



U.S. Department
of Transportation
National Highway
Traffic Safety
Administration

DOT-HS-807-688
DOT-TSC-NHTSA-90-2
Final Report

April 1991

Vehicle Animation Software (VAS) to Animate Results Obtained from Vehicle Handling and Rollover Simulations and Tests

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Prepared for

Research and Development
Office of Crash Avoidance Research
Washington, DC 20590

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Technical Report Documentation Page

1. Report No. DOT-HS-807-688		PB91-194142		3. Recipient's Catalog No.	
4. Title and Subtitle VEHICLE ANIMATION SOFTWARE (VAS) TO ANIMATE RESULTS OBTAINED FROM VEHICLE HANDLING AND ROLLOVER SIMULATIONS AND TESTS				5. Report Date APRIL 1991	
				6. Performing Organization Code DTS-74	
7. Author(s) ANDRZEJ G. NALECZ				8. Performing Organization Report No. DOT-TSC-NHTSA-90-2	
9. Performing Organization Name and Address DR. ANDRZEJ G. NALECZ* 3602 AUGUSTA DRIVE COLUMBIA, MO 65203				10. Work Unit No. (TRAVIS) HS078/S0013	
				11. Contract or Grant No. DTRS57-89-P-82291	
12. Sponsoring Agency Name and Address U.S. DEPARTMENT OF TRANSPORTATION NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION RESEARCH AND DEVELOPMENT OFFICE OF CRASH AVOIDANCE RESEARCH WASHINGTON, DC 20590				13. Type of Report and Period Covered FINAL REPORT AUGUST 1989-MAY 1990	
				14. Sponsoring Agency Code NRD-51	
15. Supplementary Notes *UNDER CONTRACT TO:		U.S. DEPARTMENT OF TRANSPORTATION RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION JOHN A. VOLPE NATIONAL TRANSPORTATION SYSTEMS CENTER CAMBRIDGE, MA 02142			
16. Abstract Results from vehicle computer simulations usually take the form of numeric data or graphs. While these graphs provide the investigator with the insight into vehicle behavior, it may be difficult to use these graphs to assess complex vehicle motion. Computer based animation techniques can provide the user with a valid means of evaluating the vehicle overall motion, applicable environments and simulated maneuvers. This report describes the development and application of the Vehicle Animation Software (VAS) capable of animating the results from vehicle handling and rollover simulations and experimental tests. The computer simulations which can currently be animated using VAS include the IMIRS, ITRS and AVRMS developed for NHTSA by Andrzej G. Nalecz and the University of Missouri-Columbia. The report includes the user's manual and technical report, and explains the required format for experimental data files which are to be animated. Animations produced by VAS software are suitable for presenting the results to audiences which are not acquainted with the technical details of the research but have an interest in the findings.					
17. Key Words VEHICLE SIMULATION VEHICLE DYNAMICS VEHICLE ROLLOVER VEHICLE HANDLING			18. Distribution Statement DOCUMENT IS AVAILABLE TO THE PUBLIC THROUGH THE NATIONAL TECHNICAL INFORMATION SERVICE, SPRINGFIELD, VIRGINIA 22161		
19. Security Classif. (of this report) UNCLASSIFIED		20. Security Classif. (of this page) UNCLASSIFIED		21. No. of Pages 342	22. Price

PREFACE

This report describes the Vehicle Animation Software (VAS) which was developed to animate the results from vehicle handling and rollover simulations and experimental tests. The VAS is a package of computer programs allowing color animations to be created of vehicle response, tire status, and a relevant energy function (Rollover Prevention Energy Reserve (RPER)), and be displayed in real time (as well as in slow motion) on the Macintosh microcomputer, so that general assessment of the overall vehicle motion and the applicable environments can be made relatively quickly. The computer simulations which can currently be animated using VAS include the Intermediate Maneuver Induced Rollover Simulation (IMIRS), the Intermediate Tripped Rollover Simulation (ITRS), and the Advanced Vehicle Rollover Model (AVRM).

METRIC / ENGLISH CONVERSION FACTORS

ENGLISH TO METRIC

LENGTH (APPROXIMATE)

1 inch (in) = 2.5 centimeters (cm)
 1 foot (ft) = 30 centimeters (cm)
 1 yard (yd) = 0.9 meter (m)
 1 mile (mi) = 1.6 kilometers (km)

AREA (APPROXIMATE)

1 square inch (sq in, in²) = 6.5 square centimeters (cm²)
 1 square foot (sq ft, ft²) = 0.09 square meter (m²)
 1 square yard (sq yd, yd²) = 0.8 square meter (m²)
 1 square mile (sq mi, mi²) = 2.6 square kilometers (km²)
 1 acre = 0.4 hectares (he) = 4,000 square meters (m²)

MASS - WEIGHT (APPROXIMATE)

1 ounce (oz) = 28 grams (gr)
 1 pound (lb) = .45 kilogram (kg)
 1 short ton = 2,000 pounds (lb) = 0.9 tonne (t)

VOLUME (APPROXIMATE)

1 teaspoon (tsp) = 5 milliliters (ml)
 1 tablespoon (tbsp) = 15 milliliters (ml)
 1 fluid ounce (fl oz) = 30 milliliters (ml)
 1 cup (c) = 0.24 liter (l)
 1 pint (pt) = 0.47 liter (l)
 1 quart (qt) = 0.96 liter (l)
 1 gallon (gal) = 3.8 liters (l)
 1 cubic foot (cu ft, ft³) = 0.03 cubic meter (m³)
 1 cubic yard (cu yd, yd³) = 0.76 cubic meter (m³)

TEMPERATURE (EXACT)

$$[(x - 32) (5/9)] ^\circ\text{F} = y ^\circ\text{C}$$

METRIC TO ENGLISH

LENGTH (APPROXIMATE)

1 millimeter (mm) = 0.04 inch (in)
 1 centimeter (cm) = 0.4 inch (in)
 1 meter (m) = 3.3 feet (ft)
 1 meter (m) = 1.1 yards (yd)
 1 kilometer (km) = 0.6 mile (mi)

AREA (APPROXIMATE)

1 square centimeter (cm²) = 0.16 square inch (sq in, in²)
 1 square meter (m²) = 1.2 square yards (sq yd, yd²)
 1 square kilometer (km²) = 0.4 square mile (sq mi, mi²)
 1 hectare (he) = 10,000 square meters (m²) = 2.5 acres

MASS - WEIGHT (APPROXIMATE)

1 gram (gr) = 0.036 ounce (oz)
 1 kilogram (kg) = 2.2 pounds (lb)
 1 tonne (t) = 1,000 kilograms (kg) = 1.1 short tons

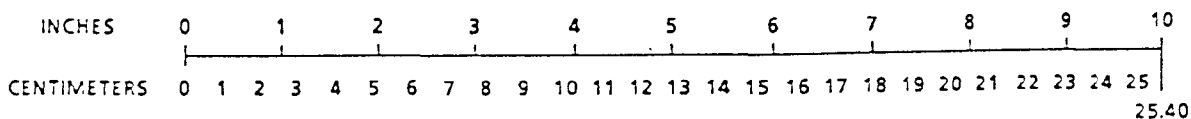
VOLUME (APPROXIMATE)

1 milliliter (ml) = 0.03 fluid ounce (fl oz)
 1 liter (l) = 2.1 pints (pt)
 1 liter (l) = 1.06 quarts (qt)
 1 liter (l) = 0.26 gallon (gal)
 1 cubic meter (m³) = 36 cubic feet (cu ft, ft³)
 1 cubic meter (m³) = 1.3 cubic yards (cu yd, yd³)

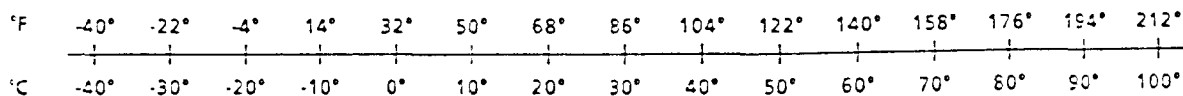
TEMPERATURE (EXACT)

$$[(9/5)y + 32] ^\circ\text{C} = x ^\circ\text{F}$$

QUICK INCH-CENTIMETER LENGTH CONVERSION



QUICK FAHRENHEIT-CELCIUS TEMPERATURE CONVERSION



For more exact and/or other conversion factors, see NBS Miscellaneous Publication 286, Units of Weights and Measures. Price \$2.50. SD Catalog No. C13 10 286.

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1. VAS USER'S MANUAL

1.1 GENERAL INFORMATION

The Vehicle Animation Software (VAS) is a package of computer programs which allow the system response, tire status, and a relevant energy function (Rollover Prevention Energy Reserve (RPER)) of several vehicle simulations to be animated, so that assessment of the overall vehicle motion, the applicable environments and maneuvers simulated can be made relatively quickly. The VAS software provides a method to present simulation results to audiences which are not acquainted with the technical details of the research but have an interest in the findings.

The simulations currently capable of being animated using the VAS package are the Intermediate Maneuver Induced Rollover Simulation (IMIRS) [1], the Intermediate Tripped Rollover Simulation (ITRS) [2], and the Advanced Vehicle Rollover Model (AVRM - ADVS) [3]. In addition, VAS allows the animation of experimental test results stored in the proper format. The animation of experimental results provides a visual recreation of the physical tests from any viewpoint and allow correlation of experimental to simulation results.

All modifications required to provide the animation data files were performed upon the latest VAX versions of the ITRS and AVRM simulations, and IBM PC version of the IMIRS. The animation options added to these simulations will create the 4 additional output of vehicle, front tire, rear tire, and terrain data files in a format required by the animation programs, but will not affect vehicle system response in either model. The IMIRS rollover criteria has been altered to allow a larger roll angle of the vehicle prior to simulation termination, in order to provide a more complete animation during rollover maneuvers. The AVRM simulation (recently developed) generates the animation data files by utilizing an animation post-processor, which converts the simulation output data files to the proper format. The input data required for the animation versions of all three simulations are identical to those of previous versions.

The VAS features include:

- * 16 Color High Resolution Animations
- * Automatic Modification in Vehicle Size due to Variations in Wheelbase and Track Width
- * Full Color Animation of Time and RPER

- * Tire Status indicated by Color Changes
- * Tire and CG Path Trace
- * Nearly Any Prismatic Terrain Profile (up to 25 planes)
- * Animations at Speeds up to 60 Frames per Second
- * Automatic repeat mode
- * Frame by Frame Animation Playback
- * Choice of solid or wireframe views
- * Multiple Viewports
- * Perspective Views
- * Full Hidden Surface Removal
- * Black and White Laser Printer Output
- * Monochrome Compatibility

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1.2 SOFTWARE AND HARDWARE REQUIREMENTS

1.2.1 System Requirements

The VAS software package requires the following hardware:

1. VAX Mini computer running under the VMS operating system and Fortran 77 compiler.
2. Macintosh IIx with Color or Monochrome Monitor; 4 Mbytes RAM

Optional Hardware

1. Laserwriter II Printer

1.2.2 Software Requirements

The following additional software is required for the VAS software package:

1. Super 3D Ver 2.1 by Silicon Beach Software
2. All Software and Software Packages required for IMIRS, ITRS, and AVRМ including IMSL Library Ver 9.2 (ITRS) and IMSL Library Ver 10.0 (AVRM).
3. Suitable communication program capable connecting Macintosh IIx to VAX Mini computer.

A familiarity with the IMIRS, ITRS and the AVRМ simulations and their user's manuals [1], [2] and [3] will facilitate the user in obtaining the simulation data necessary to produce the animations.

1.2.3 VAX Programs Installation Procedure

The VAS programs and simulation routines for ITRS and AVRМ, which were developed or modified to provide the animation option of these simulations, come on VAX tape or floppy discs. In either case, the animation software consists of following files:

- ANIMATE* - Main animation program for VAX
- UTIL* - Utility vehicle subroutine for VAX
- ROLGEAR2* - Main ITRS program -modified for animation - for VAX
- ITRSANI* - ITRS model subroutine - modified for animation - for VAX

and the following ADVS post-processor routines

- MPRT7.PAT* - Source code for the post-processing program PRT.EXE which develops the output file ADVS.OUT.
- ANIM7.PAT* - Source code for the post-processing program ANIM.EXE which develops files ADVS.DAT, FRONT.TIR, REAR.TIR for animating the simulation results.
- MPLOTD.PAT* - Source code for the post-processing program PLOTD.EXE which creates the ADVS.PLT file containing selected calculation results for plotting. Angles are in degrees.
- MPLOTR.PAT* - Source code for the post-processing program PLOTR.EXE which also creates the ADVS.PLT file containing selected calculation results for plotting. Angles are in radians.
- CGETV.PAT* - To display a query on the terminal screen and then read in one character from the keyboard.
- CHRMOV.PAT* - To copy the content of one character variable to the other.
- CHRSET.PAT* - To put one character into a character variable.
- DGETV.PAT* - To display a query on the terminal screen and then read in a double precision number from the keyboard.
- DSPLYQ.PAT* - To display a query on the terminal screen and then read in the content of a character variable from the keyboard.
- GETBUF1.PAT* - To read a record from the AVRMM output file.
- GETFN1.PAT* - To determine the names of the post-processing input and output files according to the name of AVRMM output file.
- GETLACC.PAT* - To compute the lateral acceleration from the vehicle velocity components.
- GETOSET.PAT* - To display a query on the terminal screen and then read in the indices of the AVRMM variables which will be plotted out from the keyboard.
- GETRCNT.PAT* - To determine the total number of records in a file.
- GSTRNG.PAT* - To read in a character string from the keyboard.

- IGETNF.PAT* - To return a index of the last non-negative element of a integer vector.
- IGETV.PAT* - To display a query on the terminal screen and then read in an integer number from the keyboard. An asterisk "*" can also be read in. In this case a default value is chosen.
- IGETV0.PAT* - Same as above but without the optional use of the asterisk "*".
- IPLNGTH.PAT* - To return part of an integer vector from the first element to the element with a specified number.
- OPNINP.PAT* - To open the post-processor input files and check their status.
- OPNSKIP.PAT* - To open a post-processor input file and skip forward a number of the records.
- OPNINP1.PAT* - To open the post-processor input files and check their status (new version).
- OPNSKIP1.PAT* - To open a post-processor input file and skip forward a number of the records (new version).
- PLTSUB.PAT* - Main subroutine for the preparation of the plotter files from the ADVS result files (ADVS.UNF and ADVS.TER) according to user's requirements.
- SCOMP.PAT* - To compare two character strings.
- SHIFT.PAT* - To shift the position of a character string in a character variable to the right end.
- GETBR.PAT* - To read a binary unformatted record from a file.

In case the VAS software is provided on a magnetic tape, contact your system manager and have it installed on the VAX. If the VAS is supplied on floppy disks, transfer all files from the Macintosh IIX to the VAX via a suitable communication program of the user's choice (such as WHITE KNIGHT or MACKERMIT).

Since the VAS package may be provided either in source (*.FOR) or object (*.OBJ) code, the installation procedures for both types of files are explained below.

After the software has been uploaded onto the VAX, the user should create executable form of vehicle handling simulation which is of interest to him, and which results are to be animated. For further details concerning the compiling, linking and executing of the ITRS and AVRМ vehicle

simulations see the user's manuals of individual simulations (references [2] and [3]). For information regarding executing the IMIRS simulation refer to the IMIRS User's Manual [1].

If the VAS source files are provided the programs should be compiled and linked using the following commands:

```
$ FORTRAN ANIMATE
$ FORTRAN UTIL
$ LINK ANIMATE,UTIL
```

These commands will create the following file:

```
ANIMATE.EXE
```

If the object code of VAS is provided, issue the following command to create the executable file:

```
$ LINK ANIMATE,UTILITY
```

The VAS software package is now in an executable form and is ready to run.

1.2.4 IMIRS Program Installation Procedure

The modified IMIRS program MODEL.EXE (for animation option of the simulation) comes on a single 360K floppy disk. The IMIRS should be installed according to the instruction in the IMIRS user's manual [1]. The modified IMIRS program may then be added to the IMIRS operating directory using the COPY command.

1.3 STORING VEHICLE ANIMATION DATA

The VAS software package is capable of animating the output data from three different vehicle handling and rollover simulations, the IMIRS, the ITRS and AVRMS. Each of these simulations, when run with the modified files provided with the VAS package, will produce the four animation data files required by VAS animation routines.

Each of the vehicle simulations (ITRS, IMIRS, AVRMS), which the VAS package can animate, has its own user's manual and individual method required to run the simulation. It is necessary that the user be familiar with the simulation for which the animation is to be produced.

It should be noted that in order to provide the best quality animation, the vehicle response data (simulation output) should be stored at the same, or at a multiple of, the time interval at which the animation frames will be stored (i.e.. vehicle response data stored 60 times per second can be animated at either 60 or 30 frames per second). Use of inconsistent storage steps may cause some anomalies in the RPER bar graph and tire path traces. Also, in order to provide a smooth animation (smooth progression of frames) the vehicle response data should be stored at a minimum rate of 30 data points per second.

1.3.1 ITRS Animation Data

The ITRS model should be recompiled and linked using *ROLGEAR2* and *ITRSANI* from the VAX distribution tape (or floppy disk) together with all other subroutines provided with the original ITRS software package. The animation version of the ITRS executes in an identical manner as the original version. Please consult the ITRS user's manual [2] for details regarding the use of the ITRS simulation.

Upon execution of the ITRS simulation, all data files from the original version, as well as the four animation files will be created. The four animation files are:

ITRS.DAT	-	Sprung Mass Data File
FRONT.TIR	-	Front Tire Data File
REAR.TIR	-	Rear Tire Data File
ITRS.TER	-	Prismatic Terrain File

The four files listed above are the input data files required by the VAS software package. For further details concerning the format and the data stored in these files please refer to the Technical Section of this report.

1.3.2 IMIRS Animation Data

The animation version of the IMIRS executes in a similar manner as the original version except that the following additional question is asked.

```
WOULD YOU LIKE TO CREATE IMIRS ANIMATION DATA FILES (Y/N)   Y
PLEASE INPUT TIME INCREMENT FOR STORAGE OF ANIMATION DATA
? .033333
```

The new version of the IMIRS will create and store all data necessary for the animation procedure in the four files listed below.

IMIRS.DAT	-	Sprung Mass Data File
FRONT.TIR	-	Front Tire Data File
REAR.TIR	-	Rear Tire Data File
IMIRS.TER	-	Prismatic Terrain File

Please consult the IMIRS user's manual [1] for further details regarding the use of the IMIRS simulation.

1.3.3 AVRM Animation Data

The method used to obtain the AVRM animation data is slightly different than the technique used for the previous two simulations. In the previous simulations (ITRS and IMIRS) the animation data was stored in an ASCII format during the simulation run, while the AVRM stores all pertinent simulation data in a binary format, and then uses various post-processors to write requested data in an ASCII format.. The AVRM animation post-processor ANIM will automatically read the simulation binary output data file and write the necessary animation files.

Once the user has created the binary AVRМ data file, he may create the animation files by entering the following command:

```
ANIM
MAKE_ANIM --START
ENTER R.P.E.R. Index Number (1 or 2) ==> 1
E-O-F ON INPUT FILE, INPUT RECORD IS 201
MAKE_ANIM COMPLETED
FORTRAN STOP
```

See Technical Section 2.2.3 for more information about RPER.

The following animation files will be created:

ADVS.DAT	-	Sprung Mass Data File
FRONT.TIR	-	Front Tire Data File
REAR.TIR	-	Rear Tire Data File
ADVS.TER	-	Prismatic Terrain File

1.3.4 Experimental Animation Data

While the animation of experimental results can be made with relative ease, there are specific data formats that must be followed for proper animation results. The experimental data files must contain the proper number of columns as described in the technical section of this report. In addition, there are specific reference systems in which the vehicle system response must be written. Please consult the technical section of this report for more details about the structure and the data required for the animation files.

1.4 RUNNING THE VEHICLE ANIMATION SOFTWARE (VAS)

The VAS software package should be previously compiled and linked to create one executable file ANIMATE.EXE. The VAS package is menu driven and will automatically adjust the animated vehicle size according to changes in the vehicle wheelbase and track width. The VAS program is capable of accepting data in either SI or English units, however, the VAS output is in SI units.

The VAS program accepts data from the four animation files produced by the simulations and reduces them to two files (vehicle file and key frame file) which can be accepted by SUPER 3D software and the Macintosh Ix personal computer. The user has complete freedom to specify the name of both the vehicle file (file defining the static shape of all objects in the animation) and the key frame file (file specifying motion and changes in the vehicle).

In order to run the VAS program the following command should be issued:

```
$ RUN ANIMATE
```

The VAS will respond with series of questions regarding the units to be used and the file names. The sample questions and answers given are shown below.

```
VEHICLE ANIMATION SOFTWARE  
(VAS) Ver. 1.0
```

```
COPYRIGHT (C) 1990 BY ANDRZEJ NALECZ  
ALL RIGHTS RESERVED
```

```
DEVELOPMENT OF VAS SOFTWARE WAS FIRST PRODUCED IN PERFORMANCE OF  
CONTRACT NO. DTRS57-89-P-82291  
SPONSORED BY TSC-U.S. DOT
```

```
ENTER UNITS FOR ANIMATION DATA FILE  
E - ENGLISH UNITS  
S - SI UNITS  
S
```

ENTER NAME OF SPRUNG MASS DATA FILE
ADVS.DAT

ENTER NAME OF FRONT TIRES DATA FILE
FRONT.TIR

ENTER NAME OF REAR TIRES DATA FILE
REAR.TIR

ENTER NAME FOR TERRAIN DATA FILE
ADVS.TER

ENTER NAME FOR VEHICLE OUTPUT FILE
FILE.VEH

ENTER NAME OF KEY FRAME OUTPUT FILE
FILE.KEY

THE VEHICLE TERRAIN PROFILE CONTAINS 3 PLANE(S)

P - PAVEMENT (BLUE-GRAY)

W - SIDEWALK (WHITE)

S - SOIL (GREEN)

PLEASE ENTER THE DESIRED COLOR FOR TERRAIN PLANE 1

P

PLEASE ENTER THE DESIRED COLOR FOR TERRAIN PLANE 2

P

PLEASE ENTER THE DESIRED COLOR FOR TERRAIN PLANE 3

W

FORTTRAN STOP

According to the information given in this example, the two output files FILE.VEH and FILE.KEY will be created. These two files should then be downloaded to the Macintosh Iix microcomputer via suitable communication program (such as WHITE KNIGHT or MACKERMIT).

1.5 ANIMATION OF RESULTS USING SUPER 3D

The vehicle animation should be created using the SUPER 3D ver 2.1 software by Silicon Beach [6]. Some familiarity with this software package and the Macintosh operating system will facilitate the animation process.

It should be noted that the SUPER 3D software package uses a reference system different than those used by all three vehicle handling and rollover simulations. SUPER 3D utilizes a right-handed reference system, in which (Figure 1), the positive y-axis is initially directed towards the top of the screen, positive x-axis towards the right edge of the screen, and positive z-axis out of the screen. The animations have been rotated 90 degrees to appear normally under this convention.

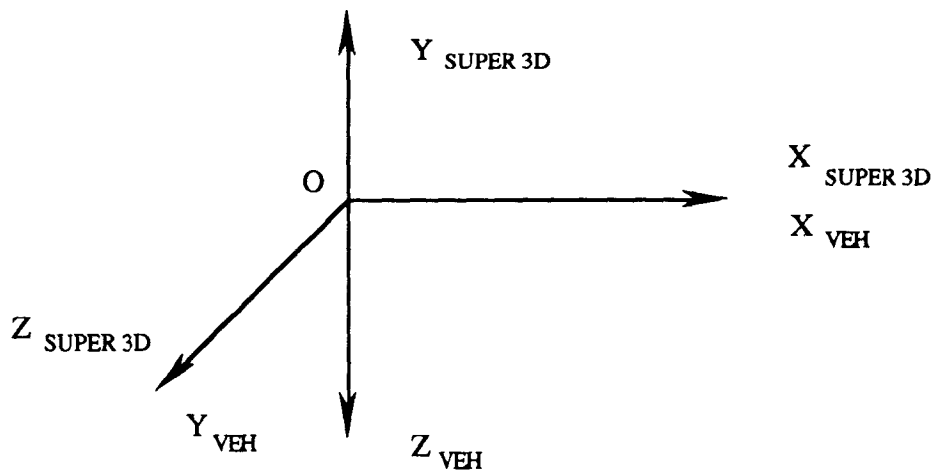
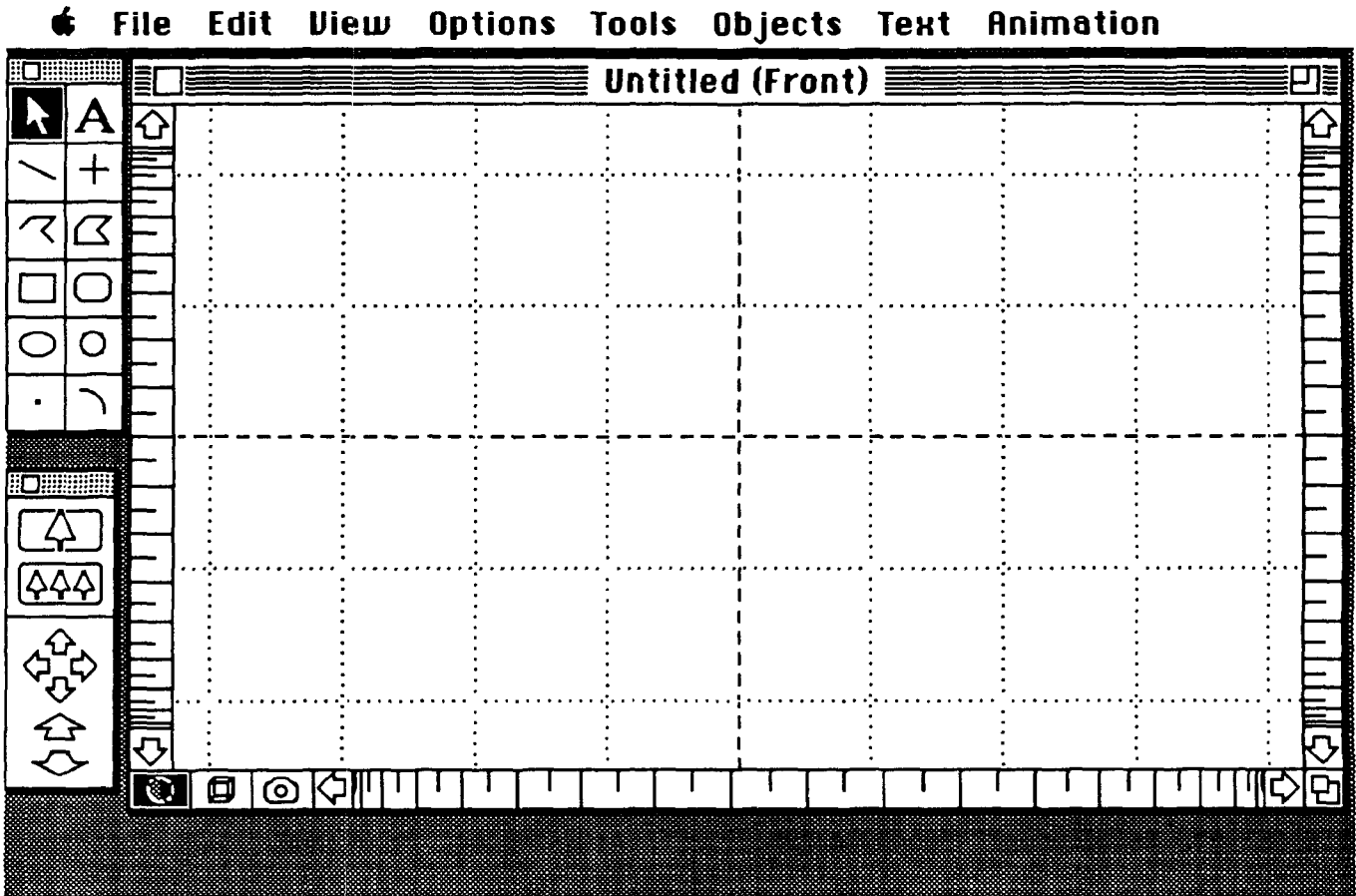


Figure 1. Vehicle and Super 3D Reference Systems.

The vehicle animations were designed for the 16 color 4-bit high-resolution video card. Desktop patterns of several colors may cause color inconsistencies in the animations. Therefore, for best results on the Macintosh computers equipped with 16 color 4-bit video card, the desktop pattern should only contain black and white. The animations can also be created on a monochrome monitor using the black and white version of SUPER 3D. This version utilizes a dithering technique to render the color animations in a black and white format.

1.5.1 Opening the Vehicle File and Setting the Desired Options

Begin the animation process by opening the SUPER 3D application. The following opening screen should appear.



In the upper left hand corner is the **TOOL** window and the lower left corner is occupied by the **CAMERA CONTROL** window. The **TOOL** window is used to draw new objects and will never be used during the animation process. If any new lines or objects are added to the vehicle file, the key frame file will not match the format in the vehicle file, and animation will not be created properly. The **CAMERA CONTROL** window is used to alter the view of the objects. The large window with the grid lines is the primary viewport window. The grid lines may be removed by choosing **HIDE GRID** in the **OPTIONS** menu.

It may be necessary to adjust some of the SUPER 3D preferences when the first time the application is used. This can be done by selecting **PREFERENCES** in the **OPTIONS** menu.

The **LONG MENU** option is required, and **MOUSE ABORTS RENDERING** together with **80 BIT RENDERING** are highly recommended. Other choices may be chosen at the user's discretion.

Preferences

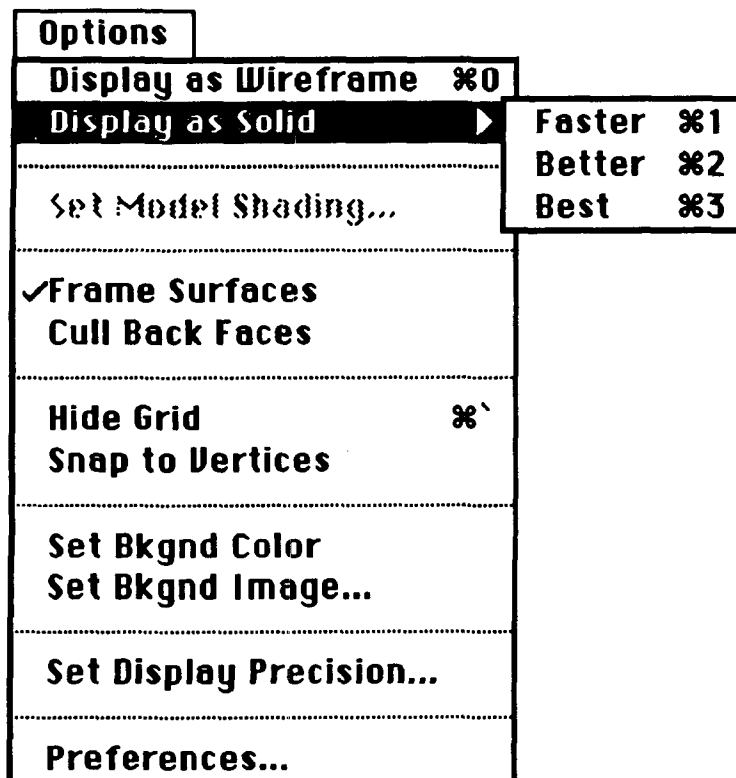
Controls	Menu
<input checked="" type="checkbox"/> Z Axis spin wheel	<input type="radio"/> Short menus
<input checked="" type="checkbox"/> Mouse aborts rendering	<input checked="" type="radio"/> Long menus
Window at Startup	
<input checked="" type="radio"/> New document window	<input type="button" value="More..."/>
<input type="radio"/> Open... dialog	<input type="button" value="Cancel"/>
<input type="radio"/> None	<input type="button" value="OK"/>

More Preferences

Display Options	Floating Windows
<input type="checkbox"/> Show Grid	<input checked="" type="checkbox"/> Auto Redraw
<input type="checkbox"/> Full Screen	<input type="checkbox"/> Tool Window
<input type="checkbox"/> Wireframe	<input checked="" type="checkbox"/> Camera Window
<input type="checkbox"/> Cull Back Faces	<input type="checkbox"/> Coordinate Window
<input checked="" type="checkbox"/> Cull With Solids	<input type="checkbox"/> Color Window
<input checked="" type="checkbox"/> Frame Polygons	<input type="checkbox"/> Display List Window
<input checked="" type="checkbox"/> Frame With Solids	
<input type="checkbox"/> Perspective	<input type="checkbox"/> Auto Repeat
<input checked="" type="checkbox"/> 80-Bit Rendering	<input checked="" type="checkbox"/> SpinWheel Axes
	<input type="button" value="Cancel"/>
	<input type="button" value="OK"/>

The application will need to be closed and reopened to activate some of these changes in the preferences menu.

To open a vehicle file (FILE.VEH) , choose **IMPORT** under the **FILE** menu and highlight the appropriate file. Click the **OPEN** menu choice and SUPER 3D will load the vehicle file. During this procedure the FILE.VEH will not be changed, so it can be used again for future applications. Upon importation of FILE.VEH into SUPER 3D, the vehicle and terrain will be drawn at a distance in an unspecified drawing mode. Select **DISPLAY AS SOLID - FASTER** under the **OPTIONS** menu. For creating a desired view refer to Section 1.5.2, however, for explanation of possible options in setting a view read the information given below.

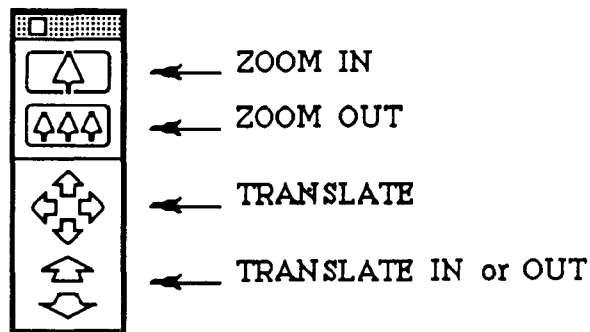


DISPLAY AS SOLID - FASTER will allow the screen to be redrawn as quickly as possible but certain planes may drawn at the wrong depth. The **DISPLAY AS SOLID - BEST** mode provides the best renditions of the vehicle animation and should be used during the final animation recording process. The **WIREFRAME** option will render the graphics faster, but due to the complexity of the animation, visualization in the wireframe mode can be difficult.

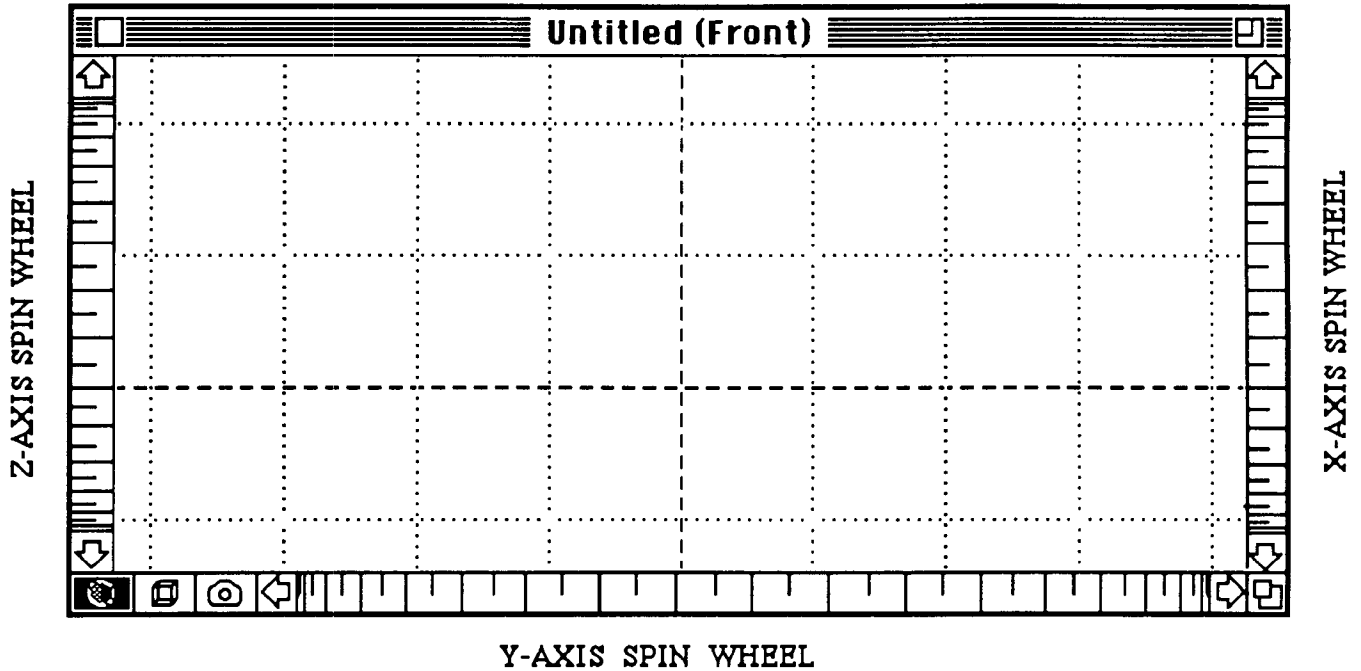
The **FRAME SURFACES** under the **OPTIONS** menu will create a border of all surfaces (vehicle and terrain) and should be activated to ease visualization of the model. With the **FRAME SURFACES** option, the terrain grid lines will appear at 10 meter interval in the longitudinal direction and at changes in the terrain surface in the lateral direction.

CULL BACK FACES (or **HIDE BACK FACES** in some SUPER 3D versions) under the **OPTIONS** menu allows for faster graphics by removing hidden surfaces. This option may be chosen at the user's discretion.

The view of the object may be changed using the **CAMERA CONTROL** window (shown below). The **CAMERA CONTROL** window allows the camera view to zoom in and out, and translate in six directions. All of **CAMERA CONTROL** window functions will be at maximum speed if the option key is held down during operation.



The orientation of the viewport can be adjusted by the three spin wheels located along the edges of the viewport window as shown in figure below.



When the mouse cursor is placed along the spin wheel and the mouse key is held, the reference system appears in the viewport and a numerical value representing the change of orientation around the rotated axis is shown. By adjusting the viewport through the three angles, any camera orientation can be obtained.

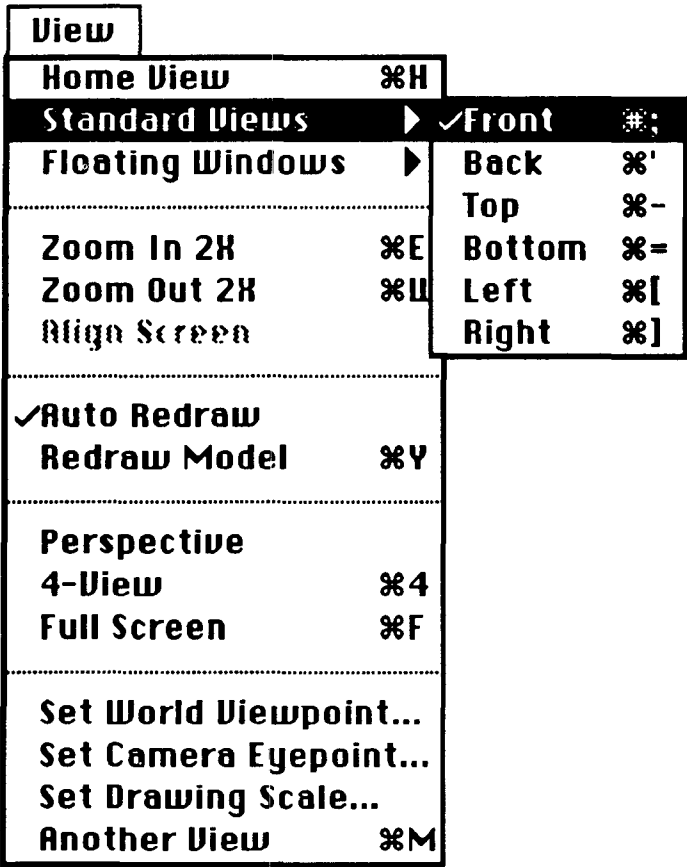
The **SET CAMERA EYEPOINT** choice, under the **VIEW** menu, allow for data defining the camera position and orientation to be enter numerically. The data should be entered in the SUPER 3D absolute reference system (longitudinal position is along X axes, vertical position is along the Y axes, and lateral position is positive Z axes).

Set Camera Eyepoint			
	X Axis	Y Axis	Z Axis
Eyepoint:	<input type="text" value="0.000"/>	<input type="text" value="0.000"/>	<input type="text" value="768.000"/>
Orientation (°):	<input type="text" value="0.000"/>	<input type="text" value="0.000"/>	<input type="text" value="0.000"/>
Zoom Ratio:	<input type="text" value="1.000"/>		
Foreshortening:	<input type="text" value="0.000"/>		
Hither Clip:	<input type="text" value="-1.000"/>	Yon Clip:	<input type="text" value="-32767.0"/>
Eye Distance:	<input type="text" value="768.000"/>		

The Eyepoint fields set the position of the camera viewports, while the Orientation field controls the orientation of the camera. These fields allow numerical input of the data entered though the spin wheels and **CAMERA CONTROL** window. In general, the easiest method of setting views is by utilizing the spin wheels and **CAMERA CONTROL** window.

The **SET CAMERA EYEPOINT** menu also allows for changes in several other features of the camera viewport. The **ZOOM RATIO** can be manually set within this menu. Foreshortening characteristics can be also set. Foreshortening is a method of simulating depth without using the perspective view. It can be useful in views where perspective mode can tend to distort terrain features. The Hither Clip and Yon Clip fields set clipping zones for objects, which are either too close to the camera eyepoint or are too far away. Occasionally, it can be helpful to reduce the Hither Clip from the default value of -100.00 to -1.0.

Finally, it should be noted that the camera can be placed facing the origin of reference system and parallel to any positive or negative axis by using one of the **STANDARD VIEW** choices under the **VIEW** menu.



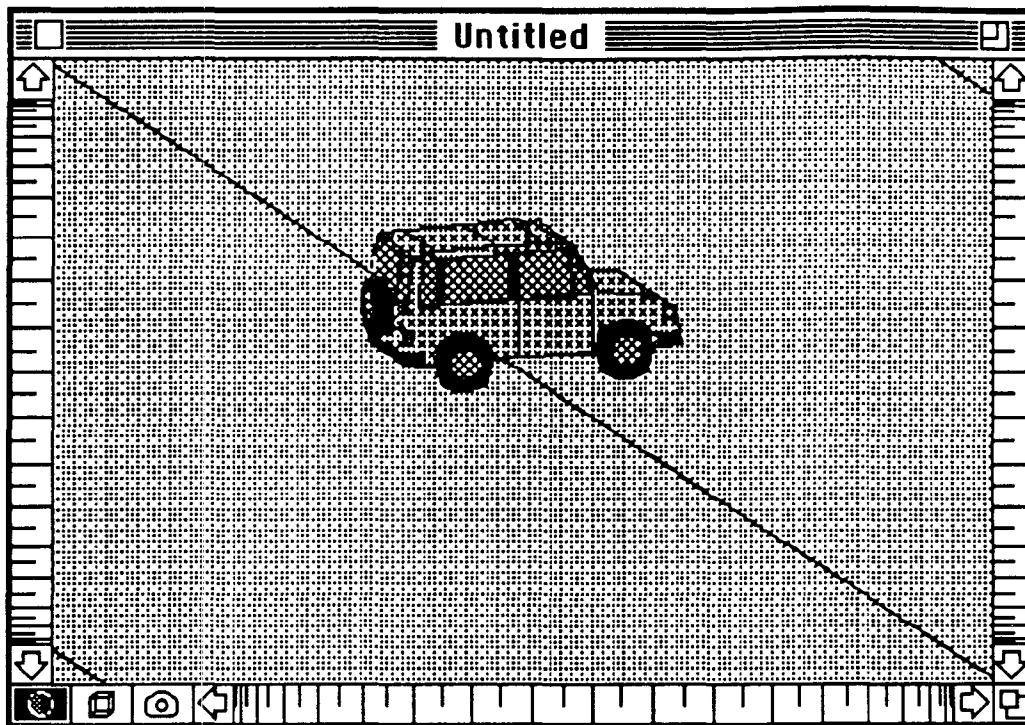
The **STANDARD VIEWS** will give the following initial view of the vehicle (it should be noted that during animation the vehicle rotates relative to the SUPER 3D reference system).

Standard View	Vehicle View	SUPER 3D Axes
FRONT	Right Side of Vehicle	View along positive Z
BACK	Left Side of Vehicle	View along negative Z
TOP	Top of Vehicle	View along positive Y
BOTTOM	Bottom of Vehicle	View along negative Y
LEFT	Front of Vehicle	View along positive X
RIGHT	Rear of Vehicle	View along negative X

1.5.2 Creating the Desired View or Views

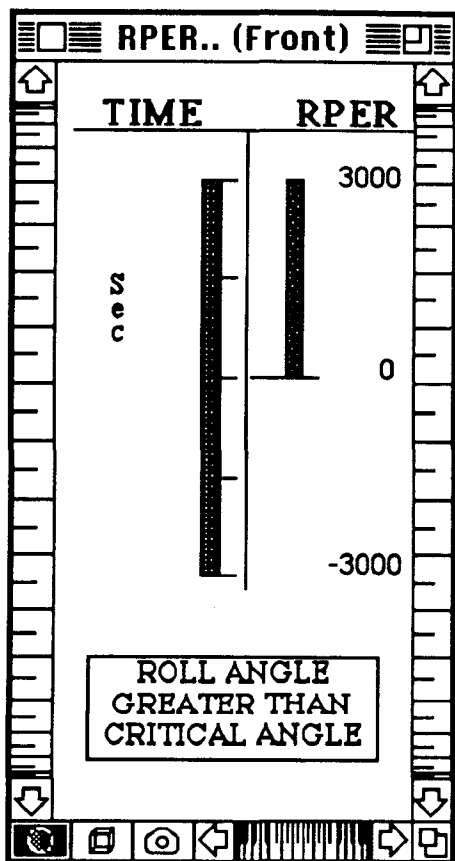
Make sure that the SUPER 3D application and vehicle file FILE.VEH are open according to the instructions of the previous section. To create a view similar to the one shown on the following page, use the following methodology.

1. Select **DISPLAY AS SOLID - FASTER** under the **OPTIONS** menu (if this is not done the vehicle view may be hidden). The **FRAME SURFACES** should also be activated.
2. Select **STANDARD VIEW - FRONT** and **AUTO REDRAW** under the **VIEW** menu. (To create other views than the one shown on the following page, use other standard views from the table shown above.)
3. Select **ZOOM IN 2X** under the **VIEW** menu 5 times. This will give a zoom ratio of 32 in the **SET CAMERA EYEPOINT** menu. You can also obtain this ratio by a numerical input (by choosing the **SET CAMERA EYEPOINT** under **VIEW** menu). Depending on individual screen size the zoom ratio may need to be adjusted using the **CAMERA CONTROL WINDOW**.
4. Place mouse cursor upon the Y-axis spin wheel and press mouse button. Move the mouse right until the axis is rotated about 20 - 25 degrees. It may be necessary to center the vehicle by using the translate arrows to return the picture to the screen center.
5. Place mouse cursor upon the X-axis spin wheel and press mouse button. Move the mouse down until the axis is rotated 10 - 15 degrees.
6. Select **DISPLAY AS SOLID - BEST** under the **OPTIONS** menu for the best rendition of the vehicle view.



Animation of simulation time and vehicle rollover prevention energy reserve (RPER) can be viewed by opening the **RPER..** object in the **OBJECT** menu. The methodology to view this object is as follows.

1. Select **RPER..** in the **OBJECTS** menu. The **EDIT** choice should be selected in the **OBJECT: RPER..** window.
2. The view of the **RPER..** object should be opened in **STANDARD VIEW - FRONT** option, and should always be viewed under this option.
3. The **RPER..** object should be viewed under a zoom ratio of **.125**. The zoom ratio can be numerically set in **SET CAMERA EYEPOINT** under the **VIEW** menu. Additionally, a zoom ratio of **.125** can be obtained by choosing the **ZOOM OUT 2X** choice under the **VIEW** menu three times.
4. The window should then be reduced to the smallest size that still shows all objects within the window. Some camera translation may be necessary to optimize monitor space.



Secondary views of the vehicle animation allow the user to create simultaneous views of the vehicle maneuver or rollover. The use of secondary views allows closeup of a portion of the vehicle maneuver while a general view of the complete simulation can still be seen. In addition, the secondary view will allow a top view of a maneuver along with second (or third) view from more interesting angles. The only practical limit on the number of secondary views is in the size of the monitor on which the animation is being created.

The secondary views may be opened by selecting the **ANOTHER VIEW** choice under the **VIEW** menu. This second view may be sized or altered in an identical manner to the primary view.

In addition, several alternate objects and views exist that may be of interest to the user. These alternate views and secondary objects are found under the **OBJECTS** menu and are opened

in a similar manner to the **RPER..** object. All alternate views can be animated similarly to the primary view.

Objects
New... Lock Camera To Object
Primary View
car
CAR-REAR
CAR-ROTATE
car1
PATH
RPER..
TERRAIN
TERRAIN2
TIRE
TIRE1
TIRE2
TIRE3
TIRE4
TOP VIEW

The following views, which can be opened under the **OBJECTS** menu, will be of particular interest to the user:

- CAR-REAR** - Provides a rear view of vehicle motion in which vehicle remains centered in the screen. It should always be viewed with the **VIEW - STANDARD VIEWS - RIGHT** option.

- CAR-ROTATE - Animation view in which the vehicle orientation changes but vehicle does not translate. There is no terrain profile in this view. The vehicle is drawn in the vehicle reference system in this view (i.e. positive Z is down). This view can be useful when animating a simulation run in which the vehicle travels a relatively large distance.
- TOP VIEW - Provides a view of vehicle motion which includes CG path and tire path trace. It may be viewed under the **VIEW - STANDARD VIEWS - TOP** (or other) option.

Other objects shown in the OBJECTS WINDOW above were used to create primary and secondary views and should not be opened by the VAS user.

1.5.3 Animating the Vehicle File

Once the viewports (any number may be used dependant on the screen size) have been set up to the user's preliminary satisfaction, the key frames file (FILE.KEY) should be opened. The key frames file is a list of code which details the motion of all objects in the animations. Select **OPEN KEY FRAMES** in the **ANIMATION** menu and open the desired key frame.

The animation data will be read and the vehicle will move to the final position of the animation. If the vehicle is no longer visible in the viewport, the camera can zoom out until the vehicle is visible. Alter any views until all are satisfactory. Changes may be made to the views including the opening of additional views at any point prior to the final recording of the animation.

The key frames should be played without recording to assure that all of the desired vehicle motion is satisfactory shown on screen. Click the **PLAY FRAMES** choice on the **KEY FRAMES** window or select the **PLAY KEY FRAMES** choice in the **ANIMATION** menu. The following **ANIMATE SCRIPT** menu should appear:

Animate Script

Starting Time:

Stopping Time:

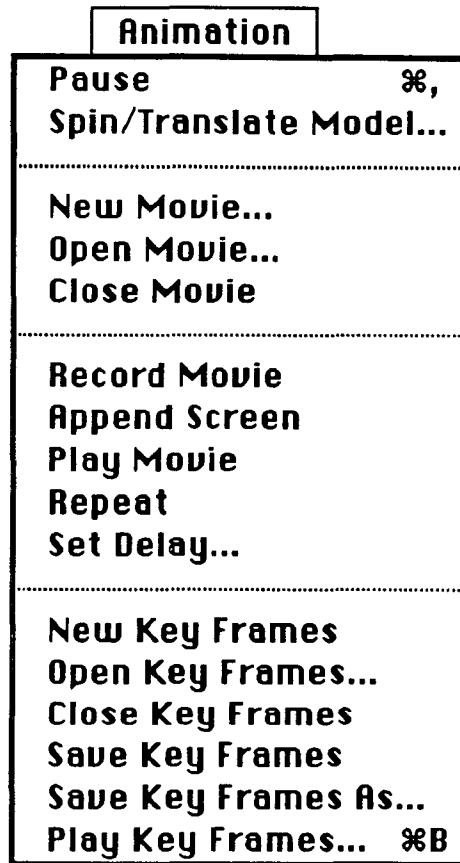
Frames per time step:

Tweening

Enter the time period which you wish to view during the animation. Vehicle animations may start or stop at any time during the simulation period. Also, the user needs to enter the number of frames per time step (second) at which animation should be played. For purposes of preliminary viewing of animation results, 10 frames per second is usually adequate. Click **OK** and the vehicle motion will animate on screen. After animation is done the screen will display the last animated frame.

Once the animation is complete, adjust any views which require modification. This preliminary viewing of the animation should be repeated until the animation is satisfactory to the user.

The final animations will be played in manner similar to the method described above. For best animation results, the vehicle should be in the beginning position of the animation prior to recording the animation. The vehicle can be easily set at any time frame by choosing the **PLAY KEY FRAMES** choice and entering the desired animation starting time for both the starting and stopping time. The number of frames may be any positive integer for this purpose. Once the vehicle is in the beginning position, the animation process is ready to begin.



Before starting the animation recording process make sure that **TEST.KEY** is opened (by selecting the **OPEN KEY FRAMES** under the **ANIMATION** menu), and that all desired views are satisfactory. To record the final animation, the following steps are required:

1. All views should be animated in the **DISPLAYED AS SOLID - BEST** mode under the **OPTION** menu. Each individual view may flag this option separately, so care should be made to check each viewport.
2. Select **NEW MOVIE** under the **ANIMATION** menu. Name the movie file and choose the folder in which it should be stored.
3. Close all unwanted windows (i.e. camera controls, key frames, etc.). Remember, that for best animation results, the vehicle should be in the beginning position of the animation prior to recording in next step. This is the last chance to make any changes to the various views without affecting the movie.

4. Select **RECORD MOVIE** in the **ANIMATION** menu.
5. Choose **PLAY KEY FRAMES**. The beginning (starting) and ending (stopping) times desired for the animation should be entered along with the number of frames per second desired for the animation. For smooth animation, the movie should be recorded at a 30 frames per second. In addition, the animation frames should be stored at the same rate, or at a multiple of intervals, at which the original simulation data was stored, otherwise minor anomalies in the RPER bar graph, vehicle CG and tire path traces may appear.

To view the movie just created select **PLAY MOVIE** from **ANIMATION** menu. The **SET DELAY** choice (in the same menu) will allow the user to choose the number of frames per second for the animation to be viewed.

Set Delay

<input checked="" type="radio"/> Frames Per Second		<input type="radio"/> Delay Between Frames	
<input type="radio"/> Maximum	<input type="radio"/> 15	2	/60ths of a second
<input type="radio"/> 60	<input type="radio"/> 12		
<input checked="" type="radio"/> 30	<input type="radio"/> 10		
<input type="radio"/> 20	<input type="radio"/> 5		

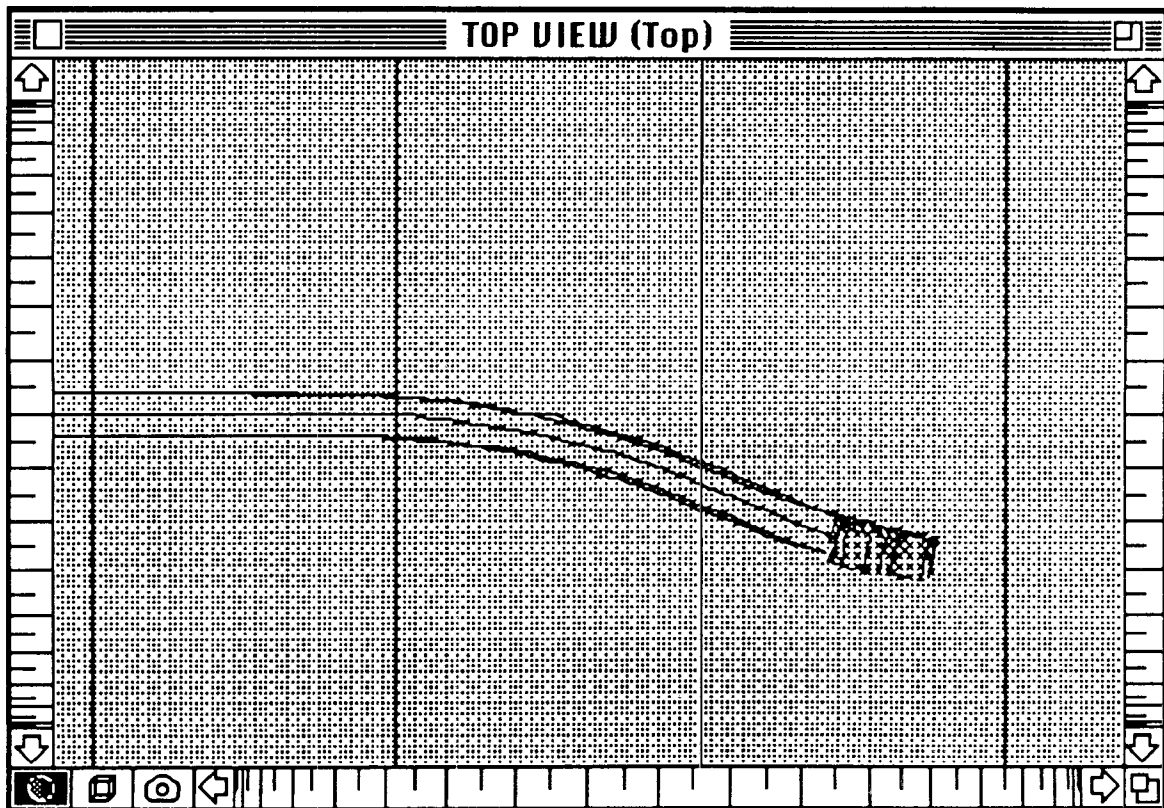
When the **REPEAT** option (under the **ANIMATION** menu) is active, the animation will continue to repeat until the mouse is clicked. The animation may be played frame by frame by turning **CAPS LOCK** on and pressing the space bar. The movie file should be closed before quitting the **SUPER 3D** application by choosing the **CLOSE MOVIE** choice in the **ANIMATION** menu. For further details concerning the animation process refer to the **SUPER 3D** manual.

The SUPER 3D package supplies an application PROJECTOR, which can be used to view movies and may be freely distributed. The PROJECTOR application gives the user freedom to set the frames per second and use the **REPEAT** option.

It should be noted that a color animation may only be played on a color monitor, while a black and white animation may be played on any monitor.

1.5.4 Vehicle CG Path and Wheel Center Trace

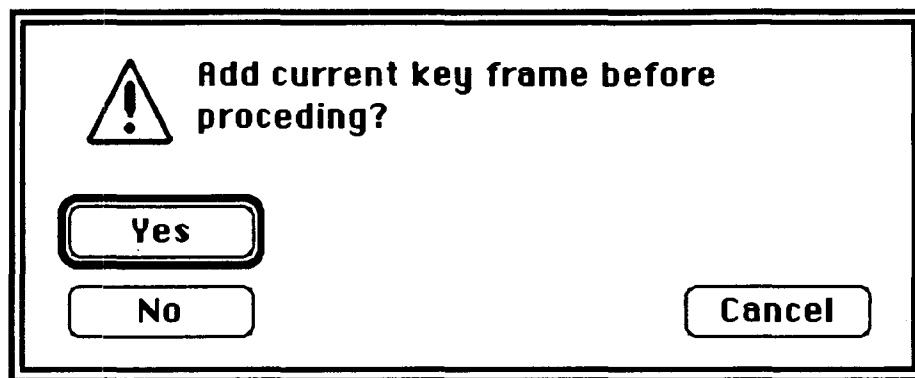
Vehicle CG path trace and tire path traces can be found in the **TOP VIEW** object under the **OBJECT** menu. This view is identical to the primary view with the addition of the path traces. This view, under normal circumstances, is viewed in the **STANDARD VIEW - TOP** and the path of the vehicle CG and the four individual tire are traced as the animation is played.



The CG path trace displays the sprung mass CG position when the vehicle moves. The tire path trace shows the path of the tire center.

1.6 CLOSING ANIMATION FILES

The vehicle file, key frames file and movie file should be closed before leaving the SUPER 3D application. This may be done by selecting **CLOSE MOVIE** and **CLOSE KEY FRAMES** under the **ANIMATION** menu. If the **CLOSE KEY FRAMES** opens the following menu, **No** or **Cancel** should always be selected.



The vehicle file should always be closed last. The vehicle file may be saved and opened again later, but only the key frame file, which was created at the same time as vehicle file, may be used to animate this vehicle file again. The key frame file can be saved and used to animate another view of the same simulation run, but no changes in the actual objects can be made without disrupting further animations.

The vehicle file is saved (closed) by selecting **SAVE** under the **FILE** menu. It may be reopened later by selecting **OPEN** under the **FILE** menu.

2. VAS TECHNICAL DESCRIPTION

2.1 GENERAL INFORMATION

The vehicle animations developed using the VAS software package enable the user to quickly assess the overall response of vehicles, applicable environments and maneuvers simulated without a need of evaluating the numerical data. The VAS program is able to animate the results from the IMIRS [1], ITRS [2] and AVRМ [3] simulations as well as experimental test results. In each case, the animations provide information concerning vehicle orientation, rollover stability, tire status, and overall vehicle motion. Simulation time is also presented to the viewer as a reference base. This chapter describes the rollover prevention energy reserve (RPER), which is utilized in the IMIRS, ITRS and AVRМ vehicle simulations to assess vehicle rollover stability, and provides information concerning the tire status displayed in vehicle animations. Also, a file format of required input data files for the VAS program is outlined.

2.2 ROLLOVER PREVENTION ENERGY RESERVE (RPER)

Investigations into the kinetic and potential energies of a vehicle system and its components such as sprung and unsprung masses, suspension elements, tires, etc., have resulted in the development of a dynamic function which has proven to be an accurate indicator of a vehicle's rollover stability. This dynamic function is called Rollover Prevention Energy Reserve (RPER) and was first used in the sensitivity analysis of STI's Tripped Rollover Model performed by Prof. A. G. Nalecz at the University of Missouri-Columbia [7]. Investigation into the RPER reveal that this energy-based function can successfully be used to assess the rollover propensity of vehicles [1], [2], [3] and [8]. Two basic observations of RPER hold in all three simulations for the variety of cases and data investigated. These observations (regarding rollover occurrence and rollover prevention energy reserve) are:

- (1) If a vehicle rolls over, its RPER must have become negative
- (2) If the value of RPER remains positive, the vehicle cannot rollover.

RPER has been defined slightly differently for the various vehicle models, depending on their complexity and the types of maneuver the simulation is capable of modelling.

2.2.1 ITRS Rollover Prevention Energy Reserve

RPER for the ITRS simulation [2] is defined as the difference between a vehicle's critical gravitational potential energy (V_{CRIT}) and its non-centroidal rolling kinetic energy (T_{NR}):

$$\text{RPER} = V_{\text{CRIT}} - T_{\text{NR}}$$

The critical gravitational potential energy (V_{CRIT}) of a vehicle is the potential energy necessary to raise the vehicle from its four wheel stance to static tip-over position (Figure 2):

$$\begin{aligned} V_{\text{CRIT}} &= (M_u + M_s) g \left[\sqrt{h_{\text{CG}}^2 + \left(\frac{\text{TRW}}{2}\right)^2} - h_{\text{CG}} \right] \\ &= (M_u + M_s) g h_{\text{CG}} \left[\sqrt{1 + \text{SRSF}^2} - 1 \right] \end{aligned}$$

where,

- M_u - vehicle unsprung mass
- M_s - vehicle sprung mass
- g - gravitational acceleration
- h_{CG} - static vehicle CG height
- TRW - vehicle track width
- $\text{SRSF} = \frac{\text{TRW}}{2 h_{\text{CG}}}$

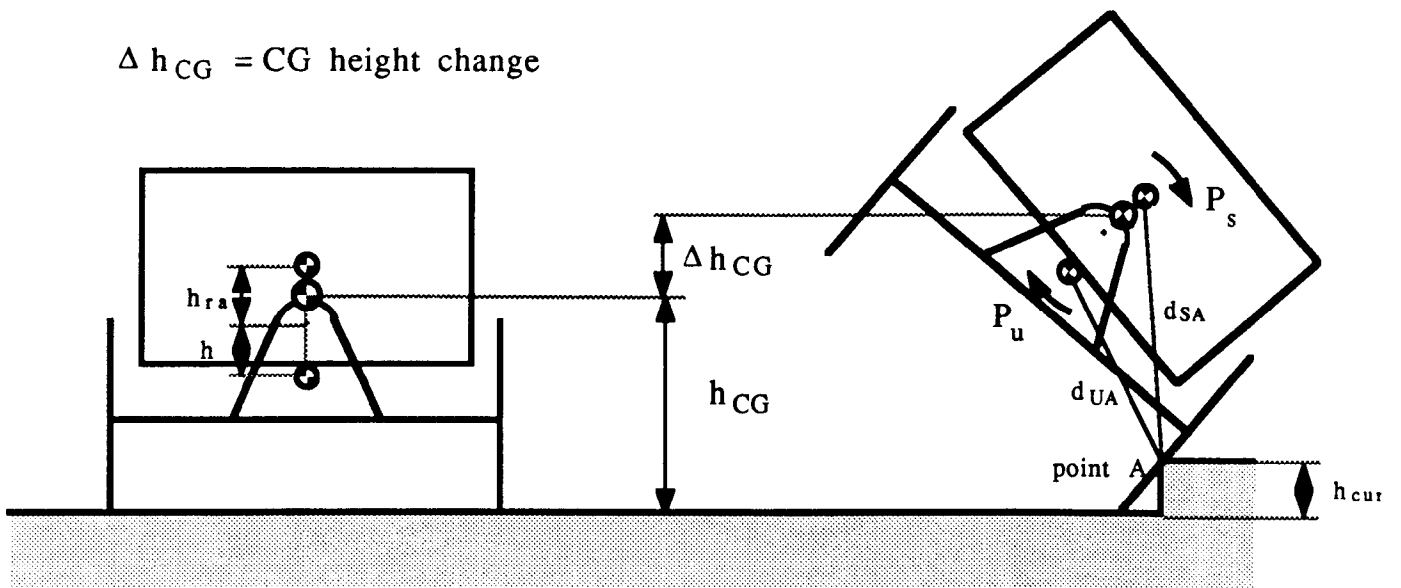


Figure 2. Vehicle CG Height.

The non-centroidal rolling kinetic energy (T_{NR}) is defined as the kinetic energy of a vehicle's rolling motion about the edge of the curb:

$$T_{NR} = \frac{1}{2} I_{xxSA} P_s^2 + \frac{1}{2} I_{xxUA} P_u^2$$

where,

- I_{xxSA} - sprung mass roll moment of inertia about the curb edge (point A)
- I_{xxUA} - unsprung mass roll moment of inertia about the curb edge (point A)
- P_s - sprung mass roll quasi-velocity
- P_u - unsprung mass roll quasi-velocity

Using the parallel-axis theorem, the non-centroidal moments of inertia of the vehicle's sprung and unsprung masses (Figure 1) can be found using the following relations:

$$I_{xxSA} = I_{xxs} + M_s d_{SA}^2$$

$$I_{xxUA} = I_{xxu} + M_u d_{UA}^2$$

where,

- I_{xxs} - centroidal roll inertia moment of sprung mass
- I_{xxu} - centroidal roll inertia moment of unsprung mass
- d_{SA}, d_{UA} - distances shown in Figure 2.

2.2.2 IMIRS Rollover Prevention Energy Reserve

A maneuver-induced (untripped) vehicle rollover is a qualitatively different behavior from tripped rollover. The investigation into the vehicle maneuver-induced rollover requires some modifications in the concept of Rollover Prevention Energy Reserve presented in previous section. One of the fundamental differences between the tripped and untripped rollover is the manner in which the vehicles gain the rotational kinetic energy associated with a vehicle's rolling motion. In the tripped rollover, a portion of the vehicle's translational kinetic energy is converted to rotational kinetic energy during impact with the curb. In the case of maneuver induced rollover, the vehicle's rolling kinetic energy is generated by inertia forces which act on the mass centers of sprung and unsprung masses. Also, the vehicle's energy in the tripped rollover behavior is largely dissipative in nature, while in the maneuver induced rollover external forces acting on the vehicle tend to excite it from a position of equilibrium.

The measure of RPER used in the IMIRS vehicle model was computed using the following relation [1]:

$$RPER = V_{crit} - (V_g - V_{g0}) - T$$

where,

- V_{crit} - the change of gravitational potential energy of the vehicle from static to tipover position
- V_g - the instantaneous gravitational potential energy of the vehicle
- V_{g0} - the gravitational potential energy of the vehicle in static position
- T - the rolling kinetic energy of the vehicle

2.2.3 AVRM Rollover Prevention Energy Reserve

The AVRM vehicle simulation was developed to investigate a variety of sublimit and limit handling maneuvers, and different rollover situations [3]. The model can simulate vehicle tripped rollover caused by skidding into soil, curb or embankments as well as maneuver-induced rollover on flat terrain, or on a series of terrain planes with different frictional properties. As explained in previous sections, different rollover situations have different sources of rollover energy and different rollover axes. These fundamental differences required the development of at least two separate energy based rollover functions. The Rollover Prevention Energy Reserve #1 (RPER1) is used by the AVRM model to investigate maneuver-induced rollover and rollover caused by skidding into soil or embankments. The Rollover Prevention Energy Reserve #2 (RPER2) is utilized to analyze rollovers resulting from vehicle impact with the curb.

Both RPER1 and RPER2 represent the difference between the vehicle gravitational potential energy (which has stabilizing effect) and the non-centroidal rolling kinetic energy [3].

$$RPER1 = V_{CRIT1} - T_{NR}$$

$$RPER2 = V_{CRIT2} - T_{NR}$$

where,

$$T_{NR} = .5 * (I_{xx} + M * d_{cga}^2) * P^2$$

and

I_{xx} - centroidal roll moment of inertia of the vehicle

M - vehicle mass

$$d_{cga} = HCG * \sqrt{1 + SRSF^2}$$

HCG - vehicle CG height

P - vehicle roll quasi-velocity

$SRSF$ - static rollover stability factor

The difference between RPER1 and RPER2 lies in a method the critical gravitational potential energies V_{CRIT1} and V_{CRIT2} are calculated. V_{CRIT1} is defined as the difference between the gravitational potential energy at the vehicle tipover position V_{TIP} and the current (instantaneous) gravitational potential energy (V_{INST}).

$$V_{CRIT1} = V_{TIP} - V_{INST}$$

where,

$$V_{TIP} = M * g * d_{cga}$$

$$V_{INST} = M * g * H_{inst}$$

and

$$d_{cga} = H_{CG} * \sqrt{1 + SRSF^2}$$

$$H_{inst} = \frac{TRW}{2} * \sin(\phi) + H_{CG} * \cos(\phi)$$

ϕ - sprung mass roll angle

V_{CRIT2} represents the difference between the gravitational potential energy at the tipover position V_{TIP} and the gravitational potential energy of the vehicle in a static four wheel stance $V_{INITIAL}$

$$V_{CRIT2} = V_{TIP} - V_{INITIAL}$$

where,

V_{TIP} - is the same as for RPER1

$V_{INITIAL} = m(i) * g * z(i)$ for sprung mass, suspension mass and tire masses

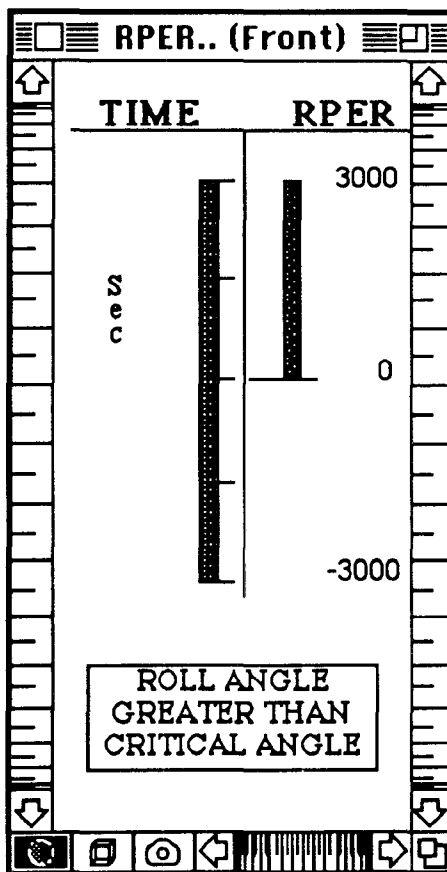
and

$z(i)$ - individual mass CG height from ground plane in a static condition

For more information regarding the RPER functions in the AVR simulation refer to [3].

2.2.4 RPER Bar Graph

The bar graph animation of vehicle RPER is provided in the **RPER..** object under the **OBJECT** menu. This bar graph extends from the maximum value of RPER (rounded up to the nearest thousand) to an equal negative value. The animated value of RPER is always given in SI energy units of J ($1 \text{ J} = \text{N}\cdot\text{m}$). If RPER drops below zero thereby predicting rollover occurrence, the RPER bar graph will indicate this with a color change from blue to red.



2.3 ANIMATION OF TIME

Simulation time is animated together with the vehicle RPER in the **RPER..** object under the **OBJECT** menu. The last time point is found by the VAS program by scanning the entire sprung mass data file (FILE.DAT) prior to the writing of the vehicle file. This time is rounded up to the nearest second and is used for the upper limit of the time bar graph.

In the sample shown above the simulation run time was between three and four seconds and the bar graph extends to four seconds. Each tick mark in the time bar graph represents a second of simulation time.

2.4 VEHICLE ROLL ANGLE

If the sprung mass roll angle exceeds the critical angle (angle at which the sprung mass CG extends past the vehicle track), the vehicle would roll over under static conditions. Beyond this position the gravitational potential energy is working to continue the vehicle's rollover motion, where previously it had acted to inhibit vehicle rollover. The sprung mass roll angle exceeding the critical roll angle indicates a situation in which the vehicle has virtually no chance of recovery and that rollover will occur. This position of the vehicle is deemed significant and is indicated in the **RPER..** window by the yellow box containing the following message.

ROLL ANGLE GREATER THAN CRITICAL ANGLE
--

2.5 TIRE STATUS

Tire status of all four wheels is indicated by color changes in the tires during the ongoing animation. The VAS software is capable of indicating tire normal operating conditions (black color), tire which is locked and/or saturated (pink color), and tire which has a zero normal load (purple color). The data for tire conditions are taken from the actual simulation runs and are stored

in the four tire flags (FFL, FRF, FRR, and FRL) found in the tire data files (FRONT.TIR and REAR.TIR).

2.5.1 ITRS Tire Status

The ITRS model simulates the vehicle skidding motion and subsequent tripped rollover. Under this assumption, the vehicle tire can only be in two conditions; locked/saturated - shown by pink color or with normal force equal to zero - purple color. If the wheel is lock/saturated (during skidding), the tire flags (Fij) are set to 2.0. When a tire's normal reaction (FZij) becomes zero, the individual tire flag is reset to 1.0. The individual tire's flag will be reset to 2.0 if the tire should regain contact with the terrain. It should be noted that the tires' normal reactions determine the flags' status and it is possible to have impact forces without a normal reaction on the wheel in this vehicle model.

2.5.2 IMIRS Tire Status

The IMIRS simulation model is capable of generating tire forces under variety of sub-limit and limit conditions, which, through the VAS animation program, are indicated by color changes of four tires. The animation shows black tires to indicate the normal (sub-limit) operating conditions, pink tires when the wheels become locked and/or saturated, and purple tires when the wheels are out of contact with the terrain.

The vehicle individual tire is considered saturated (the tire flag Fij = 2.0) if the following condition is met [1]:

$$ABS \left(\bar{\beta}_i - \frac{\bar{\beta}_i |\bar{\beta}_i|}{3} + \frac{\bar{\beta}_i^3}{27} \right) \geq 1.0$$

where,

$\bar{\beta}_i$. non-dimensional slip angle

A tire is locked if the requested braking force is greater than the maximum allowable longitudinal force which the tire can generate. In this condition the tire slip ratio $S_i = 1$ and the tire flag $F_{ij} = 2.0$.

$$F_{x_i}' > F_{x_{\max}}' \quad \text{and} \quad S_i = 1$$

The change of tire color also occurs if the individual tire leaves the terrain. The tire's contact status with terrain is determined by the IMIRS rollover model, which accounts for both longitudinal (due to braking) and lateral (due to cornering) weight transfers. Whenever tire normal load becomes zero the tire status flag is changed to $F_{ij} = 1.0$. For more information regarding tire status please refer to the IMIRS manual [1].

2.5.3 AVRM Tire Status

The AVRМ utilizes three tire models; frictional, impact and soil model. The AVRМ's tire frictional model is very similar to the one employed in the IMIRS simulation, with an exception that AVRМ tire model is also capable of generating forces in extreme overloaded conditions. Tire saturation and tire lockup are defined in similar manner in both simulations. However, the tire normal reactions in the AVRМ are determined differently than in the IMIRS simulation. The AVRМ tire impact model determines tire reactions in three directions, allowing both lateral and longitudinal impact forces to be calculated as well as tire normal reactions. The tire status flag in the AVRМ indicates no tire contact ($F_{ij} = 1.0$) if the tire is completely out of contact with the terrain. The IMIRS and ITRS utilize the tire normal reaction only to set this flag, and therefore the possibility exists that lateral or longitudinal contact (i.e.. with the curb) exists and the flag is set for no tire contact.

2.6 FILE FORMAT REQUIRED FOR ANIMATION

Each of the three simulations which are capable of being animated create four files of data for the purpose of animation. These files are then read by the VAS software package where they are being processed and then written into two text files required by SUPER 3D to produce the

animation (Figure 3). SUPER 3D will import the two VAS output files, the user will choose the desired views, and a single animation file will be created.

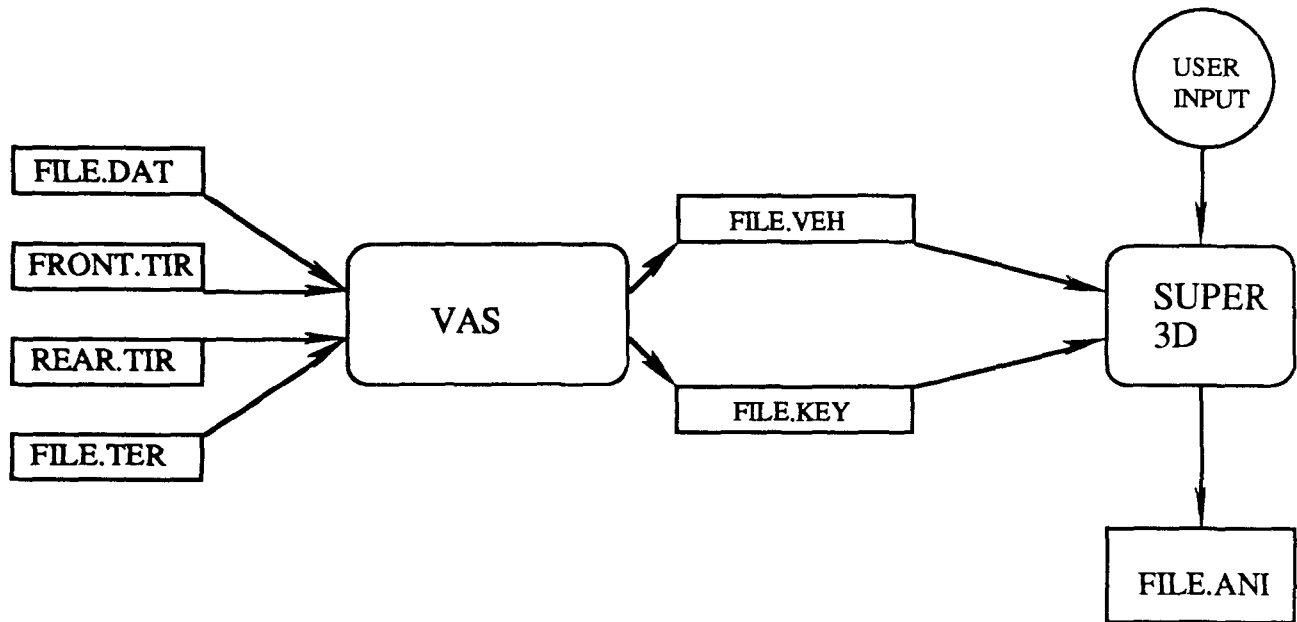


Figure 3. Input and Output of VAS Software and Super 3D.

The file format for four VAS input files is relatively simple and is described below. The sprung mass data file FILE.DAT stores the sprung mass position and orientation data. In addition, FILE.DAT contains some vehicle data to be utilized when producing the vehicle file FILE.VEH.

The first line of the sprung mass data file contains a dummy parameter. This parameter is an integer variable (NO) and is not currently used by the VAS software package. The second line contains relevant vehicle data. There are the vehicle wheelbase, CG height, track width, and other data which are used in the vehicle file created by the animation software. The following data is contained in the second line of the FILE.DAT.

- a - distance from vehicle CG to front axle
- b - distance from vehicle CG to rear axle
- TRW - vehicle track width

CGZ - vehicle sprung mass vertical CG height
 TR - tire radius

All subsequent lines contain time and the sprung mass position and orientation data from the simulation run. In addition, the vehicle Rollover Prevention Energy Reserve (RPER) is stored in this data file. The following sprung mass data is stored on lines 3 through the end of the file.

T - Time
 XSP - Sprung mass longitudinal position in the absolute reference system
 YSP - Sprung mass lateral position in the absolute reference system
 ZSP - Sprung mass vertical position in the absolute reference system
 PHI - Sprung mass roll angle
 THE - Sprung mass pitch angle
 PSI - Sprung mass yaw angle
 RPER - Vehicle Rollover Prevention Energy Reserve

An example of the necessary format for the sprung mass data file is shown below.

Sprung Mass Data File Format (FILE.DAT)

```

N0
a      b      TRW      CGZ      TR
T(1)   XSP     YSP     ZSP     PHI     THE     PSI     RPER
T(2)   XSP     YSP     ZSP     PHI     THE     PSI     RPER
T(3)   XSP     YSP     ZSP     PHI     THE     PSI     RPER
.
.
.
T(i)   XSP     YSP     ZSP     PHI     THE     PSI     RPER

```

The tire data files FRONT.TIR and REAR.TIR have identical formats. FRONT.TIR file contains the data for the two front tires, and REAR.TIR contains data for the rear tires. Again, the first line in both of these data files has dummy parameter (N0), which has no effect on VAS animation program. Lines 2 through the end of the files contain the position data for two tires. The tire data is written in a non-inertial reference system which has origin at the vehicle sprung

mass CG. Tire position data must be written in this reference system for proper animation of simulation results.

The tire data files also contain the flag (Fij) indicating the status of each individual tire. The tire status may be normal operating conditions, tire saturated and/or locked, or tire out of contact with the terrain. The following color code pattern and values indicate tire status:

<u>CONDITION</u>	<u>VALUE</u>	<u>COLOR</u>
NORMAL	- 0.0 -	BLACK
OUT OF CONTACT	- 1.0 -	PURPLE
SATURATED/LOCKED	- 2.0 -	PINK

For more information about the tire status refer to Section 2.5.

The following data is used in the tire data files.

- Xij - Longitudinal position of wheel center in sprung mass NIRS
- Yij - Lateral position of wheel center in sprung mass NIRS
- Zij - Vertical position of wheel center in sprung mass NIRS
- Fij - Tire status flag

Examples of the tire data files are shown below.

Front Tire Data File Format (FRONT.TIR)

N0								
T (1)	XRF	YRF	ZRF	FRF	XLF	YLF	ZLF	FLF
T (2)	XRF	YRF	ZRF	FRF	XLF	YLF	ZLF	FLF
T (3)	XRF	YRF	ZRF	FRF	XLF	YLF	ZLF	FLF
.								.
.								.
.								.
T (i)	XRF	YRF	ZRF	FRF	XLF	YLF	ZLF	FLF

Rear Tire Data File Format (REAR.TIR)

NO								
T(1)	XRR	YRR	ZRR	FRR	XLR	YLR	ZLR	FLR
T(2)	XRR	YRR	ZRR	FRR	XLR	YLR	ZLR	FLR
T(3)	XRR	YRR	ZRR	FRR	XLR	YLR	ZLR	FLR
.								.
.								.
.								.
T(i)	XRR	YRR	ZRR	FRR	XLR	YLR	ZLR	FLR

The terrain data file FILE.TER contains the data necessary to create the prismatic terrain profile for the vehicle file. The terrain planes are uniform in the x-direction and vary in the y and z directions. The current version of VAS program allows for any terrain profile built from up to 25 planes. The first line in the terrain file contains an integer value which indicates the number of terrain planes being simulated. The second line contains y and z coordinates of the beginning of the first terrain plane and is followed by the y and z coordinates of the end of first plane. The data continues in pairs for the entire set of terrain planes.

Terrain Data File Format (FILE.TER)

NTERR	
YPOINT1 (1)	ZPOINT1 (1)
YPOINT2 (1)	ZPOINT2 (1)
YPOINT1 (2)	ZPOINT1 (2)
YPOINT2 (2)	ZPOINT2 (2)
.	.
.	.
.	.
YPOINT1 (NTERR)	ZPOINT1 (NTERR)
YPOINT2 (NTERR)	ZPOINT2 (NTERR)

2.7 VAS OUTPUT FILE STRUCTURE

The VAS animation program creates two text files (Figure 3) which can then be read by SUPER 3D. The FILE.VEH file contains the SUPER 3D commands used to draw the vehicle and terrain under static conditions. The FILE.KEY file contains the SUPER 3D animation commands

necessary to animate vehicle motion, position and status of four tires, time and RPER bar graphs, and the path traces of vehicle's CG and wheels' centers.

The information provided in next two sections outlines the structure of FILE.VEH and FILE.KEY animation files. This information is provided only for the sake of completeness of this report and is not needed in any way to properly use the VAS animation program. It should be noted that the user's familiarity with SUPER 3D Manual [6] will greatly ease an understanding of the information given below.

2.7.1 FILE.VEH FILE

The animation program utilizes a hierarchical object system (Figure 4) which allows three dimensional pictures, stored as objects, to be drawn once and inserted into a view or a new object. These objects (such as wheels, entire vehicle or terrain) can be rotated, translated and scaled using only three simple commands, so that different views of the same object, or of several objects together, can be arranged and animated. In addition, an object can be opened and used to view the items within it independently. These view objects (referred to as secondary views) are used to create different combinations and animations of drawn objects.

The FILE.VEH file contains the SUPER 3D commands to draw all objects and views utilized in the VAS animation. The views contained in the FILE.VEH file include the opening view or **PRIMARY VIEW** and **CAR-REAR**, **CAR-ROTATE** , **RPER..** , and **TOP VIEW** as secondary views. The other objects found in the FILE.VEH are used to draw and transform the various graphics utilized in the animation. An outline of the structure of the vehicle file FILE.VEH is given in Appendix A.

The hierarchical method used to create a view of the vehicle and terrain requires a number of levels of objects to be created (refer to [6]). An object is created (such as a tire) and inserted into a new object (the entire vehicle) which then can be inserted into a new object or view. This allow all components to be animated by applying the movement command to the final object. It should be noted that objects may be defined (drawn) at nearly any point in the vehicle file and inserted into other objects, which may be located either prior to, or after it in the vehicle file.

The vehicle file first draws the five tires of the vehicle (although the tires are not defined first). The five tire objects (**TIRE1**, **TIRE2**, **TIRE3**, **TIRE4**, **TIRE**) contain all the commands

necessary to draw and color the four vehicle tires and the one attached to the vehicle rear. The first four separate objects are required to allow the tire status to be animated by color changes. The tires are then inserted in the **CAR** object which draws the utility vehicle chassis in the SUPER 3D reference system.

The **CAR** object is rotated to the standard vehicle **NIRS** as it is placed into **CAR1**. **CAR1** is an intermediate step and should not be of significant interest to the reader. **CAR1** is rotated according to the system response as it is inserted in **CAR-ROTATE**. Finally, the **CAR-ROTATE** object is inserted and translated into the **PRIMARY VIEW**. The **PRIMARY VIEW** also contains the **TERRAIN** object which has the prismatic terrain profile.

The secondary view **CAR-REAR** contains both **TERRAIN2** and **CAR1** objects. **TERRAIN2** contains the **TERRAIN** object with additional planes drawn to blank over an object, which drops below the terrain surface. **CAR1** was utilized to allow only the vehicle roll to be animated. The vehicle is allowed to heave and roll, while the terrain yaws and translates in the lateral direction. The vehicle's absolute longitudinal motion is neglected (the terrain profile is prismatic along the x direction). In addition, the vehicle pitch is assumed to be small and neglected. In cases where vehicle pitch becomes significant this view should not be utilized.

The **RPER..** object shows the bar graphs of rollover prevention energy reserve and time. In addition, the **RPER..** contains graphics, which appear when the vehicle roll angle exceeds the static tipover angle. It also is a independent secondary view not utilized by other views.

TOP VIEW is a secondary view similar in structure to the **PRIMARY VIEW**. In addition to the vehicle and terrain objects, the **TOP VIEW** contains the path traces (object **PATH**) of the vehicle CG and centers of four wheels. This section is of variable size depending on the number of data points stored in the input files.

A sample of **FILE.VEH** file for Example 2 (**AVRM - TEST11**) is shown in Appendix B.

DIAGRAM OF VEHICLE FILE HIERARCHICAL MODEL

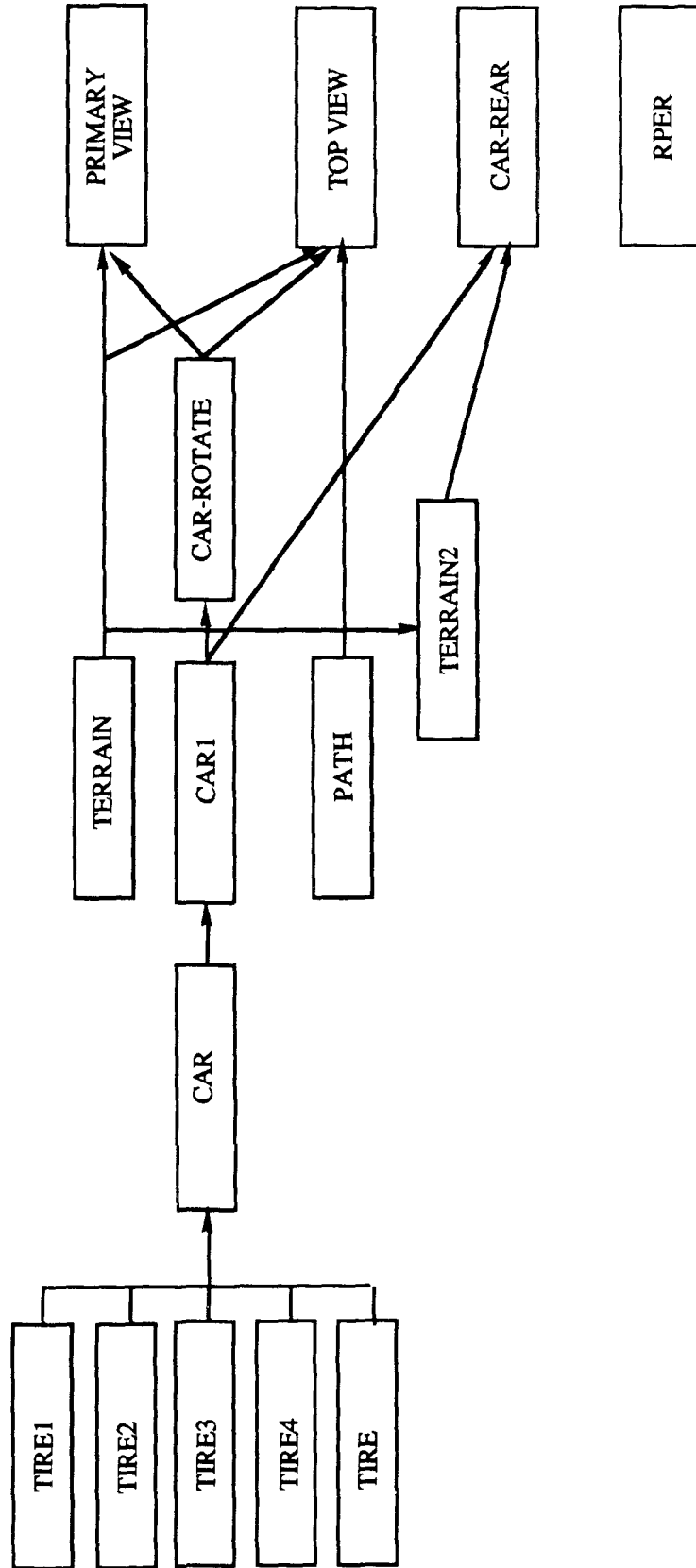


Figure 4. Hierarchical Structure of VAS Animation Software

2.7.2 FILE.KEY FILE

The second animation file created by the VAS program, the FILE.KEY file contains the text commands required by SUPER 3D to animate the motion of the vehicle. The key frames file is broken into a new section for every data point stored. The first line of each section indicates the time at which the commands are to be implemented. The last line of each section always contains an asterisk. The text statements between first and last lines indicate which lines of the FILE.VEH are to be replaced at that instant of time.

All commands given in the key frames files are identical in format to commands utilized in the vehicle file and are used as replacement lines with the new values for the animation process. A list and brief description of how the commands are used in relation to the vehicle file is given below. For more information concerning the SUPER 3D drawing commands, please consult the SUPER 3D Manual [6].

TIME	-	time of animation time step
1;ORIGIN	-	position of sprung mass CG
1891;ORIGIN	-	position of sprung mass CG in top view
16;ORIGIN	-	position of sprung mass CG in rear view
17; ROTATE	-	orientation of sprung mass CG in rear view
20; ORIGIN	-	position of terrain2 in rear view
21; ROTATE	-	orientation of terrain 2 in rear view
11; ROTATE	-	orientation of sprung mass CG
481; FILL	-	color of left front tire
32;ORIGIN	-	position of left front tire
763; FILL	-	color of right front tire
36;ORIGIN	-	position of right front tire
1045; FILL	-	color of left rear tire
40;ORIGIN	-	position of left rear tire
1327; FILL	-	color of right rear tire
44;ORIGIN	-	position of right rear tire
1979; FILL	-	color of critical angle color box
1980; PEN	-	activate critical angle comment
1913; POLYGON	-	position of left corner of time bar graph
1916; POLYGON	-	position of right corner of time bar graph
1918; FILL	-	color of RPER bar graph
1920; POLYGON	-	position of corner of RPER bar graph
1921; POLYGON	-	position of corner of RPER bar graph
1922; POLYGON	-	position of corner of RPER bar graph
1923; POLYGON	-	position of corner of RPER bar graph
2025; START	-	start CG path trace (only at time t = 0)
2026; LINE	-	point n of CG path trace
2027; PEN	-	turn of CG path after point n
2028; START	-	start invisible CG path trace
2216; START	-	start tire # 1 path trace (only at time t = 0)
2217; LINE	-	point n of tire # 1 path trace

2218; PEN - turn of tire # 1 path after point n
 2219; START - start invisible tire # 1 path trace
 2407; START - start tire # 2 path trace (only at time t = 0)
 2408; LINE - point n of tire # 2 path trace
 2409; PEN - turn of tire # 2 path after point n
 2410; START - start invisible tire # 2 path trace
 2598; START - start tire # 3 path trace (only at time t = 0)
 2599; LINE - point n of tire # 3 path trace
 2600; PEN - turn of tire # 3 path after point n
 2601; START - start invisible tire # 3 path trace
 2789; START - start tire # 4 path trace (only at time t = 0)
 2790; LINE - point n of tire # 4 path trace
 2791; PEN - turn of tire # 4 path after point n
 2792; START - start invisible tire # 4 path trace
 * - signal the end of time step

A portion of an actual key frames file is given below.

TIME	0.00000E+00	0.000	0.000
1; ORIGIN	0.00000E+00	0.73240	-0.49040
1891; ORIGIN	0.00000E+00	0.73240	-0.49040
16; ORIGIN	0.00000E+00	0.73240	0.00000E+00
17; ROTATE	96.299	0.00000E+00	0.00000E+00
20; ORIGIN	0.00000E+00	0.00000E+00	0.49040
21; ROTATE	0.00000E+00	-5.0000	0.00000E+00
11; ROTATE	6.2987	0.00000E+00	-5.0000
481; FILL	33000.00	.0000000E+00	55535.00
32; ORIGIN	1.0340	-0.40960	-0.66070
763; FILL	55535.00	.0000000E+00	33000.00
36; ORIGIN	1.0340	-0.35250	0.64610
1045; FILL	33000.00	.0000000E+00	55535.00
40; ORIGIN	-0.99800	-0.40990	-0.66040
1327; FILL	55535.00	0000000E+00	33000.00
44; ORIGIN	-0.99800	-0.40990	0.64650
1979; FILL	65535.	65535.	65535.
1980; PEN	65535.	65535.	65535.
1913; POLYGON	-100.00	-600.00	0.00000E+00
1916; POLYGON	-50.000	-600.00	0.00000E+00
1918; FILL	0000000E+00	0000000E+00	65535.00
1920; POLYGON	150.00	556.97	0.00000E+00
1921; POLYGON	150.00	0.00000E+00	0.00000E+00
1922; POLYGON	200.00	0.00000E+00	0.00000E+00
1923; POLYGON	200.00	556.97	0.00000E+00
2025; START	0.00000E+00	-0.49040	-0.73240
2026; LINE	0.00000E+00	-0.49040	-0.73240
2027; PEN	-1.0000	0.00000E+00	0.00000E+00
2028; START	0.00000E+00	0.00000E+00	0.00000E+00
2216; START	0.96892	-1.2795	-0.39775
2217; LINE	0.96892	-1.2795	-0.39775
2218; PEN	-1.0000	0.00000E+00	0.00000E+00
2219; START	0.00000E+00	0.00000E+00	0.00000E+00
2407; START	-1.0553	-1.1021	-0.39742
2408; LINE	-1.0553	-1.1021	-0.39742

2409; PEN	-1.0000	0.00000E+00	0.00000E+00
2410; START	0.00000E+00	0.00000E+00	0.00000E+00
2598; START	1.0827	0.20721E-01	-0.31115
2599; LINE	1.0827	0.20721E-01	-0.31115
2600; PEN	-1.0000	0.00000E+00	0.00000E+00
2601; START	0.00000E+00	0.00000E+00	0.00000E+00
2789; START	-0.94212	0.19193	-0.25405
2790; LINE	-0.94212	0.19193	-0.25405
2791; PEN	-1.0000	0.00000E+00	0.00000E+00
2792; START	0.00000E+00	0.00000E+00	0.00000E+00

*

A sample of FILE.KEY file for Example 2 (AVRM - TEST11) is given in Appendix C.

3. SAMPLE ANIMATIONS

This chapter demonstrates an applicability of the Vehicle Animation Software (VAS) and added animation options to the IMIRS [1], ITRS [2] and AVRМ [3] vehicle handling and rollover simulations. A total of 24 vehicle motion animations were produced using 12 different outputs from 3 simulations (2 animations for each simulation output) to demonstrate capability of the VAS software. All 24 animations are delivered to NHTSA Headquarters on the Macintosh hard disk.

Below is a short description of the input given to each of the three simulations to produce the sample animations. The complete set of all input data files and runtime data for each simulation is given in Appendix D. One set of hard copies of sample simulation output files from Example 4 (ITRS - TEST2) is enclosed in Appendix E. As mentioned in previous sections, the sample VAS output files are enclosed in Appendices B and C. Copies of all simulation input and output data files are also provided on magnetic tape and floppy disks.

SAMPLE ANIMATIONS FROM THE AVRМ SIMULATION

EXAMPLE 1 - TEST6

This AVRМ run shows the response of a utility vehicle driven on pavement towards a 30 degrees slope. The vehicle forward speed is 15 m/s, the heading angle (relative to the slope edge) is 50 degrees, and its front right tire is initially located 7.4 meters from the beginning of the slope. The slope drops a total of 3 meters. At the bottom of the slope is a flat pavement.

At 0.2 seconds, just prior to crossing the slope, the vehicle's rear tires are locked due to a heavy braking and a steering input of 4 degrees is applied to the front tires. This causes the vehicle to cross the slope in a mild skid. The vehicle drives over the pavement/slope discontinuity, then rolls and pitches over as it slides down the slope. The vehicle then impacts the terrain at the bottom of the slope, crashes and oscillates on its roof before coming to the rest.

EXAMPLE 2 - TEST11

The second AVRМ example demonstrates a vehicle which is skidding into a pavement/soil discontinuity. The soil terrain plane is of the same height as the pavement plane. The vehicle's front right tire is initially located 7.4 meters from the soil.

The vehicle moves with a forward speed 15 m/s under the heading angle of 50 degrees. Again, at 0.2 seconds, just prior to crossing the discontinuity, the vehicle rear tires are locked and a steering input of 4 degrees is given to the front tires. As in the first example, this forces the vehicle into a mild skid. The vehicle's front right tire crosses the discontinuity first and vehicle yaw motion increases. The soil plowing forces act as a tripping mechanism causing the vehicle to rollover.

EXAMPLE 3 - TEST18

Example 3 shows a vehicle moving with the speed 12 m/s and striking a 0.15 meter high curb located 8 meters away from the front right tire. The vehicle impacts the curb under angle of 60 degrees, which results in vehicle roll and pitch as well as in the wheels losing a temporary contact with the ground. No vehicle braking or steering were applied in this simulation run. The vehicle hops the curb and continues its forward motion.

SAMPLE ANIMATIONS FROM THE ITRS SIMULATION

EXAMPLE 4 - TEST2

This example presents a tripped rollover of a vehicle skidding into a curb. The vehicle is initially located 40 ft away from the curb and has an initial velocity of 50 ft/s. The initial heading angle (relative to the curb) is 15 degrees and the curb is 0.5 foot high. The vehicle yaws slightly as it skids toward the curb, which upon impact induces vehicle rollover.

EXAMPLE 5 - TEST3

The vehicle skids sideways (0 degree initial yaw angle) toward the curb at 50 ft/s. Again, the 0.5 foot curb is initially located 40 feet away from the vehicle. The vehicle impacts the curb and rapidly rolls over.

EXAMPLE 6 - TEST4

This is a non-rollover case of a vehicle skidding sideways and striking a curb. The initial conditions used in this simulation include: yaw angle of 15 degrees, distance from the curb 40 feet and skidding velocity of 46 ft/s. The curb is 0.5 foot high. The vehicle strikes the curb, rolls to a maximum angle of approximately 25 degrees, and then rolls back and forth before coming to a stable position on four wheels.

SAMPLE ANIMATIONS FROM THE IMIRS SIMULATION

EXAMPLE 7 - TEST1

This animation shows a maneuver induced vehicle rollover on pavement obtained from the IMIRS simulation. A ramp steering input of 10 degrees is applied first to the left and is followed by a 12 degrees ramp steering input to the right. No braking is activated. The vehicle rolls over after the steering to the right is applied.

EXAMPLE 8 - TEST2

This animation presents a vehicle in a simple J-turn rollover situation. The vehicle speed is 22 m/s when a ramp steering input of 15 degrees to the right is applied. As a result of this steering input the vehicle rolls over.

EXAMPLE 9 - TEST4

This case demonstrates a vehicle in a maneuver induced skid on pavement. The vehicle initial speed is 22 m/s. The vehicle is steered to the right 25 degrees in a series of ramp steering inputs. At 0.4 seconds, vehicle braking is applied to a maximum of 0.9 g's, which causes the vehicle to skid.

SAMPLE ANIMATIONS OF SIMULATED EXPERIMENTAL TESTS

Because experimental test results suitable for animating were unavailable at this time, additional runs of the three simulations were arranged in order to simulate the experimental data. It should be noted, however, that any experimental results can be animated if the test data are written using file format outlined in section 2.6 of this report.

EXAMPLE 10 - TEST1

This example presents a tripped rollover of a vehicle skidding into a curb. The vehicle is initially located 2.234 meters away from the curb and has an initial velocity of 8 m/s. The initial heading angle (relative to the curb) is 20 degrees and the curb is 0.15 meters high. The vehicle impacts the curb, rolls over and spins on the its side.

EXAMPLE 11 - TEST2

This sample animation shows curb tripped rollover with simultaneous impact of front and rear wheels. The vehicle is initially located 11.8 meters away from the curb and has an initial lateral velocity of 15.1 m/s. The initial heading angle (relative to the curb) is -5 degrees which allows for both tires to strike the 0.15 m high curb at nearly the same time. The vehicle impacts the curb, rolls over on its roof and then onto the passenger side, and skids before coming to a rest.

EXAMPLE 12 - TEST14

This example demonstrates a vehicle tripped rollover caused by a soil/pavement interface. The vehicle is initially 8 meters away and parallel to the soil. The initial velocity is 13 m/s. The vehicle enters the soil terrain and quickly rolls over.



APPENDIX A - DIAGRAM OF VEHICLE FILE STRUCTURE

```
PRIMARY VIEW
  CAR-ROTATE
  TERRAIN
end PRIMARY VIEW
```

```
CAR-ROTATE
  CAR1
end CAR-ROTATE
```

```
CAR-REAR
  CAR1
  TERRAIN2
end CAR-REAR
```

```
CAR1
  CAR
end CAR1
```

```
CAR
  TIRE1
  TIRE2
  TIRE3
  TIRE4
  draw portion of vehicle
  TIRE
  draw additional details of vehicle
end CAR
```

```
TIRE1
  draw tire 1
end TIRE1
```

```
TIRE2
  draw tire 3
end TIRE2
```

```
TIRE3
  draw tire 3
end TIRE3
```

```
TIRE4
  draw tire 4
end TIRE4
```

```
TIRE
  draw rear tire
end TIRE
```

```
TOP VIEW
  CAR-ROTATE
  TERRAIN
```

```
        PATH
end TOP VIEW

RPER..
    draw rper box
end RPER

PATH
    draw tire path and cg path
end PATH

TERRAIN2
    TERRAIN
        block terrain
end TERRAIN2

TERRAIN
    draw terrain
end TERRAIN
```


APPENDIX B - SAMPLE VEHICLE FILE (FILE.VEH)

Shown below is a sample vehicle file FILE.VEH with assigned by SUPER 3D line numbers upon importation. It should be noted that output text file (original FILE.VEH) from the Vehicle Animation Software does not contain these line numbers. The line numbers shown below are utilized in the animation key frames file.

VEHICLE FILE (AVRM.VEH for TEST11)

```

0;      object      CAR-ROTATE
1;      origin      0.000      0.693      0.000
2;      rotate      90.000      0.000      0.000
3;      scale       1.000      1.000      1.000
4;      object      TERRAIN
5;      origin      0.000      0.000      0.000
6;      rotate      0.000      0.000      0.000
7;      scale       1.000      1.000      1.000
8;      return      0.000      0.000      0.000
:CAR-ROTATE
9;      object      car1
10;     origin      0.000      0.000      0.000
11;     rotate      0.000      0.000      0.000
12;     scale       1.000      1.000      1.000
13;     end         0.000      0.000      0.000
14;     return      0.000      0.000      0.000
:CAR-REAR
15;     object      car1
16;     origin      0.000      0.693      0.000
17;     rotate      90.000      0.000      0.000
18;     scale       1.000      1.000      1.000
19;     object      TERRAIN2
20;     origin      0.000      0.000      0.000
21;     rotate      0.000      0.000      0.000
22;     scale       1.000      1.000      1.000
23;     end         0.000      0.000      0.000
24;     return      0.000      0.000      0.000
:car1
25;     object      car
26;     origin      0.000      0.000      0.000
27;     rotate      -90.000      0.000      0.000
28;     scale       1.000      1.000      1.000
29;     end         0.000      0.000      0.000
30;     return      0.000      0.000      0.000
:car
31;     object      TIRE1
32;     origin      1.034      -0.381      -0.654
33;     rotate      0.000      0.000      0.000
34;     scale       0.891      0.891      1.000
35;     object      TIRE2
36;     origin      1.034      -0.381      0.654
37;     rotate      0.000      180.000      0.000
38;     scale       0.891      0.891      1.000
39;     object      TIRE3

```

40;	origin	-0.998	-0.381	-0.654
41;	rotate	0.000	0.000	0.000
42;	scale	0.891	0.891	1.000
43;	object	TIRE4		
44;	origin	-0.998	-0.381	0.654
45;	rotate	0.000	180.000	0.000
46;	scale	0.891	0.891	1.000
47;	fill	63056.000	50545.000	21530.000
48;	pen	0.000	0.000	0.000
49;	normal	1.12e-5	0.004	-1.000
50;	polygon	-1.584	0.961	-0.632
51;	polygon	-1.494	0.909	-0.646
52;	polygon	-1.574	0.369	-0.680
53;	polygon	0.616	0.368	-0.680
54;	polygon	0.316	0.968	-0.631
55;	polygon	0.370	0.960	-0.631
56;	polygon	0.676	0.368	-0.680
57;	polygon	1.426	0.269	-0.680
58;	polygon	1.626	0.169	-0.680
59;	polygon	1.546	0.169	-0.680
60;	polygon	1.546	-0.011	-0.680
61;	polygon	1.686	-0.011	-0.680
62;	polygon	1.726	-0.187	-0.680
63;	polygon	1.446	-0.187	-0.680
64;	polygon	1.446	-0.331	-0.680
65;	polygon	-1.494	-0.331	-0.680
66;	polygon	-1.494	-0.187	-0.680
67;	polygon	-1.714	-0.187	-0.680
68;	polygon	-1.714	-0.053	-0.680
69;	polygon	-1.614	-0.053	-0.680
70;	polygon	-1.614	0.089	-0.680
71;	polygon	-1.714	0.089	-0.680
72;	polygon	-1.720	0.275	-0.680
73;	polygon	-1.720	0.359	-0.680
74;	polygon	-1.634	0.909	-0.646
75;	fill	63056.000	50545.000	21530.000
76;	normal	0.000	-1.000	0.000
77;	polygon	1.746	-0.331	-0.680
78;	polygon	1.746	-0.331	0.679
79;	polygon	-1.714	-0.331	0.679
80;	polygon	-1.714	-0.331	-0.680
81;	fill	40563.000	38873.000	42253.000
82;	normal	0.000	0.063	0.998
83;	polygon	-1.574	0.369	0.679
84;	polygon	-1.304	0.368	0.679
85;	polygon	-1.304	0.908	0.645
86;	polygon	-1.494	0.909	0.645
87;	fill	40563.000	38873.000	42253.000
88;	normal	0.000	0.063	-0.998
89;	polygon	-1.494	0.909	-0.646
90;	polygon	-1.304	0.908	-0.646
91;	polygon	-1.304	0.368	-0.680
92;	polygon	-1.574	0.369	-0.680
93;	fill	63056.000	50545.000	21530.000
94;	pen	0.000	0.000	0.000
95;	normal	0.033	0.999	0.000
96;	polygon	-0.544	1.008	-0.612
97;	polygon	-0.544	1.008	0.611

98;	polygon	0.056	0.988	0.618
99;	polygon	0.056	0.988	-0.618
100;	fill	0.000	0.000	0.000
101;	normal	0.000	0.063	0.998
102;	polygon	-1.304	0.368	0.679
103;	polygon	-1.244	0.368	0.679
104;	polygon	-1.244	0.908	0.645
105;	polygon	-1.304	0.908	0.645
106;	fill	0.000	0.000	0.000
107;	normal	0.000	0.063	-0.998
108;	polygon	-1.304	0.908	-0.646
109;	polygon	-1.244	0.908	-0.646
110;	polygon	-1.244	0.368	-0.680
111;	polygon	-1.304	0.368	-0.680
112;	fill	40563.000	38873.000	42253.000
113;	normal	0.000	0.063	0.998
114;	polygon	-1.244	0.368	0.679
115;	polygon	-0.444	0.368	0.679
116;	polygon	-0.438	0.908	0.645
117;	polygon	-1.244	0.908	0.645
118;	fill	40563.000	38873.000	42253.000
119;	normal	0.000	0.063	-0.998
120;	polygon	-1.244	0.908	-0.646
121;	polygon	-0.438	0.908	-0.646
122;	polygon	-0.444	0.368	-0.680
123;	polygon	-1.244	0.368	-0.680
124;	fill	63056.000	50545.000	21530.000
125;	pen	0.000	0.000	0.000
126;	normal	0.147	0.989	0.000
127;	polygon	0.316	0.968	-0.631
128;	polygon	0.316	0.968	0.631
129;	polygon	0.370	0.960	0.645
130;	polygon	0.370	0.960	-0.646
131;	fill	0.000	0.000	0.000
132;	normal	0.000	0.063	-0.998
133;	polygon	-0.438	0.908	-0.646
134;	polygon	-0.304	0.908	-0.646
135;	polygon	-0.298	0.368	-0.680
136;	polygon	-0.444	0.368	-0.680
137;	fill	63056.000	50545.000	21530.000
138;	pen	0.000	0.000	0.000
139;	normal	0.131	0.991	0.000
140;	polygon	0.676	0.368	-0.680
141;	polygon	0.676	0.368	0.679
142;	polygon	1.426	0.269	0.679
143;	polygon	1.426	0.269	-0.680
144;	pen	0.000	0.000	0.000
145;	fill	40563.000	38873.000	42253.000
146;	normal	0.000	0.063	0.998
147;	polygon	-0.298	0.368	0.679
148;	polygon	0.346	0.368	0.679
149;	polygon	0.346	0.908	0.645
150;	polygon	-0.304	0.908	0.645
151;	pen	0.000	0.000	0.000
152;	fill	40563.000	38873.000	42253.000
153;	normal	0.000	0.063	-0.998
154;	polygon	-0.304	0.908	-0.646
155;	polygon	0.346	0.908	-0.646

156;	polygon	0.346	0.368	-0.680
157;	polygon	-0.298	0.368	-0.680
158;	fill	0.000	0.000	0.000
159;	normal	0.000	0.063	0.998
160;	polygon	0.346	0.908	0.645
161;	polygon	0.346	0.368	0.679
162;	polygon	0.366	0.368	0.679
163;	polygon	0.366	0.908	0.645
164;	fill	0.000	0.000	0.000
165;	normal	0.000	0.063	-0.998
166;	polygon	0.366	0.908	-0.646
167;	polygon	0.366	0.368	-0.680
168;	polygon	0.346	0.368	-0.680
169;	polygon	0.346	0.908	-0.646
170;	fill	40563.000	38873.000	42253.000
171;	normal	0.000	0.067	0.998
172;	polygon	0.616	0.368	0.679
173;	polygon	0.366	0.878	0.645
174;	polygon	0.366	0.368	0.679
175;	fill	40563.000	38873.000	42253.000
176;	normal	0.000	0.067	-0.998
177;	polygon	0.366	0.368	-0.680
178;	polygon	0.366	0.878	-0.646
179;	polygon	0.616	0.368	-0.680
180;	fill	63056.000	50545.000	21530.000
181;	pen	0.000	0.000	0.000
182;	normal	-1.47e-5	0.003	1.000
183;	polygon	-1.720	0.275	0.679
184;	polygon	-1.714	0.089	0.679
185;	polygon	-1.614	0.089	0.679
186;	polygon	-1.614	-0.053	0.679
187;	polygon	-1.714	-0.053	0.679
188;	polygon	-1.714	-0.187	0.679
189;	polygon	-1.494	-0.187	0.679
190;	polygon	-1.494	-0.331	0.679
191;	polygon	1.446	-0.331	0.679
192;	polygon	1.446	-0.187	0.679
193;	polygon	1.726	-0.187	0.679
194;	polygon	1.686	-0.011	0.679
195;	polygon	1.546	-0.011	0.679
196;	polygon	1.546	0.169	0.679
197;	polygon	1.626	0.169	0.679
198;	polygon	1.426	0.269	0.679
199;	polygon	0.676	0.368	0.679
200;	polygon	0.370	0.960	0.645
201;	polygon	0.316	0.968	0.645
202;	polygon	0.616	0.368	0.679
203;	polygon	-1.574	0.369	0.679
204;	polygon	-1.494	0.909	0.645
205;	polygon	-1.584	0.961	0.645
206;	polygon	-1.634	0.909	0.645
207;	polygon	-1.720	0.359	0.679
208;	fill	63056.000	50545.000	21530.000
209;	pen	0.000	0.000	0.000
210;	normal	-0.000	0.315	0.949
211;	polygon	0.348	0.908	0.645
212;	polygon	0.316	0.968	0.631
213;	polygon	0.056	0.988	0.618

214;	polygon	-0.544	1.008	0.611
215;	polygon	-1.324	0.988	0.618
216;	polygon	-1.584	0.961	0.632
217;	polygon	-1.494	0.909	0.645
218;	normal	-0.000	0.322	-0.947
219;	polygon	-1.494	0.909	-0.646
220;	polygon	-1.584	0.961	-0.632
221;	polygon	-1.324	0.988	-0.618
222;	polygon	-0.544	1.008	-0.612
223;	polygon	0.056	0.988	-0.618
224;	polygon	0.316	0.968	-0.631
225;	polygon	0.348	0.908	-0.646
226;	normal	-0.026	1.000	0.000
227;	polygon	-0.544	1.008	0.611
228;	polygon	-0.544	1.008	-0.612
229;	polygon	-1.324	0.988	-0.618
230;	polygon	-1.324	0.988	0.618
231;	pen	0.000	0.000	0.000
232;	normal	-0.103	0.995	0.000
233;	polygon	-1.324	0.988	0.618
234;	polygon	-1.324	0.988	-0.618
235;	polygon	-1.584	0.961	-0.632
236;	polygon	-1.584	0.961	0.632
237;	pen	0.000	0.000	0.000
238;	fill	0.000	0.000	0.000
239;	normal	0.000	0.063	0.998
240;	polygon	-0.444	0.368	0.679
241;	polygon	-0.298	0.368	0.679
242;	polygon	-0.304	0.908	0.645
243;	polygon	-0.438	0.908	0.645
244;	pen	40563.000	38873.000	42253.000
245;	fill	40563.000	38873.000	42253.000
246;	normal	0.888	0.459	0.000
247;	polygon	0.370	0.960	-0.618
248;	polygon	0.370	0.960	0.618
249;	polygon	0.676	0.368	0.652
250;	polygon	0.676	0.368	-0.652
251;	pen	0.000	0.000	0.000
252;	fill	63056.000	50545.000	21530.000
253;	normal	0.888	0.459	0.000
254;	polygon	0.370	0.960	0.645
255;	polygon	0.676	0.368	0.679
256;	polygon	0.676	0.368	0.652
257;	polygon	0.370	0.960	0.605
258;	pen	0.000	0.000	0.000
259;	fill	63056.000	50545.000	21530.000
260;	normal	0.888	0.459	0.000
261;	polygon	0.370	0.960	-0.618
262;	polygon	0.676	0.368	-0.652
263;	polygon	0.676	0.368	-0.680
264;	polygon	0.370	0.960	-0.646
265;	pen	0.000	0.000	0.000
266;	normal	0.092	0.996	0.003
267;	polygon	0.316	0.960	0.631
268;	polygon	0.316	0.968	-0.624
269;	polygon	0.056	0.988	-0.618
270;	polygon	0.056	0.988	0.618
271;	object	TIRE		

272;	origin	-1.770	0.200	-0.252
273;	rotate	0.000	90.000	0.000
274;	scale	1.000	1.000	1.000
275;	pen	0.000	0.000	0.000
276;	fill	63056.000	50545.000	21530.000
277;	normal	0.447	0.894	0.000
278;	polygon	1.426	0.269	-0.680
279;	polygon	1.426	0.269	0.679
280;	polygon	1.626	0.169	0.679
281;	polygon	1.626	0.169	-0.680
282;	pen	0.000	0.000	0.000
283;	fill	63056.000	50545.000	21530.000
284;	normal	0.975	0.222	0.000
285;	polygon	1.686	-0.011	0.679
286;	polygon	1.726	-0.187	0.679
287;	polygon	1.726	-0.187	-0.680
288;	polygon	1.686	-0.011	-0.680
289;	pen	0.000	0.000	0.000
290;	fill	0.000	0.000	0.000
291;	normal	0.949	0.316	0.000
292;	polygon	1.626	0.169	0.611
293;	polygon	1.686	-0.011	0.611
294;	polygon	1.686	-0.011	-0.612
295;	polygon	1.626	0.169	-0.612
296;	pen	0.000	0.000	0.000
297;	fill	0.000	0.000	0.000
298;	normal	0.990	0.138	0.000
299;	polygon	1.726	-0.187	0.679
300;	polygon	1.746	-0.331	0.679
301;	polygon	1.746	-0.331	-0.680
302;	polygon	1.726	-0.187	-0.680
303;	pen	0.000	0.000	0.000
304;	fill	0.000	0.000	0.000
305;	normal	0.000	0.000	1.000
306;	polygon	1.726	-0.187	0.679
307;	polygon	1.446	-0.187	0.679
308;	polygon	1.446	-0.331	0.679
309;	polygon	1.746	-0.331	0.679
310;	pen	0.000	0.000	0.000
311;	fill	0.000	0.000	0.000
312;	normal	0.000	0.000	-1.000
313;	polygon	1.746	-0.331	-0.680
314;	polygon	1.446	-0.331	-0.680
315;	polygon	1.446	-0.187	-0.680
316;	polygon	1.726	-0.187	-0.680
317;	pen	0.000	0.000	0.000
318;	fill	40563.000	38873.000	42253.000
319;	normal	0.000	0.000	1.000
320;	polygon	1.546	0.169	0.679
321;	polygon	1.546	-0.011	0.679
322;	polygon	1.686	-0.011	0.679
323;	polygon	1.626	0.169	0.679
324;	pen	0.000	0.000	0.000
325;	fill	40563.000	38873.000	42253.000
326;	normal	0.000	0.000	-1.000
327;	polygon	1.626	0.169	-0.680
328;	polygon	1.686	-0.011	-0.680
329;	polygon	1.546	-0.011	-0.680

330;	polygon	1.546	0.169	-0.680
331;	pen	0.000	0.000	0.000
332;	fill	40563.000	38873.000	42253.000
333;	normal	0.949	0.316	0.000
334;	polygon	1.626	0.169	0.679
335;	polygon	1.686	-0.011	0.679
336;	polygon	1.686	-0.011	0.611
337;	polygon	1.626	0.169	0.611
338;	pen	0.000	0.000	0.000
339;	fill	40563.000	38873.000	42253.000
340;	normal	0.949	0.316	0.000
341;	polygon	1.626	0.169	-0.612
342;	polygon	1.686	-0.011	-0.612
343;	polygon	1.686	-0.011	-0.680
344;	polygon	1.626	0.169	-0.680
345;	pen	0.000	0.000	0.000
346;	fill	57343.000	7451.000	7999.000
347;	normal	0.000	0.000	-1.000
348;	polygon	-1.714	0.089	-0.680
349;	polygon	-1.614	0.089	-0.680
350;	polygon	-1.614	-0.053	-0.680
351;	polygon	-1.714	-0.053	-0.680
352;	pen	0.000	0.000	0.000
353;	fill	0.000	0.000	0.000
354;	normal	0.000	0.000	-1.000
355;	polygon	-1.714	-0.187	-0.680
356;	polygon	-1.494	-0.187	-0.680
357;	polygon	-1.494	-0.331	-0.680
358;	polygon	-1.714	-0.331	-0.680
359;	pen	0.000	0.000	0.000
360;	fill	57343.000	7451.000	7999.000
361;	normal	-1.000	0.000	0.000
362;	polygon	-1.714	0.089	-0.680
363;	polygon	-1.714	-0.053	-0.680
364;	polygon	-1.714	-0.053	-0.597
365;	polygon	-1.714	0.089	-0.597
366;	pen	0.000	0.000	0.000
367;	fill	0.000	0.000	0.000
368;	normal	-1.000	0.000	0.000
369;	polygon	-1.714	-0.187	-0.680
370;	polygon	-1.714	-0.331	-0.680
371;	polygon	-1.714	-0.331	0.679
372;	polygon	-1.714	-0.187	0.679
373;	pen	0.000	0.000	0.000
374;	fill	63056.000	50545.000	21530.000
375;	normal	-0.999	0.048	0.000
376;	polygon	-1.634	0.909	-0.646
377;	polygon	-1.720	0.275	-0.680
378;	polygon	-1.720	0.275	0.679
379;	polygon	-1.634	0.909	0.645
380;	polygon	-1.634	0.909	0.598
381;	polygon	-1.720	0.359	0.639
382;	polygon	-1.720	0.359	-0.639
383;	polygon	-1.634	0.909	-0.597
384;	pen	63056.000	50545.000	21530.000
385;	fill	63056.000	50545.000	21530.000
386;	normal	-1.000	-0.013	-0.002
387;	polygon	-1.720	0.275	0.291

388;	polygon	-1.720	0.275	-0.680
389;	polygon	-1.714	0.089	-0.680
390;	polygon	-1.714	0.089	-0.597
391;	polygon	-1.714	-0.053	-0.597
392;	polygon	-1.714	-0.053	-0.680
393;	polygon	-1.714	-0.187	-0.680
394;	polygon	-1.714	-0.187	0.291
395;	pen	63056.000	50545.000	21530.000
396;	fill	63056.000	50545.000	21530.000
397;	normal	-1.000	-0.019	0.013
398;	polygon	-1.714	-0.187	0.291
399;	polygon	-1.714	-0.187	0.679
400;	polygon	-1.714	-0.053	0.679
401;	polygon	-1.714	-0.053	0.598
402;	polygon	-1.714	0.089	0.598
403;	polygon	-1.714	0.089	0.679
404;	polygon	-1.720	0.275	0.679
405;	polygon	-1.720	0.275	0.291
406;	polygon	-1.720	0.175	0.291
407;	polygon	-1.720	0.175	0.534
408;	polygon	-1.720	0.000	0.534
409;	polygon	-1.720	0.000	0.291
410;	pen	0.000	0.000	0.000
411;	fill	63056.000	50545.000	21530.000
412;	normal	-0.721	0.693	0.000
413;	polygon	-1.634	0.909	0.645
414;	polygon	-1.584	0.961	0.631
415;	polygon	-1.584	0.961	-0.631
416;	polygon	-1.634	0.909	-0.646
417;	pen	63056.000	50545.000	21530.000
418;	fill	40563.000	38873.000	42253.000
419;	normal	-0.988	0.154	0.000
420;	polygon	-1.634	0.909	-0.597
421;	polygon	-1.720	0.359	-0.639
422;	polygon	-1.720	0.359	0.236
423;	polygon	-1.634	0.909	0.236
424;	pen	0.000	0.000	0.000
425;	fill	57343.000	7451.000	7999.000
426;	normal	-1.000	0.000	0.000
427;	polygon	-1.714	0.089	0.598
428;	polygon	-1.714	-0.053	0.598
429;	polygon	-1.714	-0.053	0.679
430;	polygon	-1.714	0.089	0.679
431;	pen	0.000	0.000	0.000
432;	fill	0.000	0.000	0.000
433;	normal	0.000	0.000	1.000
434;	polygon	-1.714	-0.331	0.679
435;	polygon	-1.494	-0.331	0.679
436;	polygon	-1.494	-0.187	0.679
437;	polygon	-1.714	-0.187	0.679
438;	pen	0.000	0.000	0.000
439;	fill	57343.000	7451.000	7999.000
440;	normal	0.000	0.000	1.000
441;	polygon	-1.714	-0.053	0.679
442;	polygon	-1.614	-0.053	0.679
443;	polygon	-1.614	0.089	0.679
444;	polygon	-1.714	0.089	0.679
445;	pen	0.000	0.000	0.000

446;	fill	0.000	0.000	0.000
447;	normal	-0.988	0.154	0.000
448;	polygon	-1.720	0.356	0.236
449;	polygon	-1.720	0.356	0.285
450;	polygon	-1.634	0.909	0.285
451;	polygon	-1.634	0.909	0.236
452;	pen	0.000	0.000	0.000
453;	fill	40563.000	38873.000	42253.000
454;	normal	-0.988	0.154	0.000
455;	polygon	-1.720	0.356	0.285
456;	polygon	-1.720	0.356	0.639
457;	polygon	-1.634	0.909	0.598
458;	polygon	-1.634	0.909	0.285
459;	pen	40563.000	38873.000	42253.000
460;	fill	0.000	0.000	65535.000
461;	normal	-1.000	0.000	0.000
462;	polygon	-1.720	0.000	0.291
463;	polygon	-1.720	0.000	0.534
464;	polygon	-1.720	0.175	0.534
465;	polygon	-1.720	0.175	0.291
466;	pen	0.000	0.000	0.000
467;	start	-0.310	0.367	0.680
468;	line	-0.310	-0.328	0.680
469;	pen	0.000	0.000	0.000
470;	start	0.625	0.367	0.680
471;	line	0.625	-0.328	0.680
472;	pen	0.000	0.000	0.000
473;	start	-0.310	0.367	-0.681
474;	line	-0.310	-0.328	-0.681
475;	pen	0.000	0.000	0.000
476;	start	0.625	0.367	-0.681
477;	line	0.625	-0.328	-0.681
478;	end	0.000	0.000	0.000
479;	return	0.000	0.000	0.000
:TIRE1				
480;	pen	0.000	0.000	0.000
481;	fill	0.000	0.000	0.000
482;	shape	0.000	0.000	0.000
483;	normal	0.000	0.000	1.000
484;	polygon	0.323	-0.134	0.102
485;	polygon	0.350	0.000	0.102
486;	polygon	0.195	0.000	0.102
487;	polygon	0.180	-0.075	0.102
488;	normal	0.000	0.000	-1.000
489;	polygon	0.180	-0.075	-0.102
490;	polygon	0.195	0.000	-0.102
491;	polygon	0.350	0.000	-0.102
492;	polygon	0.323	-0.134	-0.102
493;	normal	0.980	-0.198	0.000
494;	polygon	0.323	-0.134	0.102
495;	polygon	0.323	-0.134	-0.102
496;	polygon	0.350	0.000	-0.102
497;	polygon	0.350	0.000	0.102
498;	normal	0.000	0.000	1.000
499;	polygon	0.350	0.000	0.102
500;	polygon	0.323	0.134	0.102
501;	polygon	0.180	0.075	0.102
502;	polygon	0.195	0.000	0.102

503;	normal	0.000	0.000	-1.000
504;	polygon	0.195	0.000	-0.102
505;	polygon	0.180	0.075	-0.102
506;	polygon	0.323	0.134	-0.102
507;	polygon	0.350	0.000	-0.102
508;	normal	0.980	0.198	0.000
509;	polygon	0.350	0.000	0.102
510;	polygon	0.350	0.000	-0.102
511;	polygon	0.323	0.134	-0.102
512;	polygon	0.323	0.134	0.102
513;	normal	0.000	0.000	1.000
514;	polygon	0.323	0.134	0.102
515;	polygon	0.247	0.247	0.102
516;	polygon	0.138	0.138	0.102
517;	polygon	0.180	0.075	0.102
518;	normal	0.000	0.000	-1.000
519;	polygon	0.180	0.075	-0.102
520;	polygon	0.138	0.138	-0.102
521;	polygon	0.247	0.247	-0.102
522;	polygon	0.323	0.134	-0.102
523;	normal	0.830	0.558	0.000
524;	polygon	0.323	0.134	0.102
525;	polygon	0.323	0.134	-0.102
526;	polygon	0.247	0.247	-0.102
527;	polygon	0.247	0.247	0.102
528;	normal	0.000	0.000	1.000
529;	polygon	0.247	0.247	0.102
530;	polygon	0.134	0.323	0.102
531;	polygon	0.075	0.180	0.102
532;	polygon	0.138	0.138	0.102
533;	normal	0.000	0.000	-1.000
534;	polygon	0.138	0.138	-0.102
535;	polygon	0.075	0.180	-0.102
536;	polygon	0.134	0.323	-0.102
537;	polygon	0.247	0.247	-0.102
538;	normal	0.558	0.830	0.000
539;	polygon	0.247	0.247	0.102
540;	polygon	0.247	0.247	-0.102
541;	polygon	0.134	0.323	-0.102
542;	polygon	0.134	0.323	0.102
543;	normal	0.000	0.000	1.000
544;	polygon	0.134	0.323	0.102
545;	polygon	0.000	0.350	0.102
546;	polygon	0.000	0.195	0.102
547;	polygon	0.075	0.180	0.102
548;	normal	0.000	0.000	-1.000
549;	polygon	0.075	0.180	-0.102
550;	polygon	0.000	0.195	-0.102
551;	polygon	0.000	0.350	-0.102
552;	polygon	0.134	0.323	-0.102
553;	normal	0.198	0.980	0.000
554;	polygon	0.134	0.323	0.102
555;	polygon	0.134	0.323	-0.102
556;	polygon	0.000	0.350	-0.102
557;	polygon	0.000	0.350	0.102
558;	normal	0.000	0.000	1.000
559;	polygon	0.000	0.350	0.102
560;	polygon	-0.134	0.323	0.102

561;	polygon	-0.075	0.180	0.102
562;	polygon	0.000	0.195	0.102
563;	normal	0.000	0.000	-1.000
564;	polygon	0.000	0.195	-0.102
565;	polygon	-0.075	0.180	-0.102
566;	polygon	-0.134	0.323	-0.102
567;	polygon	0.000	0.350	-0.102
568;	normal	-0.198	0.980	0.000
569;	polygon	0.000	0.350	0.102
570;	polygon	0.000	0.350	-0.102
571;	polygon	-0.134	0.323	-0.102
572;	polygon	-0.134	0.323	0.102
573;	normal	0.000	0.000	1.000
574;	polygon	-0.134	0.323	0.102
575;	polygon	-0.247	0.247	0.102
576;	polygon	-0.138	0.138	0.102
577;	polygon	-0.075	0.180	0.102
578;	normal	0.000	0.000	-1.000
579;	polygon	-0.075	0.180	-0.102
580;	polygon	-0.138	0.138	-0.102
581;	polygon	-0.247	0.247	-0.102
582;	polygon	-0.134	0.323	-0.102
583;	normal	-0.558	0.830	0.000
584;	polygon	-0.134	0.323	0.102
585;	polygon	-0.134	0.323	-0.102
586;	polygon	-0.247	0.247	-0.102
587;	polygon	-0.247	0.247	0.102
588;	normal	0.000	0.000	1.000
589;	polygon	-0.247	0.247	0.102
590;	polygon	-0.323	0.134	0.102
591;	polygon	-0.180	0.075	0.102
592;	polygon	-0.138	0.138	0.102
593;	normal	0.000	0.000	-1.000
594;	polygon	-0.138	0.138	-0.102
595;	polygon	-0.180	0.075	-0.102
596;	polygon	-0.323	0.134	-0.102
597;	polygon	-0.247	0.247	-0.102
598;	normal	-0.830	0.558	0.000
599;	polygon	-0.247	0.247	0.102
600;	polygon	-0.247	0.247	-0.102
601;	polygon	-0.323	0.134	-0.102
602;	polygon	-0.323	0.134	0.102
603;	normal	0.000	0.000	1.000
604;	polygon	-0.323	0.134	0.102
605;	polygon	-0.350	0.000	0.102
606;	polygon	-0.195	0.000	0.102
607;	polygon	-0.180	0.075	0.102
608;	normal	0.000	0.000	-1.000
609;	polygon	-0.180	0.075	-0.102
610;	polygon	-0.195	0.000	-0.102
611;	polygon	-0.350	0.000	-0.102
612;	polygon	-0.323	0.134	-0.102
613;	normal	-0.980	0.198	0.000
614;	polygon	-0.323	0.134	0.102
615;	polygon	-0.323	0.134	-0.102
616;	polygon	-0.350	0.000	-0.102
617;	polygon	-0.350	0.000	0.102
618;	normal	0.000	0.000	1.000

619;	polygon	-0.350	0.000	0.102
620;	polygon	-0.323	-0.134	0.102
621;	polygon	-0.180	-0.075	0.102
622;	polygon	-0.195	0.000	0.102
623;	normal	0.000	0.000	-1.000
624;	polygon	-0.195	0.000	-0.102
625;	polygon	-0.180	-0.075	-0.102
626;	polygon	-0.323	-0.134	-0.102
627;	polygon	-0.350	0.000	-0.102
628;	normal	-0.980	-0.198	0.000
629;	polygon	-0.350	0.000	0.102
630;	polygon	-0.350	0.000	-0.102
631;	polygon	-0.323	-0.134	-0.102
632;	polygon	-0.323	-0.134	0.102
633;	normal	0.000	0.000	1.000
634;	polygon	-0.323	-0.134	0.102
635;	polygon	-0.247	-0.247	0.102
636;	polygon	-0.138	-0.138	0.102
637;	polygon	-0.180	-0.075	0.102
638;	normal	0.000	0.000	-1.000
639;	polygon	-0.180	-0.075	-0.102
640;	polygon	-0.138	-0.138	-0.102
641;	polygon	-0.247	-0.247	-0.102
642;	polygon	-0.323	-0.134	-0.102
643;	normal	-0.830	-0.558	0.000
644;	polygon	-0.323	-0.134	0.102
645;	polygon	-0.323	-0.134	-0.102
646;	polygon	-0.247	-0.247	-0.102
647;	polygon	-0.247	-0.247	0.102
648;	normal	0.000	0.000	1.000
649;	polygon	-0.247	-0.247	0.102
650;	polygon	-0.134	-0.323	0.102
651;	polygon	-0.075	-0.180	0.102
652;	polygon	-0.138	-0.138	0.102
653;	normal	0.000	0.000	-1.000
654;	polygon	-0.138	-0.138	-0.102
655;	polygon	-0.075	-0.180	-0.102
656;	polygon	-0.134	-0.323	-0.102
657;	polygon	-0.247	-0.247	-0.102
658;	normal	-0.558	-0.830	0.000
659;	polygon	-0.247	-0.247	0.102
660;	polygon	-0.247	-0.247	-0.102
661;	polygon	-0.134	-0.323	-0.102
662;	polygon	-0.134	-0.323	0.102
663;	normal	0.000	0.000	1.000
664;	polygon	-0.134	-0.323	0.102
665;	polygon	0.000	-0.350	0.102
666;	polygon	0.000	-0.195	0.102
667;	polygon	-0.075	-0.180	0.102
668;	normal	0.000	0.000	-1.000
669;	polygon	-0.075	-0.180	-0.102
670;	polygon	0.000	-0.195	-0.102
671;	polygon	0.000	-0.350	-0.102
672;	polygon	-0.134	-0.323	-0.102
673;	normal	-0.198	-0.980	0.000
674;	polygon	-0.134	-0.323	0.102
675;	polygon	-0.134	-0.323	-0.102
676;	polygon	0.000	-0.350	-0.102

677;	polygon	0.000	-0.350	0.102
678;	normal	0.000	0.000	1.000
679;	polygon	0.000	-0.350	0.102
680;	polygon	0.134	-0.323	0.102
681;	polygon	0.075	-0.180	0.102
682;	polygon	0.000	-0.195	0.102
683;	normal	0.000	0.000	-1.000
684;	polygon	0.000	-0.195	-0.102
685;	polygon	0.075	-0.180	-0.102
686;	polygon	0.134	-0.323	-0.102
687;	polygon	0.000	-0.350	-0.102
688;	normal	0.198	-0.980	0.000
689;	polygon	0.000	-0.350	0.102
690;	polygon	0.000	-0.350	-0.102
691;	polygon	0.134	-0.323	-0.102
692;	polygon	0.134	-0.323	0.102
693;	normal	0.000	0.000	1.000
694;	polygon	0.134	-0.323	0.102
695;	polygon	0.247	-0.247	0.102
696;	polygon	0.138	-0.138	0.102
697;	polygon	0.075	-0.180	0.102
698;	normal	0.000	0.000	-1.000
699;	polygon	0.075	-0.180	-0.102
700;	polygon	0.138	-0.138	-0.102
701;	polygon	0.247	-0.247	-0.102
702;	polygon	0.134	-0.323	-0.102
703;	normal	0.558	-0.830	0.000
704;	polygon	0.134	-0.323	0.102
705;	polygon	0.134	-0.323	-0.102
706;	polygon	0.247	-0.247	-0.102
707;	polygon	0.247	-0.247	0.102
708;	normal	0.000	0.000	1.000
709;	polygon	0.247	-0.247	0.102
710;	polygon	0.323	-0.134	0.102
711;	polygon	0.180	-0.075	0.102
712;	polygon	0.138	-0.138	0.102
713;	normal	0.000	0.000	-1.000
714;	polygon	0.138	-0.138	-0.102
715;	polygon	0.180	-0.075	-0.102
716;	polygon	0.323	-0.134	-0.102
717;	polygon	0.247	-0.247	-0.102
718;	normal	0.830	-0.558	0.000
719;	polygon	0.247	-0.247	0.102
720;	polygon	0.247	-0.247	-0.102
721;	polygon	0.323	-0.134	-0.102
722;	polygon	0.323	-0.134	0.102
723;	normal	0.000	0.000	1.000
724;	polygon	0.180	-0.075	0.102
725;	polygon	0.195	0.000	0.102
726;	polygon	0.180	0.075	0.102
727;	polygon	0.138	0.138	0.102
728;	polygon	0.075	0.180	0.102
729;	polygon	0.000	0.195	0.102
730;	polygon	-0.075	0.180	0.102
731;	polygon	-0.138	0.138	0.102
732;	polygon	-0.180	0.075	0.102
733;	polygon	-0.195	0.000	0.102
734;	polygon	-0.180	-0.075	0.102

735;	polygon	-0.138	-0.138	0.102
736;	polygon	-0.075	-0.180	0.102
737;	polygon	0.000	-0.195	0.102
738;	polygon	0.075	-0.180	0.102
739;	polygon	0.138	-0.138	0.102
740;	end	0.000	0.000	0.000
741;	fill	40563.000	38873.000	42253.000
742;	pen	0.000	0.000	0.000
743;	normal	0.000	0.000	-1.000
744;	polygon	0.138	-0.138	-0.102
745;	polygon	0.075	-0.180	-0.102
746;	polygon	0.000	-0.195	-0.102
747;	polygon	-0.075	-0.180	-0.102
748;	polygon	-0.138	-0.138	-0.102
749;	polygon	-0.180	-0.075	-0.102
750;	polygon	-0.195	0.000	-0.102
751;	polygon	-0.180	0.075	-0.102
752;	polygon	-0.138	0.138	-0.102
753;	polygon	-0.075	0.180	-0.102
754;	polygon	0.000	0.195	-0.102
755;	polygon	0.075	0.180	-0.102
756;	polygon	0.138	0.138	-0.102
757;	polygon	0.180	0.075	-0.102
758;	polygon	0.195	0.000	-0.102
759;	polygon	0.180	-0.075	-0.102
760;	end	0.000	0.000	0.000
761;	return	0.000	0.000	0.000
:TIRE2				
762;	pen	0.000	0.000	0.000
763;	fill	0.000	0.000	0.000
764;	shape	0.000	0.000	0.000
765;	normal	0.000	0.000	1.000
766;	polygon	0.323	-0.134	0.102
767;	polygon	0.350	0.000	0.102
768;	polygon	0.195	0.000	0.102
769;	polygon	0.180	-0.075	0.102
770;	normal	0.000	0.000	-1.000
771;	polygon	0.180	-0.075	-0.102
772;	polygon	0.195	0.000	-0.102
773;	polygon	0.350	0.000	-0.102
774;	polygon	0.323	-0.134	-0.102
775;	normal	0.980	-0.198	0.000
776;	polygon	0.323	-0.134	0.102
777;	polygon	0.323	-0.134	-0.102
778;	polygon	0.350	0.000	-0.102
779;	polygon	0.350	0.000	0.102
780;	normal	0.000	0.000	1.000
781;	polygon	0.350	0.000	0.102
782;	polygon	0.323	0.134	0.102
783;	polygon	0.180	0.075	0.102
784;	polygon	0.195	0.000	0.102
785;	normal	0.000	0.000	-1.000
786;	polygon	0.195	0.000	-0.102
787;	polygon	0.180	0.075	-0.102
788;	polygon	0.323	0.134	-0.102
789;	polygon	0.350	0.000	-0.102
790;	normal	0.980	0.198	0.000
791;	polygon	0.350	0.000	0.102

792;	polygon	0.350	0.000	-0.102
793;	polygon	0.323	0.134	-0.102
794;	polygon	0.323	0.134	0.102
795;	normal	0.000	0.000	1.000
796;	polygon	0.323	0.134	0.102
797;	polygon	0.247	0.247	0.102
798;	polygon	0.138	0.138	0.102
799;	polygon	0.180	0.075	0.102
800;	normal	0.000	0.000	-1.000
801;	polygon	0.180	0.075	-0.102
802;	polygon	0.138	0.138	-0.102
803;	polygon	0.247	0.247	-0.102
804;	polygon	0.323	0.134	-0.102
805;	normal	0.830	0.558	0.000
806;	polygon	0.323	0.134	0.102
807;	polygon	0.323	0.134	-0.102
808;	polygon	0.247	0.247	-0.102
809;	polygon	0.247	0.247	0.102
810;	normal	0.000	0.000	1.000
811;	polygon	0.247	0.247	0.102
812;	polygon	0.134	0.323	0.102
813;	polygon	0.075	0.180	0.102
814;	polygon	0.138	0.138	0.102
815;	normal	0.000	0.000	-1.000
816;	polygon	0.138	0.138	-0.102
817;	polygon	0.075	0.180	-0.102
818;	polygon	0.134	0.323	-0.102
819;	polygon	0.247	0.247	-0.102
820;	normal	0.558	0.830	0.000
821;	polygon	0.247	0.247	0.102
822;	polygon	0.247	0.247	-0.102
823;	polygon	0.134	0.323	-0.102
824;	polygon	0.134	0.323	0.102
825;	normal	0.000	0.000	1.000
826;	polygon	0.134	0.323	0.102
827;	polygon	0.000	0.350	0.102
828;	polygon	0.000	0.195	0.102
829;	polygon	0.075	0.180	0.102
830;	normal	0.000	0.000	-1.000
831;	polygon	0.075	0.180	-0.102
832;	polygon	0.000	0.195	-0.102
833;	polygon	0.000	0.350	-0.102
834;	polygon	0.134	0.323	-0.102
835;	normal	0.198	0.980	0.000
836;	polygon	0.134	0.323	0.102
837;	polygon	0.134	0.323	-0.102
838;	polygon	0.000	0.350	-0.102
839;	polygon	0.000	0.350	0.102
840;	normal	0.000	0.000	1.000
841;	polygon	0.000	0.350	0.102
842;	polygon	-0.134	0.323	0.102
843;	polygon	-0.075	0.180	0.102
844;	polygon	0.000	0.195	0.102
845;	normal	0.000	0.000	-1.000
846;	polygon	0.000	0.195	-0.102
847;	polygon	-0.075	0.180	-0.102
848;	polygon	-0.134	0.323	-0.102
849;	polygon	0.000	0.350	-0.102

850;	normal	-0.198	0.980	0.000
851;	polygon	0.000	0.350	0.102
852;	polygon	0.000	0.350	-0.102
853;	polygon	-0.134	0.323	-0.102
854;	polygon	-0.134	0.323	0.102
855;	normal	0.000	0.000	1.000
856;	polygon	-0.134	0.323	0.102
857;	polygon	-0.247	0.247	0.102
858;	polygon	-0.138	0.138	0.102
859;	polygon	-0.075	0.180	0.102
860;	normal	0.000	0.000	-1.000
861;	polygon	-0.075	0.180	-0.102
862;	polygon	-0.138	0.138	-0.102
863;	polygon	-0.247	0.247	-0.102
864;	polygon	-0.134	0.323	-0.102
865;	normal	-0.558	0.830	0.000
866;	polygon	-0.134	0.323	0.102
867;	polygon	-0.134	0.323	-0.102
868;	polygon	-0.247	0.247	-0.102
869;	polygon	-0.247	0.247	0.102
870;	normal	0.000	0.000	1.000
871;	polygon	-0.247	0.247	0.102
872;	polygon	-0.323	0.134	0.102
873;	polygon	-0.180	0.075	0.102
874;	polygon	-0.138	0.138	0.102
875;	normal	0.000	0.000	-1.000
876;	polygon	-0.138	0.138	-0.102
877;	polygon	-0.180	0.075	-0.102
878;	polygon	-0.323	0.134	-0.102
879;	polygon	-0.247	0.247	-0.102
880;	normal	-0.830	0.558	0.000
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882;	polygon	-0.247	0.247	-0.102
883;	polygon	-0.323	0.134	-0.102
884;	polygon	-0.323	0.134	0.102
885;	normal	0.000	0.000	1.000
886;	polygon	-0.323	0.134	0.102
887;	polygon	-0.350	0.000	0.102
888;	polygon	-0.195	0.000	0.102
889;	polygon	-0.180	0.075	0.102
890;	normal	0.000	0.000	-1.000
891;	polygon	-0.180	0.075	-0.102
892;	polygon	-0.195	0.000	-0.102
893;	polygon	-0.350	0.000	-0.102
894;	polygon	-0.323	0.134	-0.102
895;	normal	-0.980	0.198	0.000
896;	polygon	-0.323	0.134	0.102
897;	polygon	-0.323	0.134	-0.102
898;	polygon	-0.350	0.000	-0.102
899;	polygon	-0.350	0.000	0.102
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901;	polygon	-0.350	0.000	0.102
902;	polygon	-0.323	-0.134	0.102
903;	polygon	-0.180	-0.075	0.102
904;	polygon	-0.195	0.000	0.102
905;	normal	0.000	0.000	-1.000
906;	polygon	-0.195	0.000	-0.102
907;	polygon	-0.180	-0.075	-0.102

908;	polygon	-0.323	-0.134	-0.102
909;	polygon	-0.350	0.000	-0.102
910;	normal	-0.980	-0.198	0.000
911;	polygon	-0.350	0.000	0.102
912;	polygon	-0.350	0.000	-0.102
913;	polygon	-0.323	-0.134	-0.102
914;	polygon	-0.323	-0.134	0.102
915;	normal	0.000	0.000	1.000
916;	polygon	-0.323	-0.134	0.102
917;	polygon	-0.247	-0.247	0.102
918;	polygon	-0.138	-0.138	0.102
919;	polygon	-0.180	-0.075	0.102
920;	normal	0.000	0.000	-1.000
921;	polygon	-0.180	-0.075	-0.102
922;	polygon	-0.138	-0.138	-0.102
923;	polygon	-0.247	-0.247	-0.102
924;	polygon	-0.323	-0.134	-0.102
925;	normal	-0.830	-0.558	0.000
926;	polygon	-0.323	-0.134	0.102
927;	polygon	-0.323	-0.134	-0.102
928;	polygon	-0.247	-0.247	-0.102
929;	polygon	-0.247	-0.247	0.102
930;	normal	0.000	0.000	1.000
931;	polygon	-0.247	-0.247	0.102
932;	polygon	-0.134	-0.323	0.102
933;	polygon	-0.075	-0.180	0.102
934;	polygon	-0.138	-0.138	0.102
935;	normal	0.000	0.000	-1.000
936;	polygon	-0.138	-0.138	-0.102
937;	polygon	-0.075	-0.180	-0.102
938;	polygon	-0.134	-0.323	-0.102
939;	polygon	-0.247	-0.247	-0.102
940;	normal	-0.558	-0.830	0.000
941;	polygon	-0.247	-0.247	0.102
942;	polygon	-0.247	-0.247	-0.102
943;	polygon	-0.134	-0.323	-0.102
944;	polygon	-0.134	-0.323	0.102
945;	normal	0.000	0.000	1.000
946;	polygon	-0.134	-0.323	0.102
947;	polygon	0.000	-0.350	0.102
948;	polygon	0.000	-0.195	0.102
949;	polygon	-0.075	-0.180	0.102
950;	normal	0.000	0.000	-1.000
951;	polygon	-0.075	-0.180	-0.102
952;	polygon	0.000	-0.195	-0.102
953;	polygon	0.000	-0.350	-0.102
954;	polygon	-0.134	-0.323	-0.102
955;	normal	-0.198	-0.980	0.000
956;	polygon	-0.134	-0.323	0.102
957;	polygon	-0.134	-0.323	-0.102
958;	polygon	0.000	-0.350	-0.102
959;	polygon	0.000	-0.350	0.102
960;	normal	0.000	0.000	1.000
961;	polygon	0.000	-0.350	0.102
962;	polygon	0.134	-0.323	0.102
963;	polygon	0.075	-0.180	0.102
964;	polygon	0.000	-0.195	0.102
965;	normal	0.000	0.000	-1.000

966;	polygon	0.000	-0.195	-0.102
967;	polygon	0.075	-0.180	-0.102
968;	polygon	0.134	-0.323	-0.102
969;	polygon	0.000	-0.350	-0.102
970;	normal	0.198	-0.980	0.000
971;	polygon	0.000	-0.350	0.102
972;	polygon	0.000	-0.350	-0.102
973;	polygon	0.134	-0.323	-0.102
974;	polygon	0.134	-0.323	0.102
975;	normal	0.000	0.000	1.000
976;	polygon	0.134	-0.323	0.102
977;	polygon	0.247	-0.247	0.102
978;	polygon	0.138	-0.138	0.102
979;	polygon	0.075	-0.180	0.102
980;	normal	0.000	0.000	-1.000
981;	polygon	0.075	-0.180	-0.102
982;	polygon	0.138	-0.138	-0.102
983;	polygon	0.247	-0.247	-0.102
984;	polygon	0.134	-0.323	-0.102
985;	normal	0.558	-0.830	0.000
986;	polygon	0.134	-0.323	0.102
987;	polygon	0.134	-0.323	-0.102
988;	polygon	0.247	-0.247	-0.102
989;	polygon	0.247	-0.247	0.102
990;	normal	0.000	0.000	1.000
991;	polygon	0.247	-0.247	0.102
992;	polygon	0.323	-0.134	0.102
993;	polygon	0.180	-0.075	0.102
994;	polygon	0.138	-0.138	0.102
995;	normal	0.000	0.000	-1.000
996;	polygon	0.138	-0.138	-0.102
997;	polygon	0.180	-0.075	-0.102
998;	polygon	0.323	-0.134	-0.102
999;	polygon	0.247	-0.247	-0.102
1000;	normal	0.830	-0.558	0.000
1001;	polygon	0.247	-0.247	0.102
1002;	polygon	0.247	-0.247	-0.102
1003;	polygon	0.323	-0.134	-0.102
1004;	polygon	0.323	-0.134	0.102
1005;	normal	0.000	0.000	1.000
1006;	polygon	0.180	-0.075	0.102
1007;	polygon	0.195	0.000	0.102
1008;	polygon	0.180	0.075	0.102
1009;	polygon	0.138	0.138	0.102
1010;	polygon	0.075	0.180	0.102
1011;	polygon	0.000	0.195	0.102
1012;	polygon	-0.075	0.180	0.102
1013;	polygon	-0.138	0.138	0.102
1014;	polygon	-0.180	0.075	0.102
1015;	polygon	-0.195	0.000	0.102
1016;	polygon	-0.180	-0.075	0.102
1017;	polygon	-0.138	-0.138	0.102
1018;	polygon	-0.075	-0.180	0.102
1019;	polygon	0.000	-0.195	0.102
1020;	polygon	0.075	-0.180	0.102
1021;	polygon	0.138	-0.138	0.102
1022;	end	0.000	0.000	0.000
1023;	fill	40563.000	38873.000	42253.000

1024;	pen	0.000	0.000	0.000
1025;	normal	0.000	0.000	-1.000
1026;	polygon	0.138	-0.138	-0.102
1027;	polygon	0.075	-0.180	-0.102
1028;	polygon	0.000	-0.195	-0.102
1029;	polygon	-0.075	-0.180	-0.102
1030;	polygon	-0.138	-0.138	-0.102
1031;	polygon	-0.180	-0.075	-0.102
1032;	polygon	-0.195	0.000	-0.102
1033;	polygon	-0.180	0.075	-0.102
1034;	polygon	-0.138	0.138	-0.102
1035;	polygon	-0.075	0.180	-0.102
1036;	polygon	0.000	0.195	-0.102
1037;	polygon	0.075	0.180	-0.102
1038;	polygon	0.138	0.138	-0.102
1039;	polygon	0.180	0.075	-0.102
1040;	polygon	0.195	0.000	-0.102
1041;	polygon	0.180	-0.075	-0.102
1042;	end	0.000	0.000	0.000
1043;	return	0.000	0.000	0.000
:TIRE3				
1044;	pen	0.000	0.000	0.000
1045;	fill	0.000	0.000	0.000
1046;	shape	0.000	0.000	0.000
1047;	normal	0.000	0.000	1.000
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1049;	polygon	0.350	0.000	0.102
1050;	polygon	0.195	0.000	0.102
1051;	polygon	0.180	-0.075	0.102
1052;	normal	0.000	0.000	-1.000
1053;	polygon	0.180	-0.075	-0.102
1054;	polygon	0.195	0.000	-0.102
1055;	polygon	0.350	0.000	-0.102
1056;	polygon	0.323	-0.134	-0.102
1057;	normal	0.980	-0.198	0.000
1058;	polygon	0.323	-0.134	0.102
1059;	polygon	0.323	-0.134	-0.102
1060;	polygon	0.350	0.000	-0.102
1061;	polygon	0.350	0.000	0.102
1062;	normal	0.000	0.000	1.000
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1064;	polygon	0.323	0.134	0.102
1065;	polygon	0.180	0.075	0.102
1066;	polygon	0.195	0.000	0.102
1067;	normal	0.000	0.000	-1.000
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1069;	polygon	0.180	0.075	-0.102
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1071;	polygon	0.350	0.000	-0.102
1072;	normal	0.980	0.198	0.000
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1074;	polygon	0.350	0.000	-0.102
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1076;	polygon	0.323	0.134	0.102
1077;	normal	0.000	0.000	1.000
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1079;	polygon	0.247	0.247	0.102
1080;	polygon	0.138	0.138	0.102

1081;	polygon	0.180	0.075	0.102
1082;	normal	0.000	0.000	-1.000
1083;	polygon	0.180	0.075	-0.102
1084;	polygon	0.138	0.138	-0.102
1085;	polygon	0.247	0.247	-0.102
1086;	polygon	0.323	0.134	-0.102
1087;	normal	0.830	0.558	0.000
1088;	polygon	0.323	0.134	0.102
1089;	polygon	0.323	0.134	-0.102
1090;	polygon	0.247	0.247	-0.102
1091;	polygon	0.247	0.247	0.102
1092;	normal	0.000	0.000	1.000
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1097;	normal	0.000	0.000	-1.000
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1100;	polygon	0.134	0.323	-0.102
1101;	polygon	0.247	0.247	-0.102
1102;	normal	0.558	0.830	0.000
1103;	polygon	0.247	0.247	0.102
1104;	polygon	0.247	0.247	-0.102
1105;	polygon	0.134	0.323	-0.102
1106;	polygon	0.134	0.323	0.102
1107;	normal	0.000	0.000	1.000
1108;	polygon	0.134	0.323	0.102
1109;	polygon	0.000	0.350	0.102
1110;	polygon	0.000	0.195	0.102
1111;	polygon	0.075	0.180	0.102
1112;	normal	0.000	0.000	-1.000
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1114;	polygon	0.000	0.195	-0.102
1115;	polygon	0.000	0.350	-0.102
1116;	polygon	0.134	0.323	-0.102
1117;	normal	0.198	0.980	0.000
1118;	polygon	0.134	0.323	0.102
1119;	polygon	0.134	0.323	-0.102
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1121;	polygon	0.000	0.350	0.102
1122;	normal	0.000	0.000	1.000
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1124;	polygon	-0.134	0.323	0.102
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1126;	polygon	0.000	0.195	0.102
1127;	normal	0.000	0.000	-1.000
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1129;	polygon	-0.075	0.180	-0.102
1130;	polygon	-0.134	0.323	-0.102
1131;	polygon	0.000	0.350	-0.102
1132;	normal	-0.198	0.980	0.000
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1134;	polygon	0.000	0.350	-0.102
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1137;	normal	0.000	0.000	1.000
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1141;	polygon	-0.075	0.180	0.102
1142;	normal	0.000	0.000	-1.000
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1147;	normal	-0.558	0.830	0.000
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1161;	polygon	-0.247	0.247	-0.102
1162;	normal	-0.830	0.558	0.000
1163;	polygon	-0.247	0.247	0.102
1164;	polygon	-0.247	0.247	-0.102
1165;	polygon	-0.323	0.134	-0.102
1166;	polygon	-0.323	0.134	0.102
1167;	normal	0.000	0.000	1.000
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1169;	polygon	-0.350	0.000	0.102
1170;	polygon	-0.195	0.000	0.102
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1172;	normal	0.000	0.000	-1.000
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1174;	polygon	-0.195	0.000	-0.102
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1177;	normal	-0.980	0.198	0.000
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1179;	polygon	-0.323	0.134	-0.102
1180;	polygon	-0.350	0.000	-0.102
1181;	polygon	-0.350	0.000	0.102
1182;	normal	0.000	0.000	1.000
1183;	polygon	-0.350	0.000	0.102
1184;	polygon	-0.323	-0.134	0.102
1185;	polygon	-0.180	-0.075	0.102
1186;	polygon	-0.195	0.000	0.102
1187;	normal	0.000	0.000	-1.000
1188;	polygon	-0.195	0.000	-0.102
1189;	polygon	-0.180	-0.075	-0.102
1190;	polygon	-0.323	-0.134	-0.102
1191;	polygon	-0.350	0.000	-0.102
1192;	normal	-0.980	-0.198	0.000
1193;	polygon	-0.350	0.000	0.102
1194;	polygon	-0.350	0.000	-0.102
1195;	polygon	-0.323	-0.134	-0.102
1196;	polygon	-0.323	-0.134	0.102

1197;	normal	0.000	0.000	1.000
1198;	polygon	-0.323	-0.134	0.102
1199;	polygon	-0.247	-0.247	0.102
1200;	polygon	-0.138	-0.138	0.102
1201;	polygon	-0.180	-0.075	0.102
1202;	normal	0.000	0.000	-1.000
1203;	polygon	-0.180	-0.075	-0.102
1204;	polygon	-0.138	-0.138	-0.102
1205;	polygon	-0.247	-0.247	-0.102
1206;	polygon	-0.323	-0.134	-0.102
1207;	normal	-0.830	-0.558	0.000
1208;	polygon	-0.323	-0.134	0.102
1209;	polygon	-0.323	-0.134	-0.102
1210;	polygon	-0.247	-0.247	-0.102
1211;	polygon	-0.247	-0.247	0.102
1212;	normal	0.000	0.000	1.000
1213;	polygon	-0.247	-0.247	0.102
1214;	polygon	-0.134	-0.323	0.102
1215;	polygon	-0.075	-0.180	0.102
1216;	polygon	-0.138	-0.138	0.102
1217;	normal	0.000	0.000	-1.000
1218;	polygon	-0.138	-0.138	-0.102
1219;	polygon	-0.075	-0.180	-0.102
1220;	polygon	-0.134	-0.323	-0.102
1221;	polygon	-0.247	-0.247	-0.102
1222;	normal	-0.558	-0.830	0.000
1223;	polygon	-0.247	-0.247	0.102
1224;	polygon	-0.247	-0.247	-0.102
1225;	polygon	-0.134	-0.323	-0.102
1226;	polygon	-0.134	-0.323	0.102
1227;	normal	0.000	0.000	1.000
1228;	polygon	-0.134	-0.323	0.102
1229;	polygon	0.000	-0.350	0.102
1230;	polygon	0.000	-0.195	0.102
1231;	polygon	-0.075	-0.180	0.102
1232;	normal	0.000	0.000	-1.000
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1234;	polygon	0.000	-0.195	-0.102
1235;	polygon	0.000	-0.350	-0.102
1236;	polygon	-0.134	-0.323	-0.102
1237;	normal	-0.198	-0.980	0.000
1238;	polygon	-0.134	-0.323	0.102
1239;	polygon	-0.134	-0.323	-0.102
1240;	polygon	0.000	-0.350	-0.102
1241;	polygon	0.000	-0.350	0.102
1242;	normal	0.000	0.000	1.000
1243;	polygon	0.000	-0.350	0.102
1244;	polygon	0.134	-0.323	0.102
1245;	polygon	0.075	-0.180	0.102
1246;	polygon	0.000	-0.195	0.102
1247;	normal	0.000	0.000	-1.000
1248;	polygon	0.000	-0.195	-0.102
1249;	polygon	0.075	-0.180	-0.102
1250;	polygon	0.134	-0.323	-0.102
1251;	polygon	0.000	-0.350	-0.102
1252;	normal	0.198	-0.980	0.000
1253;	polygon	0.000	-0.350	0.102
1254;	polygon	0.000	-0.350	-0.102

1255;	polygon	0.134	-0.323	-0.102
1256;	polygon	0.134	-0.323	0.102
1257;	normal	0.000	0.000	1.000
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1261;	polygon	0.075	-0.180	0.102
1262;	normal	0.000	0.000	-1.000
1263;	polygon	0.075	-0.180	-0.102
1264;	polygon	0.138	-0.138	-0.102
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1266;	polygon	0.134	-0.323	-0.102
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1277;	normal	0.000	0.000	-1.000
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1281;	polygon	0.247	-0.247	-0.102
1282;	normal	0.830	-0.558	0.000
1283;	polygon	0.247	-0.247	0.102
1284;	polygon	0.247	-0.247	-0.102
1285;	polygon	0.323	-0.134	-0.102
1286;	polygon	0.323	-0.134	0.102
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1288;	polygon	0.180	-0.075	0.102
1289;	polygon	0.195	0.000	0.102
1290;	polygon	0.180	0.075	0.102
1291;	polygon	0.138	0.138	0.102
1292;	polygon	0.075	0.180	0.102
1293;	polygon	0.000	0.195	0.102
1294;	polygon	-0.075	0.180	0.102
1295;	polygon	-0.138	0.138	0.102
1296;	polygon	-0.180	0.075	0.102
1297;	polygon	-0.195	0.000	0.102
1298;	polygon	-0.180	-0.075	0.102
1299;	polygon	-0.138	-0.138	0.102
1300;	polygon	-0.075	-0.180	0.102
1301;	polygon	0.000	-0.195	0.102
1302;	polygon	0.075	-0.180	0.102
1303;	polygon	0.138	-0.138	0.102
1304;	end	0.000	0.000	0.000
1305;	fill	40563.000	38873.000	42253.000
1306;	pen	0.000	0.000	0.000
1307;	normal	0.000	0.000	-1.000
1308;	polygon	0.138	-0.138	-0.102
1309;	polygon	0.075	-0.180	-0.102
1310;	polygon	0.000	-0.195	-0.102
1311;	polygon	-0.075	-0.180	-0.102
1312;	polygon	-0.138	-0.138	-0.102

1313;	polygon	-0.180	-0.075	-0.102
1314;	polygon	-0.195	0.000	-0.102
1315;	polygon	-0.180	0.075	-0.102
1316;	polygon	-0.138	0.138	-0.102
1317;	polygon	-0.075	0.180	-0.102
1318;	polygon	0.000	0.195	-0.102
1319;	polygon	0.075	0.180	-0.102
1320;	polygon	0.138	0.138	-0.102
1321;	polygon	0.180	0.075	-0.102
1322;	polygon	0.195	0.000	-0.102
1323;	polygon	0.180	-0.075	-0.102
1324;	end	0.000	0.000	0.000
1325;	return	0.000	0.000	0.000
:TIRE4				
1326;	pen	0.000	0.000	0.000
1327;	fill	0.000	0.000	0.000
1328;	shape	0.000	0.000	0.000
1329;	normal	0.000	0.000	1.000
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1331;	polygon	0.350	0.000	0.102
1332;	polygon	0.195	0.000	0.102
1333;	polygon	0.180	-0.075	0.102
1334;	normal	0.000	0.000	-1.000
1335;	polygon	0.180	-0.075	-0.102
1336;	polygon	0.195	0.000	-0.102
1337;	polygon	0.350	0.000	-0.102
1338;	polygon	0.323	-0.134	-0.102
1339;	normal	0.980	-0.198	0.000
1340;	polygon	0.323	-0.134	0.102
1341;	polygon	0.323	-0.134	-0.102
1342;	polygon	0.350	0.000	-0.102
1343;	polygon	0.350	0.000	0.102
1344;	normal	0.000	0.000	1.000
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1349;	normal	0.000	0.000	-1.000
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1351;	polygon	0.180	0.075	-0.102
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1353;	polygon	0.350	0.000	-0.102
1354;	normal	0.980	0.198	0.000
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1358;	polygon	0.323	0.134	0.102
1359;	normal	0.000	0.000	1.000
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1361;	polygon	0.247	0.247	0.102
1362;	polygon	0.138	0.138	0.102
1363;	polygon	0.180	0.075	0.102
1364;	normal	0.000	0.000	-1.000
1365;	polygon	0.180	0.075	-0.102
1366;	polygon	0.138	0.138	-0.102
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1368;	polygon	0.323	0.134	-0.102
1369;	normal	0.830	0.558	0.000

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1371;	polygon	0.323	0.134	-0.102
1372;	polygon	0.247	0.247	-0.102
1373;	polygon	0.247	0.247	0.102
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1376;	polygon	0.134	0.323	0.102
1377;	polygon	0.075	0.180	0.102
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1379;	normal	0.000	0.000	-1.000
1380;	polygon	0.138	0.138	-0.102
1381;	polygon	0.075	0.180	-0.102
1382;	polygon	0.134	0.323	-0.102
1383;	polygon	0.247	0.247	-0.102
1384;	normal	0.558	0.830	0.000
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1389;	normal	0.000	0.000	1.000
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1392;	polygon	0.000	0.195	0.102
1393;	polygon	0.075	0.180	0.102
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1396;	polygon	0.000	0.195	-0.102
1397;	polygon	0.000	0.350	-0.102
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1399;	normal	0.198	0.980	0.000
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1407;	polygon	-0.075	0.180	0.102
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1409;	normal	0.000	0.000	-1.000
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1412;	polygon	-0.134	0.323	-0.102
1413;	polygon	0.000	0.350	-0.102
1414;	normal	-0.198	0.980	0.000
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1419;	normal	0.000	0.000	1.000
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1423;	polygon	-0.075	0.180	0.102
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1427;	polygon	-0.247	0.247	-0.102

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1429;	normal	-0.558	0.830	0.000
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1442;	polygon	-0.323	0.134	-0.102
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1444;	normal	-0.830	0.558	0.000
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1447;	polygon	-0.323	0.134	-0.102
1448;	polygon	-0.323	0.134	0.102
1449;	normal	0.000	0.000	1.000
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1452;	polygon	-0.195	0.000	0.102
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1454;	normal	0.000	0.000	-1.000
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1466;	polygon	-0.323	-0.134	0.102
1467;	polygon	-0.180	-0.075	0.102
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1474;	normal	-0.980	-0.198	0.000
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1482;	polygon	-0.138	-0.138	0.102
1483;	polygon	-0.180	-0.075	0.102
1484;	normal	0.000	0.000	-1.000
1485;	polygon	-0.180	-0.075	-0.102

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1494;	normal	0.000	0.000	1.000
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1499;	normal	0.000	0.000	-1.000
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1503;	polygon	-0.247	-0.247	-0.102
1504;	normal	-0.558	-0.830	0.000
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1514;	normal	0.000	0.000	-1.000
1515;	polygon	-0.075	-0.180	-0.102
1516;	polygon	0.000	-0.195	-0.102
1517;	polygon	0.000	-0.350	-0.102
1518;	polygon	-0.134	-0.323	-0.102
1519;	normal	-0.198	-0.980	0.000
1520;	polygon	-0.134	-0.323	0.102
1521;	polygon	-0.134	-0.323	-0.102
1522;	polygon	0.000	-0.350	-0.102
1523;	polygon	0.000	-0.350	0.102
1524;	normal	0.000	0.000	1.000
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1529;	normal	0.000	0.000	-1.000
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1532;	polygon	0.134	-0.323	-0.102
1533;	polygon	0.000	-0.350	-0.102
1534;	normal	0.198	-0.980	0.000
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1543;	polygon	0.075	-0.180	0.102

1544;	normal	0.000	0.000	-1.000
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1551;	polygon	0.134	-0.323	-0.102
1552;	polygon	0.247	-0.247	-0.102
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1554;	normal	0.000	0.000	1.000
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1557;	polygon	0.180	-0.075	0.102
1558;	polygon	0.138	-0.138	0.102
1559;	normal	0.000	0.000	-1.000
1560;	polygon	0.138	-0.138	-0.102
1561;	polygon	0.180	-0.075	-0.102
1562;	polygon	0.323	-0.134	-0.102
1563;	polygon	0.247	-0.247	-0.102
1564;	normal	0.830	-0.558	0.000
1565;	polygon	0.247	-0.247	0.102
1566;	polygon	0.247	-0.247	-0.102
1567;	polygon	0.323	-0.134	-0.102
1568;	polygon	0.323	-0.134	0.102
1569;	normal	0.000	0.000	1.000
1570;	polygon	0.180	-0.075	0.102
1571;	polygon	0.195	0.000	0.102
1572;	polygon	0.180	0.075	0.102
1573;	polygon	0.138	0.138	0.102
1574;	polygon	0.075	0.180	0.102
1575;	polygon	0.000	0.195	0.102
1576;	polygon	-0.075	0.180	0.102
1577;	polygon	-0.138	0.138	0.102
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1579;	polygon	-0.195	0.000	0.102
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1583;	polygon	0.000	-0.195	0.102
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1585;	polygon	0.138	-0.138	0.102
1586;	end	0.000	0.000	0.000
1587;	fill	40563.000	38873.000	42253.000
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1589;	normal	0.000	0.000	-1.000
1590;	polygon	0.138	-0.138	-0.102
1591;	polygon	0.075	-0.180	-0.102
1592;	polygon	0.000	-0.195	-0.102
1593;	polygon	-0.075	-0.180	-0.102
1594;	polygon	-0.138	-0.138	-0.102
1595;	polygon	-0.180	-0.075	-0.102
1596;	polygon	-0.195	0.000	-0.102
1597;	polygon	-0.180	0.075	-0.102
1598;	polygon	-0.138	0.138	-0.102
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1600;	polygon	0.000	0.195	-0.102
1601;	polygon	0.075	0.180	-0.102

1602;	polygon	0.138	0.138	-0.102
1603;	polygon	0.180	0.075	-0.102
1604;	polygon	0.195	0.000	-0.102
1605;	polygon	0.180	-0.075	-0.102
1606;	end	0.000	0.000	0.000
1607;	return	0.000	0.000	0.000
:TIRE				
1608;	pen	0.000	0.000	0.000
1609;	fill	0.000	0.000	0.000
1610;	shape	0.000	0.000	0.000
1611;	normal	0.000	0.000	1.000
1612;	polygon	0.323	-0.134	0.102
1613;	polygon	0.350	0.000	0.102
1614;	polygon	0.195	0.000	0.102
1615;	polygon	0.180	-0.075	0.102
1616;	normal	0.000	0.000	-1.000
1617;	polygon	0.180	-0.075	-0.102
1618;	polygon	0.195	0.000	-0.102
1619;	polygon	0.350	0.000	-0.102
1620;	polygon	0.323	-0.134	-0.102
1621;	normal	0.980	-0.198	0.000
1622;	polygon	0.323	-0.134	0.102
1623;	polygon	0.323	-0.134	-0.102
1624;	polygon	0.350	0.000	-0.102
1625;	polygon	0.350	0.000	0.102
1626;	normal	0.000	0.000	1.000
1627;	polygon	0.350	0.000	0.102
1628;	polygon	0.323	0.134	0.102
1629;	polygon	0.180	0.075	0.102
1630;	polygon	0.195	0.000	0.102
1631;	normal	0.000	0.000	-1.000
1632;	polygon	0.195	0.000	-0.102
1633;	polygon	0.180	0.075	-0.102
1634;	polygon	0.323	0.134	-0.102
1635;	polygon	0.350	0.000	-0.102
1636;	normal	0.980	0.198	0.000
1637;	polygon	0.350	0.000	0.102
1638;	polygon	0.350	0.000	-0.102
1639;	polygon	0.323	0.134	-0.102
1640;	polygon	0.323	0.134	0.102
1641;	normal	0.000	0.000	1.000
1642;	polygon	0.323	0.134	0.102
1643;	polygon	0.247	0.247	0.102
1644;	polygon	0.138	0.138	0.102
1645;	polygon	0.180	0.075	0.102
1646;	normal	0.000	0.000	-1.000
1647;	polygon	0.180	0.075	-0.102
1648;	polygon	0.138	0.138	-0.102
1649;	polygon	0.247	0.247	-0.102
1650;	polygon	0.323	0.134	-0.102
1651;	normal	0.830	0.558	0.000
1652;	polygon	0.323	0.134	0.102
1653;	polygon	0.323	0.134	-0.102
1654;	polygon	0.247	0.247	-0.102
1655;	polygon	0.247	0.247	0.102
1656;	normal	0.000	0.000	1.000
1657;	polygon	0.247	0.247	0.102
1658;	polygon	0.134	0.323	0.102

1659;	polygon	0.075	0.180	0.102
1660;	polygon	0.138	0.138	0.102
1661;	normal	0.000	0.000	-1.000
1662;	polygon	0.138	0.138	-0.102
1663;	polygon	0.075	0.180	-0.102
1664;	polygon	0.134	0.323	-0.102
1665;	polygon	0.247	0.247	-0.102
1666;	normal	0.558	0.830	0.000
1667;	polygon	0.247	0.247	0.102
1668;	polygon	0.247	0.247	-0.102
1669;	polygon	0.134	0.323	-0.102
1670;	polygon	0.134	0.323	0.102
1671;	normal	0.000	0.000	1.000
1672;	polygon	0.134	0.323	0.102
1673;	polygon	0.000	0.350	0.102
1674;	polygon	0.000	0.195	0.102
1675;	polygon	0.075	0.180	0.102
1676;	normal	0.000	0.000	-1.000
1677;	polygon	0.075	0.180	-0.102
1678;	polygon	0.000	0.195	-0.102
1679;	polygon	0.000	0.350	-0.102
1680;	polygon	0.134	0.323	-0.102
1681;	normal	0.198	0.980	0.000
1682;	polygon	0.134	0.323	0.102
1683;	polygon	0.134	0.323	-0.102
1684;	polygon	0.000	0.350	-0.102
1685;	polygon	0.000	0.350	0.102
1686;	normal	0.000	0.000	1.000
1687;	polygon	0.000	0.350	0.102
1688;	polygon	-0.134	0.323	0.102
1689;	polygon	-0.075	0.180	0.102
1690;	polygon	0.000	0.195	0.102
1691;	normal	0.000	0.000	-1.000
1692;	polygon	0.000	0.195	-0.102
1693;	polygon	-0.075	0.180	-0.102
1694;	polygon	-0.134	0.323	-0.102
1695;	polygon	0.000	0.350	-0.102
1696;	normal	-0.198	0.980	0.000
1697;	polygon	0.000	0.350	0.102
1698;	polygon	0.000	0.350	-0.102
1699;	polygon	-0.134	0.323	-0.102
1700;	polygon	-0.134	0.323	0.102
1701;	normal	0.000	0.000	1.000
1702;	polygon	-0.134	0.323	0.102
1703;	polygon	-0.247	0.247	0.102
1704;	polygon	-0.138	0.138	0.102
1705;	polygon	-0.075	0.180	0.102
1706;	normal	0.000	0.000	-1.000
1707;	polygon	-0.075	0.180	-0.102
1708;	polygon	-0.138	0.138	-0.102
1709;	polygon	-0.247	0.247	-0.102
1710;	polygon	-0.134	0.323	-0.102
1711;	normal	-0.558	0.830	0.000
1712;	polygon	-0.134	0.323	0.102
1713;	polygon	-0.134	0.323	-0.102
1714;	polygon	-0.247	0.247	-0.102
1715;	polygon	-0.247	0.247	0.102
1716;	normal	0.000	0.000	1.000

1717;	polygon	-0.247	0.247	0.102
1718;	polygon	-0.323	0.134	0.102
1719;	polygon	-0.180	0.075	0.102
1720;	polygon	-0.138	0.138	0.102
1721;	normal	0.000	0.000	-1.000
1722;	polygon	-0.138	0.138	-0.102
1723;	polygon	-0.180	0.075	-0.102
1724;	polygon	-0.323	0.134	-0.102
1725;	polygon	-0.247	0.247	-0.102
1726;	normal	-0.830	0.558	0.000
1727;	polygon	-0.247	0.247	0.102
1728;	polygon	-0.247	0.247	-0.102
1729;	polygon	-0.323	0.134	-0.102
1730;	polygon	-0.323	0.134	0.102
1731;	normal	0.000	0.000	1.000
1732;	polygon	-0.323	0.134	0.102
1733;	polygon	-0.350	0.000	0.102
1734;	polygon	-0.195	0.000	0.102
1735;	polygon	-0.180	0.075	0.102
1736;	normal	0.000	0.000	-1.000
1737;	polygon	-0.180	0.075	-0.102
1738;	polygon	-0.195	0.000	-0.102
1739;	polygon	-0.350	0.000	-0.102
1740;	polygon	-0.323	0.134	-0.102
1741;	normal	-0.980	0.198	0.000
1742;	polygon	-0.323	0.134	0.102
1743;	polygon	-0.323	0.134	-0.102
1744;	polygon	-0.350	0.000	-0.102
1745;	polygon	-0.350	0.000	0.102
1746;	normal	0.000	0.000	1.000
1747;	polygon	-0.350	0.000	0.102
1748;	polygon	-0.323	-0.134	0.102
1749;	polygon	-0.180	-0.075	0.102
1750;	polygon	-0.195	0.000	0.102
1751;	normal	0.000	0.000	-1.000
1752;	polygon	-0.195	0.000	-0.102
1753;	polygon	-0.180	-0.075	-0.102
1754;	polygon	-0.323	-0.134	-0.102
1755;	polygon	-0.350	0.000	-0.102
1756;	normal	-0.980	-0.198	0.000
1757;	polygon	-0.350	0.000	0.102
1758;	polygon	-0.350	0.000	-0.102
1759;	polygon	-0.323	-0.134	-0.102
1760;	polygon	-0.323	-0.134	0.102
1761;	normal	0.000	0.000	1.000
1762;	polygon	-0.323	-0.134	0.102
1763;	polygon	-0.247	-0.247	0.102
1764;	polygon	-0.138	-0.138	0.102
1765;	polygon	-0.180	-0.075	0.102
1766;	normal	0.000	0.000	-1.000
1767;	polygon	-0.180	-0.075	-0.102
1768;	polygon	-0.138	-0.138	-0.102
1769;	polygon	-0.247	-0.247	-0.102
1770;	polygon	-0.323	-0.134	-0.102
1771;	normal	-0.830	-0.558	0.000
1772;	polygon	-0.323	-0.134	0.102
1773;	polygon	-0.323	-0.134	-0.102
1774;	polygon	-0.247	-0.247	-0.102

1775;	polygon	-0.247	-0.247	0.102
1776;	normal	0.000	0.000	1.000
1777;	polygon	-0.247	-0.247	0.102
1778;	polygon	-0.134	-0.323	0.102
1779;	polygon	-0.075	-0.180	0.102
1780;	polygon	-0.138	-0.138	0.102
1781;	normal	0.000	0.000	-1.000
1782;	polygon	-0.138	-0.138	-0.102
1783;	polygon	-0.075	-0.180	-0.102
1784;	polygon	-0.134	-0.323	-0.102
1785;	polygon	-0.247	-0.247	-0.102
1786;	normal	-0.558	-0.830	0.000
1787;	polygon	-0.247	-0.247	0.102
1788;	polygon	-0.247	-0.247	-0.102
1789;	polygon	-0.134	-0.323	-0.102
1790;	polygon	-0.134	-0.323	0.102
1791;	normal	0.000	0.000	1.000
1792;	polygon	-0.134	-0.323	0.102
1793;	polygon	0.000	-0.350	0.102
1794;	polygon	0.000	-0.195	0.102
1795;	polygon	-0.075	-0.180	0.102
1796;	normal	0.000	0.000	-1.000
1797;	polygon	-0.075	-0.180	-0.102
1798;	polygon	0.000	-0.195	-0.102
1799;	polygon	0.000	-0.350	-0.102
1800;	polygon	-0.134	-0.323	-0.102
1801;	normal	-0.198	-0.980	0.000
1802;	polygon	-0.134	-0.323	0.102
1803;	polygon	-0.134	-0.323	-0.102
1804;	polygon	0.000	-0.350	-0.102
1805;	polygon	0.000	-0.350	0.102
1806;	normal	0.000	0.000	1.000
1807;	polygon	0.000	-0.350	0.102
1808;	polygon	0.134	-0.323	0.102
1809;	polygon	0.075	-0.180	0.102
1810;	polygon	0.000	-0.195	0.102
1811;	normal	0.000	0.000	-1.000
1812;	polygon	0.000	-0.195	-0.102
1813;	polygon	0.075	-0.180	-0.102
1814;	polygon	0.134	-0.323	-0.102
1815;	polygon	0.000	-0.350	-0.102
1816;	normal	0.198	-0.980	0.000
1817;	polygon	0.000	-0.350	0.102
1818;	polygon	0.000	-0.350	-0.102
1819;	polygon	0.134	-0.323	-0.102
1820;	polygon	0.134	-0.323	0.102
1821;	normal	0.000	0.000	1.000
1822;	polygon	0.134	-0.323	0.102
1823;	polygon	0.247	-0.247	0.102
1824;	polygon	0.138	-0.138	0.102
1825;	polygon	0.075	-0.180	0.102
1826;	normal	0.000	0.000	-1.000
1827;	polygon	0.075	-0.180	-0.102
1828;	polygon	0.138	-0.138	-0.102
1829;	polygon	0.247	-0.247	-0.102
1830;	polygon	0.134	-0.323	-0.102
1831;	normal	0.558	-0.830	0.000
1832;	polygon	0.134	-0.323	0.102

1833;	polygon	0.134	-0.323	-0.102
1834;	polygon	0.247	-0.247	-0.102
1835;	polygon	0.247	-0.247	0.102
1836;	normal	0.000	0.000	1.000
1837;	polygon	0.247	-0.247	0.102
1838;	polygon	0.323	-0.134	0.102
1839;	polygon	0.180	-0.075	0.102
1840;	polygon	0.138	-0.138	0.102
1841;	normal	0.000	0.000	-1.000
1842;	polygon	0.138	-0.138	-0.102
1843;	polygon	0.180	-0.075	-0.102
1844;	polygon	0.323	-0.134	-0.102
1845;	polygon	0.247	-0.247	-0.102
1846;	normal	0.830	-0.558	0.000
1847;	polygon	0.247	-0.247	0.102
1848;	polygon	0.247	-0.247	-0.102
1849;	polygon	0.323	-0.134	-0.102
1850;	polygon	0.323	-0.134	0.102
1851;	normal	0.000	0.000	1.000
1852;	polygon	0.180	-0.075	0.102
1853;	polygon	0.195	0.000	0.102
1854;	polygon	0.180	0.075	0.102
1855;	polygon	0.138	0.138	0.102
1856;	polygon	0.075	0.180	0.102
1857;	polygon	0.000	0.195	0.102
1858;	polygon	-0.075	0.180	0.102
1859;	polygon	-0.138	0.138	0.102
1860;	polygon	-0.180	0.075	0.102
1861;	polygon	-0.195	0.000	0.102
1862;	polygon	-0.180	-0.075	0.102
1863;	polygon	-0.138	-0.138	0.102
1864;	polygon	-0.075	-0.180	0.102
1865;	polygon	0.000	-0.195	0.102
1866;	polygon	0.075	-0.180	0.102
1867;	polygon	0.138	-0.138	0.102
1868;	end	0.000	0.000	0.000
1869;	fill	40563.000	38873.000	42253.000
1870;	pen	0.000	0.000	0.000
1871;	normal	0.000	0.000	-1.000
1872;	polygon	0.138	-0.138	-0.102
1873;	polygon	0.075	-0.180	-0.102
1874;	polygon	0.000	-0.195	-0.102
1875;	polygon	-0.075	-0.180	-0.102
1876;	polygon	-0.138	-0.138	-0.102
1877;	polygon	-0.180	-0.075	-0.102
1878;	polygon	-0.195	0.000	-0.102
1879;	polygon	-0.180	0.075	-0.102
1880;	polygon	-0.138	0.138	-0.102
1881;	polygon	-0.075	0.180	-0.102
1882;	polygon	0.000	0.195	-0.102
1883;	polygon	0.075	0.180	-0.102
1884;	polygon	0.138	0.138	-0.102
1885;	polygon	0.180	0.075	-0.102
1886;	polygon	0.195	0.000	-0.102
1887;	polygon	0.180	-0.075	-0.102
1888;	end	0.000	0.000	0.000
1889;	return	0.000	0.000	0.000

:TOP VIEW

1890;	object	CAR-ROTATE		
1891;	origin	0.000	0.693	0.000
1892;	rotate	90.000	0.000	0.000
1893;	scale	1.000	1.000	1.000
1894;	object	TERRAIN		
1895;	origin	0.000	0.000	0.000
1896;	rotate	0.000	0.000	0.000
1897;	scale	1.000	1.000	1.000
1898;	object	PATH		
1899;	origin	0.000	0.000	0.000
1900;	rotate	90.000	0.000	0.000
1901;	scale	1.000	1.000	1.000
1902;	return	0.000	0.000	0.000
:RPER..				
1903;	pen	0.000	0.000	0.000
1904;	fill	65535.000	65535.000	65535.000
1905;	start	20.000	796.000	0.000
1906;	textrect	66.000	7.000	18.000
1907;	font	20.000	14.000	1.000
1908;	style	5.000	0.000	0.000
1909;	text	TIME	RPER	
1910;	pen	0.000	0.000	0.000
1911;	fill	7938.000	49188.000	8522.000
1912;	normal	0.000	0.000	1.000
1913;	polygon	-100.000	600.000	0.000
1914;	polygon	-100.000	-600.000	0.000
1915;	polygon	-50.000	-600.000	0.000
1916;	polygon	-50.000	600.000	0.000
1917;	pen	0.000	0.000	0.000
1918;	fill	0.000	0.000	65535.000
1919;	normal	0.000	0.000	1.000
1920;	polygon	150.000	600.000	0.000
1921;	polygon	150.000	0.000	0.000
1922;	polygon	200.000	0.000	0.000
1923;	polygon	200.000	600.000	0.000
1924;	pen	0.000	0.000	0.000
1925;	start	50.000	0.000	0.000
1926;	line	250.000	0.000	0.000
1927;	pen	0.000	0.000	0.000
1928;	fill	65535.000	65535.000	65535.000
1929;	start	-725.000	275.000	0.000
1930;	textrect	50.000	6.000	1.000
1931;	font	20.000	12.000	-1.000
1932;	style	0.000	0.000	0.000
1933;	text	S		
1934;	pen	0.000	0.000	0.000
1935;	fill	65535.000	65535.000	65535.000
1936;	start	-725.000	200.000	0.000
1937;	textrect	50.000	6.000	1.000
1938;	font	20.000	12.000	-1.000
1939;	style	0.000	0.000	0.000
1940;	text	e		
1941;	pen	0.000	0.000	0.000
1942;	fill	65535.000	65535.000	65535.000
1943;	start	-725.000	125.000	0.000
1944;	textrect	50.000	6.000	1.000
1945;	font	20.000	12.000	-1.000
1946;	style	0.000	0.000	0.000

1947;	text	c		
1948;	pen	0.000	0.000	0.000
1949;	fill	65535.000	65535.000	65535.000
1950;	start	700.000	600.000	0.000
1951;	textrect	56.000	6.000	6.000
1952;	font	20.000	12.000	0.000
1953;	style	0.000	0.000	0.000
1954;	text	3000		
1955;	pen	0.000	0.000	0.000
1956;	fill	65535.000	65535.000	65535.000
1957;	start	880.000	16.000	0.000
1958;	textrect	56.000	6.000	1.000
1959;	font	20.000	12.000	0.000
1960;	style	0.000	0.000	0.000
1961;	text	0		
1962;	pen	0.000	0.000	0.000
1963;	fill	65535.000	65535.000	65535.000
1964;	start	700.000	-576.000	0.000
1965;	textrect	56.000	6.000	6.000
1966;	font	20.000	12.000	0.000
1967;	style	0.000	0.000	0.000
1968;	text	-3000		
1969;	pen	0.000	0.000	0.000
1970;	start	32.000	-640.000	0.000
1971;	line	32.000	856.000	0.000
1972;	fill	-1.000	0.000	0.000
1973;	pen	0.000	0.000	0.000
1974;	normal	0.000	0.000	1.000
1975;	polygon	-440.000	-850.000	0.000
1976;	polygon	-440.000	-1160.000	0.000
1977;	polygon	430.000	-1160.000	0.000
1978;	polygon	430.000	-850.000	0.000
1979;	fill	65535.000	65535.000	65535.000
1980;	pen	0.000	0.000	0.000
1981;	start	0.000	-1004.000	0.000
1982;	textrect	54.000	19.500	38.000
1983;	font	20.000	12.000	1.000
1984;	style	0.000	0.000	0.000
1985;	text	ROLL ANGLE GREATER THAN CRITIC		
1986;	text	AL ANGLE		
1987;	fill	0.000	0.000	0.000
1988;	pen	0.000	0.000	0.000
1989;	normal	0.000	0.000	-1.000
1990;	polygon	-10000.000	-10000.000	0.000
1991;	polygon	-10000.000	-9999.000	0.000
1992;	polygon	-9999.000	-9999.000	0.000
1993;	polygon	-9999.000	-10000.000	0.000
1994;	fill	0.000	0.000	0.000
1995;	pen	0.000	0.000	0.000
1996;	normal	0.000	0.000	-1.000
1997;	polygon	-10000.000	-10000.000	0.000
1998;	polygon	-10000.000	-9999.000	0.000
1999;	polygon	-9999.000	-9999.000	0.000
2000;	polygon	-9999.000	-10000.000	0.000
2001;	fill	65535.000	65535.000	0.000
2002;	pen	0.000	0.000	0.000
2003;	normal	0.000	0.000	-1.000
2004;	polygon	-10000.000	-10000.000	0.000

2005;	polygon	-10000.000	-9999.000	0.000
2006;	polygon	-9999.000	-9999.000	0.000
2007;	polygon	-9999.000	-10000.000	0.000
2008;	pen	0.000	0.000	0.000
2009;	start	-50.000	-600.000	0.000
2010;	line	0.000	-600.000	0.000
2011;	pen	0.000	0.000	0.000
2012;	start	-50.000	0.000	0.000
2013;	line	0.000	0.000	0.000
2014;	pen	0.000	0.000	0.000
2015;	start	-50.000	600.000	0.000
2016;	line	0.000	600.000	0.000
2017;	return	0.000	0.000	0.000
:PATH				
2018;	pen	0.000	0.000	0.000
2019;	start	0.000	0.000	0.000
2020;	line	0.000	0.000	0.000
2021;	pen	-1.000	0.000	0.000
2022;	start	0.000	0.000	0.000
2023;	line	0.000	0.000	0.000
2024;	line	0.000	0.000	0.000
2025;	line	0.000	0.000	0.000
2026;	line	0.000	0.000	0.000
2027;	line	0.000	0.000	0.000
2028;	line	0.000	0.000	0.000
2029;	line	0.000	0.000	0.000
2030;	line	0.000	0.000	0.000
2031;	line	0.000	0.000	0.000
2032;	line	0.000	0.000	0.000
2033;	line	0.000	0.000	0.000
2034;	line	0.000	0.000	0.000
2035;	line	0.000	0.000	0.000
2036;	line	0.000	0.000	0.000
2037;	line	0.000	0.000	0.000
2038;	line	0.000	0.000	0.000
2039;	line	0.000	0.000	0.000
2040;	line	0.000	0.000	0.000
2041;	line	0.000	0.000	0.000
2042;	line	0.000	0.000	0.000
2043;	line	0.000	0.000	0.000
2044;	line	0.000	0.000	0.000
2045;	line	0.000	0.000	0.000
2046;	line	0.000	0.000	0.000
2047;	line	0.000	0.000	0.000
2048;	line	0.000	0.000	0.000
2049;	line	0.000	0.000	0.000
2050;	line	0.000	0.000	0.000
2051;	line	0.000	0.000	0.000
2052;	line	0.000	0.000	0.000
2053;	line	0.000	0.000	0.000
2054;	line	0.000	0.000	0.000
2055;	line	0.000	0.000	0.000
2056;	line	0.000	0.000	0.000
2057;	line	0.000	0.000	0.000
2058;	line	0.000	0.000	0.000
2059;	line	0.000	0.000	0.000
2060;	line	0.000	0.000	0.000
2061;	line	0.000	0.000	0.000

2062;	line	0.000	0.000	0.000
2063;	line	0.000	0.000	0.000
2064;	line	0.000	0.000	0.000
2065;	line	0.000	0.000	0.000
2066;	line	0.000	0.000	0.000
2067;	line	0.000	0.000	0.000
2068;	line	0.000	0.000	0.000
2069;	line	0.000	0.000	0.000
2070;	line	0.000	0.000	0.000
2071;	line	0.000	0.000	0.000
2072;	line	0.000	0.000	0.000
2073;	line	0.000	0.000	0.000
2074;	line	0.000	0.000	0.000
2075;	line	0.000	0.000	0.000
2076;	line	0.000	0.000	0.000
2077;	line	0.000	0.000	0.000
2078;	line	0.000	0.000	0.000
2079;	line	0.000	0.000	0.000
2080;	line	0.000	0.000	0.000
2081;	line	0.000	0.000	0.000
2082;	line	0.000	0.000	0.000
2083;	line	0.000	0.000	0.000
2084;	line	0.000	0.000	0.000
2085;	line	0.000	0.000	0.000
2086;	line	0.000	0.000	0.000
2087;	line	0.000	0.000	0.000
2088;	line	0.000	0.000	0.000
2089;	line	0.000	0.000	0.000
2090;	line	0.000	0.000	0.000
2091;	line	0.000	0.000	0.000
2092;	line	0.000	0.000	0.000
2093;	line	0.000	0.000	0.000
2094;	line	0.000	0.000	0.000
2095;	line	0.000	0.000	0.000
2096;	line	0.000	0.000	0.000
2097;	line	0.000	0.000	0.000
2098;	line	0.000	0.000	0.000
2099;	line	0.000	0.000	0.000
2100;	line	0.000	0.000	0.000
2101;	line	0.000	0.000	0.000
2102;	line	0.000	0.000	0.000
2103;	line	0.000	0.000	0.000
2104;	line	0.000	0.000	0.000
2105;	line	0.000	0.000	0.000
2106;	line	0.000	0.000	0.000
2107;	line	0.000	0.000	0.000
2108;	line	0.000	0.000	0.000
2109;	line	0.000	0.000	0.000
2110;	line	0.000	0.000	0.000
2111;	line	0.000	0.000	0.000
2112;	line	0.000	0.000	0.000
2113;	line	0.000	0.000	0.000
2114;	line	0.000	0.000	0.000
2115;	line	0.000	0.000	0.000
2116;	line	0.000	0.000	0.000
2117;	line	0.000	0.000	0.000
2118;	line	0.000	0.000	0.000
2119;	line	0.000	0.000	0.000

2120;	line	0.000	0.000	0.000
2121;	line	0.000	0.000	0.000
2122;	pen	0.000	0.000	0.000
2123;	start	0.000	0.000	0.000
2124;	line	0.000	0.000	0.000
2125;	pen	-1.000	0.000	0.000
2126;	start	0.000	0.000	0.000
2127;	line	0.000	0.000	0.000
2128;	line	0.000	0.000	0.000
2129;	line	0.000	0.000	0.000
2130;	line	0.000	0.000	0.000
2131;	line	0.000	0.000	0.000
2132;	line	0.000	0.000	0.000
2133;	line	0.000	0.000	0.000
2134;	line	0.000	0.000	0.000
2135;	line	0.000	0.000	0.000
2136;	line	0.000	0.000	0.000
2137;	line	0.000	0.000	0.000
2138;	line	0.000	0.000	0.000
2139;	line	0.000	0.000	0.000
2140;	line	0.000	0.000	0.000
2141;	line	0.000	0.000	0.000
2142;	line	0.000	0.000	0.000
2143;	line	0.000	0.000	0.000
2144;	line	0.000	0.000	0.000
2145;	line	0.000	0.000	0.000
2146;	line	0.000	0.000	0.000
2147;	line	0.000	0.000	0.000
2148;	line	0.000	0.000	0.000
2149;	line	0.000	0.000	0.000
2150;	line	0.000	0.000	0.000
2151;	line	0.000	0.000	0.000
2152;	line	0.000	0.000	0.000
2153;	line	0.000	0.000	0.000
2154;	line	0.000	0.000	0.000
2155;	line	0.000	0.000	0.000
2156;	line	0.000	0.000	0.000
2157;	line	0.000	0.000	0.000
2158;	line	0.000	0.000	0.000
2159;	line	0.000	0.000	0.000
2160;	line	0.000	0.000	0.000
2161;	line	0.000	0.000	0.000
2162;	line	0.000	0.000	0.000
2163;	line	0.000	0.000	0.000
2164;	line	0.000	0.000	0.000
2165;	line	0.000	0.000	0.000
2166;	line	0.000	0.000	0.000
2167;	line	0.000	0.000	0.000
2168;	line	0.000	0.000	0.000
2169;	line	0.000	0.000	0.000
2170;	line	0.000	0.000	0.000
2171;	line	0.000	0.000	0.000
2172;	line	0.000	0.000	0.000
2173;	line	0.000	0.000	0.000
2174;	line	0.000	0.000	0.000
2175;	line	0.000	0.000	0.000
2176;	line	0.000	0.000	0.000
2177;	line	0.000	0.000	0.000

2178;	line	0.000	0.000	0.000
2179;	line	0.000	0.000	0.000
2180;	line	0.000	0.000	0.000
2181;	line	0.000	0.000	0.000
2182;	line	0.000	0.000	0.000
2183;	line	0.000	0.000	0.000
2184;	line	0.000	0.000	0.000
2185;	line	0.000	0.000	0.000
2186;	line	0.000	0.000	0.000
2187;	line	0.000	0.000	0.000
2188;	line	0.000	0.000	0.000
2189;	line	0.000	0.000	0.000
2190;	line	0.000	0.000	0.000
2191;	line	0.000	0.000	0.000
2192;	line	0.000	0.000	0.000
2193;	line	0.000	0.000	0.000
2194;	line	0.000	0.000	0.000
2195;	line	0.000	0.000	0.000
2196;	line	0.000	0.000	0.000
2197;	line	0.000	0.000	0.000
2198;	line	0.000	0.000	0.000
2199;	line	0.000	0.000	0.000
2200;	line	0.000	0.000	0.000
2201;	line	0.000	0.000	0.000
2202;	line	0.000	0.000	0.000
2203;	line	0.000	0.000	0.000
2204;	line	0.000	0.000	0.000
2205;	line	0.000	0.000	0.000
2206;	line	0.000	0.000	0.000
2207;	line	0.000	0.000	0.000
2208;	line	0.000	0.000	0.000
2209;	line	0.000	0.000	0.000
2210;	line	0.000	0.000	0.000
2211;	line	0.000	0.000	0.000
2212;	line	0.000	0.000	0.000
2213;	line	0.000	0.000	0.000
2214;	line	0.000	0.000	0.000
2215;	line	0.000	0.000	0.000
2216;	line	0.000	0.000	0.000
2217;	line	0.000	0.000	0.000
2218;	line	0.000	0.000	0.000
2219;	line	0.000	0.000	0.000
2220;	line	0.000	0.000	0.000
2221;	line	0.000	0.000	0.000
2222;	line	0.000	0.000	0.000
2223;	line	0.000	0.000	0.000
2224;	line	0.000	0.000	0.000
2225;	line	0.000	0.000	0.000
2226;	pen	0.000	0.000	0.000
2227;	start	0.000	0.000	0.000
2228;	line	0.000	0.000	0.000
2229;	pen	-1.000	0.000	0.000
2230;	start	0.000	0.000	0.000
2231;	line	0.000	0.000	0.000
2232;	line	0.000	0.000	0.000
2233;	line	0.000	0.000	0.000
2234;	line	0.000	0.000	0.000
2235;	line	0.000	0.000	0.000

2236;	line	0.000	0.000	0.000
2237;	line	0.000	0.000	0.000
2238;	line	0.000	0.000	0.000
2239;	line	0.000	0.000	0.000
2240;	line	0.000	0.000	0.000
2241;	line	0.000	0.000	0.000
2242;	line	0.000	0.000	0.000
2243;	line	0.000	0.000	0.000
2244;	line	0.000	0.000	0.000
2245;	line	0.000	0.000	0.000
2246;	line	0.000	0.000	0.000
2247;	line	0.000	0.000	0.000
2248;	line	0.000	0.000	0.000
2249;	line	0.000	0.000	0.000
2250;	line	0.000	0.000	0.000
2251;	line	0.000	0.000	0.000
2252;	line	0.000	0.000	0.000
2253;	line	0.000	0.000	0.000
2254;	line	0.000	0.000	0.000
2255;	line	0.000	0.000	0.000
2256;	line	0.000	0.000	0.000
2257;	line	0.000	0.000	0.000
2258;	line	0.000	0.000	0.000
2259;	line	0.000	0.000	0.000
2260;	line	0.000	0.000	0.000
2261;	line	0.000	0.000	0.000
2262;	line	0.000	0.000	0.000
2263;	line	0.000	0.000	0.000
2264;	line	0.000	0.000	0.000
2265;	line	0.000	0.000	0.000
2266;	line	0.000	0.000	0.000
2267;	line	0.000	0.000	0.000
2268;	line	0.000	0.000	0.000
2269;	line	0.000	0.000	0.000
2270;	line	0.000	0.000	0.000
2271;	line	0.000	0.000	0.000
2272;	line	0.000	0.000	0.000
2273;	line	0.000	0.000	0.000
2274;	line	0.000	0.000	0.000
2275;	line	0.000	0.000	0.000
2276;	line	0.000	0.000	0.000
2277;	line	0.000	0.000	0.000
2278;	line	0.000	0.000	0.000
2279;	line	0.000	0.000	0.000
2280;	line	0.000	0.000	0.000
2281;	line	0.000	0.000	0.000
2282;	line	0.000	0.000	0.000
2283;	line	0.000	0.000	0.000
2284;	line	0.000	0.000	0.000
2285;	line	0.000	0.000	0.000
2286;	line	0.000	0.000	0.000
2287;	line	0.000	0.000	0.000
2288;	line	0.000	0.000	0.000
2289;	line	0.000	0.000	0.000
2290;	line	0.000	0.000	0.000
2291;	line	0.000	0.000	0.000
2292;	line	0.000	0.000	0.000
2293;	line	0.000	0.000	0.000

2294;	line	0.000	0.000	0.000
2295;	line	0.000	0.000	0.000
2296;	line	0.000	0.000	0.000
2297;	line	0.000	0.000	0.000
2298;	line	0.000	0.000	0.000
2299;	line	0.000	0.000	0.000
2300;	line	0.000	0.000	0.000
2301;	line	0.000	0.000	0.000
2302;	line	0.000	0.000	0.000
2303;	line	0.000	0.000	0.000
2304;	line	0.000	0.000	0.000
2305;	line	0.000	0.000	0.000
2306;	line	0.000	0.000	0.000
2307;	line	0.000	0.000	0.000
2308;	line	0.000	0.000	0.000
2309;	line	0.000	0.000	0.000
2310;	line	0.000	0.000	0.000
2311;	line	0.000	0.000	0.000
2312;	line	0.000	0.000	0.000
2313;	line	0.000	0.000	0.000
2314;	line	0.000	0.000	0.000
2315;	line	0.000	0.000	0.000
2316;	line	0.000	0.000	0.000
2317;	line	0.000	0.000	0.000
2318;	line	0.000	0.000	0.000
2319;	line	0.000	0.000	0.000
2320;	line	0.000	0.000	0.000
2321;	line	0.000	0.000	0.000
2322;	line	0.000	0.000	0.000
2323;	line	0.000	0.000	0.000
2324;	line	0.000	0.000	0.000
2325;	line	0.000	0.000	0.000
2326;	line	0.000	0.000	0.000
2327;	line	0.000	0.000	0.000
2328;	line	0.000	0.000	0.000
2329;	line	0.000	0.000	0.000
2330;	pen	0.000	0.000	0.000
2331;	start	0.000	0.000	0.000
2332;	line	0.000	0.000	0.000
2333;	pen	-1.000	0.000	0.000
2334;	start	0.000	0.000	0.000
2335;	line	0.000	0.000	0.000
2336;	line	0.000	0.000	0.000
2337;	line	0.000	0.000	0.000
2338;	line	0.000	0.000	0.000
2339;	line	0.000	0.000	0.000
2340;	line	0.000	0.000	0.000
2341;	line	0.000	0.000	0.000
2342;	line	0.000	0.000	0.000
2343;	line	0.000	0.000	0.000
2344;	line	0.000	0.000	0.000
2345;	line	0.000	0.000	0.000
2346;	line	0.000	0.000	0.000
2347;	line	0.000	0.000	0.000
2348;	line	0.000	0.000	0.000
2349;	line	0.000	0.000	0.000
2350;	line	0.000	0.000	0.000
2351;	line	0.000	0.000	0.000

2352;	line	0.000	0.000	0.000
2353;	line	0.000	0.000	0.000
2354;	line	0.000	0.000	0.000
2355;	line	0.000	0.000	0.000
2356;	line	0.000	0.000	0.000
2357;	line	0.000	0.000	0.000
2358;	line	0.000	0.000	0.000
2359;	line	0.000	0.000	0.000
2360;	line	0.000	0.000	0.000
2361;	line	0.000	0.000	0.000
2362;	line	0.000	0.000	0.000
2363;	line	0.000	0.000	0.000
2364;	line	0.000	0.000	0.000
2365;	line	0.000	0.000	0.000
2366;	line	0.000	0.000	0.000
2367;	line	0.000	0.000	0.000
2368;	line	0.000	0.000	0.000
2369;	line	0.000	0.000	0.000
2370;	line	0.000	0.000	0.000
2371;	line	0.000	0.000	0.000
2372;	line	0.000	0.000	0.000
2373;	line	0.000	0.000	0.000
2374;	line	0.000	0.000	0.000
2375;	line	0.000	0.000	0.000
2376;	line	0.000	0.000	0.000
2377;	line	0.000	0.000	0.000
2378;	line	0.000	0.000	0.000
2379;	line	0.000	0.000	0.000
2380;	line	0.000	0.000	0.000
2381;	line	0.000	0.000	0.000
2382;	line	0.000	0.000	0.000
2383;	line	0.000	0.000	0.000
2384;	line	0.000	0.000	0.000
2385;	line	0.000	0.000	0.000
2386;	line	0.000	0.000	0.000
2387;	line	0.000	0.000	0.000
2388;	line	0.000	0.000	0.000
2389;	line	0.000	0.000	0.000
2390;	line	0.000	0.000	0.000
2391;	line	0.000	0.000	0.000
2392;	line	0.000	0.000	0.000
2393;	line	0.000	0.000	0.000
2394;	line	0.000	0.000	0.000
2395;	line	0.000	0.000	0.000
2396;	line	0.000	0.000	0.000
2397;	line	0.000	0.000	0.000
2398;	line	0.000	0.000	0.000
2399;	line	0.000	0.000	0.000
2400;	line	0.000	0.000	0.000
2401;	line	0.000	0.000	0.000
2402;	line	0.000	0.000	0.000
2403;	line	0.000	0.000	0.000
2404;	line	0.000	0.000	0.000
2405;	line	0.000	0.000	0.000
2406;	line	0.000	0.000	0.000
2407;	line	0.000	0.000	0.000
2408;	line	0.000	0.000	0.000
2409;	line	0.000	0.000	0.000

2410;	line	0.000	0.000	0.000
2411;	line	0.000	0.000	0.000
2412;	line	0.000	0.000	0.000
2413;	line	0.000	0.000	0.000
2414;	line	0.000	0.000	0.000
2415;	line	0.000	0.000	0.000
2416;	line	0.000	0.000	0.000
2417;	line	0.000	0.000	0.000
2418;	line	0.000	0.000	0.000
2419;	line	0.000	0.000	0.000
2420;	line	0.000	0.000	0.000
2421;	line	0.000	0.000	0.000
2422;	line	0.000	0.000	0.000
2423;	line	0.000	0.000	0.000
2424;	line	0.000	0.000	0.000
2425;	line	0.000	0.000	0.000
2426;	line	0.000	0.000	0.000
2427;	line	0.000	0.000	0.000
2428;	line	0.000	0.000	0.000
2429;	line	0.000	0.000	0.000
2430;	line	0.000	0.000	0.000
2431;	line	0.000	0.000	0.000
2432;	line	0.000	0.000	0.000
2433;	line	0.000	0.000	0.000
2434;	pen	0.000	0.000	0.000
2435;	start	0.000	0.000	0.000
2436;	line	0.000	0.000	0.000
2437;	pen	-1.000	0.000	0.000
2438;	start	0.000	0.000	0.000
2439;	line	0.000	0.000	0.000
2440;	line	0.000	0.000	0.000
2441;	line	0.000	0.000	0.000
2442;	line	0.000	0.000	0.000
2443;	line	0.000	0.000	0.000
2444;	line	0.000	0.000	0.000
2445;	line	0.000	0.000	0.000
2446;	line	0.000	0.000	0.000
2447;	line	0.000	0.000	0.000
2448;	line	0.000	0.000	0.000
2449;	line	0.000	0.000	0.000
2450;	line	0.000	0.000	0.000
2451;	line	0.000	0.000	0.000
2452;	line	0.000	0.000	0.000
2453;	line	0.000	0.000	0.000
2454;	line	0.000	0.000	0.000
2455;	line	0.000	0.000	0.000
2456;	line	0.000	0.000	0.000
2457;	line	0.000	0.000	0.000
2458;	line	0.000	0.000	0.000
2459;	line	0.000	0.000	0.000
2460;	line	0.000	0.000	0.000
2461;	line	0.000	0.000	0.000
2462;	line	0.000	0.000	0.000
2463;	line	0.000	0.000	0.000
2464;	line	0.000	0.000	0.000
2465;	line	0.000	0.000	0.000
2466;	line	0.000	0.000	0.000
2467;	line	0.000	0.000	0.000

2468;	line	0.000	0.000	0.000
2469;	line	0.000	0.000	0.000
2470;	line	0.000	0.000	0.000
2471;	line	0.000	0.000	0.000
2472;	line	0.000	0.000	0.000
2473;	line	0.000	0.000	0.000
2474;	line	0.000	0.000	0.000
2475;	line	0.000	0.000	0.000
2476;	line	0.000	0.000	0.000
2477;	line	0.000	0.000	0.000
2478;	line	0.000	0.000	0.000
2479;	line	0.000	0.000	0.000
2480;	line	0.000	0.000	0.000
2481;	line	0.000	0.000	0.000
2482;	line	0.000	0.000	0.000
2483;	line	0.000	0.000	0.000
2484;	line	0.000	0.000	0.000
2485;	line	0.000	0.000	0.000
2486;	line	0.000	0.000	0.000
2487;	line	0.000	0.000	0.000
2488;	line	0.000	0.000	0.000
2489;	line	0.000	0.000	0.000
2490;	line	0.000	0.000	0.000
2491;	line	0.000	0.000	0.000
2492;	line	0.000	0.000	0.000
2493;	line	0.000	0.000	0.000
2494;	line	0.000	0.000	0.000
2495;	line	0.000	0.000	0.000
2496;	line	0.000	0.000	0.000
2497;	line	0.000	0.000	0.000
2498;	line	0.000	0.000	0.000
2499;	line	0.000	0.000	0.000
2500;	line	0.000	0.000	0.000
2501;	line	0.000	0.000	0.000
2502;	line	0.000	0.000	0.000
2503;	line	0.000	0.000	0.000
2504;	line	0.000	0.000	0.000
2505;	line	0.000	0.000	0.000
2506;	line	0.000	0.000	0.000
2507;	line	0.000	0.000	0.000
2508;	line	0.000	0.000	0.000
2509;	line	0.000	0.000	0.000
2510;	line	0.000	0.000	0.000
2511;	line	0.000	0.000	0.000
2512;	line	0.000	0.000	0.000
2513;	line	0.000	0.000	0.000
2514;	line	0.000	0.000	0.000
2515;	line	0.000	0.000	0.000
2516;	line	0.000	0.000	0.000
2517;	line	0.000	0.000	0.000
2518;	line	0.000	0.000	0.000
2519;	line	0.000	0.000	0.000
2520;	line	0.000	0.000	0.000
2521;	line	0.000	0.000	0.000
2522;	line	0.000	0.000	0.000
2523;	line	0.000	0.000	0.000
2524;	line	0.000	0.000	0.000
2525;	line	0.000	0.000	0.000

2526;	line	0.000	0.000	0.000
2527;	line	0.000	0.000	0.000
2528;	line	0.000	0.000	0.000
2529;	line	0.000	0.000	0.000
2530;	line	0.000	0.000	0.000
2531;	line	0.000	0.000	0.000
2532;	line	0.000	0.000	0.000
2533;	line	0.000	0.000	0.000
2534;	line	0.000	0.000	0.000
2535;	line	0.000	0.000	0.000
2536;	line	0.000	0.000	0.000
2537;	line	0.000	0.000	0.000
2538;	return	0.000	0.000	0.000
:TERRAIN2				
2539;	object	TERRAIN		
2540;	origin	0.000	0.000	0.000
2541;	rotate	0.000	0.000	0.000
2542;	scale	1.000	1.000	1.000
2543;	pen	0.000	0.000	0.000
2544;	fill	65535.000	65535.000	65535.000
2545;	normal	1.000	0.000	0.000
2546;	polygon	-10.000	-20.000	-500.000
2547;	polygon	-10.000	0.000	-500.000
2548;	polygon	-10.000	0.000	7.400
2549;	polygon	-10.000	0.000	500.000
2550;	polygon	-10.000	-20.000	500.000
2551;	pen	0.000	0.000	0.000
2552;	fill	65535.000	65535.000	65535.000
2553;	normal	0.000	0.000	-1.000
2554;	polygon	-10.000	0.000	10.000
2555;	polygon	10.000	0.000	10.000
2556;	polygon	10.000	-20.000	10.000
2557;	polygon	-10.000	-20.000	10.000
2558;	pen	0.000	0.000	0.000
2559;	fill	65535.000	65535.000	65535.000
2560;	normal	0.000	0.000	1.000
2561;	polygon	10.000	0.000	-10.000
2562;	polygon	-10.000	0.000	-10.000
2563;	polygon	-10.000	-20.000	-10.000
2564;	polygon	10.000	-20.000	-10.000
2565;	pen	0.000	0.000	0.000
2566;	fill	65535.000	65535.000	65535.000
2567;	normal	-1.000	0.000	0.000
2568;	polygon	10.000	-20.000	500.000
2569;	polygon	10.000	0.000	500.000
2570;	polygon	10.000	0.000	7.400
2571;	polygon	10.000	0.000	-500.000
2572;	polygon	10.000	-20.000	-500.000
2573;	end	0.000	0.000	0.000
2574;	return	0.000	0.000	0.000
:TERRAIN				
2575;	pen	0.000	0.000	0.000
2576;	fill	47087.000	57087.000	57087.000
2577;	normal	0.000	1.000	0.000
2578;	polygon	0.000	0.000	-500.000
2579;	polygon	0.000	0.000	7.400
2580;	polygon	10.000	0.000	7.400
2581;	polygon	10.000	0.000	-500.000

2582;	pen	0.000	0.000	0.000
2583;	fill	47087.000	57087.000	57087.000
2584;	normal	0.000	1.000	0.000
2585;	polygon	-10.000	0.000	-500.000
2586;	polygon	-10.000	0.000	7.400
2587;	polygon	0.000	0.000	7.400
2588;	polygon	0.000	0.000	-500.000
2589;	pen	0.000	0.000	0.000
2590;	fill	47087.000	57087.000	57087.000
2591;	normal	0.000	1.000	0.000
2592;	polygon	10.000	0.000	-500.000
2593;	polygon	10.000	0.000	7.400
2594;	polygon	20.000	0.000	7.400
2595;	polygon	20.000	0.000	-500.000
2596;	pen	0.000	0.000	0.000
2597;	fill	47087.000	57087.000	57087.000
2598;	normal	0.000	1.000	0.000
2599;	polygon	-20.000	0.000	-500.000
2600;	polygon	-20.000	0.000	7.400
2601;	polygon	-10.000	0.000	7.400
2602;	polygon	-10.000	0.000	-500.000
2603;	pen	0.000	0.000	0.000
2604;	fill	47087.000	57087.000	57087.000
2605;	normal	0.000	1.000	0.000
2606;	polygon	20.000	0.000	-500.000
2607;	polygon	20.000	0.000	7.400
2608;	polygon	30.000	0.000	7.400
2609;	polygon	30.000	0.000	-500.000
2610;	pen	0.000	0.000	0.000
2611;	fill	47087.000	57087.000	57087.000
2612;	normal	0.000	1.000	0.000
2613;	polygon	-30.000	0.000	-500.000
2614;	polygon	-30.000	0.000	7.400
2615;	polygon	-20.000	0.000	7.400
2616;	polygon	-20.000	0.000	-500.000
2617;	pen	0.000	0.000	0.000
2618;	fill	47087.000	57087.000	57087.000
2619;	normal	0.000	1.000	0.000
2620;	polygon	30.000	0.000	-500.000
2621;	polygon	30.000	0.000	7.400
2622;	polygon	40.000	0.000	7.400
2623;	polygon	40.000	0.000	-500.000
2624;	pen	0.000	0.000	0.000
2625;	fill	47087.000	57087.000	57087.000
2626;	normal	0.000	1.000	0.000
2627;	polygon	-40.000	0.000	-500.000
2628;	polygon	-40.000	0.000	7.400
2629;	polygon	-30.000	0.000	7.400
2630;	polygon	-30.000	0.000	-500.000
2631;	pen	0.000	0.000	0.000
2632;	fill	47087.000	57087.000	57087.000
2633;	normal	0.000	1.000	0.000
2634;	polygon	40.000	0.000	-500.000
2635;	polygon	40.000	0.000	7.400
2636;	polygon	50.000	0.000	7.400
2637;	polygon	50.000	0.000	-500.000
2638;	pen	0.000	0.000	0.000
2639;	fill	47087.000	57087.000	57087.000

2640;	normal	0.000	1.000	0.000
2641;	polygon	-50.000	0.000	-500.000
2642;	polygon	-50.000	0.000	7.400
2643;	polygon	-40.000	0.000	7.400
2644;	polygon	-40.000	0.000	-500.000
2645;	pen	0.000	0.000	0.000
2646;	fill	47087.000	57087.000	57087.000
2647;	normal	0.000	1.000	0.000
2648;	polygon	50.000	0.000	-500.000
2649;	polygon	50.000	0.000	7.400
2650;	polygon	60.000	0.000	7.400
2651;	polygon	60.000	0.000	-500.000
2652;	pen	0.000	0.000	0.000
2653;	fill	47087.000	57087.000	57087.000
2654;	normal	0.000	1.000	0.000
2655;	polygon	-60.000	0.000	-500.000
2656;	polygon	-60.000	0.000	7.400
2657;	polygon	-50.000	0.000	7.400
2658;	polygon	-50.000	0.000	-500.000
2659;	pen	0.000	0.000	0.000
2660;	fill	47087.000	57087.000	57087.000
2661;	normal	0.000	1.000	0.000
2662;	polygon	60.000	0.000	-500.000
2663;	polygon	60.000	0.000	7.400
2664;	polygon	70.000	0.000	7.400
2665;	polygon	70.000	0.000	-500.000
2666;	pen	0.000	0.000	0.000
2667;	fill	47087.000	57087.000	57087.000
2668;	normal	0.000	1.000	0.000
2669;	polygon	-70.000	0.000	-500.000
2670;	polygon	-70.000	0.000	7.400
2671;	polygon	-60.000	0.000	7.400
2672;	polygon	-60.000	0.000	-500.000
2673;	pen	0.000	0.000	0.000
2674;	fill	47087.000	57087.000	57087.000
2675;	normal	0.000	1.000	0.000
2676;	polygon	70.000	0.000	-500.000
2677;	polygon	70.000	0.000	7.400
2678;	polygon	80.000	0.000	7.400
2679;	polygon	80.000	0.000	-500.000
2680;	pen	0.000	0.000	0.000
2681;	fill	47087.000	57087.000	57087.000
2682;	normal	0.000	1.000	0.000
2683;	polygon	-80.000	0.000	-500.000
2684;	polygon	-80.000	0.000	7.400
2685;	polygon	-70.000	0.000	7.400
2686;	polygon	-70.000	0.000	-500.000
2687;	pen	0.000	0.000	0.000
2688;	fill	47087.000	57087.000	57087.000
2689;	normal	0.000	1.000	0.000
2690;	polygon	80.000	0.000	-500.000
2691;	polygon	80.000	0.000	7.400
2692;	polygon	90.000	0.000	7.400
2693;	polygon	90.000	0.000	-500.000
2694;	pen	0.000	0.000	0.000
2695;	fill	47087.000	57087.000	57087.000
2696;	normal	0.000	1.000	0.000
2697;	polygon	-90.000	0.000	-500.000

2698;	polygon	-90.000	0.000	7.400
2699;	polygon	-80.000	0.000	7.400
2700;	polygon	-80.000	0.000	-500.000
2701;	pen	0.000	0.000	0.000
2702;	fill	47087.000	57087.000	57087.000
2703;	normal	0.000	1.000	0.000
2704;	polygon	90.000	0.000	-500.000
2705;	polygon	90.000	0.000	7.400
2706;	polygon	100.000	0.000	7.400
2707;	polygon	100.000	0.000	-500.000
2708;	pen	0.000	0.000	0.000
2709;	fill	47087.000	57087.000	57087.000
2710;	normal	0.000	1.000	0.000
2711;	polygon	-100.000	0.000	-500.000
2712;	polygon	-100.000	0.000	7.400
2713;	polygon	-90.000	0.000	7.400
2714;	polygon	-90.000	0.000	-500.000
2715;	pen	0.000	0.000	0.000
2716;	fill	7938.000	49188.000	8522.000
2717;	normal	0.000	1.000	0.000
2718;	polygon	0.000	0.000	7.400
2719;	polygon	0.000	0.000	500.000
2720;	polygon	10.000	0.000	500.000
2721;	polygon	10.000	0.000	7.400
2722;	pen	0.000	0.000	0.000
2723;	fill	7938.000	49188.000	8522.000
2724;	normal	0.000	1.000	0.000
2725;	polygon	-10.000	0.000	7.400
2726;	polygon	-10.000	0.000	500.000
2727;	polygon	0.000	0.000	500.000
2728;	polygon	0.000	0.000	7.400
2729;	pen	0.000	0.000	0.000
2730;	fill	7938.000	49188.000	8522.000
2731;	normal	0.000	1.000	0.000
2732;	polygon	10.000	0.000	7.400
2733;	polygon	10.000	0.000	500.000
2734;	polygon	20.000	0.000	500.000
2735;	polygon	20.000	0.000	7.400
2736;	pen	0.000	0.000	0.000
2737;	fill	7938.000	49188.000	8522.000
2738;	normal	0.000	1.000	0.000
2739;	polygon	-20.000	0.000	7.400
2740;	polygon	-20.000	0.000	500.000
2741;	polygon	-10.000	0.000	500.000
2742;	polygon	-10.000	0.000	7.400
2743;	pen	0.000	0.000	0.000
2744;	fill	7938.000	49188.000	8522.000
2745;	normal	0.000	1.000	0.000
2746;	polygon	20.000	0.000	7.400
2747;	polygon	20.000	0.000	500.000
2748;	polygon	30.000	0.000	500.000
2749;	polygon	30.000	0.000	7.400
2750;	pen	0.000	0.000	0.000
2751;	fill	7938.000	49188.000	8522.000
2752;	normal	0.000	1.000	0.000
2753;	polygon	-30.000	0.000	7.400
2754;	polygon	-30.000	0.000	500.000
2755;	polygon	-20.000	0.000	500.000

2756;	polygon	-20.000	0.000	7.400
2757;	pen	0.000	0.000	0.000
2758;	fill	7938.000	49188.000	8522.000
2759;	normal	0.000	1.000	0.000
2760;	polygon	30.000	0.000	7.400
2761;	polygon	30.000	0.000	500.000
2762;	polygon	40.000	0.000	500.000
2763;	polygon	40.000	0.000	7.400
2764;	pen	0.000	0.000	0.000
2765;	fill	7938.000	49188.000	8522.000
2766;	normal	0.000	1.000	0.000
2767;	polygon	-40.000	0.000	7.400
2768;	polygon	-40.000	0.000	500.000
2769;	polygon	-30.000	0.000	500.000
2770;	polygon	-30.000	0.000	7.400
2771;	pen	0.000	0.000	0.000
2772;	fill	7938.000	49188.000	8522.000
2773;	normal	0.000	1.000	0.000
2774;	polygon	40.000	0.000	7.400
2775;	polygon	40.000	0.000	500.000
2776;	polygon	50.000	0.000	500.000
2777;	polygon	50.000	0.000	7.400
2778;	pen	0.000	0.000	0.000
2779;	fill	7938.000	49188.000	8522.000
2780;	normal	0.000	1.000	0.000
2781;	polygon	-50.000	0.000	7.400
2782;	polygon	-50.000	0.000	500.000
2783;	polygon	-40.000	0.000	500.000
2784;	polygon	-40.000	0.000	7.400
2785;	pen	0.000	0.000	0.000
2786;	fill	7938.000	49188.000	8522.000
2787;	normal	0.000	1.000	0.000
2788;	polygon	50.000	0.000	7.400
2789;	polygon	50.000	0.000	500.000
2790;	polygon	60.000	0.000	500.000
2791;	polygon	60.000	0.000	7.400
2792;	pen	0.000	0.000	0.000
2793;	fill	7938.000	49188.000	8522.000
2794;	normal	0.000	1.000	0.000
2795;	polygon	-60.000	0.000	7.400
2796;	polygon	-60.000	0.000	500.000
2797;	polygon	-50.000	0.000	500.000
2798;	polygon	-50.000	0.000	7.400
2799;	pen	0.000	0.000	0.000
2800;	fill	7938.000	49188.000	8522.000
2801;	normal	0.000	1.000	0.000
2802;	polygon	60.000	0.000	7.400
2803;	polygon	60.000	0.000	500.000
2804;	polygon	70.000	0.000	500.000
2805;	polygon	70.000	0.000	7.400
2806;	pen	0.000	0.000	0.000
2807;	fill	7938.000	49188.000	8522.000
2808;	normal	0.000	1.000	0.000
2809;	polygon	-70.000	0.000	7.400
2810;	polygon	-70.000	0.000	500.000
2811;	polygon	-60.000	0.000	500.000
2812;	polygon	-60.000	0.000	7.400
2813;	pen	0.000	0.000	0.000

2814;	fill	7938.000	49188.000	8522.000
2815;	normal	0.000	1.000	0.000
2816;	polygon	70.000	0.000	7.400
2817;	polygon	70.000	0.000	500.000
2818;	polygon	80.000	0.000	500.000
2819;	polygon	80.000	0.000	7.400
2820;	pen	0.000	0.000	0.000
2821;	fill	7938.000	49188.000	8522.000
2822;	normal	0.000	1.000	0.000
2823;	polygon	-80.000	0.000	7.400
2824;	polygon	-80.000	0.000	500.000
2825;	polygon	-70.000	0.000	500.000
2826;	polygon	-70.000	0.000	7.400
2827;	pen	0.000	0.000	0.000
2828;	fill	7938.000	49188.000	8522.000
2829;	normal	0.000	1.000	0.000
2830;	polygon	80.000	0.000	7.400
2831;	polygon	80.000	0.000	500.000
2832;	polygon	90.000	0.000	500.000
2833;	polygon	90.000	0.000	7.400
2834;	pen	0.000	0.000	0.000
2835;	fill	7938.000	49188.000	8522.000
2836;	normal	0.000	1.000	0.000
2837;	polygon	-90.000	0.000	7.400
2838;	polygon	-90.000	0.000	500.000
2839;	polygon	-80.000	0.000	500.000
2840;	polygon	-80.000	0.000	7.400
2841;	pen	0.000	0.000	0.000
2842;	fill	7938.000	49188.000	8522.000
2843;	normal	0.000	1.000	0.000
2844;	polygon	90.000	0.000	7.400
2845;	polygon	90.000	0.000	500.000
2846;	polygon	100.000	0.000	500.000
2847;	polygon	100.000	0.000	7.400
2848;	pen	0.000	0.000	0.000
2849;	fill	7938.000	49188.000	8522.000
2850;	normal	0.000	1.000	0.000
2851;	polygon	-100.000	0.000	7.400
2852;	polygon	-100.000	0.000	500.000
2853;	polygon	-90.000	0.000	500.000
2854;	polygon	-90.000	0.000	7.400
2855;	end	0.000	0.000	0.000
2856;	return	0.000	0.000	0.000

APPENDIX C - SAMPLE KEY FRAMES FILE (FILE.KEY)

KEY FRAMES FILE (AVRM.KEY for TEST11)

```

TIME 0.00000E+00 0.0D0 0.0D0
1; ORIGIN 0.00000E+00 0.69300 -1.2125
1891; ORIGIN 0.00000E+00 0.69300 -1.2125
16;ORIGIN 0.00000E+00 0.69300 0.00000E+00
17; ROTATE 90.000 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 1.2125
21; ROTATE 0.00000E+00 50.000 0.00000E+00
11; ROTATE 0.00000E+00 0.00000E+00 50.000
481; FILL .0000000E+00 .0000000E+00 .0000000E+00
32;ORIGIN 1.0340 -0.38090 -0.65400
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN 1.0340 -0.38090 0.65400
1045; FILL .0000000E+00 .0000000E+00 .0000000E+00
40;ORIGIN -0.99800 -0.38130 -0.65400
1327; FILL .0000000E+00 .0000000E+00 .0000000E+00
44;ORIGIN -0.99800 -0.38130 0.65400
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 -600.00 0.00000E+00
1916; POLYGON -50.000 -600.00 0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00
1920; POLYGON 150.00 556.97 0.00000E+00
1921; POLYGON 150.00 0.00000E+00 0.00000E+00
1922; POLYGON 200.00 0.00000E+00 0.00000E+00
1923; POLYGON 200.00 556.97 0.00000E+00
2019; START 0.00000E+00 -1.2125 -0.69300
2020; LINE 0.00000E+00 -1.2125 -0.69300
2021; PEN -1.0000 0.00000E+00 0.00000E+00
2022; START 0.00000E+00 0.00000E+00 0.00000E+00
2123; START 1.1657 -0.84087 -0.31210
2124; LINE 1.1657 -0.84087 -0.31210
2125; PEN -1.0000 0.00000E+00 0.00000E+00
2126; START 0.00000E+00 0.00000E+00 0.00000E+00
2227; START -0.14059 -2.3974 -0.31170
2228; LINE -0.14059 -2.3974 -0.31170
2229; PEN -1.0000 0.00000E+00 0.00000E+00
2230; START 0.00000E+00 0.00000E+00 0.00000E+00
2331; START 0.16373 -0.37470E-04 -0.31210
2332; LINE 0.16373 -0.37470E-04 -0.31210
2333; PEN -1.0000 0.00000E+00 0.00000E+00
2334; START 0.00000E+00 0.00000E+00 0.00000E+00
2435; START -1.1425 -1.5566 -0.31170
2436; LINE -1.1425 -1.5566 -0.31170
2437; PEN -1.0000 0.00000E+00 0.00000E+00
2438; START 0.00000E+00 0.00000E+00 0.00000E+00
*
TIME 0.20000E-01 0.0D0 0.0D0
1; ORIGIN 0.19280 0.69300 -0.98270
1891; ORIGIN 0.19280 0.69300 -0.98270
16;ORIGIN 0.00000E+00 0.69300 0.00000E+00

```

17; ROTATE 90.004 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 0.98270
21; ROTATE 0.00000E+00 49.998 0.00000E+00
11; ROTATE 0.35000E-02 -0.29000E-02 49.998
481; FILL .0000000E+00 .0000000E+00 .0000000E+00
32;ORIGIN 1.0340 -0.38080 -0.65400
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN 1.0340 -0.38090 0.65410
1045; FILL .0000000E+00 .0000000E+00 .0000000E+00
40;ORIGIN -0.99800 -0.38130 -0.65410
1327; FILL .0000000E+00 .0000000E+00 .0000000E+00
44;ORIGIN -0.99800 -0.38130 0.65400
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 -588.00 0.00000E+00
1916; POLYGON -50.000 -588.00 0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00
1920; POLYGON 150.00 556.88 0.00000E+00
1921; POLYGON 150.00 0.00000E+00 0.00000E+00
1922; POLYGON 200.00 0.00000E+00 0.00000E+00
1923; POLYGON 200.00 556.88 0.00000E+00
2021; LINE 0.19280 -0.98270 -0.69300
2022; PEN -1.0000 0.00000E+00 0.00000E+00
2023; START 0.00000E+00 0.00000E+00 0.00000E+00
2125; LINE 1.3585 -0.61113 -0.31219
2126; PEN -1.0000 0.00000E+00 0.00000E+00
2127; START 0.00000E+00 0.00000E+00 0.00000E+00
2229; LINE 0.52264E-01 -2.1677 -0.31179
2230; PEN -1.0000 0.00000E+00 0.00000E+00
2231; START 0.00000E+00 0.00000E+00 0.00000E+00
2333; LINE 0.35649 0.22979 -0.31201
2334; PEN -1.0000 0.00000E+00 0.00000E+00
2335; START 0.00000E+00 0.00000E+00 0.00000E+00
2437; LINE -0.94972 -1.3268 -0.31171
2438; PEN -1.0000 0.00000E+00 0.00000E+00
2439; START 0.00000E+00 0.00000E+00 0.00000E+00

*

TIME 0.40000E-01 0.0D0 0.0D0
1; ORIGIN 0.38560 0.69300 -0.75330
1891; ORIGIN 0.38560 0.69300 -0.75330
16;ORIGIN 0.00000E+00 0.69300 0.00000E+00
17; ROTATE 90.025 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 0.75330
21; ROTATE 0.00000E+00 49.989 0.00000E+00
11; ROTATE 0.24600E-01 -0.25300E-01 49.989
481; FILL .0000000E+00 .0000000E+00 .0000000E+00
32;ORIGIN 1.0340 -0.38020 -0.65400
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN 1.0340 -0.38080 0.65410
1045; FILL .0000000E+00 .0000000E+00 .0000000E+00
40;ORIGIN -0.99800 -0.38170 -0.65410
1327; FILL .0000000E+00 .0000000E+00 .0000000E+00
44;ORIGIN -0.99800 -0.38140 0.65400
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 -576.00 0.00000E+00
1916; POLYGON -50.000 -576.00 0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00

```

1920; POLYGON 150.00      556.32      0.00000E+00
1921; POLYGON 150.00      0.00000E+00 0.00000E+00
1922; POLYGON 200.00      0.00000E+00 0.00000E+00
1923; POLYGON 200.00      556.32      0.00000E+00
2022; LINE 0.38560      -0.75330     -0.69300
2023; PEN -1.0000      0.00000E+00 0.00000E+00
2024; START 0.00000E+00 0.00000E+00 0.00000E+00
2126; LINE 1.5514      -0.38213     -0.31262
2127; PEN -1.0000      0.00000E+00 0.00000E+00
2128; START 0.00000E+00 0.00000E+00 0.00000E+00
2230; LINE 0.24487      -1.9385      -0.31202
2231; PEN -1.0000      0.00000E+00 0.00000E+00
2232; START 0.00000E+00 0.00000E+00 0.00000E+00
2334; LINE 0.54951      0.45896      -0.31146
2335; PEN -1.0000      0.00000E+00 0.00000E+00
2336; START 0.00000E+00 0.00000E+00 0.00000E+00
2438; LINE -0.75697      -1.0974      -0.31176
2439; PEN -1.0000      0.00000E+00 0.00000E+00
2440; START 0.00000E+00 0.00000E+00 0.00000E+00
*
TIME 0.60000E-01 0.0D0 0.0D0
1; ORIGIN 0.57800      0.69300      -0.52470
1891; ORIGIN 0.57800      0.69300      -0.52470
16;ORIGIN 0.00000E+00 0.69300      0.00000E+00
17; ROTATE 90.075      0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 0.52470
21; ROTATE 0.00000E+00 49.965      0.00000E+00
11; ROTATE 0.74500E-01 -0.87800E-01 49.965
481; FILL .00000000E+00 .00000000E+00 .00000000E+00
32;ORIGIN 1.0340      -0.37930     -0.65400
763; FILL .00000000E+00 .00000000E+00 .00000000E+00
36;ORIGIN 1.0340      -0.37990     0.65410
1045; FILL .00000000E+00 .00000000E+00 .00000000E+00
40;ORIGIN -0.99800      -0.38280     -0.65420
1327; FILL .00000000E+00 .00000000E+00 .00000000E+00
44;ORIGIN -0.99800      -0.38170     0.65390
1979; FILL 65535.      65535.      65535.
1980; PEN 65535.      65535.      65535.
1913; POLYGON -100.00      -564.00      0.00000E+00
1916; POLYGON -50.000      -564.00      0.00000E+00
1918; FILL .00000000E+00 .00000000E+00 65535.00
1920; POLYGON 150.00      554.90      0.00000E+00
1921; POLYGON 150.00      0.00000E+00 0.00000E+00
1922; POLYGON 200.00      0.00000E+00 0.00000E+00
1923; POLYGON 200.00      554.90      0.00000E+00
2023; LINE 0.57800      -0.52470     -0.69300
2024; PEN -1.0000      0.00000E+00 0.00000E+00
2025; START 0.00000E+00 0.00000E+00 0.00000E+00
2127; LINE 1.7439      -0.15455     -0.31297
2128; PEN -1.0000      0.00000E+00 0.00000E+00
2129; START 0.00000E+00 0.00000E+00 0.00000E+00
2231; LINE 0.43685      -1.7104      -0.31258
2232; PEN -1.0000      0.00000E+00 0.00000E+00
2233; START 0.00000E+00 0.00000E+00 0.00000E+00
2335; LINE 0.74240      0.68696      -0.31067
2336; PEN -1.0000      0.00000E+00 0.00000E+00
2337; START 0.00000E+00 0.00000E+00 0.00000E+00
2439; LINE -0.56465      -0.86889     -0.31198

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2440; PEN -1.0000      0.00000E+00  0.00000E+00
2441; START 0.00000E+00 0.00000E+00 0.00000E+00
*
TIME 0.80000E-01 0.0D0 0.0D0
1; ORIGIN 0.76980      0.69290      -0.29750
1891; ORIGIN 0.76980      0.69290      -0.29750
16;ORIGIN 0.00000E+00 0.69290      0.00000E+00
17; ROTATE 90.163      0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 0.29750
21; ROTATE 0.00000E+00 49.922      0.00000E+00
11; ROTATE 0.16280      -0.20800     49.922
481; FILL .0000000E+00 .0000000E+00 .0000000E+00
32;ORIGIN 1.0340      -0.37830     -0.65410
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN 1.0340      -0.37790     0.65400
1045; FILL .0000000E+00 .0000000E+00 .0000000E+00
40;ORIGIN -0.99800     -0.38470     -0.65440
1327; FILL .0000000E+00 .0000000E+00 .0000000E+00
44;ORIGIN -0.99800     -0.38220     0.65370
1979; FILL 65535.      65535.      65535.
1980; PEN 65535.      65535.      65535.
1913; POLYGON -100.00      -552.00      0.00000E+00
1916; POLYGON -50.000      -552.00      0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00
1920; POLYGON 150.00      552.25      0.00000E+00
1921; POLYGON 150.00      0.00000E+00 0.00000E+00
1922; POLYGON 200.00      0.00000E+00 0.00000E+00
1923; POLYGON 200.00      552.25      0.00000E+00
2024; LINE 0.76980      -0.29750     -0.69290
2025; PEN -1.0000      0.00000E+00 0.00000E+00
2026; START 0.00000E+00 0.00000E+00 0.00000E+00
2128; LINE 1.9360      0.70731E-01 -0.31271
2129; PEN -1.0000      0.00000E+00 0.00000E+00
2130; START 0.00000E+00 0.00000E+00 0.00000E+00
2232; LINE 0.62784      -1.4842     -0.31369
2233; PEN -1.0000      0.00000E+00 0.00000E+00
2234; START 0.00000E+00 0.00000E+00 0.00000E+00
2336; LINE 0.93512      0.91298     -0.30939
2337; PEN -1.0000      0.00000E+00 0.00000E+00
2338; START 0.00000E+00 0.00000E+00 0.00000E+00
2440; LINE -0.37302     -0.64195     -0.31247
2441; PEN -1.0000      0.00000E+00 0.00000E+00
2442; START 0.00000E+00 0.00000E+00 0.00000E+00
*
TIME 0.10000      0.0D0 0.0D0
1; ORIGIN 0.96090      0.69280      -0.72000E-01
1891; ORIGIN 0.96090      0.69280      -0.72000E-01
16;ORIGIN 0.00000E+00 0.69280      0.00000E+00
17; ROTATE 90.298      0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 0.72000E-01
21; ROTATE 0.00000E+00 49.855      0.00000E+00
11; ROTATE 0.29800      -0.39400     49.855
481; FILL .0000000E+00 .0000000E+00 .0000000E+00
32;ORIGIN 1.0340      -0.37700     -0.65440
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN 1.0340      -0.37420     0.65370
1045; FILL .0000000E+00 .0000000E+00 .0000000E+00
40;ORIGIN -0.99800     -0.38790     -0.65460

```

1327; FILL .0000000E+00 .0000000E+00 .0000000E+00
 44;ORIGIN -0.99800 -0.38310 0.65350
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 -540.00 0.00000E+00
 1916; POLYGON -50.000 -540.00 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 548.04 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 548.04 0.00000E+00
 2025; LINE 0.96090 -0.72000E-01 -0.69280
 2026; PEN -1.0000 0.00000E+00 0.00000E+00
 2027; START 0.00000E+00 0.00000E+00 0.00000E+00
 2129; LINE 2.1276 0.29318 -0.31211
 2130; PEN -1.0000 0.00000E+00 0.00000E+00
 2131; START 0.00000E+00 0.00000E+00 0.00000E+00
 2233; LINE 0.81762 -1.2602 -0.31518
 2234; PEN -1.0000 0.00000E+00 0.00000E+00
 2235; START 0.00000E+00 0.00000E+00 0.00000E+00
 2337; LINE 1.1277 1.1366 -0.30810
 2338; PEN -1.0000 0.00000E+00 0.00000E+00
 2339; START 0.00000E+00 0.00000E+00 0.00000E+00
 2441; LINE -0.18227 -0.41679 -0.31318
 2442; PEN -1.0000 0.00000E+00 0.00000E+00
 2443; START 0.00000E+00 0.00000E+00 0.00000E+00

*

TIME 0.12000 0.0D0 0.0D0
 1; ORIGIN 1.1515 0.69270 0.15170
 1891; ORIGIN 1.1515 0.69270 0.15170
 16;ORIGIN 0.00000E+00 0.69270 0.00000E+00
 17; ROTATE 90.486 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -0.15170
 21; ROTATE 0.00000E+00 49.760 0.00000E+00
 11; ROTATE 0.48580 -0.64070 49.760
 481; FILL .0000000E+00 .0000000E+00 .0000000E+00
 32;ORIGIN 1.0340 -0.37540 -0.65490
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36;ORIGIN 1.0340 -0.36890 0.65320
 1045; FILL .0000000E+00 .0000000E+00 .0000000E+00
 40;ORIGIN -0.99800 -0.39240 -0.65500
 1327; FILL .0000000E+00 .0000000E+00 .0000000E+00
 44;ORIGIN -0.99800 -0.38420 0.65300
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 -528.00 0.00000E+00
 1916; POLYGON -50.000 -528.00 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 542.14 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 542.14 0.00000E+00
 2026; LINE 1.1515 0.15170 -0.69270
 2027; PEN -1.0000 0.00000E+00 0.00000E+00
 2028; START 0.00000E+00 0.00000E+00 0.00000E+00
 2130; LINE 2.3191 0.51261 -0.31133
 2131; PEN -1.0000 0.00000E+00 0.00000E+00
 2132; START 0.00000E+00 0.00000E+00 0.00000E+00

2234; LINE 1.0065 -1.0386 -0.31705
 2235; PEN -1.0000 0.00000E+00 0.00000E+00
 2236; START 0.00000E+00 0.00000E+00 0.00000E+00
 2338; LINE 1.3206 1.3577 -0.30674
 2339; PEN -1.0000 0.00000E+00 0.00000E+00
 2340; START 0.00000E+00 0.00000E+00 0.00000E+00
 2442; LINE 0.80426E-02 -0.19361 -0.31416
 2443; PEN -1.0000 0.00000E+00 0.00000E+00
 2444; START 0.00000E+00 0.00000E+00 0.00000E+00

*

TIME 0.14000 0.0D0 0.0D0
 1; ORIGIN 1.4842 0.69230 0.53910
 1891; ORIGIN 1.4842 0.69230 0.53910
 16; ORIGIN 0.00000E+00 0.69230 0.00000E+00
 17; ROTATE 90.934 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -0.53910
 21; ROTATE 0.00000E+00 49.511 0.00000E+00
 11; ROTATE 0.93390 -1.1620 49.511
 481; FILL .0000000E+00 .0000000E+00 .0000000E+00
 32; ORIGIN 1.0340 -0.37230 -0.65600
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36; ORIGIN 1.0340 -0.35690 0.65200
 1045; FILL .0000000E+00 .0000000E+00 .0000000E+00
 40; ORIGIN -0.99800 -0.40280 -0.65600
 1327; FILL 55535.00 .0000000E+00 33000.00
 44; ORIGIN -0.99800 -0.38650 0.65200
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 -516.00 0.00000E+00
 1916; POLYGON -50.000 -516.00 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 528.93 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 528.93 0.00000E+00
 2027; LINE 1.4842 0.53910 -0.69230
 2028; PEN -1.0000 0.00000E+00 0.00000E+00
 2029; START 0.00000E+00 0.00000E+00 0.00000E+00
 2131; LINE 2.6542 0.88985 -0.30985
 2132; PEN -1.0000 0.00000E+00 0.00000E+00
 2133; START 0.00000E+00 0.00000E+00 0.00000E+00
 2235; LINE 1.3349 -0.65594 -0.32056
 2236; PEN -1.0000 0.00000E+00 0.00000E+00
 2237; START 0.00000E+00 0.00000E+00 0.00000E+00
 2339; LINE 1.6593 1.7392 -0.30393
 2340; PEN -1.0000 0.00000E+00 0.00000E+00
 2341; START 0.00000E+00 0.00000E+00 0.00000E+00
 2443; LINE 0.34007 0.19339 -0.31554
 2444; PEN -1.0000 0.00000E+00 0.00000E+00
 2445; START 0.00000E+00 0.00000E+00 0.00000E+00

*

TIME 0.16000 0.0D0 0.0D0
 1; ORIGIN 1.6739 0.69220 0.75780
 1891; ORIGIN 1.6739 0.69220 0.75780
 16; ORIGIN 0.00000E+00 0.69220 0.00000E+00
 17; ROTATE 91.244 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -0.75780
 21; ROTATE 0.00000E+00 49.319 0.00000E+00

11; ROTATE 1.2441 -1.4301 49.319
481; FILL .0000000E+00 .0000000E+00 .0000000E+00
32; ORIGIN 1.0340 -0.37150 -0.65680
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36; ORIGIN 1.0340 -0.34970 0.65120
1045; FILL 55535.00 .0000000E+00 33000.00
40; ORIGIN -0.99800 -0.40920 -0.65660
1327; FILL 55535.00 .0000000E+00 33000.00
44; ORIGIN -0.99800 -0.38740 0.65130
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 -504.00 0.00000E+00
1916; POLYGON -50.000 -504.00 0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00
1920; POLYGON 150.00 520.17 0.00000E+00
1921; POLYGON 150.00 0.00000E+00 0.00000E+00
1922; POLYGON 200.00 0.00000E+00 0.00000E+00
1923; POLYGON 200.00 520.17 0.00000E+00
2028; LINE 1.6739 0.75780 -0.69220
2029; PEN -1.0000 0.00000E+00 0.00000E+00
2030; START 0.00000E+00 0.00000E+00 0.00000E+00
2132; LINE 2.8460 1.1016 -0.30935
2133; PEN -1.0000 0.00000E+00 0.00000E+00
2134; START 0.00000E+00 0.00000E+00 0.00000E+00
2236; LINE 1.5216 -0.43995 -0.32238
2237; PEN -1.0000 0.00000E+00 0.00000E+00
2238; START 0.00000E+00 0.00000E+00 0.00000E+00
2340; LINE 1.8539 1.9542 -0.30275
2341; PEN -1.0000 0.00000E+00 0.00000E+00
2342; START 0.00000E+00 0.00000E+00 0.00000E+00
2444; LINE 0.52959 0.41265 -0.31578
2445; PEN -1.0000 0.00000E+00 0.00000E+00
2446; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 0.18000 0.0D0 0.0D0
1; ORIGIN 1.8634 0.69230 0.97440
1891; ORIGIN 1.8634 0.69230 0.97440
16; ORIGIN 0.00000E+00 0.69230 0.00000E+00
17; ROTATE 91.575 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -0.97440
21; ROTATE 0.00000E+00 49.085 0.00000E+00
11; ROTATE 1.5755 -1.6333 49.085
481; FILL .0000000E+00 .0000000E+00 .0000000E+00
32; ORIGIN 1.0340 -0.37200 -0.65730
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36; ORIGIN 1.0340 -0.34540 0.65050
1045; FILL 55535.00 .0000000E+00 33000.00
40; ORIGIN -0.99800 -0.41560 -0.65730
1327; FILL 55535.00 .0000000E+00 33000.00
44; ORIGIN -0.99800 -0.38770 0.65050
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 -492.00 0.00000E+00
1916; POLYGON -50.000 -492.00 0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00
1920; POLYGON 150.00 513.21 0.00000E+00
1921; POLYGON 150.00 0.00000E+00 0.00000E+00
1922; POLYGON 200.00 0.00000E+00 0.00000E+00

1923; POLYGON 200.00 513.21 0.00000E+00
 2029; LINE 1.8634 0.97440 -0.69230
 2030; PEN -1.0000 0.00000E+00 0.00000E+00
 2031; START 0.00000E+00 0.00000E+00 0.00000E+00
 2133; LINE 3.0380 1.3107 -0.30919
 2134; PEN -1.0000 0.00000E+00 0.00000E+00
 2135; START 0.00000E+00 0.00000E+00 0.00000E+00
 2237; LINE 1.7077 -0.22582 -0.32353
 2238; PEN -1.0000 0.00000E+00 0.00000E+00
 2239; START 0.00000E+00 0.00000E+00 0.00000E+00
 2341; LINE 2.0494 2.1673 -0.29982
 2342; PEN -1.0000 0.00000E+00 0.00000E+00
 2343; START 0.00000E+00 0.00000E+00 0.00000E+00
 2445; LINE 0.71912 0.63077 -0.31547
 2446; PEN -1.0000 0.00000E+00 0.00000E+00
 2447; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 0.20000 0.0D0 0.0D0
 1; ORIGIN 2.0527 0.69300 1.1890
 1891; ORIGIN 2.0527 0.69300 1.1890
 16; ORIGIN 0.00000E+00 0.69300 0.00000E+00
 17; ROTATE 91.885 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -1.1890
 21; ROTATE 0.00000E+00 48.816 0.00000E+00
 11; ROTATE 1.8854 -1.7541 48.816
 481; FILL .0000000E+00 .0000000E+00 .0000000E+00
 32; ORIGIN 1.0340 -0.37380 -0.65770
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36; ORIGIN 1.0340 -0.34400 0.65010
 1045; FILL 55535.00 .0000000E+00 33000.00
 40; ORIGIN -0.99800 -0.42140 -0.65800
 1327; FILL 55535.00 .0000000E+00 33000.00
 44; ORIGIN -0.99800 -0.38760 0.64970
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 -480.00 0.00000E+00
 1916; POLYGON -50.000 -480.00 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 508.02 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 508.02 0.00000E+00
 2030; LINE 2.0527 1.1890 -0.69300
 2031; PEN -1.0000 0.00000E+00 0.00000E+00
 2032; START 0.00000E+00 0.00000E+00 0.00000E+00
 2134; LINE 3.2301 1.5177 -0.30956
 2135; PEN -1.0000 0.00000E+00 0.00000E+00
 2136; START 0.00000E+00 0.00000E+00 0.00000E+00
 2238; LINE 1.8931 -0.13108E-01 -0.32421
 2239; PEN -1.0000 0.00000E+00 0.00000E+00
 2240; START 0.00000E+00 0.00000E+00 0.00000E+00
 2342; LINE 2.2455 2.3788 -0.29632
 2343; PEN -1.0000 0.00000E+00 0.00000E+00
 2344; START 0.00000E+00 0.00000E+00 0.00000E+00
 2446; LINE 0.90848 0.84810 -0.31497
 2447; PEN -1.0000 0.00000E+00 0.00000E+00
 2448; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 0.22000      0.0D0 0.0D0
1; ORIGIN  2.2419      0.69430      1.4014
1891; ORIGIN  2.2419      0.69430      1.4014
16;ORIGIN  0.00000E+00  0.69430      0.00000E+00
17; ROTATE  92.153      0.00000E+00  0.00000E+00
20; ORIGIN  0.00000E+00  0.00000E+00  -1.4014
21; ROTATE  0.00000E+00  48.511      0.00000E+00
11; ROTATE  2.1527      -1.7875      48.511
481; FILL  .0000000E+00 .0000000E+00 .0000000E+00
32;ORIGIN  1.0340      -0.37670     -0.65820
763; FILL  .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN  1.0340      -0.34210     0.64940
1045; FILL  55535.00      .0000000E+00 33000.00
40;ORIGIN -0.99800      -0.42650     -0.65860
1327; FILL  55535.00      .0000000E+00 33000.00
44;ORIGIN -0.99800      -0.38680     0.64890
1979; FILL  65535.      65535.      65535.
1980; PEN  65535.      65535.      65535.
1913; POLYGON -100.00      -468.00      0.00000E+00
1916; POLYGON -50.000      -468.00      0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00
1920; POLYGON 150.00      504.60      0.00000E+00
1921; POLYGON 150.00      0.00000E+00 0.00000E+00
1922; POLYGON 200.00      0.00000E+00 0.00000E+00
1923; POLYGON 200.00      504.60      0.00000E+00
2031; LINE  2.2419      1.4014      -0.69430
2032; PEN  -1.0000      0.00000E+00 0.00000E+00
2033; START 0.00000E+00 0.00000E+00 0.00000E+00
2135; LINE  3.4226      1.7222      -0.31051
2136; PEN  -1.0000      0.00000E+00 0.00000E+00
2137; START 0.00000E+00 0.00000E+00 0.00000E+00
2239; LINE  2.0777      0.19820     -0.32416
2240; PEN  -1.0000      0.00000E+00 0.00000E+00
2241; START 0.00000E+00 0.00000E+00 0.00000E+00
2343; LINE  2.4426      2.5884      -0.29598
2344; PEN  -1.0000      0.00000E+00 0.00000E+00
2345; START 0.00000E+00 0.00000E+00 0.00000E+00
2447; LINE  1.0977      1.0646      -0.31473
2448; PEN  -1.0000      0.00000E+00 0.00000E+00
2449; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 0.24000      0.0D0 0.0D0
1; ORIGIN  2.4311      0.69620      1.6115
1891; ORIGIN  2.4311      0.69620      1.6115
16;ORIGIN  0.00000E+00  0.69620      0.00000E+00
17; ROTATE  92.355      0.00000E+00  0.00000E+00
20; ORIGIN  0.00000E+00  0.00000E+00  -1.6115
21; ROTATE  0.00000E+00  48.169      0.00000E+00
11; ROTATE  2.3553      -1.7280      48.169
481; FILL  .0000000E+00 .0000000E+00 .0000000E+00
32;ORIGIN  1.0340      -0.38060     -0.65880
763; FILL  .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN  1.0340      -0.34130     0.64870
1045; FILL  55535.00      .0000000E+00 33000.00
40;ORIGIN -0.99800      -0.42960     -0.65910
1327; FILL  55535.00      .0000000E+00 33000.00
44;ORIGIN -0.99800      -0.38560     0.64830
1979; FILL  65535.      65535.      65535.

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1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 -456.00 0.00000E+00
 1916; POLYGON -50.000 -456.00 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 502.50 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 502.50 0.00000E+00
 2032; LINE 2.4311 1.6115 -0.69620
 2033; PEN -1.0000 0.00000E+00 0.00000E+00
 2034; START 0.00000E+00 0.00000E+00 0.00000E+00
 2136; LINE 3.6154 1.9242 -0.31198
 2137; PEN -1.0000 0.00000E+00 0.00000E+00
 2138; START 0.00000E+00 0.00000E+00 0.00000E+00
 2240; LINE 2.2615 0.40821 -0.32432
 2241; PEN -1.0000 0.00000E+00 0.00000E+00
 2242; START 0.00000E+00 0.00000E+00 0.00000E+00
 2344; LINE 2.6406 2.7962 -0.29752
 2345; PEN -1.0000 0.00000E+00 0.00000E+00
 2346; START 0.00000E+00 0.00000E+00 0.00000E+00
 2448; LINE 1.2867 1.2805 -0.31456
 2449; PEN -1.0000 0.00000E+00 0.00000E+00
 2450; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 0.26000 0.0D0 0.0D0
 1; ORIGIN 2.6201 0.69850 1.8194
 1891; ORIGIN 2.6201 0.69850 1.8194
 16; ORIGIN 0.00000E+00 0.69850 0.00000E+00
 17; ROTATE 92.494 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -1.8194
 21; ROTATE 0.00000E+00 47.789 0.00000E+00
 11; ROTATE 2.4942 -1.5924 47.789
 481; FILL .0000000E+00 .0000000E+00 .0000000E+00
 32; ORIGIN 1.0340 -0.38490 -0.65920
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36; ORIGIN 1.0340 -0.34170 0.64820
 1045; FILL 55535.00 .0000000E+00 33000.00
 40; ORIGIN -0.99800 -0.43070 -0.65930
 1327; FILL 55535.00 .0000000E+00 33000.00
 44; ORIGIN -0.99800 -0.38410 0.64790
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 -444.00 0.00000E+00
 1916; POLYGON -50.000 -444.00 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 500.65 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 500.65 0.00000E+00
 2033; LINE 2.6201 1.8194 -0.69850
 2034; PEN -1.0000 0.00000E+00 0.00000E+00
 2035; START 0.00000E+00 0.00000E+00 0.00000E+00
 2137; LINE 3.8081 2.1238 -0.31406
 2138; PEN -1.0000 0.00000E+00 0.00000E+00
 2139; START 0.00000E+00 0.00000E+00 0.00000E+00
 2241; LINE 2.4440 0.61710 -0.32478
 2242; PEN -1.0000 0.00000E+00 0.00000E+00
 2243; START 0.00000E+00 0.00000E+00 0.00000E+00

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2345; LINE 2.8391 3.0024 -0.30033
2346; PEN -1.0000 0.00000E+00 0.00000E+00
2347; START 0.00000E+00 0.00000E+00 0.00000E+00
2449; LINE 1.4751 1.4957 -0.31446
2450; PEN -1.0000 0.00000E+00 0.00000E+00
2451; START 0.00000E+00 0.00000E+00 0.00000E+00
*
TIME 0.28000 0.0D0 0.0D0
1; ORIGIN 2.8092 0.70070 2.0251
1891; ORIGIN 2.8092 0.70070 2.0251
16;ORIGIN 0.00000E+00 0.70070 0.00000E+00
17; ROTATE 92.587 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -2.0251
21; ROTATE 0.00000E+00 47.372 0.00000E+00
11; ROTATE 2.5873 -1.4117 47.372
481; FILL .0000000E+00 .0000000E+00 .0000000E+00
32;ORIGIN 1.0340 -0.38920 -0.65960
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN 1.0340 -0.34270 0.64770
1045; FILL 55535.00 .0000000E+00 33000.00
40;ORIGIN -0.99800 -0.43150 -0.65960
1327; FILL 55535.00 .0000000E+00 33000.00
44;ORIGIN -0.99800 -0.38260 0.64760
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 -432.00 0.00000E+00
1916; POLYGON -50.000 -432.00 0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00
1920; POLYGON 150.00 499.17 0.00000E+00
1921; POLYGON 150.00 0.00000E+00 0.00000E+00
1922; POLYGON 200.00 0.00000E+00 0.00000E+00
1923; POLYGON 200.00 499.17 0.00000E+00
2034; LINE 2.8092 2.0251 -0.70070
2035; PEN -1.0000 0.00000E+00 0.00000E+00
2036; START 0.00000E+00 0.00000E+00 0.00000E+00
2138; LINE 4.0010 2.3209 -0.31631
2139; PEN -1.0000 0.00000E+00 0.00000E+00
2140; START 0.00000E+00 0.00000E+00 0.00000E+00
2242; LINE 2.6259 0.82432 -0.32412
2243; PEN -1.0000 0.00000E+00 0.00000E+00
2244; START 0.00000E+00 0.00000E+00 0.00000E+00
2346; LINE 3.0384 3.2066 -0.30375
2347; PEN -1.0000 0.00000E+00 0.00000E+00
2348; START 0.00000E+00 0.00000E+00 0.00000E+00
2450; LINE 1.6634 1.7101 -0.31397
2451; PEN -1.0000 0.00000E+00 0.00000E+00
2452; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 0.30000 0.0D0 0.0D0
1; ORIGIN 2.9981 0.70250 2.2289
1891; ORIGIN 2.9981 0.70250 2.2289
16;ORIGIN 0.00000E+00 0.70250 0.00000E+00
17; ROTATE 92.649 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -2.2289
21; ROTATE 0.00000E+00 46.921 0.00000E+00
11; ROTATE 2.6490 -1.2164 46.921
481; FILL .0000000E+00 .0000000E+00 .0000000E+00
32;ORIGIN 1.0340 -0.39350 -0.65990

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763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN 1.0340 -0.34400 0.64720
1045; FILL 55535.00 .0000000E+00 33000.00
40;ORIGIN -0.99800 -0.43210 -0.65980
1327; FILL 55535.00 .0000000E+00 33000.00
44;ORIGIN -0.99800 -0.38080 0.64730
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 -420.00 0.00000E+00
1916; POLYGON -50.000 -420.00 0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00
1920; POLYGON 150.00 498.04 0.00000E+00
1921; POLYGON 150.00 0.00000E+00 0.00000E+00
1922; POLYGON 200.00 0.00000E+00 0.00000E+00
1923; POLYGON 200.00 498.04 0.00000E+00
2035; LINE 2.9981 2.2289 -0.70250
2036; PEN -1.0000 0.00000E+00 0.00000E+00
2037; START 0.00000E+00 0.00000E+00 0.00000E+00
2139; LINE 4.1937 2.5156 -0.31805
2140; PEN -1.0000 0.00000E+00 0.00000E+00
2141; START 0.00000E+00 0.00000E+00 0.00000E+00
2243; LINE 2.8067 1.0301 -0.32263
2244; PEN -1.0000 0.00000E+00 0.00000E+00
2245; START 0.00000E+00 0.00000E+00 0.00000E+00
2347; LINE 3.2382 3.4089 -0.30709
2348; PEN -1.0000 0.00000E+00 0.00000E+00
2349; START 0.00000E+00 0.00000E+00 0.00000E+00
2451; LINE 1.8512 1.9234 -0.31347
2452; PEN -1.0000 0.00000E+00 0.00000E+00
2453; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 0.32000 0.0D0 0.0D0
1; ORIGIN 3.1867 0.70350 2.4306
1891; ORIGIN 3.1867 0.70350 2.4306
16;ORIGIN 0.00000E+00 0.70350 0.00000E+00
17; ROTATE 92.693 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -2.4306
21; ROTATE 0.00000E+00 46.437 0.00000E+00
11; ROTATE 2.6926 -1.0362 46.437
481; FILL .0000000E+00 .0000000E+00 .0000000E+00
32;ORIGIN 1.0340 -0.39730 -0.66020
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN 1.0340 -0.34560 0.64690
1045; FILL 55535.00 .0000000E+00 33000.00
40;ORIGIN -0.99800 -0.43230 -0.66000
1327; FILL 55535.00 .0000000E+00 33000.00
44;ORIGIN -0.99800 -0.37880 0.64700
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 -408.00 0.00000E+00
1916; POLYGON -50.000 -408.00 0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00
1920; POLYGON 150.00 497.18 0.00000E+00
1921; POLYGON 150.00 0.00000E+00 0.00000E+00
1922; POLYGON 200.00 0.00000E+00 0.00000E+00
1923; POLYGON 200.00 497.18 0.00000E+00
2036; LINE 3.1867 2.4306 -0.70350
2037; PEN -1.0000 0.00000E+00 0.00000E+00

2038; START 0.00000E+00 0.00000E+00 0.00000E+00
 2140; LINE 4.3860 2.7075 -0.31901
 2141; PEN -1.0000 0.00000E+00 0.00000E+00
 2142; START 0.00000E+00 0.00000E+00 0.00000E+00
 2244; LINE 2.9864 1.2340 -0.32079
 2245; PEN -1.0000 0.00000E+00 0.00000E+00
 2246; START 0.00000E+00 0.00000E+00 0.00000E+00
 2348; LINE 3.4381 3.6089 -0.30926
 2349; PEN -1.0000 0.00000E+00 0.00000E+00
 2350; START 0.00000E+00 0.00000E+00 0.00000E+00
 2452; LINE 2.0385 2.1354 -0.31284
 2453; PEN -1.0000 0.00000E+00 0.00000E+00
 2454; START 0.00000E+00 0.00000E+00 0.00000E+00

*

TIME 0.34000 0.0D0 0.0D0
 1; ORIGIN 3.3750 0.70360 2.6303
 1891; ORIGIN 3.3750 0.70360 2.6303
 16; ORIGIN 0.00000E+00 0.70360 0.00000E+00
 17; ROTATE 92.719 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -2.6303
 21; ROTATE 0.00000E+00 45.922 0.00000E+00
 11; ROTATE 2.7185 -0.88960 45.922
 481; FILL .0000000E+00 .0000000E+00 .0000000E+00
 32; ORIGIN 1.0340 -0.40030 -0.66010
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36; ORIGIN 1.0340 -0.34910 0.64700
 1045; FILL 55535.00 .0000000E+00 33000.00
 40; ORIGIN -0.99800 -0.43190 -0.66020
 1327; FILL 55535.00 .0000000E+00 33000.00
 44; ORIGIN -0.99800 -0.37660 0.64670
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 -396.00 0.00000E+00
 1916; POLYGON -50.000 -396.00 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 496.67 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 496.67 0.00000E+00
 2037; LINE 3.3750 2.6303 -0.70360
 2038; PEN -1.0000 0.00000E+00 0.00000E+00
 2039; START 0.00000E+00 0.00000E+00 0.00000E+00
 2141; LINE 4.5776 2.8970 -0.31905
 2142; PEN -1.0000 0.00000E+00 0.00000E+00
 2143; START 0.00000E+00 0.00000E+00 0.00000E+00
 2245; LINE 3.1649 1.4360 -0.31904
 2246; PEN -1.0000 0.00000E+00 0.00000E+00
 2247; START 0.00000E+00 0.00000E+00 0.00000E+00
 2349; LINE 3.6378 3.8068 -0.30820
 2350; PEN -1.0000 0.00000E+00 0.00000E+00
 2351; START 0.00000E+00 0.00000E+00 0.00000E+00
 2453; LINE 2.2252 2.3459 -0.31230
 2454; PEN -1.0000 0.00000E+00 0.00000E+00
 2455; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 0.36000 0.0D0 0.0D0
 1; ORIGIN 3.5627 0.70300 2.8280
 1891; ORIGIN 3.5627 0.70300 2.8280

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16;ORIGIN 0.00000E+00 0.70300 0.00000E+00
17; ROTATE 92.735 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -2.8280
21; ROTATE 0.00000E+00 45.378 0.00000E+00
11; ROTATE 2.7350 -0.79440 45.378
481; FILL .0000000E+00 .0000000E+00 .0000000E+00
32;ORIGIN 1.0340 -0.40200 -0.66000
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN 1.0340 -0.35200 0.64720
1045; FILL 55535.00 .0000000E+00 33000.00
40;ORIGIN -0.99800 -0.43110 -0.66030
1327; FILL 55535.00 .0000000E+00 33000.00
44;ORIGIN -0.99800 -0.37460 0.64650
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 -384.00 0.00000E+00
1916; POLYGON -50.000 -384.00 0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00
1920; POLYGON 150.00 496.31 0.00000E+00
1921; POLYGON 150.00 0.00000E+00 0.00000E+00
1922; POLYGON 200.00 0.00000E+00 0.00000E+00
1923; POLYGON 200.00 496.31 0.00000E+00
2038; LINE 3.5627 2.8280 -0.70300
2039; PEN -1.0000 0.00000E+00 0.00000E+00
2040; START 0.00000E+00 0.00000E+00 0.00000E+00
2142; LINE 4.7682 3.0836 -0.31865
2143; PEN -1.0000 0.00000E+00 0.00000E+00
2144; START 0.00000E+00 0.00000E+00 0.00000E+00
2246; LINE 3.3419 1.6361 -0.31777
2247; PEN -1.0000 0.00000E+00 0.00000E+00
2248; START 0.00000E+00 0.00000E+00 0.00000E+00
2350; LINE 3.8371 4.0024 -0.30622
2351; PEN -1.0000 0.00000E+00 0.00000E+00
2352; START 0.00000E+00 0.00000E+00 0.00000E+00
2454; LINE 2.4109 2.5549 -0.31185
2455; PEN -1.0000 0.00000E+00 0.00000E+00
2456; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 0.38000 0.0D0 0.0D0
1; ORIGIN 3.7500 0.70180 3.0234
1891; ORIGIN 3.7500 0.70180 3.0234
16;ORIGIN 0.00000E+00 0.70180 0.00000E+00
17; ROTATE 92.756 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -3.0234
21; ROTATE 0.00000E+00 44.801 0.00000E+00
11; ROTATE 2.7558 -0.75450 44.801
481; FILL .0000000E+00 .0000000E+00 .0000000E+00
32;ORIGIN 1.0340 -0.40270 -0.66000
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN 1.0340 -0.35240 0.64710
1045; FILL 55535.00 .0000000E+00 33000.00
40;ORIGIN -0.99800 -0.42980 -0.66040
1327; FILL 55535.00 .0000000E+00 33000.00
44;ORIGIN -0.99800 -0.37280 0.64650
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 -372.00 0.00000E+00
1916; POLYGON -50.000 -372.00 0.00000E+00

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1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 495.84 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 495.84 0.00000E+00
 2039; LINE 3.7500 3.0234 -0.70180
 2040; PEN -1.0000 0.00000E+00 0.00000E+00
 2041; START 0.00000E+00 0.00000E+00 0.00000E+00
 2143; LINE 4.9583 3.2669 -0.31771
 2144; PEN -1.0000 0.00000E+00 0.00000E+00
 2145; START 0.00000E+00 0.00000E+00 0.00000E+00
 2247; LINE 3.5175 1.8338 -0.31742
 2248; PEN -1.0000 0.00000E+00 0.00000E+00
 2249; START 0.00000E+00 0.00000E+00 0.00000E+00
 2351; LINE 4.0366 4.1950 -0.30512
 2352; PEN -1.0000 0.00000E+00 0.00000E+00
 2353; START 0.00000E+00 0.00000E+00 0.00000E+00
 2455; LINE 2.5957 2.7620 -0.31153
 2456; PEN -1.0000 0.00000E+00 0.00000E+00
 2457; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 0.40000 0.0D0 0.0D0
 1; ORIGIN 3.9368 0.70010 3.2164
 1891; ORIGIN 3.9368 0.70010 3.2164
 16; ORIGIN 0.00000E+00 0.70010 0.00000E+00
 17; ROTATE 92.789 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -3.2164
 21; ROTATE 0.00000E+00 44.184 0.00000E+00
 11; ROTATE 2.7889 -0.76060 44.184
 481; FILL .0000000E+00 .0000000E+00 .0000000E+00
 32; ORIGIN 1.0340 -0.40240 -0.66020
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36; ORIGIN 1.0340 -0.35050 0.64690
 1045; FILL 55535.00 .0000000E+00 33000.00
 40; ORIGIN -0.99800 -0.42720 -0.66030
 1327; FILL 55535.00 .0000000E+00 33000.00
 44; ORIGIN -0.99800 -0.37110 0.64660
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 -360.00 0.00000E+00
 1916; POLYGON -50.000 -360.00 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 495.05 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 495.05 0.00000E+00
 2040; LINE 3.9368 3.2164 -0.70010
 2041; PEN -1.0000 0.00000E+00 0.00000E+00
 2042; START 0.00000E+00 0.00000E+00 0.00000E+00
 2144; LINE 5.1480 3.4466 -0.31660
 2145; PEN -1.0000 0.00000E+00 0.00000E+00
 2146; START 0.00000E+00 0.00000E+00 0.00000E+00
 2248; LINE 3.6915 2.0294 -0.31881
 2249; PEN -1.0000 0.00000E+00 0.00000E+00
 2250; START 0.00000E+00 0.00000E+00 0.00000E+00
 2352; LINE 4.2362 4.3846 -0.30485
 2353; PEN -1.0000 0.00000E+00 0.00000E+00
 2354; START 0.00000E+00 0.00000E+00 0.00000E+00

2456; LINE 2.7798 2.9674 -0.31126
 2457; PEN -1.0000 0.00000E+00 0.00000E+00
 2458; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 0.42000 0.0D0 0.0D0
 1; ORIGIN 4.1232 0.69820 3.4070
 1891; ORIGIN 4.1232 0.69820 3.4070
 16; ORIGIN 0.00000E+00 0.69820 0.00000E+00
 17; ROTATE 92.843 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -3.4070
 21; ROTATE 0.00000E+00 43.521 0.00000E+00
 11; ROTATE 2.8431 -0.80680 43.521
 481; FILL .0000000E+00 .0000000E+00 .0000000E+00
 32; ORIGIN 1.0340 -0.40100 -0.66030
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36; ORIGIN 1.0340 -0.34750 0.64670
 1045; FILL 55535.00 .0000000E+00 33000.00
 40; ORIGIN -0.99800 -0.42510 -0.66020
 1327; FILL 55535.00 .0000000E+00 33000.00
 44; ORIGIN -0.99800 -0.36960 0.64670
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 -348.00 0.00000E+00
 1916; POLYGON -50.000 -348.00 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 493.71 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 493.71 0.00000E+00
 2041; LINE 4.1232 3.4070 -0.69820
 2042; PEN -1.0000 0.00000E+00 0.00000E+00
 2043; START 0.00000E+00 0.00000E+00 0.00000E+00
 2145; LINE 5.3370 3.6227 -0.31592
 2146; PEN -1.0000 0.00000E+00 0.00000E+00
 2147; START 0.00000E+00 0.00000E+00 0.00000E+00
 2249; LINE 3.8641 2.2226 -0.32046
 2250; PEN -1.0000 0.00000E+00 0.00000E+00
 2251; START 0.00000E+00 0.00000E+00 0.00000E+00
 2353; LINE 4.4362 4.5711 -0.30453
 2354; PEN -1.0000 0.00000E+00 0.00000E+00
 2355; START 0.00000E+00 0.00000E+00 0.00000E+00
 2457; LINE 2.9633 3.1711 -0.31107
 2458; PEN -1.0000 0.00000E+00 0.00000E+00
 2459; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 0.44000 0.0D0 0.0D0
 1; ORIGIN 4.3092 0.69630 3.5952
 1891; ORIGIN 4.3092 0.69630 3.5952
 16; ORIGIN 0.00000E+00 0.69630 0.00000E+00
 17; ROTATE 92.921 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -3.5952
 21; ROTATE 0.00000E+00 42.812 0.00000E+00
 11; ROTATE 2.9213 -0.88380 42.812
 481; FILL .0000000E+00 .0000000E+00 .0000000E+00
 32; ORIGIN 1.0340 -0.39880 -0.66050
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36; ORIGIN 1.0340 -0.34420 0.64650
 1045; FILL 55535.00 .0000000E+00 33000.00

40;ORIGIN -0.99800 -0.42510 -0.66040
 1327; FILL 55535.00 .0000000E+00 33000.00
 44;ORIGIN -0.99800 -0.36820 0.64650
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 -336.00 0.00000E+00
 1916; POLYGON -50.000 -336.00 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 491.76 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 491.76 0.00000E+00
 2042; LINE 4.3092 3.5952 -0.69630
 2043; PEN -1.0000 0.00000E+00 0.00000E+00
 2044; START 0.00000E+00 0.00000E+00 0.00000E+00
 2146; LINE 5.5256 3.7951 -0.31577
 2147; PEN -1.0000 0.00000E+00 0.00000E+00
 2148; START 0.00000E+00 0.00000E+00 0.00000E+00
 2250; LINE 4.0356 2.4132 -0.32085
 2251; PEN -1.0000 0.00000E+00 0.00000E+00
 2252; START 0.00000E+00 0.00000E+00 0.00000E+00
 2354; LINE 4.6366 4.7546 -0.30370
 2355; PEN -1.0000 0.00000E+00 0.00000E+00
 2356; START 0.00000E+00 0.00000E+00 0.00000E+00
 2458; LINE 3.1466 3.3728 -0.31107
 2459; PEN -1.0000 0.00000E+00 0.00000E+00
 2460; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 0.46000 0.0D0 0.0D0
 1; ORIGIN 4.4949 0.69450 3.7810
 1891; ORIGIN 4.4949 0.69450 3.7810
 16;ORIGIN 0.00000E+00 0.69450 0.00000E+00
 17; ROTATE 93.013 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -3.7810
 21; ROTATE 0.00000E+00 42.056 0.00000E+00
 11; ROTATE 3.0132 -0.97180 42.056
 481; FILL .0000000E+00 .0000000E+00 .0000000E+00
 32;ORIGIN 1.0340 -0.39720 -0.66040
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36;ORIGIN 1.0340 -0.34280 0.64650
 1045; FILL 55535.00 .0000000E+00 33000.00
 40;ORIGIN -0.99800 -0.42650 -0.66060
 1327; FILL 55535.00 .0000000E+00 33000.00
 44;ORIGIN -0.99800 -0.36700 0.64610
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 -324.00 0.00000E+00
 1916; POLYGON -50.000 -324.00 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 489.75 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 489.75 0.00000E+00
 2043; LINE 4.4949 3.7810 -0.69450
 2044; PEN -1.0000 0.00000E+00 0.00000E+00
 2045; START 0.00000E+00 0.00000E+00 0.00000E+00
 2147; LINE 5.7137 3.9642 -0.31508
 2148; PEN -1.0000 0.00000E+00 0.00000E+00

2149; START 0.00000E+00 0.00000E+00 0.00000E+00
 2251; LINE 4.2059 2.6017 -0.32029
 2252; PEN -1.0000 0.00000E+00 0.00000E+00
 2253; START 0.00000E+00 0.00000E+00 0.00000E+00
 2355; LINE 4.8375 4.9352 -0.30071
 2356; PEN -1.0000 0.00000E+00 0.00000E+00
 2357; START 0.00000E+00 0.00000E+00 0.00000E+00
 2459; LINE 3.3297 3.5728 -0.31103
 2460; PEN -1.0000 0.00000E+00 0.00000E+00
 2461; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 0.48000 0.0D0 0.0D0
 1; ORIGIN 4.6803 0.69310 3.9641
 1891; ORIGIN 4.6803 0.69310 3.9641
 16; ORIGIN 0.00000E+00 0.69310 0.00000E+00
 17; ROTATE 93.110 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -3.9641
 21; ROTATE 0.00000E+00 41.253 0.00000E+00
 11; ROTATE 3.1097 -1.0578 41.253
 481; FILL .0000000E+00 .0000000E+00 .0000000E+00
 32; ORIGIN 1.0340 -0.39620 -0.66050
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36; ORIGIN 1.0340 -0.34170 0.64650
 1045; FILL 55535.00 .0000000E+00 33000.00
 40; ORIGIN -0.99800 -0.42810 -0.66090
 1327; FILL 55535.00 .0000000E+00 33000.00
 44; ORIGIN -0.99800 -0.36610 0.64570
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 -312.00 0.00000E+00
 1916; POLYGON -50.000 -312.00 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 487.67 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 487.67 0.00000E+00
 2044; LINE 4.6803 3.9641 -0.69310
 2045; PEN -1.0000 0.00000E+00 0.00000E+00
 2046; START 0.00000E+00 0.00000E+00 0.00000E+00
 2148; LINE 5.9016 4.1294 -0.31429
 2149; PEN -1.0000 0.00000E+00 0.00000E+00
 2150; START 0.00000E+00 0.00000E+00 0.00000E+00
 2252; LINE 4.3751 2.7878 -0.31997
 2253; PEN -1.0000 0.00000E+00 0.00000E+00
 2254; START 0.00000E+00 0.00000E+00 0.00000E+00
 2356; LINE 5.0389 5.1126 -0.29781
 2357; PEN -1.0000 0.00000E+00 0.00000E+00
 2358; START 0.00000E+00 0.00000E+00 0.00000E+00
 2460; LINE 3.5125 3.7711 -0.31100
 2461; PEN -1.0000 0.00000E+00 0.00000E+00
 2462; START 0.00000E+00 0.00000E+00 0.00000E+00

*

TIME 0.50000 0.0D0 0.0D0
 1; ORIGIN 4.8654 0.69240 4.1444
 1891; ORIGIN 4.8654 0.69240 4.1444
 16; ORIGIN 0.00000E+00 0.69240 0.00000E+00
 17; ROTATE 93.204 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -4.1444

21; ROTATE 0.00000E+00 40.400 0.00000E+00
 11; ROTATE 3.2044 -1.1253 40.400
 481; FILL .0000000E+00 .0000000E+00 .0000000E+00
 32;ORIGIN 1.0340 -0.39600 -0.66060
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36;ORIGIN 1.0340 -0.34020 0.64630
 1045; FILL 55535.00 .0000000E+00 33000.00
 40;ORIGIN -0.99800 -0.42930 -0.66100
 1327; FILL 55535.00 .0000000E+00 33000.00
 44;ORIGIN -0.99800 -0.36560 0.64550
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 -300.00 0.00000E+00
 1916; POLYGON -50.000 -300.00 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 485.74 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 485.74 0.00000E+00
 2045; LINE 4.8654 4.1444 -0.69240
 2046; PEN -1.0000 0.00000E+00 0.00000E+00
 2047; START 0.00000E+00 0.00000E+00 0.00000E+00
 2149; LINE 6.0892 4.2907 -0.31371
 2150; PEN -1.0000 0.00000E+00 0.00000E+00
 2151; START 0.00000E+00 0.00000E+00 0.00000E+00
 2253; LINE 4.5429 2.9719 -0.32039
 2254; PEN -1.0000 0.00000E+00 0.00000E+00
 2255; START 0.00000E+00 0.00000E+00 0.00000E+00
 2357; LINE 5.2412 5.2866 -0.29637
 2358; PEN -1.0000 0.00000E+00 0.00000E+00
 2359; START 0.00000E+00 0.00000E+00 0.00000E+00
 2461; LINE 3.6951 3.9679 -0.31097
 2462; PEN -1.0000 0.00000E+00 0.00000E+00
 2463; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 0.52000 0.0D0 0.0D0
 1; ORIGIN 5.0502 0.69260 4.3219
 1891; ORIGIN 5.0502 0.69260 4.3219
 16;ORIGIN 0.00000E+00 0.69260 0.00000E+00
 17; ROTATE 93.290 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -4.3219
 21; ROTATE 0.00000E+00 39.492 0.00000E+00
 11; ROTATE 3.2896 -1.1595 39.492
 481; FILL .0000000E+00 .0000000E+00 .0000000E+00
 32;ORIGIN 1.0340 -0.39650 -0.66070
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36;ORIGIN 1.0340 -0.33920 0.64610
 1045; FILL 55535.00 .0000000E+00 33000.00
 40;ORIGIN -0.99800 -0.43020 -0.66120
 1327; FILL 55535.00 .0000000E+00 33000.00
 44;ORIGIN -0.99800 -0.36550 0.64530
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 -288.00 0.00000E+00
 1916; POLYGON -50.000 -288.00 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 484.07 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00

1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 484.07 0.00000E+00
 2046; LINE 5.0502 4.3219 -0.69260
 2047; PEN -1.0000 0.00000E+00 0.00000E+00
 2048; START 0.00000E+00 0.00000E+00 0.00000E+00
 2150; LINE 6.2764 4.4481 -0.31381
 2151; PEN -1.0000 0.00000E+00 0.00000E+00
 2152; START 0.00000E+00 0.00000E+00 0.00000E+00
 2254; LINE 4.7095 3.1538 -0.32132
 2255; PEN -1.0000 0.00000E+00 0.00000E+00
 2256; START 0.00000E+00 0.00000E+00 0.00000E+00
 2358; LINE 5.4443 5.4573 -0.29604
 2359; PEN -1.0000 0.00000E+00 0.00000E+00
 2360; START 0.00000E+00 0.00000E+00 0.00000E+00
 2462; LINE 3.8775 4.1632 -0.31095
 2463; PEN -1.0000 0.00000E+00 0.00000E+00
 2464; START 0.00000E+00 0.00000E+00 0.00000E+00

*

TIME 0.54000 0.0D0 0.0D0
 1; ORIGIN 5.2349 0.69380 4.4965
 1891; ORIGIN 5.2349 0.69380 4.4965
 16; ORIGIN 0.00000E+00 0.69380 0.00000E+00
 17; ROTATE 93.362 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -4.4965
 21; ROTATE 0.00000E+00 38.527 0.00000E+00
 11; ROTATE 3.3624 -1.1556 38.527
 481; FILL .0000000E+00 .0000000E+00 .0000000E+00
 32; ORIGIN 1.0340 -0.39740 -0.66090
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36; ORIGIN 1.0340 -0.33900 0.64590
 1045; FILL 55535.00 .0000000E+00 33000.00
 40; ORIGIN -0.99800 -0.43140 -0.66130
 1327; FILL 55535.00 .0000000E+00 33000.00
 44; ORIGIN -0.99800 -0.36560 0.64520
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 -276.00 0.00000E+00
 1916; POLYGON -50.000 -276.00 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 482.63 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 482.63 0.00000E+00
 2047; LINE 5.2349 4.4965 -0.69380
 2048; PEN -1.0000 0.00000E+00 0.00000E+00
 2049; START 0.00000E+00 0.00000E+00 0.00000E+00
 2151; LINE 6.4635 4.6015 -0.31506
 2152; PEN -1.0000 0.00000E+00 0.00000E+00
 2153; START 0.00000E+00 0.00000E+00 0.00000E+00
 2255; LINE 4.8750 3.3338 -0.32213
 2256; PEN -1.0000 0.00000E+00 0.00000E+00
 2257; START 0.00000E+00 0.00000E+00 0.00000E+00
 2359; LINE 5.6485 5.6246 -0.29673
 2360; PEN -1.0000 0.00000E+00 0.00000E+00
 2361; START 0.00000E+00 0.00000E+00 0.00000E+00
 2463; LINE 4.0601 4.3571 -0.31120
 2464; PEN -1.0000 0.00000E+00 0.00000E+00
 2465; START 0.00000E+00 0.00000E+00 0.00000E+00

*

TIME 0.56000 0.0D0 0.0D0
1; ORIGIN 5.4193 0.69560 4.6683
1891; ORIGIN 5.4193 0.69560 4.6683
16; ORIGIN 0.00000E+00 0.69560 0.00000E+00
17; ROTATE 93.426 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -4.6683
21; ROTATE 0.00000E+00 37.506 0.00000E+00
11; ROTATE 3.4257 -1.1167 37.506
481; FILL .0000000E+00 .0000000E+00 .0000000E+00
32; ORIGIN 1.0340 -0.39890 -0.66100
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36; ORIGIN 1.0340 -0.33940 0.64580
1045; FILL 55535.00 .0000000E+00 33000.00
40; ORIGIN -0.99800 -0.43260 -0.66140
1327; FILL 55535.00 .0000000E+00 33000.00
44; ORIGIN -0.99800 -0.36570 0.64500
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 -264.00 0.00000E+00
1916; POLYGON -50.000 -264.00 0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00
1920; POLYGON 150.00 481.34 0.00000E+00
1921; POLYGON 150.00 0.00000E+00 0.00000E+00
1922; POLYGON 200.00 0.00000E+00 0.00000E+00
1923; POLYGON 200.00 481.34 0.00000E+00
2048; LINE 5.4193 4.6683 -0.69560
2049; PEN -1.0000 0.00000E+00 0.00000E+00
2050; START 0.00000E+00 0.00000E+00 0.00000E+00
2152; LINE 6.6501 4.7511 -0.31683
2153; PEN -1.0000 0.00000E+00 0.00000E+00
2154; START 0.00000E+00 0.00000E+00 0.00000E+00
2256; LINE 5.0393 3.5119 -0.32281
2257; PEN -1.0000 0.00000E+00 0.00000E+00
2258; START 0.00000E+00 0.00000E+00 0.00000E+00
2360; LINE 5.8535 5.7885 -0.29814
2361; PEN -1.0000 0.00000E+00 0.00000E+00
2362; START 0.00000E+00 0.00000E+00 0.00000E+00
2464; LINE 4.2428 4.5495 -0.31154
2465; PEN -1.0000 0.00000E+00 0.00000E+00
2466; START 0.00000E+00 0.00000E+00 0.00000E+00

*

TIME 0.58000 0.0D0 0.0D0
1; ORIGIN 5.6036 0.69770 4.8372
1891; ORIGIN 5.6036 0.69770 4.8372
16; ORIGIN 0.00000E+00 0.69770 0.00000E+00
17; ROTATE 93.483 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -4.8372
21; ROTATE 0.00000E+00 36.430 0.00000E+00
11; ROTATE 3.4832 -1.0510 36.430
481; FILL .0000000E+00 .0000000E+00 .0000000E+00
32; ORIGIN 1.0340 -0.40110 -0.66110
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36; ORIGIN 1.0340 -0.34010 0.64550
1045; FILL 55535.00 .0000000E+00 33000.00
40; ORIGIN -0.99800 -0.43330 -0.66140
1327; FILL 55535.00 .0000000E+00 33000.00
44; ORIGIN -0.99800 -0.36590 0.64490

1979;	FILL	65535.	65535.	65535.
1980;	PEN	65535.	65535.	65535.
1913;	POLYGON	-100.00	-252.00	0.00000E+00
1916;	POLYGON	-50.000	-252.00	0.00000E+00
1918;	FILL	.0000000E+00	.0000000E+00	65535.00
1920;	POLYGON	150.00	480.12	0.00000E+00
1921;	POLYGON	150.00	0.00000E+00	0.00000E+00
1922;	POLYGON	200.00	0.00000E+00	0.00000E+00
1923;	POLYGON	200.00	480.12	0.00000E+00
2049;	LINE	5.6036	4.8372	-0.69770
2050;	PEN	-1.0000	0.00000E+00	0.00000E+00
2051;	START	0.00000E+00	0.00000E+00	0.00000E+00
2153;	LINE	6.8364	4.8966	-0.31860
2154;	PEN	-1.0000	0.00000E+00	0.00000E+00
2155;	START	0.00000E+00	0.00000E+00	0.00000E+00
2257;	LINE	5.2026	3.6880	-0.32375
2258;	PEN	-1.0000	0.00000E+00	0.00000E+00
2259;	START	0.00000E+00	0.00000E+00	0.00000E+00
2361;	LINE	6.0595	5.9488	-0.30011
2362;	PEN	-1.0000	0.00000E+00	0.00000E+00
2363;	START	0.00000E+00	0.00000E+00	0.00000E+00
2465;	LINE	4.4257	4.7403	-0.31167
2466;	PEN	-1.0000	0.00000E+00	0.00000E+00
2467;	START	0.00000E+00	0.00000E+00	0.00000E+00

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TIME	0.60000	0.0D0	0.0D0	
1;	ORIGIN	5.7878	0.69980	5.0035
1891;	ORIGIN	5.7878	0.69980	5.0035
16;	ORIGIN	0.00000E+00	0.69980	0.00000E+00
17;	ROTATE	93.541	0.00000E+00	0.00000E+00
20;	ORIGIN	0.00000E+00	0.00000E+00	-5.0035
21;	ROTATE	0.00000E+00	35.302	0.00000E+00
11;	ROTATE	3.5409	-0.97410	35.302
481;	FILL	.0000000E+00	.0000000E+00	.0000000E+00
32;	ORIGIN	1.0340	-0.40370	-0.66130
763;	FILL	.0000000E+00	.0000000E+00	.0000000E+00
36;	ORIGIN	1.0340	-0.34090	0.64530
1045;	FILL	55535.00	.0000000E+00	33000.00
40;	ORIGIN	-0.99800	-0.43400	-0.66150
1327;	FILL	55535.00	.0000000E+00	33000.00
44;	ORIGIN	-0.99800	-0.36610	0.64490
1979;	FILL	65535.	65535.	65535.
1980;	PEN	65535.	65535.	65535.
1913;	POLYGON	-100.00	-240.00	0.00000E+00
1916;	POLYGON	-50.000	-240.00	0.00000E+00
1918;	FILL	.0000000E+00	.0000000E+00	65535.00
1920;	POLYGON	150.00	478.87	0.00000E+00
1921;	POLYGON	150.00	0.00000E+00	0.00000E+00
1922;	POLYGON	200.00	0.00000E+00	0.00000E+00
1923;	POLYGON	200.00	478.87	0.00000E+00
2050;	LINE	5.7878	5.0035	-0.69980
2051;	PEN	-1.0000	0.00000E+00	0.00000E+00
2052;	START	0.00000E+00	0.00000E+00	0.00000E+00
2154;	LINE	7.0224	5.0383	-0.32019
2155;	PEN	-1.0000	0.00000E+00	0.00000E+00
2156;	START	0.00000E+00	0.00000E+00	0.00000E+00
2258;	LINE	5.3650	3.8623	-0.32450
2259;	PEN	-1.0000	0.00000E+00	0.00000E+00

2260; START 0.00000E+00 0.00000E+00 0.00000E+00
 2362; LINE 6.2663 6.1056 -0.30218
 2363; PEN -1.0000 0.00000E+00 0.00000E+00
 2364; START 0.00000E+00 0.00000E+00 0.00000E+00
 2466; LINE 4.6089 4.9298 -0.31160
 2467; PEN -1.0000 0.00000E+00 0.00000E+00
 2468; START 0.00000E+00 0.00000E+00 0.00000E+00

*

TIME 0.62000 0.0D0 0.0D0
 1; ORIGIN 5.9717 0.70150 5.1672
 1891; ORIGIN 5.9717 0.70150 5.1672
 16;ORIGIN 0.00000E+00 0.70150 0.00000E+00
 17; ROTATE 93.601 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -5.1672
 21; ROTATE 0.00000E+00 34.124 0.00000E+00
 11; ROTATE 3.6007 -0.89980 34.124
 481; FILL .0000000E+00 .0000000E+00 .0000000E+00
 32;ORIGIN 1.0340 -0.40630 -0.66150
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36;ORIGIN 1.0340 -0.34160 0.64500
 1045; FILL 55535.00 .0000000E+00 33000.00
 40;ORIGIN -0.99800 -0.43470 -0.66150
 1327; FILL 55535.00 .0000000E+00 33000.00
 44;ORIGIN -0.99800 -0.36600 0.64480
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 -228.00 0.00000E+00
 1916; POLYGON -50.000 -228.00 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 477.58 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 477.58 0.00000E+00
 2051; LINE 5.9717 5.1672 -0.70150
 2052; PEN -1.0000 0.00000E+00 0.00000E+00
 2053; START 0.00000E+00 0.00000E+00 0.00000E+00
 2155; LINE 7.2075 5.1763 -0.32135
 2156; PEN -1.0000 0.00000E+00 0.00000E+00
 2157; START 0.00000E+00 0.00000E+00 0.00000E+00
 2259; LINE 5.5262 4.0348 -0.32492
 2260; PEN -1.0000 0.00000E+00 0.00000E+00
 2261; START 0.00000E+00 0.00000E+00 0.00000E+00
 2363; LINE 6.4736 6.2589 -0.30388
 2364; PEN -1.0000 0.00000E+00 0.00000E+00
 2365; START 0.00000E+00 0.00000E+00 0.00000E+00
 2467; LINE 4.7922 5.1176 -0.31145
 2468; PEN -1.0000 0.00000E+00 0.00000E+00
 2469; START 0.00000E+00 0.00000E+00 0.00000E+00

*

TIME 0.64000 0.0D0 0.0D0
 1; ORIGIN 6.1554 0.70250 5.3283
 1891; ORIGIN 6.1554 0.70250 5.3283
 16;ORIGIN 0.00000E+00 0.70250 0.00000E+00
 17; ROTATE 93.662 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -5.3283
 21; ROTATE 0.00000E+00 32.901 0.00000E+00
 11; ROTATE 3.6622 -0.83960 32.901
 481; FILL 55535.00 .0000000E+00 33000.00

32;ORIGIN 1.0340 -0.40870 -0.66170
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN 1.0340 -0.34220 0.64470
1045; FILL 55535.00 .0000000E+00 33000.00
40;ORIGIN -0.99800 -0.43550 -0.66170
1327; FILL 55535.00 .0000000E+00 33000.00
44;ORIGIN -0.99800 -0.36560 0.64460
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 -216.00 0.00000E+00
1916; POLYGON -50.000 -216.00 0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00
1920; POLYGON 150.00 476.25 0.00000E+00
1921; POLYGON 150.00 0.00000E+00 0.00000E+00
1922; POLYGON 200.00 0.00000E+00 0.00000E+00
1923; POLYGON 200.00 476.25 0.00000E+00
2052; LINE 6.1554 5.3283 -0.70250
2053; PEN -1.0000 0.00000E+00 0.00000E+00
2054; START 0.00000E+00 0.00000E+00 0.00000E+00
2156; LINE 7.3918 5.3106 -0.32179
2157; PEN -1.0000 0.00000E+00 0.00000E+00
2158; START 0.00000E+00 0.00000E+00 0.00000E+00
2260; LINE 5.6865 4.2054 -0.32482
2261; PEN -1.0000 0.00000E+00 0.00000E+00
2262; START 0.00000E+00 0.00000E+00 0.00000E+00
2364; LINE 6.6812 6.4087 -0.30471
2365; PEN -1.0000 0.00000E+00 0.00000E+00
2366; START 0.00000E+00 0.00000E+00 0.00000E+00
2468; LINE 4.9758 5.3036 -0.31114
2469; PEN -1.0000 0.00000E+00 0.00000E+00
2470; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 0.66000 0.0D0 0.0D0
1; ORIGIN 6.3387 0.70280 5.4869
1891; ORIGIN 6.3387 0.70280 5.4869
16;ORIGIN 0.00000E+00 0.70280 0.00000E+00
17; ROTATE 93.727 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -5.4869
21; ROTATE 0.00000E+00 31.635 0.00000E+00
11; ROTATE 3.7267 -0.80140 31.635
481; FILL 55535.00 .0000000E+00 33000.00
32;ORIGIN 1.0340 -0.41050 -0.66190
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN 1.0340 -0.34250 0.64450
1045; FILL 55535.00 .0000000E+00 33000.00
40;ORIGIN -0.99800 -0.43620 -0.66180
1327; FILL 55535.00 .0000000E+00 33000.00
44;ORIGIN -0.99800 -0.36470 0.64430
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 -204.00 0.00000E+00
1916; POLYGON -50.000 -204.00 0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00
1920; POLYGON 150.00 474.84 0.00000E+00
1921; POLYGON 150.00 0.00000E+00 0.00000E+00
1922; POLYGON 200.00 0.00000E+00 0.00000E+00
1923; POLYGON 200.00 474.84 0.00000E+00
2053; LINE 6.3387 5.4869 -0.70280

2054; PEN -1.0000 0.00000E+00 0.00000E+00
 2055; START 0.00000E+00 0.00000E+00 0.00000E+00
 2157; LINE 7.5750 5.4414 -0.32176
 2158; PEN -1.0000 0.00000E+00 0.00000E+00
 2159; START 0.00000E+00 0.00000E+00 0.00000E+00
 2261; LINE 5.8456 4.3742 -0.32453
 2262; PEN -1.0000 0.00000E+00 0.00000E+00
 2263; START 0.00000E+00 0.00000E+00 0.00000E+00
 2365; LINE 6.8888 6.5550 -0.30471
 2366; PEN -1.0000 0.00000E+00 0.00000E+00
 2367; START 0.00000E+00 0.00000E+00 0.00000E+00
 2469; LINE 5.1595 5.4878 -0.31099
 2470; PEN -1.0000 0.00000E+00 0.00000E+00
 2471; START 0.00000E+00 0.00000E+00 0.00000E+00

*

TIME 0.68000 0.0D0 0.0D0
 1; ORIGIN 6.5215 0.70230 5.6430
 1891; ORIGIN 6.5215 0.70230 5.6430
 16; ORIGIN 0.00000E+00 0.70230 0.00000E+00
 17; ROTATE 93.799 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -5.6430
 21; ROTATE 0.00000E+00 30.327 0.00000E+00
 11; ROTATE 3.7986 -0.78840 30.327
 481; FILL 55535.00 .0000000E+00 33000.00
 32; ORIGIN 1.0340 -0.41170 -0.66200
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36; ORIGIN 1.0340 -0.34240 0.64430
 1045; FILL 55535.00 .0000000E+00 33000.00
 40; ORIGIN -0.99800 -0.43690 -0.66200
 1327; FILL 55535.00 .0000000E+00 33000.00
 44; ORIGIN -0.99800 -0.36340 0.64410
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 -192.00 0.00000E+00
 1916; POLYGON -50.000 -192.00 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 473.22 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 473.22 0.00000E+00
 2054; LINE 6.5215 5.6430 -0.70230
 2055; PEN -1.0000 0.00000E+00 0.00000E+00
 2056; START 0.00000E+00 0.00000E+00 0.00000E+00
 2158; LINE 7.7569 5.5688 -0.32117
 2159; PEN -1.0000 0.00000E+00 0.00000E+00
 2160; START 0.00000E+00 0.00000E+00 0.00000E+00
 2262; LINE 6.0036 4.5413 -0.32398
 2263; PEN -1.0000 0.00000E+00 0.00000E+00
 2264; START 0.00000E+00 0.00000E+00 0.00000E+00
 2366; LINE 7.0962 6.6977 -0.30378
 2367; PEN -1.0000 0.00000E+00 0.00000E+00
 2368; START 0.00000E+00 0.00000E+00 0.00000E+00
 2470; LINE 5.3430 5.6703 -0.31080
 2471; PEN -1.0000 0.00000E+00 0.00000E+00
 2472; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 0.70000 0.0D0 0.0D0
 1; ORIGIN 6.7038 0.70120 5.7964

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1891; ORIGIN 6.7038 0.70120 5.7964
16;ORIGIN 0.00000E+00 0.70120 0.00000E+00
17; ROTATE 93.885 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -5.7964
21; ROTATE 0.00000E+00 28.973 0.00000E+00
11; ROTATE 3.8854 -0.79870 28.973
481; FILL 55535.00 .0000000E+00 33000.00
32;ORIGIN 1.0340 -0.41210 -0.66210
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN 1.0340 -0.34180 0.64410
1045; FILL 55535.00 .0000000E+00 33000.00
40;ORIGIN -0.99800 -0.43740 -0.66220
1327; FILL 55535.00 .0000000E+00 33000.00
44;ORIGIN -0.99800 -0.36200 0.64380
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 -180.00 0.00000E+00
1916; POLYGON -50.000 -180.00 0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00
1920; POLYGON 150.00 471.17 0.00000E+00
1921; POLYGON 150.00 0.00000E+00 0.00000E+00
1922; POLYGON 200.00 0.00000E+00 0.00000E+00
1923; POLYGON 200.00 471.17 0.00000E+00
2055; LINE 6.7038 5.7964 -0.70120
2056; PEN -1.0000 0.00000E+00 0.00000E+00
2057; START 0.00000E+00 0.00000E+00 0.00000E+00
2159; LINE 7.9373 5.6924 -0.32053
2160; PEN -1.0000 0.00000E+00 0.00000E+00
2161; START 0.00000E+00 0.00000E+00 0.00000E+00
2263; LINE 6.1604 4.7065 -0.32362
2264; PEN -1.0000 0.00000E+00 0.00000E+00
2265; START 0.00000E+00 0.00000E+00 0.00000E+00
2367; LINE 7.3036 6.8365 -0.30217
2368; PEN -1.0000 0.00000E+00 0.00000E+00
2369; START 0.00000E+00 0.00000E+00 0.00000E+00
2471; LINE 5.5266 5.8508 -0.31036
2472; PEN -1.0000 0.00000E+00 0.00000E+00
2473; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 0.72000 0.0D0 0.0D0
1; ORIGIN 6.8856 0.69980 5.9469
1891; ORIGIN 6.8856 0.69980 5.9469
16;ORIGIN 0.00000E+00 0.69980 0.00000E+00
17; ROTATE 93.995 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -5.9469
21; ROTATE 0.00000E+00 27.568 0.00000E+00
11; ROTATE 3.9949 -0.82540 27.568
481; FILL 55535.00 .0000000E+00 33000.00
32;ORIGIN 1.0340 -0.41210 -0.66220
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN 1.0340 -0.34090 0.64400
1045; FILL 55535.00 .0000000E+00 33000.00
40;ORIGIN -0.99800 -0.43780 -0.66240
1327; FILL 55535.00 .0000000E+00 33000.00
44;ORIGIN -0.99800 -0.36040 0.64340
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 -168.00 0.00000E+00

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1916; POLYGON -50.000 -168.00 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 468.48 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 468.48 0.00000E+00
 2056; LINE 6.8856 5.9469 -0.69980
 2057; PEN -1.0000 0.00000E+00 0.00000E+00
 2058; START 0.00000E+00 0.00000E+00 0.00000E+00
 2160; LINE 8.1165 5.8119 -0.31998
 2161; PEN -1.0000 0.00000E+00 0.00000E+00
 2162; START 0.00000E+00 0.00000E+00 0.00000E+00
 2264; LINE 6.3159 4.8697 -0.32362
 2265; PEN -1.0000 0.00000E+00 0.00000E+00
 2266; START 0.00000E+00 0.00000E+00 0.00000E+00
 2368; LINE 7.5109 6.9712 -0.30001
 2369; PEN -1.0000 0.00000E+00 0.00000E+00
 2370; START 0.00000E+00 0.00000E+00 0.00000E+00
 2472; LINE 5.7104 6.0291 -0.30987
 2473; PEN -1.0000 0.00000E+00 0.00000E+00
 2474; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 0.74000 0.0D0 0.0D0
 1; ORIGIN 7.0669 0.69830 6.0944
 1891; ORIGIN 7.0669 0.69830 6.0944
 16; ORIGIN 0.00000E+00 0.69830 0.00000E+00
 17; ROTATE 94.131 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -6.0944
 21; ROTATE 0.00000E+00 26.107 0.00000E+00
 11; ROTATE 4.1308 -0.85750 26.107
 481; FILL 55535.00 .0000000E+00 33000.00
 32; ORIGIN 1.0340 -0.41190 -0.66230
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36; ORIGIN 1.0340 -0.33960 0.64380
 1045; FILL 55535.00 .0000000E+00 33000.00
 40; ORIGIN -0.99800 -0.43830 -0.66260
 1327; FILL 55535.00 .0000000E+00 33000.00
 44; ORIGIN -0.99800 -0.35840 0.64310
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 -156.00 0.00000E+00
 1916; POLYGON -50.000 -156.00 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 465.15 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 465.15 0.00000E+00
 2057; LINE 7.0669 6.0944 -0.69830
 2058; PEN -1.0000 0.00000E+00 0.00000E+00
 2059; START 0.00000E+00 0.00000E+00 0.00000E+00
 2161; LINE 8.2942 5.9271 -0.31974
 2162; PEN -1.0000 0.00000E+00 0.00000E+00
 2163; START 0.00000E+00 0.00000E+00 0.00000E+00
 2265; LINE 6.4703 5.0309 -0.32384
 2266; PEN -1.0000 0.00000E+00 0.00000E+00
 2267; START 0.00000E+00 0.00000E+00 0.00000E+00
 2369; LINE 7.7183 7.1015 -0.29778
 2370; PEN -1.0000 0.00000E+00 0.00000E+00

2371; START 0.00000E+00 0.00000E+00 0.00000E+00
 2473; LINE 5.8945 6.2055 -0.30949
 2474; PEN -1.0000 0.00000E+00 0.00000E+00
 2475; START 0.00000E+00 0.00000E+00 0.00000E+00
 *
 TIME 0.76000 0.0D0 0.0D0
 1; ORIGIN 7.2477 0.69710 6.2387
 1891; ORIGIN 7.2477 0.69710 6.2387
 16;ORIGIN 0.00000E+00 0.69710 0.00000E+00
 17; ROTATE 94.289 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -6.2387
 21; ROTATE 0.00000E+00 24.586 0.00000E+00
 11; ROTATE 4.2885 -0.88100 24.586
 481; FILL 55535.00 .0000000E+00 33000.00
 32;ORIGIN 1.0340 -0.41210 -0.66250
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36;ORIGIN 1.0340 -0.33820 0.64360
 1045; FILL 55535.00 .0000000E+00 33000.00
 40;ORIGIN -0.99800 -0.43900 -0.66280
 1327; FILL 55535.00 .0000000E+00 33000.00
 44;ORIGIN -0.99800 -0.35620 0.64260
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 -144.00 0.00000E+00
 1916; POLYGON -50.000 -144.00 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 461.50 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 461.50 0.00000E+00
 2058; LINE 7.2477 6.2387 -0.69710
 2059; PEN -1.0000 0.00000E+00 0.00000E+00
 2060; START 0.00000E+00 0.00000E+00 0.00000E+00
 2162; LINE 8.4705 6.0377 -0.31984
 2163; PEN -1.0000 0.00000E+00 0.00000E+00
 2164; START 0.00000E+00 0.00000E+00 0.00000E+00
 2266; LINE 6.6235 5.1902 -0.32428
 2267; PEN -1.0000 0.00000E+00 0.00000E+00
 2268; START 0.00000E+00 0.00000E+00 0.00000E+00
 2370; LINE 7.9260 7.2270 -0.29587
 2371; PEN -1.0000 0.00000E+00 0.00000E+00
 2372; START 0.00000E+00 0.00000E+00 0.00000E+00
 2474; LINE 6.0791 6.3795 -0.30924
 2475; PEN -1.0000 0.00000E+00 0.00000E+00
 2476; START 0.00000E+00 0.00000E+00 0.00000E+00

*
 TIME 0.78000 0.0D0 0.0D0
 1; ORIGIN 7.4279 0.69640 6.3796
 1891; ORIGIN 7.4279 0.69640 6.3796
 16;ORIGIN 0.00000E+00 0.69640 0.00000E+00
 17; ROTATE 94.454 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -6.3796
 21; ROTATE 0.00000E+00 23.002 0.00000E+00
 11; ROTATE 4.4543 -0.88230 23.002
 481; FILL 55535.00 .0000000E+00 33000.00
 32;ORIGIN 1.0340 -0.41310 -0.66270
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36;ORIGIN 1.0340 -0.33690 0.64320

1045; FILL 55535.00 .0000000E+00 33000.00
40;ORIGIN -0.99800 -0.43970 -0.66310
1327; FILL 55535.00 .0000000E+00 33000.00
44;ORIGIN -0.99800 -0.35380 0.64220
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 -132.00 0.00000E+00
1916; POLYGON -50.000 -132.00 0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00
1920; POLYGON 150.00 458.05 0.00000E+00
1921; POLYGON 150.00 0.00000E+00 0.00000E+00
1922; POLYGON 200.00 0.00000E+00 0.00000E+00
1923; POLYGON 200.00 458.05 0.00000E+00
2059; LINE 7.4279 6.3796 -0.69640
2060; PEN -1.0000 0.00000E+00 0.00000E+00
2061; START 0.00000E+00 0.00000E+00 0.00000E+00
2163; LINE 8.6452 6.1437 -0.32013
2164; PEN -1.0000 0.00000E+00 0.00000E+00
2165; START 0.00000E+00 0.00000E+00 0.00000E+00
2267; LINE 6.7755 5.3474 -0.32494
2268; PEN -1.0000 0.00000E+00 0.00000E+00
2269; START 0.00000E+00 0.00000E+00 0.00000E+00
2371; LINE 8.1338 7.3474 -0.29469
2372; PEN -1.0000 0.00000E+00 0.00000E+00
2373; START 0.00000E+00 0.00000E+00 0.00000E+00
2475; LINE 6.2642 6.5513 -0.30921
2476; PEN -1.0000 0.00000E+00 0.00000E+00
2477; START 0.00000E+00 0.00000E+00 0.00000E+00

*

TIME 0.80000 0.0D0 0.0D0
1; ORIGIN 7.6075 0.69640 6.5170
1891; ORIGIN 7.6075 0.69640 6.5170
16;ORIGIN 0.00000E+00 0.69640 0.00000E+00
17; ROTATE 94.619 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -6.5170
21; ROTATE 0.00000E+00 21.353 0.00000E+00
11; ROTATE 4.6187 -0.85410 21.353
481; FILL 55535.00 .0000000E+00 33000.00
32;ORIGIN 1.0340 -0.41460 -0.66290
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN 1.0340 -0.33610 0.64280
1045; FILL 55535.00 .0000000E+00 33000.00
40;ORIGIN -0.99800 -0.44060 -0.66340
1327; FILL 55535.00 .0000000E+00 33000.00
44;ORIGIN -0.99800 -0.35170 0.64170
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 -120.00 0.00000E+00
1916; POLYGON -50.000 -120.00 0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00
1920; POLYGON 150.00 454.34 0.00000E+00
1921; POLYGON 150.00 0.00000E+00 0.00000E+00
1922; POLYGON 200.00 0.00000E+00 0.00000E+00
1923; POLYGON 200.00 454.34 0.00000E+00
2060; LINE 7.6075 6.5170 -0.69640
2061; PEN -1.0000 0.00000E+00 0.00000E+00
2062; START 0.00000E+00 0.00000E+00 0.00000E+00
2164; LINE 8.8182 6.2450 -0.32115

2165; PEN -1.0000 0.00000E+00 0.00000E+00
 2166; START 0.00000E+00 0.00000E+00 0.00000E+00
 2268; LINE 6.9264 5.5027 -0.32556
 2269; PEN -1.0000 0.00000E+00 0.00000E+00
 2270; START 0.00000E+00 0.00000E+00 0.00000E+00
 2372; LINE 8.3416 7.4629 -0.29427
 2373; PEN -1.0000 0.00000E+00 0.00000E+00
 2374; START 0.00000E+00 0.00000E+00 0.00000E+00
 2476; LINE 6.4499 6.7208 -0.30909
 2477; PEN -1.0000 0.00000E+00 0.00000E+00
 2478; START 0.00000E+00 0.00000E+00 0.00000E+00

*

TIME 0.82000 0.0D0 0.0D0
 1; ORIGIN 7.7861 0.69700 6.6505
 1891; ORIGIN 7.7861 0.69700 6.6505
 16; ORIGIN 0.00000E+00 0.69700 0.00000E+00
 17; ROTATE 94.807 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -6.6505
 21; ROTATE 0.00000E+00 19.635 0.00000E+00
 11; ROTATE 4.8072 -0.80260 19.635
 481; FILL 55535.00 .0000000E+00 33000.00
 32; ORIGIN 1.0340 -0.41630 -0.66310
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36; ORIGIN 1.0340 -0.33590 0.64250
 1045; FILL 55535.00 .0000000E+00 33000.00
 40; ORIGIN -0.99800 -0.44150 -0.66360
 1327; FILL 55535.00 .0000000E+00 33000.00
 44; ORIGIN -0.99800 -0.34980 0.64120
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 -108.00 0.00000E+00
 1916; POLYGON -50.000 -108.00 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 449.77 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 449.77 0.00000E+00
 2061; LINE 7.7861 6.6505 -0.69700
 2062; PEN -1.0000 0.00000E+00 0.00000E+00
 2063; START 0.00000E+00 0.00000E+00 0.00000E+00
 2165; LINE 8.9889 6.3410 -0.32328
 2166; PEN -1.0000 0.00000E+00 0.00000E+00
 2167; START 0.00000E+00 0.00000E+00 0.00000E+00
 2269; LINE 7.0758 5.6557 -0.32668
 2270; PEN -1.0000 0.00000E+00 0.00000E+00
 2271; START 0.00000E+00 0.00000E+00 0.00000E+00
 2373; LINE 8.5491 7.5726 -0.29400
 2374; PEN -1.0000 0.00000E+00 0.00000E+00
 2375; START 0.00000E+00 0.00000E+00 0.00000E+00
 2477; LINE 6.6361 6.8875 -0.30872
 2478; PEN -1.0000 0.00000E+00 0.00000E+00
 2479; START 0.00000E+00 0.00000E+00 0.00000E+00

*

TIME 0.84000 0.0D0 0.0D0
 1; ORIGIN 7.9638 0.69820 6.7800
 1891; ORIGIN 7.9638 0.69820 6.7800
 16; ORIGIN 0.00000E+00 0.69820 0.00000E+00
 17; ROTATE 95.010 0.00000E+00 0.00000E+00

20; ORIGIN 0.00000E+00 0.00000E+00 -6.7800
 21; ROTATE 0.00000E+00 17.851 0.00000E+00
 11; ROTATE 5.0097 -0.73060 17.851
 481; FILL 55535.00 .0000000E+00 33000.00
 32;ORIGIN 1.0340 -0.41870 -0.66330
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36;ORIGIN 1.0340 -0.33570 0.64210
 1045; FILL 55535.00 .0000000E+00 33000.00
 40;ORIGIN -0.99800 -0.44260 -0.66390
 1327; FILL 55535.00 .0000000E+00 33000.00
 44;ORIGIN -0.99800 -0.34780 0.64080
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 -96.000 0.00000E+00
 1916; POLYGON -50.000 -96.000 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 445.36 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 445.36 0.00000E+00
 2062; LINE 7.9638 6.7800 -0.69820
 2063; PEN -1.0000 0.00000E+00 0.00000E+00
 2064; START 0.00000E+00 0.00000E+00 0.00000E+00
 2166; LINE 9.1573 6.4318 -0.32586
 2167; PEN -1.0000 0.00000E+00 0.00000E+00
 2168; START 0.00000E+00 0.00000E+00 0.00000E+00
 2270; LINE 7.2238 5.8063 -0.32802
 2271; PEN -1.0000 0.00000E+00 0.00000E+00
 2272; START 0.00000E+00 0.00000E+00 0.00000E+00
 2374; LINE 8.7561 7.6764 -0.29456
 2375; PEN -1.0000 0.00000E+00 0.00000E+00
 2376; START 0.00000E+00 0.00000E+00 0.00000E+00
 2478; LINE 6.8227 7.0513 -0.30853
 2479; PEN -1.0000 0.00000E+00 0.00000E+00
 2480; START 0.00000E+00 0.00000E+00 0.00000E+00

*

TIME 0.86000 0.0D0 0.0D0
 1; ORIGIN 8.1405 0.69960 6.9057
 1891; ORIGIN 8.1405 0.69960 6.9057
 16;ORIGIN 0.00000E+00 0.69960 0.00000E+00
 17; ROTATE 95.209 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -6.9057
 21; ROTATE 0.00000E+00 16.007 0.00000E+00
 11; ROTATE 5.2091 -0.64320 16.007
 481; FILL 55535.00 .0000000E+00 33000.00
 32;ORIGIN 1.0340 -0.42190 -0.66370
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36;ORIGIN 1.0340 -0.33560 0.64160
 1045; FILL 55535.00 .0000000E+00 33000.00
 40;ORIGIN -0.99800 -0.44380 -0.66420
 1327; FILL 55535.00 .0000000E+00 33000.00
 44;ORIGIN -0.99800 -0.34560 0.64020
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 -84.000 0.00000E+00
 1916; POLYGON -50.000 -84.000 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 441.51 0.00000E+00

1921;	POLYGON	150.00	0.00000E+00	0.00000E+00
1922;	POLYGON	200.00	0.00000E+00	0.00000E+00
1923;	POLYGON	200.00	441.51	0.00000E+00
2063;	LINE	8.1405	6.9057	-0.69960
2064;	PEN	-1.0000	0.00000E+00	0.00000E+00
2065;	START	0.00000E+00	0.00000E+00	0.00000E+00
2167;	LINE	9.3233	6.5175	-0.32811
2168;	PEN	-1.0000	0.00000E+00	0.00000E+00
2169;	START	0.00000E+00	0.00000E+00	0.00000E+00
2271;	LINE	7.3706	5.9548	-0.32916
2272;	PEN	-1.0000	0.00000E+00	0.00000E+00
2273;	START	0.00000E+00	0.00000E+00	0.00000E+00
2375;	LINE	8.9623	7.7745	-0.29556
2376;	PEN	-1.0000	0.00000E+00	0.00000E+00
2377;	START	0.00000E+00	0.00000E+00	0.00000E+00
2479;	LINE	7.0098	7.2120	-0.30853
2480;	PEN	-1.0000	0.00000E+00	0.00000E+00
2481;	START	0.00000E+00	0.00000E+00	0.00000E+00
*				
TIME	0.88000	0.0D0	0.0D0	
1;	ORIGIN	8.3160	0.70120	7.0276
1891;	ORIGIN	8.3160	0.70120	7.0276
16;	ORIGIN	0.00000E+00	0.70120	0.00000E+00
17;	ROTATE	95.390	0.00000E+00	0.00000E+00
20;	ORIGIN	0.00000E+00	0.00000E+00	-7.0276
21;	ROTATE	0.00000E+00	14.107	0.00000E+00
11;	ROTATE	5.3905	-0.54800	14.107
481;	FILL	55535.00	.0000000E+00	33000.00
32;	ORIGIN	1.0340	-0.42550	-0.66400
763;	FILL	.0000000E+00	.0000000E+00	.0000000E+00
36;	ORIGIN	1.0340	-0.33570	0.64100
1045;	FILL	55535.00	.0000000E+00	33000.00
40;	ORIGIN	-0.99800	-0.44510	-0.66450
1327;	FILL	55535.00	.0000000E+00	33000.00
44;	ORIGIN	-0.99800	-0.34350	0.63970
1979;	FILL	65535.	65535.	65535.
1980;	PEN	65535.	65535.	65535.
1913;	POLYGON	-100.00	-72.000	0.00000E+00
1916;	POLYGON	-50.000	-72.000	0.00000E+00
1918;	FILL	.0000000E+00	.0000000E+00	65535.00
1920;	POLYGON	150.00	438.34	0.00000E+00
1921;	POLYGON	150.00	0.00000E+00	0.00000E+00
1922;	POLYGON	200.00	0.00000E+00	0.00000E+00
1923;	POLYGON	200.00	438.34	0.00000E+00
2064;	LINE	8.3160	7.0276	-0.70120
2065;	PEN	-1.0000	0.00000E+00	0.00000E+00
2066;	START	0.00000E+00	0.00000E+00	0.00000E+00
2168;	LINE	9.4863	6.5989	-0.33008
2169;	PEN	-1.0000	0.00000E+00	0.00000E+00
2170;	START	0.00000E+00	0.00000E+00	0.00000E+00
2272;	LINE	7.5160	6.1013	-0.33005
2273;	PEN	-1.0000	0.00000E+00	0.00000E+00
2274;	START	0.00000E+00	0.00000E+00	0.00000E+00
2376;	LINE	9.1673	7.8670	-0.29690
2377;	PEN	-1.0000	0.00000E+00	0.00000E+00
2378;	START	0.00000E+00	0.00000E+00	0.00000E+00
2480;	LINE	7.1971	7.3698	-0.30869
2481;	PEN	-1.0000	0.00000E+00	0.00000E+00

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2482; START 0.00000E+00 0.00000E+00 0.00000E+00
*
TIME 0.90000 0.0D0 0.0D0
1; ORIGIN 8.4905 0.70260 7.1460
1891; ORIGIN 8.4905 0.70260 7.1460
16;ORIGIN 0.00000E+00 0.70260 0.00000E+00
17; ROTATE 95.550 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -7.1460
21; ROTATE 0.00000E+00 12.164 0.00000E+00
11; ROTATE 5.5500 -0.45640 12.164
481; FILL 55535.00 .0000000E+00 33000.00
32;ORIGIN 1.0340 -0.42890 -0.66430
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN 1.0340 -0.33590 0.64050
1045; FILL 55535.00 .0000000E+00 33000.00
40;ORIGIN -0.99800 -0.44610 -0.66470
1327; FILL 55535.00 .0000000E+00 33000.00
44;ORIGIN -0.99800 -0.34190 0.63930
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 -60.000 0.00000E+00
1916; POLYGON -50.000 -60.000 0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00
1920; POLYGON 150.00 435.42 0.00000E+00
1921; POLYGON 150.00 0.00000E+00 0.00000E+00
1922; POLYGON 200.00 0.00000E+00 0.00000E+00
1923; POLYGON 200.00 435.42 0.00000E+00
2065; LINE 8.4905 7.1460 -0.70260
2066; PEN -1.0000 0.00000E+00 0.00000E+00
2067; START 0.00000E+00 0.00000E+00 0.00000E+00
2169; LINE 9.6465 6.6763 -0.33173
2170; PEN -1.0000 0.00000E+00 0.00000E+00
2171; START 0.00000E+00 0.00000E+00 0.00000E+00
2273; LINE 7.6605 6.2462 -0.33083
2274; PEN -1.0000 0.00000E+00 0.00000E+00
2275; START 0.00000E+00 0.00000E+00 0.00000E+00
2377; LINE 9.3707 7.9546 -0.29811
2378; PEN -1.0000 0.00000E+00 0.00000E+00
2379; START 0.00000E+00 0.00000E+00 0.00000E+00
2481; LINE 7.3847 7.5248 -0.30844
2482; PEN -1.0000 0.00000E+00 0.00000E+00
2483; START 0.00000E+00 0.00000E+00 0.00000E+00
*
TIME 0.92000 0.0D0 0.0D0
1; ORIGIN 8.6635 0.70360 7.2608
1891; ORIGIN 8.6635 0.70360 7.2608
16;ORIGIN 0.00000E+00 0.70360 0.00000E+00
17; ROTATE 95.693 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -7.2608
21; ROTATE 0.00000E+00 10.194 0.00000E+00
11; ROTATE 5.6928 -0.38400 10.194
481; FILL 55535.00 .0000000E+00 33000.00
32;ORIGIN 1.0340 -0.43170 -0.66450
763; FILL 55535.00 .0000000E+00 33000.00
36;ORIGIN 1.0340 -0.33600 0.64010
1045; FILL 55535.00 .0000000E+00 33000.00
40;ORIGIN -0.99800 -0.44680 -0.66480
1327; FILL 55535.00 .0000000E+00 33000.00

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44;ORIGIN -0.99800 -0.34110 0.63900
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 -48.000 0.00000E+00
 1916; POLYGON -50.000 -48.000 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 432.83 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 432.83 0.00000E+00
 2066; LINE 8.6635 7.2608 -0.70360
 2067; PEN -1.0000 0.00000E+00 0.00000E+00
 2068; START 0.00000E+00 0.00000E+00 0.00000E+00
 2170; LINE 9.8034 6.7504 -0.33302
 2171; PEN -1.0000 0.00000E+00 0.00000E+00
 2172; START 0.00000E+00 0.00000E+00 0.00000E+00
 2274; LINE 7.8037 6.3890 -0.33164
 2275; PEN -1.0000 0.00000E+00 0.00000E+00
 2276; START 0.00000E+00 0.00000E+00 0.00000E+00
 2378; LINE 9.5717 8.0374 -0.29885
 2379; PEN -1.0000 0.00000E+00 0.00000E+00
 2380; START 0.00000E+00 0.00000E+00 0.00000E+00
 2482; LINE 7.5721 7.6762 -0.30750
 2483; PEN -1.0000 0.00000E+00 0.00000E+00
 2484; START 0.00000E+00 0.00000E+00 0.00000E+00

*

TIME 0.94000 0.0D0 0.0D0
 1; ORIGIN 8.8350 0.70420 7.3720
 1891; ORIGIN 8.8350 0.70420 7.3720
 16;ORIGIN 0.00000E+00 0.70420 0.00000E+00
 17; ROTATE 95.818 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -7.3720
 21; ROTATE 0.00000E+00 8.2059 0.00000E+00
 11; ROTATE 5.8181 -0.33740 8.2059
 481; FILL 55535.00 .0000000E+00 33000.00
 32;ORIGIN 1.0340 -0.43400 -0.66470
 763; FILL 55535.00 .0000000E+00 33000.00
 36;ORIGIN 1.0340 -0.33610 0.63970
 1045; FILL 55535.00 .0000000E+00 33000.00
 40;ORIGIN -0.99800 -0.44750 -0.66500
 1327; FILL 55535.00 .0000000E+00 33000.00
 44;ORIGIN -0.99800 -0.34010 0.63870
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 -36.000 0.00000E+00
 1916; POLYGON -50.000 -36.000 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 430.57 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 430.57 0.00000E+00
 2067; LINE 8.8350 7.3720 -0.70420
 2068; PEN -1.0000 0.00000E+00 0.00000E+00
 2069; START 0.00000E+00 0.00000E+00 0.00000E+00
 2171; LINE 9.9569 6.8212 -0.33373
 2172; PEN -1.0000 0.00000E+00 0.00000E+00
 2173; START 0.00000E+00 0.00000E+00 0.00000E+00
 2275; LINE 7.9459 6.5296 -0.33229

2276; PEN -1.0000 0.00000E+00 0.00000E+00
 2277; START 0.00000E+00 0.00000E+00 0.00000E+00
 2379; LINE 9.7701 8.1154 -0.29891
 2380; PEN -1.0000 0.00000E+00 0.00000E+00
 2381; START 0.00000E+00 0.00000E+00 0.00000E+00
 2483; LINE 7.7591 7.8240 -0.30699
 2484; PEN -1.0000 0.00000E+00 0.00000E+00
 2485; START 0.00000E+00 0.00000E+00 0.00000E+00

*

TIME 0.96000 0.0D0 0.0D0
 1; ORIGIN 9.0048 0.70430 7.4797
 1891; ORIGIN 9.0048 0.70430 7.4797
 16; ORIGIN 0.00000E+00 0.70430 0.00000E+00
 17; ROTATE 95.928 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -7.4797
 21; ROTATE 0.00000E+00 6.2021 0.00000E+00
 11; ROTATE 5.9277 -0.31890 6.2021
 481; FILL 55535.00 .0000000E+00 33000.00
 32; ORIGIN 1.0340 -0.43560 -0.66490
 763; FILL 55535.00 .0000000E+00 33000.00
 36; ORIGIN 1.0340 -0.33590 0.63940
 1045; FILL 55535.00 .0000000E+00 33000.00
 40; ORIGIN -0.99800 -0.44820 -0.66510
 1327; FILL 55535.00 .0000000E+00 33000.00
 44; ORIGIN -0.99800 -0.33840 0.63830
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 -24.000 0.00000E+00
 1916; POLYGON -50.000 -24.000 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 428.56 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 428.56 0.00000E+00
 2068; LINE 9.0048 7.4797 -0.70430
 2069; PEN -1.0000 0.00000E+00 0.00000E+00
 2070; START 0.00000E+00 0.00000E+00 0.00000E+00
 2172; LINE 10.107 6.8890 -0.33394
 2173; PEN -1.0000 0.00000E+00 0.00000E+00
 2174; START 0.00000E+00 0.00000E+00 0.00000E+00
 2276; LINE 8.0870 6.6680 -0.33274
 2277; PEN -1.0000 0.00000E+00 0.00000E+00
 2278; START 0.00000E+00 0.00000E+00 0.00000E+00
 2380; LINE 9.9656 8.1889 -0.29842
 2381; PEN -1.0000 0.00000E+00 0.00000E+00
 2382; START 0.00000E+00 0.00000E+00 0.00000E+00
 2484; LINE 7.9456 7.9681 -0.30736
 2485; PEN -1.0000 0.00000E+00 0.00000E+00
 2486; START 0.00000E+00 0.00000E+00 0.00000E+00

*

TIME 0.98000 0.0D0 0.0D0
 1; ORIGIN 9.1729 0.70400 7.5838
 1891; ORIGIN 9.1729 0.70400 7.5838
 16; ORIGIN 0.00000E+00 0.70400 0.00000E+00
 17; ROTATE 96.025 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -7.5838
 21; ROTATE 0.00000E+00 4.1815 0.00000E+00
 11; ROTATE 6.0255 -0.32390 4.1815

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481; FILL 55535.00 .0000000E+00 33000.00
32;ORIGIN 1.0340 -0.43680 -0.66500
763; FILL 55535.00 .0000000E+00 33000.00
36;ORIGIN 1.0340 -0.33550 0.63910
1045; FILL 55535.00 .0000000E+00 33000.00
40;ORIGIN -0.99800 -0.44890 -0.66530
1327; FILL 55535.00 .0000000E+00 33000.00
44;ORIGIN -0.99800 -0.33680 0.63800
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 -12.000 0.00000E+00
1916; POLYGON -50.000 -12.000 0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00
1920; POLYGON 150.00 426.71 0.00000E+00
1921; POLYGON 150.00 0.00000E+00 0.00000E+00
1922; POLYGON 200.00 0.00000E+00 0.00000E+00
1923; POLYGON 200.00 426.71 0.00000E+00
2069; LINE 9.1729 7.5838 -0.70400
2070; PEN -1.0000 0.00000E+00 0.00000E+00
2071; START 0.00000E+00 0.00000E+00 0.00000E+00
2173; LINE 10.254 6.9537 -0.33357
2174; PEN -1.0000 0.00000E+00 0.00000E+00
2175; START 0.00000E+00 0.00000E+00 0.00000E+00
2277; LINE 8.2271 6.8040 -0.33306
2278; PEN -1.0000 0.00000E+00 0.00000E+00
2279; START 0.00000E+00 0.00000E+00 0.00000E+00
2381; LINE 10.158 8.2578 -0.29743
2382; PEN -1.0000 0.00000E+00 0.00000E+00
2383; START 0.00000E+00 0.00000E+00 0.00000E+00
2485; LINE 8.1316 8.1084 -0.30774
2486; PEN -1.0000 0.00000E+00 0.00000E+00
2487; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 1.0000 0.0D0 0.0D0
1; ORIGIN 9.3390 0.70340 7.6843
1891; ORIGIN 9.3390 0.70340 7.6843
16;ORIGIN 0.00000E+00 0.70340 0.00000E+00
17; ROTATE 96.118 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -7.6843
21; ROTATE 0.00000E+00 2.1405 0.00000E+00
11; ROTATE 6.1184 -0.34150 2.1405
481; FILL 55535.00 .0000000E+00 33000.00
32;ORIGIN 1.0340 -0.43770 -0.66520
763; FILL 55535.00 .0000000E+00 33000.00
36;ORIGIN 1.0340 -0.33490 0.63890
1045; FILL 55535.00 .0000000E+00 33000.00
40;ORIGIN -0.99800 -0.44940 -0.66540
1327; FILL 55535.00 .0000000E+00 33000.00
44;ORIGIN -0.99800 -0.33580 0.63770
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 0.00000E+00 0.00000E+00
1916; POLYGON -50.000 0.00000E+00 0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00
1920; POLYGON 150.00 424.84 0.00000E+00
1921; POLYGON 150.00 0.00000E+00 0.00000E+00
1922; POLYGON 200.00 0.00000E+00 0.00000E+00
1923; POLYGON 200.00 424.84 0.00000E+00

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2070; LINE 9.3390 7.6843 -0.70340
 2071; PEN -1.0000 0.00000E+00 0.00000E+00
 2072; START 0.00000E+00 0.00000E+00 0.00000E+00
 2174; LINE 10.397 7.0153 -0.33293
 2175; PEN -1.0000 0.00000E+00 0.00000E+00
 2176; START 0.00000E+00 0.00000E+00 0.00000E+00
 2278; LINE 8.3660 6.9379 -0.33343
 2279; PEN -1.0000 0.00000E+00 0.00000E+00
 2280; START 0.00000E+00 0.00000E+00 0.00000E+00
 2382; LINE 10.347 8.3220 -0.29616
 2383; PEN -1.0000 0.00000E+00 0.00000E+00
 2384; START 0.00000E+00 0.00000E+00 0.00000E+00
 2486; LINE 8.3170 8.2448 -0.30750
 2487; PEN -1.0000 0.00000E+00 0.00000E+00
 2488; START 0.00000E+00 0.00000E+00 0.00000E+00

*

TIME 1.0200 0.0D0 0.0D0
 1; ORIGIN 9.5030 0.70260 7.7811
 1891; ORIGIN 9.5030 0.70260 7.7811
 16; ORIGIN 0.00000E+00 0.70260 0.00000E+00
 17; ROTATE 96.215 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -7.7811
 21; ROTATE 0.00000E+00 0.74700E-01 0.00000E+00
 11; ROTATE 6.2152 -0.36490 0.74700E-01
 481; FILL 55535.00 .0000000E+00 33000.00
 32; ORIGIN 1.0340 -0.43840 -0.66530
 763; FILL 55535.00 .0000000E+00 33000.00
 36; ORIGIN 1.0340 -0.33410 0.63860
 1045; FILL 55535.00 .0000000E+00 33000.00
 40; ORIGIN -0.99800 -0.44970 -0.66550
 1327; FILL 55535.00 .0000000E+00 33000.00
 44; ORIGIN -0.99800 -0.33520 0.63760
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 12.000 0.00000E+00
 1916; POLYGON -50.000 12.000 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 422.77 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 422.77 0.00000E+00
 2071; LINE 9.5030 7.7811 -0.70260
 2072; PEN -1.0000 0.00000E+00 0.00000E+00
 2073; START 0.00000E+00 0.00000E+00 0.00000E+00
 2175; LINE 10.536 7.0736 -0.33222
 2176; PEN -1.0000 0.00000E+00 0.00000E+00
 2177; START 0.00000E+00 0.00000E+00 0.00000E+00
 2279; LINE 8.5036 7.0695 -0.33395
 2280; PEN -1.0000 0.00000E+00 0.00000E+00
 2281; START 0.00000E+00 0.00000E+00 0.00000E+00
 2383; LINE 10.534 8.3811 -0.29476
 2384; PEN -1.0000 0.00000E+00 0.00000E+00
 2385; START 0.00000E+00 0.00000E+00 0.00000E+00
 2487; LINE 8.5017 8.3774 -0.30671
 2488; PEN -1.0000 0.00000E+00 0.00000E+00
 2489; START 0.00000E+00 0.00000E+00 0.00000E+00

*

TIME 1.0400 0.0D0 0.0D0

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1; ORIGIN 9.6646 0.70200 7.8738
1891; ORIGIN 9.6646 0.70200 7.8738
16; ORIGIN 0.00000E+00 0.70200 0.00000E+00
17; ROTATE 96.326 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -7.8738
21; ROTATE 0.00000E+00 -2.0198 0.00000E+00
11; ROTATE 6.3263 -0.38820 -2.0198
481; FILL 55535.00 .0000000E+00 33000.00
32; ORIGIN 1.0340 -0.43900 -0.66540
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36; ORIGIN 1.0340 -0.33330 0.63840
1045; FILL 33000.00 .0000000E+00 55535.00
40; ORIGIN -0.99800 -0.45000 -0.66560
1327; FILL 55535.00 .0000000E+00 33000.00
44; ORIGIN -0.99800 -0.33430 0.63740
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 24.000 0.00000E+00
1916; POLYGON -50.000 24.000 0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00
1920; POLYGON 150.00 420.22 0.00000E+00
1921; POLYGON 150.00 0.00000E+00 0.00000E+00
1922; POLYGON 200.00 0.00000E+00 0.00000E+00
1923; POLYGON 200.00 420.22 0.00000E+00
2072; LINE 9.6646 7.8738 -0.70200
2073; PEN -1.0000 0.00000E+00 0.00000E+00
2074; START 0.00000E+00 0.00000E+00 0.00000E+00
2176; LINE 10.670 7.1282 -0.33199
2177; PEN -1.0000 0.00000E+00 0.00000E+00
2178; START 0.00000E+00 0.00000E+00 0.00000E+00
2280; LINE 8.6396 7.1984 -0.33485
2281; PEN -1.0000 0.00000E+00 0.00000E+00
2282; START 0.00000E+00 0.00000E+00 0.00000E+00
2384; LINE 10.716 8.4349 -0.29339
2385; PEN -1.0000 0.00000E+00 0.00000E+00
2386; START 0.00000E+00 0.00000E+00 0.00000E+00
2488; LINE 8.6855 8.5054 -0.30628
2489; PEN -1.0000 0.00000E+00 0.00000E+00
2490; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 1.0600 0.0D0 0.0D0
1; ORIGIN 9.8236 0.70160 7.9625
1891; ORIGIN 9.8236 0.70160 7.9625
16; ORIGIN 0.00000E+00 0.70160 0.00000E+00
17; ROTATE 96.461 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -7.9625
21; ROTATE 0.00000E+00 -4.1469 0.00000E+00
11; ROTATE 6.4610 -0.40560 -4.1469
481; FILL 55535.00 .0000000E+00 33000.00
32; ORIGIN 1.0340 -0.43960 -0.66560
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36; ORIGIN 1.0340 -0.33250 0.63820
1045; FILL 33000.00 .0000000E+00 55535.00
40; ORIGIN -0.99800 -0.45040 -0.66580
1327; FILL 55535.00 .0000000E+00 33000.00
44; ORIGIN -0.99800 -0.33290 0.63710
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.

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1913; POLYGON -100.00 36.000 0.00000E+00
 1916; POLYGON -50.000 36.000 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 416.96 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 416.96 0.00000E+00
 2073; LINE 9.8236 7.9625 -0.70160
 2074; PEN -1.0000 0.00000E+00 0.00000E+00
 2075; START 0.00000E+00 0.00000E+00 0.00000E+00
 2177; LINE 10.801 7.1789 -0.33237
 2178; PEN -1.0000 0.00000E+00 0.00000E+00
 2179; START 0.00000E+00 0.00000E+00 0.00000E+00
 2281; LINE 8.7741 7.3245 -0.33605
 2282; PEN -1.0000 0.00000E+00 0.00000E+00
 2283; START 0.00000E+00 0.00000E+00 0.00000E+00
 2385; LINE 10.895 8.4831 -0.29209
 2386; PEN -1.0000 0.00000E+00 0.00000E+00
 2387; START 0.00000E+00 0.00000E+00 0.00000E+00
 2489; LINE 8.8685 8.6289 -0.30620
 2490; PEN -1.0000 0.00000E+00 0.00000E+00
 2491; START 0.00000E+00 0.00000E+00 0.00000E+00

*

TIME 1.0800 0.000 0.000
 1; ORIGIN 9.9797 0.70170 8.0470
 1891; ORIGIN 9.9797 0.70170 8.0470
 16; ORIGIN 0.00000E+00 0.70170 0.00000E+00
 17; ROTATE 96.625 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -8.0470
 21; ROTATE 0.00000E+00 -6.3103 0.00000E+00
 11; ROTATE 6.6248 -0.41050 -6.3103
 481; FILL 55535.00 .0000000E+00 33000.00
 32; ORIGIN 1.0340 -0.44040 -0.66570
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36; ORIGIN 1.0340 -0.33190 0.63790
 1045; FILL 33000.00 .0000000E+00 55535.00
 40; ORIGIN -0.99800 -0.45090 -0.66590
 1327; FILL 55535.00 .0000000E+00 33000.00
 44; ORIGIN -0.99800 -0.33120 0.63670
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 48.000 0.00000E+00
 1916; POLYGON -50.000 48.000 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 412.94 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 412.94 0.00000E+00
 2074; LINE 9.9797 8.0470 -0.70170
 2075; PEN -1.0000 0.00000E+00 0.00000E+00
 2076; START 0.00000E+00 0.00000E+00 0.00000E+00
 2178; LINE 10.927 7.2259 -0.33364
 2179; PEN -1.0000 0.00000E+00 0.00000E+00
 2180; START 0.00000E+00 0.00000E+00 0.00000E+00
 2282; LINE 8.9067 7.4478 -0.33779
 2283; PEN -1.0000 0.00000E+00 0.00000E+00
 2284; START 0.00000E+00 0.00000E+00 0.00000E+00
 2386; LINE 11.070 8.5254 -0.29103

2387; PEN -1.0000 0.00000E+00 0.00000E+00
 2388; START 0.00000E+00 0.00000E+00 0.00000E+00
 2490; LINE 9.0502 8.7476 -0.30642
 2491; PEN -1.0000 0.00000E+00 0.00000E+00
 2492; START 0.00000E+00 0.00000E+00 0.00000E+00
 *
 TIME 1.1000 0.0D0 0.0D0
 1; ORIGIN 10.133 0.70230 8.1272
 1891; ORIGIN 10.133 0.70230 8.1272
 16;ORIGIN 0.00000E+00 0.70230 0.00000E+00
 17; ROTATE 96.817 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -8.1272
 21; ROTATE 0.00000E+00 -8.5113 0.00000E+00
 11; ROTATE 6.8173 -0.39710 -8.5113
 481; FILL 33000.00 .0000000E+00 55535.00
 32;ORIGIN 1.0340 -0.44150 -0.66580
 763; FILL 0000000E+00 .0000000E+00 .0000000E+00
 36;ORIGIN 1.0340 -0.33130 0.63760
 1045; FILL 33000.00 .0000000E+00 55535.00
 40;ORIGIN -0.99800 -0.45130 -0.66610
 1327; FILL 55535.00 .0000000E+00 33000.00
 44;ORIGIN -0.99800 -0.32980 0.63640
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 60.000 0.00000E+00
 1916; POLYGON -50.000 60.000 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 408.25 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 408.25 0.00000E+00
 2075; LINE 10.133 8.1272 -0.70230
 2076; PEN -1.0000 0.00000E+00 0.00000E+00
 2077; START 0.00000E+00 0.00000E+00 0.00000E+00
 2179; LINE 11.047 7.2689 -0.33579
 2180; PEN -1.0000 0.00000E+00 0.00000E+00
 2181; START 0.00000E+00 0.00000E+00 0.00000E+00
 2283; LINE 9.0376 7.5682 -0.34018
 2284; PEN -1.0000 0.00000E+00 0.00000E+00
 2285; START 0.00000E+00 0.00000E+00 0.00000E+00
 2387; LINE 11.241 8.5618 -0.29051
 2388; PEN -1.0000 0.00000E+00 0.00000E+00
 2389; START 0.00000E+00 0.00000E+00 0.00000E+00
 2491; LINE 9.2309 8.8615 -0.30622
 2492; PEN -1.0000 0.00000E+00 0.00000E+00
 2493; START 0.00000E+00 0.00000E+00 0.00000E+00
 *

TIME 1.1200 0.0D0 0.0D0
 1; ORIGIN 10.283 0.70360 8.2033
 1891; ORIGIN 10.283 0.70360 8.2033
 16;ORIGIN 0.00000E+00 0.70360 0.00000E+00
 17; ROTATE 97.039 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -8.2033
 21; ROTATE 0.00000E+00 -10.750 0.00000E+00
 11; ROTATE 7.0385 -0.36320 -10.750
 481; FILL 33000.00 .0000000E+00 55535.00
 32;ORIGIN 1.0340 -0.44260 -0.66590
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00

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36;ORIGIN 1.0340 -0.33100 0.63740
1045; FILL 33000.00 .0000000E+00 55535.00
40;ORIGIN -0.99800 -0.45160 -0.66620
1327; FILL 55535.00 .0000000E+00 33000.00
44;ORIGIN -0.99800 -0.32860 0.63610
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 72.000 0.00000E+00
1916; POLYGON -50.000 72.000 0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00
1920; POLYGON 150.00 402.73 0.00000E+00
1921; POLYGON 150.00 0.00000E+00 0.00000E+00
1922; POLYGON 200.00 0.00000E+00 0.00000E+00
1923; POLYGON 200.00 402.73 0.00000E+00
2076; LINE 10.283 8.2033 -0.70360
2077; PEN -1.0000 0.00000E+00 0.00000E+00
2078; START 0.00000E+00 0.00000E+00 0.00000E+00
2180; LINE 11.163 7.3083 -0.33938
2181; PEN -1.0000 0.00000E+00 0.00000E+00
2182; START 0.00000E+00 0.00000E+00 0.00000E+00
2284; LINE 9.1664 7.6859 -0.34336
2285; PEN -1.0000 0.00000E+00 0.00000E+00
2286; START 0.00000E+00 0.00000E+00 0.00000E+00
2388; LINE 11.407 8.5926 -0.29045
2389; PEN -1.0000 0.00000E+00 0.00000E+00
2390; START 0.00000E+00 0.00000E+00 0.00000E+00
2492; LINE 9.4100 8.9706 -0.30587
2493; PEN -1.0000 0.00000E+00 0.00000E+00
2494; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 1.1400 0.000 0.000
1; ORIGIN 10.429 0.70550 8.2751
1891; ORIGIN 10.429 0.70550 8.2751
16;ORIGIN 0.00000E+00 0.70550 0.00000E+00
17; ROTATE 97.294 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -8.2751
21; ROTATE 0.00000E+00 -13.024 0.00000E+00
11; ROTATE 7.2942 -0.31090 -13.024
481; FILL 33000.00 .0000000E+00 55535.00
32;ORIGIN 1.0340 -0.44350 -0.66600
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN 1.0340 -0.33100 0.63720
1045; FILL 33000.00 .0000000E+00 55535.00
40;ORIGIN -0.99800 -0.45180 -0.66630
1327; FILL 55535.00 .0000000E+00 33000.00
44;ORIGIN -0.99800 -0.32750 0.63590
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 84.000 0.00000E+00
1916; POLYGON -50.000 84.000 0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00
1920; POLYGON 150.00 395.97 0.00000E+00
1921; POLYGON 150.00 0.00000E+00 0.00000E+00
1922; POLYGON 200.00 0.00000E+00 0.00000E+00
1923; POLYGON 200.00 395.97 0.00000E+00
2077; LINE 10.429 8.2751 -0.70550
2078; PEN -1.0000 0.00000E+00 0.00000E+00
2079; START 0.00000E+00 0.00000E+00 0.00000E+00

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2181; LINE 11.273 7.3441 -0.34454
 2182; PEN -1.0000 0.00000E+00 0.00000E+00
 2183; START 0.00000E+00 0.00000E+00 0.00000E+00
 2285; LINE 9.2933 7.8006 -0.34737
 2286; PEN -1.0000 0.00000E+00 0.00000E+00
 2287; START 0.00000E+00 0.00000E+00 0.00000E+00
 2389; LINE 11.568 8.6174 -0.29068
 2390; PEN -1.0000 0.00000E+00 0.00000E+00
 2391; START 0.00000E+00 0.00000E+00 0.00000E+00
 2493; LINE 9.5877 9.0745 -0.30534
 2494; PEN -1.0000 0.00000E+00 0.00000E+00
 2495; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 1.1600 0.0D0 0.0D0
 1; ORIGIN 10.572 0.70800 8.3430
 1891; ORIGIN 10.572 0.70800 8.3430
 16; ORIGIN 0.00000E+00 0.70800 0.00000E+00
 17; ROTATE 97.594 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -8.3430
 21; ROTATE 0.00000E+00 -15.333 0.00000E+00
 11; ROTATE 7.5944 -0.24420 -15.333
 481; FILL 33000.00 .0000000E+00 55535.00
 32; ORIGIN 1.0340 -0.44400 -0.66600
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36; ORIGIN 1.0340 -0.33120 0.63720
 1045; FILL 33000.00 .0000000E+00 55535.00
 40; ORIGIN -0.99800 -0.45220 -0.66640
 1327; FILL 55535.00 .0000000E+00 33000.00
 44; ORIGIN -0.99800 -0.32600 0.63560
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 96.000 0.00000E+00
 1916; POLYGON -50.000 96.000 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 387.50 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 387.50 0.00000E+00
 2078; LINE 10.572 8.3430 -0.70800
 2079; PEN -1.0000 0.00000E+00 0.00000E+00
 2080; START 0.00000E+00 0.00000E+00 0.00000E+00
 2182; LINE 11.378 7.3768 -0.35150
 2183; PEN -1.0000 0.00000E+00 0.00000E+00
 2184; START 0.00000E+00 0.00000E+00 0.00000E+00
 2286; LINE 9.4180 7.9126 -0.35209
 2287; PEN -1.0000 0.00000E+00 0.00000E+00
 2288; START 0.00000E+00 0.00000E+00 0.00000E+00
 2390; LINE 11.723 8.6370 -0.29110
 2391; PEN -1.0000 0.00000E+00 0.00000E+00
 2392; START 0.00000E+00 0.00000E+00 0.00000E+00
 2494; LINE 9.7634 9.1734 -0.30512
 2495; PEN -1.0000 0.00000E+00 0.00000E+00
 2496; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 1.1800 0.0D0 0.0D0
 1; ORIGIN 10.712 0.71110 8.4069
 1891; ORIGIN 10.712 0.71110 8.4069
 16; ORIGIN 0.00000E+00 0.71110 0.00000E+00

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17; ROTATE 97.948 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -8.4069
21; ROTATE 0.00000E+00 -17.675 0.00000E+00
11; ROTATE 7.9482 -0.16720 -17.675
481; FILL 33000.00 .0000000E+00 55535.00
32;ORIGIN 1.0340 -0.44400 -0.66600
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN 1.0340 -0.33160 0.63720
1045; FILL 33000.00 .0000000E+00 55535.00
40;ORIGIN -0.99800 -0.45260 -0.66660
1327; FILL 55535.00 .0000000E+00 33000.00
44;ORIGIN -0.99800 -0.32430 0.63520
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 108.00 0.00000E+00
1916; POLYGON -50.000 108.00 0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00
1920; POLYGON 150.00 377.06 0.00000E+00
1921; POLYGON 150.00 0.00000E+00 0.00000E+00
1922; POLYGON 200.00 0.00000E+00 0.00000E+00
1923; POLYGON 200.00 377.06 0.00000E+00
2079; LINE 10.712 8.4069 -0.71110
2080; PEN -1.0000 0.00000E+00 0.00000E+00
2081; START 0.00000E+00 0.00000E+00 0.00000E+00
2183; LINE 11.477 7.4063 -0.36044
2184; PEN -1.0000 0.00000E+00 0.00000E+00
2185; START 0.00000E+00 0.00000E+00 0.00000E+00
2287; LINE 9.5404 8.0215 -0.35793
2288; PEN -1.0000 0.00000E+00 0.00000E+00
2289; START 0.00000E+00 0.00000E+00 0.00000E+00
2391; LINE 11.873 8.6510 -0.29157
2392; PEN -1.0000 0.00000E+00 0.00000E+00
2393; START 0.00000E+00 0.00000E+00 0.00000E+00
2495; LINE 9.9370 9.2669 -0.30500
2496; PEN -1.0000 0.00000E+00 0.00000E+00
2497; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 1.2000 0.0D0 0.0D0
1; ORIGIN 10.847 0.71480 8.4671
1891; ORIGIN 10.847 0.71480 8.4671
16;ORIGIN 0.00000E+00 0.71480 0.00000E+00
17; ROTATE 98.362 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -8.4671
21; ROTATE 0.00000E+00 -20.046 0.00000E+00
11; ROTATE 8.3618 -0.83500E-01 -20.046
481; FILL 33000.00 .0000000E+00 55535.00
32;ORIGIN 1.0340 -0.44360 -0.66590
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN 1.0340 -0.33200 0.63740
1045; FILL 33000.00 .0000000E+00 55535.00
40;ORIGIN -0.99800 -0.45300 -0.66670
1327; FILL 55535.00 .0000000E+00 33000.00
44;ORIGIN -0.99800 -0.32240 0.63480
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 120.00 0.00000E+00
1916; POLYGON -50.000 120.00 0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00

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1920; POLYGON 150.00 364.48 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 364.48 0.00000E+00
 2080; LINE 10.847 8.4671 -0.71480
 2081; PEN -1.0000 0.00000E+00 0.00000E+00
 2082; START 0.00000E+00 0.00000E+00 0.00000E+00
 2184; LINE 11.570 7.4334 -0.37124
 2185; PEN -1.0000 0.00000E+00 0.00000E+00
 2186; START 0.00000E+00 0.00000E+00 0.00000E+00
 2288; LINE 9.6606 8.1278 -0.36502
 2289; PEN -1.0000 0.00000E+00 0.00000E+00
 2290; START 0.00000E+00 0.00000E+00 0.00000E+00
 2392; LINE 12.018 8.6600 -0.29214
 2393; PEN -1.0000 0.00000E+00 0.00000E+00
 2394; START 0.00000E+00 0.00000E+00 0.00000E+00
 2496; LINE 10.108 9.3553 -0.30497
 2497; PEN -1.0000 0.00000E+00 0.00000E+00
 2498; START 0.00000E+00 0.00000E+00 0.00000E+00

*

TIME 1.2200 0.0D0 0.0D0
 1; ORIGIN 10.979 0.71880 8.5238
 1891; ORIGIN 10.979 0.71880 8.5238
 16; ORIGIN 0.00000E+00 0.71880 0.00000E+00
 17; ROTATE 98.841 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -8.5238
 21; ROTATE 0.00000E+00 -22.442 0.00000E+00
 11; ROTATE 8.8406 0.35000E-02 -22.442
 481; FILL 33000.00 .0000000E+00 55535.00
 32; ORIGIN 1.0340 -0.44290 -0.66580
 763; FILL 55535.00 .0000000E+00 33000.00
 36; ORIGIN 1.0340 -0.33250 0.63760
 1045; FILL 33000.00 .0000000E+00 55535.00
 40; ORIGIN -0.99800 -0.45350 -0.66690
 1327; FILL 55535.00 .0000000E+00 33000.00
 44; ORIGIN -0.99800 -0.32050 0.63440
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 132.00 0.00000E+00
 1916; POLYGON -50.000 132.00 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 349.48 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 349.48 0.00000E+00
 2081; LINE 10.979 8.5238 -0.71880
 2082; PEN -1.0000 0.00000E+00 0.00000E+00
 2083; START 0.00000E+00 0.00000E+00 0.00000E+00
 2185; LINE 11.658 7.4581 -0.38354
 2186; PEN -1.0000 0.00000E+00 0.00000E+00
 2187; START 0.00000E+00 0.00000E+00 0.00000E+00
 2289; LINE 9.7785 8.2313 -0.37311
 2290; PEN -1.0000 0.00000E+00 0.00000E+00
 2291; START 0.00000E+00 0.00000E+00 0.00000E+00
 2393; LINE 12.156 8.6642 -0.29233
 2394; PEN -1.0000 0.00000E+00 0.00000E+00
 2395; START 0.00000E+00 0.00000E+00 0.00000E+00
 2497; LINE 10.277 9.4386 -0.30455

2498; PEN -1.0000 0.00000E+00 0.00000E+00
 2499; START 0.00000E+00 0.00000E+00 0.00000E+00
 *
 TIME 1.2400 0.0D0 0.0D0
 1; ORIGIN 11.107 0.72330 8.5771
 1891; ORIGIN 11.107 0.72330 8.5771
 16; ORIGIN 0.00000E+00 0.72330 0.00000E+00
 17; ROTATE 99.392 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -8.5771
 21; ROTATE 0.00000E+00 -24.860 0.00000E+00
 11; ROTATE 9.3916 0.90600E-01 -24.860
 481; FILL 33000.00 .0000000E+00 55535.00
 32; ORIGIN 1.0340 -0.44210 -0.66570
 763; FILL 55535.00 .0000000E+00 33000.00
 36; ORIGIN 1.0340 -0.33290 0.63780
 1045; FILL 33000.00 .0000000E+00 55535.00
 40; ORIGIN -0.99800 -0.45400 -0.66710
 1327; FILL 55535.00 .0000000E+00 33000.00
 44; ORIGIN -0.99800 -0.31850 0.63400
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -150.00 144.00 0.00000E+00
 1916; POLYGON -50.000 144.00 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 331.50 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 331.50 0.00000E+00
 2082; LINE 11.107 8.5771 -0.72330
 2083; PEN -1.0000 0.00000E+00 0.00000E+00
 2084; START 0.00000E+00 0.00000E+00 0.00000E+00
 2186; LINE 11.739 7.4808 -0.39738
 2187; PEN -1.0000 0.00000E+00 0.00000E+00
 2188; START 0.00000E+00 0.00000E+00 0.00000E+00
 2290; LINE 9.8941 8.3320 -0.38266
 2291; PEN -1.0000 0.00000E+00 0.00000E+00
 2292; START 0.00000E+00 0.00000E+00 0.00000E+00
 2394; LINE 12.288 8.6638 -0.29243
 2395; PEN -1.0000 0.00000E+00 0.00000E+00
 2396; START 0.00000E+00 0.00000E+00 0.00000E+00
 2498; LINE 10.443 9.5168 -0.30404
 2499; PEN -1.0000 0.00000E+00 0.00000E+00
 2500; START 0.00000E+00 0.00000E+00 0.00000E+00

*
 TIME 1.2600 0.0D0 0.0D0
 1; ORIGIN 11.231 0.72820 8.6272
 1891; ORIGIN 11.231 0.72820 8.6272
 16; ORIGIN 0.00000E+00 0.72820 0.00000E+00
 17; ROTATE 100.02 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -8.6272
 21; ROTATE 0.00000E+00 -27.296 0.00000E+00
 11; ROTATE 10.024 0.17550 -27.296
 481; FILL 33000.00 .0000000E+00 55535.00
 32; ORIGIN 1.0340 -0.44120 -0.66560
 763; FILL 55535.00 .0000000E+00 33000.00
 36; ORIGIN 1.0340 -0.33330 0.63800
 1045; FILL 33000.00 .0000000E+00 55535.00
 40; ORIGIN -0.99800 -0.45450 -0.66730

1327; FILL 55535.00 .0000000E+00 33000.00
 44;ORIGIN -0.99800 -0.31610 0.63350
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 156.00 0.00000E+00
 1916; POLYGON -50.000 156.00 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 309.88 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 309.88 0.00000E+00
 2083; LINE 11.231 8.6272 -0.72820
 2084; PEN -1.0000 0.00000E+00 0.00000E+00
 2085; START 0.00000E+00 0.00000E+00 0.00000E+00
 2187; LINE 11.815 7.5019 -0.41275
 2188; PEN -1.0000 0.00000E+00 0.00000E+00
 2189; START 0.00000E+00 0.00000E+00 0.00000E+00
 2291; LINE 10.007 8.4301 -0.39372
 2292; PEN -1.0000 0.00000E+00 0.00000E+00
 2293; START 0.00000E+00 0.00000E+00 0.00000E+00
 2395; LINE 12.412 8.6592 -0.29211
 2396; PEN -1.0000 0.00000E+00 0.00000E+00
 2397; START 0.00000E+00 0.00000E+00 0.00000E+00
 2499; LINE 10.606 9.5897 -0.30361
 2500; PEN -1.0000 0.00000E+00 0.00000E+00
 2501; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 1.2800 0.0D0 0.0D0
 1; ORIGIN 11.350 0.73350 8.6743
 1891; ORIGIN 11.350 0.73350 8.6743
 16;ORIGIN 0.00000E+00 0.73350 0.00000E+00
 17; ROTATE 100.75 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -8.6743
 21; ROTATE 0.00000E+00 -29.748 0.00000E+00
 11; ROTATE 10.749 0.25730 -29.748
 481; FILL 33000.00 .0000000E+00 55535.00
 32;ORIGIN 1.0340 -0.44050 -0.66550
 763; FILL 55535.00 .0000000E+00 33000.00
 36;ORIGIN 1.0340 -0.33350 0.63820
 1045; FILL 33000.00 .0000000E+00 55535.00
 40;ORIGIN -0.99800 -0.45520 -0.66750
 1327; FILL 55535.00 .0000000E+00 33000.00
 44;ORIGIN -0.99800 -0.31320 0.63280
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 168.00 0.00000E+00
 1916; POLYGON -50.000 168.00 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 283.88 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 283.88 0.00000E+00
 2084; LINE 11.350 8.6743 -0.73350
 2085; PEN -1.0000 0.00000E+00 0.00000E+00
 2086; START 0.00000E+00 0.00000E+00 0.00000E+00
 2188; LINE 11.884 7.5216 -0.42948
 2189; PEN -1.0000 0.00000E+00 0.00000E+00
 2190; START 0.00000E+00 0.00000E+00 0.00000E+00

2292; LINE 10.118 8.5256 -0.40629
 2293; PEN -1.0000 0.00000E+00 0.00000E+00
 2294; START 0.00000E+00 0.00000E+00 0.00000E+00
 2396; LINE 12.530 8.6507 -0.29148
 2397; PEN -1.0000 0.00000E+00 0.00000E+00
 2398; START 0.00000E+00 0.00000E+00 0.00000E+00
 2500; LINE 10.765 9.6576 -0.30331
 2501; PEN -1.0000 0.00000E+00 0.00000E+00
 2502; START 0.00000E+00 0.00000E+00 0.00000E+00
 *
 TIME 1.3000 0.0D0 0.0D0
 1; ORIGIN 11.466 0.73930 8.7185
 1891; ORIGIN 11.466 0.73930 8.7185
 16; ORIGIN 0.00000E+00 0.73930 0.00000E+00
 17; ROTATE 101.58 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -8.7185
 21; ROTATE 0.00000E+00 -32.215 0.00000E+00
 11; ROTATE 11.577 0.33700 -32.215
 481; FILL 33000.00 .0000000E+00 55535.00
 32; ORIGIN 1.0340 -0.44000 -0.66550
 763; FILL 55535.00 .0000000E+00 33000.00
 36; ORIGIN 1.0340 -0.33360 0.63830
 1045; FILL 33000.00 .0000000E+00 55535.00
 40; ORIGIN -0.99800 -0.45610 -0.66780
 1327; FILL 55535.00 .0000000E+00 33000.00
 44; ORIGIN -0.99800 -0.31000 0.63210
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 180.00 0.00000E+00
 1916; POLYGON -50.000 180.00 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 253.54 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 253.54 0.00000E+00
 2085; LINE 11.466 8.7185 -0.73930
 2086; PEN -1.0000 0.00000E+00 0.00000E+00
 2087; START 0.00000E+00 0.00000E+00 0.00000E+00
 2189; LINE 11.947 7.5401 -0.44788
 2190; PEN -1.0000 0.00000E+00 0.00000E+00
 2191; START 0.00000E+00 0.00000E+00 0.00000E+00
 2293; LINE 10.225 8.6186 -0.42062
 2294; PEN -1.0000 0.00000E+00 0.00000E+00
 2295; START 0.00000E+00 0.00000E+00 0.00000E+00
 2397; LINE 12.641 8.6383 -0.29049
 2398; PEN -1.0000 0.00000E+00 0.00000E+00
 2399; START 0.00000E+00 0.00000E+00 0.00000E+00
 2501; LINE 10.921 9.7204 -0.30290
 2502; PEN -1.0000 0.00000E+00 0.00000E+00
 2503; START 0.00000E+00 0.00000E+00 0.00000E+00
 *
 TIME 1.3200 0.0D0 0.0D0
 1; ORIGIN 11.577 0.74580 8.7598
 1891; ORIGIN 11.577 0.74580 8.7598
 16; ORIGIN 0.00000E+00 0.74580 0.00000E+00
 17; ROTATE 102.51 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -8.7598
 21; ROTATE 0.00000E+00 -34.698 0.00000E+00

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11; ROTATE 12.511 0.40860 -34.698
481; FILL 33000.00 .0000000E+00 55535.00
32;ORIGIN 1.0340 -0.43960 -0.66550
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN 1.0340 -0.33360 0.63830
1045; FILL 33000.00 .0000000E+00 55535.00
40;ORIGIN -0.99800 -0.45680 -0.66790
1327; FILL 55535.00 .0000000E+00 33000.00
44;ORIGIN -0.99800 -0.30880 0.63180
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 192.00 0.00000E+00
1916; POLYGON -50.000 192.00 0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00
1920; POLYGON 150.00 218.14 0.00000E+00
1921; POLYGON 150.00 0.00000E+00 0.00000E+00
1922; POLYGON 200.00 0.00000E+00 0.00000E+00
1923; POLYGON 200.00 218.14 0.00000E+00
2086; LINE 11.577 8.7598 -0.74580
2087; PEN -1.0000 0.00000E+00 0.00000E+00
2088; START 0.00000E+00 0.00000E+00 0.00000E+00
2190; LINE 12.004 7.5576 -0.46817
2191; PEN -1.0000 0.00000E+00 0.00000E+00
2192; START 0.00000E+00 0.00000E+00 0.00000E+00
2294; LINE 10.330 8.7092 -0.43741
2295; PEN -1.0000 0.00000E+00 0.00000E+00
2296; START 0.00000E+00 0.00000E+00 0.00000E+00
2398; LINE 12.743 8.6223 -0.28925
2399; PEN -1.0000 0.00000E+00 0.00000E+00
2400; START 0.00000E+00 0.00000E+00 0.00000E+00
2502; LINE 11.072 9.7782 -0.30037
2503; PEN -1.0000 0.00000E+00 0.00000E+00
2504; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 1.3400 0.0D0 0.0D0
1; ORIGIN 11.683 0.75320 8.7984
1891; ORIGIN 11.683 0.75320 8.7984
16;ORIGIN 0.00000E+00 0.75320 0.00000E+00
17; ROTATE 103.57 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -8.7984
21; ROTATE 0.00000E+00 -37.189 0.00000E+00
11; ROTATE 13.573 0.46920 -37.189
481; FILL 33000.00 .0000000E+00 55535.00
32;ORIGIN 1.0340 -0.43950 -0.66550
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN 1.0340 -0.33350 0.63830
1045; FILL 33000.00 .0000000E+00 55535.00
40;ORIGIN -0.99800 -0.45720 -0.66800
1327; FILL 55535.00 .0000000E+00 33000.00
44;ORIGIN -0.99800 -0.30780 0.63150
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 204.00 0.00000E+00
1916; POLYGON -50.000 204.00 0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00
1920; POLYGON 150.00 173.52 0.00000E+00
1921; POLYGON 150.00 0.00000E+00 0.00000E+00
1922; POLYGON 200.00 0.00000E+00 0.00000E+00

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1923; POLYGON 200.00 173.52 0.00000E+00
 2087; LINE 11.683 8.7984 -0.75320
 2088; PEN -1.0000 0.00000E+00 0.00000E+00
 2089; START 0.00000E+00 0.00000E+00 0.00000E+00
 2191; LINE 12.055 7.5746 -0.49062
 2192; PEN -1.0000 0.00000E+00 0.00000E+00
 2193; START 0.00000E+00 0.00000E+00 0.00000E+00
 2295; LINE 10.432 8.7974 -0.45736
 2296; PEN -1.0000 0.00000E+00 0.00000E+00
 2297; START 0.00000E+00 0.00000E+00 0.00000E+00
 2399; LINE 12.837 8.6031 -0.28771
 2400; PEN -1.0000 0.00000E+00 0.00000E+00
 2401; START 0.00000E+00 0.00000E+00 0.00000E+00
 2503; LINE 11.218 9.8309 -0.29765
 2504; PEN -1.0000 0.00000E+00 0.00000E+00
 2505; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 1.3600 0.0D0 0.0D0
 1; ORIGIN 11.783 0.76170 8.8343
 1891; ORIGIN 11.783 0.76170 8.8343
 16;ORIGIN 0.00000E+00 0.76170 0.00000E+00
 17; ROTATE 104.78 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -8.8343
 21; ROTATE 0.00000E+00 -39.674 0.00000E+00
 11; ROTATE 14.784 0.50890 -39.674
 481; FILL 33000.00 .0000000E+00 55535.00
 32;ORIGIN 1.0340 -0.43980 -0.66550
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36;ORIGIN 1.0340 -0.33320 0.63820
 1045; FILL 33000.00 .0000000E+00 55535.00
 40;ORIGIN -0.99800 -0.45770 -0.66810
 1327; FILL 55535.00 .0000000E+00 33000.00
 44;ORIGIN -0.99800 -0.30660 0.63120
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 216.00 0.00000E+00
 1916; POLYGON -50.000 216.00 0.00000E+00
 1918; FILL .0000000E+00 .0000000E+00 65535.00
 1920; POLYGON 150.00 120.86 0.00000E+00
 1921; POLYGON 150.00 0.00000E+00 0.00000E+00
 1922; POLYGON 200.00 0.00000E+00 0.00000E+00
 1923; POLYGON 200.00 120.86 0.00000E+00
 2088; LINE 11.783 8.8343 -0.76170
 2089; PEN -1.0000 0.00000E+00 0.00000E+00
 2090; START 0.00000E+00 0.00000E+00 0.00000E+00
 2192; LINE 12.098 7.5911 -0.51545
 2193; PEN -1.0000 0.00000E+00 0.00000E+00
 2194; START 0.00000E+00 0.00000E+00 0.00000E+00
 2296; LINE 10.530 8.8827 -0.48076
 2297; PEN -1.0000 0.00000E+00 0.00000E+00
 2298; START 0.00000E+00 0.00000E+00 0.00000E+00
 2400; LINE 12.922 8.5810 -0.28589
 2401; PEN -1.0000 0.00000E+00 0.00000E+00
 2402; START 0.00000E+00 0.00000E+00 0.00000E+00
 2504; LINE 11.358 9.8783 -0.29535
 2505; PEN -1.0000 0.00000E+00 0.00000E+00
 2506; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 1.3800      0.0D0 0.0D0
1; ORIGIN  11.878      0.77170      8.8678
1891; ORIGIN  11.878      0.77170      8.8678
16;ORIGIN  0.00000E+00  0.77170      0.00000E+00
17; ROTATE  106.15      0.00000E+00  0.00000E+00
20; ORIGIN  0.00000E+00  0.00000E+00  -8.8678
21; ROTATE  0.00000E+00  -42.140      0.00000E+00
11; ROTATE  16.147      0.52070      -42.140
481; FILL  33000.00      .0000000E+00  55535.00
32;ORIGIN  1.0340      -0.44050      -0.66560
763; FILL  .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN  1.0340      -0.33260      0.63800
1045; FILL  33000.00      .0000000E+00  55535.00
40;ORIGIN  -0.99800      -0.45800      -0.66820
1327; FILL  55535.00      .0000000E+00  33000.00
44;ORIGIN  -0.99800      -0.30570      0.63100
1979; FILL  65535.      65535.      65535.
1980; PEN  65535.      65535.      65535.
1913; POLYGON -100.00      228.00      0.00000E+00
1916; POLYGON -50.000      228.00      0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00
1920; POLYGON 150.00      63.948      0.00000E+00
1921; POLYGON 150.00      0.00000E+00 0.00000E+00
1922; POLYGON 200.00      0.00000E+00 0.00000E+00
1923; POLYGON 200.00      63.948      0.00000E+00
2089; LINE  11.878      8.8678      -0.77170
2090; PEN  -1.0000      0.00000E+00 0.00000E+00
2091; START 0.00000E+00 0.00000E+00 0.00000E+00
2193; LINE  12.136      7.6077      -0.54308
2194; PEN  -1.0000      0.00000E+00 0.00000E+00
2195; START 0.00000E+00 0.00000E+00 0.00000E+00
2297; LINE  10.624      8.9654      -0.50852
2298; PEN  -1.0000      0.00000E+00 0.00000E+00
2299; START 0.00000E+00 0.00000E+00 0.00000E+00
2401; LINE  12.998      8.5569      -0.28422
2402; PEN  -1.0000      0.00000E+00 0.00000E+00
2403; START 0.00000E+00 0.00000E+00 0.00000E+00
2505; LINE  11.491      9.9209      -0.29354
2506; PEN  -1.0000      0.00000E+00 0.00000E+00
2507; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 1.4000      0.0D0 0.0D0
1; ORIGIN  11.968      0.78350      8.8991
1891; ORIGIN  11.968      0.78350      8.8991
16;ORIGIN  0.00000E+00  0.78350      0.00000E+00
17; ROTATE  107.65      0.00000E+00  0.00000E+00
20; ORIGIN  0.00000E+00  0.00000E+00  -8.8991
21; ROTATE  0.00000E+00  -44.571      0.00000E+00
11; ROTATE  17.655      0.50310      -44.571
481; FILL  33000.00      .0000000E+00  55535.00
32;ORIGIN  1.0340      -0.44190      -0.66580
763; FILL  .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN  1.0340      -0.33200      0.63770
1045; FILL  33000.00      .0000000E+00  55535.00
40;ORIGIN  -0.99800      -0.45800      -0.66820
1327; FILL  55535.00      .0000000E+00  33000.00
44;ORIGIN  -0.99800      -0.30550      0.63100
1979; FILL  65535.      65535.      65535.

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1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 240.00 0.00000E+00
1916; POLYGON -50.000 240.00 0.00000E+00
1918; FILL .0000000E+00 .0000000E+00 65535.00
1920; POLYGON 150.00 4.7240 0.00000E+00
1921; POLYGON 150.00 0.00000E+00 0.00000E+00
1922; POLYGON 200.00 0.00000E+00 0.00000E+00
1923; POLYGON 200.00 4.7240 0.00000E+00
2090; LINE 11.968 8.8991 -0.78350
2091; PEN -1.0000 0.00000E+00 0.00000E+00
2092; START 0.00000E+00 0.00000E+00 0.00000E+00
2194; LINE 12.167 7.6247 -0.57341
2195; PEN -1.0000 0.00000E+00 0.00000E+00
2196; START 0.00000E+00 0.00000E+00 0.00000E+00
2298; LINE 10.714 9.0454 -0.54095
2299; PEN -1.0000 0.00000E+00 0.00000E+00
2300; START 0.00000E+00 0.00000E+00 0.00000E+00
2402; LINE 13.064 8.5316 -0.28284
2403; PEN -1.0000 0.00000E+00 0.00000E+00
2404; START 0.00000E+00 0.00000E+00 0.00000E+00
2506; LINE 11.617 9.9588 -0.29228
2507; PEN -1.0000 0.00000E+00 0.00000E+00
2508; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 1.4200 0.0D0 0.0D0
1; ORIGIN 12.052 0.79690 8.9287
1891; ORIGIN 12.052 0.79690 8.9287
16; ORIGIN 0.00000E+00 0.79690 0.00000E+00
17; ROTATE 109.30 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -8.9287
21; ROTATE 0.00000E+00 -46.958 0.00000E+00
11; ROTATE 19.301 0.45770 -46.958
481; FILL 33000.00 .0000000E+00 55535.00
32; ORIGIN 1.0340 -0.44360 -0.66600
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36; ORIGIN 1.0340 -0.33170 0.63730
1045; FILL 33000.00 .0000000E+00 55535.00
40; ORIGIN -0.99800 -0.45760 -0.66810
1327; FILL 55535.00 .0000000E+00 33000.00
44; ORIGIN -0.99800 -0.30630 0.63120
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 252.00 0.00000E+00
1916; POLYGON -50.000 252.00 0.00000E+00
1918; FILL 57343.00 7451.000 7999.000
1920; POLYGON 150.00 0.00000E+00 0.00000E+00
1921; POLYGON 150.00 -57.482 0.00000E+00
1922; POLYGON 200.00 -57.482 0.00000E+00
1923; POLYGON 200.00 0.00000E+00 0.00000E+00
2091; LINE 12.052 8.9287 -0.79690
2092; PEN -1.0000 0.00000E+00 0.00000E+00
2093; START 0.00000E+00 0.00000E+00 0.00000E+00
2195; LINE 12.192 7.6428 -0.60661
2196; PEN -1.0000 0.00000E+00 0.00000E+00
2197; START 0.00000E+00 0.00000E+00 0.00000E+00
2299; LINE 10.801 9.1232 -0.57786
2300; PEN -1.0000 0.00000E+00 0.00000E+00
2301; START 0.00000E+00 0.00000E+00 0.00000E+00

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2403; LINE 13.120      8.5057      -0.28149
2404; PEN -1.0000     0.00000E+00 0.00000E+00
2405; START 0.00000E+00 0.00000E+00 0.00000E+00
2507; LINE 11.735      9.9927      -0.29124
2508; PEN -1.0000     0.00000E+00 0.00000E+00
2509; START 0.00000E+00 0.00000E+00 0.00000E+00
*
TIME 1.4400      0.0D0 0.0D0
1; ORIGIN 12.131      0.81200      8.9567
1891; ORIGIN 12.131      0.81200      8.9567
16; ORIGIN 0.00000E+00 0.81200      0.00000E+00
17; ROTATE 111.08      0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -8.9567
21; ROTATE 0.00000E+00 -49.304      0.00000E+00
11; ROTATE 21.083      0.38920      -49.304
481; FILL 33000.00      .0000000E+00 55535.00
32; ORIGIN 1.0340      -0.44530      -0.66610
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36; ORIGIN 1.0340      -0.33180      0.63710
1045; FILL 33000.00      .0000000E+00 55535.00
40; ORIGIN -0.99800      -0.45670      -0.66800
1327; FILL 55535.00      .0000000E+00 33000.00
44; ORIGIN -0.99800      -0.30800      0.63170
1979; FILL 65535.      65535.      65535.
1980; PEN 65535.      65535.      65535.
1913; POLYGON -100.00      264.00      0.00000E+00
1916; POLYGON -50.000      264.00      0.00000E+00
1918; FILL 57343.00      7451.000      7999.000
1920; POLYGON 150.00      0.00000E+00 0.00000E+00
1921; POLYGON 150.00      -122.43      0.00000E+00
1922; POLYGON 200.00      -122.43      0.00000E+00
1923; POLYGON 200.00      0.00000E+00 0.00000E+00
2092; LINE 12.131      8.9567      -0.81200
2093; PEN -1.0000     0.00000E+00 0.00000E+00
2094; START 0.00000E+00 0.00000E+00 0.00000E+00
2196; LINE 12.213      7.6622      -0.64313
2197; PEN -1.0000     0.00000E+00 0.00000E+00
2198; START 0.00000E+00 0.00000E+00 0.00000E+00
2300; LINE 10.884      9.1988      -0.61937
2301; PEN -1.0000     0.00000E+00 0.00000E+00
2302; START 0.00000E+00 0.00000E+00 0.00000E+00
2404; LINE 13.167      8.4798      -0.28028
2405; PEN -1.0000     0.00000E+00 0.00000E+00
2406; START 0.00000E+00 0.00000E+00 0.00000E+00
2508; LINE 11.845      10.023      -0.29063
2509; PEN -1.0000     0.00000E+00 0.00000E+00
2510; START 0.00000E+00 0.00000E+00 0.00000E+00
*
TIME 1.4600      0.0D0 0.0D0
1; ORIGIN 12.204      0.82830      8.9836
1891; ORIGIN 12.204      0.82830      8.9836
16; ORIGIN 0.00000E+00 0.82830      0.00000E+00
17; ROTATE 112.99      0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -8.9836
21; ROTATE 0.00000E+00 -51.611      0.00000E+00
11; ROTATE 22.995      0.30560      -51.611
481; FILL 33000.00      .0000000E+00 55535.00
32; ORIGIN 1.0340      -0.44670      -0.66620

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763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN 1.0340 -0.33210 0.63690
1045; FILL 33000.00 .0000000E+00 55535.00
40;ORIGIN -0.99800 -0.45540 -0.66770
1327; FILL 55535.00 .0000000E+00 33000.00
44;ORIGIN -0.99800 -0.31060 0.63230
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 276.00 0.00000E+00
1916; POLYGON -50.000 276.00 0.00000E+00
1918; FILL 57343.00 7451.000 7999.000
1920; POLYGON 150.00 0.00000E+00 0.00000E+00
1921; POLYGON 150.00 -184.44 0.00000E+00
1922; POLYGON 200.00 -184.44 0.00000E+00
1923; POLYGON 200.00 0.00000E+00 0.00000E+00
2093; LINE 12.204 8.9836 -0.82830
2094; PEN -1.0000 0.00000E+00 0.00000E+00
2095; START 0.00000E+00 0.00000E+00 0.00000E+00
2197; LINE 12.230 7.6833 -0.68284
2198; PEN -1.0000 0.00000E+00 0.00000E+00
2199; START 0.00000E+00 0.00000E+00 0.00000E+00
2301; LINE 10.964 9.2729 -0.66458
2302; PEN -1.0000 0.00000E+00 0.00000E+00
2303; START 0.00000E+00 0.00000E+00 0.00000E+00
2405; LINE 13.206 8.4544 -0.27932
2406; PEN -1.0000 0.00000E+00 0.00000E+00
2407; START 0.00000E+00 0.00000E+00 0.00000E+00
2509; LINE 11.948 10.050 -0.29007
2510; PEN -1.0000 0.00000E+00 0.00000E+00
2511; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 1.4800 0.0D0 0.0D0
1; ORIGIN 12.274 0.84580 9.0096
1891; ORIGIN 12.274 0.84580 9.0096
16;ORIGIN 0.00000E+00 0.84580 0.00000E+00
17; ROTATE 114.99 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -9.0096
21; ROTATE 0.00000E+00 -53.879 0.00000E+00
11; ROTATE 24.989 0.20760 -53.879
481; FILL 33000.00 .0000000E+00 55535.00
32;ORIGIN 1.0340 -0.44730 -0.66620
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN 1.0340 -0.33230 0.63680
1045; FILL 33000.00 .0000000E+00 55535.00
40;ORIGIN -0.99800 -0.45360 -0.66720
1327; FILL 55535.00 .0000000E+00 33000.00
44;ORIGIN -0.99800 -0.31640 0.63370
1979; FILL 65535. 65535. 65535.
1980; PEN 65535. 65535. 65535.
1913; POLYGON -100.00 288.00 0.00000E+00
1916; POLYGON -50.000 288.00 0.00000E+00
1918; FILL 57343.00 7451.000 7999.000
1920; POLYGON 150.00 0.00000E+00 0.00000E+00
1921; POLYGON 150.00 -220.59 0.00000E+00
1922; POLYGON 200.00 -220.59 0.00000E+00
1923; POLYGON 200.00 0.00000E+00 0.00000E+00
2094; LINE 12.274 9.0096 -0.84580
2095; PEN -1.0000 0.00000E+00 0.00000E+00

2096; START 0.00000E+00 0.00000E+00 0.00000E+00
 2198; LINE 12.244 7.7067 -0.72553
 2199; PEN -1.0000 0.00000E+00 0.00000E+00
 2200; START 0.00000E+00 0.00000E+00 0.00000E+00
 2302; LINE 11.043 9.3458 -0.71288
 2303; PEN -1.0000 0.00000E+00 0.00000E+00
 2304; START 0.00000E+00 0.00000E+00 0.00000E+00
 2406; LINE 13.238 8.4303 -0.27936
 2407; PEN -1.0000 0.00000E+00 0.00000E+00
 2408; START 0.00000E+00 0.00000E+00 0.00000E+00
 2510; LINE 12.043 10.074 -0.28771
 2511; PEN -1.0000 0.00000E+00 0.00000E+00
 2512; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 1.5000 0.0D0 0.0D0
 1; ORIGIN 12.340 0.86410 9.0352
 1891; ORIGIN 12.340 0.86410 9.0352
 16; ORIGIN 0.00000E+00 0.86410 0.00000E+00
 17; ROTATE 117.00 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -9.0352
 21; ROTATE 0.00000E+00 -56.089 0.00000E+00
 11; ROTATE 26.999 0.86000E-01 -56.089
 481; FILL 33000.00 .0000000E+00 55535.00
 32; ORIGIN 1.0340 -0.44780 -0.66620
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36; ORIGIN 1.0340 -0.33250 0.63680
 1045; FILL 33000.00 .0000000E+00 55535.00
 40; ORIGIN -0.99800 -0.45010 -0.66610
 1327; FILL 55535.00 .0000000E+00 33000.00
 44; ORIGIN -0.99800 -0.32860 0.63640
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 300.00 0.00000E+00
 1916; POLYGON -50.000 300.00 0.00000E+00
 1918; FILL 57343.00 7451.000 7999.000
 1920; POLYGON 150.00 0.00000E+00 0.00000E+00
 1921; POLYGON 150.00 -240.90 0.00000E+00
 1922; POLYGON 200.00 -240.90 0.00000E+00
 1923; POLYGON 200.00 0.00000E+00 0.00000E+00
 2095; LINE 12.340 9.0352 -0.86410
 2096; PEN -1.0000 0.00000E+00 0.00000E+00
 2097; START 0.00000E+00 0.00000E+00 0.00000E+00
 2199; LINE 12.256 7.7324 -0.76907
 2200; PEN -1.0000 0.00000E+00 0.00000E+00
 2201; START 0.00000E+00 0.00000E+00 0.00000E+00
 2303; LINE 11.122 9.4181 -0.76392
 2304; PEN -1.0000 0.00000E+00 0.00000E+00
 2305; START 0.00000E+00 0.00000E+00 0.00000E+00
 2407; LINE 13.263 8.4088 -0.28031
 2408; PEN -1.0000 0.00000E+00 0.00000E+00
 2409; START 0.00000E+00 0.00000E+00 0.00000E+00
 2511; LINE 12.131 10.096 -0.28092
 2512; PEN -1.0000 0.00000E+00 0.00000E+00
 2513; START 0.00000E+00 0.00000E+00 0.00000E+00

*

TIME 1.5200 0.0D0 0.0D0
 1; ORIGIN 12.404 0.88290 9.0606
 1891; ORIGIN 12.404 0.88290 9.0606

16;ORIGIN 0.00000E+00 0.88290 0.00000E+00
 17; ROTATE 119.01 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -9.0606
 21; ROTATE 0.00000E+00 -58.203 0.00000E+00
 11; ROTATE 29.010 -0.77900E-01 -58.203
 481; FILL 33000.00 .0000000E+00 55535.00
 32;ORIGIN 1.0340 -0.44850 -0.66630
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36;ORIGIN 1.0340 -0.33270 0.63670
 1045; FILL 33000.00 .0000000E+00 55535.00
 40;ORIGIN -0.99800 -0.44460 -0.66430
 1327; FILL 55535.00 .0000000E+00 33000.00
 44;ORIGIN -0.99800 -0.34510 0.64000
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 312.00 0.00000E+00
 1916; POLYGON -50.000 312.00 0.00000E+00
 1918; FILL 57343.00 7451.000 7999.000
 1920; POLYGON 150.00 0.00000E+00 0.00000E+00
 1921; POLYGON 150.00 -262.17 0.00000E+00
 1922; POLYGON 200.00 -262.17 0.00000E+00
 1923; POLYGON 200.00 0.00000E+00 0.00000E+00
 2096; LINE 12.404 9.0606 -0.88290
 2097; PEN -1.0000 0.00000E+00 0.00000E+00
 2098; START 0.00000E+00 0.00000E+00 0.00000E+00
 2200; LINE 12.268 7.7602 -0.81237
 2201; PEN -1.0000 0.00000E+00 0.00000E+00
 2202; START 0.00000E+00 0.00000E+00 0.00000E+00
 2304; LINE 11.201 9.4891 -0.81757
 2305; PEN -1.0000 0.00000E+00 0.00000E+00
 2306; START 0.00000E+00 0.00000E+00 0.00000E+00
 2408; LINE 13.284 8.3909 -0.28177
 2409; PEN -1.0000 0.00000E+00 0.00000E+00
 2410; START 0.00000E+00 0.00000E+00 0.00000E+00
 2512; LINE 12.211 10.116 -0.27209
 2513; PEN -1.0000 0.00000E+00 0.00000E+00
 2514; START 0.00000E+00 0.00000E+00 0.00000E+00

*

TIME 1.5400 0.0D0 0.0D0
 1; ORIGIN 12.464 0.90220 9.0858
 1891; ORIGIN 12.464 0.90220 9.0858
 16;ORIGIN 0.00000E+00 0.90220 0.00000E+00
 17; ROTATE 121.05 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -9.0858
 21; ROTATE 0.00000E+00 -60.182 0.00000E+00
 11; ROTATE 31.050 -0.31040 -60.182
 481; FILL 33000.00 .0000000E+00 55535.00
 32;ORIGIN 1.0340 -0.44940 -0.66640
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36;ORIGIN 1.0340 -0.33270 0.63650
 1045; FILL 33000.00 .0000000E+00 55535.00
 40;ORIGIN -0.99800 -0.43810 -0.66210
 1327; FILL 55535.00 .0000000E+00 33000.00
 44;ORIGIN -0.99800 -0.36300 0.64380
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 324.00 0.00000E+00
 1916; POLYGON -50.000 324.00 0.00000E+00

1918; FILL 57343.00 7451.000 7999.000
 1920; POLYGON 150.00 0.00000E+00 0.00000E+00
 1921; POLYGON 150.00 -293.75 0.00000E+00
 1922; POLYGON 200.00 -293.75 0.00000E+00
 1923; POLYGON 200.00 0.00000E+00 0.00000E+00
 2097; LINE 12.464 9.0858 -0.90220
 2098; PEN -1.0000 0.00000E+00 0.00000E+00
 2099; START 0.00000E+00 0.00000E+00 0.00000E+00
 2201; LINE 12.282 7.7897 -0.85528
 2202; PEN -1.0000 0.00000E+00 0.00000E+00
 2203; START 0.00000E+00 0.00000E+00 0.00000E+00
 2305; LINE 11.280 9.5573 -0.87375
 2306; PEN -1.0000 0.00000E+00 0.00000E+00
 2307; START 0.00000E+00 0.00000E+00 0.00000E+00
 2409; LINE 13.301 8.3775 -0.28330
 2410; PEN -1.0000 0.00000E+00 0.00000E+00
 2411; START 0.00000E+00 0.00000E+00 0.00000E+00
 2513; LINE 12.283 10.136 -0.26458
 2514; PEN -1.0000 0.00000E+00 0.00000E+00
 2515; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 1.5600 0.000 0.000
 1; ORIGIN 12.523 0.92150 9.1109
 1891; ORIGIN 12.523 0.92150 9.1109
 16; ORIGIN 0.00000E+00 0.92150 0.00000E+00
 17; ROTATE 123.16 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -9.1109
 21; ROTATE 0.00000E+00 -62.005 0.00000E+00
 11; ROTATE 33.155 -0.62460 -62.005
 481; FILL 33000.00 .0000000E+00 55535.00
 32; ORIGIN 1.0340 -0.45030 -0.66640
 763; FILL 55535.00 .0000000E+00 33000.00
 36; ORIGIN 1.0340 -0.33310 0.63640
 1045; FILL 33000.00 .0000000E+00 55535.00
 40; ORIGIN -0.99800 -0.43150 -0.65980
 1327; FILL 55535.00 .0000000E+00 33000.00
 44; ORIGIN -0.99800 -0.38060 0.64730
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 336.00 0.00000E+00
 1916; POLYGON -50.000 336.00 0.00000E+00
 1918; FILL 57343.00 7451.000 7999.000
 1920; POLYGON 150.00 0.00000E+00 0.00000E+00
 1921; POLYGON 150.00 -337.91 0.00000E+00
 1922; POLYGON 200.00 -337.91 0.00000E+00
 1923; POLYGON 200.00 0.00000E+00 0.00000E+00
 2098; LINE 12.523 9.1109 -0.92150
 2099; PEN -1.0000 0.00000E+00 0.00000E+00
 2100; START 0.00000E+00 0.00000E+00 0.00000E+00
 2202; LINE 12.298 7.8206 -0.89767
 2203; PEN -1.0000 0.00000E+00 0.00000E+00
 2204; START 0.00000E+00 0.00000E+00 0.00000E+00
 2306; LINE 11.358 9.6219 -0.93195
 2307; PEN -1.0000 0.00000E+00 0.00000E+00
 2308; START 0.00000E+00 0.00000E+00 0.00000E+00
 2410; LINE 13.315 8.3686 -0.28336
 2411; PEN -1.0000 0.00000E+00 0.00000E+00
 2412; START 0.00000E+00 0.00000E+00 0.00000E+00

2514; LINE 12.346 10.155 -0.25978
 2515; PEN -1.0000 0.00000E+00 0.00000E+00
 2516; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 1.5800 0.0D0 0.0D0
 1; ORIGIN 12.579 0.94040 9.1358
 1891; ORIGIN 12.579 0.94040 9.1358
 16; ORIGIN 0.00000E+00 0.94040 0.00000E+00
 17; ROTATE 125.36 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -9.1358
 21; ROTATE 0.00000E+00 -63.690 0.00000E+00
 11; ROTATE 35.361 -1.0097 -63.690
 481; FILL 33000.00 .0000000E+00 55535.00
 32; ORIGIN 1.0340 -0.45040 -0.66630
 763; FILL 55535.00 .0000000E+00 33000.00
 36; ORIGIN 1.0340 -0.33440 0.63660
 1045; FILL 33000.00 .0000000E+00 55535.00
 40; ORIGIN -0.99800 -0.42580 -0.65740
 1327; FILL 55535.00 .0000000E+00 33000.00
 44; ORIGIN -0.99800 -0.39670 0.65030
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 348.00 0.00000E+00
 1916; POLYGON -50.000 348.00 0.00000E+00
 1918; FILL 57343.00 7451.000 7999.000
 1920; POLYGON 150.00 0.00000E+00 0.00000E+00
 1921; POLYGON 150.00 -386.28 0.00000E+00
 1922; POLYGON 200.00 -386.28 0.00000E+00
 1923; POLYGON 200.00 0.00000E+00 0.00000E+00
 2099; LINE 12.579 9.1358 -0.94040
 2100; PEN -1.0000 0.00000E+00 0.00000E+00
 2101; START 0.00000E+00 0.00000E+00 0.00000E+00
 2203; LINE 12.317 7.8524 -0.94044
 2204; PEN -1.0000 0.00000E+00 0.00000E+00
 2205; START 0.00000E+00 0.00000E+00 0.00000E+00
 2307; LINE 11.436 9.6828 -0.99115
 2308; PEN -1.0000 0.00000E+00 0.00000E+00
 2309; START 0.00000E+00 0.00000E+00 0.00000E+00
 2411; LINE 13.325 8.3636 -0.28117
 2412; PEN -1.0000 0.00000E+00 0.00000E+00
 2413; START 0.00000E+00 0.00000E+00 0.00000E+00
 2515; LINE 12.401 10.175 -0.25824
 2516; PEN -1.0000 0.00000E+00 0.00000E+00
 2517; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 1.6000 0.0D0 0.0D0
 1; ORIGIN 12.635 0.95800 9.1602
 1891; ORIGIN 12.635 0.95800 9.1602
 16; ORIGIN 0.00000E+00 0.95800 0.00000E+00
 17; ROTATE 127.65 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -9.1602
 21; ROTATE 0.00000E+00 -65.274 0.00000E+00
 11; ROTATE 37.654 -1.4266 -65.274
 481; FILL 33000.00 .0000000E+00 55535.00
 32; ORIGIN 1.0340 -0.44970 -0.66610
 763; FILL 55535.00 .0000000E+00 33000.00
 36; ORIGIN 1.0340 -0.33630 0.63710
 1045; FILL 33000.00 .0000000E+00 55535.00

40;ORIGIN	-0.99800	-0.42020	-0.65530
1327; FILL	55535.00	.0000000E+00	33000.00
44;ORIGIN	-0.99800	-0.41010	0.65280
1979; FILL	65535.	65535.	65535.
1980; PEN	65535.	65535.	65535.
1913; POLYGON	-100.00	360.00	0.00000E+00
1916; POLYGON	-50.000	360.00	0.00000E+00
1918; FILL	57343.00	7451.000	7999.000
1920; POLYGON	150.00	0.00000E+00	0.00000E+00
1921; POLYGON	150.00	-421.23	0.00000E+00
1922; POLYGON	200.00	-421.23	0.00000E+00
1923; POLYGON	200.00	0.00000E+00	0.00000E+00
2100; LINE	12.635	9.1602	-0.95800
2101; PEN	-1.0000	0.00000E+00	0.00000E+00
2102; START	0.00000E+00	0.00000E+00	0.00000E+00
2204; LINE	12.339	7.8846	-0.98309
2205; PEN	-1.0000	0.00000E+00	0.00000E+00
2206; START	0.00000E+00	0.00000E+00	0.00000E+00
2308; LINE	11.514	9.7404	-1.0504
2309; PEN	-1.0000	0.00000E+00	0.00000E+00
2310; START	0.00000E+00	0.00000E+00	0.00000E+00
2412; LINE	13.332	8.3612	-0.27702
2413; PEN	-1.0000	0.00000E+00	0.00000E+00
2414; START	0.00000E+00	0.00000E+00	0.00000E+00
2516; LINE	12.452	10.194	-0.25961
2517; PEN	-1.0000	0.00000E+00	0.00000E+00
2518; START	0.00000E+00	0.00000E+00	0.00000E+00

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TIME	1.6200	0.0D0	0.0D0
1; ORIGIN	12.689	0.97370	9.1839
1891; ORIGIN	12.689	0.97370	9.1839
16;ORIGIN	0.00000E+00	0.97370	0.00000E+00
17; ROTATE	129.99	0.00000E+00	0.00000E+00
20; ORIGIN	0.00000E+00	0.00000E+00	-9.1839
21; ROTATE	0.00000E+00	-66.803	0.00000E+00
11; ROTATE	39.994	-1.8206	-66.803
481; FILL	33000.00	.0000000E+00	55535.00
32;ORIGIN	1.0340	-0.44850	-0.66580
763; FILL	55535.00	.0000000E+00	33000.00
36;ORIGIN	1.0340	-0.33820	0.63760
1045; FILL	33000.00	.0000000E+00	55535.00
40;ORIGIN	-0.99800	-0.41580	-0.65340
1327; FILL	55535.00	.0000000E+00	33000.00
44;ORIGIN	-0.99800	-0.42080	0.65470
1979; FILL	65535.	65535.	65535.
1980; PEN	65535.	65535.	65535.
1913; POLYGON	-100.00	372.00	0.00000E+00
1916; POLYGON	-50.000	372.00	0.00000E+00
1918; FILL	57343.00	7451.000	7999.000
1920; POLYGON	150.00	0.00000E+00	0.00000E+00
1921; POLYGON	150.00	-435.77	0.00000E+00
1922; POLYGON	200.00	-435.77	0.00000E+00
1923; POLYGON	200.00	0.00000E+00	0.00000E+00
2101; LINE	12.689	9.1839	-0.97370
2102; PEN	-1.0000	0.00000E+00	0.00000E+00
2103; START	0.00000E+00	0.00000E+00	0.00000E+00
2205; LINE	12.364	7.9170	-1.0251
2206; PEN	-1.0000	0.00000E+00	0.00000E+00

2207; START 0.00000E+00 0.00000E+00 0.00000E+00
 2309; LINE 11.592 9.7953 -1.1067
 2310; PEN -1.0000 0.00000E+00 0.00000E+00
 2311; START 0.00000E+00 0.00000E+00 0.00000E+00
 2413; LINE 13.337 8.3604 -0.27232
 2414; PEN -1.0000 0.00000E+00 0.00000E+00
 2415; START 0.00000E+00 0.00000E+00 0.00000E+00
 2517; LINE 12.500 10.213 -0.26263
 2518; PEN -1.0000 0.00000E+00 0.00000E+00
 2519; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 1.6400 0.0D0 0.0D0
 1; ORIGIN 12.744 0.98660 9.2069
 1891; ORIGIN 12.744 0.98660 9.2069
 16;ORIGIN 0.00000E+00 0.98660 0.00000E+00
 17; ROTATE 132.33 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -9.2069
 21; ROTATE 0.00000E+00 -68.302 0.00000E+00
 11; ROTATE 42.334 -2.1538 -68.302
 481; FILL 33000.00 .0000000E+00 55535.00
 32;ORIGIN 1.0340 -0.44730 -0.66550
 763; FILL 55535.00 .0000000E+00 33000.00
 36;ORIGIN 1.0340 -0.34070 0.63820
 1045; FILL 33000.00 .0000000E+00 55535.00
 40;ORIGIN -0.99800 -0.41400 -0.65250
 1327; FILL 55535.00 .0000000E+00 33000.00
 44;ORIGIN -0.99800 -0.42630 0.65550
 1979; FILL 65535. 65535. 65535.
 1980; PEN 65535. 65535. 65535.
 1913; POLYGON -100.00 384.00 0.00000E+00
 1916; POLYGON -50.000 384.00 0.00000E+00
 1918; FILL 57343.00 7451.000 7999.000
 1920; POLYGON 150.00 0.00000E+00 0.00000E+00
 1921; POLYGON 150.00 -430.75 0.00000E+00
 1922; POLYGON 200.00 -430.75 0.00000E+00
 1923; POLYGON 200.00 0.00000E+00 0.00000E+00
 2102; LINE 12.744 9.2069 -0.98660
 2103; PEN -1.0000 0.00000E+00 0.00000E+00
 2104; START 0.00000E+00 0.00000E+00 0.00000E+00
 2206; LINE 12.391 7.9495 -1.0651
 2207; PEN -1.0000 0.00000E+00 0.00000E+00
 2208; START 0.00000E+00 0.00000E+00 0.00000E+00
 2310; LINE 11.670 9.8474 -1.1574
 2311; PEN -1.0000 0.00000E+00 0.00000E+00
 2312; START 0.00000E+00 0.00000E+00 0.00000E+00
 2414; LINE 13.342 8.3603 -0.26658
 2415; PEN -1.0000 0.00000E+00 0.00000E+00
 2416; START 0.00000E+00 0.00000E+00 0.00000E+00
 2518; LINE 12.548 10.233 -0.26807
 2519; PEN -1.0000 0.00000E+00 0.00000E+00
 2520; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 1.6600 0.0D0 0.0D0
 1; ORIGIN 12.799 0.99640 9.2296
 1891; ORIGIN 12.799 0.99640 9.2296
 16;ORIGIN 0.00000E+00 0.99640 0.00000E+00
 17; ROTATE 134.62 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -9.2296

21; ROTATE 0.00000E+00 -69.787 0.00000E+00
 11; ROTATE 44.619 -2.4102 -69.787
 481; FILL 33000.00 .0000000E+00 55535.00
 32;ORIGIN 1.0340 -0.44600 -0.66510
 763; FILL 55535.00 .0000000E+00 33000.00
 36;ORIGIN 1.0340 -0.34460 0.63910
 1045; FILL 33000.00 .0000000E+00 55535.00
 40;ORIGIN -0.99800 -0.41550 -0.65250
 1327; FILL 55535.00 .0000000E+00 33000.00
 44;ORIGIN -0.99800 -0.42770 0.65550
 1979; FILL 65535. 65535. 0.00000E+00
 1980; PEN 0.00000E+00 0.00000E+00 0.00000E+00
 1913; POLYGON -100.00 396.00 0.00000E+00
 1916; POLYGON -50.000 396.00 0.00000E+00
 1918; FILL 57343.00 7451.000 7999.000
 1920; POLYGON 150.00 0.00000E+00 0.00000E+00
 1921; POLYGON 150.00 -400.49 0.00000E+00
 1922; POLYGON 200.00 -400.49 0.00000E+00
 1923; POLYGON 200.00 0.00000E+00 0.00000E+00
 2103; LINE 12.799 9.2296 -0.99640
 2104; PEN -1.0000 0.00000E+00 0.00000E+00
 2105; START 0.00000E+00 0.00000E+00 0.00000E+00
 2207; LINE 12.420 7.9824 -1.1024
 2208; PEN -1.0000 0.00000E+00 0.00000E+00
 2209; START 0.00000E+00 0.00000E+00 0.00000E+00
 2311; LINE 11.747 9.8975 -1.2007
 2312; PEN -1.0000 0.00000E+00 0.00000E+00
 2313; START 0.00000E+00 0.00000E+00 0.00000E+00
 2415; LINE 13.346 8.3611 -0.25937
 2416; PEN -1.0000 0.00000E+00 0.00000E+00
 2417; START 0.00000E+00 0.00000E+00 0.00000E+00
 2519; LINE 12.599 10.253 -0.27420
 2520; PEN -1.0000 0.00000E+00 0.00000E+00
 2521; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 1.6800 0.0D0 0.0D0
 1; ORIGIN 12.855 1.0032 9.2520
 1891; ORIGIN 12.855 1.0032 9.2520
 16;ORIGIN 0.00000E+00 1.0032 0.00000E+00
 17; ROTATE 136.81 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -9.2520
 21; ROTATE 0.00000E+00 -71.264 0.00000E+00
 11; ROTATE 46.810 -2.5897 -71.264
 481; FILL 33000.00 .0000000E+00 55535.00
 32;ORIGIN 1.0340 -0.44470 -0.66460
 763; FILL 55535.00 .0000000E+00 33000.00
 36;ORIGIN 1.0340 -0.34840 0.64000
 1045; FILL 33000.00 .0000000E+00 55535.00
 40;ORIGIN -0.99800 -0.41940 -0.65300
 1327; FILL 33000.00 .0000000E+00 55535.00
 44;ORIGIN -0.99800 -0.42770 0.65510
 1979; FILL 65535. 65535. 0.00000E+00
 1980; PEN 0.00000E+00 0.00000E+00 0.00000E+00
 1913; POLYGON -100.00 408.00 0.00000E+00
 1916; POLYGON -50.000 408.00 0.00000E+00
 1918; FILL 57343.00 7451.000 7999.000
 1920; POLYGON 150.00 0.00000E+00 0.00000E+00
 1921; POLYGON 150.00 -363.83 0.00000E+00

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1922; POLYGON 200.00 -363.83 0.00000E+00
1923; POLYGON 200.00 0.00000E+00 0.00000E+00
2104; LINE 12.855 9.2520 -1.0032
2105; PEN -1.0000 0.00000E+00 0.00000E+00
2106; START 0.00000E+00 0.00000E+00 0.00000E+00
2208; LINE 12.451 8.0158 -1.1364
2209; PEN -1.0000 0.00000E+00 0.00000E+00
2210; START 0.00000E+00 0.00000E+00 0.00000E+00
2312; LINE 11.824 9.9462 -1.2371
2313; PEN -1.0000 0.00000E+00 0.00000E+00
2314; START 0.00000E+00 0.00000E+00 0.00000E+00
2416; LINE 13.351 8.3631 -0.25215
2417; PEN -1.0000 0.00000E+00 0.00000E+00
2418; START 0.00000E+00 0.00000E+00 0.00000E+00
2520; LINE 12.653 10.273 -0.27873
2521; PEN -1.0000 0.00000E+00 0.00000E+00
2522; START 0.00000E+00 0.00000E+00 0.00000E+00
*
TIME 1.7000 0.0D0 0.0D0
1; ORIGIN 12.911 1.0069 9.2740
1891; ORIGIN 12.911 1.0069 9.2740
16; ORIGIN 0.00000E+00 1.0069 0.00000E+00
17; ROTATE 138.89 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -9.2740
21; ROTATE 0.00000E+00 -72.722 0.00000E+00
11; ROTATE 48.892 -2.6887 -72.722
481; FILL 33000.00 .0000000E+00 55535.00
32; ORIGIN 1.0340 -0.44370 -0.66420
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36; ORIGIN 1.0340 -0.35140 0.64060
1045; FILL 33000.00 .0000000E+00 55535.00
40; ORIGIN -0.99800 -0.42230 -0.65350
1327; FILL 33000.00 .0000000E+00 55535.00
44; ORIGIN -0.99800 -0.42720 0.65460
1979; FILL 65535. 65535. 0.00000E+00
1980; PEN 0.00000E+00 0.00000E+00 0.00000E+00
1913; POLYGON -100.00 420.00 0.00000E+00
1916; POLYGON -50.000 420.00 0.00000E+00
1918; FILL 57343.00 7451.000 7999.000
1920; POLYGON 150.00 0.00000E+00 0.00000E+00
1921; POLYGON 150.00 -322.47 0.00000E+00
1922; POLYGON 200.00 -322.47 0.00000E+00
1923; POLYGON 200.00 0.00000E+00 0.00000E+00
2105; LINE 12.911 9.2740 -1.0069
2106; PEN -1.0000 0.00000E+00 0.00000E+00
2107; START 0.00000E+00 0.00000E+00 0.00000E+00
2209; LINE 12.484 8.0494 -1.1669
2210; PEN -1.0000 0.00000E+00 0.00000E+00
2211; START 0.00000E+00 0.00000E+00 0.00000E+00
2313; LINE 11.904 9.9941 -1.2682
2314; PEN -1.0000 0.00000E+00 0.00000E+00
2315; START 0.00000E+00 0.00000E+00 0.00000E+00
2417; LINE 13.357 8.3662 -0.24548
2418; PEN -1.0000 0.00000E+00 0.00000E+00
2419; START 0.00000E+00 0.00000E+00 0.00000E+00
2521; LINE 12.707 10.293 -0.28047
2522; PEN -1.0000 0.00000E+00 0.00000E+00
2523; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 1.7200      0.0D0 0.0D0
1; ORIGIN 12.967      1.0076      9.2956
1891; ORIGIN 12.967      1.0076      9.2956
16;ORIGIN 0.00000E+00  1.0076      0.00000E+00
17; ROTATE 140.87      0.00000E+00  0.00000E+00
20; ORIGIN 0.00000E+00  0.00000E+00 -9.2956
21; ROTATE 0.00000E+00 -74.158      0.00000E+00
11; ROTATE 50.868      -2.7076      -74.158
481; FILL 33000.00      .0000000E+00 55535.00
32;ORIGIN 1.0340      -0.44290     -0.66390
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN 1.0340      -0.35390     0.64110
1045; FILL 33000.00      .0000000E+00 55535.00
40;ORIGIN -0.99800      -0.42360     -0.65360
1327; FILL 33000.00      .0000000E+00 55535.00
44;ORIGIN -0.99800      -0.42700     0.65450
1979; FILL 65535.      65535.      0.00000E+00
1980; PEN 0.00000E+00  0.00000E+00  0.00000E+00
1913; POLYGON -100.00      432.00      0.00000E+00
1916; POLYGON -50.000      432.00      0.00000E+00
1918; FILL 57343.00      7451.000     7999.000
1920; POLYGON 150.00      0.00000E+00  0.00000E+00
1921; POLYGON 150.00      -288.20      0.00000E+00
1922; POLYGON 200.00      -288.20      0.00000E+00
1923; POLYGON 200.00      0.00000E+00  0.00000E+00
2106; LINE 12.967      9.2956      -1.0076
2107; PEN -1.0000      0.00000E+00  0.00000E+00
2108; START 0.00000E+00  0.00000E+00  0.00000E+00
2210; LINE 12.518      8.0831      -1.1939
2211; PEN -1.0000      0.00000E+00  0.00000E+00
2212; START 0.00000E+00  0.00000E+00  0.00000E+00
2314; LINE 11.985      10.041      -1.2941
2315; PEN -1.0000      0.00000E+00  0.00000E+00
2316; START 0.00000E+00  0.00000E+00  0.00000E+00
2418; LINE 13.365      8.3703      -0.23892
2419; PEN -1.0000      0.00000E+00  0.00000E+00
2420; START 0.00000E+00  0.00000E+00  0.00000E+00
2522; LINE 12.764      10.312      -0.27844
2523; PEN -1.0000      0.00000E+00  0.00000E+00
2524; START 0.00000E+00  0.00000E+00  0.00000E+00

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TIME 1.7400      0.0D0 0.0D0
1; ORIGIN 13.024      1.0054      9.3168
1891; ORIGIN 13.024      1.0054      9.3168
16;ORIGIN 0.00000E+00  1.0054      0.00000E+00
17; ROTATE 142.76      0.00000E+00  0.00000E+00
20; ORIGIN 0.00000E+00  0.00000E+00 -9.3168
21; ROTATE 0.00000E+00 -75.581      0.00000E+00
11; ROTATE 52.759      -2.6464      -75.581
481; FILL 33000.00      .0000000E+00 55535.00
32;ORIGIN 1.0340      -0.44160     -0.66350
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN 1.0340      -0.35690     0.64180
1045; FILL 33000.00      .0000000E+00 55535.00
40;ORIGIN -0.99800      -0.42460     -0.65380
1327; FILL 33000.00      .0000000E+00 55535.00
44;ORIGIN -0.99800      -0.42690     0.65430

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1979;	FILL	65535.	65535.	0.00000E+00
1980;	PEN	0.00000E+00	0.00000E+00	0.00000E+00
1913;	POLYGON	-100.00	444.00	0.00000E+00
1916;	POLYGON	-50.000	444.00	0.00000E+00
1918;	FILL	57343.00	7451.000	7999.000
1920;	POLYGON	150.00	0.00000E+00	0.00000E+00
1921;	POLYGON	150.00	-259.51	0.00000E+00
1922;	POLYGON	200.00	-259.51	0.00000E+00
1923;	POLYGON	200.00	0.00000E+00	0.00000E+00
2107;	LINE	13.024	9.3168	-1.0054
2108;	PEN	-1.0000	0.00000E+00	0.00000E+00
2109;	START	0.00000E+00	0.00000E+00	0.00000E+00
2211;	LINE	12.554	8.1172	-1.2183
2212;	PEN	-1.0000	0.00000E+00	0.00000E+00
2213;	START	0.00000E+00	0.00000E+00	0.00000E+00
2315;	LINE	12.068	10.088	-1.3147
2316;	PEN	-1.0000	0.00000E+00	0.00000E+00
2317;	START	0.00000E+00	0.00000E+00	0.00000E+00
2419;	LINE	13.373	8.3750	-0.23152
2420;	PEN	-1.0000	0.00000E+00	0.00000E+00
2421;	START	0.00000E+00	0.00000E+00	0.00000E+00
2523;	LINE	12.821	10.331	-0.27308
2524;	PEN	-1.0000	0.00000E+00	0.00000E+00
2525;	START	0.00000E+00	0.00000E+00	0.00000E+00

*

TIME	1.7600	0.0D0	0.0D0	
1;	ORIGIN	13.080	1.0005	9.3376
1891;	ORIGIN	13.080	1.0005	9.3376
16;	ORIGIN	0.00000E+00	1.0005	0.00000E+00
17;	ROTATE	144.58	0.00000E+00	0.00000E+00
20;	ORIGIN	0.00000E+00	0.00000E+00	-9.3376
21;	ROTATE	0.00000E+00	-76.992	0.00000E+00
11;	ROTATE	54.583	-2.5032	-76.992
481;	FILL	33000.00	.0000000E+00	55535.00
32;	ORIGIN	1.0340	-0.43960	-0.66300
763;	FILL	.0000000E+00	.0000000E+00	.0000000E+00
36;	ORIGIN	1.0340	-0.36030	0.64270
1045;	FILL	33000.00	.0000000E+00	55535.00
40;	ORIGIN	-0.99800	-0.42530	-0.65390
1327;	FILL	33000.00	.0000000E+00	55535.00
44;	ORIGIN	-0.99800	-0.42680	0.65420
1979;	FILL	65535.	65535.	0.00000E+00
1980;	PEN	0.00000E+00	0.00000E+00	0.00000E+00
1913;	POLYGON	-100.00	456.00	0.00000E+00
1916;	POLYGON	-50.000	456.00	0.00000E+00
1918;	FILL	57343.00	7451.000	7999.000
1920;	POLYGON	150.00	0.00000E+00	0.00000E+00
1921;	POLYGON	150.00	-236.18	0.00000E+00
1922;	POLYGON	200.00	-236.18	0.00000E+00
1923;	POLYGON	200.00	0.00000E+00	0.00000E+00
2108;	LINE	13.080	9.3376	-1.0005
2109;	PEN	-1.0000	0.00000E+00	0.00000E+00
2110;	START	0.00000E+00	0.00000E+00	0.00000E+00
2212;	LINE	12.592	8.1518	-1.2406
2213;	PEN	-1.0000	0.00000E+00	0.00000E+00
2214;	START	0.00000E+00	0.00000E+00	0.00000E+00
2316;	LINE	12.151	10.133	-1.3302
2317;	PEN	-1.0000	0.00000E+00	0.00000E+00

2318; START 0.00000E+00 0.00000E+00 0.00000E+00
 2420; LINE 13.382 8.3801 -0.22347
 2421; PEN -1.0000 0.00000E+00 0.00000E+00
 2422; START 0.00000E+00 0.00000E+00 0.00000E+00
 2524; LINE 12.878 10.349 -0.26435
 2525; PEN -1.0000 0.00000E+00 0.00000E+00
 2526; START 0.00000E+00 0.00000E+00 0.00000E+00
 *
 TIME 1.7800 0.0D0 0.0D0
 1; ORIGIN 13.137 0.99280 9.3580
 1891; ORIGIN 13.137 0.99280 9.3580
 16;ORIGIN 0.00000E+00 0.99280 0.00000E+00
 17; ROTATE 146.36 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -9.3580
 21; ROTATE 0.00000E+00 -78.394 0.00000E+00
 11; ROTATE 56.359 -2.2738 -78.394
 481; FILL 33000.00 .0000000E+00 55535.00
 32;ORIGIN 1.0340 -0.43720 -0.66240
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36;ORIGIN 1.0340 -0.36380 0.64360
 1045; FILL 33000.00 .0000000E+00 55535.00
 40;ORIGIN -0.99800 -0.42600 -0.65400
 1327; FILL 33000.00 .0000000E+00 55535.00
 44;ORIGIN -0.99800 -0.42660 0.65410
 1979; FILL 65535. 65535. 0.00000E+00
 1980; PEN 0.00000E+00 0.00000E+00 0.00000E+00
 1913; POLYGON -100.00 468.00 0.00000E+00
 1916; POLYGON -50.000 468.00 0.00000E+00
 1918; FILL 57343.00 7451.000 7999.000
 1920; POLYGON 150.00 0.00000E+00 0.00000E+00
 1921; POLYGON 150.00 -218.41 0.00000E+00
 1922; POLYGON 200.00 -218.41 0.00000E+00
 1923; POLYGON 200.00 0.00000E+00 0.00000E+00
 2109; LINE 13.137 9.3580 -0.99280
 2110; PEN -1.0000 0.00000E+00 0.00000E+00
 2111; START 0.00000E+00 0.00000E+00 0.00000E+00
 2213; LINE 12.631 8.1868 -1.2607
 2214; PEN -1.0000 0.00000E+00 0.00000E+00
 2215; START 0.00000E+00 0.00000E+00 0.00000E+00
 2317; LINE 12.236 10.178 -1.3406
 2318; PEN -1.0000 0.00000E+00 0.00000E+00
 2319; START 0.00000E+00 0.00000E+00 0.00000E+00
 2421; LINE 13.392 8.3854 -0.21501
 2422; PEN -1.0000 0.00000E+00 0.00000E+00
 2423; START 0.00000E+00 0.00000E+00 0.00000E+00
 2525; LINE 12.937 10.367 -0.25212
 2526; PEN -1.0000 0.00000E+00 0.00000E+00
 2527; START 0.00000E+00 0.00000E+00 0.00000E+00
 *

TIME 1.8000 0.0D0 0.0D0
 1; ORIGIN 13.194 0.98250 9.3779
 1891; ORIGIN 13.194 0.98250 9.3779
 16;ORIGIN 0.00000E+00 0.98250 0.00000E+00
 17; ROTATE 148.11 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -9.3779
 21; ROTATE 0.00000E+00 -79.788 0.00000E+00
 11; ROTATE 58.109 -1.9528 -79.788
 481; FILL 33000.00 .0000000E+00 55535.00

32;ORIGIN 1.0340 -0.43450 -0.66180
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36;ORIGIN 1.0340 -0.36720 0.64460
 1045; FILL 33000.00 .0000000E+00 55535.00
 40;ORIGIN -0.99800 -0.42660 -0.65410
 1327; FILL 55535.00 .0000000E+00 33000.00
 44;ORIGIN -0.99800 -0.42640 0.65400
 1979; FILL 65535. 65535. 0.00000E+00
 1980; PEN 0.00000E+00 0.00000E+00 0.00000E+00
 1913; POLYGON -100.00 480.00 0.00000E+00
 1916; POLYGON -50.000 480.00 0.00000E+00
 1918; FILL 57343.00 7451.000 7999.000
 1920; POLYGON 150.00 0.00000E+00 0.00000E+00
 1921; POLYGON 150.00 -205.96 0.00000E+00
 1922; POLYGON 200.00 -205.96 0.00000E+00
 1923; POLYGON 200.00 0.00000E+00 0.00000E+00
 2110; LINE 13.194 9.3779 -0.98250
 2111; PEN -1.0000 0.00000E+00 0.00000E+00
 2112; START 0.00000E+00 0.00000E+00 0.00000E+00
 2214; LINE 12.672 8.2223 -1.2794
 2215; PEN -1.0000 0.00000E+00 0.00000E+00
 2216; START 0.00000E+00 0.00000E+00 0.00000E+00
 2318; LINE 12.322 10.223 -1.3463
 2319; PEN -1.0000 0.00000E+00 0.00000E+00
 2320; START 0.00000E+00 0.00000E+00 0.00000E+00
 2422; LINE 13.401 8.3909 -0.20641
 2423; PEN -1.0000 0.00000E+00 0.00000E+00
 2424; START 0.00000E+00 0.00000E+00 0.00000E+00
 2526; LINE 12.996 10.383 -0.23641
 2527; PEN -1.0000 0.00000E+00 0.00000E+00
 2528; START 0.00000E+00 0.00000E+00 0.00000E+00

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TIME 1.8200 0.0D0 0.0D0
 1; ORIGIN 13.250 0.96980 9.3973
 1891; ORIGIN 13.250 0.96980 9.3973
 16;ORIGIN 0.00000E+00 0.96980 0.00000E+00
 17; ROTATE 149.86 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -9.3973
 21; ROTATE 0.00000E+00 -81.175 0.00000E+00
 11; ROTATE 59.855 -1.5353 -81.175
 481; FILL 33000.00 .0000000E+00 55535.00
 32;ORIGIN 1.0340 -0.43190 -0.66120
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36;ORIGIN 1.0340 -0.37040 0.64550
 1045; FILL 33000.00 .0000000E+00 55535.00
 40;ORIGIN -0.99800 -0.42720 -0.65420
 1327; FILL 55535.00 .0000000E+00 33000.00
 44;ORIGIN -0.99800 -0.42620 0.65390
 1979; FILL 65535. 65535. 0.00000E+00
 1980; PEN 0.00000E+00 0.00000E+00 0.00000E+00
 1913; POLYGON -100.00 492.00 0.00000E+00
 1916; POLYGON -50.000 492.00 0.00000E+00
 1918; FILL 57343.00 7451.000 7999.000
 1920; POLYGON 150.00 0.00000E+00 0.00000E+00
 1921; POLYGON 150.00 -199.97 0.00000E+00
 1922; POLYGON 200.00 -199.97 0.00000E+00
 1923; POLYGON 200.00 0.00000E+00 0.00000E+00
 2111; LINE 13.250 9.3973 -0.96980

2112; PEN -1.0000 0.00000E+00 0.00000E+00
 2113; START 0.00000E+00 0.00000E+00 0.00000E+00
 2215; LINE 12.713 8.2582 -1.2968
 2216; PEN -1.0000 0.00000E+00 0.00000E+00
 2217; START 0.00000E+00 0.00000E+00 0.00000E+00
 2319; LINE 12.409 10.267 -1.3475
 2320; PEN -1.0000 0.00000E+00 0.00000E+00
 2321; START 0.00000E+00 0.00000E+00 0.00000E+00
 2423; LINE 13.410 8.3962 -0.19815
 2424; PEN -1.0000 0.00000E+00 0.00000E+00
 2425; START 0.00000E+00 0.00000E+00 0.00000E+00
 2527; LINE 13.054 10.398 -0.21732
 2528; PEN -1.0000 0.00000E+00 0.00000E+00
 2529; START 0.00000E+00 0.00000E+00 0.00000E+00
 *
 TIME 1.8400 0.0D0 0.0D0
 1; ORIGIN 13.307 0.95500 9.4163
 1891; ORIGIN 13.307 0.95500 9.4163
 16; ORIGIN 0.00000E+00 0.95500 0.00000E+00
 17; ROTATE 151.64 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -9.4163
 21; ROTATE 0.00000E+00 -82.549 0.00000E+00
 11; ROTATE 61.637 -1.0230 -82.549
 481; FILL 33000.00 .0000000E+00 55535.00
 32; ORIGIN 1.0340 -0.43000 -0.66070
 763; FILL .0000000E+00 .0000000E+00 .0000000E+00
 36; ORIGIN 1.0340 -0.37290 0.64610
 1045; FILL 33000.00 .0000000E+00 55535.00
 40; ORIGIN -0.99800 -0.42740 -0.65420
 1327; FILL 55535.00 .0000000E+00 33000.00
 44; ORIGIN -0.99800 -0.42630 0.65390
 1979; FILL 65535. 65535. 0.00000E+00
 1980; PEN 0.00000E+00 0.00000E+00 0.00000E+00
 1913; POLYGON -100.00 504.00 0.00000E+00
 1916; POLYGON -50.000 504.00 0.00000E+00
 1918; FILL 57343.00 7451.000 7999.000
 1920; POLYGON 150.00 0.00000E+00 0.00000E+00
 1921; POLYGON 150.00 -211.02 0.00000E+00
 1922; POLYGON 200.00 -211.02 0.00000E+00
 1923; POLYGON 200.00 0.00000E+00 0.00000E+00
 2112; LINE 13.307 9.4163 -0.95500
 2113; PEN -1.0000 0.00000E+00 0.00000E+00
 2114; START 0.00000E+00 0.00000E+00 0.00000E+00
 2216; LINE 12.756 8.2947 -1.3135
 2217; PEN -1.0000 0.00000E+00 0.00000E+00
 2218; START 0.00000E+00 0.00000E+00 0.00000E+00
 2320; LINE 12.497 10.310 -1.3453
 2321; PEN -1.0000 0.00000E+00 0.00000E+00
 2322; START 0.00000E+00 0.00000E+00 0.00000E+00
 2424; LINE 13.419 8.4017 -0.19097
 2425; PEN -1.0000 0.00000E+00 0.00000E+00
 2426; START 0.00000E+00 0.00000E+00 0.00000E+00
 2528; LINE 13.112 10.411 -0.19502
 2529; PEN -1.0000 0.00000E+00 0.00000E+00
 2530; START 0.00000E+00 0.00000E+00 0.00000E+00
 *
 TIME 1.8600 0.0D0 0.0D0
 1; ORIGIN 13.363 0.93860 9.4345

1891; ORIGIN 13.363 0.93860 9.4345
16;ORIGIN 0.00000E+00 0.93860 0.00000E+00
17; ROTATE 153.56 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -9.4345
21; ROTATE 0.00000E+00 -83.886 0.00000E+00
11; ROTATE 63.559 -0.43810 -83.886
481; FILL 33000.00 .0000000E+00 55535.00
32;ORIGIN 1.0340 -0.42970 -0.66060
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN 1.0340 -0.37420 0.64630
1045; FILL 33000.00 .0000000E+00 55535.00
40;ORIGIN -0.99800 -0.42640 -0.65380
1327; FILL 55535.00 .0000000E+00 33000.00
44;ORIGIN -0.99800 -0.42830 0.65430
1979; FILL 65535. 65535. 0.00000E+00
1980; PEN 0.00000E+00 0.00000E+00 0.00000E+00
1913; POLYGON -100.00 516.00 0.00000E+00
1916; POLYGON -50.000 516.00 0.00000E+00
1918; FILL 57343.00 7451.000 7999.000
1920; POLYGON 150.00 0.00000E+00 0.00000E+00
1921; POLYGON 150.00 -274.16 0.00000E+00
1922; POLYGON 200.00 -274.16 0.00000E+00
1923; POLYGON 200.00 0.00000E+00 0.00000E+00
2113; LINE 13.363 9.4345 -0.93860
2114; PEN -1.0000 0.00000E+00 0.00000E+00
2115; START 0.00000E+00 0.00000E+00 0.00000E+00
2217; LINE 12.799 8.3310 -1.3308
2218; PEN -1.0000 0.00000E+00 0.00000E+00
2219; START 0.00000E+00 0.00000E+00 0.00000E+00
2321; LINE 12.588 10.352 -1.3417
2322; PEN -1.0000 0.00000E+00 0.00000E+00
2323; START 0.00000E+00 0.00000E+00 0.00000E+00
2425; LINE 13.426 8.4071 -0.18540
2426; PEN -1.0000 0.00000E+00 0.00000E+00
2427; START 0.00000E+00 0.00000E+00 0.00000E+00
2529; LINE 13.165 10.423 -0.16968
2530; PEN -1.0000 0.00000E+00 0.00000E+00
2531; START 0.00000E+00 0.00000E+00 0.00000E+00

*

TIME 1.8800 0.0D0 0.0D0
1; ORIGIN 13.418 0.92190 9.4513
1891; ORIGIN 13.418 0.92190 9.4513
16;ORIGIN 0.00000E+00 0.92190 0.00000E+00
17; ROTATE 155.86 0.00000E+00 0.00000E+00
20; ORIGIN 0.00000E+00 0.00000E+00 -9.4513
21; ROTATE 0.00000E+00 -85.115 0.00000E+00
11; ROTATE 65.858 0.16970 -85.115
481; FILL 33000.00 .0000000E+00 55535.00
32;ORIGIN 1.0340 -0.43240 -0.66100
763; FILL .0000000E+00 .0000000E+00 .0000000E+00
36;ORIGIN 1.0340 -0.37270 0.64570
1045; FILL 33000.00 .0000000E+00 55535.00
40;ORIGIN -0.99800 -0.42250 -0.65250
1327; FILL 55535.00 .0000000E+00 33000.00
44;ORIGIN -0.99800 -0.43510 0.65560
1979; FILL 65535. 65535. 0.00000E+00
1980; PEN 0.00000E+00 0.00000E+00 0.00000E+00
1913; POLYGON -100.00 528.00 0.00000E+00

1916;	POLYGON	-50.000	528.00	0.00000E+00
1918;	FILL	57343.00	7451.000	7999.000
1920;	POLYGON	150.00	0.00000E+00	0.00000E+00
1921;	POLYGON	150.00	-473.37	0.00000E+00
1922;	POLYGON	200.00	-473.37	0.00000E+00
1923;	POLYGON	200.00	0.00000E+00	0.00000E+00
2114;	LINE	13.418	9.4513	-0.92190
2115;	PEN	-1.0000	0.00000E+00	0.00000E+00
2116;	START	0.00000E+00	0.00000E+00	0.00000E+00
2218;	LINE	12.844	8.3656	-1.3512
2219;	PEN	-1.0000	0.00000E+00	0.00000E+00
2220;	START	0.00000E+00	0.00000E+00	0.00000E+00
2322;	LINE	12.683	10.391	-1.3415
2323;	PEN	-1.0000	0.00000E+00	0.00000E+00
2324;	START	0.00000E+00	0.00000E+00	0.00000E+00
2426;	LINE	13.431	8.4124	-0.18330
2427;	PEN	-1.0000	0.00000E+00	0.00000E+00
2428;	START	0.00000E+00	0.00000E+00	0.00000E+00
2530;	LINE	13.205	10.432	-0.14272
2531;	PEN	-1.0000	0.00000E+00	0.00000E+00
2532;	START	0.00000E+00	0.00000E+00	0.00000E+00

*

TIME	1.9000	0.0D0	0.0D0	
1;	ORIGIN	13.470	0.90630	9.4641
1891;	ORIGIN	13.470	0.90630	9.4641
16;	ORIGIN	0.00000E+00	0.90630	0.00000E+00
17;	ROTATE	158.89	0.00000E+00	0.00000E+00
20;	ORIGIN	0.00000E+00	0.00000E+00	-9.4641
21;	ROTATE	0.00000E+00	-86.114	0.00000E+00
11;	ROTATE	68.888	0.78910	-86.114
481;	FILL	33000.00	.0000000E+00	55535.00
32;	ORIGIN	1.0340	-0.43890	-0.66190
763;	FILL	55535.00	.0000000E+00	33000.00
36;	ORIGIN	1.0340	-0.37030	0.64440
1045;	FILL	33000.00	.0000000E+00	55535.00
40;	ORIGIN	-0.99800	-0.41490	-0.65010
1327;	FILL	55535.00	.0000000E+00	33000.00
44;	ORIGIN	-0.99800	-0.44540	0.65760
1979;	FILL	65535.	65535.	0.00000E+00
1980;	PEN	0.00000E+00	0.00000E+00	0.00000E+00
1913;	POLYGON	-100.00	540.00	0.00000E+00
1916;	POLYGON	-50.000	540.00	0.00000E+00
1918;	FILL	57343.00	7451.000	7999.000
1920;	POLYGON	150.00	0.00000E+00	0.00000E+00
1921;	POLYGON	150.00	-600.00	0.00000E+00
1922;	POLYGON	200.00	-600.00	0.00000E+00
1923;	POLYGON	200.00	0.00000E+00	0.00000E+00
2115;	LINE	13.470	9.4641	-0.90630
2116;	PEN	-1.0000	0.00000E+00	0.00000E+00
2117;	START	0.00000E+00	0.00000E+00	0.00000E+00
2219;	LINE	12.894	8.3949	-1.3798
2220;	PEN	-1.0000	0.00000E+00	0.00000E+00
2221;	START	0.00000E+00	0.00000E+00	0.00000E+00
2323;	LINE	12.782	10.424	-1.3495
2324;	PEN	-1.0000	0.00000E+00	0.00000E+00
2325;	START	0.00000E+00	0.00000E+00	0.00000E+00
2427;	LINE	13.428	8.4148	-0.18607
2428;	PEN	-1.0000	0.00000E+00	0.00000E+00

2429; START 0.00000E+00 0.00000E+00 0.00000E+00
 2531; LINE 13.225 10.437 -0.11873
 2532; PEN -1.0000 0.00000E+00 0.00000E+00
 2533; START 0.00000E+00 0.00000E+00 0.00000E+00
 *
 TIME 1.9200 0.0D0 0.0D0
 1; ORIGIN 13.519 0.89350 9.4706
 1891; ORIGIN 13.519 0.89350 9.4706
 16; ORIGIN 0.00000E+00 0.89350 0.00000E+00
 17; ROTATE 162.83 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -9.4706
 21; ROTATE 0.00000E+00 -86.851 0.00000E+00
 11; ROTATE 72.832 1.3676 -86.851
 481; FILL 33000.00 .0000000E+00 55535.00
 32; ORIGIN 1.0340 -0.44370 -0.66230
 763; FILL 55535.00 .0000000E+00 33000.00
 36; ORIGIN 1.0340 -0.37150 0.64380
 1045; FILL 33000.00 .0000000E+00 55535.00
 40; ORIGIN -0.99800 -0.40510 -0.64900
 1327; FILL .0000000E+00 .0000000E+00 .0000000E+00
 44; ORIGIN -0.99800 -0.44370 0.65850
 1979; FILL 65535. 65535. 0.00000E+00
 1980; PEN 0.00000E+00 0.00000E+00 0.00000E+00
 1913; POLYGON -100.00 552.00 0.00000E+00
 1916; POLYGON -50.000 552.00 0.00000E+00
 1918; FILL 57343.00 7451.000 7999.000
 1920; POLYGON 150.00 0.00000E+00 0.00000E+00
 1921; POLYGON 150.00 -600.00 0.00000E+00
 1922; POLYGON 200.00 -600.00 0.00000E+00
 1923; POLYGON 200.00 0.00000E+00 0.00000E+00
 2116; LINE 13.519 9.4706 -0.89350
 2117; PEN -1.0000 0.00000E+00 0.00000E+00
 2118; START 0.00000E+00 0.00000E+00 0.00000E+00
 2220; LINE 12.957 8.4163 -1.4198
 2221; PEN -1.0000 0.00000E+00 0.00000E+00
 2222; START 0.00000E+00 0.00000E+00 0.00000E+00
 2324; LINE 12.886 10.447 -1.3700
 2325; PEN -1.0000 0.00000E+00 0.00000E+00
 2326; START 0.00000E+00 0.00000E+00 0.00000E+00
 2428; LINE 13.413 8.4121 -0.19359
 2429; PEN -1.0000 0.00000E+00 0.00000E+00
 2430; START 0.00000E+00 0.00000E+00 0.00000E+00
 2532; LINE 13.236 10.436 -0.10975
 2533; PEN -1.0000 0.00000E+00 0.00000E+00
 2534; START 0.00000E+00 0.00000E+00 0.00000E+00

*
 TIME 1.9400 0.0D0 0.0D0
 1; ORIGIN 13.567 0.88250 9.4738
 1891; ORIGIN 13.567 0.88250 9.4738
 16; ORIGIN 0.00000E+00 0.88250 0.00000E+00
 17; ROTATE 167.32 0.00000E+00 0.00000E+00
 20; ORIGIN 0.00000E+00 0.00000E+00 -9.4738
 21; ROTATE 0.00000E+00 -87.518 0.00000E+00
 11; ROTATE 77.320 1.8271 -87.518
 481; FILL 33000.00 .0000000E+00 55535.00
 32; ORIGIN 1.0340 -0.44240 -0.66140
 763; FILL 33000.00 .0000000E+00 55535.00
 36; ORIGIN 1.0340 -0.37910 0.64520

1045; FILL	33000.00	.0000000E+00	55535.00
40;ORIGIN	-0.99800	-0.40400	-0.65000
1327; FILL	55535.00	.0000000E+00	33000.00
44;ORIGIN	-0.99800	-0.43590	0.65780
1979; FILL	65535.	65535.	0.00000E+00
1980; PEN	0.00000E+00	0.00000E+00	0.00000E+00
1913; POLYGON	-100.00	564.00	0.00000E+00
1916; POLYGON	-50.000	564.00	0.00000E+00
1918; FILL	57343.00	7451.000	7999.000
1920; POLYGON	150.00	0.00000E+00	0.00000E+00
1921; POLYGON	150.00	-600.00	0.00000E+00
1922; POLYGON	200.00	-600.00	0.00000E+00
1923; POLYGON	200.00	0.00000E+00	0.00000E+00
2117; LINE	13.567	9.4738	-0.88250
2118; PEN	-1.0000	0.00000E+00	0.00000E+00
2119; START	0.00000E+00	0.00000E+00	0.00000E+00
2221; LINE	13.035	8.4337	-1.4633
2222; PEN	-1.0000	0.00000E+00	0.00000E+00
2223; START	0.00000E+00	0.00000E+00	0.00000E+00
2325; LINE	12.987	10.464	-1.3958
2326; PEN	-1.0000	0.00000E+00	0.00000E+00
2327; START	0.00000E+00	0.00000E+00	0.00000E+00
2429; LINE	13.385	8.4087	-0.20313
2430; PEN	-1.0000	0.00000E+00	0.00000E+00
2431; START	0.00000E+00	0.00000E+00	0.00000E+00
2533; LINE	13.244	10.435	-0.11359
2534; PEN	-1.0000	0.00000E+00	0.00000E+00
2535; START	0.00000E+00	0.00000E+00	0.00000E+00

*

TIME	1.9600	0.0D0	0.0D0
1; ORIGIN	13.615	0.87020	9.4755
1891; ORIGIN	13.615	0.87020	9.4755
16;ORIGIN	0.00000E+00	0.87020	0.00000E+00
17; ROTATE	171.99	0.00000E+00	0.00000E+00
20; ORIGIN	0.00000E+00	0.00000E+00	-9.4755
21; ROTATE	0.00000E+00	-88.194	0.00000E+00
11; ROTATE	81.989	2.2382	-88.194
481; FILL	33000.00	.0000000E+00	55535.00
32;ORIGIN	1.0340	-0.43860	-0.65970
763; FILL	33000.00	.0000000E+00	55535.00
36;ORIGIN	1.0340	-0.39090	0.64750
1045; FILL	33000.00	.0000000E+00	55535.00
40;ORIGIN	-0.99800	-0.41150	-0.65160
1327; FILL	55535.00	.0000000E+00	33000.00
44;ORIGIN	-0.99800	-0.43090	0.65630
1979; FILL	65535.	65535.	0.00000E+00
1980; PEN	0.00000E+00	0.00000E+00	0.00000E+00
1913; POLYGON	-100.00	576.00	0.00000E+00
1916; POLYGON	-50.000	576.00	0.00000E+00
1918; FILL	57343.00	7451.000	7999.000
1920; POLYGON	150.00	0.00000E+00	0.00000E+00
1921; POLYGON	150.00	-600.00	0.00000E+00
1922; POLYGON	200.00	-600.00	0.00000E+00
1923; POLYGON	200.00	0.00000E+00	0.00000E+00
2118; LINE	13.615	9.4755	-0.87020
2119; PEN	-1.0000	0.00000E+00	0.00000E+00
2120; START	0.00000E+00	0.00000E+00	0.00000E+00
2222; LINE	13.121	8.4493	-1.5022

2223; PEN -1.0000 0.00000E+00 0.00000E+00
2224; START 0.00000E+00 0.00000E+00 0.00000E+00
2326; LINE 13.085 10.479 -1.4186
2327; PEN -1.0000 0.00000E+00 0.00000E+00
2328; START 0.00000E+00 0.00000E+00 0.00000E+00
2430; LINE 13.352 8.4063 -0.21542
2431; PEN -1.0000 0.00000E+00 0.00000E+00
2432; START 0.00000E+00 0.00000E+00 0.00000E+00
2534; LINE 13.250 10.434 -0.12178
2535; PEN -1.0000 0.00000E+00 0.00000E+00
2536; START 0.00000E+00 0.00000E+00 0.00000E+00

*

APPENDIX D

INPUT DATA FILES AND RUN TIME DATA FOR SAMPLE SIMULATION RUNS

AVRM SIMULATION

EXAMPLE 1 - TEST6

ADVS.INP

```
SAMURAI,SKID IN TURM INTO SLOPE, U=15.0 M/S
VDATE.DAT File Name :VDATE.DAT
SUSP. CONFIG. INDEX:    4
SIMUL. START TIME   : 0.0
SIMUL. RUN TIME     : 6.0
STEP OF INTEGRATION: 5.0D-04
STEP FOR PRINTING   : 2.0D-02
INTEGR. ERR. CRIT.  : 5.0D-05
U                   [M/S] : 15.0
V                   [M/S] : 0.0
PSI                 [DEG.] : 50.0
PHI_MAX             [DEG.] : 100.0
(-RESERVED-)       : 0.0
```

BODYNOD.DAT

```
17
 4
0.05000000000000001
0.40000000000000000
556000.00000000000
1400000.00000000000
0.00000000000000000E+00
0.00000000000000000E+00
27800.0000000000000
5.00000000000000000E-02
87900.0000000000000
0.20300000000000000
198000.00000000000
0.40000000000000000
 4
5.00000000000000000E-02
0.40000000000000000
356000.00000000000
1400000.00000000000
0.00000000000000000E+00
0.00000000000000000E+00
17800.0000000000000
5.00000000000000000E-02
```

47900.000000000000
0.2030000000000000
98000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.000000000000
5.0000000000000000E-02
47900.000000000000
0.2030000000000000
98000.0000000000
0.4000000000000000
4
0.05000000000000002
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.000000000000
5.0000000000000000E-02
87900.000000000000
0.2030000000000000
198000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.000000000000
5.0000000000000000E-02
47900.000000000000
0.2030000000000000
98000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.000000000000
5.0000000000000000E-02
47900.000000000000
0.2030000000000000
98000.0000000000
0.4000000000000000
4
5.00000000000000003E-02

0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.0000000000
5.0000000000000000E-02
87900.0000000000
0.2030000000000000
198000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.0000000000
5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.0000000000
5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
0.4000000000000000
4
0.05000000000000004
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.0000000000
5.0000000000000000E-02
87900.0000000000
0.2030000000000000
198000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.0000000000

5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
0.4000000000000000

4

5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.0000000000
5.0000000000000000E-02
47900.0000000000
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98000.0000000000
0.4000000000000000

4

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0.0000000000000000E+00
27800.0000000000
5.0000000000000000E-02
87900.0000000000
0.2030000000000000
198000.0000000000
0.4000000000000000

4

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556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.0000000000
5.0000000000000000E-02
87900.0000000000
0.2030000000000000
198000.0000000000
0.4000000000000000

4

5.0000000000000000E-02
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356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.0000000000
5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
0.4000000000000000

4

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1400000.0000000000
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0.0000000000000000E+00
11120.000000000000
5.0000000000000000E-02
35160.000000000000
0.4030000000000000
79200.000000000000
0.7000000000000000

4

5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.000000000000
5.0000000000000000E-02
47900.000000000000
0.2030000000000000
98000.000000000000
0.4000000000000000

4

5.0000000000000000E-02
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556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.000000000000
5.0000000000000000E-02
87900.000000000000
0.2030000000000000
198000.0000000000
0.4000000000000000

4

5.0000000000000007E-02
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222400.0000000000
1400000.0000000000
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0.0000000000000000E+00
11120.000000000000
5.0000000000000000E-02
35160.000000000000
0.4030000000000000
79200.000000000000
0.7000000000000000

4

5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00

17800.000000000000
 5.0000000000000000E-02
 47900.000000000000
 0.2030000000000000
 98000.000000000000
 0.4000000000000000
 4
 5.0000000000000000E-02
 0.4000000000000000
 556000.000000000000
 1400000.000000000000
 0.0000000000000000E+00
 0.0000000000000000E+00
 27800.000000000000
 5.0000000000000000E-02
 87900.000000000000
 0.2030000000000000
 198000.000000000000
 0.4000000000000000
 4
 0.05000000000000008
 0.4000000000000000
 556000.000000000000
 1400000.000000000000
 0.0000000000000000E+00
 0.0000000000000000E+00
 27800.000000000000
 5.0000000000000000E-02
 87900.000000000000
 0.2030000000000000
 198000.000000000000
 0.4000000000000000
 4
 5.0000000000000000E-02
 0.4000000000000000
 356000.000000000000
 1400000.000000000000
 0.0000000000000000E+00
 0.0000000000000000E+00
 17800.000000000000
 5.0000000000000000E-02
 47900.000000000000
 0.2030000000000000
 98000.000000000000
 0.4000000000000000
 4
 5.0000000000000000E-02
 0.7000000000000000
 10000.000000000000
 140000.000000000000
 0.0000000000000000E+00
 0.0000000000000000E+00
 500.000000000000
 5.0000000000000000E-02
 860.000000000000
 0.4030000000000000
 1200.000000000000
 0.7000000000000000

4
5.0000000000000009E-02
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.0000000000
5.0000000000000000E-02
87900.0000000000
0.2030000000000000
198000.0000000000
0.4000000000000000

4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.0000000000
5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
0.4000000000000000

4
5.0000000000000000E-02
0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.0000000000
5.0000000000000000E-02
860.0000000000
0.4030000000000000
1200.0000000000
0.7000000000000000

4
0.0500000000000010
0.7000000000000000
222400.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
11120.0000000000
5.0000000000000000E-02
35160.0000000000
0.4030000000000000
79200.0000000000
0.7000000000000000

4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00

0.0000000000000000E+00
17800.0000000000
5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.0000000000
5.0000000000000000E-02
87900.0000000000
0.2030000000000000
198000.0000000000
0.4000000000000000
4
5.000000000000000011E-02
0.7000000000000000
222400.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
11120.0000000000
5.0000000000000000E-02
35160.0000000000
0.4030000000000000
79200.0000000000
0.7000000000000000
4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.0000000000
5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.0000000000
5.0000000000000000E-02
87900.0000000000
0.2030000000000000
198000.0000000000

```

0.40000000000000000
  4
0.05000000000000012
0.70000000000000000
  10000.000000000000
  140000.000000000000
0.00000000000000000E+00
0.00000000000000000E+00
  500.00000000000000
5.00000000000000000E-02
  860.00000000000000
0.40300000000000000
  1200.00000000000000
0.70000000000000000
  4
5.00000000000000000E-02
0.70000000000000000
  10000.000000000000
  140000.000000000000
0.00000000000000000E+00
0.00000000000000000E+00
  500.00000000000000
5.00000000000000000E-02
  860.00000000000000
0.40300000000000000
  1200.00000000000000
0.70000000000000000
  4
5.00000000000000000E-02
0.70000000000000000
  10000.000000000000
  140000.000000000000
0.00000000000000000E+00
0.00000000000000000E+00
  500.00000000000000
5.00000000000000000E-02
  860.00000000000000
0.40300000000000000
  1200.00000000000000
0.70000000000000000
  4
0.05000000000000013
0.70000000000000000
  10000.000000000000
  140000.000000000000
0.00000000000000000E+00
0.00000000000000000E+00
  500.00000000000000
5.00000000000000000E-02
  860.00000000000000
0.40300000000000000
  1200.00000000000000
0.70000000000000000
  4
5.00000000000000000E-02
0.70000000000000000
  10000.000000000000
  140000.000000000000

```

0.0000000000000000E+00
 0.0000000000000000E+00
 500.000000000000
 5.0000000000000000E-02
 860.000000000000
 0.4030000000000000
 1200.000000000000
 0.7000000000000000
 4
 5.0000000000000000E-02
 0.7000000000000000
 10000.000000000000
 140000.000000000000
 0.0000000000000000E+00
 0.0000000000000000E+00
 500.000000000000
 5.0000000000000000E-02
 860.000000000000
 0.4030000000000000
 1200.000000000000
 0.7000000000000000
 4
 0.050000000000000014
 0.7000000000000000
 10000.000000000000
 140000.000000000000
 0.0000000000000000E+00
 0.0000000000000000E+00
 500.000000000000
 5.0000000000000000E-02
 860.000000000000
 0.4030000000000000
 1200.000000000000
 0.7000000000000000
 4
 5.0000000000000000E-02
 0.7000000000000000
 10000.000000000000
 140000.000000000000
 0.0000000000000000E+00
 0.0000000000000000E+00
 500.000000000000
 5.0000000000000000E-02
 860.000000000000
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 0.7000000000000000
 4
 5.0000000000000000E-02
 0.7000000000000000
 10000.000000000000
 140000.000000000000
 0.0000000000000000E+00
 0.0000000000000000E+00
 500.000000000000
 5.0000000000000000E-02
 860.000000000000
 0.4030000000000000

1200.0000000000
0.7000000000000000
4
0.05000000000000015
0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
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500.000000000000
5.0000000000000000E-02
860.000000000000
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1200.0000000000
0.7000000000000000
4
5.0000000000000000E-02
0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.000000000000
5.0000000000000000E-02
860.000000000000
0.4030000000000000
1200.0000000000
0.7000000000000000
4
5.0000000000000000E-02
0.7000000000000000
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140000.0000000000
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0.0000000000000000E+00
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5.0000000000000000E-02
860.000000000000
0.4030000000000000
1200.0000000000
0.7000000000000000
4
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0.4000000000000000
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1400000.0000000000
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5.0000000000000000E-02
87900.000000000000
0.2030000000000000
198000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
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356000.0000000000

140000.00000000
0.0000000000000000E+00
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17800.0000000000
5.0000000000000000E-02
47900.0000000000
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98000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
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556000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.0000000000
5.0000000000000000E-02
87900.0000000000
0.2030000000000000
198000.0000000000
0.4000000000000000
4
5.00000000000000017E-02
0.4000000000000000
556000.0000000000
140000.0000000000
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0.0000000000000000E+00
27800.0000000000
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87900.0000000000
0.2030000000000000
198000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.0000000000
5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
556000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.0000000000
5.0000000000000000E-02
87900.0000000000

-0.6000000000000000	0.7000000000000000	-0.7000000000000000
1.0000000000000000	-1.0000000000000000	1.0000000000000000
-0.6000000000000000	-0.7000000000000000	-0.7000000000000000
1.0000000000000000	1.0000000000000000	1.0000000000000000
0.0000000000000000E+00	0.0000000000000000E+00	-0.8000000000000000
0.0000000000000000E+00	0.0000000000000000E+00	1.0000000000000000
1.7000000000000000	0.7000000000000000	-0.3000000000000000
-1.0000000000000000	-1.0000000000000000	1.0000000000000000
1.7000000000000000	-0.7000000000000000	-0.3000000000000000
-1.0000000000000000	1.0000000000000000	1.0000000000000000
0.0000000000000000E+00	0.8000000000000000	0.0000000000000000E+00
0.0000000000000000E+00	-1.0000000000000000	0.0000000000000000E+00
0.0000000000000000E+00	-0.8000000000000000	0.0000000000000000E+00
0.0000000000000000E+00	1.0000000000000000	0.0000000000000000E+00
-1.6000000000000000	0.7000000000000000	-0.3000000000000000
1.0000000000000000	-1.0000000000000000	1.0000000000000000
-1.6000000000000000	-0.7000000000000000	-0.3000000000000000
1.0000000000000000	1.0000000000000000	1.0000000000000000
1.7000000000000000	0.7000000000000000	0.2000000000000000
-1.0000000000000000	-1.0000000000000000	-1.0000000000000000
1.7000000000000000	-0.7000000000000000	0.2000000000000000
-1.0000000000000000	1.0000000000000000	-1.0000000000000000
-1.6000000000000000	0.7000000000000000	0.2000000000000000
1.0000000000000000	-1.0000000000000000	-1.0000000000000000
-1.6000000000000000	-0.7000000000000000	0.2000000000000000
1.0000000000000000	1.0000000000000000	-1.0000000000000000
0.8000000000000000	0.7000000000000000	-0.3000000000000000
0.0000000000000000	-1.0000000000000000	1.0000000000000000
0.8000000000000000	-0.7000000000000000	-0.3000000000000000
0.0000000000000000	1.0000000000000000	1.0000000000000000

0.58

SEARCH.DAT

```

detf1,detf2:
500.0
50.0

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VDAT.DAT

```

9,'=====',+1.111111D+11, 0
9,'= INPUT DATA FOR THE TEST VEHICLE =',+1.111111D+11, 0
9,'=====',+1.111111D+11, 0
9,'===== SUZUKI SAMURAI =====',+1.111111D+11, 0
9,'=====',+1.111111D+11, 0
9,'= CREATION DATE:      MAY 18 1989 =',+1.111111D+11, 0
9,'= LAST UPDATE   :   OCTOBER  2 1989 =',+1.111111D+11, 0
9,'=              BY   : ZBIGNIEW PATURSKI=',+1.111111D+11, 0
9,'=====',+1.111111D+11, 0
9,'===== ANALYZED PARAMETERS =====',+1.111111D+11, 0
9,'=====',+1.111111D+11, 0
9,'===== PRIMARY GEOMETRICAL =====',+1.111111D+11, 0
9,'===== BASIC DATA =====',+1.111111D+11, 0
0,'{A}  DISTANCE - CG TO FRONT AXLE ',+1.034000D+00, 0

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0, '{B} DISTANCE - CG TO REAR AXLE ', +0.998000D+00, 0
0, '{HS} STATIC HEIGHT OF SPRUNG C.G. ', +0.693000D+00, 0
9, '----- SUSPENSION DATA -----', +1.111111D+11, 0
9, '=== INDEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
9, '----- FRONT SUSPENSION -----', +1.111111D+11, 0
0, '{TRIF} FRONT SUSPENSION TRACK WIDTH', +0.000000D+00, 0
0, '{WCHIF} FRONT WHEEL CENTER HEIGHT ', +0.000000D+00, 1
0, '{CAMCOF1} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOF2} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOF3} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOF4} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOF5} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{YOUIF} LATERAL IC POSITION FRONT ', +0.000000D+00, 1
0, '{ZOUIF} HEIGHT OF IC ABOVE GROUND ', +0.000000D+00, 1
0, '{WCGOFF} WHEEL C.G. OFFSET DIST. ', +0.000000D+00, 1
0, '{RBUF} UPP.BUMP STP RADIUS ,FRONT ', +0.000000D+00, 1
0, '{RBLF} LWR.BUMP STP RADIUS ,FRONT ', +0.000000D+00, 1
0, '{LBUF} UPP.BUMP STP LNGTH ,FRONT ', +0.000000D+00, 1
0, '{LBLF} LWR.BUMP STP LNGTH ,FRONT ', +0.000000D+00, 1
0, '{PHIMUF} UPP. DEFL. ANGLE ,FRONT ', +0.000000D+00, 1
0, '{PHIMLF} LWR. DEFL. ANGLE ,FRONT ', +0.000000D+00, 1
9, '----- REAR SUSPENSION -----', +1.111111D+11, 0
0, '{TRIR} REAR SUSPENSION TRACK WIDTH ', +0.000000D+00, 0
0, '{WCHIR} REAR WHEEL CENTER HEIGHT ', +0.000000D+00, 1
0, '{CAMCOR1} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOR2} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOR3} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOR4} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOR5} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{YOUIR} LATERAL IC POSITION REAR ', +0.000000D+00, 1
0, '{ZOUIR} HEIGHT OF IC ABOVE GROUND ', +0.000000D+00, 1
0, '{WCGOFR} WHEEL C.G. OFFSET DIST. ', +0.000000D+00, 1
0, '{RBUR} UPP.BUMP STP RADIUS ,REAR ', +0.000000D+00, 1
0, '{RBLR} LWR.BUMP STP RADIUS ,REAR ', +0.000000D+00, 1
0, '{LBUR} UPP.BUMP STP LNGTH ,REAR ', +0.000000D+00, 1
0, '{LBLR} LWR.BUMP STP LNGTH ,REAR ', +0.000000D+00, 1
0, '{PHIMUR} UPP. DEFL. ANGLE ,REAR ', +0.000000D+00, 1
0, '{PHIMLR} LWR. DEFL. ANGLE ,REAR ', +0.000000D+00, 1
9, '==== DEPENDENT SUSPENSION TYPE ====', +1.111111D+11, 0
9, '-----', +1.111111D+11, 0
9, '----- FRONT SUSP. -----', +1.111111D+11, 0
0, '{TRDF} FRONT SUSPENSION TRACK WIDTH', +1.308100D+00, 0
0, '{WCHDF} FRONT WHEEL CENTER HEIGHT ', +0.330200D+00, 1
0, '{HRC1} STATIC HT. OF RC ABOVE GRND. ', +0.144800D+00, 0
0, '{YCUD1} MASS CENTER POSITON,FRONT ', +0.000000D+00, 0
0, '{ZCUD1} MASS CENTER POSITON,FRONT ', -0.330200D+00, 0
0, '{HSUF} UPR.END SPRNG POS ,FRONT ', +0.440000D+00, 1
0, '{HSLF} LWR.END SPRNG POS ,FRONT ', +0.360000D+00, 1
0, '{TSF} SPRING TRACK ,FRONT ', +0.486000D+00, 1
0, '{HBUF} UPR.BUMP STOP POS ,FRONT ', +0.420000D+00, 1
0, '{HBLF} LWR.BUMP STOP POS ,FRONT ', +0.220000D+00, 1
0, '{HBUF1} UPR CONT SRFS POS ,FRONT ', +0.360000D+00, 1
0, '{HBLF2} LWR CONT SRFS POS ,FRONT ', +0.300000D+00, 1
0, '{TBUF} UPR BUMP STP TRACK ,FRONT ', +0.486000D+00, 1
0, '{TBLF} LWR BUMP STP TRACK ,FRONT ', +0.486000D+00, 1
0, '{LBUF} UPR.BUMP STP LENGTH ,FRONT ', +0.030000D+00, 1
0, '{LBLF} LWR.BUMP STP LENGTH ,FRONT ', +0.030000D+00, 1
9, '----- REAR SUSP. -----', +1.111111D+11, 0

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0, '{TRDR} REAR SUSPENSION TRACK WIDTH ', +1.308100D+00, 0
0, '{WCHDR} REAR WHEEL CENTER HEIGHT ', +0.330200D+00, 1
0, '{HRC2} STATIC HT. OF RC ABOVE GRND. ', +0.152000D+00, 0
0, '{YCUD2} MASS CENTER POSITON, REAR ', +0.000000D+00, 0
0, '{ZCUD2} MASS CENTER POSITON, REAR ', -0.330200D+00, 0
0, '{HSUR} UPR.END SPRNG POS , REAR ', +0.440000D+00, 1
0, '{HSLR} LWR END SPRNG POS , REAR ', +0.360000D+00, 1
0, '{TSR} SPRING TRACK , REAR ', +0.446000D+00, 1
0, '{HBUR} UPR.BUMP STOP POS , REAR ', +0.440000D+00, 1
0, '{HBLR} LWR.BUMP STOP POS , REAR ', +0.230000D+00, 1
0, '{HBUR1} UPR CONT SRFS POS , REAR ', +0.360000D+00, 1
0, '{HBLR2} LWR CONT SRFS POS , REAR ', +0.300000D+00, 1
0, '{TBUR} UPR BUMP STP TRACK , REAR ', +0.446000D+00, 1
0, '{TBLR} LWR BUMP STP TRACK , REAR ', +0.446000D+00, 1
0, '{LBUR} UPR.BUMP STP LENGTH , REAR ', +0.030000D+00, 1
0, '{LBLR} LWR.BUMP STP LENGTH , REAR ', +0.030000D+00, 1
9, '=====', +1.111111D+11, 0
9, '=====  
IMPACT TIRE DATA  
===== ', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
0, '{RR} CENTER RADIUS OF TIRE ', +0.334000D+00, 3
0, '{RS} SIDE RADIUS OF TIRE ', +0.050000D+00, 3
0, '{WR1} RADIUS OF TIRE ', +0.290000D+00, 3
0, '{WR2} RADIUS OF TIRE ', +0.260000D+00, 3
0, '{WR3} RADIUS OF TIRE ', +0.225000D+00, 3
0, '{WR4} RADIUS OF TIRE ', +0.190000D+00, 3
0, '{W1} TIRE WIDTH ', +0.100000D+00, 3
0, '{W2} TIRE WIDTH ', +0.105000D+00, 3
0, '{W3} TIRE WIDTH ', +0.090000D+00, 3
0, '{W4} TIRE WIDTH ', +0.063500D+00, 3
9, '=====', +1.111111D+11, 0
9, '=====  
MASS/INERTIA PARAMETERS  
===== ', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
9, '=====  
SPRUNG MASS  
===== ', +1.111111D+11, 0
0, '{MS} SPRUNG MASS ', +778.1000D+00, 0
0, '{IXXS} SPRUNG ROLL INERTIA ', +240.2600D+00, 0
0, '{IYYS} SPRUNG PITCH INERTIA ', +831.0200D+00, 0
0, '{IZZS} SPRUNG YAW INERTIA ', +1120.800D+00, 0
0, '{IXYS} SPRUNG PDT OF INERTIA ', +0.000000D+00, 0
0, '{IYZS} SPRUNG PDT OF INTERIA ', +0.000000D+00, 0
0, '{IZXS} SPRUNG PDT OF INERTIA ', +0.000000D+00, 0
0, '{ML1} ADD. SPRUNG MASS #1 ', +0.000000D+00, 0
0, '{ML2} ADD. SPRUNG MASS #2 ', +0.000000D+00, 0
0, '{ML3} ADD. SPRUNG MASS #3 ', +0.000000D+00, 0
0, '{ML4} ADD. SPRUNG MASS #4 ', +0.000000D+00, 0
0, '{ML5} ADD. SPRUNG MASS #5 ', +0.000000D+00, 0
0, '{ML6} ADD. SPRUNG MASS #6 ', +0.000000D+00, 0
0, '{ML7} ADD. SPRUNG MASS #7 ', +0.000000D+00, 0
0, '{ML8} ADD. SPRUNG MASS #8 ', +0.000000D+00, 0
0, '{XML1} POS OF ADD. SPRUNG MASS #1 ', +0.000000D+00, 0
0, '{XML2} POS OF ADD. SPRUNG MASS #2 ', +0.000000D+00, 0
0, '{XML3} POS OF ADD. SPRUNG MASS #3 ', +0.000000D+00, 0
0, '{XML4} POS OF ADD. SPRUNG MASS #4 ', +0.000000D+00, 0
0, '{XML5} POS OF ADD. SPRUNG MASS #5 ', +0.000000D+00, 0
0, '{XML6} POS OF ADD. SPRUNG MASS #6 ', +0.000000D+00, 0
0, '{XML7} POS OF ADD. SPRUNG MASS #7 ', +0.000000D+00, 0
0, '{XML8} POS OF ADD. SPRUNG MASS #8 ', +0.000000D+00, 0
0, '{YML1} POS OF ADD. SPRUNG MASS #1 ', +0.000000D+00, 0
0, '{YML2} POS OF ADD. SPRUNG MASS #2 ', +0.000000D+00, 0

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0, '{YML3} POS OF ADD. SPRUNG MASS #3 ', +0.000000D+00, 0
0, '{YML4} POS OF ADD. SPRUNG MASS #4 ', +0.000000D+00, 0
0, '{YML5} POS OF ADD. SPRUNG MASS #5 ', +0.000000D+00, 0
0, '{YML6} POS OF ADD. SPRUNG MASS #6 ', +0.000000D+00, 0
0, '{YML7} POS OF ADD. SPRUNG MASS #7 ', +0.000000D+00, 0
0, '{YML8} POS OF ADD. SPRUNG MASS #8 ', +0.000000D+00, 0
0, '{ZML1} POS OF ADD. SPRUNG MASS #1 ', +0.000000D+00, 0
0, '{ZML2} POS OF ADD. SPRUNG MASS #2 ', +0.000000D+00, 0
0, '{ZML3} POS OF ADD. SPRUNG MASS #3 ', +0.000000D+00, 0
0, '{ZML4} POS OF ADD. SPRUNG MASS #4 ', +0.000000D+00, 0
0, '{ZML5} POS OF ADD. SPRUNG MASS #5 ', +0.000000D+00, 0
0, '{ZML6} POS OF ADD. SPRUNG MASS #6 ', +0.000000D+00, 0
0, '{ZML7} POS OF ADD. SPRUNG MASS #7 ', +0.000000D+00, 0
0, '{ZML8} POS OF ADD. SPRUNG MASS #8 ', +0.000000D+00, 0
9, '==== UNSPRUNG MASS =====', +1.111111D+11, 0
9, '=== INDEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
0, '{MUIF} UNSPRUNG MASS, FRONT ', +29.49000D+00, 1
0, '{MUIR} UNSPRUNG MASS, REAR ', +29.49000D+00, 1
9, '==== DEPENDENT SUSPENSION TYPE =====', +1.111111D+11, 0
0, '{MUDF} UNSPRUNG MASS, FRONT ', +58.98000D+00, 0
0, '{MUDR} UNSPRUNG MASS, REAR ', +58.98000D+00, 0
0, '{IXXUF} UNSPNG ROLL INERTIA ,FRONT ', +10.20000D+00, 0
0, '{IXXUR} UNSPNG ROLL INERTIA ,REAR ', +10.20000D+00, 0
0, '{IYYUF} UNSPNG PITCH INERTIA,FRONT ', +3.000000D+00, 0
0, '{IYYUR} UNSPNG PITCH INERTIA,REAR ', +3.000000D+00, 0
0, '{IZZUF} UNSPNG YAW INERTIA ,FRONT ', +8.300000D+00, 0
0, '{IZZUR} UNSPNG YAW INERTIA ,REAR ', +8.300000D+00, 0
9, '==== TIRE =====', +1.111111D+11, 0
0, '{MW} TIRE MASS ', +29.49000D+00, 3
0, '{IXXW} MOMENT OF INERTIA ', +1.120000D+00, 3
9, '====', +1.111111D+11, 0
9, '==== SUSPENSIONS SPRINGS DATA =====', +1.111111D+11, 0
9, '=== INDEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
9, '====', +1.111111D+11, 0
0, '{ASIF0} POLY APRX COEF 1,FRONT ', +0.000000D+00, 1
0, '{ASIF1} POLY APRX COEF 2,FRONT ', +0.000000D+00, 1
0, '{ASIF2} POLY APRX COEF 3,FRONT ', +0.000000D+00, 1
0, '{ASIR0} POLY APRX COEF 1,REAR ', +0.000000D+00, 1
0, '{ASIR1} POLY APRX COEF 2,REAR ', +0.000000D+00, 1
0, '{ASIR2} POLY APRX COEF 3,REAR ', +0.000000D+00, 1
0, '{KIARF} ANTI-ROLL BAR SPRNG, FRONT ', +0.000000D+00, 0
0, '{KIARR} ANTI-ROLL BAR SPRNG, REAR ', +0.000000D+00, 0
0, '{DETPHIF} A.R.LFT/RGHT ANGL DF.,FNT', +0.000000D+00, 0
0, '{DETPHIR} A.R.LFT/RGHT ANGL DF.,RER', +0.000000D+00, 0
9, '==== DEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
0, '{ASDF0} POLY APRX COEF 1,FRONT ', +47630.00D+00, 1
0, '{ASDF1} POLY APRX COEF 2,FRONT ', +0.000000D+00, 1
0, '{ASDF2} POLY APRX COEF 3,FRONT ', +0.000000D+00, 1
0, '{ASDR0} POLY APRX COEF 1,REAR ', +37220.00D+00, 1
0, '{ASDR1} POLY APRX COEF 2,REAR ', +0.000000D+00, 1
0, '{ASDR2} POLY APRX COEF 3,REAR ', +0.000000D+00, 1
0, '{KDARF} ANTI-ROLL BAR SPRNG, FRONT ', +3443.730d+00, 0
0, '{KDARR} ANTI-ROLL BAR SPRNG, REAR ', +5277.330d+00, 0
9, '====', +1.111111D+11, 0
9, '==== SUSPENSIONS DAMPERS DATA =====', +1.111111D+11, 0
9, '=== INDEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
9, '====', +1.111111D+11, 0
0, '{CUIUF} DAMPING CONST.,FRONT COMPR ', +0.000000D+00, 1

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0, '{CUIUR} DAMPING CONST., REAR COMPR ', +0.000000D+00, 1
0, '{CUILF} DAMPING CONST., FRONT EXTEN ', +0.000000D+00, 1
0, '{CUILF} DAMPING CONST., REAR EXTEN ', +0.000000D+00, 1
0, '{CIARF} A-R BAR DMPNG COEF., FRONT ', +0.000000D+00, 0
0, '{CIARR} A-R BAR DMPNG COEF., REAR ', +0.000000D+00, 0
9, '=== DEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
0, '{CUDUF} DAMPING CONST., FRONT COMPR ', +1066.300D+00, 1
0, '{CUDUR} DAMPING CONST., REAR COMPR ', +1066.300D+00, 1
0, '{CUDLF} DAMPING CONST., FRONT EXTEN ', +2627.700D+00, 1
0, '{CUDLR} DAMPING CONST., REAR EXTEN ', +2627.700D+00, 1
0, '{CDARF} A-R BAR DMPNG COEF., FRONT ', +0.000000D+00, 0
0, '{CDARR} A-R BAR DMPNG COEF., REAR ', +0.000000D+00, 0
9, '=====', +1.111111D+11, 0
9, '= BUMP STOP STIF. AND DAMP. DATA =', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
0, '{KBUF} UPR B.S. SPRNG C, FRONT ', +323000.00D+00, 1
0, '{KBUR} UPR B.S. SPRNG C, REAR ', +140000.00D+00, 1
0, '{KBLF} LWR B.S. SPRNG C, FRONT ', +137000.00D+00, 1
0, '{KBLR} LWR B.S. SPRNG C, REAR ', +39000.00D+00, 1
9, '=====', +1.111111D+11, 0
0, '{CBUF} UPR B.S. DMPNG C, FRONT ', +6000.000D+00, 1
0, '{CBUR} UPR B.S. DMPNG C, REAR ', +6000.000D+00, 1
0, '{CBLF} LWR B.S. DMPNG C, FRONT ', +6000.000D+00, 1
0, '{CBLR} LWR B.S. DMPNG C, REAR ', +6000.000D+00, 1
9, '=====', +1.111111D+11, 0
9, '===== FRICTIONAL TIRE DATA =====', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
9, '==== CALSPAN TIRE COEFFICIENTS =====', +1.111111D+11, 0
0, '{A0} CORNERING STIFFNESS COEFF. ', +0.000000D+00, 3 -668.4600D+00, 3
0, '{A1} CORNERING STIFFNESS COEFF. ', +25.27700D+00, 3 +26.54000D+00, 3
0, '{A2} CORNERING STIFFNESS COEFF. ', +2146.610D+00, 3
0, '{A3} CAMBER STIFFNESS COEFF. ', +1.274000D+00, 3
0, '{A4} CAMBER STIFFNESS COEFF. ', +2225.070D+00, 3
0, '{P0} PEAK BRAKING FRICTION COEFF. ', +1.207300D+00, 3
0, '{P1} PEAK BRAKING FRICTION COEFF. ', -5.843000D-04, 3
0, '{P2} PEAK BRAKING FRICTION COEFF. ', +3.977000D-07, 3
0, '{B1} PEAK LATERAL FRICTION COEFF. ', -6.745000D-04, 3
0, '{B2} PEAK LATERAL FRICTION COEFF. ', +0.000000D+00, 3
0, '{B3} PEAK LATERAL FRICTION COEFF. ', +1.307000D+00, 3
0, '{B4} PEAK LATERAL FRICTION COEFF. ', +2.953000D-07, 3
0, '{R0} LONG. SLIP @ PEAK BRAKING ', -0.237710D+00, 3
0, '{R1} LONG. SLIP @ PEAK BRAKING ', +8.536000D-05, 3
0, '{S0} SLIDE COEFFICIENT OF FRICTION ', +1.173800D+00, 3
0, '{S1} SLIDE COEFFICIENT OF FRICTION ', -8.458000D-04, 3
0, '{S2} SLIDE COEFFICIENT OF FRICTION ', +3.945000D-07, 3
0, '{K1} ALIGNING MOMENT COEFFICIENT ', -2.061000D-04, 3
0, '{K2} ALIGNING MOMENT COEFFICIENT ', -1.768000D-04, 3
0, '{K3} ALIGNING MOMENT COEFFICIENT ', +0.074000D+00, 3
0, '{CTN} SLOPE OF MUX VS. S @ S=0 ', +6.000000D+00, 3
0, '{CA1} CRITICAL CAMBER ANGLE ', +0.523560D+00, 3
0, '{CR1} FRICTION REDUCTION @ CA1 ', +0.300000D+00, 3
0, '{OMEGT} TIRE OVERLOAD COEFF. ', +0.900000D+00, 3 +1.000000D+00, 3
0, '{OMEGT2} TIRE OVERLOAD COEFF. ', +0.500000D+00, 3
0, '{SN} TIRE SKID NUMBER ', +1.000000D+00, 3
9, '=====', +1.111111D+11, 0
9, '===== IMPACT TIRE DATA =====', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
0, '{SKR} STIFFNESS OF RADIAL SPRINGS', +4723.000D+00, 3

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0, '{SKS} STIFFNESS OF SIDE SPRINGS', +2062.000D+00, 3
0, '{SKRIM} STIFFNESS OF RIM SPRINGS', +100000.0D+00, 3
9, '=====', +1.111111D+11, 0
9, '==== Terrain Data =====', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
0, '{NTPT} NUMBER OF TERRAIN COORDS ', +4.000000D+00, 0 +3.000000D+00, 0
0, '{NTPL} NUMBER OF TERRAIN PLANES ', +3.000000D+00, 0 +2.000000D+00, 0
0, '{Yterr(1)} Y-COORD OF TERR. PT. 1 ', -500.00000D+00, 0
0, '{Zterr(1)} Z-COORD OF TERR. PT. 1 ', +0.000000D+00, 0
0, '{Yterr(2)} Y-COORD OF TERR. PT. 2 ', +7.400000D+00, 0 +20.59400d+00, 0
0, '{Zterr(2)} Z-COORD OF TERR. PT. 2 ', +0.000000D+00, 0
0, '{Yterr(3)} Y-COORD OF TERR. PT. 3 ', +12.60000D+00, 0 +25.80000D+00, 0
0, '{Zterr(3)} Z-COORD OF TERR. PT. 3 ', +3.000000D+00, 0 +0.000000D+00, 0
0, '{Yterr(4)} Y-COORD OF TERR. PT. 4 ', +500.00000D+00, 0
0, '{Zterr(4)} Z-COORD OF TERR. PT. 4 ', +3.000000D+00, 0 +0.000000D+00, 0
0, '{Yterr(5)} Y-COORD OF TERR. PT. 5 ', +0.000000D+00, 0
0, '{Zterr(5)} Z-COORD OF TERR. PT. 5 ', +0.000000D+00, 0
0, '{Yterr(6)} Y-COORD OF TERR. PT. 6 ', +0.000000D+00, 0
0, '{Zterr(6)} Z-COORD OF TERR. PT. 6 ', +0.000000D+00, 0
0, '{Yterr(7)} Y-COORD OF TERR. PT. 7 ', +0.000000D+00, 0
0, '{Zterr(7)} Z-COORD OF TERR. PT. 7 ', +0.000000D+00, 0
0, '{Yterr(8)} Y-COORD OF TERR. PT. 8 ', +0.000000D+00, 0
0, '{Zterr(8)} Z-COORD OF TERR. PT. 8 ', +0.000000D+00, 0
0, '{Yterr(9)} Y-COORD OF TERR. PT. 9 ', +0.000000D+00, 0
0, '{Zterr(9)} Z-COORD OF TERR. PT. 9 ', +0.000000D+00, 0
0, '{Yterr(10)} Y-COORD OF TERR. PT. 10', +0.000000D+00, 0
0, '{Zterr(10)} Z-COORD OF TERR. PT. 10', +0.000000D+00, 0
0, '{Yterr(11)} Y-COORD OF TERR. PT. 11', +0.000000D+00, 0
0, '{Zterr(11)} Z-COORD OF TERR. PT. 11', +0.000000D+00, 0
0, '{Yterr(12)} Y-COORD OF TERR. PT. 12', +0.000000D+00, 0
0, '{Zterr(12)} Z-COORD OF TERR. PT. 12', +0.000000D+00, 0
0, '{Yterr(13)} Y-COORD OF TERR. PT. 13', +0.000000D+00, 0
0, '{Zterr(13)} Z-COORD OF TERR. PT. 13', +0.000000D+00, 0
0, '{Yterr(14)} Y-COORD OF TERR. PT. 14', +0.000000D+00, 0
0, '{Zterr(14)} Z-COORD OF TERR. PT. 14', +0.000000D+00, 0
0, '{Yterr(15)} Y-COORD OF TERR. PT. 15', +0.000000D+00, 0
0, '{Zterr(15)} Z-COORD OF TERR. PT. 15', +0.000000D+00, 0
0, '{Yterr(16)} Y-COORD OF TERR. PT. 16', +0.000000D+00, 0
0, '{Zterr(16)} Z-COORD OF TERR. PT. 16', +0.000000D+00, 0
0, '{Yterr(17)} Y-COORD OF TERR. PT. 17', +0.000000D+00, 0
0, '{Zterr(17)} Z-COORD OF TERR. PT. 17', +0.000000D+00, 0
0, '{Yterr(18)} Y-COORD OF TERR. PT. 18', +0.000000D+00, 0
0, '{Zterr(18)} Z-COORD OF TERR. PT. 18', +0.000000D+00, 0
0, '{Yterr(19)} Y-COORD OF TERR. PT. 19', +0.000000D+00, 0
0, '{Zterr(19)} Z-COORD OF TERR. PT. 19', +0.000000D+00, 0
0, '{Yterr(20)} Y-COORD OF TERR. PT. 20', +0.000000D+00, 0
0, '{Zterr(20)} Z-COORD OF TERR. PT. 20', +0.000000D+00, 0
0, '{SNterr(1)} SKID # OF TERR. PL. 1 ', +100.00000D+00, 0
0, '{SNterr(2)} SKID # OF TERR. PL. 2 ', +120.00000D+00, 0
0, '{SNterr(3)} SKID # OF TERR. PL. 3 ', +85.00000D+00, 0 +85.00000D+00, 0
0, '{SNterr(4)} SKID # OF TERR. PL. 4 ', +0.000000D+00, 0
0, '{SNterr(5)} SKID # OF TERR. PL. 5 ', +0.000000D+00, 0
0, '{SNterr(6)} SKID # OF TERR. PL. 6 ', +0.000000D+00, 0
0, '{SNterr(7)} SKID # OF TERR. PL. 7 ', +0.000000D+00, 0
0, '{SNterr(8)} SKID # OF TERR. PL. 8 ', +0.000000D+00, 0
0, '{SNterr(9)} SKID # OF TERR. PL. 9 ', +0.000000D+00, 0
0, '{SNterr(10)} SKID # OF TERR. PL. 10', +0.000000D+00, 0
0, '{SNterr(11)} SKID # OF TERR. PL. 11', +0.000000D+00, 0

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0, '{SNterr(12)} SKID # OF TERR. PL. 12', +0.000000D+00, 0
0, '{SNterr(13)} SKID # OF TERR. PL. 13', +0.000000D+00, 0
0, '{SNterr(14)} SKID # OF TERR. PL. 14', +0.000000D+00, 0
0, '{SNterr(15)} SKID # OF TERR. PL. 15', +0.000000D+00, 0
0, '{SNterr(16)} SKID # OF TERR. PL. 16', +0.000000D+00, 0
0, '{SNterr(17)} SKID # OF TERR. PL. 17', +0.000000D+00, 0
0, '{SNterr(18)} SKID # OF TERR. PL. 18', +0.000000D+00, 0
0, '{SNterr(19)} SKID # OF TERR. PL. 19', +0.000000D+00, 0
0, '{Jteratb(1)} TERR. ATRB. OF PL. 1 ', +0.000000D+00, 0
0, '{Jteratb(2)} TERR. ATRB. OF PL. 2 ', +1.000000D+00, 0
0, '{Jteratb(3)} TERR. ATRB. OF PL. 3 ', +0.000000D+00, 0
0, '{Jteratb(4)} TERR. ATRB. OF PL. 4 ', +0.000000D+00, 0
0, '{Jteratb(5)} TERR. ATRB. OF PL. 5 ', +0.000000D+00, 0
0, '{Jteratb(6)} TERR. ATRB. OF PL. 6 ', +0.000000D+00, 0
0, '{Jteratb(7)} TERR. ATRB. OF PL. 7 ', +0.000000D+00, 0
0, '{Jteratb(8)} TERR. ATRB. OF PL. 8 ', +0.000000D+00, 0
0, '{Jteratb(9)} TERR. ATRB. OF PL. 9 ', +0.000000D+00, 0
0, '{Jteratb(10)} TERR. ATRB. OF PL. 10', +0.000000D+00, 0
0, '{Jteratb(11)} TERR. ATRB. OF PL. 11', +0.000000D+00, 0
0, '{Jteratb(12)} TERR. ATRB. OF PL. 12', +0.000000D+00, 0
0, '{Jteratb(13)} TERR. ATRB. OF PL. 13', +0.000000D+00, 0
0, '{Jteratb(14)} TERR. ATRB. OF PL. 14', +0.000000D+00, 0
0, '{Jteratb(15)} TERR. ATRB. OF PL. 15', +0.000000D+00, 0
0, '{Jteratb(16)} TERR. ATRB. OF PL. 16', +0.000000D+00, 0
0, '{Jteratb(17)} TERR. ATRB. OF PL. 17', +0.000000D+00, 0
0, '{Jteratb(18)} TERR. ATRB. OF PL. 18', +0.000000D+00, 0
0, '{Jteratb(19)} TERR. ATRB. OF PL. 19', +0.000000D+00, 0
9, '==== SOIL PARAMETERS =====', +1.111111D+11, 0
0, '{Soiln} Soil Parameter ', +0.950000D+00, 0
0, '{Soilkphi} Soil Parameter ', +1.446000D+07, 0
0, '{Soilkc} Soil Parameter ', +8.610000D+04, 0
9, '==== Aerodynamic Data =====', +1.111111D+11, 0
0, '{RO} Air Density ', +0.000000D+00, 0
0, '{SAero} Aerod. Reference Area ', +2.000000D+00, 0
0, '{HAero} Aerod. Reference Length ', +1.500000D+00, 0
0, '{DCyDBeta_A} Side Force Coeff. ', +1.000000D+00, 0
0, '{DCnDBeta_A} Yaw Moment Coeff. ', +2.500000D+00, 0
0, '{DNDR} Yaw Damping Moment Deriv. ', +0.000000D+00, 0
0, '{CD0} Drag Force Coeff. ', +0.000000D+00, 0
0, '{DCDDBeta_A} Drag Forc. Coef. Der. ', +0.000000D+00, 0
0, '{Alph0} Zero-Lift Angle ', +0.000000D+00, 0
0, '{DCLDAlpha_A} Lift Forc. Coef. Der.', +0.000000D+00, 0
0, '{CMy0} Zero-Lift Pitch Mom. Coef. ', +0.000000D+00, 0
0, '{DCMyDAlpha_A} Pitch Mom. Coef. Der.', +0.000000D+00, 0
0, '{AeroPar} Reserved For Future Use ', +0.000000D+00, 17
9, '==== Wheel Steering Input =====', +0.000000D+00, 0
0, '{NWSTF} Steering function indic. ', +1.000000D+00, 0
0, '{NPTW} Number of point st. data ', +3.000000D+00, 0
0, '{TMW1} Time point ', +0.000000D+00, 0
0, '{TMW2} Time point ', +0.200000D+00, 0
0, '{TMW3} Time point ', +1000.000D+00, 0
0, '{TMW4} Time point ', +0.000000D+00, 0
0, '{TMW5} Time point ', +0.000000D+00, 0
0, '{TMW6} Time point ', +0.000000D+00, 0
0, '{TMW7} Time point ', +0.000000D+00, 0
0, '{TMW8} Time point ', +0.000000D+00, 0
0, '{TMW9} Time point ', +0.000000D+00, 0
0, '{TMW10} Time point ', +0.000000D+00, 0

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0, '{TMW11} Time point ', +0.000000D+00, 0
0, '{TMW12} Time point ', +0.000000D+00, 0
0, '{TMW13} Time point ', +0.000000D+00, 0
0, '{TMW14} Time point ', +0.000000D+00, 0
0, '{TMW15} Time point ', +0.000000D+00, 0
0, '{TMW16} Time point ', +0.000000D+00, 0
0, '{TMW17} Time point ', +0.000000D+00, 0
0, '{TMW18} Time point ', +0.000000D+00, 0
0, '{TMW19} Time point ', +0.000000D+00, 0
0, '{TMW20} Time point ', +0.000000D+00, 0
0, '{DSWM1} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM2} Wheel steer. angle ', -4.000000D+00, 0 -2.500000D+00, 0
0, '{DSWM3} Wheel steer. angle ', -4.000000D+00, 0 -2.500000D+00, 0
0, '{DSWM4} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM5} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM6} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM7} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM8} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM9} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM10} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM11} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM12} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM13} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM14} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM15} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM16} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM17} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM18} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM19} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM20} Wheel steer. angle ', +0.000000D+00, 0
9, '==== Braking/Tracting Input =====', +0.000000D+00, 0
0, '{NBTF} Steering function indic. ', +1.000000D+00, 0 +1.000000D+00, 0
0, '{NPTBT} Number of point st. data ', +3.000000D+00, 0
0, '{TMT1} Time point ', +0.000000D+00, 0
0, '{TMT2} Time point ', +0.200000D+00, 0
0, '{TMT3} Time point ', +100.00000D+00, 0 +0.200000D+00, 0
0, '{TMT4} Time point ', +0.000000D+00, 0 +2.100000D+00, 0
0, '{TMT5} Time point ', +0.000000D+00, 0
0, '{TMT6} Time point ', +0.000000D+00, 0
0, '{TMT7} Time point ', +0.000000D+00, 0
0, '{TMT8} Time point ', +0.000000D+00, 0
0, '{TMT9} Time point ', +0.000000D+00, 0
0, '{TMT10} Time point ', +0.000000D+00, 0
0, '{TMT11} Time point ', +0.000000D+00, 0
0, '{TMT12} Time point ', +0.000000D+00, 0
0, '{TMT13} Time point ', +0.000000D+00, 0
0, '{TMT14} Time point ', +0.000000D+00, 0
0, '{TMT15} Time point ', +0.000000D+00, 0
0, '{TMT16} Time point ', +0.000000D+00, 0
0, '{TMT17} Time point ', +0.000000D+00, 0
0, '{TMT18} Time point ', +0.000000D+00, 0
0, '{TMT19} Time point ', +0.000000D+00, 0
0, '{TMT20} Time point ', +0.000000D+00, 0
0, '{AXPRIME1} Desired accel./decel ', +0.000000D+00, 0 +0.000000D+00, 0
0, '{AXPRIME2} Desired accel./decel ', +2.000000D+00, 0 +0.000000D+00, 0
0, '{AXPRIME3} Desired accel./decel ', +2.000000D+00, 0
0, '{AXPRIME4} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME5} Desired accel./decel ', +0.000000D+00, 0

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0, '{AXPRIME6} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME7} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME8} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME9} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME10} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME11} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME12} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME13} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME14} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME15} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME16} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME17} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME18} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME19} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME20} Desired accel./decel ', +0.000000D+00, 0
0, '{Q0} ', +0.100000D+00, 0 +0.000000D+00, 0
0, '{Q1} ', +0.000000D+00, 0
0, '{ITYPPWR} Braking/Tracting ind. ', +2.000000D+00, 0 +0.000000D+00, 0
9, '=====  

0, '{FYMAX} Max. side force [N] ', +17800.00D+00, 3
0, '{XPL2} Max. plactic def. [m] ', +0.152400D+00, 3
0, '{DXPL} Step of plastic def. [m] ', +0.001000D+00, 3
0, '{STIFF2} Second crsh stiff [N/m] ', +1.400000D+06, 3
0, '{CRSHDUM} <Reserved for fut.use> ', +0.000000D+00, 15
9, '=====  

0, '{DUMMY} RESERVED FOR FUTURE USE ', +0.000000D+00, 41
0, 'ENDPP ', +0.000000D+00, 0
0, 'ENDSP ', +0.000000D+00, 0
9, '=====  

0, '1 XS - LONGITUDINAL POSITION ', +0.000000D+00, 0
0, '2 YS - LATERAL POSITION ', +0.000000D+00, 0
0, '3 ZS - VERTICAL POSITION ', +0.000000D+00, 0
0, '4 PSI - YAW ANGLE ', +0.000000D+00, 0
0, '5 THETA- PITCH ANGLE ', +0.000000D+00, 0
0, '6 PHI - ROLL ANGLE ', +0.000000D+00, 0
0, '7 Q7 - ', +0.000000D+00, 0
0, '8 Q8 - ', +0.000000D+00, 0
0, '9 Q9 - ', +0.000000D+00, 0
0, '10 Q10 - ', +0.000000D+00, 0
0, '11 THW1 - WHEEL ROT. ANGLE ', +0.000000D+00, 0
0, '12 THW2 - WHEEL ROT. ANGLE ', +0.000000D+00, 0
0, '13 THW3 - WHEEL ROT. ANGLE ', +0.000000D+00, 0
0, '14 THW4 - WHEEL ROT. ANGLE ', +0.000000D+00, 0
0, '15 UU - FORWARD VELOCITY ', +0.000000D+00, 0
0, '16 VV - LATERAL VELOCITY ', +0.000000D+00, 0
0, '17 WW - VERTICAL VELOCITY ', +0.000000D+00, 0
0, '18 P - ROLLING Q-VELOCITY ', +0.000000D+00, 0
0, '19 Q - PITCHING Q-VELOCITY ', +0.000000D+00, 0
0, '20 R - YAWING Q-VELOCITY ', +0.000000D+00, 0
0, '21 Q7D - ', +0.000000D+00, 0
0, '22 Q8D - ', +0.000000D+00, 0
0, '23 Q9D - ', +0.000000D+00, 0
0, '24 Q10 - ', +0.000000D+00, 0
0, '25 OMW1 - WHEEL ROT. VELOCITY ', +0.000000D+00, 0
0, '26 OMW2 - WHEEL ROT. VELOCITY ', +0.000000D+00, 0
0, '27 OMW3 - WHEEL ROT. VELOCITY ', +0.000000D+00, 0
0, '28 OMW4 - WHEEL ROT. VELOCITY ', +0.000000D+00, 0
0, 'ENDOV ', +0.000000D+00, 0

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9, '==== COMMON /VDAT/ DAT(736) =====', +0.000000D+00, 0

EXAMPLE 2 - TEST11

ADVS.INP

SAMURAI,SKID IN TURM INTO SOIL, U=15.0 M/S
VDAT.DAT File Name :VDAT.DAT
SUSP. CONFIG. INDEX: 4
SIMUL. START TIME : 0.0
SIMUL. RUN TIME : 4.0
STEP OF INTEGRATION: 5.0D-04
STEP FOR PRINTING : 2.0D-02
INTEGR. ERR. CRIT. : 5.0D-05
U [M/S] : 15.0
V [M/S] : 0.0
PSI [DEG.] : 50.0
PHI_MAX [DEG.] : 100.0
(-RESERVED-) : 0.0

BODYNOD.DAT

17
4
0.05000000000000001
0.40000000000000000
556000.00000000000
1400000.00000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.00000000000
5.0000000000000000E-02
87900.00000000000
0.20300000000000000
198000.00000000000
0.40000000000000000
4
5.0000000000000000E-02
0.40000000000000000
356000.00000000000
1400000.00000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.00000000000
5.0000000000000000E-02
47900.00000000000
0.20300000000000000
98000.00000000000
0.40000000000000000
4
5.0000000000000000E-02
0.40000000000000000
356000.00000000000
1400000.00000000000
0.0000000000000000E+00
0.0000000000000000E+00

17800.000000000000
5.0000000000000000E-02
47900.000000000000
0.2030000000000000
98000.000000000000
0.4000000000000000
4
0.05000000000000002
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.000000000000
5.0000000000000000E-02
87900.000000000000
0.2030000000000000
198000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.000000000000
5.0000000000000000E-02
47900.000000000000
0.2030000000000000
98000.000000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.000000000000
5.0000000000000000E-02
47900.000000000000
0.2030000000000000
98000.000000000000
0.4000000000000000
4
5.0000000000000003E-02
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.000000000000
5.0000000000000000E-02
87900.000000000000
0.2030000000000000
198000.0000000000
0.4000000000000000

4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.000000000000
5.0000000000000000E-02
47900.000000000000
0.2030000000000000
98000.000000000000
0.4000000000000000

4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
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47900.000000000000
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98000.000000000000
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47900.000000000000
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87900.0000000000
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5.0000000000000000E-02
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5.0000000000000000E-02
35160.0000000000
0.4030000000000000
79200.0000000000

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  17800.000000000000
5.0000000000000000E-02
  47900.000000000000
0.2030000000000000
  98000.000000000000
0.4000000000000000
  4
5.0000000000000000E-02
0.4000000000000000
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0.0000000000000000E+00
0.0000000000000000E+00
  27800.000000000000
5.0000000000000000E-02
  87900.000000000000
0.2030000000000000
  198000.000000000000
0.4000000000000000
  4
5.0000000000000000E-02
0.7000000000000000
  222400.0000000000
  1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
  11120.000000000000
5.0000000000000000E-02
  35160.000000000000
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  79200.000000000000
0.7000000000000000
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5.0000000000000000E-02
0.4000000000000000
  356000.0000000000
  1400000.0000000000
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0.0000000000000000E+00
  17800.000000000000
5.0000000000000000E-02
  47900.000000000000
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0.4000000000000000
  4
5.0000000000000000E-02
0.4000000000000000
  556000.0000000000
  1400000.0000000000

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0.0000000000000000E+00
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5.0000000000000000E-02
87900.0000000000
0.2030000000000000
198000.0000000000
0.4000000000000000

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556000.0000000000
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5.0000000000000000E-02
87900.0000000000
0.2030000000000000
198000.0000000000
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4

5.0000000000000000E-02
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5.0000000000000000E-02
47900.0000000000
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5.0000000000000000E-02
47900.000000000000
0.2030000000000000
98000.000000000000
0.4000000000000000
4
5.0000000000000000E-02
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5.0000000000000000E-02
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4
5.0000000000000000E-02
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17800.000000000000
5.0000000000000000E-02
47900.000000000000
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98000.000000000000
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79200.00000000000
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17800.00000000000
5.0000000000000000E-02
47900.00000000000
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27800.00000000000
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87900.00000000000
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198000.0000000000
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10000.0000000000
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5.0000000000000000E-02
860.000000000000
0.4030000000000000
1200.0000000000
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140000.0000000000
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1200.0000000000
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5.0000000000000000E-02
860.000000000000
0.4030000000000000
1200.0000000000
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5.0000000000000000E-02
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5.0000000000000000E-02
0.7000000000000000
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140000.000000000000
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5.0000000000000000E-02
860.000000000000
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1200.000000000000
0.7000000000000000
4
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0.0000000000000000E+00
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5.0000000000000000E-02
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0.7000000000000000
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4

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4

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47900.000000000000
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4

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27800.000000000000
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87900.000000000000
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75000.000000000000

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1.0000000000000000	-1.0000000000000000	1.0000000000000000
-1.6000000000000000	-0.7000000000000000	-0.3000000000000000
1.0000000000000000	1.0000000000000000	1.0000000000000000
1.7000000000000000	0.7000000000000000	0.2000000000000000
-1.0000000000000000	-1.0000000000000000	-1.0000000000000000
1.7000000000000000	-0.7000000000000000	0.2000000000000000
-1.0000000000000000	1.0000000000000000	-1.0000000000000000
-1.6000000000000000	0.7000000000000000	0.2000000000000000
1.0000000000000000	-1.0000000000000000	-1.0000000000000000
-1.6000000000000000	-0.7000000000000000	0.2000000000000000
1.0000000000000000	1.0000000000000000	-1.0000000000000000
0.8000000000000000	0.7000000000000000	-0.3000000000000000
0.0000000000000000	-1.0000000000000000	1.0000000000000000
0.8000000000000000	-0.7000000000000000	-0.3000000000000000
0.0000000000000000	1.0000000000000000	1.0000000000000000

0.58

SEARCH.DAT

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detf1,detf2:
500.0
50.0

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VDAT.DAT

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9,'=====',+1.111111D+11, 0
9,'= INPUT DATA FOR THE TEST VEHICLE =',+1.111111D+11, 0
9,'=====',+1.111111D+11, 0
9,'===== SUZUKI SAMURAI =====',+1.111111D+11, 0
9,'=====',+1.111111D+11, 0
9,'= CREATION DATE:      MAY 18 1989 =',+1.111111D+11, 0
9,'= LAST UPDATE   :   OCTOBER 2 1989 =',+1.111111D+11, 0
9,'=              BY   : ZBIGNIEW PATURSKI=',+1.111111D+11, 0
9,'=====',+1.111111D+11, 0
9,'===== ANALYZED PARAMETERS =====',+1.111111D+11, 0
9,'=====',+1.111111D+11, 0
9,'===== PRIMARY GEOMETRICAL =====',+1.111111D+11, 0
9,'===== BASIC DATA =====',+1.111111D+11, 0
0,'{A}  DISTANCE - CG TO FRONT AXLE  ',+1.034000D+00, 0
0,'{B}  DISTANCE - CG TO REAR  AXLE  ',+0.998000D+00, 0
0,'{HS} STATIC HEIGHT OF SPRUNG C.G. ',+0.693000D+00, 0
9,'===== SUSPENSION DATA =====',+1.111111D+11, 0
9,'=== INDEPENDENT SUSPENSION TYPE ===',+1.111111D+11, 0
9,'===== FRONT SUSPENSION =====',+1.111111D+11, 0
0,'{TRIF} FRONT SUSPENSION TRACK WIDTH',+0.000000D+00, 0
0,'{WCHIF} FRONT WHEEL CENTER HEIGHT ',+0.000000D+00, 1
0,'{CAMCOF1} CAMBER POLYNOMIAL COEFF. ',+0.000000D+00, 1
0,'{CAMCOF2} CAMBER POLYNOMIAL COEFF. ',+0.000000D+00, 1
0,'{CAMCOF3} CAMBER POLYNOMIAL COEFF. ',+0.000000D+00, 1
0,'{CAMCOF4} CAMBER POLYNOMIAL COEFF. ',+0.000000D+00, 1
0,'{CAMCOF5} CAMBER POLYNOMIAL COEFF. ',+0.000000D+00, 1

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0, '{YOUIF} LATERAL IC POSITION FRONT ', +0.000000D+00, 1
0, '{ZOUIF} HEIGHT OF IC ABOVE GROUND ', +0.000000D+00, 1
0, '{WCGOFF} WHEEL C.G. OFFSET DIST. ', +0.000000D+00, 1
0, '{RBUF} UPP.BUMP STP RADIUS ,FRONT ', +0.000000D+00, 1
0, '{RBLF} LWR.BUMP STP RADIUS ,FRONT ', +0.000000D+00, 1
0, '{LBUF} UPP.BUMP STP LNGTH ,FRONT ', +0.000000D+00, 1
0, '{LBLF} LWR.BUMP STP LNGTH ,FRONT ', +0.000000D+00, 1
0, '{PHIMUF} UPP. DEFL. ANGLE ,FRONT ', +0.000000D+00, 1
0, '{PHIMLF} LWR. DEFL. ANGLE ,FRONT ', +0.000000D+00, 1
9, '===== REAR SUSPENSION =====', +1.111111D+11, 0
0, '{TRIR} REAR SUSPENSION TRACK WIDTH ', +0.000000D+00, 0
0, '{WCHIR} REAR WHEEL CENTER HEIGHT ', +0.000000D+00, 1
0, '{CAMCOR1} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOR2} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOR3} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOR4} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOR5} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{YOUIR} LATERAL IC POSITION REAR ', +0.000000D+00, 1
0, '{ZOUIR} HEIGHT OF IC ABOVE GROUND ', +0.000000D+00, 1
0, '{WCGOFR} WHEEL C.G. OFFSET DIST. ', +0.000000D+00, 1
0, '{RBUR} UPP.BUMP STP RADIUS ,REAR ', +0.000000D+00, 1
0, '{RBLR} LWR.BUMP STP RADIUS ,REAR ', +0.000000D+00, 1
0, '{LBUR} UPP.BUMP STP LNGTH ,REAR ', +0.000000D+00, 1
0, '{LBLR} LWR.BUMP STP LNGTH ,REAR ', +0.000000D+00, 1
0, '{PHIMUR} UPP. DEFL. ANGLE ,REAR ', +0.000000D+00, 1
0, '{PHIMLR} LWR. DEFL. ANGLE ,REAR ', +0.000000D+00, 1
9, '==== DEPENDENT SUSPENSION TYPE ====', +1.111111D+11, 0
9, '===== FRONT SUSP. =====', +1.111111D+11, 0
9, '===== FRONT SUSP. =====', +1.111111D+11, 0
0, '{TRDF} FRONT SUSPENSION TRACK WIDTH', +1.308100D+00, 0
0, '{WCHDF} FRONT WHEEL CENTER HEIGHT ', +0.330200D+00, 1
0, '{HRC1} STATIC HT. OF RC ABOVE GRND.', +0.144800D+00, 0
0, '{YCUD1} MASS CENTER POSITON,FRONT ', +0.000000D+00, 0
0, '{ZCUD1} MASS CENTER POSITON,FRONT ', -0.330200D+00, 0
0, '{HSUF} UPR.END SPRNG POS ,FRONT ', +0.440000D+00, 1
0, '{HSLF} LWR.END SPRNG POS ,FRONT ', +0.360000D+00, 1
0, '{TSF} SPRING TRACK ,FRONT ', +0.486000D+00, 1
0, '{HBUF} UPR.BUMP STOP POS ,FRONT ', +0.420000D+00, 1
0, '{HBLF} LWR.BUMP STOP POS ,FRONT ', +0.220000D+00, 1
0, '{HBUF1} UPR CONT SRFS POS ,FRONT ', +0.360000D+00, 1
0, '{HBLF2} LWR CONT SRFS POS ,FRONT ', +0.300000D+00, 1
0, '{TBUF} UPR BUMP STP TRACK ,FRONT ', +0.486000D+00, 1
0, '{TBLF} LWR BUMP STP TRACK ,FRONT ', +0.486000D+00, 1
0, '{LBUF} UPR.BUMP STP LENGTH ,FRONT ', +0.030000D+00, 1
0, '{LBLF} LWR.BUMP STP LENGTH ,FRONT ', +0.030000D+00, 1
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0, '{HRC2} STATIC HT. OF RC ABOVE GRND.', +0.152000D+00, 0
0, '{YCUD2} MASS CENTER POSITON,REAR ', +0.000000D+00, 0
0, '{ZCUD2} MASS CENTER POSITON,REAR ', -0.330200D+00, 0
0, '{HSUR} UPR.END SPRNG POS ,REAR ', +0.440000D+00, 1
0, '{HSLR} LWR END SPRNG POS ,REAR ', +0.360000D+00, 1
0, '{TSR} SPRING TRACK ,REAR ', +0.446000D+00, 1
0, '{HBUR} UPR.BUMP STOP POS ,REAR ', +0.440000D+00, 1
0, '{HBLR} LWR.BUMP STOP POS ,REAR ', +0.230000D+00, 1
0, '{HBUR1} UPR CONT SRFS POS ,REAR ', +0.360000D+00, 1
0, '{HBLR2} LWR CONT SRFS POS ,REAR ', +0.300000D+00, 1

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0, '{TBUR} UPR BUMP STP TRACK ,REAR ', +0.446000D+00, 1
0, '{TBLR} LWR BUMP STP TRACK ,REAR ', +0.446000D+00, 1
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0, '{LBLR} LWR.BUMP STP LENGTH ,REAR ', +0.030000D+00, 1
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9, '-----', +1.111111D+11, 0
0, '{RR} CENTER RADIUS OF TIRE ', +0.334000D+00, 3
0, '{RS} SIDE RADIUS OF TIRE ', +0.050000D+00, 3
0, '{WR1} RADIUS OF TIRE ', +0.290000D+00, 3
0, '{WR2} RADIUS OF TIRE ', +0.260000D+00, 3
0, '{WR3} RADIUS OF TIRE ', +0.225000D+00, 3
0, '{WR4} RADIUS OF TIRE ', +0.190000D+00, 3
0, '{W1} TIRE WIDTH ', +0.100000D+00, 3
0, '{W2} TIRE WIDTH ', +0.105000D+00, 3
0, '{W3} TIRE WIDTH ', +0.090000D+00, 3
0, '{W4} TIRE WIDTH ', +0.063500D+00, 3
9, '-----', +1.111111D+11, 0
9, '----- MASS/INERTIA PARAMETERS -----', +1.111111D+11, 0
9, '-----', +1.111111D+11, 0
9, '----- SPRUNG MASS -----', +1.111111D+11, 0
0, '{MS} SPRUNG MASS ', +778.1000D+00, 0
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0, '{IYYS} SPRUNG PITCH INERTIA ', +831.0200D+00, 0
0, '{IZZS} SPRUNG YAW INERTIA ', +1120.800D+00, 0
0, '{IXYS} SPRUNG PDT OF INERTIA ', +0.000000D+00, 0
0, '{IYZS} SPRUNG PDT OF INTERIA ', +0.000000D+00, 0
0, '{IZXS} SPRUNG PDT OF INERTIA ', +0.000000D+00, 0
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0, '{ML4} ADD. SPRUNG MASS #4 ', +0.000000D+00, 0
0, '{ML5} ADD. SPRUNG MASS #5 ', +0.000000D+00, 0
0, '{ML6} ADD. SPRUNG MASS #6 ', +0.000000D+00, 0
0, '{ML7} ADD. SPRUNG MASS #7 ', +0.000000D+00, 0
0, '{ML8} ADD. SPRUNG MASS #8 ', +0.000000D+00, 0
0, '{XML1} POS OF ADD. SPRUNG MASS #1 ', +0.000000D+00, 0
0, '{XML2} POS OF ADD. SPRUNG MASS #2 ', +0.000000D+00, 0
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0, '{ZML2} POS OF ADD. SPRUNG MASS #2 ', +0.000000D+00, 0
0, '{ZML3} POS OF ADD. SPRUNG MASS #3 ', +0.000000D+00, 0
0, '{ZML4} POS OF ADD. SPRUNG MASS #4 ', +0.000000D+00, 0
0, '{ZML5} POS OF ADD. SPRUNG MASS #5 ', +0.000000D+00, 0
0, '{ZML6} POS OF ADD. SPRUNG MASS #6 ', +0.000000D+00, 0

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0, '{ZML7} POS OF ADD. SPRUNG MASS #7 ', +0.000000D+00, 0
0, '{ZML8} POS OF ADD. SPRUNG MASS #8 ', +0.000000D+00, 0
9, '===== UNSPRUNG MASS =====', +1.111111D+11, 0
9, '=== INDEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
0, '{MUIF} UNSPRUNG MASS, FRONT ', +29.49000D+00, 1
0, '{MUIR} UNSPRUNG MASS, REAR ', +29.49000D+00, 1
9, '==== DEPENDENT SUSPENSION TYPE ====', +1.111111D+11, 0
0, '{MUDF} UNSPRUNG MASS, FRONT ', +58.98000D+00, 0
0, '{MUDR} UNSPRUNG MASS, REAR ', +58.98000D+00, 0
0, '{IXXUF} UNSPNG ROLL INERTIA ,FRONT ', +10.20000D+00, 0
0, '{IXXUR} UNSPNG ROLL INERTIA ,REAR ', +10.20000D+00, 0
0, '{IYYUF} UNSPNG PITCH INERTIA,FRONT ', +3.000000D+00, 0
0, '{IYYUR} UNSPNG PITCH INERTIA,REAR ', +3.000000D+00, 0
0, '{IZZUF} UNSPNG YAW INERTIA ,FRONT ', +8.300000D+00, 0
0, '{IZZUR} UNSPNG YAW INERTIA ,REAR ', +8.300000D+00, 0
9, '===== TIRE =====', +1.111111D+11, 0
0, '{MW} TIRE MASS ', +29.49000D+00, 3
0, '{IXXW} MOMENT OF INERTIA ', +1.120000D+00, 3
9, '=====', +1.111111D+11, 0
9, '==== SUSPENSIONS SPRINGS DATA ====', +1.111111D+11, 0
9, '=== INDEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
0, '{ASIF0} POLY APRX COEF 1,FRONT ', +0.000000D+00, 1
0, '{ASIF1} POLY APRX COEF 2,FRONT ', +0.000000D+00, 1
0, '{ASIF2} POLY APRX COEF 3,FRONT ', +0.000000D+00, 1
0, '{ASIR0} POLY APRX COEF 1,REAR ', +0.000000D+00, 1
0, '{ASIR1} POLY APRX COEF 2,REAR ', +0.000000D+00, 1
0, '{ASIR2} POLY APRX COEF 3,REAR ', +0.000000D+00, 1
0, '{KIARF} ANTI-ROLL BAR SPRNG, FRONT ', +0.000000D+00, 0
0, '{KIARR} ANTI-ROLL BAR SPRNG, REAR ', +0.000000D+00, 0
0, '{DETPHF} A.R LFT/RIGHT ANGL DF.,FNT', +0.000000D+00, 0
0, '{DETPHR} A.R.LFT/RIGHT ANGL DF.,RER', +0.000000D+00, 0
9, '==== DEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
0, '{ASDF0} POLY APRX COEF 1,FRONT ', +47630.00D+00, 1
0, '{ASDF1} POLY APRX COEF 2,FRONT ', +0.000000D+00, 1
0, '{ASDF2} POLY APRX COEF 3,FRONT ', +0.000000D+00, 1
0, '{ASDR0} POLY APRX COEF 1,REAR ', +37220.00D+00, 1
0, '{ASDR1} POLY APRX COEF 2,REAR ', +0.000000D+00, 1
0, '{ASDR2} POLY APRX COEF 3,REAR ', +0.000000D+00, 1
0, '{KDARF} ANTI-ROLL BAR SPRNG, FRONT ', +3443.730d+00, 0
0, '{KDARR} ANTI-ROLL BAR SPRNG, REAR ', +5277.330d+00, 0
9, '=====', +1.111111D+11, 0
9, '==== SUSPENSIONS DAMPERS DATA ====', +1.111111D+11, 0
9, '=== INDEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
0, '{CUIUF} DAMPING CONST.,FRONT COMPR ', +0.000000D+00, 1
0, '{CUIUR} DAMPING CONST.,REAR COMPR ', +0.000000D+00, 1
0, '{CUILF} DAMPING CONST.,FRONT EXTEN ', +0.000000D+00, 1
0, '{CUILR} DAMPING CONST.,REAR EXTEN ', +0.000000D+00, 1
0, '{CIARF} A-R BAR DMPNG COEF., FRONT ', +0.000000D+00, 0
0, '{CIARR} A-R BAR DMPNG COEF., REAR ', +0.000000D+00, 0
9, '==== DEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
0, '{CUDUF} DAMPING CONST.,FRONT COMPR ', +1066.300D+00, 1
0, '{CUDUR} DAMPING CONST.,REAR COMPR ', +1066.300D+00, 1
0, '{CUDLF} DAMPING CONST.,FRONT EXTEN ', +2627.700D+00, 1
0, '{CUDLR} DAMPING CONST.,REAR EXTEN ', +2627.700D+00, 1
0, '{CDARF} A-R BAR DMPNG COEF., FRONT ', +0.000000D+00, 0
0, '{CDARR} A-R BAR DMPNG COEF., REAR ', +0.000000D+00, 0

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0, '{KBLF} LWR B.S. SPRNG C,FRONT', +137000.0D+00, 1
0, '{KBLR} LWR B.S. SPRNG C,REAR', +39000.00D+00, 1
9, '=====', +1.111111D+11, 0
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0, '{CBUR} UPR B.S. DMPNG C,REAR', +6000.000D+00, 1
0, '{CBLF} LWR B.S. DMPNG C,FRONT', +6000.000D+00, 1
0, '{CBLR} LWR B.S. DMPNG C,REAR', +6000.000D+00, 1
9, '=====', +1.111111D+11, 0
9, '===== FRICTIONAL TIRE DATA =====', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
9, '=== CALSPAN TIRE COEFFICIENTS ===', +1.111111D+11, 0
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0, '{A1} CORNERING STIFFNESS COEFF.', +25.27700D+00, 3 +26.54000D+00, 3
0, '{A2} CORNERING STIFFNESS COEFF.', +2146.610D+00, 3
0, '{A3} CAMBER STIFFNESS COEFF.', +1.274000D+00, 3
0, '{A4} CAMBER STIFFNESS COEFF.', +2225.070D+00, 3
0, '{P0} PEAK BRAKING FRICTION COEFF.', +1.207300D+00, 3
0, '{P1} PEAK BRAKING FRICTION COEFF.', -5.843000D-04, 3
0, '{P2} PEAK BRAKING FRICTION COEFF.', +3.977000D-07, 3
0, '{B1} PEAK LATERAL FRICTION COEFF.', -6.745000D-04, 3
0, '{B2} PEAK LATERAL FRICTION COEFF.', +0.000000D+00, 3
0, '{B3} PEAK LATERAL FRICTION COEFF.', +1.307000D+00, 3
0, '{B4} PEAK LATERAL FRICTION COEFF.', +2.953000D-07, 3
0, '{R0} LONG. SLIP @ PEAK BRAKING', -0.237710D+00, 3
0, '{R1} LONG. SLIP @ PEAK BRAKING', +8.536000D-05, 3
0, '{S0} SLIDE COEFFICIENT OF FRICTION', +1.173800D+00, 3
0, '{S1} SLIDE COEFFICIENT OF FRICTION', -8.458000D-04, 3
0, '{S2} SLIDE COEFFICIENT OF FRICTION', +3.945000D-07, 3
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0, '{K2} ALIGNING MOMENT COEFFICIENT', -1.768000D-04, 3
0, '{K3} ALIGNING MOMENT COEFFICIENT', +0.074000D+00, 3
0, '{CTN} SLOPE OF MUX VS. S @ S=0', +6.000000D+00, 3
0, '{CA1} CRITICAL CAMBER ANGLE', +0.523560D+00, 3
0, '{CR1} FRICTION REDUCTION @ CA1', +0.300000D+00, 3
0, '{OMEGT} TIRE OVERLOAD COEFF.', +0.900000D+00, 3 +1.000000D+00, 3
0, '{OMEGT2} TIRE OVERLOAD COEFF.', +0.500000D+00, 3
0, '{SN} TIRE SKID NUMBER', +1.000000D+00, 3
9, '=====', +1.111111D+11, 0
9, '===== IMPACT TIRE DATA =====', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
0, '{SKR} STIFFNESS OF RADIAL SPRINGS', +4723.000D+00, 3
0, '{SKS} STIFFNESS OF SIDE SPRINGS', +2062.000D+00, 3
0, '{SKRIM} STIFFNESS OF RIM SPRINGS', +100000.0D+00, 3
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9, '===== Terrain Data =====', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
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0, '{NTPL} NUMBER OF TERRAIN PLANES', +2.000000D+00, 0
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0, '{Zterr(1)} Z-COORD OF TERR. PT. 1', +0.000000D+00, 0
0, '{Yterr(2)} Y-COORD OF TERR. PT. 2', +7.400000D+00, 0 +20.59400d+00, 0
0, '{Zterr(2)} Z-COORD OF TERR. PT. 2', +0.000000D+00, 0
0, '{Yterr(3)} Y-COORD OF TERR. PT. 3', +500.0000D+00, 0

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9, '=====  

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0, '{DCMyDAlpha_A} Pitch Mom. Coef. Der. ', +0.000000D+00, 0
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```

0, '{AXPRIME18} Desired accel./decel      ', +0.000000D+00, 0
0, '{AXPRIME19} Desired accel./decel      ', +0.000000D+00, 0
0, '{AXPRIME20} Desired accel./decel      ', +0.000000D+00, 0
0, '{Q0}                                     ', +0.100000D+00, 0 +0.000000D+00, 0
0, '{Q1}                                     ', +0.000000D+00, 0
0, '{ITYPPWR} Braking/Tracting ind.        ', +2.000000D+00, 0 +0.000000D+00, 0
9, '=====  

0, '{FYMAX} Max. side force [N]            ', +17800.00D+00, 3
0, '{XPL2} Max. plactic def. [m]           ', +0.152400D+00, 3
0, '{DXPL} Step of plastic def. [m]        ', +0.001000D+00, 3
0, '{STIFF2} Second crsh stiff [N/m]       ', +1.400000D+06, 3
0, '{CRSHDUM} <Reserved for fut.use>       ', +0.000000D+00, 15
9, '=====  

0, '{DUMMY} RESERVED FOR FUTURE USE        ', +0.000000D+00, 41
0, 'ENDPP                                     ', +0.000000D+00, 0
0, 'ENDSP                                     ', +0.000000D+00, 0
9, '=====  

0, '1 XS - LONGITUDINAL POSITION            ', +0.000000D+00, 0
0, '2 YS - LATERAL POSITION                  ', +0.000000D+00, 0
0, '3 ZS - VERTICAL POSITION                  ', +0.000000D+00, 0
0, '4 PSI - YAW ANGLE                       ', +0.000000D+00, 0
0, '5 THETA- PITCH ANGLE                     ', +0.000000D+00, 0
0, '6 PHI - ROLL ANGLE                       ', +0.000000D+00, 0
0, '7 Q7 -                                    ', +0.000000D+00, 0
0, '8 Q8 -                                    ', +0.000000D+00, 0
0, '9 Q9 -                                    ', +0.000000D+00, 0
0, '10 Q10 -                                  ', +0.000000D+00, 0
0, '11 THW1 - WHEEL ROT. ANGLE              ', +0.000000D+00, 0
0, '12 THW2 - WHEEL ROT. ANGLE              ', +0.000000D+00, 0
0, '13 THW3 - WHEEL ROT. ANGLE              ', +0.000000D+00, 0
0, '14 THW4 - WHEEL ROT. ANGLE              ', +0.000000D+00, 0
0, '15 UU - FORWARD VELOCITY                ', +0.000000D+00, 0
0, '16 VV - LATERAL VELOCITY                ', +0.000000D+00, 0
0, '17 WW - VERTICAL VELOCITY                ', +0.000000D+00, 0
0, '18 P - ROLLING Q-VELOCITY                ', +0.000000D+00, 0
0, '19 Q - PITCHING Q-VELOCITY              ', +0.000000D+00, 0
0, '20 R - YAWING Q-VELOCITY                ', +0.000000D+00, 0
0, '21 Q7D -                                  ', +0.000000D+00, 0
0, '22 Q8D -                                  ', +0.000000D+00, 0
0, '23 Q9D -                                  ', +0.000000D+00, 0
0, '24 Q10 -                                  ', +0.000000D+00, 0
0, '25 OMW1 - WHEEL ROT. VELOCITY           ', +0.000000D+00, 0
0, '26 OMW2 - WHEEL ROT. VELOCITY           ', +0.000000D+00, 0
0, '27 OMW3 - WHEEL ROT. VELOCITY           ', +0.000000D+00, 0
0, '28 OMW4 - WHEEL ROT. VELOCITY           ', +0.000000D+00, 0
0, 'ENDOV                                     ', +0.000000D+00, 0
9, '=====  


```

EXAMPLE 3 - TEST18

ADVS.INP

CHEVY,OBLIQUE IMPACT, U =12.0 M/S
VDAT.DAT File Name :VDAT.DAT
SUSP. CONFIG. INDEX: 4
SIMUL. START TIME : 0.0
SIMUL. RUN TIME : 3.0
STEP OF INTEGRATION: 5.0D-04
STEP FOR PRINTING : 2.0D-02
INTEGR. ERR. CRIT. : 5.0D-05
U [M/S] : 12.0
V [M/S] : 0.0
PSI [DEG.] : 60.0
PHI MAX [DEG.] : 50.0
(-RESERVED-) : 0.0

BODYNOD.DAT

17
4
0.050000000000000001
0.400000000000000000
556000.0000000000
1400000.0000000000
0.00000000000000000E+00
0.00000000000000000E+00
27800.000000000000
5.00000000000000000E-02
87900.000000000000
0.203000000000000000
198000.0000000000
0.400000000000000000
4
5.00000000000000000E-02
0.400000000000000000
356000.0000000000
1400000.0000000000
0.00000000000000000E+00
0.00000000000000000E+00
17800.000000000000
5.00000000000000000E-02
47900.000000000000
0.203000000000000000
98000.0000000000
0.400000000000000000
4
5.00000000000000000E-02
0.400000000000000000
356000.0000000000
1400000.0000000000
0.00000000000000000E+00
0.00000000000000000E+00
17800.000000000000

5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
0.4000000000000000

4

0.05000000000000002
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.0000000000
5.0000000000000000E-02
87900.0000000000
0.2030000000000000
198000.0000000000
0.4000000000000000

4

5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.0000000000
5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
0.4000000000000000

4

5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.0000000000
5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
0.4000000000000000

4

5.0000000000000003E-02
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.0000000000
5.0000000000000000E-02
87900.0000000000
0.2030000000000000
198000.0000000000
0.4000000000000000

4

5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.0000000000
5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
0.4000000000000000

4

5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.0000000000
5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
0.4000000000000000

4

0.05000000000000004
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.0000000000
5.0000000000000000E-02
87900.0000000000
0.2030000000000000
198000.0000000000
0.4000000000000000

4

5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.0000000000
5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
0.4000000000000000

4

5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00

17800.000000000000
5.0000000000000000E-02
47900.000000000000
0.2030000000000000
98000.000000000000
0.4000000000000000
4
5.0000000000000005E-02
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.000000000000
5.0000000000000000E-02
87900.000000000000
0.2030000000000000
198000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.000000000000
5.0000000000000000E-02
87900.000000000000
0.2030000000000000
198000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.000000000000
5.0000000000000000E-02
47900.000000000000
0.2030000000000000
98000.000000000000
0.4000000000000000
4
0.05000000000000006
0.7000000000000000
222400.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
11120.000000000000
5.0000000000000000E-02
35160.000000000000
0.4030000000000000
79200.000000000000
0.7000000000000000

4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.000000000000
5.0000000000000000E-02
47900.000000000000
0.2030000000000000
98000.000000000000
0.4000000000000000

4
5.0000000000000000E-02
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.000000000000
5.0000000000000000E-02
87900.000000000000
0.2030000000000000
198000.000000000000
0.4000000000000000

4
5.0000000000000007E-02
0.7000000000000000
222400.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
11120.000000000000
5.0000000000000000E-02
35160.000000000000
0.4030000000000000
79200.000000000000
0.7000000000000000

4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.000000000000
5.0000000000000000E-02
47900.000000000000
0.2030000000000000
98000.000000000000
0.4000000000000000

4
5.0000000000000000E-02
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00

```

0.0000000000000000E+00
27800.000000000000
5.0000000000000000E-02
87900.000000000000
0.2030000000000000
198000.000000000000
0.4000000000000000
4
0.05000000000000008
0.4000000000000000
556000.000000000000
1400000.000000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.000000000000
5.0000000000000000E-02
87900.000000000000
0.2030000000000000
198000.000000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
356000.000000000000
1400000.000000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.000000000000
5.0000000000000000E-02
47900.000000000000
0.2030000000000000
98000.000000000000
0.4000000000000000
4
5.0000000000000000E-02
0.7000000000000000
10000.000000000000
140000.000000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.00000000000000
5.0000000000000000E-02
860.00000000000000
0.4030000000000000
1200.000000000000
0.7000000000000000
4
5.00000000000000009E-02
0.4000000000000000
556000.000000000000
1400000.000000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.000000000000
5.0000000000000000E-02
87900.000000000000
0.2030000000000000
198000.000000000000

```

```

0.4000000000000000
  4
5.0000000000000000E-02
0.4000000000000000
 356000.0000000000
 140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
 17800.0000000000
5.0000000000000000E-02
 47900.0000000000
0.2030000000000000
 98000.0000000000
0.4000000000000000
  4
5.0000000000000000E-02
0.7000000000000000
 10000.0000000000
 140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
 500.000000000000
5.0000000000000000E-02
 860.000000000000
0.4030000000000000
 1200.0000000000
0.7000000000000000
  4
0.0500000000000010
0.7000000000000000
 222400.0000000000
 140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
 11120.0000000000
5.0000000000000000E-02
 35160.0000000000
0.4030000000000000
 79200.0000000000
0.7000000000000000
  4
5.0000000000000000E-02
0.4000000000000000
 356000.0000000000
 140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
 17800.0000000000
5.0000000000000000E-02
 47900.0000000000
0.2030000000000000
 98000.0000000000
0.4000000000000000
  4
5.0000000000000000E-02
0.4000000000000000
 556000.0000000000
 140000.0000000000

```

0.0000000000000000E+00
0.0000000000000000E+00
27800.0000000000
5.0000000000000000E-02
87900.0000000000
0.2030000000000000
198000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
0.7000000000000000
222400.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
11120.0000000000
5.0000000000000000E-02
35160.0000000000
0.4030000000000000
79200.0000000000
0.7000000000000000
4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.0000000000
5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.0000000000
5.0000000000000000E-02
87900.0000000000
0.2030000000000000
198000.0000000000
0.4000000000000000
4
0.0500000000000000E+00
0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.000000000000
5.0000000000000000E-02
860.000000000000
0.4030000000000000

```

1200.0000000000
0.7000000000000000
  4
5.0000000000000000E-02
0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.000000000000
5.0000000000000000E-02
860.000000000000
0.4030000000000000
1200.0000000000
0.7000000000000000
  4
5.0000000000000000E-02
0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.000000000000
5.0000000000000000E-02
860.000000000000
0.4030000000000000
1200.0000000000
0.7000000000000000
  4
0.05000000000000013
0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.000000000000
5.0000000000000000E-02
860.000000000000
0.4030000000000000
1200.0000000000
0.7000000000000000
  4
5.0000000000000000E-02
0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.000000000000
5.0000000000000000E-02
860.000000000000
0.4030000000000000
1200.0000000000
0.7000000000000000
  4
5.0000000000000000E-02
0.7000000000000000
10000.0000000000

```


140000.000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.00000000000
5.0000000000000000E-02
860.00000000000
0.4030000000000000
1200.00000000000
0.7000000000000000

4

0.05000000000000014
0.7000000000000000
10000.00000000000
140000.00000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.00000000000
5.0000000000000000E-02
860.00000000000
0.4030000000000000
1200.00000000000
0.7000000000000000

4

5.0000000000000000E-02
0.7000000000000000
10000.00000000000
140000.00000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.00000000000
5.0000000000000000E-02
860.00000000000
0.4030000000000000
1200.00000000000
0.7000000000000000

4

5.0000000000000000E-02
0.7000000000000000
10000.00000000000
140000.00000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.00000000000
5.0000000000000000E-02
860.00000000000
0.4030000000000000
1200.00000000000
0.7000000000000000

4

0.05000000000000015
0.7000000000000000
10000.00000000000
140000.00000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.00000000000
5.0000000000000000E-02
860.00000000000

0.4030000000000000
 1200.0000000000
 0.7000000000000000
 4
 5.0000000000000000E-02
 0.7000000000000000
 10000.0000000000
 140000.0000000000
 0.0000000000000000E+00
 0.0000000000000000E+00
 500.000000000000
 5.0000000000000000E-02
 860.000000000000
 0.4030000000000000
 1200.0000000000
 0.7000000000000000
 4
 5.0000000000000000E-02
 0.7000000000000000
 10000.0000000000
 140000.0000000000
 0.0000000000000000E+00
 0.0000000000000000E+00
 500.000000000000
 5.0000000000000000E-02
 860.000000000000
 0.4030000000000000
 1200.0000000000
 0.7000000000000000
 4
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 556000.0000000000
 1400000.0000000000
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 27800.000000000000
 5.0000000000000000E-02
 87900.000000000000
 0.2030000000000000
 198000.0000000000
 0.4000000000000000
 4
 5.0000000000000000E-02
 0.4000000000000000
 356000.0000000000
 1400000.0000000000
 0.0000000000000000E+00
 0.0000000000000000E+00
 17800.000000000000
 5.0000000000000000E-02
 47900.000000000000
 0.2030000000000000
 98000.0000000000
 0.4000000000000000
 4
 5.0000000000000000E-02
 0.4000000000000000

556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.00000000000
5.0000000000000000E-02
87900.00000000000
0.2030000000000000
198000.0000000000
0.4000000000000000

4

5.00000000000000017E-02
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.00000000000
5.0000000000000000E-02
87900.00000000000
0.2030000000000000
198000.0000000000
0.4000000000000000

4

5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.00000000000
5.0000000000000000E-02
47900.00000000000
0.2030000000000000
98000.0000000000
0.4000000000000000

4

5.0000000000000000E-02
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.00000000000
5.0000000000000000E-02
87900.00000000000
0.2030000000000000
198000.0000000000
0.4000000000000000
75000.00000000000
75000.00000000000
75000.00000000000
75000.00000000000
75000.00000000000
75000.00000000000
75000.00000000000
75000.00000000000
75000.00000000000


```

0.0000000000000000E+00  -0.8000000000000000  0.0000000000000000E+00
0.0000000000000000E+00  1.0000000000000000  0.0000000000000000E+00
-1.6000000000000000  0.7000000000000000  -0.3000000000000000
 1.0000000000000000  -1.0000000000000000  1.0000000000000000
-1.6000000000000000  -0.7000000000000000  -0.3000000000000000
 1.0000000000000000  1.0000000000000000  1.0000000000000000
 1.7000000000000000  0.7000000000000000  0.2000000000000000
-1.0000000000000000  -1.0000000000000000  -1.0000000000000000
 1.7000000000000000  -0.7000000000000000  0.2000000000000000
-1.0000000000000000  1.0000000000000000  -1.0000000000000000
-1.6000000000000000  0.7000000000000000  0.2000000000000000
 1.0000000000000000  -1.0000000000000000  -1.0000000000000000
-1.6000000000000000  -0.7000000000000000  0.2000000000000000
 1.0000000000000000  1.0000000000000000  -1.0000000000000000
 0.8000000000000000  0.7000000000000000  -0.3000000000000000
 0.0000000000000000  -1.0000000000000000  1.0000000000000000
 0.8000000000000000  -0.7000000000000000  -0.3000000000000000
 0.0000000000000000  1.0000000000000000  1.0000000000000000
0.38

```

SEARCH.DAT

```

detf1,detf2:
500.0
50.0

```

VDAT.DAT

```

9, '=====', +1.111111D+11, 0
9, '= INPUT DATA FOR THE TEST VEHICLE =', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
9, '===== 76 Chevy Nova =====', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
9, '= CREATION DATE:      Dec 18 1989 =', +1.111111D+11, 0
9, '= LAST UPDATE   :      Dec 18 1989 =', +1.111111D+11, 0
9, '=              BY   :      Lu           =', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
9, '===== ANALYZED PARAMETERS =====', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
9, '===== PRIMARY GEOMETRICAL =====', +1.111111D+11, 0
9, '===== BASIC DATA =====', +1.111111D+11, 0
0, '{A}  DISTANCE - CG TO FRONT AXLE  ', +1.335000D+00, 0 +1.034000D+00, 0
0, '{B}  DISTANCE - CG TO REAR  AXLE  ', +1.440000D+00, 0 +0.998000D+00, 0
0, '{HS} STATIC HEIGHT OF SPRUNG C.G. ', +0.750000D+00, 0 +0.693000D+00, 0
9, '===== SUSPENSION DATA =====', +1.111111D+11, 0
9, '=== INDEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
9, '===== FRONT SUSPENSION =====', +1.111111D+11, 0
0, '{TRIF} FRONT SUSPENSION TRACK WIDTH', +0.000000D+00, 0
0, '{WCHIF} FRONT WHEEL CENTER HEIGHT  ', +0.000000D+00, 1
0, '{CAMCOF1} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOF2} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOF3} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOF4} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOF5} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{YOUIF} LATERAL IC POSITION FRONT  ', +0.000000D+00, 1
0, '{ZOUIF} HEIGHT OF IC ABOVE GROUND  ', +0.000000D+00, 1

```

```

0, '{WCGOFF} WHEEL C.G. OFFSET DIST. ', +0.000000D+00, 1
0, '{RBUF} UPP.BUMP STP RADIUS ,FRONT ', +0.000000D+00, 1
0, '{RBLF} LWR.BUMP STP RADIUS ,FRONT ', +0.000000D+00, 1
0, '{LBUF} UPP.BUMP STP LNGTH ,FRONT ', +0.000000D+00, 1
0, '{LBLF} LWR.BUMP STP LNGTH ,FRONT ', +0.000000D+00, 1
0, '{PHIMUF} UPP. DEFL. ANGLE ,FRONT ', +0.000000D+00, 1
0, '{PHIMLF} LWR. DEFL. ANGLE ,FRONT ', +0.000000D+00, 1
9, '===== REAR SUSPENSION =====', +1.111111D+11, 0
0, '{TRIR} REAR SUSPENSION TRACK WIDTH ', +0.000000D+00, 0
0, '{WCHIR} REAR WHEEL CENTER HEIGHT ', +0.000000D+00, 1
0, '{CAMCOR1} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOR2} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOR3} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOR4} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOR5} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{Y0UIR} LATERAL IC POSITION REAR ', +0.000000D+00, 1
0, '{Z0UIR} HEIGHT OF IC ABOVE GROUND ', +0.000000D+00, 1
0, '{WCGOFR} WHEEL C.G. OFFSET DIST. ', +0.000000D+00, 1
0, '{RBUR} UPP.BUMP STP RADIUS ,REAR ', +0.000000D+00, 1
0, '{RBLR} LWR.BUMP STP RADIUS ,REAR ', +0.000000D+00, 1
0, '{LBUR} UPP.BUMP STP LNGTH ,REAR ', +0.000000D+00, 1
0, '{LBLR} LWR.BUMP STP LNGTH ,REAR ', +0.000000D+00, 1
0, '{PHIMUR} UPP. DEFL. ANGLE ,REAR ', +0.000000D+00, 1
0, '{PHIMLR} LWR. DEFL. ANGLE ,REAR ', +0.000000D+00, 1
9, '==== DEPENDENT SUSPENSION TYPE ====', +1.111111D+11, 0
9, '===== FRONT SUSP. =====', +1.111111D+11, 0
0, '{TRDF} FRONT SUSPENSION TRACK WIDTH', +1.500000D+00, 0 +1.308100D+00, 0
0, '{WCHDF} FRONT WHEEL CENTER HEIGHT ', +0.330200D+00, 1
0, '{HRC1} STATIC HT. OF RC ABOVE GRND. ', +0.144800D+00, 0
0, '{YCUD1} MASS CENTER POSITON,FRONT ', +0.000000D+00, 0
0, '{ZCUD1} MASS CENTER POSITON,FRONT ', -0.330200D+00, 0
0, '{HSUF} UPR.END SPRNG POS ,FRONT ', +0.440000D+00, 1
0, '{HSLF} LWR.END SPRNG POS ,FRONT ', +0.360000D+00, 1
0, '{TSF} SPRING TRACK ,FRONT ', +0.525000D+00, 1 +0.486000D+00, 1
0, '{HBUF} UPR.BUMP STOP POS ,FRONT ', +0.420000D+00, 1
0, '{HBLF} LWR.BUMP STOP POS ,FRONT ', +0.220000D+00, 1
0, '{HBUF1} UPR CONT SRFS POS ,FRONT ', +0.360000D+00, 1
0, '{HBLF2} LWR CONT SRFS POS ,FRONT ', +0.300000D+00, 1
0, '{TBUF} UPR BUMP STP TRACK ,FRONT ', +0.486000D+00, 1
0, '{TBLF} LWR BUMP STP TRACK ,FRONT ', +0.486000D+00, 1
0, '{LBUF} UPR.BUMP STP LENGTH ,FRONT ', +0.030000D+00, 1
0, '{LBLF} LWR.BUMP STP LENGTH ,FRONT ', +0.030000D+00, 1
9, '===== REAR SUSP. =====', +1.111111D+11, 0
0, '{TRDR} REAR SUSPENSION TRACK WIDTH ', +1.500000D+00, 0 +1.308100D+00, 0
0, '{WCHDR} REAR WHEEL CENTER HEIGHT ', +0.330200D+00, 1
0, '{HRC2} STATIC HT. OF RC ABOVE GRND. ', +0.152000D+00, 0
0, '{YCUD2} MASS CENTER POSITON,REAR ', +0.000000D+00, 0
0, '{ZCUD2} MASS CENTER POSITON,REAR ', -0.330200D+00, 0
0, '{HSUR} UPR.END SPRNG POS ,REAR ', +0.440000D+00, 1
0, '{HSLR} LWR END SPRNG POS ,REAR ', +0.360000D+00, 1
0, '{TSR} SPRING TRACK ,REAR ', +0.525000D+00, 1 +0.446000D+00, 1
0, '{HBUR} UPR.BUMP STOP POS ,REAR ', +0.440000D+00, 1
0, '{HBLR} LWR.BUMP STOP POS ,REAR ', +0.230000D+00, 1
0, '{HBUR1} UPR CONT SRFS POS ,REAR ', +0.360000D+00, 1
0, '{HBLR2} LWR CONT SRFS POS ,REAR ', +0.300000D+00, 1
0, '{TBUR} UPR BUMP STP TRACK ,REAR ', +0.446000D+00, 1
0, '{TBLR} LWR BUMP STP TRACK ,REAR ', +0.446000D+00, 1

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0, '{LBUR} UPR.BUMP STP LENGTH ,REAR ', +0.030000D+00, 1
0, '{LBLR} LWR.BUMP STP LENGTH ,REAR ', +0.030000D+00, 1
9, '=====', +1.111111D+11, 0
9, '=====  
IMPACT TIRE DATA =====', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
0, '{RR} CENTER RADIUS OF TIRE ', +0.334000D+00, 3
0, '{RS} SIDE RADIUS OF TIRE ', +0.050000D+00, 3
0, '{WR1} RADIUS OF TIRE ', +0.290000D+00, 3
0, '{WR2} RADIUS OF TIRE ', +0.260000D+00, 3
0, '{WR3} RADIUS OF TIRE ', +0.225000D+00, 3
0, '{WR4} RADIUS OF TIRE ', +0.190000D+00, 3
0, '{W1} TIRE WIDTH ', +0.100000D+00, 3
0, '{W2} TIRE WIDTH ', +0.105000D+00, 3
0, '{W3} TIRE WIDTH ', +0.090000D+00, 3
0, '{W4} TIRE WIDTH ', +0.063500D+00, 3
9, '=====', +1.111111D+11, 0
9, '=====  
MASS/INERTIA PARAMETERS =====', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
9, '=====  
SPRUNG MASS =====', +1.111111D+11, 0
0, '{MS} SPRUNG MASS ', +1534.000D+00, 0 +778.1000D+00, 0
0, '{IXXS} SPRUNG ROLL INERTIA ', +325.0000D+00, 0 +240.2600D+00, 0
0, '{IYYS} SPRUNG PITCH INERTIA ', +2712.000D+00, 0 +831.0200D+00, 0
0, '{IZZS} SPRUNG YAW INERTIA ', +3254.000D+00, 0 +1120.800D+00, 0
0, '{IXYS} SPRUNG PDT OF INERTIA ', +0.000000D+00, 0
0, '{IYZS} SPRUNG PDT OF INTERIA ', +0.000000D+00, 0
0, '{IZXS} SPRUNG PDT OF INERTIA ', +0.000000D+00, 0
0, '{ML1} ADD. SPRUNG MASS #1 ', +0.000000D+00, 0
0, '{ML2} ADD. SPRUNG MASS #2 ', +0.000000D+00, 0
0, '{ML3} ADD. SPRUNG MASS #3 ', +0.000000D+00, 0
0, '{ML4} ADD. SPRUNG MASS #4 ', +0.000000D+00, 0
0, '{ML5} ADD. SPRUNG MASS #5 ', +0.000000D+00, 0
0, '{ML6} ADD. SPRUNG MASS #6 ', +0.000000D+00, 0
0, '{ML7} ADD. SPRUNG MASS #7 ', +0.000000D+00, 0
0, '{ML8} ADD. SPRUNG MASS #8 ', +0.000000D+00, 0
0, '{XML1} POS OF ADD. SPRUNG MASS #1 ', +0.000000D+00, 0
0, '{XML2} POS OF ADD. SPRUNG MASS #2 ', +0.000000D+00, 0
0, '{XML3} POS OF ADD. SPRUNG MASS #3 ', +0.000000D+00, 0
0, '{XML4} POS OF ADD. SPRUNG MASS #4 ', +0.000000D+00, 0
0, '{XML5} POS OF ADD. SPRUNG MASS #5 ', +0.000000D+00, 0
0, '{XML6} POS OF ADD. SPRUNG MASS #6 ', +0.000000D+00, 0
0, '{XML7} POS OF ADD. SPRUNG MASS #7 ', +0.000000D+00, 0
0, '{XML8} POS OF ADD. SPRUNG MASS #8 ', +0.000000D+00, 0
0, '{YML1} POS OF ADD. SPRUNG MASS #1 ', +0.000000D+00, 0
0, '{YML2} POS OF ADD. SPRUNG MASS #2 ', +0.000000D+00, 0
0, '{YML3} POS OF ADD. SPRUNG MASS #3 ', +0.000000D+00, 0
0, '{YML4} POS OF ADD. SPRUNG MASS #4 ', +0.000000D+00, 0
0, '{YML5} POS OF ADD. SPRUNG MASS #5 ', +0.000000D+00, 0
0, '{YML6} POS OF ADD. SPRUNG MASS #6 ', +0.000000D+00, 0
0, '{YML7} POS OF ADD. SPRUNG MASS #7 ', +0.000000D+00, 0
0, '{YML8} POS OF ADD. SPRUNG MASS #8 ', +0.000000D+00, 0
0, '{ZML1} POS OF ADD. SPRUNG MASS #1 ', +0.000000D+00, 0
0, '{ZML2} POS OF ADD. SPRUNG MASS #2 ', +0.000000D+00, 0
0, '{ZML3} POS OF ADD. SPRUNG MASS #3 ', +0.000000D+00, 0
0, '{ZML4} POS OF ADD. SPRUNG MASS #4 ', +0.000000D+00, 0
0, '{ZML5} POS OF ADD. SPRUNG MASS #5 ', +0.000000D+00, 0
0, '{ZML6} POS OF ADD. SPRUNG MASS #6 ', +0.000000D+00, 0
0, '{ZML7} POS OF ADD. SPRUNG MASS #7 ', +0.000000D+00, 0
0, '{ZML8} POS OF ADD. SPRUNG MASS #8 ', +0.000000D+00, 0

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9, '==== UNSPRUNG MASS =====', +1.111111D+11, 0
9, '=== INDEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
0, '{MUIF} UNSPRUNG MASS, FRONT ', +29.49000D+00, 1
0, '{MUIR} UNSPRUNG MASS, REAR ', +29.49000D+00, 1
9, '---- DEPENDENT SUSPENSION TYPE ----', +1.111111D+11, 0
0, '{MUDF} UNSPRUNG MASS, FRONT ', +58.98000D+00, 0
0, '{MUDR} UNSPRUNG MASS, REAR ', +58.98000D+00, 0
0, '{IXXUF} UNSPNG ROLL INERTIA ,FRONT ', +10.20000D+00, 0
0, '{IXXUR} UNSPNG ROLL INERTIA ,REAR ', +10.20000D+00, 0
0, '{IYYUF} UNSPNG PITCH INERTIA,FRONT ', +3.000000D+00, 0
0, '{IYYUR} UNSPNG PITCH INERTIA,REAR ', +3.000000D+00, 0
0, '{IZZUF} UNSPNG YAW INERTIA ,FRONT ', +8.300000D+00, 0
0, '{IZZUR} UNSPNG YAW INERTIA ,REAR ', +8.300000D+00, 0
9, '===== TIRE =====', +1.111111D+11, 0
0, '{MW} TIRE MASS ', +29.49000D+00, 3
0, '{IXXW} MOMENT OF INERTIA ', +1.120000D+00, 3
9, '==== UNSPRUNG MASS =====', +1.111111D+11, 0
9, '==== SUSPENSIONS SPRINGS DATA ====', +1.111111D+11, 0
9, '=== INDEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
9, '==== UNSPRUNG MASS =====', +1.111111D+11, 0
0, '{ASIF0} POLY APRX COEF 1,FRONT ', +0.000000D+00, 1
0, '{ASIF1} POLY APRX COEF 2,FRONT ', +0.000000D+00, 1
0, '{ASIF2} POLY APRX COEF 3,FRONT ', +0.000000D+00, 1
0, '{ASIR0} POLY APRX COEF 1,REAR ', +0.000000D+00, 1
0, '{ASIR1} POLY APRX COEF 2,REAR ', +0.000000D+00, 1
0, '{ASIR2} POLY APRX COEF 3,REAR ', +0.000000D+00, 1
0, '{KIARF} ANTI-ROLL BAR SPRNG, FRONT ', +0.000000D+00, 0
0, '{KIARR} ANTI-ROLL BAR SPRNG, REAR ', +0.000000D+00, 0
0, '{DETPHF} A.R LFT/RIGHT ANGL DF.,FNT', +0.000000D+00, 0
0, '{DETPHR} A.R LFT/RIGHT ANGL DF.,RER', +0.000000D+00, 0
9, '=== DEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
0, '{ASDF0} POLY APRX COEF 1,FRONT ', +90000.00D+00, 1 +47630.00D+00, 1
0, '{ASDF1} POLY APRX COEF 2,FRONT ', +0.000000D+00, 1
0, '{ASDF2} POLY APRX COEF 3,FRONT ', +0.000000D+00, 1
0, '{ASDR0} POLY APRX COEF 1,REAR ', +75000.00D+00, 1 +37220.00D+00, 1
0, '{ASDR1} POLY APRX COEF 2,REAR ', +0.000000D+00, 1
0, '{ASDR2} POLY APRX COEF 3,REAR ', +0.000000D+00, 1
0, '{KDARF} ANTI-ROLL BAR SPRNG, FRONT ', +6800.000D+00, 0 +3443.730d+00, 0
0, '{KDARR} ANTI-ROLL BAR SPRNG, REAR ', +10000.00D+00, 0 +5277.330d+00, 0
9, '==== UNSPRUNG MASS =====', +1.111111D+11, 0
9, '==== SUSPENSIONS DAMPERS DATA ====', +1.111111D+11, 0
9, '=== INDEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
9, '==== UNSPRUNG MASS =====', +1.111111D+11, 0
0, '{CUIUF} DAMPING CONST.,FRONT COMPR ', +0.000000D+00, 1
0, '{CUIUR} DAMPING CONST.,REAR COMPR ', +0.000000D+00, 1
0, '{CUILF} DAMPING CONST.,FRONT EXTEN ', +0.000000D+00, 1
0, '{CUILR} DAMPING CONST.,REAR EXTEN ', +0.000000D+00, 1
0, '{CIARF} A-R BAR DMPNG COEF., FRONT ', +0.000000D+00, 0
0, '{CIARR} A-R BAR DMPNG COEF., REAR ', +0.000000D+00, 0
9, '=== DEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
0, '{CUDUF} DAMPING CONST.,FRONT COMPR ', +2500.000D+00, 1 +1066.300D+00, 1
0, '{CUDUR} DAMPING CONST.,REAR COMPR ', +2500.000D+00, 1 +1066.300D+00, 1
0, '{CUDLF} DAMPING CONST.,FRONT EXTEN ', +5500.000D+00, 1 +2627.700D+00, 1
0, '{CUDLR} DAMPING CONST.,REAR EXTEN ', +5500.000d+00, 1 +2627.700D+00, 1
0, '{CDARF} A-R BAR DMPNG COEF., FRONT ', +0.000000D+00, 0
0, '{CDARR} A-R BAR DMPNG COEF., REAR ', +0.000000D+00, 0
9, '==== UNSPRUNG MASS =====', +1.111111D+11, 0
9, '= BUMP STOP STIF. AND DAMP. DATA =' , +1.111111D+11, 0

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9, '-----', +1.111111D+11, 0
0, '{KBUF} UPR B.S. SPRNG C,FRONT', +650000.0D+00, 1 +323000.0D+00, 1
0, '{KBUR} UPR B.S. SPRNG C,REAR', +280000.0D+00, 1 +140000.0D+00, 1
0, '{KBLF} LWR B.S. SPRNG C,FRONT', +270000.0D+00, 1 +137000.0D+00, 1
0, '{KBLR} LWR B.S. SPRNG C,REAR', +78000.00D+00, 1 +39000.00D+00, 1
9, '-----', +1.111111D+11, 0
0, '{CBUF} UPR B.S. DMPNG C,FRONT', +12000.00D+00, 1 +6000.00D+00, 1
0, '{CBUR} UPR B.S. DMPNG C,REAR', +12000.00D+00, 1 +6000.00D+00, 1
0, '{CBLF} LWR B.S. DMPNG C,FRONT', +12000.00D+00, 1 +6000.00D+00, 1
0, '{CBLR} LWR B.S. DMPNG C,REAR', +12000.00D+00, 1 +6000.00D+00, 1
9, '-----', +1.111111D+11, 0
9, '----- FRICTIONAL TIRE DATA -----', +1.111111D+11, 0
9, '-----', +1.111111D+11, 0
9, '----- CALSPAN TIRE COEFFICIENTS -----', +1.111111D+11, 0
0, '{A0} CORNERING STIFFNESS COEFF.', +0.000000D+00, 3 -668.4600D+00, 3
0, '{A1} CORNERING STIFFNESS COEFF.', +25.27700D+00, 3 +26.54000D+00, 3
0, '{A2} CORNERING STIFFNESS COEFF.', +2146.610D+00, 3
0, '{A3} CAMBER STIFFNESS COEFF.', +1.274000D+00, 3
0, '{A4} CAMBER STIFFNESS COEFF.', +2225.070D+00, 3
0, '{P0} PEAK BRAKING FRICTION COEFF.', +1.207300D+00, 3
0, '{P1} PEAK BRAKING FRICTION COEFF.', -5.843000D-04, 3
0, '{P2} PEAK BRAKING FRICTION COEFF.', +3.977000D-07, 3
0, '{B1} PEAK LATERAL FRICTION COEFF.', -6.745000D-04, 3
0, '{B2} PEAK LATERAL FRICTION COEFF.', +0.000000D+00, 3
0, '{B3} PEAK LATERAL FRICTION COEFF.', +1.307000D+00, 3
0, '{B4} PEAK LATERAL FRICTION COEFF.', +2.953000D-07, 3
0, '{R0} LONG. SLIP @ PEAK BRAKING', -0.237710D+00, 3
0, '{R1} LONG. SLIP @ PEAK BRAKING', +8.536000D-05, 3
0, '{S0} SLIDE COEFFICIENT OF FRICTION', +1.173800D+00, 3
0, '{S1} SLIDE COEFFICIENT OF FRICTION', -8.458000D-04, 3
0, '{S2} SLIDE COEFFICIENT OF FRICTION', +3.945000D-07, 3
0, '{K1} ALIGNING MOMENT COEFFICIENT', -2.061000D-04, 3
0, '{K2} ALIGNING MOMENT COEFFICIENT', -1.768000D-04, 3
0, '{K3} ALIGNING MOMENT COEFFICIENT', +0.074000D+00, 3
0, '{CTN} SLOPE OF MUX VS. S @ S=0', +6.000000D+00, 3
0, '{CA1} CRITICAL CAMBER ANGLE', +0.523560D+00, 3
0, '{CR1} FRICTION REDUCTION @ CA1', +0.300000D+00, 3
0, '{OMEGT} TIRE OVERLOAD COEFF.', +0.900000D+00, 3 +1.000000D+00, 3
0, '{OMEGT2} TIRE OVERLOAD COEFF.', +0.500000D+00, 3
0, '{SN} TIRE SKID NUMBER', +1.000000D+00, 3
9, '-----', +1.111111D+11, 0
9, '----- IMPACT TIRE DATA -----', +1.111111D+11, 0
9, '-----', +1.111111D+11, 0
0, '{SKR} STIFFNESS OF RADIAL SPRINGS', +4723.000D+00, 3
0, '{SKS} STIFFNESS OF SIDE SPRINGS', +2062.000D+00, 3
0, '{SKRIM} STIFFNESS OF RIM SPRINGS', +100000.0D+00, 3
9, '-----', +1.111111D+11, 0
9, '----- Terrain Data -----', +1.111111D+11, 0
9, '-----', +1.111111D+11, 0
0, '{NTPT} NUMBER OF TERRAIN COORDS', +4.000000D+00, 0 +2.000000D+00, 0
0, '{NTPL} NUMBER OF TERRAIN PLANES', +3.000000D+00, 0 +1.000000D+00, 0
0, '{Yterr(1)} Y-COORD OF TERR. PT. 1', -500.0000D+00, 0
0, '{Zterr(1)} Z-COORD OF TERR. PT. 1', +0.000000D+00, 0
0, '{Yterr(2)} Y-COORD OF TERR. PT. 2', +8.000000D+00, 0 +0.800000D+00, 0
0, '{Zterr(2)} Z-COORD OF TERR. PT. 2', +0.000000D+00, 0
0, '{Yterr(3)} Y-COORD OF TERR. PT. 3', +8.100000D+00, 0 +8.200000D+00, 0
0, '{Zterr(3)} Z-COORD OF TERR. PT. 3', -0.152400D+00, 0
0, '{Yterr(4)} Y-COORD OF TERR. PT. 4', +500.0000D+00, 0 +500.0000D+00, 0

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0, '{Zterr(4)} Z-COORD OF TERR. PT. 4	'	, -0.152400D+00,	0	-0.152400D+00, 0
0, '{Yterr(5)} Y-COORD OF TERR. PT. 5	'	, +0.000000D+00,	0	
0, '{Zterr(5)} Z-COORD OF TERR. PT. 5	'	, +0.000000D+00,	0	
0, '{Yterr(6)} Y-COORD OF TERR. PT. 6	'	, +0.000000D+00,	0	
0, '{Zterr(6)} Z-COORD OF TERR. PT. 6	'	, +0.000000D+00,	0	
0, '{Yterr(7)} Y-COORD OF TERR. PT. 7	'	, +0.000000D+00,	0	
0, '{Zterr(7)} Z-COORD OF TERR. PT. 7	'	, +0.000000D+00,	0	
0, '{Yterr(8)} Y-COORD OF TERR. PT. 8	'	, +0.000000D+00,	0	
0, '{Zterr(8)} Z-COORD OF TERR. PT. 8	'	, +0.000000D+00,	0	
0, '{Yterr(9)} Y-COORD OF TERR. PT. 9	'	, +0.000000D+00,	0	
0, '{Zterr(9)} Z-COORD OF TERR. PT. 9	'	, +0.000000D+00,	0	
0, '{Yterr(10)} Y-COORD OF TERR. PT. 10	'	, +0.000000D+00,	0	
0, '{Zterr(10)} Z-COORD OF TERR. PT. 10	'	, +0.000000D+00,	0	
0, '{Yterr(11)} Y-COORD OF TERR. PT. 11	'	, +0.000000D+00,	0	
0, '{Zterr(11)} Z-COORD OF TERR. PT. 11	'	, +0.000000D+00,	0	
0, '{Yterr(12)} Y-COORD OF TERR. PT. 12	'	, +0.000000D+00,	0	
0, '{Zterr(12)} Z-COORD OF TERR. PT. 12	'	, +0.000000D+00,	0	
0, '{Yterr(13)} Y-COORD OF TERR. PT. 13	'	, +0.000000D+00,	0	
0, '{Zterr(13)} Z-COORD OF TERR. PT. 13	'	, +0.000000D+00,	0	
0, '{Yterr(14)} Y-COORD OF TERR. PT. 14	'	, +0.000000D+00,	0	
0, '{Zterr(14)} Z-COORD OF TERR. PT. 14	'	, +0.000000D+00,	0	
0, '{Yterr(15)} Y-COORD OF TERR. PT. 15	'	, +0.000000D+00,	0	
0, '{Zterr(15)} Z-COORD OF TERR. PT. 15	'	, +0.000000D+00,	0	
0, '{Yterr(16)} Y-COORD OF TERR. PT. 16	'	, +0.000000D+00,	0	
0, '{Zterr(16)} Z-COORD OF TERR. PT. 16	'	, +0.000000D+00,	0	
0, '{Yterr(17)} Y-COORD OF TERR. PT. 17	'	, +0.000000D+00,	0	
0, '{Zterr(17)} Z-COORD OF TERR. PT. 17	'	, +0.000000D+00,	0	
0, '{Yterr(18)} Y-COORD OF TERR. PT. 18	'	, +0.000000D+00,	0	
0, '{Zterr(18)} Z-COORD OF TERR. PT. 18	'	, +0.000000D+00,	0	
0, '{Yterr(19)} Y-COORD OF TERR. PT. 19	'	, +0.000000D+00,	0	
0, '{Zterr(19)} Z-COORD OF TERR. PT. 19	'	, +0.000000D+00,	0	
0, '{Yterr(20)} Y-COORD OF TERR. PT. 20	'	, +0.000000D+00,	0	
0, '{Zterr(20)} Z-COORD OF TERR. PT. 20	'	, +0.000000D+00,	0	
0, '{SNterr(1)} SKID # OF TERR. PL. 1	'	, +85.000000D+00,	0	
0, '{SNterr(2)} SKID # OF TERR. PL. 2	'	, +85.000000D+00,	0	+85.00000D+00, 0
0, '{SNterr(3)} SKID # OF TERR. PL. 3	'	, +85.000000D+00,	0	
0, '{SNterr(4)} SKID # OF TERR. PL. 4	'	, +0.000000D+00,	0	
0, '{SNterr(5)} SKID # OF TERR. PL. 5	'	, +0.000000D+00,	0	
0, '{SNterr(6)} SKID # OF TERR. PL. 6	'	, +0.000000D+00,	0	
0, '{SNterr(7)} SKID # OF TERR. PL. 7	'	, +0.000000D+00,	0	
0, '{SNterr(8)} SKID # OF TERR. PL. 8	'	, +0.000000D+00,	0	
0, '{SNterr(9)} SKID # OF TERR. PL. 9	'	, +0.000000D+00,	0	
0, '{SNterr(10)} SKID # OF TERR. PL. 10	'	, +0.000000D+00,	0	
0, '{SNterr(11)} SKID # OF TERR. PL. 11	'	, +0.000000D+00,	0	
0, '{SNterr(12)} SKID # OF TERR. PL. 12	'	, +0.000000D+00,	0	
0, '{SNterr(13)} SKID # OF TERR. PL. 13	'	, +0.000000D+00,	0	
0, '{SNterr(14)} SKID # OF TERR. PL. 14	'	, +0.000000D+00,	0	
0, '{SNterr(15)} SKID # OF TERR. PL. 15	'	, +0.000000D+00,	0	
0, '{SNterr(16)} SKID # OF TERR. PL. 16	'	, +0.000000D+00,	0	
0, '{SNterr(17)} SKID # OF TERR. PL. 17	'	, +0.000000D+00,	0	
0, '{SNterr(18)} SKID # OF TERR. PL. 18	'	, +0.000000D+00,	0	
0, '{SNterr(19)} SKID # OF TERR. PL. 19	'	, +0.000000D+00,	0	
0, '{Jteratb(1)} TERR. ATRB. OF PL. 1	'	, +0.000000D+00,	0	
0, '{Jteratb(2)} TERR. ATRB. OF PL. 2	'	, +0.000000D+00,	0	+0.000000D+00, 0
0, '{Jteratb(3)} TERR. ATRB. OF PL. 3	'	, +0.000000D+00,	0	
0, '{Jteratb(4)} TERR. ATRB. OF PL. 4	'	, +0.000000D+00,	0	
0, '{Jteratb(5)} TERR. ATRB. OF PL. 5	'	, +0.000000D+00,	0	
0, '{Jteratb(6)} TERR. ATRB. OF PL. 6	'	, +0.000000D+00,	0	

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0, '{Jteratb(7)} TERR. ATRB. OF PL. 7 ', +0.000000D+00, 0
0, '{Jteratb(8)} TERR. ATRB. OF PL. 8 ', +0.000000D+00, 0
0, '{Jteratb(9)} TERR. ATRB. OF PL. 9 ', +0.000000D+00, 0
0, '{Jteratb(10)} TERR. ATRB. OF PL. 10', +0.000000D+00, 0
0, '{Jteratb(11)} TERR. ATRB. OF PL. 11', +0.000000D+00, 0
0, '{Jteratb(12)} TERR. ATRB. OF PL. 12', +0.000000D+00, 0
0, '{Jteratb(13)} TERR. ATRB. OF PL. 13', +0.000000D+00, 0
0, '{Jteratb(14)} TERR. ATRB. OF PL. 14', +0.000000D+00, 0
0, '{Jteratb(15)} TERR. ATRB. OF PL. 15', +0.000000D+00, 0
0, '{Jteratb(16)} TERR. ATRB. OF PL. 16', +0.000000D+00, 0
0, '{Jteratb(17)} TERR. ATRB. OF PL. 17', +0.000000D+00, 0
0, '{Jteratb(18)} TERR. ATRB. OF PL. 18', +0.000000D+00, 0
0, '{Jteratb(19)} TERR. ATRB. OF PL. 19', +0.000000D+00, 0
9, '===== SOIL PARAMETERS =====', +1.111111D+11, 0
0, '{Soiln} Soil Parameter ', +0.950000D+00, 0
0, '{Soilkphi} Soil Parameter ', +1.446000D+07, 0
0, '{Soilkc} Soil Parameter ', +8.610000D+04, 0
9, '===== Aerodynamic Data =====', +1.111111D+11, 0
0, '{RO} Air Density ', +0.000000D+00, 0
0, '{SAero} Aerod. Reference Area ', +2.000000D+00, 0
0, '{HAero} Aerod. Reference Length ', +1.500000D+00, 0
0, '{DCyDBeta_A} Side Force Coeff. ', +1.000000D+00, 0
0, '{DCnDBeta_A} Yaw Moment Coeff. ', +2.500000D+00, 0
0, '{DNDR} Yaw Damping Moment Deriv. ', +0.000000D+00, 0
0, '{CD0} Drag Force Coeff. ', +0.000000D+00, 0
0, '{DCDDBeta_A} Drag Forc. Coef. Der. ', +0.000000D+00, 0
0, '{Alpha0} Zero-Lift Angle ', +0.000000D+00, 0
0, '{DCLDAlpha_A} Lift Forc. Coef. Der. ', +0.000000D+00, 0
0, '{CMy0} Zero-Lift Pitch Mom. Coef. ', +0.000000D+00, 0
0, '{DCMyDAlpha_A} Pitch Mom. Coef. Der. ', +0.000000D+00, 0
0, '{AeroPar} Reserved For Future Use ', +0.000000D+00, 17
9, '===== Wheel Steering Input =====', +0.000000D+00, 0
0, '{NWSTF} Steering function indic. ', +0.000000D+00, 0
0, '{NPTW} Number of point st. data ', +3.000000D+00, 0
0, '{TMW1} Time point ', +0.000000D+00, 0
0, '{TMW2} Time point ', +0.200000D+00, 0
0, '{TMW3} Time point ', +1000.000D+00, 0
0, '{TMW4} Time point ', +0.000000D+00, 0
0, '{TMW5} Time point ', +0.000000D+00, 0
0, '{TMW6} Time point ', +0.000000D+00, 0
0, '{TMW7} Time point ', +0.000000D+00, 0
0, '{TMW8} Time point ', +0.000000D+00, 0
0, '{TMW9} Time point ', +0.000000D+00, 0
0, '{TMW10} Time point ', +0.000000D+00, 0
0, '{TMW11} Time point ', +0.000000D+00, 0
0, '{TMW12} Time point ', +0.000000D+00, 0
0, '{TMW13} Time point ', +0.000000D+00, 0
0, '{TMW14} Time point ', +0.000000D+00, 0
0, '{TMW15} Time point ', +0.000000D+00, 0
0, '{TMW16} Time point ', +0.000000D+00, 0
0, '{TMW17} Time point ', +0.000000D+00, 0
0, '{TMW18} Time point ', +0.000000D+00, 0
0, '{TMW19} Time point ', +0.000000D+00, 0
0, '{TMW20} Time point ', +0.000000D+00, 0
0, '{DSWM1} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM2} Wheel steer. angle ', -4.100000D+00, 0 -2.500000D+00, 0
0, '{DSWM3} Wheel steer. angle ', -4.100000D+00, 0 -2.500000D+00, 0
0, '{DSWM4} Wheel steer. angle ', +0.000000D+00, 0

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0, '{DSWM5} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM6} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM7} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM8} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM9} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM10} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM11} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM12} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM13} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM14} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM15} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM16} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM17} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM18} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM19} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM20} Wheel steer. angle ', +0.000000D+00, 0
9, '==== Braking/Tracting Input =====', +0.000000D+00, 0
0, '{NBTF} Steering function indic. ', +0.000000D+00, 0
0, '{NPTBT} Number of point st. data ', +5.000000D+00, 0 +3.000000D+00, 0
0, '{TMT1} Time point ', +0.000000D+00, 0
0, '{TMT2} Time point ', +0.200000D+00, 0
0, '{TMT3} Time point ', +2.000000D+00, 0 +0.200000D+00, 0
0, '{TMT4} Time point ', +2.100000D+00, 0
0, '{TMT5} Time point ', +100.0000D+00, 0
0, '{TMT6} Time point ', +0.000000D+00, 0
0, '{TMT7} Time point ', +0.000000D+00, 0
0, '{TMT8} Time point ', +0.000000D+00, 0
0, '{TMT9} Time point ', +0.000000D+00, 0
0, '{TMT10} Time point ', +0.000000D+00, 0
0, '{TMT11} Time point ', +0.000000D+00, 0
0, '{TMT12} Time point ', +0.000000D+00, 0
0, '{TMT13} Time point ', +0.000000D+00, 0
0, '{TMT14} Time point ', +0.000000D+00, 0
0, '{TMT15} Time point ', +0.000000D+00, 0
0, '{TMT16} Time point ', +0.000000D+00, 0
0, '{TMT17} Time point ', +0.000000D+00, 0
0, '{TMT18} Time point ', +0.000000D+00, 0
0, '{TMT19} Time point ', +0.000000D+00, 0
0, '{TMT20} Time point ', +0.000000D+00, 0
0, '{AXPRIME1} Desired accel./decel ', -0.000000D+00, 0 +0.000000D+00, 0
0, '{AXPRIME2} Desired accel./decel ', -0.060000D+00, 0 +0.000000D+00, 0
0, '{AXPRIME3} Desired accel./decel ', -0.060000D+00, 0 +2.000000D+00, 0
0, '{AXPRIME4} Desired accel./decel ', +2.000000D+00, 0
0, '{AXPRIME5} Desired accel./decel ', +2.000000D+00, 0 +0.000000D+00, 0
0, '{AXPRIME6} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME7} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME8} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME9} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME10} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME11} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME12} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME13} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME14} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME15} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME16} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME17} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME18} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME19} Desired accel./decel ', +0.000000D+00, 0

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0, '{AXPRIME20} Desired accel./decel      ', +0.000000D+00, 0
0, '{Q0}                                   ', +0.100000D+00, 0 +0.000000D+00, 0
0, '{Q1}                                   ', +0.000000D+00, 0
0, '{ITYPPWR} Braking/Tracting ind.      ', +2.000000D+00, 0 +0.000000D+00, 0
9, '----- Crash Parameters -----' , +0.000000D+00, 0
0, '{FYMAX} Max. side force [N]          ', +17800.00D+00, 3
0, '{XPL2} Max. plactic def. [m]         ', +0.152400D+00, 3
0, '{DXPL} Step of plastic def. [m]      ', +0.001000D+00, 3
0, '{STIFF2} Second crsh stiff [N/m]     ', +1.400000D+06, 3
0, '{CRSHDUM} <Reserved for fut.use>    ', +0.000000D+00, 15
9, '===== 25 DUMMY PARAMETERS =====' , +1.111111D+11, 0
0, '{DUMMY} RESERVED FOR FUTURE USE     ', +0.000000D+00, 41
0, 'ENDPP                                  ', +0.000000D+00, 0
0, 'ENDSP                                  ', +0.000000D+00, 0
9, '----- "v" VECTOR -----' , +1.111111D+11, 0
0, '1 XS - LONGITUDINAL POSITION          ', +0.000000D+00, 0
0, '2 YS - LATERAL POSITION               ', +0.000000D+00, 0
0, '3 ZS - VERTICAL POSITION              ', +0.000000D+00, 0
0, '4 PSI - YAW ANGLE                   ', +0.000000D+00, 0
0, '5 THETA- PITCH ANGLE                 ', +0.000000D+00, 0
0, '6 PHI - ROLL ANGLE                  ', +0.000000D+00, 0
0, '7 Q7 -                               ', +0.000000D+00, 0
0, '8 Q8 -                               ', +0.000000D+00, 0
0, '9 Q9 -                               ', +0.000000D+00, 0
0, '10 Q10 -                             ', +0.000000D+00, 0
0, '11 THW1 - WHEEL ROT. ANGLE          ', +0.000000D+00, 0
0, '12 THW2 - WHEEL ROT. ANGLE          ', +0.000000D+00, 0
0, '13 THW3 - WHEEL ROT. ANGLE          ', +0.000000D+00, 0
0, '14 THW4 - WHEEL ROT. ANGLE          ', +0.000000D+00, 0
0, '15 UU - FORWARD VELOCITY            ', +0.000000D+00, 0
0, '16 VV - LATERAL VELOCITY             ', +0.000000D+00, 0
0, '17 WW - VERTICAL VELOCITY           ', +0.000000D+00, 0
0, '18 P - ROLLING Q-VELOCITY           ', +0.000000D+00, 0
0, '19 Q - PITCHING Q-VELOCITY          ', +0.000000D+00, 0
0, '20 R - YAWING Q-VELOCITY            ', +0.000000D+00, 0
0, '21 Q7D -                             ', +0.000000D+00, 0
0, '22 Q8D -                             ', +0.000000D+00, 0
0, '23 Q9D -                             ', +0.000000D+00, 0
0, '24 Q10 -                             ', +0.000000D+00, 0
0, '25 OMW1 - WHEEL ROT. VELOCITY       ', +0.000000D+00, 0
0, '26 OMW2 - WHEEL ROT. VELOCITY       ', +0.000000D+00, 0
0, '27 OMW3 - WHEEL ROT. VELOCITY       ', +0.000000D+00, 0
0, '28 OMW4 - WHEEL ROT. VELOCITY       ', +0.000000D+00, 0
0, 'ENDOV                                 ', +0.000000D+00, 0
9, '===== COMMON /VDAT/ DAT(736) =====' , +0.000000D+00, 0

```

ITRS SIMULATION

EXAMPLE 4 - TEST2

INPUT DATA FILE - OBL50.INI

```
19
0.0000000000000000E+00
0.0000000000000000E+00
-1.1100000000000000
-1.6633000000000000
0.0000000000000000E+00
0.0000000000000000E+00
0.2617800000000000
0.0000000000000000E+00
0.0000000000000000E+00
0.5533000000000000
12.94001589389826
48.28291164756672
-1.147358487538192
-1.147358487538192
0.0000000000000000E+00
0.0000000000000000E+00
0.0000000000000000E+00
0.0000000000000000E+00
0.0000000000000000E+00
0.0000000000000000E+00
0.0000000000000000E+00
5.0000000000000000E-04
1.0000000000000000E-07
1
2
1
60
13
1.0000000000000000E-02
4.0000000000000000
2.0000000000000000E-02
2.0000000000000000E-02
0
```

TEST.OUT

VDAT.DAT

```
1, '{A} DISTANCE - CG TO FRONT AXLE ', 4.45D0
1, '{L} WHEELBASE ', 9.25D0
1, '{HRA} DIST - PIN TO MS CG ', 0.8667D0
1, '{HS} DIST - MS BOTTOM TO MS CG ', 1.2D0
1, '{HU} DIST - AXLE TO MU CG ', 0.2D0
1, '{TRW} VEHICLE TRACK WIDTH ', 5.0D0
0, '{ABSDEF} DIST - AXLE TO BUMP STOPS ', 0.25D0
0, '{HCURB} HEIGHT OF CURB ', 0.5D0
0, '{TRAD} TIRE RADIUS ', 1.0D0
0, '{S} HALF DIST OF SPRING BASE ', 1.75D0
```

0, '{SPRLNG} UNLOADED SPRING LENGTH	' ,0.6667D0
0, '{YO} LATERAL POSITION OF CURB	' ,40.0D0
0, '{MS} SPRUNG MASS	' ,105.0D0
0, '{MU} UNSPRUNG MASS	' ,16.7D0
0, '{IXXS} SPRUNG ROLL INERTIA	' ,240.0D0
0, '{IYYS} SPRUNG PITCH INERTIA	' ,2000.0D0
0, '{IZZS} SPRUNG YAW INERTIA	' ,2400.0D0
0, '{IXXU} UNSPRUNG ROLL INERTIA	' ,132.0D0
0, '{IYYU} UNSPRUNG PITCH INERTIA	' ,380.0D0
0, '{IZZU} UNSPRUNG YAW INERTIA	' ,320.0D0
0, '{IXYS} SPRUNG PDT OF INERTIA	' ,1.954D0
0, '{IXZS} SPRUNG PDT OF INERTIA	' ,-30.62D0
0, '{IYZS} SPRUNG PDT OF INTERIA	' ,10.82D0
0, '{IXYU} UNSPRUNG PDT OF INERITA	' ,0.4D0
0, '{IXZU} UNSPRUNG PDT OF INERTIA	' ,-6.0D0
0, '{IYZU} UNSPRUNG PDT OF INERTIA	' ,2.0D0
0, '{SUSK1} SUSPENSION SPRING CONST	' ,3450.0D0
0, '{SUSK2} BUMP STOP SPRING CONST	' ,16500.0D0
0, '{KD1} IMPACT MODEL - REGION 1	' ,24000.0D0
0, '{KD2} IMPACT MODEL - REGION 2	' ,000.0D0
0, '{KD3} IMPACT MODEL - UNLOADING	' ,96000.0D0
0, '{KD4} IMPACT MODEL - REGION 3	' ,96000.0D0
0, '{KZ} SINGLE TIRE SPRING CONST	' ,12000.0D0
0, '{B1} SUSPENSION DAMPING CONST.	' ,162.50D0
0, '{B2} BUMP STOP DAMPING CONST.	' ,16.50D0
0, '{BD} CURB FORCE DAMPING CONSTANT	' ,.25D0
0, '{BZ} SINGLE TIRE DAMPING CONST.	' ,80.0D0
0, '{MUX} LONGIT. FRICTIONAL CONSTANT	' ,0.750D0
0, '{MUY} LATERAL FRICTIONAL CONSTANT	' ,0.75D0
0, '{MUS} TIRE/CURB FRICTIONAL CONSTANT	' ,0.720D0
0, '{KV} VEL. OF SIDE VEL. FUNCTION	' ,1.0D0
0, '{KVF} VEL. OF FORW. VEL FUNCTION	' ,1.0D0
0, '{POINT1} CHANGE OF SLOPE IN IMPACT	' ,0.1667D0
0, '{POINT2} CHANGE OF SLOPE IN IMPACT	' ,0.6667D0
0, 'Dummy	' ,1.0D0
0, 'ENDPP	' ,0.0D0
1, ' SRSF - PC1	' ,1.0D0
0, ' SFSFM - PC2	' ,1.0D0
0, 'ENDSP	' ,0.0D0
0, '1 XU - LONGITUDINAL POSITION	' ,0.0D0
0, '2 YU - LATERAL POSITION	' ,0.0D0
0, '3 ZU - UNSPRUNG MASS VERTICAL	' ,0.0D0
0, '4 ZS - SPUNG MASS VERTICAL	' ,0.0D0
0, '5 PHIU - UNSPRUNG ROLL ANGLE	' ,0.0D0
0, '6 PHIS - SPRUNG ROLL ANGLE	' ,0.0D0
0, '7 YAW - VEHICLE YAW ANGLE	' ,0.0D0
0, '8 THE - VEHICLE PITCH ANGLE	' ,0.0D0
0, '9 YA - FRONT RIGHT TIRE POST.	' ,0.0D0
0, '10 H - RELATIVE VERTICAL POST.	' ,0.0D0
0, '11 UU - FORW. Q-VELOCITY	' ,0.0D0
0, '12 VV - LATERAL Q-VELOCITY	' ,0.0D0
0, '13 WU - MU VERTICAL Q-VELOCITY	' ,0.0D0
0, '14 WS - MS VERTICAL Q-VELOCITY	' ,0.0D0
0, '15 PU - MU ROLLING Q-VELOCITY	' ,0.0D0
0, '16 PS - MS ROLLING Q-VELOCITY	' ,0.0D0
0, '17 RR - YAWING Q-VELOCITY	' ,0.0D0
0, '18 QQ - PITCHING Q-VELOCITY	' ,0.0D0
0, '19 YR - REAR TIRE LATERAL POSITI	' ,0.0D0

```

0,'20 TRAN      - TOTAL TRANSLAT ENERGY ',0.0D0
0,'21 TROT      - TOTAL SYSTEM ROT ENER',0.0D0
0,'22 POTEN     - TOTAL SYSTEM POTEN ENE',0.0D0
0,'23 ELAS     - TOTAL ELASTIC ENERGY ',0.0D0
0,'24 ENER     - TOTAL SYSTEM ENERGY  ',0.0D0
0,'25 DGRAV    - GRAV ENERGY CHANGE   ',0.0D0
0,'26 DELAST   - ELAST ENERGY CHANGE   ',0.0D0
0,'27 TNR      - NONCENTROIDAL ROLL KE  ',0.0D0
0,'28 RPER1    - ROLOVER PREV ENER 1    ',0.0D0
0,'29 VCRIT1   - GRAV. PE W/ TR CRUSH   ',0.0D0
0,'30 DE_TI    - TIRE ELAS ENER CHANGE  ',0.0D0
0,'31 DE_SP    - SUSP ELAS ENER CHANGE  ',0.0D0
0,'32 DE_IM    - IMPA ELAS ENER CHANGE  ',0.0D0
1,'33 RPER     - ORIGINAL VERSION      ',0.0D0
0,'34 VCRITIM  - INSTANT MODIF RPER     ',0.0D0
0,'35 TRANSP   - KE RELATIVE TRAN      ',0.0D0
0,'36 RPER2    - VERSION 3             ',0.0D0
0,'37 VCRIT    - GRAV ENER FOR ROLL    ',0.0D0
0,'38 RPER3    - VERSION 4             ',0.0D0
0,'ENDOV      -                        ',0.0D0

```

EXAMPLE 5 - TEST3

INPUT DATA FILE - S50.INI

```

19
0.0000000000000000E+00
0.0000000000000000E+00
-1.1100000000000000
-1.6633000000000000
0.0000000000000000E+00
0.0000000000000000E+00
0.0000000000000000E+00
0.0000000000000000E+00
0.0000000000000000E+00
0.0000000000000000E+00
0.5533000000000000
0.0000000000000000E+00
49.98588868501617
-1.187826742068130
-1.187826742068130
0.0000000000000000E+00
0.0000000000000000E+00
0.0000000000000000E+00
0.0000000000000000E+00
0.0000000000000000E+00
0.0000000000000000E+00
0.0000000000000000E+00
5.0000000000000000E-04
1.0000000000000000E-07
1
2
1
60
13
1.0000000000000000E-02

```


4.0000000000000000
2.0000000000000000E-02
2.0000000000000000E-02

0

test.out

V DAT DAT

1, '{A}	DISTANCE - CG TO FRONT AXLE	', 4.45D0
1, '{L}	WHEELBASE	', 9.25D0
1, '{HRA}	DIST - PIN TO MS CG	', 0.8667D0
1, '{HS}	DIST - MS BOTTOM TO MS CG	', 1.2D0
1, '{HU}	DIST - AXLE TO MU CG	', 0.2D0
1, '{TRW}	VEHICLE TRACK WIDTH	', 5.0D0
0, '{ABSDEF}	DIST - AXLE TO BUMP STOPS	', 0.25D0
0, '{HCURB}	HEIGHT OF CURB	', 0.5D0
0, '{TIAD}	TIRE RADIUS	', 1.0D0
0, '{S}	HALF DIST OF SPRING BASE	', 1.75D0
0, '{SPRLNG}	UNLOADED SPRING LENGTH	', 0.6667D0
0, '{YO}	LATERAL POSITION OF CURB	', 40.0D0
0, '{MS}	SPRUNG MASS	', 105.0D0
0, '{MU}	UNSPRUNG MASS	', 16.7D0
0, '{IXXS}	SPRUNG ROLL INERTIA	', 240.0D0
0, '{IYYS}	SPRUNG PITCH INERTIA	', 2000.0D0
0, '{IZZS}	SPRUNG YAW INERTIA	', 2400.0D0
0, '{IXXU}	UNSPRUNG ROLL INERTIA	', 132.0D0
0, '{IYYU}	UNSPRUNG PITCH INERTIA	', 380.0D0
0, '{IZZU}	UNSPRUNG YAW INERTIA	', 320.0D0
0, '{IXYS}	SPRUNG PDT OF INERTIA	', 1.954D0
0, '{IXZS}	SPRUNG PDT OF INERTIA	', -30.62D0
0, '{IYZS}	SPRUNG PDT OF INTERIA	', 10.82D0
0, '{IXYU}	UNSPRUNG PDT OF INERITA	', 0.4D0
0, '{IXZU}	UNSPRUNG PDT OF INERTIA	', -6.0D0
0, '{IYZU}	UNSPRUNG PDT OF INERTIA	', 2.0D0
0, '{SUSK1}	SUSPENSION SPRING CONST	', 3450.0D0
0, '{SUSK2}	BUMP STOP SPRING CONST	', 16500.0D0
0, '{KD1}	IMPACT MODEL - REGION 1	', 24000.0D0
0, '{KD2}	IMPACT MODEL - REGION 2	', 000.0D0
0, '{KD3}	IMPACT MODEL - UNLOADING	', 96000.0D0
0, '{KD4}	IMPACT MODEL - REGION 3	', 96000.0D0
0, '{KZ}	SINGLE TIRE SPRING CONST	', 12000.0D0
0, '{B1}	SUSPENSION DAMPING CONST.	', 162.50D0
0, '{B2}	BUMP STOP DAMPING CONST.	', 16.50D0
0, '{BD}	CURB FORCE DAMPING CONSTANT	', .25D0
0, '{BZ}	SINGLE TIRE DAMPING CONST.	', 80.0D0
0, '{MUX}	LONGIT. FRICTIONAL CONSTANT	', 0.750D0
0, '{MUY}	LATERAL FRICTIONAL CONSTANT	', 0.75D0
0, '{MUS}	TIRE/CURB FRICTIONAL CONSTANT	', 0.720D0
0, '{KV}	VEL. OF SIDE VEL. FUNCTION	', 1.0D0
0, '{KVF}	VEL. OF FORW. VEL FUNCTION	', 1.0D0
0, '{POINT1}	CHANGE OF SLOPE IN IMPACT	', 0.1667D0
0, '{POINT2}	CHANGE OF SLOPE IN IMPACT	', 0.6667D0
0, 'Dummy		', 1.0D0
0, 'ENDPP		', 0.0D0
1, ' SRSF - PC1		', 1.0D0
0, ' SFSFM - PC2		', 1.0D0
0, 'ENDSP		', 0.0D0

```

0,'1 XU - LONGITUDINAL POSITION ',0.0D0
0,'2 YU - LATERAL POSITION ',0.0D0
0,'3 ZU - UNSPRUNG MASS VERTICAL ',0.0D0
0,'4 ZS - SPUNG MASS VERTICAL ',0.0D0
0,'5 PHIU - UNSPRUNG ROLL ANGLE ',0.0D0
0,'6 PHIS - SPRUNG ROLL ANGLE ',0.0D0
0,'7 YAW - VEHICLE YAW ANGLE ',0.0D0
0,'8 THE - VEHICLE PITCH ANGLE ',0.0D0
0,'9 YA - FRONT RIGHT TIRE POST. ',0.0D0
0,'10 H - RELATIVE VERTICAL POST. ',0.0D0
0,'11 UU - FORW. Q-VELOCITY ',0.0D0
0,'12 VV - LATERAL Q-VELOCITY ',0.0D0
0,'13 WU - MU VERTICAL Q-VELOCITY ',0.0D0
0,'14 WS - MS VERTICAL Q-VELOCITY ',0.0D0
0,'15 PU - MU ROLLING Q-VELOCITY ',0.0D0
0,'16 PS - MS ROLLING Q-VELOCITY ',0.0D0
0,'17 RR - YAWING Q-VELOCITY ',0.0D0
0,'18 QQ - PITCHING Q-VELOCITY ',0.0D0
0,'19 YR - REAR TIRE LATERAL POSITI ',0.0D0
0,'20 TRAN - TOTAL TRANSLAT ENERGY ',0.0D0
0,'21 TROT - TOTAL SYSTEM ROT ENERGI ',0.0D0
0,'22 POTEN - TOTAL SYSTEM POTEN ENER ',0.0D0
0,'23 ELAS - TOTAL ELASTIC ENERGY ',0.0D0
0,'24 ENERG - TOTAL SYSTEM ENERGY ',0.0D0
0,'25 DGRAV - GRAV ENERGY CHANGE ',0.0D0
0,'26 DELAST - ELAST ENERGY CHANGE ',0.0D0
0,'27 TNR - NONCENTROIDAL ROLL KE ',0.0D0
0,'28 RPER1 - ROLOVER PREV ENER 1 ',0.0D0
0,'29 VCRIT1 - GRAV. PE W/ TR CRUSH ',0.0D0
0,'30 DE_TI - TIRE ELAS ENER CHANGE ',0.0D0
0,'31 DE_SP - SUSP ELAS ENER CHANGE ',0.0D0
0,'32 DE_IM - IMPA ELAS ENER CHANGE ',0.0D0
1,'33 RPER - ORIGINAL VERSION ',0.0D0
0,'34 VCRTIM - INSTANT MODIF RPER ',0.0D0
0,'35 TRANSP - KE RELATIVE TRAN ',0.0D0
0,'36 RPER2 - VERSION 3 ',0.0D0
0,'37 VCRIT - GRAV ENER FOR ROLL ',0.0D0
0,'38 RPER3 - VERSION 4 ',0.0D0
0,'ENDOV ',0.0D0

```

EXAMPLE 6 - TEST4

INPUT DATA FILE - OBL46.INI

```

19
0.0000000000000000E+00
0.0000000000000000E+00
-1.1100000000000000
-1.6633000000000000
0.0000000000000000E+00
0.0000000000000000E+00
0.2617800000000000
0.0000000000000000E+00
0.0000000000000000E+00
0.5533000000000000

```

```

11.90481462238640
44.42027871576139
-1.055569808535136
-1.055569808535136
0.0000000000000000E+00
0.0000000000000000E+00
0.0000000000000000E+00
0.0000000000000000E+00
0.0000000000000000E+00
0.0000000000000000E+00
0.0000000000000000E+00
0.0000000000000000E+00
5.0000000000000000E-04
1.0000000000000000E-07
  1
  2
  1
  60
  13
1.0000000000000000E-02
 3.5000000000000000
2.0000000000000000E-02
2.0000000000000000E-02
  0

```

test.out

V DAT.DAT

```

1, '{A}  DISTANCE - CG TO FRONT AXLE  ', 4.45D0
1, '{L}  WHEELBASE                      ', 9.25D0
1, '{HRA} DIST - PIN TO MS CG          ', 0.8667D0
1, '{HS}  DIST - MS BOTTOM TO MS CG    ', 1.2D0
1, '{HU}  DIST - AXLE TO MU CG        ', 0.2D0
1, '{TRW} VEHICLE TRACK WIDTH         ', 5.0D0
0, '{ABSDEF} DIST - AXLE TO BUMP STOPS ', 0.25D0
0, '{HCURB} HEIGHT OF CURB           ', 0.5D0
0, '{TRAD} TIRE RADIUS                 ', 1.0D0
0, '{S}   HALF DIST OF SPRING BASE    ', 1.75D0
0, '{SPRLNG} UNLOADED SPRING LENGTH   ', 0.6667D0
0, '{YO}  LATERAL POSITION OF CURB     ', 40.0D0
0, '{MS}  SPRUNG MASS                  ', 105.0D0
0, '{MU}  UNSPRUNG MASS                ', 16.7D0
0, '{IXXS} SPRUNG ROLL INERTIA        ', 240.0D0
0, '{IYYS} SPRUNG PITCH INERTIA       ', 2000.0D0
0, '{IZZS} SPRUNG YAW INERTIA         ', 2400.0D0
0, '{IXXU} UNSPRUNG ROLL INERTIA      ', 132.0D0
0, '{IYYU} UNSPRUNG PITCH INERTIA     ', 380.0D0
0, '{IZZU} UNSPRUNG YAW INERTIA       ', 320.0D0
0, '{IXYS} SPRUNG PDT OF INERTIA      ', 1.954D0
0, '{IXZS} SPRUNG PDT OF INERTIA     ', -30.62D0
0, '{IYZS} SPRUNG PDT OF INTERIA     ', 10.82D0
0, '{IXYU} UNSPRUNG PDT OF INERITA    ', 0.4D0
0, '{IXZU} UNSPRUNG PDT OF INERTIA   ', -6.0D0
0, '{IYZU} UNSPRUNG PDT OF INERTIA   ', 2.0D0
0, '{SUSK1} SUSPENSION SPRING CONST   ', 3450.0D0
0, '{SUSK2} BUMP STOP SPRING CONST    ', 16500.0D0
0, '{KD1} IMPACT MODEL - REGION 1     ', 24000.0D0
0, '{KD2} IMPACT MODEL - REGION 2     ', 000.0D0
0, '{KD3} IMPACT MODEL - UNLOADING    ', 96000.0D0

```

```

0, '{KD4} IMPACT MODEL - REGION 3      ', 96000.0D0
0, '{KZ} SINGLE TIRE SPRING CONST      ', 12000.0D0
0, '{B1} SUSPENSION DAMPING CONST.     ', 162.50D0
0, '{B2} BUMP STOP DAMPING CONST.      ', 16.50D0
0, '{BD} CURB FORCE DAMPING CONSTANT    ', .25D0
0, '{BZ} SINGLE TIRE DAMPING CONST.    ', 80.0D0
0, '{MUX} LONGIT. FRICTIONAL CONSTANT  ', 0.750D0
0, '{MUY} LATERAL FRICTIONAL CONSTANT  ', 0.75D0
0, '{MUS} TIRE/CURB FRICTIONAL CONSTANT', 0.720D0
0, '{KV} VEL. OF SIDE VEL. FUNCTION    ', 1.0D0
0, '{KVF} VEL. OF FORW. VEL FUNCTION   ', 1.0D0
0, '{POINT1} CHANGE OF SLOPE IN IMPACT ', 0.1667D0
0, '{POINT2} CHANGE OF SLOPE IN IMPACT ', 0.6667D0
0, 'Dummy                               ', 1.0D0
0, 'ENDPP                               ', 0.0D0
1, ' SRSF - PC1                         ', 1.0D0
0, ' SFSFM - PC2                         ', 1.0D0
0, 'ENDSP                               ', 0.0D0
0, '1 XU - LONGITUDINAL POSITION          ', 0.0D0
0, '2 YU - LATERAL POSITION               ', 0.0D0
0, '3 ZU - UNSPRUNG MASS VERTICAL        ', 0.0D0
0, '4 ZS - SPRUNG MASS VERTICAL          ', 0.0D0
0, '5 PHIU - UNSPRUNG ROLL ANGLE         ', 0.0D0
0, '6 PHIS - SPRUNG ROLL ANGLE           ', 0.0D0
0, '7 YAW - VEHICLE YAW ANGLE           ', 0.0D0
0, '8 THE - VEHICLE PITCH ANGLE         ', 0.0D0
0, '9 YA - FRONT RIGHT TIRE POST.       ', 0.0D0
0, '10 H - RELATIVE VERTICAL POST.       ', 0.0D0
0, '11 UU - FORW. Q-VELOCITY             ', 0.0D0
0, '12 VV - LATERAL Q-VELOCITY           ', 0.0D0
0, '13 WU - MU VERTICAL Q-VELOCITY       ', 0.0D0
0, '14 WS - MS VERTICAL Q-VELOCITY       ', 0.0D0
0, '15 PU - MU ROLLING Q-VELOCITY        ', 0.0D0
0, '16 PS - MS ROLLING Q-VELOCITY        ', 0.0D0
0, '17 RR - YAWING Q-VELOCITY           ', 0.0D0
0, '18 QQ - PITCHING Q-VELOCITY         ', 0.0D0
0, '19 YR - REAR TIRE LATERAL POSITI    ', 0.0D0
0, '20 TRAN - TOTAL TRANSLAT ENERGY    ', 0.0D0
0, '21 TROT - TOTAL SYSTEM ROT ENER     ', 0.0D0
0, '22 POTEN - TOTAL SYSTEM POTEN ENER  ', 0.0D0
0, '23 ELAS - TOTAL ELASTIC ENERGY     ', 0.0D0
0, '24 ENERG - TOTAL SYSTEM ENERGY     ', 0.0D0
0, '25 DGRAV - GRAV ENERGY CHANGE      ', 0.0D0
0, '26 DELAST - ELAST ENERGY CHANGE    ', 0.0D0
0, '27 TNR - NONCENTROIDAL ROLL KE     ', 0.0D0
0, '28 RPER1 - ROLOVER PREV ENER 1     ', 0.0D0
0, '29 VCRIT1 - GRAV. PE W/ TR CRUSH     ', 0.0D0
0, '30 DE_TI - TIRE ELAS ENER CHANGE    ', 0.0D0
0, '31 DE_SP - SUSP ELAS ENER CHANGE    ', 0.0D0
0, '32 DE_IM - IMPA ELAS ENER CHANGE    ', 0.0D0
1, '33 RPER - ORIGINAL VERSION          ', 0.0D0
0, '34 VCRITIM - INSTANT MODIF RPER     ', 0.0D0
0, '35 TRANSP - KE RELATIVE TRAN        ', 0.0D0
0, '36 RPER2 - VERSION 3                ', 0.0D0
0, '37 VCRIT - GRAV ENER FOR ROLL       ', 0.0D0
0, '38 RPER3 - VERSION 4                ', 0.0D0
0, 'ENDOV                               ', 0.0D0

```

IMIRS SIMULATION

EXAMPLE 7 - TEST1

FORWARD VELOCITY = 22 m/s

STEERING INPUT FILE - STEER1.STR

VARIABLE STEERING INPUT

0.00000	0.00000
0.00000	0.00000
0.40000	0.00000
0.70000	-10.00000
0.90000	-10.00000
1.50000	12.00000
1.60000	12.00000
1.90000	0.00000
5.00000	0.00000
100.00000	0.00000

BRAKING INPUT FILE

no braking

DATA FILE - SAMPLE11

VEHICLE MASS -----	1014.0000 [kg]
VEHICLE SPRUNG MASS -----	778.1000 [kg]
DISTANCE FROM SPRUNG MASS C.G. TO FRONT AXLE -----	1.0340 [m]
DISTANCE FROM REAR SPRUNG MASS C.G. TO ROLL AXIS -----	0.5745 [m]
HEIGHT OF SPRUNG MASS C.G. -----	0.6930 [m]
YAW MOMENT OF INERTIA -----	1175.5000 [kg*m^2]
ROLL MOMENT OF INERTIA OF SPRUNG MASS -----	240.2600 [kg*m^2]
ROLL MOMENT OF INERTIA OF UNSPRUNG MASS -----	71.8300 [kg*m^2]
AUXILIARY ROLL DAMPING OF FRONT AND REAR SUSPENSIONS ---	0.0000 [Nm-s/rad]
WHEELBASE -----	2.0320 [m]
FRONT TRACK WIDTH -----	1.4000 [m]
REAR TRACK WIDTH -----	1.3081 [m]
UNSPRUNG MASS OF FRONT SUSPENSION -----	117.4800 [kg]
UNSPRUNG MASS OF REAR SUSPENSION -----	117.4800 [kg]
UNSPRUNG MASS CG HEIGHT OF FRONT SUSPENSION -----	0.3302 [m]
UNSPRUNG MASS CG HEIGHT OF REAR SUSPENSION -----	0.3302 [m]
FRONT SUSPENSION AUXILIARY ROLL STIFFNESS -----	3443.7300 [Nm/rad]
REAR SUSPENSION AUXILIARY ROLL STIFFNESS -----	5277.3301 [Nm/rad]
FRONT PROPORTION OF TOTAL VEHICLE ROLL STIFFNESS -----	0.5600 [-]
VERTICAL STIFFNESS OF SINGLE TIRE -----	113140.000 [N.m]
VERTICAL DAMPING COEFFICIENT OF SINGLE TIRE -----	490.000 [N-s/m]
RATE OF CHANGE OF FRONT TIRE INCLINATION -----	-0.0400

RATE OF CHANGE OF REAR AXLE STEER -----	0.0000
FRACTION OF BR@KING TORQUE APPLIED TO FRONT WHEELS ----	0.6500
HEAVY BRAKING PROPORTIONALITY FACTOR FOR FRONT WHEELS -	0.2000
1 - FWD 2 - RWD 3 - 4WD -----	3
FRACTION OF DRIVING TORQUE APPLIED TO FRONT (4WD) -----	0.6000

*****TIRE DATA*****

TIRE SKID NUMBER	110.00				
A0 =	-668.4600	A1 =	26.5400	A2 =	2146.6101
A3 =	1.2740000	A4 =	2225.0701		
B1 =	-6.7450E-04	B3 =	1.3070	B4 =	2.9530E-07
P0 =	1.2073	P1 =	-5.8430E-04	P2 =	3.9770E-07
S0 =	1.17379999	S1 =	-8.4580E-04	S2 =	3.9450E-07
R0 =	-0.23771000	R1 =	8.5360E-05		
K1 =	-2.0610E-04	K2 =	-1.7680E-04	K3 =	0.0740
CTN =	6.000000	CA1 =	30.000000	CR1 =	0.300000

*****SUSPENSION PARAMETERS*****

SUSPENSION SPRING TRACK WIDTH -----	0.9320	[m]
STATIC SUSPENSION SPRING LENGTH -----	0.1016	[l]
UNDEFORMED BUMP STOP LENGTH -----	0.0709	[m]
HEIGHT OF LOWER SUSPENSION SPRING MOUNT ABOVE GROUND --	0.2032	[m]
COMBINED FRONT AND REAR SUSPENSION SPRING STIFFNESSES -	84850.00	[N/m]
COMBINED FRONT AND REAR BUMP STOP STIFFNESSES -----	464030.0	[N/m]
COLBINED FRONT AND REAR SUSPENSION DAMPING COEFF. -----	3000.0000	[N-s/m]

*****AERODYNAMIC PARAMETERS*****

VEHICLE FRONTAL AREA -----	2.0000	[m^2]
CHARACTERISTIC HEIGHT OF VEHICLE -----	1.5000	[m]
ADRODYNAMIC SIDEFORCE COEFFICIENT -----	1.0000000	[-]
AERODYNAMIC ALIGNING MOMENT COEFFICIENT -----	2.5000000	[-]
AERODYNAMIC YAW DAMPING COEFFICIENT -----	1000.0000	[N-m-s]

EXAMPLE 8 - TEST2

RUN TIME DATA

FORWARD VELOCITY = 22 m/s

STEERING INPUT FILE - STEER2.STR

RAMP STEERING INPUT
 15
 0.00000 0.00000
 0.00000 0.00000
 1.00000 15.00000
 100.00000 15.00000

BRAKING INPUT FILE

no braking

DATA FILE

DATA FILE - SAMPLE11

VEHICLE MASS -----	1014.0000	[kg]
VEHICLE SPRUNG MASS -----	778.1000	[kg]
DISTANCE FROM SPRUNG MASS C.G. TO FRONT AXLE -----	1.0340	[m]
DIRTANCE FROM RPRUNG MASR C.G. TN ROLL AXIS -----	0.5745	[m]
HEIGHT OF SPRUNG MASS C.G. -----	0.6930	[m]
YAW LOMENT OF INERTIA -----	1175.5000	[kg*m^2]
ROLL MOMENT OF INERTIA OF SPRUNG MASS -----	240.2600	[kg*m^2]
ROLL MOMENT OF INERTIA OF UNSPRUNG MASS -----	71.8300	[kg*m^2]
AUXILARY ROLL DAMPING OF FRONT AND REAR SUSPENSIONS ---	0.0000	[Nm-s/rad]
WHEELBASE -----	2.0320	[m]
FRONT TRACK WIDTH -----	1.4000	[m]
REAR TRACK WIDTH -----	1.3081	[m]
UNSPRUNG MASS OF FRONT SUSPENSION -----	117.4800	[kg]
UNSPRUNG MASS OF REAR SUSPENSION -----	117.4800	[kg]
UNSPRUNG MASS CG HEIGHT OF FRONT SUSPENSION -----	0.3302	[m]
UNSPRUNG MASS CG HEIGHT OF REAR SUSPENSION -----	0.3302	[m]
FRONT SUSPENSION AUXILARY ROLL STIFFNESS -----	3443.7300	[Nm/rad]
REAR SUSPENSION AUXILARY ROLL STIFFNESS -----	5277.3301	[Nm/rad]
FRONT PROPORTION OF TOTAL VEHICLE ROLL STIFFNESS -----	0.5600	[-]
VERTHCAL STIFFNESS OF SINGLE TIRE -----	113140.000	[N.m]
VERTICAL DAMPING COEFFICIENT OF SINGLE TIRE -----	490.000	[N-s/m]
RATE OF CHANGE OF FRONT TIRE INCLINATION -----	-0.0400	
RATE OF CHANGE OF REAR AXLE STEER -----	0.0000	
FRACTION OF BRKING TORQUE APPLIED TO FRONT WHEELS ----	0.6500	
HEAVY BRAKING PROPORTIONALITY FACTOR FOR FRONT WHEELS -	0.2000	
1 - FWD 2 - RWD 3 - 4WD -----	3	
FRACTION OF DRIVING TORQUE APPLIED TO FRONT (4WD) -----	0.6000	

*****TIRE DATA*****

TIRE SKID NUMBER	110.00		
A0 = -668.4600	A1 = 26.5400	A2 = 2146.6101	
A3 = 1.2740000	A4 = 2225.0701		
B1 = -6.7450E-04	B3 = 1.3070	B4 = 2.9530E-07	
P0 = 1.2073	P1 = -5.8430E-04	P2 = 3.9770E-07	
S0 = 1.17379999	S1 = -8.4580E-04	S2 = 3.9450E-07	
R0 = -0.23771000	R1 = 8.5360E-05		
K1 = -2.0610E-04	K2 = -1.7680E-04	K3 = 0.0740	
CTN = 6.000000	CA1 = 30.000000	CR1 = 0.300000	

*****SUSPENSION PARAMETERS*****

SUSPENSION SPRING TRACK WIDTH -----	0.9320 [m]
STATIC SUSPENSION SPRING LENGTH -----	0.1016 [l]
UNDEFORMED BUMP STOP LENGTH -----	0.0709 [m]
HEIGHT OF LOWER SUSPENSION SPRING MOUNT ABOVE GROUND --	0.2032 [m]
COMBINED FRONT AND REAR SUSPENSION SPRING STIFFNESSES -	84850.00 [N/m]
COMBINED FRONT AND REAR BUMP STOP STIFFNESSES -----	464030.0 [N/m]
COLBINED FRONT AND REAR SUSPENSION DAMPING COEFF. -----	3000.0000 [N-s/m]

*****AERODYNAMIC PARAMETERS*****

VEHICLE FRONTAL AREA -----	2.0000 [m^2]
CHARACTERISTIC HEIGHT OF VEHICLE -----	1.5000 [m]
ADRODYNAMIC SIDEFORCE COEFFICIENT -----	1.000000 [-]
AERODYNAMIC ALIGNING MOMENT COEFFICIENT -----	2.500000 [-]
AERODYNAMIC YAW DAMPING COEFFICIENT -----	1000.0000 [N-m-s]

EXAMPLE 9 - TEST4

RUN TIME DATA

FORWARD VELOCITY = 22 m/s

STEERING INPUT FILE - STEER4.STR

VARIABLE STEERING INPUT

0.00000	0.00000
0.00000	0.00000
1.00000	15.00000
2.00000	25.00000
100.00000	25.00000

BRAKING INPUT FILE - BRAKE4.BRK

VARIABLE BRAKING INPUT =

0.00000	0.00000
0.00000	0.00000
0.60000	0.00000
0.90000	0.80000
1.00000	0.90000
100.00000	0.90000

DATA FILE

VEHICLE MASS -----	1014.0000 [kg]
VEHICLE SPRUNG MASS -----	778.1000 [kg]

DISTANCE FROM SPRUNG MASS C.G. TO FRONT AXLE -----	1.3000	[m]
DISTANCE FROM SPRUNG MASS C.G. TO ROLL AXIS -----	0.5794	[m]
HEIGHT OF SPRUNG MASS C.G. -----	0.6930	[m]
YAW MOMENT OF INERTIA -----	1175.5000	[kg*m^2]
ROLL MOMENT OF INERTIA OF SPRUNG MASS -----	240.2600	[kg*m^2]
ROLL MOMENT OF INERTIA OF UNSPRUNG MASS -----	71.8300	[kg*m^2]
AUXILARY ROLL DAMPING OF FRONT AND REAR SUSPENSIONS ---	0.0000	[Nm-s/rad]
WHEELBASE -----	2.0320	[m]
FRONT TRACK WIDTH -----	1.4000	[m]
REAR TRACK WIDTH -----	1.3081	[m]
UNSPRUNG MASS OF FRONT SUSPENSION -----	117.4800	[kg]
UNSPRUNG MASS OF REAR SUSPENSION -----	117.4800	[kg]
UNSPRUNG MASS CG HEIGHT OF FRONT SUSPENSION -----	0.3302	[m]
UNSPRUNG MASS CG HEIGHT OF REAR SUSPENSION -----	0.3302	[m]
FRONT SUSPENSION AUXILARY ROLL STIFFNESS -----	3443.7300	[Nm/rad]
REAR SUSPENSION AUXILARY ROLL STIFFNESS -----	5277.3301	[Nm/rad]
FRONT PROPORTION OF TOTAL VEHICLE ROLL STIFFNESS -----	0.5600	[-]
VERTICAL STIFFNESS OF SINGLE TIRE -----	113140.000	[N/m]
VERTICAL DAMPING COEFFICIENT OF SINGLE TIRE -----	490.000	[N-s/m]
RATE OF CHANGE OF FRONT TIRE INCLINATION -----	-0.0400	
RATE OF CHANGE OF REAR AXLE STEER -----	0.0000	
FRACTION OF BRAKING TORQUE APPLIED TO FRONT WHEELS ----	0.2000	
HEAVY BRAKING PROPORTIONALITY FACTOR FOR FRONT WHEELS -	0.0500	
1 - FWD 2 - RWD 3 - 4WD -----	3	
FRACTION OF DRIVING TORQUE APPLIED TO FRONT (4WD) -----	0.6000	

*****TIRE DATA*****

TIRE SKID NUMBER 60.00

A0 = -668.4600	A1 = 26.5400	A2 = 2146.6101
A3 = 1.2740000	A4 = 2225.0701	
B1 = -6.7450E-04	B3 = 1.3070	B4 = 2.9530E-07
P0 = 1.2073	P1 = -5.8430E-04	P2 = 3.9770E-07
S0 = 1.17379999	S1 = -8.4580E-04	S2 = 3.9450E-07
R0 = -0.23771000	R1 = 8.5360E-05	
K1 = -2.0610E-04	K2 = -1.7680E-04	K3 = 0.0740
CTN = 6.000000	CA1 = 30.000000	CR1 = 0.300000

*****SUSPENSION PARAMETERS*****

SUSPENSION SPRING TRACK WIDTH -----	0.9320	[m]
STATIC SUSPENSION SPRING LENGTH -----	0.1016	[m]
UNDEFORMED BUMP STOP LENGTH -----	0.0709	[m]
HEIGHT OF LOWER SUSPENSION SPRING MOUNT ABOVE GROUND --	0.2032	[m]
COMBINED FRONT AND REAR SUSPENSION SPRING STIFFNESSES -	84850.00	[N/m]
COMBINED FRONT AND REAR BUMP STOP STIFFNESSES -----	464030.0	[N/m]
COMBINED FRONT AND REAR SUSPENSION DAMPING COEFF. -----	3000.0000	[N-s/m]

*****AERODYNAMIC PARAMETERS*****

VEHICLE FRONTAL AREA -----	2.0000	[m^2]
CHARACTERISTIC HEIGHT OF VEHICLE -----	1.5000	[m]
AERODYNAMIC SIDEFORCE COEFFICIENT -----	1.0000000	[-]
AERODYNAMIC ALIGNING MOMENT COEFFICIENT -----	2.5000000	[-]
AERODYNAMIC YAW DAMPING COEFFICIENT -----	1000.0000	[N-m-s]

EXPERIMENTAL DATA

EXAMPLE 10 - TEST1

ADVS.INP

CHEVY,OBLIQUE IMPACT, V_LAT=8.0 M/S
VDAT.DAT File Name :VDAT.DAT
SUSP. CONFIG. INDEX: 4
SIMUL. START TIME : 0.0
SIMUL. RUN TIME : 1.5
STEP OF INTEGRATION: 5.0D-04
STEP FOR PRINTING : 2.0D-02
INTEGR. ERR. CRIT. : 5.0D-05
XS-D [M/S] : 0.0
YS-D [M/S] : 8.0
PSI [DEG.] : 20.0
PHI_MAX [DEG.] : 100.0
(-RESERVED-) : 0.0

BODYNOD.DAT

17
4
0.050000000000000001
0.400000000000000000
556000.0000000000
1400000.0000000000
0.000000000000000000E+00
0.000000000000000000E+00
27800.000000000000
5.000000000000000000E-02
87900.000000000000
0.203000000000000000
198000.0000000000
0.400000000000000000
4
5.000000000000000000E-02
0.400000000000000000
356000.0000000000
1400000.0000000000
0.000000000000000000E+00
0.000000000000000000E+00
17800.000000000000
5.000000000000000000E-02
47900.000000000000
0.203000000000000000
98000.0000000000
0.400000000000000000
4
5.000000000000000000E-02
0.400000000000000000
356000.0000000000

140000.00000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.0000000000
5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
0.4000000000000000
4
0.0500000000000002
0.4000000000000000
556000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.0000000000
5.0000000000000000E-02
87900.0000000000
0.2030000000000000
198000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.0000000000
5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.0000000000
5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
0.4000000000000000
4
5.0000000000000003E-02
0.4000000000000000
556000.0000000000
140000.0000000000
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87900.0000000000

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 79200.000000000000
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 17800.000000000000
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 87900.000000000000
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75000.000000000000

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0.0000000000000000E+00	-1.0000000000000000	0.0000000000000000E+00
0.0000000000000000E+00	-0.8000000000000000	0.0000000000000000E+00
0.0000000000000000E+00	1.0000000000000000	0.0000000000000000E+00
-1.6000000000000000	0.7000000000000000	-0.3000000000000000
1.0000000000000000	-1.0000000000000000	1.0000000000000000
-1.6000000000000000	-0.7000000000000000	-0.3000000000000000
1.0000000000000000	1.0000000000000000	1.0000000000000000
1.7000000000000000	0.7000000000000000	0.2000000000000000
-1.0000000000000000	-1.0000000000000000	-1.0000000000000000
1.7000000000000000	-0.7000000000000000	0.2000000000000000
-1.0000000000000000	1.0000000000000000	-1.0000000000000000
-1.6000000000000000	0.7000000000000000	0.2000000000000000
1.0000000000000000	-1.0000000000000000	-1.0000000000000000
-1.6000000000000000	-0.7000000000000000	0.2000000000000000
1.0000000000000000	1.0000000000000000	-1.0000000000000000
0.8000000000000000	0.7000000000000000	-0.3000000000000000
0.0000000000000000	-1.0000000000000000	1.0000000000000000
0.8000000000000000	-0.7000000000000000	-0.3000000000000000
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0.08		

SEARCH.DAT

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detf1,detf2:
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50.0

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VDAT.DAT

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9,'=====',+1.111111D+11, 0
9,'= INPUT DATA FOR THE TEST VEHICLE =',+1.111111D+11, 0
9,'=====',+1.111111D+11, 0
9,'===== 76 Chevy Nova =====',+1.111111D+11, 0
9,'=====',+1.111111D+11, 0
9,'= CREATION DATE:      Dec 18 1989 =',+1.111111D+11, 0
9,'= LAST UPDATE   :      Dec 18 1989 =',+1.111111D+11, 0
9,'=           BY   :      Lu           =',+1.111111D+11, 0
9,'=====',+1.111111D+11, 0
9,'===== ANALYZED PARAMETERS =====',+1.111111D+11, 0
9,'=====',+1.111111D+11, 0
9,'===== PRIMARY GEOMETRICAL =====',+1.111111D+11, 0
9,'===== BASIC DATA =====',+1.111111D+11, 0
0,'{A}  DISTANCE - CG TO FRONT AXLE ',+1.335000D+00, 0 +1.034000D+00, 0
0,'{B}  DISTANCE - CG TO REAR  AXLE ',+1.440000D+00, 0 +0.998000D+00, 0
0,'{HS} STATIC HEIGHT OF SPRUNG C.G. ',+0.750000D+00, 0 +0.693000D+00, 0
9,'===== SUSPENSION DATA =====',+1.111111D+11, 0
9,'=== INDEPENDENT SUSPENSION TYPE ===',+1.111111D+11, 0
9,'===== FRONT SUSPENSION =====',+1.111111D+11, 0
0,'{TRIF} FRONT SUSPENSION TRACK WIDTH',+0.000000D+00, 0
0,'{WCHIF} FRONT WHEEL CENTER HEIGHT ',+0.000000D+00, 1
0,'{CAMCOF1} CAMBER POLYNOMIAL COEFF. ',+0.000000D+00, 1
0,'{CAMCOF2} CAMBER POLYNOMIAL COEFF. ',+0.000000D+00, 1

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0, '{CAMCOF3} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOF4} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOF5} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{YOUIF} LATERAL IC POSITION FRONT ', +0.000000D+00, 1
0, '{ZOUIF} HEIGHT OF IC ABOVE GROUND ', +0.000000D+00, 1
0, '{WCGOFF} WHEEL C.G. OFFSET DIST. ', +0.000000D+00, 1
0, '{RBUF} UPP.BUMP STP RADIUS ,FRONT ', +0.000000D+00, 1
0, '{RBLF} LWR.BUMP STP RADIUS ,FRONT ', +0.000000D+00, 1
0, '{LBUF} UPP.BUMP STP LNGTH ,FRONT ', +0.000000D+00, 1
0, '{LBLF} LWR.BUMP STP LNGTH ,FRONT ', +0.000000D+00, 1
0, '{PHIMUF} UPP. DEFL. ANGLE ,FRONT ', +0.000000D+00, 1
0, '{PHIMLF} LWR. DEFL. ANGLE ,FRONT ', +0.000000D+00, 1
9, '==== REAR SUSPENSION =====', +1.111111D+11, 0
0, '{TRIR} REAR SUSPENSION TRACK WIDTH ', +0.000000D+00, 0
0, '{WCHIR} REAR WHEEL CENTER HEIGHT ', +0.000000D+00, 1
0, '{CAMCOR1} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
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0, '{CAMCOR4} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOR5} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{YOUIR} LATERAL IC POSITION REAR ', +0.000000D+00, 1
0, '{ZOUIR} HEIGHT OF IC ABOVE GROUND ', +0.000000D+00, 1
0, '{WCGOFR} WHEEL C.G. OFFSET DIST. ', +0.000000D+00, 1
0, '{RBUR} UPP.BUMP STP RADIUS ,REAR ', +0.000000D+00, 1
0, '{RBLR} LWR.BUMP STP RADIUS ,REAR ', +0.000000D+00, 1
0, '{LBUR} UPP.BUMP STP LNGTH ,REAR ', +0.000000D+00, 1
0, '{LBLR} LWR.BUMP STP LNGTH ,REAR ', +0.000000D+00, 1
0, '{PHIMUR} UPP. DEFL. ANGLE ,REAR ', +0.000000D+00, 1
0, '{PHIMLR} LWR. DEFL. ANGLE ,REAR ', +0.000000D+00, 1
9, '==== DEPENDENT SUSPENSION TYPE =====', +1.111111D+11, 0
9, '====', +1.111111D+11, 0
9, '==== FRONT SUSP. =====', +1.111111D+11, 0
0, '{TRDF} FRONT SUSPENSION TRACK WIDTH', +1.500000D+00, 0 +1.308100D+00, 0
0, '{WCHDF} FRONT WHEEL CENTER HEIGHT ', +0.330200D+00, 1
0, '{HRC1} STATIC HT. OF RC ABOVE GRND. ', +0.144800D+00, 0
0, '{YCUD1} MASS CENTER POSITON,FRONT ', +0.000000D+00, 0
0, '{ZCUD1} MASS CENTER POSITON,FRONT ', -0.330200D+00, 0
0, '{HSUF} UPR.END SPRNG POS ,FRONT ', +0.440000D+00, 1
0, '{HSLF} LWR.END SPRNG POS ,FRONT ', +0.360000D+00, 1
0, '{TSF} SPRING TRACK ,FRONT ', +0.525000D+00, 1 +0.486000D+00, 1
0, '{HBUF} UPR.BUMP STOP POS ,FRONT ', +0.420000D+00, 1
0, '{HBLF} LWR.BUMP STOP POS ,FRONT ', +0.220000D+00, 1
0, '{HBUF1} UPR CONT SRF'S POS ,FRONT ', +0.360000D+00, 1
0, '{HBLF2} LWR CONT SRF'S POS ,FRONT ', +0.300000D+00, 1
0, '{TBUF} UPR BUMP STP TRACK ,FRONT ', +0.486000D+00, 1
0, '{TBLF} LWR BUMP STP TRACK ,FRONT ', +0.486000D+00, 1
0, '{LBUF} UPR.BUMP STP LENGTH ,FRONT ', +0.030000D+00, 1
0, '{LBLF} LWR.BUMP STP LENGTH ,FRONT ', +0.030000D+00, 1
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0, '{WCHDR} REAR WHEEL CENTER HEIGHT ', +0.330200D+00, 1
0, '{HRC2} STATIC HT. OF RC ABOVE GRND. ', +0.152000D+00, 0
0, '{YCUD2} MASS CENTER POSITON,REAR ', +0.000000D+00, 0
0, '{ZCUD2} MASS CENTER POSITON,REAR ', -0.330200D+00, 0
0, '{HSUR} UPR.END SPRNG POS ,REAR ', +0.440000D+00, 1
0, '{HSLR} LWR END SPRNG POS ,REAR ', +0.360000D+00, 1
0, '{TSR} SPRING TRACK ,REAR ', +0.525000D+00, 1 +0.446000D+00, 1
0, '{HBUR} UPR.BUMP STOP POS ,REAR ', +0.440000D+00, 1

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0, '{HBLR} LWR.BUMP STOP POS ,REAR ', +0.230000D+00, 1
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0, '{HBLR2} LWR CONT SRFS POS ,REAR ', +0.300000D+00, 1
0, '{TBUR} UPR BUMP STP TRACK ,REAR ', +0.446000D+00, 1
0, '{TBLR} LWR BUMP STP TRACK ,REAR ', +0.446000D+00, 1
0, '{LBUR} UPR.BUMP STP LENGTH ,REAR ', +0.030000D+00, 1
0, '{LBLR} LWR.BUMP STP LENGTH ,REAR ', +0.030000D+00, 1
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9, '----- IMPACT TIRE DATA -----', +1.111111D+11, 0
9, '-----', +1.111111D+11, 0
0, '{RR} CENTER RADIUS OF TIRE ', +0.334000D+00, 3
0, '{RS} SIDE RADIUS OF TIRE ', +0.050000D+00, 3
0, '{WR1} RADIUS OF TIRE ', +0.290000D+00, 3
0, '{WR2} RADIUS OF TIRE ', +0.260000D+00, 3
0, '{WR3} RADIUS OF TIRE ', +0.225000D+00, 3
0, '{WR4} RADIUS OF TIRE ', +0.190000D+00, 3
0, '{W1} TIRE WIDTH ', +0.100000D+00, 3
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0, '{W4} TIRE WIDTH ', +0.063500D+00, 3
9, '-----', +1.111111D+11, 0
9, '----- MASS/INERTIA PARAMETERS -----', +1.111111D+11, 0
9, '-----', +1.111111D+11, 0
9, '----- SPRUNG MASS -----', +1.111111D+11, 0
0, '{MS} SPRUNG MASS ', +1534.000D+00, 0 +778.1000D+00, 0
0, '{IXXS} SPRUNG ROLL INERTIA ', +325.0000D+00, 0 +240.2600D+00, 0
0, '{IYYS} SPRUNG PITCH INERTIA ', +2712.000D+00, 0 +831.0200D+00, 0
0, '{IZZS} SPRUNG YAW INERTIA ', +3254.000D+00, 0 +1120.800D+00, 0
0, '{IXYS} SPRUNG PDT OF INERTIA ', +0.000000D+00, 0
0, '{IYZS} SPRUNG PDT OF INTERIA ', +0.000000D+00, 0
0, '{IZXS} SPRUNG PDT OF INERTIA ', +0.000000D+00, 0
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0, '{ML3} ADD. SPRUNG MASS #3 ', +0.000000D+00, 0
0, '{ML4} ADD. SPRUNG MASS #4 ', +0.000000D+00, 0
0, '{ML5} ADD. SPRUNG MASS #5 ', +0.000000D+00, 0
0, '{ML6} ADD. SPRUNG MASS #6 ', +0.000000D+00, 0
0, '{ML7} ADD. SPRUNG MASS #7 ', +0.000000D+00, 0
0, '{ML8} ADD. SPRUNG MASS #8 ', +0.000000D+00, 0
0, '{XML1} POS OF ADD. SPRUNG MASS #1 ', +0.000000D+00, 0
0, '{XML2} POS OF ADD. SPRUNG MASS #2 ', +0.000000D+00, 0
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0, '{YML1} POS OF ADD. SPRUNG MASS #1 ', +0.000000D+00, 0
0, '{YML2} POS OF ADD. SPRUNG MASS #2 ', +0.000000D+00, 0
0, '{YML3} POS OF ADD. SPRUNG MASS #3 ', +0.000000D+00, 0
0, '{YML4} POS OF ADD. SPRUNG MASS #4 ', +0.000000D+00, 0
0, '{YML5} POS OF ADD. SPRUNG MASS #5 ', +0.000000D+00, 0
0, '{YML6} POS OF ADD. SPRUNG MASS #6 ', +0.000000D+00, 0
0, '{YML7} POS OF ADD. SPRUNG MASS #7 ', +0.000000D+00, 0
0, '{YML8} POS OF ADD. SPRUNG MASS #8 ', +0.000000D+00, 0
0, '{ZML1} POS OF ADD. SPRUNG MASS #1 ', +0.000000D+00, 0
0, '{ZML2} POS OF ADD. SPRUNG MASS #2 ', +0.000000D+00, 0
0, '{ZML3} POS OF ADD. SPRUNG MASS #3 ', +0.000000D+00, 0

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0, '{ZML4} POS OF ADD. SPRUNG MASS #4 ', +0.000000D+00, 0
0, '{ZML5} POS OF ADD. SPRUNG MASS #5 ', +0.000000D+00, 0
0, '{ZML6} POS OF ADD. SPRUNG MASS #6 ', +0.000000D+00, 0
0, '{ZML7} POS OF ADD. SPRUNG MASS #7 ', +0.000000D+00, 0
0, '{ZML8} POS OF ADD. SPRUNG MASS #8 ', +0.000000D+00, 0
9, '==== UNSPRUNG MASS =====', +1.111111D+11, 0
9, '=== INDEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
0, '{MUIF} UNSPRUNG MASS, FRONT ', +29.49000D+00, 1
0, '{MUIR} UNSPRUNG MASS, REAR ', +29.49000D+00, 1
9, '==== DEPENDENT SUSPENSION TYPE =====', +1.111111D+11, 0
0, '{MUDF} UNSPRUNG MASS, FRONT ', +58.98000D+00, 0
0, '{MUDR} UNSPRUNG MASS, REAR ', +58.98000D+00, 0
0, '{IXXUF} UNSPNG ROLL INERTIA ,FRONT ', +10.20000D+00, 0
0, '{IXXUR} UNSPNG ROLL INERTIA ,REAR ', +10.20000D+00, 0
0, '{IYYUF} UNSPNG PITCH INERTIA,FRONT ', +3.000000D+00, 0
0, '{IYYUR} UNSPNG PITCH INERTIA,REAR ', +3.000000D+00, 0
0, '{IZZUF} UNSPNG YAW INERTIA ,FRONT ', +8.300000D+00, 0
0, '{IZZUR} UNSPNG YAW INERTIA ,REAR ', +8.300000D+00, 0
9, '==== TIRE =====', +1.111111D+11, 0
0, '{MW} TIRE MASS ', +29.49000D+00, 3
0, '{IXXW} MOMENT OF INERTIA ', +1.120000D+00, 3
9, '====', +1.111111D+11, 0
9, '==== SUSPENSIONS SPRINGS DATA =====', +1.111111D+11, 0
9, '=== INDEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
9, '====', +1.111111D+11, 0
0, '{ASIF0} POLY APRX COEF 1,FRONT ', +0.000000D+00, 1
0, '{ASIF1} POLY APRX COEF 2,FRONT ', +0.000000D+00, 1
0, '{ASIF2} POLY APRX COEF 3,FRONT ', +0.000000D+00, 1
0, '{ASIR0} POLY APRX COEF 1,REAR ', +0.000000D+00, 1
0, '{ASIR1} POLY APRX COEF 2,REAR ', +0.000000D+00, 1
0, '{ASIR2} POLY APRX COEF 3,REAR ', +0.000000D+00, 1
0, '{KIARF} ANTI-ROLL BAR SPRNG, FRONT ', +0.000000D+00, 0
0, '{KIARR} ANTI-ROLL BAR SPRNG, REAR ', +0.000000D+00, 0
0, '{DETPHIF} A.R.LFT/RGHT ANGL DF.,FNT', +0.000000D+00, 0
0, '{DETPHIR} A.R.LFT/RGHT ANGL DF.,RER', +0.000000D+00, 0
9, '=== DEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
0, '{ASDF0} POLY APRX COEF 1,FRONT ', +90000.00D+00, 1 +47630.00D+00, 1
0, '{ASDF1} POLY APRX COEF 2,FRONT ', +0.000000D+00, 1
0, '{ASDF2} POLY APRX COEF 3,FRONT ', +0.000000D+00, 1
0, '{ASDR0} POLY APRX COEF 1,REAR ', +75000.00D+00, 1 +37220.00D+00, 1
0, '{ASDR1} POLY APRX COEF 2,REAR ', +0.000000D+00, 1
0, '{ASDR2} POLY APRX COEF 3,REAR ', +0.000000D+00, 1
0, '{KDARF} ANTI-ROLL BAR SPRNG, FRONT ', +6800.000D+00, 0 +3443.730d+00, 0
0, '{KDARR} ANTI-ROLL BAR SPRNG, REAR ', +10000.00D+00, 0 +5277.330d+00, 0
9, '====', +1.111111D+11, 0
9, '==== SUSPENSIONS DAMPERS DATA =====', +1.111111D+11, 0
9, '=== INDEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
9, '====', +1.111111D+11, 0
0, '{CUIUF} DAMPING CONST.,FRONT COMPR ', +0.000000D+00, 1
0, '{CUIUR} DAMPING CONST.,REAR COMPR ', +0.000000D+00, 1
0, '{CUILF} DAMPING CONST.,FRONT EXTEN ', +0.000000D+00, 1
0, '{CUIRF} DAMPING CONST.,REAR EXTEN ', +0.000000D+00, 1
0, '{CIARF} A-R BAR DMPNG COEF., FRONT ', +0.000000D+00, 0
0, '{CIARR} A-R BAR DMPNG COEF., REAR ', +0.000000D+00, 0
9, '=== DEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
0, '{CUDUF} DAMPING CONST.,FRONT COMPR ', +2500.000D+00, 1 +1066.300D+00, 1
0, '{CUDUR} DAMPING CONST.,REAR COMPR ', +2500.000D+00, 1 +1066.300D+00, 1
0, '{CUDLF} DAMPING CONST.,FRONT EXTEN ', +5500.000D+00, 1 +2627.700D+00, 1

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0, '{CUDLR} DAMPING CONST., REAR EXTEN ', +5500.000d+00, 1 +2627.700D+00, 1
0, '{CDARF} A-R BAR DMPNG COEF., FRONT ', +0.000000D+00, 0
0, '{CDARR} A-R BAR DMPNG COEF., REAR ', +0.000000D+00, 0
9, '=====', +1.111111D+11, 0
9, '= BUMP STOP STIF. AND DAMP. DATA =', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
0, '{KBUF} UPR B.S. SPRNG C, FRONT ', +650000.0D+00, 1 +323000.0D+00, 1
0, '{KBUR} UPR B.S. SPRNG C, REAR ', +280000.0D+00, 1 +140000.0D+00, 1
0, '{KBLF} LWR B.S. SPRNG C, FRONT ', +270000.0D+00, 1 +137000.0D+00, 1
0, '{KBLR} LWR B.S. SPRNG C, REAR ', +78000.00D+00, 1 +39000.00D+00, 1
9, '=====', +1.111111D+11, 0
0, '{CBUF} UPR B.S. DMPNG C, FRONT ', +12000.00D+00, 1 +6000.000D+00, 1
0, '{CBUR} UPR B.S. DMPNG C, REAR ', +12000.00D+00, 1 +6000.000D+00, 1
0, '{CBLF} LWR B.S. DMPNG C, FRONT ', +12000.00D+00, 1 +6000.000D+00, 1
0, '{CBLR} LWR B.S. DMPNG C, REAR ', +12000.00D+00, 1 +6000.000D+00, 1
9, '=====', +1.111111D+11, 0
9, '===== FRICTIONAL TIRE DATA =====', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
9, '=== CALSPAN TIRE COEFFICIENTS ===', +1.111111D+11, 0
0, '{A0} CORNERING STIFFNESS COEFF. ', +0.000000D+00, 3 -668.4600D+00, 3
0, '{A1} CORNERING STIFFNESS COEFF. ', +25.27700D+00, 3 +26.54000D+00, 3
0, '{A2} CORNERING STIFFNESS COEFF. ', +2146.610D+00, 3
0, '{A3} CAMBER STIFFNESS COEFF. ', +1.274000D+00, 3
0, '{A4} CAMBER STIFFNESS COEFF. ', +2225.070D+00, 3
0, '{P0} PEAK BRAKING FRICTION COEFF. ', +1.207300D+00, 3
0, '{P1} PEAK BRAKING FRICTION COEFF. ', -5.843000D-04, 3
0, '{P2} PEAK BRAKING FRICTION COEFF. ', +3.977000D-07, 3
0, '{B1} PEAK LATERAL FRICTION COEFF. ', -6.745000D-04, 3
0, '{B2} PEAK LATERAL FRICTION COEFF. ', +0.000000D+00, 3
0, '{B3} PEAK LATERAL FRICTION COEFF. ', +1.307000D+00, 3
0, '{B4} PEAK LATERAL FRICTION COEFF. ', +2.953000D-07, 3
0, '{R0} LONG. SLIP @ PEAK BRAKING ', -0.237710D+00, 3
0, '{R1} LONG. SLIP @ PEAK BRAKING ', +8.536000D-05, 3
0, '{S0} SLIDE COEFFICIENT OF FRICTION ', +1.173800D+00, 3
0, '{S1} SLIDE COEFFICIENT OF FRICTION ', -8.458000D-04, 3
0, '{S2} SLIDE COEFFICIENT OF FRICTION ', +3.945000D-07, 3
0, '{K1} ALIGNING MOMENT COEFFICIENT ', -2.061000D-04, 3
0, '{K2} ALIGNING MOMENT COEFFICIENT ', -1.768000D-04, 3
0, '{K3} ALIGNING MOMENT COEFFICIENT ', +0.074000D+00, 3
0, '{CTN} SLOPE OF MUX VS. S @ S=0 ', +6.000000D+00, 3
0, '{CA1} CRITICAL CAMBER ANGLE ', +0.523560D+00, 3
0, '{CR1} FRICTION REDUCTION @ CA1 ', +0.300000D+00, 3
0, '{OMEGT} TIRE OVERLOAD COEFF. ', +0.900000D+00, 3 +1.000000D+00, 3
0, '{OMEGT2} TIRE OVERLOAD COEFF. ', +0.500000D+00, 3
0, '{SN} TIRE SKID NUMBER ', +1.000000D+00, 3
9, '=====', +1.111111D+11, 0
9, '===== IMPACT TIRE DATA =====', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
0, '{SKR} STIFFNESS OF RADIAL SPRINGS', +4723.000D+00, 3
0, '{SKS} STIFFNESS OF SIDE SPRINGS', +2062.000D+00, 3
0, '{SKRIM} STIFFNESS OF RIM SPRINGS', +100000.0D+00, 3
9, '=====', +1.111111D+11, 0
9, '===== Terrain Data =====', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
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0, '{NTPL} NUMBER OF TERRAIN PLANES ', +3.000000D+00, 0 +1.000000D+00, 0
0, '{Yterr(1)} Y-COORD OF TERR. PT. 1 ', -500.0000D+00, 0
0, '{Zterr(1)} Z-COORD OF TERR. PT. 1 ', +0.000000D+00, 0

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0, '{Yterr(2)} Y-COORD OF TERR. PT. 2 ', +2.234000D+00, 0 +0.800000D+00, 0
0, '{Zterr(2)} Z-COORD OF TERR. PT. 2 ', +0.000000D+00, 0
0, '{Yterr(3)} Y-COORD OF TERR. PT. 3 ', +2.236000D+00, 0 +0.800000D+00, 0
0, '{Zterr(3)} Z-COORD OF TERR. PT. 3 ', -0.152400D+00, 0
0, '{Yterr(4)} Y-COORD OF TERR. PT. 4 ', +500.0000D+00, 0 +500.0000D+00, 0
0, '{Zterr(4)} Z-COORD OF TERR. PT. 4 ', -0.152400D+00, 0 -0.152400D+00, 0
0, '{Yterr(5)} Y-COORD OF TERR. PT. 5 ', +0.000000D+00, 0
0, '{Zterr(5)} Z-COORD OF TERR. PT. 5 ', +0.000000D+00, 0
0, '{Yterr(6)} Y-COORD OF TERR. PT. 6 ', +0.000000D+00, 0
0, '{Zterr(6)} Z-COORD OF TERR. PT. 6 ', +0.000000D+00, 0
0, '{Yterr(7)} Y-COORD OF TERR. PT. 7 ', +0.000000D+00, 0
0, '{Zterr(7)} Z-COORD OF TERR. PT. 7 ', +0.000000D+00, 0
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0, '{SNterr(2)} SKID # OF TERR. PL. 2 ', +85.000000D+00, 0 +85.000000D+00, 0
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0, '{SNterr(7)} SKID # OF TERR. PL. 7 ', +0.000000D+00, 0
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0, '{SNterr(19)} SKID # OF TERR. PL. 19', +0.000000D+00, 0
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9, '==== SOIL PARAMETERS =====', +1.111111D+11, 0
0, '{Soiln} Soil Parameter ', +0.950000D+00, 0
0, '{Soilkphi} Soil Parameter ', +1.446000D+07, 0
0, '{Soilkc} Soil Parameter ', +8.610000D+04, 0
9, '==== Aerodynamic Data =====', +1.111111D+11, 0
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0, '{SAero} Aerod. Reference Area ', +2.000000D+00, 0
0, '{HAero} Aerod. Reference Length ', +1.500000D+00, 0
0, '{DCyDBeta_A} Side Force Coeff. ', +1.000000D+00, 0
0, '{DCnDBeta_A} Yaw Moment Coeff. ', +2.500000D+00, 0
0, '{DNDR} Yaw Damping Moment Deriv. ', +0.000000D+00, 0
0, '{CD0} Drag Force Coeff. ', +0.000000D+00, 0
0, '{DCDDBeta_A} Drag Forc. Coef. Der. ', +0.000000D+00, 0
0, '{Alph0} Zero-Lift Angle ', +0.000000D+00, 0
0, '{DCLDAlpha_A} Lift Forc. Coef. Der. ', +0.000000D+00, 0
0, '{CMY0} Zero-Lift Pitch Mom. Coef. ', +0.000000D+00, 0
0, '{DCMYDALpha_A} Pitch Mom. Coef. Der. ', +0.000000D+00, 0
0, '{AeroPar} Reserved For Future Use ', +0.000000D+00, 17
9, '==== Wheel Steering Input =====', +0.000000D+00, 0
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0, '{TMW2} Time point ', +0.200000D+00, 0
0, '{TMW3} Time point ', +1000.000D+00, 0
0, '{TMW4} Time point ', +0.000000D+00, 0
0, '{TMW5} Time point ', +0.000000D+00, 0
0, '{TMW6} Time point ', +0.000000D+00, 0
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0, '{TMW18} Time point ', +0.000000D+00, 0
0, '{TMW19} Time point ', +0.000000D+00, 0

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0, '{DSWM3} Wheel steer. angle ', -4.100000D+00, 0 -2.500000D+00, 0
0, '{DSWM4} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM5} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM6} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM7} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM8} Wheel steer. angle ', +0.000000D+00, 0
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0, '{DSWM10} Wheel steer. angle ', +0.000000D+00, 0
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0, '{DSWM12} Wheel steer. angle ', +0.000000D+00, 0
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0, '{DSWM14} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM15} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM16} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM17} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM18} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM19} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM20} Wheel steer. angle ', +0.000000D+00, 0
9, '----- Braking/Tracting Input -----', +0.000000D+00, 0
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0, '{TMT7} Time point ', +0.000000D+00, 0
0, '{TMT8} Time point ', +0.000000D+00, 0
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0, '{TMT16} Time point ', +0.000000D+00, 0
0, '{TMT17} Time point ', +0.000000D+00, 0
0, '{TMT18} Time point ', +0.000000D+00, 0
0, '{TMT19} Time point ', +0.000000D+00, 0
0, '{TMT20} Time point ', +0.000000D+00, 0
0, '{AXPRIME1} Desired accel./decel ', -0.000000D+00, 0 +0.000000D+00, 0
0, '{AXPRIME2} Desired accel./decel ', -0.060000D+00, 0 +0.000000D+00, 0
0, '{AXPRIME3} Desired accel./decel ', -0.060000D+00, 0 +2.000000D+00, 0
0, '{AXPRIME4} Desired accel./decel ', +2.000000D+00, 0
0, '{AXPRIME5} Desired accel./decel ', +2.000000D+00, 0 +0.000000D+00, 0
0, '{AXPRIME6} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME7} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME8} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME9} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME10} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME11} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME12} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME13} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME14} Desired accel./decel ', +0.000000D+00, 0

```

```

0, '{AXPRIME15} Desired accel./decel', '+0.000000D+00, 0
0, '{AXPRIME16} Desired accel./decel', '+0.000000D+00, 0
0, '{AXPRIME17} Desired accel./decel', '+0.000000D+00, 0
0, '{AXPRIME18} Desired accel./decel', '+0.000000D+00, 0
0, '{AXPRIME19} Desired accel./decel', '+0.000000D+00, 0
0, '{AXPRIME20} Desired accel./decel', '+0.000000D+00, 0
0, '{Q0}', '+0.100000d+00, 0 +0.000000D+00, 0
0, '{Q1}', '+0.000000D+00, 0
0, '{ITYPPWR} Braking/Tracting ind.', '+2.000000d+00, 0 +0.000000D+00, 0
9, '=====  

0, '{FYMAX} Max. side force [N]', '+17800.00D+00, 3
0, '{XPL2} Max. plactic def. [m]', '+0.152400D+00, 3
0, '{DXPL} Step of plastic def. [m]', '+0.001000D+00, 3
0, '{STIFF2} Second crsh stiff [N/m]', '+1.400000D+06, 3
0, '{CRSHDUM} <Reserved for fut.use>', '+0.000000D+00, 15
9, '=====  

0, '{DUMMY} RESERVED FOR FUTURE USE', '+0.000000D+00, 41
0, 'ENDPP', '+0.000000D+00, 0
0, 'ENDSP', '+0.000000D+00, 0
9, '=====  

0, '1 XS - LONGITUDINAL POSITION', '+0.000000D+00, 0
0, '2 YS - LATERAL POSITION', '+0.000000D+00, 0
0, '3 ZS - VERTICAL POSITION', '+0.000000D+00, 0
0, '4 PSI - YAW ANGLE', '+0.000000D+00, 0
0, '5 THETA- PITCH ANGLE', '+0.000000D+00, 0
0, '6 PHI - ROLL ANGLE', '+0.000000D+00, 0
0, '7 Q7 -', '+0.000000D+00, 0
0, '8 Q8 -', '+0.000000D+00, 0
0, '9 Q9 -', '+0.000000D+00, 0
0, '10 Q10 -', '+0.000000D+00, 0
0, '11 THW1 - WHEEL ROT. ANGLE', '+0.000000D+00, 0
0, '12 THW2 - WHEEL ROT. ANGLE', '+0.000000D+00, 0
0, '13 THW3 - WHEEL ROT. ANGLE', '+0.000000D+00, 0
0, '14 THW4 - WHEEL ROT. ANGLE', '+0.000000D+00, 0
0, '15 UU - FORWARD VELOCITY', '+0.000000D+00, 0
0, '16 VV - LATERAL VELOCITY', '+0.000000D+00, 0
0, '17 WW - VERTICAL VELOCITY', '+0.000000D+00, 0
0, '18 P - ROLLING Q-VELOCITY', '+0.000000D+00, 0
0, '19 Q - PITCHING Q-VELOCITY', '+0.000000D+00, 0
0, '20 R - YAWING Q-VELOCITY', '+0.000000D+00, 0
0, '21 Q7D -', '+0.000000D+00, 0
0, '22 Q8D -', '+0.000000D+00, 0
0, '23 Q9D -', '+0.000000D+00, 0
0, '24 Q10 -', '+0.000000D+00, 0
0, '25 OMW1 - WHEEL ROT. VELOCITY', '+0.000000D+00, 0
0, '26 OMW2 - WHEEL ROT. VELOCITY', '+0.000000D+00, 0
0, '27 OMW3 - WHEEL ROT. VELOCITY', '+0.000000D+00, 0
0, '28 OMW4 - WHEEL ROT. VELOCITY', '+0.000000D+00, 0
0, 'ENDOV', '+0.000000D+00, 0
9, '=====  


```

EXAMPLE 11 - TEST2

ADVS.DAT

SAMURAI, SIDE IMPACT, V_LAT=15.11 M/S
VDAT.DAT File Name :VDAT.DAT
SUSP. CONFIG. INDEX: 4
SIMUL. START TIME : 0.0
SIMUL. RUN TIME : 4.5
STEP OF INTEGRATION: 5.0D-04
STEP FOR PRINTING : 2.0D-02
INTEGR. ERR. CRIT. : 5.0D-05
XS-D [M/S] : 0.0
YS-D [M/S] : 15.11
PSI [DEG.] : -5.0
PHI_MAX [DEG.] : 100.0
(-RESERVED-) : 0.0

BODYNOD.DAT

17
4
0.050000000000000001
0.400000000000000000
556000.0000000000
1400000.0000000000
0.000000000000000000E+00
0.000000000000000000E+00
27800.000000000000
5.000000000000000000E-02
87900.000000000000
0.203000000000000000
198000.0000000000
0.400000000000000000
4
5.000000000000000000E-02
0.400000000000000000
356000.0000000000
1400000.0000000000
0.000000000000000000E+00
0.000000000000000000E+00
17800.000000000000
5.000000000000000000E-02
47900.000000000000
0.203000000000000000
98000.0000000000
0.400000000000000000
4
5.000000000000000000E-02
0.400000000000000000
356000.0000000000
1400000.0000000000

0.0000000000000000E+00
0.0000000000000000E+00
17800.0000000000
5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
0.4000000000000000
4
0.0500000000000000
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.0000000000
5.0000000000000000E-02
87900.0000000000
0.2030000000000000
198000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.0000000000
5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.0000000000
5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
0.4000000000000000
4
5.00000000000000003E-02
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.0000000000
5.0000000000000000E-02
87900.0000000000
0.2030000000000000

```

198000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.000000000000
5.0000000000000000E-02
47900.000000000000
0.2030000000000000
98000.000000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.000000000000
5.0000000000000000E-02
47900.000000000000
0.2030000000000000
98000.000000000000
0.4000000000000000
4
0.05000000000000004
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.000000000000
5.0000000000000000E-02
87900.000000000000
0.2030000000000000
198000.000000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.000000000000
5.0000000000000000E-02
47900.000000000000
0.2030000000000000
98000.000000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000

```

1400000.000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.00000000000
5.0000000000000000E-02
47900.00000000000
0.2030000000000000
98000.00000000000
0.4000000000000000
4
5.0000000000000005E-02
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.00000000000
5.0000000000000000E-02
87900.00000000000
0.2030000000000000
198000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.00000000000
5.0000000000000000E-02
87900.00000000000
0.2030000000000000
198000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.00000000000
5.0000000000000000E-02
47900.00000000000
0.2030000000000000
98000.00000000000
0.4000000000000000
4
0.05000000000000006
0.7000000000000000
222400.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
11120.00000000000
5.0000000000000000E-02
35160.00000000000

```

0.403000000000000000
79200.000000000000
0.700000000000000000
4
5.0000000000000000E-02
0.400000000000000000
356000.000000000000
1400000.000000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.000000000000
5.0000000000000000E-02
47900.000000000000
0.203000000000000000
98000.000000000000
0.400000000000000000
4
5.0000000000000000E-02
0.400000000000000000
556000.000000000000
1400000.000000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.000000000000
5.0000000000000000E-02
87900.000000000000
0.203000000000000000
198000.000000000000
0.400000000000000000
4
5.0000000000000007E-02
0.700000000000000000
222400.000000000000
1400000.000000000000
0.0000000000000000E+00
0.0000000000000000E+00
11120.000000000000
5.0000000000000000E-02
35160.000000000000
0.403000000000000000
79200.000000000000
0.700000000000000000
4
5.0000000000000000E-02
0.400000000000000000
356000.000000000000
1400000.000000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.000000000000
5.0000000000000000E-02
47900.000000000000
0.203000000000000000
98000.000000000000
0.400000000000000000
4
5.0000000000000000E-02
0.400000000000000000

```

556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.000000000000
5.0000000000000000E-02
87900.000000000000
0.2030000000000000
198000.0000000000
0.4000000000000000
4
0.05000000000000008
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.000000000000
5.0000000000000000E-02
87900.000000000000
0.2030000000000000
198000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.000000000000
5.0000000000000000E-02
47900.000000000000
0.2030000000000000
98000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.000000000000
5.0000000000000000E-02
860.000000000000
0.4030000000000000
1200.0000000000
0.7000000000000000
4
5.0000000000000009E-02
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.000000000000
5.0000000000000000E-02

87900.000000000000
 0.2030000000000000
 198000.0000000000
 0.4000000000000000
 4
 5.0000000000000000E-02
 0.4000000000000000
 356000.0000000000
 1400000.0000000000
 0.0000000000000000E+00
 0.0000000000000000E+00
 17800.000000000000
 5.0000000000000000E-02
 47900.000000000000
 0.2030000000000000
 98000.0000000000
 0.4000000000000000
 4
 5.0000000000000000E-02
 0.7000000000000000
 10000.0000000000
 140000.0000000000
 0.0000000000000000E+00
 0.0000000000000000E+00
 500.000000000000
 5.0000000000000000E-02
 860.000000000000
 0.4030000000000000
 1200.0000000000
 0.7000000000000000
 4
 0.05000000000000010
 0.7000000000000000
 222400.0000000000
 1400000.0000000000
 0.0000000000000000E+00
 0.0000000000000000E+00
 11120.000000000000
 5.0000000000000000E-02
 35160.000000000000
 0.4030000000000000
 79200.000000000000
 0.7000000000000000
 4
 5.0000000000000000E-02
 0.4000000000000000
 356000.0000000000
 1400000.0000000000
 0.0000000000000000E+00
 0.0000000000000000E+00
 17800.000000000000
 5.0000000000000000E-02
 47900.000000000000
 0.2030000000000000
 98000.0000000000
 0.4000000000000000
 4
 5.0000000000000000E-02

```

0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.000000000000
5.0000000000000000E-02
87900.000000000000
0.2030000000000000
198000.000000000000
0.4000000000000000
4
5.000000000000000011E-02
0.7000000000000000
222400.000000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
11120.000000000000
5.0000000000000000E-02
35160.000000000000
0.4030000000000000
79200.000000000000
0.7000000000000000
4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.000000000000
5.0000000000000000E-02
47900.000000000000
0.2030000000000000
98000.000000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.000000000000
5.0000000000000000E-02
87900.000000000000
0.2030000000000000
198000.000000000000
0.4000000000000000
4
0.050000000000000012
0.7000000000000000
10000.000000000000
140000.000000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.00000000000000

```

5.0000000000000000E-02
860.0000000000
0.4030000000000000
1200.0000000000
0.7000000000000000

4

5.0000000000000000E-02
0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.0000000000
5.0000000000000000E-02
860.0000000000
0.4030000000000000
1200.0000000000
0.7000000000000000

4

5.0000000000000000E-02
0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.0000000000
5.0000000000000000E-02
860.0000000000
0.4030000000000000
1200.0000000000
0.7000000000000000

4

0.05000000000000013
0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.0000000000
5.0000000000000000E-02
860.0000000000
0.4030000000000000
1200.0000000000
0.7000000000000000

4

5.0000000000000000E-02
0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.0000000000
5.0000000000000000E-02
860.0000000000
0.4030000000000000
1200.0000000000
0.7000000000000000

4

5.0000000000000000E-02
0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.000000000000
5.0000000000000000E-02
860.000000000000
0.4030000000000000
1200.000000000000
0.7000000000000000

4

0.05000000000000014
0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.000000000000
5.0000000000000000E-02
860.000000000000
0.4030000000000000
1200.000000000000
0.7000000000000000

4

5.0000000000000000E-02
0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.000000000000
5.0000000000000000E-02
860.000000000000
0.4030000000000000
1200.000000000000
0.7000000000000000

4

5.0000000000000000E-02
0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.000000000000
5.0000000000000000E-02
860.000000000000
0.4030000000000000
1200.000000000000
0.7000000000000000

4

0.05000000000000015
0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00

500.0000000000
5.0000000000000000E-02
860.0000000000
0.4030000000000000
1200.0000000000
0.7000000000000000

4

5.0000000000000000E-02
0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.0000000000
5.0000000000000000E-02
860.0000000000
0.4030000000000000
1200.0000000000
0.7000000000000000

4

5.0000000000000000E-02
0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.0000000000
5.0000000000000000E-02
860.0000000000
0.4030000000000000
1200.0000000000
0.7000000000000000

4

0.05000000000000016
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.0000000000
5.0000000000000000E-02
87900.0000000000
0.2030000000000000
198000.0000000000
0.4000000000000000

4

5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.0000000000
5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
0.4000000000000000

4
5.0000000000000000E-02
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.0000000000
5.0000000000000000E-02
87900.0000000000
0.2030000000000000
198000.0000000000
0.4000000000000000

4
5.00000000000000017E-02
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.0000000000
5.0000000000000000E-02
87900.0000000000
0.2030000000000000
198000.0000000000
0.4000000000000000

4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.0000000000
5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
0.4000000000000000

4
5.0000000000000000E-02
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.0000000000
5.0000000000000000E-02
87900.0000000000
0.2030000000000000
198000.0000000000
0.4000000000000000
75000.0000000000
75000.0000000000
75000.0000000000
75000.0000000000
75000.0000000000
75000.0000000000

-1.0000000000000000	1.0000000000000000	1.0000000000000000
0.0000000000000000E+00	0.8000000000000000	0.0000000000000000E+00
0.0000000000000000E+00	-1.0000000000000000	0.0000000000000000E+00
0.0000000000000000E+00	-0.8000000000000000	0.0000000000000000E+00
0.0000000000000000E+00	1.0000000000000000	0.0000000000000000E+00
-1.6000000000000000	0.7000000000000000	-0.3000000000000000
1.0000000000000000	-1.0000000000000000	1.0000000000000000
-1.6000000000000000	-0.7000000000000000	-0.3000000000000000
1.0000000000000000	1.0000000000000000	1.0000000000000000
1.7000000000000000	0.7000000000000000	0.2000000000000000
-1.0000000000000000	-1.0000000000000000	-1.0000000000000000
1.7000000000000000	-0.7000000000000000	0.2000000000000000
-1.0000000000000000	1.0000000000000000	-1.0000000000000000
-1.6000000000000000	0.7000000000000000	0.2000000000000000
1.0000000000000000	-1.0000000000000000	-1.0000000000000000
-1.6000000000000000	-0.7000000000000000	0.2000000000000000
1.0000000000000000	1.0000000000000000	-1.0000000000000000
0.8000000000000000	0.7000000000000000	-0.3000000000000000
0.0000000000000000	-1.0000000000000000	1.0000000000000000
0.8000000000000000	-0.7000000000000000	-0.3000000000000000
0.0000000000000000	1.0000000000000000	1.0000000000000000
0.08		

SEARCH.DAT

```

detf1,detf2:
500.0
50.0

```

V.DAT.DAT

```

9, '=====', +1.111111D+11, 0
9, '= INPUT DATA FOR THE TEST VEHICLE =', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
9, '===== SUZUKI SAMURAI =====', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
9, '= CREATION DATE:      MAY 18 1989 =', +1.111111D+11, 0
9, '= LAST UPDATE   :   OCTOBER 2 1989 =', +1.111111D+11, 0
9, '=              BY   : ZBIGNIEW PATURSKI=', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
9, '===== ANALYZED PARAMETERS =====', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
9, '===== PRIMARY GEOMETRICAL =====', +1.111111D+11, 0
9, '===== BASIC DATA =====', +1.111111D+11, 0
0, '{A}  DISTANCE - CG TO FRONT AXLE  ', +1.034000D+00, 0
0, '{B}  DISTANCE - CG TO REAR AXLE  ', +0.998000D+00, 0
0, '{HS} STATIC HEIGHT OF SPRUNG C.G. ', +0.693000D+00, 0
9, '===== SUSPENSION DATA =====', +1.111111D+11, 0
9, '=== INDEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
9, '===== FRONT SUSPENSION =====', +1.111111D+11, 0
0, '{TRIF} FRONT SUSPENSION TRACK WIDTH', +0.000000D+00, 0
0, '{WCHIF} FRONT WHEEL CENTER HEIGHT ', +0.000000D+00, 1
0, '{CAMCOF1} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOF2} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOF3} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1

```

```

0, '{CAMCOF4} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOF5} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{YOUIF} LATERAL IC POSITION FRONT ', +0.000000D+00, 1
0, '{ZOUIF} HEIGHT OF IC ABOVE GROUND ', +0.000000D+00, 1
0, '{WCGOFF} WHEEL C.G. OFFSET DIST. ', +0.000000D+00, 1
0, '{RBUF} UPP.BUMP STP RADIUS ,FRONT ', +0.000000D+00, 1
0, '{RBLF} LWR.BUMP STP RADIUS ,FRONT ', +0.000000D+00, 1
0, '{LBUF} UPP.BUMP STP LNGTH ,FRONT ', +0.000000D+00, 1
0, '{LBLF} LWR.BUMP STP LNGTH ,FRONT ', +0.000000D+00, 1
0, '{PHIMUF} UPP. DEFL. ANGLE ,FRONT ', +0.000000D+00, 1
0, '{PHIMLF} LWR. DEFL. ANGLE ,FRONT ', +0.000000D+00, 1
9, '===== REAR SUSPENSION =====', +1.111111D+11, 0
0, '{TRIR} REAR SUSPENSION TRACK WIDTH ', +0.000000D+00, 0
0, '{WCHIR} REAR WHEEL CENTER HEIGHT ', +0.000000D+00, 1
0, '{CAMCOR1} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOR2} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOR3} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOR4} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOR5} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{YOUIR} LATERAL IC POSITION REAR ', +0.000000D+00, 1
0, '{ZOUIR} HEIGHT OF IC ABOVE GROUND ', +0.000000D+00, 1
0, '{WCGOFR} WHEEL C.G. OFFSET DIST. ', +0.000000D+00, 1
0, '{RBUR} UPP.BUMP STP RADIUS ,REAR ', +0.000000D+00, 1
0, '{RBLR} LWR.BUMP STP RADIUS ,REAR ', +0.000000D+00, 1
0, '{LBUR} UPP.BUMP STP LNGTH ,REAR ', +0.000000D+00, 1
0, '{LBLR} LWR.BUMP STP LNGTH ,REAR ', +0.000000D+00, 1
0, '{PHIMUR} UPP. DEFL. ANGLE ,REAR ', +0.000000D+00, 1
0, '{PHIMLR} LWR. DEFL. ANGLE ,REAR ', +0.000000D+00, 1
9, '==== DEPENDENT SUSPENSION TYPE ====', +1.111111D+11, 0
9, '===== FRONT SUSP. =====', +1.111111D+11, 0
0, '{TRDF} FRONT SUSPENSION TRACK WIDTH', +1.308100D+00, 0
0, '{WCHDF} FRONT WHEEL CENTER HEIGHT ', +0.330200D+00, 1
0, '{HRC1} STATIC HT. OF RC ABOVE GRND.', +0.144800D+00, 0
0, '{YCUD1} MASS CENTER POSITON,FRONT ', +0.000000D+00, 0
0, '{ZCUD1} MASS CENTER POSITON,FRONT ', -0.330200D+00, 0
0, '{HSUF} UPR.END SPRNG POS ,FRONT ', +0.440000D+00, 1
0, '{HSLF} LWR.END SPRNG POS ,FRONT ', +0.360000D+00, 1
0, '{TSF} SPRING TRACK ,FRONT ', +0.486000D+00, 1
0, '{HBUF} UPR.BUMP STOP POS ,FRONT ', +0.420000D+00, 1
0, '{HBLF} LWR.BUMP STOP POS ,FRONT ', +0.220000D+00, 1
0, '{HBUF1} UPR CONT SRFS POS ,FRONT ', +0.360000D+00, 1
0, '{HBLF2} LWR CONT SRFS POS ,FRONT ', +0.300000D+00, 1
0, '{TBUF} UPR BUMP STP TRACK ,FRONT ', +0.486000D+00, 1
0, '{TBLF} LWR BUMP STP TRACK ,FRONT ', +0.486000D+00, 1
0, '{LBUF} UPR.BUMP STP LENGTH ,FRONT ', +0.030000D+00, 1
0, '{LBLF} LWR.BUMP STP LENGTH ,FRONT ', +0.030000D+00, 1
9, '===== REAR SUSP. =====', +1.111111D+11, 0
0, '{TRDR} REAR SUSPENSION TRACK WIDTH ', +1.308100D+00, 0
0, '{WCHDR} REAR WHEEL CENTER HEIGHT ', +0.330200D+00, 1
0, '{HRC2} STATIC HT. OF RC ABOVE GRND.', +0.152000D+00, 0
0, '{YCUD2} MASS CENTER POSITON,REAR ', +0.000000D+00, 0
0, '{ZCUD2} MASS CENTER POSITON,REAR ', -0.330200D+00, 0
0, '{HSUR} UPR.END SPRNG POS ,REAR ', +0.440000D+00, 1
0, '{HSLR} LWR END SPRNG POS ,REAR ', +0.360000D+00, 1
0, '{TSR} SPRING TRACK ,REAR ', +0.446000D+00, 1
0, '{HBUR} UPR.BUMP STOP POS ,REAR ', +0.440000D+00, 1
0, '{HBLR} LWR.BUMP STOP POS ,REAR ', +0.230000D+00, 1

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0, '{HBUR1} UPR CONT SRFS POS ,REAR ', +0.360000D+00, 1
0, '{HBLR2} LWR CONT SRFS POS ,REAR ', +0.300000D+00, 1
0, '{TBUR} UPR BUMP STP TRACK ,REAR ', +0.446000D+00, 1
0, '{TBLR} LWR BUMP STP TRACK ,REAR ', +0.446000D+00, 1
0, '{LBUR} UPR.BUMP STP LENGTH ,REAR ', +0.030000D+00, 1
0, '{LBLR} LWR.BUMP STP LENGTH ,REAR ', +0.030000D+00, 1
9, '=====', +1.111111D+11, 0
9, '=====  
IMPACT TIRE DATA  
=====', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
0, '{RR} CENTER RADIUS OF TIRE ', +0.334000D+00, 3
0, '{RS} SIDE RADIUS OF TIRE ', +0.050000D+00, 3
0, '{WR1} RADIUS OF TIRE ', +0.290000D+00, 3
0, '{WR2} RADIUS OF TIRE ', +0.260000D+00, 3
0, '{WR3} RADIUS OF TIRE ', +0.225000D+00, 3
0, '{WR4} RADIUS OF TIRE ', +0.190000D+00, 3
0, '{W1} TIRE WIDTH ', +0.100000D+00, 3
0, '{W2} TIRE WIDTH ', +0.105000D+00, 3
0, '{W3} TIRE WIDTH ', +0.090000D+00, 3
0, '{W4} TIRE WIDTH ', +0.063500D+00, 3
9, '=====', +1.111111D+11, 0
9, '=====  
MASS/INERTIA PARAMETERS  
=====', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
9, '=====  
SPRUNG MASS  
=====', +1.111111D+11, 0
0, '{MS} SPRUNG MASS ', +778.1000D+00, 0
0, '{IXXS} SPRUNG ROLL INERTIA ', +240.2600D+00, 0
0, '{IYYS} SPRUNG PITCH INERTIA ', +831.0200D+00, 0
0, '{IZZS} SPRUNG YAW INERTIA ', +1120.800D+00, 0
0, '{IXYS} SPRUNG PDT OF INERTIA ', +0.000000D+00, 0
0, '{IYZS} SPRUNG PDT OF INTERIA ', +0.000000D+00, 0
0, '{IZXS} SPRUNG PDT OF INERTIA ', +0.000000D+00, 0
0, '{ML1} ADD. SPRUNG MASS #1 ', +0.000000D+00, 0
0, '{ML2} ADD. SPRUNG MASS #2 ', +0.000000D+00, 0
0, '{ML3} ADD. SPRUNG MASS #3 ', +0.000000D+00, 0
0, '{ML4} ADD. SPRUNG MASS #4 ', +0.000000D+00, 0
0, '{ML5} ADD. SPRUNG MASS #5 ', +0.000000D+00, 0
0, '{ML6} ADD. SPRUNG MASS #6 ', +0.000000D+00, 0
0, '{ML7} ADD. SPRUNG MASS #7 ', +0.000000D+00, 0
0, '{ML8} ADD. SPRUNG MASS #8 ', +0.000000D+00, 0
0, '{XML1} POS OF ADD. SPRUNG MASS #1 ', +0.000000D+00, 0
0, '{XML2} POS OF ADD. SPRUNG MASS #2 ', +0.000000D+00, 0
0, '{XML3} POS OF ADD. SPRUNG MASS #3 ', +0.000000D+00, 0
0, '{XML4} POS OF ADD. SPRUNG MASS #4 ', +0.000000D+00, 0
0, '{XML5} POS OF ADD. SPRUNG MASS #5 ', +0.000000D+00, 0
0, '{XML6} POS OF ADD. SPRUNG MASS #6 ', +0.000000D+00, 0
0, '{XML7} POS OF ADD. SPRUNG MASS #7 ', +0.000000D+00, 0
0, '{XML8} POS OF ADD. SPRUNG MASS #8 ', +0.000000D+00, 0
0, '{YML1} POS OF ADD. SPRUNG MASS #1 ', +0.000000D+00, 0
0, '{YML2} POS OF ADD. SPRUNG MASS #2 ', +0.000000D+00, 0
0, '{YML3} POS OF ADD. SPRUNG MASS #3 ', +0.000000D+00, 0
0, '{YML4} POS OF ADD. SPRUNG MASS #4 ', +0.000000D+00, 0
0, '{YML5} POS OF ADD. SPRUNG MASS #5 ', +0.000000D+00, 0
0, '{YML6} POS OF ADD. SPRUNG MASS #6 ', +0.000000D+00, 0
0, '{YML7} POS OF ADD. SPRUNG MASS #7 ', +0.000000D+00, 0
0, '{YML8} POS OF ADD. SPRUNG MASS #8 ', +0.000000D+00, 0
0, '{ZML1} POS OF ADD. SPRUNG MASS #1 ', +0.000000D+00, 0
0, '{ZML2} POS OF ADD. SPRUNG MASS #2 ', +0.000000D+00, 0
0, '{ZML3} POS OF ADD. SPRUNG MASS #3 ', +0.000000D+00, 0
0, '{ZML4} POS OF ADD. SPRUNG MASS #4 ', +0.000000D+00, 0

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0, '{ZML5} POS OF ADD. SPRUNG MASS #5 ', +0.000000D+00, 0
0, '{ZML6} POS OF ADD. SPRUNG MASS #6 ', +0.000000D+00, 0
0, '{ZML7} POS OF ADD. SPRUNG MASS #7 ', +0.000000D+00, 0
0, '{ZML8} POS OF ADD. SPRUNG MASS #8 ', +0.000000D+00, 0
9, '==== UNSPRUNG MASS =====', +1.111111D+11, 0
9, '=== INDEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
0, '{MUIF} UNSPRUNG MASS, FRONT ', +0.000000D+00, 1
0, '{MUIR} UNSPRUNG MASS, REAR ', +0.000000D+00, 1
9, '==== DEPENDENT SUSPENSION TYPE ====', +1.111111D+11, 0
0, '{MUDF} UNSPRUNG MASS, FRONT ', +58.98000D+00, 0
0, '{MUDR} UNSPRUNG MASS, REAR ', +58.98000D+00, 0
0, '{IXXUF} UNSPNG ROLL INERTIA ,FRONT ', +10.20000D+00, 0
0, '{IXXUR} UNSPNG ROLL INERTIA ,REAR ', +10.20000D+00, 0
0, '{IYYUF} UNSPNG PITCH INERTIA,FRONT ', +3.000000D+00, 0
0, '{IYYUR} UNSPNG PITCH INERTIA,REAR ', +3.000000D+00, 0
0, '{IZZUF} UNSPNG YAW INERTIA ,FRONT ', +8.300000D+00, 0
0, '{IZZUR} UNSPNG YAW INERTIA ,REAR ', +8.300000D+00, 0
9, '==== TIRE =====', +1.111111D+11, 0
0, '{MW} TIRE MASS ', +29.49000D+00, 3
0, '{IXXW} MOMENT OF INERTIA ', +1.120000D+00, 3
9, '==== =====', +1.111111D+11, 0
9, '==== SUSPENSIONS SPRINGS DATA ====', +1.111111D+11, 0
9, '=== INDEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
9, '==== =====', +1.111111D+11, 0
0, '{ASIF0} POLY APRX COEF 1,FRONT ', +0.000000D+00, 1
0, '{ASIF1} POLY APRX COEF 2,FRONT ', +0.000000D+00, 1
0, '{ASIF2} POLY APRX COEF 3,FRONT ', +0.000000D+00, 1
0, '{ASIR0} POLY APRX COEF 1,REAR ', +0.000000D+00, 1
0, '{ASIR1} POLY APRX COEF 2,REAR ', +0.000000D+00, 1
0, '{ASIR2} POLY APRX COEF 3,REAR ', +0.000000D+00, 1
0, '{KIARF} ANTI-ROLL BAR SPRNG, FRONT ', +0.000000D+00, 0
0, '{KIARR} ANTI-ROLL BAR SPRNG, REAR ', +0.000000D+00, 0
0, '{DETPHIF} A.R.LFT/RGHT ANGL DF.,FNT', +0.000000D+00, 0
0, '{DETPHIR} A.R.LFT/RGHT ANGL DF.,RER', +0.000000D+00, 0
9, '=== DEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
0, '{ASDF0} POLY APRX COEF 1,FRONT ', +47630.00D+00, 1
0, '{ASDF1} POLY APRX COEF 2,FRONT ', +0.000000D+00, 1
0, '{ASDF2} POLY APRX COEF 3,FRONT ', +0.000000D+00, 1
0, '{ASDR0} POLY APRX COEF 1,REAR ', +37220.00D+00, 1
0, '{ASDR1} POLY APRX COEF 2,REAR ', +0.000000D+00, 1
0, '{ASDR2} POLY APRX COEF 3,REAR ', +0.000000D+00, 1
0, '{KDARF} ANTI-ROLL BAR SPRNG, FRONT ', +3443.730d+00, 0
0, '{KDARR} ANTI-ROLL BAR SPRNG, REAR ', +5277.330d+00, 0
9, '==== =====', +1.111111D+11, 0
9, '==== SUSPENSIONS DAMPERS DATA ====', +1.111111D+11, 0
9, '=== INDEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
9, '==== =====', +1.111111D+11, 0
0, '{CUIUF} DAMPING CONST.,FRONT COMPR ', +0.000000D+00, 1
0, '{CUIUR} DAMPING CONST.,REAR COMPR ', +0.000000D+00, 1
0, '{CUILF} DAMPING CONST.,FRONT EXTEN ', +0.000000D+00, 1
0, '{CUILR} DAMPING CONST.,REAR EXTEN ', +0.000000D+00, 1
0, '{CIARF} A-R BAR DMPNG COEF., FRONT ', +0.000000D+00, 0
0, '{CIARR} A-R BAR DMPNG COEF., REAR ', +0.000000D+00, 0
9, '=== DEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
0, '{CUDUF} DAMPING CONST.,FRONT COMPR ', +1066.300D+00, 1
0, '{CUDUR} DAMPING CONST.,REAR COMPR ', +1066.300D+00, 1
0, '{CUDLF} DAMPING CONST.,FRONT EXTEN ', +2627.700D+00, 1
0, '{CUDLR} DAMPING CONST.,REAR EXTEN ', +2627.700D+00, 1

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0, '{CDARF} A-R BAR DMPNG COEF., FRONT ', +0.000000D+00, 0
0, '{CDARR} A-R BAR DMPNG COEF., REAR ', +0.000000D+00, 0
9, '=====', +1.111111D+11, 0
9, '= BUMP STOP STIF. AND DAMP. DATA =', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
0, '{KBUF} UPR B.S. SPRNG C,FRONT ', +323000.0D+00, 1
0, '{KBUR} UPR B.S. SPRNG C,REAR ', +140000.0D+00, 1
0, '{KBLF} LWR B.S. SPRNG C,FRONT ', +137000.0D+00, 1
0, '{KBLR} LWR B.S. SPRNG C,REAR ', +39000.00D+00, 1
9, '=====', +1.111111D+11, 0
0, '{CBUF} UPR B.S. DMPNG C,FRONT ', +6000.000D+00, 1
0, '{CBUR} UPR B.S. DMPNG C,REAR ', +6000.000D+00, 1
0, '{CBLF} LWR B.S. DMPNG C,FRONT ', +6000.000D+00, 1
0, '{CBLR} LWR B.S. DMPNG C,REAR ', +6000.000D+00, 1
9, '=====', +1.111111D+11, 0
9, '===== FRICTIONAL TIRE DATA =====', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
9, '=== CALSPAN TIRE COEFFICIENTS ===', +1.111111D+11, 0
0, '{A0} CORNERING STIFFNESS COEFF. ', +0.000000D+00, 3 -668.4600D+00, 3
0, '{A1} CORNERING STIFFNESS COEFF. ', +25.27700D+00, 3 +26.54000D+00, 3
0, '{A2} CORNERING STIFFNESS COEFF. ', +2146.610D+00, 3
0, '{A3} CAMBER STIFFNESS COEFF. ', +1.274000D+00, 3
0, '{A4} CAMBER STIFFNESS COEFF. ', +2225.070D+00, 3
0, '{P0} PEAK BRAKING FRICTION COEFF. ', +1.207300D+00, 3
0, '{P1} PEAK BRAKING FRICTION COEFF. ', -5.843000D-04, 3
0, '{P2} PEAK BRAKING FRICTION COEFF. ', +3.977000D-07, 3
0, '{B1} PEAK LATERAL FRICTION COEFF. ', -6.745000D-04, 3
0, '{B2} PEAK LATERAL FRICTION COEFF. ', +0.000000D+00, 3
0, '{B3} PEAK LATERAL FRICTION COEFF. ', +1.307000D+00, 3
0, '{B4} PEAK LATERAL FRICTION COEFF. ', +2.953000D-07, 3
0, '{R0} LONG. SLIP @ PEAK BRAKING ', -0.237710D+00, 3
0, '{R1} LONG. SLIP @ PEAK BRAKING ', +8.536000D-05, 3
0, '{S0} SLIDE COEFFICIENT OF FRICTION ', +1.173800D+00, 3
0, '{S1} SLIDE COEFFICIENT OF FRICTION ', -8.458000D-04, 3
0, '{S2} SLIDE COEFFICIENT OF FRICTION ', +3.945000D-07, 3
0, '{K1} ALIGNING MOMENT COEFFICIENT ', -2.061000D-04, 3
0, '{K2} ALIGNING MOMENT COEFFICIENT ', -1.768000D-04, 3
0, '{K3} ALIGNING MOMENT COEFFICIENT ', +0.074000D+00, 3
0, '{CTN} SLOPE OF MUX VS. S @ S=0 ', +6.000000D+00, 3
0, '{CA1} CRITICAL CAMBER ANGLE ', +0.523560D+00, 3
0, '{CR1} FRICTION REDUCTION @ CA1 ', +0.300000D+00, 3
0, '{OMEGT} TIRE OVERLOAD COEFF. ', +0.900000D+00, 3 +1.000000D+00, 3
0, '{OMEGT2} TIRE OVERLOAD COEFF. ', +0.500000D+00, 3
0, '{SN} TIRE SKID NUMBER ', +1.000000D+00, 3
9, '=====', +1.111111D+11, 0
9, '===== IMPACT TIRE DATA =====', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
0, '{SKR} STIFFNESS OF RADIAL SPRINGS', +4723.000D+00, 3
0, '{SKS} STIFFNESS OF SIDE SPRINGS', +2062.000D+00, 3
0, '{SKRIM} STIFFNESS OF RIM SPRINGS', +100000.0D+00, 3
9, '=====', +1.111111D+11, 0
9, '===== Terrain Data =====', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
0, '{NTPT} NUMBER OF TERRAIN COORDS ', +4.000000D+00, 0
0, '{NTPL} NUMBER OF TERRAIN PLANES ', +3.000000D+00, 0
0, '{Yterr(1)} Y-COORD OF TERR. PT. 1 ', -500.0000D+00, 0
0, '{Zterr(1)} Z-COORD OF TERR. PT. 1 ', +0.000000D+00, 0
), '{Yterr(2)} Y-COORD OF TERR. PT. 2 ', +11.80400D+00, 0 +2.234000D+00, 0

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0, '{Zterr(2)} Z-COORD OF TERR. PT. 2 ', +0.000000D+00, 0
0, '{Yterr(3)} Y-COORD OF TERR. PT. 3 ', +11.80600d+00, 0 +2.236000D+00, 0
0, '{Zterr(3)} Z-COORD OF TERR. PT. 3 ', -0.152400D+00, 0
0, '{Yterr(4)} Y-COORD OF TERR. PT. 4 ', +500.0000D+00, 0
0, '{Zterr(4)} Z-COORD OF TERR. PT. 4 ', -0.152400D+00, 0
0, '{Yterr(5)} Y-COORD OF TERR. PT. 5 ', +0.000000D+00, 0
0, '{Zterr(5)} Z-COORD OF TERR. PT. 5 ', +0.000000D+00, 0
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0, '{Zterr(6)} Z-COORD OF TERR. PT. 6 ', +0.000000D+00, 0
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0, '{Zterr(7)} Z-COORD OF TERR. PT. 7 ', +0.000000D+00, 0
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0, '{Zterr(20)} Z-COORD OF TERR. PT. 20', +0.000000D+00, 0
0, '{SNterr(1)} SKID # OF TERR. PL. 1 ', +85.00000D+00, 0
0, '{SNterr(2)} SKID # OF TERR. PL. 2 ', +85.00000D+00, 0
0, '{SNterr(3)} SKID # OF TERR. PL. 3 ', +85.00000D+00, 0
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0, '{SNterr(19)} SKID # OF TERR. PL. 19', +0.000000D+00, 0
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0, '{Jteratb(2)} TERR. ATRB. OF PL. 2 ', +0.000000D+00, 0

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0, '{Jteratb(3)} TERR. ATRB. OF PL. 3 ', +0.000000D+00, 0
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0, '{Jteratb(6)} TERR. ATRB. OF PL. 6 ', +0.000000D+00, 0
0, '{Jteratb(7)} TERR. ATRB. OF PL. 7 ', +0.000000D+00, 0
0, '{Jteratb(8)} TERR. ATRB. OF PL. 8 ', +0.000000D+00, 0
0, '{Jteratb(9)} TERR. ATRB. OF PL. 9 ', +0.000000D+00, 0
0, '{Jteratb(10)} TERR. ATRB. OF PL. 10', +0.000000D+00, 0
0, '{Jteratb(11)} TERR. ATRB. OF PL. 11', +0.000000D+00, 0
0, '{Jteratb(12)} TERR. ATRB. OF PL. 12', +0.000000D+00, 0
0, '{Jteratb(13)} TERR. ATRB. OF PL. 13', +0.000000D+00, 0
0, '{Jteratb(14)} TERR. ATRB. OF PL. 14', +0.000000D+00, 0
0, '{Jteratb(15)} TERR. ATRB. OF PL. 15', +0.000000D+00, 0
0, '{Jteratb(16)} TERR. ATRB. OF PL. 16', +0.000000D+00, 0
0, '{Jteratb(17)} TERR. ATRB. OF PL. 17', +0.000000D+00, 0
0, '{Jteratb(18)} TERR. ATRB. OF PL. 18', +0.000000D+00, 0
0, '{Jteratb(19)} TERR. ATRB. OF PL. 19', +0.000000D+00, 0
9, '==== SOIL PARAMETERS =====', +1.111111D+11, 0
0, '{Soiln} Soil Parameter ', +0.950000D+00, 0
0, '{Soilkphi} Soil Parameter ', +1.446000D+07, 0
0, '{Soilkc} Soil Parameter ', +8.610000D+04, 0
9, '==== Aerodynamic Data =====', +1.111111D+11, 0
0, '{RO} Air Density ', +0.000000D+00, 0
0, '{SAero} Aerod. Reference Area ', +2.000000D+00, 0
0, '{HAero} Aerod. Reference Length ', +1.500000D+00, 0
0, '{DCyDBeta_A} Side Force Coeff. ', +1.000000D+00, 0
0, '{DCnDBeta_A} Yaw Moment Coeff. ', +2.500000D+00, 0
0, '{DNDR} Yaw Damping Moment Deriv. ', +0.000000D+00, 0
0, '{CD0} Drag Force Coeff. ', +0.000000D+00, 0
0, '{DCDDBeta_A} Drag Forc. Coef. Der. ', +0.000000D+00, 0
0, '{Alph0} Zero-Lift Angle ', +0.000000D+00, 0
0, '{DCLDAlpha_A} Lift Forc. Coef. Der. ', +0.000000D+00, 0
0, '{CMy0} Zero-Lift Pitch Mom. Coef. ', +0.000000D+00, 0
0, '{DCMyDAlpha_A} Pitch Mom. Coef. Der. ', +0.000000D+00, 0
0, '{AeroPar} Reserved For Future Use ', +0.000000D+00, 17
9, '==== Wheel Steering Input =====', +0.000000D+00, 0
0, '{NWSTF} Steering function indic. ', +0.000000D+00, 0
0, '{NPTW} Number of point st. data ', +3.000000D+00, 0
0, '{TMW1} Time point ', +1.000000D+00, 0
0, '{TMW2} Time point ', +0.000000D+00, 0
0, '{TMW3} Time point ', +1000.000D+00, 0
0, '{TMW4} Time point ', +0.000000D+00, 0
0, '{TMW5} Time point ', +0.000000D+00, 0
0, '{TMW6} Time point ', +0.000000D+00, 0
0, '{TMW7} Time point ', +0.000000D+00, 0
0, '{TMW8} Time point ', +0.000000D+00, 0
0, '{TMW9} Time point ', +0.000000D+00, 0
0, '{TMW10} Time point ', +0.000000D+00, 0
0, '{TMW11} Time point ', +0.000000D+00, 0
0, '{TMW12} Time point ', +0.000000D+00, 0
0, '{TMW13} Time point ', +0.000000D+00, 0
0, '{TMW14} Time point ', +0.000000D+00, 0
0, '{TMW15} Time point ', +0.000000D+00, 0
0, '{TMW16} Time point ', +0.000000D+00, 0
0, '{TMW17} Time point ', +0.000000D+00, 0
0, '{TMW18} Time point ', +0.000000D+00, 0
0, '{TMW19} Time point ', +0.000000D+00, 0
0, '{TMW20} Time point ', +0.000000D+00, 0

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0, '{DSWM1} Wheel steer. angle ', +5.000000D+00, 0
0, '{DSWM2} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM3} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM4} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM5} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM6} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM7} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM8} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM9} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM10} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM11} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM12} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM13} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM14} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM15} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM16} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM17} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM18} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM19} Wheel steer. angle ', +0.000000D+00, 0
0, '{DSWM20} Wheel steer. angle ', +0.000000D+00, 0
9, '===== Braking/Tracting Input =====', +0.000000D+00, 0
0, '{NBTF} Steering function indic. ', +0.000000D+00, 0
0, '{NPTBT} Number of point st. data ', +0.000000D+00, 0
0, '{TMT1} Time point ', +0.000000D+00, 0
0, '{TMT2} Time point ', +0.000000D+00, 0
0, '{TMT3} Time point ', +0.000000D+00, 0
0, '{TMT4} Time point ', +0.000000D+00, 0
0, '{TMT5} Time point ', +0.000000D+00, 0
0, '{TMT6} Time point ', +0.000000D+00, 0
0, '{TMT7} Time point ', +0.000000D+00, 0
0, '{TMT8} Time point ', +0.000000D+00, 0
0, '{TMT9} Time point ', +0.000000D+00, 0
0, '{TMT10} Time point ', +0.000000D+00, 0
0, '{TMT11} Time point ', +0.000000D+00, 0
0, '{TMT12} Time point ', +0.000000D+00, 0
0, '{TMT13} Time point ', +0.000000D+00, 0
0, '{TMT14} Time point ', +0.000000D+00, 0
0, '{TMT15} Time point ', +0.000000D+00, 0
0, '{TMT16} Time point ', +0.000000D+00, 0
0, '{TMT17} Time point ', +0.000000D+00, 0
0, '{TMT18} Time point ', +0.000000D+00, 0
0, '{TMT19} Time point ', +0.000000D+00, 0
0, '{TMT20} Time point ', +0.000000D+00, 0
0, '{AXPRIME1} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME2} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME3} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME4} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME5} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME6} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME7} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME8} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME9} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME10} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME11} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME12} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME13} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME14} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME15} Desired accel./decel ', +0.000000D+00, 0

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0, '{AXPRIME16} Desired accel./decel      ', +0.000000D+00, 0
0, '{AXPRIME17} Desired accel./decel      ', +0.000000D+00, 0
0, '{AXPRIME18} Desired accel./decel      ', +0.000000D+00, 0
0, '{AXPRIME19} Desired accel./decel      ', +0.000000D+00, 0
0, '{AXPRIME20} Desired accel./decel      ', +0.000000D+00, 0
0, '{Q0}                                     ', +0.000000D+00, 0
0, '{Q1}                                     ', +0.000000D+00, 0
0, '{ITYPPWR}   Braking/Tracting ind.     ', +0.000000D+00, 0
9, '=====  

0, '{FYMAX}   Max. side force [N]         ', +17800.00D+00, 3
0, '{XPL2}    Max. plactic def. [m]       ', +0.152400D+00, 3
0, '{DXPL}    Step of plastic def. [m]    ', +0.001000D+00, 3
0, '{STIFF2}  Second crsh stiff [N/m]     ', +1.400000D+06, 3
0, '{CRSHDUM} <Reserved for fut.use>     ', +0.000000D+00, 15
9, '=====  

0, '{DUMMY}  RESERVED FOR FUTURE USE     ', +0.000000D+00, 41
0, 'ENDPP  

0, 'ENDSP  

9, '=====  

0, '1  XS   - LONGITUDINAL POSITION        ', +0.000000D+00, 0
0, '2  YS   - LATERAL POSITION              ', +0.000000D+00, 0
0, '3  ZS   - VERTICAL POSITION             ', +0.000000D+00, 0
0, '4  PSI  - YAW ANGLE                    ', +0.000000D+00, 0
0, '5  THETA- PITCH ANGLE                  ', +0.000000D+00, 0
0, '6  PHI  - ROLL ANGLE                   ', +0.000000D+00, 0
0, '7  Q7   -                               ', +0.000000D+00, 0
0, '8  Q8   -                               ', +0.000000D+00, 0
0, '9  Q9   -                               ', +0.000000D+00, 0
0, '10 Q10  -                               ', +0.000000D+00, 0
0, '11 THW1 - WHEEL ROT. ANGLE             ', +0.000000D+00, 0
0, '12 THW2 - WHEEL ROT. ANGLE             ', +0.000000D+00, 0
0, '13 THW3 - WHEEL ROT. ANGLE             ', +0.000000D+00, 0
0, '14 THW4 - WHEEL ROT. ANGLE             ', +0.000000D+00, 0
0, '15 UU   - FORWARD VELOCITY            ', +0.000000D+00, 0
0, '16 VV   - LATERAL VELOCITY             ', +0.000000D+00, 0
0, '17 WW   - VERTICAL VELOCITY            ', +0.000000D+00, 0
0, '18 P    - ROLLING Q-VELOCITY           ', +0.000000D+00, 0
0, '19 Q    - PITCHING Q-VELOCITY         ', +0.000000D+00, 0
0, '20 R    - YAWING Q-VELOCITY           ', +0.000000D+00, 0
0, '21 Q7D  -                               ', +0.000000D+00, 0
0, '22 Q8D  -                               ', +0.000000D+00, 0
0, '23 Q9D  -                               ', +0.000000D+00, 0
0, '24 Q10D -                               ', +0.000000D+00, 0
0, '25 OMW1 - WHEEL ROT. VELOCITY         ', +0.000000D+00, 0
0, '26 OMW2 - WHEEL ROT. VELOCITY         ', +0.000000D+00, 0
0, '27 OMW3 - WHEEL ROT. VELOCITY         ', +0.000000D+00, 0
0, '28 OMW4 - WHEEL ROT. VELOCITY         ', +0.000000D+00, 0
0, 'ENDOV  

9, '=====  

0, '{COMMON} /VDAT/ DAT(736) =====', +0.000000D+00, 0

```

EXAMPLE 12 - TEST14

ADVS.INP

CHEVY ,SIDE SKIDDING INTO SOIL, V_LAT=13.0 M/S
VDAT.DAT File Name :VDAT.DAT
SUSP. CONFIG. INDEX: 4
SIMUL. START TIME : 0.0
SIMUL. RUN TIME : 1.5
STEP OF INTEGRATION: 5.0D-04
STEP FOR PRINTING : 2.0D-02
INTEGR. ERR. CRIT. : 5.0D-05
XS-D [M/S] : 0.0
YS-D [M/S] : 13.0
PSI [DEG.] : 0.0
PHI_MAX [DEG.] : 100.0
(-RESERVED-) : 0.0

BODYNOD.DAT

17
4
0.050000000000000001
0.400000000000000000
556000.0000000000
1400000.0000000000
0.000000000000000000E+00
0.000000000000000000E+00
27800.000000000000
5.000000000000000000E-02
87900.000000000000
0.203000000000000000
198000.0000000000
0.400000000000000000
4
5.000000000000000000E-02
0.400000000000000000
356000.0000000000
1400000.0000000000
0.000000000000000000E+00
0.000000000000000000E+00
17800.000000000000
5.000000000000000000E-02
47900.000000000000
0.203000000000000000
98000.0000000000
0.400000000000000000
4
5.000000000000000000E-02
0.400000000000000000
356000.0000000000
1400000.0000000000

0.0000000000000000E+00
0.0000000000000000E+00
17800.0000000000
5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
0.4000000000000000

4

0.05000000000000002
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.0000000000
5.0000000000000000E-02
87900.0000000000
0.2030000000000000
198000.0000000000
0.4000000000000000

4

5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.0000000000.
5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
0.4000000000000000

4

5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.0000000000
5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
0.4000000000000000

4

5.00000000000000003E-02
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556000.0000000000
1400000.0000000000
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27800.0000000000
5.0000000000000000E-02
87900.0000000000
0.2030000000000000

198000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
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0.0000000000000000E+00
17800.000000000000
5.0000000000000000E-02
47900.000000000000
0.2030000000000000
98000.0000000000
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4
5.0000000000000000E-02
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47900.000000000000
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98000.0000000000
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87900.000000000000
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198000.0000000000
0.4000000000000000
4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
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0.0000000000000000E+00
17800.000000000000
5.0000000000000000E-02
47900.000000000000
0.2030000000000000
98000.0000000000
0.4000000000000000
4
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0.4000000000000000
356000.0000000000

140000.00000000
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5.0000000000000000E-02
47900.0000000000
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98000.0000000000
0.4000000000000000

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198000.0000000000
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87900.0000000000
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198000.0000000000
0.4000000000000000

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47900.0000000000
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98000.0000000000
0.4000000000000000

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5.0000000000000000E-02
35160.0000000000

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79200.0000000000
0.7000000000000000
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5.0000000000000000E-02
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356000.0000000000
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0.0000000000000000E+00
17800.0000000000
5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
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5.0000000000000000E-02
0.4000000000000000
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87900.0000000000
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198000.0000000000
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11120.0000000000
5.0000000000000000E-02
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79200.0000000000
0.7000000000000000
4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.0000000000
5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
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4
5.0000000000000000E-02
0.4000000000000000

556000.0000000000
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5.0000000000000000E-02
87900.000000000000
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198000.0000000000
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27800.000000000000
5.0000000000000000E-02
87900.000000000000
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198000.0000000000
0.4000000000000000
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5.0000000000000000E-02
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356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.000000000000
5.0000000000000000E-02
47900.000000000000
0.2030000000000000
98000.000000000000
0.4000000000000000
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1200.000000000000
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87900.000000000000
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 1200.0000000000
 0.7000000000000000
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 79200.000000000000
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 0.0000000000000000E+00
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 17800.000000000000
 5.0000000000000000E-02
 47900.000000000000
 0.2030000000000000
 98000.0000000000
 0.4000000000000000
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5.0000000000000000E-02
87900.0000000000
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198000.0000000000
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79200.0000000000
0.7000000000000000

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500.000000000000

5.0000000000000000E-02
860.0000000000
0.4030000000000000
1200.0000000000
0.7000000000000000

4

5.0000000000000000E-02
0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.000000000000
5.0000000000000000E-02
860.0000000000
0.4030000000000000
1200.0000000000
0.7000000000000000

4

5.0000000000000000E-02
0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.000000000000
5.0000000000000000E-02
860.0000000000
0.4030000000000000
1200.0000000000
0.7000000000000000

4

0.050000000000000013
0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.000000000000
5.0000000000000000E-02
860.0000000000
0.4030000000000000
1200.0000000000
0.7000000000000000

4

5.0000000000000000E-02
0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.000000000000
5.0000000000000000E-02
860.0000000000
0.4030000000000000
1200.0000000000
0.7000000000000000

4

5.0000000000000000E-02
0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.000000000000
5.0000000000000000E-02
860.000000000000
0.4030000000000000
1200.000000000000
0.7000000000000000
4
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0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.000000000000
5.0000000000000000E-02
860.000000000000
0.4030000000000000
1200.000000000000
0.7000000000000000
4
5.0000000000000000E-02
0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.000000000000
5.0000000000000000E-02
860.000000000000
0.4030000000000000
1200.000000000000
0.7000000000000000
4
5.0000000000000000E-02
0.7000000000000000
10000.0000000000
140000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
500.000000000000
5.0000000000000000E-02
860.000000000000
0.4030000000000000
1200.000000000000
0.7000000000000000
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0.050000000000000015
0.7000000000000000
10000.0000000000
140000.0000000000
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0.0000000000000000E+00

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 5.0000000000000000E-02
 860.0000000000
 0.4030000000000000
 1200.0000000000
 0.7000000000000000
 4
 5.0000000000000000E-02
 0.7000000000000000
 10000.0000000000
 140000.0000000000
 0.0000000000000000E+00
 0.0000000000000000E+00
 500.0000000000
 5.0000000000000000E-02
 860.0000000000
 0.4030000000000000
 1200.0000000000
 0.7000000000000000
 4
 5.0000000000000000E-02
 0.7000000000000000
 10000.0000000000
 140000.0000000000
 0.0000000000000000E+00
 0.0000000000000000E+00
 500.0000000000
 5.0000000000000000E-02
 860.0000000000
 0.4030000000000000
 1200.0000000000
 0.7000000000000000
 4
 0.05000000000000016
 0.4000000000000000
 556000.0000000000
 1400000.0000000000
 0.0000000000000000E+00
 0.0000000000000000E+00
 27800.0000000000
 5.0000000000000000E-02
 87900.0000000000
 0.2030000000000000
 198000.0000000000
 0.4000000000000000
 4
 5.0000000000000000E-02
 0.4000000000000000
 356000.0000000000
 1400000.0000000000
 0.0000000000000000E+00
 0.0000000000000000E+00
 17800.0000000000
 5.0000000000000000E-02
 47900.0000000000
 0.2030000000000000
 98000.0000000000
 0.4000000000000000

4
5.0000000000000000E-02
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.0000000000
5.0000000000000000E-02
87900.0000000000
0.2030000000000000
198000.0000000000
0.4000000000000000

4
5.00000000000000017E-02
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.0000000000
5.0000000000000000E-02
87900.0000000000
0.2030000000000000
198000.0000000000
0.4000000000000000

4
5.0000000000000000E-02
0.4000000000000000
356000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
17800.0000000000
5.0000000000000000E-02
47900.0000000000
0.2030000000000000
98000.0000000000
0.4000000000000000

4
5.0000000000000000E-02
0.4000000000000000
556000.0000000000
1400000.0000000000
0.0000000000000000E+00
0.0000000000000000E+00
27800.0000000000
5.0000000000000000E-02
87900.0000000000
0.2030000000000000
198000.0000000000
0.4000000000000000
75000.0000000000
75000.0000000000
75000.0000000000
75000.0000000000
75000.0000000000
75000.0000000000


```

-1.0000000000000000      1.0000000000000000      1.0000000000000000
0.0000000000000000E+00  0.8000000000000000      0.0000000000000000E+00
0.0000000000000000E+00 -1.0000000000000000      0.0000000000000000E+00
0.0000000000000000E+00 -0.8000000000000000      0.0000000000000000E+00
0.0000000000000000E+00  1.0000000000000000      0.0000000000000000E+00
-1.6000000000000000      0.7000000000000000      -0.3000000000000000
 1.0000000000000000      -1.0000000000000000      1.0000000000000000
-1.6000000000000000      -0.7000000000000000      -0.3000000000000000
 1.0000000000000000      1.0000000000000000      1.0000000000000000
 1.7000000000000000      0.7000000000000000      0.2000000000000000
-1.0000000000000000      -1.0000000000000000      -1.0000000000000000
 1.7000000000000000      -0.7000000000000000      0.2000000000000000
-1.0000000000000000      1.0000000000000000      -1.0000000000000000
-1.6000000000000000      0.7000000000000000      0.2000000000000000
 1.0000000000000000      -1.0000000000000000      -1.0000000000000000
-1.6000000000000000      -0.7000000000000000      0.2000000000000000
 1.0000000000000000      1.0000000000000000      -1.0000000000000000
 0.8000000000000000      0.7000000000000000      -0.3000000000000000
 0.0000000000000000      -1.0000000000000000      1.0000000000000000
 0.8000000000000000      -0.7000000000000000      -0.3000000000000000
 0.0000000000000000      1.0000000000000000      1.0000000000000000
0.08

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SEARCH.DAT

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detf1,detf2:
500.0
50.0

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VDAT.DAT

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9,'=====',+1.111111D+11, 0
9,'= INPUT DATA FOR THE TEST VEHICLE =',+1.111111D+11, 0
9,'=====',+1.111111D+11, 0
9,'===== 76 Chevy Nova =====',+1.111111D+11, 0
9,'=====',+1.111111D+11, 0
9,'= CREATION DATE:      Dec 18 1989 =',+1.111111D+11, 0
9,'= LAST UPDATE   :      Dec 18 1989 =',+1.111111D+11, 0
9,'=              BY   :      Lu      =',+1.111111D+11, 0
9,'=====',+1.111111D+11, 0
9,'===== ANALYZED PARAMETERS =====',+1.111111D+11, 0
9,'=====',+1.111111D+11, 0
9,'===== PRIMARY GEOMETRICAL =====',+1.111111D+11, 0
9,'===== BASIC DATA =====',+1.111111D+11, 0
0,'{A}  DISTANCE - CG TO FRONT AXLE ',+1.335000D+00, 0 +1.034000D+00, 0
0,'{B}  DISTANCE - CG TO REAR AXLE ',+1.440000D+00, 0 +0.998000D+00, 0
0,'{HS} STATIC HEIGHT OF SPRUNG C.G. ',+0.750000D+00, 0 +0.693000D+00, 0
9,'===== SUSPENSION DATA =====',+1.111111D+11, 0
9,'=== INDEPENDENT SUSPENSION TYPE ===',+1.111111D+11, 0
9,'===== FRONT SUSPENSION =====',+1.111111D+11, 0
0,'{TRIF} FRONT SUSPENSION TRACK WIDTH',+0.000000D+00, 0
0,'{WCHIF} FRONT WHEEL CENTER HEIGHT ',+0.000000D+00, 1
0,'{CAMCOF1} CAMBER POLYNOMIAL COEFF. ',+0.000000D+00, 1
0,'{CAMCOF2} CAMBER POLYNOMIAL COEFF. ',+0.000000D+00, 1
0,'{CAMCOF3} CAMBER POLYNOMIAL COEFF. ',+0.000000D+00, 1

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0, '{CAMCOF4} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOF5} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{YOUIF} LATERAL IC POSITION FRONT ', +0.000000D+00, 1
0, '{ZOUIF} HEIGHT OF IC ABOVE GROUND ', +0.000000D+00, 1
0, '{WCGOFF} WHEEL C.G. OFFSET DIST. ', +0.000000D+00, 1
0, '{RBUF} UPP.BUMP STP RADIUS ,FRONT ', +0.000000D+00, 1
0, '{RBLF} LWR.BUMP STP RADIUS ,FRONT ', +0.000000D+00, 1
0, '{LBUF} UPP.BUMP STP LNGTH ,FRONT ', +0.000000D+00, 1
0, '{LBLF} LWR.BUMP STP LNGTH ,FRONT ', +0.000000D+00, 1
0, '{PHIMUF} UPP. DEFL. ANGLE ,FRONT ', +0.000000D+00, 1
0, '{PHIMLF} LWR. DEFL. ANGLE ,FRONT ', +0.000000D+00, 1
9, '===== REAR SUSPENSION =====', +1.111111D+11, 0
0, '{TRIR} REAR SUSPENSION TRACK WIDTH ', +0.000000D+00, 0
0, '{WCHIR} REAR WHEEL CENTER HEIGHT ', +0.000000D+00, 1
0, '{CAMCOR1} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOR2} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOR3} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOR4} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{CAMCOR5} CAMBER POLYNOMIAL COEFF. ', +0.000000D+00, 1
0, '{YOUIR} LATERAL IC POSITION REAR ', +0.000000D+00, 1
0, '{ZOUIR} HEIGHT OF IC ABOVE GROUND ', +0.000000D+00, 1
0, '{WCGOFR} WHEEL C.G. OFFSET DIST. ', +0.000000D+00, 1
0, '{RBUR} UPP.BUMP STP RADIUS ,REAR ', +0.000000D+00, 1
0, '{RBLR} LWR.BUMP STP RADIUS ,REAR ', +0.000000D+00, 1
0, '{LBUR} UPP.BUMP STP LNGTH ,REAR ', +0.000000D+00, 1
0, '{LBLR} LWR.BUMP STP LNGTH ,REAR ', +0.000000D+00, 1
0, '{PHIMUR} UPP. DEFL. ANGLE ,REAR ', +0.000000D+00, 1
0, '{PHIMLR} LWR. DEFL. ANGLE ,REAR ', +0.000000D+00, 1
9, '==== DEPENDENT SUSPENSION TYPE ====', +1.111111D+11, 0
9, '===== FRONT SUSP. =====', +1.111111D+11, 0
0, '{TRDF} FRONT SUSPENSION TRACK WIDTH', +1.500000D+00, 0 +1.308100D+00, 0
0, '{WCHDF} FRONT WHEEL CENTER HEIGHT ', +0.330200D+00, 1
0, '{HRC1} STATIC HT. OF RC ABOVE GRND.', +0.144800D+00, 0
0, '{YCUD1} MASS CENTER POSITON,FRONT ', +0.000000D+00, 0
0, '{ZCUD1} MASS CENTER POSITON,FRONT ', -0.330200D+00, 0
0, '{HSUF} UPR.END SPRNG POS ,FRONT ', +0.440000D+00, 1
0, '{HSLF} LWR.END SPRNG POS ,FRONT ', +0.360000D+00, 1
0, '{TSF} SPRING TRACK ,FRONT ', +0.525000D+00, 1 +0.486000D+00, 1
0, '{HBUF} UPR.BUMP STOP POS ,FRONT ', +0.420000D+00, 1
0, '{HBLF} LWR.BUMP STOP POS ,FRONT ', +0.220000D+00, 1
0, '{HBUF1} UPR CONT SRFS POS ,FRONT ', +0.360000D+00, 1
0, '{HBLF2} LWR CONT SRFS POS ,FRONT ', +0.300000D+00, 1
0, '{TBUF} UPR BUMP STP TRACK ,FRONT ', +0.486000D+00, 1
0, '{TBLF} LWR BUMP STP TRACK ,FRONT ', +0.486000D+00, 1
0, '{LBUF} UPR.BUMP STP LENGTH ,FRONT ', +0.030000D+00, 1
0, '{LBLF} LWR.BUMP STP LENGTH ,FRONT ', +0.030000D+00, 1
9, '===== REAR SUSP. =====', +1.111111D+11, 0
0, '{TRDR} REAR SUSPENSION TRACK WIDTH ', +1.500000D+00, 0 +1.308100D+00, 0
0, '{WCHDR} REAR WHEEL CENTER HEIGHT ', +0.330200D+00, 1
0, '{HRC2} STATIC HT. OF RC ABOVE GRND.', +0.152000D+00, 0
0, '{YCUD2} MASS CENTER POSITON,REAR ', +0.000000D+00, 0
0, '{ZCUD2} MASS CENTER POSITON,REAR ', -0.330200D+00, 0
0, '{HSUR} UPR.END SPRNG POS ,REAR ', +0.440000D+00, 1
0, '{HSLR} LWR END SPRNG POS ,REAR ', +0.360000D+00, 1
0, '{TSR} SPRING TRACK ,REAR ', +0.525000D+00, 1 +0.446000D+00, 1
0, '{HBUR} UPR.BUMP STOP POS ,REAR ', +0.440000D+00, 1
0, '{HBLR} LWR.BUMP STOP POS ,REAR ', +0.230000D+00, 1

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0, '{HBUR1} UPR CONT SRFS POS , REAR ', +0.360000D+00, 1
0, '{HBLR2} LWR CONT SRFS POS , REAR ', +0.300000D+00, 1
0, '{TBUR} UPR BUMP STP TRACK , REAR ', +0.446000D+00, 1
0, '{TBLR} LWR BUMP STP TRACK , REAR ', +0.446000D+00, 1
0, '{LBUR} UPR.BUMP STP LENGTH , REAR ', +0.030000D+00, 1
0, '{LBLR} LWR.BUMP STP LENGTH , REAR ', +0.030000D+00, 1
9, '=====', +1.111111D+11, 0
9, '=====  
IMPACT TIRE DATA  
===== ', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
0, '{RR} CENTER RADIUS OF TIRE ', +0.334000D+00, 3
0, '{RS} SIDE RADIUS OF TIRE ', +0.050000D+00, 3
0, '{WR1} RADIUS OF TIRE ', +0.290000D+00, 3
0, '{WR2} RADIUS OF TIRE ', +0.260000D+00, 3
0, '{WR3} RADIUS OF TIRE ', +0.225000D+00, 3
0, '{WR4} RADIUS OF TIRE ', +0.190000D+00, 3
0, '{W1} TIRE WIDTH ', +0.100000D+00, 3
0, '{W2} TIRE WIDTH ', +0.105000D+00, 3
0, '{W3} TIRE WIDTH ', +0.090000D+00, 3
0, '{W4} TIRE WIDTH ', +0.063500D+00, 3
9, '=====', +1.111111D+11, 0
9, '=====  
MASS/INERTIA PARAMETERS  
===== ', +1.111111D+11, 0
9, '=====', +1.111111D+11, 0
9, '=====  
SPRUNG MASS  
===== ', +1.111111D+11, 0
0, '{MS} SPRUNG MASS ', +1534.000D+00, 0 +778.1000D+00, 0
0, '{IXXS} SPRUNG ROLL INERTIA ', +325.0000D+00, 0 +240.2600D+00, 0
0, '{IYYS} SPRUNG PITCH INERTIA ', +2712.000D+00, 0 +831.0200D+00, 0
0, '{IZZS} SPRUNG YAW INERTIA ', +3254.000D+00, 0 +1120.800D+00, 0
0, '{IXYS} SPRUNG PDT OF INERTIA ', +0.000000D+00, 0
0, '{IYZS} SPRUNG PDT OF INTERIA ', +0.000000D+00, 0
0, '{IZXS} SPRUNG PDT OF INERTIA ', +0.000000D+00, 0
0, '{ML1} ADD. SPRUNG MASS #1 ', +0.000000D+00, 0
0, '{ML2} ADD. SPRUNG MASS #2 ', +0.000000D+00, 0
0, '{ML3} ADD. SPRUNG MASS #3 ', +0.000000D+00, 0
0, '{ML4} ADD. SPRUNG MASS #4 ', +0.000000D+00, 0
0, '{ML5} ADD. SPRUNG MASS #5 ', +0.000000D+00, 0
0, '{ML6} ADD. SPRUNG MASS #6 ', +0.000000D+00, 0
0, '{ML7} ADD. SPRUNG MASS #7 ', +0.000000D+00, 0
0, '{ML8} ADD. SPRUNG MASS #8 ', +0.000000D+00, 0
0, '{XML1} POS OF ADD. SPRUNG MASS #1 ', +0.000000D+00, 0
0, '{XML2} POS OF ADD. SPRUNG MASS #2 ', +0.000000D+00, 0
0, '{XML3} POS OF ADD. SPRUNG MASS #3 ', +0.000000D+00, 0
0, '{XML4} POS OF ADD. SPRUNG MASS #4 ', +0.000000D+00, 0
0, '{XML5} POS OF ADD. SPRUNG MASS #5 ', +0.000000D+00, 0
0, '{XML6} POS OF ADD. SPRUNG MASS #6 ', +0.000000D+00, 0
0, '{XML7} POS OF ADD. SPRUNG MASS #7 ', +0.000000D+00, 0
0, '{XML8} POS OF ADD. SPRUNG MASS #8 ', +0.000000D+00, 0
0, '{YML1} POS OF ADD. SPRUNG MASS #1 ', +0.000000D+00, 0
0, '{YML2} POS OF ADD. SPRUNG MASS #2 ', +0.000000D+00, 0
0, '{YML3} POS OF ADD. SPRUNG MASS #3 ', +0.000000D+00, 0
0, '{YML4} POS OF ADD. SPRUNG MASS #4 ', +0.000000D+00, 0
0, '{YML5} POS OF ADD. SPRUNG MASS #5 ', +0.000000D+00, 0
0, '{YML6} POS OF ADD. SPRUNG MASS #6 ', +0.000000D+00, 0
0, '{YML7} POS OF ADD. SPRUNG MASS #7 ', +0.000000D+00, 0
0, '{YML8} POS OF ADD. SPRUNG MASS #8 ', +0.000000D+00, 0
0, '{ZML1} POS OF ADD. SPRUNG MASS #1 ', +0.000000D+00, 0
0, '{ZML2} POS OF ADD. SPRUNG MASS #2 ', +0.000000D+00, 0
0, '{ZML3} POS OF ADD. SPRUNG MASS #3 ', +0.000000D+00, 0
0, '{ZML4} POS OF ADD. SPRUNG MASS #4 ', +0.000000D+00, 0

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0, '{ZML5} POS OF ADD. SPRUNG MASS #5 ', +0.000000D+00, 0
0, '{ZML6} POS OF ADD. SPRUNG MASS #6 ', +0.000000D+00, 0
0, '{ZML7} POS OF ADD. SPRUNG MASS #7 ', +0.000000D+00, 0
0, '{ZML8} POS OF ADD. SPRUNG MASS #8 ', +0.000000D+00, 0
9, '----- UNSPRUNG MASS -----', +1.111111D+11, 0
9, '=== INDEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
0, '{MUIF} UNSPRUNG MASS, FRONT ', +29.49000D+00, 1
0, '{MUIR} UNSPRUNG MASS, REAR ', +29.49000D+00, 1
9, '==== DEPENDENT SUSPENSION TYPE ====', +1.111111D+11, 0
0, '{MUDF} UNSPRUNG MASS, FRONT ', +58.98000D+00, 0
0, '{MUDR} UNSPRUNG MASS, REAR ', +58.98000D+00, 0
0, '{IXXUF} UNSPNG ROLL INERTIA ,FRONT ', +10.20000D+00, 0
0, '{IXXUR} UNSPNG ROLL INERTIA ,REAR ', +10.20000D+00, 0
0, '{IYYUF} UNSPNG PITCH INERTIA,FRONT ', +3.000000D+00, 0
0, '{IYYUR} UNSPNG PITCH INERTIA,REAR ', +3.000000D+00, 0
0, '{IZZUF} UNSPNG YAW INERTIA ,FRONT ', +8.300000D+00, 0
0, '{IZZUR} UNSPNG YAW INERTIA ,REAR ', +8.300000D+00, 0
9, '----- TIRE -----', +1.111111D+11, 0
0, '{MW} TIRE MASS ', +29.49000D+00, 3
0, '{IXXW} MOMENT OF INERTIA ', +1.120000D+00, 3
9, '-----', +1.111111D+11, 0
9, '==== SUSPENSIONS SPRINGS DATA ====', +1.111111D+11, 0
9, '=== INDEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
9, '-----', +1.111111D+11, 0
0, '{ASIF0} POLY APRX COEF 1,FRONT ', +0.000000D+00, 1
0, '{ASIF1} POLY APRX COEF 2,FRONT ', +0.000000D+00, 1
0, '{ASIF2} POLY APRX COEF 3,FRONT ', +0.000000D+00, 1
0, '{ASIR0} POLY APRX COEF 1,REAR ', +0.000000D+00, 1
0, '{ASIR1} POLY APRX COEF 2,REAR ', +0.000000D+00, 1
0, '{ASIR2} POLY APRX COEF 3,REAR ', +0.000000D+00, 1
0, '{KIARF} ANTI-ROLL BAR SPRNG, FRONT ', +0.000000D+00, 0
0, '{KIARR} ANTI-ROLL BAR SPRNG, REAR ', +0.000000D+00, 0
0, '{DETPHIF} A.R.LFT/RGHT ANGL DF.,FNT', +0.000000D+00, 0
0, '{DETPHIR} A.R.LFT/RGHT ANGL DF.,RER', +0.000000D+00, 0
9, '=== DEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
0, '{ASDF0} POLY APRX COEF 1,FRONT ', +90000.00D+00, 1 +47630.00D+00, 1
0, '{ASDF1} POLY APRX COEF 2,FRONT ', +0.000000D+00, 1
0, '{ASDF2} POLY APRX COEF 3,FRONT ', +0.000000D+00, 1
0, '{ASDR0} POLY APRX COEF 1,REAR ', +75000.00D+00, 1 +37220.00D+00, 1
0, '{ASDR1} POLY APRX COEF 2,REAR ', +0.000000D+00, 1
0, '{ASDR2} POLY APRX COEF 3,REAR ', +0.000000D+00, 1
0, '{KDARF} ANTI-ROLL BAR SPRNG, FRONT ', +6800.000D+00, 0 +3443.730d+00, 0
0, '{KDARR} ANTI-ROLL BAR SPRNG, REAR ', +10000.00D+00, 0 +5277.330d+00, 0
9, '-----', +1.111111D+11, 0
9, '==== SUSPENSIONS DAMPERS DATA ====', +1.111111D+11, 0
9, '=== INDEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
9, '-----', +1.111111D+11, 0
0, '{CUIUF} DAMPING CONST.,FRONT COMPR ', +0.000000D+00, 1
0, '{CUIUR} DAMPING CONST.,REAR COMPR ', +0.000000D+00, 1
0, '{CUILF} DAMPING CONST.,FRONT EXTEN ', +0.000000D+00, 1
0, '{CUILR} DAMPING CONST.,REAR EXTEN ', +0.000000D+00, 1
0, '{CIARF} A-R BAR DMPNG COEF., FRONT ', +0.000000D+00, 0
0, '{CIARR} A-R BAR DMPNG COEF., REAR ', +0.000000D+00, 0
9, '=== DEPENDENT SUSPENSION TYPE ===', +1.111111D+11, 0
0, '{CUDUF} DAMPING CONST.,FRONT COMPR ', +2500.000D+00, 1 +1066.300D+00, 1
0, '{CUDUR} DAMPING CONST.,REAR COMPR ', +2500.000D+00, 1 +1066.300D+00, 1
0, '{CUDLF} DAMPING CONST.,FRONT EXTEN ', +5500.000D+00, 1 +2627.700D+00, 1
0, '{CUDLR} DAMPING CONST.,REAR EXTEN ', +5500.000d+00, 1 +2627.700D+00, 1

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0, '{CDARF} A-R BAR DMPNG COEF., FRONT ', +0.000000D+00, 0
0, '{CDARR} A-R BAR DMPNG COEF., REAR ', +0.000000D+00, 0
9, '===== ', +1.111111D+11, 0
9, '= BUMP STOP STIF. AND DAMP. DATA = ', +1.111111D+11, 0
9, '===== ', +1.111111D+11, 0
0, '{KBUF} UPR B.S. SPRNG C,FRONT ', +650000.0D+00, 1 +323000.0D+00, 1
0, '{KBUR} UPR B.S. SPRNG C,REAR ', +280000.0D+00, 1 +140000.0D+00, 1
0, '{KBLF} LWR B.S. SPRNG C,FRONT ', +270000.0D+00, 1 +137000.0D+00, 1
0, '{KBLR} LWR B.S. SPRNG C,REAR ', +78000.0D+00, 1 +39000.0D+00, 1
9, '===== ', +1.111111D+11, 0
0, '{CBUF} UPR B.S. DMPNG C,FRONT ', +12000.0D+00, 1 +6000.000D+00, 1
0, '{CBUR} UPR B.S. DMPNG C,REAR ', +12000.0D+00, 1 +6000.000D+00, 1
0, '{CBLF} LWR B.S. DMPNG C,FRONT ', +12000.0D+00, 1 +6000.000D+00, 1
0, '{CBLR} LWR B.S. DMPNG C,REAR ', +12000.0D+00, 1 +6000.000D+00, 1
9, '===== ', +1.111111D+11, 0
9, '===== FRICTIONAL TIRE DATA ===== ', +1.111111D+11, 0
9, '===== ', +1.111111D+11, 0
9, '=== CALSPAN TIRE COEFFICIENTS === ', +1.111111D+11, 0
0, '{A0} CORNERING STIFFNESS COEFF. ', +0.000000D+00, 3 -668.4600D+00, 3
0, '{A1} CORNERING STIFFNESS COEFF. ', +25.27700D+00, 3 +26.54000D+00, 3
0, '{A2} CORNERING STIFFNESS COEFF. ', +2146.610D+00, 3
0, '{A3} CAMBER STIFFNESS COEFF. ', +1.274000D+00, 3
0, '{A4} CAMBER STIFFNESS COEFF. ', +2225.070D+00, 3
0, '{P0} PEAK BRAKING FRICTION COEFF. ', +1.207300D+00, 3
0, '{P1} PEAK BRAKING FRICTION COEFF. ', -5.843000D-04, 3
0, '{P2} PEAK BRAKING FRICTION COEFF. ', +3.977000D-07, 3
0, '{B1} PEAK LATERAL FRICTION COEFF. ', -6.745000D-04, 3
0, '{B2} PEAK LATERAL FRICTION COEFF. ', +0.000000D+00, 3
0, '{B3} PEAK LATERAL FRICTION COEFF. ', +1.307000D+00, 3
0, '{B4} PEAK LATERAL FRICTION COEFF. ', +2.953000D-07, 3
0, '{R0} LONG. SLIP @ PEAK BRAKING ', -0.237710D+00, 3
0, '{R1} LONG. SLIP @ PEAK BRAKING ', +8.536000D-05, 3
0, '{S0} SLIDE COEFFICIENT OF FRICTION ', +1.173800D+00, 3
0, '{S1} SLIDE COEFFICIENT OF FRICTION ', -8.458000D-04, 3
0, '{S2} SLIDE COEFFICIENT OF FRICTION ', +3.945000D-07, 3
0, '{K1} ALIGNING MOMENT COEFFICIENT ', -2.061000D-04, 3
0, '{K2} ALIGNING MOMENT COEFFICIENT ', -1.768000D-04, 3
0, '{K3} ALIGNING MOMENT COEFFICIENT ', +0.074000D+00, 3
0, '{CTN} SLOPE OF MUX VS. S @ S=0 ', +6.000000D+00, 3
0, '{CA1} CRITICAL CAMBER ANGLE ', +0.523560D+00, 3
0, '{CR1} FRICTION REDUCTION @ CA1 ', +0.300000D+00, 3
0, '{OMEGT} TIRE OVERLOAD COEFF. ', +0.900000D+00, 3 +1.000000D+00, 3
0, '{OMEGT2} TIRE OVERLOAD COEFF. ', +0.500000D+00, 3
0, '{SN} TIRE SKID NUMBER ', +1.000000D+00, 3
9, '===== ', +1.111111D+11, 0
9, '===== IMPACT TIRE DATA ===== ', +1.111111D+11, 0
9, '===== ', +1.111111D+11, 0
0, '{SKR} STIFFNESS OF RADIAL SPRINGS ', +4723.000D+00, 3
0, '{SKS} STIFFNESS OF SIDE SPRINGS ', +2062.000D+00, 3
0, '{SKRIM} STIFFNESS OF RIM SPRINGS ', +100000.0D+00, 3
9, '===== ', +1.111111D+11, 0
9, '===== Terrain Data ===== ', +1.111111D+11, 0
9, '===== ', +1.111111D+11, 0
0, '{NTPT} NUMBER OF TERRAIN COORDS ', +3.000000D+00, 0
0, '{NTPL} NUMBER OF TERRAIN PLANES ', +2.000000D+00, 0
0, '{Yterr(1)} Y-COORD OF TERR. PT. 1 ', -500.0000D+00, 0
0, '{Zterr(1)} Z-COORD OF TERR. PT. 1 ', +0.000000D+00, 0
0, '{Yterr(2)} Y-COORD OF TERR. PT. 2 ', +8.000000D+00, 0

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0, '{Zterr(2)} Z-COORD OF TERR. PT. 2 ', +0.000000D+00, 0
0, '{Yterr(3)} Y-COORD OF TERR. PT. 3 ', +500.0000D+00, 0
0, '{Zterr(3)} Z-COORD OF TERR. PT. 3 ', +0.000000D+00, 0
0, '{Yterr(4)} Y-COORD OF TERR. PT. 4 ', +0.000000D+00, 0
0, '{Zterr(4)} Z-COORD OF TERR. PT. 4 ', +0.000000D+00, 0
0, '{Yterr(5)} Y-COORD OF TERR. PT. 5 ', +0.000000D+00, 0
0, '{Zterr(5)} Z-COORD OF TERR. PT. 5 ', +0.000000D+00, 0
0, '{Yterr(6)} Y-COORD OF TERR. PT. 6 ', +0.000000D+00, 0
0, '{Zterr(6)} Z-COORD OF TERR. PT. 6 ', +0.000000D+00, 0
0, '{Yterr(7)} Y-COORD OF TERR. PT. 7 ', +0.000000D+00, 0
0, '{Zterr(7)} Z-COORD OF TERR. PT. 7 ', +0.000000D+00, 0
0, '{Yterr(8)} Y-COORD OF TERR. PT. 8 ', +0.000000D+00, 0
0, '{Zterr(8)} Z-COORD OF TERR. PT. 8 ', +0.000000D+00, 0
0, '{Yterr(9)} Y-COORD OF TERR. PT. 9 ', +0.000000D+00, 0
0, '{Zterr(9)} Z-COORD OF TERR. PT. 9 ', +0.000000D+00, 0
0, '{Yterr(10)} Y-COORD OF TERR. PT. 10', +0.000000D+00, 0
0, '{Zterr(10)} Z-COORD OF TERR. PT. 10', +0.000000D+00, 0
0, '{Yterr(11)} Y-COORD OF TERR. PT. 11', +0.000000D+00, 0
0, '{Zterr(11)} Z-COORD OF TERR. PT. 11', +0.000000D+00, 0
0, '{Yterr(12)} Y-COORD OF TERR. PT. 12', +0.000000D+00, 0
0, '{Zterr(12)} Z-COORD OF TERR. PT. 12', +0.000000D+00, 0
0, '{Yterr(13)} Y-COORD OF TERR. PT. 13', +0.000000D+00, 0
0, '{Zterr(13)} Z-COORD OF TERR. PT. 13', +0.000000D+00, 0
0, '{Yterr(14)} Y-COORD OF TERR. PT. 14', +0.000000D+00, 0
0, '{Zterr(14)} Z-COORD OF TERR. PT. 14', +0.000000D+00, 0
0, '{Yterr(15)} Y-COORD OF TERR. PT. 15', +0.000000D+00, 0
0, '{Zterr(15)} Z-COORD OF TERR. PT. 15', +0.000000D+00, 0
0, '{Yterr(16)} Y-COORD OF TERR. PT. 16', +0.000000D+00, 0
0, '{Zterr(16)} Z-COORD OF TERR. PT. 16', +0.000000D+00, 0
0, '{Yterr(17)} Y-COORD OF TERR. PT. 17', +0.000000D+00, 0
0, '{Zterr(17)} Z-COORD OF TERR. PT. 17', +0.000000D+00, 0
0, '{Yterr(18)} Y-COORD OF TERR. PT. 18', +0.000000D+00, 0
0, '{Zterr(18)} Z-COORD OF TERR. PT. 18', +0.000000D+00, 0
0, '{Yterr(19)} Y-COORD OF TERR. PT. 19', +0.000000D+00, 0
0, '{Zterr(19)} Z-COORD OF TERR. PT. 19', +0.000000D+00, 0
0, '{Yterr(20)} Y-COORD OF TERR. PT. 20', +0.000000D+00, 0
0, '{Zterr(20)} Z-COORD OF TERR. PT. 20', +0.000000D+00, 0
0, '{SNterr(1)} SKID # OF TERR. PL. 1 ', +85.00000D+00, 0
0, '{SNterr(2)} SKID # OF TERR. PL. 2 ', +120.0000D+00, 0
0, '{SNterr(3)} SKID # OF TERR. PL. 3 ', +85.00000D+00, 0
0, '{SNterr(4)} SKID # OF TERR. PL. 4 ', +0.000000D+00, 0
0, '{SNterr(5)} SKID # OF TERR. PL. 5 ', +0.000000D+00, 0
0, '{SNterr(6)} SKID # OF TERR. PL. 6 ', +0.000000D+00, 0
0, '{SNterr(7)} SKID # OF TERR. PL. 7 ', +0.000000D+00, 0
0, '{SNterr(8)} SKID # OF TERR. PL. 8 ', +0.000000D+00, 0
0, '{SNterr(9)} SKID # OF TERR. PL. 9 ', +0.000000D+00, 0
0, '{SNterr(10)} SKID # OF TERR. PL. 10', +0.000000D+00, 0
0, '{SNterr(11)} SKID # OF TERR. PL. 11', +0.000000D+00, 0
0, '{SNterr(12)} SKID # OF TERR. PL. 12', +0.000000D+00, 0
0, '{SNterr(13)} SKID # OF TERR. PL. 13', +0.000000D+00, 0
0, '{SNterr(14)} SKID # OF TERR. PL. 14', +0.000000D+00, 0
0, '{SNterr(15)} SKID # OF TERR. PL. 15', +0.000000D+00, 0
0, '{SNterr(16)} SKID # OF TERR. PL. 16', +0.000000D+00, 0
0, '{SNterr(17)} SKID # OF TERR. PL. 17', +0.000000D+00, 0
0, '{SNterr(18)} SKID # OF TERR. PL. 18', +0.000000D+00, 0
0, '{SNterr(19)} SKID # OF TERR. PL. 19', +0.000000D+00, 0
0, '{Jteratb(1)} TERR. ATRB. OF PL. 1 ', +0.000000D+00, 0
0, '{Jteratb(2)} TERR. ATRB. OF PL. 2 ', +1.000000D+00, 0

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0, '{Jteratb(3)} TERR. ATRB. OF PL. 3 ', +0.000000D+00, 0
0, '{Jteratb(4)} TERR. ATRB. OF PL. 4 ', +0.000000D+00, 0
0, '{Jteratb(5)} TERR. ATRB. OF PL. 5 ', +0.000000D+00, 0
0, '{Jteratb(6)} TERR. ATRB. OF PL. 6 ', +0.000000D+00, 0
0, '{Jteratb(7)} TERR. ATRB. OF PL. 7 ', +0.000000D+00, 0
0, '{Jteratb(8)} TERR. ATRB. OF PL. 8 ', +0.000000D+00, 0
0, '{Jteratb(9)} TERR. ATRB. OF PL. 9 ', +0.000000D+00, 0
0, '{Jteratb(10)} TERR. ATRB. OF PL. 10', +0.000000D+00, 0
0, '{Jteratb(11)} TERR. ATRB. OF PL. 11', +0.000000D+00, 0
0, '{Jteratb(12)} TERR. ATRB. OF PL. 12', +0.000000D+00, 0
0, '{Jteratb(13)} TERR. ATRB. OF PL. 13', +0.000000D+00, 0
0, '{Jteratb(14)} TERR. ATRB. OF PL. 14', +0.000000D+00, 0
0, '{Jteratb(15)} TERR. ATRB. OF PL. 15', +0.000000D+00, 0
0, '{Jteratb(16)} TERR. ATRB. OF PL. 16', +0.000000D+00, 0
0, '{Jteratb(17)} TERR. ATRB. OF PL. 17', +0.000000D+00, 0
0, '{Jteratb(18)} TERR. ATRB. OF PL. 18', +0.000000D+00, 0
0, '{Jteratb(19)} TERR. ATRB. OF PL. 19', +0.000000D+00, 0
9, '----- SOIL PARAMETERS -----', +1.111111D+11, 0
0, '{Soiln} Soil Parameter ', +0.950000D+00, 0
0, '{Soilkphi} Soil Parameter ', +1.446000D+07, 0
0, '{Soilkc} Soil Parameter ', +8.610000D+04, 0
9, '----- Aerodynamic Data -----', +1.111111D+11, 0
0, '{RO} Air Density ', +0.000000D+00, 0
0, '{SAero} Aerod. Reference Area ', +2.000000D+00, 0
0, '{HAero} Aerod. Reference Length ', +1.500000D+00, 0
0, '{DCyDBeta_A} Side Force Coeff. ', +1.000000D+00, 0
0, '{DCnDBeta_A} Yaw Moment Coeff. ', +2.500000D+00, 0
0, '{DNDR} Yaw Damping Moment Deriv. ', +0.000000D+00, 0
0, '{CD0} Drag Force Coeff. ', +0.000000D+00, 0
0, '{DCDDBeta_A} Drag Forc. Coef. Der. ', +0.000000D+00, 0
0, '{Alph0} Zero-Lift Angle ', +0.000000D+00, 0
0, '{DCLDAlpha_A} Lift Forc. Coef. Der. ', +0.000000D+00, 0
0, '{CMy0} Zero-Lift Pitch Mom. Coef. ', +0.000000D+00, 0
0, '{DCMyDAlpha_A} Pitch Mom. Coef. Der. ', +0.000000D+00, 0
0, '{AeroPar} Reserved For Future Use ', +0.000000D+00, 17
9, '----- Wheel Steering Input =====', +0.000000D+00, 0
0, '{NWSTF} Steering function indic. ', +0.000000D+00, 0
0, '{NPTW} Number of point st. data ', +3.000000D+00, 0
0, '{TMW1} Time point ', +0.000000D+00, 0
0, '{TMW2} Time point ', +0.200000D+00, 0
0, '{TMW3} Time point ', +1000.000D+00, 0
0, '{TMW4} Time point ', +0.000000D+00, 0
0, '{TMW5} Time point ', +0.000000D+00, 0
0, '{TMW6} Time point ', +0.000000D+00, 0
0, '{TMW7} Time point ', +0.000000D+00, 0
0, '{TMW8} Time point ', +0.000000D+00, 0
0, '{TMW9} Time point ', +0.000000D+00, 0
0, '{TMW10} Time point ', +0.000000D+00, 0
0, '{TMW11} Time point ', +0.000000D+00, 0
0, '{TMW12} Time point ', +0.000000D+00, 0
0, '{TMW13} Time point ', +0.000000D+00, 0
0, '{TMW14} Time point ', +0.000000D+00, 0
0, '{TMW15} Time point ', +0.000000D+00, 0
0, '{TMW16} Time point ', +0.000000D+00, 0
0, '{TMW17} Time point ', +0.000000D+00, 0
0, '{TMW18} Time point ', +0.000000D+00, 0
0, '{TMW19} Time point ', +0.000000D+00, 0
0, '{TMW20} Time point ', +0.000000D+00, 0

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0, '{DSWM1}	Wheel steer. angle	', +0.000000D+00, 0	
0, '{DSWM2}	Wheel steer. angle	', -4.100000D+00, 0	-2.500000D+00, 0
0, '{DSWM3}	Wheel steer. angle	', -4.100000D+00, 0	-2.500000D+00, 0
0, '{DSWM4}	Wheel steer. angle	', +0.000000D+00, 0	
0, '{DSWM5}	Wheel steer. angle	', +0.000000D+00, 0	
0, '{DSWM6}	Wheel steer. angle	', +0.000000D+00, 0	
0, '{DSWM7}	Wheel steer. angle	', +0.000000D+00, 0	
0, '{DSWM8}	Wheel steer. angle	', +0.000000D+00, 0	
0, '{DSWM9}	Wheel steer. angle	', +0.000000D+00, 0	
0, '{DSWM10}	Wheel steer. angle	', +0.000000D+00, 0	
0, '{DSWM11}	Wheel steer. angle	', +0.000000D+00, 0	
0, '{DSWM12}	Wheel steer. angle	', +0.000000D+00, 0	
0, '{DSWM13}	Wheel steer. angle	', +0.000000D+00, 0	
0, '{DSWM14}	Wheel steer. angle	', +0.000000D+00, 0	
0, '{DSWM15}	Wheel steer. angle	', +0.000000D+00, 0	
0, '{DSWM16}	Wheel steer. angle	', +0.000000D+00, 0	
0, '{DSWM17}	Wheel steer. angle	', +0.000000D+00, 0	
0, '{DSWM18}	Wheel steer. angle	', +0.000000D+00, 0	
0, '{DSWM19}	Wheel steer. angle	', +0.000000D+00, 0	
0, '{DSWM20}	Wheel steer. angle	', +0.000000D+00, 0	
9, '==== Braking/Tracting Input ====='		', +0.000000D+00, 0	
0, '{NBTF}	Steering function indic.	', +0.000000D+00, 0	
0, '{NPTBT}	Number of point st. data	', +5.000000D+00, 0	+3.000000D+00, 0
0, '{TMT1}	Time point	', +0.000000D+00, 0	
0, '{TMT2}	Time point	', +0.200000D+00, 0	
0, '{TMT3}	Time point	', +2.000000D+00, 0	+0.200000D+00, 0
0, '{TMT4}	Time point	', +2.100000D+00, 0	
0, '{TMT5}	Time point	', +100.0000D+00, 0	
0, '{TMT6}	Time point	', +0.000000D+00, 0	
0, '{TMT7}	Time point	', +0.000000D+00, 0	
0, '{TMT8}	Time point	', +0.000000D+00, 0	
0, '{TMT9}	Time point	', +0.000000D+00, 0	
0, '{TMT10}	Time point	', +0.000000D+00, 0	
0, '{TMT11}	Time point	', +0.000000D+00, 0	
0, '{TMT12}	Time point	', +0.000000D+00, 0	
0, '{TMT13}	Time point	', +0.000000D+00, 0	
0, '{TMT14}	Time point	', +0.000000D+00, 0	
0, '{TMT15}	Time point	', +0.000000D+00, 0	
0, '{TMT16}	Time point	', +0.000000D+00, 0	
0, '{TMT17}	Time point	', +0.000000D+00, 0	
0, '{TMT18}	Time point	', +0.000000D+00, 0	
0, '{TMT19}	Time point	', +0.000000D+00, 0	
0, '{TMT20}	Time point	', +0.000000D+00, 0	
0, '{AXPRIME1}	Desired accel./decel	', -0.000000D+00, 0	+0.000000D+00, 0
0, '{AXPRIME2}	Desired accel./decel	', -0.060000D+00, 0	+0.000000D+00, 0
0, '{AXPRIME3}	Desired accel./decel	', -0.060000D+00, 0	+2.000000D+00, 0
0, '{AXPRIME4}	Desired accel./decel	', +2.000000D+00, 0	
0, '{AXPRIME5}	Desired accel./decel	', +2.000000D+00, 0	+0.000000D+00, 0
0, '{AXPRIME6}	Desired accel./decel	', +0.000000D+00, 0	
0, '{AXPRIME7}	Desired accel./decel	', +0.000000D+00, 0	
0, '{AXPRIME8}	Desired accel./decel	', +0.000000D+00, 0	
0, '{AXPRIME9}	Desired accel./decel	', +0.000000D+00, 0	
0, '{AXPRIME10}	Desired accel./decel	', +0.000000D+00, 0	
0, '{AXPRIME11}	Desired accel./decel	', +0.000000D+00, 0	
0, '{AXPRIME12}	Desired accel./decel	', +0.000000D+00, 0	
0, '{AXPRIME13}	Desired accel./decel	', +0.000000D+00, 0	
0, '{AXPRIME14}	Desired accel./decel	', +0.000000D+00, 0	
0, '{AXPRIME15}	Desired accel./decel	', +0.000000D+00, 0	

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0, '{AXPRIME16} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME17} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME18} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME19} Desired accel./decel ', +0.000000D+00, 0
0, '{AXPRIME20} Desired accel./decel ', +0.000000D+00, 0
0, '{Q0} ', +0.100000d+00, 0 +0.000000D+00, 0
0, '{Q1} ', +0.000000D+00, 0
0, '{ITYPPWR} Braking/Tracting ind. ', +2.000000d+00, 0 +0.000000D+00, 0
9, '=====  
Crash Parameters =====', +0.000000D+00, 0
0, '{FYMAX} Max. side force [N] ', +17800.00D+00, 3
0, '{XPL2} Max. plactic def. [m] ', +0.152400D+00, 3
0, '{DXPL} Step of plastic def. [m] ', +0.001000D+00, 3
0, '{STIFF2} Second crsh stiff [N/m] ', +1.400000D+06, 3
0, '{CRSHDUM} <Reserved for fut.use> ', +0.000000D+00, 15
9, '=====  
25 DUMMY PARAMETERS =====', +1.111111D+11, 0
0, '{DUMMY} RESERVED FOR FUTURE USE ', +0.000000D+00, 41
0, 'ENDPP ', +0.000000D+00, 0
0, 'ENDSP ', +0.000000D+00, 0
9, '=====  
"V" VECTOR =====', +1.111111D+11, 0
0, '1 XS - LONGITUDINAL POSITION ', +0.000000D+00, 0
0, '2 YS - LATERAL POSITION ', +0.000000D+00, 0
0, '3 ZS - VERTICAL POSITION ', +0.000000D+00, 0
0, '4 PSI - YAW ANGLE ', +0.000000D+00, 0
0, '5 THETA- PITCH ANGLE ', +0.000000D+00, 0
0, '6 PHI - ROLL ANGLE ', +0.000000D+00, 0
0, '7 Q7 - ', +0.000000D+00, 0
0, '8 Q8 - ', +0.000000D+00, 0
0, '9 Q9 - ', +0.000000D+00, 0
0, '10 Q10 - ', +0.000000D+00, 0
0, '11 THW1 - WHEEL ROT. ANGLE ', +0.000000D+00, 0
0, '12 THW2 - WHEEL ROT. ANGLE ', +0.000000D+00, 0
0, '13 THW3 - WHEEL ROT. ANGLE ', +0.000000D+00, 0
0, '14 THW4 - WHEEL ROT. ANGLE ', +0.000000D+00, 0
0, '15 UU - FORWARD VELOCITY ', +0.000000D+00, 0
0, '16 VV - LATERAL VELOCITY ', +0.000000D+00, 0
0, '17 WW - VERTICAL VELOCITY ', +0.000000D+00, 0
0, '18 P - ROLLING Q-VELOCITY ', +0.000000D+00, 0
0, '19 Q - PITCHING Q-VELOCITY ', +0.000000D+00, 0
0, '20 R - YAWING Q-VELOCITY ', +0.000000D+00, 0
0, '21 Q7D - ', +0.000000D+00, 0
0, '22 Q8D - ', +0.000000D+00, 0
0, '23 Q9D - ', +0.000000D+00, 0
0, '24 Q10 - ', +0.000000D+00, 0
0, '25 OMW1 - WHEEL ROT. VELOCITY ', +0.000000D+00, 0
0, '26 OMW2 - WHEEL ROT. VELOCITY ', +0.000000D+00, 0
0, '27 OMW3 - WHEEL ROT. VELOCITY ', +0.000000D+00, 0
0, '28 OMW4 - WHEEL ROT. VELOCITY ', +0.000000D+00, 0
0, 'ENDOV ', +0.000000D+00, 0
9, '=====  
COMMON /VDAT/ DAT(736) =====', +0.000000D+00, 0

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APPENDIX E - SAMPLE SIMULATION OUTPUT FILES

SPRUNG MASS DATA FILE (ITRS.DAT for ITRS - TEST2)

0.4450E+01	0.4800E+01	0.5000E+01	-0.2530E+01	0.11000E+01	0.4338E+01	0.4252E+04
0.0000E+00	0.0000E+00	0.7868E-01	-0.2527E+01	0.0000E+00	0.4357E+01	0.4250E+04
0.2000E-01	0.3327E-04	0.1074E+01	-0.2527E+01	0.1783E-02	0.4417E+01	0.4248E+04
0.4000E-01	0.1462E-03	0.2058E+01	-0.2528E+01	0.6837E-02	0.4505E+01	0.4247E+04
0.6000E-01	0.3173E-03	0.3033E+01	-0.2529E+01	0.1512E-01	0.4607E+01	0.4246E+04
0.8000E-01	0.5430E-03	0.3999E+01	-0.2531E+01	0.2669E-01	0.4707E+01	0.4247E+04
0.1000E+00	0.8420E-03	0.4954E+01	-0.2536E+01	0.4146E-01	0.4793E+01	0.4249E+04
0.1200E+00	0.1234E-02	0.5900E+01	-0.2542E+01	0.5930E-01	0.4855E+01	0.4250E+04
0.1400E+00	0.1732E-02	0.6837E+01	-0.2550E+01	0.8015E-01	0.4887E+01	0.4251E+04
0.1600E+00	0.2342E-02	0.7764E+01	-0.2557E+01	0.1039E+00	0.4883E+01	0.4251E+04
0.1800E+00	0.3067E-02	0.8683E+01	-0.2564E+01	0.1306E+00	0.4844E+01	0.4250E+04
0.2000E+00	0.3906E-02	0.9593E+01	-0.2569E+01	0.1599E+00	0.4774E+01	0.4248E+04
0.2200E+00	0.4854E-02	0.1049E+02	-0.2573E+01	0.1918E+00	0.4682E+01	0.4246E+04
0.2400E+00	0.5904E-02	0.1139E+02	-0.2573E+01	0.2259E+00	0.4579E+01	0.4246E+04
0.2600E+00	0.7042E-02	0.1227E+02	-0.2572E+01	0.2621E+00	0.4479E+01	0.4247E+04
0.2800E+00	0.8257E-02	0.1315E+02	-0.2567E+01	0.2999E+00	0.4394E+01	0.4251E+04
0.3000E+00	0.9536E-02	0.1401E+02	-0.2560E+01	0.3392E+00	0.4336E+01	0.4251E+04
0.3200E+00	0.1087E-01	0.1487E+02	-0.2552E+01	0.3796E+00	0.4316E+01	0.4251E+04
0.3400E+00	0.1225E-01	0.1571E+02	-0.2542E+01	0.4212E+00	0.4338E+01	0.4250E+04
0.3600E+00	0.1366E-01	0.1655E+02	-0.2533E+01	0.4637E+00	0.4404E+01	0.4248E+04
0.3800E+00	0.1512E-01	0.1738E+02	-0.2524E+01	0.5072E+00	0.4509E+01	0.4244E+04
0.4000E+00	0.1661E-01	0.1819E+02	-0.2518E+01	0.5517E+00	0.4645E+01	0.4240E+04
0.4200E+00	0.1816E-01	0.1900E+02	-0.2514E+01	0.5975E+00	0.4799E+01	0.4239E+04
0.4400E+00	0.1977E-01	0.1979E+02	-0.2513E+01	0.6448E+00	0.4956E+01	0.4239E+04
0.4600E+00	0.2145E-01	0.2058E+02	-0.2516E+01	0.6938E+00	0.5102E+01	0.4242E+04
0.4800E+00	0.2322E-01	0.2135E+02	-0.2521E+01	0.7449E+00	0.5219E+01	0.4247E+04
0.5000E+00	0.2510E-01	0.2212E+02	-0.2528E+01	0.7981E+00	0.5296E+01	0.4250E+04
0.5200E+00	0.2710E-01	0.2287E+02	-0.2537E+01	0.8538E+00	0.5324E+01	0.4251E+04
0.5400E+00	0.2923E-01	0.2362E+02	-0.2546E+01	0.9121E+00	0.5220E+01	0.4246E+04
0.5600E+00	0.3150E-01	0.2436E+02	-0.2555E+01	0.9728E+00	0.5097E+01	0.4241E+04
0.5800E+00	0.3389E-01	0.2508E+02	-0.2562E+01	0.1036E+01	0.4942E+01	0.4237E+04
0.6000E+00	0.3641E-01	0.2580E+02	-0.2568E+01	0.1101E+01	0.4768E+01	0.4236E+04
0.6200E+00	0.3902E-01	0.2651E+02	-0.2570E+01	0.1168E+01	0.4595E+01	0.4241E+04
0.6400E+00	0.4171E-01	0.2721E+02	-0.2569E+01	0.1236E+01	0.4439E+01	0.4246E+04
0.6600E+00	0.4445E-01	0.2791E+02	-0.2566E+01	0.1304E+01	0.4317E+01	0.4246E+04
0.6800E+00	0.4721E-01	0.2859E+02	-0.2559E+01	0.1373E+01	0.4241E+04	0.4251E+04
0.7000E+00	0.4996E-01	0.2926E+02	-0.2551E+01	0.1441E+01	0.4241E+04	0.4251E+04
0.7200E+00	0.5268E-01	0.2993E+02	-0.2541E+01	0.1509E+01	0.4219E+01	0.4251E+04
0.7400E+00	0.5537E-01	0.3058E+02	-0.2531E+01	0.1576E+01	0.4219E+01	0.4251E+04
0.7600E+00	0.5801E-01	0.3122E+02	-0.2522E+01	0.1642E+01	0.4255E+01	0.4249E+04

0.7800E+00	0.6063E-01	0.3186E+02	-0.2514E+01	0.1708E+01	-0.1564E-01	0.4345E+01	0.4245E+04
0.8000E+00	0.6323E-01	0.3248E+02	-0.2509E+01	0.1774E+01	-0.1543E-01	0.4481E+01	0.4239E+04
0.8200E+00	0.6584E-01	0.3309E+02	-0.2507E+01	0.1840E+01	-0.1494E-01	0.4650E+01	0.4235E+04
0.8400E+00	0.6848E-01	0.3369E+02	-0.2507E+01	0.1907E+01	-0.1423E-01	0.4836E+01	0.4233E+04
0.8600E+00	0.7118E-01	0.3428E+02	-0.2511E+01	0.1975E+01	-0.1336E-01	0.5021E+01	0.4235E+04
0.8800E+00	0.7398E-01	0.3486E+02	-0.2518E+01	0.2045E+01	-0.1242E-01	0.5188E+01	0.4240E+04
0.9000E+00	0.7691E-01	0.3543E+02	-0.2526E+01	0.2117E+01	-0.1151E-01	0.5319E+01	0.4245E+04
0.9200E+00	0.7998E-01	0.3599E+02	-0.2536E+01	0.2192E+01	-0.1076E-01	0.5401E+01	0.4250E+04
0.9400E+00	0.8321E-01	0.3655E+02	-0.2546E+01	0.2269E+01	-0.1032E-01	0.5427E+01	0.4251E+04
0.9600E+00	0.8662E-01	0.3709E+02	-0.2555E+01	0.2349E+01	-0.1025E-01	0.5394E+01	0.4249E+04
0.9800E+00	0.9019E-01	0.3762E+02	-0.2563E+01	0.2431E+01	-0.1071E-01	0.5304E+01	0.4244E+04
0.1000E+01	0.9391E-01	0.3815E+02	-0.2568E+01	0.2515E+01	-0.1169E-01	0.5166E+01	0.4238E+04
0.1020E+01	0.9775E-01	0.3866E+02	-0.2571E+01	0.2600E+01	-0.1318E-01	0.4992E+01	0.4234E+04
0.104C2+01	0.1017E+00	0.3917E+02	-0.2571E+01	0.2686E+01	-0.1504E-01	0.4798E+01	0.4231E+04
0.1060E+01	0.1057E+00	0.3967E+02	-0.2569E+01	0.2773E+01	-0.1802E-01	0.4603E+01	0.4235E+04
0.1080E+01	0.1093E+00	0.4015E+02	-0.2563E+01	0.2789E+01	-0.5378E-01	0.4568E+01	0.4207E+04
0.1100E+01	0.1106E+00	0.4061E+02	-0.2552E+01	0.2571E+01	-0.2472E+00	0.5138E+01	0.2263E+04
0.1120E+01	0.1062E+00	0.4096E+02	-0.2533E+01	0.1399E+01	-0.1054E+01	0.8359E+01	-0.1320E+05
0.1140E+01	0.1053E+00	0.4120E+02	-0.2512E+01	-0.7664E+00	-0.2290E+01	0.1479E+02	-0.2469E+05
0.1160E+01	0.8210E-01	0.4142E+02	-0.2513E+01	-0.2383E+01	-0.2614E+02	0.2271E+02	-0.2399E+05
0.1180E+01	0.3729E-01	0.4162E+02	-0.2567E+01	-0.2595E+01	-0.1183E+01	0.3115E+02	-0.2259E+05
0.1200E+01	-0.1339E-01	0.4183E+02	-0.2668E+01	-0.2479E+01	0.7244E+00	0.3924E+02	-0.1601E+05
0.1220E+01	-0.6342E-01	0.4204E+02	-0.2806E+01	-0.2627E+01	0.2195E+01	0.4596E+02	-0.9437E+04
0.1240E+01	-0.1027E+00	0.4226E+02	-0.2964E+01	-0.3679E+01	0.2555E+01	0.5129E+02	-0.6382E+04
0.1260E+01	-0.1274E+00	0.4249E+02	-0.3122E+01	-0.5169E+01	0.2394E+01	0.5600E+02	-0.6191E+04
0.1280E+01	-0.1406E+00	0.4271E+02	-0.3267E+01	-0.6419E+01	0.2408E+01	0.6051E+02	-0.6820E+04
0.1300E+01	-0.1498E+00	0.4293E+02	-0.3387E+01	-0.7402E+01	0.2654E+01	0.6492E+02	-0.6521E+04
0.1320E+01	-0.1580E+00	0.4315E+02	-0.3481E+01	-0.8363E+01	0.2961E+01	0.6948E+02	-0.6195E+04
0.1340E+01	-0.1656E+00	0.4337E+02	-0.3553E+01	-0.9300E+01	0.3318E+01	0.7440E+02	-0.5668E+04
0.1360E+01	-0.1724E+00	0.4358E+02	-0.3609E+01	-0.9954E+01	0.3769E+01	0.7982E+02	-0.7128E+04

FRONT TIRE DATA FILE (FRONT.TIR for ITRS - TEST2)

0.0000E+00	0.4450E+01	-0.2458E+01	0.1749E+01	0.2000E+01	0.4450E+01	0.2536E+01	0.1489E+01	0.2000E+01
0.2000E-01	0.4450E+01	-0.2458E+01	0.1745E+01	0.2000E+01	0.4450E+01	0.2535E+01	0.1488E+01	0.2000E+01
0.4000E-01	0.4450E+01	-0.2459E+01	0.1741E+01	0.2000E+01	0.4450E+01	0.2535E+01	0.1487E+01	0.2000E+01
0.6000E-01	0.4450E+01	-0.2458E+01	0.1743E+01	0.2000E+01	0.4450E+01	0.2535E+01	0.1485E+01	0.2000E+01
0.8000E-01	0.4450E+01	-0.2456E+01	0.1750E+01	0.2000E+01	0.4450E+01	0.2537E+01	0.1482E+01	0.2000E+01
0.1000E+00	0.4450E+01	-0.2454E+01	0.1759E+01	0.2000E+01	0.4450E+01	0.2538E+01	0.1481E+01	0.2000E+01
0.1200E+00	0.4450E+01	-0.2452E+01	0.1768E+01	0.2000E+01	0.4450E+01	0.2539E+01	0.1480E+01	0.2000E+01
0.1400E+00	0.4450E+01	-0.2451E+01	0.1776E+01	0.2000E+01	0.4450E+01	0.2541E+01	0.1482E+01	0.2000E+01
0.1600E+00	0.4450E+01	-0.2450E+01	0.1784E+01	0.2000E+01	0.4450E+01	0.2542E+01	0.1485E+01	0.2000E+01
0.1800E+00	0.4450E+01	-0.2449E+01	0.1790E+01	0.2000E+01	0.4450E+01	0.2542E+01	0.1489E+01	0.2000E+01

0.2000E+00 0.4450E+01 -0.2449E+01 0.1794E+01 0.2000E+01 0.4450E+01 0.2542E+01 0.1494E+01 0.2000E+01
0.2200E+00 0.4450E+01 -0.2449E+01 0.1795E+01 0.2000E+01 0.4450E+01 0.2542E+01 0.1499E+01 0.2000E+01
0.2400E+00 0.4450E+01 -0.2450E+01 0.1793E+01 0.2000E+01 0.4450E+01 0.2541E+01 0.1504E+01 0.2000E+01
0.2600E+00 0.4450E+01 -0.2452E+01 0.1788E+01 0.2000E+01 0.4450E+01 0.2540E+01 0.1508E+01 0.2000E+01
0.2800E+00 0.4450E+01 -0.2454E+01 0.1781E+01 0.2000E+01 0.4450E+01 0.2539E+01 0.1510E+01 0.2000E+01
0.3000E+00 0.4450E+01 -0.2456E+01 0.1772E+01 0.2000E+01 0.4450E+01 0.2537E+01 0.1510E+01 0.2000E+01
0.3200E+00 0.4450E+01 -0.2457E+01 0.1763E+01 0.2000E+01 0.4450E+01 0.2536E+01 0.1508E+01 0.2000E+01
0.3400E+00 0.4450E+01 -0.2459E+01 0.1754E+01 0.2000E+01 0.4450E+01 0.2535E+01 0.1504E+01 0.2000E+01
0.3600E+00 0.4450E+01 -0.2459E+01 0.1746E+01 0.2000E+01 0.4450E+01 0.2535E+01 0.1497E+01 0.2000E+01
0.3800E+00 0.4450E+01 -0.2459E+01 0.1741E+01 0.2000E+01 0.4450E+01 0.2534E+01 0.1490E+01 0.2000E+01
0.4000E+00 0.4450E+01 -0.2458E+01 0.1738E+01 0.2000E+01 0.4450E+01 0.2535E+01 0.1482E+01 0.2000E+01
0.4200E+00 0.4450E+01 -0.2457E+01 0.1739E+01 0.2000E+01 0.4450E+01 0.2536E+01 0.1473E+01 0.2000E+01
0.4400E+00 0.4450E+01 -0.2455E+01 0.1743E+01 0.2000E+01 0.4450E+01 0.2537E+01 0.1466E+01 0.2000E+01
0.4600E+00 0.4450E+01 -0.2453E+01 0.1751E+01 0.2000E+01 0.4450E+01 0.2539E+01 0.1460E+01 0.2000E+01
0.4800E+00 0.4450E+01 -0.2450E+01 0.1760E+01 0.2000E+01 0.4450E+01 0.2540E+01 0.1456E+01 0.2000E+01
0.5000E+00 0.4450E+01 -0.2448E+01 0.1770E+01 0.2000E+01 0.4450E+01 0.2542E+01 0.1455E+01 0.2000E+01
0.5200E+00 0.4450E+01 -0.2446E+01 0.1781E+01 0.2000E+01 0.4450E+01 0.2544E+01 0.1456E+01 0.2000E+01
0.5400E+00 0.4450E+01 -0.2444E+01 0.1790E+01 0.2000E+01 0.4450E+01 0.2545E+01 0.1460E+01 0.2000E+01
0.5600E+00 0.4450E+01 -0.2444E+01 0.1798E+01 0.2000E+01 0.4450E+01 0.2545E+01 0.1466E+01 0.2000E+01
0.5800E+00 0.4450E+01 -0.2444E+01 0.1802E+01 0.2000E+01 0.4450E+01 0.2545E+01 0.1474E+01 0.2000E+01
0.6000E+00 0.4450E+01 -0.2445E+01 0.1803E+01 0.2000E+01 0.4450E+01 0.2545E+01 0.1482E+01 0.2000E+01
0.6200E+00 0.4450E+01 -0.2447E+01 0.1800E+01 0.2000E+01 0.4450E+01 0.2544E+01 0.1490E+01 0.2000E+01
0.6400E+00 0.4450E+01 -0.2449E+01 0.1794E+01 0.2000E+01 0.4450E+01 0.2542E+01 0.1498E+01 0.2000E+01
0.6600E+00 0.4450E+01 -0.2452E+01 0.1785E+01 0.2000E+01 0.4450E+01 0.2540E+01 0.1503E+01 0.2000E+01
0.6800E+00 0.4450E+01 -0.2455E+01 0.1774E+01 0.2000E+01 0.4450E+01 0.2538E+01 0.1506E+01 0.2000E+01
0.7000E+00 0.4450E+01 -0.2458E+01 0.1762E+01 0.2000E+01 0.4450E+01 0.2536E+01 0.1507E+01 0.2000E+01
0.7200E+00 0.4450E+01 -0.2460E+01 0.1751E+01 0.2000E+01 0.4450E+01 0.2534E+01 0.1505E+01 0.2000E+01
0.7400E+00 0.4450E+01 -0.2461E+01 0.1741E+01 0.2000E+01 0.4450E+01 0.2533E+01 0.1494E+01 0.2000E+01
0.7600E+00 0.4450E+01 -0.2461E+01 0.1732E+01 0.2000E+01 0.4450E+01 0.2533E+01 0.1485E+01 0.2000E+01
0.7800E+00 0.4450E+01 -0.2461E+01 0.1729E+01 0.2000E+01 0.4450E+01 0.2533E+01 0.1476E+01 0.2000E+01
0.8000E+00 0.4450E+01 -0.2460E+01 0.1729E+01 0.2000E+01 0.4450E+01 0.2534E+01 0.1476E+01 0.2000E+01
0.8200E+00 0.4450E+01 -0.2458E+01 0.1732E+01 0.2000E+01 0.4450E+01 0.2535E+01 0.1468E+01 0.2000E+01
0.8400E+00 0.4450E+01 -0.2455E+01 0.1739E+01 0.2000E+01 0.4450E+01 0.2537E+01 0.1460E+01 0.2000E+01
0.8600E+00 0.4450E+01 -0.2452E+01 0.1749E+01 0.2000E+01 0.4450E+01 0.2539E+01 0.1454E+01 0.2000E+01
0.8800E+00 0.4450E+01 -0.2449E+01 0.1760E+01 0.2000E+01 0.4450E+01 0.2541E+01 0.1450E+01 0.2000E+01
0.9000E+00 0.4450E+01 -0.2447E+01 0.1772E+01 0.2000E+01 0.4450E+01 0.2543E+01 0.1449E+01 0.2000E+01
0.9200E+00 0.4450E+01 -0.2444E+01 0.1784E+01 0.2000E+01 0.4450E+01 0.2545E+01 0.1451E+01 0.2000E+01
0.9400E+00 0.4450E+01 -0.2443E+01 0.1794E+01 0.2000E+01 0.4450E+01 0.2546E+01 0.1456E+01 0.2000E+01
0.9600E+00 0.4450E+01 -0.2442E+01 0.1801E+01 0.2000E+01 0.4450E+01 0.2546E+01 0.1462E+01 0.2000E+01
0.9800E+00 0.4450E+01 -0.2443E+01 0.1806E+01 0.2000E+01 0.4450E+01 0.2546E+01 0.1471E+01 0.2000E+01
0.1000E+01 0.4450E+01 -0.2444E+01 0.1865E+01 0.2000E+01 0.4450E+01 0.2545E+01 0.1480E+01 0.2000E+01
0.1020E+01 0.4450E+01 -0.2446E+01 0.1803E+01 0.2000E+01 0.4450E+01 0.2544E+01 0.1489E+01 0.2000E+01
0.1040E+01 0.4450E+01 -0.2449E+01 0.1797E+01 0.2000E+01 0.4450E+01 0.2542E+01 0.1497E+01 0.2000E+01
0.1060E+01 0.4450E+01 -0.2452E+01 0.1788E+01 0.2000E+01 0.4450E+01 0.2458E+01 0.1509E+01 0.2000E+01
0.1080E+01 0.4450E+01 -0.2458E+01 0.1768E+01 0.2000E+01 0.4450E+01 0.1976E+01 0.1548E+01 0.2000E+01
0.1100E+01 0.4450E+01 -0.2474E+01 0.1721E+01 0.1000E+01 0.4450E+01 0.1573E+01 0.1591E+01 0.2000E+01

0.1120E+01	0.4450E+01	-0.2526E+01	0.1538E+01	0.1000E+01	0.4450E+01	0.1487E+01	0.1686E+01	0.2000E+01
0.1140E+01	0.4450E+01	-0.2560E+01	0.1310E+01	0.1000E+01	0.4450E+01	0.1726E+01	0.1760E+01	0.2000E+01
0.1160E+01	0.4450E+01	-0.2542E+01	0.1212E+01	0.1000E+01	0.4450E+01	0.1815E+01	0.1609E+01	0.2000E+01
0.1180E+01	0.4450E+01	-0.2505E+01	0.1333E+01	0.1000E+01	0.4450E+01	0.1869E+01	0.1382E+01	0.2000E+01
0.1200E+01	0.4450E+01	-0.2457E+01	0.1542E+01	0.1000E+01	0.4450E+01	0.1906E+01	0.1220E+01	0.2000E+01
0.1220E+01	0.4450E+01	-0.2409E+01	0.1749E+01	0.1000E+01	0.4450E+01	0.1932E+01	0.1204E+01	0.1000E+01
0.1240E+01	0.4450E+01	-0.2381E+01	0.1895E+01	0.1000E+01	0.4450E+01	0.1952E+01	0.1291E+01	0.1000E+01
0.1260E+01	0.4450E+01	-0.2381E+01	0.1965E+01	0.1000E+01	0.4450E+01	0.1959E+01	0.1417E+01	0.1000E+01
0.1280E+01	0.4450E+01	-0.2411E+01	0.1973E+01	0.1000E+01	0.4450E+01	0.1946E+01	0.1583E+01	0.1000E+01
0.1300E+01	0.4450E+01	-0.2459E+01	0.1922E+01	0.1000E+01	0.4450E+01	0.1912E+01	0.1744E+01	0.1000E+01
0.1320E+01	0.4450E+01	-0.2500E+01	0.1862E+01	0.1000E+01	0.4450E+01	0.1875E+01	0.1862E+01	0.1000E+01
0.1340E+01	0.4450E+01	-0.2523E+01	0.1824E+01	0.1000E+01	0.4450E+01	0.1850E+01	0.1926E+01	0.1000E+01
0.1360E+01	0.4450E+01	-0.2529E+01	0.1814E+01	0.1000E+01	0.4450E+01	0.1844E+01	0.1942E+01	0.1000E+01

REAR TIRE DATA FILE (REAR.TIR for ITRS - TEST2)

0.0000E+00	-0.4800E+01	-0.2458E+01	0.1749E+01	0.2000E+01	-0.4800E+01	0.2536E+01	0.1489E+01	0.2000E+01
0.2000E-01	-0.4800E+01	-0.2458E+01	0.1745E+01	0.2000E+01	-0.4800E+01	0.2535E+01	0.1488E+01	0.2000E+01
0.4000E-01	-0.4800E+01	-0.2459E+01	0.1741E+01	0.2000E+01	-0.4800E+01	0.2535E+01	0.1487E+01	0.2000E+01
0.6000E-01	-0.4800E+01	-0.2458E+01	0.1743E+01	0.2000E+01	-0.4800E+01	0.2535E+01	0.1485E+01	0.2000E+01
0.8000E-01	-0.4800E+01	-0.2456E+01	0.1750E+01	0.2000E+01	-0.4800E+01	0.2537E+01	0.1482E+01	0.2000E+01
0.1000E+00	-0.4800E+01	-0.2454E+01	0.1759E+01	0.2000E+01	-0.4800E+01	0.2538E+01	0.1481E+01	0.2000E+01
0.1200E+00	-0.4800E+01	-0.2452E+01	0.1768E+01	0.2000E+01	-0.4800E+01	0.2539E+01	0.1480E+01	0.2000E+01
0.1400E+00	-0.4800E+01	-0.2451E+01	0.1776E+01	0.2000E+01	-0.4800E+01	0.2541E+01	0.1482E+01	0.2000E+01
0.1600E+00	-0.4800E+01	-0.2450E+01	0.1784E+01	0.2000E+01	-0.4800E+01	0.2542E+01	0.1485E+01	0.2000E+01
0.1800E+00	-0.4800E+01	-0.2449E+01	0.1790E+01	0.2000E+01	-0.4800E+01	0.2542E+01	0.1489E+01	0.2000E+01
0.2000E+00	-0.4800E+01	-0.2449E+01	0.1794E+01	0.2000E+01	-0.4800E+01	0.2542E+01	0.1494E+01	0.2000E+01
0.2200E+00	-0.4800E+01	-0.2449E+01	0.1795E+01	0.2000E+01	-0.4800E+01	0.2542E+01	0.1499E+01	0.2000E+01
0.2400E+00	-0.4800E+01	-0.2450E+01	0.1793E+01	0.2000E+01	-0.4800E+01	0.2541E+01	0.1504E+01	0.2000E+01
0.2600E+00	-0.4800E+01	-0.2452E+01	0.1788E+01	0.2000E+01	-0.4800E+01	0.2540E+01	0.1508E+01	0.2000E+01
0.2800E+00	-0.4800E+01	-0.2454E+01	0.1781E+01	0.2000E+01	-0.4800E+01	0.2539E+01	0.1510E+01	0.2000E+01
0.3000E+00	-0.4800E+01	-0.2456E+01	0.1772E+01	0.2000E+01	-0.4800E+01	0.2537E+01	0.1510E+01	0.2000E+01
0.3200E+00	-0.4800E+01	-0.2457E+01	0.1763E+01	0.2000E+01	-0.4800E+01	0.2536E+01	0.1508E+01	0.2000E+01
0.3400E+00	-0.4800E+01	-0.2459E+01	0.1754E+01	0.2000E+01	-0.4800E+01	0.2535E+01	0.1504E+01	0.2000E+01
0.3600E+00	-0.4800E+01	-0.2459E+01	0.1746E+01	0.2000E+01	-0.4800E+01	0.2535E+01	0.1497E+01	0.2000E+01
0.3800E+00	-0.4800E+01	-0.2459E+01	0.1741E+01	0.2000E+01	-0.4800E+01	0.2534E+01	0.1490E+01	0.2000E+01
0.4000E+00	-0.4800E+01	-0.2458E+01	0.1738E+01	0.2000E+01	-0.4800E+01	0.2535E+01	0.1482E+01	0.2000E+01
0.4200E+00	-0.4800E+01	-0.2457E+01	0.1739E+01	0.2000E+01	-0.4800E+01	0.2536E+01	0.1473E+01	0.2000E+01
0.4400E+00	-0.4800E+01	-0.2455E+01	0.1743E+01	0.2000E+01	-0.4800E+01	0.2537E+01	0.1466E+01	0.2000E+01
0.4600E+00	-0.4800E+01	-0.2453E+01	0.1751E+01	0.2000E+01	-0.4800E+01	0.2539E+01	0.1460E+01	0.2000E+01
0.4800E+00	-0.4800E+01	-0.2450E+01	0.1760E+01	0.2000E+01	-0.4800E+01	0.2540E+01	0.1456E+01	0.2000E+01
0.5000E+00	-0.4800E+01	-0.2448E+01	0.1770E+01	0.2000E+01	-0.4800E+01	0.2542E+01	0.1455E+01	0.2000E+01
0.5200E+00	-0.4800E+01	-0.2446E+01	0.1781E+01	0.2000E+01	-0.4800E+01	0.2544E+01	0.1456E+01	0.2000E+01
0.5400E+00	-0.4800E+01	-0.2444E+01	0.1790E+01	0.2000E+01	-0.4800E+01	0.2545E+01	0.1460E+01	0.2000E+01

0.5600E+00	-0.4800E+01	-0.2444E+01	0.11798E+01	0.2000E+01	-0.4800E+01	0.2545E+01	0.1466E+01	0.2000E+01
0.5800E+00	-0.4800E+01	-0.2444E+01	0.1802E+01	0.2000E+01	-0.4800E+01	0.2545E+01	0.1474E+01	0.2000E+01
0.6000E+00	-0.4800E+01	-0.2445E+01	0.1803E+01	0.2000E+01	-0.4800E+01	0.2545E+01	0.1482E+01	0.2000E+01
0.6200E+00	-0.4800E+01	-0.2447E+01	0.1800E+01	0.2000E+01	-0.4800E+01	0.2544E+01	0.1490E+01	0.2000E+01
0.6400E+00	-0.4800E+01	-0.2449E+01	0.1794E+01	0.2000E+01	-0.4800E+01	0.2542E+01	0.1498E+01	0.2000E+01
0.6600E+00	-0.4800E+01	-0.2452E+01	0.1785E+01	0.2000E+01	-0.4800E+01	0.2540E+01	0.1503E+01	0.2000E+01
0.6800E+00	-0.4800E+01	-0.2455E+01	0.1774E+01	0.2000E+01	-0.4800E+01	0.2538E+01	0.1506E+01	0.2000E+01
0.7000E+00	-0.4800E+01	-0.2458E+01	0.1762E+01	0.2000E+01	-0.4800E+01	0.2536E+01	0.1507E+01	0.2000E+01
0.7200E+00	-0.4800E+01	-0.2460E+01	0.1751E+01	0.2000E+01	-0.4800E+01	0.2534E+01	0.1505E+01	0.2000E+01
0.7400E+00	-0.4800E+01	-0.2461E+01	0.1741E+01	0.2000E+01	-0.4800E+01	0.2533E+01	0.1500E+01	0.2000E+01
0.7600E+00	-0.4800E+01	-0.2461E+01	0.1733E+01	0.2000E+01	-0.4800E+01	0.2533E+01	0.1494E+01	0.2000E+01
0.7800E+00	-0.4800E+01	-0.2461E+01	0.1729E+01	0.2000E+01	-0.4800E+01	0.2533E+01	0.1485E+01	0.2000E+01
0.8000E+00	-0.4800E+01	-0.2460E+01	0.1729E+01	0.2000E+01	-0.4800E+01	0.2534E+01	0.1476E+01	0.2000E+01
0.8200E+00	-0.4800E+01	-0.2458E+01	0.1732E+01	0.2000E+01	-0.4800E+01	0.2535E+01	0.1468E+01	0.2000E+01
0.8400E+00	-0.4800E+01	-0.2455E+01	0.1739E+01	0.2000E+01	-0.4800E+01	0.2537E+01	0.1460E+01	0.2000E+01
0.8600E+00	-0.4800E+01	-0.2452E+01	0.1749E+01	0.2000E+01	-0.4800E+01	0.2539E+01	0.1454E+01	0.2000E+01
0.8800E+00	-0.4800E+01	-0.2449E+01	0.1760E+01	0.2000E+01	-0.4800E+01	0.2541E+01	0.1450E+01	0.2000E+01
0.9000E+00	-0.4800E+01	-0.2447E+01	0.1772E+01	0.2000E+01	-0.4800E+01	0.2543E+01	0.1449E+01	0.2000E+01
0.9200E+00	-0.4800E+01	-0.2444E+01	0.1784E+01	0.2000E+01	-0.4800E+01	0.2545E+01	0.1451E+01	0.2000E+01
0.9400E+00	-0.4800E+01	-0.2443E+01	0.1794E+01	0.2000E+01	-0.4800E+01	0.2546E+01	0.1456E+01	0.2000E+01
0.9600E+00	-0.4800E+01	-0.2442E+01	0.1801E+01	0.2000E+01	-0.4800E+01	0.2546E+01	0.1462E+01	0.2000E+01
0.9800E+00	-0.4800E+01	-0.2443E+01	0.1806E+01	0.2000E+01	-0.4800E+01	0.2546E+01	0.1471E+01	0.2000E+01
0.1000E+01	-0.4800E+01	-0.2444E+01	0.1806E+01	0.2000E+01	-0.4800E+01	0.2545E+01	0.1480E+01	0.2000E+01
0.1020E+01	-0.4800E+01	-0.2446E+01	0.1803E+01	0.2000E+01	-0.4800E+01	0.2544E+01	0.1489E+01	0.2000E+01
0.1040E+01	-0.4800E+01	-0.2449E+01	0.1797E+01	0.2000E+01	-0.4800E+01	0.2542E+01	0.1497E+01	0.2000E+01
0.1060E+01	-0.4800E+01	-0.2452E+01	0.1788E+01	0.2000E+01	-0.4800E+01	0.2540E+01	0.1505E+01	0.2000E+01
0.1080E+01	-0.4800E+01	-0.2458E+01	0.1768E+01	0.1000E+01	-0.4800E+01	0.2536E+01	0.1520E+01	0.2000E+01
0.1100E+01	-0.4800E+01	-0.2474E+01	0.1721E+01	0.1000E+01	-0.4800E+01	0.2273E+01	0.1569E+01	0.2000E+01
0.1120E+01	-0.4800E+01	-0.2526E+01	0.1538E+01	0.1000E+01	-0.4800E+01	0.2006E+01	0.1705E+01	0.2000E+01
0.1140E+01	-0.4800E+01	-0.2560E+01	0.1310E+01	0.1000E+01	-0.4800E+01	0.1908E+01	0.1779E+01	0.2000E+01
0.1160E+01	-0.4800E+01	-0.2542E+01	0.1212E+01	0.1000E+01	-0.4800E+01	0.1863E+01	0.1613E+01	0.2000E+01
0.1180E+01	-0.4800E+01	-0.2505E+01	0.1333E+01	0.1000E+01	-0.4800E+01	0.1889E+01	0.1383E+01	0.2000E+01
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0.1300E+01	-0.4800E+01	-0.2459E+01	0.1922E+01	0.1000E+01	-0.4800E+01	0.1946E+01	0.1743E+01	0.1000E+01
0.1320E+01	-0.4800E+01	-0.2500E+01	0.1862E+01	0.1000E+01	-0.4800E+01	0.1909E+01	0.1862E+01	0.1000E+01
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TERRAIN DATA FILE (ITRS.TER for ITRS - TEST2)

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