TP-124-06
April 20, 2000

U.S. DEPARTMENT OF TRANSPORTATION

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

LABORATORY TEST PROCEDURE

FOR

FMVSS 124

Accelerator Control Systems

SAFETY ASSURANCE
Office of Vehicle Safety Compliance
Room 6111, NSA_30
400 Seventh Street, S.W.
Washington, DC 20590

OVSC LABORATORY TEST PROCEDURE NO. 124
TABLE OF CONTENTS

PAGE

REVISION CONTROL LOG
FOR OVSC LABORATORY TEST PROCEDURES

TP - 124, Accelerator Control Systems

TEST PROCEDURE		FMVSS 124		DESCRIPTION
REV.No.	DATE	AMENDMENT	EFFECTIVE DATE	
00	9/16/74			Original issue signed by O.D.
01	1/19/76			Change cold test requirements
02	4/7/76			Change cold test requirements
03	3/13/78			Change engine running requirements
04	7/17/79			Change engine loading requirements
05	6/26/89			Complete Rewrite
06	4/20/00			Major Revision
07				
08				
09				
10				

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. 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

FMVSS 124 specifies requirements for the return of a vehicle's throttle to the idle position when the driver removes the actuating force from the accelerator control, or in the event of a severance or disconnection in the accelerator control system. The purpose of FMVSS 124 is to reduce deaths and injuries resulting from engine overspeed caused by malfunctions in the accelerator control system. The standard applies to passenger cars, multipurpose passenger vehicles (MPVs), trucks and buses.

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 retest specimen upon notification from the COTR that the final test report has been accepted.

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 vehicles 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 vehicles. 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 vehicle test. No information concerning the vehicle safety compliance testing program, shall be released to anyone except the COTR, unless specifically authorized by the COTR or the COTR's Branch Chief or Division Chief.

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

4. GOOD HOUSEKEEPING

Contractors shall maintain the entire vehicle compliance testing area, 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 vehicle test schedule to the COTR prior to conducting the first compliance test. Tests shall be completed as required in the contract.

Scheduling of vehicle tests shall be adjusted to permit vehicles to be tested to other FMVSSs as may be required by the OVSC. All vehicle compliance testing shall be coordinated with the COTR in order to allow monitoring by the COTR and/or other OVSC personnel if desired.

6. TEST DATA DISPOSITION

The contractor shall make all vehicle preliminary compliance test data available to the COTR at the test site 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, technician's 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 each GFP test vehicle whether delivered by a new vehicle dealership or another vehicle transporter. In both instances, the contractor acts in the OVSC's behalf when signing an acceptance of the GFP test vehicle delivery. When a new GFP vehicle is delivered, the contractor must check to verify the following:

A. All options listed on the "window sticker" are present.

B. Tires and wheel rims are new and the same as listed.

C. There are no dents or other interior or exterior flaws (unless prior FMVSS testing).

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, and

F. Proper fuel filler cap is supplied on the vehicle.

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

In addition, if the test vehicle is delivered by a government contracted transporter, the contractor shall 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 condition prior to test in detail, and the lower half provides space for a description of the post-test condition. The Vehicle Condition form must be completed and delivered to the COTR with the Final Test Report or the report will NOT be accepted.

NOTIFICATION OF COTR

The COTR must be notified within 24 hours after a vehicle has been delivered. In addition, if any discrepancy or damage is found at the time of delivery, a copy of the Vehicle Condition form shall be sent to the COTR immediately.

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 include the following as a minimum:

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
(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. SUGGESTED TEST EQUIPMENT

A. Thermocouples (or temperature measuring devices) for:

(1) High and Low ambient temperatures within ±2°C

(2) Engine coolant temperature within ±2°C

NOTE: Temperature measurement may be made by tapping into engine control management system, if so equipped.

B. Continuous recorder to provide permanent record of Item A above within ±2°C

C. Transducer to measure air throttle plate position within ±1% (where applicable).

NOTE: Tapping into Throttle Position Sensor (TPS) wiring or electronic control module to determine throttle plate position is recommended, if possible.

D. Engine tachometer within ±2%. Can be recorded by tapping into electronic control module, if so equipped.

E. Software and recording equipment to provide permanent records showing idle return time and engine speed for each test condition. Instrumentation shall provide clear signal traces throughout the range of 10 milliseconds (ms) to 6 seconds. System accuracy shall be within ±5%.

F. Environmental chamber of size and capability necessary to provide conditions as described in this procedure

G. Exhaust duct

10. PHOTOGRAPHIC DOCUMENTATION

Photographs shall be 8-1/2 x 11 inches, and properly focused for clear images. A label or placard identifying the test vehicle make, model, NHTSA number and date or item of equipment part number and date shall appear in each photograph and must be legible. Each photograph shall be labeled as to the subject matter.

As a minimum the following photographs shall be included in each vehicle final test report, where applicable:

A. Front of vehicle

B. Left side view of vehicle

C. Right side view of vehicle

D. Closeup view of vehicle's certification label

E. Closeup view of vehicle's tire information placard or label

F. Closeup view of vehicle's accelerator control system with arrows to show

(1) Spring No. 1

(2) Spring No. 2

(3) Other springs as appropriate

NOTE: Add explanatory notes as necessary to portray a clean understanding of system geometry and operation

(4) Electronic Control Module, Throttle Plate Actuator Motor, Throttle Plate Sensor, Accelerator Pedal Position Sensor, (if so equipped)

G. Overall view of vehicle's test setup

H. Photos of all test instrumentation used in conducting test with full description

I. Photos required to document test results

J. Photos to document any apparent test failure

NOTE: In photos of the accelerator control system, indicate the location of each return spring and distinguish between them (e.g. label them "Spring No. 1", "Spring No. 2", etc.). The purpose of such number designations is to provide a convenient means of associating test data with each test condition as regards which spring was inoperative for any given test.

11. DEFINITIONS

AMBIENT TEMPERATURE

Surrounding air temperature, at a distance such that it is not significantly affected by heat from the vehicle under test.

DRIVER-OPERATED ACCELERATOR CONTROL SYSTEM

All vehicle components, except the fuel metering device, that regulate engine speed in direct response to movement of the driver operated control and that return the throttle to the idle position upon release of the actuating force.

FUEL METERING DEVICE

The carburetor, or in the case of certain engines, the fuel injector, fuel distributor, or fuel injection pump.

THROTTLE

Component of the fuel metering device that connects to the driver operated accelerator control system and that by input from the driver-operated accelerator control system controls the engine speed.

IDLE POSITION

Position of the throttle at which it first comes in contact with an engine idle speed control appropriate for existing conditions according to the manufacturer's recommendations. These conditions include, but are not limited to, engine speed adjustments for cold engine, air conditioning, and emission control, and the use of throttle setting devices.

WIDE OPEN THROTTLE POSITION (WOT)

Position of the throttle at the maximum point of travel of the accelerator control system when actuation force is applied.

12. 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 the calibration status of test equipment

D. Review applicable revision of FMVSS 124

E. Review vehicle Owner's Manual

F. Verify preparation of vehicle for low and high temperature operation in accordance with manufacturer recommendations.

13. COMPLIANCE TEST EXECUTION

REQUIREMENTS (S5)

A. DESIGN AND CONFIGURATION

The vehicle shall meet the following requirements when the engine is running under any load condition, and at any ambient temperature between -40°C and +52°C after 12 hours of conditioning at any temperature within that range. (S5)

There shall be at least two sources of energy capable of returning the throttle to the idle position within the time limit specified by S5.3 from any accelerator position or speed whenever the driver removes the opposing actuating force. In the event of failure of one source of energy by a single severance or disconnection, the throttle shall return to the idle position within the time limits specified by S5.3, from any accelerator position or speed whenever the driver removes the opposing actuating force. (S5.1)

The throttle shall return to the idle position from any accelerator position or any speed of which the engine is capable whenever any one component of the accelerator control system is disconnected or severed at a single point. The return to idle shall occur within the time limit specified by S5.3, measured either from the time of severance or disconnection or from the first removal of the opposing actuating force by the driver. (S5.2)

13. COMPLIANCE TEST EXECUTION....Continued

B. TIME TO RETURN TO IDLE POSITION

The maximum time to return to idle position shall be 1 second for vehicles of 4536 kilograms or less GVWR, and 2 seconds for vehicles of more than 4536 kilograms GVWR. Maximum time of return to idle position shall be 3 seconds for any vehicle that is exposed to ambient air at -18 degrees Celsius to -40 degrees Celsius during the test or for any portion of the 12-hour conditioning period. (S5.3)

DISCUSSION OF CHOICE OF POINT OF SEVERANCE

Contractor shall furnish left side and plan view sketches of the accelerator linkage as viewed by an observer looking at the system from the driver's side of the vehicle and from above, showing each linkage element, each fixed pivot point, and each moveable connecting point.

Each of the following elements shall be identified with arrows:
(1) Front of vehicle
(2) Left side of vehicle
(3) Other areas as necessary to portray a clear understanding

If a vehicle equipped with an automatic choke is tested prior to being fully warmed up, the automatic choke mechanism (and associated fast idle mechanism) will prevent the throttle from completely returning to its normal idle position. In this case, throttle return to a "fast idle" position will be considered satisfactory.

TEST CONDITIONS

Unless otherwise specified (consult with COTR), all testing shall be conducted under the following environmental conditions:

A. Mid Ambient Temperature — 10°C to 46°C

B. Low Ambient Temperature — - 40°C (-0, +5°C)

C. High Ambient Temperature — 52°C (-5, +0°C)

13. COMPLIANCE TEST EXECUTION....Continued

PREPARATION

A. GENERAL

Before disconnecting any linkage, the contractor shall photograph or sketch the complete accelerator control system as received so that the system can be reinstalled in its original condition after determining point of severance and the disconnection of the springs during tests. Care must be taken to properly orient springs, and connect them in the proper location in brackets and throttle arms with multiple holes. The proper spring position on throttle shafts should also be determined (if so equipped) so that the spring can be clocked (indexed) properly. Each vehicle provided for test shall be instrumented in a manner equivalent to that described in this procedure to allow the time of the throttle's return to idle position to be measured with a system accuracy within ±5% or better. The test apparatus/method shall be of a type which will exert minimal forces on the accelerator control system so as not to adversely influence the outcome of the test. The measurement system and procedure employed must be approved by the COTR prior to the commencement of the test program.

When a rotary potentiometer or similar device is used to detect throttle response characteristics, sufficient care must be taken in mounting the unit to make certain no loads beyond those required to rotate the potentiometer shaft are applied to the throttle mechanism. It is suggested that mounting brackets supporting the potentiometer be rigidly fastened to engine structure at a minimum of two (2) points and that the connection of the potentiometer shaft to the throttle mechanism be the last step in the installation procedure (this will aid in insuring proper shaft alignment thus eliminating binding etc.).

If a source of energy other than a spring is used to return the throttle to its idle position, describe its location and function.

Block one or more wheels and apply parking brake to prevent movement of the vehicle in either direction.

13. COMPLIANCE TEST EXECUTION....Continued

PROCEDURE

Transmission shall be in “Park” or “Neutral” whenever engine is running. If throttle positions specified below cannot be achieved unless transmission is in gear, consult with COTR for test method. Engine speed must not exceed manufacturer’s specified maximum (redline) under any condition.

A. PRETEST CALIBRATION

(1) Start engine and allow it to come to normal operating temperature. Adjust idle to manufacturer's specifications using a calibrated tachometer.

(2) Shut engine off and determine instrumentation outputs for the following throttle positions (perform this calibration with the engine OFF and ignition ON. This will activate throttle solenoid, if any).

[A] Idle position

[B] 100% Wide Open Throttle (WOT)

[C] 75% WOT

[D] 50% WOT

[E] 25% WOT

Insure that all instrumentation is functioning properly.

(3) Turn ignition off and condition vehicle at the Mid Ambient temperature for a minimum of 12 hours.

13. COMPLIANCE TEST EXECUTION....Continued

(B) PERFORMANCE TEST

(1) NORMAL OPERATION

A. Start engine.

B. Continuously record the throttle position versus time for the duration of the test, and include in the final test report.

C. Record baseline idle data (throttle position).

D. In one smooth motion depress the accelerator control pedal to approximately 25% wide open throttle (WOT), and hold.

NOTE: The accelerator may be depressed by hand or foot pressure or by mechanical means.

E. Fully release actuating force, and allow the engine to return to the idle state.

F. Repeat for additional engine conditions of approximately 50%, 75%, and 100% WOT.

NOTE: Conduct 100% WOT test only if engine is RPM limited. Test operator(s) must be prepared to shut down immediately if overspeed occurs.

G. Throttle return to the baseline idle position for each engine condition must occur within the specified return times. Return times for the throttle plate from any position to the baseline idle position in excess of the allowable time limits shall be considered a test failure.

Record test results on Data Sheet 2.

(2) SPRING NO. 1 DISCONNECTED

Disconnect the first return spring (Spring No. 1) and repeat the steps detailed above. Record test results on Data Sheet 3.

13. COMPLIANCE TEST EXECUTION....Continued

(3) SPRING NO. 2 DISCONNECTED

Replace Spring No. 1 and disconnect Spring No. 2. Repeat previously detailed steps.

(4) SYSTEMS HAVING MORE THAN TWO RETURN SPRINGS

Test as stated above removing only one spring for each test condition until each spring in turn has been removed. Use additional copies of Data Sheet 3 to record test results.

(5) SYSTEM SEVERED OR DISCONNECTED AT A SINGLE POINT

With the accelerator control system in the condition as received, select points of severance or disconnection. These points shall, at a minimum, be chosen to create the most severe operating condition.
Repeat Normal Operation test steps A, B, C, and D detailed above. Induce severance or disconnection, then continue with steps E (release actuating force), F, and G. Conduct for each specified throttle position. It is noted that the return to idle time must occur after fault inducement or after release of actuating force after fault inducement

Record test results on multiple copies of Data Sheet 4.

(6) TESTS AT TEMPERATURE EXTREMES:

Repeat tests 1 through 5 above after conditioning the vehicle for a minimum of 12 hours at the High Ambient and Low Ambient temperatures. After the conditioning period has elapsed, start the engine (do not move the accelerator control system) and record the baseline idle position. Maintain the respective ambient temperature ranges during the performance test.

If a vehicle equipped with an automatic choke is tested prior to being fully warmed-up, the automatic choke mechanism (and associated fast idle mechanism) will prevent the throttle from completely returning to its normal idle position. In this case, throttle return to a "fast idle" position will be considered satisfactory.

Record test results on appropriate Data Sheets.

(7) For Electronic Controlled Systems, testing may require disconnection, where applicable, of Accelerator Throttle Position Sensor, Electronic Control Module, Throttle Plate Actuator Motor, and Throttle Plate Position Sensor. Consult with COTR.

13. COMPLIANCE TEST EXECUTION....Continued

EXAMPLE INSTRUMENTATION SETUP

For purposes of clarity and completeness, one of various acceptable instrumentation plans is outlined in this section.

As indicated on the next page, a rotary potentiometer with very low operating force characteristics (servo mount type with less than one inch ounce running torque) is fastened to the carburetor throttle plate shaft (or equivalent engine device in other types of fuel metering devices) to indicate both throttle position and throttle return time.

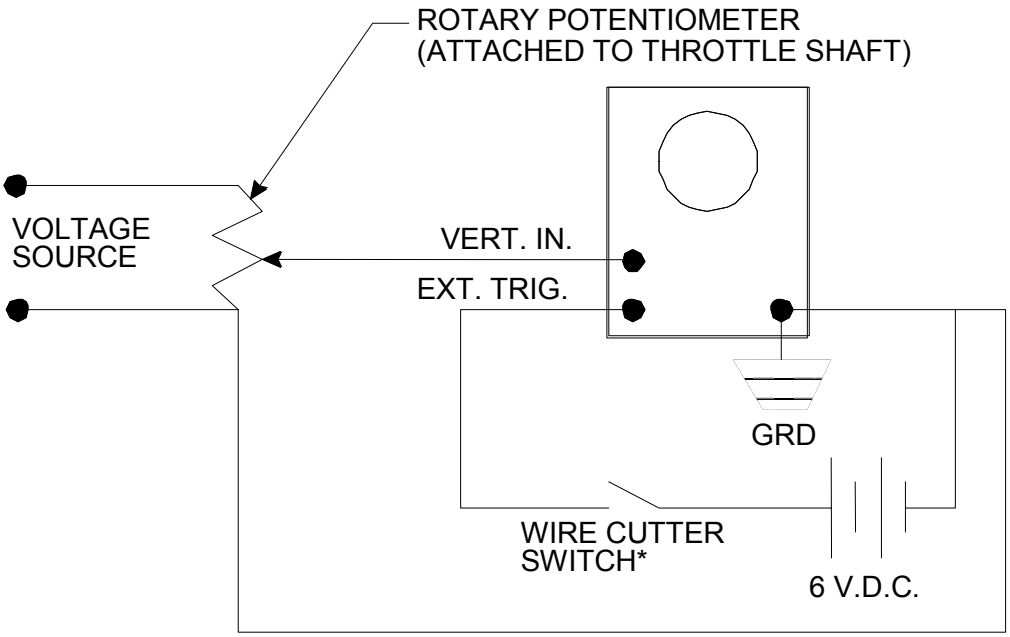
The accelerator pedal is held in the required position with safety wire. The accelerator pedal release is accomplished by cutting the safety wire, and is signaled by a microswitch fastened to and adjusted at the wire cutter to indicate fully closed position.

The storage oscilloscope or oscillograph recorder will be set to trigger the horizontal sweep when a signal is received from the closed microswitch mounted on the wire cutter, thereby initiating the oscilloscope trace and indicating pedal release. Upon full return of the throttle to idle position, the potentiometer wiper mounted on the fuel metering device will have rotated through the identical arc, thereby causing a shift in the oscilloscope trace. The time for the throttle to return to idle position can be measured using a calibrated time base sweep. By using a time base sweep of 1 second per cm, and accuracy within 3% and resolution of 0.2 seconds over a one second interval can be attained. At 0.5 seconds per cm, the accuracy remains at 3% while the resolution will be 0.1 second over a five second time interval. This instrumentation offers the advantages of simple setup and flexibility.

NOTE: For Electronically Controlled Systems, measurement of the throttle plate position can be made by tapping into the throttle plate position sensor. Measurement of engine RPM and engine temperature can be accomplished by tapping into engine monitoring system

13. COMPLIANCE TEST EXECUTION....Continued

SAMPLE INSTRUMENTATION SETUP



* OR EQUIVALENT METHOD APPROVED BY COTR

SAFETY CONSIDERATIONS

A. Sealed Chamber Tests: When the high and low temperature tests are conducted in a sealed environmental chamber in which personnel must operate, the following precautions should be taken:

(1) Insure that a leak-free exhaust system (including the vehicle's exhaust system) is employed to carry engine exhaust out of the chamber.

(2) At the elevated temperature to which the vehicle is subjected during this test, automotive gasoline will evaporate very rapidly. This would produce a noxious and potentially explosive atmosphere inside the chamber. Provisions must be made to reduce this hazard.

14. POST TEST REQUIREMENTS

After the required tests are completed, the contractor shall:

A. Restore accelerator control system to original condition,

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, and

F. Place all original records in a secure and organized file awaiting test data disposition.

15. REPORTS

15.1 MONTHLY STATUS REPORTS

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

15.2 APPARENT TEST FAILURE

Any indication of a test failure shall be communicated by telephone or 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.

15.3 FINAL TEST REPORTS

NOTE: Results of test procedures outside scope of FMVSS 124 as amended March 14, 1995 shall not be characterized as either pass or fail.

15.3.1 COPIES

In the case of an apparent test failure, **SEVEN (7)** copies of the Final Test Report shall be submitted to the COTR for acceptance within 3 weeks of test completion.

Where there has been no indication of an apparent noncompliance, **THREE (3)** copies of each Final Test Report shall be submitted to the COTR for acceptance within 3 weeks of test completion. 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 the first Final Test Report in draft form within 1 week after the compliance test is conducted. 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.

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.

15.3.2 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.

15.3.3 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 124-ABC-0X-001 where

124	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.)

(2) Final Report Title And Subtitle such as

SAFETY COMPLIANCE TESTING FOR FMVSS 124
ACCELERATOR CONTROL SYSTEMS
* * * * * * * * * * * * * * * * *
XYZ Bus manufacturer.
200X Carrier
NHTSA No. CX1401

(3) Contractor's Name and Address such as

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

NOTE: DOT SYMBOL WILL BE PLACED BETWEEN ITEMS (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 6115 (NSA-30)
Washington, DC 20590

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:

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

124_ABC_9X_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 124 Compliance Testing of 200X XYZ Carrier, NHTSA No. CX1401

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

Block 9 — PERFORMING ORGANIZATION NAME AND ADDRESS

ABC Laboratories
405 Main Street
Detroit, MI 48070

Block 10 — WORK UNIT NUMBER

Leave blank

Block 11 — CONTRACT OR GRANT NUMBER

DTNH22-9X-D-12345

Block 12 — SPONSORING AGENCY NAME AND ADDRESS

US Department of Transportation
National Highway Traffic Safety Administration
Safety Assurance
Office of Vehicle Safety Compliance (NSA-30)
400 Seventh Street, SW, Room 6115
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

Block 16 — ABSTRACT

Compliance tests were conducted on the subject 200X XYZ Carrier in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-124-0X for the determination of FMVSS 124 compliance.

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 124

Block 18 — DISTRIBUTION STATEMENT

Copies of this report are available from —

NHTSA Technical Reference Division
Room 5108 (NAD-52)
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

Block 22 — PRICE

Leave blank

15.3.4 TABLE OF CONTENTS

The final test report Table Of Contents shall include the following as a minimum:

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 —Vehicle Owner's Manual (applicable pages)

16. DATA SHEETS

FMVSS 124 - DATA SHEET 1
VEHICLE DESCRIPTION

VEHICLE MY/MAKE/MODEL/BODY STYLE:

VEH. NHTSA NO.: _____ ; VIN:

DATE OF TEST: _____TEST LAB

VEH. ENGINE TYPE: _____ ;GVWR: _____ KG

VEH. ENGINE SIZE:

VEH. ACCEL. CONTROL SYSTEM (ACS) [Air or Fuel Throttled]:

MAX. BHP ENGINE SPEED: _____ ; MFR. IDLE RPM:

FUEL METERING DEVICE [carburetor, fuel injection, etc.]:

REMARKS:

RECORDED BY: _____ DATE:

APPROVED BY:

FMVSS 124 - DATA SHEET 2
NORMAL OPERATION TEST
(fully operational system)

VEHICLE MY/MAKE/MODEL/BODY STYLE:

VEH. NHTSA NO.: _____ ; VIN:

DATE OF TEST:

Check:
Mid. Temp. Test_____ or Low Temp. Test_____ or High Temp. Test_____

SYSTEM CONDITION: COMPLETE (no modifications) Normal Operation

ACCELERATOR POSITION % WIDE OPEN THROTTLE (WOT)	THROTTLE POSITION SENSOR READING	RPM	TEMPERATURE (°C)		THROTTLE POSITION SENSOR READING @ IDLE (BASELINE)	RETURN TIME TO IDLE (Msec)	PASS/FAIL
			ENGINE COOLANT	AMBIENT			
25 %							
50%							
75%							
100%							

RETURN TIME REQUIREMENTS:

1 second (1000ms) for vehicles less than 4536 kg.
2 seconds (2000 ms) for vehicles more than 4536 kg.
3 seconds (3000ms) for vehicle exposed to -18°C or less.

PASS _____ FAIL

REMARKS:

RECORDED BY: _____ DATE:

APPROVED BY:

FMVSS 124 - DATA SHEET 3 (1 of 2)
FAIL-SAFE OPERATION
DISCONNECTION

VEHICLE MY/MAKE/MODEL/BODY STYLE:

VEH. NHTSA NO.: _____ ; VIN:

DATE OF TEST:

Check:
Mid. Temp. Test_____ or Low Temp. Test_____ or High Temp. Test_____

SYSTEM CONDITION: #1 SPRING DISCONNECTED

ACCELERATOR POSITION % WIDE OPEN THROTTLE (WOT)	THROTTLE POSITION SENSOR READING	RPM	TEMPERATURE (°C)		THROTTLE POSITION SENSOR READING @ IDLE (BASELINE)	RETURN TIME TO IDLE (Msec)	PASS/FAIL
			ENGINE COOLANT	AMBIENT			
25 %							
50%							
75%							
100%							

RETURN TIME REQUIREMENTS:

1 second (1000ms) for vehicles less than 4536 kg.
2 seconds (2000 ms) for vehicles more than 4536 kg.
3 seconds (3000ms) for vehicle exposed to -18°C or less.

PASS _____ FAIL

REMARKS:

RECORDED BY: _____ DATE:

APPROVED BY:

FMVSS 124 - DATA SHEET 3 (2 of 2)
FAIL-SAFE OPERATION
DISCONNECTION

VEHICLE MY/MAKE/MODEL/BODY STYLE:

VEH. NHTSA NO.: _____ ; VIN:

DATE OF TEST:

Check:
Mid. Temp. Test_____ or Low Temp. Test_____ or High Temp. Test_____

SYSTEM CONDITION: #2 SPRING DISCONNECTED

ACCELERATOR POSITION % WIDE OPEN THROTTLE (WOT)	THROTTLE POSITION SENSOR READING	RPM	TEMPERATURE (°C)		THROTTLE POSITION SENSOR READING @ IDLE (BASELINE)	RETURN TIME TO IDLE (Msec)	PASS/FAIL
			ENGINE COOLANT	AMBIENT			
25 %							
50%							
75%							
100%							

RETURN TIME REQUIREMENTS:

1 second (1000ms) for vehicles less than 4536 kg.
2 seconds (2000 ms) for vehicles more than 4536 kg.
3 seconds (3000ms) for vehicle exposed to -18°C or less.

PASS _____ FAIL

REMARKS:

RECORDED BY: _____ DATE:

APPROVED BY:

FMVSS 124 - DATA SHEET 4
FAIL-SAFE OPERATION
SEVERED

VEHICLE MY/MAKE/MODEL/BODY STYLE:

VEH. NHTSA NO.: _____ ; VIN:

DATE OF TEST:

Check:
Mid. Temp. Test_____ or Low Temp. Test_____ or High Temp. Test_____

SYSTEM CONDITION: SEVERANCE NOTE: Use multiple copies of data sheet for each severance or disconnection.

ACCELERATOR POSITION % WIDE OPEN THROTTLE (WOT)	THROTTLE POSITION SENSOR READING	RPM	TEMPERATURE (°C)		THROTTLE POSITION SENSOR READING @ IDLE (BASELINE)	RETURN TIME TO IDLE (Msec)	PASS/FAIL
			ENGINE COOLANT	AMBIENT			
25 %							
50%							
75%							
100%							

RETURN TIME REQUIREMENTS:

1 second (1000ms) for vehicles less than 4536 kg.
2 seconds (2000 ms) for vehicles more than 4536 kg.
3 seconds (3000ms) for vehicle exposed to -18°C or less.

PASS _____ FAIL

REMARKS:

RECORDED BY: _____ DATE:

APPROVED BY:

17. FORMS

LABORATORY NOTICE OF TEST FAILURE TO OVSC

FMVSS NO.: 124 TEST DATE:

LABORATORY:

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

LABORATORY PROJECT ENGINEER'S NAME:

TEST VEHICLE DESCRIPTION:

VEHICLE NHTSA NO.: _____ ; VIN:

VEHICLE MANUFACTURER:

TEST FAILURE DESCRIPTION:

S124 REQUIREMENT, PARAGRAPH S___ :

NOTIFICATION TO NHTSA (COTR):

DATE: _____ ; BY:

REMARKS:

17. FORMS....Continued

MONTHLY TEST STATUS REPORT
FMVSS 124
DATE OF REPORT:

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

17 FORMS….Continued

MONTHLY VEHICLE STATUS REPORT
FMVSS 124
DATE OF REPORT:

No.	VEHICLE NHTSA No., MAKE & MODEL	DATE OF DELIVERY	TEST COMPLETE DATE	VEHICLE SHIPMENT DATE	CONDITION OF VEHICLE
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					

Remarks: