U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY
ADMINISTRATION

# LABORATORY PROCEDURES FOR TIRE TEMPERATURE RESISTANCE TESTING

CONSUMER INFORMATION REGULATIONS
PART 575.104

UNIFORM TIRE QUALITY GRADING

ENFORCEMENT

OFFICE OF VEHICLE SAFETY COMPLIANCE
WASHINGTON, D.C.

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# SECTION I. INTRODUCTION

## 1-1. RESPONSIBILITIES FOR PROGRAM ADMINISTRATION AND PROCUREMENT

**1-2.** The Department of Transportation (DOT) National Highway Traffic Safety Administration (NHTSA), Enforcement, Office of Vehicle Safety Compliance (OVSC) is responsible for administering the tire testing program. The procurement of test items is a NHTSA Office of Contracts and Procurement responsibility. No information concerning the testing program, will be transmitted to anyone except the NHTSA Contract Technical Manager (CTM) unless specifically authorized by the NHTSA CTM or his superiors. No individuals, other than contractor personnel directly involved in the test program, shall be allowed to witness any tire test unless specifically authorized by the NHTSA CTM or his superiors.

## 1-3. PURPOSE AND SCOPE

**1-4.** This manual describes the standardized laboratory tire test and reporting procedure for independent testing laboratories in conformance with Part 575.104 Consumer Information Regulations-Uniform Quality Grading-Temperature Resistance Grading Effective April 1, 1979 for Bias Ply Tires, October 1, 1979 for Bias Belted Tires and April 1, 1980 for Radial Tires. As amendments become effective, this procedure will be modified accordingly. Instructions for test preparation, test performance, recording tire data, and reporting test results are presented in detail, in this manual.

**1-5.** The procedure is not intended to conflict with the requirements set forth in UTQG or any amendments thereto. Any contractor interpreting any part of this procedure to be in conflict with UTQG or noting any deficiency in it is required to advise the NHTSA CTM for a resolution of the discrepancy prior to testing.

NOTE

The testing laboratory is responsible for testing tires to all applicable requirements of this regulation and procedure. The laboratory is responsible for verifying accuracy of computer data sheets supplied prior to initiation of testing.

## 1-6. DEFINITIONS OF TERMS

**1-7.** Definitions for all technical and specific words and phrases will be found in the Glossary of Terms at the end of this manual. Should any questions arise as to the interpretation of these definitions, contact the CTM.

## 1-8. TIRE TEST PROGRAM AUTOMATIC DATA PROCESSING SYSTEM

**1-9.** The tire compliance test program will use automated data processing techniques. The system is designed to more accurately qualify test results in conformance with UTQG, establish a common language for all program participants, minimize invalid tests, eliminate redundance of effort, and provide the NHTSA Office of Vehicle Safety Compliance (OVSC) with timely test results and laboratory status information.

## SECTION II. LABORATORY LOG-IN PROCEDURES

### 2-1. GENERAL

**2-2.** Test samples are provided to the testing laboratories as Government Furnished Equipment (GFE). Receipt of these tires by the testing laboratories is acknowledged via a TWX or mailed LOG-IN format to the Office of Vehicle Safety Compliance Computer Center (OVSC-CC) who use the incoming TWX to generate Tire Compliance Test Report (TTR) Forms. These forms, with test performance requirements filled in, are then transmitted to the laboratories. This section presents the detailed procedures for tire identification, marking, handling and storage, then concludes with an explanation of laboratory log-in generation.

### 2-3. TIRE IDENTIFICATION

**2-4.** The test tires, as received, are to be marked and individually identified with a test number which will remain with the tire throughout the test and be correlated with the laboratory name, fiscal year of program and type of test. During check-in each tire shall be marked with its assigned test number, by use of a paint stick or equivalent marking material. The test laboratory is responsible for initiating and completing two (2) reports.

(1) Laboratory Tire Log-in Report Form.

(2) Laboratory Tire Compliance Test Reports.

### 2-5. PRELIMINARY INSPECTION AND TIRE STORAGE

**2-6.** The laboratory shall visually examine the tire's tread, sidewalls and beads for any apparent damage prior to their final acceptance. The tires shall be entered into a perpetual inventory such that accurate reporting can be made to the Office of Vehicle Safety Compliance over any designated accounting period.

**2-7.** All specimens awaiting testing shall be stored in a clean, secure storage area protected from direct sunlight, grease, oil, solvents, and any other substance that would contaminate the tire and thus adversely influence the results of the test program. The NHTSA Contractor shall provide appropriate security measures to protect the NHTSA test tires from contact with unauthorized personnel during the entire test program, as well as to protect and segregate the data that evolves from testing each tire.

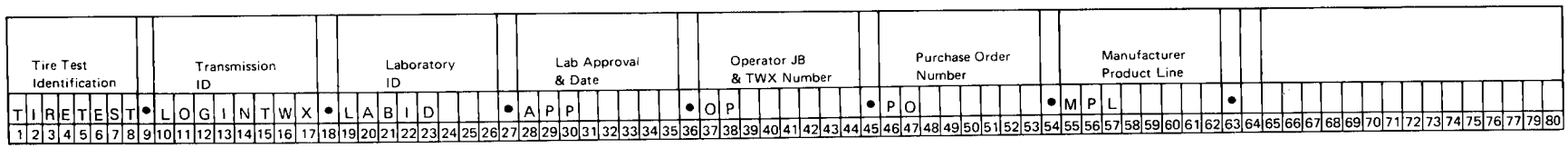
### 2-8. INSTRUCTION FOR PREPARATION AND TWX TRANSMISSION OF TIRE LOG-IN REPORTS

### 2-9. TIRE LOG-IN REPORT PROCEDURE

**2-10.** The Tire Log-in Report will be transmitted or sent via mail to the OVSC-CC within five (5) days of receipt of test tires and the basic data will be maintained at the test laboratory for five (5) years from the date of test. Each purchase order test tire shipment is recorded as a separate TWX transmission. If no Purchase Order Number is available, withhold transmitting the TWX LOG-IN until contacting the Contract Technical Manager (CTM) for instructions. Complete tire identification data, including the test number, are entered for each tire received. New tires without the DOT certification symbol will not be recorded on this form. The laboratory will request disposition instructions of these tires from the CTM. After Log-in, all reference to a test tire is by test number.

### 2-11. TIRE LOG-IN REPORT FORM

**2-12.** The Log-in form is designed for ease of interpretation and uniform recording. To eliminate worded identifications and the potential of erroneous interpretation, simple alpha (alphabetical) and numbered codes are used to identify the tire manufacturer, brand, name, material and construction. Figure 1 is an example of the Log-in form.



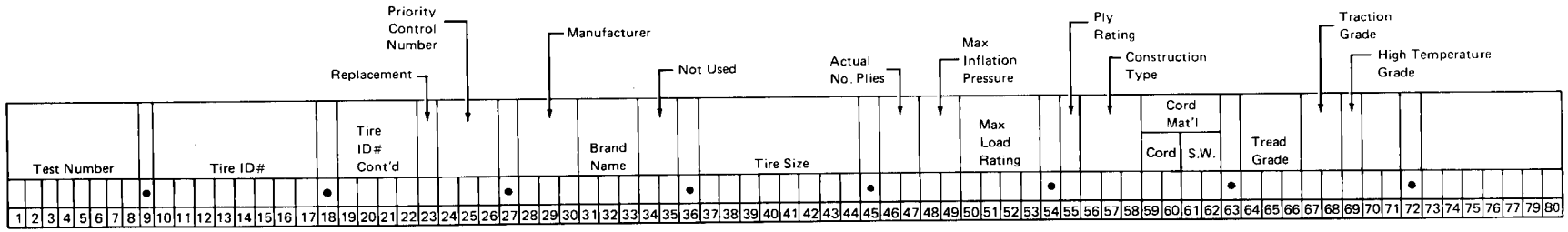




Figure 1. Log-In Format.

Each line of the Log-in message contains groups of eight characters. The groups are separated by periods for ease of visual checking and machine error checking. Each line contains the Log-in data for one tire. The test set shall not consist of more than one manufacturer. Incomplete test samples will be resolved with the CTM before reporting. A maximum twelve tire message format is suggested to facilitate error checking and correction. Transmit TWX Log-in reports daily so that large quantities of unreported tires do not backlog at the laboratory.

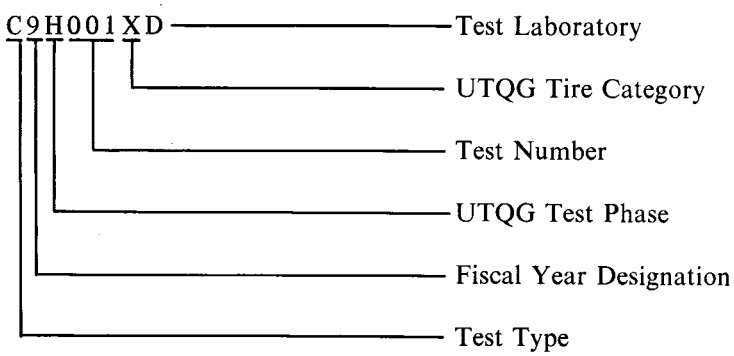
**2-13.** Log-in report messages are read by data processing machinery; therefore the format and control scheme must be adhered to precisely. Each group must have exactly eight characters (a space is considered to be a character). All periods must be precisely spaced. Each line must have an identical number of characters. There may be no nonprint codes in the message (such as "rubout," "carriage return," etc.) other than the ones specified in these instructions. Should the TWX-Teletype operator discover an error in a line being typed, a series of "X" characters should be entered until an "X" falls in the next period position. This will cause the erroneous line to be deleted from the message. The Log-in entry having an error should be repeated without flaw on the next line.

## 2-14. LOG-IN REPORT FORM INFORMATION

The information to be entered into each of the groups is as follows:

### Group (1) TEST NUMBER

The test number consists of eight characters. The first is a code letter identifying the test type (C = Compliance Test, R = Retest, S = Special Test, E = Responsive). The second is the last number of the fiscal year (9 = 1979). The third digit is a letter identifying the UTQG Test Phase (H = Temperature Resistance). The next three digits are assigned serially from a block of numbers provided each laboratory by the NHTSA.OVSC. These numbers account by individual tire, for all tires received by the laboratory and further identify the laboratory by the different number series assigned to each laboratory. The next character represents the UTQG tire category (X = CANDIDATE, S = SPECIAL). The last character is a code letter identifying the test laboratory.




### Group (2) TIRE IDENTIFICATION NUMBER

The first group is for those identification numbers taken from the casing of the tire to be tested (col. 10-17). Justified Left.

### Group (3) ID NO., REPLACEMENT, AND PRIORITY CONTROL NUMBER

If the identification number contains more than eight characters, use the second number group for the remaining characters (col. 19-22). Justified Left. Alpha or numeric characters are acceptable. In position 23, enter 1 if the test tire is a replacement and 0 if the tire is not a replacement. In positions 24 thru 26, enter the priority control number as assigned by the CTM.

## Group (4) MANUFACTURER AND BRAND NAME

The characters of the brand group identify respectively; manufacturer (3 character code), and brand (3 character code). The first two characters of the identification number of new pneumatic tires identifies the manufacturer and will be reported in the space provided. Justified Left. Codes for new brands which do not appear on the published list should be assigned by CTM or OVSC-CC. The code lists will be updated as required. It should be noted that columns 34 and 35 are not utilized, except as noted below. When a situation arises where the laboratory has more than one (1) Brand in a test sample, the laboratory will not transmit a Log-in Report. Contact the CTM to determine disposition of test sample. If a decision is made by the CTM to test the tires, then the laboratory will transmit the Log-in message containing three asterisks "***" for the Brand Names. There may be tires which do not appear to have a Brand Name because the name on the tire appears to be a tire name. When the TWX is transmitted, Group (4) will contain the manufacturer's code and three asterisks, (i.e., VA***). State at the bottom of the TWX Log-in transmission that no brand name appears on the tire and the tire name appears on the tire.

This will cause the Tire Test Report to be generated with blanks for the Brand Name. It is imperative that the laboratory fill all portions of the test reports that require a brand name. Prior to transmitting the three asterisks for the Brand Name, ensure that the Code Lists do not contain a code for the name in question. If three asterisks are transmitted on the Log-in, indicate at the bottom of the transaction what is actually on the sidewall of the tire. There is one condition in which a Brand Name Code cannot be transmitted via TWX for Log-in purposes. That is when there is no brand molded into or onto the tire and therefore, the brand is unknown. In this case the Log-in transmission should contain "***" for brand.

This condition should be explained following the body of the transmission, i.e.,

Condition *** Brand Unknown

## Group (5) TIRE SIZE

The eight characters identify the tire's size.

NOTE

Do not include decimal point or dash.

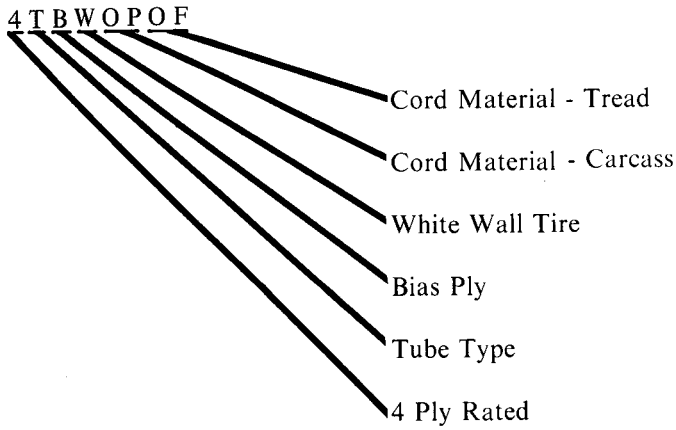
In case two sizes are given, only one size will be used on the Log-in form. Record on the Log-in form the larger tire size designation only. When size is given in both inches and metric, report metric. If eight characters are not enough to record the tire size, contact the NHTSA-CC for the correct recording procedure to use.

## Group (6) ACTUAL PLIES, PRESSURE AND LOAD FIELDS

The eight characters of this group identify, respectively, actual plies (1 for sidewall, 1 for tread), maximum inflation pressure (2 characters), and maximum load rating (4 characters). In instances where the maximum load rating is less than 4 characters justify right, i.e., _970 lbs. For example, "2432_970" would be the coding for a tire with 2 plies in the sidewall and 4 in the tread; having a maximum inflation pressure of 32 psi and a maximum load of 970 pounds.

## Group (7) PLY RATING, CONSTRUCTION AND CORD MATERIAL

This group identifies respectively; ply rating* (1 character), construction (3 characters), and cord material (4 characters.) For example "4TBWOPOF". The first character indicates a 4 ply rated tire. The next three characters indicate a tube type, bias ply, whitewall tire. The last four characters indicate the cord material. Following is an example of the fields in Group 7.




For the 3 character construction code the specific codes are as follows:

First Character:
T = Tube Type
L = Tubeless

Second Character:
B = Bias
R = Radial
E = Belted Bias

Third Character:
B = Blackwall
W = Any other than Blackwall

For the 4 character material group the specific codes are as follows:

ON - Nylon
OR - Rayon
OP - Polyester
OS - Steel
OF - Fiberglass
OD - Aramid

*Tires marked maximum
32 psi=4 ply rating
36 psi=6 ply rating
40 psi=8 ply rating
240 kpa (35 psi)=standard load
280 kpa (41 psi)=extra load

## Group (8) TREADWEAR GRADE, TRACTION GRADE, TEMPERATURE GRADE

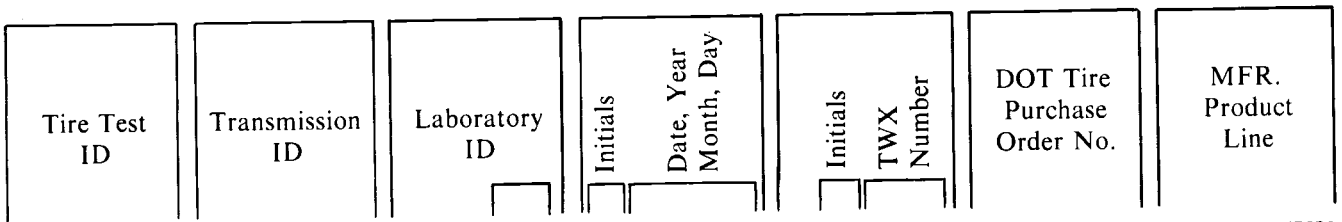
The 8 characters of this group identify respectively the treadwear grade, the traction grade, and the temperature grade as identified on a paper label and on the sidewall of the tire, where applicable.

## 2-15. SPECIFIC TWX OPERATOR INSTRUCTIONS

**2-16.** The body of the Log-in report TWX-Teletype message must be preceded by a header line whose general layout is similar to those in the body of the transmission.

A sample header line follows:

LOG-IN TWX HEADER LINE




**2-17.** The first and second eight character fields are the same for all messages from all laboratories. They identify the tire test program and Log-in TWX, respectively. The third eight character field identifies the laboratory from which the transmission originated. Use first letters of the testing laboratory name, such as DTB, Dayton T. Brown, Inc. The fourth eight character field contains "AP" as the first 2 characters (always the same). The next two characters are the first and last initials of the laboratory official who approved the Log-in report information and its transmission. The last 4 characters in this group record the date of this approval. An entry of 8917 would signify 1978, September 17. For the months of October, November, and December use "O," "N," and "D" respectively. The fifth eight character group identifies the operator who transmitted the message, and the TWX number. The first 4 characters of this group identify the operator who transmitted the message. The second 4 characters of this group will be the four digit TWX control number. The 6th eight character group is used to enter the Purchase Order Number associated with the received tires. A shipment of tires received on the same day having two different Purchase Order Numbers will require at least two different header lines. One for each group of tires from the same purchase order. The last eight character group is used to enter the three characters MPL and the 5 digit manufacturing product line code as assigned by the NHTSA, OVSC. Each line is to be followed by the five non-printing characters; "line feed" (LF), "carriage return" (CR), "X-off" (XO), and two "rubout" (RO) (RO) characters. There may be no other non-print characters in the message. Do not attempt to correct an error in one of the lines by using the rubout key punched over a backspaced incorrect character. Simply place "XXXX" through the next successive period position and start over on the next line. It is important to remember to follow each line with the (LF), (CR), and (XO) non-print characters in this exact sequence. The (CR) must not come before the (LF), etc. The "X-off" character is produced by depressing the "S" character key of the teletype machine while the control key is held depressed. Remember that the (LF) (CR) (XO) (RO) (RO) sequence must follow the header line, or any line which is terminated partially completed due to an error. Unless the foregoing rules are adhered to rigidly, the TWX message will not process through the computer. It is important, therefore, that these rules be followed exactly.

**2-18.** The Log-in report TWX Teletype messages should be prepared "off-line" on punched paper tape by the sending laboratory. It is advisable to preview the tape by playing it through the reader of the teletype machine "off-line" to check for errors. Remember that it is necessary to use the character (LF) (CR) (XO) (RO) (RO) at the end of all lines. The existence of a period in positions 9, 18, 27, 36, 45, 54, and 63 is imperative. These periods are used in the validity check by the computer. Otherwise, the line will be thrown out as invalid.

Sample TWX Log-in Message:

COLUMN POSITION

```
                    1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35
HEADER LINE ------> T I R E T E S T . L O G I N T W X . L A B I D D T B . A P D W 9 N 2 5
TIRE TEST LINE ---> C 9 H 0 0 1 X D . B E V V D D 2 2 . 5 0       0 0 2 1 . B E    M P

36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72
. 0 P M G 1 2 3 4 . P 0 1 2 3 4 5 6 . M P L 0 0 1
. G 7 8 1 5       . 2 4 3 2 1 6 2 0 . 4 L E W O P O F . 1 5 0 * * A
```

Explanation of Header Line:

A period will always appear in Cols. 9, 18, 27, 36, 45, 54, 63.

Columns 1 - 8 TIRE TEST

10 - 17 LOGINTWX

19 - 26 LABID & three initials of testing laboratory

28 - 31 AP & two initials of Approving Officer

32 Last digit of calendar year

33 Number 1 to 9 for months January through September, N for November, O for October, D for December

34 - 35 Actual day of month

37 - 40 OP & two initials of the TWX operator

41 - 44 TWX number as assigned by the test laboratory

46 - 47 PO, standing for Purchase Order Number

48 - 53 Purchase Order Number, as assigned by the NHTSA, OVSC

55 - 57 MPL, standing for Manufacturer Product Line

58 - 62 Manufacturer Product Line, as assigned by the NHTSA, OVSC

Explanation of the Tire Test Line:

A period (.) will always appear in Cols. 9, 18, 27, 36, 45, 54, 63.

Columns 1 - 8 TIRE TEST number
C = Test Type
9 = FY79 Tire Test Program
H = Temperature Resistance Test
001 = DTB test number
X = UTQG test category
D = Dayton T. Brown

10 - 22 Tire ID Number made up of the following: BEVVDD2250

- Two character Mfg. ID code from Tire (BE = Goodyear Tire & Rubber)
- Two character size designation code from Tire (optional)
- Three character Tire Type Code from Tire; this information is optional and if not on tire the next group would be date of manufacture.
- Three character date code represents date of manufacture, i.e., 250 for 25th week of 1970

23 Replacement number, 1 represents a replacement tire, 0 represents a non-replacement tire

24 - 26 Priority Control Number

28 - 30 Tire manufacturer, Left Justified, first two letters of the tire ID number

31 - 33 Tire brand name code taken from S109 Procedures Manual, i.e. MP Goodyear if listed. If not, request a code from the computer support center or CTM

37 - 44 Tire size designation. Left Justified (G7815)

46 - 47 Actual number of plies (2 = sidewall, 4 = tread)

48 - 49 Maximum inflation pressure (32 psi)

50 - 53 Maximum load rating. Right Justified (1620 lbs)

55 Ply rating (4)

56 - 58 Tire construction (L = Tubeless, E = Belted Bias, W = Whitewall)

59 - 60 Cord material - carcass (OP = Polyester)

61 - 62 Cord material - tread (OF = Fiberglass)

64 - 66 Treadwear grade - from the tire sidewall (150)

67 - 68 Traction grade - from the tire sidewall (A)

69 High temperature grade - from the tire sidewall (A)

## 2-19. TIRE TEST REPORT (TTR) FORM

Upon receipt of a properly prepared TWX Log-in transmission by OVSC-CC, TTR forms, including applicable parameter performance requirements, will be prepared and mailed to the specific laboratory within three working days (72 hours). To minimize the possibility of human error in completing certain data on the report forms, test parameter requirements extracted from tables in the computer program are automatically filled in on the TTR form. All other report items constitute laboratory test results and are entered on the form by the laboratory as test phases/parameters are completed. The Summary section of the Labeling Test and Summary Report form is completed by extracting appropriate data from the completed form.

## 2-20. DATA ELEMENTS

The following data elements represent the preprinted performance requirements for the Temperature Resistance Test.

Identification Data

- Testing Laboratory
- Test Number
- All Data Pertaining to Tire Identification

Temperature Resistance Test

- Test Rim Size
- Specified Inflation Pressure
- Required Load, Lbs.

Break-in period - 250 RPM
1st Cycle - 375 RPM
2nd Cycle - 400 RPM
3rd Cycle - 425 RPM
4th Cycle - 450 RPM
5th Cycle - 475 RPM
6th Cycle - 500 RPM
7th Cycle - 525 RPM
8th Cycle - 550 RPM
9th Cycle - 575 RPM

**2-21.** Sample forms with the performance requirements provided appear in Figures 5 and 6.

## SECTION III. GENERAL LABORATORY PROCEDURES

### 3-1. GENERAL

**3-2.** This section presents general laboratory procedures that are either contractually required prior to commencement of testing, or general procedures to be followed in addition to actual test procedures.

### 3-3. CALIBRATION OF MEASUREMENT AND TEST EQUIPMENT

### 3-4. PRETEST REQUIREMENTS

**3-5.** Before starting the test program the contractor shall implement and maintain a measurement and test equipment calibration system in accordance with established calibration practices. Guidelines for setting up and maintaining such systems are described in MIL-C-45662A, "Calibration System Requirements."

NOTE

In the event of an indicated failure to the performance requirements of the standard being tested, a post-test calibration check of some critically sensitive test equipment and instrumentation may be required for verification of accuracy. The necessity for the calibration will be at the CTM's discretion and will be performed without additional costs.

In the event of a violent failure (tire explosion) the entire test fixture will be recalibrated.

### 3-6. SPECIFIC CALIBRATION REQUIREMENTS

The calibration system shall be set up and maintained as follows:

1. Standards for calibrating the measuring and test equipment shall be stored and used under appropriate environmental conditions to assure their accuracy and stability.

2. All measuring instruments and standards shall be calibrated by the contractor, or a commercial facility, against a higher order standard at periodic intervals not exceeding 6 months. Records, showing the calibration traceability to the National Bureau of Standards, shall be maintained for all measuring and test equipment.

3. All measuring equipment, test equipment and measuring standards shall be labeled with the following information:

   a. Date of calibration.

   b. Date of next scheduled calibration.

   c. Name of person who calibrated the equipment.

4. A written calibration procedure shall be provided by the contractor which includes, as a minimum, the following information for all measuring and test equipment:

   a. Type of equipment, manufacturer, model number, etc.

b. Measurement range.

c. Accuracy.

d. Calibration interval.

e. Type of standard used to calibrate the equipment. (Calibration traceability of the standard must be evident.)

5. Records of calibrations for all measuring and test equipment shall be kept by the contractor in a manner which assures the maintenance of established calibration schedules. All such records shall be readily available for inspection when authorized by the NHTSA Contract Technical Manager. The calibration system will need the acceptance of the NHTSA Contract Technical Manager before testing commences.

6. As a minimum, the measurement and test equipment calibration system will encompass:

a. Equipment and devices to measure and/or record all test parameters required by this Laboratory Procedures manual.

b. Alignment of the test tire axle with the road wheel axle in both loaded and unloaded static condition. For loaded condition, load used should be 1500 pounds.

Maximum allowable misalignment is ten (10) minutes of arc for camber and toe-in.

c. The roughness and runout of the test wheel. A test wheel shall not be used when surface roughness exceeds .000125 inch or runout exceeds .010 inch Total Indicated Runout (TIR).

## 3-7. LABORATORY OPERATING TEST PROCEDURE APPROVAL

**3-8.** Before starting the test program, the contractor shall provide a written operating test procedure which includes a step-by-step description of the test methodology used in the program. Where appropriate, the test procedure will include such items as check-off lists and individual worksheets for each testing phase. The operating test procedure will need the acceptance of the NHTSA Contract Technical Manager before testing commences.

## SECTION IV. TEST PROCEDURES

### 4-1. INTRODUCTION

**4-2.** This procedure serves as an operating supplement for testing to the Uniform Tire Quality Grading Requirements. Parameters are herein described for the following test categories.

(1) Tire Marking (Labeling)

(2) Temperature Resistance Grading

### 4-3. RECEIVING TEST SAMPLES

**4-4.** Each test tire will be received in such a manner as to avoid cuts, scuffs, tears, or any other deleterious condition that may affect the test validity. The receiving laboratory shall also audit the shipping documents to verify their correctness. Should any inconsistencies be noted, the CTM shall be contacted for disposition. Should improper shipping occur during non-working hours, then the laboratory shall accept the specimens and mark the document in such a manner that a claim can be made should the CTM deem it necessary.

NOTE

The NHTSA Contractor shall provide appropriate security measures to protect the NHTSA test tires from unauthorized personnel during the entire test program, as well as to protect and segregate the data that evolves from testing each tire.

### 4-5. GOOD HOUSEKEEPING

**4-6.** NHTSA Contractors will maintain the entire tire test area, test fixtures, and instrumentation in a neat, clean, and painted condition with test instruments set up in an orderly manner consistent with good test laboratory housekeeping practices.

### 4-7. TEST SET SIZE

**4-8.** The testing of one tire will constitute a complete test for the temperature resistance phase.

### 4-9. TEST RIMS

**4-10.** All physical dimensions of the test rim shall conform with published dimensions of a standard production rim commercially available. Tires tested in accordance with UTQG must be mounted on a rim with any configuration as shown appropriate for that tire size and designation in an associative table found in publications referenced in the standard, or alternatively in a publication issued by the tire manufacturer and distributed to dealers and to the public on request. In case of conflict, the latter type of publication would prevail over an associative table. Applicable publications are: The Tire and Rim Association, The European Tyre and Rim Technical Organization, Japanese Industrial Standards, Deutsche Industrie Norm, The Society of Motor Manufacturers and Traders, Ltd., British Standards Institution, and Scandinavian Tire and Rim Organization. Test conformance of each test rim will be verified by physical measurement and visual inspection. The physical measurements taken shall include diameter, width, radial runout, and lateral runout.

**4-11.** Diameter and width measurements shall be made in accordance with procedures defined in the current TRA Year Book. The diameter will be verified using a mandrel calibrated disk tape or equivalent. The width shall be

verified using a TRA Sliding Gage or equivalent. Tolerances as to diameter or width are as published in the current TRA Year Book for the particular rim involved. Lateral and radial runouts are to be measured in the bead seat areas. Tolerances on lateral and radial runout are .040" and .030" respectively. Prior to making measurements, the wheel shall be visually examined for paint runs or any other abnormalities that would cause errors in any reading. All abnormalities shall be removed by light filing, sanding, or by the use of steel wool.

**4-12.** The measurements shall be recorded and perpetual records shall be kept and made available to the CTM. The frequency of wheel measurements shall be initial measurement, measurement immediately following tire failure on that rim, and measurement at least every 25th mounting.

**4-13.** The test rims are to be identified by a laboratory assigned serial number which is compatible to the recording requirements as established by these procedures. The serially numbered rims are to be assigned specifically to each tire so that it can be documented that the tire was tested on a specific rim. Prior to mounting of the test tire on the test rim the wheel shall be visually checked for obvious deformation of the pilot hole, bolt holes, contours, safety locks, cracks, etc.

## 4-14. LABELING INSPECTION PROCEDURES

**4-15.** UTQG labeling compliance requirements are established by paragraph (d)(1) of UTQG 575.104. A labeling omission or error constitutes a failure. The following are compliance requirements:

(1) **Grading Symbol Inspection.** Each new tire shall be labeled to indicate UTQG grades as shown in Figure 2 except that paper labels are permissible for tires manufactured up to 6 months after the effective date of the regulation for each construction type. The individual grading symbols shall be as follows:

(a) Treadwear - A 2 or 3 digit number representing the percentage of the NHTSA nominal treadwear value.

(b) Traction - A, B, or C.

(c) Temperature Resistance - A, B, or C.

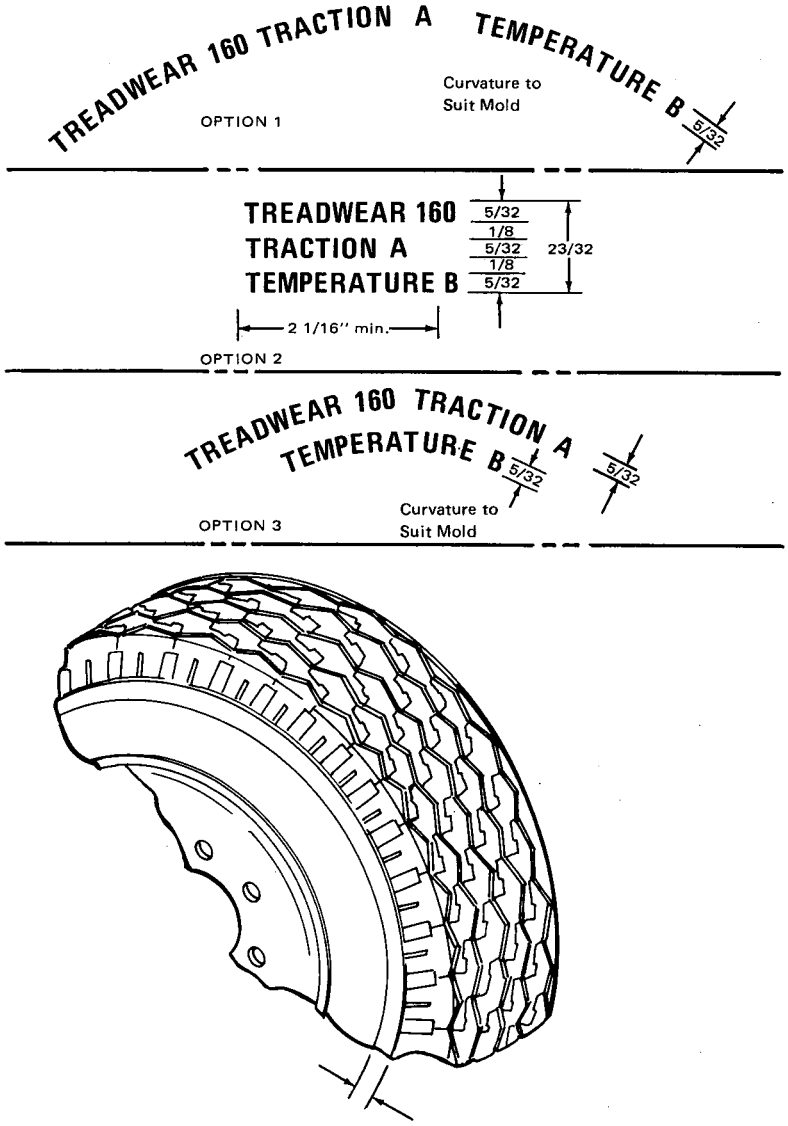
(2) **Grading Label Inspection.** In addition to the grading symbol requirements of Figure 2, each tire shall have affixed to its tread surface, in a manner such that it is not easily removable, a label containing its grades and other information in the form illustrated in Figure 3. The treadwear grade attributed to the tire shall be either imprinted or indelibly stamped on the label adjacent to the description of the treadwear grade. The label shall also depict all possible grades for traction and temperature resistance. The traction and temperature resistance performance grades attributed to the tire shall be indelibly circled.

## 4-16. IDENTIFICATION INFORMATION

**4-17.** The following information from the sidewall of the tire shall be recorded on the TTR. Omissions or errors do not constitute a failure in accordance with the UTQG requirements. However, any omissions or errors will be noted and the CTM informed within 24 hours. The labeling error or omission should be noted in the remarks column of the TTR.

(1) **Confirmation Symbol Inspection.** Each manufacturer of a new tire shall certify that his product complies with FMVSS-109, by labeling the tire with the symbol DOT.

(2) **Identification Number Inspection.** The laboratory will confirm that each tire has been labeled on at least one sidewall with the name of the manufacturer, or brand name and number assigned to the manufacturer.






LOCATE ALL REQUIRED LABELING IN LOWER SEGMENT OF ONE SIDEWALL BETWEEN MAXIMUM SECTION WIDTH AND THE SHOULDER.

NOTES:

1. Tire identification number shall be in Futura Bold, Modified, Condensed or Gothic characters permanently molded (0.020 to 0.040" deep, measured from the surface immediately surrounding characters) into or onto tire at indicated location on one side. (See note 3).

2. In some cases the labeling requirements of this section, may be met with the use of a sticky label attached to the tire.

3. Other print types will be permitted if approved by the Administration.

Figure 2. UTQG Labeling Requirements - Permanent.

(3) **Labeling Inspection.** Each tire shall have permanently molded into or onto both sidewalls, the following information:

(a) One size designation (equivalent inch and metric size designations may be used).

(b) Maximum permissible inflation pressure.

(c) Maximum load rating.

(d) Name of each cord material in the plies (both sidewall and tread area).

(e) Number of plies in sidewall, and tread area if different.

(f) The word 'tubeless' or 'tube type'.

(g) The word 'radial' if of radial construction.

The above information, on at least one sidewall, shall be positioned in an area between the maximum section width and bead of the tire.

ALL PASSENGER CAR TIRES MUST CONFORM TO FEDERAL SAFETY REQUIREMENTS IN ADDITION TO THESE GRADES

TREADWEAR

The treadwear grade is a comparative rating based on the wear rate of the tire when tested under controlled conditions on a specified government test course. For example, a tire graded 150 would wear one and a half (1 1/2) times as well on the government course as a tire graded 100. The relative performance of tires depends upon the actual conditions of their use, however, and may depart significantly from the norm due to variations in driving habits, service practices and differences in road characteristics and climate.

TRACTION A B C

The traction grades, from highest to lowest, are A, B and C, and they represent the tire's ability to stop on wet pavement as measured under controlled conditions on specified government test surfaces of asphalt and concrete. A tire marked C may have poor traction performance. **Warning:** The traction grade assigned to this tire is based on braking (straightahead) traction tests and does not include cornering (turning) traction.

TEMPERATURE A B C

The temperature grades are A (the highest), B, and C, representing the tire's resistance to the generation of heat and its ability to dissipate heat when tested under controlled conditions on a specified indoor laboratory test wheel. Sustained high temperature can cause the material of the tire to degenerate and reduce tire life, and excessive temperature can lead to sudden tire failure. The grade C corresponds to a level of performance which all passenger car tires must meet under the Federal Motor Vehicle Safety Standard No. 109. Grades B and A represent higher levels of performance on the laboratory test wheel than the minimum required by law. **Warning:** The temperature grade for this tire is established for a tire that is properly inflated and not overloaded. Excessive speed, underinflation, or excessive loading, either separately or in combination, can cause heat buildup and possible tire failure.

Figure 3. UTQG Labeling Requirements Label.

## 4-18. TIRE PRE-TEST INSPECTION

Prior to mounting the tires for any test phase, the laboratory shall conduct a detailed pre-test inspection. Special surveillance is required in looking for bead scuffs, radial or lateral mold flow cracks, splice breaks, wire breaks, cavities in bead covering, over-flow of rubber into mold vents which could prevent proper tire seating on the test rim. A visual inspection should also be made of the tire's sidewalls, treads, and innerliner for repair work or any abnormalities. All tire defects noted shall be brought to the attention of the CTM and recorded in the remarks section of the test report form. Tires with defects can only be tested when the laboratory receives approval by the CTM. This approval shall also be noted in the "remarks" section.

## 4-19. TIRE MOUNTING

The test tire shall be mounted on a serially numbered test rim. The rim shall be visually inspected for any apparent characteristics which may effect the test validity. This includes cracks or deformations of the bolt hole, hub, and flange. Those rims which may be in question are not to be saved for UTQG testing. The wheel must be free from any foreign substance, rust, oxidized rubber, or adhesives.

The tire shall be mounted so that the tire's serial number is to the inside of the rim. Mount the tire in such a manner that the beads do not bind against the rim ledge and bend improperly on the rim flange. Make certain that the valve core is inserted into the valve stem prior to inflation. Inflate the tire to two pounds per square inch less than its maximum permissible inflation pressure. Do not allow the air pressure to exceed the manufacturer's prescribed maximum inflation pressure. A thin solution of Bead Lubricant shall be applied to each bead to aid in the proper positioning and seating of the beads. If the beads have not seated by the time the pressure has reached maximum inflation, deflate the assembly, reposition the tire and reinflate. The pressure gauges shall be accurate with ± 1 PSI at the prescribed inflation pressure. After tire mounting, the information shall be recorded on the applicable test report form.

## 4-20. TEST PROCEDURES

**4-21. Test Conditioning.** The test assembly shall be conditioned at 95°F (+0 -10°) for a minimum of three (3) hours prior to dynamic loading. At the end of the conditioning phase, the PSI shall be verified and adjusted to the specified test inflation pressure. Record the beginning PSI, the ending PSI, and the adjusted PSI, from and to. If the loss of pressure exceeds 2 PSI determine the cause, and if loss is due to other than tire defects, correct if possible. Should this occur, a note that the tire was checked and found ok shall be put in the remark section of test report. If a remounting is necessary, recycle the tire through the conditioning phase, and record the data on the standard report format. If tire will not hold air because of leakage, CTM shall be contacted before continuing test. Press the tire against the 67.23 inch diameter roadwheel within 1/2 hour following the end of conditioning. The roadwheel must be at least as wide as the full loaded tread width of the tire being tested. Record the test start up time, machine and station number, and machine loading method.

**4-22. Recorded Parameters.** The laboratory must continuously record the following parameters by automatic recording and signal conditioning systems within prescribed operating tolerances.

| | | | |
|---|---|---|---|
| A | Tire Speed in RPM | +0 to -10 of required speed | |
| B | Ambient Tire Temperature in °F | 95° + 0° to -10° | |
| C | Tire Inflation Pressure in PSI | +2 to -0 | |
| D | Elapsed Running Time in hrs. and mins. (cycles) | | |
| | | 2 hrs. (break-in) | +3 to -0 min. |
| | | 2 hrs. (cooling) | +30 to -0 min. |
| | | 30 min. | +0 to -2 min. |
| E | Tire Load in Pounds | +0, -40 | |

**4-23. Failure Shut-Off.** The test machines will be equipped with automatic retraction devices to prohibit failed tires from continuing to run. Tires which have been run flat due to retract switch malfunction or unmanned surveillance cannot be considered failures since it is possible that the cause of the defect cannot be determined.

In any instance of automatic retraction, the tire need not be examined until the conclusion of the remainder of the testing on the machine scheduled run.

**CAUTION**

It is extremely important that the tire test machine is equipped with sensing devices which will automatically unload a test tire prior to a violent failure (tire explosion) (i.e., sensors to detect chunking, or tread separation).

In the event of a violent failure, it will be necessary to check the machine calibration parameters, to assure that all of the equipment is operating within the required parameters.

If the analysis of the tire shows any visual evidence of tread, sidewall, ply, cord, innerliner, or bead separation, chunking, broken cords, cracking, or open splices, then the tire shall be classified as a failed tire. If the tire does not show any of the above mentioned conditions, the test for this tire shall be aborted. In any case, the tire shall not be rerun on the test wheel to amplify the suspected defect.

**4-24. Test Duration.** Press the tire against the test wheel at the load specified in Appendix A of Motor Vehicle Safety Standard No. 109 for the tire's size designation and the inflation pressure that is 8 pounds per square inch less than the tire's maximum permissible inflation pressure and rotate the 67.23" wheel at 250 RPM for 2 hours break-in. Unload the tire from the roadwheel and allow the tire to cool in a static unloaded position. The tire shall be allowed to cool for a minimum of 2 hours. If the tire has not cooled to 95°F +0, -10°F at the end of 2 hours, continue the cooling until it does. When more than one tire is run, the shoulder temperature of the hottest tire will govern the end of the cooling cycle. The tire's temperature shall be determined by a probe type pyrometer being inserted 3/8 inch deep in the center of the first rib nearest the shoulder.

An arrow shall be drawn on the tire's sidewall pointing to the point of penetration with the letters PP. The 95°F (+0, -10°F) will be verified by three readings taken at three equally located positions around the circumference.

All parameters shall be automatically recorded during the cool down, then adjust tire pressure to the required test PSI.

**4-25.** At the end of the cool down, reapply and load against the standard roadwheel. Without interruption or readjustment of inflated pressure, rotate the test wheel at 375 RPM for 30 minutes, and then at successively higher rates in 25 RPM increments, each for 30 minutes, until the tire has completed the stage corresponding to its grade, or to failure, whichever occurs first. Maximum of 2 minutes is allowed between test cycles to change speed; to be counted as part of next higher cycle.

**4-26. Ambient Tire Test Temperature.** The ambient tire test temperature shall be maintained at 95°F (+0 -10°) and shall be monitored by a thermocouple or sensor capable of sensing the temperature within ± 1°F. The ambient tire test temperature is to be measured by the sensor located 12" from the edge of the rim flange at any point in the circumference on either side of the tire. The sensor shall be located in such a way as to prevent influence by walls, ceilings, floors, room ventilators, or air intakes or outlets. Due to the vast difference in heat generation characteristics that will be encountered when testing under this standard, special care must be taken to insure an envelope temperature within the limits prescribed by the standard. If external means of heating or cooling the tire are employed, they must be of such a nature as to give an even dispersion over both sides of the tire and must be restricted to a velocity lower than the tire velocity. The temperature shall be recorded on the test report at the start and finish of each load step mode cycle.

**4-27. Test Completion.** At completion of the test, all tires will be allowed to cool for a minimum of 1 hour before a technician is allowed to dismount and inspect. Likewise, should a tire be terminated during any mode for any reason, the laboratory shall wait a minimum of 1 hour prior to inspection. The tire shall be deflated prior to removing from the machine.

**4-28. Tire Analysis.** A tire is considered to have successfully completed a test stage if, at the end of the test stage, it exhibits no visual evidence of tread, sidewall, ply, cord, innerliner or bead separation, chunking, broken cords, cracking or open splices as defined in section 571.109 of the Federal Motor Vehicle Safety Standards (FMVSS), and the tire pressure is not less than the tire's maximum permissible inflation pressure (MAX PSI) minus two pounds per square inch (PSI).

Any unusual conditions or defects found shall be marked on the tire and recorded on the test report form. In the event of a failure because of air loss the laboratory shall immediately double check all lines between the tire and measuring device to insure that the cause of the air loss was a failure of the tire and not due to problems with valves, lines, fittings or measuring devices. The rim shall also be inspected before and after the tire is dismounted.

A defective rim or test equipment shall be the basis for voiding the test. A complete rerun with a new tire using nondefective equipment shall be made at the laboratory's expense.

## 4-29. TIRE FAILURE DETERMINATION

The tire shall be considered failed if it is graded B and fails to complete the 500 RPM test stage.

The tire shall be considered failed if it is graded A and fails to complete the 575 RPM test stage.

# SECTION V. REPORT PROCEDURES

## 5-1. GENERAL

**5-2.** Data reporting begins when the tire log-in form is filled out and continues throughout the testing procedures. Three main reporting documents are used: TWX Log-in, (covered in Section II), Initial Report of Tire Test Failure and Tire Test Report. The last two are covered in detail in this section.

## 5-3. FAILED TIRE PROCEDURES

**5-4.** In the event of the failure of any tire, the Office of Vehicle Safety Compliance shall be notified immediately by telephone and provide the information outlined on the Office of Vehicle Safety Compliance Initial Report of Tire Test Failure for UTQG (see Figure 4). Should a failure occur during OVSC non-working hours, notification will be made during the following working day. Labeling failures shall be reported after all other tests are completed and the final report is assembled. A failed tire or suspect tire shall not be disposed of until directed by the CTM.

## 5-5. TEST REPORT SUBMISSION

**5-6.** Upon completion of all test categories, the test data shall be used to assemble a complete test report. Scheduling should be in a coordinated manner to complete the report and be submitted to the OVSC-CC within ten working days from test start-up date. If the test report includes a tire which has failed, one copy of the continuous recordings shall be mailed directly to the OVSC on the same date as the test report is mailed to the validating agency. The original data shall remain at the testing laboratory for a minimum of five years.

## 5-7. PASSED TIRE PROCEDURE

**5-8.** Passed tire reports will not require submission of recorded data, but such data will be maintained at the laboratory at least until the original test report is returned indicating validation and acceptance of the test report. Computer rejected test reports will be returned to the Office of Vehicle Safety Compliance, CTM by the OVSC-CC for resolution with copies of the rejection notice. After acceptance of the test reports by the CTM, the laboratory shall be responsible for cutting beads in such a manner as to make the tire unserviceable and irrepairable. The laboratory shall not dispose of the test tire without authorization of the CTM. The laboratory shall ensure that none of these tires, prior to testing or the test reports, become available to unauthorized individuals. Should there be any conflict in the interpretation of the test procedures prescribed herein, they must be brought to the attention of the CTM prior to conducting the test for discussion and resolution.

## 5-9. TEST REPORT FORM

**5-10.** The Tire Test Report (TTR) will be the official record of test results for each tire tested. The TTR consists of two pages for reporting results of each test and recording labeling compliance results. These forms must be filled in using a black ink pen. TTR pages are identified as follows (see Figures 5 and 6):

Page 1 UTQG Labeling Test and Summary

Page 2 Temperature Resistance Test

OFFICE OF VEHICLE SAFETY COMPLIANCE

INITIAL REPORT OF TIRE TEST FAILURE

UTQG

CIR No. _____ FY _____ Program P.C. No. _____

M.P.L. _____ Test No. _____

Date of Report _____ Test Date _____ Laboratory _____

MFR _____ Brand _____

Tire Line _____ DOT Number _____

Tire I.D. No. _____ Size: _____ Type: TL _____ TT _____

Ply Rating _____ Sidewall: BW _____ WW _____ Construction _____

Cord Material: Casing _____ Belt _____ Actual Plies: SW _____ T _____

Max. Infl. Press. _____ Max. Load Rating _____ Test Rim: Size _____ No. _____

Treadwear Grade _____ Traction Grade _____ High Temp. Grade _____

Test Phases: Labeling _____ Temperature Resistance _____

---

Failure Ratio: Lab No. 1. _____ 2. _____ 3. _____ Total _____

Time to Failure: _____

Description of Failure: _____

_____

_____

_____

Received From _____ Received By _____

MANUFACTURER NOTIFICATION RECORD

Individual Notified: _____ Telephone No. _____

Date Contracted: _____ Time _____ Called By _____

OVSC Action Required: _____

_____

Figure 4. OVSC Initial Report of Tire Test Failure.

TEST LAB: TEMPERATURE RESISTANCE TIRE TEST REPORT - SUMMARY, LABELING TEST TEST NO.:

TIRE IDENTIFICATION: MANUFACTURER:_____ BRAND:_____ TIRE NAME: _____- MPL NO.: 001

SIZE: _____ MATERIAL: C_____B_____ PLY RATING_____ ACTUAL PLIES: SW ____/T____

TYPE CONSTRUCTION:_____(STREET)(TT/TL)(WW/HW) MAX. INFL. PRESS.:_____ MAX LOAD RATING: _____

DOT NUMBER: _____ TREADWEAR INDICATOR: _____ TEMPERATURE GRADE: A B C (CIRCLE 1)

| | TEST RESULTS (P/F)* | REMARKS: |
|---|---|---|
| LABELING | _____ | _____ |
| TEMP RESISTANCE | _____ | _____ |

LABELING REQUIREMENTS

TESTED TO NHTSA TEST PROCEDURE REVISED ___/___/___

TRACTION GRADE *NOTE 1 _____

TREADWEAR GRADE *NOTE 1 _____

TEMP TEST, GRADE *NOTE 1 _____

GRADING EXPLANATION LABEL(Y/N)*_____

NOTE 1. METHOD UTILIZED FOR UTOG LABELING PRESENTATION

1 ☐ MOLDED INTO OR ONTO THE TIRE SIDEWALL

2 ☐ PRINTED ONTO A STICKY LABEL AND ATTACHED TO THE TIRE

LABORATORY APPROVAL: _____
(SIGNATURE AND TITLE)

___/___/___

NHTSA ACCEPTANCE: _____ ___/___/___
SIGNATURE DATE

Figure 5. Tire Test Report - Summary.

TEST LAB: DAYTON T. BROWN INC. TEMPERATURE RESISTANCE -TIRE TEST REPORT TEST NO.: C9H001X

ID: MANUFACTURER: GOODYEAR /MP BRAND: GOODYEAR SIZE: G7815 PLIES (S,T): 2, 4 PLY RATING: 4

MATERIAL: PLYEST/FGLASS CONSTR: BEL-BIAS/TUBELESS/WW MAX INFL PRESS: 32 MAX LOAD: 1620 SER. NO.: BEVVDD2250 GRADE: 080AB

TEMP RESISTANCE TEST: PRE TEST DEFECTS NOTED: (Y/N)____ RIM CONDITION SATISFACTORY: (Y/N) ____

TEST RIM WIDTH: 5.5JJ RIM WIDTH USED: ____ RIM NO.: _____ SPECIFIED INFL. PRESSURE: 30

3 HRS. CONDITIONING: START: DATE: ___/___/___ TIME:_____ PSI: ____ TEMP.:____

95°F+0, -10°F END: DATE: ___/___/___ TIME:_____ PSI: ____ TEMP.:____ TOTAL HOURS:_____

INFL. PRESS ADJUSTED FROM ___ PSI TO ___ PSI, WHEEL POSITION: ____ MACHINE NO.: ___ MACHINE TYPE: ____

| | BREAK-IN 250 RPM | COOLING 0 RPM | CYCLE 1 375 RPM | CYCLE 2 400 RPM | CYCLE 3 425 RPM | CYCLE 4 450 RPM | CYCLE 5 475 RPM | CYCLE 6 500 RPM | CYCLE 7 525 RPM | CYCLE 8 550 RPM | CYCLE 9 575 RPM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE ___/___/___ TIME START/END | ___/___ | ___/___ | ___/___ | ___/___ | ___/___ | ___/___ | ___/___ | ___/___ | ___/___ | ___/___ | ___/___ |
| REQUIRED LOAD,LBS. | 1380 | | 1380 | 1380 | 1380 | 1380 | 1380 | 1380 | 1380 | 1380 | 1380 |
| TARE LOAD LBS. | ____ | | ____ | ____ | ____ | ____ | ____ | ____ | ____ | ____ | ____ |
| LOAD ARM RATIO | ____ | | ____ | ____ | ____ | ____ | ____ | ____ | ____ | ____ | ____ |
| DEAD WEIGHT,LBS. | ____ | | ____ | ____ | ____ | ____ | ____ | ____ | ____ | ____ | ____ |
| DEAD WEIGHT LOAD (LBS./PSIG) | ____ | | ____ | ____ | ____ | ____ | ____ | ____ | ____ | ____ | ____ |
| TOTAL LOAD,LBS. | ____ | | ____ | ____ | ____ | ____ | ____ | ____ | ____ | ____ | ____ |
| TEST SPEED, RPM | ____ | | ____ | ____ | ____ | ____ | ____ | ____ | ____ | ____ | ____ |
| TEST AREA TEMP START/END | ___/___ | ___/___ | ___/___ | ___/___ | ___/___ | ___/___ | ___/___ | ___/___ | ___/___ | ___/___ | ___/___ |
| PSI END OF PERIOD | ____ | ____ | ____ | ____ | ____ | ____ | ____ | ____ | ____ | ____ | ____ |
| TIRE TEMP END OF COOLING PERIOD | ____ | ____ | ____ | | | | | | | | |

TEST RESULTS: PASSED/FAILED

REMARKS:_____

TEST PERFORMED BY: _____ DATE _____ LABORATORY APPROVAL: _____ DATE _____

SIGNATURE, TITLE

Figure 6. Tire Test Report - Temperature Resistance.

## 5-11. TEST REPORTING PROCEDURES

## 5-12. COMPLETION OF LABELING

**5-13.** The lower portion of the first page titled "Summary, Labeling Test" is the part of the TTR used to record labeling compliance. The entries line for line are:

**Traction Grade:** Enter the grade letter that appears on the sidewall and/or paper label.

**Treadwear Grade:** Enter the treadwear number that appears on the sidewall and/or paper label.

**Temperature Resistance Grade:** Enter the temperature resistance letter that appears on the sidewall and/or paper label.

**Grading Explanation Label:** Enter "Y" if the label is attached onto the tire and "N" if it is not.

**Note 1:** Check the appropriate box to indicate the method utilized for the tire grading presentation.

## 5-14. COMPLETION OF TEMPERATURE RESISTANCE SECTION OF TTR

**5-15.** The entries on the page of the TTR titled Temperature Resistance shall be as follows:

**Temperature Resistance Test:**

Pretest Defects Noted: Enter "Y" for Yes or "N" for No

Rim Condition Satisfactory: Enter "Y" for Yes or "N" for No

Rim Size Used: Enter size of rim used

Rim No.: Enter Laboratory Assigned Serial Number

3 Hrs. Conditioning: Start - Enter Date, Time, PSI, Temperature (°F)
End - Enter Date, Time, PSI, Temperature (°F)
Total - Enter Total Conditioning Time

Inflation Pressure Adjusted: Enter from (PSI) to (PSI)

Wheel Position: Enter number of position on test machine

Machine Number and Type: Enter number and type of machine used in test

Date/Time Start/End: Enter date and times as appropriate

*Tare Load, Lbs.: Enter for each period and HS cycle

*Load Arm Ratio: Enter period and cycle

*Dead Weight, Lbs.: Enter each period and cycle

*Dead Weight Load: Enter each period and cycle

Total Load, Lbs.: Enter each period and cycle

Test Speed (RPM): Enter each period and cycle

Test Area Temp Start/End: Enter Start and End of each period and cycle

PSI End of Period: Enter for each period and cycle

Tire Temp End of Cooling Period Temperature (°F)

Remarks: Enter clarifying and explanatory remarks pertinent to test

*These entries are not made for hydraulically or pneumatically equipped laboratories.

Test Results: Cross out "Passed" or "Failed" as appropriate

Test Performed By: Initials of Technician performing test

Date: Date test completed. Entered by Technician

Laboratory Approval: Signature and Title of Laboratory Official responsible to OSE for tests

Date: Date of test results approval. Entered by above official

## 5-16. COMPLETION OF SUMMARY SECTION OF TTR

**5-17.** The upper portion of the first page titled "Summary, Labeling Test" is the part of the TTR used to record the Summary of the Labeling and Temperature Resistance Test. The entries line for line are:

**Summary, Tire Identification:**

Manufacturer: List the name of the manufacturer converted from ID Number only

Brand: Brand name molded into/onto the tire

Name: Tire name (name assigned by the original tire manufacturer) molded into/onto the tire

Size: Tire size molded into/onto the tire

Material: Name type of carcass and belt material used in original tire construction

Ply Rating: Ply rating molded into/onto the tire

Actual Plies: Record actual number of plies in the sidewall and tread as shown on the tire sidewall

Type Construction: Enter word, Bias, Belted Bias, Radial plus whether tire is Street or Deep Tread (Mud & Snow), Tube Type or Tubeless, Whitewall or Blackwall

Max. Infl. Press.: Maximum permissible inflation pressure molded into/onto the tire

Max. Load Rating: Maximum load rating molded into/onto the tire

Temperature Resistance Grade: Tire grade as marked on tire or tire label

Labeling: Indicate if the required labeling (* items on TTR only) passed (P) or failed (F)

Temp. Resistance: Indicate passed (P) or failed (F) if the tire achieved or exceeded its labeled temp test grade

Tire DOT Number: Record tire DOT number

Treadwear Indicator: Indicate Y/N

Remarks: Enter remarks pertinent to tire labeling or to test results

Test Procedure Date: Date of most current DOT test procedure

Laboratory Approval: Signature and title of laboratory official responsible to OSE for tests

Date: Entered by above official

## 5-18. WEEKLY TEST PROGRAM STATUS REPORT

**5-19.** Each testing laboratory shall, on the first working day of each week while testing is in progress, contact its respective monitor via telephone to provide current program testing status. This is to include test components available, tests started and tests completed.

# GLOSSARY OF TERMS

| | |
|---|---|
| **Accepted Report** | A tire test report, validated by the Tire Test Data Management System that has been certified as meeting NHTSA acceptance criteria and which is signed by the CTM or his representative. |
| **Alpha Character** | A single alphabetical character from A to Z. |
| **Certified Report** | A computer validated test, stamped and signed by the cognizant validating official. |
| **Contract Technical Manager (CTM)** | The designated OVSC Official who is responsible for assuring laboratory compliance with contractual obligations. |
| **DOT** | Department of Transportation. |
| **Fields** | Any group of letters and numbers that have significance or meaning. |
| **FMVSS** | Federal Motor Vehicle Safety Standard. |
| **GFE** | Government Furnished Equipment. |
| **Group** | Sets of eight characters and/or numbers separated by periods in the Log-in TWX. A group may consist of one field, several fields or a part of a field. |
| **Log-in** | Teletype (TWX) or mailed message from a testing laboratory to the computer center containing the characteristics and identification information of tires received by the testing laboratory for test purposes. |
| **MPL** | Manufacturers Product Line. |
| **NHTSA/OVSC** | National Highway Traffic Safety Administration/Office of Vehicle Safety Compliance. |
| **Off Line** | In reference to teletypewriter operation; used for typing or perforating a tape locally. No transmission takes place. Perforated tape can be fed back through the machine and printed out to check for errors without transmitting the message. |
| **OVSC** | Office of Vehicle Safety Compliance |
| **OVSC-CC** | Office of Vehicle Safety Compliance Computer Center. |
| **Paper Tape** | Teletype (TWX) message tape. |
| **PCS** | The mechanized Program Control System developed for the validation, storage, and reporting of Tire Compliance Testing in accordance with FMVSS-119. |
| **Ply** | A layer of rubber-coated parallel cords. |
| **Responsive Test** | A special test initiated by a complaint, failed standard test or at the discretion of the OVSC. |
| **Test Rim** | With reference to a tire being tested, any rim that is listed as appropriate for use with that tire in accordance with paragraph S4.4 of FMVSS 109. |

| | |
|---|---|
| **Test Specimen** | A tire provided by OVSC for the purpose of compliance testing. |
| **TRA** | Tire and Rim Association |
| **TTR** | Tire Test Report. Preprinted report form mailed to the test laboratory for recording test results. |
| **TWX** | Teletypewriter Exchange Service (TWX) using teletypewriters equipped for automatic tape transmission. All 100 speed teletypewriters have four row electric keyboards similar to electric office typewriters. The equipment operates on the American Standard Code for information exchange (ASCII). This enables interconnection with other business machines and computers either directly or by a tape relay. |
| **UTQG** | Uniform Tire Quality Grading. |