

TP-120-03
April 10, 2000

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

LABORATORY TEST PROCEDURE

FOR

FMVSS 120

Tire Selection and Rims
for Motor Vehicles Other Than Passenger Cars



SAFETY ASSURANCE
Office of Vehicle Safety Compliance
Room 6111 (NSA-30)
400 Seventh Street, SW
Washington, DC 20590

OVSC LABORATORY TEST PROCEDURE NO. 120
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**REVISION CONTROL LOG
FOR OVSC LABORATORY
TEST PROCEDURES**

**TP-120
Tire Selection and Rims
for Motor Vehicles Other Than Passenger Cars**

TEST PROCEDURE		FMVSS 120		DESCRIPTION
REV. No.	DATE	AMENDMENT	EFFECTIVE DATE	
01	12/21/88	-----	-----	Complete rewrite.
02	1/25/95	-----	-----	Minor revisions.
03	4/10/00	60FR13644 3/14/95	3/14/96	Metric conversion.
		61FR29495 6/11/96	7/11/96	Administrative changes. Deleted reference to obsolete paragraphs and manufacturing dates.
		63FR28922 5/27/98	5/27/03	Revised truck label sample to reflect block letter abbreviations for English and metric units.
		NA	NA	Major editorial revisions.
04				
05				
06				
07				
08				
09				

1. PURPOSE AND APPLICATION

The Office of Vehicle Safety Compliance (OVSC) provides contractor laboratories with Laboratory Test Procedures as guidelines for obtaining compliance test data. The data are used to determine if a specific vehicle or item of motor vehicle equipment meets the minimum performance requirements of the subject Federal Motor Vehicle Safety Standard (FMVSS). The purpose of the OVSC Laboratory Test Procedures is to present a uniform testing and data recording format, and provide suggestions for the use of specific equipment and procedures. If any contractor views any part of an OVSC Laboratory Test Procedure to be in conflict with a Federal Motor Vehicle Safety Standard (FMVSS) or observes deficiencies in a Laboratory Test Procedure, the contractor is required to advise the Contracting Officer's Technical Representative (COTR) and resolve the discrepancy prior to the start of compliance testing.

Every contractor is required to submit a detailed test procedure to the COTR before initiating the compliance test program. The procedure must include a step-by-step description of the methodology to be used. The contractor's test procedure shall contain a complete listing of test equipment with make and model number and a detailed check-off sheet. The list of test equipment shall include instrument accuracy and calibration dates. All equipment shall be calibrated in accordance with the manufacturer's instructions. There shall be no contradictions between the Laboratory Test Procedure and the contractor's in-house test procedure. Written approval of the in-house test procedures shall be obtained from the COTR before initiating the compliance test program. The OVSC Laboratory Test Procedures are not intended to limit or restrain a contractor from developing or utilizing any testing techniques or equipment which will assist in procuring the required compliance test data. These Laboratory Test Procedures do not constitute an endorsement or recommendation for use of any product or method. However, the application of any such testing technique or equipment is subject to prior approval of the COTR.

NOTE: The OVSC Laboratory Test Procedures, prepared for the limited purpose of use by independent laboratories under contract to conduct compliance tests for the OVSC, are not rules, regulations or NHTSA interpretations regarding the meaning of a FMVSS. The Laboratory Test Procedures are not intended to limit the requirements of the applicable FMVSS(s). In some cases, the OVSC Laboratory Test Procedures do not include all of the various FMVSS minimum performance requirements.

1. PURPOSE AND APPLICATION....Continued

Recognizing applicable test tolerances, the Laboratory Test Procedures may specify test conditions that are less severe than the minimum requirements of the standard. In addition, the Laboratory Test Procedures may be modified by the OVSC at any time without notice, and the COTR may direct or authorize contractors to deviate from these procedures, as long as the tests are performed in a manner consistent with the standard itself and within the scope of the contract. Laboratory Test Procedures may not be relied upon to create any right or benefit in any person. Therefore, compliance of a vehicle or item of motor vehicle equipment is not necessarily guaranteed if the manufacturer limits its certification tests to those described in the OVSC Laboratory Test Procedures.

2. GENERAL REQUIREMENTS

FMVSS 120 provides for safe operational performance for vehicles other than passenger cars by ensuring that those vehicles are equipped with tires of adequate size and load rating and with rims of appropriate size and type designation. FMVSS 120 specifies tire and rim selection requirements, rim marking requirements, and tire and rim labeling requirements for multipurpose passenger vehicles, trucks, buses, trailers, and motorcycles.

This Laboratory Test Procedure is not intended for use in testing a trailer or a motorcycle. It does not apply to a vehicle which has a speed attainable in 3.2 kilometers of 80 kilometers per hour or less, or is equipped with retreaded tires, used tires, or a non-pneumatic spare tire.

TEST DATA LOSS

A compliance test is not to be conducted unless all of the various test conditions specified in the applicable OVSC Laboratory Test Procedure have been met. Failure of a contractor to obtain the required test data and to maintain acceptable limits on test parameters in the manner outlined in the applicable OVSC Laboratory Test Procedure may require a retest at the expense of the contractor. The retest costs will include the cost of leasing a replacement vehicle and all costs associated with conducting the retest. The original test specimen (vehicle or equipment item) used for the invalid test shall remain the property of OVSC, and the retest specimen shall remain the property of the contractor. If there is a test failure, the contractor shall retain the retest specimen for a period not exceeding 180 days. If there is no test failure, the contractor may dispose of the test specimen upon notification from the COTR that the final test report has been accepted.

2. GENERAL REQUIREMENTS....Continued

The Contracting Officer of NHTSA is the only NHTSA official authorized to notify the contractor that a retest is required. The retest shall be completed within two (2) weeks after receipt of notification by the Contracting Officer that a retest is required. If a retest is conducted, no test report is required for the original test.

3. SECURITY

The contractor shall provide appropriate security measures to protect the OVSC test samples from unauthorized personnel during the entire compliance testing program. The contractor is financially responsible for any acts of theft and/or vandalism which occur during the storage of test samples. Any security problems which arise shall be reported by telephone to the Industrial Property Manager (IPM), Office of Contracts and Procurement, within two working days after the incident. A letter containing specific details of the security problem will be sent to the IPM (with copy to the COTR) within 48 hours. The contractor shall protect and segregate the data that evolves from compliance testing before and after each test. No information concerning the compliance testing program shall be released to anyone except the COTR, unless specifically authorized by the COTR or the COTR's Branch or Division Chief.

NOTE: NO INDIVIDUALS, OTHER THAN CONTRACTOR PERSONNEL DIRECTLY INVOLVED IN THE COMPLIANCE TESTING PROGRAM, SHALL BE ALLOWED TO WITNESS ANY COMPLIANCE TEST UNLESS SPECIFICALLY AUTHORIZED BY THE COTR.

4. GOOD HOUSEKEEPING

Contractors shall maintain the entire vehicle compliance testing area, dummy calibration laboratory (if applicable), test fixtures and instrumentation in a neat, clean and painted condition with test instruments arranged in an orderly manner consistent with good test laboratory housekeeping practices.

5. TEST SCHEDULING AND MONITORING

The contractor shall submit a test schedule to the COTR prior to testing. Tests shall be completed as required in the contract. Scheduling shall be adjusted to permit sample motor vehicles to be tested to other FMVSS as may be required by the OVSC. All testing shall be coordinated to allow monitoring by the COTR.

6. TEST DATA DISPOSITION

The contractor shall make all vehicle preliminary compliance test data available to the COTR on location within four hours after the test. Final test data, including digital printouts and computer generated plots (if applicable), shall be furnished to the COTR within five working days. Additionally, the contractor shall analyze the preliminary test results as directed by the COTR. All backup data sheets, strip charts, recordings, plots, technicians notes, etc., shall be either sent to the COTR or destroyed at the conclusion of each delivery order, purchase order, etc.

7. GOVERNMENT FURNISHED PROPERTY (GFP)

ACCEPTANCE OF TEST VEHICLES

The Contractor has the responsibility of accepting test vehicles from either new car dealers or vehicle transporters. In both instances, the contractor acts in the OVSC's behalf when signing an acceptance of test vehicles. If the vehicle is delivered by a dealer, the contractor must check to verify the following:

- A. All options listed on the "window sticker" are present on the test vehicle.
- B. Tires and wheel rims are the same as listed.
- C. There are no dents or other interior or exterior flaws.
- D. The vehicle has been properly prepared and is in running condition.
- E. Owner's manual, warranty document, consumer information, and extra set of keys are present.
- F. Proper fuel filler cap is supplied on the test vehicle.

If the test vehicle is delivered by a government contracted transporter, the contractor should check for damage which may have occurred during transit.

A "Vehicle Condition" form will be supplied to the contractor by the COTR when the test vehicle is transferred from the new car dealer or between test contracts. The upper half of the form describes the vehicle in detail, and the lower half provides space for a detailed description of the post-test condition. Vehicle Condition forms must be returned to the COTR with the copies of the Final Test Report or the reports will NOT be accepted.

7. GOVERNMENT FURNISHED PROPERTY (GFP)...Continued

NOTIFICATION OF COTR

The COTR must be notified within 24 hours after a vehicle has been delivered.

8. CALIBRATION OF TEST INSTRUMENTS

Before the contractor initiates the safety compliance test program, a test instrumentation calibration system shall be implemented and maintained in accordance with established calibration practices. The calibration system shall be set up and maintained as follows:

- A. Standards for calibrating the measuring and test equipment will be stored and used under appropriate environmental conditions to assure their accuracy and stability.
- B. All measuring instruments and standards shall be calibrated by the contractor, or a commercial facility, against a higher order standard at periodic intervals NOT TO EXCEED TWELVE (12) MONTHS! Records, showing the calibration traceability to the National Institute of Standards and Technology (NIST), shall be maintained for all measuring and test equipment.
- C. All measuring and test equipment and measuring standards will be labeled with the following information:
 - (1) Date of calibration
 - (2) Date of next scheduled calibration
 - (3) Name of the technician who calibrated the equipment
- D. A written calibration procedure shall be provided by the contractor which includes as a minimum the following information for all measurement and test equipment:
 - (1) Type of equipment, manufacturer, model number, etc.
 - (2) Measurement range
 - (3) Accuracy

8. CALIBRATION OF TEST INSTRUMENTS....Continued

- (4) Calibration interval
 - (5) Type of standard used to calibrate the equipment (calibration traceability of the standard must be evident)
- E. Records of calibration for all test instrumentation 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 requested by the COTR. The calibration system will need the acceptance of the COTR before the test program commences.

Further guidance is provided in the International Standard ISO 10012-1, "Quality Assurance Requirements for Measuring Equipment" and American National Standard ANSI/NCSL Z540-1, "Calibration Laboratories and Measuring and Test Equipment – General Requirements".

9. PHOTOGRAPHIC DOCUMENTATION

Photographs shall be 8 x 10 inches, and legible. A tag, label or placard identifying the test vehicle make, model, date and NHTSA number shall appear in each photograph. Each photograph shall be labeled as to subject matter. As a minimum the following photographs shall be included as applicable.

- A. 3/4 Frontal view of left side of vehicle
- B. 3/4 Rear view of right side of vehicle
- C. Closeup view of vehicle's certification label
- D. Closeup view of vehicle's tire information label or placard
- E. Closeup view of tire showing make, model, size, serial number, load ratings and maximum cold inflation pressure (markings should be highlighted, i.e. chalk, white paint, etc.)
- F. Closeup view of rim markings (markings should be highlighted, i.e. chalk, white paint, etc.)
- G. Closeup view of vehicle/axle/wheel weight scales
- H. Closeup view of simulated occupant loading

9. PHOTOGRAPHIC DOCUMENTATION....Continued

- i. Closeup view of simulated cargo loading
- J. Optional and/or noteworthy equipment
- K. Closeup view of any apparent test failure

10. DEFINITIONS**GVWR**

The Gross Vehicle Weight Rating (GVWR) means the value specified by the manufacturer as the loaded weight of a single vehicle.

GAWR

The Gross Axle Weight Rating (GAWR) means the value specified by the vehicle manufacturer as the load-carrying capacity of a single axle system, as measured at the tire-ground interfaces.

UVW

The Unloaded Vehicle Weight (UVW) is the weight of a vehicle with maximum capacity of all fluids necessary for vehicle operation, but without cargo, occupants, or accessories that are ordinarily removed from the vehicle when they are not in use.

DOT SERIAL NUMBER

Serial number appearing on the sidewall of the tire near the rim required by FMVSS 109 or 119 which identifies the tire manufacturing plant, the tire size and type, and the week of manufacture.

EXAMPLE: DOT MAL9 ABC032.

DOT SYMBOL

The letters "DOT" are part of the DOT serial number. This is the manufacturer's certification that the tire or rim meets or exceeds the requirements of FMVSS 109 or 119, and 120.

10. DEFINITIONS....Continued**RIM SIZE DESIGNATION**

Rim diameter and width.

RIM DIAMETER

Nominal diameter of the bead seat.

RIM WIDTH

Nominal distance between rim flanges.

RIM TYPE DESIGNATION

The industry or manufacturer's designation for a rim by style or code.

WEATHER SIDE

The surface area of the rim not covered by the inflated tire.

11. PRETEST REQUIREMENTS

Prior to conducting a compliance test, the contractor shall:

- A. Verify COTR approval of contractor's in-house Test Procedure.
- B. Verify the training of technicians for performance of this test.
- C. Verify current calibration status of test platform scales. Provide a copy of the calibration certification data as part of section 4 (Test Equipment List and Calibration Information) in the final test report. Certification data shall indicate scale error over the range of measured loads.
- D. Review applicable revision of FMVSS 120.
- E. Review Owner's Manual.
- F. Verify tire inflation pressure per vehicle manufacturer's recommendations.
- G. Verify maximum capacity of all fluids necessary for vehicle operation.

11. PRETEST REQUIREMENTS....Continued

PERMANENT RECORDING OF DATA

Where permanent trace recording is not required, data shall be recorded on standard report forms. Changes or corrections shall be made by drawing a line through the original entry, which must still remain legible, adding the change above or alongside, and initialed.

SUGGESTED TEST EQUIPMENT

Platform scale(s) to measure individual wheel, axle and vehicle loads. Platform scale(s) shall have accuracy of $\pm 1\%$ of the measured reading and a maximum graduation of 1 kg. Scale(s) must allow for individual wheel measurements to be taken while maintaining all tire/ground interfaces on a common horizontal plane.

METRIC UNITS

As a general rule, use of the metric system of weights and measures is preferred. Performance parameters and test conditions in FMVSS 120 are now specified in metric units. In this Laboratory Test Procedure metric values are followed by English units only for reference (not necessarily equal). If test equipment is not available for direct measurement in metric units, the test laboratory shall calculate the exact metric equivalent by means of a conversion factor carried out to at least five significant digits before rounding consistent with the specified metric requirement. Metric units shall be used in the Final Test Reports.

12. COMPLIANCE TEST EXECUTION

12.1 TIRE AND RIM SELECTION REQUIREMENTS (S5.1)

Vehicles must be equipped with tires that meet the requirements of FMVSS 109 or 119 and be equipped with rims that are listed by the manufacturer of the tires as suitable for use with those tires.

The sum of the maximum load ratings of tires fitted to an axle shall be not less than the gross axle weight rating (GAWR) of the axle system as specified on the vehicle's certification label. If the certification label shows more than one GAWR for the axle system, the sum shall be not less than the GAWR corresponding to the size designation of the tires fitted to the axle. If the size designation of the tires fitted to the axle does not appear on the certification label, the sum shall not be less than the lowest GAWR appearing on the label. If a passenger car tire is used, its load rating must be reduced by dividing by 1.1 before calculating the sum.

12.2 RIM MARKING REQUIREMENTS (S5.2)

Rims must be marked with the following information in lettering not less than 3 millimeters in height, and impressed or embossed to a depth or height of not less than 0.125 millimeters. Items A through C must appear on the weather side of the rim.

- A. A designation which indicates the source of rims's published nominal dimensions, as follows:

- T - The Tire and Rim Association
- E - The European Tyre and Rim Technical Organisation
- J - Japan Automobile Tire Manufacturers Association, Inc.
- D - Deutche Industrie Norm
- B - British Standards Institution
- S - Scandinavian Tire and Rim Organization
- A - The Tyre and Rim Association of Australia
- N - Independent listed with NHTSA

- B. Rim Size Designation.

EXAMPLE: 20 x 5.50 or 20 x 5.5

12. COMPLIANCE TEST EXECUTION....Continued

- C. The Symbol DOT. Manufacturer's certification that rim complies with all applicable FMVSS.
- D. Manufacturer's Name, Trademark, or Symbol.
- E. The month, day, and year **or** the month and year of manufacture, expressed either numerically or by use of a symbol.

EXAMPLE:

January 4, 1999 may be expressed as any of the following:

MO.-DAY-YEAR:	10499 (or)	104	(or)	99	
				99	104
MO.-YEAR:	199	(or)	1	(or)	99
			99		1

Any manufacturer that elects to express the date of manufacture by means of a symbol shall notify NHTSA in writing.

12.3 TIRE & RIM INSPECTION PROCEDURE

Inspect all tires and rims on the vehicle including the spare. If they are the same, record the information for the right front tire and rim on Data Sheet 1. If there are different size tires or rims on the vehicle identify each wheel/rim location and add columns to Data Sheet 1 or complete a separate Data Sheet 1 page for each.

Remove the right front wheel, and each different wheel/rim combination, from the vehicle and record the following information from each tire.

- A. Manufacturer
- B. Brand
- C. Tire Size
- D. Maximum Tire Load Rating (if load rating for dual tire installation is given, record both)
- E. Maximum Inflation Pressure

12. COMPLIANCE TEST EXECUTION...Continued

F. DOT Serial Number

Record the GAWR for each axle from the vehicle's certification label. Multiply the number of tires on the axle times the maximum load rating found on the tire. If the vehicle is equipped with passenger car tires, the maximum load must be reduced by dividing by 1.1. If the vehicle is equipped with dual tires, the maximum load rating for dual tires shall be used.

Record required marking items A through C from the weather side of the rim. Note discrepancies under REMARKS on Data Sheet 1.

For each different tire/rim combination, remove the tire from the rim. Record the manufacturer's name, trademark or symbol. Record the date of manufacture from the rim in the same format as expressed on the rim. If the date is done by symbol, contact the COTR to obtain how the month, day, and year or the month and year are depicted by the symbol.

Identify if the lettering is impressed or embossed (stamped or raised) and if it is legible. Verify that all markings are a minimum of 3 millimeters in height.

Verify by referencing the "Source of Published Dimensions" that the rims are suitable for the tires on the vehicle.

Measure and record the rim diameter and the rim width. Verify that measurements agree with rim size stated on the rim.

Replace tire(s) on rim(s), balance, and return vehicle to pretest condition.

12.4 LABEL REQUIREMENTS (S5.3)

Tire and rim information must be listed on the vehicle's certification label (required by 49 CFR 567) or a tire information label for each GVWR-GAWR combination listed on the certification label. The label(s) must be permanently affixed or riveted, with the information in English, lettered in block capitals and numerals not less than 2.4 millimeters in height, and be of a color contrasting with the background.

12. COMPLIANCE TEST EXECUTION....Continued

The label must contain the following information:

- A. The size of the tires for the GAWR
- B. The size and, if applicable, the type designation of rims appropriate for those tires
- C. Recommended cold inflation pressure for those tires such that the sum of the load ratings at the specified pressure is appropriate for the GAWR

SUITABLE TIRE-RIM CHOICE EXAMPLES

GVWR: 7,840 KG (17,289 LB)
 GAWR: FRONT-2,850 KG (6,280 LB) WITH
 7.50-20(D) TIRES, 20 X 6.00 RIMS, AT 520 KPA
 (75 PSI) COLD SINGLE
 GAWR: REAR-4,990 KG (11,000 LB) WITH
 7.50-20(D) TIRES, 20 x 6.00 RIMS, AT 450 KPA
 (65 PSI) COLD DUAL

GVWR: 13,280 KG (29,279 LB)
 GAWR: FRONT-4,826 KG (10,640 LB) WITH
 10.00-20(F) TIRES, 20 x 7.50 RIMS, AT 620 KPA
 (90 PSI) COLD SINGLE
 GAWR: REAR-8,454 KG (18,639 LB) WITH
 10.00-20(F) TIRES, 20 x 7.50 RIMS, AT 550KPA
 (80 PSI) COLD DUAL

NOTE: The abbreviations above, KG and LB, can be spelled out as kilogram and pound respectively on the manufacturer's certification or tire information label.

12.5 LABEL INSPECTION PROCEDURE FOR S5.3

Identify the location of the tire information (certification label or tire information label). Record information from the label onto Data Sheet 2. If more than one GVWR/GAWR/tire (including a spare tire) is given, use additional copies of Data Sheet 2 to record data for each GVWR/GAWR/tire combination.

Verify that the required information is in block capitals and a minimum of 2.4 mm in height. If less than 2.4 mm, set small calipers to 2.4 mm and photograph label and calipers. Record actual height under Remarks on Data Sheet 2.

12. COMPLIANCE TEST EXECUTION...Continued

Verify by referencing the "Source of Published Dimensions" that the labeled rims are suitable for the labeled tires.

Record the load carrying capacity for each labeled tire size at the recommended pressure and give the source. If the vehicle is labeled with passenger car tires, the load carrying capacity must be reduced by dividing by 1.1. If the vehicle is labeled with dual tires, the load capacity for dual tires shall be used. Multiply the load carrying capacity of the tire times the number of tires on the axle. It must be greater than or equal to the GAWR for that axle.

12.6 WEIGHT DISTRIBUTION REQUIREMENTS (49 CFR 567, *Certification*)

The Gross Vehicle Weight Rating (GVWR) shall not be less than the sum of the unloaded vehicle weight, rated cargo load, and 68 kg times the vehicle's designated seating capacity. However, for school buses, the minimum occupant weight allowance shall be 54 kg.

12.7 PROCEDURE FOR WEIGHT DISTRIBUTION TEST

Measure the load at the tire-ground interface of each wheel for the loading conditions below and record on Data Sheet 3. Tire load measurements must be taken while maintaining all tire/ground interfaces on a common horizontal plane.

Record certified GVWR, GAWRs, and tire load ratings at manufacturer recommended inflation pressure.

Re-check and record fluid levels and tire inflation pressures.

Determine the full occupant load by multiplying 68 kg times the vehicle's designated number of seating positions. The full occupant load for a school bus is determined by using 68 kg for the driver and 54 kg for each student occupant.

Determine the manufacturer rated cargo load. If rating is not labeled on the vehicle or specified in the owner's manual, it shall be calculated as shown on Data Sheet 3.

CONDITION 1: Unloaded Vehicle Weight (UVW)

Weigh the vehicle in an unloaded condition. Record measured wheel, axle and vehicle loads.

12. COMPLIANCE TEST EXECUTION....Continued

CONDITION 2: Vehicle Loaded with Occupants (UVW + occupants)

Ballast the vehicle to simulate a full occupant load. Weigh the vehicle and record measured wheel, axle and vehicle loads.

CONDITION 3: Vehicle Loaded with Occupants and Cargo
(UVW + occupants + cargo)

Ballast the vehicle to simulate a full occupant and cargo load. Ballast to simulate cargo loading shall be placed in the appropriate cargo area(s) and distributed uniformly fore/aft and side/side. If the vehicle has more than one cargo area (behind the rear seat, roof rack, etc.) consult the owner's manual and the COTR for further guidance concerning cargo placement. Weigh the vehicle and record measured wheel, axle and vehicle loads. Describe placement of cargo ballast.

13. POST TEST REQUIREMENTS

After the required tests are completed, the contractor shall:

- A. Remove ballast
- B. Verify all instrumentation, data sheets and photographs
- C. Complete the Vehicle Condition report form including a word description of its post test condition
- D. Copy applicable pages of the vehicle Owner's Manual for attachment to the final test report
- E. Move the test vehicle to a secure area
- F. Place all original records in a secure and organized file awaiting test data disposition

14. REPORTS

14.1. MONTHLY STATUS REPORTS

The contractor shall submit a monthly Test Status Report and a Vehicle Status Report to the COTR. The Vehicle Status report shall be submitted until all vehicles are disposed of. Samples of the required reports are found in the report forms section.

14.2. APPARENT TEST FAILURE

Any indication of a test failure shall be communicated by telephone to the COTR within 24 hours with written notification mailed within 48 hours (Saturday and Sunday hours excluded). A Notice of Test Failure (see report forms section) with a copy of the particular compliance test data sheet(s) and preliminary data plot(s) shall be included. If possible repeat that portion of the test where the failure was noted to ensure that there is a test failure. In the event of a test failure, 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 shall be at the COTR's discretion and shall be performed without additional costs to the OVSC.

14.3. FINAL TEST REPORTS

14.3.1. COPIES

In the case of an apparent test failure, six copies of the Final Test Report shall be submitted to the COTR for acceptance within 15 Government working days after test completion. Where there has been no indication of an apparent noncompliance, three copies of each Final Test Report shall be submitted to the COTR for acceptance within 15 Government working days of test completion. One electronic copy (diskette, or compact disk (CD)) must accompany the final hard copy report. No payment of contractor's invoices for conducting compliance tests will be made prior to the Final Test Report acceptance by the COTR. Contractors are requested to NOT submit invoices before the COTR is provided with copies of the Final Test Report.

Contractors are required to submit, for the first FMVSS No.120 test in a series, a Draft Final Test Report within 15 Government Working days after the respective compliance test is completed. The contractor and the COTR will then be able to discuss the details of both test conduct and report content early in the compliance test program. Only Final reports, no Draft reports, shall be submitted for each subsequent FMVSS No 120 compliance tests conducted in a series.

14. REPORTS...Continued

14.3.2. REQUIREMENTS

The Final Test Report, associated documentation (including photographs), are relied upon as the chronicle of the compliance test. The Final Test Report will be released to the public domain after review and acceptance by the COTR. For these reasons, each final report must be a complete document capable of standing by itself. The contractor should use DETAILED descriptions of all compliance test events. Any events that are not directly associated with the standard but are of technical interest should also be included. The contractor should include as much DETAIL as possible in the report. Instructions for the preparation of the first three pages of the final test report are provided for standardization.

Contractors are required to PROOF READ all Final Test Reports before submittal to the COTR. The OVSC will not act as a report quality control office for contractors. Reports containing a significant number of errors will be returned to the contractor for correction, and a "hold" will be placed on invoice payment for the particular test.

14.3.3. FIRST THREE PAGES

A. FRONT COVER —

A heavy paperback cover (or transparency) shall be provided for the protection of the final report. The information required on the cover is as follows:

(1) Final Report Number such as 120-ABC-0X-001, where —

120	is the FMVSS tested
ABC	are the initials for the laboratory
0X	is the Fiscal Year of the test program
001	is the Group Number (001 for the 1st test, 002 for the 2nd test, etc.)

14. REPORTS...Continued

- (2) Final Report Title And Subtitle such as

SAFETY COMPLIANCE TESTING FOR FMVSS 120
Tire Selection and Rims for Motor Vehicles
Other Than Passenger Cars

World Motors Corporation
200X Ace Super Delivery Truck
NHTSA No. CX0701

- (3) Contractor's Name and Address such as

COMPLIANCE TESTING LABORATORIES, INC.
4335 West Dearborn Street
Detroit, Michigan 48090-1234

NOTE: DOT SYMBOL WILL BE PLACED BETWEEN ITEM NOS. (3) AND (4)

- (4) Date of Final Report completion
- (5) The words "FINAL REPORT"
- (6) The sponsoring agency's name and address as follows

U. S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Safety Assurance
Office of Vehicle Safety Compliance
400 Seventh Street, SW
Room 6111 (NSA-30)
Washington, DC 20590

14. REPORTS....Continued**B. FIRST PAGE AFTER FRONT COVER —**

A disclaimer statement and an acceptance signature block for the COTR shall be provided as follows

This publication is distributed by the U. S. Department of Transportation, National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings and conclusions expressed in this publication are those of the author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufacturers' names or products are mentioned, it is only because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

Prepared By:

Approved By:

Approval Date:

FINAL REPORT ACCEPTANCE BY OVSC:

Accepted By:

Acceptance Date:

14. REPORTS....Continued**C. SECOND PAGE AFTER FRONT COVER –**

A completed Technical Report Documentation Page (Form DOT F1700.7) shall be completed for those items that are applicable with the other spaces left blank. Sample data for the applicable block numbers of the title page follows.

Block 1 — REPORT NUMBER

120-ABC-0X-001

Block 2 — GOVERNMENT ACCESSION NUMBER

Leave blank

Block 3 — RECIPIENT'S CATALOG NUMBER

Leave blank

Block 4 — TITLE AND SUBTITLE

Final Report of FMVSS 120 Vehicle Compliance Testing of 200X
Ace Super Delivery Truck, NHTSA No. CX0701

Block 5 — REPORT DATE

March 1, 200X

Block 6 — PERFORMING ORGANIZATION CODE

ABC

Block 7 — AUTHOR(S)

John Smith, Project Manager
Bill Doe, Project Engineer

Block 8 — PERFORMING ORGANIZATION REPORT NUMBER

ABC-DOT-XXX-001

14. REPORTS....Continued

Block 9 — PERFORMING ORGANIZATION NAME AND ADDRESS

COMPLIANCE TESTING LABORATORIES, INC.
4335 West Dearborn Street
Detroit, Michigan 48090-1234

Block 10 — WORK UNIT NUMBER

Leave blank

Block 11 — CONTRACT OR GRANT NUMBER

DTNH22-0X-D-12345

Block 12 — SPONSORING AGENCY NAME AND ADDRESS

United States Department of Transportation
National Highway Traffic Safety Administration
Safety Assurance
Office of Vehicle Safety Compliance
Mail Code: NSA-30
400 Seventh Street, SW, Room 6111
Washington, DC 20590

Block 13 — TYPE OF REPORT AND PERIOD COVERED

Final Test Report
Feb. 15 to Mar. 15, 200X

Block 14 — SPONSORING AGENCY CODE

NSA-30

Block 15 — SUPPLEMENTARY NOTES

Leave blank

14. REPORTS...Continued

Block 16 — ABSTRACT

A test was conducted on a 200X Ace Super Truck, NHTSA No. C#9999, in accordance with FMVSS 120, "Tire selection and rims for vehicles other than passenger cars," and TP-120-0X. The vehicle was weighed in the unloaded and fully loaded conditions and its tires, rims, and related information were checked.

Test failures identified were as follows: None

NOTE: Above wording must be shown with appropriate changes made for a particular compliance test. Any questions should be resolved with the COTR.

Block 17 — KEY WORDS

Compliance Testing
Safety Engineering
FMVSS 120

Block 18 — DISTRIBUTION STATEMENT

Copies of this report are available from —

NHTSA Technical Information Services (TIS)
Room 5108 (NAD-40)
400 Seventh St., SW
Washington, DC 20590
Telephone No.: 202-366-4946

Block 19 — SECURITY CLASSIFICATION OF REPORT

Unclassified

Block 20 — SECURITY CLASSIFICATION OF PAGE

Unclassified

Block 21 — NUMBER OF PAGES

Add appropriate number

14. REPORTS....Continued

Block 22 — PRICE

Leave blank

14.3.4. TABLE OF CONTENTS

Final test report Table of Contents shall include the following:

Section 1 — Purpose of Compliance Test

Section 2 — Test Procedure and Discussion of Results

Section 3 — Compliance Test Data

Section 4 — Test Equipment List and Calibration Information

Section 5 — Photographs

Section 6 — Notice of Test Failure (if applicable)

Section 7 — Applicable Pages of Owner's Manual

15. DATA SHEETS

FMVSS No. 120 – TEST DATA SUMMARY

Test Laboratory: _____; Contract No.:

Vehicle Make/Model: _____; Model Year:

NHTSA No.: _____; VIN: _____; Vehicle Type:

Incomplete Veh. Make/Model:

Designated Seating Capacity: _____; Engine Size:

Dealer Installed Optional Accessories:

REQUIREMENTS	PASS/FAIL
TIRE AND RIM SELECTION (S5.1)	
Installed tires and rims are suitable for vehicle	<input type="checkbox"/>
RIM MARKING (S5.2)	
Rims contain all required markings of proper dimensions	<input type="checkbox"/>
LABEL INFORMATION (5.3)	
Vehicle has proper certification/tire information label	<input type="checkbox"/>
Label tires at recommended inflation pressure and rims are suitable for vehicle	
WEIGHT DISTRIBUTION (49 CFR 567 Certification)	
Vehicle loaded with occupants and cargo does not exceed GVWR	<input type="checkbox"/>
RESULTS:	
Test data indicates compliance with FMVSS 120	<input type="checkbox"/>

REMARKS:

15. DATA SHEETS...Continued

FMVSS 120 – DATA SHEET 1 (1of 2)

Vehicle Make/Model:

NHTSA No.: _____; Test Date:

Tire Type: Passenger Car- _____; Other-

Are the tire and rim sizes the same for all axles, including the spare?

Does the tire size fitted to the axles appear on the certification or tire label?

Describe if "No":

Number of axles: _____; Dual tires on rear axle(s)?

TIRE DATA FROM SIDEWALL	
	RIGHT FRONT **
Manufacturer	
Brand	
Tire size	
Maximum Tire Load Rating (KG)	
De-rated* Tire Load Rating (KG)	
Maximum Inflation Pressure (KPA)	
Tire has DOT symbol? (Yes/No)	
DOT serial number	

* If a passenger car tire is installed on a multipurpose passenger vehicle (MPV), truck or bus, the tire's load rating shall be reduced by dividing by 1.10.

** Expand table for additional tire sizes.

MOUNTED TIRE VS. AXLE RATING COMPARISON (at sidewall maximum inflation pressure)		
	FRONT AXLE	REAR AXLE
A. GAWR (KG) from certification label		
B. (No. of tires) x (de-rated tire load rating (KG) from above table)		
Is "B" equal to or greater than "A" ? (Yes/No)		

15. DATA SHEETS...Continued

FMVSS 120 – DATA SHEET 1 (2 of 2)

RIM MARKINGS	
	RIGHT FRONT*
A. Source of published dimensions (letter designation)	
B. Rim size	
C. Does rim contain DOT symbol? (Yes/No)	
D. Manufacturer's name, symbol or trademark (copy format)	
E. Date of manufacture or symbol (copy format)	
Do items A-C appear on weather side of rim? (Yes/No)	
Letter height (not less than 3mm)	
Lettering (impressed or embossed)	
Are all rim markings legible? (Yes/No)	
Do all markings comply with requirements? (Yes/No)	
Rims are suitable for tires on vehicle? (Yes/No)	

*Expand table for additional rim sizes.

RIM MEASUREMENTS	
	RIGHT FRONT*
Rim width (mm)	
Rim diameter (mm)	
Rim measurements same as rim markings? (Yes/No)	

*Expand table for additional rim sizes

TEST RESULTS (Pass/Fail):

REMARKS:

RECORDED BY: _____; DATE:

APPROVED BY: _____; DATE:

15. DATA SHEETS...Continued

FMVSS NO. 120 – DATA SHEET 2 (1 of 2)

Vehicle Make/Model: _____

NHTSA No.: _____; Test Date: _____

Label Design: Combined Certification and Tire Label _____

Separate Tire Information Label _____

Label is in English (Yes/No) _____

Block capital letters and numbers are not less than 2.4 mm in height (Yes/No) _____

Location of Label(s) on the vehicle: _____

*TIRE AND RIM DATA FROM LABEL (for each GAWR/GVWR)		
GVWR: _____ KG	FRONT AXLE	REAR AXLE
Tire size		
Rim size		
Recommended inflation pressure (KPA)		
** Are labeled rims suitable for labeled tires? (Yes/No)		
*** Referenced load rating at label recommended inflation pressure (KG)		
**** De-rated tire load rating (KG)		

* Add tables for additional tire sizes.

** Referenced source for tire/rim match verification: _____

*** Referenced source for load rating:

**** If a passenger car tire is installed on a multipurpose passenger vehicle (MPV), truck or bus, the tire's load rating shall be reduced by dividing by 1.10.

15. DATA SHEETS...Continued

FMVSS No. 120 – DATA SHEET 2 (2 of 2)

CERTIFICATION/TIRE LABEL MAXIMUM CAPACITY COMPARISON		
GVWR: _____ KG	FRONT AXLE	REAR AXLE
A. GAWR (KG) from certification label	C.	D.
B. (No. of tires) x (*Tire load rating (KG))		
Is "B" equal to or greater than "A" ? (Yes/No)		
Is "C" plus "D" equal to or greater than GVWR? (Yes/No)		

*Obtain the tire load rating on previous page.

TEST RESULTS (Pass/Fail):

REMARKS:

RECORDED BY: _____; DATE:

APPROVED BY: _____; DATE:

15. DATA SHEETS....Continued

FMVSS NO. 120 – DATA SHEET 3 (1 of 2)

Vehicle Make/Model:

NHTSA No.: _____; Test Date:

Full Fluid levels:

Fuel _____; Coolant _____; Other Fluids _____ (specify in REMARKS below)

Tire pressures: LF _____ KPA (PSI) RF _____ KPA (PSI)
 LR _____ KPA (PSI) RR _____ KPA (PSI)

Total Occupant Load: _____ KG
 [# of designated seating positions x 68 KG per adult or 54 KG per student]

Manufacturer’s Rated Cargo Load: _____ KG
 [If not stated on vehicle or provided in owner’s manual leave blank]

Certified GVWR - Measured UVW - Total Occupant Load = Rated Cargo Load
 _____ KG - _____ KG - _____ KG = _____ KG
 (Must be positive)

Describe placement of cargo:

ITEM	Tire or Vehicle Rating* (KG)	CONDITION 1 UVW (KG)		CONDITION 2 Cond. 1 + occupants (KG)		CONDITION 3 Cond. 2 + cargo (KG)	
		Measured	Overload	Measured	Overload	Measured	Overload
Left Front Tire							
Right Front Tire							
Front Axle							
Left Rear Tire							
Right Rear Tire							
Rear Axle							
Total Veh.							

NOTES: (Continued on next page)

15. DATA SHEETS....Continued

FMVSS NO. 120 – DATA SHEET 3 (2 of 2)

NOTES:

* Vehicle and axle weight ratings (GVWR & GAWR) are located on the vehicle certification label plate. Vehicle tire load ratings are based upon the inflation pressure specified on the certification label plate for each respective axle, as determined from the appropriate tire manufacturer’s specification table.

TEST RESULTS (Pass/Fail):

REMARKS:

RECORDED BY: _____; DATE:

APPROVED BY: _____; DATE:

16. FORMS

LABORATORY NOTICE OF TEST FAILURE TO OVSC

FMVSS NO.: 120

TEST DATE:

LABORATORY:

CONTRACT NO.: _____; DELV. ORDER NO.:

LAB. PROJECT ENGINEER'S NAME:

TEST VEH. MODEL YR./MAKE/MODEL/BODY STYLE:

VEHICLE NHTSA NO.: _____; VIN:

MFR: _____; BUILD DATE:

TEST FAILURE DESCRIPTION:

FMVSS REQUIREMENT, PARAGRAPH ____ :

NOTIFICATION TO NHTSA (COTR):

DATE: _____; BY:

REMARKS:

16. FORMS...Continued

MONTHLY TEST STATUS REPORT
 FMVSS 120
 DATE OF REPORT:

NO.	VEHICLE NHTSA NO., MAKE & MODEL	SCHEDULED COMPLIANCE TEST START DATE	COMPLETED COMPLIANCE TEST DATE	PASS/ FAIL	DATE REPORT SUBMITTED	DATE INVOICE SUBMITTED	INVOICE PAYMENT DATE
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

16. FORMS...Continued

MONTHLY VEHICLE STATUS REPORT
FMVSS 120
DATE OF REPORT:

NO.	VEHICLE NHTSA NO., MAKE & MODEL	DATE OF DELIVERY	ODOMETER READING	TEST COMPLETE DATE	VEHICLE SHIPMENT DATE	ODOMETER READING
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						