

Figure G-1.25 Test Setup - Reference Calibration - Loadcell

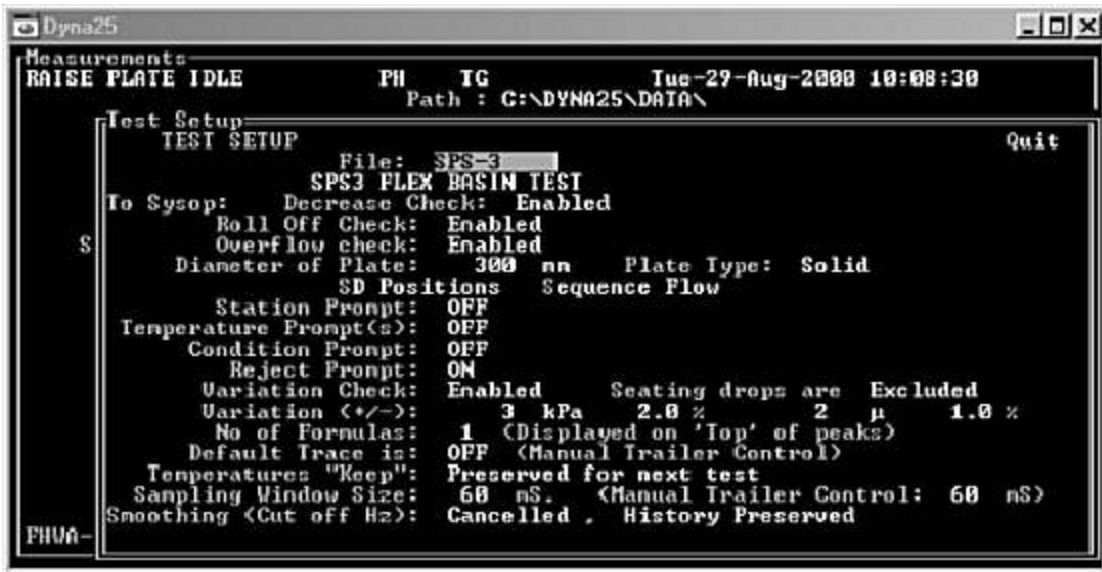


Figure G-1.26 Test Setup - SPS3 Flex Basin Test



Figure G-1.27 Test Setup - SPS4 Rigid Test Plan

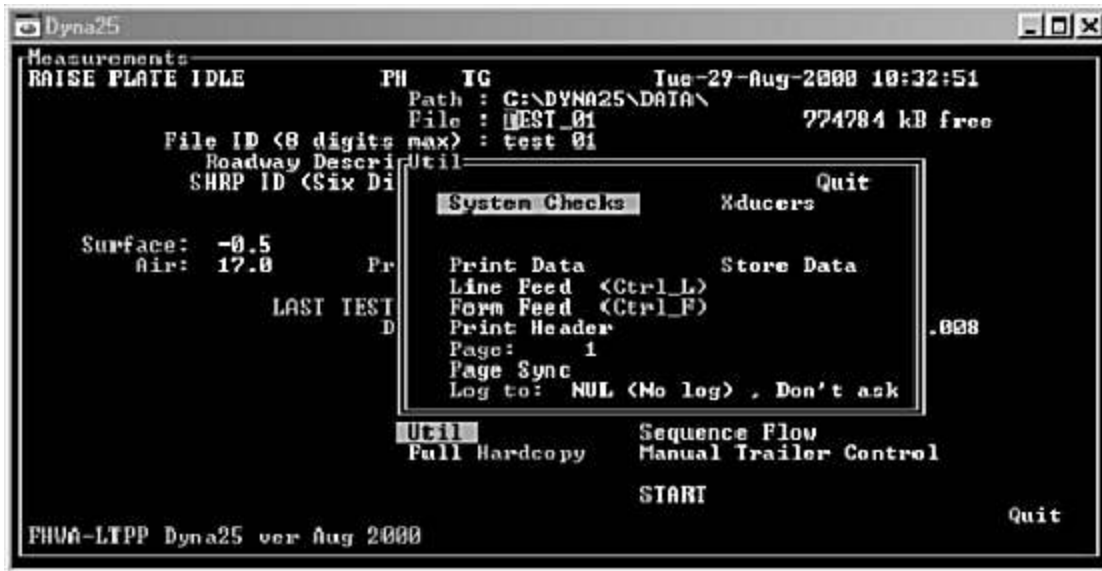


Figure G-1.28 Utilities Options

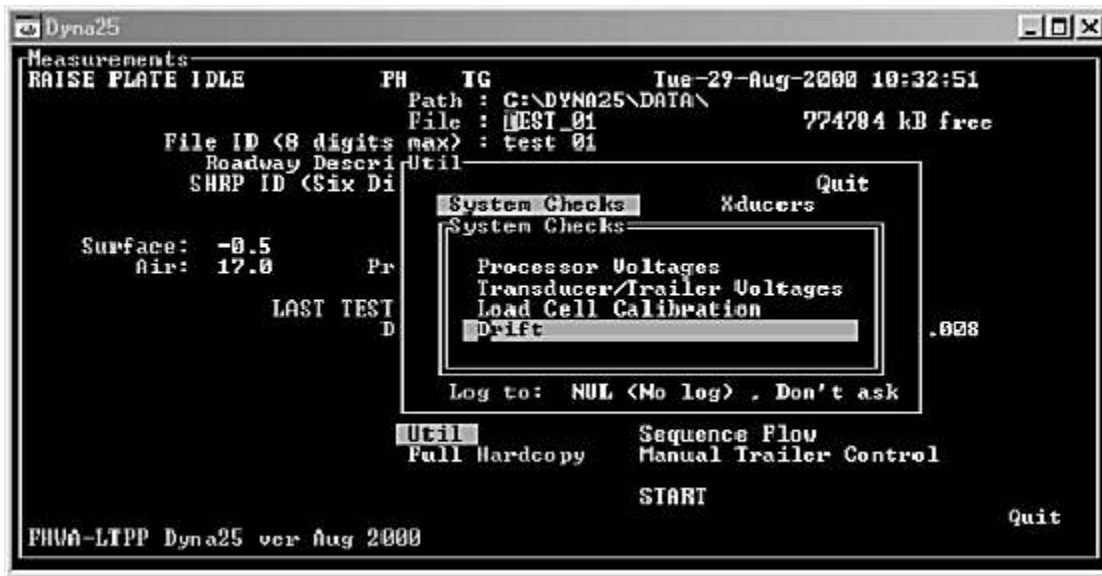


Figure G-1.29 Utilities - System Checks

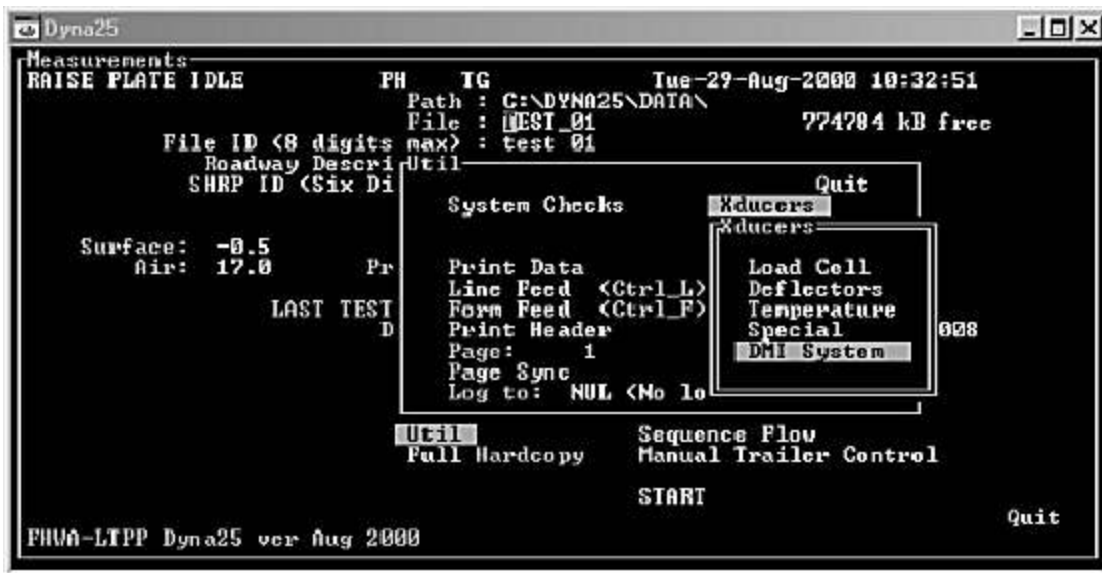


Figure G-1.30 Utilities - Xducers



Figure G-1.31 Trailer - Limits and Timing

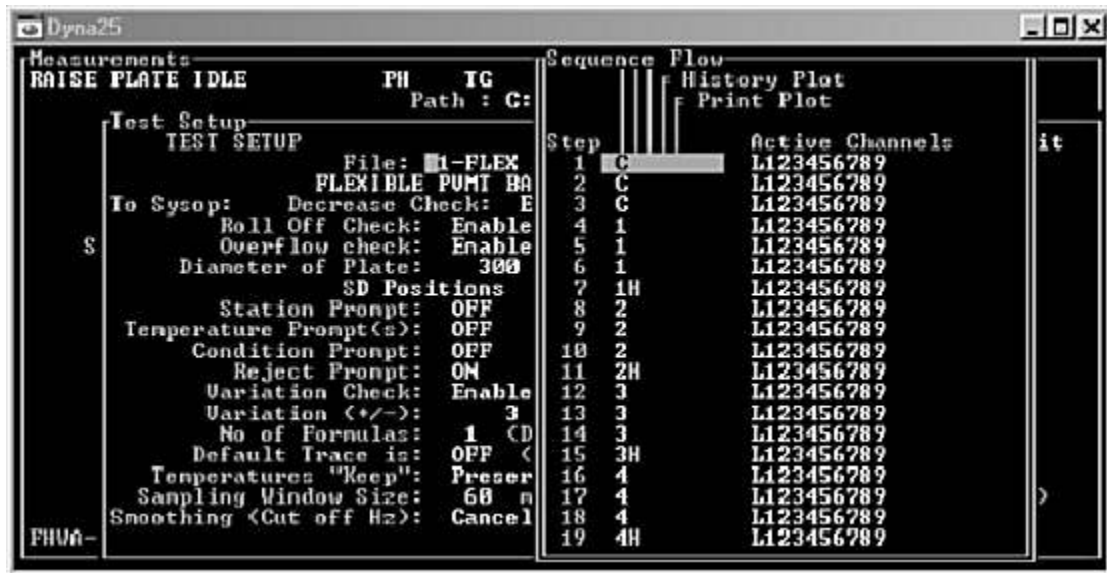


Figure G-1.32 Sequence Flow



Figure G-1.33 Load Cell Calibration



Figure G-1.34 Processor Voltages



Figure G-1.35 Page Format

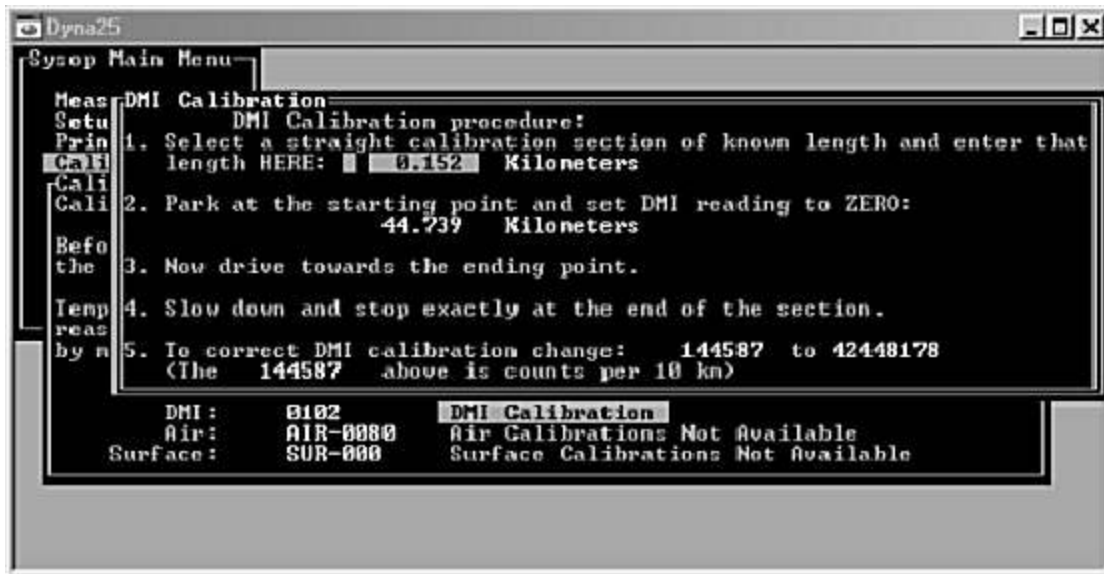


Figure G-1.36 DMI Calibrations

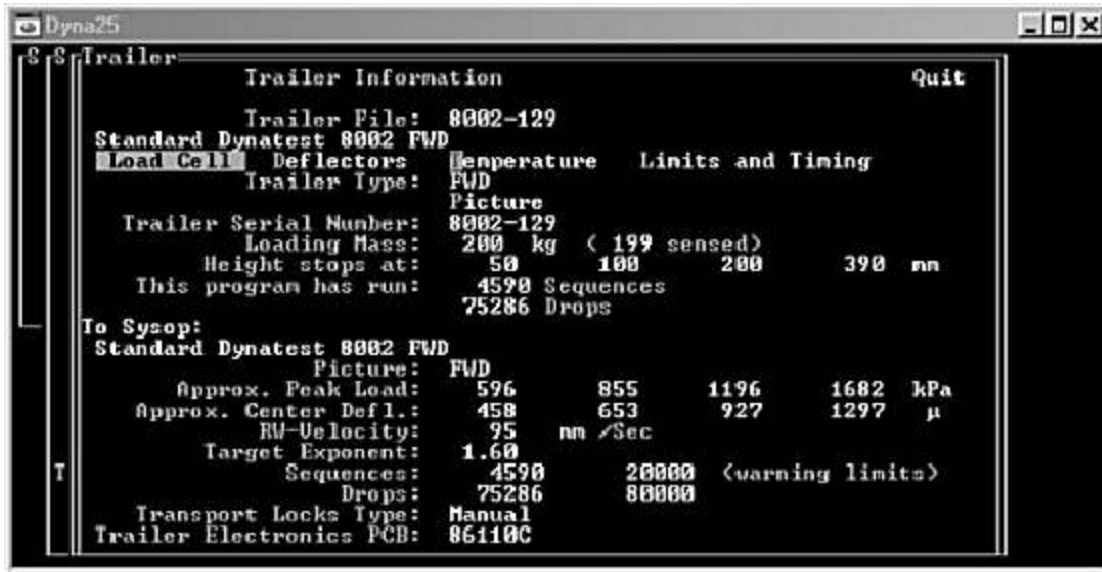


Figure G-1.37 Trailer Information

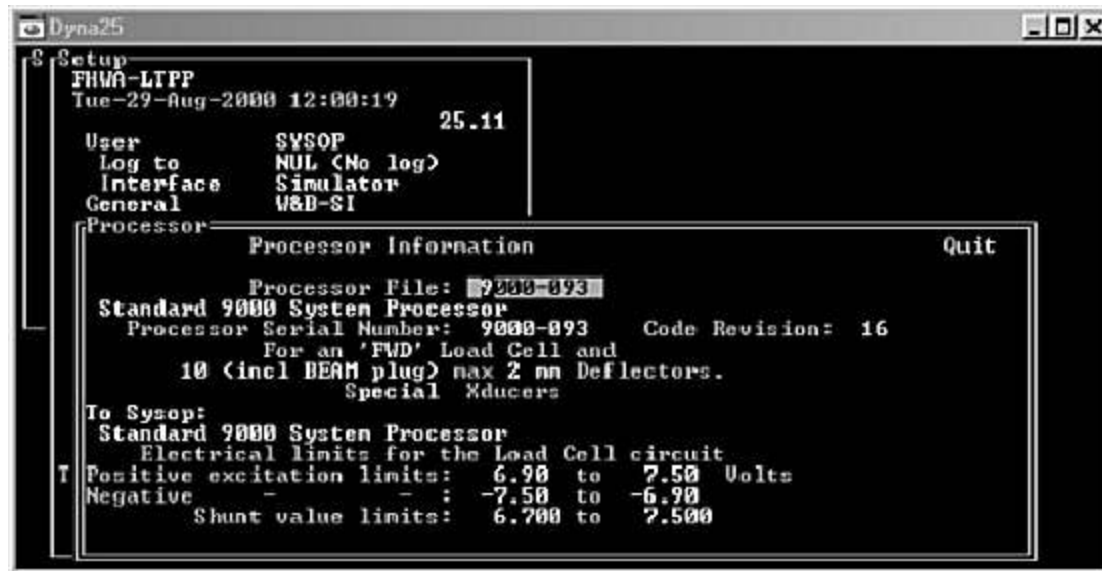


Figure G-1.38 Processor Information

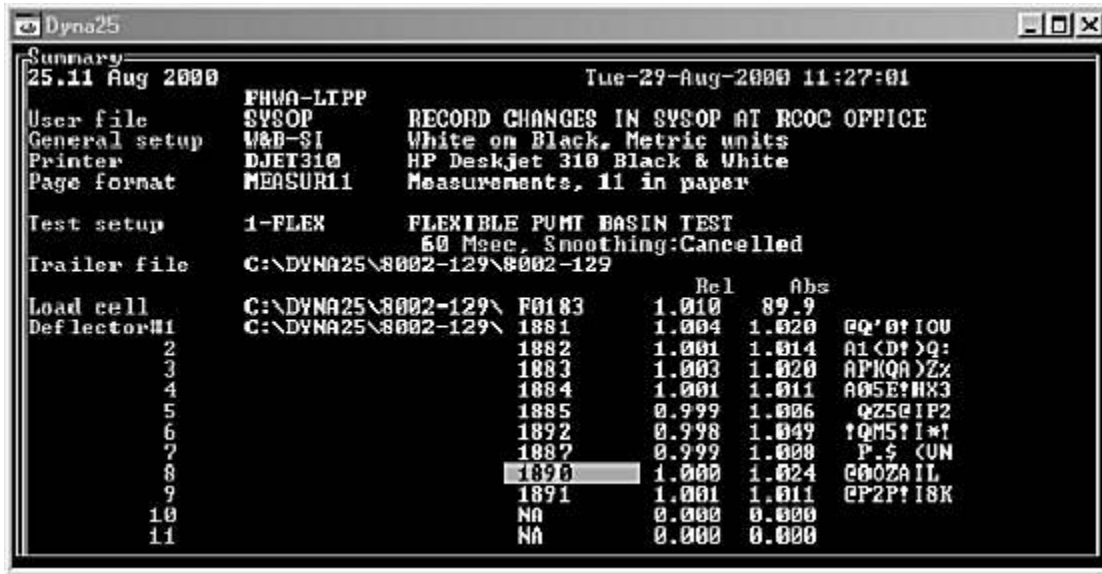


Figure G-1.39 Setup Summary

EXAMPLE F25 UPLOAD FILE FORMATS AND LISTINGS

Introduction

The Edition 25 FWD (LTPP Dyna25 ver Aug 2000) field data collection program produces two output files from field measurements. The output file with the file name extension F25 contains the header information and peak load and deflection data to be uploaded into the IMS in ASCII text format. This file typically contains 46 lines of "header" information followed by test data and/or comments. Each line or record is prefixed by a four digit "Line-ID-Number" (LIN) or object field, which identifies its format and content. Data elements on a line are stored in a fixed column, comma separated, format. Most of the text fields are enclosed in double quotes. This text data is stored as entered by the operator with leading and trailing spaces in some cases. Numbers are right justified. The second output file from the LTPP Dyna25 software contains the time history information in a binary format. The programs HISTORY9.EXE, HIST911F.exe and HIST912F.exe provided by the FWD manufacturer, are used to convert this file from binary to ASCII. The time history data is not loaded into the IMS.

In this appendix, a detailed, annotated, description of the format and contents of the Edition 25 upload file is presented. This is followed by a complete listing of the data file used in the format description. Example data files created using the FWD data file simulator, which generates an example data file which contains a data from a single test point, are also presented for many of the LTPP FWD test plans.

Annotated Description of LTPP Edition 25 FWD Upload File Format

In the following format and content descriptions of the FWD Dyna25 upload file, fields on each data line are specified using an [X, Y] column designation, where X is the begin column and Y the end column, since the data are placed in fixed column width locations. Each line of data in the file is prefixed with a Line ID Number (LIN), which serves as an object field, in columns [1,4]. This LIN is used to describe the contents of each line. Also used in the description of the header portion of file is the sequential line number in which each LIN appears in a typical file.

For values to be loaded into the IMS, the table and field name(s) are shown in the contents description of each items on the data line. Data items not loaded into the IMS are labeled as "Not Loaded" (however, some of these items are used by the filter program).

The remainder of this appendix is presented in a fixed column font to preserve column relationships in the data file formats.

Header Data

Typically, the first 46 lines of data in the Dyna25 FWD data file, as customized by LTPP, contains header data. The number of lines of header data in the file is shown in columns 14 and 15 in the first line of the data file.

```

1.   Program Version - LIN 5001
      5001,25.11,1,46, 4, 1,"Aug 2000      "

      [ 6, 7] 25      Program Edition - MON_DEFL_MASTER.SOFTWARE_VERSION
      [ 8, 10] .11     Program Edition Version - Not loaded
      [ 12, 12] 1      No of Headers (always 1) - Not loaded
      [ 14, 15] 46     No of Lines in Header - Not loaded
      [ 17, 18] 4      Lines per Station Id - Not loaded
      [ 20, 21] 1      Lines per Drop - Not loaded
      [ 24, 39] Aug 2000 Program Comment - Not Loaded

2.   Primary "Files" - LIN 5002
      5002,"25SIN    ","8002-061","9000-323"
      [ 7, 14] 25SIN   Data Format Setup File - 25SIN (SI units with Numeric
                        Stations) LTPP Standard - Not Loaded
      [ 18, 25] 8002-061 Trailer File -DEFL_UNIT_ID in MON_DEFL_MASTER,
                        MON_DEFL_LOC_INFO, MON_DEFL_DROP_DATA
      [ 29, 36] 9000-323 Processor File - Not Loaded

3.   Secondary "Files" - LIN 5003
      5003,"OPERATOR","3-RGD_LT"

      [ 7, 14] OPERATOR Operator File; Not Loaded
      [ 18, 25] 3-RGD_LT TSU - Test Setup File - Used to determine drop number and
                        drop height sequence; Not Loaded

4.   Units & History option - LIN 5010
      5010,0,0,0,0,0,0,0,5,1,0,0,0,0,0,1,0,0,0,0,0,1,"H25"

      [ 6, 6] 0      Temperature - 0=deg C, 1=deg F; Not Loaded
      [ 8, 8] 0      Spare
      [ 10, 10] 0     Weight (Mass) - 0=Kg, 1=lb; Not Loaded
      [ 12, 12] 0     Spare
      [ 14, 14] 0     Deflection - 0=microns, 1=milli-inches; Not Loaded
      [ 16, 16] 0     Distance - 0=mm, 1=inch; Not Loaded
      [ 18, 18] 0     Spare
      [ 20, 20] 5     Location      2=Meters      ; Not Loaded
                        3=km
                        4=km extended
                        5=Feet, LTPP Standard
                        6=Yards
                        7=Miles
                        8=Miles extended
                        9=Miles.feet

      [ 22, 22] 1     Geographic angle; Not Loaded
      [ 24, 24] 0     Force - 0=kN, 1=lb; Not Loaded
      [ 26, 26] 0     Pressure - 0=kPa, 1=psi; Not Loaded
      [ 28, 28] 0     Heavy Pressure; Not Loaded
      [ 30, 30] 0     Spare
      [ 32, 32] 0     Spare
      [ 34, 34] 1     Angle (Rad, Deg); Not Loaded
      [ 36, 36] 0     Spare
      [ 38, 38] 0     Spare
      [ 40, 40] 0     Spare

```

```
[ 42, 42] 0 Spare
[ 44, 44] 0 Spare
[ 46, 46] 1 History Mode, 0=ASCII 1=BINARY (separate file); Not Loaded
[ 49, 51] H25 History File Extension; Not Loaded
```

5. Date and Time

```
5011,0,1,1999,11,08,17,32,1,"Mon",312
```

```
[ 6, 6] 0 Date
[ 8, 8] 1 Time
[ 10, 20] 1999,11,08 Date - TEST_DATE in MON_DEFL_MASTER, MON_DEFL_LOC_INFO, and
MON_DEFL_DROP_DATA
[ 11, 14] 1999 Year
[ 16, 17] 11 Month
[ 19, 20] 08 Day
[ 22, 26] 17,32 Time; Not Loaded
[ 22, 23] 17 Hour; Not Loaded
[ 25, 26] 32 Minute; Not Loaded
[ 28, 28] 1 Day of week (0=Sun); Not Loaded
[ 31, 33] Mon Literal Day of week; Not Loaded
[ 36, 38] 312 Julian Day (1=Jan 1); Not Loaded
```

6. Load Cell - LIN 5200

```
5200,"F0201",2,0.980,87.6,-0.72,7.229
```

```
[ 7, 8] F0 First two Characters Load Cell File Name; Not Loaded
[ 9, 11] 201 Load Cell Serial Number -
MON_DEFL_DEV_CONFIG.LOAD_CELL_SERIAL_NO
[ 12, 14] Remaining Characters in load Cell File Name; Not Loaded
[ 17, 17] 2 Type
[ 19, 23] 0.980 Relative Gain - MON_DEFL_DEV_CONFIG.LOAD_CELL_REL_GAIN
[ 25, 29] 87.6 Absolute Gain - MON_DEFL_DEV_CONFIG.LOAD_CELL_INIT_GAIN
[ 31, 36] -0.72 Unbalanced Zero; Not Loaded
[ 38, 44] 7.229 Shunt Value; Not Loaded
```

7. Deflection Sensors - LIN 5201 - 5218

```
5201,"2181",4,0.998,1.014
```

```
[ 1, 4] 5201 LIN Number - Representing Sensor Number
[ 1, 2] 52 First two Digits of LIN
[ 3, 4] 01 Sensor Number - MON_DEFL_DEV_SENSORS.SENSOR_NO
LTPP Standard Setup 1, 2, 3, ... 9
[ 7, 14] 2181 Deflection Sensor File Name, Deflection Sensor Serial Number
- MON_DEFL_DEV_SENSORS.SENSOR_SERIAL_NO
Equal to NA if Sensor Not Active.
[ 17, 17] 4 Type; Not Loaded
[ 19, 23] 0.998 Relative Gain - MON_DEFL_DEV_SENSORS.RELATIVE_GAIN
[ 25, 29] 1.014 Absolute Gain - MON_DEFL_DEV_SENSORS.INITIAL_GAIN
```

LIN 5202...5218 (lines 8..24) same format as LIN 5201

25. Load Plate Radius and X Positions of Deflection Sensors - LIN 5020

```
5020,150,0,203,305,457,610,914,1219,1524,-305,N0,...
```

```
[ 6, 11] 150 Load Plate Radius- MON_DEFL_DEV_CONFIG.PLATE_RADIUS
[ 13, 18] 0 X-Position Sensor 1 - MON_DEFL_DEV_SENSORS.CENTER_OFFSET for
MON_DEFL_DEV_SENSORS.SENSOR_NO=1
[ 20, 25] 203 X-Position Sensor 2 - MON_DEFL_DEV_SENSORS.CENTER_OFFSET for
MON_DEFL_DEV_SENSORS.SENSOR_NO=2
[ 27, 32] 305 X-Position Sensor 3 - MON_DEFL_DEV_SENSORS.CENTER_OFFSET for
MON_DEFL_DEV_SENSORS.SENSOR_NO=3
[ 34, 39] 457 X-Position Sensor 4 - MON_DEFL_DEV_SENSORS.CENTER_OFFSET for
```

MON_DEFL_DEV_SENSORS.SENSOR_NO=4

- ```

.
.
.
[132,137] NO X-Position Sensor 18 - NO - Not Active; Not Loaded

26. Load Plate Diameter of Plate and Y-Positions of Deflection Sensors - LIN 5021
5021, 300, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, NO, ...

[6, 11] 300 Load Plate Diameter; Not Loaded
[13, 18] 0 Y - Position of Sensor 1; Not Loaded
[20, 25] 0 Y - Position of Sensor 2; Not Loaded
[27, 32] 0 Y - Position of Sensor 3; Not Loaded
.
.
[132,137] NO Y - Position of Sensor 18, Not Loaded

27. "Other" Physicals - LIN 5022
5022,0, 200, 192, 50, 100, 200, 390

[6, 6] 0 Plate Type: 0=Standard 1=Split Plate; Not Loaded
[8, 11] 200 Loading Mass; Not Loaded
[13, 16] 192 Mass (sensed); Not Loaded
[18, 22] 50 Load Height ONE; Not Loaded
[24, 28] 100 Load Height TWO; Not Loaded
[30, 34] 200 Load Height THREE; Not Loaded
[36, 40] 390 Load Height FOUR; Not Loaded

28. Station and Lane Information - LIN 5023
5023,1,3,2, 8, 481, 481, 1, 328,1,1

[6, 6] 1 Station is: 0=Alpha 1=Numeric; Not Loaded
[8, 8] 3 Numeric Station is: 1=Real, 2=Location, 3=DMI, 4=DMI Rounded;
 Not Loaded
[10, 10] 2 Step Mode: 0=None, 1=Fixed, 2=Logical; Not Loaded
[12, 19] 8 Min Station; Not Loaded
[21, 28] 481 Max Station; Not Loaded
[30, 37] 481 Previous Station; Not Loaded
[39, 46] 1 Station Step; Not Loaded
[48, 55] 328 DMI Rounding; Not Loaded
[57, 57] 1 Lane is: 0=Alpha 1=Numeric; Not Loaded
[59, 59] 1 Numeric Lane is: 1=Real 2=Location; Not Loaded

29. Test Setup Options - LIN 5024
5024,0,0,0,1,0,1, 3, 2.0, 2, 3.0,0,0,0, 120

[6, 6] 0 Station Prompt; Not Loaded
[8, 8] 0 Temperature Prompt(s); Not Loaded
[10, 10] 0 Condition Prompt; Not Loaded
[12, 12] 1 Reject Prompt; Not Loaded
[14, 14] 0 Decrease Check; Not Loaded
[16, 16] 1 Roll Off Check; Not Loaded
[18, 23] 3 Pressure Variation; Not Loaded
[25, 28] 2.0 Pressure Variation %; Not Loaded
[30, 35] 2 Deflection Variation; Not Loaded
[37, 40] 3.0 Deflection Variation %; Not Loaded
[42, 42] 0 Temperatures "Keep"; Not Loaded
[44, 44] 0 Smoothing, Used to determine MON_DEFL_MASTER.FILTER_MODE
[46, 46] 0 History Smoothing, Used to determine
 MON_DEFL_MASTER.FILTER_MODE
[48, 51] 120 Cut off (Hz), Used to determine MON_DEFL_MASTER.FILTER_MODE

30. No of Sequences, Drops total - LIN 5029

```

```

5029, 20, 240, 134, 2579
[6, 13] 20 Sequences stored in file; Not Loaded
[15, 22] 240 Drops stored in file; Not Loaded
[24, 31] 134 Total No Sequences Run by Program with this Rig; Not Loaded
[33, 40] 2579 Total No Drops Run by Program with this Rig; Not Loaded

```

31. Operator Name - LIN 5030  
 5030,"Mike Esposito"

[ 7, 38] Mike Espos.. Operators Name - **MON\_DEFL\_MASTER.OPERATOR**

32. LTPP FWD File Name - LIN 5031  
 5031,"060811C3"

[ 7, 14] 060811C3 LTPP FWD Data File Name; Not Loaded

33. LTPP STATE\_CODE & SHRP\_ID - LIN 7924

7924,"060811"

[ 7, 8] 06 LTPP STATE\_CODE, used in **MON\_DEFL\_MASTER, MON\_DEFL\_LOC\_INFO,**  
 and **MON\_DEFL\_DROP\_DATA**

[ 9, 12] 0811 LTPP SHRP\_ID, used in **MON\_DEFL\_MASTER, MON\_DEFL\_LOC\_INFO,**  
 and **MON\_DEFL\_DROP\_DATA**

34. Subsection Id - LIN 5032

5032,"SYCAMORE,CA SPS-8 KM 103+80.0"

[ 7, 51] SYCAMOR... Roadway ID and Description - **MON\_DEFL\_MASTER.ROADWAY\_ID**

35. Operator File Comment - LIN 7920

7920,"060811"

[ 7, 51] 060811... Operator File Comment; Not Loaded

Lines 36 (LIN 5301), 37 (LIN 5302), and 38 (LIN 5303) present the "Station Information" at the time of file closing. These LIN have the same format as those presented for the test data below. The data from these LIN entries in the header are not loaded into the IMS.

36. Station Id for NUMERIC type Station and Lane - LIN 5301 (This LIN in the header portion of the data file is not loaded)

5301,2,1,3,5, 15,1,1, 0.000,1999,11,08,17,32,"J5","13"

```

[6, 6] 2 Side of Road
[8, 8] 1 Station
[10, 10] 3 Numeric Station
[12, 12] 5 Location
[14, 21] 15 Station
[23, 23] 1 Alpha/Numeric Lane
[25, 25] 1 Numeric Lane
[27, 34] 0.000 Lane
[36, 45] 1999,11,08 Date
[36, 39] 1999 Year
[41, 42] 11 Month
[44, 45] 08 Day
[47, 51] 17,32 Time
[47, 48] 17 Hour
[50, 51] 32 Minute
[54, 55] J5 LTPP LANE_NO Code
[59, 60] 13 LTPP CRACK_JOINT_OPEN_WIDTH, mm

```

37. Comment Codes - LIN 5302 (This LIN in the header portion of the data file is not loaded)

5302,0,1,8,2,0,0,0,0

|           |   |          |
|-----------|---|----------|
| [ 6, 6]   | 0 | Weather  |
| [ 8, 8]   | 1 | Sunlight |
| [ 10, 10] | 8 | Pavement |
| [ 12, 12] | 2 | Cracks   |
| [ 14, 14] | 0 | E        |
| [ 16, 16] | 0 | F        |
| [ 18, 18] | 0 | G        |
| [ 20, 20] | 0 | H        |

38. Temperatures - LIN 5303 (This LIN in the header portion of the data file is not loaded)

5303,0, 0.0, 16.7, 18.3

|           |      |                                            |
|-----------|------|--------------------------------------------|
| [ 6, 6]   | 0    | Temperature Units Code: 0= Deg C, 1= Deg F |
| [ 8, 12]  | 0.0  | Asphalt                                    |
| [ 14, 18] | 16.7 | Pavement Surface                           |
| [ 20, 24] | 18.3 | Air                                        |

Lines 37..40 are the most recently used Comments 1..4.

39. Most Recently Used Comment 1 - LIN 5041

5041," "
   
[ 7, 51] Comment 1, Not Loaded

40. Air Temperature Sensor Calibration Voltage at 0 Deg C - LIN 8672

8672,2698

[ 6, 9] 2698 Air Temperature Sensor Voltage @ 0 Deg C, milli-volts,
   
**MON\_DEFL\_DEV\_CONFIG.AIR\_SENSOR\_VOLTAGE\_0C**

41. Air Temperature Sensor Calibration Voltage at 100 Deg C - LIN 8673

8673,3708

[ 6, 9] 3708 Air Temperature Sensor Voltage @ 100 Deg C, milli-Volts,
   
**MON\_DEFL\_DEV\_CONFIG.AIR\_SENSOR\_VOLTAGE\_100C**

42. Pavement Surface Temperature Sensor Calibration Voltage at 0 Deg C - LIN 8682

8682,1259

[ 6, 9] 1259 Pavement Surface Temperature Sensor Voltage @ 0 Deg C, milli-
   
volts, **MON\_DEFL\_DEV\_CONFIG.PVMT\_SENSOR\_VOLTAGE\_0C**

43. Pavement Surface Temperature Sensor Calibration Voltage at 100 Deg C - LIN 8683

8683,4217

[ 6, 9] 4217 Pavement Surface Temperature Sensor Voltage @ 100 Deg C,
   
milli-volts, **MON\_DEFL\_DEV\_CONFIG.PVMT\_SENSOR\_VOLTAGE\_100C**

44. Most Recently Used Comment 2 - LIN 5042

5042,"NO OBVIOUS DISTRESS AT TEST LOCATIONS. "

[ 7, 51] NO OBVIOUS... Operator Comment 2, (This LIN in the header portion of the data file is not loaded)

45. Most Recently Used Comment 3 - LIN 5043

5043," "

[ 7, 82] Operator Comment 3, Not Loaded

46. Most Recently Used Comment 4 - LIN 5044

5044," "

[ 7, 82] Operator Comment 4, Not Loaded

### Test Data

In the test data portion of the file, test data are stored in chronological order in repeating data blocks which contain measurements at each test point or station. The number of data lines in each data group varies depending on the test setup and the operators use of the optional Crack/Joint opening measurement field. The test data are arranged in the following groups:

Optional Crack/Joint Opening Measurement - LIN 7925  
 Station Information - LIN 5301, 5302, and 5303  
 Operator Comment - LIN 7902  
 FWD Peak Load and Deflection Measurements  
 Time History Blocks - LIN 5185

### Station Information

Unless the LIN 7925 option was used, each block of test data typically begins with three lines of station information. The first line of station information data always has a LIN of 5301.

LIN 5301 Station Id for NUMERIC type Station and Lane -

5301,2,1,3,5, 8,1,1, 0.000,1999,11,08,16,24,"J4","13"

[ 6, 6] 2 Side of Road; Not Loaded  
 [ 8, 8] 1 Station is: 0=Alpha 1=Numeric; Not Loaded  
 [ 10, 10] 3 Numeric Station is: 1=Real, 2=Location, 3=DMI, 4=DMI Rounded; Not Loaded  
 [ 12, 12] 5 Location 2=Meters ; Not Loaded  
 3=km  
 4=km extended  
 5=Feet, **LTPP Standard**  
 6=Yards  
 7=Miles  
 8=Miles extended  
 9=Miles.feet  
 [ 14, 21] 8 Station, converted to meters and loaded as POINT\_LOC in **MON\_DEFL\_LOC\_INFO** and **MON\_DEFL\_DROP\_DATA** for all records for this station (POINT\_LOC)  
 [ 23, 23] 1 Alpha/Numeric Lane, 0=Alpha 1=Numeric; Not Loaded

[ 25, 25] 1 Numeric Lane, 1=Real 2=Location; Not Loaded  
 [ 27, 34] 0.000 Lane; Not Loaded  
 [ 36, 45] 1999,11,08 Date, loaded as TEST\_DATE in **MON\_DEFL\_LOC\_INFO** and **MON\_DEFL\_DROP\_DATA** for all records for this station (POINT\_LOC).  
 [ 36, 39] 1999 Year  
 [ 41, 42] 11 Month  
 [ 44, 45] 08 Day  
 [ 47, 51] 16,24 Time, loaded as TEST\_TIME in **MON\_DEFL\_LOC\_INFO** and **MON\_DEFL\_DROP\_DATA** for all records for this station (POINT\_LOC).  
 [ 47, 48] 16 Hour, 00 - 24  
 [ 50, 51] 24 Minute, 00-59  
 [ 54, 55] J4 LTPP LANE\_NO Code, Loaded as LANE\_NO in **MON\_DEFL\_LOC\_INFO** and **MON\_DEFL\_DROP\_DATA** for all records for this station (POINT\_LOC).  
 [ 59, 60] 13 LTPP CRACK\_JOINT\_OPEN\_WIDTH, mm, loaded as **MON\_DEFL\_LOC\_INFO.CRACK\_JOINT\_OPEN\_WIDTH**

LIN 5302 Comment Codes - LIN 5302 (Data from this LIN are not loaded)

5302,0,1,8,2,0,0,0,0

[ 6, 6] 0 Weather Code; Not Loaded  
 [ 8, 8] 1 Sunlight Code; Not Loaded  
 [ 10, 10] 8 Pavement Code; Not Loaded  
 [ 12, 12] 2 Cracks Code; Not Loaded  
 [ 14, 14] 0 E; Not Loaded  
 [ 16, 16] 0 F; Not Loaded  
 [ 18, 18] 0 G; Not Loaded  
 [ 20, 20] 0 H; Not Loaded

LIN 5303 Temperatures - LIN 5303

5303,0, 0.0, 20.2, 21.7

[ 6, 6] 0 Temperature Units Code: 0= Deg C, 1= Deg F; Not Loaded  
 [ 8, 12] 0.0 Asphalt; Not Loaded  
 [ 14, 18] 20.2 Pavement Surface Temperature, loaded as **MON\_DEFL\_LOC\_INFO.PVMT\_SURF\_TEMP**  
 [ 20, 24] 21.7 Air Temperature, loaded as **MON\_DEFL\_LOC\_INFO.AIR\_TEMP\_TEST**

LIN 7901 - Pre-Test Operator Comment

7901," "

[ 7, 51] Pre Test Operator Comment, not loaded into IMS

LIN 7902 - Post-Test Operator Comment

7902,"NO OBVIOUS DISTRESS AT TEST LOCATIONS. "

[ 7, 51] NO OBVIOUS... Operator Comment, Loaded as **MON\_DEFL\_LOC\_INFO.COMMENTS\_1**

### FWD Peak Load and Deflection Measurements

The lines which contain FWD peak load and deflection values use the LIN object field as a sequence step number. Its value corresponds to the drop number in the load sequence at the test location. (Which is not the same as the value stored as DROP\_NO in the IMS.) For most LTPP data, the LIN will start with 4, since 3 seating drops are normally performed prior to recording the deflection and load measurements. (Note, for some LANE\_NO codes, only two seating drops are performed.) The following example data are 4 repeat drops from two drop

heights. The number of drop heights, repeat drops, and order of drop height varies depending on the LANE\_NO.

|     |      |      |      |      |      |      |      |      |     |     |
|-----|------|------|------|------|------|------|------|------|-----|-----|
| 4,  | 572, | 209, | 194, | 179, | 159, | 140, | 109, | 85,  | 68, | 169 |
| 5,  | 575, | 210, | 195, | 181, | 160, | 141, | 110, | 86,  | 68, | 170 |
| 6,  | 579, | 212, | 196, | 182, | 161, | 142, | 111, | 86,  | 69, | 171 |
| 7,  | 575, | 211, | 195, | 181, | 160, | 141, | 110, | 86,  | 68, | 170 |
| 8,  | 771, | 276, | 258, | 239, | 210, | 185, | 144, | 111, | 90, | 223 |
| 9,  | 775, | 278, | 260, | 241, | 212, | 185, | 145, | 112, | 90, | 225 |
| 10, | 775, | 279, | 259, | 241, | 212, | 186, | 145, | 113, | 90, | 225 |
| 11, | 778, | 279, | 260, | 241, | 212, | 186, | 145, | 112, | 90, | 226 |
| .   |      |      |      |      |      |      |      |      |     |     |
| .   |      |      |      |      |      |      |      |      |     |     |

- [ 1, 4]           4       Sequence Step No is LIN, Used to compute values for DROP\_NO and DROP\_HEIGHT in **MON\_DEFL\_DROP\_DATA**
- [ 6, 11]        572      Peak Load (pressure) (kPa), loaded as **MON\_DEFL\_DROP\_DATA.DROP\_LOAD**
- [ 13, 18]      209      Peak Deflection Sensor 1, microns, loaded as **MON\_DEFL\_DROP\_DATA.PEAK\_DEFL\_1**
- [ 20, 25]      194      Peak Deflection Sensor 2, microns, loaded as **MON\_DEFL\_DROP\_DATA.PEAK\_DEFL\_2**
- [ 27, 32]      179      Peak Deflection Sensor 3, microns, loaded as **MON\_DEFL\_DROP\_DATA.PEAK\_DEFL\_3**
- [ 34, 39]      159      Peak Deflection Sensor 4, microns, loaded as **MON\_DEFL\_DROP\_DATA.PEAK\_DEFL\_4**
- [ 41, 46]      140      Peak Deflection Sensor 5, microns, loaded as **MON\_DEFL\_DROP\_DATA.PEAK\_DEFL\_5**
- [ 48, 53]      109      Peak Deflection Sensor 6, microns, loaded as **MON\_DEFL\_DROP\_DATA.PEAK\_DEFL\_6**
- [ 55, 60]      85       Peak Deflection Sensor 7, microns, loaded as **MON\_DEFL\_DROP\_DATA.PEAK\_DEFL\_7**
- [ 62, 67]      68       Peak Deflection Sensor 8, microns, loaded as **MON\_DEFL\_DROP\_DATA.PEAK\_DEFL\_8**
- [ 69, 74]      169      Peak Deflection Sensor 9, microns, loaded as **MON\_DEFL\_DROP\_DATA.PEAK\_DEFL\_9**
- [ 75, \*]        If more than 9 sensors are used on the FWD, the deflection values are repeated in the same sequence. For LTPP, 9 is the maximum number of sensors used.

**Time History Blocks**

```

5185,2,1,3,5, 8,1,1, 0.000,1999,11,08,16,24, 7,1100, 100, 0
[6, 6] 2 Side of Road; Not Loaded
[8, 8] 1 Station is: 0=Alpha 1=Numeric; Not Loaded
[10,10] 3 Numeric Station is: 1=Real, 2=Location, 3=DMI, 4=DMI Rounded;
 Not Loaded
[12,12] 5 Location 2=Meters ; Not Loaded
 3=km
 4=km extended
 5=Feet, LTPP Standard
 6=Yards
 7=Miles
 8=Miles extended
 9=Miles.feet
[14,21] 8 Station, not loaded from this LIN type
[23,23] 1 Alpha/Numeric Lane, 0=Alpha 1=Numeric; Not Loaded
[25,25] 1 Numeric Lane, 1=Real 2=Location; Not Loaded
[27,34] 0.000 Lane; Not Loaded
[36,45] 1999,11,08 Date, not loaded from this LIN type
[36,39] 1999 Year
[41,42] 11 Month
[44,45] 08 Day
[47,51] 16,24 Time, not loaded from this LIN type
[47,48] 16 Hour, 00 - 24
[50,51] 24 Minute, 00-59
[53,54] 7 Sequence Step, used to match sequence step in peak load and
 deflection data lines in order to load value for
MON_DEFL_DROP_DATA.HISTORY_STORED
[56,59] 1100 Line Count (Samples per Channel)constant for all time history
 data contained in the file, loaded once for each data file as
MON_DEFL_MASTER.NO_HISTORY_STEPS
[61,64] 100 Time step (uSec 'per Line'), constant for all time history
 data contained in the file, loaded once for each data file as
MON_DEFL_MASTER.HISTORY_TIME_STEP
[66,75] 0 File Position, -1=time history stored as ASCII in this file,
 ≥ 0 line number in binary history file, Not Loaded

```

Standard LTPP protocol for FWD testing using Dyan25 is to store time history data in a separate binary file. In this case, File Position should be ≥ 0. If the File Position is -1, the time history data is stored in this file, following the reference LIN 5185. The number of lines of time history data correspond to the value specified in Line Count in LIN 5185. The time history data are stored in the same format in the peak load and deflection measurements discussed above, with the exception that the LIN value starts with 1001 and is incremented by one for each successive line. If the time history data are stored in this file, the filter program should not load the values.

### Complete Fwd \*.F25 File Used in Annotated Format Description

```

5001,25.11,1,46, 4, 1,"Aug 2000 "
5002,"25SIN ","8002-061","9000-323"
5003,"OPERATOR","3-RGD LT"
5010,0,0,0,0,0,0,0,5,1,0,0,0,0,0,1,0,0,0,0,0,1,"H25"
5011,0,1,1999,11,08,17,32,1,"Mon",312
5200,"F0201 ",2,0.980, 87.6, -0.72, 7.229
5201,"2181 ",4,0.998,1.014
5202,"2182 ",4,0.996,1.032
5203,"2183 ",4,0.997,1.041
5204,"2184 ",4,0.998,1.024
5205,"2185 ",4,0.996,1.009
5206,"2186 ",4,1.001,1.000
5207,"3092 ",4,1.000,1.038
5208,"3458 ",4,0.997,0.987
5209,"3459 ",4,0.999,1.008
5210,"NA ",0,0.000,0.000
5211,"NA ",0,0.000,0.000
5212,"NA ",0,0.000,0.000
5213,"NA ",0,0.000,0.000
5214,"NA ",0,0.000,0.000
5215,"NA ",0,0.000,0.000
5216,"NA ",0,0.000,0.000
5217,"NA ",0,0.000,0.000
5218,"NA ",0,0.000,0.000
5020, 150, 0, 203, 305, 457, 610, 914, 1219, 1524, -305,NO ,NO ,NO ,NO ,NO
 ,NO ,NO ,NO
5021, 300, 0, 0, 0, 0, 0, 0, 0, 0, 0,NO ,NO ,NO ,NO ,NO
 ,NO ,NO ,NO
5022,0, 200, 192, 50, 100, 200, 390
5023,1,3,2, 8, 481, 481, 1, 328,1,1
5024,0,0,0,1,0,1, 3, 2.0, 2, 3.0,0,0,0, 120
5029, 20, 240, 134, 2579
5030,"Bill Murray"
5031,"060811C3"
7924,"060811"
5032,"SYCAMORE,CA SPS-8 KM 103+80.0"
7920,"060811"
5301,2,1,3,5, 15,1,1, 0.000,1999,11,08,17,32,"J5","13"
5302,0,1,8,2,0,0,0,0
5303,0, 0.0, 16.7, 18.3
5041,"
8672,2698
8673,3708
8682,1259
8683,4217
5042,"NO OBVIOUS DISTRESS AT TEST LOCATIONS."
5043,"
5044,"
5301,2,1,3,5, 8,1,1, 0.000,1999,11,08,16,24,"J4","13"
5302,0,1,8,2,0,0,0,0
5303,0, 0.0, 20.2, 21.7
7901,"
7902,"NO OBVIOUS DISTRESS AT TEST LOCATIONS."
 4, 572, 209, 194, 179, 159, 140, 109, 85, 68, 169
 5, 575, 210, 195, 181, 160, 141, 110, 86, 68, 170
 6, 579, 212, 196, 182, 161, 142, 111, 86, 69, 171
 7, 575, 211, 195, 181, 160, 141, 110, 86, 68, 170
 8, 771, 276, 258, 239, 210, 185, 144, 111, 90, 223
 9, 775, 278, 260, 241, 212, 185, 145, 112, 90, 225
10, 775, 279, 259, 241, 212, 186, 145, 113, 90, 225
11, 778, 279, 260, 241, 212, 186, 145, 112, 90, 226
12, 1010, 355, 331, 307, 271, 237, 184, 142, 115, 286
13, 1011, 355, 334, 309, 269, 236, 184, 142, 114, 291
14, 1014, 358, 334, 310, 272, 238, 185, 143, 115, 290
15, 1012, 357, 332, 308, 273, 238, 185, 143, 115, 287
5185,2,1,3,5, 8,1,1, 0.000,1999,11,08,16,24, 7,1100, 100, 0
5185,2,1,3,5, 8,1,1, 0.000,1999,11,08,16,24,11,1100, 100, 11064
5185,2,1,3,5, 8,1,1, 0.000,1999,11,08,16,24,15,1100, 100, 22128
5301,2,1,3,5, 9,1,1, 0.000,1999,11,08,16,28,"J5","13"

```

The following portion of this appendix contains example data files, generated using the FWD simulator program, which are typical of the different LTPP FWD test patterns. (Note that the section ID numbers are fictitious.) Each data set only contains only one station and the data on LIN's 5020 and 5021 have been truncated for better legibility. (The files also contain intentional misspellings to replicate real-world conditions)

- Example data file 1 - Typical output from flexible pavement test setup
- Example data file 2 - Typical output from rigid pavement basin/edge test setup
- Example data file 3 - Typical output from rigid pavement load transfer test setup
- Example data file 4 - Typical output from P059 base test setup
- Example data file 5 - Typical output from P059 subgrade test setup
- Example data file 6 - Typical output from SPS-3 test setup
- Example data file 7 - Typical output from SPS-4 test setup

**Example data file 1 - Typical output from flexible pavement test setup**

```

5001,25.11,1,46, 4, 1,"Aug 2000 "
5002,"25SIN ", "8002-129", "9000-316"
5003,"OPERATOR ", "1-FLEX "
5010,0,0,0,0,0,0,0,5,1,0,0,0,0,0,1,0,0,0,0,0,1, "H25"
5011,0,1,1999,10,26,16,25,2, "Wed", 299
5200,"F0183 ", 2,1.010, 89.9, 0.02, 7.133
5201,"1881 ", 4,1.004,1.020
5202,"1882 ", 4,1.001,1.014
5203,"1883 ", 4,1.003,1.020
5204,"1884 ", 4,1.001,1.011
5205,"1885 ", 4,0.999,1.006
5206,"1892 ", 4,0.998,1.049
5207,"1887 ", 4,0.999,1.008
5208,"1890 ", 4,1.000,1.024
5209,"1891 ", 4,1.001,1.011
5210,"NA ", 0,0.000,0.000
5211,"NA ", 0,0.000,0.000
5212,"NA ", 0,0.000,0.000
5213,"NA ", 0,0.000,0.000
5214,"NA ", 0,0.000,0.000
5215,"NA ", 0,0.000,0.000
5216,"NA ", 0,0.000,0.000
5217,"NA ", 0,0.000,0.000
5218,"NA ", 0,0.000,0.000
5020, 150, 0, 203, 305, 457, 610, 914, 1219, 1524, -305,NO
5021, 300, 0, 0, 0, 0, 0, 0, 0, 0, 0,NO
5022,0, 200, 199, 50, 100, 200, 390
5023,1,3,2,NO ,NO ,NO , 0.100, 328,1,1
5024,0,0,0,0,1,1,1, 3, 2.0, 2, 1.0,0,0,0, 120
5029, 1, 16, 364, 6227
5030,"Bill Murray "
5031,"991000a2"
7924,"991000"
5032,"I-75, SOUTHBOUND "
7920,"Testing Filter file format for SAIC "
5301,2,1,3,5, 181062,1,1, 0.0,1999,10,26,16,25, "C1", " "
5302,0,1,8,2,0,0,0,0
5303,0, 0.0, -0.5, 17.3
5041," "
8672,2762
8673,3740
8682,1316
8683,4055
5042,"NO OBVIOUS DISTRESS AT TEST LOCATIONS. "
5043," "
5044," "
5301,2,1,3,5, 181062,1,1, 0.000,1999,10,26,16,25, "F1", " "
5302,0,1,8,2,0,0,0,0
5303,0, 0.0, -0.5, 17.3
7901," "
7902,"NO OBVIOUS DISTRESS AT TEST LOCATIONS "
4, 595, 458, 403, 380, 339, 292, 209, 127, 42, 378
5, 595, 463, 409, 381, 336, 295, 212, 127, 42, 381
6, 606, 464, 408, 374, 335, 293, 208, 127, 42, 381
7, 605, 458, 409, 381, 336, 295, 210, 126, 42, 380
8, 846, 655, 575, 540, 472, 420, 294, 179, 59, 535
9, 851, 658, 576, 539, 475, 416, 300, 177, 59, 534
10, 852, 657, 569, 536, 478, 415, 295, 179, 59, 540
11, 854, 658, 574, 529, 473, 416, 299, 177, 59, 539
12, 1209, 931, 816, 763, 668, 584, 422, 254, 84, 749
13, 1208, 925, 812, 755, 668, 592, 424, 250, 84, 761
14, 1194, 924, 811, 756, 675, 591, 419, 250, 84, 753
15, 1190, 924, 808, 750, 674, 592, 419, 251, 84, 763
16, 1684, 1288, 1125, 1062, 934, 814, 585, 355, 118, 1055
17, 1668, 1289, 1131, 1059, 938, 823, 590, 354, 117, 1057
18, 1680, 1286, 1129, 1054, 943, 824, 583, 355, 116, 1052
19, 1690, 1290, 1135, 1064, 942, 820, 588, 350, 118, 1055
5185,2,1,3,5, 181062,1,1, 0.000,1999,10,26,16,25, 7,1100, 100, 0
5185,2,1,3,5, 181062,1,1, 0.000,1999,10,26,16,25,11,1100, 100, 11064

```

5185,2,1,3,5, 181062,1,1, 0.000,1999,10,26,16,25,15,1100, 100, 22128  
 5185,2,1,3,5, 181062,1,1, 0.000,1999,10,26,16,25,19,1100, 100, 33192

**Example data file 2 - Typical output from rigid pavement basin/edge test setup**

5001,25.11,1,46, 4, 1,"Aug 2000 " "  
 5002,"25SIN ", "8002-129", "9000-316"  
 5003,"OPERATOR ", "2-RGD\_BE"  
 5010,0,0,0,0,0,0,0,5,1,0,0,0,0,0,1,0,0,0,0,1, "H25"  
 5011,0,1,1999,10,26,16,05,2, "Tue",299  
 5200,"F0183 ",2,1.010, 89.9, 0.02, 7.127  
 5201,"1881 ",4,1.004,1.020  
 5202,"1882 ",4,1.001,1.014  
 5203,"1883 ",4,1.003,1.020  
 5204,"1884 ",4,1.001,1.011  
 5205,"1885 ",4,0.999,1.006  
 5206,"1892 ",4,0.998,1.049  
 5207,"1887 ",4,0.999,1.008  
 5208,"1890 ",4,1.000,1.024  
 5209,"1891 ",4,1.001,1.011  
 5210,"NA ",0,0.000,0.000  
 5211,"NA ",0,0.000,0.000  
 5212,"NA ",0,0.000,0.000  
 5213,"NA ",0,0.000,0.000  
 5214,"NA ",0,0.000,0.000  
 5215,"NA ",0,0.000,0.000  
 5216,"NA ",0,0.000,0.000  
 5217,"NA ",0,0.000,0.000  
 5218,"NA ",0,0.000,0.000  
 5020, 150, 0, 203, 305, 457, 610, 914, 1219, 1524, -305,NO  
 5021, 300, 0, 0, 0, 0, 0, 0, 0, 0, 0,NO  
 5022,0, 200, 196, 50, 100, 200, 390  
 5023,1,3,2, 176150, 176150, 176150, 0, 328,1,1  
 5024,0,0,0,1,0,1, 3, 2.0, 2, 1.0,0,0,0, 120  
 5029, 1, 12, 364, 6227  
 5030,"Bill Murray "  
 5031,"48sa98a2"  
 7924,"481057"  
 5032,"I-75, SOUTHBOUND "  
 7920,"testing SHRP ID and file naming convention "  
 5301,2,1,3,5, 176150,1,1, 0.000,1999,10,26,16,05, "C1", " "  
 5302,0,1,8,2,0,0,0,0  
 5303,0, 0.0, -0.5, 17.6  
 5041,"CORNER/EDGE "  
 8672,2762  
 8673,3740  
 8682,1316  
 8683,4055  
 5042,"NO OBVIOUS DISTRESS AT TEST LOCATIONS. "  
 5043," "  
 5044," "  
 5301,2,1,3,5, 176150,1,1, 0.000,1999,10,26,16,05, "C1", " "  
 5302,0,1,8,2,0,0,0,0  
 5303,0, 0.0, -0.5, 17.7  
 7901," "  
 7902,"NO OBVIOUS DISTRESS AT TEST LOCATIONS. "  
 4, 848, 659, 577, 534, 471, 418, 296, 177, 59, 539  
 5, 855, 653, 572, 534, 474, 417, 297, 179, 60, 538  
 6, 848, 654, 576, 533, 473, 415, 299, 179, 59, 540  
 7, 841, 651, 579, 534, 476, 419, 298, 178, 59, 531  
 8, 1212, 924, 807, 753, 674, 592, 420, 250, 84, 751  
 9, 1196, 927, 818, 762, 668, 584, 422, 251, 84, 752  
 10, 1189, 932, 815, 750, 675, 582, 421, 253, 84, 752  
 11, 1210, 930, 815, 756, 676, 591, 418, 252, 85, 757  
 12, 1689, 1297, 1130, 1058, 932, 818, 585, 352, 117, 1065  
 13, 1682, 1297, 1146, 1053, 931, 819, 584, 355, 117, 1053  
 14, 1662, 1291, 1135, 1057, 934, 816, 586, 356, 117, 1058  
 15, 1672, 1288, 1141, 1065, 942, 822, 587, 355, 117, 1046  
 5185,2,1,3,5, 176150,1,1, 0.000,1999,10,26,16,05, 7,1100, 100, 132768  
 5185,2,1,3,5, 176150,1,1, 0.000,1999,10,26,16,05,11,1100, 100, 143832  
 5185,2,1,3,5, 176150,1,1, 0.000,1999,10,26,16,05,15,1100, 100, 154896

**Example data file 3 - Typical output from rigid pavement load transfer test setup**

```

5001,25.11,1,46, 4, 1,"Aug 2000 "
5002,"25SIN ", "8002-059", "9000-316"
5003,"OPERATOR", "3-RGD_LT"
5010,0,0,0,0,0,0,0,5,1,0,0,0,0,0,1,0,0,0,0,0,1, "H25"
5011,0,1,1999,10,28,16,05,4, "Wed", 301
5200,"F0201 ", 2,1.000, 87.6, 0.03, 7.140
5201,"2181 ", 4,1.001,1.014
5202,"2182 ", 4,1.001,1.032
5203,"2183 ", 4,1.002,1.041
5204,"2184 ", 4,1.000,1.024
5205,"2185 ", 4,0.997,1.009
5206,"2186 ", 4,1.000,1.000
5207,"2187 ", 4,1.001,0.986
5208,"2188 ", 4,0.999,1.012
5209,"0811 ", 4,1.000,1.067
5210,"NA ", 0,0.000,0.000
5211,"NA ", 0,0.000,0.000
5212,"NA ", 0,0.000,0.000
5213,"NA ", 0,0.000,0.000
5214,"NA ", 0,0.000,0.000
5215,"NA ", 0,0.000,0.000
5216,"NA ", 0,0.000,0.000
5217,"NA ", 0,0.000,0.000
5218,"NA ", 0,0.000,0.000
5020, 150, 0, 203, 305, 457, 610, 914, 1219, 1524, -305,NO
5021, 300, 0, 0, 0, 0, 0, 0, 0, 0, 0,NO
5022,0, 200, 205, 50, 100, 200, 390
5023,1,3,2,NO ,NO ,NO , 0.100, 328,1,1
5024,0,0,0,1,0,1, 3, 2.0, 2, 1.0,0,0,0, 120
5029, 2, 24, 0, 0
5030,"Bill Murray"
5031,"992000a1"
7924,"481057"
5032,"I-75, SOUTHBOUND"
7920,"Testing Filter file output test for SAIC"
5301,2,1,3,5, 44389,1,1, 0.0,1999,10,28,16,05, "F1", "2 "
5302,0,1,8,2,0,0,0,0
5303,0, 0.0, 39.3, 20.3
5041,"
8672,2730
8673,3730
8682, 800
8683,2080
5042,"NO OBVIOUS DISTRESS AT TEST LOCATIONS."
5043,"
5044,"
5301,2,1,3,5, 44389,1,1, 0.000,1999,10,26,15,56, "J1", "2 "
5302,0,1,8,2,0,0,0,0
5303,0, 0.0, 39.2, 20.1
7901,"
7902,"NO OBVIOUS DISTRESS AT TEST LOCATIONS."
4, 843, 660, 575, 531, 478, 419, 297, 178, 60, 534
5, 850, 656, 573, 538, 475, 412, 298, 179, 60, 531
6, 853, 660, 578, 537, 472, 417, 295, 180, 60, 540
7, 843, 651, 572, 539, 474, 417, 298, 177, 59, 540
8, 1201, 930, 807, 751, 675, 587, 422, 252, 83, 759
9, 1198, 918, 811, 751, 677, 593, 418, 250, 84, 758
10, 1207, 928, 816, 758, 674, 582, 423, 252, 84, 759
11, 1204, 933, 806, 763, 667, 592, 417, 251, 84, 758
12, 1678, 1288, 1126, 1065, 932, 816, 591, 353, 118, 1056
13, 1670, 1287, 1128, 1048, 948, 824, 591, 352, 118, 1055
14, 1672, 1280, 1138, 1052, 930, 825, 591, 355, 118, 1046
15, 1673, 1296, 1129, 1064, 932, 817, 582, 352, 118, 1045
5185,2,1,3,5, 44389,1,1, 0.000,1999,10,26,15,56, 7,1100, 100, 0
5185,2,1,3,5, 44389,1,1, 0.000,1999,10,26,15,56,11,1100, 100, 11064
5185,2,1,3,5, 44389,1,1, 0.000,1999,10,26,15,56,15,1100, 100, 22128

```

**Example data file 4 - Typical output from P059 base test setup**

```

5001,25.11,1,46, 4, 1,"Aug 2000 "
5002,"25SIN ", "8002-129", "9000-316"
5003,"OPERATOR ", "P059_BAS"
5010,0,0,0,0,0,0,0,5,1,0,0,0,0,1,0,0,0,0,0,1, "H25"
5011,0,1,1999,10,26,16,10,2, "Wed",299
5200,"F0183 ",2,1.010, 89.9, 0.02, 7.126
5201,"1881 ",4,1.004,1.020
5202,"1882 ",4,1.001,1.014
5203,"1883 ",4,1.003,1.020
5204,"1884 ",4,1.001,1.011
5205,"1885 ",4,0.999,1.006
5206,"1892 ",4,0.998,1.049
5207,"1887 ",4,0.999,1.008
5208,"1890 ",4,1.000,1.024
5209,"1891 ",4,1.001,1.011
5210,"NA ",0,0.000,0.000
5211,"NA ",0,0.000,0.000
5212,"NA ",0,0.000,0.000
5213,"NA ",0,0.000,0.000
5214,"NA ",0,0.000,0.000
5215,"NA ",0,0.000,0.000
5216,"NA ",0,0.000,0.000
5217,"NA ",0,0.000,0.000
5218,"NA ",0,0.000,0.000
5020, 150, 0, 203, 305, 457, 610, 914, 1219, 1524, -305,NO
5021, 300, 0, 0, 0, 0, 0, 0, 0, 0, 0,NO
5022,0, 200, 204, 50, 100, 200, 390
5023,1,3,2,NO ,NO ,NO ,0.100, 328,1,1
5024,0,0,0,1,0,0, 3, 2.0, 2, 1.0,0,0,0, 120
5029, 1, 8, 364, 6227
5030,"Bill Murray"
5031,"993000a2"
7924,"993000"
5032,"I-75, SOUTHBOUND "
7920,"Testing Filter file format for SAIC "
5301,2,1,3,5, 176470,1,1, 0.0,1999,10,26,16,10,"C1", " "
5302,0,1,8,2,0,0,0,0
5303,0, 0.0, -0.6, 17.6
5041,"no comment "
8672,2762
8673,3740
8682,1316
8683,4055
5042,"THE BITTER END-NO OBVIOUS DISTRESS "
5043," "
5044," "
5301,2,1,3,5, 176470,1,1, 0.000,1999,10,26,16,10,"S1", " "
5302,0,1,8,2,0,0,0,0
5303,0, 0.0, -0.6, 17.6
7901," "
7902,"THE BITTER END-NO OBVIOUS DISTRESS "
2, 604, 464, 402, 380, 336, 293, 208, 127, 42, 374
3, 598, 464, 410, 379, 335, 293, 212, 126, 42, 378
4, 847, 651, 570, 531, 471, 418, 296, 179, 59, 532
5, 843, 649, 577, 539, 476, 412, 296, 180, 59, 536
6, 1212, 916, 814, 760, 671, 592, 419, 253, 84, 749
7, 1199, 924, 817, 749, 667, 592, 421, 253, 85, 762
8, 1666, 1302, 1125, 1059, 941, 821, 582, 355, 117, 1060
9, 1665, 1299, 1136, 1047, 937, 814, 592, 354, 118, 1055
5185,2,1,3,5, 176470,1,1, 0.000,1999,10,26,16,10, 3,1100, 100, 0
5185,2,1,3,5, 176470,1,1, 0.000,1999,10,26,16,10, 5,1100, 100, 11064
5185,2,1,3,5, 176470,1,1, 0.000,1999,10,26,16,10, 7,1100, 100, 22128
5185,2,1,3,5, 176470,1,1, 0.000,1999,10,26,16,10, 9,1100, 100, 33192

```

**Example data file 5 - Typical output from P059 subgrade test setup**

```

5001,25.11,1,46, 4, 1,"Aug 2000 "
5002,"25SIN ", "8002-129", "9000-316"
5003,"OPERATOR ", "P059_SUB"
5010,0,0,0,0,0,0,0,5,1,0,0,0,0,0,1,0,0,0,0,0,1, "H25"
5011,0,1,1999,10,26,16,13,2, "Wed",299
5200,"F0183 ",2,1.010, 89.9, 0.02, 7.128
5201,"1881 ",4,1.004,1.020
5202,"1882 ",4,1.001,1.014
5203,"1883 ",4,1.003,1.020
5204,"1884 ",4,1.001,1.011
5205,"1885 ",4,0.999,1.006
5206,"1892 ",4,0.998,1.049
5207,"1887 ",4,0.999,1.008
5208,"1890 ",4,1.000,1.024
5209,"1891 ",4,1.001,1.011
5210,"NA ",0,0.000,0.000
5211,"NA ",0,0.000,0.000
5212,"NA ",0,0.000,0.000
5213,"NA ",0,0.000,0.000
5214,"NA ",0,0.000,0.000
5215,"NA ",0,0.000,0.000
5216,"NA ",0,0.000,0.000
5217,"NA ",0,0.000,0.000
5218,"NA ",0,0.000,0.000
5020, 150, 0, 203, 305, 457, 610, 914, 1219, 1524, -305,NO
5021, 300, 0, 0, 0, 0, 0, 0, 0, 0, 0,NO
5022,0, 200, 203, 50, 100, 200, 390
5023,1,3,2,NO ,NO ,NO ,0.100, 328,1,1
5024,0,0,0,0,1,1,0, 3, 2.0, 2, 1.0,0,0,0, 120
5029, 1, 8, 364, 6227
5030,"Bill Murray
"
5031,"994000a2"
7924,"994000"
5032,"I-75, SOUTHBOUND "
7920,"Testing Filter file format for SAIC "
5301,2,1,3,5, 177734,1,1, 0.0,1999,10,26,16,13,"C1", " "
5302,0,1,8,2,0,0,0,0
5303,0, 0.0, -0.5, 17.4
5041,"no comment "
8672,2762
8673,3740
8682,1316
8683,4055
5042,"THE BITTER END-NO OBVIOUS DISTRESS "
5043," "
5044," "
5301,2,1,3,5, 177734,1,1, 0.000,1999,10,26,16,13,"S1", " "
5302,0,1,8,2,0,0,0,0
5303,0, 0.0, -0.5, 17.4
7901,"
"
7902,"THE BITTER END-NO OBVIOUS DISTRESS "
2, 602, 466, 406, 378, 340, 292, 209, 126, 42, 380
3, 595, 463, 409, 378, 334, 295, 208, 127, 42, 381
4, 848, 647, 571, 536, 479, 412, 297, 180, 60, 538
5, 853, 660, 571, 531, 477, 418, 295, 177, 60, 535
6, 1200, 923, 807, 761, 677, 583, 421, 254, 84, 756
7, 1198, 924, 816, 760, 670, 583, 421, 251, 83, 756
8, 1667, 1280, 1138, 1063, 936, 818, 587, 355, 118, 1054
9, 1662, 1299, 1129, 1046, 936, 827, 591, 352, 117, 1054
5185,2,1,3,5, 177734,1,1, 0.000,1999,10,26,16,13, 3,1100, 100, 0
5185,2,1,3,5, 177734,1,1, 0.000,1999,10,26,16,13, 5,1100, 100, 11064
5185,2,1,3,5, 177734,1,1, 0.000,1999,10,26,16,13, 7,1100, 100, 22128
5185,2,1,3,5, 177734,1,1, 0.000,1999,10,26,16,13, 9,1100, 100, 33192

```

**Example data file 6 - Typical output from SPS-3 test setup**

```

5001,25.11,1,46, 4, 1,"Aug 2000 "
5002,"25SIN ", "8002-129", "9000-316"
5003,"OPERATOR ", "SPS-3 "
5010,0,0,0,0,0,0,0,5,1,0,0,0,0,0,1,0,0,0,0,0,1, "H25"
5011,0,1,1999,10,26,16,17,2, "Wed",299
5200,"F0183 ",2,1.010, 89.9, 0.02, 7.130
5201,"1881 ",4,1.004,1.020
5202,"1882 ",4,1.001,1.014
5203,"1883 ",4,1.003,1.020
5204,"1884 ",4,1.001,1.011
5205,"1885 ",4,0.999,1.006
5206,"1892 ",4,0.998,1.049
5207,"1887 ",4,0.999,1.008
5208,"1890 ",4,1.000,1.024
5209,"1891 ",4,1.001,1.011
5210,"NA ",0,0.000,0.000
5211,"NA ",0,0.000,0.000
5212,"NA ",0,0.000,0.000
5213,"NA ",0,0.000,0.000
5214,"NA ",0,0.000,0.000
5215,"NA ",0,0.000,0.000
5216,"NA ",0,0.000,0.000
5217,"NA ",0,0.000,0.000
5218,"NA ",0,0.000,0.000
5020, 150, 0, 203, 305, 457, 610, 914, 1219, 1524, -305,NO
5021, 300, 0, 0, 0, 0, 0, 0, 0, 0, 0,NO
5022,0, 200, 205, 50, 100, 200, 390
5023,1,3,2,NO ,NO ,NO , 0.100, 328,1,1
5024,0,0,0,1,1,1, 3, 2.0, 2, 1.0,0,0,0, 120
5029, 1, 12, 364, 6227
5030,"Bill Murray
5031,"995000a2"
7924,"995000"
5032,"I-75, SOUTHBOUND "
7920,"Testing Filter file format for SAIC "
5301,2,1,3,5, 179142,1,1, 0.0,1999,10,26,16,17, "C1", " "
5302,0,1,8,2,0,0,0,0
5303,0, 0.0, -0.5, 17.7
5041," "
8672,2762
8673,3740
8682,1316
8683,4055
5042,"NO OBVIOUS DISTRESS AT TEST LOCATIONS. "
5043," "
5044," "
5301,2,1,3,5, 179142,1,1, 0.000,1999,10,26,16,17, "F1", " "
5302,0,1,8,2,0,0,0,0
5303,0, 0.0, -0.5, 17.7
7901," "
7902,"NO OBVIOUS DISTRESS AT TEST LOCATIONS. "
4, 604, 463, 406, 378, 334, 296, 212, 125, 42, 380
5, 597, 462, 405, 378, 338, 296, 209, 125, 42, 376
6, 595, 462, 404, 375, 337, 296, 210, 126, 42, 381
7, 853, 652, 570, 538, 473, 412, 296, 180, 60, 534
8, 845, 653, 573, 536, 475, 417, 299, 179, 59, 535
9, 851, 651, 572, 534, 478, 417, 295, 180, 59, 533
10, 1210, 924, 813, 762, 675, 587, 421, 250, 85, 756
11, 1192, 921, 814, 761, 672, 584, 420, 250, 84, 759
12, 1208, 931, 807, 751, 676, 585, 419, 251, 83, 762
13, 1683, 1280, 1138, 1046, 941, 822, 590, 350, 118, 1063
14, 1681, 1290, 1141, 1061, 933, 819, 592, 352, 118, 1061
15, 1669, 1293, 1126, 1053, 936, 820, 588, 355, 118, 1061
5185,2,1,3,5, 179142,1,1, 0.000,1999,10,26,16,17, 6,1100, 100, 0
5185,2,1,3,5, 179142,1,1, 0.000,1999,10,26,16,17, 9,1100, 100, 11064
5185,2,1,3,5, 179142,1,1, 0.000,1999,10,26,16,17,12,1100, 100, 22128
5185,2,1,3,5, 179142,1,1, 0.000,1999,10,26,16,17,15,1100, 100, 33192

```

**Example data file 7 - Typical output from SPS-4 test setup**

```

5001,25.11,1,46, 4, 1,"Aug 2000 "
5002,"25SIN ", "8002-129", "9000-316"
5003,"OPERATOR ", "SPS-4 "
5010,0,0,0,0,0,0,0,5,1,0,0,0,0,0,1,0,0,0,0,0,1, "H25"
5011,0,1,1999,10,26,16,20,2, "Wed",299
5200,"F0183 ",2,1.010, 89.9, 0.02, 7.128
5201,"1881 ",4,1.004,1.020
5202,"1882 ",4,1.001,1.014
5203,"1883 ",4,1.003,1.020
5204,"1884 ",4,1.001,1.011
5205,"1885 ",4,0.999,1.006
5206,"1892 ",4,0.998,1.049
5207,"1887 ",4,0.999,1.008
5208,"1890 ",4,1.000,1.024
5209,"1891 ",4,1.001,1.011
5210,"NA ",0,0.000,0.000
5211,"NA ",0,0.000,0.000
5212,"NA ",0,0.000,0.000
5213,"NA ",0,0.000,0.000
5214,"NA ",0,0.000,0.000
5215,"NA ",0,0.000,0.000
5216,"NA ",0,0.000,0.000
5217,"NA ",0,0.000,0.000
5218,"NA ",0,0.000,0.000
5020, 150, 0, 203, 305, 457, 610, 914, 1219, 1524, -305,NO
5021, 300, 0, 0, 0, 0, 0, 0, 0, 0, 0,NO
5022,0, 200, 201, 50, 100, 200, 390
5023,1,3,2,NO ,NO ,NO , 0.100, 328,1,1
5024,0,0,0,1,0,1, 3, 2.0, 2, 1.0,0,0,0, 120
5029, 1, 9, 364, 6227
5030,"Bill Murray"
5031,"996000a2"
7924,"996000"
5032,"I-75, SOUTHBOUND"
7920,"Testing Filter file format for SAIC"
5301,2,1,3,5, 180374,1,1, 0.0,1999,10,26,16,20,"C1", " "
5302,0,1,8,2,0,0,0,0
5303,0, 0.0, -0.5, 17.7
5041,"
8672,2762
8673,3740
8682,1316
8683,4055
5042,"NO OBVIOUS DISTRESS AT TEST LOCATIONS."
5043,"
5044,"
5301,2,1,3,5, 180374,1,1, 0.000,1999,10,26,16,20,"J1", " "
5302,0,1,8,2,0,0,0,0
5303,0, 0.0, -0.5, 17.7
7901,"
7902,"NO OBVIOUS DISTRESS AT TEST LOCATIONS."
4, 595, 466, 408, 381, 336, 291, 209, 126, 42, 375
5, 600, 466, 409, 381, 338, 297, 209, 125, 42, 381
6, 596, 458, 409, 378, 336, 294, 209, 127, 42, 375
7, 850, 658, 571, 534, 475, 416, 299, 179, 59, 530
8, 851, 651, 569, 534, 473, 412, 298, 180, 59, 533
9, 848, 659, 577, 534, 471, 418, 296, 177, 59, 539
10, 1209, 923, 808, 755, 671, 590, 420, 253, 84, 761
11, 1199, 925, 814, 753, 669, 587, 422, 253, 84, 763
12, 1189, 921, 819, 756, 672, 592, 422, 252, 84, 751

```

## **APPENDIX H**

### **EXAMPLE DYNA25 PROGRAM SCHEMA**

**Log On**

Dynatest Falling Weight Deflectometer Field Program, Edition 25.11  
 © Copyright Dynatest, 1993.  
 Licensed to FHWA/LTPP

IMPORTANT !! Make sure the information here is CORRECT !!

|             |          |     |                                               |
|-------------|----------|-----|-----------------------------------------------|
| User        | File     | USR | Sysop: RECORD CHANGES IN SYSOP AT RCOC OFFICE |
| General     | SYNOPSIS | GSU | Colored Display, Metric Units                 |
| Printer     | DMT 300C | PRT | HP Deskjet 500C                               |
| Page Format | MEASUR11 | PSU | Measurements, 11 in paper                     |

|            |          |     |                           |
|------------|----------|-----|---------------------------|
| Trailer    | 8002-129 | RIG | SAN: 8002-129             |
| Processor  | 9000-093 | PRD | SAN: 9000-093             |
| DMI System | 0102     | DMI | SAN: 86311-0102 (Vehicle) |

|             |        |     |                           |
|-------------|--------|-----|---------------------------|
| Test Setup  | 1-FLEX | TSU | FLEXIBLE PVMT BASINFORMAT |
| Data Format | 2SSIN  | DFF | LTPP TEST DATA.FORMAT     |

F1 Help on Highlight, F2 Window Help, Quit .....

To Sysop:  
 Hardware: EISA/76A HSTII Color EISA/76A

**Page Sync**

If current Log Destination is 'Printer' then...  
 Adjust the paper so that printing will start at the top of a new page.  
 Manually reset the printer (if no Reset switch is available you may have to switch off the printer, wait a moment, then switch on again).  
 The next Page no will be: 2  
 Current Log Destination is: Printer 1  
 Log Destination Prompt: Don't ask

Quit

Don't Ask / Ask Always

**Log To**

NUL (No log) .....  
 Printer 1 .....  
 DYNA25\_F25 .....

**Printer Port**

Printer 1  
 Printer 2  
 Printer 3

**Log File Name:**

DYNA25  
 -C:\DYNA25\DATA.  
 C: \* .F25

**Sysop Main Menu**

Measurements  
 Setup  
 Print  
 Calibrations  
 Background .....  
 Text Size .....  
 Help F1, F2  
 Help Index  
 DOS Date  
 EXIT

Change Desk Color  
 Cycle Screen Modes  
 Basic Help  
 Temporary DOS

**Print**

Print File Utility

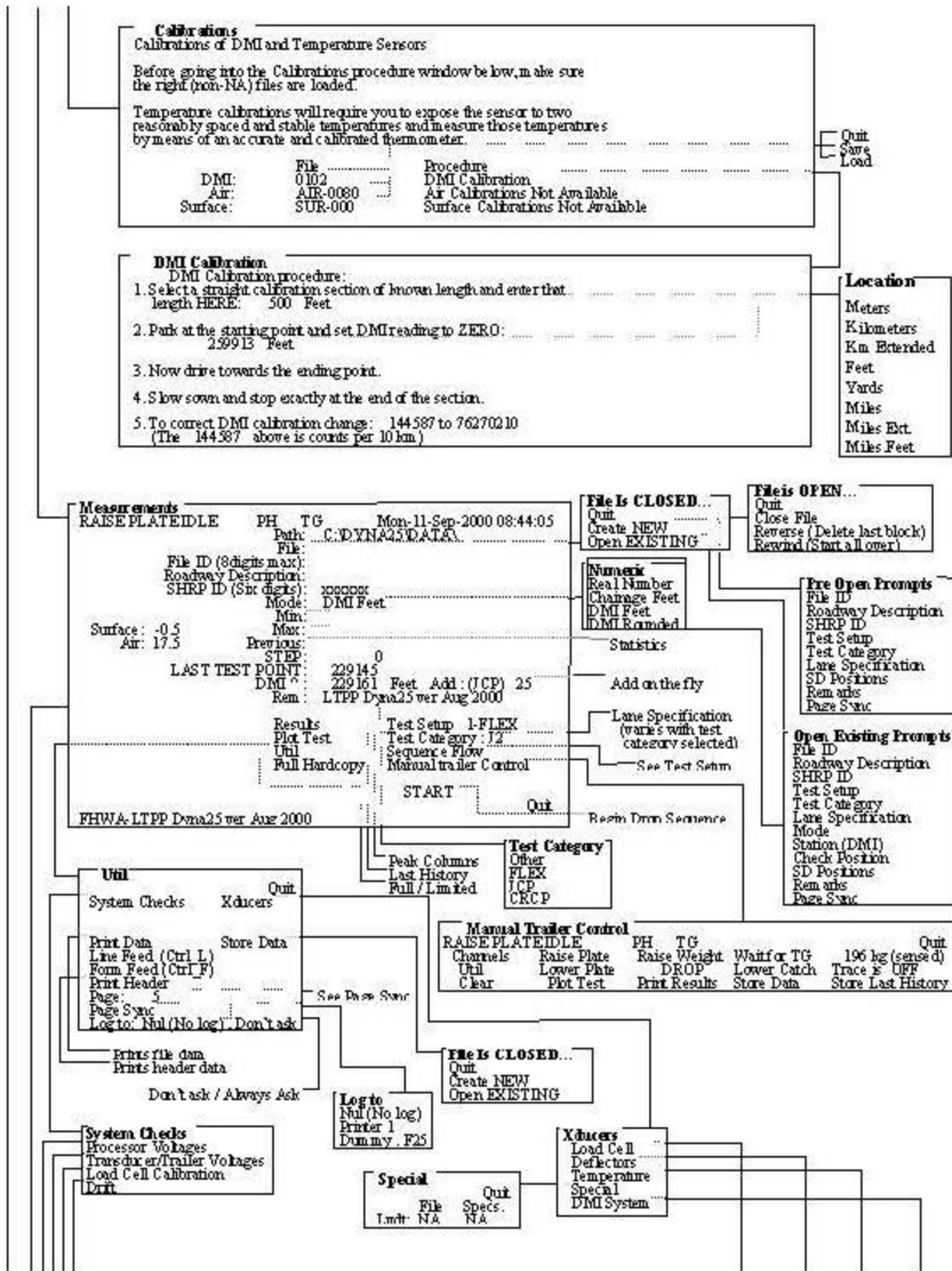
Print a File .....  
 Line Feed (Ctrl L) .....  
 Form Feed (Ctrl F) .....  
 Page: 5  
 Page Sync  
 Log to: DYNA25\_F25\_Don't ask  
 Page Format: MEASUR11  
 Measurements, 11 in paper

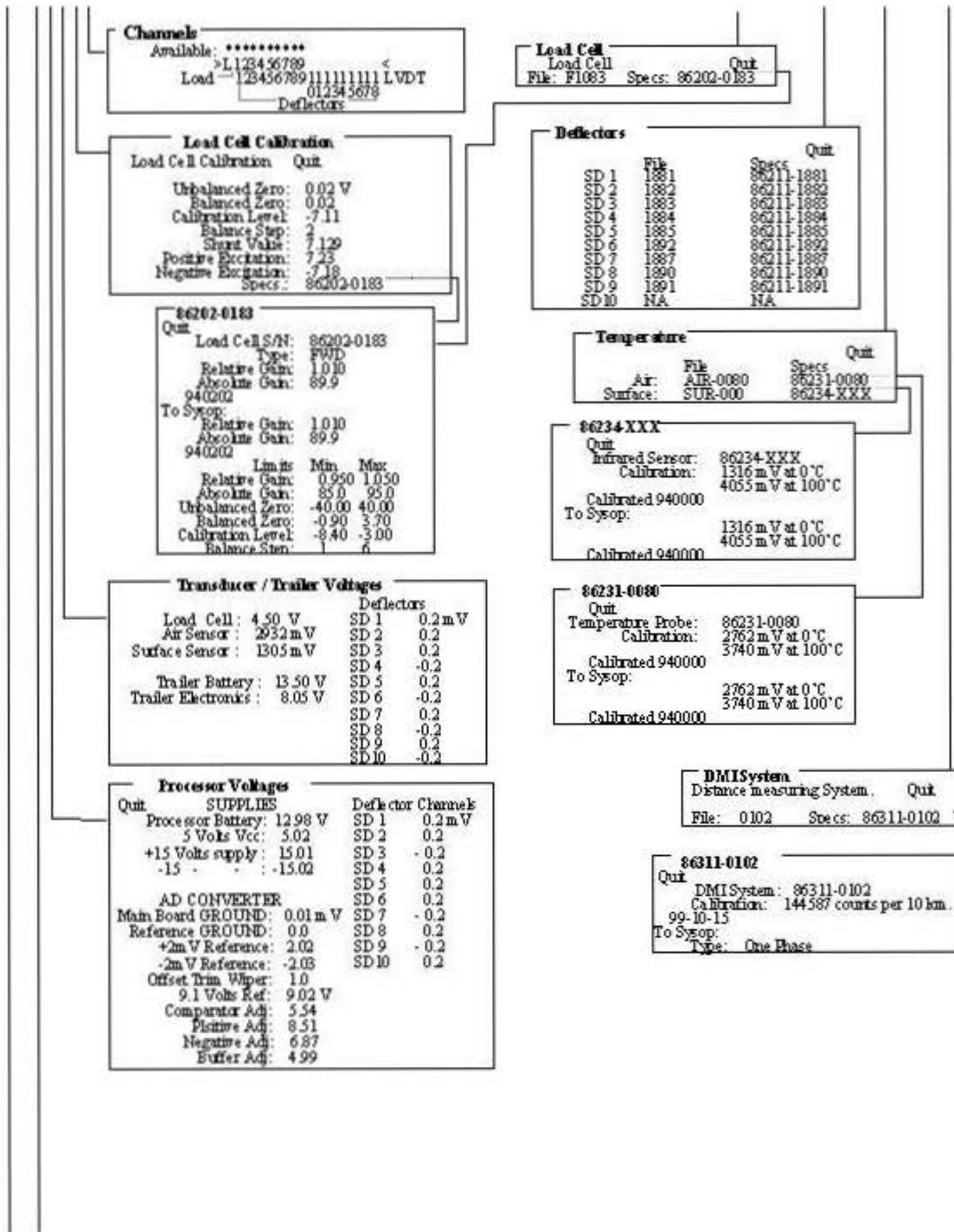
Quit

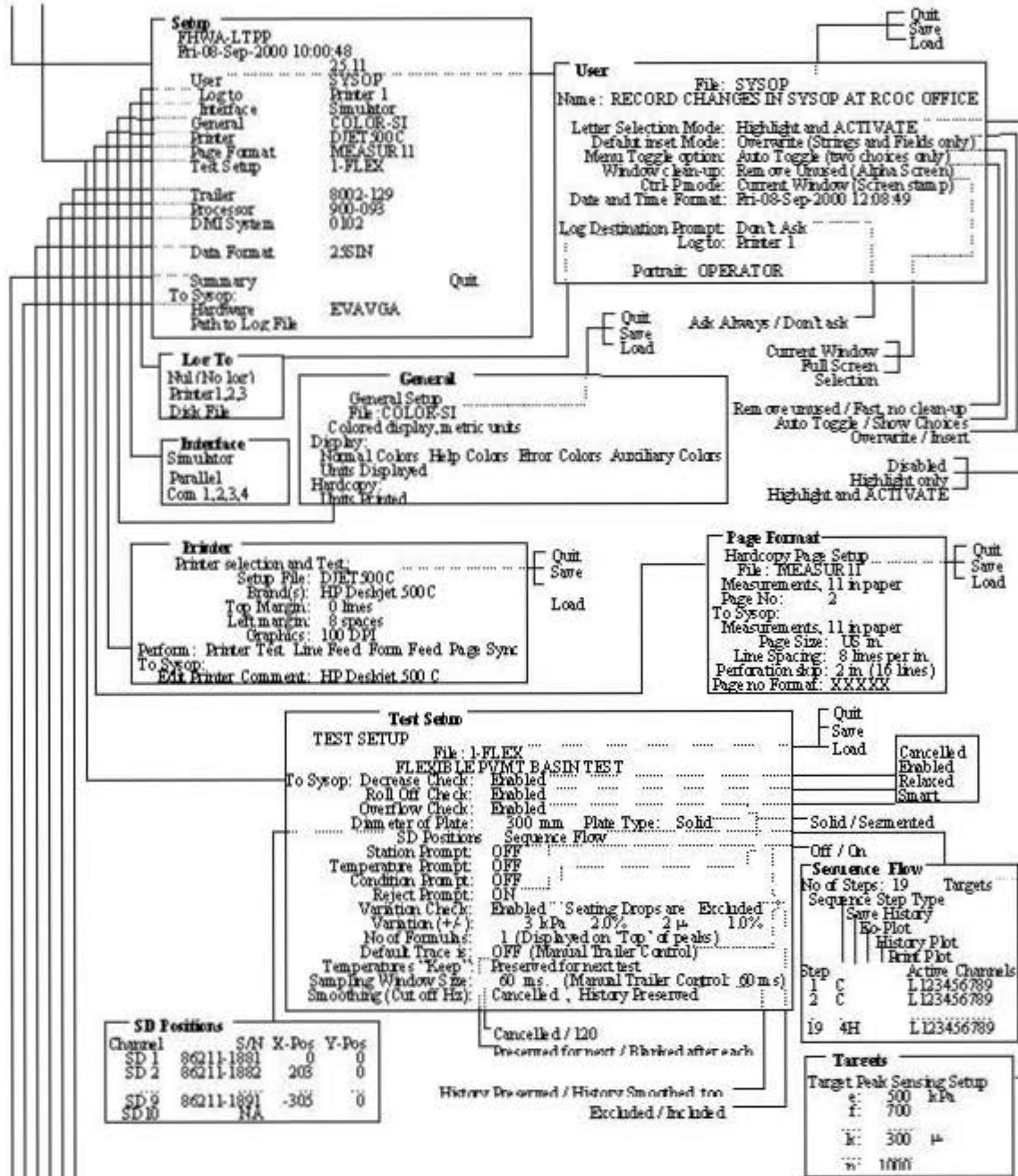
Pick a file, Print it  
 Advance one line  
 Advance one page  
 Set page number  
 Align page for printing  
 Don't ask / Ask always  
 Print Destination  
 Print Layout (see Setup)

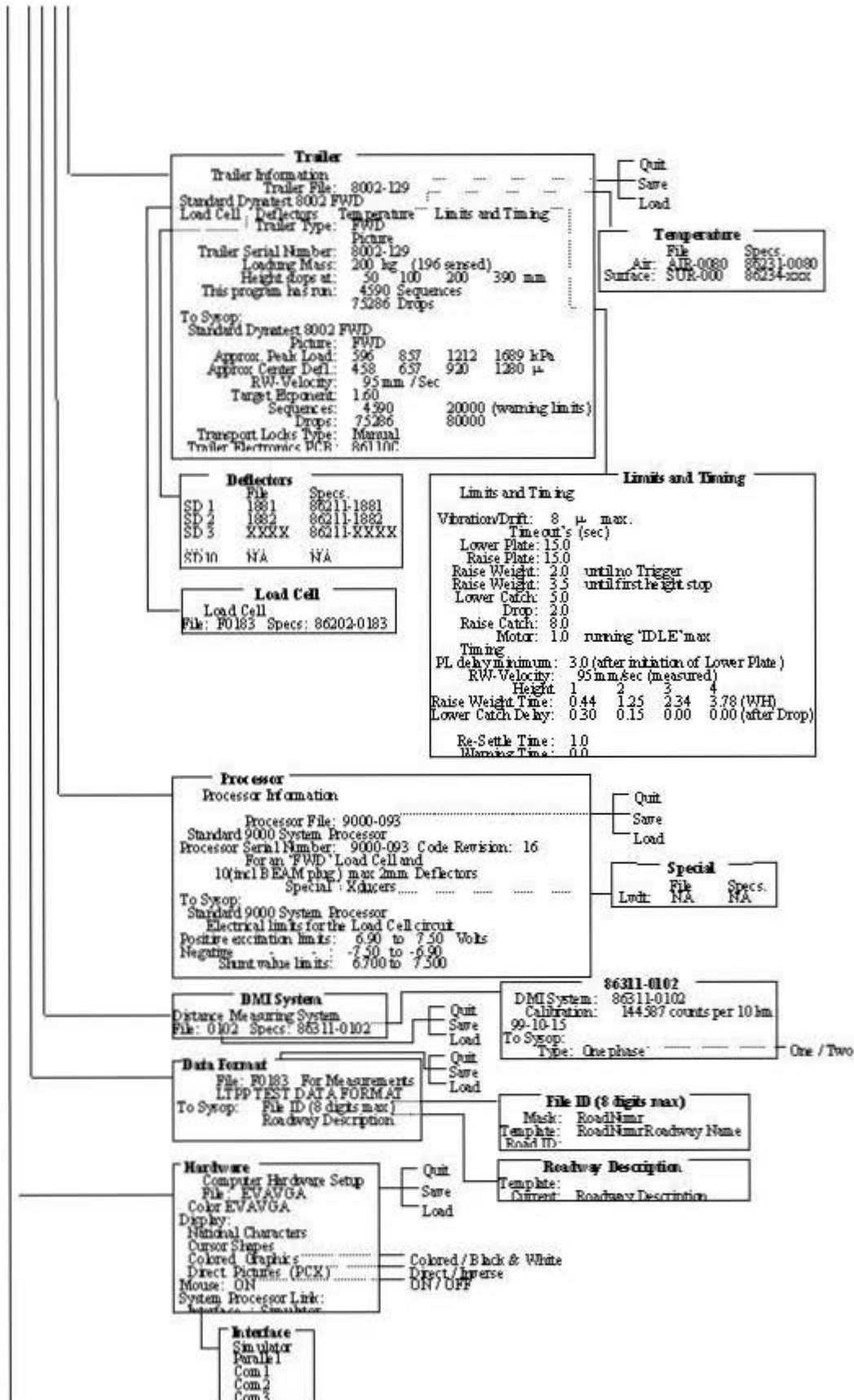
**EXIT to DOS ?**

NO Continue program execution  
 YES Terminate the program









| Summary         |                                                                  |
|-----------------|------------------------------------------------------------------|
| 25.11 Aug 2000  | Fri-08-Sep-2000 08:35:49                                         |
| User File       | FHWA.LTPP                                                        |
| General Setup   | SYSOP RECORD CHANGES IN SYSOP AT RCOC OFFICE                     |
| Printer         | COLOR SI Colored Display, Metric Units                           |
| Page Format     | DIET300C HP Deskjet 500C                                         |
| Test Setup      | MEASUR11 Measurements, 11 in paper                               |
| Trailer File    | 1-FLEX FLEXIBLE PVTM BASIN TEST<br>60 Msec, Smoothing: Cancelled |
| Load Cell       | C:\DYNA2\98002-129\ F0183                                        |
| Deflector# 1    | C:\DYNA2\98002-129\ 1881                                         |
| 2               | 1882                                                             |
| 3               | 1883                                                             |
| 4               | 1884                                                             |
| 5               | 1885                                                             |
| 6               | 1892                                                             |
| 7               | 1887                                                             |
| 8               | 1890                                                             |
| 9               | 1891                                                             |
| 10              | NA                                                               |
| 11              | NA                                                               |
| 12              | NA                                                               |
| 13              | NA                                                               |
| 14              | NA                                                               |
| 15              | NA                                                               |
| 16              | NA                                                               |
| 17              | NA                                                               |
| 18              | NA                                                               |
| Air temperature | C:\DYNA2\98002-129\AIR-0080 27623740                             |
| Surface         | C:\DYNA2\98002-129\SUR-000 13164055                              |
| Processor File  | C:\DYNA2\98002-129\9000-093                                      |
| DMI system      | C:\DYNA2\98002-129\0102 144587                                   |
| Data Format     | 25 SIN LTPP TEST DATA FORMAT                                     |
| Hardware        | EVA/VGA Color EGA/VGA                                            |
| Application     | DYNATEST No extensions to original object base.                  |

@Q'OHV  
 A'D'!Q:  
 APKGAZ%  
 A05EIK3  
 QZ5@IP2  
 !OMST\*!  
 P\$!VN  
 @OZAIL  
 @P2P!BK

**APPENDIX I**  
**STANDARD FWD FORMS**

|                                                            |                         |
|------------------------------------------------------------|-------------------------|
| LTPP FWD Monitoring<br>Temperature Measurements - Form F01 | Region [_____]          |
|                                                            | State Code [_____]      |
|                                                            | LTPP Section ID [_____] |

AGENCY \_\_\_\_\_ TESTING \_\_\_\_\_

LTPP EXPERIMENT CODE \_\_\_\_\_ ROUTE/HIGHWAY NUMBER \_\_\_\_\_

TESTING DATE \_\_\_\_\_ SHEET NUMBER \_\_\_\_\_ FIELD SET NO. \_\_\_\_\_

| LOCATION | STATION             |                     |                     |                     |                     | WEATHER CONDITIONS |
|----------|---------------------|---------------------|---------------------|---------------------|---------------------|--------------------|
| DEPTH    | D <sub>1</sub> =    | D <sub>2</sub> =    | D <sub>3</sub> =    | D <sub>4</sub> =    | D <sub>5</sub> =    |                    |
| TIME     | T <sub>1</sub> (°C) | T <sub>2</sub> (°C) | T <sub>3</sub> (°C) | T <sub>4</sub> (°C) | T <sub>5</sub> (°C) |                    |
|          |                     |                     |                     |                     |                     |                    |
|          |                     |                     |                     |                     |                     |                    |
|          |                     |                     |                     |                     |                     |                    |
|          |                     |                     |                     |                     |                     |                    |
|          |                     |                     |                     |                     |                     |                    |
|          |                     |                     |                     |                     |                     |                    |
|          |                     |                     |                     |                     |                     |                    |
|          |                     |                     |                     |                     |                     |                    |
|          |                     |                     |                     |                     |                     |                    |

| LOCATION | STATION             |                     |                     |                     |                     | WEATHER CONDITIONS |
|----------|---------------------|---------------------|---------------------|---------------------|---------------------|--------------------|
| DEPTH    | D <sub>1</sub> =    | D <sub>2</sub> =    | D <sub>3</sub> =    | D <sub>4</sub> =    | D <sub>5</sub> =    |                    |
| TIME     | T <sub>1</sub> (°C) | T <sub>2</sub> (°C) | T <sub>3</sub> (°C) | T <sub>4</sub> (°C) | T <sub>5</sub> (°C) |                    |
|          |                     |                     |                     |                     |                     |                    |
|          |                     |                     |                     |                     |                     |                    |
|          |                     |                     |                     |                     |                     |                    |
|          |                     |                     |                     |                     |                     |                    |
|          |                     |                     |                     |                     |                     |                    |
|          |                     |                     |                     |                     |                     |                    |
|          |                     |                     |                     |                     |                     |                    |
|          |                     |                     |                     |                     |                     |                    |
|          |                     |                     |                     |                     |                     |                    |

- NOTES: 1) D<sub>i</sub> = DEPTH BELOW PAVEMENT SURFACE, MILLIMETER  
 2) T<sub>i</sub> = TEMPERATURE AT DEPTH i, °C  
 3) D<sub>1</sub> AND D<sub>5</sub> ONLY FOR GPS-7 IN ACCORDANCE WITH FIGURE 6 OF THE FWD MANUAL  
 4) USE ONLY THESE WEATHER TERMS: SUNNY, PARTLY CLOUDY, CLOUDY, RAIN, NIGHT

TEST COMPLETED

\_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
 FWD OPERATOR MONTH/DAY/YEAR AFFILIATION

|                                                         |                         |
|---------------------------------------------------------|-------------------------|
| LTPP FWD Monitoring<br>Field Activity Report - Form F02 | Region [_____]          |
|                                                         | State Code [_____]      |
|                                                         | LTPP Section ID [_____] |

AGENCY \_\_\_\_\_ TESTING \_\_\_\_\_

LTPP EXPERIMENT CODE \_\_\_\_\_ ROUTE/HIGHWAY NUMBER \_\_\_\_\_

TESTING DATE \_\_\_\_\_ SHEET NUMBER \_\_\_\_\_ FIELD SET NO. \_\_\_\_\_

FWD AND TOW VEHICLE BEFORE OPERATION CHECKS \_\_\_\_\_ (initial)

|                       | TIME  | ODOMETER |
|-----------------------|-------|----------|
| START TRAVEL          | _____ | _____    |
| END TRAVEL            | _____ | _____    |
| READY TO TEST         | _____ |          |
| TRAFFIC CONTROL READY | _____ |          |
| BEGIN TESTING         | _____ |          |
| END TESTING           | _____ |          |
| START TRAVEL          | _____ | _____    |
| END TRAVEL            | _____ | _____    |

DOWN TIME \_\_\_\_\_ HOURS REASON(S) \_\_\_\_\_

\_\_\_\_\_

| NUMBER OF TESTS: | BASIN | JT/CRACK |
|------------------|-------|----------|
| TP               | _____ |          |
| OWP              | _____ | _____    |
| PE               | _____ |          |
| ML               | _____ |          |

ADDITIONAL REMARKS REGARDING TESTING \_\_\_\_\_

\_\_\_\_\_

FIELD SAMPLING AND TESTING CREW

NAMES: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

TRAFFIC CONTROL CREW

AGENCY: \_\_\_\_\_  
 NAMES: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

COPIES: RCOC

|                                                           |                |
|-----------------------------------------------------------|----------------|
| LTPP FWD Monitoring<br>Load Plate Buffer Shape - Form F04 | Region [ _ _ ] |
|-----------------------------------------------------------|----------------|

Deflection Unit ID: [ \_ \_ \_ \_ \_ ]

|                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------|
| Buffer Shape: [ _ ] see the following code<br>Assign Date: [ _ _ / _ _ _ / _ _ _ _ ]<br>De-assign Date: [ _ _ / _ _ _ / _ _ _ _ ] |
|-----------------------------------------------------------------------------------------------------------------------------------|

- | <u>Code</u> | <u>Description</u>                                                                     |
|-------------|----------------------------------------------------------------------------------------|
| 1           | <b>Flat</b> - 100 mm diameter, flat (90°) buffers                                      |
| 2           | <b>Fully Rounded</b> - 100 mm diameter, “knife” cut variable cone shaped (45°) buffers |
| 3           | <b>Semi-Rounded</b> - 110 mm diameter, tapered (60°) buffers                           |
| 9           | <b>Unknown</b> - buffer shape is unknown                                               |

## LTPP TEMPERATURE SENSOR CHECK (TSC) FORM

RCO: \_\_\_\_\_

Date: \_\_\_\_\_

FWD Operator Name: \_\_\_\_\_

FWD SN: \_\_\_\_\_

Air Temperature SN: \_\_\_\_\_

Assistant's Names: \_\_\_\_\_  
\_\_\_\_\_

IR SN: \_\_\_\_\_

Thermometer SN: \_\_\_\_\_

Check Location: Office / Field

If Field, Where? \_\_\_\_\_

Initial Air Temp. (C) \_\_\_\_\_

Initial IR Temperature (C) \_\_\_\_\_

| COLD TEMPERATURE TEST    |                     |                    |       |        |             |
|--------------------------|---------------------|--------------------|-------|--------|-------------|
| Step No. 4 - A           | IR Sensor (C)       | Mercury Therm. (C) | Diff. | P or F | Acceptable? |
| Reading 1                |                     |                    |       |        | Yes<br>No   |
| Reading 2                |                     |                    |       |        |             |
| Reading 3 (if Necessary) |                     |                    |       |        |             |
|                          |                     |                    |       |        |             |
| Step No. 4 - B           | Air Temp Sensor (C) | Mercury Therm. (C) | Diff. | P or F | Acceptable? |
| Reading 1                |                     |                    |       |        | Yes<br>No   |
| Reading 2                |                     |                    |       |        |             |
| Reading 3 (if Necessary) |                     |                    |       |        |             |

| AMBIENT TEMPERATURE CHECK |                     |                    |       |        |             |
|---------------------------|---------------------|--------------------|-------|--------|-------------|
| Step No. 5 - A            | IR Sensor (C)       | Mercury Therm. (C) | Diff. | P or F | Acceptable? |
| Reading 1                 |                     |                    |       |        | Yes<br>No   |
| Reading 2                 |                     |                    |       |        |             |
| Reading 3 (if Necessary)  |                     |                    |       |        |             |
|                           |                     |                    |       |        |             |
| Step No. 5 - B            | Air Temp Sensor (C) | Mercury Therm. (C) | Diff. | P or F | Acceptable? |
| Reading 1                 |                     |                    |       |        | Yes<br>No   |
| Reading 2                 |                     |                    |       |        |             |
| Reading 3 (if Necessary)  |                     |                    |       |        |             |

| HOT TEMPERATURE CHECK - IR SENSOR ONLY |               |                    |       |        |             |
|----------------------------------------|---------------|--------------------|-------|--------|-------------|
| Step No. 6                             | IR Sensor (C) | Mercury Therm. (C) | Diff. | P or F | Acceptable? |
| Reading 1                              |               |                    |       |        | Yes<br>No   |
| Reading 2                              |               |                    |       |        |             |
| Reading 3 (if Necessary)               |               |                    |       |        |             |

Was IR sensor acceptable for all three checks?

YES or NO

Was air temperature sensor acceptable for checks 1 and 2?

YES or NO

Agency: \_\_\_\_\_

FWDPR #: \_\_\_\_\_

**LONG-TERM PAVEMENT PERFORMANCE (LTPP)  
FALLING WEIGHT DEFLECTOMETER (FWD) TESTING  
FWD PROBLEM REPORT (FWDPR)**

Attention: Cheryl Richter  
Gonzalo R. Rada

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|                                                                                                                                  |                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Type of Problem: _____<br>Guidelines _____<br>Equipment _____<br>Software _____<br>Name: _____<br>Version: _____<br>Other: _____ | Reported by: _____<br>Agency: _____<br>Date: _____<br>Urgent?(Y/N) _____ Page _____ of _____ |
| Description:                                                                                                                     |                                                                                              |

| <b>THIS SECTION FOR USE BY FHWA AND PCS/LAW</b> |                      |
|-------------------------------------------------|----------------------|
| Received by: _____                              | Date Received: _____ |
| Referred to: _____                              | Approved by: _____   |
| Date Referred: _____                            | Date Approved: _____ |
| Resolution:                                     |                      |
| Notes:                                          |                      |

|                                                              |                 |
|--------------------------------------------------------------|-----------------|
| LTPP Monitoring<br>Maintenance and Repair Summary - Form F03 | Region [ ____ ] |
|--------------------------------------------------------------|-----------------|

| Date | Odometer | Problem Description <sup>1</sup> | Description of Maintenance/Repair | Performed by <sup>2</sup> | Cost  |       |       |
|------|----------|----------------------------------|-----------------------------------|---------------------------|-------|-------|-------|
|      |          |                                  |                                   |                           | Labor | Parts | Total |
|      |          |                                  |                                   |                           |       |       |       |

<sup>1</sup> Enter “routine” for routine maintenance

<sup>2</sup> Enter “RCOC”, “Dynatest”, or “Other”, as applicable