTERLINE VELOCITY

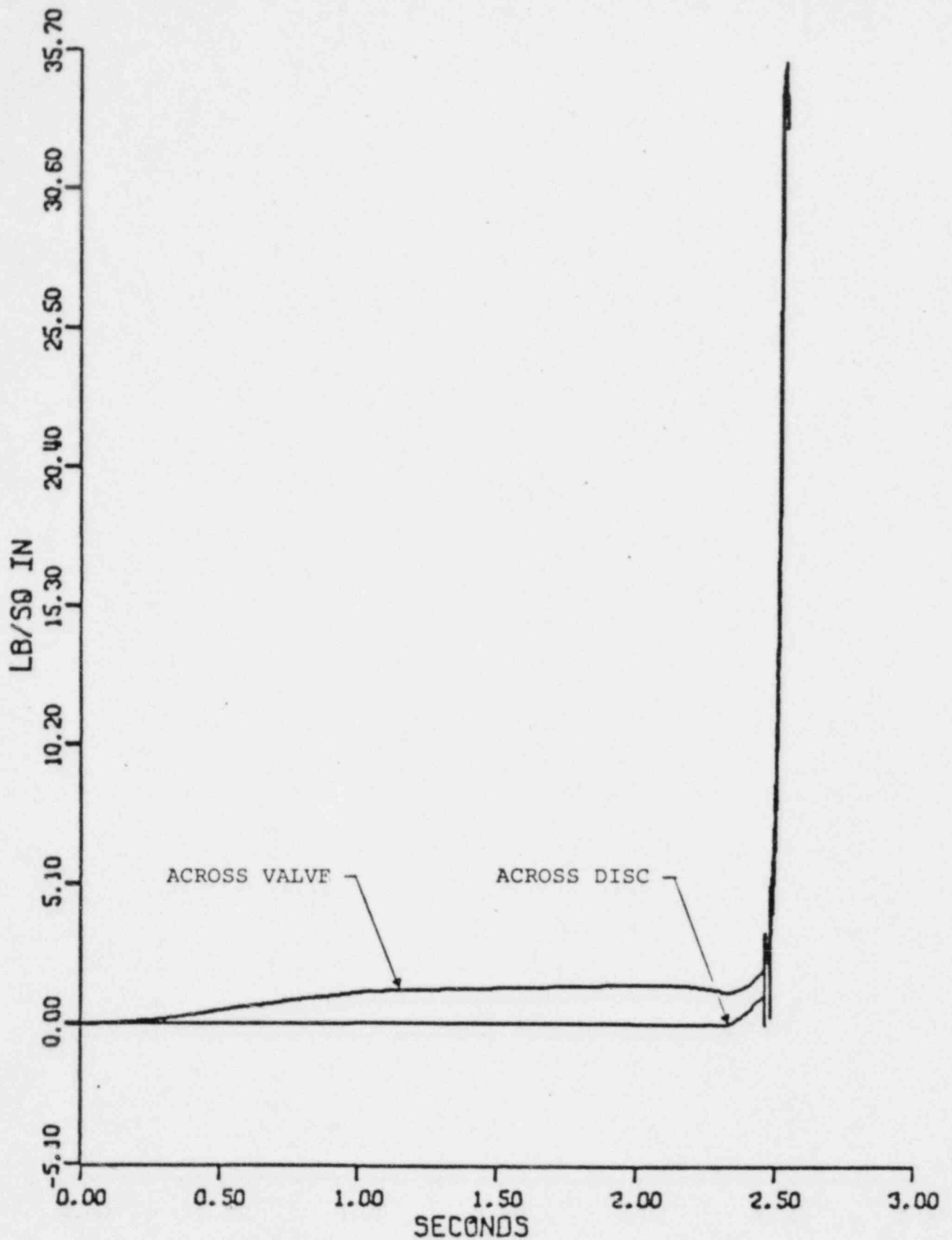
FIGURE II-3



BIG ROCK POINT CHECK VALVE - REFERENCE CASE WITH $K(190L)=500$ - TRANSIENT

DISC ANGLE

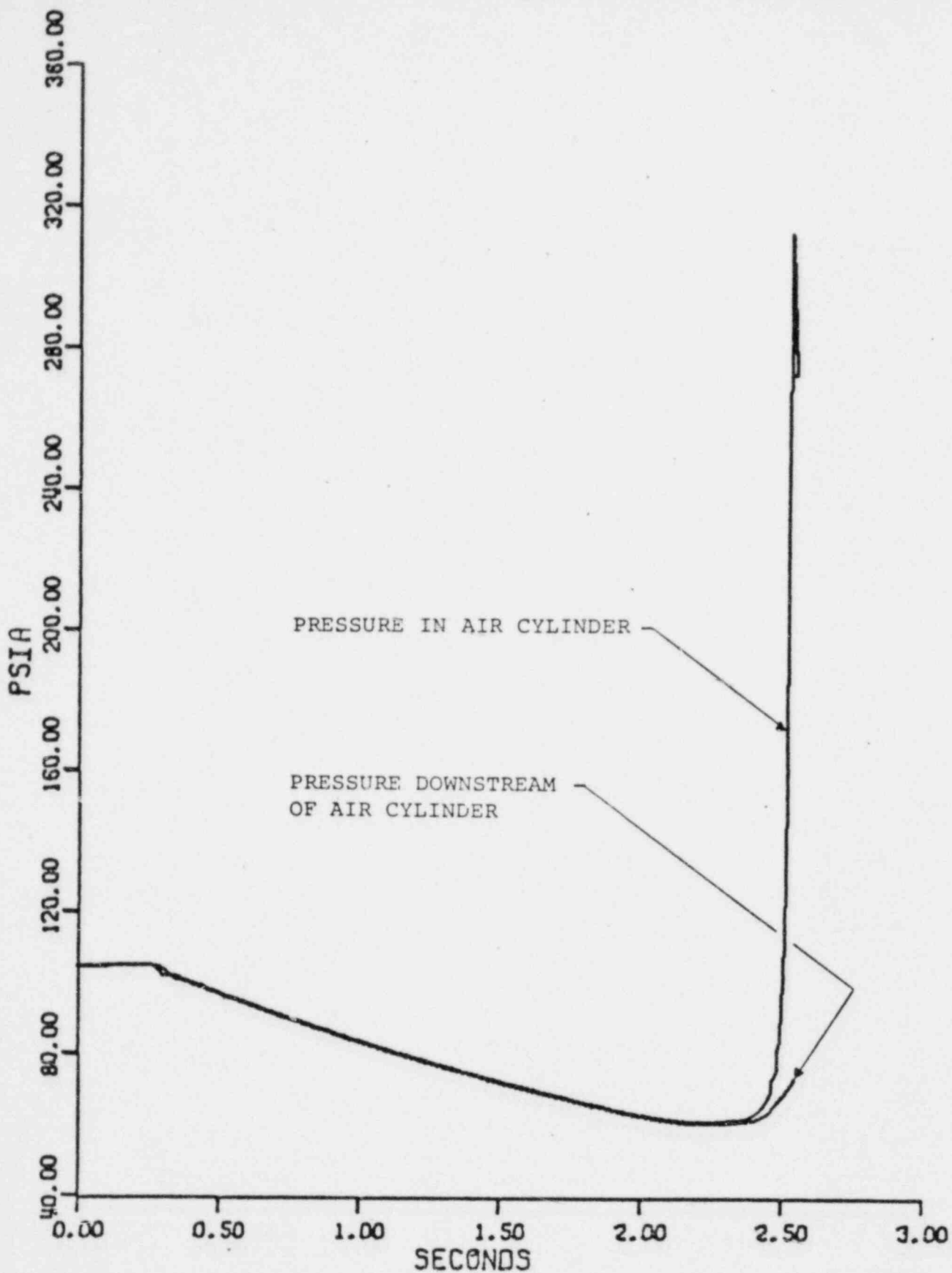
FIGURE II-4



BIG ROCK POINT CHECK VALVE - REFERENCE CASE WITH $K(190L) = 500$ - TRANSIENT

PRESSURE DROP AT VALVE

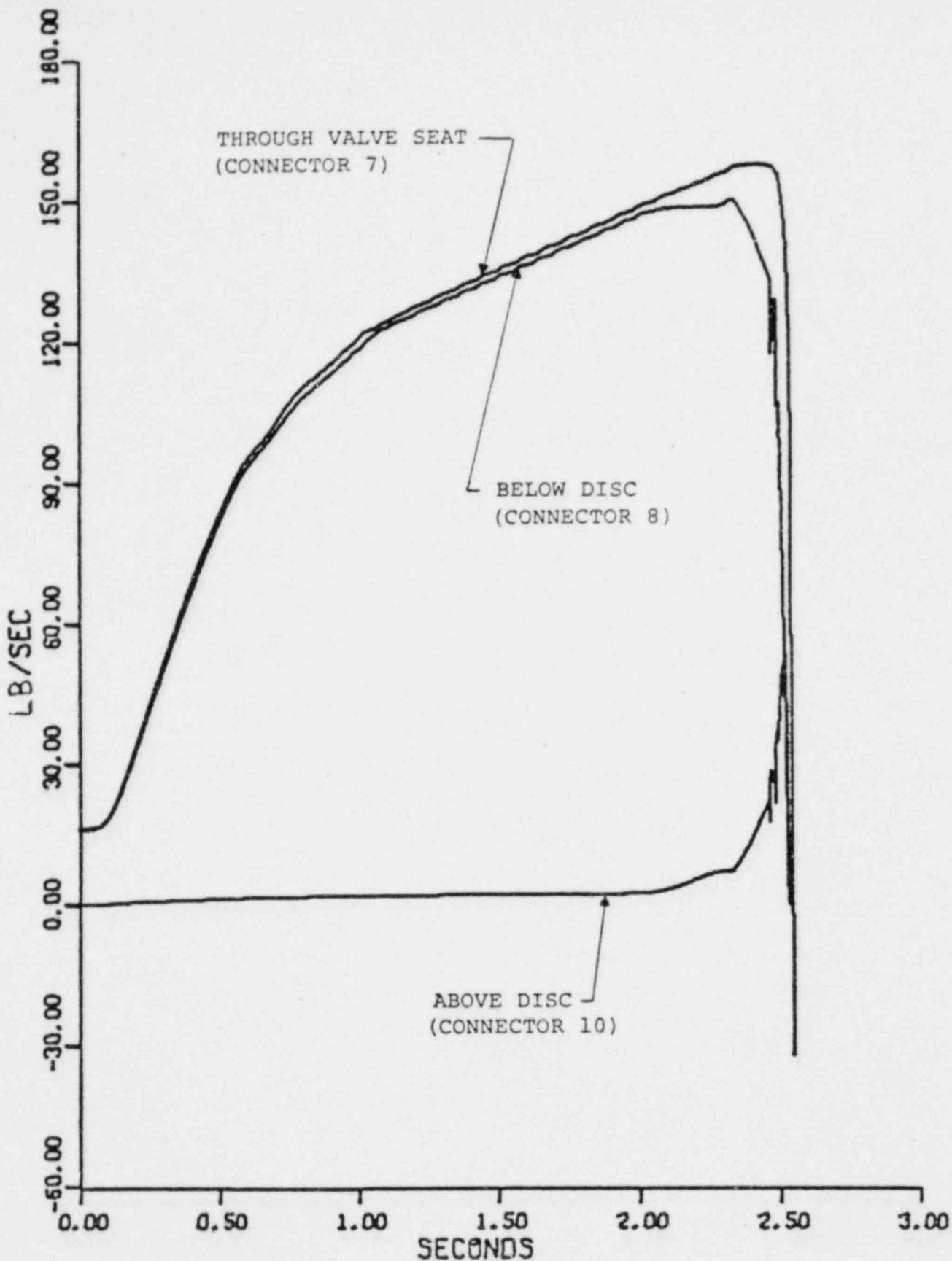
FIGURE II-5



BIG ROCK POINT CHECK VALVE - REFERENCE CASE WITH $K(90^\circ) = 500$ - TRANSIENT

PRESSURE IN AIR SYSTEM

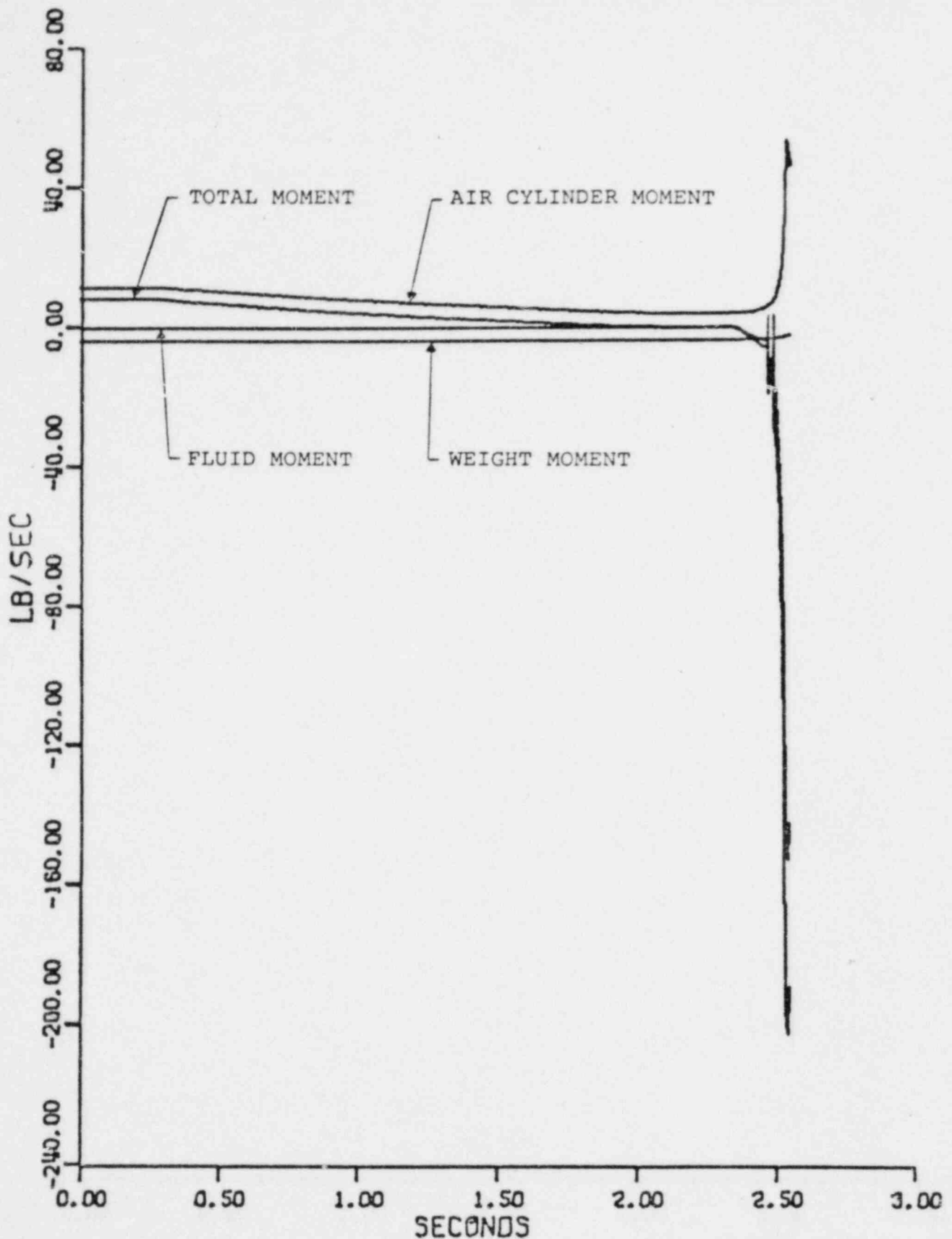
FIGURE II-6



BIG ROCK POINT CHECK VALVE - REFERENCE CASE WITH $K(190L)=500$ - TRANSIENT

FLOWS INSIDE VALVE

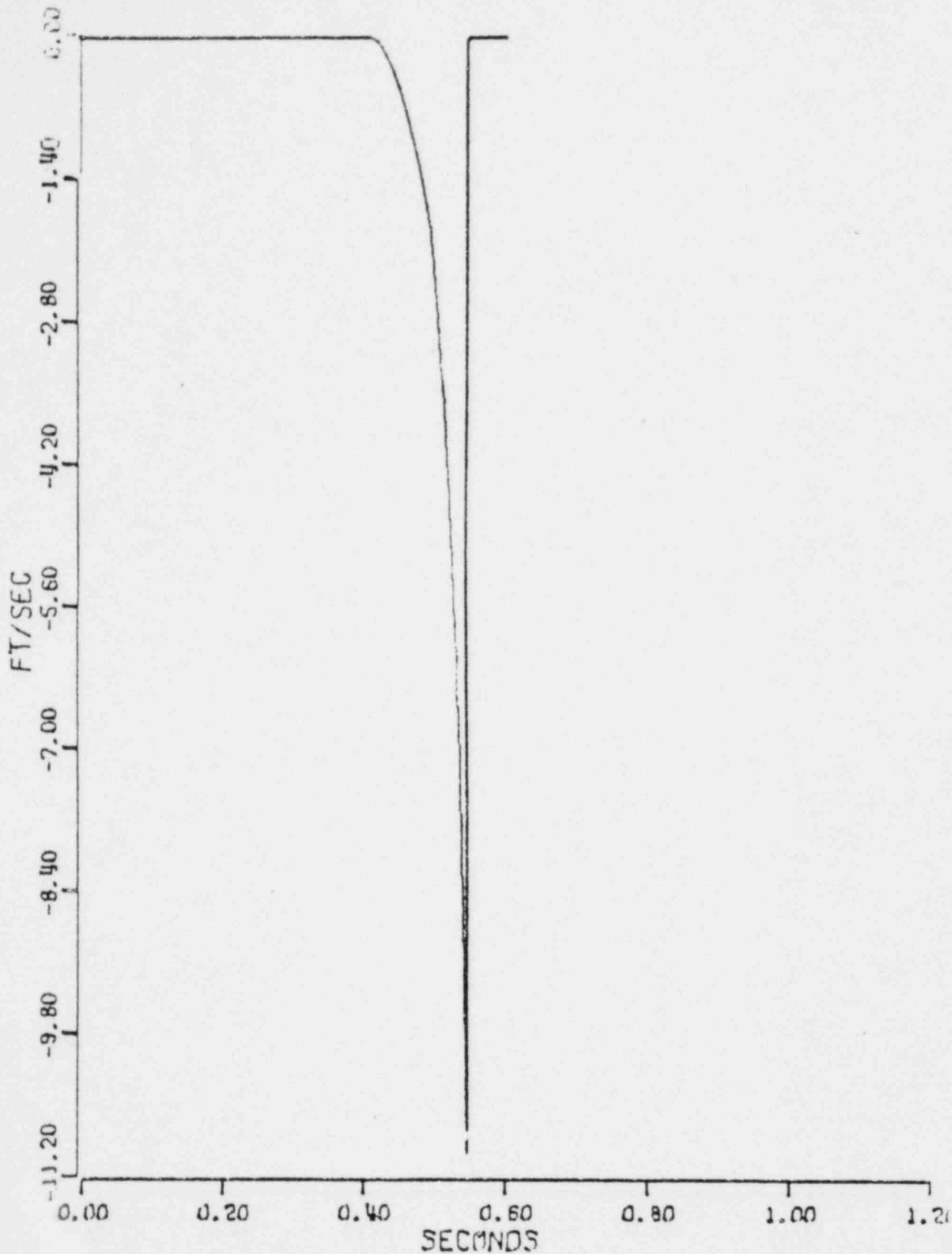
FIGURE II-7



BIG ROCK POINT CHECK VALVE - REFERENCE CASE WITH $K(19CL)=500$ - TRANSIENT

TORQUES ON DISC

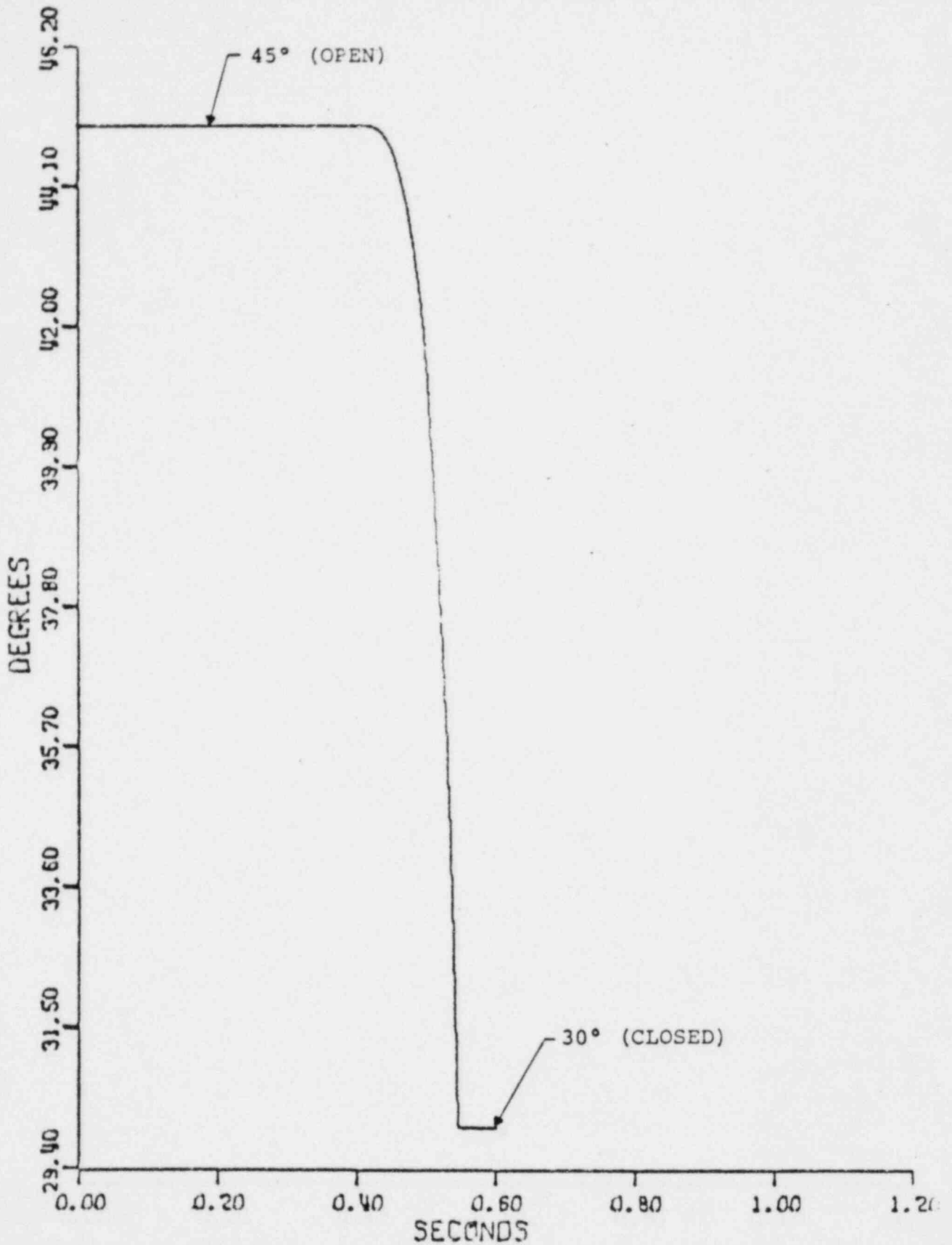
FIGURE II-8



BIG ROCK POINT CHECK VALVE - DISC HELD AT 45 DEG - TRANSIENT

DISC CENTERLINE VELOCITY

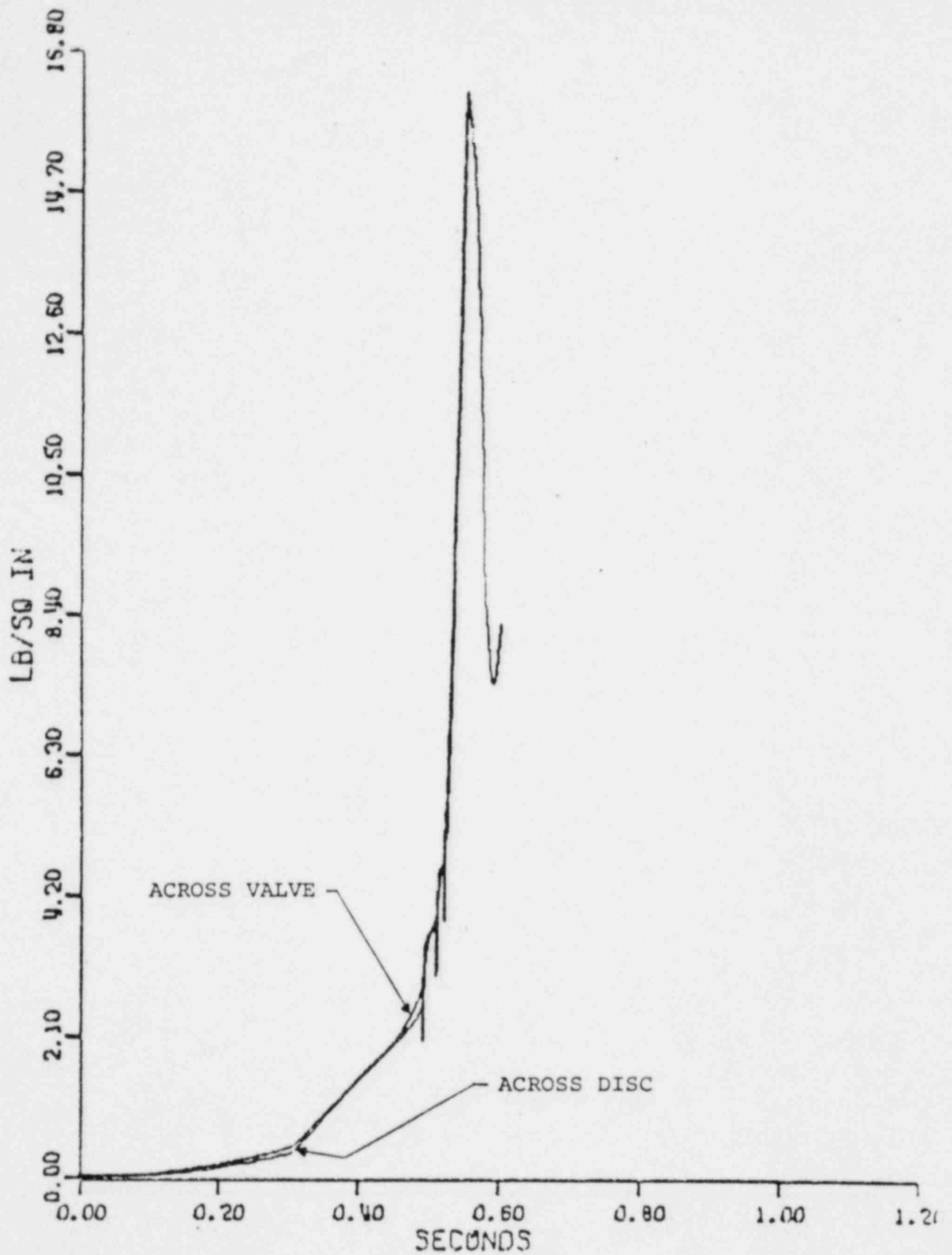
FIGURE II-9



BIG ROCK POINT CHECK VALVE - DISC HELD AT 45 DEG - TRANSIENT

DISC ANGLE

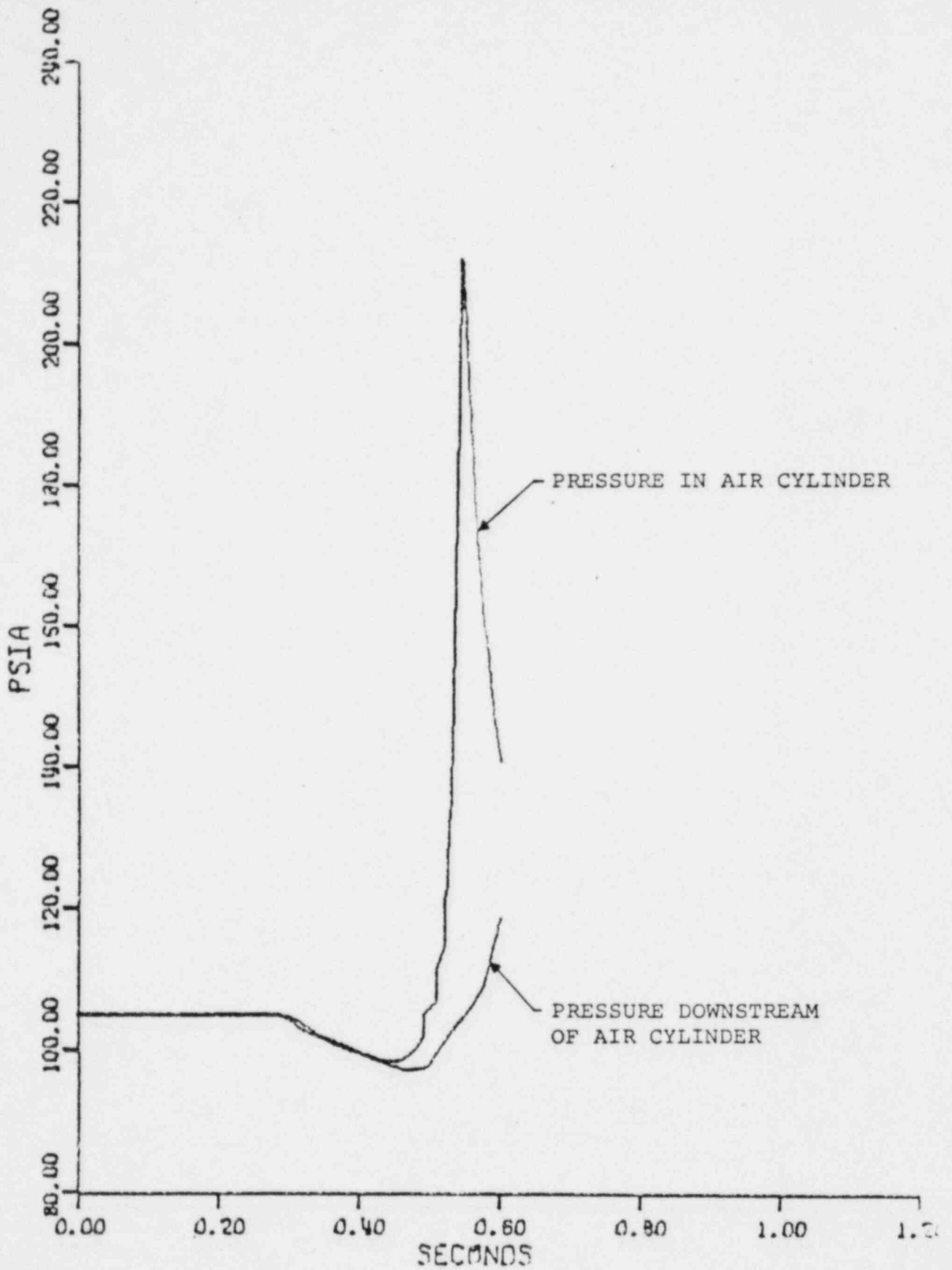
FIGURE II-10



BIG ROCK POINT CHECK VALVE - DISC HELD AT 45 DEG - TRANSIENT

PRESSURE DROPS AT VALVE

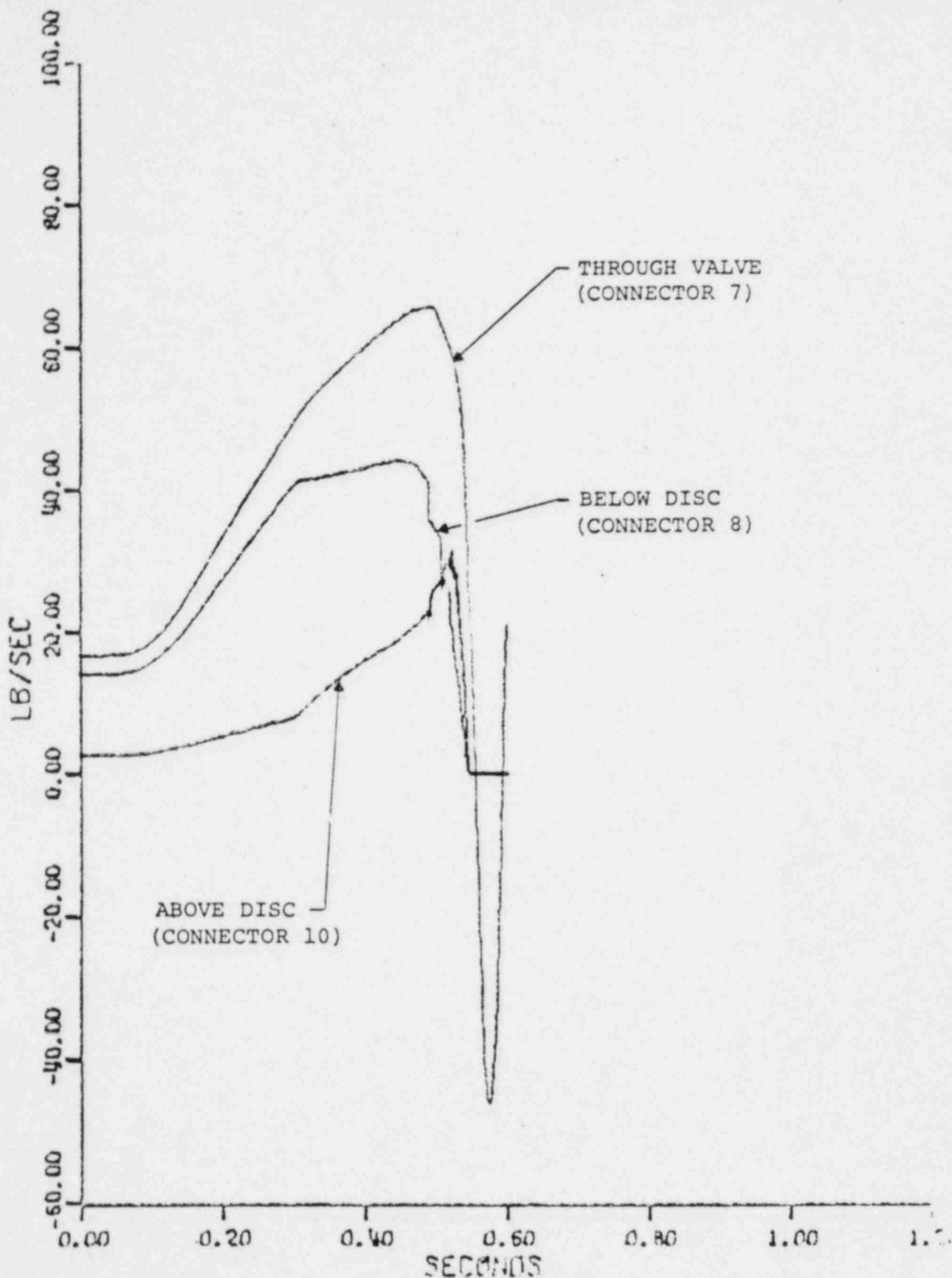
FIGURE II-11



BIG ROCK POINT CHECK VALVE - DISC HELD AT 45 DEG - TRANSIENT

PRESSURE IN AIR SYSTEM

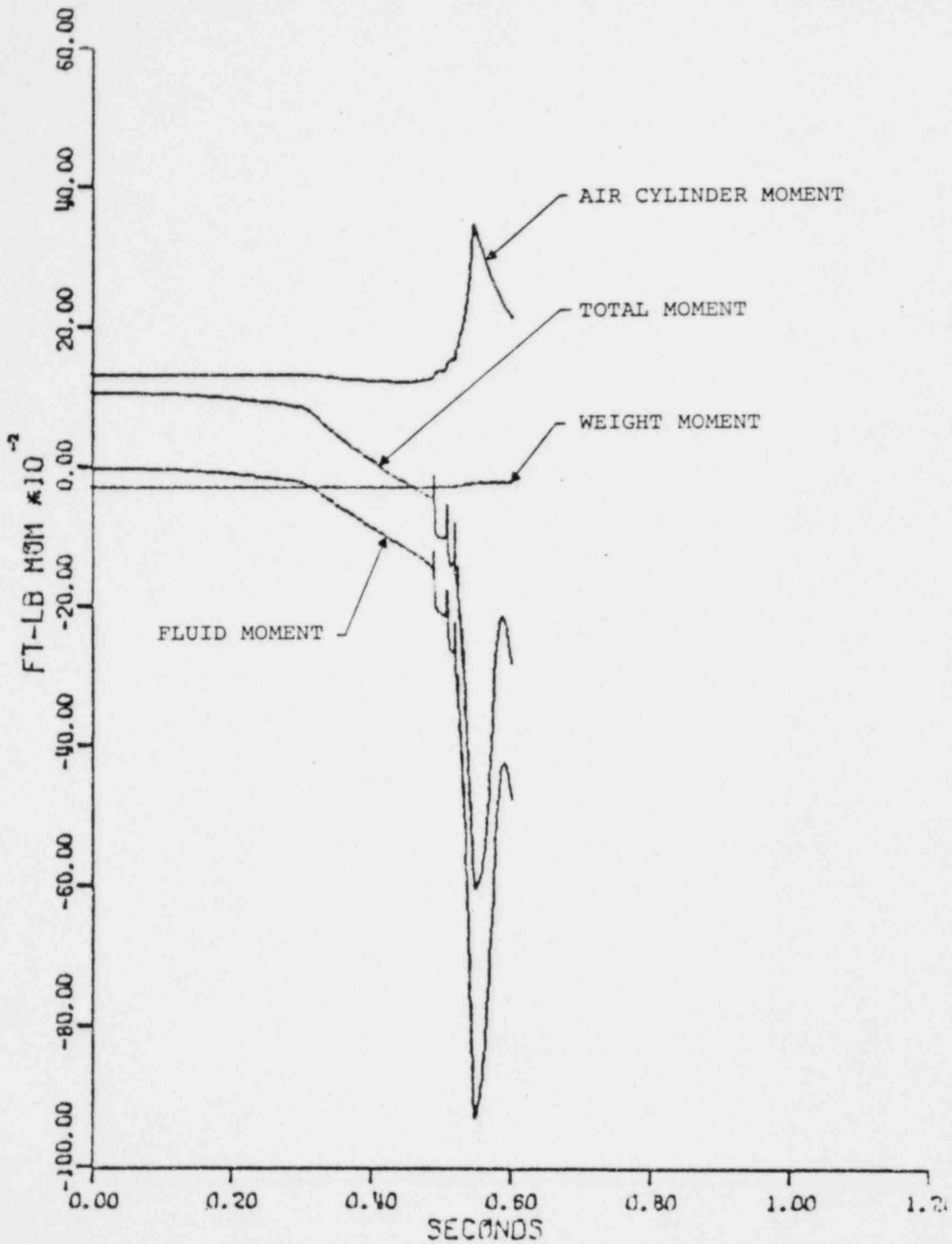
FIGURE II-12



RIG ROCK POINT CHECK VALVE - DISC HELD AT 45 DEG - TRANSIENT

FLOWS INSIDE VALVE

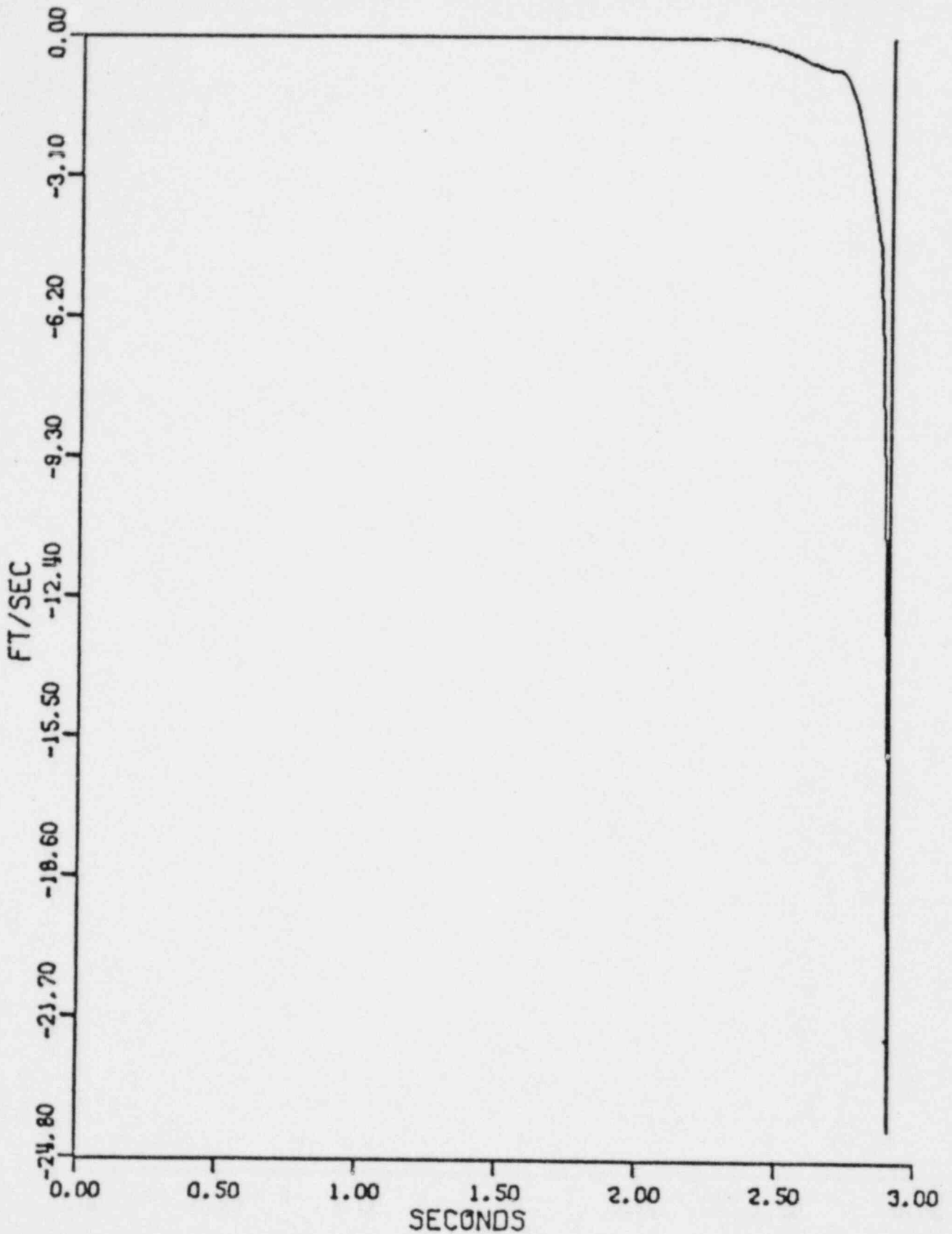
FIGURE II-13



BIG ROCK POINT CHECK VALVE - DISC HELD AT 45 DEG - TRANSIENT

TORQUES ON DISC

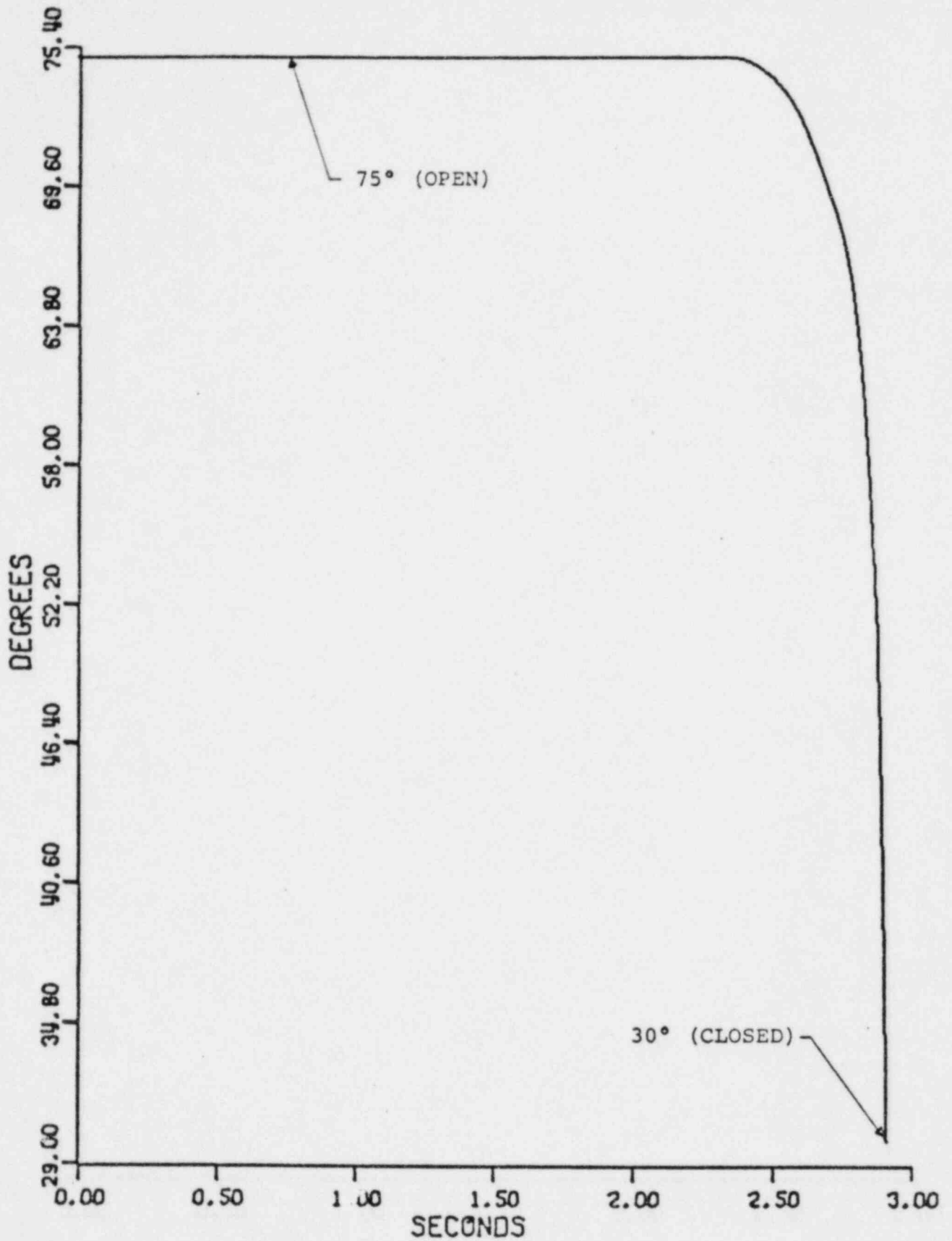
FIGURE II-14



BIG ROCK POINT CHECK VALVE - CASE WITH LONGER AIR CYLINDER - TRANSIENT

DISC CENTERLINE VELOCITY

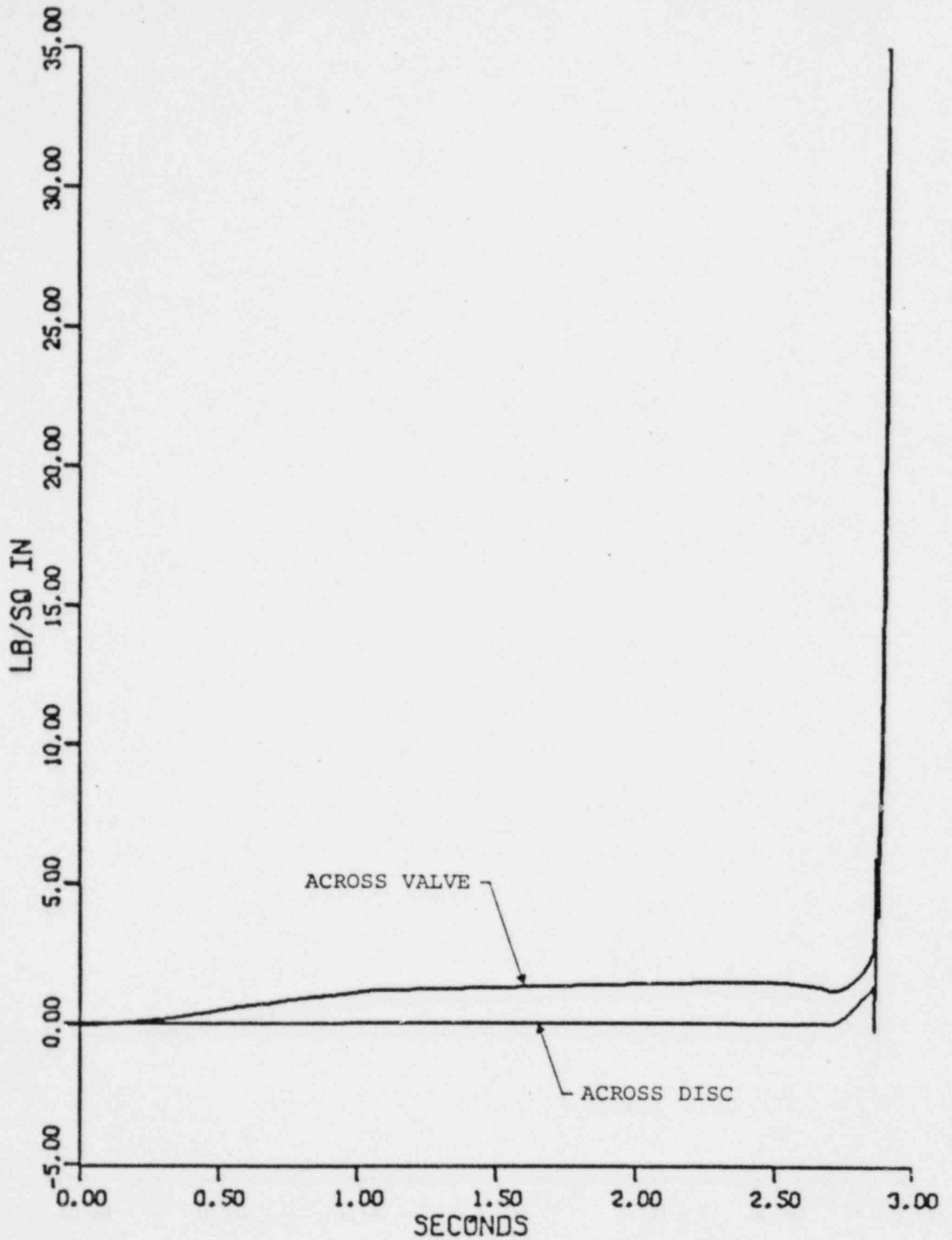
FIGURE II-15



BIG ROCK POINT CHECK VALVE - CASE WITH LONGER AIR CYLINDER - TRANSIENT

DISC ANGLE

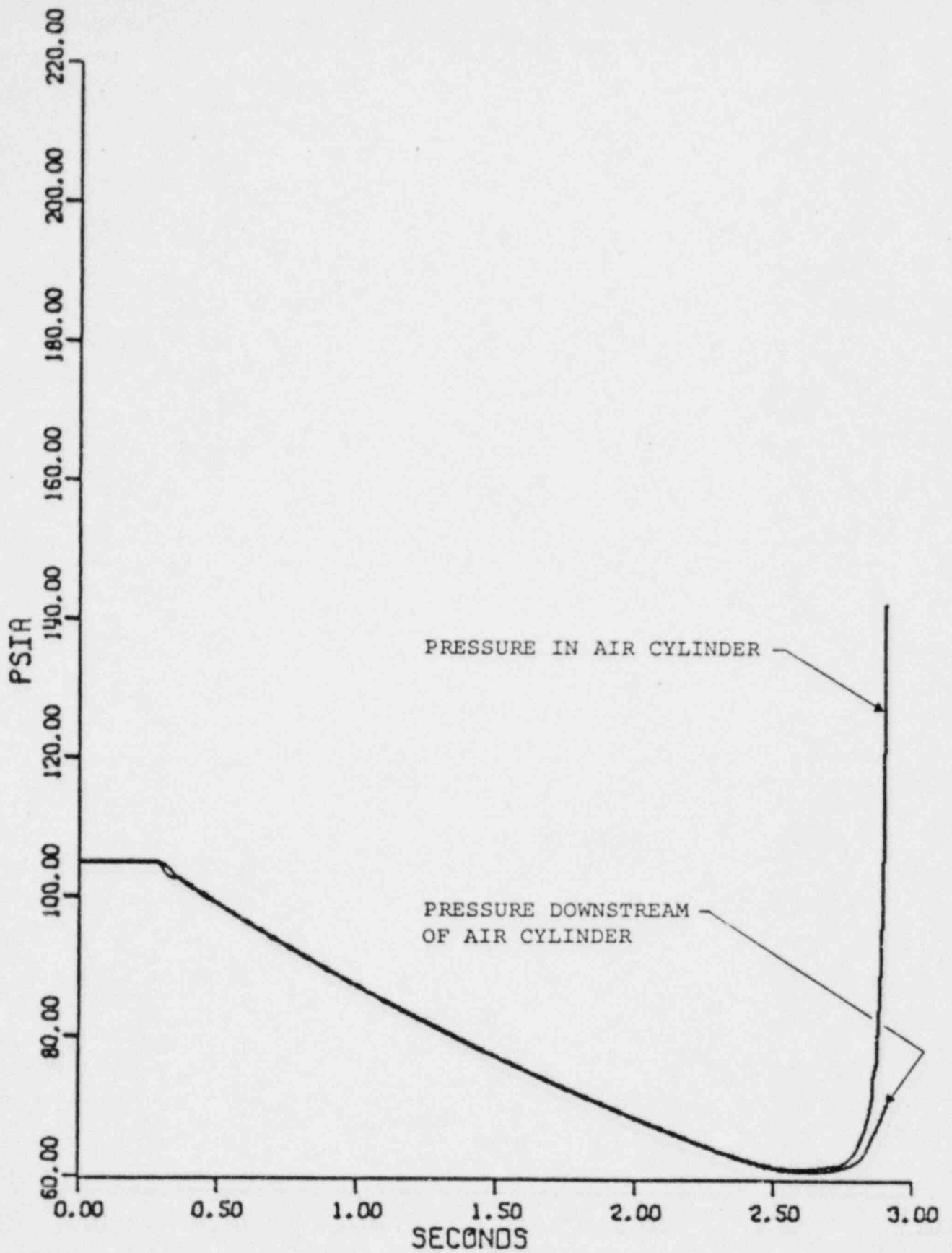
FIGURE II-16



BIG ROCK POINT CHECK VALVE - CASE WITH LONGER AIR CYLINDER - TRANSIENT

PRESSURE DROPS AT VALVE

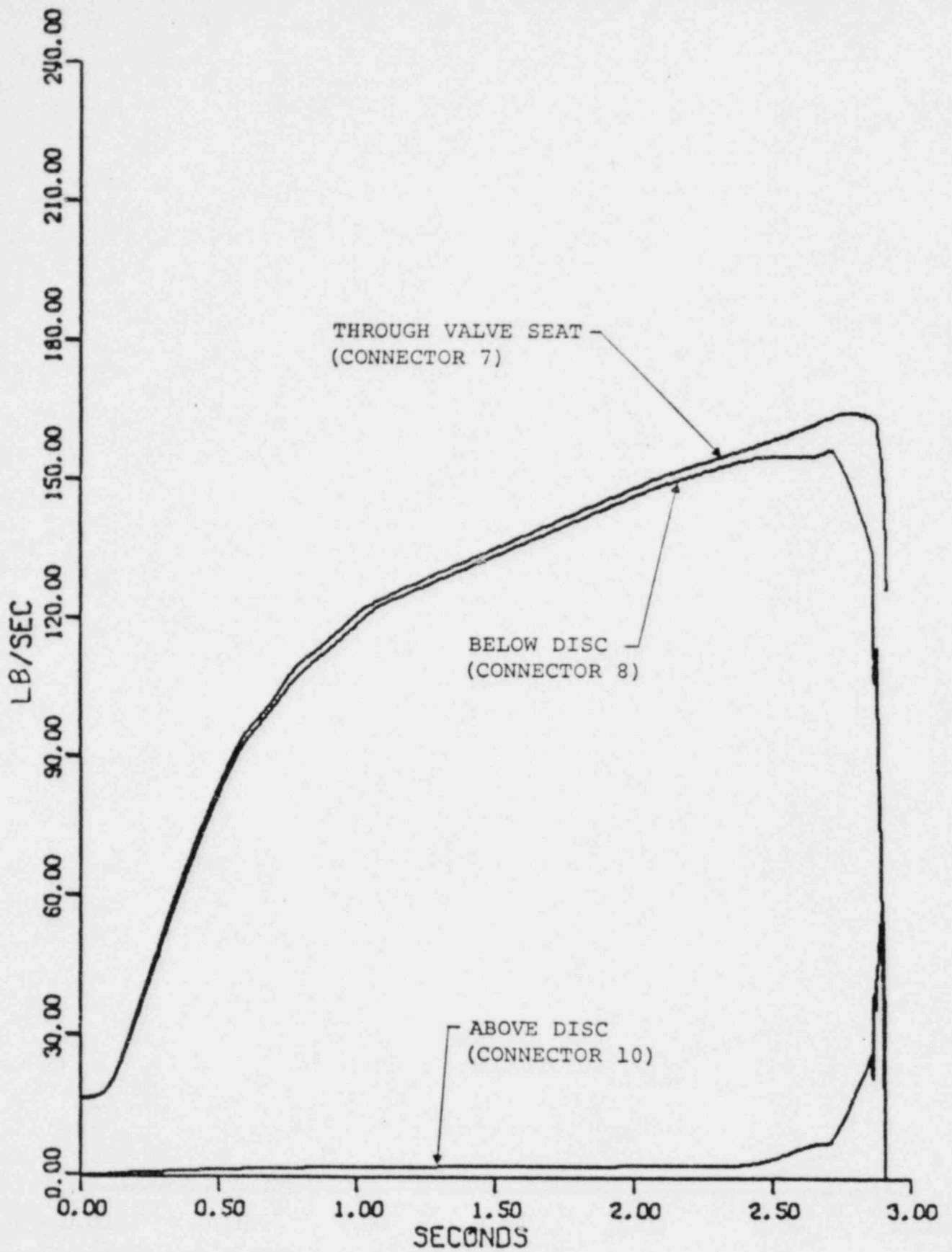
FIGURE II-17



BIG ROCK POINT CHECK VALVE - CASE WITH LONGER AIR CYLINDER - TRANSIENT

PRESSURE IN AIR SYSTEM

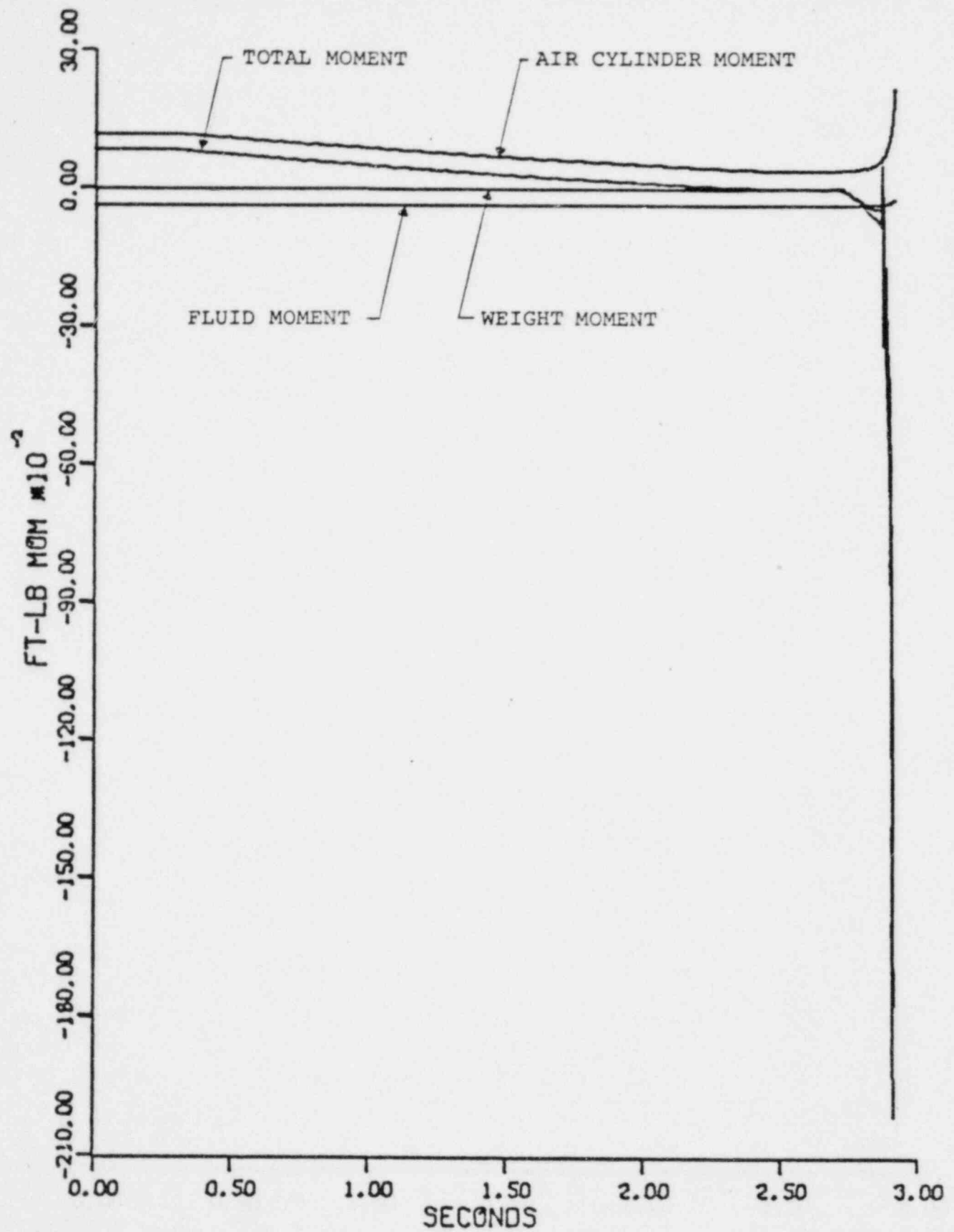
FIGURE II-18



BIG ROCK POINT CHECK VALVE - CASE WITH LONGER AIR CYLINDER - TRANSIENT

FLOWS INSIDE VALVE

FIGURE II-19



BIG ROCK POINT CHECK VALVE - CASE WITH LONGER AIR CYLINDER - TRANSIENT

TORQUES ON DISC

FIGURE II-20

III. COMPUTER MODEL FOR VALVE
AND ASSOCIATED PIPING

A schematic of the computer model used for the simulation of the containment isolation transient is shown in Figure III-1. This schematic shows the division of the ventilation system exhaust piping into a series of connected control volumes beginning at the discharge to the atmosphere and ending 100 feet upstream of the butterfly control valve. Control volume 22 provides the pressure boundary used to represent the containment pressure transient described in Section II of this report. Control volume 1 provides a constant atmospheric pressure boundary condition.

The valve internals are modeled by four separate control volumes and four fluid connectors so as to provide enough detail to allow an adequate determination of the pressure drop across the disc. A detail of the valve showing the control volumes and flow paths as modeled in the program is given in Figure III-1. As can be seen in the figure, several of the control volumes and flow areas inside the valve are dependent on the angular position of the disc. The volumes and areas, and all parameters dependent on them, are redefined by the computer program at each time step so as to take into account the geometry changes due to disc motion.

The air system for the containment isolation valve is modeled as a separate fluid system. The volume of the air cylinder is a function of the valve angular position and is computed for each time step by the computer program. The moment on the disc imposed by the air cylinder is a function of the pressure in the air cylinder and the air cylinder moment arm. The schematic of the computer model for the air system piping including the air cylinder operator for the butterfly valve is shown in Figure III-2.

The pressure drop coefficient for the solenoid operated vent valves for the air system was chosen based on trial runs. The value was chosen such that the valve closed in about 5 seconds for no-flow conditions. This resulted in a value of 500 for the solenoid vent valve pressure drop coefficient based on inlet diameter.

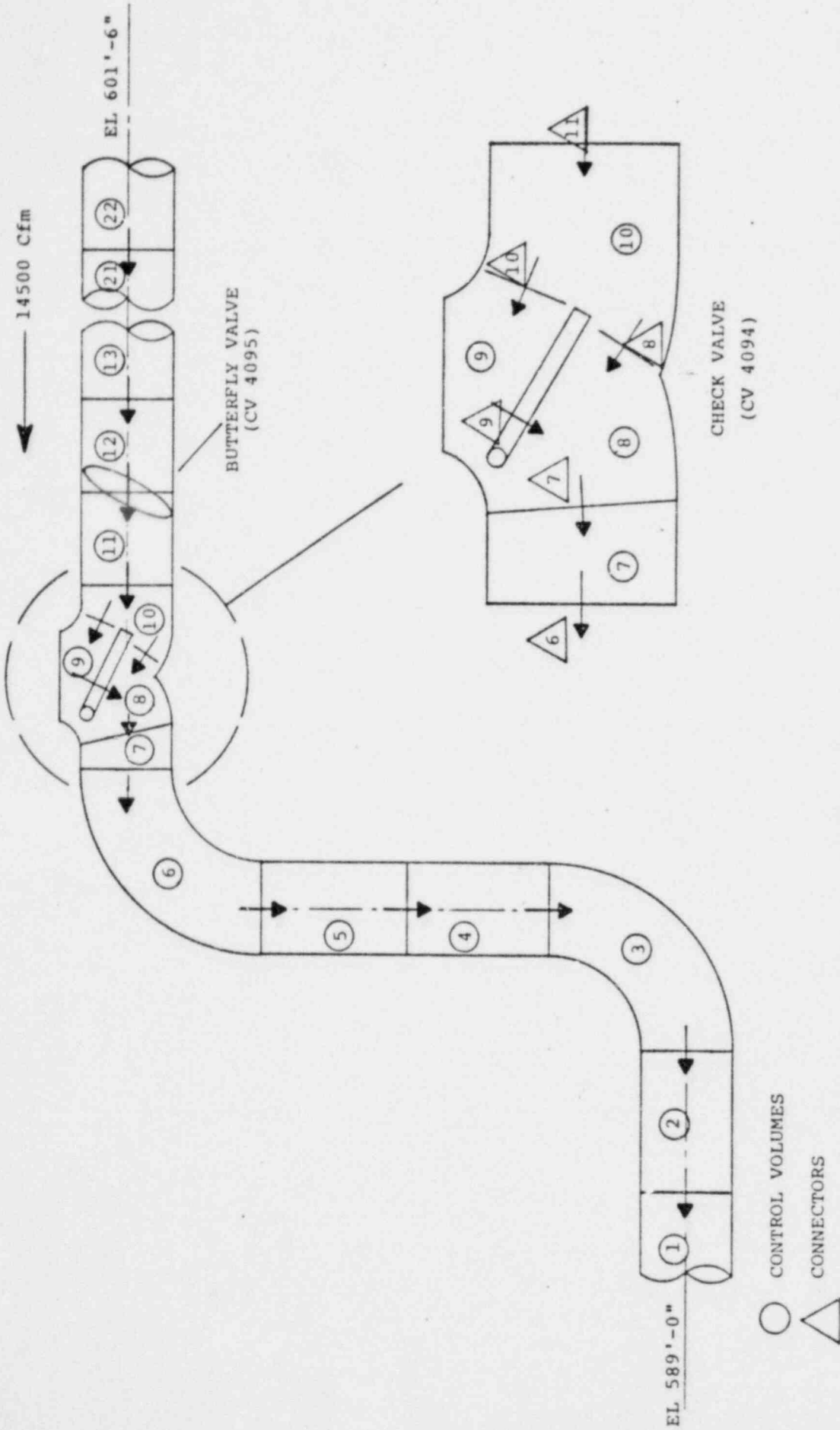
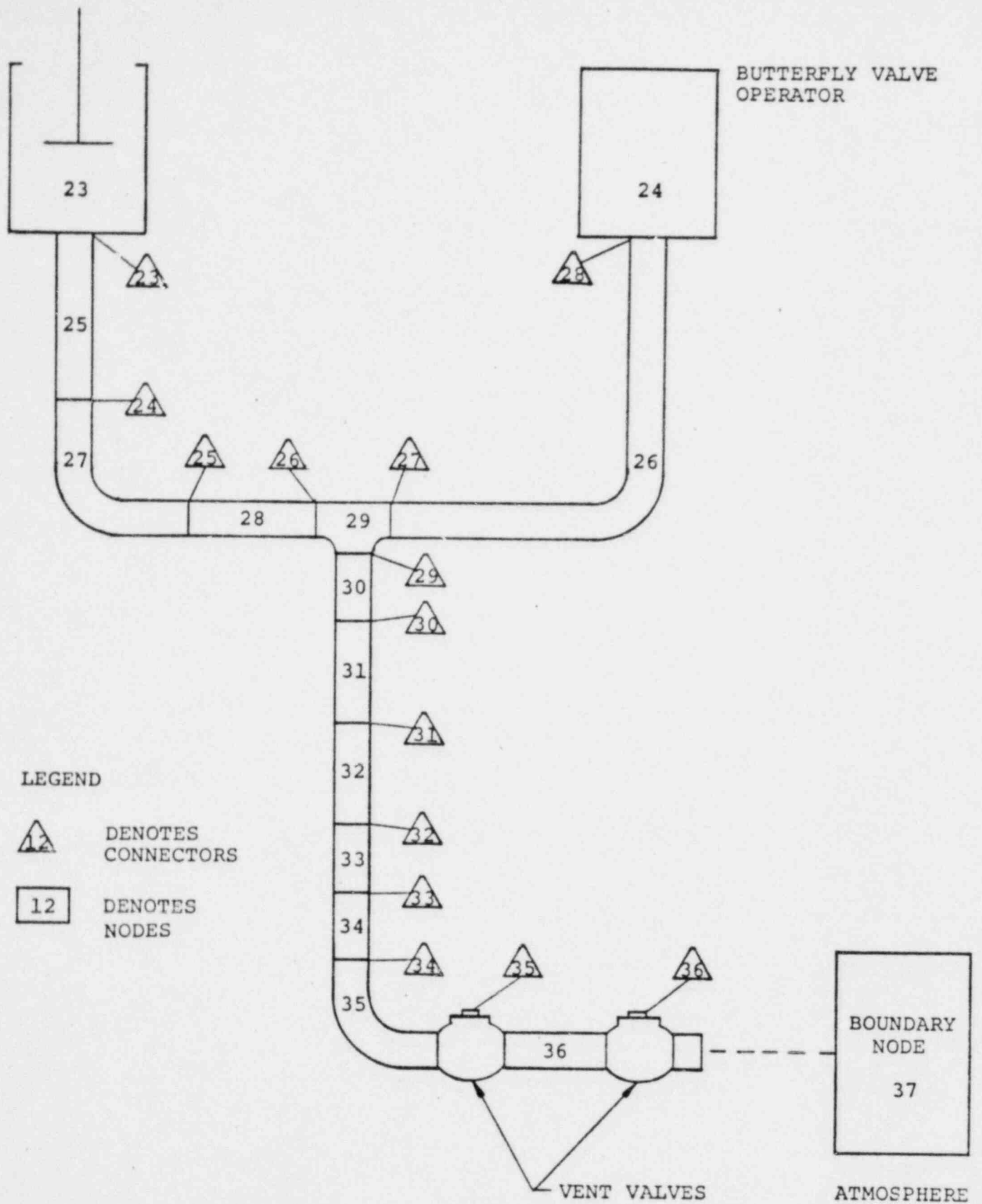


FIGURE III-1
COMPUTER MODEL OF SYSTEM



COMPUTER MODEL FOR AIR SYSTEM FOR BIG ROCK POINT
CONTAINMENT VENTILATION ISOLATION VALVES

FIGURE III-2

IV. DESCRIPTION AND BASIS OF COMPUTER PROGRAM

The motion of the disc in the containment isolation check valve is determined to a large extent by the fluid pressures and flows which exist inside the valve. These pressures and flows are in turn strongly dependent on disc position. As a result, a solution for the impact velocity attained by the disc as a result of a postulated containment isolation transient requires a simultaneous solution of the fluid equations, which describe the flow of the ventilation system air, and the equation of motion of the disc. The calculational technique described below achieves such a solution by utilizing a time step approach in which the fluid conditions and disc position are determined alternately during each time step using the mass, energy, and momentum conservation equations for the fluid behavior and the equation of motion for the disc. The basic approach is a modified version of the approach described in reference 1 where the equation of motion of the disc has been added to the solution and is utilized to redefine the geometry inside the valve during each time step.

The fluid behavior in the piping system is described by the mass, energy, and momentum conservation equations.

$$\frac{\partial \rho}{\partial t} + \nabla \cdot \rho \bar{v} = 0 \quad (\text{mass})$$

$$\frac{\partial \rho (e + \frac{v^2}{2})}{\partial t} + \nabla \cdot \rho (e + \frac{v^2}{2}) \bar{v} = - \nabla \cdot P \bar{v} \quad (\text{energy})$$

$$\frac{\partial \rho \bar{v}}{\partial t} + \nabla \cdot \rho \bar{v} \bar{v} = - \nabla P - \nabla \cdot \bar{\tau} + \rho \bar{g} \quad (\text{momentum})$$

The five unknowns in the five equations above are the three components of velocity, \bar{v} , the mass density, ρ , and the energy density, e . Pressure, P , and the shear tensor, $\bar{\tau}$, are considered functions of these variables through the equations of state.

The above differential equations can be discretized by integrating them over finite regions of the piping system called control volumes. As a result, the continuous variables of velocity, mass density, and energy density are replaced by integrated values which are discrete in nature and which are defined as follows.

$$U_i = \int_{i^{\text{th}} \text{ control volume}} \rho e \, dV \quad \text{is the total energy in the } i^{\text{th}} \text{ control volume.}$$

$$M_i = \int_{i^{\text{th}} \text{ control volume}} \rho \, dV \quad \text{is the total mass in the } i^{\text{th}} \text{ control volume}$$

$$W_k = \int_{k^{\text{th}} \text{ boundary}} \rho (\bar{v} \cdot \bar{n}) \, dS \quad \text{is the integrated mass flow crossing the } k^{\text{th}} \text{ boundary between a pair of control volumes}$$

Control volumes chosen for integration of the mass and energy conservation equation are represented by nodes located at their geometric center where average properties of energy density, mass density, and pressure are assumed to exist. The piping system was divided into such nodal volumes in Section III of this report. The resulting integrated form of the mass and energy equations for the i^{th} nodal volume is as follows.

$$\dot{M}_i = \sum_{\substack{\text{all flows} \\ \text{into } i}} W_k - \sum_{\substack{\text{all flows} \\ \text{out of } i}} W_k \quad (\text{mass})$$

$$\dot{U}_i = \sum_{\substack{\text{all flows} \\ \text{into } i}} h_k W_k - \sum_{\substack{\text{all flows out} \\ \text{of } i}} h_k W_k \quad (\text{energy})$$

The kinetic energy contribution to the energy equation is neglected during this integration.

The momentum equation is similarly integrated over a control volume called a connector consisting of half of each connecting nodal volume and beginning at node i and ending at node j . A sample configuration inside a pipe is described in figure IV-1. The resulting integrated form of the momentum equation for connector k joining node i and node j can be written as follows.

$$L_k \dot{W}_k = P_i - P_j - F_k W_k |W_k| + F E_k W_k^2 + E_k$$

where $L_k = \int \frac{dx}{A(x)}$ is defined as the inertial length of the connector

P_i is the pressure at the node in volume i

P_j is the pressure at the node in volume j

$A(x)$ is the flow area along the connector

$F_k W_k \left| W_k \right|$ is the combination of skin friction and form pressure drop for the connector

$FE_k W_k^2$ is the contribution of the momentum flux term to the pressure drop in the connector

E_k is the gravitational head in the connector

If the system has been divided into n nodal volumes connected by m connectors there will be a total of $2n+m$ dependent variables in the fluid solution corresponding to the total mass and energy in each node plus the flow in each connector. Similarly there will be $2n+m$ equations corresponding to the integrated mass, energy, and momentum conservation equations as discussed above. By defining a column vector to represent the dependent variables of flow rates, energies, and masses, the integrated conservation equations can be written in a general form.

$$\dot{y} = f(y) \quad ;$$

$$y =$$

$$\begin{bmatrix} W_1 \\ W_2 \\ \vdots \\ W_m \\ U_1 \\ U_2 \\ \vdots \\ U_n \\ M_1 \\ M_2 \\ \vdots \\ M_n \end{bmatrix}$$

A fully implicit finite difference solution which can be solved for the increments of y for each time step is derived in reference 1.

$$[I - \delta t J(t)] \Delta y = \delta t \dot{y}(t)$$

$$\text{where } \Delta y = y(t + \delta t) - y(t)$$

and $J(t)$ is the Jacobian of the set of equations

$$\dot{y} = f(y) \text{ at time } t.$$

The new values for flow rates, energies, and masses at the end of the time step become:

$$y(t + \delta t) = y(t) + \Delta y$$

Flow rates are checked for critical flow at each time step. If the flow as calculated from the above equations exceeds that derived from the critical flow equations, the critical

flow is used as the new flow rate on the succeeding time step. All thermodynamic variables defined at the nodes in the nodal volumes are calculated from average values of mass density and energy density in the volume assuming that the volume is in thermodynamic equilibrium. Computerized air tables with ideal gas behavior provide the equation of state required for these calculations.

Once the pressures and flows are determined by the method discussed above, the torque on the valve disc is computed from the forces acting on the disc. The following forces are considered in the analysis.

- ° The weight of the disc applies a torque which acts to close the valve.
- ° The pressure in the air cylinder applies a torque which acts to maintain the disc in the open position. Air in the air cylinder is modeled as an ideal gas for this calculation. A trip signal which releases the air from the cylinder can be given by the input data at any time during operation of the program.
- ° Fluid pressure difference across the disc applies a torque to the disc.
- ° The fluid pressure difference on the leading edge of the disc and the annulus surrounding the disc between the disc and valve body applies a torque to the disc. Since the fluid velocity in this annulus may be quite large, a significant pressure difference could develop due to the venturi effect in this annulus. The contribution from this torque is only important when the disc is in the open position.
- ° Resistance of the shaft to rotation of the disc applies a torque which acts to retard the rotation. The torque is determined by taking the vector sum of all the forces on the disc (including the centrifugal force which provides no torque) and assuming a coefficient of friction between the shaft and its housing.

New values of disc angle and angular velocity are determined at the end of the time step assuming the torque is linear over the time step.

$$\dot{\theta}(t+\delta t) = \dot{\theta}(t) + \frac{\tau(t)}{I} \delta t + \frac{1}{I} \frac{d\tau}{dt} \frac{\delta t^2}{2}$$

$$\theta(t+\delta t) = \theta(t) + \dot{\theta}(t) \delta t + \frac{\tau(t)}{I} \frac{\delta t^2}{2} + \frac{1}{I} \frac{d\tau}{dt} \frac{\delta t^3}{6}$$

where θ = disc angle defined as 0 when the disc is vertical

τ = total torque on the disc

I = disc moment of inertia

The effect of the new disc angle is incorporated into the fluid solution by redefining all parameters in the integrated mass, energy, and momentum equation which are dependent on control volume and connector geometry.

The solution as described in the above manner is repeated for each time step until the disc impacts onto the valve seat. The disc impact velocity is taken as the velocity just prior to this impact.

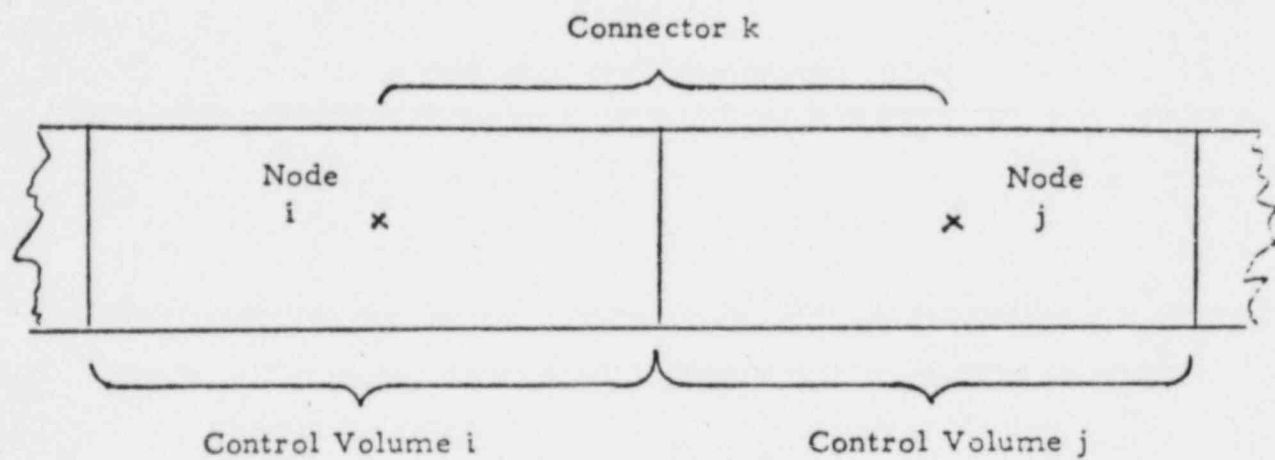


FIGURE IV-1
CONFIGURATION OF NODES AND
CONNECTOR IN PIPE

V. REFERENCES

1. Porsching, T. A., Murphy, J. H., Redfield, J. A., and Davis, V. C., "Flash-4; A Fully Implicit Fortran IV Program for the Digital Simulation of Transients in a Reactor Plant," March 1969, WAPD-TM-840 Bettis Atomic Power Laboratory.
2. Flow of Fluids Through Valves, Fittings, and Pipe, Crane Company Technical Paper No. 410, 1957.
3. Letter from G. C. Withrow (CPCo) to J. C. Nichols (MPR) dated November 21, 1979.
4. Telephone conversation between G. C. Withrow (CPCo) and J. C. Nichols (MPR) on December 12, 1979.

MPR ASSOCIATES, INC.

VI. APPENDICES

VALVE INPUT DATA

A. VALVE INPUT DATA

The configuration of the reactor building isolation check valve was discussed in Section III of this report. In simulating the valve internals, control volumes and flow areas which are a function of disc angle must be defined. The volumes and areas used in the computer program are described below. Figure A-1 shows the valve internals and defines the terms used. Flow areas are, by definition, those areas which are projected perpendicular to the flow at any point.

Volume 10

This volume is not a function of disc angle. It includes the region from the valve inlet to the surface proscribed by the leading edge of the disc as it rotates from the open to the closed position.

Volume 9

This volume includes the region above the disc bounded by volume 10 on the inlet side and the disc below. If the volume with the disc in the open position is given as VO_9 , the volume as a function of disc angle is

$$V_9 = VO_9 + R_{DM} (\theta_{max} - \theta) [A_{Disc} + A_{Annulus}]$$

Volume 8

This volume includes the region below the disc, the valve seat and a portion of the valve outlet region.

If the value of this volume with the valve closed is defined as VO_8 , the volume as a function of disc angle is

$$V_8 = VO_8 + R_{DM} (\theta - \theta_{min}) [A_{Disc} + A_{Annulus}]$$

Volume 7

This volume includes the outlet region of the valve minus that portion of the outlet region belonging to volume 8. This volume is not a function of disc angle.

Flow Areas 8 and 10

Flow areas 8 and 10 are the projected areas of the surfaces between control volumes 8 and 10 and between control volumes 9 and 10 respectively. Although the sum of these surfaces represents an elliptical section cut from the outside of a torus, the projected area (which is required as flow area by the definition of mass flow rate) is plane in nature. Flow area 10 is that part of the projected surface which lies above the leading edge of the disc and flow area 8 is that part of the projected surface that lies below the disc. The projected surface is almost circular and is similar, but slightly larger, than the surface inside the valve seat on the opposite side of the valve.

Flow Area 9

This flow area is the clearance area surrounding the disc between the disc and the valve body. Due to the complexity of the internal contours of the valve body casting, this clearance area would be difficult to mathematically define as a function of disc angle. The area used is ratioed from area measurements taken from an 18-inch swing check valve. As the disc approaches the seat, the flow around the disc must turn inward towards the centerline of the disc to clear the seat lip. As a result, the area of the toroidal surface between the disc and the seat is compared to the clearance area between the disc and valve body in the plane of the disc and the smaller of the two areas is used as the flow area for connector 9. This area goes linearly to zero as the valve approaches the seat.

Flow Area 7

The flow from the center of volume 8 to the center of volume 7 must pass through the valve seat. Thus the flow area of this connector is chosen as the area of the valve seat.

Area of Node 8

Nodal areas are defined as the flow area at a node. Such areas are required to determine the pressure

drop contribution between nodes from the momentum flux term. Since the pressure at node 8 has a large effect on disc velocity, this node area has more significance than the other node areas. A reasonable choice for this area is a weighted average of the flow areas of the adjoining connectors.

$$AN_8 = A_7 + \frac{(A_8 - A_7)(\theta - \theta_{\min})}{2(\theta_{\max} - \theta_{\min})}$$

Form Pressure Drop Coefficient for Connectors 9 and 10

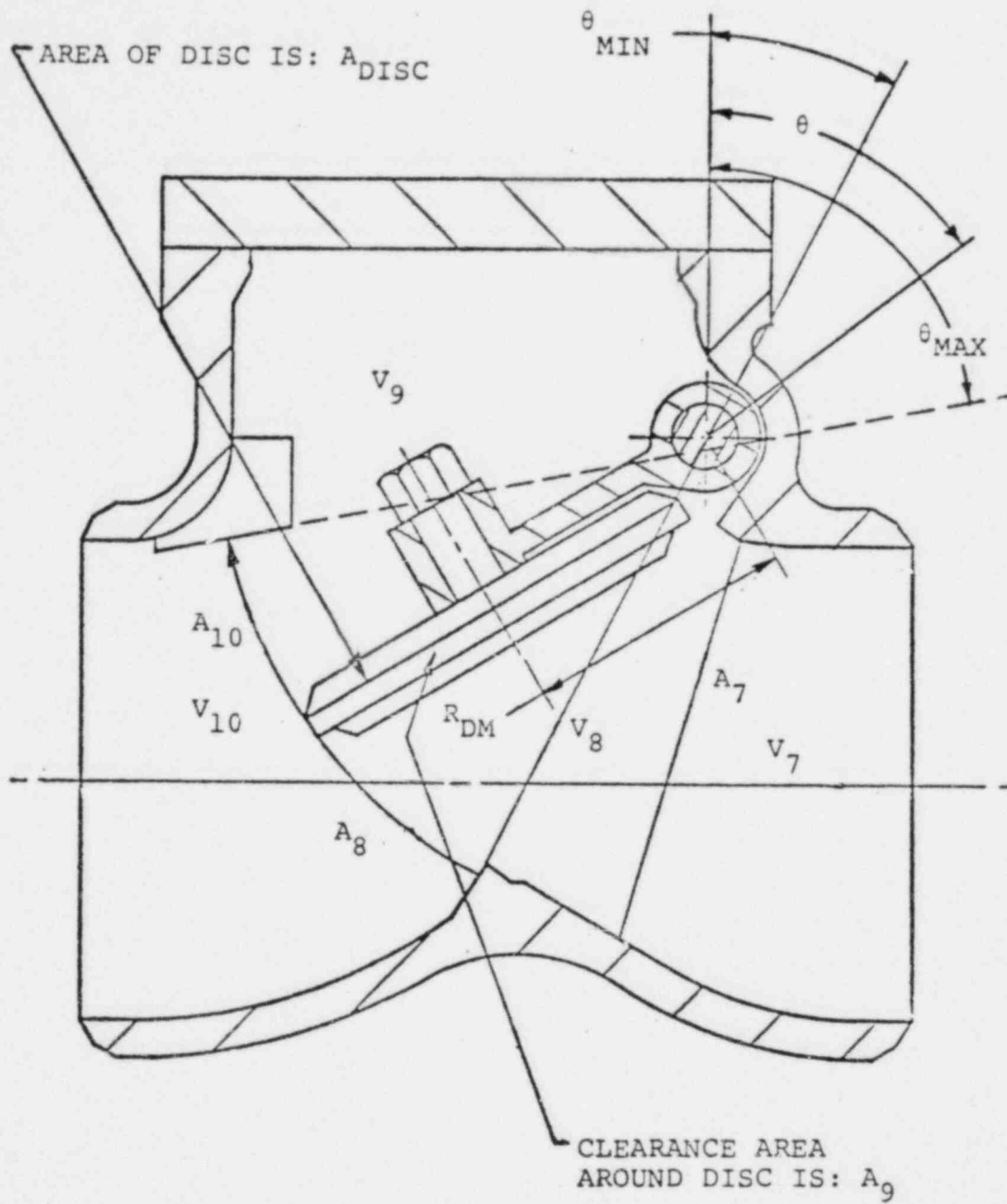
These form pressure drop coefficients were estimated using values given in Reference 2. A sharp edged area change was assumed for connector 9 by adding the coefficients for an area contraction and an area enlargement. On the other hand, a venturi geometry was assumed for connector 10. The larger and smaller coefficients resulting from this assumption for connectors 9 and 10, respectively, will both tend to increase the pressure drop across the disc and are thus conservative.

Form Pressure Drop Coefficient for Connector 7 and 8

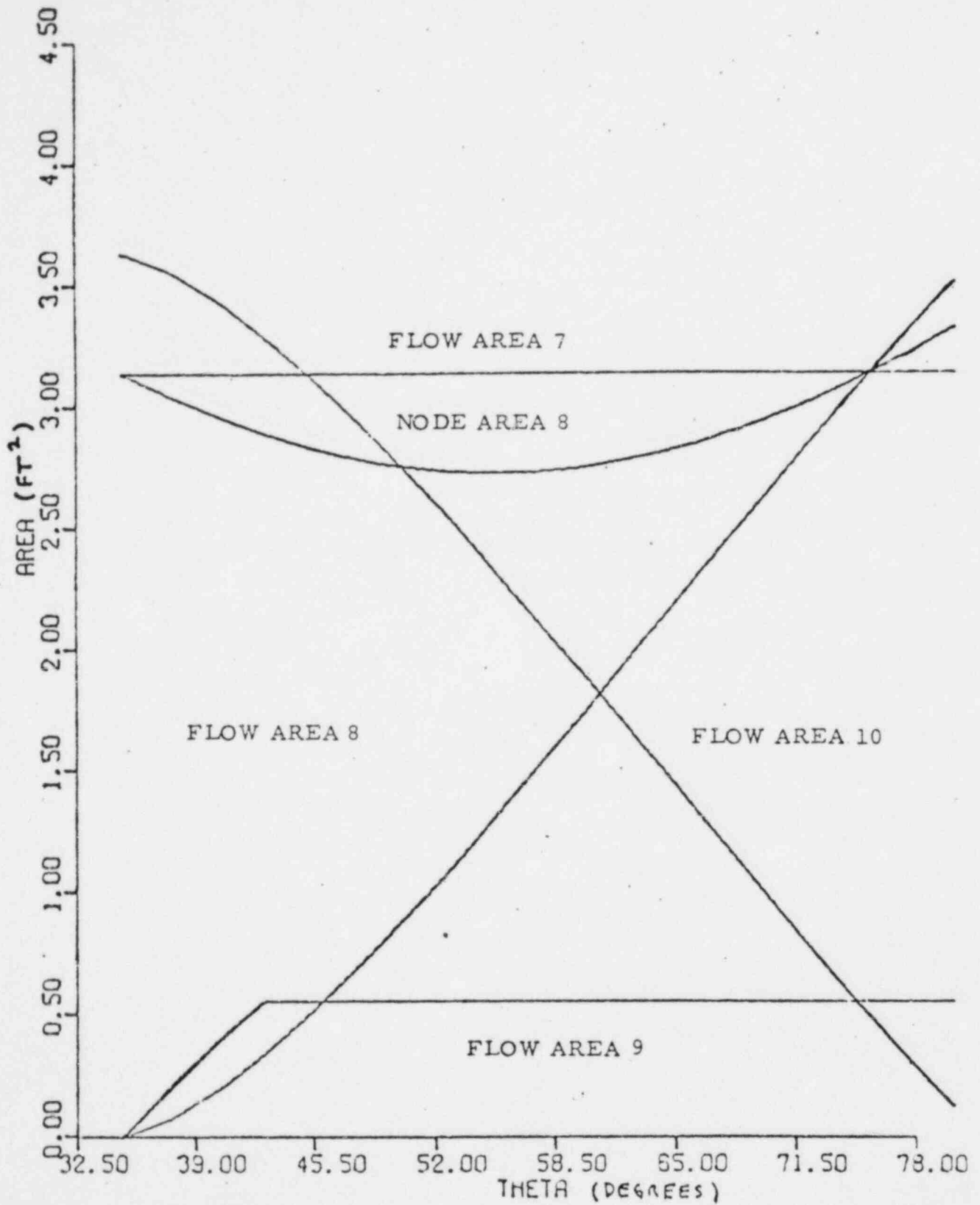
The pressure drop coefficient for the full valve as supplied by the valve manufacturer was used for connector 8. The form drop due to the seat in connector 7 was neglected.

The flow areas and nodal volumes as calculated by the computer program are plotted as functions of disc angle in figures A-2, A-3 and A-4. The form pressure drop coefficient as supplied by the valve manufacturer for a similar type valve is provided in figure A-5. The full input data for the volumes and flow areas, as well as form drop coefficients, effective lengths, etc. are provided in the initial pages of the computer output given in Appendix B of this report. Drawings used to obtain dimensions for the valve and the mainstream piping are given in references 3 and 4.

The major changes in the valve input data, for Revision 1 of the report are the decrease of the valve disc weight and inertia based on parameters utilized in John Henry Associates Report JHA-79-138.



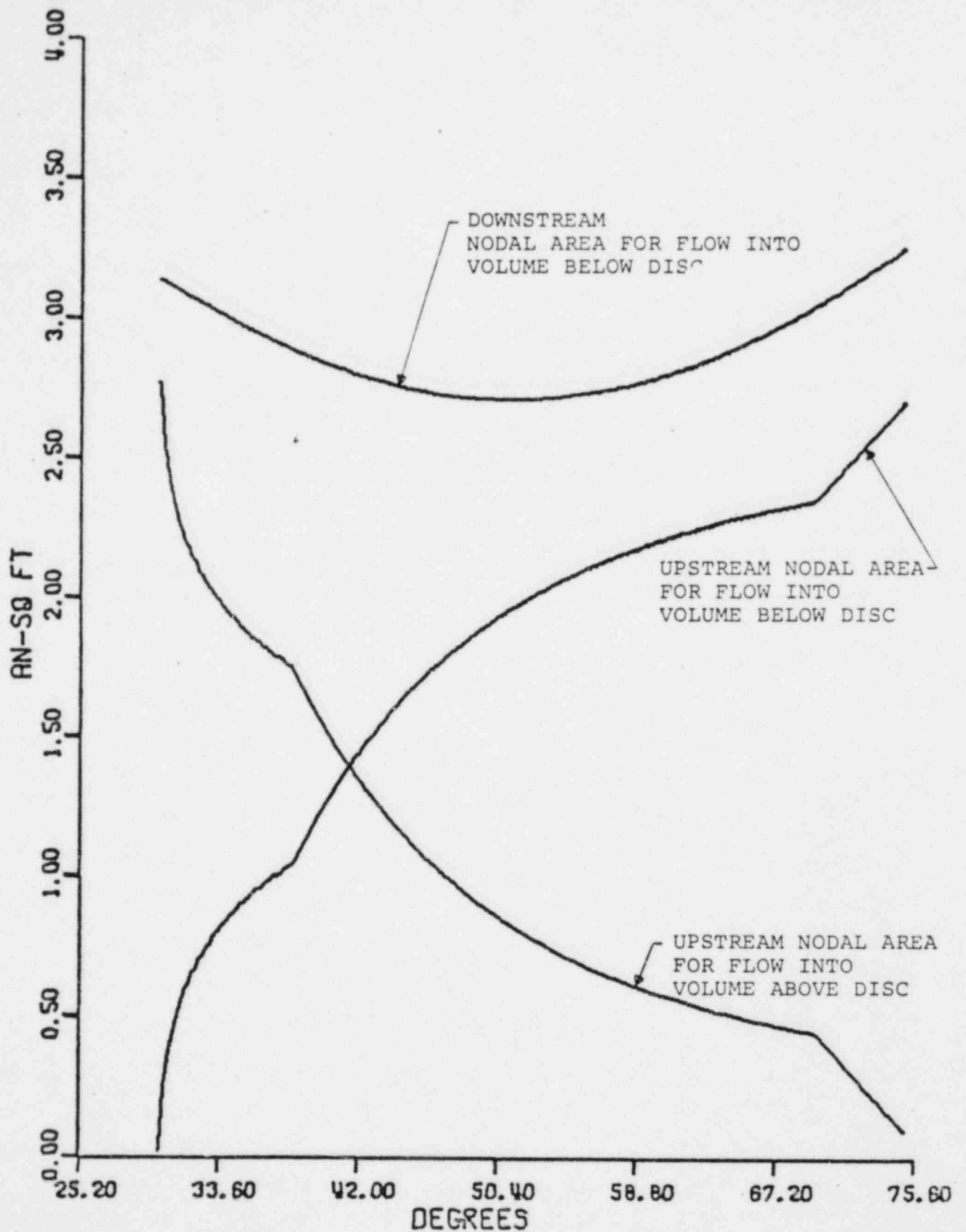
VALVE INTERNALS
 FIGURE A-1



VALVE AREAS AS FUNCTIONS
OF DISC ANGLE

FIGURE A-2

Revised June 1980

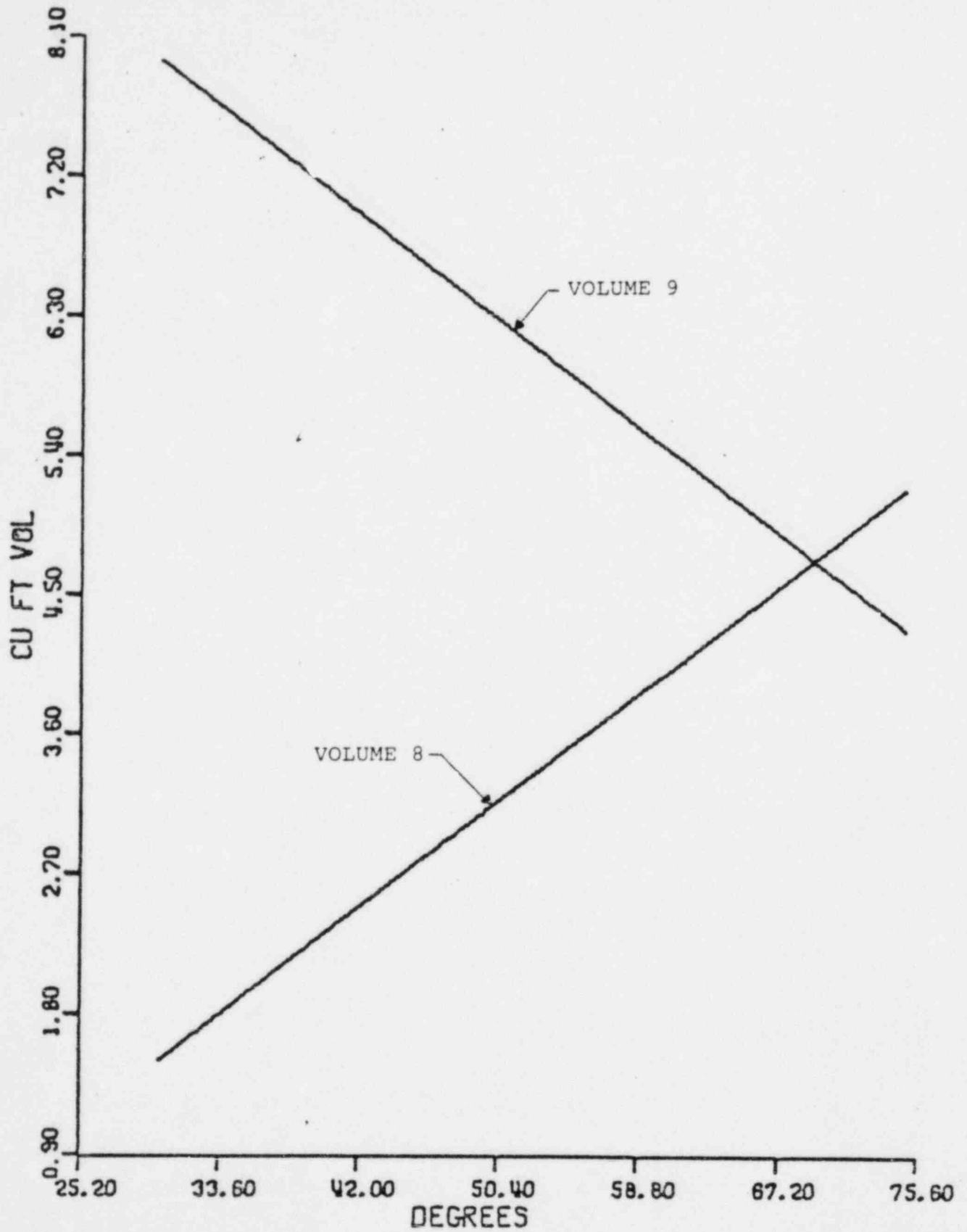


BIG ROCK POINT CHECK VALVE - REFERENCE CASE WITH $K(130L)=500$ - TRANSIENT

VALVE NODAL AREA AS FUNCTION OF DISC ANGLE

FIGURE A-3

Revised June 1980



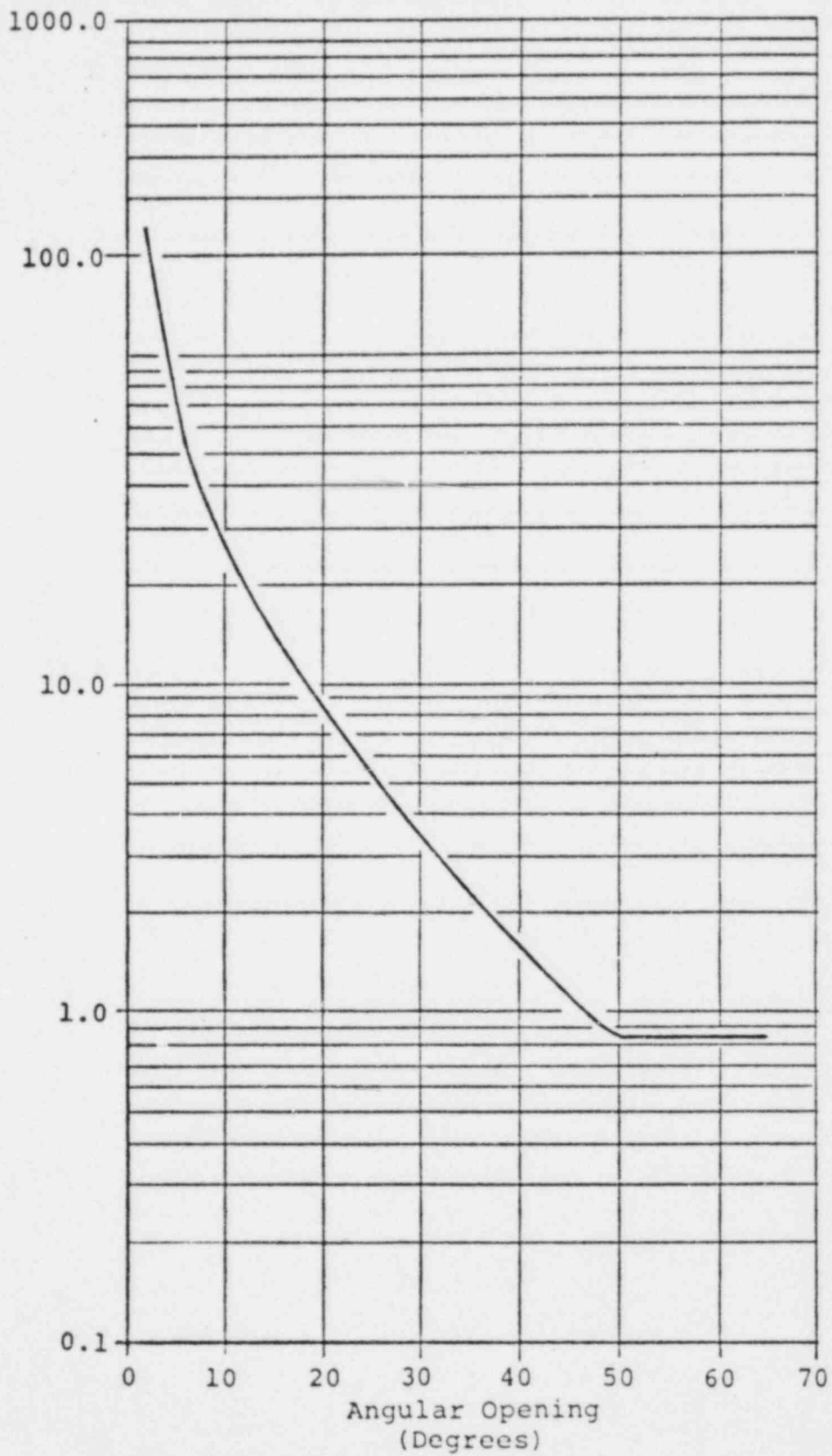
BIG ROCK POINT CHECK VALVE - REFERENCE CASE WITH $K(90L)=500$ - TRANSIENT

VOLUMES AS FUNCTION OF DISC ANGLE

FIGURE A-4

Revised June 1980

Pressure Drop
Coefficient



PRESSURE DROP COEFFICIENT
VERSUS
VALVE DISC ANGLE

FIGURE A-5

Revised June 1980

COMPUTER OUTPUT FOR
CONTAINMENT ISOLATION VALVE
TRIP - REFERENCE CASE

INPUT DATA
 NUMBER OF FLC NODES----- 37
 NUMBER OF HEAT NODES----- 0
 NUMBER OF FLA CONNECTORS----- 16
 NUMBER OF HEAT CONNECTORS----- 0
 NUMBER OF FLUID SYSTEMS----- 2
 IF 1 OR 2, RESTART WILL BE READ----- -1
 NUMBER OF CYCLES BETWEEN OUTPUTS----- 10
 NUMBER OF CYCLES BETWEEN MONITORS----- 1
 IF 1, MONITOR RESTART TAPE READ----- 0
 IF 1, TAPER DATA WILL BE INCLUDED----- 0

SYSTEM NUMBER 1 TYPE OF SYSTEM-- VEAT AIR

FLOW NODE DATA	NP	TYPE	VOLUME	ELEVATION	PRESSURE	TEMP	VOID FRAC
	1	1	10.0000	0.0000	14.70	60.00	0.000000
	2	C	13.9600	0.0000	14.68	60.06	1.000000
	3	0	6.2710	1.1050	14.69	60.07	1.000000
	4	0	6.5190	5.0110	14.69	60.06	1.000000
	5	0	6.5190	7.4890	14.69	60.06	1.000000
	6	0	8.2710	11.4030	14.69	60.06	1.000000
	7	0	2.8480	12.5000	14.70	60.06	1.000000
	8	0	5.1670	12.7012	14.71	60.07	1.000000
	9	0	4.2700	13.5210	14.71	60.21	1.000000
	10	0	3.7320	12.5000	14.71	60.07	1.000000
	11	0	4.1480	12.5000	14.71	60.08	1.000000
	12	0	4.1480	12.5000	14.73	40.09	1.000000
	13	0	27.9200	12.5000	14.73	50.09	1.000000
	14	0	27.9200	12.5000	14.74	60.10	1.000000
	15	0	27.9200	12.5000	14.74	60.12	1.000000
	16	0	27.9200	12.5000	14.74	60.12	1.000000
	17	0	27.9200	12.5000	14.75	60.11	1.000000
	18	0	27.9200	12.5000	14.75	60.10	1.000000
	19	0	27.9200	12.5000	14.75	60.12	1.000000
	20	0	27.9200	12.5000	14.76	60.22	1.000000
	21	0	27.9200	12.5000	14.76	60.29	1.000000
	22	1	27.9200	12.5000	14.98	60.00	0.000000

CONNECTOR DATA

CONN	I-CP	I-CN	MSEG	TYPE	AN-UP	AN-CA	AFALL	AEAR	FLOW	AREA	LENGTH	EQ DIAM	K-POS	K-NEG	STYFE	INT D _x /A
1	2	1	1	0	2.792	2.792	2.792	2.792	16.45	2.792	5.000	1.886	1.000	.500	0	.000286
2	3	2	1	0	2.792	2.792	2.792	2.792	16.45	2.792	5.463	1.886	.132	.132	0	.000422
3	4	3	1	0	2.792	2.792	2.792	2.792	16.45	2.792	4.202	1.886	0.000	0.000	0	.000325
4	5	4	1	0	2.792	2.792	2.792	2.792	16.45	2.792	2.478	1.886	0.000	0.000	0	.000192
5	6	5	1	0	2.792	2.792	2.792	2.792	16.46	2.792	4.202	1.886	.132	.132	0	.000325
6	7	6	1	0	2.792	2.792	2.792	2.792	16.46	2.792	3.696	1.886	0.000	0.000	0	.000286
7	8	7	1	0	3.250	2.792	3.142	3.021	16.46	3.142	1.833	1.886	0.000	0.000	0	.000176
8	10	8	1	0	2.693	3.250	3.142	2.972	16.21	3.359	1.670	1.886	.570	.570	0	.000114
9	9	8	1	0	3.307	3.307	3.142	3.307	.26	.557	1.820	1.886	1.360	1.360	0	.000149
10	10	9	1	0	.059	3.307	2.792	1.703	.26	.123	2.000	1.886	.618	.618	0	.000101
11	11	10	1	0	2.792	2.792	2.792	2.792	16.47	2.792	1.972	1.886	0.000	0.000	0	.000152
12	12	11	1	0	2.792	2.792	2.792	2.513	16.47	2.513	1.500	1.886	.220	.220	0	.000116
13	13	12	1	0	2.792	2.792	2.792	2.792	16.48	2.792	5.750	1.886	0.000	0.000	0	.000444
14	14	13	1	0	2.792	2.792	2.792	2.792	16.50	2.792	10.000	1.886	0.000	0.000	0	.000773
15	15	14	1	0	2.792	2.792	2.792	2.792	16.54	2.792	10.000	1.886	0.000	0.000	0	.000773
16	16	15	1	0	2.792	2.792	2.792	2.792	16.58	2.792	10.000	1.886	0.000	0.000	0	.000773
17	17	16	1	0	2.792	2.792	2.792	2.792	16.62	2.792	10.000	1.886	0.000	0.000	0	.000773
18	18	17	1	0	2.792	2.792	2.792	2.792	16.67	2.792	10.000	1.886	0.000	0.000	0	.000773
19	19	18	1	0	2.792	2.792	2.792	2.792	16.72	2.792	10.000	1.886	0.000	0.000	0	.000773
20	20	19	1	0	2.792	2.792	2.792	2.792	16.77	2.792	10.000	1.886	0.000	0.000	0	.000773
21	21	20	1	0	2.792	2.792	2.792	2.792	16.83	2.792	10.000	1.886	0.000	0.000	0	.000773
22	22	21	1	0	2.792	2.792	2.792	2.792	16.90	2.792	10.000	1.886	1.000	1.000	0	.000773

SYSTEM NUMBER 2 TYPE OF SYSTEM-- ACTUATOR

FLOW NODE DATA

NP	TYPE	VOLUME	ELEVATION	PRESSURE	TEMP	VOID	FFAC
23	0	.1268	0.0000	105.00	60.00	1.000000	
24	0	.0579	0.0000	105.00	60.00	1.000000	
25	0	.0059	0.0000	105.00	60.00	1.000000	
26	0	.0019	0.0000	105.00	60.00	1.000000	
27	0	.0059	0.0000	105.00	60.00	1.000000	
28	0	.0059	0.0000	105.00	60.00	1.000000	
29	0	.0012	0.0000	105.00	60.00	1.000000	
30	0	.0021	0.0000	105.00	60.00	1.000000	
31	0	.0021	0.0000	105.00	60.00	1.000000	
32	0	.0081	0.0000	105.00	60.00	1.000000	
33	0	.0081	0.0000	105.00	60.00	1.000000	
34	0	.0081	0.0000	105.00	60.00	1.000000	
35	0	.0081	0.0000	105.00	60.00	1.000000	
36	0	.0008	0.0000	105.00	60.00	1.000000	
37	1	10.0000	0.0000	105.00	60.00	1.000000	

CONNECTOR DATA																
CONN	I-UP	I-DI	WSEG	TYPE	AN-UP	AN-DN	AFALL	AEAR	FLOW	AREA	LENGTH	EQ DIAM	K-POS	K-AEG	STYPE	INT CX/A
23	23	25	2	0	.196	.002	.196	.045	.00	.196	.532	.500	0.000	0.000	0	.244E08
24	25	27	1	0	.002	.002	.002	.002	.00	.002	1.833	.045	0.000	0.000	0	.488177
25	27	28	1	0	.002	.002	.002	.002	.00	.002	3.667	.045	.132	.132	0	.488177
26	28	29	1	0	.002	.002	.002	.002	.00	.002	2.083	.045	.220	.220	0	.277245
27	29	26	1	0	.002	.002	.002	.002	.00	.002	.833	.045	.220	.220	0	.110695
28	26	24	2	0	.002	.136	.136	.042	.00	.136	.250	.416	0.000	0.000	0	.07E056
29	29	30	1	0	.002	.002	.002	.002	.00	.002	.583	.045	0.000	0.000	0	.367969
30	30	31	1	0	.002	.002	.002	.002	.00	.002	2.760	.045	.660	.660	0	.669298
31	31	32	1	0	.002	.002	.002	.002	.00	.002	5.030	.045	0.000	0.000	0	.669298
32	32	33	1	0	.002	.002	.002	.002	.00	.002	5.030	.045	0.000	0.000	0	.669298
33	33	34	1	0	.002	.002	.002	.002	.00	.002	5.030	.045	0.000	0.000	0	.669298
34	34	35	1	0	.002	.002	.002	.002	.00	.002	5.030	.045	0.000	0.000	0	.669298
35	35	36	1	0	.002	.002	.002	.002	.00	.002	5.030	.045	.132	.132	0	.669298
36	36	37	1	0	.002	.002	.002	.002	.00	.002	2.760	.045	500.000	500.000	0	.367930
											.250	.045	500.000	500.000	0	.033282

TIME DATA
 START TIME----- 0.0000
 STOP TIME----- .2400
 MAX ALLOWABLE TIME STEP----- .0100
 CF TIME LIMIT----- 15.00
 MAX PRESSURE CHANGE ON SLOPE--- 1.0000
 MAX PRESSURE CHANGE ALLOWED--- 2.0000
 INITIAL VALVE DISK ANGLE----- 1.3090
 INITIAL DISK ANGULAR VELOCITY-- 0.0000

THE FOLLOWING VARIABLES ARE TO BE MONITORED
 MONITOR 1 CLVEL 1 MONITOR 2 THETA
 MONITOR 6 LPMON 1 MONITOR 7 WTMON
 MONITOR 11 P 8 MONITOR 12 F
 MONITOR 16 P 25 MONITOR 17 P
 MONITOR 21 P 30 MONITOR 22 P
 MONITOR 26 P 35 MONITOR 27 P
 MONITOR 31 W 9 MONITOR 32 W
 MONITOR 36 VDOT 1 MONITOR 37 VOL
 MONITOR 41 A/D8 1

THERE ARE 41 MONITORS

MONITOR 3 DPVAL 3
 MONITOR 4 DPDSK 4
 MONITOR 5 FLPMON 5
 MONITOR 9 P 9
 MONITOR 10 P 10
 MONITOR 13 P 13
 MONITOR 14 P 14
 MONITOR 18 P 18
 MONITOR 19 P 19
 MONITOR 23 P 23
 MONITOR 24 P 24
 MONITOR 28 N 28
 MONITOR 29 W 29
 MONITOR 33 W 33
 MONITOR 34 W 34
 MONITOR 38 VOL 38
 MONITOR 39 ANU10 39
 MONITOR 40 ANU6 40

MONITOR NUMBER 1* CLVEL 1* IS EXTERNAL
 MONITOR NUMBER 2* THETA 2* IS EXTERNAL
 MONITOR NUMBER 3* DPVAL 3* IS EXTERNAL
 MONITOR NUMBER 4* DPDSK 4* IS EXTERNAL

VALVE INPUT DATA

NODE AT VALVE INLET-----	10
NODE ABOVE VALVE DISC-----	9
NODE BELOW VALVE DISC-----	8
NODE AT VALVE OUTLET-----	7
CONNECTOR-INLET TO ABOVE DISC	10
CONNECTOR-INLET TO BELOW DISC	8
CONNECTOR-ABOVE TO BELOW DISC	9
CONNECTOR-BELOW DISC TO OUTLET	7
NUMBER OF ANGLES FOR VARIABLES	13
NODE FOR PRESSURE TRIP VALUE--	22

DISK DATA

DISK RADIUS,FT-----	1.0260
DISK MOMENT ARM,FT-----	1.2083
DISTANCE TO DISK CG,FT-----	1.2917
FREE HANG ANGLE,DEGREES-----	-5.0000
MAXIMUM DISK ANGLE,DEGREES----	75.0000
MINIMUM DISK ANGLE,DEGREES----	30.0000
STOP ANGLE FOR DISC,DEGREES----	75.0000
WEIGHT OF DISK ASSEMBLY,LBS---	307.93
ROT INERTIA OF DISK,FT-LB-SEC2	14.50
HALF DISTANCE SEAT TO STOP----	1.1667
SEAT AREA,FT2-----	3.1416
EDGE PRESSURE MOMENT ARM,FT---	.1667
EDGE AREA,FT2-----	.3608
ADDITIONAL AREA UNDER DISC----	0.0000
ANGLE OF DASHPOT ARM-----	37.5000

DASHPOT DATA

RADIUS OF DASHPOT,FT-----	0.0000
DASHPOT MOMENT ARM,FT-----	.6666
DASHPOT PRELOAD,LBS-----	756.00
DASHPOT SPRING CONSTANT,LR/FT-	1350.00
RADIUS OF AIR CYLINDER,FT----	.2500
VOLUME OF AIR CYLINDER,FT3----	.1246
PRESSURE IN AIR CYLINDER,PSIA--	105.00
AIR PRESSURE RELAXATION TIME--	1.0000
TRIP PRESSURE IN TRIP VOLUME--	16.6P
AMBIENT SYSTEM PRESSURE-----	14.70
DENSITY OF DASHPOT FLUID-----	56.00
ANGLE OF DASHPOT,DEG-----	45.00
TRIP SIGNAL DELAY TIME,SEC----	.1000
CHECK VALVE TRIP TIME-----	100.0000

BEARING DATA

PIN RADIUS,FT-----	.1670
BEARING FRICTION COEFFICIENT--	.2000

K	TH	CV-POS 1	CV-NEG-1	CV-PCS 2	CV-NEG 2	CV-FCS 2	CV-NEG 3	CV-PCS 4	CV-NEG 4	CV-DASHT	CF AREA	DISC AREA
1	30.0000	.1050	.1050	.1600	.1400	1.7100	1.7100	0.3000	0.0000	1.5000	.0200	.5570
2	35.0000	.1050	.1050	.1650	.1650	1.5000	1.5000	0.0000	0.0000	1.5000	.0200	.5570
3	40.0000	.1200	.1200	.1900	.1800	1.3600	1.3600	0.0000	0.0000	1.5000	.0200	.5570
4	45.0000	.1500	.1500	.2300	.2300	1.3600	1.3600	0.0000	0.0000	1.5000	.0200	.5570
5	50.0000	.2040	.2040	.4500	.4500	1.3600	1.3600	0.0000	0.0000	1.5000	.0200	.5570
6	55.0000	.2250	.2250	.5700	.5700	1.3600	1.3600	0.0000	0.0000	1.5000	.0200	.5570
7	60.0000	.3500	.3500	.6200	.6200	1.3600	1.3600	0.0000	0.0000	1.5000	.0200	.5570
8	65.0000	.4300	.4300	.6900	.6900	1.3600	1.3600	0.0000	0.0000	1.5000	.0200	.5570
9	70.0000	.5020	.5020	.6600	.6600	1.3600	1.3600	0.0000	0.0000	1.5000	.0200	.5570
10	75.0000	.6180	.6180	.5700	.5700	1.3600	1.3600	0.0000	0.0000	1.5000	.0200	.5570
11	80.0000	.7190	.7190	.4500	.4500	1.3600	1.3600	0.0000	0.0000	1.5000	.0200	.5570
12	85.0000	.8200	.8200	.3400	.3400	1.3600	1.3600	0.0000	0.0000	1.5000	.0200	.5570
13	90.0000	.9250	.9250	.3400	.3400	1.3600	1.3600	0.0000	0.0000	1.5000	.0200	.5570

AVERAGE CLEARANCE AREA AROUND DISC IS .5570

OUTPUT AT TIME 0.00000

SYSTEM NUMBER 1

FLOW PARAMETERS

CONN	I-UP	I-DN	DNR	P	PROP	FRC	DRCF	FHM	DRCF	EXP	DRCF	FEL	DRCF	HEAD	MOM	DROP	FLOW	STEAM	WATER	VEEL
1	2	1	2	-.021	-.001	-.049	-.073	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.45	0.00	16.45	0.00
2	3	2	3	0.009	-.001	-.006	-.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.45	0.00	16.45	0.00
3	4	3	4	0.000	-.001	0.000	-.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.45	0.00	16.45	0.00
4	5	4	5	-.000	-.001	0.000	-.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.45	0.00	16.45	0.00
5	6	5	6	0.007	-.001	-.006	-.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.46	0.00	16.46	0.00
6	7	6	7	0.001	-.001	0.000	-.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.46	0.00	16.46	0.00
7	8	7	8	0.014	-.000	0.000	-.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.46	0.00	16.46	0.00
8	10	8	10	0.004	-.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.21	0.00	16.21	0.00
9	9	8	9	-.000	-.000	-.000	-.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	.26	0.00	.26	0.00
10	10	9	10	0.004	-.000	-.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	.26	0.00	.26	0.00
11	11	10	11	0.001	-.001	0.000	-.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.47	0.00	16.47	0.00
12	12	11	12	0.014	-.000	-.013	-.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.47	0.00	16.47	0.00
13	13	12	13	0.003	-.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.48	0.00	16.48	0.00
14	14	13	14	0.005	-.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.50	0.00	16.50	0.00
15	15	14	15	0.004	-.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.54	0.00	16.54	0.00
16	16	15	16	0.004	-.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.58	0.00	16.58	0.00
17	17	16	17	0.004	-.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.62	0.00	16.62	0.00
18	18	17	18	0.003	-.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.67	0.00	16.67	0.00
19	19	18	19	0.003	-.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.72	0.00	16.72	0.00
20	20	19	20	0.003	-.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.77	0.00	16.77	0.00
21	21	20	21	0.002	-.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.83	0.00	16.83	0.00
22	22	21	22	0.222	-.008	-.053	-.077	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.90	0.00	16.90	0.00

NODE PARAMETERS

NODE	STATE	PRESSURE	TEMP	SP VOL	ENTHALPY	ENERGY	VOID	FRAC	QUALITY	MASS	ENERGY	MOOT	UDOT
1	LIGUID	14.70	60.00	13.500905	243.13	206.18	0.000000	0.000000	0.000000	22.	5371.	16.	3995.
2	STEAM	14.68	60.02	13.135954	243.15	207.45	1.000000	0.000000	0.000000	1.	220.	0.	0.
3	STEAM	14.69	60.07	13.131806	243.14	207.45	1.000000	0.000000	0.000000	1.	131.	0.	0.
4	STEAM	14.69	60.08	13.131208	243.14	207.45	1.000000	0.000000	0.000000	1.	109.	0.	1.
5	STEAM	14.67	60.07	13.131251	243.14	207.44	1.000000	0.000000	0.000000	1.	109.	0.	1.
6	STEAM	14.68	60.06	13.131408	243.14	207.44	1.000000	0.000000	0.000000	1.	131.	0.	1.
7	STEAM	14.71	60.08	13.134388	243.14	207.45	1.000000	0.000000	0.000000	0.	443.	0.	0.
8	STEAM	14.71	60.07	13.132287	243.14	207.45	1.000000	0.000000	0.000000	0.	443.	0.	1.
9	STEAM	14.71	60.07	13.1315782	243.15	207.47	1.000000	0.000000	0.000000	0.	59.	0.	1.
10	STEAM	14.71	60.07	13.1316181	243.15	207.47	1.000000	0.000000	0.000000	0.	59.	0.	1.
11	STEAM	14.71	60.09	13.1318887	243.15	207.45	1.000000	0.000000	0.000000	0.	443.	0.	1.
12	STEAM	14.73	60.10	13.1317106	243.15	207.45	1.000000	0.000000	0.000000	2.	443.	0.	1.
13	STEAM	14.73	60.10	13.089990	243.15	207.45	1.000000	0.000000	0.000000	2.	442.	0.	6.
14	STEAM	14.74	60.12	13.086514	243.16	207.45	1.000000	0.000000	0.000000	2.	442.	0.	8.
15	STEAM	14.74	60.12	13.083143	243.16	207.45	1.000000	0.000000	0.000000	2.	443.	0.	9.
16	STEAM	14.75	60.11	13.079716	243.16	207.45	1.000000	0.000000	0.000000	2.	443.	0.	11.
17	STEAM	14.75	60.10	13.076510	243.15	207.45	1.000000	0.000000	0.000000	2.	443.	0.	12.
18	STEAM	14.75	60.12	13.074589	243.16	207.46	1.000000	0.000000	0.000000	2.	443.	0.	13.
19	STEAM	14.75	60.22	13.074779	243.16	207.47	1.000000	0.000000	0.000000	2.	443.	0.	13.
20	STEAM	14.76	60.29	13.074350	243.20	207.43	1.000000	0.000000	0.000000	2.	443.	0.	14.
21	STEAM	14.76	60.29	13.074350	243.20	207.43	1.000000	0.000000	0.000000	2.	443.	0.	16.
22	LIGUID	14.98	60.00	13.318251	243.13	206.20	0.000000	0.000000	0.000000	-20.	-5000.	-17.	-4109.

SPECIFIED

SYSTEM NUMBER 2

FLJ PARAMETERS

COMP	I-UP	I-DN	DUR	P	DEOP	FRC	CRCP	FRM	DRCP	FRM	DRCP	EXP	DRCP	RFL	DRCP	HEAD	MOM	DROP	FLOW	STEAM	WATER	VREL
23	23	25	23	-0.00	-0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00
24	25	27	25	0.000	-0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00
25	27	29	27	-0.00	-0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00
26	29	31	29	0.000	-0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00
27	31	33	31	-0.00	-0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00
28	33	35	33	0.000	-0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00
29	35	37	35	-0.00	-0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00
30	37		37	0.000	-0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00

MODE PARAMETERS

MODE	STATE	PROLOG	TIME	OF	VEL	OF	TRIP	QUALITY	ENERGY	ACID	FRAC	MASS	ENERGY	MOOT	UDGT
23	STEAM	105.00	60.00	1.03657	174.03	1.0000000	1.0000000	1.0000000	6.0	0.0	0.0	0.0	6.0	0.0	0.0
24	STEAM	105.00	60.00	1.03657	174.03	1.0000000	1.0000000	1.0000000	6.0	0.0	0.0	0.0	6.0	0.0	0.0
25	STEAM	105.00	60.00	1.03657	174.03	1.0000000	1.0000000	1.0000000	6.0	0.0	0.0	0.0	6.0	0.0	0.0
26	STEAM	105.00	60.00	1.03657	174.03	1.0000000	1.0000000	1.0000000	6.0	0.0	0.0	0.0	6.0	0.0	0.0
27	STEAM	105.00	60.00	1.03657	174.03	1.0000000	1.0000000	1.0000000	6.0	0.0	0.0	0.0	6.0	0.0	0.0
28	STEAM	105.00	60.00	1.03657	174.03	1.0000000	1.0000000	1.0000000	6.0	0.0	0.0	0.0	6.0	0.0	0.0
29	STEAM	105.00	60.00	1.03657	174.03	1.0000000	1.0000000	1.0000000	6.0	0.0	0.0	0.0	6.0	0.0	0.0
30	STEAM	105.00	60.00	1.03657	174.03	1.0000000	1.0000000	1.0000000	6.0	0.0	0.0	0.0	6.0	0.0	0.0
31	STEAM	105.00	60.00	1.03657	174.03	1.0000000	1.0000000	1.0000000	6.0	0.0	0.0	0.0	6.0	0.0	0.0
32	STEAM	105.00	60.00	1.03657	174.03	1.0000000	1.0000000	1.0000000	6.0	0.0	0.0	0.0	6.0	0.0	0.0
33	STEAM	105.00	60.00	1.03657	174.03	1.0000000	1.0000000	1.0000000	6.0	0.0	0.0	0.0	6.0	0.0	0.0
34	STEAM	105.00	60.00	1.03657	174.03	1.0000000	1.0000000	1.0000000	6.0	0.0	0.0	0.0	6.0	0.0	0.0
35	STEAM	105.00	60.00	1.03657	174.03	1.0000000	1.0000000	1.0000000	6.0	0.0	0.0	0.0	6.0	0.0	0.0
36	STEAM	105.00	60.00	1.03657	174.03	1.0000000	1.0000000	1.0000000	6.0	0.0	0.0	0.0	6.0	0.0	0.0
37	STEAM	105.00	60.00	1.03657	174.03	1.0000000	1.0000000	1.0000000	6.0	0.0	0.0	0.0	6.0	0.0	0.0

VALVE PARAMETERS

THE1	1.7000
THE2	0.0000
VOL IN AIR CYLINDER	0.1258
PRES IN AIR CYLINDER	105.0000
VOL BELOW VALVE DISK	5.1670
FLJ ARE: PAST DISK	3.3566

DISK MOMENTS AND DASHFCT PRESSURES

M-DASHFCT	F-CALPAG	K-FIGHT	M-ETCF	M-FLUID	M-TOTAL	P-AIR	P-DASHFCT	P-LP	F-CCWA	F-EDCE
1170.	51.	-752.	-0.	-0.	831.	105.00	14.70	14.71	14.71	14.71

CYC	TIME	CLVEL 1	THETA 2	DFVAL 3	EPDSF 4	FLMON 1	DPHON 1	WTMON 1	DISKM 1	F	22	P	7
2	.0000	0.	75.000	.17303E-01	.57714E-04	-.33210E-01	1171.7	-391.71	830.82	14.980		14.896	
4	.0002	0.	75.000	.17306E-01	.57865E-04	-.33296E-01	1171.7	-391.71	830.82	14.982		14.896	
6	.0006	0.	75.000	.17321E-01	.58424E-04	-.33618E-01	1171.7	-391.71	830.82	14.986		14.896	
8	.0026	0.	75.000	.17390E-01	.60673E-04	-.34912E-01	1171.7	-391.71	830.82	15.006		14.896	
10	.0102	0.	75.000	.17609E-01	.69609E-04	-.40054E-01	1171.7	-391.71	830.82	15.084		14.897	
12	.0302	0.	75.000	.18384E-01	.10318E-03	-.59369E-01	1171.7	-391.71	830.79	15.288		14.700	
14	.0502	0.	75.000	.20770E-01	.23683E-03	-.13743	1171.7	-391.71	830.71	15.492		14.711	
16	.0762	0.	75.000	.26583E-01	.57743E-03	-.13226	1171.7	-391.71	830.49	15.496		14.742	
18	.0902	0.	75.000	.37748E-01	.10765E-02	-.61943	1171.7	-391.71	830.17	15.900		14.803	
20	.1102	0.	75.000	.51794E-01	.16583E-02	-.05422	1171.7	-391.71	829.79	16.115		14.878	
22	.1302	0.	75.000	.67216E-01	.22755E-02	-1.3093	1171.7	-391.71	829.38	16.340		14.845	
24	.1502	0.	75.000	.82695E-01	.28567E-02	-1.6438	1171.7	-391.71	829.01	16.565		14.890	
26	.1702	0.	75.000	.97877E-01	.33508E-02	-1.9281	1171.7	-391.71	828.62	16.750		15.013	
28	.1902	0.	75.000	.11317	.37718E-02	-2.1704	1171.7	-391.71	828.40	17.015		15.021	
30	.2102	0.	75.000	.12503	.41732E-02	-2.4013	1171.7	-391.71	828.14	17.240		15.024	
32	.2302	0.	75.000	.14592	.45935E-02	-2.6432	1171.7	-391.71	827.86	17.465		15.022	
34	.2502	0.	75.000	.16420	.50418E-02	-2.9011	1171.7	-391.71	827.57	17.690		15.019	
36	.2702	0.	75.000	.18414	.55205E-02	-3.1766	1170.5	-391.71	826.05	17.915		15.014	
38	.2879	0.	75.000	.20332	.59744E-02	-3.4378	1161.2	-391.71	815.95	18.113		15.011	
40	.3045	0.	75.000	.22277	.64435E-02	-3.7077	1142.9	-391.71	796.49	18.300		15.009	
42	.3245	0.	75.000	.24815	.70530E-02	-4.0584	1118.3	-391.71	770.32	18.525		15.008	
44	.3445	0.	75.000	.27546	.77339E-02	-4.4502	1100.9	-391.71	751.60	18.750		15.006	
46	.3645	0.	75.000	.30410	.84656E-02	-4.8712	1091.7	-391.71	741.48	18.975		14.998	
48	.3845	0.	75.000	.33374	.91884E-02	-5.2871	1085.6	-391.71	734.60	19.200		14.986	
50	.4045	0.	75.000	.36425	.98768E-02	-5.6833	1077.6	-391.71	725.79	19.425		14.971	
52	.4245	0.	75.000	.39557	.10555E-01	-6.0737	1066.5	-391.71	713.70	19.650		14.956	
54	.4445	0.	75.000	.42776	.11249E-01	-6.4726	1053.7	-391.71	699.76	19.875		14.942	
56	.4645	0.	75.000	.46081	.11955E-01	-6.8789	1040.8	-391.71	685.80	20.100		14.930	
58	.4845	0.	75.000	.49464	.12667E-01	-7.2889	1028.8	-391.71	672.76	20.325		14.915	
60	.5045	0.	75.000	.52912	.13384E-01	-7.7012	1017.7	-391.71	660.70	20.522		14.905	
62	.5245	0.	75.000	.56428	.14107E-01	-8.1172	1007.2	-391.71	649.17	20.622		14.901	
64	.5445	0.	75.000	.59912	.14877E-01	-8.5603	996.73	-391.71	637.69	20.722		14.892	
66	.5645	0.	75.000	.63206	.15694E-01	-9.0308	986.07	-391.71	625.98	20.822		14.873	
68	.5845	0.	75.000	.66128	.16412E-01	-9.4438	975.22	-391.71	614.15	20.922		14.862	
70	.6045	0.	75.000	.68638	.16872E-01	-9.7082	964.33	-391.71	602.43	21.045		14.806	
72	.6245	0.	75.000	.70759	.17092E-01	-9.8348	953.54	-391.71	590.96	21.245		14.774	
74	.6445	0.	75.000	.72792	.17195E-01	-9.8943	942.93	-391.71	579.75	21.445		14.757	
76	.6645	0.	75.000	.74895	.17311E-01	-9.9613	932.48	-391.71	568.70	21.645		14.750	
78	.6845	0.	75.000	.77317	.17605E-01	-10.130	922.13	-391.71	557.64	21.845		14.760	
80	.7045	0.	75.000	.80115	.18177E-01	-10.459	911.84	-391.71	546.48	22.022		14.809	
82	.7245	0.	75.000	.83225	.18974E-01	-10.918	901.59	-391.71	535.22	22.122		14.836	
84	.7445	0.	75.000	.86468	.19891E-01	-11.446	891.40	-391.71	523.95	22.222		14.852	
86	.7645	0.	75.000	.89564	.20825E-01	-11.983	881.26	-391.71	512.73	22.322		14.852	
88	.7845	0.	75.000	.92383	.21611E-01	-12.435	871.21	-391.71	501.70	22.422		14.837	
90	.8045	0.	75.000	.94810	.22128E-01	-12.733	861.24	-391.71	490.91	22.534		14.815	
92	.8245	0.	75.000	.96912	.22414E-01	-12.898	851.36	-391.71	480.35	22.684		14.795	
94	.8445	0.	75.000	.98818	.22583E-01	-12.995	841.54	-391.71	469.94	22.834		14.786	
96	.8645	0.	75.000	1.0072	.22742E-01	-13.086	831.79	-391.71	459.61	22.984		14.769	
98	.8845	0.	75.000	1.0275	.22998E-01	-13.234	822.11	-391.71	449.28	23.134		14.803	
100	.9045	0.	75.000	1.0496	.23408E-01	-13.469	812.49	-391.71	438.94	23.284		14.823	

CYC	TIME	CLVEL 1	THETA 2	CPVAL 3	DPDSE 4	FLMON 1	DPMON 1	WTMON 1	DISKM 1	P	22	P	7
102	.9245	0.	75.000	1.0735	.23939E-01	-13.775	802.95	-391.71	426.59	23.434		14.742	
104	.9445	0.	75.000	1.0586	.24517E-01	-14.108	793.47	-391.71	418.2P	23.584		14.859	
106	.9645	0.	75.000	1.1244	.25087E-01	-14.436	784.06	-391.71	408.05	23.734		14.974	
108	.9845	0.	75.000	1.1505	.25631E-01	-14.749	774.72	-391.71	397.91	23.884		14.887	
110	1.0045	0.	75.000	1.1767	.26154E-01	-15.049	765.45	-391.71	387.85	24.022		14.900	
112	1.0245	0.	75.000	1.2030	.26670E-01	-15.347	756.24	-391.71	377.87	24.122		14.914	
114	1.0445	0.	75.000	1.2270	.27067E-01	-15.575	747.10	-391.71	368.03	24.222		14.931	
116	1.0645	0.	75.000	1.2409	.27507E-01	-15.483	738.02	-391.71	358.60	24.322		14.965	
118	1.0845	0.	75.000	1.2459	.26578E-01	-15.293	729.01	-391.71	349.35	24.422		15.021	
120	1.1045	0.	75.000	1.2497	.26522E-01	-15.261	720.07	-391.71	340.01	24.522		15.088	
122	1.1245	0.	75.000	1.2546	.26625E-01	-15.320	711.18	-391.71	330.64	24.622		15.156	
124	1.1445	0.	75.000	1.2599	.26752E-01	-15.393	702.36	-391.71	321.32	24.722		15.223	
126	1.1645	0.	75.000	1.2654	.26874E-01	-15.463	693.61	-391.71	312.07	24.822		15.290	
128	1.1645	0.	75.000	1.2708	.26992E-01	-15.531	684.91	-391.71	302.88	24.922		15.356	
130	1.2045	0.	75.000	1.2763	.27109E-01	-15.599	676.28	-391.71	293.76	25.022		15.422	
132	1.2245	0.	75.000	1.2817	.27227E-01	-15.667	667.71	-391.71	284.71	25.122		15.488	
134	1.2445	0.	75.000	1.2871	.27346E-01	-15.736	659.19	-391.71	275.71	25.222		15.554	
136	1.2645	0.	75.000	1.2925	.27466E-01	-15.806	650.74	-391.71	266.78	25.322		15.620	
138	1.2845	0.	75.000	1.2978	.27592E-01	-15.877	642.35	-391.71	257.92	25.422		15.685	
140	1.3045	0.	75.000	1.3030	.27717E-01	-15.949	634.02	-391.71	249.11	25.522		15.750	
142	1.3245	0.	75.000	1.3083	.27842E-01	-16.021	625.75	-391.71	240.37	25.622		15.815	
144	1.3445	0.	75.000	1.3135	.27966E-01	-16.092	617.54	-391.71	231.69	25.722		15.879	
146	1.3645	0.	75.000	1.3186	.28088E-01	-16.162	609.38	-391.71	223.07	25.822		15.942	
148	1.3845	0.	75.000	1.3238	.28208E-01	-16.231	601.28	-391.71	214.52	25.922		16.005	
150	1.4045	0.	75.000	1.3290	.28326E-01	-16.299	593.24	-391.71	206.02	26.022		16.068	
152	1.4245	0.	75.000	1.3342	.28442E-01	-16.366	585.26	-391.71	197.59	26.122		16.130	
154	1.4445	0.	75.000	1.3393	.28556E-01	-16.432	577.33	-391.71	189.22	26.222		16.193	
156	1.4645	0.	75.000	1.3445	.28670E-01	-16.497	569.46	-391.71	180.91	26.322		16.255	
158	1.4845	0.	75.000	1.3497	.28783E-01	-16.562	561.64	-391.71	172.65	26.422		16.318	
160	1.5045	0.	75.000	1.3549	.28896E-01	-16.627	553.88	-391.71	164.46	26.522		16.380	
162	1.5245	0.	75.000	1.3601	.29008E-01	-16.692	546.17	-391.71	156.32	26.622		16.443	
164	1.5445	0.	75.000	1.3653	.29121E-01	-16.757	538.52	-391.71	148.24	26.722		16.506	
166	1.5645	0.	75.000	1.3705	.29234E-01	-16.822	530.92	-391.71	140.22	26.822		16.569	
168	1.5845	0.	75.000	1.3757	.29347E-01	-16.887	523.37	-391.71	132.25	26.922		16.631	
170	1.6045	0.	75.000	1.3809	.29460E-01	-16.952	515.88	-391.71	124.34	27.022		16.694	
172	1.6245	0.	75.000	1.3861	.29573E-01	-17.017	508.43	-391.71	116.49	27.122		16.757	
174	1.6445	0.	75.000	1.3913	.29687E-01	-17.082	501.05	-391.71	108.69	27.222		16.820	
176	1.6645	0.	75.000	1.3965	.29801E-01	-17.148	493.71	-391.71	100.95	27.322		16.883	
178	1.6845	0.	75.000	1.4017	.29915E-01	-17.213	486.42	-391.71	93.256	27.422		16.946	
180	1.7045	0.	75.000	1.4069	.30029E-01	-17.279	479.19	-391.71	85.628	27.522		17.009	
182	1.7245	0.	75.000	1.4121	.30143E-01	-17.345	472.00	-391.71	78.039	27.622		17.072	
184	1.7445	0.	75.000	1.4174	.30258E-01	-17.411	464.87	-391.71	70.511	27.722		17.135	
186	1.7645	0.	75.000	1.4226	.30372E-01	-17.477	457.78	-391.71	63.036	27.822		17.198	
188	1.7845	0.	75.000	1.4278	.30487E-01	-17.543	450.75	-391.71	55.615	27.922		17.261	
190	1.8045	0.	75.000	1.4330	.30602E-01	-17.609	443.76	-391.71	48.245	28.022		17.324	
192	1.8245	0.	75.000	1.4382	.30716E-01	-17.675	436.82	-391.71	40.928	28.122		17.387	
194	1.8445	0.	75.000	1.4434	.30831E-01	-17.741	429.93	-391.71	33.663	28.222		17.450	
196	1.8645	0.	75.000	1.4486	.30946E-01	-17.807	423.09	-391.71	26.445	28.322		17.513	
198	1.8845	0.	75.000	1.4537	.31060E-01	-17.873	416.30	-391.71	19.287	28.422		17.576	
200	1.9045	0.	75.000	1.4589	.31175E-01	-17.939	409.55	-391.71	12.175	28.522		17.639	

CYC	TIME	CLVEL 1	THETA 2	DPVAL 3	EPDSK 4	FLMON 1	CFMON 1	WTMON 1	DISK 1	F	22	P	7
202	1.9245	0.	75.000	1.4641	.31290E-01	-18.005	402.85	-391.71	5.1139	25.622		17.702	
204	1.9445	-.15E05E-02	75.000	1.4693	.31405E-01	-18.071	396.19	-391.71	-1.8967	28.722		17.765	
206	1.9645	-.12689E-01	74.993	1.4745	.30351E-01	-17.465	389.66	-391.71	-8.1054	28.822		17.828	
208	1.9845	-.31708E-01	74.973	1.4795	.26548E-01	-15.276	383.45	-391.69	-12.366	28.922		17.891	
210	2.0045	-.55975E-01	74.931	1.4837	.21136E-01	-12.162	377.70	-391.66	-15.200	29.016		17.955	
212	2.0245	-.83846E-01	74.865	1.4865	.15162E-01	-8.7244	372.43	-391.59	-17.180	29.086		18.019	
214	2.0445	-.11449	74.771	1.4874	.93546E-02	-5.3828	367.63	-391.49	-18.724	29.156		18.082	
216	2.0645	-.14739	74.647	1.4857	.42384E-02	-2.4388	363.32	-391.36	-20.117	29.226		18.143	
218	2.0845	-.16268	74.491	1.4813	.20277E-03	-.11668	359.53	-391.19	-21.537	29.296		18.200	
220	2.1045	-.22053	74.300	1.4742	-.24062E-02	1.3846	356.33	-390.97	-23.116	29.366		18.253	
222	2.1245	-.27262	74.069	1.4547	-.21094E-01	-12.138	353.91	-390.70	-38.508	29.436		18.303	
224	2.1445	-.31432	73.791	1.4528	-.53170E-02	3.0595	352.59	-390.36	-24.625	29.506		18.357	
226	2.1645	-.35942	73.471	1.4357	-.48504E-03	.27910	351.54	-389.96	-28.019	29.576		18.407	
228	2.1845	-.41092	73.107	1.4160	.60460E-02	-3.4790	350.96	-389.48	-31.827	29.646		18.459	
230	2.2045	-.46778	72.690	1.3929	.13089E-01	-7.5315	351.39	-388.92	-34.773	29.716		18.512	
232	2.2245	-.52764	72.218	1.3657	.19856E-01	-11.426	353.07	-388.27	-36.138	29.786		18.567	
234	2.2445	-.58695	71.690	1.3340	.25075E-01	-14.429	356.02	-387.50	-35.173	29.856		18.622	
236	2.2645	-.64082	71.107	1.2975	.27157E-01	-15.627	360.11	-386.61	-31.085	29.926		18.680	
238	2.2845	-.68333	70.478	1.2557	.24778E-01	-14.258	365.13	-385.60	-23.335	29.996		18.739	
240	2.3045	-.70837	69.817	1.2085	.17467E-01	-10.051	370.76	-384.47	-11.968	30.066		18.800	
242	2.3245	-.70774	69.143	1.1505	-.39586E-03	.22779	376.63	-383.25	5.8918	30.136		18.865	
244	2.3445	-.74777	68.460	1.1830	.22944E-01	-5.3482	382.36	-381.97	-41.268	30.206		18.900	
246	2.3645	-.91356	67.680	1.2643	.24190	-139.19	389.82	-380.55	-118.65	30.276		18.924	
248	2.3845	-1.2007	66.884	1.3654	.39085	-224.90	402.76	-378.75	-189.74	30.346		18.938	
250	2.4045	-1.6119	65.358	1.4983	.56732	-326.45	424.32	-376.24	-266.88	30.416		18.939	
252	2.4245	-2.1738	63.573	1.6830	.79956	-460.08	457.92	-372.64	-362.37	30.486		18.922	
254	2.4445	-2.8470	61.195	1.8745	.98317	-565.73	508.91	-367.38	-410.54	30.556		18.903	
256	2.4645	-3.5519	58.162	2.1261	1.1555	-664.88	583.14	-359.79	-426.65	30.626		18.861	
258	2.4845	-3.5514	58.159	2.1263	-.25363E-01	14.594	645.74	-354.90	328.39	30.626		18.862	
260	2.4846	-3.5498	58.148	2.1263	-.96135E-02	5.5317	645.89	-354.89	319.58	30.626		18.863	
262	2.4848	-3.5451	58.108	2.1235	.19420	-111.74	646.45	-354.83	201.63	30.627		18.880	
264	2.4858	-3.5890	57.946	2.1657	1.9002	-1093.4	648.68	-354.57	-777.41	30.630		18.795	
266	2.4896	-4.1096	57.245	2.6485	3.4370	-1977.7	658.41	-353.52	-1628.1	30.644		18.504	
268	2.4947	-5.2237	53.571	2.6929	2.0407	-1174.3	715.20	-348.53	-788.32	30.697		18.772	
270	2.4947	-5.2231	53.866	2.7086	.27483	-158.14	824.99	-340.47	354.48	30.697		18.772	
272	2.4948	-5.2216	53.851	2.7811	.36909	-212.39	825.37	-340.44	299.06	30.697		18.771	
274	2.4950	-5.2200	53.791	3.0573	.86555	-498.05	826.88	-340.34	8.1719	30.698		18.756	
276	2.4950	-5.3033	53.552	3.2869	3.2218	-1853.9	832.91	-339.98	-1331.5	30.701		18.407	
278	2.4953	-5.9789	52.663	3.6016	5.4383	-3129.3	858.73	-338.13	-2536.2	30.713		17.894	
280	2.4934	-6.7598	51.419	4.5940	4.2450	-2444.9	960.07	-331.38	-1777.2	30.727		18.046	
282	2.4935	-6.8042	51.409	4.6148	4.2642	-2453.7	960.40	-331.36	-1785.4	30.727		18.047	
284	2.4936	-6.8224	51.371	4.6896	4.3410	-2497.9	961.71	-331.28	-1827.7	30.728		18.053	
286	2.4941	-6.9028	51.214	4.8489	4.7710	-2745.3	966.97	-330.98	-2064.3	30.729		18.063	
288	2.4960	-7.3176	50.568	4.9195	5.9603	-3429.7	988.82	-329.76	-2704.1	30.736		17.885	
290	2.4986	-7.9266	49.640	5.4362	5.5252	-3179.3	1078.0	-324.39	-2372.2	30.745		17.752	
292	2.4986	-7.9326	49.629	5.4580	5.5480	-3192.4	1078.5	-32	-2384.5	30.745		17.750	
294	2.4987	-7.9569	49.583	5.5395	5.6512	-3251.8	1080.3	-31.27	-2441.0	30.745		17.744	
296	2.4992	-8.0625	49.401	5.7666	6.1165	-3519.8	1086.3	-31.351	-2696.9	30.747		17.699	
298	2.5011	-8.5710	48.644	6.0379	7.2119	-4149.8	1116.7	-322.42	-3276.2	30.754		17.461	
300	2.5030	-9.0942	47.840	6.5289	7.2521	-4173.0	1196.1	-318.13	-3220.4	30.761		17.344	

CYC	TIME	CLVEL 1	THETA 2	DFVAL 3	DPDSK 4	FLMON 1	DFMON 1	WTMCH 1	DISKM 1	F 22	P 7
302	2.5048	-9.6249	47.539	7.0463	8.0441	-4629.7	1244.9	-315.82	-3615.6	30.767	17.185
304	2.5053	-9.7552	46.750	7.2126	7.7249	-4560.1	1294.8	-313.15	-3499.2	30.768	17.139
306	2.5066	-10.193	46.187	7.5875	8.7545	-5077.7	1327.7	-311.80	-3930.5	30.773	16.952
308	2.5083	-10.740	45.365	8.0998	8.0990	-5177.6	1407.7	-308.15	-3998.0	30.779	16.776
310	2.5092	-11.028	44.925	8.5048	9.3420	-5375.5	1469.2	-305.35	-4119.4	30.782	16.652
312	2.5102	-11.407	44.362	8.9282	9.7155	-5590.7	1535.1	-302.54	-4263.4	30.786	16.473
314	2.5111	-11.740	43.882	9.2679	10.493	-6077.6	1573.4	-301.11	-4660.0	30.789	16.263
316	2.5122	-12.192	43.245	9.9610	11.040	-6352.6	1647.6	-298.21	-4892.7	30.793	15.971
318	2.5130	-12.502	42.801	10.429	11.173	-6429.2	1725.9	-295.08	-4890.8	30.795	15.795
320	2.5134	-12.791	42.525	10.768	11.572	-6658.5	1751.3	-294.23	-5089.9	30.797	15.696
322	2.5141	-12.976	42.147	11.119	11.729	-6749.1	1820.8	-291.61	-5109.8	30.799	15.566
324	2.5141	-12.969	42.129	11.143	11.761	-6767.2	1822.4	-291.57	-5125.9	30.799	15.559
326	2.5142	-13.041	42.055	11.232	11.888	-6840.3	1822.3	-291.39	-5191.6	30.800	15.535
328	2.5147	-13.256	41.756	11.525	12.349	-7105.8	1852.5	-290.69	-5426.6	30.801	15.434
330	2.5153	-13.560	41.345	11.838	12.470	-7175.2	1933.7	-287.80	-5413.8	30.804	15.293
332	2.5154	-13.574	41.326	11.860	12.502	-7193.7	1935.4	-287.75	-5430.0	30.804	15.287
334	2.5155	-13.629	41.248	11.944	12.629	-7267.0	1942.2	-287.56	-5495.0	30.804	15.261
336	2.5160	-13.856	40.935	12.236	13.083	-7528.0	1969.6	-286.82	-5722.5	30.806	15.152
338	2.5166	-14.175	40.507	12.576	13.160	-7572.7	2061.2	-283.75	-5675.5	30.808	15.003
340	2.5166	-14.189	40.486	12.599	13.193	-7591.2	2063.1	-283.70	-5691.6	30.808	14.996
342	2.5168	-14.246	40.406	12.691	13.319	-7667.8	2070.8	-283.50	-5755.1	30.809	14.966
344	2.5172	-14.483	40.079	13.012	13.766	-7920.9	2102.1	-282.71	-5975.3	30.810	14.854
346	2.5178	-14.737	39.661	13.352	14.066	-8093.9	2172.8	-280.62	-6074.5	30.812	14.707
348	2.5184	-15.054	39.292	13.711	14.265	-8208.1	2248.3	-278.40	-6111.8	30.814	14.578
350	2.5186	-15.309	38.938	14.041	14.649	-8429.3	2298.4	-277.11	-6278.5	30.816	14.455
352	2.5193	-15.546	38.608	14.336	14.862	-8551.9	2368.8	-275.17	-6329.1	30.818	14.340
354	2.5197	-15.772	38.295	14.626	15.051	-8683.7	2427.3	-273.27	-6400.1	30.819	14.226
356	2.5201	-15.939	37.993	14.894	15.450	-8890.1	2471.6	-272.25	-6557.9	30.820	14.116
358	2.5203	-16.105	37.831	15.039	15.517	-8928.9	2524.4	-270.82	-6543.8	30.821	14.055
360	2.5208	-16.339	37.510	15.325	15.996	-9204.2	2579.4	-269.57	-6757.9	30.823	13.920
362	2.5212	-16.592	37.168	15.653	16.530	-9511.6	2649.1	-267.96	-6987.9	30.824	13.746
364	2.5214	-16.742	36.965	15.875	16.834	-9686.7	2709.7	-266.49	-7096.4	30.825	13.627
366	2.5218	-16.977	36.664	16.239	17.428	-10029.	2775.0	-265.07	-7366.9	30.826	13.417
368	2.5222	-17.201	36.370	16.643	18.051	-10387.	2838.1	-263.75	-7653.1	30.828	13.177
370	2.5224	-17.356	36.171	16.945	18.418	-10598.	2900.4	-262.37	-7797.2	30.828	13.000
372	2.5228	-17.574	35.904	17.382	18.983	-10923.	2966.7	-261.02	-8048.2	30.830	12.791
374	2.5231	-17.787	35.643	17.893	19.574	-11263.	3026.5	-259.87	-8320.9	30.831	12.471
376	2.5233	-17.944	35.454	18.195	19.938	-11473.	3089.7	-258.58	-8462.6	30.831	12.268
378	2.5236	-18.147	35.213	18.661	20.452	-11769.	3156.3	-257.32	-8665.8	30.832	12.004
380	2.5238	-18.348	34.976	19.132	20.998	-12093.	3214.4	-256.29	-8934.5	30.833	11.742
382	2.5240	-18.500	34.801	19.493	21.346	-12283.	3277.8	-255.08	-9067.5	30.834	11.546
384	2.5243	-18.692	34.581	19.946	21.821	-12556.	3344.5	-253.91	-9268.9	30.835	11.303
386	2.5245	-18.882	34.367	20.394	22.331	-12849.	3401.6	-252.97	-9498.4	30.836	11.069
388	2.5247	-19.028	34.202	20.737	22.664	-13041.	3465.1	-251.85	-9623.2	30.836	10.852
390	2.5249	-19.209	34.000	21.158	23.110	-13298.	3531.8	-250.75	-9808.6	30.837	10.678
392	2.5252	-19.389	33.803	21.569	23.588	-13573.	3588.3	-249.88	-10072.	30.838	10.472
394	2.5253	-19.528	33.650	21.886	23.906	-13756.	3651.7	-248.84	-10138.	30.839	10.315
396	2.5255	-19.700	33.464	22.269	24.326	-13997.	3718.2	-247.81	-10309.	30.839	10.127
398	2.5257	-19.869	33.281	22.644	24.774	-14255.	3774.4	-247.01	-10505.	30.840	9.9442
400	2.5259	-20.002	33.139	22.933	25.073	-14427.	3837.7	-246.03	-10611.	30.841	9.8037

CYC	TIME	CLVFL 1	THETA 2	DPVAL 3	DPDSK 4	FLMON 1	DPMON 1	WTMON 1	DISKM 1	F 22	P 7
402	2.5260	-20.164	32.966	23.284	25.465	-14653.	3904.0	-245.07	-10767.	30.841	5.6336
404	2.5262	-20.325	32.796	23.627	25.881	-14993.	3959.9	-244.32	-10946.	30.842	9.4876
406	2.5264	-20.450	32.664	23.893	26.160	-15053.	4023.0	-243.40	-11041.	30.842	9.3366
408	2.5265	-20.590	32.518	24.189	26.492	-15244.	4075.8	-242.50	-11176.	30.843	9.1946
410	2.5267	-20.728	32.375	24.477	26.858	-15455.	4120.3	-241.97	-11337.	30.843	9.0532
412	2.5268	-20.872	32.226	24.776	27.174	-15637.	4189.5	-241.04	-11447.	30.844	8.9055
414	2.5270	-21.011	32.081	25.064	27.475	-15809.	4254.1	-240.12	-11546.	30.844	8.7624
416	2.5271	-21.148	31.941	25.346	27.817	-16006.	4309.0	-239.53	-11692.	30.845	8.6218
418	2.5272	-21.272	31.813	25.601	28.078	-16157.	4374.7	-238.69	-11775.	30.845	8.4944
420	2.5274	-21.407	31.675	25.877	28.365	-16324.	4442.2	-237.86	-11872.	30.846	8.3551
422	2.5275	-21.540	31.540	26.149	28.687	-16507.	4494.8	-237.27	-11999.	30.846	8.2178
424	2.5276	-21.651	31.426	26.378	28.914	-16638.	4558.8	-236.50	-12065.	30.847	8.1019
426	2.5277	-21.760	31.294	26.641	29.189	-16796.	4625.2	-235.73	-12154.	30.847	7.9674
428	2.5279	-21.902	31.165	26.901	29.483	-16965.	4679.2	-235.16	-12267.	30.847	7.8347
430	2.5280	-22.011	31.061	27.111	29.687	-17082.	4742.4	-234.43	-12320.	30.848	7.7266
432	2.5281	-22.133	30.936	27.361	29.943	-17230.	4808.2	-233.71	-12400.	30.848	7.5576
434	2.5282	-22.254	30.814	27.607	30.216	-17397.	4862.9	-233.16	-12500.	30.849	7.4702
436	2.5283	-22.351	30.716	27.804	30.402	-17494.	4925.5	-232.47	-12543.	30.849	7.3685
438	2.5284	-22.467	30.598	28.040	30.641	-17631.	4991.1	-231.79	-12614.	30.849	7.2453
440	2.5285	-22.562	30.482	28.273	30.894	-17777.	5046.0	-231.27	-12703.	30.850	7.1239
442	2.5286	-22.672	30.391	28.457	31.067	-17876.	5108.4	-230.62	-12739.	30.850	7.0277
444	2.5287	-22.783	30.279	28.680	31.290	-18005.	5173.7	-229.98	-12801.	30.850	6.9107
446	2.5288	-22.891	30.169	28.899	31.527	-18141.	5228.7	-229.48	-12861.	30.851	6.7955
448	2.5289	-22.977	30.083	29.072	31.687	-18233.	5290.9	-228.86	-12910.	30.851	6.7048
450	2.5290	0.	30.000	29.281	31.866	-18353.	5356.1	-228.25	-12965.	30.851	6.5941
452	2.5291	0.	30.000	29.530	32.202	-18533.	5359.5	-228.14	-13133.	30.852	6.4623
454	2.5295	0.	30.000	30.509	33.116	-19055.	5336.8	-228.14	-13662.	30.853	5.9542
456	2.5302	0.	30.000	31.760	33.754	-19422.	5306.2	-228.14	-14049.	30.856	5.3752
458	2.5308	0.	30.000	32.848	34.043	-19589.	5274.7	-228.14	-14243.	30.858	5.2037
460	2.5315	0.	30.000	33.650	34.209	-19688.	5242.2	-228.14	-14369.	30.860	4.9616
462	2.5322	0.	30.000	34.117	34.370	-19777.	5208.8	-228.14	-14493.	30.862	5.0422
464	2.5329	0.	30.000	34.310	34.526	-19867.	5174.2	-228.14	-14615.	30.865	5.3160
466	2.5336	0.	30.000	34.365	34.623	-19923.	5138.4	-228.14	-14704.	30.868	5.5899
468	2.5344	0.	30.000	34.411	34.639	-19932.	5101.3	-228.14	-14749.	30.870	5.7717
470	2.5352	0.	30.000	34.508	34.830	-19927.	5062.8	-228.14	-14780.	30.873	5.6404
472	2.5361	0.	30.000	34.640	34.889	-19960.	5022.7	-228.14	-14851.	30.876	5.6208
474	2.5370	0.	30.000	34.769	34.862	-20060.	4980.8	-228.14	-14988.	30.879	5.7257
476	2.5379	0.	30.000	34.850	35.090	-20192.	4936.9	-228.14	-15157.	30.883	5.5684
478	2.5389	0.	30.000	34.849	35.219	-20266.	4890.8	-228.14	-15273.	30.886	5.3610
480	2.5400	0.	30.000	34.719	35.130	-20214.	4842.1	-228.14	-15270.	30.890	5.1530
482	2.5411	0.	30.000	34.434	34.770	-20007.	4790.6	-228.14	-15118.	30.894	5.0057
484	2.5423	0.	30.000	34.029	34.174	-19664.	4735.6	-228.14	-14839.	30.898	4.9433
486	2.5432	0.	30.000	33.752	33.730	-19409.	4698.4	-228.14	-14627.	30.901	4.8344
488	2.5438	0.	30.000	33.580	33.443	-19244.	4673.7	-228.14	-14450.	30.903	4.9336
490	2.5441	0.	30.000	33.478	33.265	-19141.	4657.6	-228.14	-14407.	30.904	4.9134
492	2.5447	0.	30.000	33.352	33.035	-19009.	4633.7	-228.14	-14302.	30.906	4.9287
494	2.5452	0.	30.000	33.261	32.859	-18908.	4610.2	-228.14	-14226.	30.908	4.9152
496	2.5456	0.	30.000	33.219	32.772	-18857.	4595.2	-228.14	-14191.	30.909	4.9011

CYC	TIME	P	F	P	9	P	10	P	23	F	24	F	25	P	26	P	27	P	28	F	29	
2	.0000	14.709		14.710		14.713		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
4	.0002	14.709		14.710		14.713		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
6	.0006	14.710		14.710		14.713		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
8	.0026	14.710		14.710		14.714		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
10	.0102	14.711		14.711		14.715		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
12	.0302	14.715		14.715		14.719		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
14	.0502	14.727		14.727		14.731		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
16	.0702	14.763		14.763		14.769		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
18	.0902	14.830		14.831		14.840		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
20	.1102	14.915		14.916		14.929		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
22	.1302	14.992		14.995		15.012		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
24	.1502	15.046		15.051		15.072		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
26	.1702	15.083		15.086		15.110		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
28	.1902	15.103		15.107		15.135		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
30	.2102	15.118		15.122		15.153		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
32	.2302	15.130		15.135		15.168		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
34	.2502	15.141		15.146		15.183		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
36	.2702	15.153		15.159		15.199		104.94		104.57		104.87		104.50		104.71		104.51		104.40		104.40
38	.2879	15.166		15.172		15.215		104.44		102.90		104.19		102.86		103.67		103.12		102.79		102.79
40	.3045	15.180		15.186		15.232		103.47		101.91		103.26		102.00		102.81		102.37		102.12		102.12
42	.3245	15.199		15.206		15.256		102.17		102.08		102.17		102.10		102.16		102.15		102.14		102.14
44	.3445	15.215		15.227		15.281		101.25		102.06		101.37		102.03		101.67		101.86		101.99		101.99
46	.3645	15.235		15.244		15.303		100.76		101.35		100.85		101.34		101.03		101.21		101.30		101.30
48	.3845	15.247		15.256		15.319		100.43		100.40		100.43		100.40		100.42		100.40		100.35		100.35
50	.4045	15.257		15.267		15.335		100.01		99.602		99.551		99.610		99.826		99.697		99.622		99.622
52	.4245	15.268		15.279		15.351		99.422		99.016		99.363		99.022		99.238		99.107		99.029		99.029
54	.4445	15.281		15.293		15.370		98.740		98.510		98.707		98.509		98.635		98.557		98.507		98.507
56	.4645	15.296		15.308		15.391		98.057		97.977		98.047		97.974		98.022		97.952		97.968		97.968
58	.4845	15.313		15.326		15.413		97.422		97.401		97.420		97.398		97.415		97.404		97.393		97.393
60	.5045	15.332		15.346		15.438		96.835		96.801		96.831		96.799		96.822		96.808		96.795		96.795
62	.5245	15.353		15.368		15.465		96.276		96.197		96.265		96.196		96.242		96.213		96.193		96.193
64	.5445	15.373		15.388		15.491		95.720		95.601		95.704		95.600		95.667		95.626		95.598		95.598
66	.5645	15.382		15.398		15.505		95.155		95.019		95.136		95.018		95.094		95.047		95.016		95.016
68	.5845	15.376		15.393		15.504		94.580		94.450		94.561		94.449		94.522		94.477		94.447		94.447
70	.6045	15.361		15.377		15.492		94.002		93.889		93.986		93.888		93.952		93.912		93.885		93.885
72	.6245	15.349		15.365		15.482		93.430		93.331		93.416		93.330		93.386		93.351		93.327		93.327
74	.6445	15.348		15.366		15.485		92.867		92.773		92.854		92.772		92.826		92.792		92.769		92.769
76	.6645	15.369		15.386		15.509		92.312		92.216		92.299		92.215		92.270		92.236		92.212		92.212
78	.6845	15.410		15.427		15.553		91.763		91.662		91.750		91.661		91.719		91.683		91.659		91.659
80	.7045	15.462		15.480		15.611		91.218		91.113		91.203		91.112		91.171		91.135		91.105		91.105
82	.7245	15.514		15.533		15.668		90.674		90.569		90.660		90.568		90.628		90.591		90.566		90.566
84	.7445	15.557		15.577		15.717		90.133		90.030		90.119		90.029		90.088		90.052		90.027		90.027
86	.7645	15.583		15.604		15.748		89.596		89.495		89.582		89.494		89.551		89.515		89.492		89.492
88	.7845	15.591		15.612		15.761		89.063		88.964		89.049		88.963		89.019		88.984		88.960		88.960
90	.8045	15.589		15.611		15.763		88.534		88.436		88.521		88.435		88.491		88.456		88.432		88.432
92	.8245	15.588		15.610		15.765		88.010		87.911		87.996		87.910		87.966		87.932		87.908		87.908
94	.8445	15.595		15.618		15.774		87.489		87.391		87.475		87.390		87.445		87.411		87.387		87.387
96	.8645	15.614		15.637		15.796		86.972		86.874		86.958		86.873		86.928		86.894		86.870		86.870
98	.8845	15.646		15.669		15.830		86.458		86.361		86.445		86.360		86.415		86.381		86.357		86.357
100	.9045	15.684		15.707		15.872		85.948		85.852		85.935		85.851		85.906		85.872		85.848		85.848

CYL	TIME	P	R	P	S	F	10	F	23	F	24	P	25	P	26	P	27	F	28	F	29
102	.9245	15.724		15.748		15.916		85.442		85.346		85.429		85.345		85.400		85.366		85.343	
104	.9445	15.762		15.786		15.958		84.939		84.844		84.926		84.843		84.897		84.864		84.841	
106	.9645	15.798		15.823		15.998		84.440		84.346		84.427		84.345		84.398		84.365		84.342	
108	.9845	15.833		15.859		16.038		83.945		83.851		83.932		83.850		83.903		83.870		83.847	
110	1.0045	15.869		15.895		16.077		83.453		83.360		83.440		83.358		83.412		83.379		83.356	
112	1.0245	15.905		15.931		16.117		82.965		82.872		82.952		82.871		82.924		82.891		82.868	
114	1.0445	15.942		15.969		16.158		82.480		82.387		82.467		82.386		82.439		82.406		82.384	
116	1.0645	15.988		16.015		16.206		81.998		81.907		81.986		81.905		81.958		81.925		81.903	
118	1.0845	16.051		16.077		16.267		81.520		81.429		81.508		81.428		81.480		81.448		81.426	
120	1.1045	16.122		16.148		16.338		81.046		80.955		81.033		80.954		81.006		80.974		80.952	
122	1.1245	16.194		16.220		16.411		80.575		80.484		80.562		80.483		80.535		80.503		80.481	
124	1.1445	16.265		16.292		16.483		80.107		80.017		80.094		80.016		80.067		80.036		80.014	
126	1.1645	16.336		16.363		16.555		79.642		79.553		79.630		79.552		79.603		79.572		79.550	
128	1.1845	16.407		16.434		16.627		79.181		79.093		79.169		79.091		79.142		79.111		79.089	
130	1.2045	16.477		16.505		16.698		78.723		78.635		78.711		78.634		78.684		78.653		78.632	
132	1.2245	16.548		16.575		16.770		78.269		78.181		78.256		78.180		78.230		78.199		78.178	
134	1.2445	16.618		16.646		16.841		77.817		77.730		77.805		77.729		77.779		77.748		77.727	
136	1.2645	16.689		16.716		16.912		77.369		77.282		77.357		77.281		77.331		77.300		77.279	
138	1.2845	16.758		16.786		16.983		76.924		76.838		76.912		76.837		76.886		76.856		76.835	
140	1.3045	16.828		16.855		17.053		76.482		76.396		76.470		76.395		76.444		76.414		76.393	
142	1.3245	16.896		16.924		17.123		76.043		75.958		76.031		75.957		76.005		75.976		75.955	
144	1.3445	16.964		16.992		17.192		75.607		75.523		75.596		75.522		75.570		75.540		75.520	
146	1.3645	17.032		17.060		17.261		75.175		75.091		75.163		75.090		75.138		75.108		75.088	
148	1.3845	17.099		17.128		17.329		74.745		74.662		74.734		74.661		74.708		74.679		74.659	
150	1.4045	17.166		17.195		17.397		74.319		74.236		74.307		74.235		74.282		74.253		74.233	
152	1.4245	17.233		17.262		17.464		73.895		73.813		73.884		73.812		73.859		73.830		73.810	
154	1.4445	17.300		17.329		17.532		73.475		73.393		73.463		73.392		73.438		73.410		73.390	
156	1.4645	17.367		17.395		17.600		73.057		72.976		73.046		72.975		73.021		72.992		72.973	
158	1.4845	17.434		17.462		17.667		72.643		72.562		72.631		72.561		72.607		72.578		72.559	
160	1.5045	17.500		17.529		17.735		72.231		72.150		72.220		72.149		72.195		72.167		72.147	
162	1.5245	17.567		17.596		17.803		71.822		71.742		71.811		71.741		71.787		71.758		71.739	
164	1.5445	17.634		17.664		17.871		71.416		71.337		71.405		71.336		71.381		71.353		71.334	
166	1.5645	17.702		17.731		17.939		71.013		70.934		71.002		70.933		70.978		70.950		70.931	
168	1.5845	17.769		17.798		18.007		70.613		70.534		70.602		70.533		70.578		70.550		70.531	
170	1.6045	17.836		17.865		18.075		70.215		70.137		70.205		70.136		70.181		70.153		70.134	
172	1.6245	17.903		17.933		18.143		69.821		69.743		69.810		69.742		69.786		69.759		69.740	
174	1.6445	17.970		18.000		18.212		69.429		69.351		69.418		69.351		69.394		69.367		69.349	
176	1.6645	18.038		18.068		18.280		69.040		68.963		69.029		68.962		69.006		68.979		68.960	
178	1.6845	18.105		18.135		18.348		68.653		68.577		68.643		68.576		68.619		68.592		68.574	
180	1.7045	18.172		18.202		18.416		68.269		68.193		68.259		68.193		68.236		68.209		68.191	
182	1.7245	18.240		18.270		18.484		67.888		67.813		67.878		67.812		67.855		67.828		67.810	
184	1.7445	18.307		18.337		18.553		67.510		67.435		67.499		67.434		67.477		67.450		67.432	
186	1.7645	18.374		18.405		18.621		67.134		67.059		67.124		67.059		67.101		67.075		67.057	
188	1.7845	18.442		18.472		18.689		66.761		66.687		66.751		66.686		66.728		66.702		66.684	
190	1.8045	18.509		18.540		18.757		66.390		66.317		66.380		66.316		66.358		66.332		66.314	
192	1.8245	18.576		18.607		18.826		66.022		65.949		66.012		65.948		65.990		65.964		65.946	
194	1.8445	18.644		18.675		18.894		65.657		65.584		65.647		65.583		65.625		65.599		65.581	
196	1.8645	18.711		18.742		18.962		65.294		65.222		65.284		65.221		65.262		65.236		65.219	
198	1.8845	18.778		18.809		19.030		64.933		64.862		64.924		64.861		64.902		64.876		64.859	
200	1.9045	18.846		18.877		19.098		64.576		64.504		64.566		64.503		64.544		64.519		64.501	

CYC	TIME	P	A	P	9	P	10	P	23	P	24	P	25	P	26	P	27	P	28	P	29	
202	1.9245	18.913		18.944		19.167		64.220		64.149		64.210		64.148		64.189		64.164		64.146		
204	1.9445	18.960		19.012		19.235		63.867		63.797		63.857		63.796		63.836		63.811		63.794		
206	1.9645	19.048		19.078		19.303		63.520		63.447		63.508		63.446		63.486		63.461		63.444		
208	1.9845	19.117		19.144		19.371		63.189		63.102		63.169		63.101		63.145		63.118		63.100		
210	2.0045	19.187		19.208		19.438		62.880		62.767		62.847		62.767		62.818		62.787		62.766		
212	2.0245	19.256		19.271		19.505		62.593		62.449		62.545		62.449		62.510		62.473		62.449		
214	2.0445	19.323		19.333		19.569		62.327		62.153		62.262		62.154		62.223		62.181		62.154		
216	2.0645	19.386		19.391		19.628		62.082		61.861		62.000		61.882		61.957		61.911		61.882		
218	2.0845	19.444		19.444		19.681		61.861		61.633		61.761		61.634		61.715		61.666		61.635		
220	2.1045	19.495		19.493		19.728		61.665		61.410		61.546		61.411		61.497		61.445		61.412		
222	2.1245	19.556		19.577		19.758		61.505		61.174		61.051		61.167		61.112		61.147		61.156		
224	2.1445	19.590		19.585		19.810		61.396		60.956		61.221		60.963		61.130		61.031		60.972		
226	2.1645	19.631		19.631		19.843		61.294		60.851		61.089		60.854		61.004		60.914		60.859		
228	2.1845	19.672		19.678		19.876		61.209		60.81		60.984		60.782		60.909		60.831		60.783		
230	2.2045	19.712		19.725		19.905		61.169		60.723		60.916		60.724		60.846		60.771		60.725		
232	2.2245	19.751		19.771		19.932		61.185		60.687		60.897		60.689		60.821		60.741		60.691		
234	2.2445	19.789		19.814		19.956		61.256		60.690		60.929		60.892		60.842		60.752		60.696		
236	2.2645	19.825		19.852		19.977		61.376		60.739		61.007		60.741		60.909		60.808		60.745		
238	2.2845	19.859		19.884		19.995		61.533		60.833		61.126		60.835		61.019		60.907		60.838		
240	2.3045	19.891		19.909		20.008		61.712		60.967		61.274		60.969		61.162		61.045		60.972		
242	2.3245	19.924		19.923		20.015		61.895		61.134		61.439		61.135		61.328		61.211		61.138		
244	2.3445	19.958		20.011		20.083		62.065		61.319		61.606		61.320		61.502		61.391		61.321		
246	2.3645	19.995		20.157		20.186		62.314		61.514		61.803		61.515		61.697		61.586		61.516		
248	2.3845	19.927		20.318		20.303		62.816		61.750		62.150		61.754		62.001		61.851		61.760		
250	2.4045	19.944		20.511		20.437		63.707		62.118		62.769		62.129		62.527		62.287		62.144		
252	2.4245	19.965		20.764		20.605		65.132		62.745		63.776		62.763		63.394		63.014		62.791		
254	2.4445	20.027		21.010		20.778		67.324		63.766		65.334		63.793		64.755		64.178		63.838		
256	2.4645	20.114		21.269		20.988		70.536		65.338		67.652		65.377		66.905		65.553		65.445		
258	2.4845	20.204		20.779		20.988		73.398		65.340		67.655		65.379		66.807		65.955		65.447		
260	2.4946	20.294		20.785		20.989		73.404		65.345		67.666		65.384		66.814		65.961		65.453		
262	2.4648	20.665		20.859		21.004		73.428		65.366		67.732		65.405		66.842		65.985		65.474		
264	2.4658	19.714		21.614		20.961		73.522		65.451		67.971		65.490		66.963		66.021		65.561		
266	2.4656	19.293		22.730		21.152		73.940		65.811		68.756		65.854		67.241		66.495		65.532		
268	2.4847	19.867		21.908		21.465		76.489		67.248		71.716		67.246		68.509		67.184		67.256		
270	2.4847	20.941		21.216		21.480		81.572		67.250		71.720		67.247		68.511		67.105		67.258		
272	2.4846	20.851		21.220		21.557		81.590		67.255		71.737		67.253		68.517		67.108		67.262		
274	2.4850	20.443		21.308		21.814		81.660		67.277		71.826		67.274		68.547		67.127		67.261		
276	2.4860	19.136		22.358		21.694		81.941		67.365		72.178		67.316		68.670		67.249		67.222		
278	2.4893	18.753		24.191		21.495		83.149		67.640		73.396		67.608		69.153		67.855		67.889		
280	2.4934	19.540		23.789		22.640		87.912		68.005		74.933		68.050		69.852		68.096		68.127		
282	2.4935	19.525		23.789		22.662		87.928		68.008		74.946		68.054		69.857		68.098		68.130		
284	2.4936	19.457		23.758		22.742		87.991		68.019		75.004		68.067		69.860		68.107		68.139		
286	2.4941	19.161		23.932		22.912		88.243		68.062		75.238		68.107		69.975		68.156		68.115		
288	2.4960	18.659		24.619		22.805		89.291		68.231		76.180		68.188		70.376		68.430		68.159		
290	2.4946	19.085		24.610		23.188		93.541		68.459		77.468		68.483		70.963		68.540		68.150		
292	2.4966	19.066		24.614		23.208		93.565		68.462		77.485		68.487		70.970		68.643		68.554		
294	2.4987	18.983		24.634		23.283		93.653		68.472		77.557		68.501		71.000		68.655		68.566		
296	2.4992	18.670		24.767		23.466		93.934		68.515		77.845		68.552		71.122		68.711		68.576		
298	2.5111	18.257		25.469		23.499		95.415		68.689		79.018		68.704		71.633		68.928		68.755		
300	2.5030	18.386		25.638		23.873		99.245		68.865		80.239		68.881		72.192		69.151		68.902		

CYC	TIME	P	8	P	9	P	10	P	23	P	24	P	25	P	26	P	27	P	28	P	29
302	2.5048	18.019		26.063		24.231		101.63		69.031		91.568		69.042		72.767		69.385		69.086	
304	2.5053	18.101		26.025		24.352		104.04		69.073		81.925		69.088		72.921		69.452		69.131	
306	2.5066	17.716		26.471		24.540		105.66		69.199		83.068		69.220		73.402		69.647		69.260	
308	2.5083	17.705		26.703		24.875		109.58		69.354		84.527		69.372		74.034		69.900		69.411	
310	2.5092	17.498		26.840		25.156		112.60		69.434		85.357		69.450		74.382		70.040		69.489	
312	2.5102	17.341		27.056		25.401		115.85		69.534		86.453		69.549		74.836		70.223		69.587	
314	2.5111	16.511		27.403		25.631		117.75		69.617		87.437		69.634		75.232		70.384		69.672	
316	2.5122	16.694		27.734		25.932		121.43		69.724		88.750		69.743		75.769		70.602		69.784	
318	2.5130	16.672		27.845		26.224		125.31		69.797		89.696		69.817		76.152		70.757		69.860	
320	2.5134	16.425		27.997		26.463		126.55		69.642		90.319		69.863		76.394		70.855		69.908	
322	2.5141	16.379		28.109		26.685		130.04		69.902		91.172		69.923		76.728		70.991		69.968	
324	2.5141	16.359		28.119		26.702		130.12		69.905		91.216		69.926		76.745		70.997		69.971	
326	2.5142	16.277		28.165		26.767		130.42		69.916		91.392		69.938		76.812		71.024		69.984	
328	2.5147	16.012		28.361		26.958		131.64		69.963		92.100		69.985		77.083		71.134		70.032	
330	2.5153	16.016		28.486		27.131		135.70		70.026		93.070		70.048		77.459		71.285		70.094	
332	2.5154	15.996		28.497		27.146		135.78		70.029		93.118		70.051		77.477		71.293		70.097	
334	2.5155	15.916		28.545		27.205		136.13		70.041		93.311		70.063		77.549		71.322		70.110	
336	2.5160	15.661		28.744		27.388		137.52		70.088		94.089		70.110		77.842		71.439		70.159	
338	2.5166	15.696		28.856		27.578		142.11		70.152		95.153		70.174		78.249		71.602		70.222	
340	2.5166	15.675		28.868		27.595		142.21		70.155		95.206		70.177		78.268		71.610		70.225	
342	2.5168	15.595		28.914		27.659		142.60		70.166		95.419		70.189		78.346		71.641		70.238	
344	2.5172	15.342		29.107		27.867		144.19		70.214		96.277		70.237		78.664		71.768		70.288	
346	2.5178	15.210		29.276		28.089		147.76		70.274		97.381		70.299		79.077		71.932		70.356	
348	2.5184	15.131		29.396		28.289		151.57		70.326		98.384		70.352		79.448		72.079		70.404	
350	2.5186	14.921		29.571		28.497		154.12		70.376		99.381		70.402		79.810		72.222		70.455	
352	2.5193	14.822		29.684		28.676		157.68		70.421		100.33		70.449		80.153		72.357		70.502	
354	2.5197	14.702		29.793		28.853		160.62		70.464		101.24		70.492		80.483		72.486		70.546	
356	2.5201	14.505		29.955		29.009		162.88		70.505		102.14		70.533		80.805		72.612		70.588	
358	2.5203	14.473		29.990		29.094		165.56		70.527		102.64		70.555		80.981		72.681		70.611	
360	2.5208	14.194		30.190		29.245		169.37		70.569		103.63		70.598		81.331		72.817		70.655	
362	2.5212	13.884		30.414		29.399		171.93		70.615		104.71		70.643		81.711		72.964		70.701	
364	2.5214	13.697		30.531		29.502		175.02		70.641		105.37		70.670		81.939		73.052		70.728	
366	2.5216	13.342		30.771		29.655		178.36		70.680		106.37		70.709		82.282		73.184		70.768	
368	2.5222	12.975		31.026		29.820		181.59		70.718		107.36		70.748		82.621		73.314		70.807	
370	2.5224	12.757		31.176		29.945		184.78		70.743		108.05		70.773		82.854		73.402		70.833	
372	2.5228	12.432		31.416		30.122		188.18		70.777		108.99		70.807		83.169		73.522		70.868	
374	2.5231	12.093		31.668		30.314		191.25		70.810		109.93		70.841		83.480		73.640		70.902	
376	2.5233	11.886		31.824		30.463		194.49		70.833		110.62		70.864		83.708		73.726		70.927	
378	2.5236	11.597		32.049		30.664		197.91		70.863		111.51		70.895		84.002		73.836		70.956	
380	2.5238	11.288		32.286		30.874		200.51		70.892		112.41		70.924		84.292		73.945		70.988	
382	2.5240	11.090		32.437		31.039		204.17		70.913		113.09		70.946		84.513		74.027		71.010	
384	2.5243	10.823		32.644		31.249		207.61		70.940		113.95		70.973		84.789		74.129		71.038	
386	2.5245	10.533		32.863		31.462		210.56		70.966		114.81		70.995		85.061		74.230		71.064	
388	2.5247	10.341		33.004		31.629		213.83		70.985		115.47		71.019		85.272		74.308		71.085	
390	2.5249	10.086		33.196		31.836		217.27		71.000		116.31		71.044		85.532		74.404		71.110	
392	2.5252	9.8091		33.397		32.041		220.15		71.033		117.13		71.067		85.790		74.498		71.134	
394	2.5253	9.6229		33.529		32.201		223.47		71.051		117.78		71.085		85.990		74.571		71.153	
396	2.5255	9.3793		33.705		32.396		226.91		71.072		118.59		71.107		86.237		74.661		71.175	
398	2.5257	9.1180		33.852		32.588		229.82		71.093		119.39		71.129		86.481		74.749		71.197	
400	2.5259	8.9404		34.014		32.737		233.09		71.110		120.02		71.145		86.673		74.818		71.214	

CYC	TIME	P	8	P	9	P	10	P	23	P	24	P	25	P	26	P	27	P	28	P	29
402	2.5260	8.7113		34.177		32.917		236.53		71.130		120.80		71.165		86.907		74.903		71.235	
404	2.5262	8.4623		34.350		33.094		239.43		71.149		121.57		71.165		87.139		74.986		71.255	
406	2.5264	8.3026		34.463		33.231		242.70		71.164		122.19		71.200		87.322		75.051		71.270	
408	2.5265	8.1041		34.597		33.383		245.42		71.180		122.87		71.217		87.524		75.123		71.287	
410	2.5267	7.8923		34.750		33.530		247.74		71.197		123.55		71.233		87.724		75.194		71.304	
412	2.5268	7.7095		34.884		33.681		251.33		71.213		124.26		71.250		87.934		75.268		71.321	
414	2.5270	7.5363		35.011		33.826		254.94		71.229		124.96		71.266		88.138		75.340		71.338	
416	2.5271	7.3401		35.157		33.968		257.54		71.245		125.65		71.282		88.339		75.411		71.354	
418	2.5272	7.1891		35.267		34.095		260.95		71.259		126.29		71.296		88.522		75.475		71.369	
420	2.5274	7.0231		35.392		34.232		264.46		71.274		126.98		71.312		88.722		75.545		71.384	
422	2.5275	6.8433		35.530		34.367		267.20		71.289		127.68		71.327		88.919		75.614		71.400	
424	2.5276	6.7125		35.627		34.480		270.53		71.301		129.27		71.339		89.086		75.671		71.413	
426	2.5277	6.5576		35.746		34.609		273.99		71.316		129.96		71.354		89.280		75.739		71.427	
428	2.5279	6.3930		35.876		34.735		276.80		71.329		129.64		71.368		89.471		75.805		71.442	
430	2.5280	6.2763		35.963		34.838		280.09		71.341		130.20		71.379		89.627		75.858		71.454	
432	2.5281	6.1328		36.076		34.959		283.52		71.354		130.88		71.393		89.814		75.923		71.468	
434	2.5282	5.9816		36.197		35.078		286.38		71.367		131.55		71.406		89.999		75.986		71.481	
436	2.5283	5.8754		36.277		35.172		289.64		71.378		132.09		71.417		90.148		76.036		71.492	
438	2.5284	5.7422		36.383		35.285		293.06		71.390		132.76		71.429		90.328		76.098		71.505	
440	2.5285	5.6025		36.497		35.397		295.93		71.402		133.42		71.442		90.506		76.158		71.518	
442	2.5286	5.5044		36.571		35.485		299.16		71.412		133.94		71.452		90.648		76.206		71.528	
444	2.5287	5.3802		36.670		35.591		302.55		71.424		134.59		71.464		90.822		76.265		71.541	
446	2.5288	5.2504		36.777		35.695		305.47		71.435		135.24		71.475		90.994		76.323		71.553	
448	2.5289	5.1592		36.846		35.777		308.71		71.444		135.75		71.485		91.130		76.368		71.562	
450	2.5290	5.0434		36.939		35.876		312.12		71.455		136.38		71.496		91.297		76.424		71.574	
452	2.5291	4.8825		37.091		35.993		312.29		71.468		137.14		71.509		91.498		76.491		71.587	
454	2.5295	4.5459		37.661		36.463		311.09		71.521		140.13		71.562		92.320		76.764		71.639	
456	2.5302	4.5473		38.301		37.135		309.46		71.592		144.06		71.634		93.493		77.150		71.712	
458	2.5308	4.7743		38.817		37.851		307.75		71.667		148.00		71.709		94.772		77.570		71.791	
460	2.5315	5.0207		39.230		38.551		306.07		71.745		151.92		71.789		96.163		78.029		71.875	
462	2.5322	5.2020		39.572		39.159		304.30		71.828		155.85		71.874		97.672		78.531		71.963	
464	2.5329	5.3451		39.871		39.626		302.46		71.914		159.77		71.964		99.304		79.082		72.056	
466	2.5336	5.5200		40.143		39.955		300.57		72.005		163.69		72.058		101.07		79.668		72.153	
468	2.5344	5.7469		40.386		40.183		298.60		72.102		167.60		72.156		102.97		80.357		72.255	
470	2.5352	5.9558		40.586		40.349		296.55		72.205		171.51		72.260		105.01		81.058		72.362	
472	2.5361	6.0384		40.727		40.461		294.43		72.314		175.41		72.371		107.22		81.915		72.477	
474	2.5370	5.9269		40.789		40.495		292.20		72.431		179.30		72.490		109.59		82.832		72.600	
476	2.5379	5.6565		40.747		40.419		289.88		72.558		183.19		72.619		112.14		83.851		72.734	
478	2.5389	5.3453		40.565		40.210		287.43		72.694		187.07		72.759		114.88		84.991		72.878	
480	2.5400	5.0861		40.216		39.872		284.85		72.843		190.94		72.910		117.85		86.273		73.034	
482	2.5411	4.9267		39.697		39.439		282.12		73.007		194.80		73.076		121.05		87.720		73.205	
484	2.5423	4.8801		39.054		38.973		279.20		73.188		198.64		73.260		124.51		89.362		73.393	
486	2.5432	4.8957		38.626		38.686		277.22		73.315		201.09		73.388		126.88		90.534		73.532	
488	2.5438	4.9151		38.358		38.514		275.91		73.401		202.63		73.480		128.47		91.339		73.632	
490	2.5441	4.9296		38.195		38.411		275.06		73.458		203.61		73.541		129.51		91.876		73.697	
492	2.5447	4.9462		37.984		38.280		273.79		73.544		205.02		73.631		131.05		92.488		73.781	
494	2.5452	4.9568		37.816		38.176		272.55		73.630		206.36		73.717		132.57		93.502		73.863	
496	2.5456	4.9558		37.728		38.120		271.75		73.686		207.19		73.770		133.54		94.036		73.921	

CYC	TIME	P	30	F	31	P	32	P	33	P	34	P	35	P	36	W	1	2	7	W	8
102	.9245	85.271		85.179		85.090		84.975		84.864		84.739		84.619		116.65		116.52		114.54	
104	.9445	84.779		84.679		84.580		84.476		84.365		84.240		84.113		117.80		117.63		115.62	
106	.9645	84.272		84.161		84.053		83.979		83.869		83.745		83.609		118.94		118.74		116.71	
108	.9845	83.777		83.687		83.590		83.487		83.377		83.253		83.107		120.06		119.86		117.80	
110	1.0045	83.286		83.196		83.100		82.997		82.888		82.766		82.607		121.18		120.98		118.90	
112	1.0245	82.799		82.709		82.614		82.512		82.403		82.281		82.109		122.28		122.09		119.98	
114	1.0445	82.315		82.225		82.131		82.020		81.922		81.800		81.654		123.39		123.16		121.04	
116	1.0645	81.835		81.745		81.652		81.551		81.444		81.323		81.187		124.42		124.20		121.97	
118	1.0845	81.358		81.268		81.176		81.076		80.969		80.849		80.703		125.47		125.24		122.92	
120	1.1045	80.888		80.798		80.703		80.604		80.498		80.379		80.223		126.53		126.30		123.83	
122	1.1245	80.414		80.324		80.230		80.135		80.030		79.911		79.755		127.60		127.37		124.91	
124	1.1445	79.947		79.857		79.760		79.670		79.565		79.448		79.292		128.68		128.45		125.98	
126	1.1645	79.484		79.394		79.300		79.208		79.104		78.987		78.831		129.77		129.54		127.13	
128	1.1845	78.923		78.833		78.747		78.749		78.646		78.530		78.405		130.87		130.64		128.24	
130	1.2045	78.566		78.482		78.391		78.294		78.191		78.076		77.920		131.98		131.75		129.40	
132	1.2245	78.113		78.029		77.938		77.842		77.740		77.625		77.469		133.10		132.87		130.61	
134	1.2445	77.662		77.578		77.489		77.393		77.291		77.177		77.021		134.23		134.00		131.84	
136	1.2645	77.215		77.132		77.042		76.947		76.846		76.733		76.577		135.37		135.14		133.13	
138	1.2845	76.771		76.688		76.599		76.505		76.404		76.292		76.136		136.52		136.29		134.50	
140	1.3045	76.330		76.247		76.159		76.066		75.966		75.853		75.697		137.68		137.45		135.87	
142	1.3245	75.892		75.810		75.722		75.629		75.530		75.418		75.262		138.85		138.62		137.32	
144	1.3445	75.457		75.376		75.289		75.196		75.097		74.986		74.830		140.03		139.80		138.74	
146	1.3645	75.026		74.945		74.858		74.766		74.668		74.558		74.402		141.22		141.00		140.22	
148	1.3845	74.597		74.516		74.430		74.339		74.241		74.132		73.976		142.42		142.20		141.55	
150	1.4045	74.171		74.091		74.006		73.915		73.818		73.709		73.553		143.63		143.41		142.94	
152	1.4245	73.749		73.669		73.584		73.494		73.397		73.289		73.133		144.85		144.63		143.32	
154	1.4445	73.329		73.250		73.166		73.075		72.980		72.872		72.716		146.08		145.86		144.69	
156	1.4645	72.912		72.834		72.750		72.660		72.565		72.458		72.302		147.32		147.10		145.64	
158	1.4845	72.499		72.420		72.337		72.248		72.153		72.047		71.891		148.57		148.35		146.52	
160	1.5045	72.089		72.010		71.927		71.839		71.745		71.639		71.483		149.83		149.61		147.46	
162	1.5245	71.680		71.603		71.520		71.432		71.339		71.234		71.078		151.10		150.88		148.44	
164	1.5445	71.275		71.199		71.116		71.029		70.936		70.831		70.675		152.38		152.16		149.48	
166	1.5645	70.873		70.796		70.715		70.628		70.535		70.432		70.276		153.67		153.45		150.54	
168	1.5845	70.473		70.397		70.316		70.230		70.138		70.035		69.879		154.97		154.75		151.62	
170	1.6045	70.076		70.001		69.921		69.835		69.743		69.641		69.485		156.28		156.06		152.72	
172	1.6245	69.683		69.608		69.528		69.442		69.351		69.249		69.093		157.60		157.38		153.84	
174	1.6445	69.292		69.217		69.137		69.053		68.962		68.861		68.705		158.93		158.71		154.96	
176	1.6645	68.903		68.829		68.750		68.666		68.576		68.475		68.319		160.27		160.05		156.12	
178	1.6845	68.512		68.444		68.365		68.281		68.192		68.092		67.936		161.62		161.40		157.28	
180	1.7045	68.135		68.061		67.983		67.900		67.811		67.712		67.556		162.98		162.76		158.46	
182	1.7245	67.754		67.682		67.604		67.521		67.433		67.334		67.178		164.35		164.13		159.66	
184	1.7445	67.377		67.304		67.227		67.145		67.057		66.959		66.803		165.73		165.51		160.84	
186	1.7645	67.002		66.930		66.853		66.771		66.684		66.586		66.430		167.12		166.90		162.04	
188	1.7845	66.629		66.558		66.482		66.400		66.313		66.216		66.060		168.52		168.30		163.24	
190	1.8045	66.260		66.189		66.113		66.032		65.946		65.849		65.693		169.93		169.71		164.44	
192	1.8245	65.892		65.822		65.746		65.666		65.580		65.484		65.328		171.35		171.13		165.64	
194	1.8445	65.528		65.457		65.382		65.302		65.217		65.122		64.966		172.78		172.56		166.84	
196	1.8645	65.166		65.096		65.021		64.942		64.857		64.762		64.606		174.22		174.00		168.04	
198	1.8845	64.806		64.737		64.662		64.583		64.499		64.405		64.249		175.67		175.45		169.24	
200	1.9045	64.449		64.380		64.306		64.228		64.144		64.050		63.894		177.13		176.91		170.44	

CYC	TIME	F	30	P	31	P	32	P	33	P	34	P	35	P	36	W	I	V	7	W	8
202	1.9245	64.074	64.026	63.952	63.874	63.791	63.710	63.698	43.710	146.33	147.06	144.61									
204	1.9445	63.742	63.674	63.601	63.523	63.441	63.348	63.496	43.496	146.86	147.59	145.13									
206	1.9645	63.392	63.325	63.252	63.175	63.093	63.001	63.284	43.284	147.39	148.11	145.64									
208	1.9845	63.048	62.980	62.907	62.830	62.748	62.656	63.073	43.073	147.91	148.64	146.15									
210	2.0045	62.713	62.643	62.570	62.492	62.410	62.318	62.665	42.665	148.44	149.17	146.64									
212	2.0245	62.394	62.322	62.246	62.167	62.084	61.993	62.665	42.665	148.97	149.71	147.09									
214	2.0445	62.097	62.022	61.944	61.863	61.779	61.687	62.477	42.477	149.50	150.24	147.49									
216	2.0645	61.823	61.746	61.666	61.584	61.500	61.408	62.303	42.303	150.03	150.75	147.81									
218	2.0845	61.574	61.496	61.415	61.332	61.247	61.156	62.146	42.146	150.53	151.23	148.05									
220	2.1045	61.350	61.271	61.189	61.106	61.021	60.930	62.006	42.006	151.01	151.68	148.20									
222	2.1245	61.109	61.045	60.972	60.895	60.813	60.723	61.878	41.878	151.47	152.10	148.29									
224	2.1445	60.907	60.827	60.750	60.672	60.592	60.503	61.745	41.745	151.92	152.58	148.32									
226	2.1645	60.785	60.688	60.593	60.500	60.409	60.315	61.626	41.626	152.37	153.02	148.32									
228	2.1845	60.705	60.603	60.503	60.406	60.311	60.215	61.556	41.556	152.82	153.48	148.28									
230	2.2045	60.649	60.554	60.459	60.367	60.276	60.182	61.530	41.530	153.28	153.95	148.24									
232	2.2245	60.617	60.528	60.439	60.351	60.264	60.172	61.522	41.522	153.75	154.43	148.22									
234	2.2445	60.620	60.528	60.438	60.350	60.262	60.170	61.520	41.520	154.23	154.93	148.26									
236	2.2645	60.663	60.564	60.466	60.374	60.283	60.189	61.529	41.529	154.72	155.44	148.38									
238	2.2845	60.751	60.644	60.542	60.443	60.348	60.253	61.564	41.564	155.23	155.97	148.65									
240	2.3045	60.881	60.771	60.665	60.563	60.467	60.371	61.630	41.630	155.75	156.51	149.07									
242	2.3245	61.045	60.935	60.830	60.725	60.633	60.536	61.727	41.727	156.28	157.09	149.77									
244	2.3445	61.231	61.124	61.022	60.923	60.828	60.732	61.844	41.844	156.80	157.27	148.72									
246	2.3645	61.427	61.324	61.224	61.126	61.034	60.939	61.970	41.970	157.07	157.29	146.68									
248	2.3845	61.663	61.551	61.445	61.345	61.249	61.153	62.099	42.099	157.21	157.28	144.50									
250	2.4045	62.021	61.877	61.747	61.628	61.521	61.418	62.256	42.256	157.26	157.18	141.92									
252	2.4245	62.422	62.422	62.245	62.094	61.964	61.850	62.502	42.502	157.18	156.88	138.88									
254	2.4445	63.604	63.327	63.091	62.894	62.734	62.605	62.931	42.931	156.98	156.61	135.74									
256	2.4645	65.125	64.755	64.446	64.196	64.002	63.855	63.646	43.646	156.72	156.09	132.54									
258	2.4845	65.127	64.757	64.446	64.197	64.003	63.857	63.646	43.646	156.51	156.17	132.37									
260	2.4646	65.132	64.761	64.452	64.202	64.007	63.861	63.649	43.649	156.51	156.47	131.61									
262	2.4648	65.152	64.780	64.470	64.219	64.025	63.878	63.658	43.658	156.51	157.29	128.82									
264	2.4658	65.234	64.858	64.544	64.290	64.094	63.946	63.698	43.698	156.52	156.48	119.80									
266	2.4696	65.584	65.188	64.859	64.595	64.391	64.240	63.866	43.866	156.52	156.46	122.71									
268	2.4847	66.944	66.596	66.290	66.033	65.831	65.679	64.703	44.703	155.61	154.81	128.36									
270	2.4847	66.944	66.599	66.292	66.035	65.833	65.681	64.705	44.705	155.24	154.64	110.22									
272	2.4848	66.951	66.604	66.297	66.040	65.839	65.687	64.708	44.708	155.24	154.75	109.74									
274	2.4850	66.972	66.626	66.321	66.064	65.863	65.711	64.722	44.722	155.24	154.63	108.39									
276	2.4860	67.050	66.716	66.414	66.160	65.959	65.808	64.779	44.779	155.25	150.05	106.36									
278	2.4893	67.290	67.013	66.738	66.497	66.204	66.157	64.984	44.984	155.28	145.68	106.38									
280	2.4934	67.723	67.398	67.139	66.920	66.742	66.602	65.248	45.248	153.56	145.11	106.41									
282	2.4935	67.726	67.401	67.142	66.923	66.745	66.605	65.250	45.250	153.56	145.17	100.01									
284	2.4936	67.739	67.412	67.154	66.935	66.758	66.618	65.258	45.258	153.55	145.34	100.11									
286	2.4941	67.791	67.458	67.201	66.985	66.810	66.671	65.289	45.289	153.51	145.30	100.40									
288	2.4960	67.970	67.644	67.389	67.183	67.016	66.881	65.415	45.415	153.32	142.64	99.839									
290	2.4986	68.217	67.901	67.648	67.450	67.293	67.165	65.586	45.586	151.74	140.59	96.742									
292	2.4986	68.220	67.904	67.651	67.453	67.297	67.168	65.588	45.588	151.73	141.01	90.826									
294	2.4987	68.231	67.916	67.663	67.465	67.310	67.182	65.596	45.596	151.71	141.02	90.889									
296	2.4992	68.278	67.965	67.711	67.515	67.362	67.235	65.628	45.628	151.64	140.42	91.660									
298	2.5011	68.457	68.159	67.908	67.716	67.569	67.447	65.757	45.757	151.32	137.49	90.321									
300	2.5030	68.638	68.354	68.108	67.915	67.777	67.659	65.886	45.886	150.23	135.77	86.269									

CYC	TIME	P	30	P	31	P	32	F	33	F	34	P	35	P	36	W	1	W	7	W	8	
302	2.5048	68.803		68.535		68.298		68.112		67.972		67.857		46.007		149.71		133.30		82.235		
304	2.5053	68.844		68.520		68.346		68.160		68.021		67.906		46.038		149.06		132.71		77.914		
306	2.5066	68.971		68.716		68.490		68.306		68.168		68.054		46.129		148.76		130.24		76.981		
308	2.5083	69.130		68.879		68.665		68.485		68.348		68.233		46.239		147.85		128.05		73.531		
310	2.5092	69.213		68.964		68.755		68.578		68.440		68.325		46.296		147.15		126.28		69.191		
312	2.5102	69.316		69.068		68.866		68.692		68.554		68.439		46.366		146.43		124.06		67.209		
314	2.5111	69.402		69.155		68.957		68.787		68.649		68.532		46.424		146.08		121.45		64.019		
316	2.5122	69.513		69.267		69.073		68.906		68.770		68.652		46.498		145.31		118.19		61.595		
318	2.5130	69.589		69.343		69.152		68.990		68.852		68.733		46.548		144.45		116.30		58.421		
320	2.5134	69.635		69.389		69.199		69.039		68.902		68.782		46.578		144.23		115.23		55.944		
322	2.5141	69.698		69.452		69.263		69.105		68.969		68.848		46.619		143.48		113.45		54.530		
324	2.5141	69.701		69.455		69.266		69.109		68.972		68.851		46.621		143.47		113.39		52.590		
326	2.5142	69.713		69.467		69.279		69.121		68.985		68.864		46.629		143.43		113.11		52.536		
328	2.5147	69.761		69.516		69.328		69.172		69.036		68.915		46.660		143.24		111.70		52.284		
330	2.5153	69.827		69.582		69.394		69.241		69.105		68.983		46.702		142.38		109.81		50.934		
332	2.5154	69.830		69.585		69.397		69.244		69.109		68.986		46.704		142.37		109.84		49.411		
334	2.5155	69.843		69.597		69.410		69.257		69.122		68.999		46.712		142.32		109.23		48.341		
336	2.5160	69.892		69.646		69.459		69.307		69.173		69.050		46.744		142.11		107.71		48.039		
338	2.5166	69.958		69.713		69.525		69.375		69.241		69.118		46.786		141.16		105.57		46.598		
340	2.5166	69.961		69.716		69.528		69.378		69.245		69.122		46.788		141.14		105.50		43.959		
342	2.5168	69.974		69.728		69.540		69.391		69.257		69.134		46.795		141.09		105.20		43.924		
344	2.5172	70.023		69.778		69.590		69.441		69.308		69.185		46.827		140.85		103.69		43.605		
346	2.5178	70.086		69.841		69.651		69.503		69.372		69.249		46.866		140.21		101.70		41.968		
348	2.5184	70.140		69.895		69.705		69.557		69.427		69.304		46.900		139.51		100.04		39.784		
350	2.5188	70.191		69.947		69.756		69.608		69.479		69.356		46.932		139.10		98.486		37.786		
352	2.5193	70.239		69.994		69.802		69.654		69.526		69.404		46.961		138.47		97.012		35.561		
354	2.5197	70.283		70.038		69.846		69.698		69.570		69.448		46.989		137.84		95.532		34.281		
356	2.5201	70.325		70.081		69.887		69.739		69.612		69.490		47.015		137.51		94.153		32.595		
358	2.5203	70.348		70.103		69.910		69.761		69.634		69.513		47.028		137.03		93.391		31.015		
360	2.5208	70.392		70.147		69.953		69.803		69.677		69.557		47.055		136.61		91.532		30.223		
362	2.5212	70.439		70.194		69.998		69.848		69.722		69.603		47.084		136.05		89.147		28.561		
364	2.5214	70.466		70.221		70.025		69.874		69.749		69.630		47.100		135.54		87.565		26.788		
366	2.5218	70.507		70.261		70.064		69.912		69.788		69.669		47.125		135.04		84.873		25.799		
368	2.5222	70.546		70.300		70.102		69.949		69.825		69.708		47.148		134.58		82.005		24.283		
370	2.5224	70.572		70.325		70.128		69.974		69.850		69.733		47.164		134.09		79.975		22.835		
372	2.5228	70.607		70.360		70.161		70.007		69.883		69.767		47.185		133.61		77.194		21.906		
374	2.5231	70.640		70.393		70.194		70.038		69.914		69.799		47.205		133.20		74.331		20.622		
376	2.5233	70.665		70.417		70.217		70.061		69.937		69.822		47.219		132.73		72.250		19.403		
378	2.5236	70.695		70.447		70.247		70.090		69.966		69.852		47.237		132.27		69.681		18.561		
380	2.5238	70.725		70.476		70.275		70.117		69.993		69.880		47.255		131.90		67.151		17.451		
382	2.5240	70.747		70.498		70.297		70.138		70.014		69.901		47.268		131.47		65.265		16.395		
384	2.5243	70.774		70.525		70.323		70.162		70.039		69.927		47.284		131.04		62.935		15.642		
386	2.5245	70.801		70.550		70.348		70.188		70.064		69.952		47.299		130.70		60.883		14.885		
388	2.5247	70.821		70.570		70.367		70.206		70.082		69.971		47.311		130.29		58.931		13.745		
390	2.5249	70.846		70.594		70.391		70.229		70.105		69.994		47.325		129.89		56.750		13.064		
392	2.5252	70.870		70.617		70.414		70.251		70.127		70.016		47.339		129.57		54.683		12.203		
394	2.5253	70.888		70.635		70.431		70.268		70.143		70.033		47.350		129.19		53.044		11.385		
396	2.5255	70.910		70.657		70.452		70.285		70.164		70.054		47.363		128.82		51.014		10.774		
398	2.5257	70.932		70.678		70.473		70.308		70.183		70.074		47.375		128.53		49.000		10.011		
400	2.5259	70.949		70.694		70.489		70.324		70.198		70.089		47.385		128.17		47.410		9.2858		

CYC	TIME	F	30	P	31	F	32	P	33	P	34	P	35	P	36	W	1	W	7	W	8
402	2.5260	70.969		70.714		70.508		70.342		70.217		70.108		47.396		127.82		45.456		8.7398	
404	2.5262	70.989		70.733		70.526		70.360		70.235		70.126		47.407		127.54		43.507		8.0052	
406	2.5264	71.005		70.748		70.541		70.374		70.248		70.140		47.416		127.21		41.972		7.4241	
408	2.5265	71.022		70.764		70.557		70.390		70.264		70.155		47.426		126.88		40.173		6.9401	
410	2.5267	71.038		70.780		70.572		70.405		70.278		70.170		47.435		126.63		38.462		6.3988	
412	2.5268	71.055		70.796		70.588		70.420		70.294		70.186		47.445		126.34		36.665		5.8917	
414	2.5270	71.072		70.812		70.604		70.435		70.308		70.200		47.454		126.00		34.922		5.3729	
416	2.5271	71.088		70.827		70.618		70.450		70.322		70.215		47.463		125.73		33.212		4.8768	
418	2.5272	71.102		70.841		70.632		70.463		70.335		70.227		47.471		125.48		31.664		4.4106	
420	2.5274	71.118		70.856		70.646		70.477		70.345		70.241		47.479		125.17		29.977		4.0025	
422	2.5275	71.133		70.870		70.660		70.490		70.362		70.255		47.488		124.88		28.323		3.5656	
424	2.5276	71.145		70.882		70.672		70.502		70.374		70.266		47.495		124.63		26.936		3.1549	
426	2.5277	71.160		70.896		70.686		70.515		70.386		70.279		47.503		124.32		25.336		2.8229	
428	2.5279	71.174		70.910		70.699		70.528		70.399		70.292		47.511		124.01		23.771		2.4495	
430	2.5280	71.186		70.921		70.710		70.538		70.409		70.302		47.517		123.76		22.508		2.1004	
432	2.5281	71.200		70.934		70.722		70.551		70.421		70.314		47.525		123.44		21.011		1.8305	
434	2.5282	71.213		70.947		70.735		70.563		70.433		70.325		47.532		123.12		19.549		1.5224	
436	2.5283	71.224		70.957		70.744		70.572		70.442		70.335		47.538		122.86		18.391		1.2382	
438	2.5284	71.236		70.969		70.756		70.584		70.453		70.346		47.545		122.54		17.002		1.0257	
440	2.5285	71.249		70.981		70.768		70.595		70.464		70.357		47.552		122.21		15.646		.7854	
442	2.5286	71.255		70.990		70.777		70.604		70.473		70.365		47.557		121.95		14.582		.57061	
444	2.5287	71.271		71.002		70.788		70.614		70.483		70.376		47.563		121.62		13.297		.41721	
446	2.5288	71.283		71.013		70.798		70.625		70.494		70.386		47.570		121.30		12.044		.25266	
448	2.5289	71.292		71.021		70.807		70.633		70.502		70.394		47.575		121.03		11.065		.11979	
450	2.5290	71.303		71.032		70.817		70.643		70.511		70.403		47.581		120.71		9.8781		.41081E-01	
452	2.5291	71.317		71.045		70.829		70.655		70.523		70.415		47.588		120.31		8.4763		0.	
454	2.5295	71.370		71.095		70.878		70.703		70.569		70.461		47.617		118.58		3.4608		0.	
456	2.5302	71.443		71.164		70.944		70.767		70.632		70.522		47.655		115.95		-.93058		0.	
458	2.5308	71.520		71.236		71.013		70.834		70.697		70.585		47.695		112.88		-2.5890		0.	
460	2.5315	71.599		71.310		71.084		70.904		70.764		70.651		47.736		109.32		-2.3389		0.	
462	2.5322	71.683		71.386		71.158		70.976		70.835		70.719		47.778		105.21		-1.5642		0.	
464	2.5329	71.771		71.470		71.235		71.051		70.907		70.789		47.822		100.48		-1.2917		0.	
466	2.5336	71.865		71.556		71.316		71.130		70.984		70.861		47.867		95.051		-1.6339		0.	
468	2.5344	71.963		71.646		71.401		71.212		71.063		70.937		47.914		88.837		-1.9307		0.	
470	2.5352	72.069		71.742		71.491		71.299		71.147		71.017		47.964		81.750		-1.4960		0.	
472	2.5361	72.181		71.844		71.586		71.390		71.234		71.101		48.015		73.698		-.29752		0.	
474	2.5370	72.302		71.953		71.687		71.486		71.326		71.189		48.069		64.595		1.0591		0.	
476	2.5379	72.431		72.069		71.794		71.587		71.423		71.282		48.126		54.364		1.8156		0.	
478	2.5389	72.571		72.195		71.910		71.696		71.527		71.382		48.187		42.945		1.8131		0.	
480	2.5400	72.724		72.332		72.035		71.812		71.637		71.489		48.252		30.321		1.3387		0.	
482	2.5411	72.891		72.482		72.171		71.937		71.756		71.605		48.322		16.500		.69500		0.	
484	2.5423	73.075		72.647		72.320		72.074		71.884		71.732		48.398		1.5719		-.96657E-01		0.	
486	2.5432	73.203		72.763		72.424		72.168		71.973		71.819		48.450		-.8.4713		-.15710		0.	
488	2.5438	73.290		72.841		72.494		72.232		72.033		71.878		48.485		-14.979		-.24918		0.	
490	2.5441	73.340		72.893		72.541		72.274		72.072		71.916		48.508		-19.126		-.26871		0.	
492	2.5447	73.435		72.970		72.610		72.336		72.130		71.974		48.542		-25.037		-.21265		0.	
494	2.5452	73.522		73.048		72.679		72.399		72.189		72.031		48.576		-30.536		-.72258E-01		0.	
496	2.5456	73.578		73.096		72.724		72.435		72.226		72.068		48.598		-33.523		-.54300E-01		0.	

CYC	TIME	W	10	11	36	VOL	23	VDOT	1	VOL	8	VOL	9	ANU10	1	ANU6	1
2	.0000	.26010	.26306	16.472	-.11649E-13	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
4	.0002	.26016	.26311	16.472	-.14720E-13	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
6	.0006	.26036	.26332	16.473	-.19187E-13	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
8	.0026	.26125	.26413	16.480	-.18443E-13	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
10	.0102	.26463	.26728	16.504	-.28072E-13	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
12	.0302	.27351	.27684	16.615	-.51171E-13	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
14	.0502	.28986	.30250	16.857	-.76443E-13	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
16	.0702	.32899	.35402	17.457	-.94750E-13	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
18	.0902	.39661	.45578	18.631	-.10590E-12	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
20	.1102	.48407	.55170	20.454	-.10470E-12	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
22	.1302	.57695	.63434	22.869	-.92341E-13	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
24	.1502	.66265	.70072	25.739	-.76409E-13	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
26	.1702	.73343	.75470	28.913	-.60567E-13	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
28	.1902	.78925	.80082	32.265	-.39393E-13	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
30	.2102	.83538	.84225	35.702	-.19637E-13	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
32	.2302	.87741	.88162	39.161	-.12258E-14	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
34	.2502	.91843	.92116	42.615	.14243E-13	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
36	.2702	.95971	.96226	46.060	.87349E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
38	.2879	.99691	1.0001	49.093	.36476E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
40	.3045	1.0335	1.0373	51.952	.31037E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
42	.3245	1.0796	1.0842	55.405	.30556E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
44	.3445	1.1285	1.1316	58.855	.30015E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
46	.3645	1.1794	1.1781	62.259	.29705E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
48	.3845	1.2291	1.2241	65.592	.29435E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
50	.4045	1.2756	1.2702	68.848	.29187E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
52	.4245	1.3194	1.3161	72.024	.28984E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
54	.4445	1.3622	1.3620	75.116	.28839E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
56	.4645	1.4046	1.4079	78.123	.28725E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
58	.4845	1.4463	1.4538	81.047	.28602E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
60	.5045	1.4874	1.4996	83.889	.28448E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
62	.5245	1.5278	1.5447	86.643	.28274E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
64	.5445	1.5691	1.5868	89.269	.28097E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
66	.5645	1.6114	1.6226	91.665	.27929E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
68	.5845	1.6496	1.6516	93.751	.27773E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
70	.6045	1.6766	1.6761	95.543	.27622E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
72	.6245	1.6917	1.6980	97.106	.27472E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
74	.6445	1.7000	1.7198	98.538	.27320E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
76	.6645	1.7077	1.7453	99.958	.27167E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
78	.6845	1.7220	1.7754	101.46	.27012E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
80	.7045	1.7482	1.8086	103.06	.26859E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
82	.7245	1.7652	1.8432	104.71	.26708E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
84	.7445	1.8262	1.8765	106.35	.26559E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
86	.7645	1.8719	1.9053	107.88	.26412E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
88	.7845	1.9098	1.9290	109.23	.26265E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
90	.8045	1.9365	1.9492	110.42	.26118E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
92	.8245	1.9528	1.9671	111.49	.25972E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
94	.8445	1.9631	1.9843	112.49	.25828E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
96	.8645	1.9720	2.0029	113.48	.25684E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
98	.8845	1.9841	2.0234	114.50	.25541E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
100	.9045	2.0022	2.0455	115.56	.25399E-01	.12680	0.	0.	5.1670	4.2700	.98638E-01	2.6934					

CYC	TIME	W	9	W	10	W	11	W	36	VOL	23	VOOT	1	VOL	8	VOL	9	ANU10	1	ANU8	1
102	.9245	2.0256		2.0687	116.65		.25258E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
104	.9445	2.0515		2.0925	117.75		.25118E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
106	.9645	2.0774		2.1166	118.86		.24978E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
108	.9845	2.1023		2.1405	119.98		.24841E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
110	1.0045	2.1260		2.1642	121.09		.24703E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
112	1.0245	2.1492		2.1876	122.21		.24567E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
114	1.0445	2.1692		2.2088	123.28		.24431E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
116	1.0645	2.1722		2.2217	124.24		.24297E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
116	1.0845	2.1650		2.2272	125.01		.24163E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
120	1.1045	2.1646		2.2331	125.63		.24030E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
122	1.1245	2.1714		2.2415	126.20		.23897E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
124	1.1445	2.1805		2.2511	126.75		.23766E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
126	1.1645	2.1892		2.2610	127.30		.23635E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
128	1.1845	2.1991		2.2708	127.85		.23505E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
130	1.2045	2.2083		2.2806	128.39		.23376E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
132	1.2245	2.2175		2.2902	128.93		.23248E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
134	1.2445	2.2269		2.2997	129.47		.23121E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
136	1.2645	2.2363		2.3091	130.00		.22994E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
138	1.2845	2.2457		2.3184	130.53		.22868E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
140	1.3045	2.2552		2.3276	131.06		.22744E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
142	1.3245	2.2647		2.3367	131.58		.22619E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
144	1.3445	2.2742		2.3459	132.10		.22496E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
146	1.3645	2.2836		2.3550	132.61		.22373E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
148	1.3845	2.2928		2.3641	133.13		.22251E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
150	1.4045	2.3020		2.3732	133.64		.22130E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
152	1.4245	2.3112		2.3824	134.16		.22009E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
154	1.4445	2.3202		2.3916	134.68		.21890E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
156	1.4645	2.3293		2.4009	135.20		.21771E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
158	1.4845	2.3383		2.4101	135.72		.21652E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
160	1.5045	2.3473		2.4194	136.24		.21535E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
162	1.5245	2.3564		2.4287	136.77		.21418E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
164	1.5445	2.3654		2.4380	137.29		.21302E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
166	1.5645	2.3745		2.4473	137.82		.21186E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
168	1.5845	2.3836		2.4566	138.34		.21072E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
170	1.6045	2.3927		2.4660	138.87		.20958E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
172	1.6245	2.4019		2.4753	139.40		.20844E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
174	1.6445	2.4110		2.4846	139.92		.20731E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
176	1.6645	2.4202		2.4939	140.45		.20619E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
178	1.6845	2.4294		2.5032	140.97		.20508E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
180	1.7045	2.4386		2.5125	141.50		.20397E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
182	1.7245	2.4478		2.5216	142.03		.20287E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
184	1.7445	2.4570		2.5311	142.55		.20178E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
186	1.7645	2.4662		2.5403	143.08		.20069E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
188	1.7845	2.4754		2.5496	143.61		.19961E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
190	1.8045	2.4847		2.5589	144.13		.19854E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
192	1.8245	2.4939		2.5682	144.66		.19747E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
194	1.8445	2.5031		2.5775	145.19		.19641E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
196	1.8645	2.5124		2.5867	145.71		.19535E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
198	1.8845	2.5216		2.5960	146.24		.19431E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	
200	1.9045	2.5309		2.6053	146.76		.19326E-01	.12680				0.		5.1670		4.2700		.98638E-01		2.6934	

CYC	TIME	W	9	W	10	W	11	W	36	VOL	23	VDOT	1	VOL	8	VOL	5	ANU10	1	ANU8	1
202	1.9245	2.5401		2.6145		147.29		.19223E-01	.12680		0.		5.1670		4.2700		.9563E-01		2.6934		
204	1.9445	2.5494		2.6238		147.82		.19120E-01	.12680		-.15F23E-03		5.1670		4.2700		.98662E-01		2.6933		
206	1.9645	2.5590		2.6337		148.34		.19017E-01	.12679		-.12703E-02		5.1665		4.2705		.99052E-01		2.6929		
208	1.9845	2.5764		2.6537		148.87		.18915E-01	.12674		-.31748E-02		5.1648		4.2722		.10035		2.6916		
210	2.0045	2.6167		2.6593		149.40		.18815E-01	.12666		-.56063E-02		5.1614		4.2756		.10276		2.6890		
212	2.0245	2.6921		2.7821		149.93		.18719E-01	.12652		-.84018E-02		5.1560		4.2810		.10713		2.6849		
214	2.0445	2.8114		2.9094		150.46		.18627E-01	.12632		-.11475E-01		5.1484		4.2886		.11305		2.6789		
216	2.0645	2.9803		3.0862		150.96		.18543E-01	.12605		-.14792E-01		5.1383		4.2987		.12090		2.6711		
218	2.0845	3.2019		3.3164		151.42		.18467E-01	.12572		-.18354E-01		5.1255		4.3115		.130F2		2.6612		
220	2.1045	3.4774		3.6030		151.85		.18399E-01	.12532		-.22186E-01		5.1100		4.3270		.14299		2.6490		
222	2.1245	3.8236		4.0253		152.34		.18336E-01	.12483		-.27471E-01		5.0911		4.3459		.15774		2.6343		
224	2.1445	4.2051		4.3548		152.72		.18272E-01	.12424		-.31733E-01		5.0684		4.3686		.17560		2.6164		
226	2.1645	4.6381		4.8168		153.17		.18214E-01	.12356		-.36366E-01		5.0424		4.3946		.19619		2.5958		
228	2.1845	5.1126		5.3115		153.63		.18180E-01	.12276		-.41677E-01		5.0127		4.4243		.21985		2.5721		
230	2.2045	5.6008		5.8209		154.10		.18167E-01	.12188		-.47572E-01		4.9788		4.4582		.24703		2.5450		
232	2.2245	6.0782		6.3202		154.57		.18163E-01	.12087		-.53820E-01		4.9403		4.4967		.27803		2.5140		
234	2.2445	6.5133		6.7760		155.06		.18161E-01	.11973		-.60065E-01		4.8972		4.5358		.31301		2.4790		
236	2.2645	6.8696		7.1500		155.56		.18166E-01	.11847		-.65807E-01		4.8497		4.5872		.35184		2.4402		
238	2.2845	7.1124		7.4062		156.07		.18182E-01	.11711		-.70428E-01		4.7985		4.6385		.39407		2.3979		
240	2.3045	7.2153		7.5168		156.60		.18214E-01	.11567		-.73276E-01		4.7446		4.6924		.43980		2.3532		
242	2.3245	7.0865		7.3812		157.16		.18261E-01	.11420		-.73475E-01		4.6897		4.7473		.45285		2.3392		
244	2.3445	8.2540		8.6605		157.46		.18318E-01	.11270		-.77902E-01		4.6341		4.8029		.46069		2.3313		
246	2.3645	10.290		10.776		157.56		.18378E-01	.11098		-.95567E-01		4.5705		4.8665		.47004		2.3220		
248	2.3845	12.401		12.988		157.60		.18441E-01	.10878		-.12613		4.4893		4.9477		.48263		2.3094		
250	2.4045	14.761		15.517		157.56		.18517E-01	.10583		-.17028		4.3813		5.0557		.50062		2.2914		
252	2.4245	17.517		18.526		157.36		.18635E-01	.10184		-.23116		4.2358		5.2012		.52728		2.2647		
254	2.4445	20.012		21.232		157.12		.18841E-01	.96489E-01		-.30495		4.0420		5.3950		.56780		2.2242		
256	2.4645	22.418		23.973		156.71		.19183E-01	.89614E-01		-.38299		3.7549		5.6421		.62956		2.1624		
258	2.4845	22.198		24.106		156.71		.19183E-01	.89606E-01		-.38293		3.7446		5.6424		.62963		2.1624		
260	2.4646	21.349		24.668		156.71		.19184E-01	.89583E-01		-.38277		3.7938		5.6432		.62986		2.1421		
262	2.4648	18.864		27.228		156.74		.19189E-01	.89491E-01		-.38229		3.7905		5.6465		.63077		2.1612		
264	2.4658	15.027		38.146		156.61		.19208E-01	.89123E-01		-.38713		3.7773		5.6597		.63446		2.1575		
266	2.4696	28.689		31.652		156.74		.19286E-01	.87527E-01		-.44377		3.7202		5.7168		.65088		2.1411		
268	2.4847	25.788		26.463		154.81		.19687E-01	.79829E-01		-.56586		3.4452		5.9918		.74250		2.0495		
270	2.4847	25.551		26.666		154.86		.19687E-01	.79817E-01		-.56579		3.4448		5.9922		.74265		2.0494		
272	2.4846	24.554		27.725		155.10		.19689E-01	.79783E-01		-.56563		3.4436		5.9934		.74311		2.0489		
274	2.4850	22.033		32.885		155.57		.19696E-01	.79648E-01		-.56548		3.4387		5.9983		.74453		2.0471		
276	2.4860	24.583		52.922		153.93		.19723E-01	.79101E-01		-.57455		3.4152		6.0177		.75237		2.0196		
278	2.4893	36.849		45.926		155.50		.19820E-01	.77069E-01		-.64785		3.3468		6.0902		.78126		2.0107		
280	2.4934	37.553		39.693		150.53		.19946E-01	.74227E-01		-.73666		3.2454		6.1516		.82512		1.9669		
282	2.4935	37.256		39.681		150.53		.19946E-01	.74205E-01		-.73714		3.2446		6.1924		.82547		1.9665		
284	2.4936	36.324		40.731		150.47		.19950E-01	.74116E-01		-.73910		3.2415		6.1955		.82651		1.9651		
286	2.4941	35.109		44.674		149.57		.19965E-01	.73759E-01		-.74776		3.2287		6.2283		.83275		1.9593		
288	2.4960	38.470		47.423		147.47		.20025E-01	.72282E-01		-.79245		3.1760		6.2610		.85771		1.9343		
290	2.4986	40.740		45.986		146.38		.20106E-01	.70164E-01		-.85782		3.1004		6.3366		.89585		1.8961		
292	2.4986	40.528		46.147		146.42		.20107E-01	.70138E-01		-.85846		3.0995		6.3375		.89633		1.8957		
294	2.4987	39.500		46.871		146.49		.20110E-01	.70035E-01		-.86105		3.0958		6.3412		.89627		1.8937		
296	2.4992	39.465		50.270		146.12		.20126E-01	.69619E-01		-.87233		3.0810		6.3560		.90614		1.8859		
298	2.5011	43.864		53.576		144.3F		.20187E-01	.67893E-01		-.92661		3.0193		6.4177		.94014		1.8519		
300	2.5030	44.663		52.749		143.13		.20248E-01	.66060E-01		-.98215		2.9538		6.4832		.97870		1.8133		

CYC	TIME	W	9	W	10	V	11	W	36	VOL	23	VDOT	1	VOL	8	VOL	9	APU10	1	4'08	1	
302	2.5048	46.224		55.770		140.69		.20305E-01	.64236E-01	-1.0382			2.8985		6.5485		1.0158				1.7722	
304	2.5053	46.137		57.077		140.12		.20320E-01	.63762E-01	-1.0519			2.8715		6.5655		1.0310				1.7610	
306	2.5066	48.112		59.229		138.15		.20363E-01	.62300E-01	-1.0977			2.8190		6.6180		1.0668				1.7052	
308	2.5083	49.781		58.741		136.18		.20415E-01	.60435E-01	-1.1547			2.7521		6.6949		1.1155				1.6785	
310	2.5092	48.273		60.763		134.91		.20442E-01	.59437E-01	-1.1845			2.7162		6.7208		1.1431				1.6489	
312	2.5102	48.811		62.040		132.96		.20475E-01	.58164E-01	-1.2235			2.6704		6.7666		1.1800				1.6120	
314	2.5111	48.954		63.855		131.38		.20502E-01	.57077E-01	-1.2577			2.6312		6.8058		1.2130				1.5790	
316	2.5122	49.646		63.088		129.43		.20537E-01	.55841E-01	-1.3039			2.5795		6.8577		1.2550				1.5330	
318	2.5130	50.165		62.756		127.97		.20561E-01	.54638E-01	-1.3359			2.5431		6.8939		1.2927				1.4993	
320	2.5134	50.129		63.585		126.94		.20575E-01	.54019E-01	-1.3554			2.5207		6.9163		1.3143				1.4777	
322	2.5141	50.445		64.011		125.20		.20585E-01	.53169E-01	-1.3832			2.4899		6.9471		1.3448				1.4472	
324	2.5141	50.487		64.089		125.13		.20595E-01	.53127E-01	-1.3845			2.4884		6.9486		1.3463				1.4457	
326	2.5142	50.523		64.405		124.82		.20599E-01	.52961E-01	-1.3897			2.4823		6.9547		1.3524				1.4356	
328	2.5147	50.677		65.428		123.38		.20614E-01	.52289E-01	-1.4112			2.4580		6.9790		1.3776				1.4144	
330	2.5153	51.034		65.420		121.55		.20634E-01	.51367E-01	-1.4416			2.4245		7.0125		1.4132				1.3788	
332	2.5154	51.084		65.482		121.46		.20635E-01	.51324E-01	-1.4429			2.4229		7.0141		1.4149				1.3771	
334	2.5155	51.123		65.723		121.18		.20639E-01	.51151E-01	-1.4484			2.4166		7.0204		1.4218				1.3702	
336	2.5160	51.282		66.384		119.87		.20653E-01	.50450E-01	-1.4709			2.3911		7.0459		1.4501				1.3419	
338	2.5166	51.643		66.042		118.18		.20673E-01	.49491E-01	-1.5024			2.3562		7.0808		1.4902				1.3018	
340	2.5166	51.669		66.090		118.12		.20674E-01	.49446E-01	-1.5038			2.3545		7.0825		1.4921				1.2999	
342	2.5168	51.706		66.282		117.85		.20678E-01	.49265E-01	-1.5094			2.3479		7.0891		1.4999				1.2921	
344	2.5172	51.861		66.865		116.57		.20693E-01	.48535E-01	-1.5326			2.3213		7.1157		1.5318				1.2632	
346	2.5178	52.200		67.256		114.88		.20711E-01	.47604E-01	-1.5621			2.2873		7.1497		1.5740				1.2180	
348	2.5184	52.503		67.590		113.42		.20727E-01	.46781E-01	-1.5880			2.2572		7.1798		1.6126				1.1794	
350	2.5188	52.597		68.177		112.02		.20742E-01	.45995E-01	-1.6125			2.2283		7.2087		1.6508				1.1412	
352	2.5193	52.861		68.668		110.70		.20756E-01	.45262E-01	-1.6352			2.2014		7.2356		1.6875				1.1045	
354	2.5197	53.131		69.412		109.44		.20775E-01	.44568E-01	-1.6567			2.1759		7.2611		1.7232				1.0688	
356	2.5201	53.195		69.995		108.22		.20781E-01	.43900E-01	-1.6773			2.1513		7.2857		1.7585				1.0335	
358	2.5203	52.059		70.327		107.58		.20788E-01	.43541E-01	-1.6882			2.1381		7.2989		1.7552				1.0368	
360	2.5208	51.237		70.781		106.31		.20801E-01	.42833E-01	-1.7101			2.1120		7.3250		1.7744				1.0176	
362	2.5212	49.395		71.168		105.01		.20814E-01	.42078E-01	-1.7338			2.0841		7.3529		1.7913				1.0007	
364	2.5214	47.366		71.339		104.27		.20822E-01	.41632E-01	-1.7479			2.0676		7.3694		1.7922				.99516	
366	2.5218	46.335		71.319		103.16		.20833E-01	.40969E-01	-1.7692			2.0431		7.3939		1.8088				.98322	
368	2.5222	44.564		71.032		102.04		.20844E-01	.40324E-01	-1.7905			2.0191		7.4179		1.8264				.96556	
370	2.5224	42.848		70.752		101.27		.20852E-01	.39887E-01	-1.8050			2.0029		7.4341		1.8297				.96233	
372	2.5228	41.798		70.153		100.15		.20862E-01	.39302E-01	-1.8249			1.9811		7.4559		1.8441				.94786	
374	2.5231	40.185		69.401		98.961		.20871E-01	.38731E-01	-1.8445			1.9599		7.4771		1.8524				.92961	
376	2.5233	38.639		68.786		98.040		.20878E-01	.38318E-01	-1.8589			1.9445		7.4925		1.8666				.92536	
378	2.5236	37.591		67.874		96.755		.20886E-01	.37792E-01	-1.8775			1.9248		7.5122		1.8805				.91146	
380	2.5238	36.089		66.904		95.386		.20895E-01	.37279E-01	-1.8959			1.9056		7.5314		1.8953				.89265	
382	2.5240	34.652		66.140		94.288		.20901E-01	.36894E-01	-1.9097			1.8912		7.5458		1.9042				.88774	
384	2.5243	33.623		65.120		92.816		.20908E-01	.36415E-01	-1.9271			1.8733		7.5637		1.9181				.87389	
386	2.5245	32.210		64.094		91.283		.20916E-01	.35949E-01	-1.9443			1.8558		7.5812		1.9276				.85445	
388	2.5247	30.856		63.293		90.050		.20921E-01	.35592E-01	-1.9575			1.8424		7.5946		1.9429				.84905	
390	2.5249	29.658		62.270		88.456		.20928E-01	.35154E-01	-1.9739			1.8260		7.6110		1.9571				.83491	
392	2.5252	28.523		61.258		86.826		.20934E-01	.34726E-01	-1.9900			1.8099		7.6271		1.9773				.81471	
394	2.5253	27.240		60.468		85.528		.20939E-01	.34396E-01	-2.0025			1.7974		7.6396		1.9831				.80886	
396	2.5255	26.277		59.473		83.888		.20946E-01	.33993E-01	-2.0178			1.7822		7.6542		1.9978				.79420	
398	2.5257	25.013		58.493		82.240		.20951E-01	.33599E-01	-2.0330			1.7674		7.6696		2.0190				.77304	
400	2.5259	23.794		57.725		80.937		.20956E-01	.33292E-01	-2.0447			1.7558		7.6812		2.0252				.76676	

CYC	TIME	9	10	11	36	VOL	23	VDOT	1	VOL	8	VOL	5	ANU10	1	ANU8	1
402	2.5260	22.668	54.762	79.318	.20961E-01	.32919E-01	-2.0592	1.7417	7.6953	2.0407	.75130						
404	2.5262	21.669	55.812	77.709	.20967E-01	.32554E-01	-2.0734	1.7279	7.7091	2.0631	.72893						
406	2.5264	20.509	55.063	76.444	.20971E-01	.32270E-01	-2.0844	1.7171	7.7199	2.0699	.72212						
408	2.5265	19.621	54.299	75.035	.20975E-01	.31956E-01	-2.0967	1.7052	7.7318	2.0917	.71033						
410	2.5267	18.579	53.434	73.645	.20980E-01	.31649E-01	-2.1088	1.6935	7.7435	2.1065	.68506						
412	2.5268	17.594	52.537	72.191	.20984E-01	.31329E-01	-2.1214	1.6814	7.7556	2.1202	.67181						
414	2.5270	16.554	51.655	70.785	.20988E-01	.31020E-01	-2.1336	1.6696	7.7674	2.1327	.65932						
416	2.5271	15.513	50.795	69.410	.20993E-01	.30718E-01	-2.1456	1.6581	7.7789	2.1594	.63257						
418	2.5272	14.514	50.001	68.171	.20996E-01	.30447E-01	-2.1563	1.6478	7.7892	2.1707	.62127						
420	2.5274	13.612	49.119	66.826	.21001E-01	.30151E-01	-2.1680	1.6365	7.8005	2.1877	.60431						
422	2.5275	12.599	48.252	65.510	.21005E-01	.29862E-01	-2.1795	1.6255	7.8115	2.2170	.57505						
424	2.5276	11.615	47.512	64.409	.21008E-01	.29619E-01	-2.1891	1.6162	7.8208	2.2281	.56386						
426	2.5277	10.791	46.643	63.143	.21012E-01	.29339E-01	-2.2002	1.6055	7.8315	2.2491	.54288						
428	2.5279	9.8149	45.784	61.905	.21015E-01	.29064E-01	-2.2111	1.5949	7.8420	2.2423	.50967						
430	2.5280	8.8606	45.080	60.906	.21018E-01	.28841E-01	-2.2199	1.5864	7.8506	2.2948	.49724						
432	2.5281	8.0887	44.229	59.723	.21022E-01	.28576E-01	-2.2304	1.5763	7.8607	2.3206	.47140						
434	2.5282	7.1520	43.387	58.567	.21025E-01	.28316E-01	-2.2407	1.5663	7.8707	2.3402	.43175						
436	2.5283	6.2327	42.711	57.650	.21028E-01	.28109E-01	-2.2489	1.5583	7.8786	2.3757	.41626						
438	2.5284	5.5003	41.882	56.550	.21031E-01	.27859E-01	-2.2587	1.5487	7.8882	2.4094	.38265						
440	2.5285	4.6031	41.062	55.475	.21035E-01	.27614E-01	-2.2684	1.5393	7.8977	2.4610	.33097						
442	2.5286	3.7202	40.407	54.630	.21037E-01	.27420E-01	-2.2760	1.5318	7.9052	2.4842	.30782						
444	2.5287	3.0207	39.600	53.608	.21040E-01	.27184E-01	-2.2853	1.5227	7.9143	2.5356	.25638						
446	2.5288	2.1618	38.799	52.610	.21043E-01	.26951E-01	-2.2944	1.5138	7.9232	2.6156	.17241						
448	2.5289	1.3146	38.161	51.828	.21045E-01	.26769E-01	-2.3015	1.5067	7.9302	2.6797	.11235						
450	2.5290	.64439	37.367	50.880	.21048E-01	.26594E-01	0.	1.5000	7.9370	2.7725	.19546E-01						
452	2.5291	0.	36.391	49.759	.21052E-01	.26594E-01	0.	1.5000	7.9370	2.7725	.19546E-01						
454	2.5295	0.	31.932	45.396	.21065E-01	.26594E-01	0.	1.5000	7.9370	2.7725	.19546E-01						
456	2.5302	0.	25.545	39.645	.21083E-01	.26594E-01	0.	1.5000	7.9370	2.7725	.19546E-01						
458	2.5308	0.	19.676	33.823	.21102E-01	.26594E-01	0.	1.5000	7.9370	2.7725	.19546E-01						
460	2.5315	0.	15.162	28.016	.21121E-01	.26594E-01	0.	1.5000	7.9370	2.7725	.19546E-01						
462	2.5322	0.	12.210	22.541	.21141E-01	.26594E-01	0.	1.5000	7.9370	2.7725	.19546E-01						
464	2.5329	0.	10.416	17.792	.21162E-01	.26594E-01	0.	1.5000	7.9370	2.7725	.19546E-01						
466	2.5336	0.	9.0879	13.580	.21183E-01	.26594E-01	0.	1.5000	7.9370	2.7725	.19546E-01						
468	2.5344	0.	7.6513	10.532	.21205E-01	.26594E-01	0.	1.5000	7.9370	2.7725	.19546E-01						
470	2.5352	0.	5.8539	8.1528	.21229E-01	.26594E-01	0.	1.5000	7.9370	2.7725	.19546E-01						
472	2.5361	0.	3.6756	5.0675	.21253E-01	.26594E-01	0.	1.5000	7.9370	2.7725	.19546E-01						
474	2.5370	0.	1.1288	1.2798	.21278E-01	.26594E-01	0.	1.5000	7.9370	2.7725	.19546E-01						
476	2.5379	0.	-1.8757	-3.3139	.21305E-01	.26594E-01	0.	1.5000	7.9370	2.7725	.19546E-01						
478	2.5385	0.	-5.3097	-8.4577	.21334E-01	.26594E-01	0.	1.5000	7.9370	2.7725	.19546E-01						
480	2.5400	0.	-8.8847	-13.429	.21364E-01	.26594E-01	0.	1.5000	7.9370	2.7725	.19546E-01						
482	2.5411	0.	-11.839	-17.093	.21397E-01	.26594E-01	0.	1.5000	7.9370	2.7725	.19546E-01						
484	2.5423	0.	-13.058	-18.175	.21432E-01	.26594E-01	0.	1.5000	7.9370	2.7725	.19546E-01						
486	2.5432	0.	-12.533	-17.140	.21457E-01	.26594E-01	0.	1.5000	7.9370	2.7725	.19546E-01						
488	2.5436	0.	-11.651	-15.788	.21472E-01	.26594E-01	0.	1.5000	7.9370	2.7725	.19546E-01						
490	2.5441	0.	-10.844	-14.624	.21484E-01	.26594E-01	0.	1.5000	7.9370	2.7725	.19546E-01						
492	2.5447	0.	-9.2500	-12.426	.21500E-01	.26594E-01	0.	1.5000	7.9370	2.7725	.19546E-01						
494	2.5452	0.	-7.3507	-9.8780	.21516E-01	.26594E-01	0.	1.5000	7.9370	2.7725	.19546E-01						
496	2.5456	0.	-6.0050	-8.0959	.21526E-01	.26594E-01	0.	1.5000	7.9370	2.7725	.19546E-01						

7

CYC	TIME	ANDB	1
2	.0000	3.2501	
4	.0002	3.2501	
6	.0006	3.2501	
8	.0026	3.2501	
10	.0102	3.2501	
12	.0302	3.2501	
14	.0502	3.2501	
16	.0702	3.2501	
18	.0902	3.2501	
20	.1102	3.2501	
22	.1302	3.2501	
24	.1502	3.2501	
26	.1702	3.2501	
28	.1902	3.2501	
30	.2102	3.2501	
32	.2302	3.2501	
34	.2502	3.2501	
36	.2702	3.2501	
38	.2879	3.2501	
40	.3045	3.2501	
42	.3245	3.2501	
44	.3445	3.2501	
46	.3645	3.2501	
48	.3845	3.2501	
50	.4045	3.2501	
52	.4245	3.2501	
54	.4445	3.2501	
56	.4645	3.2501	
58	.4845	3.2501	
60	.5045	3.2501	
62	.5245	3.2501	
64	.5445	3.2501	
66	.5645	3.2501	
68	.5845	3.2501	
70	.6045	3.2501	
72	.6245	3.2501	
74	.6445	3.2501	
76	.6645	3.2501	
78	.6845	3.2501	
80	.7045	3.2501	
82	.7245	3.2501	
84	.7445	3.2501	
86	.7645	3.2501	
88	.7845	3.2501	
90	.8045	3.2501	
92	.8245	3.2501	
94	.8445	3.2501	
96	.8645	3.2501	
98	.8845	3.2501	
100	.9045	3.2501	

CYC	TIME	ANDR	1
102	.9245	3.2501	
104	.9445	3.2501	
106	.9645	3.2501	
108	.9845	3.2501	
110	1.0045	3.2501	
112	1.0245	3.2501	
114	1.0445	3.2501	
116	1.0645	3.2501	
118	1.0845	3.2501	
120	1.1045	3.2501	
122	1.1245	3.2501	
124	1.1445	3.2501	
126	1.1645	3.2501	
128	1.1845	3.2501	
130	1.2045	3.2501	
132	1.2245	3.2501	
134	1.2445	3.2501	
136	1.2645	3.2501	
138	1.2845	3.2501	
140	1.3045	3.2501	
142	1.3245	3.2501	
144	1.3445	3.2501	
146	1.3645	3.2501	
148	1.3845	3.2501	
150	1.4045	3.2501	
152	1.4245	3.2501	
154	1.4445	3.2501	
156	1.4645	3.2501	
158	1.4845	3.2501	
160	1.5045	3.2501	
162	1.5245	3.2501	
164	1.5445	3.2501	
166	1.5645	3.2501	
168	1.5845	3.2501	
170	1.6045	3.2501	
172	1.6245	3.2501	
174	1.6445	3.2501	
176	1.6645	3.2501	
178	1.6845	3.2501	
180	1.7045	3.2501	
182	1.7245	3.2501	
184	1.7445	3.2501	
186	1.7645	3.2501	
188	1.7845	3.2501	
190	1.8045	3.2501	
192	1.8245	3.2501	
194	1.8445	3.2501	
196	1.8645	3.2501	
198	1.8845	3.2501	
200	1.9045	3.2501	

CYC	TIME	ANDR
202	1.9245	3.2501
204	1.9445	3.2501
206	1.9645	3.2498
208	1.9845	3.2490
210	2.0045	3.2472
212	2.0245	3.2445
214	2.0445	3.2406
216	2.0645	3.2355
218	2.0845	3.2290
220	2.1045	3.2212
222	2.1245	3.2118
224	2.1445	3.2005
226	2.1645	3.1876
228	2.1845	3.1731
230	2.2045	3.1567
232	2.2245	3.1384
234	2.2445	3.1183
236	2.2645	3.0965
238	2.2845	3.0735
240	2.3045	3.0499
242	2.3245	3.0266
244	2.3445	3.0036
246	2.3645	2.9783
248	2.3845	2.9474
250	2.4045	2.9090
252	2.4245	2.8621
254	2.4445	2.8090
256	2.4645	2.7572
258	2.4645	2.7572
260	2.4646	2.7570
262	2.4648	2.7565
264	2.4658	2.7542
266	2.4696	2.7452
268	2.4847	2.7161
270	2.4847	2.7161
272	2.4848	2.7160
274	2.4850	2.7157
276	2.4860	2.7146
278	2.4853	2.7115
280	2.4934	2.7099
282	2.4935	2.7099
284	2.4936	2.7099
286	2.4941	2.7100
288	2.4960	2.7107
290	2.4986	2.7133
292	2.4986	2.7133
294	2.4987	2.7135
296	2.4992	2.7143
298	2.5011	2.7181
300	2.5030	2.7234

CYC	TIME	ANDB
302	2.5048	2.7301
304	2.5053	2.7320
306	2.5066	2.7386
308	2.5093	2.7482
310	2.5092	2.7539
312	2.5102	2.7617
314	2.5111	2.7689
316	2.5122	2.7791
318	2.5130	2.7867
320	2.5134	2.7915
322	2.5141	2.7985
324	2.5141	2.7988
326	2.5142	2.8002
328	2.5147	2.8060
330	2.5153	2.8141
332	2.5154	2.8145
334	2.5155	2.8161
336	2.5160	2.8225
338	2.5166	2.8317
340	2.5166	2.8321
342	2.5166	2.8335
344	2.5172	2.8411
346	2.5178	2.8506
348	2.5184	2.8593
350	2.5186	2.8678
352	2.5193	2.8760
354	2.5197	2.8839
356	2.5201	2.8917
358	2.5203	2.8959
360	2.5208	2.9044
362	2.5212	2.9136
364	2.5214	2.9192
366	2.5218	2.9276
368	2.5222	2.9359
370	2.5224	2.9416
372	2.5228	2.9493
374	2.5231	2.9565
376	2.5233	2.9625
378	2.5236	2.9698
380	2.5238	2.9769
382	2.5240	2.9823
384	2.5243	2.9890
386	2.5245	2.9957
388	2.5247	3.0009
390	2.5249	3.0072
392	2.5252	3.0135
394	2.5253	3.0184
396	2.5255	3.0244
398	2.5257	3.0303
400	2.5259	3.0349

CYC	TIME	AND3
402	2.5260	3.0406
404	2.5262	3.0462
406	2.5264	3.0505
408	2.5265	3.0557
410	2.5267	3.0601
412	2.5268	3.0651
414	2.5270	3.0700
416	2.5271	3.0747
418	2.5272	3.0790
420	2.5274	3.0837
422	2.5275	3.0883
424	2.5276	3.0922
426	2.5277	3.0967
428	2.5279	3.1012
430	2.5280	3.1048
432	2.5281	3.1091
434	2.5282	3.1133
436	2.5283	3.1167
438	2.5284	3.1208
440	2.5285	3.1248
442	2.5286	3.1280
444	2.5287	3.1319
446	2.5288	3.1357
448	2.5289	3.1387
450	2.5290	3.1416
452	2.5291	3.1416
454	2.5295	3.1416
456	2.5302	3.1416
458	2.5308	3.1416
460	2.5315	3.1416
462	2.5322	3.1416
464	2.5329	3.1416
466	2.5336	3.1416
468	2.5344	3.1416
470	2.5352	3.1416
472	2.5361	3.1416
474	2.5370	3.1416
476	2.5379	3.1416
478	2.5389	3.1416
480	2.5400	3.1416
482	2.5411	3.1416
484	2.5423	3.1416
486	2.5432	3.1416
488	2.5438	3.1416
490	2.5441	3.1416
492	2.5447	3.1416
494	2.5452	3.1416
496	2.5456	3.1416

COMPUTER OUTPUT FOR CONTAINMENT
ISOLATION VALVE TRIP -
VALVE DISC PROPPED OPEN
AT 45° (15° OPENING)

INPUT DATA
 NUMBER OF FLOW ACCES----- 27
 NUMBER OF HEAT ACCFS----- 0
 NUMBER OF FLOW CONNECTORS----- 36
 NUMBER OF HEAT CONNECTORS----- 0
 NUMBER OF FLUID SYSTEMS----- 2
 IF 1 OR 2, RESTART WILL BE READ----- -1
 NUMBER OF CYCLES BETWEEN OUTPUTS----- 10
 NUMBER OF CYCLES BETWEEN MONITORS----- 1
 IF 1, POSITION RESTART TAPE READ----- 0
 IF 1, TIMER DATA WILL BE INCLUDED----- 0

SYSTEM NUMBER 1 TYPE OF SYSTEM-- VENT AIR

FLO. NOCE	TYPE	VOLUME	ELEVATION	PRESSURE	TEMP	VOID FRAC
1	1	10.0000	0.0000	14.70	60.00	0.000000
2	2	13.9600	0.0000	14.68	60.00	1.000000
3	0	8.2710	1.1050	14.68	60.00	1.000000
4	0	6.5190	5.0110	14.68	60.00	1.000000
5	0	6.5190	7.4890	14.68	60.00	1.000000
6	0	6.2710	11.4030	14.69	60.00	1.000000
7	0	2.8660	12.5000	14.69	60.00	1.000000
8	0	2.7223	12.5720	14.70	60.00	1.000000
9	0	6.7147	13.2502	14.75	60.00	1.000000
10	0	3.7320	12.5000	14.74	60.00	1.000000
11	0	4.1890	12.5000	14.74	60.00	1.000000
12	0	4.1860	12.5000	14.76	60.00	1.000000
13	0	27.5200	12.5000	14.76	60.00	1.000000
14	0	27.5200	12.5000	14.76	60.00	1.000000
15	0	27.5200	12.5000	14.76	60.00	1.000000
16	0	27.5200	12.5000	14.77	60.00	1.000000
17	0	27.5200	12.5000	14.77	60.00	1.000000
18	0	27.5200	12.5000	14.77	59.99	1.000000
19	0	27.5200	12.5000	14.77	59.95	1.000000
20	0	27.5200	12.5000	14.78	60.00	1.000000
21	0	27.5200	12.5000	14.78	60.00	1.000000
22	1	27.5200	12.5000	14.58	60.00	0.000000

CONNECTOR DATA

CONN	I-UP	I-DN	NSECT	TYPE	AN-UP	AN-DN	AFALL	APAR	FLOW	AREA	LENCTH	EG DIAM	K-PCS	K-NEG	STYPE	INT DX/A
1	2	1	1	0	2.792	2.792	2.792	2.792	16.89	2.792	5.000	1.886	1.000	.500	0	.000386
2	3	2	1	0	2.792	2.792	2.792	2.792	16.89	2.792	5.463	1.886	.132	.132	0	.000422
3	4	3	1	0	2.792	2.792	2.792	2.792	16.89	2.792	4.202	1.886	0.000	0.000	0	.000325
4	5	4	1	0	2.792	2.792	2.792	2.792	16.89	2.792	2.478	1.886	0.000	0.000	0	.000192
5	6	5	1	0	2.792	2.792	2.792	2.792	16.89	2.792	4.202	1.886	.132	.132	0	.000325
6	7	6	1	0	2.792	2.792	2.792	2.792	16.89	2.792	3.656	1.886	0.000	0.000	0	.000286
7	8	7	1	0	3.122	2.792	3.142	2.957	16.89	3.142	1.833	1.886	0.000	0.000	0	.000154
8	10	8	1	0	1.654	2.792	3.142	2.203	14.17	.809	1.670	1.886	.230	.230	0	.000114
9	9	8	1	0	3.307	3.307	3.142	3.307	2.72	.557	1.820	1.886	1.360	1.360	0	.000145
10	10	9	1	0	3.138	3.307	2.792	2.223	2.72	2.672	2.000	1.886	.150	.150	0	.000101
11	11	10	1	0	2.792	2.792	2.792	2.792	16.89	2.792	1.572	1.886	0.000	0.000	0	.000152
12	12	11	1	0	2.792	2.792	2.792	2.792	16.89	2.792	1.500	1.886	.220	.220	0	.000116
13	13	12	1	0	2.792	2.792	2.792	2.792	16.89	2.792	5.750	1.886	0.000	0.000	0	.000444
14	14	13	1	0	2.792	2.792	2.792	2.792	16.89	2.792	10.000	1.886	0.000	0.000	0	.000773
15	15	14	1	0	2.792	2.792	2.792	2.792	16.89	2.792	10.000	1.886	0.000	0.000	0	.000773
16	16	15	1	0	2.792	2.792	2.792	2.792	16.50	2.792	10.000	1.886	0.000	0.000	0	.000773
17	17	16	1	0	2.792	2.792	2.792	2.792	16.50	2.792	10.000	1.886	0.000	0.000	0	.000773
18	18	17	1	0	2.792	2.792	2.792	2.792	16.90	2.792	10.000	1.886	0.000	0.000	0	.000773
19	19	18	1	0	2.792	2.792	2.792	2.792	16.50	2.792	10.000	1.886	0.000	0.000	0	.000773
20	20	19	1	0	2.792	2.792	2.792	2.792	16.90	2.792	10.000	1.886	0.000	0.000	0	.000773
21	21	20	1	0	2.792	2.792	2.792	2.792	16.90	2.792	10.000	1.886	0.000	0.000	0	.000773
22	22	21	1	0	2.792	2.792	2.792	2.792	16.90	2.792	10.000	1.886	1.000	1.000	0	.000773

SYSTEM NUMBER 2 TYPE OF SYSTEM-- ACTLATOR

FLOW NODE DATA

NP	TYPE	VOLUME	ELEVATION	PRESSURE	TEMP	VOID	FFAC
23	0	.0596	0.0000	105.00	60.00	1.000000	
24	0	.0579	0.0000	105.00	60.00	1.000000	
25	0	.0059	0.0000	105.00	60.00	1.000000	
26	0	.0019	0.0000	105.00	60.00	1.000000	
27	0	.0059	0.0000	105.00	60.00	1.000000	
28	0	.0059	0.0000	105.00	60.00	1.000000	
29	0	.0012	0.0000	105.00	60.00	1.000000	
30	0	.0081	0.0000	105.00	60.00	1.000000	
31	0	.0081	0.0000	105.00	60.00	1.000000	
32	0	.0081	0.0000	105.00	60.00	1.000000	
33	0	.0081	0.0000	105.00	60.00	1.000000	
34	0	.0081	0.0000	105.00	60.00	1.000000	
35	0	.0081	0.0000	105.00	60.00	1.000000	
36	0	.0006	0.0000	105.00	60.00	1.000000	
37	1	10.0000	0.0000	105.00	60.00	1.000000	

CONNECTOR DATA

CCN#	I-LP	I-CP	NSFG	TYPE	AP-UP	AM-LA	AFALL	APAP	FLOW	APFA	LFAGTH	EC	DIA#	K-FCS	M-NEG	STYPE	INT	DX/A
23	22	25	2	0	.156	.002	.156	.045	-.00	.196	.532		.500	0.000	0.000	0	.244608	
24	25	27	1	0	.002	.002	.002	.002	-.00	.002	1.823		.045	0.000	0.000	0	.489177	
25	27	28	1	0	.002	.002	.002	.002	-.00	.002	3.667		.045	0.000	0.000	0	.489177	
26	28	29	1	0	.002	.002	.002	.002	-.00	.002	2.003		.045	.132	.132	0	.277245	
27	29	26	1	0	.002	.002	.002	.002	-.00	.002	.523		.045	.220	.220	0	.11085E	
28	26	24	2	0	.002	.136	.136	.045	-.00	.136	.250		.416	0.000	0.000	0	.07605E	
29	29	30	1	0	.002	.002	.002	.002	-.00	.002	.583		.045	0.000	0.000	0	.367565	
30	30	31	1	0	.092	.002	.002	.002	-.00	.002	2.760		.045	.660	.660	0	.669298	
31	31	32	1	0	.002	.002	.002	.002	-.00	.002	5.030		.045	0.000	0.000	0	.669298	
32	32	33	1	0	.002	.002	.002	.002	-.00	.002	5.030		.045	0.000	0.000	0	.669298	
33	33	34	1	0	.002	.002	.002	.002	-.00	.002	5.030		.045	0.000	0.000	0	.669298	
34	34	35	1	0	.002	.002	.002	.002	-.00	.002	5.030		.045	0.000	0.000	0	.669298	
35	35	36	1	0	.002	.002	.002	.002	-.00	.002	2.760		.045	.132	.132	0	.367930	
36	36	37	1	0	.002	.002	.002	.002	-.00	.002	.250		.045	500.000	500.000	0	.033282	

TIME DATA

START TIME----- 0.0000
 STOP TIME----- .2400
 MAX ALLOWABLE TIME STEP----- .0100
 CP TIME LIMIT----- 15.000
 MAX PRESSURE CHANGE ON SLOPE-- 1.0000
 MAX PRESSURE CHANGE ALLOWED--- 2.0000

INITIAL VALVE DISK ANGLE----- .7854
 INITIAL DISK ANGULAR VELOCITY-- 0.0000

THE FOLLOWING VARIABLES ARE TO BE MONITORED

MONITOR	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																
CLVEL	1																																																								
DPMON	1																																																								
THETA	2																																																								
WTMON	7																																																								
CPVAL																																																									
DISK#																																																									
MONITOR																																																									
FLMON																																																									
ANU10																																																									

THERE ARE 41 MONITORS

MONITOR NUMBER 1* CLVEL 1* IS EXTERNAL
 MONITOR NUMBER 2* THETA 2* IS EXTERNAL
 MONITOR NUMBER 3* CPVAL 3* IS EXTERNAL
 MONITOR NUMBER 4* DPDISK 4* IS EXTERNAL

VALVE INFLT DATA

NODE AT VALVE INLET-----	10
NODE ABOVE VALVE DISC-----	9
NODE BELOW VALVE DISC-----	8
NODE AT VALVE OUTLET-----	7
CONNECTOR-INLET TO ABOVE DISC-	10
CONNECTOR-INLET TO BELOW DISC-	8
CONNECTOR-ABOVE TO BELOW DISC-	9
CONNECTOR-PELOW DISC TO OUTLET	7
NUMBER OF ANGLES FOR VARIABLES	13
NODE FOR PRESSURE TRIP VALUE--	22

DISK DATA

DISK RADIUS,FT-----	1.0260
DISK MOMENT ARM,FT-----	1.2083
DISTANCE TO DISK CG,FT-----	1.2917
FREE HANG ANGLE,DEGREES-----	-5.0000
MAXIMUM DISK ANGLE,DEGREES----	75.0000
MINIMUM DISK ANGLE,DEGREES----	30.0000
STOP ANGLE FOR DISC,DEGREES---	45.0000
WEIGHT OF DISK ASSEMBLY,LBS---	307.53
ROT INERTIA OF DISK,FT-LB-SEC2	14.50
HALF DISTANCE SEAT TO STOP----	1.1667
SEAT AREA,FT2-----	3.1416
EDGE PRESSURE MOMENT ARM,FT---	.1667
EDGE AREA,FT2-----	.3608
ADDITIONAL AREA UNDER DISC----	0.0000
ANGLE OF DASHPOT ARM-----	37.5000

DASHPOT DATA

RADIUS OF DASHPOT,FT-----	0.0000
DASHPOT MOMENT ARM,FT-----	.5668
DASHPOT PRELOAD,LBS-----	796.00
DASHPOT SPRING CONSTANT,LB/FT-	1350.00
RADIUS OF AIR CYLINDER,FT----	.2500
VOLUME OF AIR CYLINDER,FT3----	.1268
PRESSURE IN AIR CYLINDER,PSIA-	105.00
AIR PRESSURE RELAXATION TIME--	1.0000
TRIP PRESSURE IN TRIP VOLUME--	16.68
AMBIENT SYSTEM PRESSURE-----	14.70
DENSITY OF DASHPOT FLUID-----	56.00
ANGLE OF DASHPOT,DEG-----	45.00
TRIP SIGNAL DELAY TIME,SEC----	.1000
CHECK VALVE TRIP TIME-----	100.0000

BEARING DATA

PIN RADIUS,FT-----	.1670
BEARING FRICTION COEFFICIENT--	.2000

K	TH	CV-POS 1	CV-NEG-1	CV-PCS 2	CV-NEG 2	CV-PCS 3	CV-NEG 3	CV-PCS 4	CV-NEG 4	CV-DASPT	CP AREA	DISC AREA
1	30.0000	.1050	.1050	.1600	.1600	1.7100	1.7100	0.0000	0.0000	1.5000	.0200	.5570
2	35.0000	.1050	.1050	.1650	.1650	1.5000	1.5000	0.0000	0.0000	1.5000	.0200	.5570
3	40.0000	.1200	.1200	.1800	.1800	1.3600	1.3600	0.0000	0.0000	1.5000	.0200	.5570
4	45.0000	.1500	.1500	.2300	.2300	1.3600	1.3600	0.0000	0.0000	1.5000	.0200	.5570
5	50.0000	.2040	.2040	.4500	.4500	1.3600	1.3600	0.0000	0.0000	1.5000	.0200	.5570
6	55.0000	.2250	.2250	.5700	.5700	1.3600	1.3600	0.0000	0.0000	1.5000	.0200	.5570
7	60.0000	.3500	.3500	.6200	.6200	1.3600	1.3600	0.0000	0.0000	1.5000	.0200	.5570
8	65.0000	.4300	.4300	.6500	.6500	1.3600	1.3600	0.0000	0.0000	1.5000	.0200	.5570
9	70.0000	.5020	.5020	.6600	.6600	1.3600	1.3600	0.0000	0.0000	1.5000	.0200	.5570
10	75.0000	.6180	.6180	.6700	.6700	1.3600	1.3600	0.0000	0.0000	1.5000	.0200	.5570
11	80.0000	.7190	.7190	.4500	.4900	1.3600	1.3600	0.0000	0.0000	1.5000	.0200	.5570
12	85.0000	.8200	.8200	.3400	.3400	1.3600	1.3600	0.0000	0.0000	1.5000	.0200	.5570
13	90.0000	.9250	.9250	.3400	.3400	1.3600	1.3600	0.0000	0.0000	1.5000	.0200	.5570

AVERAGE CLEARANCE AREA AROUND DISC IS .5570

OUTPUT AT TIME 0.00000

SYSTEM NUMBER 1

FLOW PARAMETERS

CCMN	I-UP	I-DN	DNR	P	DROP	FRC	DROP	FRM	DRCP	EXP	DRCP	REL	DRCP	HEAD	MAX	DROP	FLCM	STEAM	WATER	VREL
1	2	1	2	-.024	-.001	-.052	.077	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.89	0.00	0.00	
2	3	2	3	-.006	-.002	-.007	-.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.89	0.00	0.00	
3	4	3	4	-.001	-.001	0.000	.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.89	0.00	0.00	
4	5	4	5	-.001	-.001	0.000	-.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.89	0.00	0.00	
5	6	5	6	-.006	-.001	-.007	-.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.89	0.00	0.00	
6	7	6	7	-.000	-.001	0.000	-.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.89	0.00	0.00	
7	8	7	8	-.011	-.000	0.000	-.010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.89	0.00	0.00	
8	10	8	10	-.041	-.003	-.059	-.062	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.89	0.00	0.00	
9	9	9	9	-.046	-.000	-.046	-.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	14.17	0.00	0.00	
10	10	9	10	-.005	-.000	-.000	-.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.72	0.00	0.00	
11	11	10	11	-.001	-.001	0.000	-.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.89	0.00	0.00	
12	12	11	12	-.015	-.001	-.014	-.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.89	0.00	0.00	
13	13	12	13	-.002	-.002	0.000	-.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.89	0.00	0.00	
14	14	13	14	-.003	-.003	0.000	-.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.89	0.00	0.00	
15	15	14	15	-.003	-.003	0.000	-.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.89	0.00	0.00	
16	16	15	16	-.003	-.003	0.000	-.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.90	0.00	0.00	
17	17	16	17	-.003	-.003	0.000	-.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.90	0.00	0.00	
18	18	17	18	-.003	-.003	0.000	-.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.90	0.00	0.00	
19	19	18	19	-.003	-.003	0.000	-.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.90	0.00	0.00	
20	20	19	20	-.003	-.003	0.000	-.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.90	0.00	0.00	
21	21	20	21	-.003	-.003	0.000	-.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.90	0.00	0.00	
22	22	21	22	-.200	-.006	-.053	-.077	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.50	0.00	0.00	

NODE PARAMETERS

NODE	STATE	PRESSURE	TEMP	SP	VOL	ENTHALPY	ENERGY	VCID	FRC	QUALITY	MASS	ENERGY	MDGT	LCCT	SPECIFICE
1	LIQUID	14.70	60.00	13.580905	243.13	206.18	0.000000	0.000000	0.000000	0.000000	44.	10659.	17.	4107.	
2	STEAM	14.68	60.00	13.140244	243.13	207.44	1.000000	0.000000	0.000000	0.000000	1.	220.	0.	0.	
3	STEAM	14.68	60.00	13.133182	243.13	207.43	1.000000	0.000000	0.000000	0.000000	1.	131.	0.	0.	
4	STEAM	14.68	60.00	13.133957	243.13	207.43	1.000000	0.000000	0.000000	0.000000	1.	109.	0.	0.	
5	STEAM	14.68	60.00	13.134491	243.13	207.43	1.000000	0.000000	0.000000	0.000000	1.	109.	0.	0.	
6	STEAM	14.69	60.00	13.129115	243.13	207.43	1.000000	0.000000	0.000000	0.000000	1.	131.	0.	0.	
7	STEAM	14.69	60.00	13.128684	243.13	207.43	1.000000	0.000000	0.000000	0.000000	0.	46.	0.	0.	
8	STEAM	14.70	60.00	13.119230	243.13	207.43	1.000000	0.000000	0.000000	0.000000	0.	43.	0.	0.	
9	STEAM	14.75	60.00	13.076330	243.13	207.43	1.000000	0.000000	0.000000	0.000000	1.	107.	0.	0.	
10	STEAM	14.74	60.00	13.082473	243.13	207.43	1.000000	0.000000	0.000000	0.000000	0.	59.	0.	0.	
11	STEAM	14.74	60.00	13.081977	243.13	207.43	1.000000	0.000000	0.000000	0.000000	0.	66.	0.	0.	
12	STEAM	14.76	60.00	13.065000	243.13	207.43	1.000000	0.000000	0.000000	0.000000	0.	66.	0.	0.	
13	STEAM	14.76	60.00	13.067569	243.13	207.43	1.000000	0.000000	0.000000	0.000000	0.	443.	0.	0.	
14	STEAM	14.76	60.00	13.065057	243.13	207.43	1.000000	0.000000	0.000000	0.000000	0.	443.	0.	0.	
15	STEAM	14.76	60.00	13.062554	243.13	207.43	1.000000	0.000000	0.000000	0.000000	0.	443.	0.	0.	
16	STEAM	14.77	60.00	13.060056	243.13	207.43	1.000000	0.000000	0.000000	0.000000	0.	443.	0.	0.	
17	STEAM	14.77	60.00	13.057555	243.13	207.43	1.000000	0.000000	0.000000	0.000000	0.	443.	0.	0.	
18	STEAM	14.77	59.99	13.055043	243.13	207.43	1.000000	0.000000	0.000000	0.000000	0.	444.	0.	0.	
19	STEAM	14.77	59.99	13.052530	243.13	207.43	1.000000	0.000000	0.000000	0.000000	0.	444.	0.	0.	
20	STEAM	14.78	60.00	13.050053	243.13	207.43	1.000000	0.000000	0.000000	0.000000	0.	444.	0.	0.	
21	STEAM	14.78	60.00	13.047536	243.13	207.43	1.000000	0.000000	0.000000	0.000000	0.	444.	0.	0.	
22	LIQUID	14.56	60.00	13.318291	243.13	206.20	0.000000	0.000000	0.000000	0.000000	0.	10296.	-17.	-4105.	

SYSTEM ALPBBP 2

FLD* PARAMETERS

CCSN	I-UP	I-CC	ONE	P	DRCP	FRC	DRCP	FR*	DRCP	EXP	DRCP	REL	DRCP	HEAD	MOM	DRCP	FLWC	STEAM	WATER	WREL
23	23	25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24	25	27	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	27	28	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26	28	29	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
27	29	26	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
28	26	24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
29	29	30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	30	31	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31	31	32	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
32	32	33	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
33	33	34	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
34	34	35	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	35	36	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
36	36	37	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
37	37		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

NODE PARAMETERS

NODE	STATE	PRESSURE	TEMP	SF	VCL	ENTHALPY	ENERGY	VCID	FRAC	QUALITY	MASS	ENERGY	MDOOT	UDCT
23	STEAM	105.00	60.00	1.836656	124.93	89.24	1.0000000	1.0000000	1.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
24	STEAM	105.00	60.00	1.836656	124.93	89.24	1.0000000	1.0000000	1.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
25	STEAM	105.00	60.00	1.836656	124.93	89.24	1.0000000	1.0000000	1.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
26	STEAM	105.00	60.00	1.836656	124.93	89.24	1.0000000	1.0000000	1.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
27	STEAM	105.00	60.00	1.836656	124.93	89.24	1.0000000	1.0000000	1.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
28	STEAM	105.00	60.00	1.836656	124.93	89.24	1.0000000	1.0000000	1.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
29	STEAM	105.00	60.00	1.836656	124.93	89.24	1.0000000	1.0000000	1.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
30	STEAM	105.00	60.00	1.836656	124.93	89.24	1.0000000	1.0000000	1.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
31	STEAM	105.00	60.00	1.836656	124.93	89.24	1.0000000	1.0000000	1.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
32	STEAM	105.00	60.00	1.836656	124.93	89.24	1.0000000	1.0000000	1.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
33	STEAM	105.00	60.00	1.836656	124.93	89.24	1.0000000	1.0000000	1.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
34	STEAM	105.00	60.00	1.836656	124.93	89.24	1.0000000	1.0000000	1.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
35	STEAM	105.00	60.00	1.836656	124.93	89.24	1.0000000	1.0000000	1.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
36	STEAM	105.00	60.00	1.836656	124.93	89.24	1.0000000	1.0000000	1.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
37	STEAM	105.00	60.00	1.836656	124.93	89.24	1.0000000	1.0000000	1.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

VALVE PARAMETERS

THETA	-----	7954
TCOT	-----	0.0000
VCL IN AIR CYLINDER	---	0596
PRES IN AIR CYLINDER	---	105.0000
VCL BELLO VALVE DISK	---	2.7223
FLOW AREA PAST DISK	---	0.0092

DISK MOMENTS AND DASHPOT PRESSURES

M-DASHPOT	1327.	M-BEARING	58.	M-WEIGHT	-305.	M-EDGE	-3.	M-FLUID	-26.	M-TOTAL	1054.	P-ATR	105.00	P-CASHECT	14.70	F-CCN	14.70	P-UP	14.75	P-EDGE	14.74
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CYC	TIME	CLVEL 1	THETA 2	DPVAL 3	DPDSK 4	FLMON 1	DPMON 1	WTMON 1	DISKM 1	P	22	P	7
2	.0000	0.	45.000	.51854E-01	.46063E-01	-26.505	1327.0	-304.70	1053.6	14.950		14.689	
4	.0002	0.	45.000	.51854E-01	.46063E-01	-26.505	1327.0	-304.70	1053.6	14.922		14.689	
6	.0006	0.	45.000	.51855E-01	.46063E-01	-26.505	1327.0	-304.70	1053.6	14.986		14.689	
8	.0026	0.	45.000	.51855E-01	.46063E-01	-26.505	1327.0	-304.70	1053.6	15.006		14.689	
10	.0102	0.	45.000	.51855E-01	.46062E-01	-26.505	1327.0	-304.70	1053.6	15.084		14.689	
12	.0302	0.	45.000	.52070E-01	.46143E-01	-26.552	1327.0	-304.70	1053.5	15.288		14.690	
14	.0502	0.	45.000	.53955E-01	.46992E-01	-27.040	1327.0	-304.70	1053.0	15.492		14.698	
16	.0702	0.	45.000	.60279E-01	.50251E-01	-28.015	1327.0	-304.70	1051.1	15.696		14.728	
18	.0902	0.	45.000	.73079E-01	.57728E-01	-33.218	1327.0	-304.70	1046.7	15.900		14.787	
20	.1102	0.	45.000	.92462E-01	.70436E-01	-40.530	1327.0	-304.70	1039.2	16.115		14.863	
22	.1302	0.	45.000	.11743	.88445E-01	-50.893	1327.0	-304.70	1028.5	16.340		14.932	
24	.1502	0.	45.000	.14673	.11130	-64.046	1327.0	-304.70	1015.0	16.565		14.977	
26	.1702	0.	45.000	.17561	.13848	-79.684	1327.0	-304.70	998.94	16.750		14.999	
28	.1902	0.	45.000	.21585	.16957	-97.575	1327.0	-304.70	980.56	17.015		15.005	
30	.2102	0.	45.000	.25543	.20425	-117.53	1327.0	-304.70	960.06	17.240		15.004	
32	.2302	0.	45.000	.29839	.24223	-139.38	1327.0	-304.70	937.61	17.465		14.999	
34	.2502	0.	45.000	.34481	.28333	-163.03	1327.0	-304.70	913.31	17.650		14.993	
36	.2613	0.	45.000	.37204	.30748	-176.93	1327.0	-304.70	899.04	17.814		14.989	
38	.2643	0.	45.000	.38003	.31454	-180.99	1327.0	-304.70	894.87	17.849		14.988	
40	.2716	0.	45.000	.39879	.33106	-190.50	1327.0	-304.70	885.10	17.931		14.986	
42	.2829	0.	45.000	.42880	.35749	-205.71	1326.9	-304.70	869.28	18.058		14.983	
44	.3022	0.	45.000	.48338	.40537	-233.26	1319.1	-304.70	832.81	18.274		14.981	
46	.3222	0.	45.000	.67322	.60547	-348.40	1297.1	-304.70	691.42	18.459		14.927	
48	.3422	0.	45.000	.88872	.84265	-484.87	1270.0	-304.70	522.88	18.724		14.880	
50	.3622	0.	45.000	1.0982	1.0733	-617.59	1248.4	-304.70	363.95	18.949		14.651	
52	.3822	0.	45.000	1.3036	1.2979	-746.86	1234.4	-304.70	216.50	19.174		14.634	
54	.4022	0.	45.000	1.5104	1.5231	-876.44	1223.2	-304.70	71.739	19.359		14.825	
56	.4222	-.64931E-01	44.984	1.7200	1.7505	-1007.3	1210.2	-304.70	-76.159	19.624		14.817	
58	.4422	-.35118	44.798	1.9358	1.9462	-1119.9	1202.4	-304.36	-199.75	19.849		14.805	
60	.4622	-.80866	44.257	2.2083	2.1386	-1230.6	1214.7	-302.82	-299.29	20.074		14.768	
62	.4822	-1.44451	43.200	2.6028	2.4043	-1383.5	1254.8	-299.30	-411.28	20.299		14.686	
64	.4922	-1.8424	42.420	2.8658	2.0372	-1172.2	1357.2	-292.88	-82.951	20.412		14.625	
66	.4922	-1.8426	42.418	2.8783	2.0569	-1183.6	1357.3	-292.88	-94.354	20.412		14.625	
68	.4923	-1.8440	42.407	2.9219	2.1504	-1237.4	1357.6	-292.85	-149.42	20.414		14.627	
70	.4928	-1.8582	42.365	3.0169	2.6043	-1498.6	1358.4	-292.75	-416.56	20.419		14.638	
72	.4947	-1.9951	42.190	3.1746	3.4869	-2006.4	1357.5	-292.35	-934.27	20.441		14.427	
74	.4978	-2.2554	41.877	3.4781	3.6397	-2094.4	1365.1	-291.16	-1015.2	20.476		14.323	
76	.5038	-2.7701	41.160	3.7187	3.6877	-2122.0	1382.4	-288.98	-1024.7	20.535		14.343	
78	.5109	-3.1836	40.134	3.9045	3.0100	-1732.0	1497.4	-281.92	-500.76	20.554		14.320	
80	.5109	-3.3849	40.130	3.9177	3.0311	-1744.2	1497.6	-281.91	-512.97	20.555		14.320	
82	.5110	-3.3905	40.110	3.9637	3.1342	-1803.5	1498.2	-281.86	-573.29	20.555		14.323	
84	.5115	-3.4225	40.033	4.0658	3.6336	-2090.8	1500.6	-281.67	-865.61	20.558		14.338	
86	.5134	-3.6322	39.712	4.2578	4.5507	-2618.5	1510.6	-280.90	-1385.8	20.567		14.100	
88	.5211	-4.5193	38.226	4.7279	4.5974	-2645.4	1561.8	-277.56	-1360.9	20.606		14.041	
90	.5211	-4.5203	38.222	4.7433	3.8247	-2203.7	1681.7	-272.41	-783.23	20.606		14.742	
92	.5212	-4.5244	38.210	4.7684	3.8771	-2230.9	1682.4	-272.37	-810.45	20.606		14.343	
94	.5214	-4.5428	38.158	4.8430	4.1244	-2373.2	1685.1	-272.24	-953.69	20.607		14.059	
96	.5224	-4.6521	37.949	4.9688	5.0263	-2892.2	1696.2	-271.72	-1469.6	20.612		14.023	
98	.5262	-5.2056	37.052	5.5056	5.6093	-3227.7	1744.7	-269.54	-1747.7	20.631		13.687	
100	.5262	-5.2075	37.048	5.5105	5.1537	-2965.5	1825.2	-266.41	-1407.6	20.631		13.686	

CYC	TIME	CLVEL 1	THETA 2	DPVAL 3	DPGSK 4	FLMON 1	DPMON 1	WTMON 1	DISKM 1	P 22	P 7
102	.5263	-5.2146	37.033	5.5314	5.20F1	-2996.8	1825.1	-266.37	-1438.3	20.631	13.684
104	.5265	-5.2457	36.973	5.6027	5.4715	-3148.4	1830.1	-266.22	-1585.6	20.633	13.677
106	.5275	-5.4916	36.731	5.8829	6.3022	-3626.4	1846.2	-265.60	-2034.8	20.637	13.552
108	.5288	-5.6366	36.394	6.2373	6.4015	-3683.5	1916.3	-263.02	-2021.7	20.644	13.336
110	.5288	-5.6436	36.386	6.2497	6.4260	-3697.6	1916.7	-262.99	-2034.2	20.644	13.331
112	.5289	-5.6644	36.354	6.2973	6.5303	-3757.6	1919.1	-262.91	-2090.1	20.645	13.312
114	.5294	-5.7542	36.224	6.4735	6.8994	-3970.0	1928.9	-262.57	-2286.9	20.647	13.231
116	.5313	-6.1529	35.682	7.0455	7.3869	-4250.5	1969.8	-261.20	-2520.0	20.657	12.997
118	.5314	-6.1562	35.677	7.0518	7.1214	-4097.8	2025.9	-259.27	-2315.7	20.657	12.996
120	.5314	-6.1679	35.659	7.0753	7.1821	-4137.7	2027.4	-259.22	-2348.2	20.657	12.990
122	.5317	-6.2168	35.589	7.1617	7.4183	-4268.6	2033.3	-259.04	-2474.6	20.658	12.970
124	.5326	-6.4346	35.301	7.4906	7.9914	-4598.4	2057.9	-258.29	-2771.5	20.663	12.843
126	.5339	-6.7384	34.899	7.8548	7.8635	-4524.8	2158.5	-255.14	-2601.8	20.669	12.711
128	.5339	-6.7450	34.890	7.8674	7.7008	-4446.2	2159.5	-255.12	-2620.8	20.670	12.708
130	.5340	-6.7718	34.851	7.9154	8.0494	-4631.7	2163.2	-255.02	-2700.3	20.670	12.696
132	.5345	-6.8687	34.696	8.1020	8.5808	-4937.5	2178.3	-254.60	-2982.6	20.673	12.630
134	.5355	-7.1426	34.381	8.5530	9.1251	-5250.7	2237.6	-252.92	-3228.8	20.677	12.584
136	.5364	-7.4028	34.068	9.0721	9.6765	-5568.3	2279.7	-251.81	-3495.9	20.682	12.103
138	.5366	-7.4798	33.974	9.2336	9.7200	-5593.0	2328.7	-250.43	-3472.0	20.683	12.022
140	.5375	-7.7267	33.684	9.6906	10.262	-5905.0	2361.3	-249.66	-3743.5	20.687	11.802
142	.5379	-7.8772	33.506	9.9532	10.444	-6009.7	2419.8	-248.13	-3788.2	20.690	11.687
144	.5386	-8.1057	33.242	10.307	10.792	-6210.0	2480.1	-246.66	-3924.4	20.693	11.541
146	.5393	-8.3261	32.990	10.629	11.230	-6462.0	2520.6	-245.75	-4129.7	20.696	11.415
148	.5397	-8.4610	32.834	10.825	11.394	-6556.0	2577.0	-244.40	-4166.2	20.698	11.337
150	.5402	-8.6647	32.603	11.113	11.691	-6727.2	2635.2	-243.10	-4276.0	20.701	11.213
152	.5408	-8.8612	32.380	11.398	12.053	-6935.3	2674.9	-242.30	-4439.5	20.704	11.086
154	.5414	-9.1071	32.101	11.754	12.328	-7094.0	2750.5	-240.71	-4520.3	20.707	10.918
156	.5419	-9.2719	31.912	11.996	12.458	-7168.3	2826.8	-239.10	-4518.3	20.709	10.806
158	.5421	-9.3723	31.796	12.146	12.688	-7300.9	2850.0	-238.67	-4624.4	20.711	10.741
160	.5425	-9.5138	31.636	12.347	12.844	-7390.7	2914.8	-237.37	-4649.1	20.712	10.647
162	.5425	-9.5254	31.622	12.365	12.876	-7409.0	2917.4	-237.32	-4663.9	20.713	10.640
164	.5426	-9.5726	31.568	12.436	13.003	-7482.1	2926.6	-237.17	-4726.1	20.713	10.608
166	.5431	-9.7677	31.348	12.717	13.412	-7717.2	2963.9	-236.57	-4918.5	20.716	10.472
168	.5431	-9.7802	31.334	12.725	13.331	-7671.1	3005.1	-235.70	-4833.5	20.716	10.463
170	.5432	-9.8179	31.290	12.793	13.432	-7729.2	3009.8	-235.58	-4885.4	20.716	10.435
172	.5436	-9.9731	31.116	13.024	13.765	-7928.8	3040.8	-235.10	-5041.5	20.718	10.316
174	.5441	-10.169	30.896	13.323	14.024	-8069.7	3113.3	-233.83	-5115.9	20.720	10.153
176	.5445	-10.333	30.710	13.579	14.210	-8176.4	3186.6	-232.52	-5146.7	20.722	10.014
178	.5448	-10.492	30.530	13.825	14.494	-8340.2	3235.5	-231.80	-5260.2	20.724	9.8828
180	.5450	-10.570	30.441	13.947	14.576	-8387.4	3287.9	-230.90	-5255.2	20.725	9.8187
182	.5455	-10.813	30.168	14.304	15.010	-8637.0	3344.4	-230.13	-5443.2	20.728	9.6304
184	.5455	-10.820	30.160	14.314	14.891	-8568.4	3403.1	-229.08	-5319.5	20.728	9.6250
186	.5456	-10.846	30.129	14.354	14.957	-8606.7	3409.8	-228.99	-5350.2	20.728	9.6044
188	.5458	-10.955	30.005	14.510	15.200	-8746.6	3437.0	-228.64	-5459.8	20.729	9.5241
190	.5465	0.	30.000	14.924	15.726	-9054.9	3464.3	-228.14	-5723.1	20.733	9.3082
192	.5479	0.	30.000	15.639	16.162	-9299.7	3417.2	-228.14	-6006.9	20.740	9.0062
194	.5495	0.	30.000	15.941	16.145	-9289.9	3364.9	-228.14	-6048.6	20.747	9.0509
196	.5512	0.	30.000	15.892	15.977	-9193.5	3307.6	-228.14	-6010.4	20.756	9.2820
198	.5523	0.	30.000	15.817	15.860	-9125.9	3272.1	-228.14	-5978.9	20.762	9.3992
200	.5528	0.	30.000	15.788	15.815	-9100.4	3258.3	-228.14	-5967.3	20.764	9.4383

CYC	TIME	CLVEL 1	THETA 2	CPVAL 3	DPDSK 4	FLMON 1	DPMON 1	WTMON 1	DISKM 1	P 22	P 7
202	.5545	0.	30.000	15.676	15.683	-9024.2	3204.1	-228.14	-5345.3	20.772	9.5356
204	.5569	0.	30.000	15.439	15.467	-8500.2	3129.4	-228.14	-5896.1	20.784	9.6891
206	.5593	0.	30.000	15.063	15.076	-8675.2	3054.8	-228.14	-5748.7	20.796	9.9429
208	.5618	0.	30.000	14.554	14.567	-8382.1	2980.1	-228.14	-5535.0	20.809	10.441
210	.5643	0.	30.000	14.063	14.023	-8068.9	2905.5	-228.14	-5301.5	20.822	11.063
212	.5669	0.	30.000	13.419	13.404	-7712.9	2830.9	-228.14	-5026.0	20.835	11.876
214	.5696	0.	30.000	12.604	12.618	-7260.4	2756.4	-228.14	-4656.4	20.848	12.689
216	.5723	0.	30.000	11.626	11.649	-6703.1	2681.8	-228.14	-4184.6	20.861	14.035
218	.5751	0.	30.000	10.569	10.585	-6091.0	2607.3	-228.14	-3659.2	20.875	15.194
220	.5754	0.	30.000	10.458	10.473	-6026.4	2599.6	-228.14	-3603.5	20.877	15.313
222	.5762	0.	30.000	10.128	10.139	-5834.1	2578.8	-228.14	-3435.8	20.881	15.661
224	.5787	0.	30.000	9.2741	9.2740	-5336.4	2532.5	-228.14	-2994.2	20.893	16.520
226	.5833	0.	30.000	8.0675	8.0477	-4830.7	2443.8	-228.14	-2388.4	20.916	17.678
228	.5888	0.	30.000	7.4020	7.3756	-4244.1	2329.9	-228.14	-2119.4	20.944	18.354
230	.5930	0.	30.000	7.3803	7.3596	-4234.8	2247.8	-228.14	-2191.4	20.965	18.443
232	.5961	0.	30.000	7.5660	7.5326	-4345.9	2196.4	-228.14	-2350.9	20.980	18.321
234	.6013	0.	30.000	8.2637	8.2573	-4751.4	2127.4	-228.14	-2814.4	21.013	17.711

CYC	TIME	F	8	F	9	F	10	P	23	P	24	F	25	F	26	P	27	P	28	P	29	
2	.0000	14.700		14.746		14.741		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
4	.0002	14.700		14.746		14.741		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
6	.0006	14.700		14.746		14.741		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
8	.0026	14.700		14.746		14.741		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
10	.0102	14.700		14.746		14.741		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
12	.0302	14.701		14.747		14.742		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
14	.0502	14.710		14.757		14.752		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
16	.0702	14.743		14.793		14.788		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
18	.0902	14.807		14.865		14.860		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
20	.1102	14.891		14.962		14.955		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
22	.1302	14.969		15.057		15.049		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
24	.1502	15.023		15.134		15.124		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
26	.1702	15.053		15.191		15.179		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
28	.1902	15.067		15.237		15.221		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
30	.2102	15.075		15.279		15.259		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
32	.2302	15.079		15.322		15.297		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
34	.2502	15.083		15.367		15.338		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
36	.2613	15.086		15.393		15.361		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
38	.2643	15.086		15.401		15.368		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.00
40	.2716	15.088		15.419		15.385		105.00		105.00		105.00		105.00		105.00		105.00		105.00		105.01
42	.2774	15.092		15.449		15.411		104.99		104.93		104.98		104.90		104.94		104.90		104.90		104.86
44	.3000	15.102		15.508		15.465		104.58		103.94		104.47		103.90		104.24		103.95		103.95		103.83
46	.3222	15.055		15.660		15.601		103.41		102.70		103.31		102.71		103.09		102.86		102.86		102.72
48	.3422	15.017		15.859		15.769		101.97		101.86		101.97		101.87		101.94		101.91		101.91		101.89
50	.3622	14.995		16.069		15.949		100.83		101.15		100.88		101.15		100.98		101.09		101.09		101.14
52	.3822	14.988		16.286		16.138		100.08		100.34		100.12		100.34		100.20		100.28		100.28		100.32
54	.4022	14.987		16.510		16.335		99.492		99.457		99.487		99.454		99.474		99.458		99.458		99.446
56	.4222	14.989		16.740		16.537		98.803		98.800		98.773		98.600		98.710		98.641		98.641		98.599
58	.4422	15.014		16.960		16.741		98.357		97.828		98.086		97.831		97.988		97.891		97.891		97.834
60	.4622	15.056		17.194		16.976		98.875		97.293		97.928		97.308		97.688		97.459		97.459		97.331
62	.4822	15.090		17.495		17.288		100.70		97.327		98.647		97.359		98.154		97.677		97.677		97.407
64	.4922	15.484		17.521		17.491		105.56		97.666		99.417		97.705		98.764		98.127		98.127		97.764
66	.4922	15.465		17.522		17.503		105.57		97.667		99.421		97.707		98.766		98.128		98.128		97.766
68	.4923	15.381		17.531		17.549		105.58		97.671		99.446		97.711		98.774		98.134		98.134		97.770
70	.4928	15.011		17.616		17.655		105.62		97.688		99.743		97.728		98.809		98.156		98.156		97.788
72	.4947	14.507		17.994		17.601		105.54		97.763		102.34		97.810		99.411		98.319		98.319		97.385
74	.4978	14.567		18.207		17.801		105.83		97.929		105.01		98.067		101.71		99.218		99.218		98.279
76	.5038	14.668		18.356		18.061		106.56		98.709		104.90		99.003		103.64		101.17		101.17		99.443
78	.5109	15.247		18.257		18.224		112.05		99.914		105.45		99.973		104.00		101.81		101.81		100.08
80	.5109	15.227		18.258		18.238		112.06		99.919		105.46		99.977		104.00		101.81		101.81		100.09
82	.5110	15.131		18.266		18.287		112.09		99.940		105.48		99.993		104.01		101.82		101.82		100.10
84	.5115	14.713		18.346		18.404		112.19		100.02		105.60		100.06		104.04		101.86		101.86		100.13
86	.5134	14.168		18.719		18.358		112.66		100.35		106.08		100.31		104.16		102.02		102.02		100.30
88	.5211	14.443		19.041		18.779		115.09		101.49		108.13		101.45		104.89		102.66		102.66		101.41
90	.5211	14.992		18.822		18.785		121.00		101.50		108.13		101.46		104.89		102.66		102.66		101.42
92	.5212	14.948		18.825		18.812		121.03		101.51		108.16		101.46		104.90		102.67		102.67		101.43
94	.5214	14.729		18.854		18.902		121.17		101.54		108.27		101.50		104.93		102.69		102.69		101.47
96	.5224	14.043		19.069		18.992		121.71		101.67		108.74		101.64		105.06		102.77		102.77		101.61
98	.5262	13.931		19.540		19.193		124.05		102.19		110.67		102.15		105.68		103.13		103.13		102.12
100	.5262	14.257		19.411		19.197		128.09		102.19		110.68		102.16		105.69		103.13		103.13		102.12

CYC	TIME	P	8	P	9	P	10	P	23	P	24	P	25	P	26	P	27	P	28	P	29
102	.5263	14.214		19.422		19.215		128.14		102.20		110.72		102.16		105.70		103.13		102.13	
104	.5265	14.008		19.420		19.279		128.34		102.23		110.88		102.20		105.74		103.16		102.17	
106	.5275	13.441		19.743		19.415		129.14		102.35		111.51		102.32		105.94		103.26		102.30	
108	.5288	13.516		19.918		19.574		132.63		102.51		112.38		102.49		106.22		103.35		102.47	
110	.5288	13.499		19.925		19.581		132.65		102.52		112.40		102.49		106.23		103.40		102.48	
112	.5289	13.428		19.958		19.609		132.77		102.53		112.49		102.51		106.26		103.41		102.49	
114	.5294	13.193		20.092		19.704		133.26		102.59		112.86		102.57		106.38		103.46		102.56	
116	.5313	13.060		20.447		20.043		135.32		102.83		114.36		102.81		106.88		103.69		102.80	
118	.5314	13.249		20.370		20.047		138.12		102.83		114.38		102.81		106.89		103.69		102.80	
120	.5314	13.205		20.387		20.066		138.20		102.84		114.43		102.82		106.91		103.70		102.81	
122	.5317	13.038		20.457		20.132		138.50		102.86		114.65		102.85		106.98		103.73		102.84	
124	.5326	12.708		20.700		20.333		139.74		102.98		115.52		102.97		107.27		103.85		102.97	
126	.5335	12.955		20.818		20.566		144.81		103.13		116.71		103.12		107.69		104.03		103.12	
128	.5339	12.927		20.828		20.575		144.85		103.14		116.74		103.13		107.70		104.03		103.13	
130	.5340	12.819		20.868		20.612		145.04		103.15		116.87		103.14		107.74		104.05		103.14	
132	.5345	12.449		21.030		20.732		145.81		103.21		117.38		103.20		107.91		104.12		103.20	
134	.5355	12.167		21.292		20.937		148.81		103.32		118.40		103.31		108.26		104.26		103.32	
136	.5364	11.893		21.570		21.176		150.95		103.43		119.47		103.42		108.63		104.40		103.43	
138	.5366	11.890		21.610		21.256		153.43		103.46		119.79		103.45		108.74		104.45		103.46	
140	.5375	11.608		21.870		21.453		155.05		103.55		120.82		103.55		109.09		104.59		103.56	
142	.5379	11.535		21.979		21.640		158.07		103.61		121.46		103.61		109.31		104.67		103.62	
144	.5386	11.373		22.165		21.848		161.14		103.69		122.43		103.69		109.64		104.80		103.70	
146	.5393	11.137		22.867		22.044		163.21		103.76		123.39		103.77		109.97		104.92		103.78	
148	.5397	11.064		22.457		22.162		166.09		103.81		123.99		103.81		110.17		105.00		103.83	
150	.5402	10.925		22.616		22.227		169.06		103.87		124.90		103.88		110.48		105.11		103.90	
152	.5408	10.738		22.790		22.484		171.10		103.93		125.81		103.94		110.78		105.23		103.97	
154	.5414	10.639		22.967		22.672		174.97		104.01		126.95		104.02		111.17		105.37		104.05	
156	.5419	10.603		23.061		22.802		178.88		104.06		127.75		104.07		111.43		105.47		104.13	
158	.5421	10.463		23.151		22.887		180.08		104.09		128.25		104.10		111.60		105.53		104.13	
160	.5425	10.392		23.236		22.995		183.40		104.13		128.96		104.15		111.83		105.62		104.18	
162	.5425	10.372		23.248		23.005		183.54		104.14		129.02		104.15		111.85		105.62		104.18	
164	.5426	10.291		23.293		23.044		184.01		104.15		129.27		104.16		111.93		105.65		104.19	
166	.5431	10.056		23.467		23.188		185.94		104.21		130.27		104.22		112.26		105.77		104.25	
168	.5431	10.112		23.443		23.198		188.05		104.21		130.33		104.22		112.28		105.78		104.26	
170	.5432	10.047		23.480		23.228		188.29		104.22		130.53		104.24		112.34		105.80		104.27	
172	.5436	9.8544		23.620		23.339		189.90		104.26		131.35		104.28		112.61		105.90		104.31	
174	.5441	9.7341		23.758		23.476		193.64		104.32		132.38		104.33		112.94		106.02		104.37	
176	.5445	9.6532		23.863		23.593		197.52		104.36		133.28		104.38		113.23		106.13		104.42	
178	.5448	9.4957		23.990		23.708		199.94		104.40		134.17		104.42		113.52		106.23		104.46	
180	.5450	9.4545		24.031		23.766		202.65		104.43		134.62		104.45		113.66		106.28		104.49	
182	.5455	9.2186		24.229		23.934		205.58		104.49		136.02		104.51		114.10		106.44		104.55	
184	.5455	9.2988		24.190		23.939		208.60		104.49		136.06		104.51		114.12		106.44		104.56	
186	.5456	9.2567		24.214		23.959		208.95		104.50		136.22		104.52		114.17		106.46		104.56	
188	.5458	9.1083		24.309		24.034		210.36		104.53		136.89		104.55		114.37		106.53		104.59	
190	.5465	8.8244		24.561		24.232		211.77		104.60		138.71		104.63		114.95		106.73		104.67	
192	.5479	8.7979		24.960		24.645		209.27		104.77		142.43		104.80		116.29		107.21		104.85	
194	.5495	9.0387		25.183		24.992		206.50		104.96		146.23		105.00		117.93		107.80		105.06	
196	.5512	9.2551		25.272		25.174		203.46		105.18		150.00		105.22		119.88		108.53		105.29	
198	.5523	9.4214		25.281		25.216		201.57		105.32		152.14		105.36		121.16		109.03		105.44	
200	.5528	9.4647		25.280		25.226		200.84		105.38		152.93		105.42		121.68		109.24		105.51	

CYC	TIME	F	8	P	9	P	10	P	23	F	24	P	25	P	26	P	27	P	28	P	29
202	.5545	9.5578		25.241		25.212		197.97		105.60		155.83		105.65		123.73		110.10		105.73	
204	.5569	9.6753		25.143		25.128		194.01		105.93		159.30		105.98		124.66		111.44		106.07	
206	.5593	9.9587		25.035		25.046		190.05		106.28		162.18		106.34		129.67		112.54		106.44	
208	.5618	10.425		24.952		25.036		186.09		106.66		164.30		106.72		132.70		114.61		106.83	
210	.5643	11.050		25.073		25.126		182.13		107.06		166.29		107.13		135.69		116.44		107.24	
212	.5669	11.862		25.266		25.295		178.17		107.50		167.58		107.56		138.60		118.41		107.68	
214	.5696	12.880		25.497		25.492		174.27		107.97		168.39		108.03		141.39		120.50		108.14	
216	.5723	14.039		25.688		25.661		170.26		108.47		168.75		108.52		144.02		122.65		108.64	
218	.5751	15.209		25.794		25.763		166.31		109.00		168.70		109.06		146.45		124.96		109.17	
220	.5754	15.329		25.802		25.771		165.91		109.06		168.63		109.11		146.69		125.20		109.25	
222	.5762	15.660		25.619		25.789		164.80		109.23		167.96		109.30		147.39		125.52		109.43	
224	.5787	16.542		25.816		25.795		162.34		109.72		163.65		109.77		149.02		127.89		109.67	
226	.5833	17.697		25.745		25.745		157.64		111.70		156.58		108.31		150.81		131.42		104.94	
228	.5888	18.368		25.744		25.756		151.60		114.06		151.24		107.07		151.40		135.11		105.88	
230	.5930	18.456		25.815		25.823		147.24		115.62		147.47		112.69		150.69		137.44		106.35	
232	.5961	18.733		25.685		25.888		144.52		116.87		145.73		114.53		146.96		138.74		106.78	
234	.6013	17.722		25.979		25.975		140.86		118.93		140.85		118.41		139.78		139.63		107.49	

CYC	TIME	P	30	P	31	P	32	P	33	P	34	P	35	P	36	W	1	W	7	W	8
2	.0000	105.00		105.00		105.00		105.00		105.00		105.00		105.00		16.893		16.893		14.170	
4	.0002	105.00		105.00		105.00		105.00		105.00		105.00		105.00		16.893		16.893		14.170	
6	.0006	105.00		105.00		105.00		105.00		105.00		105.00		105.00		16.893		16.893		14.170	
8	.0026	105.00		105.00		105.00		105.00		105.00		105.00		105.00		16.892		16.893		14.169	
10	.0102	105.00		105.00		105.00		105.00		105.00		105.00		105.00		16.892		16.893		14.169	
12	.0302	105.00		105.00		105.00		105.00		105.00		105.00		105.00		16.895		16.901		14.176	
14	.0502	105.00		105.00		105.00		105.00		105.00		105.00		105.00		16.948		16.954		14.255	
16	.0702	105.00		105.00		105.00		105.00		105.00		105.00		105.00		17.233		17.383		14.575	
18	.0902	105.00		105.00		105.00		105.00		105.00		105.00		105.00		18.068		18.328		15.344	
20	.1102	105.00		105.00		105.00		105.00		105.00		105.00		105.00		19.706		19.978		16.686	
22	.1302	105.00		105.00		105.00		105.00		105.00		105.00		105.00		22.141		22.291		18.580	
24	.1502	105.00		105.00		105.00		105.00		105.00		105.00		105.00		25.129		25.089		20.893	
26	.1702	105.00		105.00		105.00		105.00		105.00		105.00		105.00		28.382		28.169		23.459	
28	.1902	105.00		105.00		105.00		105.00		105.00		105.00		105.00		31.709		31.377		26.143	
30	.2102	105.00		105.00		105.00		105.00		105.00		105.00		105.00		35.032		34.621		28.860	
32	.2302	105.00		105.00		105.00		105.00		105.00		105.00		105.00		38.323		37.848		31.562	
34	.2502	105.00		105.00		105.00		105.00		105.00		105.00		105.00		41.565		41.039		34.229	
36	.2713	105.00		105.00		105.00		105.00		105.04		105.93		116.18		43.333		42.782		35.684	
38	.2843	105.00		105.00		105.02		105.10		105.91		106.53		101.22		43.828		43.267		36.089	
40	.2716	105.02		105.04		105.05		104.92		104.25		102.43		79.529		44.989		44.414		37.046	
42	.2629	104.66		104.20		103.51		102.56		101.49		100.72		69.093		46.768		46.161		38.518	
44	.3022	103.37		102.58		101.85		101.28		100.89		100.64		66.736		49.803		49.204		41.035	
46	.3222	102.50		102.22		101.97		101.75		101.56		101.38		66.816		52.621		51.673		41.642	
48	.3422	101.86		101.89		101.50		101.87		101.82		101.70		66.995		54.819		53.880		41.994	
50	.3622	101.16		101.22		101.25		101.25		101.20		101.10		66.691		56.751		55.859		42.391	
52	.3822	100.30		100.29		100.25		100.18		100.09		99.963		66.033		58.557		57.690		42.817	
54	.4022	99.379		99.281		99.173		99.054		98.925		98.779		65.307		60.285		59.458		43.269	
56	.4222	98.505		98.369		98.229		98.086		97.941		97.787		64.679		61.965		61.189		43.746	
58	.4422	97.733		97.593		97.451		97.308		97.164		97.012		64.183		63.583		62.853		44.169	
60	.4622	97.201		97.032		96.972		96.718		96.570		96.416		63.795		64.944		64.148		43.915	
62	.4822	97.200		96.533		96.697		96.488		96.303		96.132		63.592		65.599		64.640		42.283	
64	.4922	97.500		97.162		96.868		96.615		96.401		96.215		63.614		65.505		64.453		38.668	
66	.4922	97.501		97.162		96.868		96.615		96.401		96.215		63.614		65.505		64.548		35.458	
68	.4923	97.505		97.165		96.870		96.617		96.402		96.216		63.615		65.504		64.864		35.490	
70	.4928	97.520		97.177		96.879		96.623		96.407		96.221		63.616		65.498		65.133		35.586	
72	.4947	97.589		97.229		96.920		96.655		96.433		96.244		63.624		65.467		62.496		35.506	
74	.4978	97.787		97.344		97.005		96.725		96.492		96.298		63.647		65.350		61.584		34.827	
76	.5038	98.742		97.908		97.353		96.970		96.692		96.479		63.733		64.292		61.255		34.032	
78	.5109	99.612		98.836		98.150		97.616		97.230		96.963		63.975		62.379		60.979		31.582	
80	.5109	99.615		98.840		98.153		97.619		97.232		96.965		63.576		62.370		61.089		27.494	
82	.5110	99.630		98.856		98.167		97.630		97.241		96.974		63.980		62.338		61.456		27.509	
84	.5115	99.687		98.920		98.223		97.676		97.279		97.008		63.998		62.205		61.762		27.546	
86	.5134	99.882		99.172		98.464		97.879		97.452		97.163		64.076		61.678		58.647		27.328	
88	.5211	100.81		100.13		99.491		98.914		98.447		98.124		64.575		59.468		57.122		26.218	
90	.5211	100.82		100.13		99.493		98.916		98.449		98.126		64.576		59.464		57.170		20.875	
92	.5212	100.82		100.14		99.502		98.924		98.457		98.134		64.580		59.446		57.402		20.876	
94	.5214	100.86		100.17		99.534		98.958		98.491		98.168		64.598		59.373		58.000		20.878	
96	.5224	100.99		100.29		99.664		99.096		98.631		98.307		64.671		59.075		56.685		20.809	
98	.5262	101.54		100.81		100.20		99.677		99.248		98.941		65.014		57.659		52.798		20.054	
100	.5262	101.54		100.81		100.20		99.679		99.251		98.944		65.015		57.653		52.818		17.005	

CYC	TIME	P	30	P	31	P	32	P	33	P	34	P	35	P	36	W	1	W	7	W	8
102	.5263	101.55		100.82		100.21		99.688		99.261		98.954		65.021		57.630		52.914		16.998	
104	.5265	101.58		100.86		100.25		99.725		99.300		98.996		65.043		57.535		53.013		16.973	
106	.5275	101.72		100.99		100.38		99.874		99.462		99.165		65.136		57.140		50.779		16.842	
108	.5288	101.90		101.18		100.57		100.08		99.686		99.402		65.268		56.552		48.351		16.165	
110	.5288	101.91		101.19		100.58		100.08		99.691		99.407		65.271		56.538		48.332		14.385	
112	.5285	101.92		101.21		100.60		100.10		99.712		99.429		65.283		56.483		48.220		14.977	
114	.5294	101.99		101.28		100.67		100.18		99.796		99.519		65.333		56.257		47.343		14.902	
116	.5313	102.25		101.57		100.97		100.50		100.14		99.888		65.542		55.225		44.398		14.569	
118	.5314	102.25		101.57		100.97		100.50		100.15		99.891		65.544		55.216		44.393		12.876	
120	.5314	102.26		101.58		100.98		100.51		100.16		99.902		65.550		55.182		44.386		12.865	
122	.5317	102.29		101.61		101.02		100.55		100.20		99.949		65.577		55.046		44.158		12.826	
124	.5326	102.42		101.76		101.17		100.71		100.38		100.14		65.685		54.459		41.915		12.658	
126	.5339	102.59		101.96		101.39		100.94		100.62		100.39		65.838		53.534		40.106		11.894	
128	.5339	102.59		101.96		101.39		100.94		100.62		100.40		65.838		53.512		40.106		10.593	
130	.5340	102.61		101.98		101.41		100.96		100.65		100.42		65.852		53.425		40.037		10.570	
132	.5345	102.67		102.05		101.49		101.05		100.74		100.52		65.908		53.060		38.901		10.479	
134	.5355	102.79		102.20		101.65		101.22		100.92		100.71		66.020		52.267		35.635		10.078	
136	.5364	102.91		102.33		101.81		101.38		101.09		100.89		66.129		51.416		32.953		9.1549	
138	.5366	102.94		102.37		101.85		101.43		101.15		100.95		66.161		51.153		32.306		8.2718	
140	.5375	103.05		102.49		101.99		101.58		101.30		101.11		66.258		50.293		30.250		8.0308	
142	.5379	103.11		102.56		102.07		101.67		101.40		101.21		66.316		49.744		29.113		7.2468	
144	.5386	103.20		102.67		102.20		101.81		101.54		101.35		66.401		48.881		27.314		6.7953	
146	.5393	103.28		102.76		102.31		101.93		101.67		101.48		66.481		48.013		25.505		6.0832	
148	.5397	103.33		102.82		102.38		102.01		101.74		101.56		66.529		47.462		24.368		5.4340	
150	.5402	103.41		102.91		102.46		102.12		101.86		101.67		66.599		46.607		22.557		5.0537	
152	.5408	103.48		102.99		102.57		102.22		101.97		101.78		66.665		45.754		20.853		4.4714	
154	.5414	103.56		103.08		102.68		102.35		102.10		101.92		66.746		44.638		18.848		3.9447	
156	.5419	103.62		103.15		102.76		102.43		102.19		102.00		66.799		43.860		17.681		3.3004	
158	.5421	103.65		103.19		102.80		102.49		102.24		102.06		66.831		43.377		17.036		2.8745	
160	.5425	103.70		103.24		102.87		102.56		102.31		102.13		66.876		42.690		15.954		2.6350	
162	.5425	103.71		103.25		102.87		102.56		102.32		102.13		66.879		42.632		15.882		2.2928	
164	.5426	103.72		103.26		102.89		102.59		102.35		102.16		66.894		42.398		15.560		2.2663	
166	.5431	103.79		103.34		102.98		102.68		102.44		102.26		66.954		41.429		13.918		2.1602	
168	.5431	103.79		103.34		102.98		102.69		102.45		102.26		66.957		41.366		13.821		1.7300	
170	.5432	103.80		103.35		103.00		102.70		102.47		102.28		66.969		41.174		13.525		1.6762	
172	.5436	103.85		103.41		103.06		102.78		102.54		102.36		67.015		40.387		12.156		1.6254	
174	.5441	103.91		103.48		103.14		102.87		102.64		102.45		67.072		39.372		10.442		1.3153	
176	.5445	103.96		103.54		103.21		102.94		102.72		102.53		67.119		38.500		9.1542		.95190	
178	.5448	104.01		103.59		103.27		103.01		102.79		102.60		67.164		37.648		8.0162		.67404	
180	.5450	104.04		103.62		103.30		103.05		102.83		102.64		67.187		37.218		7.4720		.43762	
182	.5455	104.11		103.70		103.40		103.15		102.94		102.75		67.253		35.881		5.6962		.33266	
184	.5455	104.11		103.71		103.40		103.15		102.94		102.75		67.255		35.842		5.6538		.76444E-01	
186	.5456	104.12		103.72		103.41		103.15		102.95		102.76		67.263		35.691		5.4971		.72885E-01	
188	.5458	104.15		103.75		103.45		103.21		103.00		102.81		67.293		35.077		4.7553		.52905E-01	
190	.5465	104.24		103.85		103.56		103.34		103.13		102.94		67.374		33.338		2.4632		.36791E-03	
192	.5479	104.44		104.07		103.80		103.60		103.41		103.23		67.548		29.261		-.40523		0.	
194	.5495	104.66		104.32		104.08		103.89		103.72		103.55		67.744		24.187		-.89052		0.	
196	.5512	104.91		104.60		104.38		104.21		104.06		103.96		67.961		17.979		-.77852		0.	
198	.5523	105.07		104.78		104.57		104.41		104.27		104.11		68.097		13.808		-.61861		0.	
200	.5528	105.13		104.85		104.64		104.48		104.35		104.20		68.150		12.148		-.54261		0.	

CYC	TIME	P	30	P	31	P	32	P	33	P	34	P	35	P	36	W	1	W	7	W	8	
202	.5545	105.33		105.12		104.93		104.78		104.66		104.53		68.357		5.1948		-0.24246		0.		0.
204	.5569	105.75		105.51		105.33		105.19		105.09		104.97		68.640		-5.0933		-0.33008		0.		0.
206	.5593	106.13		105.90		105.74		105.61		105.51		105.40		68.919		-15.591		-0.74624		0.		0.
208	.5618	106.53		106.30		106.14		106.02		105.93		105.82		69.189		-25.404		-1.0992		0.		0.
210	.5643	106.94		106.72		106.56		106.44		106.34		106.22		69.452		-33.742		-1.3936		0.		0.
212	.5669	107.38		107.14		106.98		106.85		106.74		106.61		69.708		-40.068		-1.7380		0.		0.
214	.5696	107.84		107.59		107.40		107.27		107.14		106.99		69.957		-44.161		-2.0552		0.		0.
216	.5723	108.33		108.05		107.84		107.68		107.53		107.37		70.202		-46.078		-2.1745		0.		0.
218	.5751	108.84		108.53		108.29		108.09		107.92		107.75		70.444		-46.043		-2.0409		0.		0.
220	.5754	108.90		108.58		108.34		108.14		107.96		107.79		70.470		-45.978		-2.0192		0.		0.
222	.5762	109.06		108.73		108.48		108.27		108.09		107.91		70.545		-45.635		-1.9381		0.		0.
224	.5787	109.53		109.16		108.87		108.63		108.42		108.24		70.751		-43.703		-1.6451		0.		0.
226	.5833	106.38		108.69		109.27		109.23		109.05		108.86		71.138		-36.330		-1.0445		0.		0.
228	.5886	105.56		106.96		108.51		109.32		109.56		109.52		71.569		-21.221		-0.42279		0.		0.
230	.5930	106.12		106.38		107.62		108.82		109.52		109.73		71.785		-6.4955		-0.26170E-01		0.		0.
232	.5961	106.68		106.45		107.11		108.29		109.23		109.64		71.840		5.2766		.23690		0.		0.
234	.6013	107.40		107.14		107.05		107.55		108.31		108.77		71.560		21.252		.63246		0.		0.

CYC	TIME	W	9	W	10	W	11	W	3F	VOL	23	VDOT	1	VOL	8	VOL	9	ANU10	1	ARUB	1
2	.0000	2.7235		2.7236	16.893		-.30390E-13	.59608E-01	0.				2.7223	6.7147			1.1383		1.6537		
4	.0002	2.7235		2.7236	16.893		-.30382E-13	.59608E-01	0.				2.7223	6.7147			1.1383		1.6537		
6	.0006	2.7235		2.7236	16.893		-.34735E-13	.59608E-01	0.				2.7223	6.7147			1.1383		1.6537		
8	.0026	2.7235		2.7236	16.893		-.32640E-13	.59608E-01	0.				2.7223	6.7147			1.1383		1.6537		
10	.0102	2.7235		2.7236	16.893		-.34331E-13	.59608E-01	0.				2.7223	6.7147			1.1383		1.6537		
12	.0302	2.7253		2.7275	16.505		-.34302E-13	.59608E-01	0.				2.7223	6.7147			1.1383		1.6537		
14	.0502	2.7457		2.7633	17.028		-.34477E-13	.59608E-01	0.				2.7223	6.7147			1.1383		1.6537		
16	.0702	2.8275		2.8629	17.487		-.30140E-13	.59608E-01	0.				2.7223	6.7147			1.1383		1.6537		
18	.0902	3.0176		3.1169	14.512		-.24296E-13	.59608E-01	0.				2.7223	6.7147			1.1383		1.6537		
20	.1102	3.3295		3.4506	20.198		-.17543E-13	.59608E-01	0.				2.7223	6.7147			1.1383		1.6537		
22	.1302	3.7388		3.8493	22.483		-.13623E-13	.59608E-01	0.				2.7223	6.7147			1.1383		1.6537		
24	.1502	4.2082		4.2901	25.219		-.95471E-14	.59608E-01	0.				2.7223	6.7147			1.1383		1.6537		
26	.1702	4.7689		4.7646	28.245		-.47908E-14	.59608E-01	0.				2.7223	6.7147			1.1383		1.6537		
28	.1902	5.2250		5.2660	31.422		-.12968E-14	.59608E-01	0.				2.7223	6.7147			1.1383		1.6537		
30	.2102	5.7474		5.7825	34.853		-.19240E-14	.59608E-01	0.				2.7223	6.7147			1.1383		1.6537		
32	.2302	6.2708		6.3039	37.876		-.90206E-14	.59608E-01	0.				2.7223	6.7147			1.1383		1.6537		
34	.2502	6.7930		6.8264	41.067		-.13475E-13	.59608E-01	0.				2.7223	6.7147			1.1383		1.6537		
36	.2613	7.0796		7.1155	42.812		-.60835E-01	.59608E-01	0.				2.7223	6.7147			1.1383		1.6537		
38	.2643	7.1603		7.1962	43.299		.14525E-01	.59608E-01	0.				2.7223	6.7147			1.1383		1.6537		
40	.2716	7.3508		7.3873	44.447		.29503E-01	.59608E-01	0.				2.7223	6.7147			1.1383		1.6537		
42	.2829	7.6456		7.6844	46.217		.31707E-01	.59608E-01	0.				2.7223	6.7147			1.1383		1.6537		
44	.3022	8.1548		8.2034	49.259		.30037E-01	.59608E-01	0.				2.7223	6.7147			1.1383		1.6537		
46	.3222	9.9612		10.147	51.882		.29894E-01	.59608E-01	0.				2.7223	6.7147			1.1383		1.6537		
48	.3422	11.824		12.047	54.152		.29928E-01	.59608E-01	0.				2.7223	6.7147			1.1383		1.6537		
50	.3622	13.420		13.662	56.176		.29785E-01	.59608E-01	0.				2.7223	6.7147			1.1383		1.6537		
52	.3822	14.836		15.099	58.050		.29494E-01	.59608E-01	0.				2.7223	6.7147			1.1383		1.6537		
54	.4022	16.158		16.442	59.856		.29172E-01	.59608E-01	0.				2.7223	6.7147			1.1383		1.6537		
56	.4222	17.418		17.719	61.618		.28892E-01	.59571E-01	-.69751E-02			2.7210	6.7160			1.1393		1.6527			
58	.4422	18.650		18.979	63.312		.28670E-01	.59149E-01	-.37709E-01			2.7058	6.7312			1.1513		1.6407			
60	.4622	20.112		20.579	64.696		.28498E-01	.57927E-01	-.86718E-01			2.6618	6.7752			1.1870		1.6050			
62	.4822	22.079		22.809	65.367		.28403E-01	.55540E-01	-.15452			2.5757	6.8613			1.2623		1.5297			
64	.4922	23.273		24.225	65.301		.28412E-01	.53782E-01	-.19655			2.5121	6.9249			1.3227		1.4693			
66	.4922	23.081		24.337	65.320		.28412E-01	.53776E-01	-.19657			2.5119	6.9251			1.3229		1.4691			
68	.4923	22.484		24.834	65.360		.28412E-01	.53753E-01	-.19671			2.5110	6.9260			1.3237		1.4683			
70	.4928	21.892		27.069	65.138		.28412E-01	.53658E-01	-.19821			2.5076	6.9294			1.3271		1.4649			
72	.4947	24.702		29.530	64.618		.28416E-01	.53264E-01	-.21269			2.4933	6.9437			1.3413		1.4507			
74	.4978	26.138		29.086	64.077		.28425E-01	.52561E-01	-.24019			2.4678	6.9692			1.3673		1.4247			
76	.5036	26.849		28.058	62.634		.28462E-01	.50952E-01	-.29429			2.4094	7.0276			1.4297		1.3623			
78	.5109	27.540		28.594	62.054		.28567E-01	.48659E-01	-.35813			2.3258	7.1111			1.5263		1.2657			
80	.5109	27.326		28.706	62.070		.28568E-01	.48649E-01	-.35826			2.3255	7.1115			1.5267		1.2653			
82	.5110	26.674		29.204	62.097		.28570E-01	.48606E-01	-.35882			2.3239	7.1131			1.5286		1.2634			
84	.5115	26.097		31.482	61.809		.28577E-01	.48433E-01	-.36210			2.3176	7.1194			1.5363		1.2557			
86	.5134	28.899		34.150	61.089		.28611E-01	.47717E-01	-.38381			2.2914	7.1456			1.5687		1.2233			
88	.5211	30.607		32.138	59.148		.28829E-01	.44416E-01	-.47457			2.1703	7.2667			1.7312		1.0608			
90	.5211	30.504		32.176	59.151		.28825E-01	.44408E-01	-.47467			2.1700	7.2670			1.7316		1.0604			
92	.5212	30.039		32.389	59.161		.28831E-01	.44380E-01	-.47507			2.1690	7.2680			1.7331		1.0589			
94	.5214	29.012		33.393	59.073		.28835E-01	.44265E-01	-.47689			2.1648	7.2722			1.7350		1.0530			
96	.5224	29.737		36.736	58.137		.28870E-01	.43802E-01	-.48792			2.1477	7.2893			1.7554		1.0366			
98	.5262	31.892		35.353	56.600		.29020E-01	.41822E-01	-.54368			2.0746	7.3624			1.8327		.95932			
100	.5262	29.980		35.370	56.597		.29021E-01	.41814E-01	-.54386			2.0743	7.3627			1.7802		1.0118			

CYC	TIME	W	9	W	10	W	11	W	36	VOL	23	VDOT	1	VOL	8	VOL	9	ANU10	1	ANUE	1
102	.5263	29.456		35.468		56.585		.29023E-01	.41781E-01		-.54457		2.0731		7.3639		1.7815		1.0105		
104	.5265	28.390		35.958		56.464		.29033E-01	.41650E-01		-.54765		2.0683		7.3687		1.7868		1.0052		
106	.5275	28.810		36.969		55.529		.29073E-01	.41117E-01		-.56326		2.0485		7.3885		1.8089		.98306		
108	.5288	29.370		35.853		54.246		.29131E-01	.40376E-01		-.58699		2.0210		7.4160		1.8093		.98275		
110	.5288	27.745		35.869		54.220		.29132E-01	.40358E-01		-.58749		2.0204		7.4166		1.8095		.98208		
112	.5289	27.508		35.932		54.107		.29137E-01	.40287E-01		-.58956		2.0177		7.4193		1.8130		.97997		
114	.5294	27.584		35.974		53.548		.29159E-01	.40002E-01		-.59851		2.0072		7.4298		1.8258		.96621		
116	.5313	28.401		33.857		50.946		.29250E-01	.38815E-01		-.63818		1.9630		7.4743		1.8826		.90944		
118	.5314	25.184		33.854		50.924		.29251E-01	.38804E-01		-.63851		1.9626		7.4744		1.8845		.94747		
120	.5314	25.170		33.878		50.847		.29254E-01	.38766E-01		-.63966		1.9612		7.4758		1.8844		.94559		
122	.5317	25.130		33.950		50.500		.29266E-01	.38612E-01		-.64450		1.9554		7.4816		1.8540		.93797		
124	.5326	26.064		33.485		48.910		.29313E-01	.37983E-01		-.66604		1.9320		7.5050		1.8863		.90565		
126	.5339	24.042		32.008		46.946		.29378E-01	.37107E-01		-.69596		1.8992		7.5378		1.8875		.90448		
128	.5339	22.130		32.027		46.505		.29380E-01	.37088E-01		-.69660		1.8985		7.5385		1.8887		.90334		
130	.5340	22.105		32.099		46.727		.29386E-01	.37003E-01		-.69922		1.8955		7.5417		1.8934		.89863		
132	.5345	22.005		32.155		45.523		.29410E-01	.36864E-01		-.71068		1.8827		7.5543		1.9128		.87918		
134	.5355	21.576		31.114		44.274		.29455E-01	.35981E-01		-.73557		1.8570		7.5800		1.9333		.85665		
136	.5364	20.248		29.790		42.551		.29507E-01	.35301E-01		-.76099		1.8315		7.6055		1.9701		.82193		
138	.5366	18.939		29.447		42.015		.29509E-01	.35096E-01		-.76847		1.8238		7.6132		1.9543		.83773		
140	.5375	18.597		28.237		40.152		.29563E-01	.34470E-01		-.79249		1.8002		7.6368		1.9981		.79394		
142	.5379	17.382		27.503		39.027		.29589E-01	.34085E-01		-.80706		1.7857		7.6513		1.9967		.79527		
144	.5386	16.687		26.386		37.221		.29626E-01	.33515E-01		-.82915		1.7642		7.6728		2.0181		.77395		
146	.5393	15.485		25.412		35.469		.29661E-01	.32971E-01		-.85037		1.7437		7.6933		2.0561		.73592		
148	.5397	14.373		24.831		34.394		.29682E-01	.32636E-01		-.86332		1.7310		7.7060		2.0551		.73690		
150	.5402	13.721		23.892		32.812		.29712E-01	.32138E-01		-.88283		1.7121		7.7249		2.0776		.71439		
152	.5408	12.636		23.001		31.319		.29741E-01	.31660E-01		-.90157		1.6940		7.7430		2.1176		.67445		
154	.5414	11.647		21.707		29.503		.29776E-01	.31061E-01		-.92492		1.6712		7.7658		2.1503		.64166		
156	.5419	10.349		20.868		28.302		.29800E-01	.30657E-01		-.94049		1.6558		7.7812		2.1509		.64108		
158	.5421	9.4254		20.478		27.566		.29814E-01	.30409E-01		-.94995		1.6464		7.7906		2.1767		.61529		
160	.5425	8.9147		19.816		26.546		.29833E-01	.30067E-01		-.96327		1.6333		7.8037		2.1796		.61239		
162	.5425	8.1083		19.777		26.461		.29835E-01	.30038E-01		-.96437		1.6322		7.8048		2.1831		.60889		
164	.5426	8.0480		19.611		26.117		.29841E-01	.29922E-01		-.96879		1.6278		7.8092		2.1952		.59283		
166	.5431	7.8044		18.725		24.729		.29867E-01	.29453E-01		-.98708		1.6098		7.8272		2.2685		.52353		
168	.5431	6.7283		18.674		24.639		.29869E-01	.29422E-01		-.98824		1.6087		7.8283		2.2278		.56425		
170	.5432	6.5890		18.533		24.371		.29874E-01	.29330E-01		-.99177		1.6051		7.8318		2.2424		.54956		
172	.5436	6.4622		17.816		23.290		.29894E-01	.28959E-01		-1.0062		1.5909		7.8461		2.3053		.48673		
174	.5441	5.6207		16.767		21.953		.29919E-01	.28491E-01		-1.0245		1.5730		7.8640		2.3539		.43814		
176	.5445	4.5346		15.873		20.840		.29940E-01	.28096E-01		-1.0397		1.5578		7.8792		2.3845		.40746		
178	.5448	3.6011		15.051		19.767		.29960E-01	.27716E-01		-1.0543		1.5432		7.8938		2.4652		.32683		
180	.5450	2.7006		14.653		19.231		.29969E-01	.27526E-01		-1.0615		1.5359		7.9011		2.4633		.32871		
182	.5455	2.2518		13.289		17.582		.29995E-01	.26948E-01		-1.0837		1.5137		7.9233		2.6758		.11622		
184	.5455	.85869		13.255		17.534		.29999E-01	.26931E-01		-1.0844		1.5130		7.9240		2.5713		.22071		
186	.5456	.81776		13.131		17.349		.30003E-01	.26866E-01		-1.0868		1.5105		7.9265		2.6127		.17932		
188	.5458	.66093		12.573		16.599		.30016E-01	.26604E-01		-1.0967		1.5004		7.9366		2.7857		.22590E-02		
190	.5465	.24256E-01		10.699		14.521		.30051E-01	.26594E-01		0.		1.5000		7.9370		2.7897		.22590E-02		
192	.5479	0.		6.3380		9.9371		.30128E-01	.26594E-01		0.		1.5000		7.9370		2.7897		.22590E-02		
194	.5495	0.		2.9249		5.2876		.30213E-01	.26594E-01		0.		1.5000		7.9370		2.7897		.22590E-02		
196	.5512	0.		.87918		1.8394		.30309E-01	.26594E-01		0.		1.5000		7.9370		2.7897		.22590E-02		
198	.5523	0.		.12710		.53860		.30368E-01	.26594E-01		0.		1.5000		7.9370		2.7857		.22590E-02		
200	.5528	0.		-.11496		.12412		.30391E-01	.26594E-01		0.		1.5000		7.9370		2.7897		.22590E-02		

CYC	TIME	W	9	W	10	W	11	W	36	VOL	23	VDOT	1	VCL	P	VOL	9	AML10	1	AMU8	1
202	.5545	0.	-	.68562	-	.F5260		.304F2F-01		.26594E-01	0.			1.5000		7.9370		2.7897		.22590E-02	
204	.5569	0.	-	1.1162	-	1.6266		.30606F-01		.26594E-01	0.			1.5000		7.9370		2.7897		.22590E-02	
206	.5593	0.	-	1.0436	-	1.4286		.30728F-01		.26594E-01	0.			1.5000		7.9370		2.7897		.22590E-02	
208	.5618	0.	-	.16949	-	.10854		.30847E-01		.26594E-01	0.			1.5000		7.9370		2.7897		.22590E-02	
210	.5643	0.		1.1462		1.6998		.30962E-01		.26594E-01	0.			1.5000		7.9370		2.7897		.22590E-02	
212	.5669	0.		2.1103		2.9686		.31074E-01		.26594E-01	0.			1.5000		7.9370		2.7897		.22590E-02	
214	.5696	0.		2.2187		3.1214		.31184E-01		.26594E-01	0.			1.5000		7.9370		2.7897		.22590E-02	
216	.5723	0.		1.6251		2.3228		.31291E-01		.26594E-01	0.			1.5000		7.9370		2.7897		.22590E-02	
218	.5751	0.		.76849		1.1324		.31397E-01		.26594E-01	0.			1.5000		7.9370		2.7897		.22590E-02	
220	.5754	0.		.67775		1.0051		.31409E-01		.26594E-01	0.			1.5000		7.9370		2.7897		.22590E-02	
222	.5762	0.		.41326		.63141		.31442E-01		.26594E-01	0.			1.5000		7.9370		2.7897		.22590E-02	
224	.5787	0.	-	.16119	-	.10860		.31532E-01		.26594E-01	0.			1.5000		7.9370		2.7897		.22590E-02	
226	.5833	0.	-	.37849	-	.51936		.31701E-01		.26594E-01	0.			1.5000		7.9370		2.7897		.22590E-02	
228	.5888	0.		.14610		.23260		.31889E-01		.26594E-01	0.			1.5000		7.9370		2.7897		.22590E-02	
230	.5930	0.		.49631		.71646		.31989E-01		.26594E-01	0.			1.5000		7.9370		2.7897		.22590E-02	
232	.5961	0.		.58778		.84321		.32011E-01		.26594E-01	0.			1.5000		7.9370		2.7897		.22590E-02	
234	.6013	0.		.39978		.57968		.31897E-01		.26594E-01	0.			1.5000		7.9370		2.7897		.22590E-02	

CYC	TIME	ANDR	1
2	.0000	2.7529	
4	.0002	2.7529	
6	.0006	2.7529	
8	.0026	2.7529	
10	.0102	2.7529	
12	.0302	2.7529	
14	.0502	2.7529	
16	.0702	2.7529	
18	.0902	2.7529	
20	.1102	2.7529	
22	.1302	2.7529	
24	.1502	2.7529	
26	.1702	2.7529	
28	.1902	2.7529	
30	.2102	2.7529	
32	.2302	2.7529	
34	.2502	2.7529	
36	.2613	2.7529	
38	.2643	2.7529	
40	.2716	2.7529	
42	.2829	2.7529	
44	.3022	2.7529	
46	.3222	2.7529	
48	.3422	2.7529	
50	.3622	2.7529	
52	.3822	2.7529	
54	.4022	2.7529	
56	.4222	2.7531	
58	.4422	2.7556	
60	.4622	2.7632	
62	.4822	2.7798	
64	.4922	2.7934	
66	.4922	2.7935	
68	.4923	2.7937	
70	.4928	2.7945	
72	.4947	2.7977	
74	.4978	2.8036	
76	.5038	2.8179	
78	.5109	2.8399	
80	.5109	2.8400	
82	.5110	2.8404	
84	.5115	2.8421	
86	.5134	2.8495	
88	.5211	2.8857	
90	.5211	2.8857	
92	.5212	2.8861	
94	.5214	2.8874	
96	.5224	2.8928	
96	.5262	2.9168	
100	.5262	2.9169	

CYC	TIME	ANDR	1
102	.5263	2.9173	
104	.5265	2.9190	
106	.5275	2.9257	
108	.5286	2.9352	
110	.5288	2.9354	
112	.5289	2.9363	
114	.5294	2.9401	
116	.5313	2.9558	
118	.5314	2.9560	
120	.5314	2.9565	
122	.5317	2.9586	
124	.5326	2.9671	
126	.5339	2.9793	
128	.5339	2.9796	
130	.5340	2.9807	
132	.5345	2.9855	
134	.5355	2.9952	
136	.5364	3.0051	
138	.5366	3.0081	
140	.5375	3.0173	
142	.5379	3.0230	
144	.5386	3.0315	
146	.5393	3.0398	
148	.5397	3.0449	
150	.5402	3.0526	
152	.5408	3.0600	
154	.5414	3.0693	
156	.5419	3.0757	
158	.5421	3.0796	
160	.5425	3.0851	
162	.5425	3.0855	
164	.5426	3.0874	
166	.5431	3.0949	
168	.5431	3.0954	
170	.5432	3.0969	
172	.5436	3.1029	
174	.5441	3.1105	
176	.5445	3.1169	
178	.5448	3.1231	
180	.5450	3.1262	
182	.5455	3.1358	
184	.5455	3.1360	
186	.5456	3.1371	
188	.5458	3.1414	
190	.5465	3.1416	
192	.5479	3.1416	
194	.5495	3.1416	
196	.5512	3.1416	
198	.5523	3.1416	
200	.5528	3.1416	

CYC	TIME	APDR	1
202	.5545	3.1416	
204	.5569	3.1416	
206	.5593	3.1416	
208	.5618	3.1416	
210	.5642	3.1416	
212	.5669	3.1416	
214	.5696	3.1416	
216	.5723	3.1416	
218	.5751	3.1416	
220	.5754	3.1416	
222	.5762	3.1416	
224	.5787	3.1416	
226	.5833	3.1416	
228	.5888	3.1416	
230	.5930	3.1416	
232	.5961	3.1416	
234	.6013	3.1416	

COMPUTER OUTPUT FOR CONTAINMENT
ISOLATION VALVE TRIP -
EXTENDED AIR CYLINDER TO
INCREASE VOLUME UNDER
PISTON

INPUT DATA
 NUMBER OF FLOW NODES----- 37
 NUMBER OF HEAT NODES----- 0
 NUMBER OF FLOW CONNECTORS----- 36
 NUMBER OF HEAT CONNECTORS----- 0
 NUMBER OF FLUID SYSTEMS----- 2
 IF 1 OR 2, RESTART WILL BE READ----- -1
 NUMBER OF CYCLES BETWEEN OUTPUTS----- 10
 NUMBER OF CYCLES BETWEEN MONITORS----- 1
 IF 1, MONITOR RESTART TAPE READ----- 0
 IF 1, TIMER DATA WILL BE INCLUDED----- 0

SYSTEM NUMBER 1 TYPE OF SYSTEM-- VENT AIR

FLOW NODE DATA	NP TYPE	VOLUME	ELEVATION	PRESSURE	TEMP	VOID FRAC
1	1	10.0000	0.0000	14.70	60.00	0.000000
2	0	13.9600	0.0000	14.68	60.03	1.000000
3	0	8.2710	1.1050	14.69	60.03	1.000000
4	0	6.9150	5.0110	14.69	60.04	1.000000
5	0	6.9190	7.4990	14.69	60.05	1.000000
6	0	8.2710	11.4030	14.70	60.07	1.000000
7	0	2.8880	12.5000	14.70	60.05	1.000000
8	0	5.1670	12.7012	14.71	60.10	1.000000
9	0	4.2700	13.5210	14.71	60.25	1.000000
10	0	3.7320	12.5000	14.72	60.11	1.000000
11	0	4.1680	12.5000	14.72	60.12	1.000000
12	0	4.1660	12.5000	14.73	60.13	1.000000
13	0	27.9200	12.5000	14.74	60.14	1.000000
14	0	27.9200	12.5000	14.75	60.14	1.000000
15	0	27.9200	12.5000	14.75	60.22	1.000000
16	0	27.9200	12.5000	14.76	60.24	1.000000
17	0	27.9200	12.5000	14.76	60.26	1.000000
18	0	27.9200	12.5000	14.77	60.26	1.000000
19	0	27.9200	12.5000	14.77	60.33	1.000000
20	0	27.9200	12.5000	14.77	60.40	1.000000
21	0	27.9200	12.5000	14.78	60.34	1.000000
22	1	27.9200	12.5000	14.58	60.00	0.000000

CONNECTOR DATA

CCNN	I-LP	I-DN	NSEG	TYPE	AN-UP	AN-DN	AFALL	APAR	FLOW	AREA	LENGTH	EQ DIAM	K-PCS	K-NEG	STYPE	INT CY/A
1	2	1	1	0	2.792	2.792	2.792	2.792	16.72	2.792	5.000	1.886	1.000	.500	0	.000386
2	3	2	1	0	2.792	2.792	2.792	2.792	16.72	2.792	5.463	1.886	.132	.132	0	.000422
3	4	3	1	0	2.792	2.792	2.792	2.792	16.72	2.792	4.202	1.886	0.000	0.000	0	.000325
4	5	4	1	0	2.792	2.792	2.792	2.792	16.72	2.792	2.478	1.886	0.000	0.000	0	.000192
5	6	5	1	0	2.792	2.792	2.792	2.792	16.72	2.792	4.202	1.886	.132	.132	0	.000325
6	7	6	1	0	2.792	2.792	2.792	2.792	16.72	2.792	3.696	1.886	0.000	0.000	0	.000286
7	6	7	1	0	3.250	2.792	3.142	3.021	16.72	3.142	1.833	1.886	0.000	0.000	0	.000178
8	10	8	1	0	2.693	3.250	3.142	2.972	16.44	3.359	1.670	1.886	.570	.570	0	.000114
9	9	8	1	0	3.307	3.307	3.142	3.307	.28	.557	1.820	1.886	1.360	1.360	0	.000149
10	10	9	1	0	.099	3.307	2.792	1.703	.28	.123	2.000	1.886	.618	.618	0	.000101
11	11	10	1	0	2.792	2.792	2.792	2.792	16.72	2.792	1.972	1.886	0.000	0.000	0	.000152
12	12	11	1	0	2.792	2.792	2.792	2.513	16.72	2.513	1.500	1.886	.220	.220	0	.000116
13	13	12	1	0	2.792	2.792	2.792	2.792	16.72	2.792	5.750	1.886	0.000	0.000	0	.000444
14	14	13	1	0	2.792	2.792	2.792	2.792	16.73	2.792	10.000	1.886	0.000	0.000	0	.000773
15	15	14	1	0	2.792	2.792	2.792	2.792	16.74	2.792	10.000	1.886	0.000	0.000	0	.000773
16	16	15	1	0	2.792	2.792	2.792	2.792	16.76	2.792	10.000	1.886	0.000	0.000	0	.000773
17	17	16	1	0	2.792	2.792	2.792	2.792	16.77	2.792	10.000	1.886	0.000	0.000	0	.000773
18	18	17	1	0	2.792	2.792	2.792	2.792	16.79	2.792	10.000	1.886	0.000	0.000	0	.000773
19	19	18	1	0	2.792	2.792	2.792	2.792	16.81	2.792	10.000	1.886	0.000	0.000	0	.000773
20	20	19	1	0	2.792	2.792	2.792	2.792	16.84	2.792	10.000	1.886	0.000	0.000	0	.000773
21	21	20	1	0	2.792	2.792	2.792	2.792	16.86	2.792	10.000	1.886	0.000	0.000	0	.000773
22	22	21	1	0	2.792	2.792	2.792	2.792	16.90	2.792	10.000	1.886	1.000	1.000	0	.000773

SYSTEM NUMBER 2 TYPE OF SYSTEM-- ACTUATOR

FLOW NODE DATA

NP	TYPE	VOLUME	ELEVATION	PRESSURE	TEMP	VOID	FRAC
23	0	.1759	0.0000	105.00	60.00	1.000000	
24	0	.0579	0.0000	105.00	60.00	1.000000	
25	0	.0059	0.0000	105.00	60.00	1.000000	
26	0	.0019	0.0000	105.00	60.00	1.000000	
27	0	.0059	0.0000	105.00	60.00	1.000000	
28	0	.0059	0.0000	105.00	60.00	1.000000	
29	0	.0012	0.0000	105.00	60.00	1.000000	
30	0	.0081	0.0000	105.00	60.00	1.000000	
31	0	.0081	0.0000	105.00	60.00	1.000000	
32	0	.0081	0.0000	105.00	60.00	1.000000	
33	0	.0081	0.0000	105.00	60.00	1.000000	
34	0	.0081	0.0000	105.00	60.00	1.000000	
35	0	.0081	0.0000	105.00	60.00	1.000000	
36	0	.0008	0.0000	105.00	60.00	1.000000	
37	1	10.0000	0.0000	105.00	60.00	1.000000	

CONNECTOR DATA	CCNH	I-UP	I-DN	NSEG	TYPE	AM-UP	AN-DA	AFALL	APAR	FLOW	AREA	LENGTH	EO	DIAM	K-POS	K-NEG	STYFE	INT	DATA
23	23	25	2	0	.196	.002	.196	.045	.00	.196	.002	.532	.500	.045	0.000	0.000	0	.244602	
24	25	27	1	0	.002	.002	.002	.002	.00	.00	.002	1.833	.045	.045	0.000	0.000	0	.488177	
25	27	28	1	0	.002	.002	.002	.002	.00	.00	.002	3.667	.045	.045	0.000	0.000	0	.488177	
26	28	29	1	0	.002	.002	.002	.002	.00	.00	.002	2.023	.045	.045	.132	.132	0	.277349	
27	25	26	1	0	.002	.002	.002	.002	.00	.00	.002	.833	.045	.045	.220	.220	0	.110895	
28	26	24	2	0	.002	.136	.136	.042	.00	.00	.136	.250	.045	.416	0.000	0.000	0	.076056	
29	29	30	1	0	.002	.002	.002	.002	.00	.00	.002	.583	.045	.045	0.000	0.000	0	.357969	
30	30	31	1	0	.002	.002	.002	.002	.00	.00	.002	2.760	.045	.045	.660	.660	0	.652982	
31	31	32	1	0	.002	.002	.002	.002	.00	.00	.002	5.030	.045	.045	0.000	0.000	0	.652982	
32	32	33	1	0	.002	.002	.002	.002	.00	.00	.002	5.030	.045	.045	0.000	0.000	0	.652982	
33	33	34	1	0	.002	.002	.002	.002	.00	.00	.002	5.030	.045	.045	0.000	0.000	0	.652982	
34	34	35	1	0	.002	.002	.002	.002	.00	.00	.002	5.030	.045	.045	0.000	0.000	0	.652982	
35	35	36	1	0	.002	.002	.002	.002	.00	.00	.002	5.030	.045	.045	.132	.132	0	.652982	
36	36	37	1	0	.002	.002	.002	.002	.00	.00	.002	2.760	.045	.045	500.000	500.000	0	.357930	
37	37	37	1	0	.002	.002	.002	.002	.00	.00	.002	.250	.045	.045	500.000	500.000	0	.03282	

TIME DATA
 START TIME----- 0.0000
 STOP TIME----- .2400
 MAX ALLOWABLE TIME STEP----- .0100
 CP TIME LIMIT----- 15.00
 MAX PRESSURE CHANGE ON SLOPE--- 1.0000
 MAX PRESSURE CHANGE ALLOWED--- 2.0000

INITIAL VALVE DISK ANGLE----- 1.3090
 INITIAL DISK ANGULAR VELOCITY-- 0.0000

THE FOLLOWING VARIABLES ARE TO BE MONITORED

MONITOR 1	CLVEL	1	MONITOR 2	THETA	2
MONITOR 6	DFMON	1	MONITOR 7	WTFON	9
MONITOR 11	P	6	MONITOR 12	P	26
MONITOR 16	P	25	MONITOR 17	P	31
MONITOR 21	P	30	MONITOR 22	P	36
MONITOR 26	F	35	MONITOR 27	P	10
MONITOR 31	W	9	MONITOR 32	W	8
MONITOR 36	VDCT	1	MONITOR 37	VOL	9
MONITOR 41	ANDB	1			

THERE ARE 41 MONITORS

MONITOR NUMBER 1* CLVEL 1* IS EXTERNAL
 MONITOR NUMBER 2* THETA 2* IS EXTERNAL
 MONITOR NUMBER 3* DFVAL 3* IS EXTERNAL
 MONITOR NUMBER 4* DPDSK 4* IS EXTERNAL

MONITOR 3	DPVAL	3	MONITOR 8	DISKM	10
MONITOR 13	P	10	MONITOR 18	P	27
MONITOR 18	P	32	MONITOR 23	P	1
MONITOR 23	P	11	MONITOR 28	W	9
MONITOR 33	W	11	MONITOR 38	VOL	9
MONITOR 38	VOL	9			
MONITOR 4	DPDSK	4	MONITOR 9	P	22
MONITOR 9	P	22	MONITOR 14	P	23
MONITOR 14	P	23	MONITOR 19	P	28
MONITOR 19	P	28	MONITOR 24	P	33
MONITOR 24	P	33	MONITOR 29	W	7
MONITOR 29	W	7	MONITOR 34	W	36
MONITOR 34	W	36	MONITOR 39	ANU10	1
MONITOR 39	ANU10	1			
MONITOR 5	FLPON	5	MONITOR 10	P	7
MONITOR 10	P	7	MONITOR 15	P	24
MONITOR 15	P	24	MONITOR 20	P	29
MONITOR 20	P	29	MONITOR 25	P	34
MONITOR 25	P	34	MONITOR 30	W	8
MONITOR 30	W	8	MONITOR 35	VOL	23
MONITOR 35	VOL	23	MONITOR 40	ANUB	1

VALVE INPUT DATA

NODE AT VALVE INLET-----	10
NODE ABOVE VALVE DISC-----	9
NODE BELOW VALVE DISC-----	8
NODE AT VALVE OUTLET-----	7
CONNECTOR-INLET TO ABOVE DISC-	10
CONNECTOR-INLET TO BELOW DISC-	6
CONNECTOR-ABOVE TO BELOW DISC-	9
CONNECTOR-BELOW DISC TO OUTLET	7
NUMBER OF ANGLES FOR VARIABLES	13
NODE FOR PRESSURE TRIP VALUE--	22

DISK DATA

DISK RADIUS,FT-----	1.0260
DISK MOMENT ARM,FT-----	1.2083
DISTANCE TO DISK CG,FT-----	1.2917
FREE HANG ANGLE,DEGREES-----	-5.0000
MAXIMUM DISK ANGLE,DEGREES----	75.0000
MINIMUM DISK ANGLE,DEGREES----	30.0000
STOP ANGLE FOR DISC,DEGREES---	75.0000
WEIGHT OF DISK ASSEMBLY,LBS---	307.93
ROT INERTIA OF DISK,FT-LB-SEC2	14.50
HALF DISTANCE SEAT TO STOP----	1.1667
SEAT AREA,FT2-----	3.1416
EDGE PRESSURE MOMENT ARM,FT---	.1667
EDGE AREA,FT2-----	.3608
ADDITIONAL AREA UNDER DISC----	0.0000
ANGLE OF DASHPOT ARM-----	17.5000

DASHPOT DATA

RADIUS OF DASHPOT,FT-----	0.0000
DASHPOT MOMENT ARM,FT-----	.6668
DASHPOT PRELOAD,LBS-----	796.00
DASHPOT SPRING CONSTANT,LE/FT-	1350.00
RADIUS OF AIR CYLINDER,FT----	.2500
VOLUME OF AIR CYLINDER,FT3----	.1759
PRESSURE IN AIR CYLINDER,PSIA-	105.00
AIR PRESSURE RELAXATION TIME--	1.0000
TRIP PRESSURE IN TRIP VOLUME--	16.68
AMBIENT SYSTEM PRESSURE-----	14.70
DENSITY OF DASHPOT FLUID-----	56.00
ANGLE OF DASHPOT,DEG-----	45.00
TRIP SIGNAL DELAY TIME,SFC----	.1000
CHECK VALVE TRIP TIME-----	100.0000

BEARING DATA

PIN RADIUS,FT-----	.1667
BEARING FRICTION COEFFICIENT--	.2000

K	TH	CV-POS 1	CV-NEG-1	CV-POS 2	CV-NEG 2	CV-POS 3	CV-NEG 3	CV-POS 4	CV-NEG 4	CV-DASHPT	DP AREA	DISC AREA
1	30.0000	.1050	.1050	.1600	.1600	1.7100	1.7100	0.0000	0.0000	1.5000	.0200	.5570
2	35.0000	.1050	.1050	.1650	.1650	1.5000	1.5000	0.0000	0.0000	1.5000	.0200	.5570
3	40.0000	.1200	.1200	.1800	.1800	1.3600	1.3600	0.0000	0.0000	1.5000	.0200	.5570
4	45.0000	.1500	.1500	.2300	.2300	1.3600	1.3600	0.0000	0.0000	1.5000	.0200	.5570
5	50.0000	.2040	.2040	.4500	.4500	1.3600	1.3600	0.0000	0.0000	1.5000	.0200	.5570
6	55.0000	.2250	.2250	.5700	.5700	1.3600	1.3600	0.0000	0.0000	1.5000	.0200	.5570
7	60.0000	.3500	.3500	.6200	.6200	1.3600	1.3600	0.0000	0.0000	1.0000	.2000	.5570
8	65.0000	.4300	.4300	.6900	.6900	1.3600	1.3600	0.0000	0.0000	.5000	.4000	.5570
9	70.0000	.5020	.5020	.6600	.6600	1.3600	1.3600	0.0000	0.0000	.5000	.4000	.5570
10	75.0000	.6180	.6180	.5700	.5700	1.3600	1.3600	0.0000	0.0000	.5000	.4000	.5570
11	80.0000	.7190	.7190	.4900	.4900	1.3600	1.3600	0.0000	0.0000	.5000	.4000	.5570
12	85.0000	.8200	.8200	.3400	.3400	1.3600	1.3600	0.0000	0.0000	.5000	.4000	.5570
13	90.0000	.9250	.9250	.3400	.3400	1.3600	1.3600	0.0000	0.0000	.5000	.4000	.5570

AVERAGE CLEARANCE AREA AROUND DISC IS .5570

OUTPUT AT TIME 0.00000

SYSTEM NUMBER 1

FLOW PARAMETERS

CCMN	I-UF	I-DN	DNR	P	DROP	FRC	DROP	FRM	DROP	EXP	DROP	REL	DROP	HEAD	MM	DROP	FLOW	STEAM	WATER	VREL
1	2	1	2	--.021	--.001	--.001	--.051	--.075	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.72	0.00	16.72	0.00	
2	3	2	3	0.010	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	16.72	0.00	16.72	0.00
3	4	3	4	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	16.72	0.00	16.72	0.00
4	5	4	5	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	16.72	0.00	16.72	0.00
5	6	5	6	0.008	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	16.72	0.00	16.72	0.00
6	7	6	7	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	16.72	0.00	16.72	0.00
7	8	7	8	0.015	0.000	0.000	0.000	0.013	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	16.72	0.00	16.72	0.00
8	10	8	10	0.004	0.000	0.000	0.000	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.44	0.00	16.44	0.00	
9	9	8	9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	.28	0.00	.28	0.00	
10	10	9	10	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	.28	0.00	.28	0.00	
11	11	10	11	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.72	0.00	16.72	0.00	
12	12	11	12	0.015	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.72	0.00	16.72	0.00	
13	13	12	13	0.004	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.72	0.00	16.72	0.00	
14	14	13	14	0.006	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.73	0.00	16.73	0.00	
15	15	14	15	0.006	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.74	0.00	16.74	0.00	
16	16	15	16	0.006	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.76	0.00	16.76	0.00	
17	17	16	17	0.005	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.77	0.00	16.77	0.00	
18	18	17	18	0.005	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.79	0.00	16.79	0.00	
19	19	18	19	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.81	0.00	16.81	0.00	
20	20	19	20	0.004	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.84	0.00	16.84	0.00	
21	21	20	21	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.86	0.00	16.86	0.00	
22	22	21	22	0.203	0.008	0.000	0.053	0.077	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.90	0.00	16.90	0.00	

NODE PARAMETERS

NODE	STATE	PRESSURE	TEMP	SP VOL	ENTHALPY	ENERGY VOID	FRC	QUALITY	MASS	ENERGY	WDOT	UDCI
1	LIGUID	14.70	60.00	13.580905	243.13	206.18	0.000000	0.000000	23.	5611.	17.	4065.
2	STEAM	14.68	60.03	13.138378	243.13	207.44	1.000000	0.000000	1.	220.	-0.	-0.
3	STEAM	14.69	60.03	13.129495	243.14	207.44	1.000000	0.000000	1.	131.	0.	0.
4	STEAM	14.69	60.04	13.12918	243.14	207.44	1.000000	0.000000	1.	109.	0.	0.
5	STEAM	14.69	60.05	13.12841	243.14	207.44	1.000000	0.000000	1.	109.	0.	0.
6	STEAM	14.70	60.07	13.12484	243.15	207.45	1.000000	0.000000	0.	46.	0.	0.
7	STEAM	14.70	60.09	13.121274	243.15	207.45	1.000000	0.000000	0.	82.	0.	0.
8	STEAM	14.71	60.10	13.108335	243.15	207.45	1.000000	0.000000	0.	59.	0.	0.
9	STEAM	14.71	60.25	13.112110	243.19	207.48	1.000000	0.000000	0.	68.	0.	0.
10	STEAM	14.72	60.11	13.103307	243.16	207.45	1.000000	0.000000	0.	59.	0.	0.
11	STEAM	14.72	60.12	13.104360	243.16	207.46	1.000000	0.000000	0.	66.	0.	0.
12	STEAM	14.73	60.13	13.091361	243.16	207.46	1.000000	0.000000	0.	66.	0.	0.
13	STEAM	14.74	60.14	13.088175	243.16	207.46	1.000000	0.000000	2.	443.	0.	2.
14	STEAM	14.75	60.18	13.083470	243.17	207.47	1.000000	0.000000	2.	443.	0.	3.
15	STEAM	14.75	60.22	13.079019	243.18	207.47	1.000000	0.000000	2.	443.	0.	3.
16	STEAM	14.76	60.24	13.074676	243.19	207.48	1.000000	0.000000	2.	443.	0.	4.
17	STEAM	14.76	60.26	13.070462	243.19	207.48	1.000000	0.000000	2.	443.	0.	4.
18	STEAM	14.77	60.28	13.066144	243.19	207.48	1.000000	0.000000	2.	443.	0.	5.
19	STEAM	14.77	60.33	13.064531	243.21	207.49	1.000000	0.000000	2.	443.	0.	5.
20	STEAM	14.77	60.40	13.063049	243.22	207.50	1.000000	0.000000	2.	443.	0.	6.
21	STEAM	14.78	60.34	13.058941	243.21	207.49	1.000000	0.000000	2.	444.	0.	6.
22	LIGUID	14.96	60.00	13.318291	243.13	206.20	0.000000	0.000000	-21.	-5243.	-17.	-4109.

SYSTEM NUMBER 2

FLOW PARAMETERS

CONV	I-UF	I-DN	DNR	P	DROP	FRC	DROP	FRM	DROP	EXP	DROP	REL	DROP	HEAD	MOM	DROP	FLOW	STEAM	WATER	VREL
23	23	25	23	0.000	-0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00
24	25	27	25	0.000	-0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00
25	27	28	27	0.000	-0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00
26	28	29	28	0.000	-0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00
27	29	26	26	0.000	-0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00
28	26	24	24	0.000	-0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00
29	29	30	29	0.000	-0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00
30	30	31	30	0.000	-0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00
31	31	32	31	0.000	-0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00
32	32	33	32	0.000	-0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00
33	33	34	33	0.000	-0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00
34	34	35	34	0.000	-0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00
35	35	36	35	0.000	-0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00
36	36	37	36	0.000	-0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00

NODE PARAMETERS

NODE	STATE	PRESSURE	TEMP	SP	VCL	ENTHALPY	ENERGY	VCID	FRAC	QUALITY	MASS	ENERGY	MDOT	LDCT
23	STEAM	105.00	60.00	1.836656	124.93	69.24	1.000000	1.000000	1.000000	0.00	0.00	0.00	0.00	0.00
24	STEAM	105.00	60.00	1.836656	124.93	69.24	1.000000	1.000000	1.000000	0.00	0.00	0.00	0.00	0.00
25	STEAM	105.00	60.00	1.836656	124.93	69.24	1.000000	1.000000	1.000000	0.00	0.00	0.00	0.00	0.00
26	STEAM	105.00	60.00	1.836656	124.93	69.24	1.000000	1.000000	1.000000	0.00	0.00	0.00	0.00	0.00
27	STEAM	105.00	60.00	1.836656	124.93	69.24	1.000000	1.000000	1.000000	0.00	0.00	0.00	0.00	0.00
28	STEAM	105.00	60.00	1.836656	124.93	69.24	1.000000	1.000000	1.000000	0.00	0.00	0.00	0.00	0.00
29	STEAM	105.00	60.00	1.836656	124.93	69.24	1.000000	1.000000	1.000000	0.00	0.00	0.00	0.00	0.00
30	STEAM	105.00	60.00	1.836656	124.93	69.24	1.000000	1.000000	1.000000	0.00	0.00	0.00	0.00	0.00
31	STEAM	105.00	60.00	1.836656	124.93	69.24	1.000000	1.000000	1.000000	0.00	0.00	0.00	0.00	0.00
32	STEAM	105.00	60.00	1.836656	124.93	69.24	1.000000	1.000000	1.000000	0.00	0.00	0.00	0.00	0.00
33	STEAM	105.00	60.00	1.836656	124.93	69.24	1.000000	1.000000	1.000000	0.00	0.00	0.00	0.00	0.00
34	STEAM	105.00	60.00	1.836656	124.93	69.24	1.000000	1.000000	1.000000	0.00	0.00	0.00	0.00	0.00
35	STEAM	105.00	60.00	1.836656	124.93	69.24	1.000000	1.000000	1.000000	0.00	0.00	0.00	0.00	0.00
36	STEAM	105.00	60.00	1.836656	124.93	69.24	1.000000	1.000000	1.000000	0.00	0.00	0.00	0.00	0.00
37	STEAM	105.00	60.00	1.836656	124.93	69.24	1.000000	1.000000	1.000000	0.00	0.00	0.00	0.00	0.00

VALVE PARAMETERS

ITR1	1.3090
ICOT	0.0000
VCL IN AIR CYLINDER	0.1759
PRES IN AIR CYLINDER	105.0000
VCL BELOW VALVE DISK	5.1670
FLW AREA PAST DISK	3.3586

DISC WEIGHTS AND DASHFOT PROPERTIES
M-DASHFOT M-DASHFOT
117.0 11.0

P-EDGE 14.71
P-CCWN 14.71
P-UP 14.71
P-DASHFOT 14.70
P-AIR 105.00
P-TOTCL 931.
M-FLUID -0.
P-EDGE -0.
P-EDGE 14.71
P-EDGE 14.71

CYC	TIME	CLVEL 1	TnETA 2	DPVAL 3	DPDSK 4	FLMON 1	DFMON 1	WTMON 1	DISKM 1	P	22	P	7
2	.0000	0.	75.000	.18514E-01	.90542E-04	-.52103E-01	1171.7	-391.71	830.80	14.980			
4	.0002	0.	75.000	.18516E-01	.50585E-04	-.52126E-01	1171.7	-391.71	830.80	14.982			14.700
6	.0004	0.	75.000	.18525E-01	.90742E-04	-.52214E-01	1171.7	-391.71	830.80	14.984			14.700
8	.0026	0.	75.000	.18561E-01	.91333E-04	-.52558E-01	1171.7	-391.71	830.80	14.986			14.700
10	.0102	0.	75.000	.18690E-01	.92945E-04	-.52484E-01	1171.7	-391.71	830.80	15.006			14.700
12	.0202	0.	75.000	.19130E-01	.10531E-03	-.60595E-01	1171.7	-391.71	830.80	15.084			14.700
14	.0502	0.	75.000	.21031E-01	.21260E-03	-.12233	1171.7	-391.71	830.79	15.288			14.701
16	.0702	0.	75.000	.26664E-01	.52676E-03	-.30311	1171.7	-391.71	830.72	15.492			14.708
18	.0902	0.	75.000	.37037E-01	.10220E-02	-.58809	1171.7	-391.71	830.52	15.696			14.737
20	.1102	0.	75.000	.51066E-01	.16108E-02	-.92690	1171.7	-391.71	830.20	15.900			14.795
22	.1302	0.	75.000	.66762E-01	.22424E-02	-1.2903	1171.7	-391.71	829.82	16.115			14.870
24	.1502	0.	75.000	.82630E-01	.29473E-02	-1.6384	1171.7	-391.71	829.41	16.340			14.941
26	.1702	0.	75.000	.98197E-01	.33650E-02	-1.9363	1171.7	-391.71	829.01	16.565			14.985
28	.1902	0.	75.000	.11373	.38005E-02	-2.1869	1171.7	-391.71	828.67	16.790			15.015
30	.2102	0.	75.000	.12570	.42055E-02	-2.4199	1171.7	-391.71	828.38	17.015			15.024
32	.2302	0.	75.000	.14659	.46225E-02	-2.6598	1171.7	-391.71	828.12	17.240			15.026
34	.2502	0.	75.000	.16479	.50638E-02	-2.9138	1171.7	-391.71	827.84	17.465			15.023
36	.2613	0.	75.000	.17554	.53078E-02	-3.0538	1171.7	-391.71	827.56	17.690			15.019
38	.2643	0.	75.000	.17870	.53881E-02	-3.1004	1171.7	-391.71	827.40	17.814			15.016
40	.2716	0.	75.000	.18617	.55699E-02	-3.2050	1171.7	-391.71	827.34	17.849			15.015
42	.2829	0.	75.000	.19823	.58566E-02	-3.3701	1171.6	-391.71	827.23	17.931			15.013
44	.3022	0.	75.000	.22067	.63599E-02	-3.6596	1168.3	-391.71	826.96	18.058			15.010
46	.3222	0.	75.000	.24662	.69861E-02	-4.0159	1157.5	-391.71	823.12	18.274			15.009
48	.3422	0.	75.000	.27392	.77417E-02	-4.4547	1141.7	-391.71	811.39	18.499			15.013
50	.3622	0.	75.000	.30199	.84897E-02	-4.8851	1126.0	-391.71	794.34	18.724			15.012
52	.3822	0.	75.000	.33094	.91389E-02	-5.2586	1113.7	-391.71	777.43	18.949			14.999
54	.4022	0.	75.000	.36080	.97553E-02	-5.6134	1104.7	-391.71	764.10	19.174			14.981
56	.4222	0.	75.000	.39172	.10419E-01	-5.9953	1097.2	-391.71	754.28	19.399			14.966
58	.4422	0.	75.000	.42382	.11135E-01	-6.4073	1089.2	-391.71	745.93	19.624			14.954
60	.4622	0.	75.000	.45692	.11864E-01	-6.8268	1080.2	-391.71	737.14	19.849			14.943
62	.4822	0.	75.000	.49078	.12587E-01	-7.2428	1070.2	-391.71	727.13	20.074			14.931
64	.5022	0.	75.000	.52530	.13305E-01	-7.6561	1059.9	-391.71	716.18	20.299			14.920
66	.5222	0.	75.000	.56039	.14025E-01	-8.0703	1049.8	-391.71	704.93	20.513			14.910
68	.5422	0.	75.000	.59542	.14787E-01	-8.5087	1040.2	-391.71	693.89	20.611			14.902
70	.5622	0.	75.000	.62867	.15606E-01	-8.9801	1030.9	-391.71	683.29	20.711			14.893
72	.5822	0.	75.000	.65837	.16345E-01	-9.4075	1021.8	-391.71	673.03	20.811			14.876
74	.6022	0.	75.000	.68392	.16842E-01	-9.6910	1012.7	-391.71	663.02	20.911			14.847
76	.6222	0.	75.000	.70582	.17081E-01	-9.8289	1003.6	-391.71	653.17	21.022			14.810
78	.6422	0.	75.000	.72575	.17189E-01	-9.8910	994.36	-391.71	643.41	21.222			14.777
80	.6622	0.	75.000	.74644	.17293E-01	-9.9508	985.18	-391.71	633.68	21.422			14.758
82	.6822	0.	75.000	.77019	.17555E-01	-10.101	976.06	-391.71	623.96	21.622			14.758
84	.7022	0.	75.000	.79772	.18093E-01	-10.411	967.04	-391.71	614.22	21.822			14.777
86	.7222	0.	75.000	.82851	.18871E-01	-10.859	958.12	-391.71	604.41	22.011			14.806
88	.7422	0.	75.000	.86093	.19780E-01	-11.382	949.26	-391.71	594.54	22.111			14.833
90	.7622	0.	75.000	.89239	.20721E-01	-11.923	940.45	-391.71	584.67	22.211			14.851
92	.7822	0.	75.000	.92080	.21535E-01	-12.391	931.68	-391.71	574.84	22.311			14.853
94	.8022	0.	75.000	.94550	.22084E-01	-12.708	922.95	-391.71	565.13	22.411			14.839
96	.8222	0.	75.000	.96683	.22391E-01	-12.888	914.27	-391.71	555.63	22.516			14.817
98	.8422	0.	75.000	.98601	.22567E-01	-12.985	905.65	-391.71	546.32	22.666			14.797
100	.8622	0.	75.000	1.0049	.22720E-01	-13.074	897.08	-391.71	537.15	22.816			14.786
									528.06	22.966			14.786

CYC	TIME	CLVEL 1	THETA 2	CPVAL 3	DPDSK 4	FLMON 1	OPMON 1	WTMON 1	DISKM 1	P	22	F	T
102	.6422	0.	75.000	1.0250	.22960E-01	-13.211	888.57	-391.71	518.97	23.116		14.801	
104	.5022	0.	75.000	1.0449	.23352E-01	-13.437	880.11	-391.71	509.84	23.266		14.820	
106	.5222	0.	75.000	1.0706	.23873E-01	-13.777	871.70	-391.71	500.69	23.416		14.840	
108	.9422	0.	75.000	1.0986	.24450E-01	-14.069	863.34	-391.71	491.55	23.566		14.858	
110	.5422	0.	75.000	1.1214	.25022E-01	-14.399	855.03	-391.71	482.47	23.716		14.872	
112	.9422	0.	75.000	1.1475	.25570E-01	-14.713	846.77	-391.71	473.45	23.866		14.886	
114	1.0022	0.	75.000	1.1737	.26094E-01	-15.015	838.56	-391.71	464.50	24.011		14.899	
116	1.0222	0.	75.000	1.1999	.26610E-01	-15.312	830.40	-391.71	455.61	24.111		14.913	
118	1.0422	0.	75.000	1.2248	.27057E-01	-15.569	822.29	-391.71	446.82	24.211		14.928	
120	1.0622	0.	75.000	1.2400	.26555E-01	-15.510	814.22	-391.71	438.42	24.311		14.959	
122	1.0822	0.	75.000	1.2455	.26597E-01	-15.305	806.21	-391.71	430.23	24.411		15.014	
124	1.1022	0.	75.000	1.2492	.26514E-01	-15.206	798.25	-391.71	421.93	24.511		15.060	
126	1.1222	0.	75.000	1.2540	.26610E-01	-15.312	790.33	-391.71	413.58	24.611		15.148	
128	1.1422	0.	75.000	1.2593	.26737E-01	-15.385	782.46	-391.71	405.25	24.711		15.215	
130	1.1622	0.	75.000	1.2647	.26860E-01	-15.455	774.64	-391.71	396.97	24.811		15.282	
132	1.1822	0.	75.000	1.2702	.26978E-01	-15.524	766.86	-391.71	388.74	24.911		15.348	
134	1.2022	0.	75.000	1.2756	.27095E-01	-15.591	759.13	-391.71	380.57	25.011		15.414	
136	1.2222	0.	75.000	1.2811	.27213E-01	-15.659	751.45	-391.71	372.44	25.111		15.481	
138	1.2422	0.	75.000	1.2865	.27332E-01	-15.727	743.82	-391.71	364.36	25.211		15.547	
140	1.2622	0.	75.000	1.2918	.27454E-01	-15.798	736.22	-391.71	356.33	25.311		15.612	
142	1.2822	0.	75.000	1.2972	.27578E-01	-15.869	728.68	-391.71	348.35	25.411		15.676	
144	1.3022	0.	75.000	1.3024	.27703E-01	-15.941	721.18	-391.71	340.41	25.511		15.743	
146	1.3222	0.	75.000	1.3077	.27829E-01	-16.013	713.73	-391.71	332.52	25.611		15.807	
148	1.3422	0.	75.000	1.3129	.27952E-01	-16.084	706.31	-391.71	324.67	25.711		15.871	
150	1.3622	0.	75.000	1.3180	.28074E-01	-16.154	698.95	-391.71	316.88	25.811		15.935	
152	1.3822	0.	75.000	1.3232	.28194E-01	-16.223	691.63	-391.71	309.13	25.911		15.998	
154	1.4022	0.	75.000	1.3284	.28312E-01	-16.291	684.35	-391.71	301.43	26.011		16.060	
156	1.4222	0.	75.000	1.3335	.28428E-01	-16.358	677.11	-391.71	293.77	26.111		16.123	
158	1.4422	0.	75.000	1.3387	.28543E-01	-16.424	669.92	-391.71	286.17	26.211		16.185	
160	1.4622	0.	75.000	1.3439	.28657E-01	-16.489	662.77	-391.71	278.61	26.311		16.248	
162	1.4822	0.	75.000	1.3491	.28770E-01	-16.555	655.67	-391.71	271.09	26.411		16.310	
164	1.5022	0.	75.000	1.3543	.28882E-01	-16.619	648.60	-391.71	263.62	26.511		16.373	
166	1.5222	0.	75.000	1.3595	.28995E-01	-16.684	641.58	-391.71	256.19	26.611		16.436	
168	1.5422	0.	75.000	1.3647	.29108E-01	-16.749	634.60	-391.71	248.81	26.711		16.498	
170	1.5622	0.	75.000	1.3699	.29221E-01	-16.814	627.66	-391.71	241.47	26.811		16.561	
172	1.5822	0.	75.000	1.3751	.29334E-01	-16.879	620.76	-391.71	234.17	26.911		16.624	
174	1.6022	0.	75.000	1.3803	.29447E-01	-16.944	613.90	-391.71	226.92	27.011		16.687	
176	1.6222	0.	75.000	1.3855	.29560E-01	-17.009	607.09	-391.71	219.71	27.111		16.750	
178	1.6422	0.	75.000	1.3907	.29674E-01	-17.075	600.31	-391.71	212.54	27.211		16.813	
180	1.6622	0.	75.000	1.3959	.29788E-01	-17.140	593.58	-391.71	205.42	27.311		16.876	
182	1.6822	0.	75.000	1.4011	.29902E-01	-17.206	586.88	-391.71	198.33	27.411		16.939	
184	1.7022	0.	75.000	1.4063	.30016E-01	-17.272	580.22	-391.71	191.29	27.511		17.002	
186	1.7222	0.	75.000	1.4115	.30130E-01	-17.337	573.61	-391.71	184.29	27.611		17.065	
188	1.7422	0.	75.000	1.4167	.30245E-01	-17.403	567.03	-391.71	177.33	27.711		17.128	
190	1.7622	0.	75.000	1.4219	.30359E-01	-17.469	560.49	-391.71	170.42	27.811		17.191	
192	1.7822	0.	75.000	1.4271	.30474E-01	-17.535	553.99	-391.71	163.54	27.911		17.254	
194	1.8022	0.	75.000	1.4323	.30588E-01	-17.601	547.53	-391.71	156.70	28.011		17.317	
196	1.8222	0.	75.000	1.4375	.30703E-01	-17.667	541.10	-391.71	149.91	28.111		17.380	
198	1.8422	0.	75.000	1.4427	.30818E-01	-17.733	534.72	-391.71	143.15	28.211		17.443	
200	1.8622	0.	75.000	1.4479	.30932E-01	-17.799	528.37	-391.71	136.44	28.311		17.506	

CYC	TIME	CLVEL 1	THETA 2	CPVAL 3	DPDSK 4	FLMON 1	DPMON 1	WTMON 1	DTSKM 1	P	22	P	7
202	1.8622	0.	75.000	1.4531	.31047E-01	-17.865	522.05	-391.71	129.76	28.411		17.569	
204	1.9022	0.	75.000	1.4583	.31162E-01	-17.931	515.78	-391.71	123.13	28.511		17.632	
206	1.9272	0.	75.000	1.4635	.31277E-01	-17.997	509.54	-391.71	116.53	28.611		17.695	
208	1.9422	0.	75.000	1.4687	.31391E-01	-18.063	503.34	-391.71	109.97	28.711		17.758	
210	1.9622	0.	75.000	1.4739	.31506E-01	-18.129	497.18	-391.71	103.45	28.811		17.821	
212	1.9822	0.	75.000	1.4791	.31621E-01	-18.195	491.05	-391.71	96.972	28.911		17.884	
214	2.0022	0.	75.000	1.4843	.31735E-01	-18.261	484.95	-391.71	90.530	29.008		17.947	
216	2.0222	0.	75.000	1.4895	.31852E-01	-18.328	478.90	-391.71	84.124	29.078		18.010	
218	2.0422	0.	75.000	1.4945	.31967E-01	-18.406	472.88	-391.71	77.747	29.148		18.072	
220	2.0622	0.	75.000	1.4990	.32152E-01	-18.501	466.89	-391.71	71.390	29.218		18.132	
222	2.0822	0.	75.000	1.5029	.32323E-01	-18.599	460.94	-391.71	65.068	29.288		18.187	
224	2.1022	0.	75.000	1.5064	.32470E-01	-18.624	455.02	-391.71	58.797	29.358		18.237	
226	2.1222	0.	75.000	1.5100	.32590E-01	-18.753	449.14	-391.71	52.579	29.428		18.285	
228	2.1422	0.	75.000	1.5136	.32692E-01	-18.812	443.29	-391.71	46.408	29.498		18.331	
230	2.1622	0.	75.000	1.5173	.32784E-01	-18.864	437.48	-391.71	40.280	29.568		18.376	
232	2.1822	0.	75.000	1.5209	.32870E-01	-18.914	431.70	-391.71	34.191	29.638		18.420	
234	2.2022	0.	75.000	1.5245	.32954E-01	-18.962	425.95	-391.71	28.141	29.708		18.465	
236	2.2222	0.	75.000	1.5281	.33037E-01	-19.010	420.24	-391.71	22.127	29.778		18.509	
238	2.2422	0.	75.000	1.5317	.33119E-01	-19.057	414.56	-391.71	16.150	29.848		18.553	
240	2.2622	0.	75.000	1.5352	.33201E-01	-19.105	408.91	-391.71	10.209	29.918		18.597	
242	2.2822	0.	75.000	1.5388	.33282E-01	-19.152	403.30	-391.71	4.3029	29.988		18.641	
244	2.3022	-.13060E-02	75.000	1.5424	.33364E-01	-19.198	397.72	-391.71	-1.5672	30.058		18.685	
246	2.3222	-.10572E-01	74.995	1.5460	.32426E-01	-18.658	392.21	-391.71	-6.7643	30.128		18.729	
248	2.3422	-.26454E-01	74.977	1.5494	.25077E-01	-16.731	386.93	-391.70	-10.330	30.198		18.773	
250	2.3622	-.46775E-01	74.943	1.5521	.24322E-01	-13.595	381.95	-391.67	-12.740	30.268		18.817	
252	2.3822	-.70225E-01	74.587	1.5537	.19056E-01	-10.965	377.32	-391.61	-14.473	30.338		18.862	
254	2.4022	-.96098E-01	74.809	1.5538	.13875E-01	-7.9837	373.04	-391.53	-15.856	30.408		18.907	
256	2.4222	-.12410	74.704	1.5521	.92026E-02	-5.2953	369.12	-391.42	-17.117	30.478		18.953	
258	2.4422	-.15425	74.573	1.5485	.53743E-02	-3.0924	365.59	-391.27	-18.417	30.548		18.999	
260	2.4622	-.18675	74.411	1.5428	.26842E-02	-1.5445	362.50	-391.09	-19.882	30.618		19.046	
262	2.4822	-.22202	74.217	1.5348	.14039E-02	-.80781	359.87	-390.86	-21.614	30.688		19.094	
264	2.5022	-.26060	73.989	1.5241	.17714E-02	-1.0193	357.77	-390.59	-23.690	30.758		19.143	
266	2.5222	-.30310	73.722	1.5107	.39504E-02	-2.2731	356.26	-390.26	-26.136	30.828		19.193	
268	2.5422	-.35007	73.412	1.4942	.79552E-02	-4.5775	355.38	-389.87	-28.886	30.898		19.244	
270	2.5622	-.40176	73.056	1.4744	.13543E-01	-7.7926	355.23	-389.40	-31.712	30.968		19.295	
272	2.5822	-.45774	72.649	1.4507	.20085E-01	-11.557	355.86	-388.86	-34.164	31.038		19.348	
274	2.6022	-.51654	72.187	1.4229	.26485E-01	-15.240	357.36	-388.21	-35.524	31.108		19.403	
276	2.6222	-.57518	71.669	1.3904	.31221E-01	-17.965	359.77	-387.46	-34.858	31.178		19.459	
278	2.6422	-.62907	71.098	1.3530	.32642E-01	-18.783	363.08	-386.58	-31.214	31.248		19.517	
280	2.6622	-.67239	70.480	1.3101	.29464E-01	-16.954	367.21	-385.59	-23.937	31.318		19.577	
282	2.6822	-.69696	69.828	1.2617	.21272E-01	-12.240	371.97	-384.48	-12.986	31.388		19.638	
284	2.7022	-.70046	69.162	1.2022	.26148E-02	-1.5046	377.07	-383.28	4.5168	31.458		19.704	
286	2.7222	-.74189	68.485	1.2329	.94617E-01	-54.444	382.18	-382.02	-42.526	31.528		19.740	
288	2.7422	-.81366	67.708	1.3167	.24674	-141.98	388.61	-380.61	-122.82	31.598		19.763	
290	2.7622	-1.2121	66.708	1.4217	.39841	-229.25	399.31	-378.80	-197.78	31.668		19.776	
292	2.7822	-1.6443	65.362	1.5610	.57904	-331.13	416.97	-376.28	-281.24	31.738		19.776	
294	2.8022	-2.2425	63.530	1.7566	.81894	-471.23	444.61	-372.61	-387.01	31.808		19.754	
296	2.8222	-2.9792	61.062	1.9615	1.0058	-578.76	486.67	-367.16	-445.84	31.878		19.732	
298	2.8422	-3.7496	57.878	2.2357	1.1781	-677.90	547.83	-359.19	-474.82	31.948		19.682	
300	2.8622	-4.5958	53.927	2.6946	1.4348	-825.58	635.41	-347.89	-522.79	32.018		19.569	

CYC	TIME	LEVEL	1	THETA	2	DPVAL	3	DPDSK	4	FLMON	1	DFMON	1	WTFMON	1	DISKM	1	F	22	P	7
302	2.8522	-4.5949	53.922	2.7121	-0.21917	126.11	697.92	-340.67	510.51	32.018	19.569										
304	2.8522	-4.5926	53.909	2.7527	-0.11116	63.965	698.11	-340.65	446.82	32.018	19.569										
306	2.8525	-4.5890	53.857	3.0741	.47785	-274.53	698.85	-340.55	101.09	32.019	19.558										
308	2.8634	-4.6844	53.647	3.2888	3.3920	-1951.3	701.85	-340.18	-1553.2	32.022	19.186										
310	2.8663	-5.3800	52.958	3.4375	5.9924	-344.8	715.07	-338.61	-2978.7	32.032	18.606										
312	2.8739	-6.9753	50.725	4.9553	4.8106	-2768.2	759.73	-333.88	-2291.6	32.055	18.596										
314	2.8747	-7.1019	50.453	5.2568	4.3922	-2527.3	810.19	-328.15	-2004.8	32.062	18.968										
316	2.8772	-7.7157	49.595	5.4541	6.6003	-3757.9	827.45	-326.51	-3213.5	32.070	18.454										
318	2.8804	-8.6604	48.326	6.1886	6.0161	-3461.8	899.63	-319.02	-2814.2	32.082	18.303										
320	2.8805	-8.6675	48.313	6.2174	6.0450	-3480.7	899.93	-319.00	-2832.3	32.082	18.302										
322	2.8806	-8.6965	48.264	6.3246	6.1969	-3565.8	901.11	-318.90	-2914.3	32.082	18.297										
324	2.8811	-8.8245	48.065	6.6089	6.8659	-3950.7	905.87	-318.48	-3284.8	32.084	18.253										
326	2.8830	-9.4605	47.233	6.9333	8.3924	-4829.1	925.64	-316.80	-4113.7	32.090	17.933										
328	2.8855	-10.369	46.026	7.6722	7.6172	-4383.0	1002.8	-305.24	-3603.3	32.099	17.793										
330	2.8856	-10.378	46.011	7.7025	7.6534	-4403.9	1003.2	-309.20	-3632.8	32.100	17.791										
332	2.8857	-10.414	45.952	7.8170	7.8145	-4436.6	1004.8	-309.07	-3713.9	32.100	17.785										
334	2.8862	-10.575	45.713	8.1519	8.4847	-4882.2	1011.4	-308.55	-4083.0	32.102	17.771										
336	2.8881	-11.327	44.717	8.6583	9.8605	-5674.1	1038.6	-306.42	-4821.0	32.108	17.368										
338	2.8907	-12.379	43.275	9.3889	8.8006	-5054.0	1142.4	-296.83	-4121.4	32.117	17.208										
340	2.8907	-12.389	43.257	9.4249	9.8639	-5100.4	1142.9	-296.83	-4155.3	32.117	17.206										
342	2.8908	-12.432	43.186	9.5626	9.1195	-5247.5	1145.2	-296.67	-4257.9	32.118	17.197										
344	2.8913	-12.620	42.901	9.9516	10.096	-5909.6	1154.3	-296.01	-4837.9	32.120	17.109										
346	2.8932	-13.527	41.712	10.823	11.842	-6814.1	1192.1	-293.32	-5770.5	32.126	16.517										
348	2.8943	-14.059	41.012	11.595	12.616	-7259.2	1255.1	-287.87	-6139.7	32.130	16.135										
350	2.8958	-14.910	39.567	12.944	13.632	-7844.1	1321.2	-282.64	-6641.7	32.135	15.565										
352	2.8972	-15.715	38.987	14.121	14.895	-8573.3	1366.0	-279.51	-7307.6	32.140	15.166										
354	2.8987	-16.673	37.804	15.177	15.467	-8899.7	1449.0	-273.31	-7542.0	32.145	14.626										
356	2.8995	-17.198	37.143	15.842	16.026	-9221.4	1511.5	-268.60	-7792.1	32.148	14.624										
358	2.9005	-17.911	36.297	16.754	17.268	-9936.4	1580.3	-263.71	-8416.0	32.152	14.144										
360	2.9014	-18.546	35.585	17.819	19.251	-11077.	1619.8	-261.28	-9482.1	32.155	13.504										
362	2.9024	-19.431	34.642	19.441	20.975	-12070.	1695.2	-256.30	-10368.	32.158	12.520										
364	2.9033	-20.243	33.808	21.059	22.470	-12930.	1777.9	-250.83	-11120.	32.162	11.678										
366	2.9042	-21.159	32.917	23.030	24.792	-14266.	1826.9	-247.69	-12367.	32.165	10.590										
368	2.9042	-21.175	32.901	23.067	24.748	-14010.	1870.5	-244.40	-12072.	32.165	10.571										
370	2.9043	-21.236	32.841	23.208	24.606	-14158.	1873.8	-244.23	-12213.	32.165	10.503										
372	2.9045	-21.488	32.598	23.753	25.564	-14710.	1897.3	-243.57	-12736.	32.166	10.232										
374	2.9055	-22.597	31.595	25.783	28.162	-16205.	1942.8	-240.86	-14134.	32.165	9.2166										
376	2.9055	-22.615	31.578	25.819	27.694	-15975.	1995.1	-237.09	-13816.	32.169	9.2006										
378	2.9056	-22.685	31.514	25.959	27.972	-16096.	1998.9	-236.91	-13968.	32.169	9.1286										
380	2.9058	-22.973	31.254	26.517	28.988	-16690.	2014.3	-236.19	-14522.	32.170	8.8815										
382	2.9064	-23.752	30.576	27.953	30.805	-17725.	2070.3	-233.24	-15482.	32.172	8.1842										
384	2.9071	0.	30.000	29.552	32.435	-18663.	2140.4	-229.53	-16324.	32.175	7.3446										
386	2.9075	0.	30.000	30.557	33.411	-19225.	2157.6	-228.14	-16861.	32.176	6.8296										
388	2.9075	0.	30.000	30.632	33.510	-19282.	2157.4	-228.14	-16917.	32.176	6.7916										
390	2.9076	0.	30.000	30.926	33.874	-19491.	2156.4	-228.14	-17121.	32.177	6.6908										
392	2.9081	0.	30.000	32.062	34.877	-20069.	2152.6	-228.14	-17686.	32.178	6.0697										
394	2.9081	0.	30.000	32.171	34.961	-20117.	2152.3	-228.14	-17733.	32.178	6.0156										
396	2.9083	0.	30.000	32.492	35.177	-20242.	2151.1	-228.14	-17855.	32.179	5.8882										
398	2.9086	0.	30.000	33.653	35.655	-20517.	2146.7	-228.14	-18127.	32.181	5.3571										
400	2.9093	0.	30.000	34.384	35.840	-20623.	2143.4	-228.14	-18235.	32.182	5.1052										

CYC	TIME	CLVEL 1	THETA 2	DPVAL 3	DPSK 4	FLMON 1	OPMON 1	WTPOM 1	DISKM 1	P	22	2	7
402	2.5059	0.	30.000	35.174	35.979	-20702.	2134.6	-228.14	-18319.	32.185		4.9947	
404	2.9105	0.	30.000	35.639	36.076	-20719.	2133.7	-228.14	-18381.	32.187		5.0987	
406	2.9109	0.	30.000	35.813	36.137	-20744.	2130.4	-228.14	-18420.	32.188		5.2594	
408	2.9115	0.	30.000	35.892	36.194	-20827.	2125.4	-228.14	-18458.	32.190		5.5629	
410	2.9122	0.	30.000	35.893	36.194	-20821.	2120.3	-228.14	-18457.	32.193		5.8367	
412	2.9126	0.	30.000	35.892	36.144	-20798.	2117.1	-228.14	-18459.	32.194		5.9735	
414	2.9132	0.	30.000	35.925	36.055	-20746.	2112.5	-228.14	-18393.	32.196		6.0915	
416	2.9137	0.	30.000	35.991	35.984	-20706.	2108.1	-228.14	-18358.	32.198		6.1363	
418	2.9141	0.	30.000	36.043	35.959	-20692.	2105.4	-228.14	-18347.	32.199		6.1418	
420	2.9151	0.	30.000	36.196	36.098	-20771.	2097.4	-228.14	-18432.	32.203		6.0666	
422	2.9153	0.	30.000	36.226	36.144	-20798.	2095.9	-228.14	-18459.	32.204		6.0431	
424	2.9159	0.	30.000	36.298	36.335	-20908.	2091.4	-228.14	-18570.	32.206		5.9478	
426	2.9159	0.	30.000	36.299	36.340	-20910.	2091.3	-228.14	-18572.	32.206		5.9455	
428	2.9160	0.	30.000	36.306	36.361	-20922.	2090.8	-228.14	-18584.	32.206		5.9348	
430	2.9162	0.	30.000	36.330	36.445	-20973.	2088.9	-228.14	-18635.	32.207		5.8860	
432	2.9172	0.	30.000	36.365	36.726	-21133.	2081.5	-228.14	-18797.	32.210		5.6541	
434	2.9173	0.	30.000	36.367	36.764	-21155.	2080.2	-228.14	-18819.	32.211		5.6120	
436	2.9178	0.	30.000	36.349	36.829	-21192.	2076.5	-228.14	-18859.	32.212		5.4629	
438	2.9179	0.	30.000	36.347	36.833	-21194.	2076.2	-228.14	-18861.	32.212		5.4724	
440	2.9180	0.	30.000	36.339	36.841	-21199.	2075.2	-228.14	-18867.	32.213		5.4410	
442	2.9185	0.	30.000	36.282	36.821	-21187.	2071.6	-228.14	-18859.	32.215		5.3229	
444	2.9185	0.	30.000	36.276	36.817	-21185.	2071.2	-228.14	-18857.	32.215		5.3119	
446	2.9186	0.	30.000	36.254	36.800	-21175.	2070.1	-228.14	-18849.	32.215		5.2799	
448	2.9192	0.	30.000	36.128	36.661	-21096.	2065.9	-228.14	-18775.	32.217		5.1751	
450	2.9192	0.	30.000	36.123	36.656	-21093.	2065.8	-228.14	-18772.	32.217		5.1719	

CYC	TIME	8	9	10	23	24	25	26	27	28	P
2	.6000	14.715	14.719	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
4	.6002	14.715	14.719	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
6	.6006	14.715	14.719	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
8	.6026	14.715	14.719	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
10	.6022	14.716	14.720	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
12	.6022	14.716	14.720	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
14	.6022	14.724	14.729	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
16	.6022	14.757	14.763	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
18	.6502	14.922	14.932	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
20	.1102	14.907	14.921	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
22	.2302	14.988	14.998	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
24	.1502	15.048	15.051	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
26	.1702	15.085	15.072	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
28	.1602	15.106	15.113	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
30	.2102	15.121	15.156	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
32	.2302	15.132	15.136	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
34	.2502	15.142	15.147	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
36	.2613	15.148	15.153	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
38	.2643	15.149	15.155	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
40	.2716	15.153	15.159	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
42	.2829	15.161	15.167	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
44	.3022	15.178	15.185	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
46	.3222	15.203	15.210	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
48	.3422	15.224	15.231	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
50	.3622	15.234	15.242	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
52	.3822	15.240	15.249	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
54	.4022	15.249	15.259	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
56	.4222	15.263	15.273	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
58	.4422	15.278	15.290	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
60	.4622	15.295	15.308	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
62	.4822	15.312	15.324	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
64	.5022	15.330	15.344	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
66	.5222	15.351	15.365	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
68	.5422	15.372	15.386	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
70	.5622	15.383	15.398	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
72	.5822	15.378	15.394	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
74	.6022	15.363	15.380	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
76	.6222	15.342	15.366	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
78	.6422	15.347	15.364	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
80	.6622	15.355	15.382	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
82	.6822	15.404	15.421	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
84	.7022	15.455	15.473	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
86	.7222	15.508	15.527	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
88	.7422	15.553	15.572	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
90	.7622	15.581	15.602	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
92	.7822	15.591	15.612	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
94	.8022	15.589	15.611	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
96	.8222	15.588	15.610	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
98	.8422	15.594	15.616	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00
100	.8622	15.611	15.634	105.00	105.00	105.00	105.00	105.00	105.00	105.00	105.00

CYC	TIME	P	8	P	9	F	10	F	23	P	24	P	25	P	26	P	27	P	28	P	29
102	.8822	15.641		15.664		15.826		89.983		89.855		89.365		89.854		89.926		89.882		89.852	
104	.9022	15.679		15.703		15.867		89.535		89.407		89.516		89.406		89.478		89.434		89.404	
106	.9222	15.719		15.743		15.911		89.089		88.961		89.070		88.960		89.032		88.988		88.958	
108	.9422	15.758		15.782		15.953		88.645		88.518		88.627		88.517		88.589		88.545		88.515	
110	.9622	15.794		15.819		15.994		88.204		88.078		88.186		88.077		88.148		88.105		88.075	
112	.9822	15.829		15.855		16.033		87.766		87.641		87.748		87.640		87.710		87.667		87.638	
114	1.0022	15.865		15.891		16.073		87.331		87.206		87.313		87.205		87.275		87.232		87.203	
116	1.0222	15.900		15.927		16.113		86.898		86.774		86.880		86.773		86.843		86.800		86.771	
118	1.0422	15.937		15.964		16.153		86.468		86.344		86.450		86.343		86.413		86.370		86.341	
120	1.0622	15.982		16.009		16.199		86.040		85.917		86.022		85.916		85.985		85.943		85.914	
122	1.0822	16.043		16.069		16.259		85.615		85.493		85.597		85.492		85.560		85.519		85.490	
124	1.1022	16.113		16.140		16.329		85.193		85.071		85.175		85.070		85.138		85.097		85.068	
126	1.1222	16.185		16.212		16.402		84.773		84.651		84.755		84.651		84.719		84.677		84.649	
128	1.1422	16.257		16.284		16.475		84.355		84.235		84.338		84.234		84.301		84.260		84.232	
130	1.1622	16.328		16.355		16.547		83.940		83.820		83.923		83.819		83.887		83.846		83.816	
132	1.1822	16.399		16.426		16.618		83.522		83.408		83.511		83.408		83.475		83.434		83.406	
134	1.2022	16.469		16.496		16.690		83.118		82.999		83.101		82.998		83.065		83.024		82.997	
136	1.2222	16.540		16.567		16.762		82.710		82.592		82.694		82.591		82.658		82.617		82.590	
138	1.2422	16.610		16.638		16.833		82.305		82.188		82.289		82.187		82.253		82.213		82.185	
140	1.2622	16.681		16.708		16.904		81.903		81.786		81.886		81.785		81.851		81.811		81.783	
142	1.2822	16.750		16.778		16.975		81.503		81.386		81.486		81.385		81.451		81.411		81.384	
144	1.3022	16.820		16.847		17.045		81.105		80.989		81.088		80.988		81.053		81.014		80.987	
146	1.3222	16.888		16.916		17.115		80.709		80.594		80.693		80.593		80.658		80.619		80.592	
148	1.3422	16.957		16.985		17.184		80.316		80.202		80.300		80.201		80.265		80.226		80.199	
150	1.3622	17.024		17.052		17.253		79.926		79.812		79.909		79.811		79.875		79.836		79.809	
152	1.3822	17.092		17.120		17.321		79.537		79.424		79.521		79.423		79.487		79.448		79.421	
154	1.4022	17.159		17.187		17.389		79.151		79.038		79.135		79.037		79.101		79.062		79.036	
156	1.4222	17.225		17.254		17.456		78.768		78.655		78.751		78.654		78.717		78.679		78.653	
158	1.4422	17.292		17.321		17.524		78.386		78.274		78.370		78.273		78.336		78.298		78.272	
160	1.4622	17.359		17.388		17.592		78.007		77.896		77.991		77.895		77.957		77.919		77.893	
162	1.4822	17.426		17.455		17.660		77.630		77.519		77.614		77.518		77.581		77.543		77.517	
164	1.5022	17.493		17.522		17.727		77.255		77.145		77.239		77.144		77.206		77.168		77.143	
166	1.5222	17.560		17.589		17.795		76.883		76.773		76.867		76.772		76.834		76.796		76.771	
168	1.5422	17.627		17.656		17.863		76.513		76.403		76.497		76.403		76.464		76.426		76.401	
170	1.5622	17.694		17.723		17.931		76.144		76.036		76.129		76.035		76.096		76.059		76.034	
172	1.5822	17.761		17.790		17.999		75.779		75.671		75.763		75.670		75.730		75.693		75.666	
174	1.6022	17.828		17.858		18.067		75.415		75.307		75.399		75.307		75.367		75.330		75.305	
176	1.6222	17.895		17.925		18.135		75.053		74.946		75.038		74.946		75.006		74.969		74.944	
178	1.6422	17.963		17.992		18.204		74.694		74.587		74.679		74.587		74.646		74.610		74.585	
180	1.6622	18.030		18.060		18.272		74.337		74.231		74.321		74.230		74.289		74.253		74.228	
182	1.6822	18.097		18.127		18.340		73.981		73.876		73.966		73.875		73.934		73.898		73.874	
184	1.7022	18.165		18.195		18.408		73.628		73.524		73.613		73.523		73.582		73.546		73.521	
186	1.7222	18.232		18.262		18.476		73.277		73.173		73.262		73.172		73.231		73.195		73.171	
188	1.7422	18.299		18.330		18.545		72.929		72.825		72.914		72.824		72.882		72.847		72.822	
190	1.7622	18.367		18.397		18.613		72.582		72.478		72.567		72.478		72.536		72.500		72.476	
192	1.7822	18.434		18.464		18.681		72.237		72.133		72.222		72.133		72.191		72.156		72.132	
194	1.8022	18.501		18.532		18.749		71.894		71.792		71.879		71.791		71.848		71.813		71.790	
196	1.8222	18.569		18.599		18.818		71.553		71.452		71.539		71.451		71.508		71.473		71.449	
198	1.8422	18.636		18.667		18.886		71.215		71.113		71.200		71.113		71.169		71.135		71.111	
200	1.8622	18.703		18.734		18.954		70.878		70.777		70.863		70.776		70.833		70.798		70.775	

CYC	TIME	P	H	P	9	F	10	P	23	P	24	P	25	P	26	P	27	P	28	P	29	
202	1.8622	18.770		18.802		19.022		70.543		70.443		70.529		70.442		70.498		70.464		70.441		70.441
204	1.9022	18.838		18.869		19.090		70.210		70.110		70.196		70.110		70.166		70.132		70.108		70.108
206	1.9222	18.905		18.936		19.159		69.879		69.780		69.865		69.779		69.835		69.801		69.778		69.778
208	1.9422	18.972		19.004		19.227		69.550		69.452		69.536		69.451		69.506		69.473		69.450		69.450
210	1.9622	19.040		19.071		19.295		69.223		69.125		69.209		69.125		69.180		69.146		69.123		69.123
212	1.9822	19.107		19.139		19.363		68.898		68.801		68.884		68.800		68.855		68.821		68.799		68.799
214	2.0022	19.174		19.206		19.431		68.575		68.478		68.561		68.477		68.532		68.498		68.476		68.476
216	2.0222	19.242		19.273		19.500		68.254		68.157		68.240		68.156		68.211		68.178		68.155		68.155
218	2.0422	19.308		19.340		19.567		67.935		67.838		67.921		67.838		67.892		67.859		67.836		67.836
220	2.0622	19.371		19.403		19.631		67.617		67.521		67.603		67.520		67.574		67.541		67.519		67.519
222	2.0822	19.429		19.461		19.689		67.301		67.206		67.288		67.205		67.259		67.226		67.204		67.204
224	2.1022	19.482		19.515		19.744		66.988		66.893		66.974		66.892		66.945		66.913		66.891		66.891
226	2.1222	19.533		19.565		19.795		66.676		66.581		66.662		66.580		66.633		66.601		66.579		66.579
228	2.1422	19.582		19.614		19.844		66.365		66.271		66.352		66.271		66.323		66.291		66.269		66.269
230	2.1622	19.630		19.662		19.893		66.057		65.963		66.044		65.963		66.015		65.983		65.961		65.961
232	2.1822	19.677		19.710		19.941		65.750		65.657		65.737		65.657		65.709		65.677		65.655		65.655
234	2.2022	19.725		19.758		19.989		65.446		65.353		65.432		65.352		65.404		65.373		65.351		65.351
236	2.2222	19.772		19.805		20.037		65.143		65.050		65.129		65.050		65.101		65.070		65.049		65.049
238	2.2422	19.819		19.852		20.085		64.841		64.750		64.828		64.749		64.800		64.769		64.748		64.748
240	2.2622	19.866		19.899		20.132		64.542		64.451		64.529		64.450		64.501		64.470		64.449		64.449
242	2.2822	19.913		19.946		20.180		64.244		64.153		64.231		64.153		64.204		64.172		64.151		64.151
244	2.3022	19.959		19.993		20.227		63.948		63.858		63.935		63.857		63.908		63.877		63.856		63.856
246	2.3222	20.007		20.039		20.275		63.656		63.564		63.642		63.563		63.614		63.583		63.562		63.562
248	2.3422	20.055		20.084		20.322		63.374		63.273		63.355		63.273		63.326		63.294		63.272		63.272
250	2.3622	20.104		20.129		20.369		63.106		62.990		63.080		62.990		63.047		63.012		62.989		62.989
252	2.3822	20.153		20.172		20.415		62.854		62.717		62.818		62.718		62.782		62.743		62.717		62.717
254	2.4022	20.201		20.215		20.461		62.618		62.460		62.571		62.460		62.531		62.488		62.461		62.461
256	2.4222	20.249		20.258		20.505		62.396		62.220		62.338		62.220		62.296		62.250		62.221		62.221
258	2.4422	20.296		20.301		20.548		62.192		61.998		62.123		61.998		62.078		62.029		61.999		61.999
260	2.4622	20.342		20.345		20.589		62.006		61.793		61.925		61.794		61.877		61.827		61.795		61.795
262	2.4822	20.387		20.388		20.629		61.840		61.608		61.746		61.609		61.696		61.643		61.609		61.609
264	2.5022	20.431		20.433		20.667		61.697		61.442		61.588		61.443		61.535		61.479		61.444		61.444
266	2.5222	20.474		20.478		20.704		61.579		61.297		61.453		61.298		61.397		61.337		61.299		61.299
268	2.5422	20.516		20.524		20.738		61.488		61.175		61.343		61.176		61.282		61.218		61.176		61.176
270	2.5622	20.557		20.570		20.770		61.427		61.079		61.261		61.080		61.195		61.125		61.082		61.082
272	2.5822	20.597		20.617		20.799		61.399		61.011		61.210		61.012		61.138		61.062		61.014		61.014
274	2.6022	20.636		20.662		20.826		61.406		60.974		61.191		60.976		61.112		61.030		60.978		60.978
276	2.6222	20.673		20.704		20.849		61.451		60.972		61.208		60.974		61.122		61.033		60.977		60.977
278	2.6422	20.709		20.742		20.870		61.531		61.007		61.261		61.009		61.168		61.071		61.011		61.011
280	2.6622	20.744		20.773		20.887		61.643		61.077		61.347		61.079		61.248		61.146		61.082		61.082
282	2.6822	20.776		20.797		20.904		61.777		61.182		61.460		61.184		61.359		61.252		61.186		61.186
284	2.7022	20.809		20.811		20.906		61.921		61.314		61.592		61.315		61.491		61.384		61.317		61.317
286	2.7222	20.803		20.858		20.973		62.060		61.462		61.729		61.463		61.632		61.529		61.464		61.464
288	2.7422	20.799		21.046		21.080		62.256		61.620		61.889		61.621		61.790		61.687		61.622		61.622
290	2.7622	20.811		21.209		21.198		62.639		61.810		62.162		61.813		62.032		61.899		61.818		61.818
292	2.7822	20.829		21.408		21.337		63.321		62.103		62.651		62.111		62.448		62.244		62.123		62.123
294	2.8022	20.851		21.670		21.511		64.423		62.603		63.456		62.617		63.139		62.824		62.639		62.639
296	2.8222	20.921		21.927		21.693		66.123		63.426		64.713		63.448		64.237		63.763		63.483		63.483
298	2.8422	21.021		22.199		21.917		68.607		64.707		66.589		64.738		65.897		65.204		64.792		64.792
300	2.8622	21.145		22.579		22.264		72.198		66.537		68.769		66.570		67.369		66.498		66.632		66.632

CYC	TIME	P	8	P	9	P	10	P	23	P	24	P	25	P	26	P	27	P	28	P	29	
302	2.8622	22.162		21.943		22.281		74.851		66.539		68.772		66.572		67.370		66.455		66.634		
304	2.8622	22.063		21.952		22.362		74.855		66.545		68.781		66.578		67.373		66.501		66.638		
306	2.8625	21.597		22.075		22.632		74.890		66.569		68.836		66.600		67.385		66.515		66.633		
308	2.8634	19.990		23.382		22.475		75.015		66.662		69.052		66.633		67.441		66.613		66.555		
310	2.8663	19.545		25.537		22.043		75.572		66.918		69.689		66.868		67.639		67.055		66.833		
312	2.8739	20.145		24.959		23.552		77.459		67.569		71.361		67.629		68.342		67.629		67.699		
314	2.8747	20.279		24.671		24.225		79.672		67.665		71.577		67.683		68.438		67.682		67.657		
316	2.8772	19.314		25.915		23.909		80.440		67.877		72.323		67.820		68.747		67.551		67.779		
318	2.8804	19.956		25.573		24.492		83.599		68.170		73.340		68.204		69.212		68.108		68.274		
320	2.8805	19.928		25.977		24.519		83.613		68.172		73.351		68.207		69.216		68.109		68.278		
322	2.8806	19.808		26.004		24.621		83.666		68.183		73.397		68.221		69.235		68.115		68.288		
324	2.8811	19.347		26.212		24.862		83.882		68.227		73.521		68.266		69.312		68.157		68.256		
326	2.8830	19.731		27.123		24.866		84.780		68.393		74.330		68.331		69.637		68.442		68.270		
328	2.8855	19.425		27.042		25.465		88.201		68.621		75.359		68.652		70.112		68.577		68.735		
330	2.8856	19.354		27.047		25.494		88.222		68.624		75.373		68.656		70.118		68.579		68.740		
332	2.8857	19.261		27.075		25.602		88.296		68.634		75.431		68.672		70.142		68.587		68.753		
334	2.8862	18.775		27.260		25.883		88.598		68.677		75.663		68.723		70.240		68.637		68.728		
336	2.8881	18.182		28.043		26.027		89.844		68.844		76.608		68.795		70.653		68.948		68.745		
338	2.8907	19.084		27.884		26.597		94.518		69.074		77.917		69.107		71.257		69.137		69.191		
340	2.8907	19.030		27.894		26.631		94.545		69.076		77.934		69.111		71.264		69.140		69.196		
342	2.8908	18.817		27.936		26.760		94.650		69.087		78.009		69.126		71.295		69.151		69.210		
344	2.8913	18.082		28.178		27.101		95.074		69.130		78.310		69.178		71.419		69.208		69.199		
346	2.8932	17.291		29.133		27.339		96.846		69.302		79.540		69.273		71.945		69.523		69.251		
348	2.8943	16.861		29.497		27.730		99.709		69.394		80.271		69.366		72.262		69.719		69.378		
350	2.8958	16.429		30.061		28.509		102.76		69.525		81.400		69.547		72.742		70.000		69.590		
352	2.8972	15.733		30.632		29.287		104.87		69.645		82.513		69.591		73.202		70.240		69.756		
354	2.8987	15.537		31.004		30.003		108.74		69.786		83.960		69.837		73.769		70.483		69.921		
356	2.8995	15.156		31.182		30.467		111.64		69.863		84.657		69.916		74.093		70.501		70.007		
358	2.9005	14.414		31.682		30.897		114.87		69.961		85.702		70.005		74.513		70.744		70.070		
360	2.9014	13.173		32.424		31.323		116.76		70.041		86.623		70.067		74.873		70.869		70.112		
362	2.9024	12.284		33.259		31.961		120.33		70.144		87.843		70.152		75.357		71.039		70.194		
364	2.9033	11.459		33.930		32.737		124.25		70.230		88.949		70.241		75.790		71.193		70.287		
366	2.9042	10.195		34.987		33.619		126.58		70.319		90.169		70.342		76.258		71.361		70.392		
368	2.9042	10.440		34.788		33.638		128.61		70.321		90.192		70.344		76.267		71.364		70.394		
370	2.9043	10.267		34.672		33.711		128.78		70.327		90.278		70.350		76.299		71.375		70.402		
372	2.9045	9.6443		35.208		33.985		129.43		70.350		90.627		70.378		76.429		71.422		70.431		
374	2.9055	8.2428		36.405		35.000		132.15		70.446		92.051		70.481		76.963		71.615		70.535		
376	2.9055	8.4771		36.171		35.019		134.60		70.448		92.075		70.482		76.972		71.619		70.537		
378	2.9056	8.2865		36.259		35.098		134.78		70.454		92.171		70.489		77.007		71.631		70.544		
380	2.9058	7.6154		36.604		35.399		135.54		70.478		92.557		70.513		77.148		71.682		70.570		
382	2.9064	6.5484		37.353		36.117		138.26		70.539		93.557		70.573		77.515		71.815		70.631		
384	2.9071	5.6566		38.091		36.896		141.66		70.606		94.674		70.635		77.922		71.963		70.691		
386	2.9075	5.1834		38.595		37.387		142.46		70.647		95.389		70.674		78.187		72.059		70.727		
388	2.9075	5.1308		38.641		37.423		142.45		70.650		95.442		70.676		78.206		72.066		70.730		
390	2.9076	4.9477		38.821		37.567		142.40		70.663		95.654		70.688		78.286		72.055		70.741		
392	2.9081	4.5913		39.469		38.131		142.20		70.712		96.489		70.734		78.609		72.213		70.786		
394	2.9081	4.5681		39.529		38.186		142.18		70.717		96.569		70.738		78.642		72.224		70.790		
396	2.9083	4.5255		39.703		38.350		142.12		70.731		96.809		70.752		78.738		72.260		70.804		
398	2.9088	4.6320		40.287		39.010		141.88		70.789		97.752		70.809		79.132		72.404		70.858		
400	2.9093	4.8024		40.643		39.489		141.71		70.832		98.426		70.851		79.427		72.513		70.900		

CYC	TIME	P	8	P	9	P	10	F	23	F	24	P	25	P	26	P	27	P	28	P	29
402	2.9095	5.0751		41.053		40.161		141.45		70.895		99.413		70.916		79.880		72.682		70.965	
404	2.9105	5.2886		41.364		40.738		141.19		70.959		109.37		70.982		80.345		72.858		71.832	
406	2.9109	5.4038		41.541		41.073		141.02		71.003		101.01		71.028		80.670		72.983		71.080	
408	2.9115	5.5627		41.757		41.455		140.75		71.070		101.95		71.096		81.169		73.177		71.149	
410	2.9122	5.7555		41.939		41.730		140.48		71.138		102.87		71.165		81.685		73.381		71.218	
412	2.9126	5.8975		42.042		41.865		140.31		71.182		103.44		71.209		82.017		73.515		71.263	
414	2.9132	6.1157		42.170		42.016		140.07		71.245		104.25		71.272		82.506		73.715		71.327	
416	2.9137	6.2901		42.274		42.128		139.84		71.305		104.98		71.331		82.971		73.908		71.386	
418	2.9141	6.3711		42.330		42.185		139.69		71.341		105.42		71.368		83.260		74.030		71.424	
420	2.9151	6.3447		42.443		42.263		139.27		71.453		106.71		71.479		84.133		74.408		71.533	
422	2.9153	6.3149		42.459		42.269		139.15		71.474		106.94		71.500		84.302		74.482		71.557	
424	2.9159	6.1473		42.482		42.246		138.95		71.538		107.63		71.565		84.809		74.709		71.626	
426	2.9159	6.1432		42.483		42.245		138.94		71.539		107.65		71.566		84.820		74.714		71.627	
428	2.9160	6.1235		42.484		42.241		138.92		71.546		107.72		71.573		84.872		74.738		71.635	
430	2.9162	6.0361		42.485		42.218		138.82		71.572		108.00		71.600		85.062		74.833		71.664	
432	2.9172	5.8578		42.384		42.020		138.42		71.678		109.07		71.710		85.923		75.224		71.770	
434	2.9173	5.5949		42.359		41.979		138.36		71.696		109.25		71.728		86.067		75.292		71.791	
436	2.9178	5.4212		42.250		41.832		138.16		71.751		109.77		71.784		86.499		75.499		71.850	
438	2.9179	5.4076		42.241		41.819		138.14		71.755		109.81		71.788		86.534		75.516		71.855	
440	2.9180	5.3679		42.209		41.780		138.09		71.766		109.94		71.802		86.640		75.567		71.870	
442	2.9185	5.2306		42.051		41.605		137.90		71.822		110.43		71.856		87.064		75.774		71.925	
444	2.9185	5.2182		42.035		41.568		137.88		71.827		110.48		71.862		87.105		75.795		71.931	
446	2.9186	5.1828		41.963		41.534		137.82		71.843		110.62		71.878		87.228		75.855		71.947	
448	2.9192	5.0724		41.734		41.303		137.60		71.905		111.16		71.941		87.719		76.102		72.009	
450	2.9192	5.0691		41.725		41.295		137.59		71.907		111.18		71.943		87.735		76.110		72.011	

CYC	TIME	P	30	P	31	P	32	P	33	P	34	P	35	P	36	W	1	W	7	W	e
2	.0000	105.00		105.00		105.00		105.00		105.00		105.00		105.00		16.719		16.720		16.442	
4	.0002	105.00		105.00		105.00		105.00		105.00		105.00		105.00		16.720		16.720		16.443	
6	.0006	105.00		105.00		105.00		105.00		105.00		105.00		105.00		16.723		16.723		16.445	
8	.0026	105.00		105.00		105.00		105.00		105.00		105.00		105.00		16.733		16.733		16.455	
10	.0102	105.00		105.00		105.00		105.00		105.00		105.00		105.00		16.777		16.775		16.495	
12	.0302	105.00		105.00		105.00		105.00		105.00		105.00		105.00		16.895		16.893		16.609	
14	.0502	105.00		105.00		105.00		105.00		105.00		105.00		105.00		17.053		17.049		16.805	
16	.0702	105.00		105.00		105.00		105.00		105.00		105.00		105.00		17.432		17.571		17.280	
18	.0902	105.00		105.00		105.00		105.00		105.00		105.00		105.00		18.349		18.601		18.275	
20	.1102	105.00		105.00		105.00		105.00		105.00		105.00		105.00		20.066		20.335		19.934	
22	.1302	105.00		105.00		105.00		105.00		105.00		105.00		105.00		22.591		22.747		22.238	
24	.1502	105.00		105.00		105.00		105.00		105.00		105.00		105.00		25.698		25.672		25.048	
26	.1702	105.00		105.00		105.00		105.00		105.00		105.00		105.00		29.108		28.915		28.192	
28	.1902	105.00		105.00		105.00		105.00		105.00		105.00		105.00		32.632		32.322		31.527	
30	.2102	105.00		105.00		105.00		105.00		105.00		105.00		105.00		36.184		35.795		34.945	
32	.2302	105.00		105.00		105.00		105.00		105.00		105.00		105.00		39.725		39.276		38.379	
34	.2502	105.00		105.00		105.00		105.00		105.00		105.00		105.00		43.235		42.737		41.798	
36	.2613	105.00		105.00		105.00		105.00		105.04		105.93		116.18		45.155		44.635		43.673	
38	.2643	105.00		105.00		105.02		105.10		105.51		106.53		101.22		45.693		45.164		44.196	
40	.2716	105.02		105.04		105.05		104.92		104.25		102.43		79.529		46.957		46.415		45.432	
42	.2829	104.66		104.20		103.51		102.56		101.49		100.72		69.093		48.999		48.345		47.340	
44	.3022	103.42		102.61		101.88		101.30		100.91		100.65		66.741		52.219		51.658		50.617	
46	.3222	102.79		102.45		102.15		101.90		101.69		101.50		66.876		55.736		55.151		54.069	
48	.3422	102.63		102.56		102.48		102.40		102.30		102.17		67.247		59.283		58.635		57.496	
50	.3622	102.53		102.51		102.47		102.41		102.32		102.19		67.302		62.724		62.029		60.833	
52	.3822	102.21		102.17		102.10		102.02		101.92		101.78		67.083		65.991		65.323		64.085	
54	.4022	101.62		101.56		101.49		101.39		101.28		101.14		66.708		69.127		68.534		67.266	
56	.4222	100.93		100.84		100.75		100.64		100.52		100.37		66.249		72.183		71.668		70.373	
58	.4422	100.29		100.16		100.04		99.905		99.768		99.618		65.782		75.167		74.731		73.403	
60	.4622	99.736		99.736		99.443		99.296		99.148		98.993		65.386		78.071		77.720		76.355	
62	.4822	99.256		99.113		98.968		98.822		98.676		98.521		65.082		80.895		80.631		79.237	
64	.5022	98.800		98.677		98.548		98.415		98.278		98.129		64.834		83.648		83.464		82.037	
66	.5222	98.335		98.230		98.117		97.997		97.869		97.725		64.587		86.337		86.216		84.754	
68	.5422	97.848		97.750		97.644		97.529		97.405		97.262		64.308		88.950		88.862		87.359	
70	.5622	97.344		97.243		97.134		97.018		96.893		96.750		63.998		91.407		91.314		89.759	
72	.5822	96.834		96.727		96.613		96.492		96.365		96.221		63.674		93.570		93.472		91.863	
74	.6022	96.330		96.218		96.100		95.977		95.847		95.703		63.355		95.366		95.311		93.666	
76	.6222	95.837		95.724		95.606		95.481		95.352		95.208		63.049		96.859		96.887		95.227	
78	.6422	95.355		95.244		95.126		95.004		94.875		94.733		62.755		98.187		98.294		96.635	
80	.6622	94.879		94.770		94.655		94.535		94.408		94.267		62.467		99.510		99.663		98.011	
82	.6822	94.405		94.298		94.185		94.066		93.941		93.801		62.181		100.97		101.11		99.460	
84	.7022	93.930		93.825		93.713		93.595		93.471		93.332		61.893		102.63		102.68		101.01	
86	.7222	93.456		93.351		93.240		93.122		92.998		92.860		61.604		104.42		104.34		102.62	
88	.7422	92.984		92.879		92.768		92.650		92.526		92.388		61.314		106.23		106.02		104.25	
90	.7622	92.515		92.410		92.299		92.182		92.059		91.921		61.026		107.93		107.62		105.78	
92	.7822	92.050		91.945		91.834		91.718		91.595		91.458		60.741		109.39		109.04		107.15	
94	.8022	91.589		91.485		91.374		91.258		91.136		91.000		60.460		110.59		110.27		108.34	
96	.8222	91.131		91.027		90.918		90.802		90.681		90.545		60.180		111.58		111.34		109.40	
98	.8422	90.675		90.572		90.464		90.349		90.228		90.093		59.902		112.47		112.32		110.38	
100	.8622	90.222		90.120		90.012		89.898		89.777		89.643		59.626		113.37		113.28		111.34	

CYC	TIME	P	30	P	31	F	32	P	33	F	34	P	35	P	36	W	1	W	7	W	8
102	.8822	89.772		89.670		89.562		89.449		89.329		89.196		89.051		114.33		114.27		112.33	
104	.9022	89.324		89.222		89.115		89.002		88.883		88.750		88.607		115.38		115.31		113.36	
106	.9222	88.878		88.777		88.671		88.558		88.440		88.308		88.165		116.52		116.39		114.42	
108	.9422	88.436		88.335		88.229		88.117		87.999		87.868		87.714		117.66		117.50		115.49	
110	.9622	87.996		87.896		87.791		87.675		87.562		87.431		87.286		118.80		118.61		116.58	
112	.9822	87.559		87.460		87.355		87.244		87.127		86.997		86.849		119.93		119.73		117.67	
114	1.0022	87.125		87.026		86.921		86.811		86.695		86.566		86.418		121.05		120.85		118.77	
116	1.0222	86.693		86.595		86.491		86.381		86.265		86.137		85.989		122.15		121.96		119.86	
118	1.0422	86.264		86.166		86.063		85.953		85.838		85.710		85.562		123.29		123.04		120.92	
120	1.0622	85.836		85.740		85.637		85.528		85.414		85.286		85.138		124.45		124.21		122.04	
122	1.0822	85.414		85.316		85.214		85.106		84.992		84.865		84.717		125.60		125.32		123.12	
124	1.1022	84.992		84.895		84.793		84.686		84.573		84.446		84.298		126.76		126.44		124.22	
126	1.1222	84.573		84.477		84.375		84.268		84.156		84.030		83.882		127.93		127.57		125.32	
128	1.1422	84.157		84.061		83.960		83.854		83.741		83.615		83.467		129.11		128.71		126.45	
130	1.1622	83.743		83.648		83.547		83.441		83.330		83.205		83.057		130.30		129.85		127.64	
132	1.1822	83.331		83.237		83.137		83.031		82.920		82.797		82.649		131.50		131.05		128.84	
134	1.2022	82.923		82.828		82.729		82.624		82.513		82.390		82.242		132.71		132.21		130.04	
136	1.2222	82.516		82.422		82.323		82.219		82.109		81.987		81.839		133.93		133.38		131.24	
138	1.2422	82.112		82.019		81.920		81.816		81.707		81.585		81.437		135.16		134.56		132.45	
140	1.2622	81.710		81.618		81.519		81.416		81.307		81.186		81.038		136.40		135.75		133.66	
142	1.2822	81.311		81.219		81.121		81.018		80.910		80.790		80.642		137.65		136.95		134.87	
144	1.3022	80.914		80.822		80.725		80.622		80.515		80.395		80.247		138.91		138.16		136.08	
146	1.3222	80.520		80.428		80.332		80.230		80.123		80.003		79.855		140.18		139.38		137.30	
148	1.3422	80.128		80.037		79.941		79.839		79.733		79.614		79.466		141.46		140.61		138.43	
150	1.3622	79.739		79.647		79.552		79.451		79.345		79.227		79.079		142.75		141.85		139.57	
152	1.3822	79.351		79.261		79.165		79.065		78.959		78.842		78.694		144.05		143.09		140.72	
154	1.4022	78.966		78.876		78.781		78.681		78.576		78.459		78.311		145.36		144.23		141.87	
156	1.4222	78.583		78.493		78.399		78.300		78.195		78.079		77.931		146.68		145.41		143.02	
158	1.4422	78.202		78.113		78.020		77.921		77.817		77.701		77.553		148.01		146.67		144.18	
160	1.4622	77.824		77.736		77.642		77.544		77.440		77.325		77.177		149.35		147.94		145.35	
162	1.4822	77.448		77.360		77.267		77.169		77.066		76.952		76.804		150.70		149.22		146.52	
164	1.5022	77.074		76.987		76.894		76.797		76.694		76.580		76.432		152.06		150.51		147.70	
166	1.5222	76.703		76.616		76.524		76.427		76.325		76.211		76.063		153.43		151.81		148.88	
168	1.5422	76.333		76.247		76.155		76.059		75.957		75.844		75.696		154.81		153.13		150.07	
170	1.5622	75.966		75.880		75.789		75.693		75.592		75.480		75.332		156.20		154.46		151.26	
172	1.5822	75.601		75.515		75.425		75.329		75.229		75.117		74.969		157.60		155.81		152.45	
174	1.6022	75.238		75.153		75.063		74.968		74.868		74.757		74.609		159.00		157.17		153.64	
176	1.6222	74.878		74.793		74.703		74.609		74.509		74.398		74.250		160.41		158.55		154.83	
178	1.6422	74.519		74.435		74.345		74.251		74.152		74.042		73.894		161.83		159.94		156.02	
180	1.6622	74.163		74.079		73.990		73.896		73.798		73.688		73.540		163.26		161.34		157.21	
182	1.6822	73.808		73.725		73.637		73.543		73.445		73.336		73.188		164.70		162.76		158.40	
184	1.7022	73.456		73.373		73.285		73.192		73.095		72.986		72.838		166.15		164.19		159.59	
186	1.7222	73.106		73.023		72.936		72.844		72.747		72.639		72.491		167.60		165.63		160.78	
188	1.7422	72.758		72.676		72.589		72.497		72.400		72.293		72.145		169.06		167.08		161.97	
190	1.7622	72.412		72.330		72.244		72.152		72.056		71.949		71.801		170.53		168.54		163.16	
192	1.7822	72.068		71.987		71.900		71.810		71.714		71.608		71.460		172.00		170.01		164.35	
194	1.8022	71.726		71.645		71.559		71.469		71.374		71.268		71.120		173.48		171.48		165.54	
196	1.8222	71.386		71.306		71.220		71.130		71.035		70.9		70.757		174.97		172.96		166.73	
198	1.8422	71.048		70.968		70.883		70.794		70.699		70.595		70.447		176.47		174.44		167.92	
200	1.8622	70.713		70.633		70.548		70.459		70.363		70.257		70.109		177.98		175.93		169.11	

CYC	TIME	F	30	F	31	P	32	F	33	P	34	P	35	P	36	W	1	W	7	W	8
202	1.6822	70.379		70.299		70.215		70.126		70.033		69.929		47.522		145.22		145.95		143.52	
204	1.9022	70.047		69.967		69.884		69.796		69.703		69.600		47.320		145.75		146.47		144.03	
206	1.9222	69.717		69.638		69.555		69.467		69.374		69.272		47.119		146.27		147.00		144.55	
208	1.9422	69.388		69.310		69.227		69.140		69.048		68.946		46.919		146.80		147.53		145.07	
210	1.9622	69.062		68.984		68.902		68.815		68.724		68.622		46.720		147.32		148.05		145.58	
212	1.9822	68.738		68.660		68.578		68.492		68.401		68.300		46.523		147.95		148.58		146.10	
214	2.0022	68.416		68.338		68.257		68.171		68.080		67.980		46.327		148.38		149.10		146.62	
216	2.0222	68.095		68.018		67.937		67.852		67.761		67.661		46.132		148.90		149.63		147.13	
218	2.0422	67.777		67.700		67.619		67.534		67.445		67.345		45.938		149.43		150.15		147.64	
220	2.0622	67.460		67.384		67.303		67.219		67.129		67.030		45.745		149.94		150.64		148.12	
222	2.0822	67.145		67.069		66.989		66.905		66.816		66.718		45.554		150.43		151.09		148.56	
224	2.1022	66.832		66.757		66.677		66.593		66.505		66.407		45.363		150.88		151.51		148.96	
226	2.1222	66.521		66.446		66.367		66.283		66.195		66.098		45.174		151.31		151.91		149.34	
228	2.1422	66.211		66.137		66.058		65.975		65.887		65.790		44.986		151.71		152.30		149.72	
230	2.1622	65.904		65.830		65.751		65.668		65.581		65.485		44.799		152.11		152.69		150.10	
232	2.1822	65.598		65.524		65.446		65.364		65.277		65.181		44.613		152.51		153.07		150.48	
234	2.2022	65.294		65.220		65.143		65.061		64.975		64.879		44.428		152.90		153.45		150.86	
236	2.2222	64.992		64.919		64.841		64.760		64.674		64.579		44.244		153.28		153.83		151.23	
238	2.2422	64.691		64.618		64.542		64.460		64.375		64.280		44.061		153.67		154.21		151.60	
240	2.2622	64.392		64.320		64.244		64.163		64.076		63.984		43.880		154.05		154.58		151.96	
242	2.2822	64.095		64.023		63.947		63.867		63.782		63.689		43.695		154.43		154.96		152.33	
244	2.3022	63.800		63.728		63.653		63.573		63.489		63.395		43.520		154.80		155.33		152.70	
246	2.3222	63.507		63.435		63.360		63.280		63.197		63.104		43.341		155.18		155.70		153.06	
248	2.3422	63.216		63.145		63.070		62.990		62.907		62.814		43.164		155.55		156.08		153.42	
250	2.3622	62.933		62.860		62.784		62.705		62.621		62.529		42.989		155.93		156.45		153.75	
252	2.3822	62.660		62.586		62.509		62.428		62.344		62.252		42.815		156.30		156.84		154.06	
254	2.4022	62.402		62.326		62.247		62.165		62.081		61.989		42.657		156.68		157.22		154.34	
256	2.4222	62.160		62.083		62.003		61.920		61.835		61.743		42.505		157.07		157.61		154.57	
258	2.4422	61.937		61.858		61.778		61.695		61.609		61.517		42.365		157.46		158.01		154.76	
260	2.4622	61.732		61.653		61.571		61.488		61.403		61.311		42.237		157.86		158.42		154.91	
262	2.4822	61.546		61.466		61.384		61.300		61.215		61.123		42.120		158.26		158.83		155.02	
264	2.5022	61.379		61.298		61.215		61.131		61.045		60.953		42.015		158.67		159.25		155.07	
266	2.5222	61.233		61.150		61.066		60.981		60.895		60.803		41.921		159.08		159.67		155.09	
268	2.5422	61.110		61.025		60.939		60.853		60.766		60.674		41.840		159.51		160.11		155.07	
270	2.5622	61.012		60.924		60.837		60.749		60.662		60.569		41.774		159.94		160.56		155.02	
272	2.5822	60.942		60.851		60.762		60.673		60.584		60.491		41.724		160.38		161.02		154.97	
274	2.6022	60.903		60.810		60.718		60.627		60.537		60.444		41.692		160.84		161.49		154.95	
276	2.6222	60.898		60.802		60.707		60.615		60.524		60.430		41.680		161.31		161.98		154.98	
278	2.6422	60.930		60.830		60.733		60.638		60.546		60.452		41.690		161.79		162.49		155.10	
280	2.6622	60.998		60.895		60.796		60.700		60.606		60.511		41.722		162.29		163.01		155.36	
282	2.6822	61.099		60.995		60.894		60.797		60.703		60.607		41.777		162.81		163.56		155.79	
284	2.7022	61.229		61.125		61.023		60.926		60.832		60.736		41.853		163.34		164.14		156.49	
286	2.7222	61.377		61.274		61.174		61.077		60.984		60.888		41.944		163.86		164.73		156.45	
288	2.7422	61.535		61.434		61.336		61.240		61.148		61.052		42.043		164.43		165.33		157.32	
290	2.7622	61.725		61.617		61.514		61.416		61.321		61.225		42.148		164.95		165.88		157.83	
292	2.7822	62.011		61.878		61.757		61.645		61.541		61.440		42.274		165.48		166.41		158.38	
294	2.8022	62.490		62.313		62.155		62.016		61.895		61.785		42.471		166.19		167.02		158.81	
296	2.8222	63.282		63.041		62.833		62.657		62.511		62.389		42.814		167.94		167.50		159.63	
298	2.8422	64.519		64.200		63.931		63.710		63.535		63.397		43.290		168.63		168.09		159.13	
300	2.8622	66.285		65.900		65.574		65.305		65.105		64.953		44.288		163.02		161.48		133.35	

CYC	TIME	P	30	P	31	P	32	P	33	P	34	P	35	P	36	W	1	W	7	W	8
302	2.8522	66.291		65.902		65.576		65.311		65.107		64.955		44.289		162.49		161.54		114.72	
304	2.8622	66.296		65.908		65.581		65.316		65.112		64.960		44.292		162.49		161.74		114.03	
306	2.8625	66.319		65.930		65.602		65.337		65.133		64.981		44.303		162.49		161.83		111.87	
308	2.8634	66.400		66.019		65.689		65.422		65.217		65.064		44.352		162.51		156.69		107.86	
310	2.8663	66.566		66.277		65.958		65.685		65.481		65.327		44.504		162.51		151.96		110.33	
312	2.8739	67.104		66.948		66.666		66.426		66.231		66.082		44.945		161.22		152.57		114.14	
314	2.8747	67.389		67.024		66.743		66.506		66.314		66.166		44.994		159.00		152.06		101.41	
316	2.8772	67.590		67.258		66.977		66.750		66.567		66.423		45.146		158.75		146.89		99.839	
318	2.8804	67.901		67.576		67.301		67.082		66.910		66.774		45.355		156.90		144.55		95.577	
320	2.8805	67.903		67.579		67.304		67.085		66.913		66.777		45.357		156.90		144.58		87.156	
322	2.8806	67.915		67.591		67.316		67.097		66.926		66.790		45.364		156.89		144.65		87.242	
324	2.8811	67.961		67.638		67.363		67.146		66.976		66.841		45.395		156.83		143.95		87.469	
326	2.8830	68.114		67.824		67.557		67.343		67.180		67.049		45.520		156.59		139.66		86.614	
328	2.8855	68.358		68.070		67.818		67.612		67.455		67.329		45.689		154.66		137.39		82.935	
330	2.8856	68.360		68.073		67.821		67.615		67.458		67.332		45.691		154.65		137.42		74.945	
332	2.8857	68.372		68.084		67.833		67.628		67.471		67.345		45.699		154.63		137.46		74.993	
334	2.8862	68.418		68.130		67.882		67.678		67.522		67.397		45.730		154.54		136.64		75.100	
336	2.8881	68.580		68.314		68.078		67.881		67.729		67.606		45.857		154.12		132.01		74.162	
338	2.8907	68.832		68.561		68.339		68.153		68.006		67.884		46.027		151.10		129.60		69.154	
340	2.8907	68.835		68.564		68.342		68.156		68.009		67.887		46.029		151.09		129.64		59.764	
342	2.8908	68.847		68.575		68.354		68.169		68.022		67.900		46.037		151.06		129.67		59.782	
344	2.8913	68.895		68.622		68.403		68.220		68.074		67.952		46.069		150.93		128.31		59.778	
346	2.8932	69.067		68.809		68.557		68.423		68.281		68.160		46.196		150.31		121.44		58.572	
348	2.8943	69.157		68.913		68.706		68.536		68.396		68.276		46.267		148.87		116.85		51.436	
350	2.8958	69.287		69.060		68.860		68.696		68.559		68.439		46.367		147.47		110.47		48.318	
352	2.8972	69.416		69.189		68.956		68.837		68.704		68.584		46.457		146.67		105.52		42.587	
354	2.8987	69.578		69.338		69.151		68.997		68.867		68.749		46.558		144.89		100.41		37.595	
356	2.8995	69.670		69.418		69.234		69.082		68.954		68.837		46.612		143.50		97.254		31.178	
358	2.9005	69.786		69.519		69.336		69.187		69.061		68.945		46.679		141.98		90.496		27.646	
360	2.9014	69.879		69.603		69.419		69.271		69.147		69.032		46.733		141.25		82.724		23.341	
362	2.9024	69.991		69.712		69.524		69.378		69.256		69.143		46.801		139.61		72.784		19.877	
364	2.9033	70.080		69.806		69.613		69.468		69.349		69.236		46.859		137.72		64.670		15.496	
366	2.9042	70.168		69.903		69.706		69.560		69.441		69.330		46.917		136.66		52.587		11.752	
368	2.9042	70.170		69.905		69.707		69.562		69.443		69.332		46.918		135.46		52.460		8.0400	
370	2.9043	70.176		69.911		69.713		69.568		69.449		69.338		46.922		135.40		51.982		7.9810	
372	2.9045	70.199		69.937		69.738		69.592		69.474		69.363		46.938		135.18		49.654		7.7646	
374	2.9055	70.289		70.041		69.837		69.689		69.572		69.463		46.999		134.24		38.857		6.8906	
376	2.9055	70.291		70.043		69.838		69.691		69.573		69.464		47.000		132.80		38.699		3.3893	
378	2.9056	70.296		70.049		69.844		69.697		69.579		69.470		47.004		132.74		38.067		3.3402	
380	2.9058	70.319		70.075		69.869		69.721		69.604		69.495		47.020		132.49		35.035		3.2510	
382	2.9064	70.376		70.141		69.933		69.783		69.666		69.558		47.059		131.43		26.041		2.4130	
384	2.9071	70.438		70.210		70.001		69.845		69.732		69.625		47.100		130.06		16.502		.76710	
386	2.9075	70.476		70.253		70.043		69.890		69.773		69.666		47.126		128.11		11.036		0.	
388	2.9075	70.479		70.257		70.047		69.893		69.776		69.669		47.128		128.06		10.644		0.	
390	2.9076	70.491		70.269		70.059		69.905		69.788		69.681		47.136		127.84		9.0681		0.	
392	2.9081	70.536		70.320		70.110		69.954		69.836		69.730		47.166		126.75		3.5254		0.	
394	2.9081	70.541		70.325		70.115		69.959		69.841		69.735		47.169		126.39		3.0213		0.	
396	2.9083	70.554		70.339		70.130		69.973		69.855		69.749		47.178		126.04		1.6206		0.	
398	2.9088	70.608		70.398		70.189		70.030		69.912		69.805		47.213		124.32		-1.8442		0.	
400	2.9093	70.648		70.440		70.233		70.072		69.953		69.846		47.239		122.86		-3.0101		0.	

CYC	TIME	P	30	P	31	F	32	P	33	P	34	P	35	P	36	W	1	W	7	W	8
402	2.9099	70.708		70.503		70.298		70.135		70.014		69.908		47.278		120.25		-2.9254		0.	
404	2.9105	70.769		70.565		70.364		70.198		70.076		69.969		47.316		117.19		-2.1773		0.	
406	2.9109	70.812		70.607		70.408		70.241		70.118		70.011		47.342		114.86		-1.7418		0.	
408	2.9115	70.877		70.671		70.476		70.307		70.181		70.073		47.381		110.88		-1.6767		0.	
410	2.9122	70.945		70.734		70.544		70.373		70.245		70.136		47.421		106.35		-2.0682		0.	
412	2.9126	70.989		70.775		70.587		70.415		70.286		70.176		47.446		103.26		-2.3440		0.	
414	2.9132	71.054		70.833		70.649		70.477		70.345		70.234		47.482		98.375		-2.3877		0.	
416	2.9137	71.115		70.888		70.706		70.535		70.401		70.288		47.516		93.442		-1.9141		0.	
418	2.9141	71.154		70.922		70.742		70.571		70.435		70.321		47.537		90.267		-1.4081		0.	
420	2.9151	71.270		71.025		70.847		70.677		70.538		70.420		47.599		79.829		.61662		0.	
422	2.9153	71.292		71.044		70.867		70.698		70.557		70.439		47.610		77.774		.59139		0.	
424	2.9159	71.360		71.104		70.926		70.759		70.616		70.495		47.645		71.346		1.8727		0.	
426	2.9159	71.361		71.105		70.927		70.760		70.617		70.497		47.646		71.202		1.8902		0.	
428	2.9160	71.368		71.111		70.933		70.766		70.623		70.502		47.650		70.533		1.9615		0.	
430	2.9162	71.396		71.136		70.957		70.791		70.647		70.525		47.664		67.817		2.2217		0.	
432	2.9172	71.507		71.236		71.054		70.890		70.743		70.618		47.721		56.398		2.3725		0.	
434	2.9173	71.526		71.253		71.070		70.907		70.760		70.633		47.731		54.424		2.3457		0.	
436	2.9178	71.583		71.305		71.119		70.957		70.809		70.680		47.760		48.380		2.1264		0.	
438	2.9179	71.588		71.310		71.123		70.961		70.813		70.684		47.763		47.885		2.1055		0.	
440	2.9180	71.601		71.322		71.135		70.973		70.825		70.696		47.770		46.393		2.0369		0.	
442	2.9185	71.657		71.374		71.182		71.022		70.873		70.742		47.798		40.336		1.7098		0.	
444	2.9185	71.663		71.379		71.187		71.027		70.877		70.746		47.801		39.750		1.6770		0.	
446	2.9186	71.679		71.394		71.201		71.041		70.891		70.759		47.809		37.985		1.5764		0.	
448	2.9192	71.743		71.454		71.256		71.097		70.946		70.813		47.842		30.837		1.1630		0.	
450	2.9192	71.745		71.456		71.257		71.098		70.948		70.814		47.843		30.607		1.1496		0.	

CYC	TIME	W	9	W	10	W	11	W	36	VOL	23	VDOT	1	VOL	R	VOL	9	ANL10	1	ANUS	1
2	.0000	.27782		.27885	16.722		.14881E-13	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
4	.0002	.27786		.27888	16.722		.11810E-13	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
6	.0006	.27799		.27899	16.725		.75397E-14	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
8	.0026	.27850		.27943	16.735		.10163E-13	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
10	.0102	.28034		.28096	16.776		.19210E-14	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
12	.0302	.28451		.28564	16.895		-.32507E-13	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
14	.0502	.29504		.30489	17.118		-.65432E-13	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
16	.0702	.32770		.35971	17.667		-.10060E-12	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
18	.0902	.39101		.44853	18.772		-.12147E-12	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
20	.1102	.47685		.54586	20.537		-.13222E-12	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
22	.1302	.57077		.63135	22.516		-.14006E-12	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
24	.1502	.65909		.70016	25.776		-.13917E-12	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
26	.1702	.73263		.75578	28.958		-.12310E-12	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
28	.1902	.79085		.80275	32.329		-.10775E-12	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
30	.2102	.83803		.84437	35.783		-.85413E-13	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
32	.2302	.88616		.88343	39.254		-.61636E-13	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
34	.2502	.92072		.92243	42.710		-.36864E-13	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
36	.2613	.94292		.94444	44.608		-.60835E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
38	.2643	.94902		.95059	45.137		.14525E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
40	.2716	.96395		.96560	46.388		.29503E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
42	.2829	.98746		.98962	48.321		.31707E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
44	.3022	1.0282		1.0345	51.647		.30039E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
46	.3222	1.0743		1.0833	55.152		.29921E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
48	.3422	1.1269		1.1290	58.623		.30037E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
50	.3622	1.1802		1.1733	62.001		.30051E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
52	.3822	1.2273		1.2187	65.303		.29953E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
54	.4022	1.2695		1.2645	68.539		.29788E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
56	.4222	1.3114		1.3101	71.702		.29585E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
58	.4422	1.3550		1.3561	74.787		.29378E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
60	.4622	1.3987		1.4024	77.796		.29201E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
62	.4822	1.4414		1.4486	80.727		.29065E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
64	.5022	1.4829		1.4946	83.578		.28954E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
66	.5222	1.5234		1.5398	86.344		.28844E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
68	.5422	1.5644		1.5826	88.992		.28720E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
70	.5622	1.6068		1.6192	91.421		.28581E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
72	.5822	1.6460		1.6488	93.543		.28437E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
74	.6022	1.6746		1.6737	95.364		.28294E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
76	.6222	1.6908		1.6957	96.948		.28157E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
78	.6422	1.6995		1.7172	98.385		.28025E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
80	.6622	1.7067		1.7421	99.796		.27896E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
82	.6822	1.7197		1.7717	101.28		.27768E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
84	.7022	1.7444		1.8046	102.87		.27635E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
86	.7222	1.7804		1.8392	104.51		.27508E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
88	.7422	1.8230		1.8728	106.16		.27378E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
90	.7622	1.8670		1.9022	107.71		.27245E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
92	.7822	1.9060		1.9264	109.09		.27120E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
94	.8022	1.9341		1.9470	110.29		.26993E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
96	.8222	1.9514		1.9651	111.37		.26867E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
98	.8422	1.9621		1.9823	112.38		.26742E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				
100	.8622	1.9709		2.0006	113.36		.26617E-01	.17590		.17590	0.		5.1670	4.2700		.98638E-01	2.6934				

CYC	TIME	W	9	W	10	W	11	W	36	VCL	23	VDOT	1	VCL	8	VCL	9	AKU10	1	ANUR	1
102	.8022	1.9824		2.0209	114.38		.26493E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
104	.9022	1.9998		2.0429	115.44		.26305E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
106	.9222	2.0227		2.0660	116.52		.26246E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
108	.9422	2.0465		2.0898	117.62		.26123E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
110	.9622	2.0745		2.1138	118.73		.26001E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
112	.9822	2.0995		2.1376	119.85		.25880E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
114	1.0022	2.1233		2.1615	120.96		.25760E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
116	1.0222	2.1465		2.1849	122.08		.25640E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
118	1.0422	2.1678		2.2066	123.17		.25521E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
120	1.0622	2.1730		2.2268	124.14		.25402E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
122	1.0822	2.1655		2.2267	124.93		.25284E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
124	1.1022	2.1640		2.2322	125.57		.25167E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
126	1.1222	2.1704		2.2404	126.14		.25050E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
128	1.1422	2.1794		2.2500	126.69		.24934E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
130	1.1622	2.1888		2.2559	127.24		.24818E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
132	1.1822	2.1980		2.2697	127.78		.24702E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
134	1.2022	2.2072		2.2794	128.33		.24587E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
136	1.2222	2.2165		2.2890	128.87		.24472E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
138	1.2422	2.2258		2.2966	129.41		.24362E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
140	1.2622	2.2352		2.3080	129.94		.24250E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
142	1.2822	2.2446		2.3173	130.47		.24138E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
144	1.3022	2.2541		2.3265	131.00		.24026E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
146	1.3222	2.2636		2.3357	131.52		.23916E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
148	1.3422	2.2731		2.3448	132.04		.23806E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
150	1.3622	2.2825		2.3539	132.55		.23696E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
152	1.3822	2.2918		2.3630	133.07		.23587E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
154	1.4022	2.3010		2.3722	133.58		.23478E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
156	1.4222	2.3101		2.3814	134.10		.23371E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
158	1.4422	2.3192		2.3906	134.62		.23263E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
160	1.4622	2.3282		2.3998	135.14		.23156E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
162	1.4822	2.3373		2.4091	135.66		.23050E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
164	1.5022	2.3463		2.4183	136.18		.22944E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
166	1.5222	2.3553		2.4276	136.71		.22839E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
168	1.5422	2.3644		2.4369	137.23		.22735E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
170	1.5622	2.3735		2.4462	137.76		.22631E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
172	1.5822	2.3826		2.4556	138.28		.22527E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
174	1.6022	2.3917		2.4649	138.81		.22424E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
176	1.6222	2.4008		2.4742	139.33		.22322E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
178	1.6422	2.4099		2.4835	139.86		.22220E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
180	1.6622	2.4191		2.4928	140.39		.22118E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
182	1.6822	2.4283		2.5021	140.91		.22017E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
184	1.7022	2.4375		2.5114	141.44		.21917E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
186	1.7222	2.4467		2.5207	141.97		.21817E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
188	1.7422	2.4559		2.5300	142.49		.21718E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
190	1.7622	2.4651		2.5393	143.02		.21619E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
192	1.7822	2.4744		2.5485	143.55		.21520E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
194	1.8022	2.4836		2.5578	144.07		.21423E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
196	1.8222	2.4928		2.5671	144.60		.21325E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
198	1.8422	2.5021		2.5764	145.12		.21228E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					
200	1.8622	2.5113		2.5857	145.65		.21132E-01	.17590		.17590	0.	0.	5.1670	4.2700	.98638E-01	2.6934					

CYC	TIME	W	9	W	10	W	11	W	36	VOL	23	VDOT	1	VOL	8	VOL	9	ANU10	1	ANU8	1
202	1.0622	2.5205		2.5949		146.18		.21036E-01	.17590			0.		5.1670		4.2700		.98638E-01		2.6934	
204	1.9022	2.5298		2.6042		146.70		.20941E-01	.17590			0.		5.1670		4.2700		.98638E-01		2.6934	
206	1.5222	2.5390		2.6135		147.23		.20846E-01	.17590			0.		5.1670		4.2700		.98638E-01		2.6934	
208	1.3422	2.5483		2.6227		147.76		.20751E-01	.17590			0.		5.1670		4.2700		.98638E-01		2.6934	
210	1.9622	2.5575		2.6320		148.28		.20657E-01	.17590			0.		5.1670		4.2700		.98638E-01		2.6934	
212	1.9622	2.5668		2.6413		148.81		.20564E-01	.17590			0.		5.1670		4.2700		.98638E-01		2.6934	
214	2.3022	2.5760		2.6506		149.33		.20471E-01	.17590			0.		5.1670		4.2700		.98638E-01		2.6934	
216	2.0222	2.5853		2.6598		149.86		.20378E-01	.17590			0.		5.1670		4.2700		.98638E-01		2.6934	
218	2.0422	2.5951		2.6686		150.38		.20286E-01	.17590			0.		5.1670		4.2700		.98638E-01		2.6934	
220	2.0622	2.6058		2.6763		150.86		.20194E-01	.17590			0.		5.1670		4.2700		.98638E-01		2.6934	
222	2.0822	2.6167		2.6833		151.30		.20103E-01	.17590			0.		5.1670		4.2700		.98638E-01		2.6934	
224	2.1022	2.6267		2.6900		151.70		.20012E-01	.17590			0.		5.1670		4.2700		.98638E-01		2.6934	
226	2.1222	2.6356		2.6968		152.09		.19922E-01	.17590			0.		5.1670		4.2700		.98638E-01		2.6934	
228	2.1422	2.6436		2.7037		152.48		.19832E-01	.17590			0.		5.1670		4.2700		.98638E-01		2.6934	
230	2.1622	2.6511		2.7106		152.87		.19743E-01	.17590			0.		5.1670		4.2700		.98638E-01		2.6934	
232	2.1822	2.6583		2.7173		153.25		.19654E-01	.17590			0.		5.1670		4.2700		.98638E-01		2.6934	
234	2.2022	2.6654		2.7239		153.63		.19565E-01	.17590			0.		5.1670		4.2700		.98638E-01		2.6934	
236	2.2222	2.6723		2.7304		154.01		.19477E-01	.17590			0.		5.1670		4.2700		.98638E-01		2.6934	
238	2.2422	2.6792		2.7369		154.38		.19390E-01	.17590			0.		5.1670		4.2700		.98638E-01		2.6934	
240	2.2622	2.6861		2.7434		154.76		.19302E-01	.17590			0.		5.1670		4.2700		.98638E-01		2.6934	
242	2.2822	2.6929		2.7498		155.13		.19216E-01	.17590			0.		5.1670		4.2700		.98638E-01		2.6934	
244	2.3022	2.6997		2.7563		155.50		.19129E-01	.17590			0.		5.1670		4.2700		.98638E-01		2.6934	
246	2.3222	2.7068		2.7633		155.87		.19043E-01	.17589			-.13074E-03		5.1670		4.2700		.98638E-01		2.6933	
248	2.3422	2.7206		2.7790		156.24		.18958E-01	.17585			-.10584E-02		5.1666		4.2704		.98638E-01		2.6930	
250	2.3622	2.7543		2.8172		156.62		.18874E-01	.17578			-.26487E-02		5.1651		4.2719		.98582E-01		2.6919	
252	2.3822	2.8167		2.8677		157.00		.18791E-01	.17566			-.46845E-02		5.1623		4.2747		.10007		2.6898	
254	2.4022	2.9208		2.9977		157.38		.18713E-01	.17550			-.70358E-02		5.1578		4.2792		.10573		2.6863	
256	2.4222	3.0660		3.1520		157.77		.18639E-01	.17528			-.96333E-02		5.1514		4.2856		.11070		2.6813	
258	2.4422	3.2581		3.3546		158.16		.18572E-01	.17500			-.12450E-01		5.1429		4.2941		.11729		2.6747	
260	2.4622	3.4996		3.6082		158.56		.18509E-01	.17465			-.15488E-01		5.1322		4.3048		.12564		2.6664	
262	2.4822	3.7928		3.9149		158.97		.18453E-01	.17424			-.18773E-01		5.1190		4.3180		.13591		2.6561	
264	2.5022	4.1373		4.2748		159.39		.18402E-01	.17376			-.22349E-01		5.1032		4.3338		.14825		2.6437	
266	2.5222	4.5313		4.6860		159.81		.18356E-01	.17319			-.25274E-01		5.0846		4.3524		.16288		2.6291	
268	2.5422	4.9689		5.1428		160.25		.18317E-01	.17253			-.30615E-01		5.0628		4.3742		.18004		2.6120	
270	2.5622	5.4394		5.6342		160.69		.18284E-01	.17177			-.35433E-01		5.0376		4.3994		.20002		2.5920	
272	2.5822	5.9252		6.1422		161.15		.18260E-01	.17090			-.40761E-01		5.0086		4.4284		.22314		2.5689	
274	2.6022	6.4011		6.6405		161.62		.18244E-01	.16990			-.46564E-01		4.9754		4.4616		.24974		2.5423	
276	2.6222	6.8346		7.0955		162.10		.18238E-01	.16879			-.52699E-01		4.9378		4.4992		.28010		2.5119	
278	2.6422	7.1897		7.4696		162.60		.18243E-01	.16755			-.58868E-01		4.8956		4.5414		.31937		2.4776	
280	2.6622	7.4321		7.7267		163.11		.18258E-01	.16621			-.64604E-01		4.8490		4.5880		.35247		2.4395	
282	2.6822	7.5345		7.8384		163.64		.18285E-01	.16479			-.69299E-01		4.7986		4.6384		.39397		2.3980	
284	2.7022	7.4054		7.7041		164.20		.18321E-01	.16334			-.72299E-01		4.7455		4.6915		.43804		2.3540	
286	2.7222	8.5637		8.9755		164.50		.18365E-01	.16185			-.72712E-01		4.6913		4.7457		.45263		2.3394	
288	2.7422	10.671		11.167		164.59		.18413E-01	.16014			-.77279E-01		4.6361		4.8009		.46039		2.3316	
290	2.7622	12.874		13.478		164.62		.18464E-01	.15793			-.95533E-01		4.5728		4.8642		.46969		2.3223	
292	2.7822	15.357		16.143		164.55		.18525E-01	.15494			-.12732		4.4913		4.9457		.48232		2.3097	
294	2.8022	18.280		19.344		164.32		.18620E-01	.15085			-.17370		4.3816		5.0554		.50056		2.2914	
296	2.8222	20.943		22.245		164.03		.18784E-01	.14529			-.23849		4.2323		5.2047		.52796		2.2640	
298	2.8422	23.531		25.210		163.55		.19060E-01	.13807			-.31825		4.0312		5.4058		.57026		2.2217	
300	2.8622	26.550		28.762		162.45		.19489E-01	.12906			-.40450		3.7718		5.6652		.63601		2.1560	
												-.49782		3.4498		5.9872		.74078		2.0512	

CYC	TIME	W	9	W	10	W	11	W	36	VOL	23	VDOT	1	VCL	8	VOL	9	ANU10	1	ANU8	1
302	2.0622	26.232		29.021		162.51		.19489E-01	.12905		-.49773		3.4494		5.9876		.74091		2.0511		
304	2.0622	25.033		30.237		162.75		.19490E-01	.12902		-.49748		3.4484		5.9886		.74131		2.0507		
306	2.0625	21.965		36.167		163.24		.19496E-01	.12890		-.49710		3.4441		5.9929		.74291		2.0491		
308	2.0634	25.126		59.913		161.41		.19519E-01	.12842		-.50747		3.4269		6.0101		.74943		2.0426		
310	2.0663	39.400		50.588		163.96		.19591E-01	.12684		-.58294		3.3708		6.0662		.77146		2.0205		
312	2.0739	38.160		38.269		154.14		.19801E-01	.12174		-.75545		3.1888		6.2482		.85152		1.9405		
314	2.0747	35.698		45.528		153.60		.19824E-01	.12112		-.76903		3.1667		6.2703		.86228		1.9297		
316	2.0772	41.530		54.987		153.18		.19876E-01	.11916		-.83496		3.0967		6.3403		.89775		1.8942		
318	2.0804	44.909		51.311		151.48		.19995E-01	.11627		-.93592		2.9933		6.4437		.95511		1.8369		
32	2.0805	44.594		51.536		151.52		.19996E-01	.11624		-.93666		2.9923		6.4447		.95569		1.8363		
322	2.0806	43.665		52.548		151.62		.20000E-01	.11613		-.93973		2.9883		6.4487		.95805		1.8339		
324	2.0811	42.964		57.236		151.04		.20015E-01	.11567		-.95332		2.9721		6.4649		.96767		1.8243		
326	2.0830	47.731		61.350		148.32		.20074E-01	.11378		-1.0208		2.9043		6.5327		1.0096		1.7824		
328	2.0855	49.693		56.758		145.30		.20154E-01	.11103		-1.1163		2.8059		6.6311		1.0761		1.7159		
330	2.0856	48.805		56.940		145.31		.20155E-01	.11100		-1.1173		2.8047		6.6323		1.0765		1.7151		
332	2.0857	48.141		57.770		145.31		.20158E-01	.11087		-1.1211		2.7999		6.6371		1.0764		1.7116		
334	2.0862	48.011		61.711		144.44		.20173E-01	.11032		-1.1378		2.7804		6.6566		1.0944		1.6970		
336	2.0881	52.616		65.617		140.90		.20233E-01	.10807		-1.2160		2.6992		6.7378		1.1565		1.6355		
338	2.0907	51.227		62.149		137.80		.20314E-01	.10481		-1.3239		2.5817		6.8553		1.2568		1.5352		
340	2.0907	50.310		62.378		137.83		.20315E-01	.10477		-1.3250		2.5803		6.8567		1.2581		1.5339		
342	2.0908	50.241		63.393		137.85		.20319E-01	.10461		-1.3293		2.5745		6.8625		1.2633		1.5287		
344	2.0913	50.550		68.058		136.91		.20334E-01	.10397		-1.3484		2.5513		6.8857		1.2849		1.5071		
346	2.0932	57.697		72.394		132.71		.20394E-01	.10129		-1.4398		2.4544		6.9826		1.3813		1.4107		
348	2.0943	52.526		72.394		131.10		.20427E-01	.99721E-01		-1.4928		2.3973		7.0397		1.4431		1.3489		
350	2.0958	53.848		70.390		126.76		.20475E-01	.97386E-01		-1.5771		2.3122		7.1248		1.5429		1.2491		
352	2.0972	54.072		70.888		121.34		.20517E-01	.95204E-01		-1.6557		2.2324		7.2046		1.6454		1.1466		
354	2.0987	55.007		70.282		115.14		.20565E-01	.92583E-01		-1.7475		2.1360		7.3010		1.7811		1.0109		
356	2.0995	52.668		72.218		111.85		.20590E-01	.91123E-01		-1.7970		2.0821		7.3549		1.8053		.98671		
358	2.9005	49.081		73.555		107.90		.20622E-01	.89264E-01		-1.8637		2.0132		7.4238		1.8364		.95560		
360	2.9014	43.523		74.298		104.81		.20647E-01	.87704E-01		-1.9226		1.9551		7.4819		1.8595		.89246		
362	2.9024	39.585		70.998		100.64		.20680E-01	.85647E-01		-2.0040		1.8783		7.5587		1.9611		.83089		
364	2.9033	33.698		67.227		96.053		.20707E-01	.83837E-01		-2.0777		1.8103		7.6267		2.0013		.79066		
366	2.9042	27.591		64.815		89.740		.20735E-01	.81915E-01		-2.1600		1.7377		7.6993		2.1311		.66090		
368	2.9042	21.701		64.766		89.625		.20735E-01	.81880E-01		-2.1615		1.7364		7.7006		2.0355		.75609		
370	2.9043	21.602		64.665		89.193		.20737E-01	.81750E-01		-2.1669		1.7315		7.7055		2.0473		.74467		
372	2.9045	21.242		64.005		87.318		.20744E-01	.81227E-01		-2.1893		1.7117		7.7253		2.0955		.69653		
374	2.9055	19.741		57.187		78.598		.20773E-01	.79079E-01		-2.2874		1.6299		7.8071		2.3355		.45647		
376	2.9055	12.259		57.101		78.456		.20774E-01	.79044E-01		-2.2889		1.6286		7.8084		2.1901		.60186		
378	2.9056	12.144		56.848		77.901		.20776E-01	.78906E-01		-2.2950		1.6233		7.8137		2.2096		.55238		
380	2.9058	11.697		55.594		75.554		.20783E-01	.78352E-01		-2.3200		1.6022		7.8348		2.2942		.49779		
382	2.9064	9.8424		50.887		69.084		.20801E-01	.76913E-01		-2.3875		1.5470		7.8900		2.5214		.27057		
384	2.9071	4.5877		44.995		61.802		.20821E-01	.75694E-01		0.		1.5000		7.9370		2.6676		.12445		
386	2.9075	0.		40.353		57.090		.20833E-01	.75694E-01		0.		1.5000		7.9370		2.6676		.12445		
388	2.9075	0.		40.683		56.743		.20834E-01	.75694E-01		0.		1.5000		7.9370		2.6676		.12445		
390	2.9076	0.		39.550		55.348		.20838E-01	.75694E-01		0.		1.5000		7.9370		2.6676		.12445		
392	2.9081	0.		34.399		49.742		.20852E-01	.75694E-01		0.		1.5000		7.9370		2.6676		.12445		
394	2.9081	0.		33.881		49.196		.20854E-01	.75694E-01		0.		1.5000		7.9370		2.6676		.12445		
396	2.9083	0.		32.295		47.561		.20858E-01	.75694E-01		0.		1.5000		7.9370		2.6676		.12445		
398	2.9086	0.		25.935		41.082		.20874E-01	.75694E-01		0.		1.5000		7.9370		2.6676		.12445		
400	2.9093	0.		21.579		36.409		.20887E-01	.75694E-01		0.		1.5000		7.9370		2.6676		.12445		

CYC	TIME	W	9	W	10	W	11	W	36	VCL	23	VDOT	1	VCL	8	VCL	5	ANU10	1	ANUE	1
402	2.9099	0.		16.229		29.699		.20905E-01		.75694E-01	0.			1.5000		7.9370		2.6676		.12445	
404	2.9105	0.		12.342		21.595		.20923E-01		.75694E-01	0.			1.5000		7.9370		2.6676		.12445	
406	2.9109	0.		10.364		19.845		.20935E-01		.75694E-01	0.			1.5000		7.9370		2.6676		.12445	
408	2.9115	0.		8.3733		15.268		.20954E-01		.75694E-01	0.			1.5000		7.9370		2.6676		.12445	
410	2.9122	0.		6.9995		11.850		.20972E-01		.75694E-01	0.			1.5000		7.9370		2.6676		.12445	
412	2.9126	0.		6.2918		10.169		.20984E-01		.75694E-01	0.			1.5000		7.9370		2.6676		.12445	
414	2.9132	0.		5.3551		8.3459		.21001E-01		.75694E-01	0.			1.5000		7.9370		2.6676		.12445	
416	2.9137	0.		4.6018		6.9316		.21017E-01		.75694E-01	0.			1.5000		7.9370		2.6676		.12445	
418	2.9141	0.		4.1188		6.1000		.21027E-01		.75694E-01	0.			1.5000		7.9370		2.6676		.12445	
420	2.9151	0.		2.3995		3.0044		.21056E-01		.75694E-01	0.			1.5000		7.9370		2.6676		.12445	
422	2.9153	0.		2.0373		2.3464		.21062E-01		.75694E-01	0.			1.5000		7.9370		2.6676		.12445	
424	2.9159	0.		.72749		.29804E-01		.21078E-01		.75694E-01	0.			1.5000		7.9370		2.6676		.12445	
426	2.9159	0.		.69704		-.23483E-01		.21078E-01		.75694E-01	0.			1.5000		7.9370		2.6676		.12445	
428	2.9160	0.		.55298		-.27457		.21080E-01		.75694E-01	0.			1.5000		7.9370		2.6676		.12445	
430	2.9162	0.		-.69848E-01		-1.3368		.21087E-01		.75694E-01	0.			1.5000		7.9370		2.6676		.12445	
432	2.9172	0.		-3.3267		-6.3283		.21114E-01		.75694E-01	0.			1.5000		7.9370		2.6676		.12445	
434	2.9173	0.		-3.9282		-7.2166		.21118E-01		.75694E-01	0.			1.5000		7.9370		2.6676		.12445	
436	2.9178	0.		-5.8831		-9.9727		.21132E-01		.75694E-01	0.			1.5000		7.9370		2.6676		.12445	
438	2.9179	0.		-6.0456		-10.199		.21133E-01		.75694E-01	0.			1.5000		7.9370		2.6676		.12445	
440	2.9180	0.		-6.5397		-10.878		.21137E-01		.75694E-01	0.			1.5000		7.9370		2.6676		.12445	
442	2.9185	0.		-8.5687		-13.562		.21150E-01		.75694E-01	0.			1.5000		7.9370		2.6676		.12445	
444	2.9185	0.		-8.7647		-13.818		.21151E-01		.75694E-01	0.			1.5000		7.9370		2.6676		.12445	
446	2.9186	0.		-9.7529		-14.578		.21155E-01		.75694E-01	0.			1.5000		7.9370		2.6676		.12445	
448	2.9192	0.		-11.602		-17.359		.21171E-01		.75694E-01	0.			1.5000		7.9370		2.6676		.12445	
450	2.9192	0.		-11.673		-17.446		.21171E-01		.75694E-01	0.			1.5000		7.9370		2.6676		.12445	

CYC	TIME	AND8	1
2	.0000	3.2501	
4	.0002	3.2501	
6	.0006	3.2501	
8	.0026	3.2501	
10	.0102	3.2501	
12	.0302	3.2501	
14	.0502	3.2501	
16	.0702	3.2501	
18	.0902	3.2501	
20	.1102	3.2501	
22	.1302	3.2501	
24	.1502	3.2501	
26	.1702	3.2501	
28	.1902	3.2501	
30	.2102	3.2501	
32	.2302	3.2501	
34	.2502	3.2501	
36	.2613	3.2501	
38	.2643	3.2501	
40	.2716	3.2501	
42	.2829	3.2501	
44	.3022	3.2501	
46	.3222	3.2501	
48	.3422	3.2501	
50	.3622	3.2501	
52	.3822	3.2501	
54	.4022	3.2501	
56	.4222	3.2501	
58	.4422	3.2501	
60	.4622	3.2501	
62	.4822	3.2501	
64	.5022	3.2501	
66	.5222	3.2501	
68	.5422	3.2501	
70	.5622	3.2501	
72	.5822	3.2501	
74	.6022	3.2501	
76	.6222	3.2501	
78	.6422	3.2501	
80	.6622	3.2501	
82	.6822	3.2501	
84	.7022	3.2501	
86	.7222	3.2501	
88	.7422	3.2501	
90	.7622	3.2501	
92	.7822	3.2501	
94	.8022	3.2501	
96	.8222	3.2501	
98	.8422	3.2501	
100	.8622	3.2501	

CYC	TIME	AND8	1
102	.8622	3.2501	
104	.9022	3.2501	
106	.9222	3.2501	
108	.9422	3.2501	
110	.9622	3.2501	
112	.9822	3.2501	
114	1.0022	3.2501	
116	1.0222	3.2501	
118	1.0422	3.2501	
120	1.0622	3.2501	
122	1.0822	3.2501	
124	1.1022	3.2501	
126	1.1222	3.2501	
128	1.1422	3.2501	
130	1.1622	3.2501	
132	1.1822	3.2501	
134	1.2022	3.2501	
136	1.2222	3.2501	
138	1.2422	3.2501	
140	1.2622	3.2501	
142	1.2822	3.2501	
144	1.3022	3.2501	
146	1.3222	3.2501	
148	1.3422	3.2501	
150	1.3622	3.2501	
152	1.3822	3.2501	
154	1.4022	3.2501	
156	1.4222	3.2501	
158	1.4422	3.2501	
160	1.4622	3.2501	
162	1.4822	3.2501	
164	1.5022	3.2501	
166	1.5222	3.2501	
168	1.5422	3.2501	
170	1.5622	3.2501	
172	1.5822	3.2501	
174	1.6022	3.2501	
176	1.6222	3.2501	
178	1.6422	3.2501	
180	1.6622	3.2501	
182	1.6822	3.2501	
184	1.7022	3.2501	
186	1.7222	3.2501	
188	1.7422	3.2501	
190	1.7622	3.2501	
192	1.7822	3.2501	
194	1.8022	3.2501	
196	1.8222	3.2501	
198	1.8422	3.2501	
200	1.8622	3.2501	

CYC	TIME	ALOE	1
202	1.8822	3.2501	
204	1.9022	3.2501	
206	1.9222	3.2501	
208	1.9422	3.2501	
210	1.9622	3.2501	
212	1.9822	3.2501	
214	2.0022	3.2501	
216	2.0222	3.2501	
218	2.0422	3.2501	
220	2.0622	3.2501	
222	2.0822	3.2501	
224	2.1022	3.2501	
226	2.1222	3.2501	
228	2.1422	3.2501	
230	2.1622	3.2501	
232	2.1822	3.2501	
234	2.2022	3.2501	
236	2.2222	3.2501	
238	2.2422	3.2501	
240	2.2622	3.2501	
242	2.2822	3.2501	
244	2.3022	3.2501	
246	2.3222	3.2499	
248	2.3422	3.2491	
250	2.3622	3.2477	
252	2.3822	3.2454	
254	2.4022	3.2421	
256	2.4222	3.2378	
258	2.4422	3.2324	
260	2.4622	3.2257	
262	2.4822	3.2178	
264	2.5022	3.2085	
266	2.5222	3.1977	
268	2.5422	3.1853	
270	2.5622	3.1711	
272	2.5822	3.1551	
274	2.6022	3.1372	
276	2.6222	3.1175	
278	2.6422	3.0961	
280	2.6622	3.0735	
282	2.6822	3.0503	
284	2.7022	3.0272	
286	2.7222	3.0045	
288	2.7422	2.9792	
290	2.7622	2.9482	
292	2.7822	2.9091	
294	2.8022	2.8611	
296	2.8222	2.8063	
298	2.8422	2.7533	
300	2.8622	2.7164	

CYC	TIME	ANDB	1
302	2.3622	2.7164	
304	2.8622	2.7163	
306	2.8625	2.7161	
308	2.8634	2.7150	
310	2.8663	2.7124	
312	2.8739	2.7105	
314	2.8747	2.7109	
316	2.8772	2.7135	
318	2.8804	2.7200	
320	2.8805	2.7201	
322	2.8806	2.7204	
324	2.8811	2.7218	
326	2.8830	2.7283	
328	2.8855	2.7404	
330	2.8856	2.7405	
332	2.8857	2.7412	
334	2.8862	2.7439	
336	2.8881	2.7567	
338	2.8907	2.7786	
340	2.8907	2.7789	
342	2.8908	2.7801	
344	2.8913	2.7849	
346	2.8932	2.8068	
348	2.8943	2.8209	
350	2.8958	2.8436	
352	2.8972	2.8666	
354	2.8987	2.8966	
356	2.8995	2.9143	
358	2.9005	2.9379	
360	2.9014	2.9587	
362	2.9024	2.9872	
364	2.9033	3.0133	
366	2.9042	3.0422	
368	2.9042	3.0427	
370	2.9043	3.0447	
372	2.9045	3.0527	
374	2.9055	3.0865	
376	2.9055	3.0870	
378	2.9056	3.0892	
380	2.9058	3.0981	
382	2.9064	3.1215	
384	2.9071	3.1416	
386	2.9075	3.1416	
388	2.9075	3.1416	
390	2.9076	3.1416	
392	2.9081	3.1416	
394	2.9081	3.1416	
396	2.9083	3.1416	
398	2.9088	3.1416	
400	2.9093	3.1416	

CYC	TIME	ANDB	1
402	2.9099	3.1416	
404	2.9105	3.1416	
406	2.9109	3.1416	
408	2.9115	3.1416	
410	2.9122	3.1416	
412	2.9126	3.1416	
414	2.9132	3.1416	
416	2.9137	3.1416	
418	2.9141	3.1416	
420	2.9151	3.1416	
422	2.9153	3.1416	
424	2.9159	3.1416	
426	2.9159	3.1416	
428	2.9160	3.1416	
430	2.9162	3.1416	
432	2.9172	3.1416	
434	2.9173	3.1416	
436	2.9178	3.1416	
438	2.9179	3.1416	
440	2.9180	3.1416	
442	2.9185	3.1416	
444	2.9185	3.1416	
446	2.9186	3.1416	
448	2.9192	3.1416	
450	2.9192	3.1416	