

TP-131SB-01
June 21, 1999

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

LABORATORY TEST PROCEDURE

FOR

FMVSS 131SB

School Bus Pedestrian Safety Devices – School Bus Test



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

OVSC LABORATORY TEST PROCEDURE NO. 131SB
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**REVISION CONTROL LOG
FOR OVSC LABORATORY
TEST PROCEDURES**

TP-131SB
SCHOOL BUS PEDESTRIAN SAFETY DEVICES
SCHOOL BUS TEST

TEST PROCEDURE		FMVSS 131		DESCRIPTION
REV. No.	DATE	AMENDMENT	EFFECTIVE DATE	
01	6/21/99	63FR29143 5/28/98	5/28/98	Permits additional light sources on retro-reflective stop signal arms and makes minor clarifications.
02				
03				
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

School buses must be equipped with one or two regular octagonal shaped stop signal arms that automatically extend perpendicular to the left side of the bus. The stop signal arm must be reflectorized, reflectorized with illuminated legend, or have at least two flashing red lamps on each side.

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 school bus 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.

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 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 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 FMVSS 131 COTR.

6. TEST DATA DISPOSITION

The contractor shall make all 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, 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 SCHOOL BUSES

The Contractor has the responsibility of accepting test school buses from school bus distributors/manufacturers. The contractor acts in the OVSC's behalf when signing an acceptance of school bus test vehicles. When a bus is delivered by a distributor/manufacturer, 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.
- D. The bus has been properly prepared and is in running condition.
- E. Receipt of an owner's manual, warranty document, consumer information, and extra set of keys.
- F. Proper fuel filler cap is supplied on the school bus.

In addition, 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 condition in detail prior to test, and the lower half provides space for a description of the post test condition.

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

A 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 or all equipment items have been delivered.

8. **CALIBRATION OF TEST INSTRUMENTS**

Before the contractor initiates the safety compliance test program, a test instrumentation calibration system will 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

8. CALIBRATION OF TEST INSTRUMENTS....Continued

- 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. PHOTOGRAPHIC COVERAGE

Photographs shall be 8 x 10 inches, and legible. A tag, label, or placard identifying the school bus make 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 when applicable:

Left 3/4 frontal view of school bus with stop signal arm(s) extended.

Close-up view(s) of final stage certification label, and tire label if separate.

Close-up view of chassis manufacturer's incomplete vehicle certification label.

Close-up views of stop signal arm(s) (front and back).

Close-up view of the override device control that prevents the automatic extension of the stop signal arm(s).

Override device control location relative to driver seating position.

Close-up view of the flasher.

View of the legend illuminated by light from the surface of each letter of the area immediately surrounding each letter.

Test failure or other noteworthy condition.

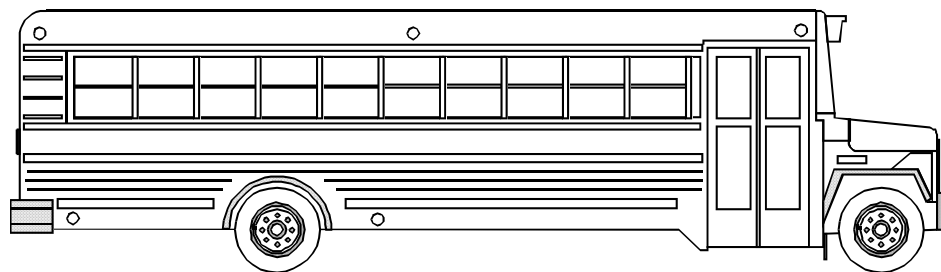
10. DEFINITIONS

BUS

A motor vehicle with motive power, except a trailer, designed for carrying more than 10 persons.

SCHOOL BUS

A bus that is sold, or introduced in interstate commerce, for purposes that include carrying students to and from school or related events, but does not include a bus designed and sold for operation as a common carrier in urban transportation.



STOP SIGNAL ARM

A device that can be extended outward from the side of a school bus to provide a signal to other motorists not to pass the bus because it has stopped to load or discharge school children.

FLASHER

A device which has the primary function of causing lamps to alternately flash when the signal is activated.

NET STROKE WIDTH

Stroke width minus the width of the lamp(s) in a letter of the legend.

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 the calibration status of test equipment
- D. Review applicable revision of FMVSS 131

VEHICLE PREPARATION

Park school bus on a level surface. Inflate tires per manufacturer's recommendations. If testing in an enclosed space, provide for venting exhaust gasses

PERMANENT RECORDING OF DATA

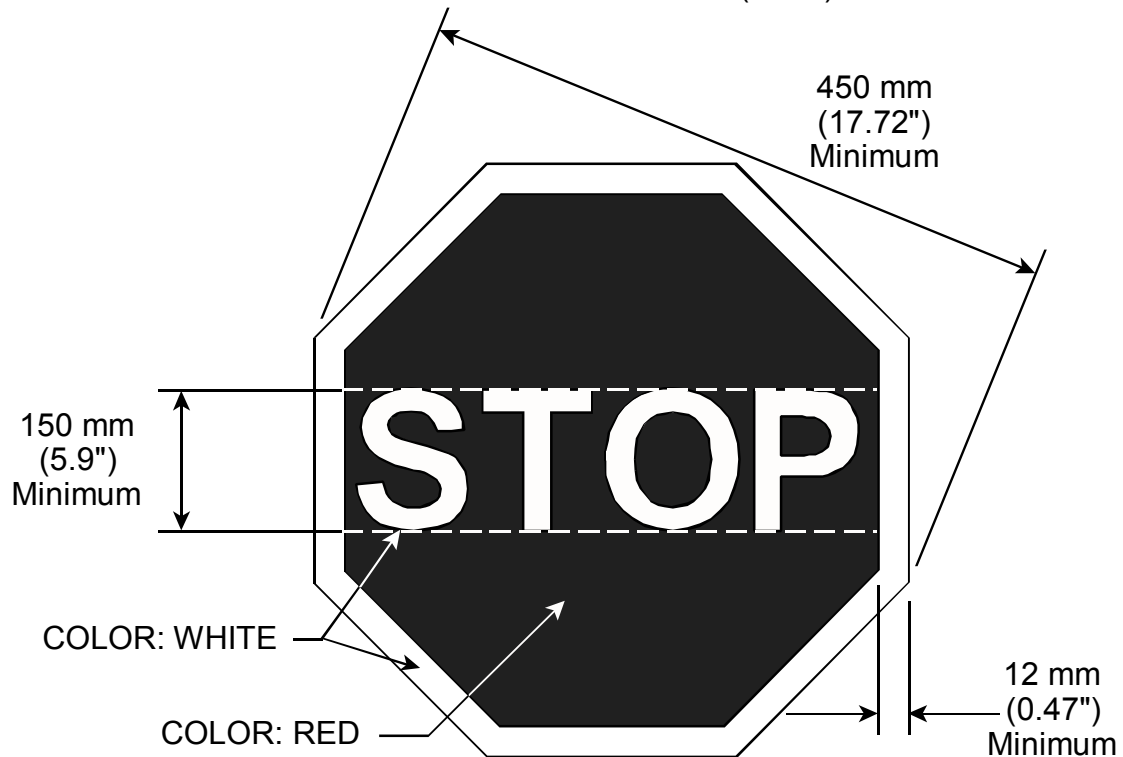
Where permanent trace recording is not required, data shall be recorded on standard report forms. Changes or corrections shall be made by drawing a line through the original entry, which must remain legible, adding the change above or alongside, and initialed.

12. COMPLIANCE TEST EXECUTION

- 12.1 Visual and dimensional characteristics (S5.1 and S5.2) shall comply with the figure shown below. Mounting brackets, clips, bolts or other components necessary to the operation of the stop signal arm may not obscure more than 15 percent of the border on each side. Check both sides of the stop signal arm. When two stop signal arms are installed, the rearmost arm shall not contain any lettering, symbols, or markings on its forward side. Enter results on Data Sheet 1.

CHARACTERISTICS OF STOP SIGNAL DEVICE

STROKE WIDTH OF LETTERS = 20 mm (0.79") Minimum



12. COMPLIANCE TEST EXECUTION....Continued

12.2 Conspicuity (S5.3) shall comply with either S5.3.1 or S5.3.2, or both.

S5.3.1 The entire surface of both sides shall be reflectorized except when two stop signal arms are installed the rearmost arm shall not be reflectorized on its forward side. If reflectorized, enter results on Data Sheet 2.

S5.3.1.1 If reflectorized, the stop signal arm may be illuminated by red light emitted from the surface of, or immediately surrounding, each letter. If so illuminated, enter results on Data Sheet 2.

S5.3.1.2 Non reflectorized mounting brackets, clips, bolts, or other components necessary to the mechanical or electrical operation of the stop signal arm shall not obscure more than 7.5 % of the total surface area of either side of the stop signal arm. Enter percent of total reflectorized surface which is obscured on Data Sheet 2.

S5.3.2 Each side of the stop signal arm shall have at least two (2) red lamps centered on the vertical centerline. One of the lamps shall be located at the extreme top of the stop arm and the other at its extreme bottom. If so equipped, enter results on Data Sheet 2.

12.3 INSTALLED POSITION (S5.4)

Check installed position(s) of the stop signal arm(s). Enter results on Data Sheet 3.

12.4 AUTOMATIC EXTENSION (S5.5)

Check automatic extension of the stop signal arm(s) when the school bus service entry door is opened. If a device is installed that prevents the automatic extension, verify that the mechanism for activating the device is within reach of the school bus driver and that a continuous or intermittent audible signal sounds while the device is activated. The audible signal may be equipped with a timing device requiring the signal to sound for at least 60 seconds. Such timing device shall recycle every time the service entry door is opened while the engine is running and the manual override is engaged. Check recycle performance three (3) times if a timing device is installed. Enter results on Data Sheet 4.

13. POST TEST REQUIREMENTS

After the required tests are completed, the contractor shall:

- A. Verify all instrumentation, data sheets and photographs
- B. Complete the Vehicle Condition report form including a word description of its post test condition
- C. Copy applicable pages of the vehicle Owner's Manual for attachment to the final test report
- D. Move the test vehicle to a secure area
- E. 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 Monthly Vehicle Status Report to the COTR. The vehicle status report shall be submitted until all school buses tested under the contract 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 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.

14. REPORTS....Continued

14.3 FINAL TEST REPORTS

14.3.1 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. The Final Test Report format to be used by all contractors can be found in the "Report Section".

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.

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.

14. REPORTS....Continued

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 131SB-ABC-0X-001 where —

"131SB" is the FMVSS tested

"ABC" are the initials for the laboratory

"0X" is the Fiscal Year of the test program (after year 1999)

"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 131SB
School Bus Pedestrian Safety Devices – School Bus Test

XYZ Bus manufacturer.

200X Transporter

NHTSA No. XXXXXX

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

ABC Laboratories

405 Main Street

Detroit, MI 48070

NOTE: DOT symbol will be placed between items (3) and (4)

- (4) Date of Final Report completion

- (5) The words "FINAL REPORT"

14. REPORTS....Continued

(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

131SB-ABC-0X-001 (0X after year 1999)

Block 2 — GOVERNMENT ACCESSION NUMBER

Leave blank

Block 3 — RECIPIENT'S CATALOG NUMBER

Leave blank

Block 4 — TITLE AND SUBTITLE

Final Report of FMVSS 131 School Bus Compliance Testing
of 200X XYZ Transporter 65 Passenger School Bus, NHTSA
No. XXXXXX

Block 5 — REPORT DATE

March 1, 200X (or 199X before year 2000)

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

ABC Laboratories
405 Main Street
Detroit, MI 48070

Block 10 — WORK UNIT NUMBER

Leave blank

Block 11 — CONTRACT OR GRANT NUMBER

DTNH22-0X-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 6111
Washington, DC 20590

Block 13 — TYPE OF REPORT AND PERIOD COVERED

Final Test Report
Feb. 15 to Mar. 15, 200X (or 199X before year 2000)

Block 14 — SPONSORING AGENCY CODE

NSA-30

Block 15 — SUPPLEMENTARY NOTES

Leave blank

14. REPORTS....Continued

Block 16 — ABSTRACT

Compliance tests were conducted on the subject 200X XYZ Carrier 65 passenger school bus in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-131SB-0X for the determination of FMVSS 131 school bus 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

School Bus Compliance Testing
Safety Engineering
FMVSS 131

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

14. REPORTS....Continued

Block 21 — NUMBER OF PAGES

Add appropriate number

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 from vehicle owner's manual

15. DATA SHEETS**FMVSS 131, SCHOOL BUS PEDESTRIAN SAFETY DEVICES
VEHICLE INFORMATION AND TEST SUMMARY**

Test Laboratory: _____; Contract No.: _____

School Bus Make/Model: _____

Bus NHTSA NO.: _____; VIN: _____

Number of Stop Signal Arms: _____; Passenger Capacity (including driver): _____

Stop Signal Arm Manufacturer: _____; Tire size on the bus: _____

 Chassis Cab Forward Control Rear Engine Wheelbase: _____ meters

FROM THE CERTIFICATION LABEL —

Final Stage Manufacturer: _____; Date of Mfg: _____

Incomplete Veh. Manufacturer: _____; Date of Mfg: _____

GVWR: _____ Kg. GAWR FRONT: _____ Kg. GAWR REAR: _____ Kg.

SUMMARY	PASS	FAIL	N/A
Dimensional Requirements (S5.1)			
Surface content and Labeling (S5.2)			
Conspicuity Requirements (S5.3)			
Location and Position Requirements (S5.4)			
Arm Operation Requirements (S5.5)			

REMARKS:

15. DATA SHEETS....Continued**FMVSS 131 - DATA SHEET 1 (1 of 2)**

School Bus Make/Model: _____

Bus NHTSA No.: _____ Test Date: _____

DIMENSIONS OF STOP SIGNAL ARM (S5.1)

"Regular octagon" with diameter of at least 450 mm (point to point)

	Forward Signal Arm (mm)	Rearmost Signal Arm (mm)
Diameter 1		
Diameter 2		
Diameter 3		
Diameter 4		
Range (max.- min.)		

Are all octagon diameter values \geq 450 mm? Yes/No: _____Is range of octagon diameter values \leq 12 mm? Yes/No: _____

Are all octagon chord dimensions equal within 6 mm? Yes/No: _____

REMARKS:

(CONTINUED ON NEXT PAGE)

15. DATA SHEETS....Continued7

DATA SHEET 1 (2 of 2)

STOP SIGNAL ARM COLOR AND DISPLAY (S5.2)

REQUIREMENT	Forward Signal Arm		Rearmost Signal Arm	
	Front Side	Aft Side	Front Side	Aft Side
Color RED except for border & legend (Yes/No)				
Color of border is WHITE (Yes/No)				
Color of word "STOP" is WHITE (Yes/No)				
Word "STOP" is in upper case letters (Yes/No)				
Width of border (12 mm minimum)				
Percent of border obscured by mounting brackets, clips, or bolts, or other components (15% maximum) *				
Height of letters (150 mm minimum)				
Stroke width of letters (20 mm minimum)				

* In addition to area obscured by 2 optional red lamps, if installed.

S5.1 and S5.2 TEST RESULTS (PASS/FAIL): _____

REMARKS:

TESTED BY: _____ APPROVED BY: _____ DATE: _____

15. DATA SHEETS....Continued**FMVSS 131 - DATA SHEET 2 (1 of 3)**

School Bus Make/Model: _____

Bus NHTSA No.: _____ Test Date: _____

CONSPICUITY (S5.3)

The Stop Signal Arm shall comply with either S5.3.1 or S5.3.2, or both.

REFLECTORIZED MATERIAL (S5.3.1)

REQUIREMENT	Forward Signal Arm		Rearmost Signal Arm	
	Front Side	Aft Side	Front Side	Aft Side
Entire surface of stop signal arm reflectorized except for mounting brackets, clips, bolts, or other necessary components (Yes/No)				
Percent of entire surface obscured (7.5 % maximum)				

REMARKS:

(CONTINUED ON NEXT PAGE)

15. DATA SHEETS....Continued

DATA SHEET 2 (2 of 3)

IF OPTIONAL ILLUMINATED LETTERING IS INSTALLED, THE FOLLOWING REQUIREMENTS APPLY IN ADDITION TO REFLECTORIZED SURFACE (S5.3.1.1)

REQUIREMENT	Forward Signal Arm		Rearmost Signal Arm	
	Front	Aft	Front	Aft
Red lamps form the complete shape of each letter of the legend (Yes/No)				
Red lamps centered within stroke of each letter (Yes/No)				
Red lamps outline each letter in immediately surrounding area (Yes/No)				
Net stroke width \geq 15 mm (Stroke width minus lamp width)	"S"			
	"T"			
	"O"			
	"P"			
Lamps on each side of the signal arm flash alternately (60 to 120 flashes/min.)				
Lamps are filament type (Yes/No)				
Lamps are gaseous discharge type (Yes/No)				

REMARKS:

(CONTINUED ON NEXT PAGE)

15. DATA SHEETS....Continued**DATA SHEET 2 (3 of 3)**

RED FLASHING LAMPS (S5.3.2)

REQUIREMENT	Forward Signal Arm		Rearmost Signal Arm	
	Front side	Aft side	Front side	Aft side
Red Lamps centered on the vertical centerline (At least 2, enter quantity.)				
One lamp at extreme top and another at extreme bottom (Yes/No)				
Lamps on each side of the signal arm flash alternately (60 to 120 flashes/minute)				
Symbol "DOT" on each lamp lens (Yes/No)				
Additional markings on lamp lenses (Copy)				

MARKINGS ON THE FLASHER:

Make: _____ Model: _____ Serial No: _____ Date mfg: _____

S5.3 TEST RESULTS

COMPLY WITH EITHER S5.3.1 OR S5.3.2, OR BOTH (PASS/FAIL) : _____

REMARKS:

TESTED BY: _____ APPROVED BY: _____ DATE: _____

15. DATA SHEETS....Continued**FMVSS 131 - DATA SHEET 3**

School Bus Make/Model: _____

Bus NHTSA No.: _____

Test Date: _____

STOP SIGNAL ARM INSTALLATION (S5.4)

Dimensions and angles measured with Signal Arm in the extended position.

REQUIREMENT		STOP SIGNAL ARM	
		FORWARD	REARMOST
Signal Arm perpendicular to side of bus (Measure angle between vertical plane of side of bus and vertical plane of the Signal Arm)	$90^{\circ} \pm 5^{\circ}$		
Top edge of Signal Arm parallel to horizontal plane (Measure angle between vertical plane of side of bus and the top edge of the Signal Arm)	$90^{\circ} \pm 5^{\circ}$		
Top edge of Signal Arm not more than 152.4 mm from a horizontal plane tangent to lower edge of frame of passenger window immediately behind the driver's window:			
Measure top corner closest to the school bus	≤ 152.4 mm		
Measure top corner furthest from school bus	≤ 152.4 mm		
Vertical centerline of Signal Arm not less than 228.6 mm away from side of bus	≥ 228.6 mm		
Stop Signal Arm(s) installed on left side of bus (Yes, No, or Not Applicable)			

S5.4 TEST RESULTS (PASS/FAIL): _____

REMARKS:

TESTED BY: _____ APPROVED BY: _____ DATE: _____

15. DATA SHEETS....Continued

FMVSS 131 - DATA SHEET 4 (1 of 2)

School Bus Make/Model: _____

Bus NHTSA No.: _____

Test Date: _____

STOP SIGNAL ARM OPERATION (S5.5)

Stop Signal Arm(s) shall be automatically extended, at a minimum, whenever the red signal lamps on the bus required by FMVSS 108 are activated; except that a manual override device may be installed that prevents automatic extension.

REQUIREMENT	Stop Signal Arm	
	Forward	Rearmost
Signal Arm(s) automatically extended when service entry door is open and override device is not activated (Yes, No, or Not Applicable)		
If a MANUAL OVERRIDE DEVICE is installed, enter applicable data below		
Mechanism for activating the override device is within reach of the school bus driver (Yes/No)		
While the override device is activated, there is a continuous or intermittent signal audible to the driver unless equipped with optional cut-off timing device (Measure duration \geq 10 minutes)		
If audible signal is equipped with optional cut-off timing device, it sounds for at least 60 seconds while the manual override is activated (Measure 3 times, duration \geq 60 sec.)		
If audible signal is equipped with optional cut-off timing device, it automatically recycles every time the service entry door is opened while the engine is running and the manual override is engaged (Recycle 3 times, Yes/No each recycle)		

(CONTINUED ON NEXT PAGE)

15. DATA SHEETS....Continued**DATA SHEET 4 (2 of 2)**

Describe location and mode of operation of the manual override control, if installed:

S5.5 TEST RESULTS (PASS/FAIL) : _____

REMARKS:

TESTED BY: _____ APPROVED BY: _____ DATE: _____

16. FORMS

LABORATORY NOTICE OF TEST FAILURE TO OVSC

FMVSS NO.: 131 – SCHOOL BUS TEST TEST DATE: _____

LABORATORY: _____

CONTRACT NO.: _____ DELV. ORDER NO: _____

LABORATORY PROJECT ENGINEER'S NAME: _____

SIGNAL LAMP DESCRIPTION: _____

BUS NHTSA NO.: _____ VIN: _____

PART NO.: _____ MFR: _____

TEST FAILURE DESCRIPTION: _____

FMVSS 131 REQUIREMENT, PARAGRAPH S ____ : _____

NOTIFICATION TO NHTSA (COTR) : _____

DATE: _____ BY: _____

REMARKS:

16. FORMS....Continued

MONTHLY TEST STATUS REPORT
FMVSS 131 – SCHOOL BUS TEST
DATE OF REPORT: _____

NO.	SCHOOL BUS NHTSA NO., MAKE & MODEL	COMPLIANCE TEST DATE	PASS/ FAIL	DATE REPORT SUBMITTED	DATE INVOICE SUBMITTED	INVOICE PAYMENT DATE
1						
2						
3						
4						
5						
6						

16. FORMS....Continued

**MONTHLY VEHICLE STATUS REPORT
FMVSS 131 – SCHOOL BUS TEST
DATE OF REPORT: _____**

NO.	SCHOOL BUS NHTSA NO., MAKE & MODEL	DATE OF DELIVERY	ODOMETER READING	TEST COMPLETE DATE	VEHICLE SHIPMENT DATE	ODOMETER READING
1						
2						
3						
4						
5						
6						