REPORT NO. FRA/ORD-78/34

TDOP

TRUCK DESIGN OPTIMIZATION PROJECT PHASE II

PHASE I DATA EVALUATION AND ANALYSIS PLAN

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A preliminary version of this plan was distributed at the first TDOP Phase II In-Progress Review held in Chicago, Illinois on March 21, 1978.

16. Abstract

This document describes a plan for evaluating and analyzing the TDOP Phase I test data for Type I freight car trucks. The plan proposes that the initial tasks should include cataloging the Phase I data, refining the TDOP sorting routine, and converting and validating the government-furnished Phase I post processing program to run on Wyle's Interdata 8/32 computer. Once the software is operational, the Phase I data evaluation and analysis will begin with a pilot program to establish the validity of the techniques for establishing freight car truck performance indices. The plan states that a final report will be published sixty days after completion of the evaluation and analysis of the Phase I data.

This report is the first of a series that will be published under the major title Truck Design Optimization Project, Phase II as the multi-year program develops.

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SECTION 1 - INTRODUCTION

1.1 PURPOSE

As part of the Truck Design Optimization Project (TDOP) Phase II study, Wyle Laboratories was directed by the FRA to evaluate and analyze the test data acquired during Phase I of TDOP for model validation and specification of performance indices. Prior to commencing work on this data analysis task, Wyle prepared this plan which describes the proposed effort.

1.2 SCOPE

The Data Evaluation and Analysis Plan comprises the following sub-tasks:

a. Description of hardware and software to be used in Phase I data analysis

b. Specific analytical procedures and evaluation techniques

c. Selection and format of data to be reduced.

Selecting data to be processed depends to some extent on the requirements of other tasks on this project, among them those covering validation of performance indices and verification of mathematical models. Thus, specific sets of data, grouped according to test conditions, type of transducer, elapsed time, and analysis format will not be identified until the need for them has been established. This document is limited to a discussion of analysis techniques and the overall plan of implementation.

1.3 DEFINITION OF TERMS

Performance Regime. The characteristic behavior in which a mechanism (e.g., railcar or truck) performs. Five major performance regimes have been identified for the railcar and they consist of hunting, curve negotiation, harmonic roll, ride quality, and derailment.

Performance Index. A measurable physical parameter, characteristic of performance in the selected regime (e.g., hunting, harmonic roll). Examples of a performance index for hunting would include critical speed (mph) and lateral accelerations (g's).

1.4 IMPLEMENTATION

The data evaluation and analysis effort will be implemented as follows:

a. Phase I data will be inventoried and cataloged.

b. Software enhancements will be implemented as necessary.

c. TDOP data sorting routine will be upgraded and refined.

d. Software Post Processing programs developed under Phase I will be converted and validated to run on the Interdata 8/32 computer.

e. The Interdata 8/32 computer and Tektronix 4014 graphic display system will be used for data reduction and display.

f. Data analysis will be based upon the measurements and test profiles which are applicable to the major performance regimes.

g. Phase I data will be utilized in the Phase II model validation task in a manner yet to be determined.

h. Problem areas of data correlation, measurement adequacy, calibrations, or anomalies will be cataloged for each Phase I test run accessed.

i. Results of questionnaires submitted to the industry consultants will be used to define any proposed effort in reformatting Phase I data.

j. Sixty days after completion of the TDOP Phase I data evaluation and analysis task, a report will be prepared that discusses the implementation of the post processing program, the TDOP data sorting program, resolution of the problems identified with the Phase I data and other topics.

SECTION 2 - RESOURCES

2.1 PHASE I DATA

The Phase I TDOP data, in the form of data tape and computer printouts of analyzed data, were provided by the Federal Railroad Administration. The data was cataloged by a computer-based inventory and stored in boxes. The catalog boxes contain 204 magnetic data tapes from the five test series in Phase I and analyzed data from both the response measurements and the track geometry. Figure 1 depicts a typical computer inventory printout. The first column contains a description of the material, and the last column gives the box number in which the material is located. In addition to the 204 magnetic tapes, a computer tape with the Phase I track geometry data is also available for use in conjunction with the measured data.

2.2 DATA ANALYSIS SOFTWARE

2.2.1 TDOP Data Sorting Routine

Because of the vast amount of Phase I data generated (over 500 test runs made) and the many variables tested (see Figure 3), a need was identified for some type of sorting routine which would provide ready access to the available data. A TDOP data sorting routine was developed which would provide this capability. This routine will be upgraded as part of the Phase I data evaluation.

The sorting routine allows the specification of a given set of test conditions; the program then lists all tests which meet that set of requirements. For example, one may be interested in studying an empty 70-ton refrigerator car traveling at 50 mph over jointed track with a 5K pound preload in the side bearings. If these conditions were entered into the sorting program, the resultant printout would be as shown in Figure 4. The output indicates that only one run was made with these exact conditions: Test 040402TWA001. An example of the test variables available in the data sorting routine is shown in Figure 5. With any selection of variables, the computer will produce a listing of the test runs meeting those conditions.

1/26/78

PROPERTY RECORD-PRIME CONTRACT
PAGE 20

DESCRIPTION	PO	ACCOUNT	MANUFAC/VENDOR	ID NO.	DATE	UNIT COST	TOTAL	LOCATION
050302CNE001 050302CN0001								
TAPE 0506 INPUT 18			SPTCo					BOX 18
TAPE 0508 INPUT 7 050303TWA001 050303TEA001			SPTCo					BOX 18
TAPE 0505 INPUT 9 050302MOD001 050302TSM001 050302TWA001			SPTCo					BOX 18
TAPE 0509 INPUT 1 050303CNE001 050303CN0001			SPTCo					BOX 18
TAPE 0510 INPUT 8 050303CNE002 050303CN0002			SPTCo					BOX 18
TAPE 511 INPUT 7 050303MOD001 050303TSM001			SPTCo					BOX 18
BOX 19 ENSCO TRACK DATA INTEGRATED EXCEPTIONS, CURVATURE AND PSD DATA REDUCTION REPORT TEST OBJECTIVE TEST RG-97.2			SPTCo					BOX 19
PSD DATA REDUCTION TEST OBJECTIVE RG-97.2			ENSCO		01/14/75			BOX 20
COMPARE DATA REDUCTION REPORT TEST OBJECTIVE RG 97.3			SPTCo					BOX 21
INTEGRATED EXCEPTION REPORT TEST OBJECTIVE RG 97.3 TEST OBJECTIVE RG 97.4 TEST OBJECTIVE RG 97.5			SPTCo					BOX 21
OUTPUT PAPER JULY 75 TRACK DATA EBM SUISUN (EASTBOUND) WBM SUISUN (WESTBOUND)			SPTCo					BOX 21
OUTPUT PAPER May 75 TRACK DATA EBM SUISUN (WESTBOUND)			SPTCo					BOX 21

Figure 1. Sample Computer Inventory

No. of Test Series: 5

No. of Test Runs: 502 (Approx.)

Mag. Tapes Generated: 204

Truck Types Tested: 5

Car Bodies Tested: 5

No. of Data Channels: 48

Figure 2. Phase I Data Summary

VEHICLE

- Gib Clearance
- Side Bearing Clearance
- Loading
- Spring Group
- Wheel Profile
- Centerplate Friction
- Constant Contact Side Bearings
- Longitudinal Control Devices
- Side Frame Interties
- Hydraulic Dampers

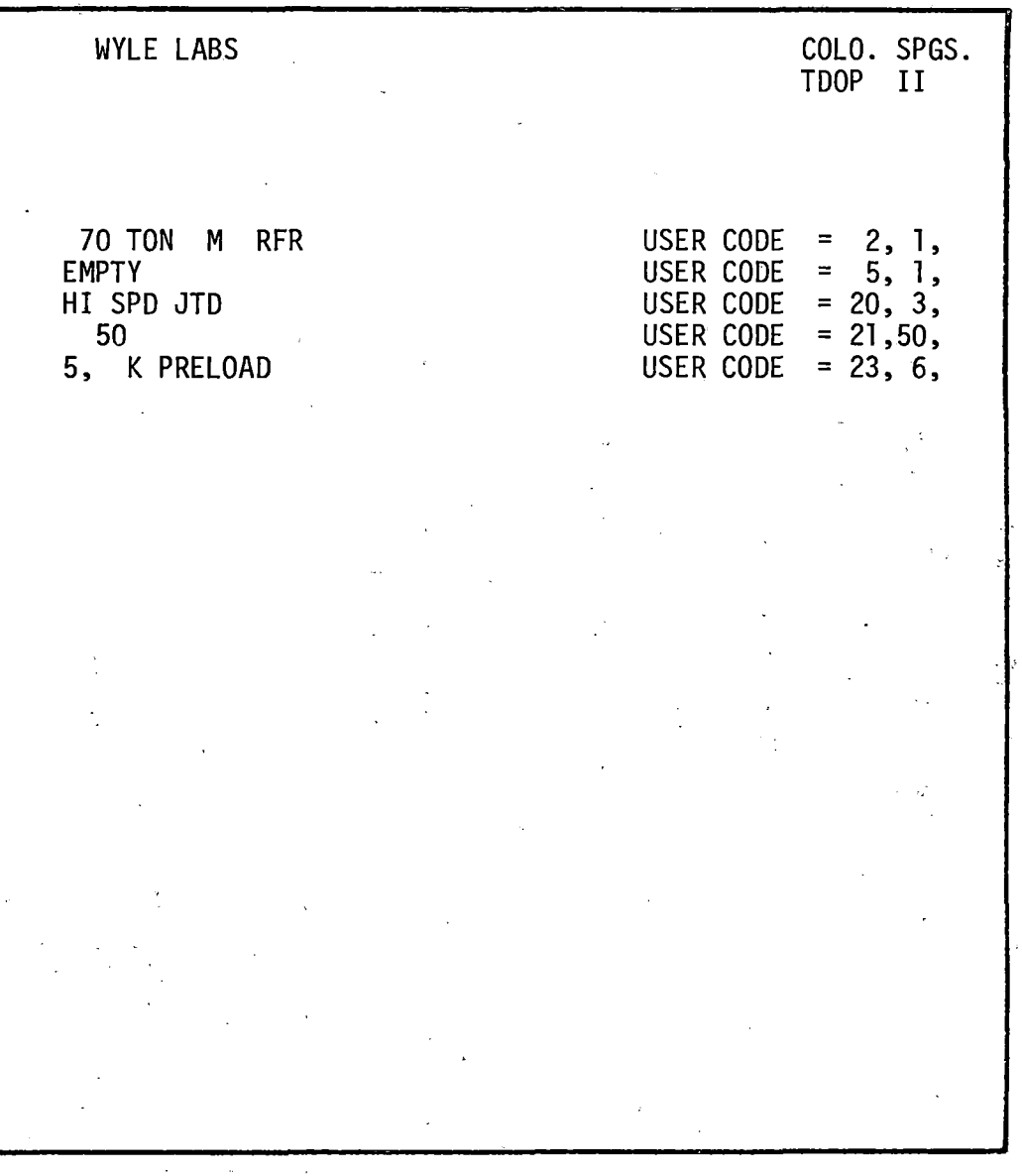
TRACK

- Continuous Welded
- Jointed
- Speeds

Figure 3. Variables Tested

```
DATE:  01/26/78
TIME:  10.884 Hrs.

       PAGE NO.     1


TEST CONDITIONS, CAR TYPE
TEST CONDITIONS, PER CENT LOAD
TEST CONDITIONS, TRACK
TEST CONDITIONS, SPEED
TEST CONDITIONS, SIDE BEARING

    IO.  040402TWA001
    BOX 13   TAPE 452
    FILE NO. 3
    TAPE NO.    152
     70 TON    M  RFR
    ASF RIDE CONTROL
    45'  9"
    EMPTY
    1-20 (NEW)
    7-050/6-DSI
    8-9031
    8-3091  SNUBBERS
    NO AUGMENTATION
    STEEL-MOLY
    HI SPD JTD
      50 MPH
    5/8 OGC
    5.  K PRELOAD

    NUMBER OF ENTRIES =    1
```

Figure 4.



Sample Sorting Routine Printout

```
DATE:01/30/78                          WYLE LABS                              COLO, SPGS,
TIME:14,752 HRS                                                               TDOP  II
TEST CONDITIONS, TAPE NO,                    1                  USER CODE =  1, 1,
TEST CONDITIONS, TAPE NO,                    2                  USER CODE =  1, 2,
TEST CONDITIONS, TAPE NO,                    3                  USER CODE =  1, 3,
TEST CONDITIONS, TAPE NO,                    4                  USER CODE =  1, 4,
TEST CONDITIONS, TAPE NO,                    5                  USER CODE =  1, 5,
TEST CONDITIONS, TAPE NO,                    6                  USER CODE =  1, 6,
TEST CONDITIONS, TAPE NO,                    7                  USER CODE =  1, 7,
TEST CONDITIONS, TAPE NO,                    8                  USER CODE =  1, 8,
TEST CONDITIONS, CAR TYPE             70 TON  M  RFR            USER CODE =  2, 1,
TEST CONDITIONS, CAR TYPE            100 TON 60' BOX            USER CODE =  2, 2,
TEST CONDITIONS, CAR TYPE             70 TON 50' BOX            USER CODE =  2, 3,
TEST CONDITIONS, CAR TYPE                    89' FLT            USER CODE =  2, 4,
TEST CONDITIONS, CAR TYPE                    87' FLT            USER CODE =  2, 5,
TEST CONDITIONS, CAR TYPE            100 TON C   HPR            USER CODE =  2, 6,
TEST CONDITIONS, CAR TYPE             40 TON 60' BOX            USER CODE =  2, 7,
TEST CONDITIONS, TRUCK TYPE          ASF RIDE CONTROL           USER CODE =  3, 1,
TEST CONDITIONS, TRUCK TYPE          BARBER S2C                 USER CODE =  3, 2,
TEST CONDITIONS, TRUCK TYPE          ASF LOW LEVEL              USER CODE =  3, 3,
TEST CONDITIONS, TRUCK TYPE                S2C                  USER CODE =  3, 4,
TEST CONDITIONS, TRUCK CENTER        45'  9''                   USER CODE =  4, 1,
TEST CONDITIONS, TRUCK CENTER        46'  3''                   USER CODE =  4, 2,
TEST CONDITIONS, TRUCK CENTER        45'  3''                   USER CODE =  4, 3,
TEST CONDITIONS, TRUCK CENTER        40' 10''                   USER CODE =  4, 4,
TEST CONDITIONS, TRUCK CENTER        64'  0''                   USER CODE =  4, 5,
TEST CONDITIONS, TRUCK CENTER        41'  3''                   USER CODE =  4, 6,
TEST CONDITIONS, PER CENT LOAD       EMPTY                      USER CODE =  5, 1,
TEST CONDITIONS, PER CENT LOAD       HALF FULL                  USER CODE =  5, 2,
TEST CONDITIONS, PER CENT LOAD       FULLY LOADED               USER CODE =  5, 3,
TEST CONDITIONS, WHEEL PROFILE       1-20 (NEW)                 USER CODE =  6, 1,
TEST CONDITIONS, WHEEL PROFILE       1-40 (NEW)                 USER CODE =  6, 2,
TEST CONDITIONS, WHEEL PROFILE       CYLINDRICAL                USER CODE =  6, 3,
TEST CONDITIONS, WHEEL PROFILE       HALF WORN                  USER CODE =  6, 4,
TEST CONDITIONS, WHEEL PROFILE       WORN                       USER CODE =  6, 5,
TEST CONDITIONS, WHEEL PROFILE       FULLY WORN                 USER CODE =  6, 6,
TEST CONDITIONS, NO, OF OUTER SPG       1                       USER CODE =  7, 1,
TEST CONDITIONS, NO, OF OUTER SPG       2                       USER CODE =  7, 2,
TEST CONDITIONS, NO, OF OUTER SPG       3                       USER CODE =  7, 3,
TEST CONDITIONS, NO, OF OUTER SPG       4                       USER CODE =  7, 4,
TEST CONDITIONS, NO, OF OUTER SPG       5                       USER CODE =  7, 5,
TEST CONDITIONS, NO, OF OUTER SPG       6                       USER CODE =  7, 6,
TEST CONDITIONS, NO, OF OUTER SPG       7                       USER CODE =  7, 7,
TEST CONDITIONS, NO, OF OUTER SPG       8                       USER CODE =  7, 8,
TEST CONDITIONS, SPG TYPE (OUTER)    O                          USER CODE =  8, 1,
TEST CONDITIONS, SPG TYPE (OUTER)    D                          USER CODE =  8, 2,
TEST CONDITIONS, SPG TYPE (OUTER)    I                          USER CODE =  8, 3,
TEST CONDITIONS, SPG TYPE (OUTER)       1                       USER CODE =  9, 1,
TEST CONDITIONS, SPG TYPE (OUTER)       2                       USER CODE =  9, 2,
TEST CONDITIONS, SPG TYPE (OUTER)       3                       USER CODE =  9, 3,
TEST CONDITIONS, SPG TYPE (OUTER)       4                       USER CODE =  9, 4,
TEST CONDITIONS, SPG TYPE (OUTER)       5                       USER CODE =  9, 5,
```

Figure 5. Example Listing of Sorting Parameters (sheet 1 of 3)

```
TEST CONDITIONS, SPG TYPE (OUTER)
TEST CONDITIONS, SPG TYPE (OUTER)
TEST CONDITIONS, SPG TYPE (OUTER)
TEST CONDITIONS, SPRING GROUP
TEST CONDITIONS, SPRING GROUP
TEST CONDITIONS, SPRING GROUP
TEST CONDITIONS, NO. OF INNER SPG
TEST CONDITIONS, NO. OF INNER SPG
TEST CONDITIONS, NO. OF INNER SPG
TEST CONDITIONS, NO. OF INNER SPG
TEST CONDITIONS, NO. OF INNER SPG
TEST CONDITIONS, NO. OF INNER SPG
TEST CONDITIONS, NO. OF INNER SPG
TEST CONDITIONS, NO. OF INNER SPG
TEST CONDITIONS, SPG TYPE (INNER)
TEST CONDITIONS, SPG TYPE (INNER)
TEST CONDITIONS, SPG TYPE (INNER)
TEST CONDITIONS, SPG TYPE (INNER)
TEST CONDITIONS, SPG TYPE (INNER)
TEST CONDITIONS, SPG TYPE (INNER)
TEST CONDITIONS, SPG TYPE (INNER)
TEST CONDITIONS, SPG TYPE (INNER)
TEST CONDITIONS, SPG TYPE (INNER)
TEST CONDITIONS, SPG TYPE (INNER)
TEST CONDITIONS, SPG TYPE (INNER)
TEST CONDITIONS, SPRING GROUP
TEST CONDITIONS, SNUBBING
TEST CONDITIONS, SNUBBING
TEST CONDITIONS, SNUBBING
TEST CONDITIONS, SNUBBING
TEST CONDITIONS, SNUBBING
TEST CONDITIONS, SNUBBING
TEST CONDITIONS, SNUBBING
TEST CONDITIONS, SNUBBING
TEST CONDITIONS, SNUBBING
TEST CONDITIONS, SNUBBING
TEST CONDITIONS, SNUBBING
TEST CONDITIONS, SNUBBING
TEST CONDITIONS, SNUBBING
TEST CONDITIONS, SNUBBING
TEST CONDITIONS, SNUBBING
TEST CONDITIONS, SNUB. AUG.
TEST CONDITIONS, SNUB. AUG.
TEST CONDITIONS, SNUB. AUG.
TEST CONDITIONS, SNUB. AUG.
TEST CONDITIONS, C PLT. FRICTION
TEST CONDITIONS, C PLT. FRICTION
TEST CONDITIONS, C PLT. FRICTION
TEST CONDITIONS, FILE NO.
```


Figure

```
    6                 USER CODE =  9, 6,
    7                 USER CODE =  9, 7,
    8                 USER CODE =  9, 8,
O                     USER CODE = 10, 1,
D                     USER CODE = 10, 2,
I                     USER CODE = 10, 3,
    1                 USER CODE = 11, 1,
    2                 USER CODE = 11, 2,
    3                 USER CODE = 11, 3,
    4                 USER CODE = 11, 4,
    5                 USER CODE = 11, 5,
    6                 USER CODE = 11, 6,
    7                 USER CODE = 11, 7,
    8                 USER CODE = 11, 8,
O                     USER CODE = 12, 1,
D                     USER CODE = 12, 2,
I                     USER CODE = 12, 3,
    1                 USER CODE = 13, 1,
    2                 USER CODE = 13, 2,
    3                 USER CODE = 13, 3,
    4                 USER CODE = 13, 4,
    5                 USER CODE = 13, 5,
    6                 USER CODE = 13, 6,
    7                 USER CODE = 13, 7,
    8                 USER CODE = 13, 8,
I                     USER CODE = 14, 1,
8-3091                USER CODE = 15, 1,
2/3 NORMAL            USER CODE = 15, 2,
8-8432                USER CODE = 15, 3,
8-3221                USER CODE = 15, 4,
8-9031                USER CODE = 15, 5,
8-8421                USER CODE = 15, 6,
8-421                 USER CODE = 15, 7,
8-8422                USER CODE = 15, 8,
8-8431  SNUBBERS      USER CODE = 16, 1,
8-3222  SNUBBERS      USER CODE = 16, 2,
8-3092  SNUBBERS      USER CODE = 16, 3,
8-8442  SNUBBERS      USER CODE = 16, 4,
8-422   SNUBBERS      USER CODE = 16, 5,
4-H7    SNUBBERS      USER CODE = 16, 6,
I-8433  SNUBBERS      USER CODE = 16, 7,
8-3091  SNUBBERS      USER CODE = 16, 8,
NO AUGMENTATION       USER CODE = 17, 1,
VOLUTE                USER CODE = 17, 2,
HYDRAULIC             USER CODE = 17, 3,
TRUCK CEER AUG,       USER CODE = 17, 4,
STEEL-MOLY            USER CODE = 18, 1,
COMP, STEEL           USER CODE = 18, 2,
STEEL-STEEL           USER CODE = 18, 3,
    1                 USER CODE = 19, 1,
```

5. (sheet 2 of 3)

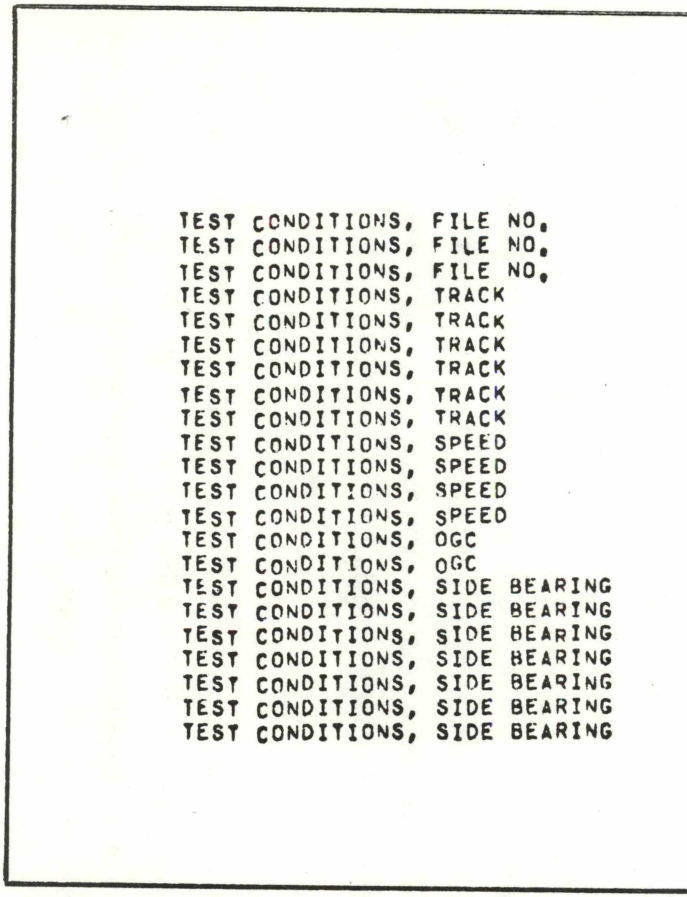

TEST CONDITIONS, FILE NO.
TEST CONDITIONS, FILE NO.
TEST CONDITIONS, FILE NO.
TEST CONDITIONS, TRACK
TEST CONDITIONS, TRACK
TEST CONDITIONS, TRACK
TEST CONDITIONS, TRACK
TEST CONDITIONS, TRACK
TEST CONDITIONS, TRACK
TEST CONDITIONS, SPEED
TEST CONDITIONS, SPEED
TEST CONDITIONS, SPEED
TEST CONDITIONS, SPEED
TEST CONDITIONS, OGC
TEST CONDITIONS, OGC
TEST CONDITIONS, SIDE BEARING
TEST CONDITIONS, SIDE BEARING
TEST CONDITIONS, SIDE BEARING
TEST CONDITIONS, SIDE BEARING
TEST CONDITIONS, SIDE BEARING
TEST CONDITIONS, SIDE BEARING
TEST CONDITIONS, SIDE BEARING

Figure 5.

```
   2                USER CODE = 19, 2,
   3                USER CODE = 19, 3,
   4                USER CODE = 19, 4,
CURVED              USER CODE = 20, 1,
SHIMMED             USER CODE = 20, 2,
HI SPD JTD          USER CODE = 20, 3,
HI SPD CWR          USER CODE = 20, 4,
MED SPD JTD         USER CODE = 20, 5,
MOD SPD JTD         USER CODE = 20, 6,
   1                USER CODE = 21, 1,
   2                USER CODE = 21, 2,
   3                USER CODE = 21, 3,
   4                USER CODE = 21, 4,
1/4 OGC             USER CODE = 22, 1,
5/8 OGC             USER CODE = 22, 2,
3/8 SB CLR          USER CODE = 23, 1,
1/4 SB CLR          USER CODE = 23, 2,
5/8 SB CLR          USER CODE = 23, 3,
1/8 SB CLR          USER CODE = 23, 4,
2.5 K PRELOAD       USER CODE = 23, 5,
5.  K PRELOAD       USER CODE = 23, 6,
7.5 K PRELOAD       USER CODE = 23, 7,
```

2.2.2 Post Processing Program

The Post Processing program developed by Southern Pacific Transportation Company (SPTCo) will be used for the analysis of the Phase I data. Currently the Post Processing program is stored in Fortran card image format on magnetic tape and will be used to enter the program in the computer. The program is configured as a base module, used to demultiplex the data from tape together with several analysis subroutines. The available data analysis techniques are listed in Figure 6.

After the Post Processing program has been entered into the computer, a series of validation runs will be made to gain assurance that the data analysis techniques are properly programmed. In some instances (such as time history plots and histograms), the validation technique will involve data comparison with previous runs. In other cases a known standard input will be analyzed to verify the accuracy of the routines. Special emphasis will be placed on verifying the PSD routine. This will involve both the calculation validity and the adequacy of the sample rate and averaging window utilized.

2.2.3 Software Enhancements

Enhancements to the TDOP sorting routine are the addition of a run number identifier, box location, and a sorting identification by vehicle type. All of these changes are reflected in the printout shown in this report. The information in the sorting routine data base was derived from a summary listing obtained from National Technical Information Service (NTIS). In several of the tapes used to date this information has not agreed with the data on the tape header. Where cases like this are found, the sorting routine will be revised to reflect the information in the tape header.

The Post Processing program is in modular form, making it easy to add additional subroutines. Two contemplated additions to the analysis capability have been identified to date: transfer function calculation and rain flow fatigue analysis. Presently a tentative need has been established for these capabilities; therefore, actual implementation will depend on analysis requirements.

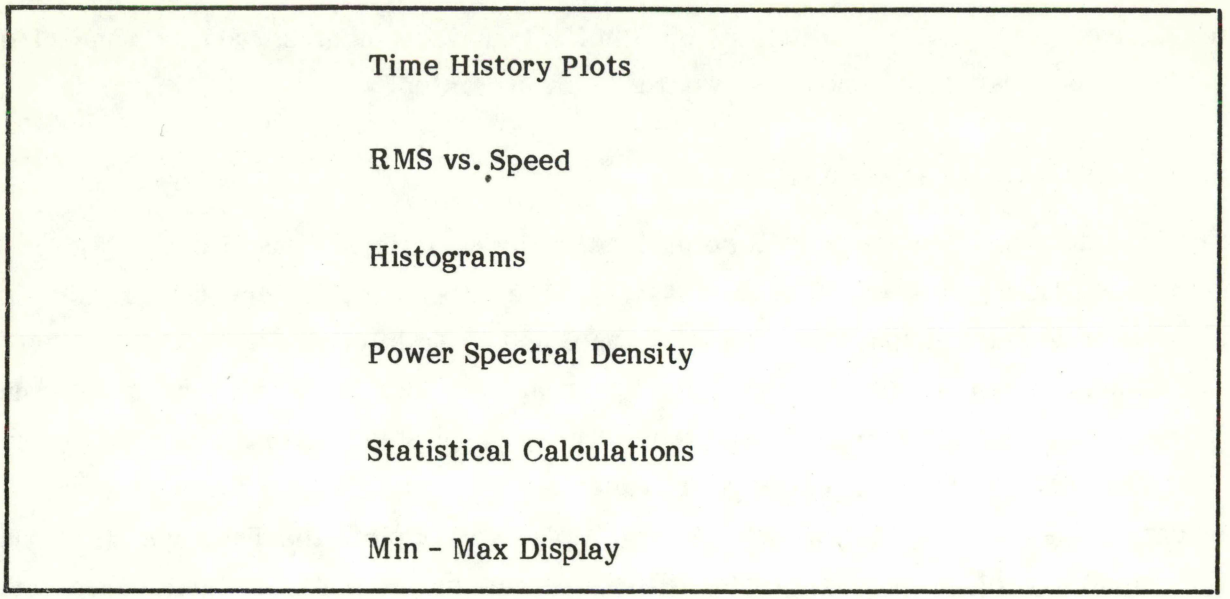


Figure 6. Data Analysis Techniques

Central Processing Unit, 256 K Bytes (64 K Words)
Disc Unit 67 Million Bytes
Disc Unit 256 Million Bytes
Magnetic Tape System - 2 Unit, 9 Track, 800/1600 BPI
Operational Terminal - 2 Units
Card Reader - 400 Cards/Min.
Line Printer - 600 Lines/Min.
Graphic Display Tektronix 4014
Electrostatic Printer-Plotter
Analog Conversion System - Digitize FM Tapes
UT 200 Protocol - For Interaction with CDC Computers
Hasp Protocol - For Interaction With Boeing Computer Service's IBM Computer

Figure 7. Interdata 8/32 Computer System Features

Slight modification of the Post Processing program output format is planned so as to provide consistency between the different plot types. This will involve a standard printout on every plot which defines the run ID, transducer number, and the time slice depicted for clear identification of what is being presented.

2.3 COMPUTER HARDWARE

The Interdata 8/32 computer will be utilized in the analysis of Phase I data. Figure 7 shows a summary description of this system. The two magnetic tape drives make it possible to simultaneously read the data tapes and write information to another tape. The disk units can be used to store data for immediate access by the various analysis subroutines. Plotting capability and rapid display of graphical data is provided by the Tektronix 4014. (Optional hardcopy is available.) This capability reduces the amount of data plots and, thus, paperwork. For multiple overlay plots the Tektronix 4014 has the capability of producing graphs with different line types for each curve and eliminating color reproduction problems. The electrostatic plotter is available for plots requiring a strip-type chart.

SECTION 3 - EVALUATION AND ANALYSIS

Once the software and associated enhancements are functional on the Interdata 8/32, the evaluation and analysis of Phase I data will be possible. Only data in the prescribed reduction formats identified as requisite to the model validation and performance indices identification tasks will be processed.

3.1 DATA EVALUATION

3.1.1 Measurement Quality

The Phase I instrumentation plan was developed so specific car body and truck parameters could be derived from the test measurements. These parameters are listed in Figure 8 with the channels used and a description of the parameter. Figure 9 shows the channel locations on the test specimen. Some cases require a single channel to measure a vehicle parameter, as in the case of A-end bounce where only channel 7 is required to obtain the desired parameter. Other cases use a combination of channels to measure a vehicle parameter, as in the case of car bounce where channels 4 and 7 are averaged to obtain the desired parameter.

For the Phase I data to be of use in the Phase II analytical effort, it is necessary that the channels used in Figure 8 give a valid quantification of the desired parameters. Thus, Phase I data required by the analysis tasks will be analyzed, and an evaluation will be made of the effectiveness of the measured channels to determine the desired parameters. The channels will be considered effective if they give a valid quantification of the desired parameter. For example, vertical accelerometers were placed at each end of the vehicle, and the measured values were subtracted to obtain pitching motion of the car body. This calculated parameter will then be assessed to see if it gives a true indication of car body pitch. This assessment will also be useful in structuring an effective measurement plan for Phase II. Phase I measurements providing usable data may be repeated in Phase II, and those which do not provide usable data will be replaced with new measurement techniques.

One example of the measurement technique failing to produce usable results was in the determination of the lateral wheel/rail force. Other such areas will be identified and

DESCRIPTION OF CALCULATED PARAMETERS

Calculated Parameter	Channels Used	Description
A-END BOUNCE	7	A-end carbody vertical acceleration; measured at center plate
B-END BOUNCE	4	B-end carbody vertical acceleration; measured at center plate
BOUNCE CAR	4, 7	Average of A- and B- end vertical center plate accelerations; equal to vertical acceleration of center of gravity
CB-A LAT. ACC	8	Lateral acceleration of A-end carbody; measured at center plate
CB-B LAT. ACC	5	Lateral acceleration of B-end carbody; measured at center plate
L. ACC AROOF	9	Lateral acceleration of A-end carbody; measured at roof directly above center plate
L. ACC AXLE 1	14	Lateral acceleration of indicated axle; measured at axle end
L. ACC AXLE 2	25	
L. ACC AXLE 3	10	
L. ACC AXLE 4	11	
LATERAL CAR	5, 8	Average of A- and B- end lateral acceleration; equal to lateral acceleration of center of gravity
L. DIS B-SF	36, 37, 39, 40	Lateral displacement of bolster with respect to both side frames
L. DIS B-SFL	39, 40	Lateral displacement of bolster with respect to left side frame
L. DIS B-SFR	36, 37	Lateral displacement of bolster with respect to right side frame
L. FOR. AXLE-1	12, 13	Lateral force on axle; measured at both left and right adapters for each axle
L. FOR. AXLE-2	23, 24	
PITCH CAR	4, 7	Angular acceleration of carbody around its lateral axis; computed from difference between A- and B-end vertical accelerations
ROLL CAR	5, 6, 8, 9	Angular acceleration of carbody around its longitudinal axis

Figure 8. Measured Car Body and Truck Parameters (sheet 1 of 2)

Calculated Parameter	Channels Used	Description
ROLL CB-AXLE	32, 34, 41, 43, 44, 46	Degree of rotation from equilibrium position (nominally parallel) between carbody bolster and axle around a longitudinal axis
SB FORCE	42, 45	Side bearing forces; differences between left and right side bearings (not used in constant-contact side bearing test)
SWIVEL + TRAM	36, 37, 39, 40, 47, 48	Sum of rotation of truck tram and truck swivel
TRUCK SWIVEL	47, 48	Degree of rotation of truck bolster with respect to carbody
TRUCK TRAM	36, 37, 39, 40	Degree of rotation from equilibrium position of bolster with respect to side frames
TWIST CAR	5, 6, 8, 9	Difference in angular acceleration around longitudinal axis of A-and B-ends of car
V. ACC R-1 V. ACC L-1 V. ACC R-2 V. ACC L-2	21 22 28 29	Vertical acceleration of adapter at indicated wheel location
V. DIS B-SF	32, 33, 34, 35	Vertical displacement of bolster with respect to side frames (shows in-phase spring deflection, not deflection due to roll)
V. DIS B-SFR V. DIS B-SFL	32, 35 34, 35	Vertical deflection of indicated spring nest
V. DIS CB-B	41, 43, 44, 46	Vertical displacement of carbody bolster with respect to truck bolster (shows center plate separation at pin)
V. DIS CB-BR	41, 43	Vertical displacement of carbody with respect to truck bolster for indicated side
V. FOR. AXLE-1 V. FOR. AXLE-2	15, 16 26, 27	Total vertical force on indicated axle
V. FORCE R-1 V. FORCE L-1 V. FORCE R-2	15 16 26	Vertical force on indicated wheel
YAW CAR	5, 8	Angular acceleration of carbody around its vertical axis; computed from difference between A- and B-end lateral accelerations

Figure 8. Measured Car Body and Truck Parameters (sheet 2 of 2)

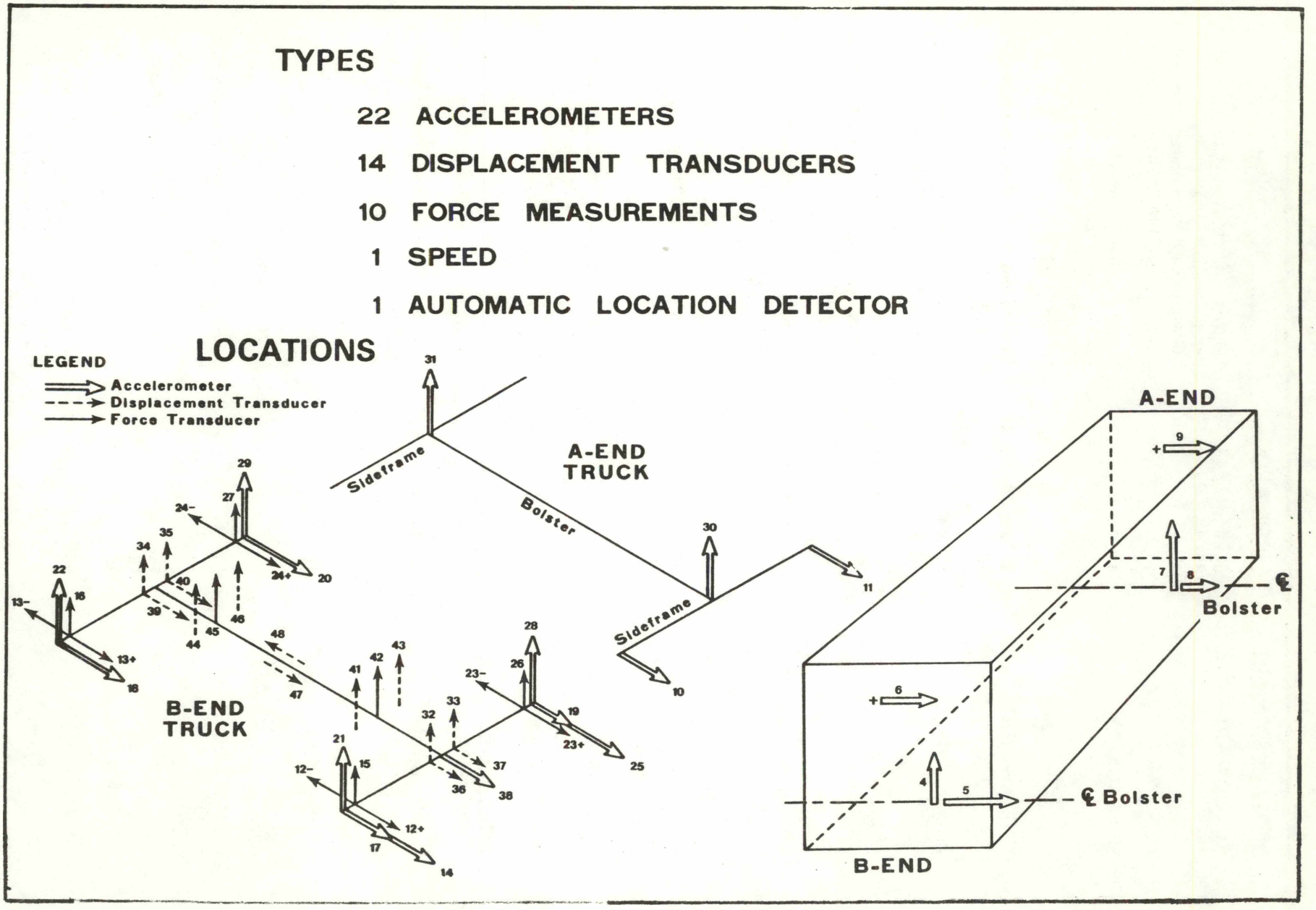


Figure 9. Phase I Instrumentation

documented during the Phase I data reduction effort, and other sources of information will be explored. If it is not possible to obtain satisfactory data for a key parameter, it may be necessary to run a limited series of new tests for those key parameters.

Calibration problems and data anomalies will be noted and evaluated. In those areas where calibration problems are found to exist, an attempt will be made to define an accuracy bound for the reduced data. Where anomalies are noted in the reduced data, an attempt will be made to define the cause of the anomaly and to take appropriate action.

3.1.2 Track Geometry Correlation

A problem area identified in the Phase II proposal was the difficulty of correlating the response measurements with the track geometry location. The Automatic Location Detector (ALD) used during Phase I picked up numerous extraneous signals which made determining the exact test car location difficult. This problem is illustrated in Figure 10, which shows the ALD channel versus milepost (solid line). The milepost location was obtained by integrating train speed from the known starting milepost. A positive voltage signal indicates the ALD has located a target. The dashed lines indicates where the ALD targets are actually placed. From this Figure it can be seen that the two methods of train location do not coincide and that it would be very difficult to get them to coincide.

The problem of knowing the exact input which corresponds to a given response is particularly critical in time domain analysis. In this type of an analysis the model must be given exactly the same input at the same time as the test car so the response data can be compared.

The track geometry correlation problem will be studied to determine if anything can be done to improve this correlation. An alternate analysis technique is to calculate frequency domain and averaged quantities (such as PSDs and RMS values) for comparison with model results. This technique has the advantage of being independent of the exact correlation between track geometry and test car. For those models which do require an exact comparison in the time history domain, additional tests may be necessary to acquire the measurements.

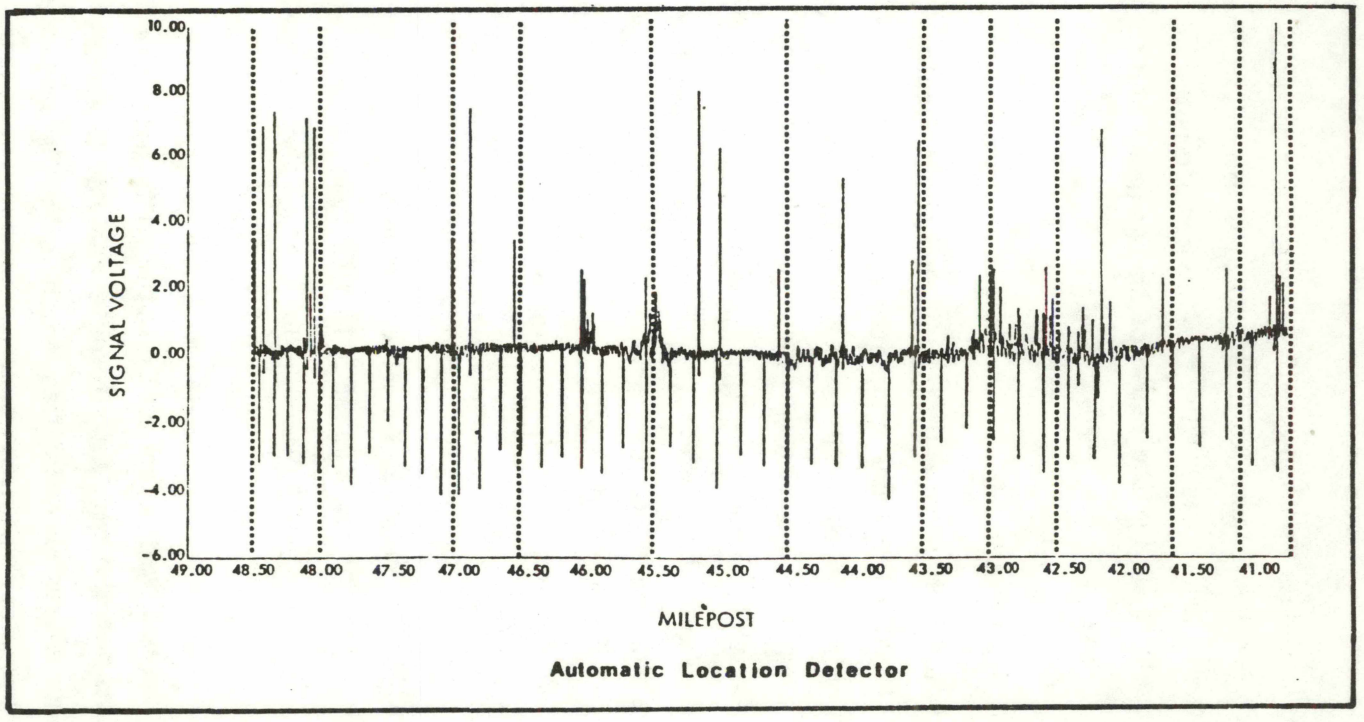


Figure 10. ALD Location Plot

3.2 DATA ANALYSIS

3.2.1 Pilot Program

A small pilot program will be conducted to establish the validity of the techniques used in establishing the value of performance indices and to gain familiarity with and confidence in the data. As an example, a manageable subset such as ride quality could be reviewed. The data could be bounded by reviewing responses for one or two truck types of the same load rating on one type of track (e.g., mainline jointed rail), for a range of speeds; and under all car bodies tested. This would provide a band of performance and a more realistic measure of ride quality. The pilot program would:

a. Focus on a limited amount of data to produce a definite and easily described result.

b. Establish a methodology that can be extended to other truck performance aspects.

3.2.2 Performance Regimes

Pilot program results will be extended to the major performance regimes which have been identified in describing the performance characteristics of a rail truck. These performance regimes are:

a. Lateral Dynamics (Hunting)

b. Curve Negotiation

c. Rock and Roll Dynamics

d. Ride Quality

e. Derailment Potential

These performance regimes are then related to physically measurable parameters called performance indices as indicated in Figure 11. Where possible, the Phase I data will be used to quantify values for the performance indices. As an example, the lateral stability of a truck will be characterized by the lowest speed at which hunting occurs. To bound the number of cases, only those variables which are shown to significantly

PERFORMANCE REGIMES	PERFORMANCE INDICES	
	PRIMARY	EXTENDED OR ALTERNATE
LATERAL STABILITY	Critical Speed (Primary or Body Hunting)	Lateral Acceleration at Lowest Critical Speed. Critical Speeds of Wheelset and Truck Hunting (for Some Type II Trucks)
CURVE NEGOTIATION	Lateral Force on Leading Outer Wheel, per 1000 Lb. Axle Load, per Degree of Curve (Other Variables, Such as Wheel and Rail Profiles, and Variations in Creep Coefficients, May Have to be Specified)	Angle of Attack of Leading Outer Wheel, per Degree of Curve

Figure 11. Performance Regimes (sheet 1 of 3)

PERFORMANCE REGIMES	PERFORMANCE INDICES	
	PRIMARY	EXTENDED OR ALTERNATE
HARMONIC ROLL ("ROCK-AND-ROLL")	Rate of Energy Dissipation of Roll Motion, Lb Ft/Sec, Or: Energy Dissipation Per Cycle, Lb Ft/Cycle, per Degree of Initial Amplitude. Could be Made Independent of Carbody and Suspension Characteristics, by Specifying Initial Energy of Motion, Including that Stored in Suspension Springs.	Amplitude of Roll Oscillation Under Constant Harmonic Excitation, for a Specific Vehicle. Or: Rate of Decay of Roll Oscillation From a Given Amplitude, for a Specific Vehicle

Figure 11.(sheet 2 of 3)

PERFORMANCE REGIMES	PERFORMANCE INDICES	
	PRIMARY	EXTENDED OR ALTERNATE
RIDE QUALITY	Acceleration (Vertical and Lateral) at a Specified Point of Carbody, at a Specified Speed, on Track of Specified Characteristics.	Statistical Measures: Mean & Std. Deviation PSD Exceedances Rainflow Analysis
DERAILMENT	1. L/V Ratio Times Duration of Lateral Force, for a Specified Wheel & Rail Geometry (Wheel Climbing) 2. Absolute Value of Lateral Force (Implies Yielding of Rail as a Factor) 3. Sensitivity to Track Modulus as a Factor in Wheel Unloading (Bridges, Frozen Roadbed)	For Frogs and Switches: Derailment Potential May Depend on State of Wheel Wear, as Well as on Truck Kinematics.

Figure 11. (sheet 3 of 3)

affect hunting would be used in the characterization (such as wheel profile and car body type). The sorting program would be used to obtain listings of all runs made with each combination of wheel profile and car body type for a given truck. These runs would then be accessed to obtain a plot of RMS lateral acceleration versus speed, and, from this, the critical speed would be determined. Curve negotiation indices will not be obtained from the Phase I data because of the lack of adequate measurements.

3.2.3 Model Validation

As the computer model identification and verification phase progresses, certain programs will be identified which are to be used during the analytical task effort. Data required for model validation will be identified from the Phase I tapes and reduced for validation of performance indices predicted by the selected model or models. The sorting routine will be used to retrieve the required data.

3.2.4 Tape Header Information

The test conditions will be printed out for each test accessed during the data analysis phase. Figure 12 shows the complete listing for the conditions under which test ID 010203TWA001 was run. These listings will be used as the basis for establishing the conditions under which each test was run. Where discrepancies exist between the listing and other sources (such as the sorting routine), the listing will be used as the governing document.

TIME: 0.00↑TEST:010203TWA001↑TYPE: 1↑LGN: 1980
SUISUN WESTBOUND,30 TO 79 MPH,JOINTED RAIL, 3/19/75
SOUTHERN PACIFIC TRANSPORTATION COMPANY, TRUCK OPTIMIZATION FIELD TESTS
FOR FEDERAL RAILROAD ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION

TDOP TAPE NO.:	0035	SEQNCE. ON TAPE:	1
TEST DATE:	3/19/75	TEST START TIME:	0825 HOURS
TEMPERATURE:	52 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	95%	WIND DIRECTION:	FROM 180 DEG REL
WIND VELOCITY:	10 M	RAIL SURF COND:	MOIST AND SANDED
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD WEST
MILEPOST START:	48.50	MILEPOST END:	40.70
MIN SPEED:	30 MPH	MAX SPEED:	79 MPH
RAIL TYPE:	JOINTED	RAIL WEIGHT:	132 LB./YD.
RAIL LAID IN:	1941 TO 1955	CAR INITIALS:	SPFE
CAR NUMBER:	459997	CAR TYPE:	MECH. REEFER
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	130000 POUNDS
CAR TARE WEIGHT:	89100 POUNDS	EMPTY WT A-END:	47880 POUNDS
EMPTY WT B-END:	41220 POUNDS	TARE WT:	89100 POUNDS
CENTER GRAVITY:	60 INCHES	TYPE OF LADING:	NONE
ALD - LD. TRUCK:	+15 FT. 0 IN.	TRUCK CENTERS:	45 FT. 8.625 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	25
TRUCK TYPE:	ASF A3 RIDE CONT	WHEEL BASE:	5 FT. 8 IN.
SPRNG GROUP OUT:	7 D5	SPRNG GROUP IN:	6 D5
SPR GROUP ININ:	0	STAT SPNG COMP:	B-9,675;A-9,5 IN
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.375 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	CONSTANT (ASF)
SNUBBER SPRINGS:	8	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.250 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	3 DOT L; 3 DOT R
AXL PARAL B-END:	3 DOT L; 3 DOT R	WHEEL CONTOUR:	FG 5,11 AAR W&AM
WHEEL DIAMETER:	33.4375 INCHES		

Figure 12. Test Condition Data For Each Run

SECTION 4 - REFORMATTING DATA PLAN

The sheer volume of data acquired during Phase I makes it difficult to access the data without an extensive computer operation. One option discussed was to take some of the Phase I data tapes and produce some new tapes which would concentrate on one particular phenomenon, characteristic, or parameter variation. Thus it would be necessary to obtain only one tape to study a particular test response. These new tapes could be filed with NTIS.

The justification for performing such a reformatting would be the use which the railroad industry at large could obtain from these tapes. In order to assess the tapes' usefulness, a questionnaire has been distributed to the TDOP Phase II consultants. This questionnaire is reproduced as Figure 13. The decision to do any reformatting will be based on the response to this questionnaire. The reformatting will also be dependent on the funds available for this effort after completion of the tasks defined under this plan.

PHASE I DATA USAGE QUESTIONNAIRE

1. Are the Phase I data tapes in their current form, available through NTIS, adequate for anticipated industry usage? Yes or No

2. If the answer to question #1 is no, would some form of reformatting by Wyle make the data tapes more useful? Yes or No

3. The most popular form of reformatting seems to be one where data tapes are prepared which concentrate on one particular phenomenon, characteristic or parameter variation. List in order of importance those phenomenon, characteristics or parameters you think would be the most useful to the industry.

_____

_____

_____

_____

_____

4. Any other comments or suggestions as to Wyle's usage of the Phase I data?

_____

_____

_____

1 February 1978

SECTION 5 - DATA REPORTS

A data report will be prepared at the completion of the Phase I data analysis task which will include:

a. Implementation of the Post Processing program

b. Use of the TDOP sorting program

c. Verification of the Post Processing program data analysis subroutines

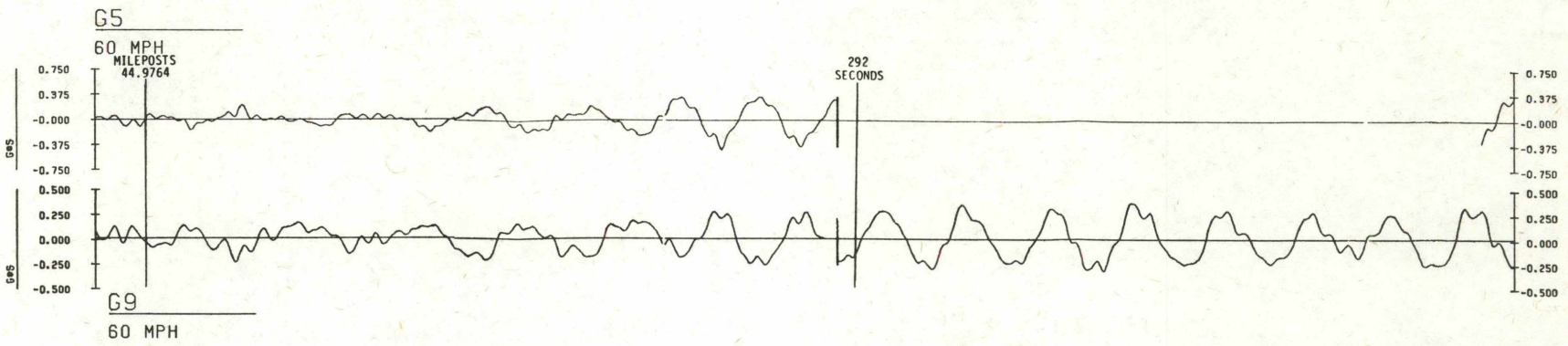
d. Enhancements made to the Post Processing program

e. Resolution of the problems identified with the Phase I data

f. Cataloging of the reduced data

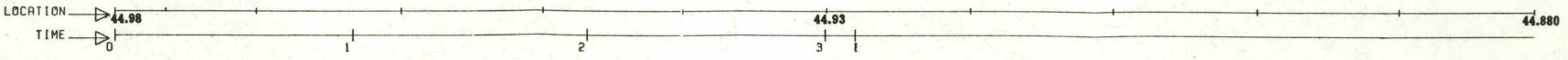
An appendix to the data report will catalog all reduced data. The format will consist of a header sheet listing all test conditions and will be followed by all the analysis obtained for that run.

Detailed discussion of the analyzed data will appear in the appropriate Phase II task report for which it was reduced. For example, the data reduced for model verification will be presented and discussed in the model validation report, and the data reduced for performance indices will be discussed in the report which defines values for the performance indices.



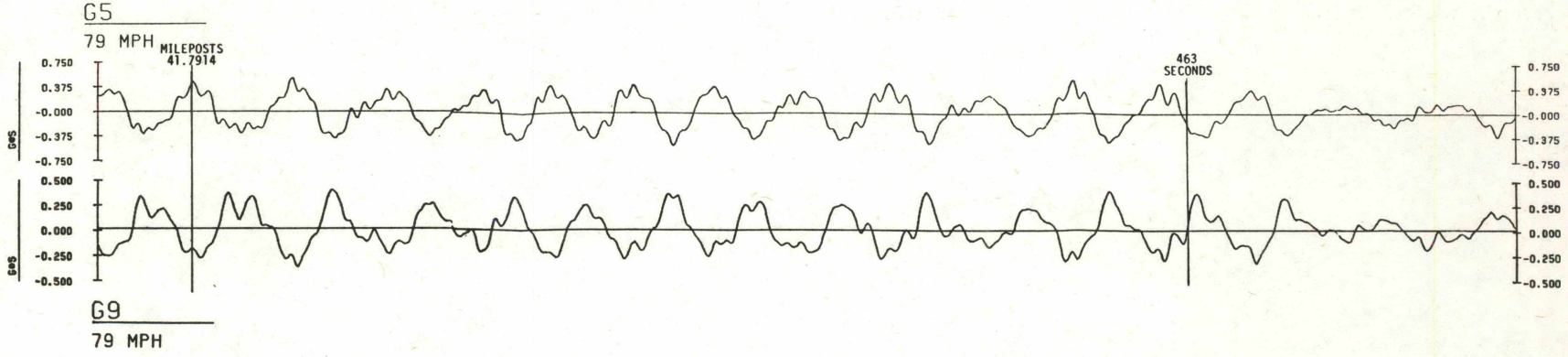
TEST NAME: 010203TWA001
SPEED RANGE: 58 -- 62 MPH
M.P. LIMITS: 44.98 TO 44.89

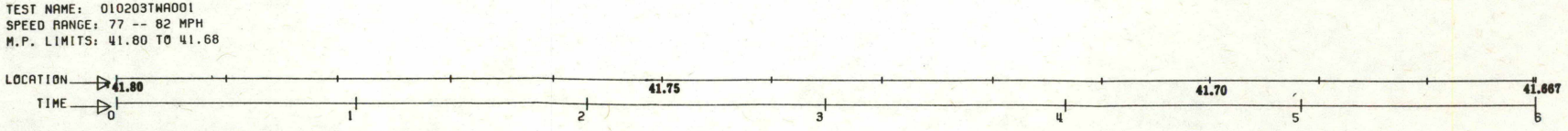
PLOT NAME: 12JUN78 0003



REFRIGRATOR CAR LATERAL RESPONSES
COMPARISON OF WYLE : POST PROCESSING PROGRAM OUTPUT

Figure B-5





REFRIGRATOR CAR LATERAL RESPONSES
COMPARISON OF WYLE : POST PROCESSING PROGRAM OUTPUT

Figure B-6

PSD Plots

In the final step in the validation process, Wyle used the PSD routine to calculate values for a known sinusoidal input. The sinusoidal inputs were a one g signal at 1.8 Hz, 20 Hz, and 38 Hz. The results of this analysis are shown in Figures B-7, B-8, and B-9 and were as expected. Figure B-10 shows a combination of all three of these frequencies. The area under the curves in Figure B-7 give a g rms of .5 gs instead of the expected .707 g. A detailed recheck of the analysis routine showed the calculation to be correct. However, when the computer code in the plotting section was examined, we found that the calculated values were being divided by 2.0 just before plotting. This caused the PSD plot to be low by a factor of two and the rms value to be low by a factor of two. This accounted for the discrepancy noted in the calculated g rms value. No apparent reason could be found for the division by two and discussion with the SPTCo. revealed no rationale for this procedure and they agreed that the g rms should be .707 g.

Wyle also noted during this exercise that the Post Processing Program fails to remove the mean before calculating the PSD. By not removing the mean from the PSD calculation, the algorithm used to calculate the PSD gives a large PSD value at 0 Hz for signals with a large mean value in it and the resulting overflow into adjacent frequencies will also affect the 0.1 Hz data point. Because the Post Processing Program does not plot the 0 Hz PSD value, but rather, starts at the origin of the plot for 0 Hz, the error caused by not removing the mean shows up as a high PSD value at 0.1 Hz. This is illustrated in Figure B-11 for a signal with a large mean. The 0 Hz PSD value starts at the origin and a large peak occurs at 0.1 Hz. These data do not show a PSD peaking at 0.1 Hz, but rather, a PSD of a signal with a large mean. Another example is given in Figure B-12, where a peak occurs at 0.1 Hz but is not a valid peak in the PSD.

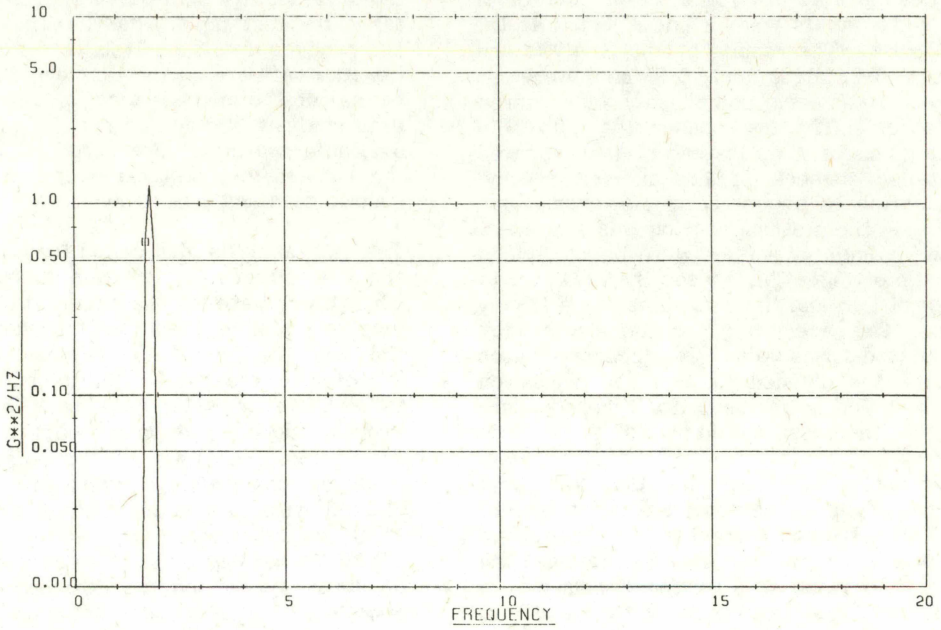
Based upon this comparison, Wyle made certain revisions in the program as noted in the following section. Note that the test case specified in Reference 2 gave identical results with the SPTCo's test case and thus it may be concluded that all PSDs run during Phase I are in error. However this error may be corrected easily by multiplying the scale on each PSD curve by a factor of two and ignoring any peaks at 0.1 Hz.

Enhancements

The only modifications made to the Post Processing Program were those associated with the PSD package to enable it to give the correct results. These consisted of removing the mean from the signal before any PSD calculation, calculating the area under the PSD curve, removing the erroneous factor of two, and printing the g rms level on the plot.

Once Wyle commenced processing of data using the Post Processing Program, we found that the analysis routines available in the current version of the program were adequate for the analysis of the data. Hence no new data analysis subroutines were added to the Post Processing Program. However, a need was identified in connection with the ALD location problems to provide time-history plots of greater than 20 seconds for one channel at a time. This capability was implemented by writing a new program which takes the Phase I tapes and produces a reformatted tape which is compatible with the Wyle library of analysis routines. The new program takes the test tapes which are in a multiplexed format and produce a data analysis tape which is demultiplexed, i.e., the data are on the tape one channel at a time. The format of the analysis tape is compatible with the Wyle data analysis library and may be analyzed by any of the available routines. For purposes of this data analysis, the time-history plot capability was used to obtain the desired data analysis.

The data analysis plan called for a slight modification of the Post Processing Program output format to provide consistency between the different plot types. This would involve a standard printout on every plot which defines the run ID, transducer number, and the time slice depicted for clear identification of what is being presented. However, after working with the Post Processing Program during installation on the Interdata computer, we concluded that the effort required to perform these modifications would be significant. Also, after using the plotted data, we believed that the format, while not ideal, was completely adequate in its current form for TDOP Phase II use. The one exception was the printout of the rms value on the PSD curves. Based upon this conclusion, Wyle decided to make no modifications to the output format except as noted above.



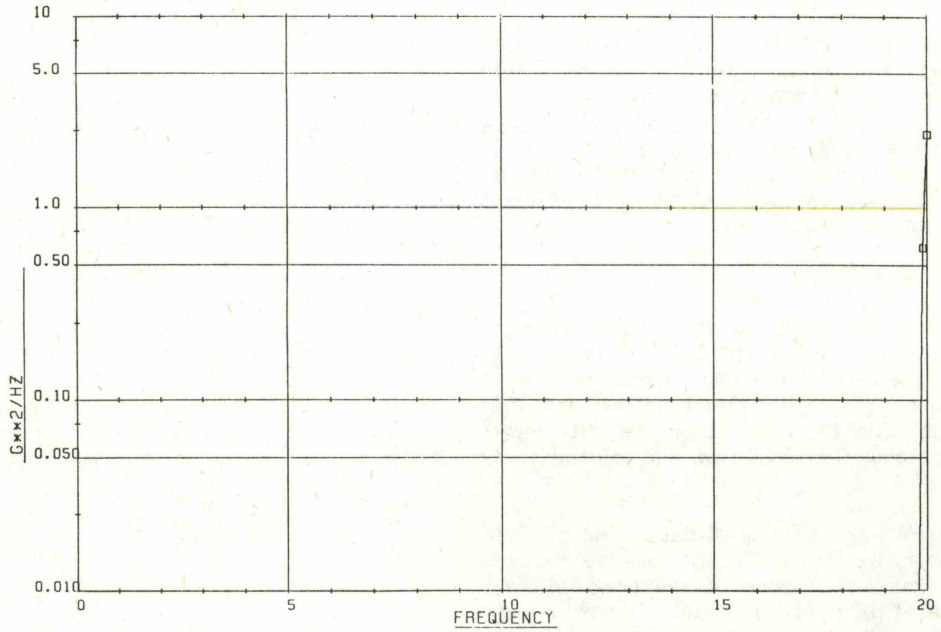
PSD OF 1.8 HZ **SINUSOID**

TEST CASE FOR PSD OF SINUSOIDAL INPUT

PLOT TYPE: PSD
PLOT NAME: 11JUL78 0001

TEST NAME: 030201TEH001

Figure B-7



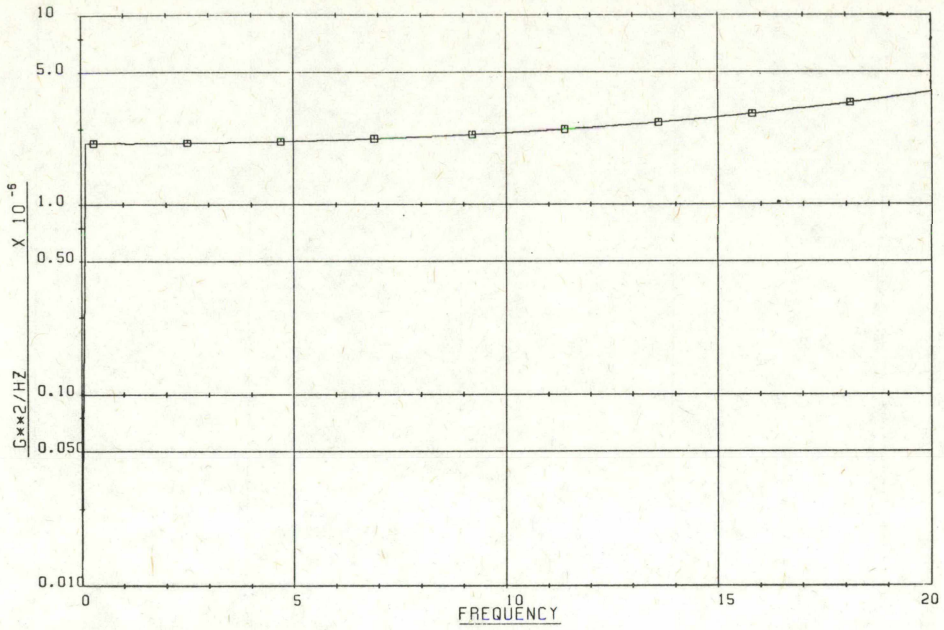
PSD OF 20 HZ **SINUSOID**

TEST CASE FOR PSD OF SINUSOIDAL INPUT

PLOT TYPE: PSD
PLOT NAME: 11JUL78 0001

TEST NAME: 030201TEH001

Figure B-8

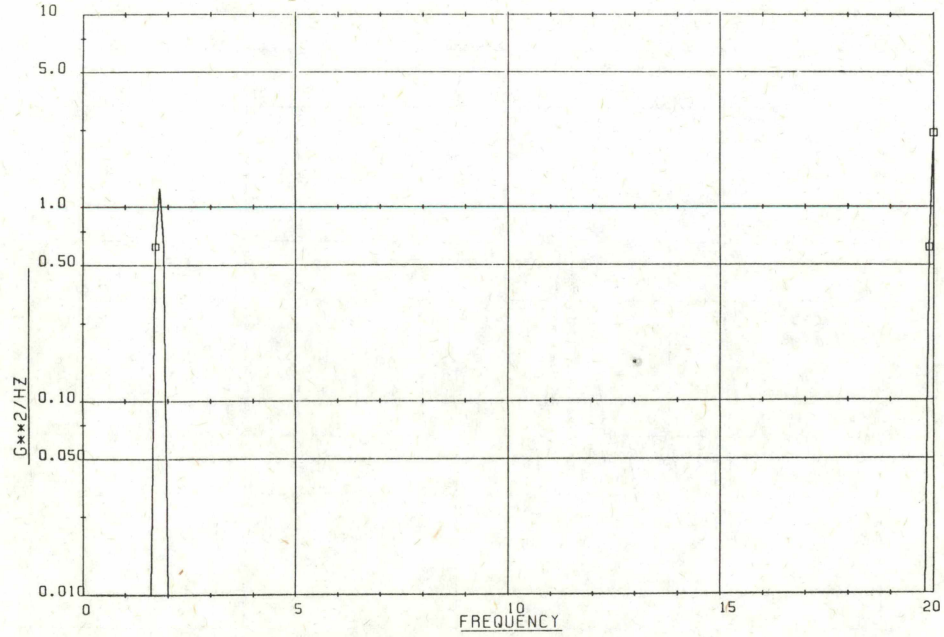


PSD OF 38 HZ SINUSOID
TEST CASE FOR PSD OF SINUSOIDAL INPUT

PLOT TYPE: PSD
PLOT NAME: 11JUL78 0001

TEST NAME: 030201TEH001

Figure B-9

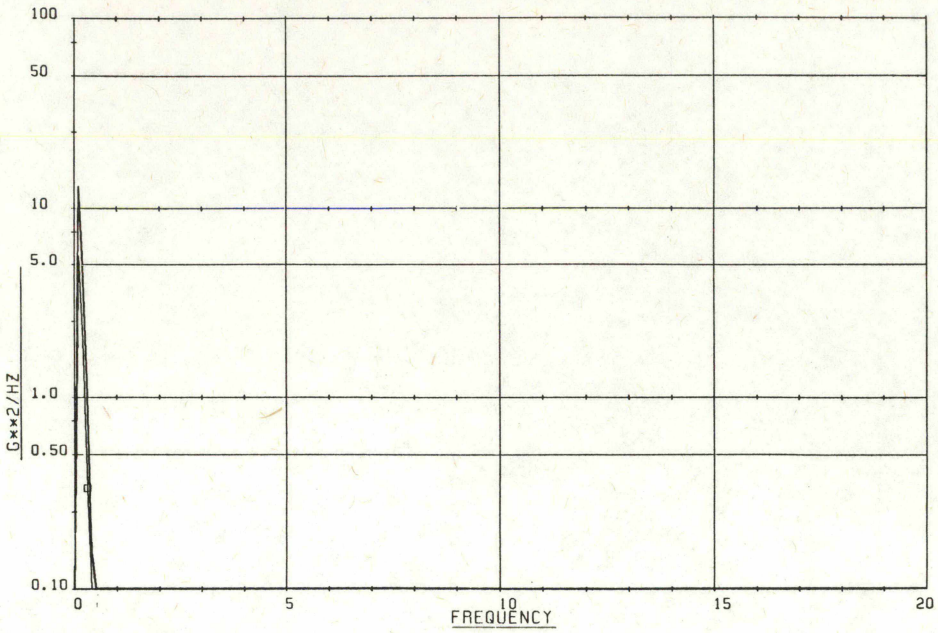


PSD OF 1.8 HZ SINUSOID + 20 HZ SINUSOID + 38 HZ SINUSOID
TEST CASE FOR PSD OF SINUSOIDAL INPUT

PLOT TYPE: PSD
PLOT NAME: 11JUL78 0001

TEST NAME: 030201TEH001

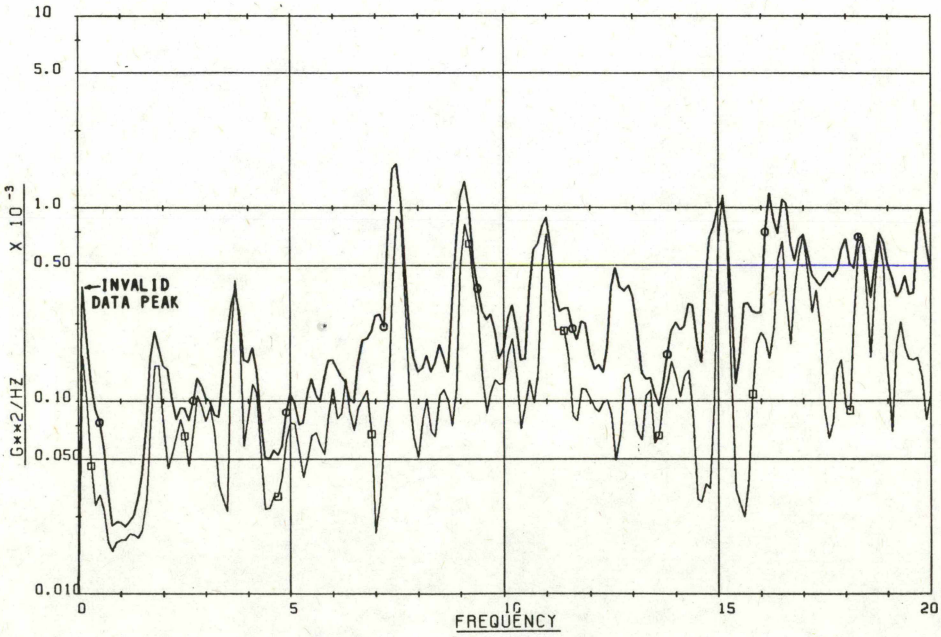
Figure B-10



PSD OF **TRAIN SPEED INDICATOR**
EMPTY 100 TON BOX CAR, BARBER TRUCKS, CWR

PLOT TYPE: PSD
PLOT NAME: 10JUL78 0001
A2 50 MPH-ZONE 1
B2 50 MPH-ZONE 2
TEST NAME: 030202TEM001

Figure B-11



PSD OF LATERAL ACCELERATION ON NO. 3 AXLE
EMPTY 100 TON BOX CAR, BARBER TRUCKS, CWR

PLOT TYPE: PSD
PLOT NAME: 10JUL78 0004
A10 50 MPH-ZONE 1
B10 50 MPH-ZONE 2
TEST NAME: 030202TEM001

Figure B-12

TAPE HEADER SUMMARY

TEST: 010104TWA001

TEST CONDUCTED AT MEDIUM AND HIGH SPEED USING ASF RIDE CONTROL 70 TON CAPACITY TRUCK UNDER MECHANICAL REFRIGERATOR CAR WITH FULL GROSS RAIL LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THREE CAR TEST TRAIN 4 HOURS PRIOR TO TEST RUN
NOMINAL NEW CONDITIONS EXCEPT:
CLOSED GIBS
OPEN SIDE BEARINGS

TDOP TAPE NO.:	0002	SEQNCE. ON TAPE:	2
TEST DATE:	2/14/75	TEST START TIME:	1155 HRS
TEMPERATURE:	55 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	48%	WIND DIRECTION:	FROM 90 DEG REL
WIND VELOCITY:	8 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD WEST
MILEPOST START:	48.50	MILEPOST END:	40.70
MIN SPEED:	30 MPH	MAX SPEED:	79 MPH
RAIL TYPE:	JOINTED	RAIL WEIGHT:	132 LB./YD.
RAIL LAID IN:	1941 TO 1955	CAR INITIALS:	SPFE
CAR NUMBER:	459997	CAR TYPE:	MECH. REEFER
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	130000 POUNDS
CAR TARE WEIGHT:	89100 POUNDS	LOADED WT A-END:	104580 POUNDS
LOADED WT B-END:	115200 POUNDS	LOADED WT TOTAL:	219780 POUNDS
CENTER GRAVITY:	58 INCHES	TYPE OF LADING:	BRAKE SHOES
ALD - LD. TRUCK:	+15 FT. 0 IN.	TRUCK CENTERS:	45 FT. 8.625 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	25
TRUCK TYPE:	ASF A3 RIDE CONT	WHEEL BASE:	5 FT. 8 IN.
SPRNG GROUP OUT:	7 D5	SPRNG GROUP IN:	6 D5
SPR GROUP ININ:	0	STAT SPNG COMP:	8.125 INCHES
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.375 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	CONSTANT (ASF)
SNUBBER SPRINGS:	6	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.250 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	3 DOT L; 3 DOT R
AXL PARAL B-END:	3 DOT L; 3 DOT R	WHEEL CONTOUR:	FG 5.11 AAR W&M
WHEEL DIAMETER:	33.4375 INCHES		

TEST: 010202TWA001

TEST CONDUCTED AT MEDIUM AND HIGH SPEED USING ASF RIDE CONTROL 70 TON CAPACITY TRUCK UNDER MECHANICAL REFRIGERATOR CAR WITH NO LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THROUGH FREIGHT TRAIN 2 HRS PRIOR TO TEST RUN
NOMINAL NEW CONDITIONS EXCEPT:
TIGHT SIDE BEARINGS
CHANNEL 15 CAL LOW: CHANNEL 16 CAL HIGH: CHANNEL 23 HAS NO NEG CHANNELS 41,43,44,46, CARBODY TO BOLSTER EXTENSIOMETERS ARE ALL BENT AND GIVING INACCURATE READINGS.

TDOP TAPE NO.:	0033	SEQNCE. ON TAPE:	1
TEST DATE:	3/17/75	TEST START TIME:	1140 HRS
TEMPERATURE:	50 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	87%	WIND DIRECTION:	FROM 350 DEG REL
WIND VELOCITY:	5 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD WEST
MILEPOST START:	48.50	MILEPOST END:	40.70
MIN SPEED:	30 MPH	MAX SPEED:	79 MPH
RAIL TYPE:	JOINTED	RAIL WEIGHT:	132 LB./YD.
RAIL LAID IN:	1941 TO 1955	CAR INITIALS:	SPFE
CAR NUMBER:	459997	CAR TYPE:	MECH. REEFER
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	130000 POUNDS
CAR TARE WEIGHT:	89100 POUNDS	EMPTY WT A-END:	47860 POUNDS
EMPTY WT B-END:	41220 POUNDS	TARE WT:	89100 POUNDS
CENTER GRAVITY:	60 INCHES	TYPE OF LADING:	NONE
ALD - LD. TRUCK:	+15 FT. 0 IN.	TRUCK CENTERS:	45 FT. 8.625 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	25
TRUCK TYPE:	ASF A3 RIDE CONT	WHEEL BASE:	5 FT. 8 IN.
SPRNG GROUP OUT:	7 D5	SPRNG GROUP IN:	6 D5
SPR GROUP ININ:	0	STAT SPNG COMP:	B-9.675:A-9.5 IN
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.125 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	CONSTANT (ASF)
SNUBBER SPRINGS:	8	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.675 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	3 DOT L: 3 DOT R
AXL PARAL B-END:	3 DOT L: 3 DOT R	WHEEL CONTOUR:	FG 5.11 AAR W&M
WHEEL DIAMETER:	33.4375 INCHES		

TEST: 020203TWA001

TEST CONDUCTED AT MEDIUM AND HIGH SPEED USING ASF RIDE CONTROL 70 TON CAPACITY TRUCK UNDER MECHANICAL REFRIGERATOR CAR WITH NO LOAD

PREVIOUS TRAFFIC OVER TEST TRACK:
AMTRAK PASSENGER TRAIN
20 MINUTES PRIOR TO TEST RUN

NOMINAL NEW CONDITIONS EXCEPT:
OPEN SIDE BEARINGS
WORN WHEELS OF 101

CHANNEL 48 INOPERATIVE DURING TEST

TDOP TAPE NO.:	0049	SEQNCE. ON TAPE:	2
TEST DATE:	4/10/75	TEST START TIME:	1408 HOURS
TEMPERATURE:	62 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	50%	WIND DIRECTION:	FROM 0 DEG REL
WIND VELOCITY:	10 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD WEST
MILEPOST START:	48.50	MILEPOST END:	40.70
MIN SPEED:	30 MPH	MAX SPEED:	79 MPH
RAIL TYPE:	JOINTED	RAIL WEIGHT:	132 LB./YD.
RAIL LAID IN:	1941 TO 1955	CAR INITIALS:	SPFE
CAR NUMBER:	459997	CAR TYPE:	MECH. REEFER
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	130000 POUNDS
CAR TARE WEIGHT:	88720 POUNDS	EMPTY WT A-END:	48940 POUNDS
EMPTY WT B-END:	39780 POUNDS	TARE WT:	88720 POUNDS
CENTER GRAVITY:	60 INCHES	TYPE OF LADING:	NONE
ALD - LD. TRUCK:	+15 FT. 0 IN.	TRUCK CENTERS:	45 FT. 8.625 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	ASF A3 RIDE CONT	WHEEL BASE:	5 FT. 8 IN.
SPRNG GROUP OUT:	7 D5	SPRNG GROUP IN:	6 D5
SPR GROUP ININ:	0	STAT SPNG COMP:	B-9.675:A-9.5 IN
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.375 INCHES	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	CONSTANT (ASF)
SNUBBER SPRINGS:	8	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	3 DOT L: 3 DOT R
AXL PARAL B-END:	3 DOT L: 3 DOT R	WHEEL CONTOUR:	WORN DF101
WHEEL DIAMETER:	33.1406 INCHES		

TEST: 020303TWA001

TEST CONDUCTED AT MEDIUM AND HIGH SPEED USING ASF RIDE CONTROL 70 TON CAPACITY TRUCK UNDER MECHANICAL REFRIGERATOR CAR WITH FULL GROSS RAIL LOAD

PREVIOUS TRAFFIC OVER TEST TRACK:
THROUGH FREIGHT TRAIN
3 HOURS 25 MIN. PRIOR TO TEST RUN

NOMINAL NEW CONDITIONS EXCEPT:
OPEN SIDE BEARINGS
WORN WHEELS OF 101

TDOP TAPE NO.:	0054	SEQNCE. ON TAPE:	3
TEST DATE:	4/16/75	TEST START TIME:	1305 HOURS
TEMPERATURE:	63 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	40%	WIND DIRECTION:	CALM
WIND VELOCITY:	CALM	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD WEST
MILEPOST START:	48.50	MILEPOST END:	40.70
MIN SPEED:	30 MPH	MAX SPEED:	79 MPH
RAIL TYPE:	JOINTED	RAIL WEIGHT:	132 LB./YD.
RAIL LAID IN:	1941 TO 1955	CAR INITIALS:	SPFE
CAR NUMBER:	459997	CAR TYPE:	MECH. REEFER
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	130000 POUNDS
CAR TARE WEIGHT:	89100 POUNDS	LOADED WT A-END:	104580 POUNDS
LOADED WT B-END:	115200 POUNDS	TARE WT:	219780 POUNDS
CENTER GRAVITY:	86.25 INCHES	TYPE OF LADING:	BRAKE SHOES
ALD - LD. TRUCK:	+15 FT. 0 IN.	TRUCK CENTERS:	45 FT. 8.625 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	ASF A3 RIDE CONT	WHEEL BASE:	5 FT. 8 IN.
SPRNG GROUP OUT:	7 D5	SPRNG GROUP IN:	6 D5
SPR GROUP ININ:	0	STAT SPNG COMP:	B-8.250:A-8.375
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.375 INCHES	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	CONSTANT (ASF)
SNUBBER SPRINGS:	8	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	3 DOT L: 3 DOT R
AXL PARAL B-END:	3 DOT L: 3 DOT R	WHEEL CONTOUR:	WORN DF101
WHEEL DIAMETER:	33.1406 INCHES		

TEST: 030101TWA001

TEST CONDUCTED AT MEDIUM AND HIGH SPEED USING BARBER S2C
70 TON CAPACITY TRUCK UNDER MECHANICAL REFRIGERATOR
CAR WITH NO LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THROUGH FREIGHT TRAIN
1 HOUR AND 10 MIN PRIOR TO TEST RUN
NOMINAL NEW CONDITIONS EXCEPT:
NONE
CHANNEL 14 WAS -.9 V OFF ZERO
CHANNEL 47 WAS -1.5 V OFF ZERO

TDOP TAPE NO.:	0091	SEQNCE. ON TAPE:	2
TEST DATE:	5/30/75	TEST START TIME:	1645 HRS
TEMPERATURE:	88 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 90 DEG REL
WIND VELOCITY:	22 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD WEST
MILEPOST START:	48.479	MILEPOST END:	40.70
MIN SPEED:	30 MPH	MAX SPEED:	79 MPH
RAIL TYPE:	JOINTED	RAIL WEIGHT:	132 LB./YD.
RAIL LAID IN:	1941 TO 1955	CAR INITIALS:	SPFE
CAR NUMBER:	459997	CAR TYPE:	MECH. REEFER
CAR ORIENTATION:	6-END FORWARD	CAR CAPACITY:	130000 POUNDS
CAR TARE WEIGHT:	88760 POUNDS	LOADED WT A-END:	48960 POUNDS
LOADED WT B-END:	39800 POUNDS	TOTAL WT.:	88760 POUNDS
CENTER GRAVITY:	60.00 INCHES	TYPE OF LADING:	NONE
ALD - LD. TRUCK:	+15 FT. 0 IN.	TRUCK CENTERS:	45 FT. 8.625 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	BARBER S2C	WHEEL BASE:	5 FT. 8 IN.
SPRNG GROUP OUT:	7 D5	SPRNG GROUP IN:	4 D5
SPR GROUP ININ:	0	STAT SPNG COMP:	B-9.75:A-9.44 IN.
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	LOAD VARIABLE
SNUBBER SPRINGS:	8 B-432	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	3 DOT L: 4 DOT R
AXL PARAL B-END:	2 DOT L: 3 DOT R	WHEEL CONTOUR:	FG 5.11 AAR W&AM
WHEEL DIAMETER:	33.4375 INCHES		

TEST: 030102TWA001

TEST CONDUCTED AT MEDIUM AND HIGH SPEED USING BARBER S2C
70 TON CAPACITY TRUCK UNDER MECHANICAL REFRIGERATOR
CAR WITH FULL GROSS RAIL LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THROUGH FREIGHT TRAIN
3 HOURS AND 15 MIN PRIOR TO TEST RUN
NOMINAL NEW CONDITIONS EXCEPT:
NONE
USE MP 41.6 TO MP 41.1 FOR 79 MPH TEST
CHANNEL 6 WAS +2.74 VOLTS OFF ZERO

TDOP TAPE NO.:	0077	SEQNCE. ON TAPE:	1
TEST DATE:	5/21/75	TEST START TIME:	1045 HRS
TEMPERATURE:	78 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 90 DEG REL
WIND VELOCITY:	12 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD WEST
MILEPOST START:	48.479	MILEPOST END:	40.70
MIN SPEED:	30 MPH	MAX SPEED:	79 MPH
RAIL TYPE:	JOINTED	RAIL WEIGHT:	132 LB./YD.
RAIL LAID IN:	1941 TO 1955	CAR INITIALS:	SPFE
CAR NUMBER:	459997	CAR TYPE:	MECH. REEFER
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	130000 POUNDS
CAR TARE WEIGHT:	88760 POUNDS	LOADED WT A-END:	104520 POUNDS
LOADED WT B-END:	114300 POUNDS	TOTAL WT.:	218820 POUNDS
CENTER GRAVITY:	86.25 INCHES	TYPE OF LADING:	BRAKE SHOES
ALD - LD. TRUCK:	45 FT. 0 IN.	TRUCK CENTERS:	45 FT. 8.625 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	BARBER S2C	WHEEL BASE:	5 FT. 8 IN.
SPRNG GROUP OUT:	7 D5	SPRNG GROUP IN:	4 D5
SPR GROUP ININ:	0	STAT SPNG COMP:	B-8.188:A-8.375
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	LOAD VARIABLE
SNUBBER SPRINGS:	8 B-432	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	3 DOT L: 4 DOT R
AXL PARAL B-END:	2 DOT L: 3 DOT R	WHEEL CONTOUR:	FG 5.11 AAR W&M
WHEEL DIAMETER:	33.4375 INCHES		

TEST: 030201TWA001

TEST CONDUCTED AT MEDIUM AND HIGH SPEED USING BARBER S2C
100 TON CAPACITY TRUCK UNDER A SIXTY FT. BOX CAR WITH
FULL GROSS RAIL LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THREE CAR TEST TRAIN
35 MINUTES PRIOR TO TEST RUN
NOMINAL NEW CONDITIONS EXCEPT:
NONE

TDOP TAPE NO.:	0089	SEQNCE. ON TAPE:	1
TEST DATE:	5/30/75	TEST START TIME:	0910 HRS
TEMPERATURE:	76 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 90 DEG REL
WIND VELOCITY:	17 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD WEST
MILEPOST START:	46.479	MILEPOST END:	40.70
MIN SPEED:	30 MPH	MAX SPEED:	79 MPH
RAIL TYPE:	JOINTED	RAIL WEIGHT:	132 LB./YD.
RAIL LAID IN:	1941 TO 1955	CAR INITIALS:	SP
CAR NUMBER:	668043	CAR TYPE:	60 FT. BOX CAR
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	174000 POUNDS
CAR TARE WEIGHT:	85760 POUNDS	LOADED WT A-END:	131260 POUNDS
LOADED WT B-END:	132340 POUNDS	TOTAL WT:	263600 POUNDS
CENTER GRAVITY:	65.00 INCHES	TYPE OF LADING:	BRAKE SHOES
ALD - LD. TRUCK:	+17 FT. 0 IN.	TRUCK CENTERS:	46 FT. 3.000 IN.
NO. OF LOCO*S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	BARBER S2C	WHEEL BASE:	5 FT. 10 IN.
SPRNG GROUP OUT:	7 05	SPRNG GROUP IN:	7 05
SPR GROUP ININ:	0	STAT SPRG COMP:	B-8.44:A-8.44 IN
CNTR PLATE DIA:	16 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI DOUBLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELU:	0 POUNDS	SHUBBER TYPE:	LOAD VARIABLE
SHUBBER SPRINGS:	B B-432: B B-433	SHUB DAMP RATE:	UNKNOWN
S./FR. INERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6.5X12 TAPER
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	2 DOT L: 1 DOT R
AXL PARAL B-END:	3 DOT L: 3 DOT R	WHEEL CONTOUR:	FG 5.11 AAR W&AR
WHEEL DIAMETER:	36.1875 INCHES		

TEST: 030201TEM001

TEST CONDUCTED AT MEDIUM SPEED USING BARBER S2C 100 TON
CAPACITY TRUCK UNDER A SIXTY FT. BOX CAR WITH FULL
GROSS RAIL LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
AMTRAK PASSENGER TRAIN
20 MINUTES PRIOR TO TEST RUN
NOMINAL NEW CONDITIONS EXCEPT:
NONE

TDOP TAPE NO.:	0048	SEQNCE. ON TAPE:	1
TEST DATE:	5/29/75	TEST START TIME:	1130 HRS
TEMPERATURE:	94 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 310 DEG REL
WIND VELOCITY:	16 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD EAST
MILEPOST START:	42.50	MILEPOST END:	47.33
MIN SPEED:	30 MPH	MAX SPEED:	60 MPH
RAIL TYPE:	CWR	RAIL WEIGHT:	136 LB./YD.
RAIL LAID IN:	1964	CAR INITIALS:	SP
CAR NUMBER:	668043	CAR TYPE:	60 FT. BOX CAR
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	174000 POUNDS
CAR TARE WEIGHT:	85760 POUNDS	LOADED WT A-END:	131260 POUNDS
LOADED WT B-END:	132340 POUNDS	TOTAL WT:	263600 POUNDS
CENTER GRAVITY:	85.00 INCHES	TYPE OF LADING:	BRAKE SHOES
ALD - LD. TRUCK:	+17 FT. 0 IN.	TRUCK CENTERS:	46 FT. 3.000 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3600
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	BARBER S2C	WHEEL BASE:	5 FT. 10 IN.
SPRNG GROUP OUT:	7 D5	SPRNG GROUP IN:	7 D5
SPR GROUP IWIN:	0	STAT SPNG COMP:	B-8.44:A-8.44 IN
CNTR PLATE DIA:	16 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI DOUBLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	LOAD VARIABLE
SNUBBER SPRINGS:	8 B-432: 8 B-433	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6.5X12 TAPER
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	2 DOT L: 1 DOT R
AXL PARAL B-END:	3 DOT L: 3 DOT R	WHEEL CONTOUR:	FG 5.11 AAR W&M
WHEEL DIAMETER:	36.1875 INCHES		

TEST: 030201TEH001

TEST CONDUCTED AT HIGH SPEED USING BARBER S2C 100 TON CAPACITY TRUCK UNDER A SIXTY FT. BOX CAR WITH FULL GROSS RAIL LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THROUGH FREIGHT TRAIN
FIFTY MINUTES PRIOR TO TEST RUN
NOMINAL NEW CONDITIONS EXCEPT:
NONE

TDOP TAPE NO.:	0089	SEQNCE. ON TAPE:	2
TEST DATE:	5/30/75	TEST START TIME:	1100 HRS
TEMPERATURE:	90 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 270 DEG REL
WIND VELOCITY:	19 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD EAST
MILEPOST START:	42.50	MILEPOST END:	47.33
MIN SPEED:	70 MPH	MAX SPEED:	79 MPH
RAIL TYPE:	CWR	RAIL WEIGHT:	136 LB./YD.
RAIL LAID IN:	1964	CAR INITIALS:	SP
CAR NUMBER:	668043	CAR TYPE:	60 FT. BOX CAR
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	174000 POUNDS
CAR TARE WEIGHT:	85760 POUNDS	LOADED WT A-END:	131260 POUNDS
LOADED WT B-END:	132340 POUNDS	TOTAL WT:	263600 POUNDS
CENTER GRAVITY:	85.00 INCHES	TYPE OF LADING:	BRAKE SHOES
ALD - LD. TRUCK:	+17 FT. 0 IN.	TRUCK CENTERS:	46 FT. 3.000 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	BARBER S2C	WHEEL BASE:	5 FT. 10 IN.
SPRNG GROUP OUT:	7 D5	SPRNG GROUP IN:	7 D5
SPR GROUP ININ:	0	STAT SPNG COMP:	B-8.44:A-8.44
CNTR PLATE DIA:	16 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI DOUBLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	LOAD VARIABLE
SNUBBER SPRINGS:	8 B-432: 8 B-433	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6.5X12 TAPER
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	2 DOT L: 1 DOT R
AXL PARAL B-END:	3 DOT L: 3 DOT R	WHEEL CONTOUR:	FG 5.11 AAR W&AM
WHEEL DIAMETER:	36.1875 INCHES		

TEST:030202TWA001

TEST CONDUCTED AT MEDIUM AND HIGH SPEED USING BARBER S2C 100 TON CAPACITY TRUCK UNDER A SIXTY FT. BOX CAR WITH NO LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
AMTRAK PASSENGER TRAIN
2 HRS AND 25 MIN PRIOR TO TEST RUN
NOMINAL NEW CONDITIONS EXCEPT:
NONE

TDOP TAPE NO.:	0082	SEQNCE. ON TAPE:	1
TEST DATE:	5/22/75	TEST START TIME:	1610 HRS
TEMPERATURE:	78 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 70 DEG REL
WIND VELOCITY:	14 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD WEST
MILEPOST START:	48.479	MILEPOST END:	40.70
MIN SPEED:	30 MPH	MAX SPEED:	79 MPH
RAIL TYPE:	JOINTED	RAIL WEIGHT:	132 LB./YD.
RAIL LAID IN:	1941 TO 1955	CAR INITIALS:	SP
CAR NUMBER:	668043	CAR TYPE:	60 FT. BOX CAR
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	174000 POUNDS
CAR TARE WEIGHT:	85760 POUNDS	EMPTY WT A-END:	42340 POUNDS
EMPTY WT B-END:	43420 POUNDS	TOTAL WT:	85760 POUNDS
CENTER GRAVITY:	62.00 INCHES	TYPE OF LADING:	NONE
ALD - LD. TRUCK:	+17 FT. 0 IN.	TRUCK CENTERS:	46 FT. 3.000 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	BARBER S2C	WHEEL BASE:	5 FT. 10 IN.
SPRNG GROUP OUT:	7 D5	SPRNG GROUP IN:	7 D5
SPR GROUP ININ:	0	STAT SPNG COMP:	B-9.844:A-9.844
CNTR PLATE DIA:	16 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI DOUBLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	LOAD VARIABLE
SNUBBER SPRINGS:	8 B-432: 8 B-433	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6.5X12 TAPER
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	2 DOT L: 1 DOT R
AXL PARAL B-END:	3 DOT L: 3 DOT R	WHEEL CONTOUR:	FG 5.11 AAR W&AM
WHEEL DIAMETER:	36.1875 INCHES		

TEST: 030888TC0001

TEST CONDUCTED AT MEDIUM SPEED USING BARBER S2C 100 TON CAPACITY TRUCK UNDER A SIXTY FT. BOX CAR WITH NO LOAD

PREVIOUS TRAFFIC OVER TEST TRACK:
THROUGH FREIGHT TRAIN
25 MINUTES PRIOR TO TEST RUN

NOMINAL NEW CONDITIONS EXCEPT:
NONE

TDOP TAPE NO.:	0080	SEQNCE. ON TAPE:	3
TEST DATE:	5/22/75	TEST START TIME:	1330 HRS
TEMPERATURE:	76 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 250 DEG REL
WIND VELOCITY:	12 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD EAST
MILEPOST START:	42.50	MILEPOST END:	47.33
MIN SPEED:	30 MPH	MAX SPEED:	60 MPH
RAIL TYPE:	CWR	RAIL WEIGHT:	136 LB./YD.
RAIL LAID IN:	1964	CAR INITIALS:	SP
CAR NUMBER:	668045	CAR TYPE:	60 FT. BOX CAR
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	174000 POUNDS
CAR TARE WEIGHT:	85760 POUNDS	EMPTY WT A-END:	42340 POUNDS
EMPTY WT B-END:	43420 POUNDS	TOTAL WT:	85760 POUNDS
CENTER GRAVITY:	62.00 INCHES	TYPE OF LADING:	NONE
ALD - LD. TRUCK:	+17 FT. 0 IN.	TRUCK CENTERS:	46 FT. 3.000 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	BARBER S2C	WHEEL BASE:	5 FT. 10 IN.
SPRNG GROUP OUT:	7 D5	SPRNG GROUP IN:	7 D5
SPR GROUP ININ:	0	STAT SPRG COMP:	B-9.844;A-9.844
CNTR PLATE DIA:	16 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI DOUBLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	LOAD VARIABLE
SNUBBER SPRINGS:	8 B-432; 8 B-433	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6.5X12 TAPER
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	2 DOT L; 1 DOT R
AXL PARAL B-END:	3 DOT L; 3 DOT R	WHEEL CONTOUR:	FG 5.11 AAR W&M
WHEEL DIAMETER:	36.1875 INCHES		

TEST: 030202TEH001

TEST CONDUCTED AT HIGH SPEED USING BARBER S2C 100 TON CAPACITY TRUCK UNDER A SIXTY FT. BOX CAR WITH NO LOAD

PREVIOUS TRAFFIC OVER TEST TRACK:
THREE CAR TEST TRAIN
THIRTY MINUTES PRIOR TO TEST RUN

NOMINAL NEW CONDITIONS EXCEPT:
NONE

CHANNEL 23 HAD A NEGATIVE ZERO SHIFT

TDOP TAPE NO.:	0081	SEQNCE. ON TAPE:	1
TEST DATE:	5/22/75	TEST START TIME:	1415 HRS
TEMPERATURE:	78 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 250 DEG REL
WIND VELOCITY:	12 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD EAST
MILEPOST START:	42.50	MILEPOST END:	47.33
MIN SPEED:	70 MPH	MAX SPEED:	79 MPH
RAIL TYPE:	CWR	RAIL WEIGHT:	136 LB./YD.
RAIL LAID IN:	1964	CAR INITIALS:	SP
CAR NUMBER:	668043	CAR TYPE:	60 FT. BOX CAR
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	174000 POUNDS
CAR TARE WEIGHT:	85760 POUNDS	EMPTY WT A-END:	42340 POUNDS
EMPTY WT B-END:	43420 POUNDS	TOTAL WT:	85760 POUNDS
CENTER GRAVITY:	62.00 INCHES	TYPE OF LADING:	NONE
ALD - LD. TRUCK:	+17 FT. 0 IN.	TRUCK CENTERS:	46 FT. 3.000 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	BARBER S2C	WHEEL BASE:	5 FT. 10 IN.
SPRNG GROUP OUT:	7 D5	SPRNG GROUP IN:	7 D5
SPR GROUP ININ:	0	STAT SPNG COMP:	B-9,844;A-9,844
CNTR PLATE DIA:	16 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE-BEAR A-END:	STUCKI DOUBLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	LOAD VARIABLE
SNUBBER SPRINGS:	8 B-4321 8 B-433	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6.5X12 TAPER
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	5/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	2 DOT L; 1 DOT R
AXL PARAL B-END:	3 DOT L; 3 DOT R	WHEEL CONTOUR:	FG 5.11 AAR W&AM
WHEEL DIAMETER:	36.1875 INCHES		

TEST: 030301TWA001

TEST CONDUCTED AT MEDIUM AND HIGH SPEED USING BARBER S2C
70 TON CAPACITY TRUCK UNDER A SEVENTY TON BOX CAR WITH
FULL GROSS RAIL LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
AMTRAK PASSENGER TRAIN
5 MIN PRIOR TO TEST RUN
NOMINAL WEA CONDITIONS EXCEPT:
EXCEPT S2C TRUCKS

TOOP TAPE NO.:	0103	SEQNCE. ON TAPE:	3
TEST DATE:	6/19/75	TEST START TIME:	1350 HRS
TEMPERATURE:	54 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 70 DEG REL
WIND VELOCITY:	15 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD WEST
MILEPOST START:	48.48	MILEPOST END:	40.70
MIN SPEED:	30 MPH	MAX SPEED:	79 MPH
RAIL TYPE:	JOINTED	RAIL WEIGHT:	132 LB./YD.
RAIL LAID IN:	1941 TO 1955	CAR INITIALS:	SCL
CAR NUMBER:	23045	CAR TYPE:	70 TON BOX CAR
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	154000 POUNDS
CAR TARE WEIGHT:	61840 POUNDS	LOADED WT A-END:	110614 POUNDS
LOADED WT B-END:	109420 POUNDS	TOTAL WT.:	220034 POUNDS
CENTER GRAVITY:	62.80 INCHES	TYPE OF LADING:	BRAKE SHOES
ALD - LD. TRUCK:	+13 FT. 0 IN.	TRUCK CENTERS:	40 FT. 10.00 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	25
TRUCK TYPE:	BARBER S2C	WHEEL BASE:	5 FT. 8 IN.
SPRNG GROUP OUT:	7 D5	SPRNG GROUP IN:	4 D5
SPR GROUP IN IN:	0	STAT SPNG COMP:	B-8.25:A-8.29 IN
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	LOAD VARIABLE
SNUBBER SPRINGS:	8 B-432	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	3 DOT L: 4 DOT R
AXL PARAL B-END:	2 DOT L: 3 DOT R	WHEEL CONTOUR:	FG 5.11 AAR W&M
WHEEL DIAMETER:	33.4375 INCHES		

TEST: 030301TEM001

TEST CONDUCTED AT MEDIUM SPEED USING BARBER S2C 70 TON CAPACITY TRUCK UNDER A SEVENTY TON BOX CAR WITH FULL GROSS RAIL LOAD

PREVIOUS TRAFFIC OVER TEST TRACK:
THROUGH FREIGHT TRAIN
25 MIN PRIOR TO TEST RUN

NOMINAL NEW CONDITIONS EXCEPT:
NONE

TDOP TAPE NO.:	0103	SEQNCE. ON TAPE:	1
TEST DATE:	6/19/75	TEST START TIME:	0955 HRS
TEMPERATURE:	59 DEG F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 210 DEG REL
WIND VELOCITY:	15 MPH	RAIL SURF COND:	CLEAM AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD EAST
MILEPOST START:	42.50	MILEPOST END:	47.33
MIN SPEED:	30 MPH	MAX SPEED:	60 MPH
RAIL TYPE:	CWR	RAIL WEIGHT:	136 LB./YD.
RAIL LAID IN:	1964	CAR INITIALS:	SCL
CAR NUMBER:	23045	CAR TYPE:	70 TON BOX CAR
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	154000 POUNDS
CAR TARE WEIGHT:	61848 POUNDS	LOADED WT A-END:	110614 POUNDS
LOADED WT B-END:	109420 POUNDS	TOTAL WT.:	220034 POUNDS
CENTER GRAVITY:	82.80 INCHES	TYPE OF LADING:	BRAKE SHOES
ALD - LD. TRUCK:	+13 FT. 0 IN.	TRUCK CENTERS:	40 FT. 10.00 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	BARBER S2C	WHEEL BASE:	5 FT. 8 IN.
SPRNG GROUP OUT:	7 D5	SPRNG GROUP IN:	4 D5
SPR GROUP ININ:	0	STAT SPNG COMP:	B-8.25IA-8.29 IN
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	LOAD VARIABLE
SNUBBER SPRINGS:	8 B-432	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	3 DOT L: 4 DOT R
AXL PARAL B-END:	2 DOT L: 3 DOT R	WHEEL CONTOUR:	FG 5.11 AAR W8AM
WHEEL DIAMETER:	33.4375 INCHES		

TEST: 030301TEH001

TEST CONDUCTED AT HIGH SPEED USING BARBER S2C 70 TON CAPACITY TRUCK UNDER A SEVENTY TON BOX CAR WITH FULL GROSS RAIL LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THREE CAR TEST TRAIN
20 MINUTES PRIOR TO TEST RUN
NOMINAL NEW CONDITIONS EXCEPT:
NONE
CHANNEL 7 INOPERATIVE

TOOP TAPE NO.:	0103	SEQNCE. ON TAPE:	2
TEST DATE:	6/19/75	TEST START TIME:	1030 HRS
TEMPERATURE:	56 DEG F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 210 DEG REL
WIND VELOCITY:	15 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD EAST
MILEPOST START:	42.50	MILEPOST END:	47.33
MIN SPEED:	70 MPH	MAX SPEED:	79 MPH
RAIL TYPE:	CWR	RAIL WEIGHT:	136 LB./YD.
RAIL LAID IN:	1964	CAR INITIALS:	SCL
CAR NUMBER:	23045	CAR TYPE:	70 TON BOX CAR
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	154000 POUNDS
CAR TARE WEIGHT:	61840 POUNDS	LOADED WT A-END:	110614 POUNDS
LOADED WT B-END:	109420 POUNDS	TOTAL WT.:	220034 POUNDS
CENTER GRAVITY:	82.80 INCHES	TYPE OF LADING:	BRAKE SHOES
ALD - LD. TRUCK:	+13 FT. 0 IN.	TRUCK CENTERS:	40 FT. 10.00 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	BARBER S2C	WHEEL BASE:	5 FT. 8 IN.
SPRNG GROUP OUT:	7 D5	SPRNG GROUP IN:	4 D5
SPR GROUP ININ:	0	STAT SPNG COMP:	B-8.25:A-8.29 IN
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	LOAD VARIABLE
SNUBBER SPRINGS:	8 B-432	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	3 DOT L: 4 DOT R
AXL PARAL B-END:	2 DOT L: 3 DOT R	WHEEL CONTOUR:	FG 5.11 AAR W&AM
WHEEL DIAMETER:	33.4375 INCHES		

TEST:030302TWA001

TEST CONDUCTED AT MEDIUM AND HIGH SPEED USING BARBER S2C 70 TON CAPACITY TRUCK UNDER A SEVENTY TON BOX CAR WITH NO LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
AMTRAK PASSENGER TRAIN
35 MINUTES PRIOR TO TEST RUN
NOMINAL NEW CONDITIONS EXCEPT:
NONE

TDOP TAPE NO.:	0092	SEQNCE. ON TAPE:	1
TEST DATE:	6/11/75	TEST START TIME:	1350 HRS
TEMPERATURE:	72 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 45 DEG REL
WIND VELOCITY:	26 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD WEST
MILEPOST START:	48.48	MILEPOST END:	40.70
MIN SPEED:	30 MPH	MAX SPEED:	79 MPH
RAIL TYPE:	JOINTED	RAIL WEIGHT:	132 LB./YD.
RAIL LAID IN:	1941 TO 1955	CAR INITIALS:	SCL
CAR NUMBER:	23045	CAR TYPE:	70 TON BOX CAR
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	154000 POUNDS
CAR TARE WEIGHT:	61840 POUNDS	EMPTY WT A-END:	30840 POUNDS
EMPTY WT B-END:	31000 POUNDS	TOTAL WT.:	61840 POUNDS
CENTER GRAVITY:	54.87 INCHES	TYPE OF LADING:	NONE
ALD - LD. TRUCK:	+13 FT. 0 IN.	TRUCK CENTERS:	40 FT. 10.00 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	BARBER S2C	WHEEL BASE:	5 FT. 8 IN.
SPRNG GROUP OUT:	7 D5	SPRNG GROUP IN:	4 D5
SPR GROUP ININ:	0	STAT SPNG COMP:	B-9.91;A-9.95 IN
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	LOAD VARIABLE
SNUBBER SPRINGS:	8 B-432	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	3 DOT L; 4 DOT R
AXL PARAL B-END:	2 DOT L; 3 DOT R	WHEEL CONTOUR:	FG 5.11 AAR W&AM
WHEEL DIAMETER:	33.4375 INCHES		

TEST: 030302TEH001

TEST CONDUCTED AT HIGH SPEED USING BARBER S2C 70 TON CAPACITY TRUCK UNDER A SEVENTY TON BOX CAR WITH NO LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THREE CAR TEST TRAIN
25 MINUTES PRIOR TO TEST RUN
NOMINAL NEW CONDITIONS EXCEPT:
NONE

TDOP TAPE NO.:	0092	SEQNCE. ON TAPE:	3
TEST DATE:	6/11/75	TEST START TIME:	1635 HRS
TEMPERATURE:	76 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 220 DEG REL
WIND VELOCITY:	28 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD EAST
MILEPOST START:	42.50	MILEPOST END:	47.33
MIN SPEED:	70 MPH	MAX SPEED:	79 MPH
RAIL TYPE:	CWR	RAIL WEIGHT:	136 LB./YD.
RAIL LAID IN:	1964	CAR INITIALS:	SCL
CAR NUMBER:	23045	CAR TYPE:	70 TON BOX CAR
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	154000 POUNDS
CAR TARE WEIGHT:	61840 POUNDS	EMPTY WT A-END:	30840 POUNDS
EMPTY WT B-END:	31000 POUNDS	TOTAL WT.:	61840 POUNDS
CENTER GRAVITY:	54.87 INCHES	TYPE OF LADING:	NONE
ALD - LD. TRUCK:	+13 FT. 0 IN.	TRUCK CENTERS:	40 FT. 10.00 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	BARBER S2C	WHEEL BASE:	5 FT. 8 IN.
SPRNG GROUP OUT:	7 D5	SPRNG GROUP IN:	4 D5
SPR GROUP ININ:	0	STAT SPNG COMP:	B-9.91 A-9.95 IN
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	LOAD VARIABLE
SNUBBER SPRINGS:	8 B-432	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	3 DOT L 4 DOT R
AXL PARAL B-END:	2 DOT L 3 DOT R	WHEEL CONTOUR:	FG 5.11 AAR W&M
WHEEL DIAMETER:	33.4375 INCHES		

TEST:030302TEM001

TEST CONDUCTED AT MEDIUM SPEED USING BARBER S2C 70 TON CAPACITY TRUCK UNDER A SEVENTY TON BOX CAR WITH NO LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THROUGH FREIGHT TRAIN
45 MINUTES PRIOR TO TEST RUN
NOMINAL NEW CONDITIONS EXCEPT:
NONE
CHANNELS 3 AND 7 INOPERATIVE DURING TEST RUN

TDOP TAPE NO.:	0092	SEQNCE. ON TAPE:	2
TEST DATE:	6/11/75	TEST START TIME:	1600 HRS
TEMPERATURE:	74 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 220 DEG REL
WIND VELOCITY:	24 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD EAST
MILEPOST START:	42.50	MILEPOST END:	47.33
MIN SPEED:	30 MPH	MAX SPEED:	60 MPH
RAIL TYPE:	CWR	RAIL WEIGHT:	136 LB./YD.
RAIL LAID IN:	1964	CAR INITIALS:	SCL
CAR NUMBER:	23045	CAR TYPE:	70 TON BOX CAR
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	154000 POUNDS
CAR TARE WEIGHT:	61840 POUNDS	EMPTY WT A-END:	30840 POUNDS
EMPTY WT B-END:	31000 POUNDS	TOTAL WT.:	61840 POUNDS
CENTER GRAVITY:	54.87 INCHES	TYPE OF LADING:	NONE
ALD - LD. TRUCK:	+13 FT. 0 IN.	TRUCK CENTERS:	40 FT. 10.00 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	BARBER S2C	WHEEL BASE:	5 FT. 8 IN.
SPRNG GROUP OUT:	7 D5	SPRNG GROUP IN:	4 D5
SPR GROUP ININ:	0	STAT SPNG COMP:	B-9.91:A-9.95 IN
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	LOAD VARIABLE
SNUBBER SPRINGS:	8 B-432	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	3 DOT L: 4 DOT R
AXL PARAL B-END:	2 DOT L: 3 DOT R	WHEEL CONTOUR:	FG 5.11 AAR W&AM
WHEEL DIAMETER:	33.4375 INCHES		

TEST: 030401TWA001

TEST CONDUCTED AT MEDIUM AND HIGH SPEED USING ASF RIDE CONTROL
100 TON CAPACITY TRUCK UNDER A COVERED HOPPER CAR WITH
FULL GROSS RAIL LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THREE CAR TEST TRAIN
55 MINUTES PRIOR TO TEST RUN
NOMINAL NEW CONDITIONS EXCEPT:
NONE

TDOP TAPE NO.:	0113	SEQNCE. ON TAPE:	1
TEST DATE:	7/2/75	TEST START TIME:	1315 HRS
TEMPERATURE:	70 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 45 DEG REL
WIND VELOCITY:	17 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD WEST
MILEPOST START:	48.46	MILEPOST END:	40.70
MIN SPEED:	30 MPH	MAX SPEED:	79 MPH
RAIL TYPE:	JOINTED	RAIL WEIGHT:	132 LB./YD.
RAIL LAID IN:	1941 TO 1955	CAR INITIALS:	L&N
CAR NUMBER:	200267	CAR TYPE:	COVERED HOPPER
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	196000 POUNDS
CAR TARE WEIGHT:	70000 POUNDS	LOADED WT A-END:	127000 POUNDS
LOADED WT B-END:	133440 POUNDS	TOTAL WT.:	260440 POUNDS
CENTER GRAVITY:	95.00 INCHES	TYPE OF LADING:	SAND
ALO - LO. TRUCK:	+12 FT. 6 IN.	TRUCK CENTERS:	41 FT. 3.25 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	ASF RIDE CONT.	WHEEL BASE:	5 FT. 10 IN.
SPRNG GROUP OUT:	8 D5	SPRNG GROUP IN:	8 D5
SPR GROUP ININ:	0	STAT SPNG COMP:	B-8.06:A-8.16 IN
CNTR PLATE DIA:	15 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI DOUBLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELO:	0 POUNDS	SNUBBER TYPE:	CONSTANT (ASF)
SNUBBER SPRINGS:	B-309148-3092	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GID CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6.5X12 TAPER
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	5 DOT L: 5 DOT R
AXL PARAL B-END:	4 DOT L: 4 DOT R	WHEEL CONTOUR:	FG 5.11 AAR W&M
WHEEL DIAMETER:	36.1875 INCHES		

TEST: 030401TEM001

TEST CONDUCTED AT MEDIUM SPEED USING ASF RIDE CONTROL
100 TON CAPACITY TRUCK UNDER A COVERED HOPPER CAR WITH
FULL GROSS RAIL LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THROUGH FREIGHT TRAIN
45 MINUTES PRIOR TO TEST RUN
NOMINAL NEW CONDITIONS EXCEPT:
NONE

TDOP TAPE NO.:	0111	SEQNCE. ON TAPE:	1
TEST DATE:	7/2/75	TEST START TIME:	0815 HRS
TEMPERATURE:	60 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 200 DEG REL
WIND VELOCITY:	16 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD EAST
MILEPOST START:	42.50	MILEPOST END:	47.33
MIN SPEED:	30 MPH	MAX SPEED:	60 MPH
RAIL TYPE:	CWR	RAIL WEIGHT:	136 LB./YD.
RAIL LAID IN:	1964	CAR INITIALS:	L&N
CAR NUMBER:	200267	CAR TYPE:	COVERED HOPPER
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	196000 POUNDS
CAR TARE WEIGHT:	70000 POUNDS	LOADED WT A-END:	127000 POUNDS
LOADED WT B-END:	133440 POUNDS	TOTAL WT.:	260440 POUNDS
CENTER GRAVITY:	98.00 INCHES	TYPE OF LADING:	SAND
ALD - LD. TRUCK:	+12 FT. 6 IN.	TRUCK CENTERS:	41 FT. 3.25 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	ASF RIDE CONT.	WHEEL BASE:	5 FT. 10 IN.
SPRNG GROUP OUT:	8 D5	SPRNG GROUP IN:	8 D5
SPR GROUP ININ:	0	STAT SPNG COMP:	B-8.06:A-8.16 IN
CNTR PLATE DIA:	15 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI DOUBLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	CONSTANT (ASF)
SNUBBER SPRINGS:	B-309118-3092	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6.5X12 TAPER
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	5 DOT L: 5 DOT R
AXL PARAL B-END:	4 DOT L: 4 DOT R	WHEEL CONTOUR:	FG 5.11 AAR W&M
WHEEL DIAMETER:	36.1875 INCHES		

TEST: 030401TEH001

TEST CONDUCTED AT HIGH SPEED USING ASF RIDE CONTROL
100 TON CAPACITY TRUCK UNDER A COVERED HOPPER CAR WITH
FULL GROSS RAIL LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THROUGH FREIGHT TRAIN
25 MIN PRIOR TO TEST RUN
NOMINAL NEW CONDITIONS EXCEPT:
NONE

TDOP TAPE NO.:	0111	SEQNCE. ON TAPE:	2
TEST DATE:	7/2/75	TEST START TIME:	0925 HRS
TEMPERATURE:	60 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 200 DEG REL
WIND VELOCITY:	18 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD EAST
MILEPOST START:	42.50	MILEPOST END:	47.33
MIN SPEED:	70 MPH	MAX SPEED:	79 MPH
RAIL TYPE:	CWR	RAIL WEIGHT:	136 LB./YD.
RAIL LAID IN:	1964	CAR INITIALS:	L&N
CAR NUMBER:	200267	CAR TYPE:	COVERED HOPPER
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	196000 POUNDS
CAR TARE WEIGHT:	70000 POUNDS	LOADED WT A-END:	127000 POUNDS
LOADED WT B-END:	133440 POUNDS	TOTAL WT.:	260440 POUNDS
CENTER GRAVITY:	98.00 INCHES	TYPE OF LADING:	SAND
ALD - LD. TRUCK:	+12 FT. 6 IN.	TRUCK CENTERS:	41 FT. 3.25 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	ASF RIDE CONT.	WHEEL BASE:	5 FT. 10 IN.
SPRNG GROUP OUT:	8 D5	SPRNG GROUP IN:	8 D5
SPR GROUP ININ:	0	STAT SPNG COMP:	B-8.06:A-8.16 IN
CNTR PLATE DIA:	15 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI DOUBLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	CONSTANT (ASF)
SNUBBER SPRINGS:	8-3091:8-3092	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6.5X12 TAPER
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	5 DOT L: 5 DOT R
AXL PARAL B-END:	4 DOT L: 4 DOT R	WHEEL CONTOUR:	FG 5.11 AAR W&M
WHEEL DIAMETER:	36.1875 INCHES		

TEST: 030402TEH001

TEST CONDUCTED AT HIGH SPEED USING ASF RIDE CONTROL
100 TON CAPACITY TRUCK UNDER A COVERED HOPPER CAR WITH
NO LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THREE CAR TEST TRAIN
FIFTEEN MINUTES PRIOR TO TEST RUN
NOMINAL NEW CONDITIONS EXCEPT:
NONE

TDOP TAPE NO.:	0115	SEQNCE. ON TAPE:	2
TEST DATE:	7/8/75	TEST START TIME:	0845
TEMPERATURE:	64 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 270 DEG REL
WIND VELOCITY:	17 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD EAST
MILEPOST START:	42.50	MILEPOST END:	47.33
MIN SPEED:	70 MPH	MAX SPEED:	79 MPH
RAIL TYPE:	CWR	RAIL WEIGHT:	136 LB./YD.
RAIL LAID IN:	1964	CAR INITIALS:	L&N
CAR NUMBER:	200267	CAR TYPE:	COVERED HOPPER
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	196000 POUNDS
CAR TARE WEIGHT:	70000 POUNDS	EMPTY WT A-END:	34000 POUNDS
EMPTY WT B-END:	36000 POUNDS	TOTAL WT.:	70000 POUNDS
CENTER GRAVITY:	61.00 INCHES	TYPE OF LADING:	NONE
ALD - LD. TRUCK:	+12 FT. 6 IN.	TRUCK CENTERS:	41 FT. 3.25 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	ASF RIDE CONT.	WHEEL BASE:	5 FT. 10 IN.
SPRNG GROUP OUT:	8 D5	SPRNG GROUP IN:	8 D5
SPR GROUP ININ:	0	STAT SPNG COMP:	9.69 INCHES
CNTR PLATE DIA:	15 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI DOUBLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	CONSTANT (ASF)
SNUBBER SPRINGS:	8-3091:8-3092	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6.5X12 TAPER
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	5 DOT L: 5 DOT R
AXL PARAL B-END:	4 DOT L: 4 DOT R	WHEEL CONTOUR:	FG 5.11 AAR W8AM
WHEEL DIAMETER:	36.1875 INCHES		

TEST: 030402TEM001

TEST CONDUCTED AT MEDIUM SPEED USING ASF RIDE CONTROL
100 TON CAPACITY TRUCK UNDER A COVERED HOPPER CAR WITH
NO LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THROUGH FREIGHT TRAIN
THREE HOURS PRIOR TO TEST RUN
NOMINAL NEW CONDITIONS EXCEPT:
NONE

TDOP TAPE NO.:	0115	SEQNCE. ON TAPE:	1
TEST DATE:	7/8/75	TEST START TIME:	0740 HRS
TEMPERATURE:	60 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 270 DEG REL
WIND VELOCITY:	15 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD EAST
MILEPOST START:	42.50	MILEPOST END:	47.33
MIN SPEED:	30 MPH	MAX SPEED:	60 MPH
RAIL TYPE:	CWR	RAIL WEIGHT:	136 LB./YD.
RAIL LAID IN:	1964	CAR INITIALS:	L&N
CAR NUMBER:	200267	CAR TYPE:	COVERED HOPPER
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	196000 POUNDS
CAR TARE WEIGHT:	70000 POUNDS	EMPTY WT A-END:	34000 POUNDS
EMPTY WT B-END:	36000 POUNDS	TOTAL WT.:	70000 POUNDS
CENTER GRAVITY:	61.00 INCHES	TYPE OF LADING:	NONE
ALD - LD. TRUCK:	+12 FT. 6 IN.	TRUCK CENTERS:	41 FT. 3.25 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	ASF RIDE CONT.	WHEEL BASE:	5 FT. 10 IN.
SPRNG GROUP OUT:	8 D5	SPRNG GROUP IN:	8 D5
SPR GROUP ININ:	0	STAT SPNG COMP:	9.69 INCHES
CNTR PLATE DIA:	15 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI DOUBLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	CONSTANT (ASF)
SNUBBER SPRINGS:	8-3091;8-3092	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6.5X12 TAPER
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	5 DOT L; 5 DOT R
AXL PARAL B-END:	4 DOT L; 4 DOT R	WHEEL CONTOUR:	FG 5.11 AAR W&AM
WHEEL DIAMETER:	36.1875 INCHES		

TEST:030501TWA001

TEST CONDUCTED AT MEDIUM AND HIGH SPEED USING ASF LOW LEVEL
70 TON CAPACITY TRUCK UNDER A STAC PAC CAR WITH NO
LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THROUGH FREIGHT TRAIN
25 MINUTES PRIOR TO TEST RUN
NOMINAL NEW CONDITIONS EXCEPT:
NONE

TDOP TAPE NO.:	0094	SEQNCE. ON TAPE:	3
TEST DATE:	6/12/75	TEST START TIME:	1225 HRS
TEMPERATURE:	72 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 75 DEG REL
WIND VELOCITY:	18 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD WEST
MILEPOST START:	48.48	MILEPOST END:	40.70
MIN SPEED:	30 MPH	MAX SPEED:	79 MPH
RAIL TYPE:	JOINTED	RAIL WEIGHT:	132 LB./YD.
RAIL LAID IN:	1941 TO 1955	CAR INITIALS:	SP
CAR NUMBER:	517332	CAR TYPE:	STAC PAC
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	122000 POUNDS
CAR TARE WEIGHT:	56560 POUNDS	EMPTY WT A-END:	27700 POUNDS
EMPTY WT B-END:	28860 POUNDS	TOTAL WT.:	56560 POUNDS
CENTER GRAVITY:	23.63 INCHES	TYPE OF LADING:	NONE
ALD - LD. TRUCK:	+20 FT. 7 IN.	TRUCK CENTERS:	64 FT. 0 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	ASF LOW LEVEL	WHEEL BASE:	5 FT. 1 IN.
SPRNG GROUP OUT:	5 D4	SPRNG GROUP IN:	5 D3
SPR GROUP ININ:	0	STAT SPNG COMP:	B-9.063;A-9.188
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI SINGLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	CONSTANT (ASF)
SNUBBER SPRINGS:	8 OUTER;8 INNER	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	1 DOT L; 1 DOT R
AXL PARAL B-END:	1 DOT L; 1 DOT R	WHEEL CONTOUR:	FG 5.11 AAR W&AM
WHEEL DIAMETER:	28.1870 INCHES		

TEST: 030501TEM001

TEST CONDUCTED AT MEDIUM SPEED USING ASF LOW LEVEL 70 TON CAPACITY TRUCK UNDER A STAC PAC CAR WITH NO LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THROUGH FREIGHT TRAIN
45 MINUTES PRIOR TO TEST
NOMINAL NEW CONDITIONS EXCEPT:
NONE

TDOP TAPE NO.:	0095	SEQNCE. ON TAPE:	1
TEST DATE:	6/12/75	TEST START TIME:	1330 HRS
TEMPERATURE:	78 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 250 DEG REL
WIND VELOCITY:	16 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD EAST
MILEPOST START:	42.50	MILEPOST END:	47.33
MIN SPEED:	30 MPH	MAX SPEED:	60 MPH
RAIL TYPE:	CWR	RAIL WEIGHT:	136 LB./YD.
RAIL LAID IN:	1964	CAR INITIALS:	SP
CAR NUMBER:	517332	CAR TYPE:	STAC PAC
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	122000 POUNDS
CAR TARE WEIGHT:	56560 POUNDS	EMPTY WT A-END:	27700 POUNDS
EMPTY WT B-END:	28860 POUNDS	TOTAL WT.:	56560 POUNDS
CENTER GRAVITY:	23.63 INCHES	TYPE OF LADING:	NONE
ALD - LD. TRUCK:	+20 FT. 7 IN.	TRUCK CENTERS:	64 FT. 0 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	ASF LOW LEVEL	WHEEL BASE:	5 FT. 1 IN.
SPRNG GROUP OUT:	5 D4	SPRNG GROUP IN:	5 D3
SPR GROUP ININ:	0	STAT SPNG COMP:	B-9.063:A-9.188
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI SINGLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	CONSTANT (ASF)
SNUBBER SPRINGS:	8 OUTER:8 INNER	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	1 DOT L: 1 DOT R
AXL PARAL B-END:	1 DOT L: 1 DOT R	WHEEL CONTOUR:	FG 5.11 AAR W&AR
WHEEL DIAMETER:	28.1870 INCHES		

TEST: 030501TEH001

TEST CONDUCTED AT HIGH SPEED USING ASF LOW LEVEL 70 TON CAPACITY TRUCK UNDER A STAC PAC CAR WITH NO LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THREE CAR TEST TRAIN
20 MINUTES PRIOR TO TEST RUN
NOMINAL NEW CONDITIONS EXCEPT:
NONE

TDOP TAPE NO.:	0095	SEQNCE. ON TAPE:	2
TEST DATE:	6/12/75	TEST START TIME:	1410 HRS
TEMPERATURE:	80 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 250 DEG REL
WIND VELOCITY:	20 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD EAST
MILEPOST START:	42.50	MILEPOST END:	47.33
MIN SPEED:	70 MPH	MAX SPEED:	79 MPH
RAIL TYPE:	CWR	RAIL WEIGHT:	136 LB./YD.
RAIL LAID IN:	1964	CAR INITIALS:	SP
CAR NUMBER:	517332	CAR TYPE:	STAC PAC
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	122000 POUNDS
CAR TARE WEIGHT:	56560 POUNDS	EMPTY WT A-END:	27700 POUNDS
EMPTY WT B-END:	28860 POUNDS	TOTAL WT.:	56560 POUNDS
CENTER GRAVITY:	23.63 INCHES	TYPE OF LADING:	NONE
ALD - LD. TRUCK:	+20 FT. 7 IN.	TRUCK CENTERS:	64 FT. 0 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	ASF LOW LEVEL	WHEEL BASE:	5 FT. 1 IN.
SPRNG GROUP OUT:	5 D4	SPRNG GROUP IN:	5 D3
SPR GROUP ININ:	0	STAT SPNG COMP:	B-9.063:A-9.188
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI SINGLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	CONSTANT (ASF)
SNUBBER SPRINGS:	8 OUTER:8 INNER	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	1 DOT L: 1 DOT R
AXL PARAL B-END:	1 DOT L: 1 DOT R	WHEEL CONTOUR:	FG 5.11 AAR W&M
WHEEL DIAMETER:	28.1870 INCHES		

TEST: 030502TWA002

TEST CONDUCTED AT MEDIUM AND HIGH SPEED USING ASF LOW LEVEL
70 TON CAPACITY TRUCK UNDER A STAC PAC CAR WITH
FULLY LOADED CONTAINERS
PREVIOUS TRAFFIC OVER TEST TRACK:
THROUGH FREIGHT TRAIN
2 HRS PRIOR TO TEST RUN
NOMINAL NEW CONDITIONS EXCEPT:
NONE
OCCASIONAL NOISE ON CH 27
CH 21 HAS 9. VOLT NEGATIVE OFFSET

TOUP TAPE NO.:	0107	SEQNCE. ON TAPE:	2
TEST DATE:	6/25/75	TEST START TIME:	1100 HRS
TE. PERATURE:	72 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 0 DEG REL
WIND VELOCITY:	5 MPH	RAIL SURF COND:	CLEAN @ DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD WEST
MILEPOST START:	48.48	MILEPOST END:	40.70
AIR SPEED:	30 MPH	MAX SPEED:	79 MPH
RAIL TYPE:	JOINTED	RAIL WEIGHT:	132 LB./YD.
RAIL LAID IN:	1941 TO 1955	CAR INITIALS:	SP
CAR NUMBER:	517332	CAR TYPE:	STAC PAC
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	122000 POUNDS
CAR TARE WEIGHT:	56560 POUNDS	LOADED WT A-END:	82100 POUNDS
LOADED WT B-END:	83260 POUNDS	TOTAL WT.:	165360 POUNDS
CENTER GRAVITY:	85.98 INCHES	TYPE OF LADING:	FULL CONTAINERS
ALO - LO. TRUCK:	+20 FT. 7 IN.	TRUCK CENTERS:	64 FT. 0 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	ASF LOW LEVEL	WHEEL BASE:	5 FT. 1 IN.
SPRNG GROUP OUT:	5 D4	SPRNG GROUP IN:	5 D3
SPR GROUP IN:	0	STAT SPNG COMP:	8-8.00:A-8.06 IN
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI SINGLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELO:	0 POUNDS	SNUBBER TYPE:	CONSTANT (ASF)
SNUBBER SPRINGS:	6-322118-3222	SNUB DAMP RATE:	UNKNOWN
S./FR. INERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	1 DOT L: 1 DOT R
AXL PARAL B-END:	1 DOT L: 1 DOT R	WHEEL CONTOUR:	FG 5.11 AAR W&M
WHEEL DIAMETER:	28.1870 INCHES		

TEST: 030502TEH001

TEST CONDUCTED AT HIGH SPEED USING ASF LOW LEVEL
70 T 'N CAPACITY TRUCK UNDER A STAC PAC CAR WITH
FULL LOADED CONTAINERS
PREVIOUS TRAFFIC OVER TEST TRACK:
THREE CAR TEST TRAIN
10 MIN PRIOR TO TEST RUN
NOMINAL NEW CONDITIONS EXCEPT:
NONE
TEST NAMED AS 030502TEH001 SHOULD BE 030502TEH002

TDOP TAPE NO.:	0106	SEQNCE. ON TAPE:	2
TEST DATE:	6/25/75	TEST START TIME:	0820 HRS
TEMPERATURE:	60 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	CALM
WIND VELOCITY:	CALM	RAIL SURF COND:	CLEAN & DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD EAST
MILEPOST START:	42.50	MILEPOST END:	47.33
MIN SPEED:	70 MPH	MAX SPEED:	79 MPH
RAIL TYPE:	CWR	RAIL WEIGHT:	136 LB./YD.
RAIL LAID IN:	1964	CAR INITIALS:	SP
CAR NUMBER:	517332	CAR TYPE:	STAC PAC
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	122000 POUNDS
CAR TARE WEIGHT:	56560 POUNDS	LOADED WT A-END:	82100 POUNDS
LOADED WT B-END:	83260 POUNDS	TOTAL WT.:	165360 POUNDS
CENTER GRAVITY:	85.98 INCHES	TYPE OF LADING:	FULL CONTAINERS
ALD - LD. TRUCK:	+20 FT. 7 IN.	TRUCK CENTERS:	64 FT. 0 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	ASF LOW LEVEL	WHEEL BASE:	5 FT. 1 IN.
SPRNG GROUP OUT:	5 D4	SPRNG GROUP IN:	5 D3
SPR GROUP ININ:	0	STAT SPNG COMP:	B-8.00:A-8.06 IN
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI SINGLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	CONSTANT (ASF)
SNUBBER SPRINGS:	B-3221:B-3222	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	1 DOT LT 1 DOT R
AXL PARAL B-END:	1 DOT LT 1 DOT R	WHEEL CONTOUR:	FG 5.11 AAR W&AM
WHEEL DIAMETER:	28.1870 INCHES		

TEST:030502TEM002

TEST CONDUCTED AT MEDIUM SPEED USING ASF LOW LEVEL
70 TON CAPACITY TRUCK UNDER A STAC PAC CAR WITH
FULLY LOADED CONTAINERS
PREVIOUS TRAFFIC OVER TEST TRACK:
THROUGH FREIGHT TRAIN
1 HR 30 MIN PRIOR TO TEST RUN
NOMINAL NEW CONDITIONS EXCEPT:
NONE
CHANNEL 27 HAD POSSIBLE POSITIVE NOISE AT HIGHER SPEED

TDOP TAPE NO.:	0106	SEQNCE. ON TAPE:	1
TEST DATE:	6/25/75	TEST START TIME:	0735
TEMPERATURE:	58 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	CALM
WIND VELOCITY:	CALM	RAIL SURF COND:	CLEAN & DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD EAST
MILEPOST START:	42.50	MILEPOST END:	47.33
MIN SPEED:	30 MPH	MAX SPEED:	60 MPH
RAIL TYPE:	CWR	RAIL WEIGHT:	136 LB./YD.
RAIL LAID IN:	1964	CAR INITIALS:	SP
CAR NUMBER:	517332	CAR TYPE:	STAC PAC
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	122000 POUNDS
CAR TARE WEIGHT:	56560 POUNDS	LOADED WT A-END:	82100 POUNDS
LOADED WT B-END:	83260 POUNDS	TOTAL WT.:	165360 POUNDS
CENTER GRAVITY:	85.98 INCHES	TYPE OF LADING:	FULL CONTAINERS
ALD - LD. TRUCK:	+20 FT. 7 IN.	TRUCK CENTERS:	64 FT. 0 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	ASF LOW LEVEL	WHEEL BASE:	5 FT. 1 IN.
SPRNG GROUP OUT:	5 D4	SPRNG GROUP IN:	5 D3
SPR GROUP ININ:	0	STAT SPNG COMP:	B-8.00:A-8.06 IN
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI SINGLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	CONSTANT (ASF)
SNUBBER SPRINGS:	8-3221:8-3222	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	1 DOT L: 1 DOT R
AXL PARAL B-END:	1 DOT L: 1 DOT R	WHEEL CONTOUR:	FG 5.11 AAR W&AM
WHEEL DIAMETER:	28.1870 INCHES		

TEST:030503TWA001

TEST CONDUCTED AT MEDIUM AND HIGH SPEED USING ASF LOW LEVEL
70 TON CAPACITY TRUCK UNDER A STAC PAC CAR WITH NO
LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THROUGH FREIGHT TRAIN
1 HOUR 35 MIN PRIOR TO TEST RUN
NOMINAL NEW CONDITIONS EXCEPT:
ORIGINAL WHEELS FROM SP517332 (NEW 5/73)

TDOP TAPE NO.:	0109	SEQNCE. ON TAPE:	1
TEST DATE:	6/27/75	TEST START TIME:	1225 HRS
TEMPERATURE:	86 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 85 DEG REL
WIND VELOCITY:	10 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD WEST
MILEPOST START:	48.48	MILEPOST END:	40.70
MIN SPEED:	30 MPH	MAX SPEED:	79 MPH
RAIL TYPE:	JOINTED	RAIL WEIGHT:	132 LB./YD.
RAIL LAID IN:	1941 TO 1955	CAR INITIALS:	SP
CAR NUMBER:	517332	CAR TYPE:	STAC PAC
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	122000 POUNDS
CAR TARE WEIGHT:	56560 POUNDS	EMPTY WT A-END:	27700 POUNDS
EMPTY WT B-END:	28860 POUNDS	TOTAL WT.:	56560 POUNDS
CENTER GRAVITY:	23.63 INCHES	TYPE OF LADING:	NONE
ALD - LD. TRUCK:	+20 FT. 7 IN.	TRUCK CENTERS:	64 FT. 0 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	ASF LOW LEVEL	WHEEL BASE:	5 FT. 1 IN.
SPRNG GROUP OUT:	5 D4	SPRNG GROUP IN:	5 D3
SPR GROUP ININ:	0	STAT SPNG COMP:	B-9.063:A-9.188
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI SINGLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	CONSTANT (ASF)
SNUBBER SPRINGS:	8-3221:8-3222	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	1 DOT L: 1 DOT R
AXL PARAL B-END:	1 DOT L: 1 DOT R	WHEEL CONTOUR:	FILE 3.0:T/SER 3
WHEEL DIAMETER:	27.9172 INCHES		

TEST: 030503TEM001

TEST CONDUCTED AT MEDIUM SPEED USING ASF LOW LEVEL
70 TON CAPACITY TRUCK UNDER A STAC PAC CAR WITH NO
LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THROUGH FREIGHT TRAIN
40 MINUTES PRIOR TO TEST RUN
NOMINAL NEW CONDITIONS EXCEPT:
ORIGINAL WHEELS FROM SP517332 (NEW 5/73)
CHANNEL 14 WAS POSITIVE .4 VOLTS OFF ZERO

TDOP TAPE NO.:	0108	SEQNCE. ON TAPE:	1
TEST DATE:	6/27/75	TEST START TIME:	1040 HRS
TEMPERATURE:	80 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 270 DEG REL
WIND VELOCITY:	16 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD EAST
MILEPOST START:	42.50	MILEPOST END:	47.33
MIN SPEED:	30 MPH	MAX SPEED:	60 MPH
RAIL TYPE:	CWR	RAIL WEIGHT:	136 LB./YD.
RAIL LAID IN:	1964	CAR INITIALS:	SP
CAR NUMBER:	517332	CAR TYPE:	STAC PAC
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	122000 POUNDS
CAR TARE WEIGHT:	56560 POUNDS	EMPTY WT A-END:	27700 POUNDS
EMPTY WT B-END:	28860 POUNDS	TOTAL WT.:	56560 POUNDS
CENTER GRAVITY:	23.63 INCHES	TYPE OF LADING:	NONE
ALD - LD. TRUCK:	+20 FT. 7 IN.	TRUCK CENTERS:	64 FT. 0 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	ASF LOW LEVEL	WHEEL BASE:	5 FT. 1 IN.
SPRNG GROUP OUT:	5 D4	SPRNG GROUP IN:	5 D3
SPR GROUP ININ:	0	STAT SPNG COMP:	B-9.063:A-9.188
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI SINGLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	CONSTANT (ASF)
SNUBBER SPRINGS:	B-3221:B-3222	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	5/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	1 DOT L: 1 DOT R
AXL PARAL B-END:	1 DOT L: 1 DOT R	WHEEL CONTOUR:	FILE 3.0:T/SER 3
WHEEL DIAMETER:	27.9172 INCHES		

TEST: 030503TEH001

TEST CONDUCTED AT HIGH SPEED USING ASF LOW LEVEL
70 TON CAPACITY TRUCK UNDER A STAC PAC CAR WITH NO
LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THREE CAR TEST TRAIN
20 MINUTES PRIOR TO TEST RUN
NOMINAL NEW CONDITIONS EXCEPT:
ORIGINAL WHEELS FROM SP517332 (NEW 5/73)

TDOP TAPE NO.:	0108	SEQNCE. ON TAPE:	2
TEST DATE:	6/27/75	TEST START TIME:	1135 HRS
TEMPERATURE:	82 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 270 DEG REL
WIND VELOCITY:	12 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	OAKLAND-OGDEN	DIRECTION:	RAILROAD EAST
MILEPOST START:	42.50	MILEPOST END:	47.33
MIN SPEED:	70 MPH	MAX SPEED:	79 MPH
RAIL TYPE:	CWR	RAIL WEIGHT:	136 LB./YD.
RAIL LAID IN:	1964	CAR INITIALS:	SP
CAR NUMBER:	517332	CAR TYPE:	STAC PAC
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	122000 POUNDS
CAR TARE WEIGHT:	56560 POUNDS	EMPTY WT A-END:	27700 POUNDS
EMPTY WT B-END:	28860 POUNDS	TOTAL WT.:	56560 POUNDS
CENTER GRAVITY:	23.63 INCHES	TYPE OF LADING:	NONE
ALD - LD. TRUCK:	+20 FT. 7 IN.	TRUCK CENTERS:	64 FT. 0 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	ASF LOW LEVEL	WHEEL BASE:	5 FT. 1 IN.
SPRNG GROUP OUT:	5 D4	SPRNG GROUP IN:	5 D3
SPR GROUP ININ:	0	STAT SPNG COMP:	B-9.063:A-9.188
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI SINGLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	CONSTANT (ASF)
SNUBBER SPRINGS:	B-3221:B-3222	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	1 DOT L: 1 DOT R
AXL PARAL B-END:	1 DOT L: 1 DOT R	WHEEL CONTOUR:	FILE 3.0:T/SER 3
WHEEL DIAMETER:	27.9172 INCHES		

TEST:050101MOD002

TEST CONDUCTED AROUND RESONANT SPEED USING ASF RIDE CONTROL
70 TON CAPACITY TRUCK UNDER MECHANICAL REFRIGERATOR CAR WITH
NO LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THREE CAR TEST TRAIN
TWENTY FIVE MINUTES PRIOR TO PASS 1
NOMINAL NEW CONDITIONS EXCEPT:
CYLINDRICAL WHEELS
RESONANT SPEED IS 22 MPH

TDOP TAPE NO.:	0178	SEQNCE. ON TAPE:	1
TEST DATE:	11/10/75	TEST START TIME:	1010 HRS
TEMPERATURE:	56 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 170 DEG REL
WIND VELOCITY:	8 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	SCHELLVILLE BR.	DIRECTION:	RAILROAD WEST
MILEPOST START:	63.8956	MILEPOST END:	63.7991
MIN SPD PASS 1:	20 MPH	MAX SPD PASS 1:	20 MPH
MIN SPD PASS 2:	22 MPH	MAX SPD PASS 2:	22 MPH
MIN SPD PASS 3:	24 MPH	MAX SPD PASS 3:	24 MPH
MIN SPD PASS 4:	26 MPH	MAX SPD PASS 4:	26 MPH
MIN SPD PASS 5:	28 MPH	MAX SPD PASS 5:	28 MPH
RAIL TYPE:	JOINTED/SH	RAIL WEIGHT:	112 LB./YD.
RAIL LAID IN:	1952	CAR INITIALS:	SPFE
CAR NUMBER:	459997	CAR TYPE:	MECH. REEFER
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	130000 POUNDS
CAR TARE WEIGHT:	89571 POUNDS	EMPTY WT A-END:	49322 POUNDS
EMPTY WT B-END:	40249 POUNDS	TOTAL WEIGHT:	89571 POUNDS
CENTER GRAVITY:	60 INCHES	TYPE OF LADING:	NONE
ALD - LD. TRUCK:	+15 FT. 0 IN.	TRUCK CENTERS:	45 FT. 8.625 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	ASF RIDE CONTROL	WHEEL BASE:	5 FT. 8 IN.
SPRNG GROUP OUT:	7 D5	SPRNG GROUP IN:	6 D5
SPR GROUP ININ:	0	STAT SPNG COMP:	B-9.50:A-9.68 IN
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	0.15 COEF FRICT
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.25 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	CONSTANT (ASF)
SNUBBER SPRINGS:	8-3091	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	3 DOT L: 3 DOT R
AXL PARAL B-END:	3 DOT L: 3 DOT R	WHEEL CONTOUR:	FG 2-2 SER 5 T/P
WHEEL DIAMETER:	33.109 INCHES		

TEST:050102MOD001

TEST CONDUCTED AROUND RESONANT SPEED USING ASF RIDE CONTROL
70 TON CAPACITY TRUCK UNDER MECHANICAL REFRIGERATOR CAR WITH
NO LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THREE CAR TEST TRAIN
FIVE MINUTES PRIOR TO PASS 1
NOMINAL NEW CONDITIONS EXCEPT:
1/40 TAPER WHEELS
RESONANT SPEED IS 22 MPH

TDOP TAPE NO.:	0179	SEQNCE. ON TAPE:	1
TEST DATE:	11/13/75	TEST START TIME:	1020 HRS
TEMPERATURE:	58 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 15 DEG REL
WIND VELOCITY:	11 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	SCHELLVILLE BR.	DIRECTION:	RAILROAD WEST
MILEPOST START:	63.8956	MILEPOST END:	63.7991
MIN SPD PASS 1:	20 MPH	MAX SPD PASS 1:	20 MPH
MIN SPD PASS 2:	22 MPH	MAX SPD PASS 2:	22 MPH
MIN SPD PASS 3:	24 MPH	MAX SPD PASS 3:	24 MPH
MIN SPD PASS 4:	26 MPH	MAX SPD PASS 4:	26 MPH
MIN SPD PASS 5:	28 MPH	MAX SPD PASS 5:	28 MPH
RAIL TYPE:	JOINTED/SH	RAIL WEIGHT:	112 LB./YD.
RAIL LAID IN:	1952	CAR INITIALS:	SPFE
CAR NUMBER:	459997	CAR TYPE:	MECH. REEFER
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	130000 POUNDS
CAR TARE WEIGHT:	89571 POUNDS	EMPTY WT A-END:	49322 POUNDS
EMPTY WT B-END:	40249 POUNDS	TOTAL WEIGHT:	89571 POUNDS
CENTER GRAVITY:	60 INCHES	TYPE OF LADING:	NONE
ALD - LD. TRUCK:	+15 FT. 0 IN.	TRUCK CENTERS:	45 FT. 8.625 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	ASF RIDE CONTROL	WHEEL BASE:	5 FT. 8 IN.
SPRNG GROUP OUT:	7 D5	SPRNG GROUP IN:	6 D5
SPR GROUP ININ:	0	STAT SPNG COMP:	B-9.50:A-9.68 IN
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	0.15 COEF FRICT
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.25 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	CONSTANT (ASF)
SNUBBER SPRINGS:	8-3091	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	3 DOT L: 3 DOT R
AXL PARAL B-END:	3 DOT L: 3 DOT R	WHEEL CONTOUR:	FG 2-3 SER 5 T/P
WHEEL DIAMETER:	33.109 INCHES		

TEST: 050103MOD001

TEST CONDUCTED AROUND RESONANT SPEED USING ASF RIDE CONTROL
70 TON CAPACITY TRUCK UNDER MECHANICAL REFRIGERATOR CAR WITH
NO LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THREE CAR TEST TRAIN
FIVE MINUTES PRIOR TO PASS 1
NOMINAL NEW CONDITIONS EXCEPT:
CYLINDRICAL WHEELS
D7 SPRINGS
RESONANT SPEED IS 22 MPH
CHANNEL 10 IS +.7 VOLT OFF ZERO AT END OF TEST
CHANNEL 30 IS +.4 VOLT OFF ZERO

TOOP TAPE NO.:	0123	SEQNCE. ON TAPE:	1
TEST DATE:	12/8/75	TEST START TIME:	1010 HRS
TEMPERATURE:	40 DEG-F	PRECIPITATION:	FOG
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 90 DEG REL
WIND VELOCITY:	6 MPH	RAIL SURF COND:	DAMP AND SANDED
LINE:	SCHELLVILLE BR.	DIRECTION:	RAILROAD WEST
MILEPOST START:	63.6883	MILEPOST END:	63.7991
MIN SPD PASS 1:	20 MPH	MAX SPD PASS 1:	20 MPH
MIN SPD PASS 2:	22 MPH	MAX SPD PASS 2:	22 MPH
MIN SPD PASS 3:	24 MPH	MAX SPD PASS 3:	24 MPH
MIN SPD PASS 4:	26 MPH	MAX SPD PASS 4:	26 MPH
MIN SPD PASS 5:	28 MPH	MAX SPD PASS 5:	28 MPH
RAIL TYPE:	JOINTED/SH	RAIL WEIGHT:	112 LB./YD.
RAIL LAID IN:	1952	CAR INITIALS:	SPFE
CAR NUMBER:	459997	CAR TYPE:	MECH. REEFER
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	130000 POUNDS
CAR TARE WEIGHT:	69571 POUNDS	EMPTY WT A-END:	49322 POUNDS
EMPTY WT B-END:	40249 POUNDS	TOTAL WEIGHT:	89571 POUNDS
CENTER GRAVITY:	60 INCHES	TYPE OF LADING:	NONE
ALO - LO. TRUCK:	+15 FT. 0 IN.	TRUCK CENTERS:	45 FT. 8.625 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	ASF RIDE CONTROL	WHEEL BASE:	5 FT. 0 IN.
SPRNG GROUP OUT:	7 D7	SPRNG GROUP IN:	6 D7
SPR GROUP ININ:	0	STAT SPNG CONP:	B-9.94;A-9.75 IN
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	0.15 COEF FRICT
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.25 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	CONSTANT (ASF)
SNUBBER SPRINGS:	8-3091	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	3 DOT L; 3 DOT R
AXL PARAL B-END:	3 DOT L; 3 DOT R	WHEEL CONTOUR:	FG 2-2 SER 5 T/P
WHEEL DIAMETER:	33.109 INCHES		

TEST: 050104MOD001

TEST CONDUCTED AROUND RESONANT SPEED USING ASF RIDE CONTROL
70 TON CAPACITY TRUCK UNDER MECHANICAL REFRIGERATOR CAR WITH
NO LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THREE CAR TEST TRAIN
FIVE MINUTES PRIOR TO PASS 1
NOMINAL NEW CONDITIONS EXCEPT:
CYLINDRICAL WHEELS
D3 SPRINGS

TDOP TAPE NO.:	0171	SEQNCE. ON TAPE:	1
TEST DATE:	12/10/75	TEST START TIME:	1035 HRS
TEMPERATURE:	44 DEG-F	PRECIPITATION:	FOG
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 70 DEG REL
WIND VELOCITY:	6 MPH	RAIL SURF COND:	DAMP AND SANDED
LINE:	SCHELLVILLE BR.	DIRECTION:	RAILROAD WEST
MILEPOST START:	63.8956	MILEPOST END:	63.7991
MIN SPD PASS 1:	20 MPH	MAX SPD PASS 1:	20 MPH
MIN SPD PASS 2:	22 MPH	MAX SPD PASS 2:	22 MPH
MIN SPD PASS 3:	24 MPH	MAX SPD PASS 3:	24 MPH
MIN SPD PASS 4:	26 MPH	MAX SPD PASS 4:	26 MPH
MIN SPD PASS 5:	28 MPH	MAX SPD PASS 5:	28 MPH
RAIL TYPE:	JOINTED/SH	RAIL WEIGHT:	112 LB./YD.
RAIL LAID IN:	1952	CAR INITIALS:	SPFE
CAR NUMBER:	459997	CAR TYPE:	MECH. REEFER
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	130000 POUNDS
CAR TARE WEIGHT:	89571 POUNDS	EMPTY WT A-END:	49322 POUNDS
EMPTY WT B-END:	40249 POUNDS	TOTAL WEIGHT:	89571 POUNDS
CENTER GRAVITY:	60 INCHES	TYPE OF LADING:	NONE
ALD - LD. TRUCK:	+15 FT. 0 IN.	TRUCK CENTERS:	45 FT. 8.625 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3600
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	ASF RIDE CONTROL	WHEEL BASE:	5 FT. 8 IN.
SPRNG GROUP OUT:	7 D3	SPRNG GROUP IN:	2 D3
SPR GROUP ININ:	0	STAT SPNG COMP:	B-8.46;A-8.29 IN
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	0.15 COEF FRICT
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.25 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	CONSTANT (ASF)
SNUBBER SPRINGS:	8-3091	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	3 DOT L; 3 DOT R
AXL PARAL B-END:	3 DOT L; 3 DOT R	WHEEL CONTOUR:	FG 2-2 SER 5 T/P
WHEEL DIAMETER:	33.109 INCHES		

TEST:050201MOD001

TEST CONDUCTED AROUND RESONANT SPEED USING ASF RIDE CONTROL
70 TON CAPACITY TRUCK UNDER MECHANICAL REFRIGERATOR CAR WITH
FULL GROSS RAIL LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THREE CAR TEST TRAIN
5 MINUTES PRIOR TO PASS 1
NOMINAL NEW CONDITIONS EXCEPT:
1/40 TAPER WHEELS
CHANNEL 5 INOPERATIVE DURING FIRST TWO PASSES

TDOP TAPE NO.:	0183	SEQNCE. ON TAPE:	1
TEST DATE:	11/19/75	TEST START TIME:	1100 HRS
TEMPERATURE:	42 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 5 DEG REL
WIND VELOCITY:	17 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	SCHELLVILLE BR.	DIRECTION:	RAILROAD WEST
MILEPOST START:	63.8956	MILEPOST END:	63.7991
MIN SPD PASS 1:	12 MPH	MAX SPD PASS 1:	12 MPH
MIN SPD PASS 2:	14 MPH	MAX SPD PASS 2:	14 MPH
MIN SPD PASS 3:	16 MPH	MAX SPD PASS 3:	16 MPH
MIN SPD PASS 4:	18 MPH	MAX SPD PASS 4:	18 MPH
MIN SPD PASS 5:	20 MPH	MAX SPD PASS 5:	20 MPH
RAIL TYPE:	JOINTED/SH	RAIL WEIGHT:	112 LB./YD.
RAIL LAID IN:	1952	CAR INITIALS:	SPFE
CAR NUMBER:	459997	CAR TYPE:	MECH. REEFER
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	130000 POUNDS
CAR TARE WEIGHT:	89571 POUNDS	LOADED WT A-END:	101500 POUNDS
LOADED WT B-END:	118400 POUNDS	TOTAL WEIGHT:	219900 POUNDS
CENTER GRAVITY:	86 INCHES	TYPE OF LADING:	BRAKE SHOES
ALD - LD. TRUCK:	+15 FT. 0 IN.	TRUCK CENTERS:	45 FT. 8.625 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	ASF RIDE CONTROL	WHEEL BASE:	5 FT. 8 IN.
SPRNG GROUP OUT:	7 D5	SPRNG GROUP IN:	6 D5
SPR GROUP ININ:	0	STAT SPNG COMP:	B-8.00:A-8.38 IN
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	0.15 COEF FRICT
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.25 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	CONSTANT (ASF)
SNUBBER SPRINGS:	8-3091	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	3 DOT L: 3 DOT R
AXL PARAL B-END:	3 DOT L: 3 DOT R	WHEEL CONTOUR:	FG 2-3 SER 5 T/P
WHEEL DIAMETER:	33.109 INCHES		

TEST:050203M00001

TEST CONDUCTED AROUND RESONANT SPEED USING ASF RIDE CONTROL
70 TON CAPACITY TRUCK UNDER MECHANICAL REFRIGERATOR CAR WITH
FULL GROSS RAIL LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THREE CAR TEST TRAIN
TEN MINUTES PRIOR TO PASS 1
NOMINAL NEW CONDITIONS EXCEPT:
CYLINDRICAL WHEELS
RESONANT SPEED IS 16 MPH

TDOP TAPE NO.:	0099	SEQNCE. ON TAPE:	1
TEST DATE:	11/24/75	TEST START TIME:	1010 HRS
TEMPERATURE:	48 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 160 DEG REL
WIND VELOCITY:	8 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	SCHELLVILLE BR.	DIRECTION:	RAILROAD WEST
MILEPOST START:	63.8956	MILEPOST END:	63.7991
MIN SPD PASS 1:	12 MPH	MAX SPD PASS 1:	12 MPH
MIN SPD PASS 2:	14 MPH	MAX SPD PASS 2:	14 MPH
MIN SPD PASS 3:	16 MPH	MAX SPD PASS 3:	16 MPH
MIN SPD PASS 4:	18 MPH	MAX SPD PASS 4:	18 MPH
MIN SPD PASS 5:	20 MPH	MAX SPD PASS 5:	20 MPH
RAIL TYPE:	JOINTED/SH	RAIL WEIGHT:	112 LB./YD.
RAIL LAID IN:	1952	CAR INITIALS:	SPFE
CAR NUMBER:	459997	CAR TYPE:	MECH. REEFER
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	130000 POUNDS
CAR TARE WEIGHT:	89571 POUNDS	LOADED WT A-END:	101500 POUNDS
LOADED WT B-END:	118400 POUNDS	TOTAL WEIGHT:	219900 POUNDS
CENTER GRAVITY:	86 INCHES	TYPE OF LADING:	BRAKE SHOES
ALD - LD. TRUCK:	+15 FT. 0 IN.	TRUCK CENTERS:	45 FT. 8.625 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	ASF RIDE CONTROL	WHEEL BASE:	5 FT. 8 IN.
SPRNG GROUP OUT:	7 D5	SPRNG GROUP IN:	6 D5
SPR GROUP ININ:	0	STAT SPNG COMP:	B-8.00:A-8.38 IN
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	0.15 COEF FRICT
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.25 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	CONSTANT (ASF)
SNUBBER SPRINGS:	B-3091	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	3 DOT L: 3 DOT R
AXL PARAL B-END:	3 DOT L: 3 DOT R	WHEEL CONTOUR:	FG 2-2 SER 5 T/P
WHEEL DIAMETER:	33.109 INCHES		

TEST: 050204H0D001

TEST CONDUCTED AROUND RESONANT SPEED USING ASF RIDE CONTROL
70 TON CAPACITY TRUCK UNDER MECHANICAL REFRIGERATOR CAR WITH
FULL GROSS RAIL LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THREE CAR TEST TRAIN
FIVE MINUTES PRIOR TO PASS 1
NOMINAL NEW CONDITIONS EXCEPT:
CYLINDRICAL WHEELS
D5 SPRINGS
CHANNEL 23 IS +.3 VOLT OFF ZERO
CHANNEL 47 IS -.3 VOLT OFF ZERO
RESONANT SPEED IS 16 MPH

TOOP TAPE NO.:	0117	SEQNCE. ON TAPE:	1
TEST DATE:	12/1/75	TEST START TIME:	1000 HRS
TEMPERATURE:	40 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 355 DEG REL
WIND VELOCITY:	5 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	SCHELLVILLE BR.	DIRECTION:	RAILROAD WEST
MILEPOST START:	63.6936	MILEPOST END:	63.7991
MIN SPD PASS 1:	12 MPH	MAX SPD PASS 1:	12 MPH
MIN SPD PASS 2:	14 MPH	MAX SPD PASS 2:	14 MPH
MIN SPD PASS 3:	16 MPH	MAX SPD PASS 3:	16 MPH
MIN SPD PASS 4:	18 MPH	MAX SPD PASS 4:	18 MPH
MIN SPD PASS 5:	20 MPH	MAX SPD PASS 5:	20 MPH
RAIL TYPE:	JOINTED/SH	RAIL WEIGHT:	112 LB./YD.
RAIL LAID IN:	1952	CAR INITIALS:	SPFE
CAR NUMBER:	459997	CAR TYPE:	MECH. REEFER
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	130000 POUNDS
CAR TARE WEIGHT:	69571 POUNDS	LOADED WT A-END:	101500 POUNDS
LOADED WT B-END:	118400 POUNDS	TOTAL WEIGHT:	219900 POUNDS
CENTER GRAVITY:	86 INCHES	TYPE OF LADING:	BRAKE SHOES
ALO - LO. TRUCK:	+15 FT. 0 IN.	TRUCK CENTERS:	45 FT. 8.625 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	ASF RIDE CONTROL	WHEEL BASE:	5 FT. 8 IN.
SPRNG GROUP OUT:	7 D5	SPRNG GROUP IN:	2 D5
SPR GROUP ININ:	0	STAT SPNG CORR:	B-7.371A-7.65 IN
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	0.15 COEF FRICT
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.25 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	CONSTANT (ASF)
SNUBBER SPRINGS:	B-3091	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	3 DOT L; 3 DOT R
AXL PARAL B-END:	3 DOT L; 3 DOT R	WHEEL CONTOUR:	FG 2-2 SER 5 T/P
WHEEL DIAMETER:	33.109 INCHES		

TEST: 050205MOD001

TEST CONDUCTED AROUND RESONANT SPEED USING ASF RIDE CONTROL
70 TON CAPACITY TRUCK UNDER MECHANICAL REFRIGERATOR CAR WITH
FULL GROSS RAIL LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THREE CAR TEST TRAIN
TEN MINUTES PRIOR TO PASS 1
NOMINAL NEW CONDITIONS EXCEPT:
CYLINDRICAL WHEELS
D7 SPRINGS.
RESONANT SPEED IS 14 MPH.

TDOP TAPE NO.:	0121	SEQNCE. ON TAPE:	1
TEST DATE:	12/4/75	TEST START TIME:	1055 HRS
TEMPERATURE:	56 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	CALM
WIND VELOCITY:	CALM	RAIL SURF COND:	CLEAN AND DRY
LINE:	SCHELLVILLE BR.	DIRECTION:	RAILROAD WEST
MILEPOST START:	63.8803	MILEPOST END:	63.7991
MIN SPD PASS 1:	12 MPH	MAX SPD PASS 1:	12 MPH
MIN SPD PASS 2:	14 MPH	MAX SPD PASS 2:	14 MPH
MIN SPD PASS 3:	16 MPH	MAX SPD PASS 3:	16 MPH
MIN SPD PASS 4:	18 MPH	MAX SPD PASS 4:	18 MPH
MIN SPD PASS 5:	20 MPH	MAX SPD PASS 5:	20 MPH
RAIL TYPE:	JOINTED/SH	RAIL WEIGHT:	112 LB./YD.
RAIL LAID IN:	1952	CAR INITIALS:	SPFE
CAR NUMBER:	459997	CAR TYPE:	MECH. REEFER
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	130000 POUNDS
CAR TARE WEIGHT:	89571 POUNDS	LOADED WT A-END:	101500 POUNDS
LOADED WT B-END:	118400 POUNDS	TOTAL WEIGHT:	219900 POUNDS
CENTER GRAVITY:	86 INCHES	TYPE OF LADING:	BRAKE SHOES
ALD - LD. TRUCK:	+15 FT. 0 IN.	TRUCK CENTERS:	45 FT. 8.625 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	ASF RIDE CONTROL	WHEEL BASE:	5 FT. 8 IN.
SPRNG GROUP OUT:	7 D7	SPRNG GROUP IN:	6 D7
SPR GROUP ININ:	0	STAT SPNG COMP:	B-8.13:A-8.50 IN
CNTR PLATE DIA:	14 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	0.15 COEF FRICT
SIDE BEAR A-END:	STUCKI SINGLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.25 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	CONSTANT (ASF)
SNUBBER SPRINGS:	8-3091	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6X11 TAPERED
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	3 DOT L: 3 DOT R
AXL PARAL B-END:	3 DOT L: 3 DOT R	WHEEL CONTOUR:	FG 2-2 SER 5 T/P
WHEEL DIAMETER:	33.109 INCHES		

TEST:050301MOD001

TEST CONDUCTED AROUND RESONANT SPEED USING BARBER S2C 100 TON CAPACITY TRUCK UNDER A SIXTY FT. BOX CAR WITH NO LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THREE CAR TEST TRAIN
TEN MINUTES PRIOR TO PASS 1
NOMINAL NEW CONDITIONS EXCEPT:
CYLINDRICAL WHEELS
RESONANT SPEED IS 22 MPH
DISREGARD NEGATIVE SIGNALS ON CHANNELS 42 AND 45

TOOP TAPE NO.:	0201	SEQNCE. ON TAPE:	1
TEST DATE:	1/7/76	TEST START TIME:	1245 HRS
TEMPERATURE:	50 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 90 DEG REL
WIND VELOCITY:	10 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	SCHELLVILLE BR.	DIRECTION:	RAILROAD WEST
MILEPOST START:	63.8956	MILEPOST END:	63.7991
MIN SPD PASS 1:	20 MPH	MAX SPD PASS 1:	20 MPH
MIN SPD PASS 2:	22 MPH	MAX SPD PASS 2:	22 MPH
MIN SPD PASS 3:	24 MPH	MAX SPD PASS 3:	24 MPH
MIN SPD PASS 4:	26 MPH	MAX SPD PASS 4:	26 MPH
MIN SPD PASS 5:	28 MPH	MAX SPD PASS 5:	28 MPH
RAIL TYPE:	JOINTED	RAIL WEIGHT:	112 LB./YD.
RAIL LAID IN:	1952	CAR INITIALS:	SP
CAR NUMBER:	668043	CAR TYPE:	60 FT. BOX CAR
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	174000 POUNDS
CAR TARE WEIGHT:	85760 POUNDS	EMPTY WT A-END:	42340 POUNDS
EMPTY WT B-END:	43420 POUNDS	TOTAL WT:	85760 POUNDS
CENTER GRAVITY:	62.00 INCHES	TYPE OF LADING:	NONE
ALD - LD. TRUCK:	+17 FT. 0 IN.	TRUCK CENTERS:	46 FT. 3.000 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	BARBER S2C	WHEEL BASE:	5 FT. 10 IN.
SPRNG GROUP OUT:	7 D5	SPRNG GROUP IN:	7 D5
SPR GROUP ININ:	0	STAT SPNG COMP:	B-9.75;A-9.75 IN
CNTR PLATE DIA:	16 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI DOUBLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	LOAD VARIABLE
SNUBBER SPRINGS:	8 B-432; 8 B-433	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6.5X12 TAPER
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	2 DOT L; 1 DOT R
AXL PARAL B-END:	3 DOT L; 3 DOT R	WHEEL CONTOUR:	FG 2-2 SER 5 T/P
WHEEL DIAMETER:	35.8906 INCHES		

TEST:050302M00001

TEST CONDUCTED AROUND RESONANT SPEED USING BARBER S2C
100 TON CAPACITY TRUCK UNDER A SIXTY FT. BOX CAR WITH
NO LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THREE CAR TEST TRAIN
TEN MINUTES PRIOR TO PASS 1
NOMINAL NEW CONDITIONS EXCEPT:
CYLINDRICAL WHEELS
D7 SPRINGS
DISREGARD NEG SIGNALS ON CHNLS 42 AND 45
RESONANT SPEED IS 24 MPH

TDOP TAPE NO.:	0205	SEQNCE. ON TAPE:	1
TEST DATE:	1/12/76	TEST START TIME:	0815 HRS
TEMPERATURE:	40 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	CALM
WIND VELOCITY:	CALM	RAIL SURF COND:	CLEAN AND DRY
LINE:	SCHELLVILLE BR.	DIRECTION:	RAILROAD WEST
MILEPOST START:	63.8956	MILEPOST END:	63.7991
MIN SPD PASS 1:	20 MPH	MAX SPD PASS 1:	20 MPH
MIN SPD PASS 2:	22 MPH	MAX SPD PASS 2:	22 MPH
MIN SPD PASS 3:	24 MPH	MAX SPD PASS 3:	24 MPH
MIN SPD PASS 4:	26 MPH	MAX SPD PASS 4:	26 MPH
MIN SPD PASS 5:	28 MPH	MAX SPD PASS 5:	28 MPH
RAIL TYPE:	JOINTED	RAIL WEIGHT:	112 LB./YD.
RAIL LAID IN:	1952	CAR INITIALS:	SP
CAR NUMBER:	668043	CAR TYPE:	60 FT. BOX CAR
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	174000 POUNDS
CAR TARE WEIGHT:	85760 POUNDS	EMPTY WT A-END:	42340 POUNDS
EMPTY WT B-END:	43420 POUNDS	TOTAL WT:	85760 POUNDS
CENTER GRAVITY:	62.00 INCHES	TYPE OF LADING:	NONE
ALD - LD. TRUCK:	+17 FT. 0 IN.	TRUCK CENTERS:	46 FT. 3.000 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	BARBER S2C	WHEEL BASE:	5 FT. 10 IN.
SPRNG GROUP OUT:	7 D7	SPRNG GROUP IN:	7 D7
SPR GROUP ININ:	0	STAT SPNG COMP:	B-10.18;A-10.18
CNTR PLATE DIA:	16 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	0.15
SIDE BEAR A-END:	STUCKI DOUBLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	LOAD VARIABLE
SNUBBER SPRINGS:	8 B-432; 8 B-433	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6.5X12 TAPER
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	2 DOT L; 1 DOT R
AXL PARAL B-END:	3 DOT L; 3 DOT R	WHEEL CONTOUR:	FG 2-2 SER 5 T/P
WHEEL DIAMETER:	35.8906 INCHES		

TEST: 050303MOD001

TEST CONDUCTED AROUND RESONANT SPEED USING BARBER S2C
100 TON CAPACITY TRUCK UNDER A SIXTY FT. BOX CAR WITH
NO LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THREE CAR TEST TRAIN
20 MINUTES PRIOR TO TEST RUN
NOMINAL NEW CONDITIONS EXCEPT:
CYLINDRICAL WHEELS
D3 SPRINGS
RESONANT SPEED IS 24 MPH

TDOP TAPE NO.:	0211	SEQNCE. ON TAPE:	1
TEST DATE:	2/3/76	TEST START TIME:	1100 HRS
TEMPERATURE:	50 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 180 DEG REL
WIND VELOCITY:	7 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	SCHELLVILLE BR.	DIRECTION:	RAILROAD WEST
MILEPOST START:	63.8956	MILEPOST END:	63.7991
MIN SPD PASS 1:	20 MPH	MAX SPD PASS 1:	20 MPH
MIN SPD PASS 2:	22 MPH	MAX SPD PASS 2:	22 MPH
MIN SPD PASS 3:	24 MPH	MAX SPD PASS 3:	24 MPH
MIN SPD PASS 4:	26 MPH	MAX SPD PASS 4:	26 MPH
MIN SPD PASS 5:	28 MPH	MAX SPD PASS 5:	28 MPH
RAIL TYPE:	JOINTED	RAIL WEIGHT:	112 LB./YD.
RAIL LAID IN:	1952	CAR INITIALS:	SP
CAR NUMBER:	668043	CAR TYPE:	60 FT. BOX CAR
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	174000 POUNDS
CAR TARE WEIGHT:	85760 POUNDS	EMPTY WT A-END:	42340 POUNDS
EMPTY WT B-END:	43420 POUNDS	TOTAL WT:	85760 POUNDS
CENTER GRAVITY:	62.00 INCHES	TYPE OF LADING:	NONE
ALD - LD. TRUCK:	+17 FT. 0 IN.	TRUCK CENTERS:	46 FT. 3.000 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	BARBER S2C	WHEEL BASE:	5 FT. 10 IN.
SPRNG GROUP OUT:	7 D3	SPRNG GROUP IN:	3 D3
SPR GROUP ININ:	0	STAT SPNG COMP:	B-8.631A-8.59 IN
CNTR PLATE DIA:	16 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	0.15
SIDE BEAR A-END:	STUCKI DOUBLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	LOAD VARIABLE
SNUBBER SPRINGS:	8 8-42118 8-422	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6.5X12 TAPER
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	2 DOT L: 1 DOT R
AXL PARAL B-END:	3 DOT L: 3 DOT R	WHEEL CONTOUR:	FG 2-2 SER 5 T/P
WHEEL DIAMETER:	35.8906 INCHES		

TEST: 050304MOD001

TEST CONDUCTED AROUND RESONANT SPEED USING BARBER S2C
100 TON CAPACITY TRUCK UNDER A SIXTY FT. BOX CAR WITH
NO LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THREE CAR TEST TRAIN
TEN MINUTES PRIOR TO PASS1
NOMINAL NEW CONDITIONS EXCEPT:
CYLINDRICAL WHEELS
FRICTION SNUBBERS
RESONANT SPEED IS 24 MPH
DISREGARD NEGATIVE SIGNALS ON CHANNELS 42 AND 45

TDOP TAPE NO.:	0199	SEQNCE. ON TAPE:	1
TEST DATE:	1/6/76	TEST START TIME:	1230 HRS
TEMPERATURE:	50 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 160 DEG REL
WIND VELOCITY:	6 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	SCHELLVILLE BR.	DIRECTION:	RAILROAD WEST
MILEPOST START:	63.8883	MILEPOST END:	63.7991
MIN SPD PASS 1:	24 MPH	MAX SPD PASS 1:	24 MPH
MIN SPD PASS 2:	26 MPH	MAX SPD PASS 2:	26 MPH
MIN SPD PASS 3:	28 MPH	MAX SPD PASS 3:	28 MPH
MIN SPD PASS 4:	30 MPH	MAX SPD PASS 4:	30 MPH
MIN SPD PASS 5:	32 MPH	MAX SPD PASS 5:	32 MPH
RAIL TYPE:	JOINTED	RAIL WEIGHT:	112 LB./YD.
RAIL LAID IN:	1952	CAR INITIALS:	SP
CAR NUMBER:	668043	CAR TYPE:	60 FT. BOX CAR
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	174000 POUNDS
CAR TARE WEIGHT:	85760 POUNDS	EMPTY WT A-END:	42340 POUNDS
EMPTY WT B-END:	43420 POUNDS	TOTAL WT:	85760 POUNDS
CENTER GRAVITY:	62.00 INCHES	TYPE OF LADING:	NONE
ALD - LD. TRUCK:	+17 FT. 0 IN.	TRUCK CENTERS:	46 FT. 3.000 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	BARBER S2C	WHEEL BASE:	5 FT. 10 IN.
SPRNG GROUP OUT:	5 D5	SPRNG GROUP IN:	5 D5
SPR GROUP ININ:	0	STAT SPNG COMP:	B-10.06;A-10.06
CNTR PLATE DIA:	16 INCHES	CNTR PLATE MATL:	STEEL
CNTR-PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	0.15
SIDE BEAR A-END:	STUCKI DOUBLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	LD. VAR./VOLUTE
SNUBBER SPRINGS:	8 B-43218 B-378	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6.5X12 TAPER
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	2 DOT L; 1 DOT R
AXL PARAL B-END:	3 DOT L; 3 DOT R	WHEEL CONTOUR:	F6 2-2 SER 5 T/P
WHEEL DIAMETER:	35.8906 INCHES		

TEST:050305MOD001

TEST CONDUCTED AROUND RESONANT SPEED USING BARBER S2C
100 TON CAPACITY TRUCK UNDER A SIXTY FT. BOX CAR WITH
NO LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THREE CAR TEST TRAIN
TEN MINUTES PRIOR TO PASS1
NOMINAL NEW CONDITIONS EXCEPT:
CYLINDRICAL WHEELS
HYDRAULIC SNUBBERS
RESONANT SPEED IS 26 MPH

TDOP TAPE NO.:	0197	SEQNCE. ON TAPE:	1
TEST DATE:	1/5/76	TEST START TIME:	1400 HRS
TEMPERATURE:	48 DEG-F	PRECIPITATION:	LIGHT RAIN
HUMIDITY:	UNKNOWN	WIND DIRECTION:	CALM
WIND VELOCITY:	CALM	RAIL SURF COND:	WET AND SANDED
LINE:	SCHELLVILLE BR.	DIRECTION:	RAILROAD WEST
MILEPOST START:	63.8883	MILEPOST END:	63.7991
MIN SPD PASS 1:	24 MPH	MAX SPD PASS 1:	24 MPH
MIN SPD PASS 2:	26 MPH	MAX SPD PASS 2:	26 MPH
MIN SPD PASS 3:	28 MPH	MAX SPD PASS 3:	28 MPH
MIN SPD PASS 4:	30 MPH	MAX SPD PASS 4:	30 MPH
MIN SPD PASS 5:	32 MPH	MAX SPD PASS 5:	32 MPH
RAIL TYPE:	JOINTED	RAIL WEIGHT:	112 LB./YD.
RAIL LAID IN:	1952	CAR INITIALS:	SP
CAR NUMBER:	668043	CAR TYPE:	60 FT. BOX CAR
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	174000 POUNDS
CAR TARE WEIGHT:	85760 POUNDS	EMPTY WT A-END:	42340 POUNDS
EMPTY WT B-END:	43420 POUNDS	TOTAL WT:	85760 POUNDS
CENTER GRAVITY:	62.00 INCHES	TYPE OF LADING:	NONE
ALD - LD. TRUCK:	+17 FT. 0 IN.	TRUCK CENTERS:	46 FT. 3.000 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	BARBER S2C	WHEEL BASE:	5 FT. 10 IN.
SPRNG GROUP OUT:	6 D5	SPRNG GROUP IN:	6 D5
SPR GROUP ININ:	6 D5	STAT SPNG COMP:	B-9.62:A-9.62 IN
CNTR PLATE DIA:	16 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI DOUBLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	LOAD VAR/HYDRAU.
SNUBBER SPRINGS:	8 B-432:4 H-7	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6.5X12 TAPER
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	2 DOT L: 1 DOT R
AXL PARAL B-END:	3 DOT L: 3 DOT R	WHEEL CONTOUR:	FG 2-2 SER 5 T/P
WHEEL DIAMETER:	35.8906 INCHES		

TEST:050401MOD001

TEST CONDUCTED AROUND RESONANT SPEED USING BARBER S2C 100 TON
CAPACITY TRUCK UNDER A SIXTY FT. BOX CAR WITH FULL
GROSS RAIL LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THREE CAR TEST TRAIN
TEN MINUTES PRIOR TO PASS 1
NOMINAL NEW CONDITIONS EXCEPT:
CYLINDRICAL WHEELS
HYDRAULIC SNUBBERS
RESONANT SPEED IS 18 MPH

TDOP TAPE NO.:	0195	SEQNCE. ON TAPE:	1
TEST DATE:	12/30/75	TEST START TIME:	1325 HRS
TEMPERATURE:	56 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 180 DEG REL
WIND VELOCITY:	20 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	SCHELLVILLE BR.	DIRECTION:	RAILROAD WEST
MILEPOST START:	63.8883	MILEPOST END:	63.7991
MIN SPD PASS 1:	12 MPH	MAX SPD PASS 1:	12 MPH
MIN SPD PASS 2:	14 MPH	MAX SPD PASS 2:	14 MPH
MIN SPD PASS 3:	16 MPH	MAX SPD PASS 3:	16 MPH
MIN SPD PASS 4:	18 MPH	MAX SPD PASS 4:	18 MPH
MIN SPD PASS 5:	20 MPH	MAX SPD PASS 5:	20 MPH
RAIL TYPE:	JOINTED	RAIL WEIGHT:	112 LB./YD.
RAIL LAID IN:	1952	CAR INITIALS:	SP
CAR NUMBER:	668043	CAR TYPE:	60 FT. BOX CAR
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	174000 POUNDS
CAR TARE WEIGHT:	85760 POUNDS	LOADED WT A-END:	132180 POUNDS
LOADED WT B-END:	132780 POUNDS	TOTAL WT:	264960 POUNDS
CENTER GRAVITY:	85.00 INCHES	TYPE OF LADING:	BRAKE SHOES
ALD - LD. TRUCK:	+17 FT. 0 IN.	TRUCK CENTERS:	46 FT. 3.000 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	BARBER S2C	WHEEL BASE:	5 FT. 10 IN.
SPRNG GROUP OUT:	6 D5	SPRNG GROUP IN:	6 D5
SPR GROUP ININ:	6 D5	STAT SPNG COMP:	B-7.82;A-7.82 IN
CNTR PLATE DIA:	16 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI DOUBLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	LOAD VAR/HYDRAU.
SNUBBER SPRINGS:	8 B-432;4 H-7	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6.5X12 TAPER
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	2 DOT L; 1 DOT R
AXL PARAL B-END:	3 DOT L; 3 DOT R	WHEEL CONTOUR:	FG 2-2 SER 5 T/P
WHEEL DIAMETER:	35.8906 INCHES		

TEST:050403MOD001

TEST CONDUCTED AROUND RESONANT SPEED USING BARBER S2C 100 TON CAPACITY TRUCK UNDER A SIXTY FT. BOX CAR WITH FULL GROSS RAIL LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THREE CAR TEST TRAIN
25 MINUTES PRIOR TO PASS 1
NOMINAL NEW CONDITIONS EXCEPT:
CYLINDRICAL WHEELS
D7 SPRINGS
RESONANT SPEED IS 16 MPH
DISREGARD NEGATIVE SIGNALS ON CHANNELS 42 AND 45

TOOP TAPE NO.:	0173	SEQNCE. ON TAPE:	1
TEST DATE:	12/17/75	TEST START TIME:	1215 HRS
TEMPERATURE:	52 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	FROM 10 DEG REL
WIND VELOCITY:	15 MPH	RAIL SURF COND:	CLEAN AND DRY
LINE:	SCHELLVILLE BR.	DIRECTION:	RAILROAD WEST
MILEPOST START:	63.8883	MILEPOST END:	63.7991
MIN SPD PASS 1:	12 MPH	MAX SPD PASS 1:	12 MPH
MIN SPD PASS 2:	14 MPH	MAX SPD PASS 2:	14 MPH
MIN SPD PASS 3:	16 MPH	MAX SPD PASS 3:	16 MPH
MIN SPD PASS 4:	18 MPH	MAX SPD PASS 4:	18 MPH
MIN SPD PASS 5:	20 MPH	MAX SPD PASS 5:	20 MPH
RAIL TYPE:	JOINTED	RAIL WEIGHT:	112 LB./YD.
RAIL LAID IN:	1952	CAR INITIALS:	SP
CAR NUMBER:	668043	CAR TYPE:	60 FT. BOX CAR
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	174000 POUNDS
CAR TARE WEIGHT:	85760 POUNDS	LOADED WT A-END:	132180 POUNDS
LOADED WT B-END:	132780 POUNDS	TOTAL WT:	264960 POUNDS
CENTER GRAVITY:	85.00 INCHES	TYPE OF LADING:	BRAKE SHOES
ALD - LD. TRUCK:	+17 FT. 0 IN.	TRUCK CENTERS:	46 FT. 3.000 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3600
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	BARBER S2C	WHEEL BASE:	5 FT. 10 IN.
SPRNG GROUP OUT:	7 D7	SPRNG GROUP IN:	7 D7
SPR GROUP ININ:	0	STAT SPNG COMP:	B-8.56:A-8.56
CNTR PLATE DIA:	16 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI DOUBLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	LOAD VARIABLE
SNUBBER SPRINGS:	8 B-432: 8 B-433	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6.5X12 TAPER
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	2 DOT L: 1 DOT R
AXL PARAL B-END:	3 DOT L: 3 DOT R	WHEEL CONTOUR:	FG 2-2 SER 5 T/P
WHEEL DIAMETER:	35.8906 INCHES		

TEST:050404MOD001

TEST CONDUCTED AROUND RESONANT SPEED USING BARBER S2C 100 TON CAPACITY TRUCK UNDER A SIXTY FT. BOX CAR WITH FULL GROSS RAIL LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THREE CAR TEST TRAIN
25 MIN PRIOR TO PASS 1
NOMINAL NEW CONDITIONS EXCEPT:
CYLINDRICAL WHEELS
D3 SPRINGS
RESONANT SPEED IS 18 MPH
CHANNEL 42 IS NEG .8 VOLT OFF ZERO

TDOP TAPE NO.:	0188	SEQNCE. ON TAPE:	1
TEST DATE:	12/22/75	TEST START TIME:	0925 HRS
TEMPERATURE:	47 DEG-F	PRECIPITATION:	LIGHT FOG
HUMIDITY:	UNKNOWN	WIND DIRECTION:	CALM
WIND VELOCITY:	CALM	RAIL SURF COND:	CLEAN AND DRY
LINE:	SCHELLVILLE BR.	DIRECTION:	RAILROAD WEST
MILEPOST START:	63.8883	MILEPOST END:	63.7991
MIN SPD PASS 1:	12 MPH	MAX SPD PASS 1:	12 MPH
MIN SPD PASS 2:	14 MPH	MAX SPD PASS 2:	14 MPH
MIN SPD PASS 3:	16 MPH	MAX SPD PASS 3:	16 MPH
MIN SPD PASS 4:	18 MPH	MAX SPD PASS 4:	18 MPH
MIN SPD PASS 5:	20 MPH	MAX SPD PASS 5:	20 MPH
RAIL TYPE:	JOINTED	RAIL WEIGHT:	112 LB./YD.
RAIL LAID IN:	1952	CAR INITIALS:	SP
CAR NUMBER:	668043	CAR TYPE:	60 FT. BOX CAR
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	174000 POUNDS
CAR TARE WEIGHT:	85760 POUNDS	LOADED WT A-END:	132180 POUNDS
LOADED WT B-END:	132780 POUNDS	TOTAL WT:	264960 POUNDS
CENTER GRAVITY:	85.00 INCHES	TYPE OF LADING:	BRAKE SHOES
ALD - LD. TRUCK:	+17 FT. 0 IN.	TRUCK CENTERS:	46 FT. 3.000 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	BARBER S2C	WHEEL BASE:	5 FT. 10 IN.
SPRNG GROUP OUT:	7 D3	SPRNG GROUP IN:	3 D3
SPR GROUP ININ:	0	STAT SPNG COMP:	B-7.69;A-7.69 IN
CNTR PLATE DIA:	16 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI DOUBLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	LOAD VARIABLE
SNUBBER SPRINGS:	8 B-421; 8 B-422	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6.5X12 TAPER
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	2 DOT L; 1 DOT R
AXL PARAL B-END:	3 DOT L; 3 DOT R	WHEEL CONTOUR:	FG 2-2 SER 5 T/P
WHEEL DIAMETER:	35.8906 INCHES		

TEST: 050405M000001

TEST CONDUCTED AROUND RESONANT SPEED USING BARBER S2C 100 TON CAPACITY TRUCK UNDER A SIXTY FT. BOX CAR WITH FULL GROSS RAIL LOAD
PREVIOUS TRAFFIC OVER TEST TRACK:
THREE CAR TEST TRAIN
FIVE MINUTES PRIOR TO PASS 1
NOMINAL WEL CONDITIONS EXCEPT:
CYLINDRICAL WHEELS
RESONANT SPEED IS 16 MPH

TOOP TAPE NO.:	0191	SEQNCE. ON TAPE:	1
TEST DATE:	12/26/75	TEST START TIME:	0805 HRS
TEMPERATURE:	42 DEG-F	PRECIPITATION:	NONE
HUMIDITY:	UNKNOWN	WIND DIRECTION:	CALM
WIND VELOCITY:	CALM	RAIL SURF COND:	CLEAN AND DRY
STATE:	SCHELLVILLE 3R.	DIRECTION:	RAILROAD WEST
MILEPOST START:	63.8033	MILEPOST END:	63.7991
MIN SPD PASS 1:	12 MPH	MAX SPD PASS 1:	12 MPH
MIN SPD PASS 2:	14 MPH	MAX SPD PASS 2:	14 MPH
MIN SPD PASS 3:	16 MPH	MAX SPD PASS 3:	16 MPH
MIN SPD PASS 4:	18 MPH	MAX SPD PASS 4:	18 MPH
MIN SPD PASS 5:	20 MPH	MAX SPD PASS 5:	20 MPH
RAIL TYPE:	JOINTED	RAIL WEIGHT:	112 LB./YD.
RAIL LAID IN:	1952	CAR INITIALS:	SP
CAR NUMBER:	068043	CAR TYPE:	60 FT. BOX CAR
CAR ORIENTATION:	B-END FORWARD	CAR CAPACITY:	174000 POUNDS
CAR TARE WEIGHT:	85760 POUNDS	LOADED WT A-END:	132180 POUNDS
LOADED WT B-END:	132780 POUNDS	TOTAL WT:	264960 POUNDS
CENTER GRAVITY:	65.00 INCHES	TYPE OF LADING:	BRAKE SHOES
ALO - LD. TRUCK:	+17 FT. 0 IN.	TRUCK CENTERS:	46 FT. 3.000 IN.
NO. OF LOCO'S:	1	TOTAL H.P.:	3000
NO. CARS FORE:	1	TOTAL TONS FORE:	61
NO. OF CARS AFT:	1	TOTAL TONS AFT:	23
TRUCK TYPE:	BARBER S2C	WHEEL BASE:	5 FT. 10 IN.
SPRNG GROUP OUT:	7 DS	SPRNG GROUP IN:	7 DS
SPR GROUP INNR:	6	STAT SPNG COMP:	B-8.75IA-8.75 IN
CNTR PLATE DIA:	16 INCHES	CNTR PLATE MATL:	STEEL
CNTR PLATE LUB:	MOLYLUB	CNTR PLATE FRIC:	UNKNOWN
SIDE BEAR A-END:	STUCKI DOUBLE	SIDE BEAR B-END:	STUCKI DOUBLE
SIDE BEAR CLEAR:	0.250 INCH	SIDE BEAR SUPPL:	NONE
SIDE BEAR PRELD:	0 POUNDS	SNUBBER TYPE:	LOAD VARIABLE
SNUBBER SPRINGS:	o B-432: 8 B-433	SNUB DAMP RATE:	UNKNOWN
S./FR. INTERTIE:	NONE	OUTER GIB CLR:	0.625 INCH
INNER GIB CLR:	0.250 INCH	ROLLER BEARING:	AAR 6.5X12 TAPER
ADAPTR PAD TYPE:	NONE	PAD SHEAR COEFF:	N/A
LONG ADPTR CLR:	3/32" TO 9/32"	LAT DAMPER TYPE:	NONE
LAT DAMPER RATE:	N/A	AXL PARAL A-END:	2 DOT L: 1 DOT R
AXL PARAL B-END:	3 DOT L: 3 DOT R	WHEEL CONTOUR:	FG 2-2 SER 5 T/P
WHEEL DIAMETER:	35.8906 INCHES		

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