

OKLAHOMA

school bus

INSPECTION GUIDE



*Oklahoma State Department
of Education*

Oklahoma School Bus Inspection Guide

Developed by the
Curriculum and Instructional Materials Center
Oklahoma Department of Career and Technology Education
for the
Oklahoma State Department of Education
Sandy Garrett
State Superintendent of Public Instruction

June 2009

Acknowledgments

Project Manager:
Randy McLerran,
Oklahoma State Department of Education

Editor:
Craig Maile
Oklahoma Department of Career and Technology Education

Photographs:
Kim Hale
Oklahoma Department of Career and Technology Education

Contributors:
Billy Whittenburg, Durant PS
Gene Jackson, Durant PS
Dwight Chapin, Moore PS
Jay Rotrock, Midwest City-Del City PS
Jerry Bogle, Gordon Cooper Technology Center
Kevin Holba, Central Technology Center

Design:
Victoria Hawkins

Special Thanks:
Troy Withey, Meridian Technology Center, Stillwater

OKLAHOMA SCHOOL BUS INSPECTION GUIDE

3 PART 1: INTRODUCTION

13 PART 2: BUS CHASSIS INSPECTION

AIR BRAKE SYSTEM

HYDRAULIC BRAKES

EXHAUST SYSTEM

FUEL SYSTEM

STEERING MECHANISM

SUSPENSION

FRAME

TIRES, WHEELS & RIMS

33 PART 3: BUS BODY INSPECTION

AISLE

BACK-UP WARNING ALARM

BATTERY

BUMPER

CROSSING CONTROL ARM

DEFROSTER

DOOR/SERVICE

DRIVER'S SEAT

SEATBELT FOR DRIVER

EMERGENCY EXITS

EMERGENCY EQUIPMENT

FLOORS

HEATERS & HEATER HOSES

HORN

LETTERING

INTERIOR

LAMPS & SIGNALS

MIRRORS

MOUNTINGS

SEAT COVERS & CRASH BARRIERS

STOP ARM SIGNAL

INTERIOR SUN SHIELD

WIRING

SPECIALLY EQUIPPED SCHOOL BUSES

WINDSHIELD & OTHER GLASS

58 FORMS:

ANNUAL SCHOOL BUS INSPECTION REPORT



Sources of Standards

PART

1

National Congress on School Transportation, *National School Transportation Specifications & Procedures*--Since 1939, each conference (renamed congress in 2005) produced one or more publications containing the recommendations of that particular conference. The recommendation of specifications and procedures for school buses and their operation has been a major purpose of all conferences. Representatives at these meetings include representatives of state departments of education, public safety, motor vehicles, and police or other state agencies having statewide responsibilities for the administration of student transportation; local school district personnel; contract operators; advisers from industry; and representatives from other interested professional organizations and groups.

Federal Motor Vehicle Safety Standards (FMVSS)--The National Highway Traffic Safety Administration (NHTSA) has a legislative mandate under Title 49 of the United States Code, Chapter 301, Motor Vehicle Safety, to issue Federal Motor Vehicle Safety Standards (FMVSS) and Regulations to which manufacturers of motor vehicles and items of motor vehicle equipment must conform and certify compliance. New standards and amendments to existing standards are published in the Federal Register. These Federal safety standards are regulations written in terms of minimum safety performance requirements for motor vehicles or items of motor vehicle equipment. These requirements are specified in such a manner that



the public is protected against unreasonable risk of crashes occurring as a result of the design, construction, or performance of motor vehicles and is also protected against unreasonable risk of death or injury in the event crashes do occur.

Note: The complete text of all Federal Motor Vehicle Safety Standards and other NHTSA Regulations are located in Title 49 of the Code of Federal Regulations (CFR) Parts 400 to 999. NHTSA also publishes the *Quick Reference Guide to Federal Motor Vehicle Safety Standards and Regulations* (DOT HS 805 878), available free online at www.nhtsa.dot.gov.

Inspector Responsibilities

Inspectors shall be responsible for the following:

- Properly and thoroughly conduct the inspection of all vehicles in accordance with the official rules.
- Complete and sign the certificate of inspection.
- Have adequate knowledge of the current official rules.
- Conduct inspections only in approved areas.
- Make no repairs or adjustments without specific authority of the owner or driver of the vehicle.
- Surrender his/her license upon receiving notice of suspension or revocation of same.

Inspection Areas

The complete inspection shall be conducted with the entire vehicle being inside the approved building in an approved area.

If only one inspection area is approved for inspections, no major repairs will be permitted in that inspection area during normal working hours when inspections are to be performed. Vehicles undergoing repairs or adjustments must be capable of being easily moved for the inspection of other vehicles.



A school bus in the inspection area



Required Tools & Equipment

The following tools and equipment must be available and in good condition at all inspection stations. All equipment shall be kept clean and free from grease and dirt. All equipment and tools used for the purpose of inspection shall be kept in proper working order.

- Tire tread depth gauge (graduated in 32nds of an inch)
- Lift, jack or drive over pit
- Creeper (if jack is used)
- Yardstick or tape measure
- Brake lining thickness gauge
- Brake drum wear measuring gauge

Whenever adjustments or calibrations are needed to assure the accuracy and performance of any equipment, manufacturer's specifications and recommendations will be followed. Under no condition can equipment be used for the purpose of inspecting vehicles when the known method of calibration or adjustment necessary for the maintenance of such equipment is not available and in constant use. Any defects in any equipment shall be corrected immediately or, if not corrected, any defective equipment shall not be used until and unless defects are corrected.



Inspection Records

Every station shall keep the current inspection record available in the immediate area where inspections are performed. It is permissible to keep cumulative records, as well as complete records not currently in use, in another location in the inspection station, but those records that are in daily use must be conveniently available for the use of the inspector.

Reading a Rule

Reading fractional measurements on a U.S. customary rule.

Note: All rules are read similarly. However, some rules are graduated with more divisions than others. The enlarged rule illustrated in Figure 1 below is graduated in sixty-fourths of an inch on the top scale and thirty-seconds of an inch on the bottom scale. The staggered graduations are for halves, quarters, eighths, sixteenths, thirty-seconds, etc.

1. Align the end of the rule with one reference point.
2. Determine the number of whole units between the end of the rule and the second reference point.

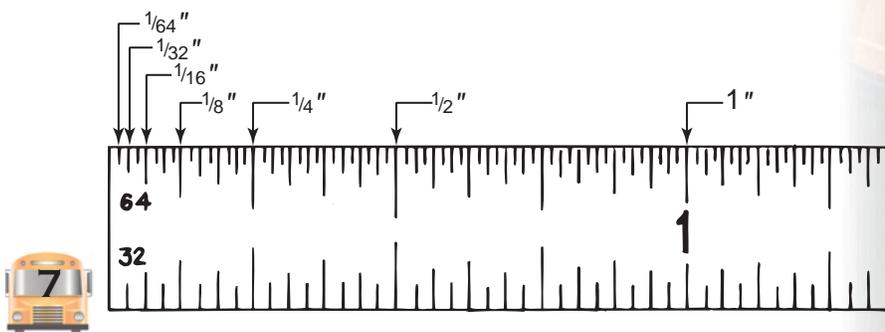


Figure 1

PART 1: INTRODUCTION

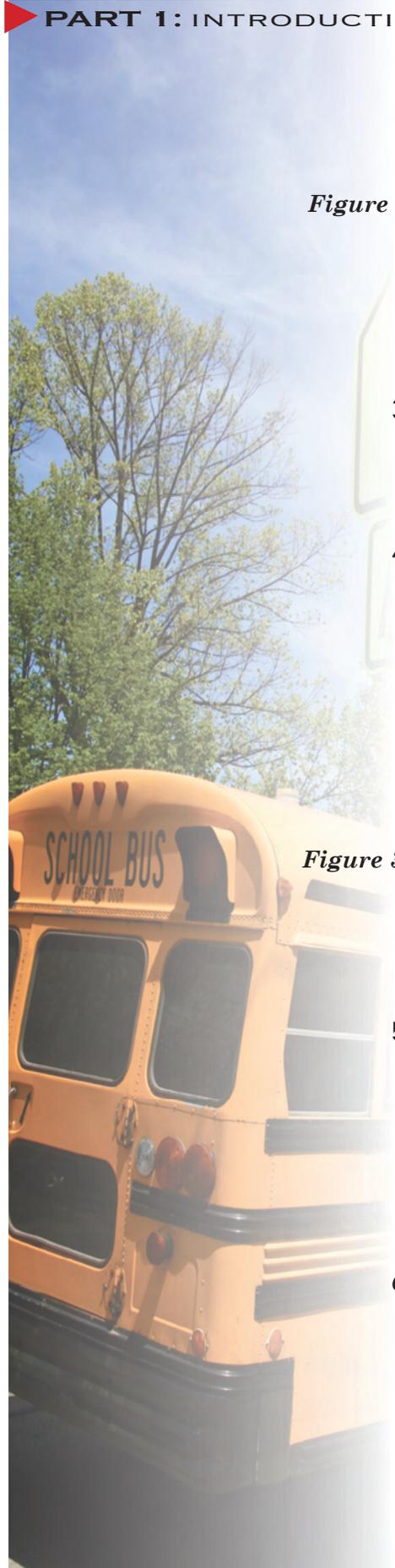
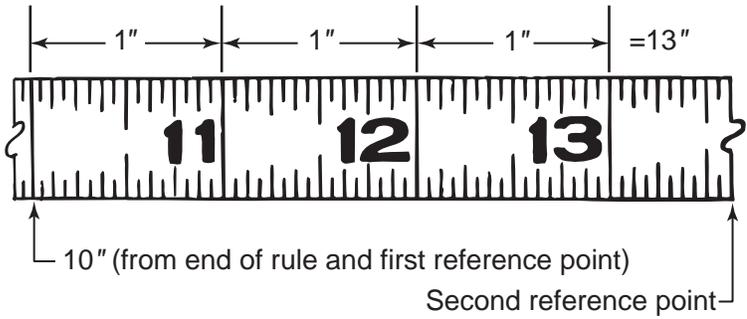
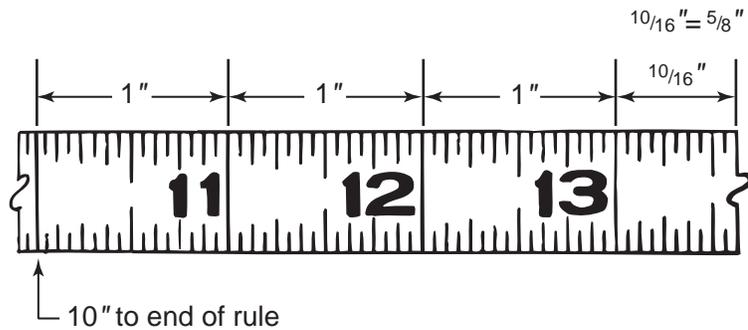


Figure 2



3. Determine the number of fractional units between the last whole unit and the second reference point by counting the divisions.
4. Place this number over the rule scale (the rule in Figure 3 below is scaled in sixteenths of an inch) and reduce this fraction if possible.

Figure 3



5. Make a mixed fraction by adding this reduced fraction to the number of whole units counted earlier.

EXAMPLE: 13 inches + $\frac{5}{8}$ inch = 13 $\frac{5}{8}$ inches

6. Convert measurements over 12 inches into feet and remaining inches.

EXAMPLE: 13 $\frac{5}{8}$ \div 12 = 1' $\frac{15}{8}$ "



Reading decimal-inch measurements on a U.S. customary rule

NOTE: U.S. customary rules with decimal-inch increments allow for more precise measurements. The top scale on the enlarged rule illustrated in Figure 4 is graduated in one-hundredths of an inch (0.01 inch). The bottom scale is graduated in fiftieths of an inch (0.02 inch). The staggered graduations are for halves, tenths, and fiftieths.

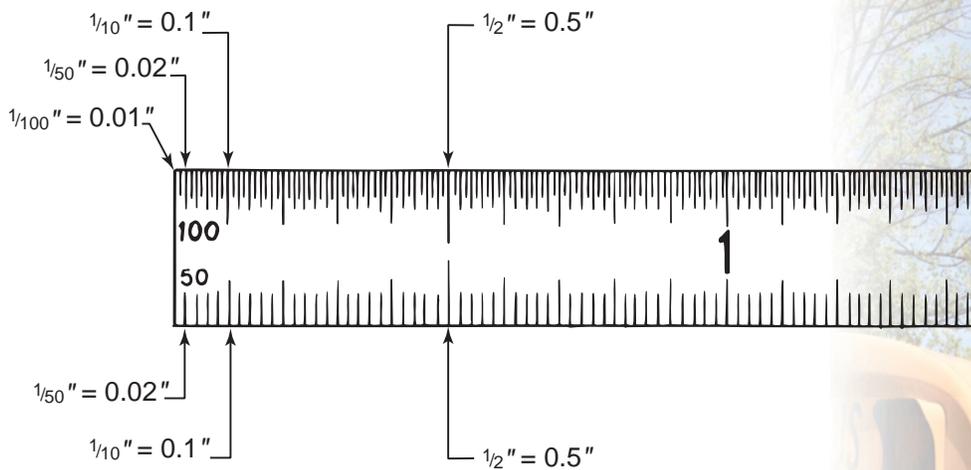


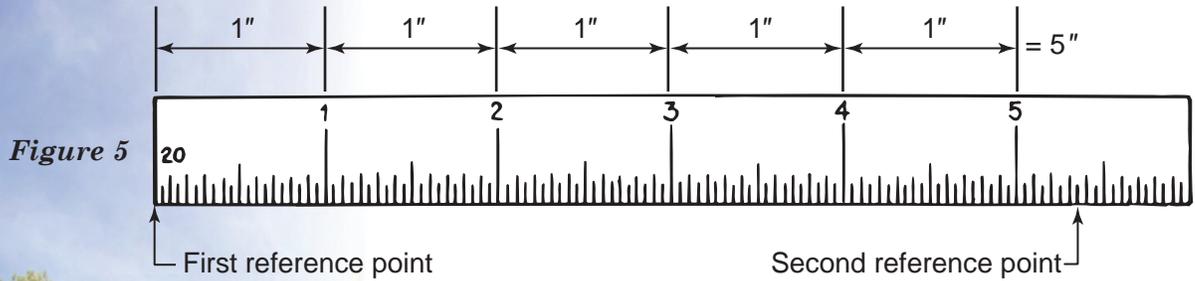
Figure 4

1. Align the end of the rule with one reference point.
2. Determine the number of whole units between the end of the rule and the second reference point.

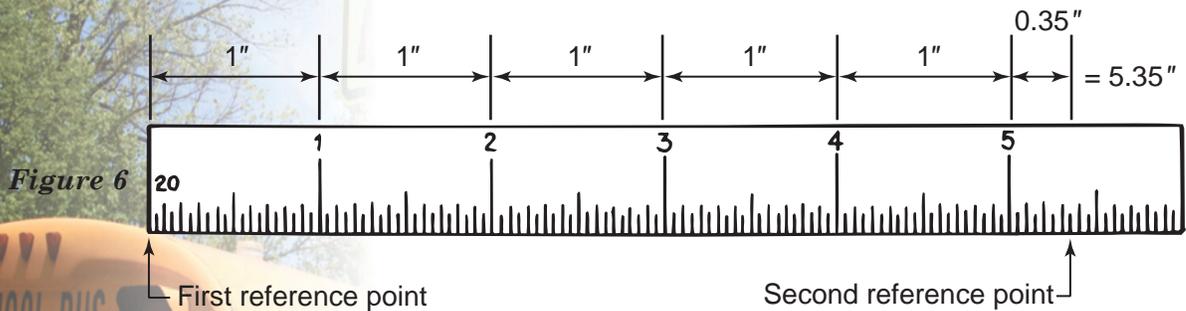
NOTE: The rule illustrated in Figure 5 is graduated in twentieths of an inch.



PART 1: INTRODUCTION



3. Count the number of graduations (twentieths, 0.05 inch) between the last whole unit and the second reference point.
4. Add this decimal fraction to the number of whole units counted earlier.

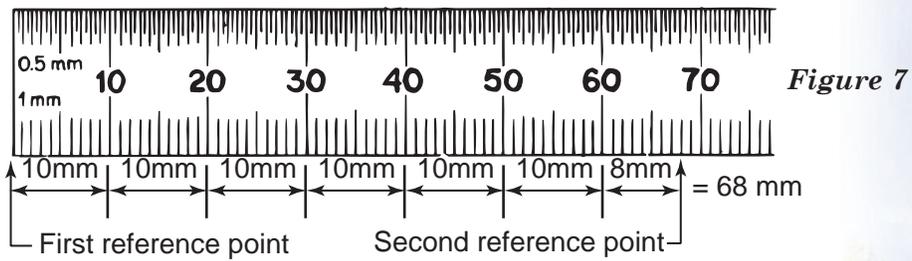


Reading a metric rule

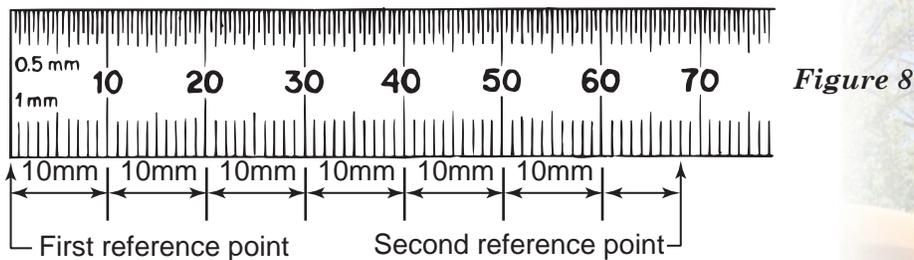
NOTE: Metric steel rules are available in a range of 150 millimeters to 1000 millimeters (1 meter) in length. The smallest graduation is 0.5 millimeter.

1. Align the end of the rule with one reference point.
2. Determine the number of whole units between the end of the rule and the second reference point.

NOTE: The enlarged metric rule illustrated in Figure 7 is graduated in half millimeters (0.5) on the top and whole millimeters (1mm) on the bottom scale.



3. Count the number of graduations (single and half millimeters) between the last whole unit and the second reference point.
4. Add this number to the number of whole units counted earlier.



Air Brake System

PART

2

For this section, the following terms have the following meaning, unless the context indicates otherwise.

BRAKE SYSTEM

A combination of one or more brakes and their related means of operation and control.

EMERGENCY BRAKE

A brake system used for retarding and stopping the vehicle in the event of a malfunction in the service brake system. This function may be performed by the parking brake system or by a portion of the service brake system.

PARKING BRAKE

A brake system used to hold and maintain a vehicle in a stationary position. (A positive mechanical means is employed to keep the brake applied when vehicle is unattended.)

PEDAL RESERVE

As applied to hydraulic, mechanical, or power assisted hydraulic brakes, refers to the amount of total pedal travel left in reserve when pedal is depressed to the brake applied position. The purpose of the pedal reserve check is to ascertain the degree of brake adjustment and to demonstrate satisfactory brake actuating system condition.

SERVICE BRAKE

A brake system used for retarding, stopping, and controlling the vehicle under normal operating conditions.



PART 2: BUS CHASSIS INSPECTION



A vehicle does not pass an inspection if it has one or more of the following defects or deficiencies in the air brake system.

A Service Brakes

Points of rejection:

1. Absence of braking action on any axle required to have brakes upon application of the service brakes (such as missing brakes or brake shoe(s) failing to move upon application of a wedge, "S" cam, cam, or disc brake).
2. Missing or broken mechanical components including: shoes, lining pads, springs, anchor pins, spiders, cam rollers, push rods, air chamber, and mounting bolts.
3. Loose brake components including air chambers, spiders, and cam shaft support brackets.
4. Audible air leak at brake chamber (Example ruptured diaphragm, loose chamber clamp, etc.).
5. Readjustment limits. The maximum stroke at which brakes should be readjusted is given below. Any brake 25 percent (1/4 inch), or more past the readjustment limit or any two brakes less than 25 percent beyond the readjustment limit shall be cause for rejection. Stroke shall be measured with engine off and reservoir pressure of 80 to 90 pounds per square inch (psi) with brakes fully applied.

B Brake Linings or Pads

Points of rejection:

1. Lining or pad is not firmly attached to the shoe.
2. Saturated with oil, grease, or brake fluid.

3. Non-steering axles: Lining with a thickness of less than 1/4 inch at the shoe center for air drum brakes, and less than (1/8 inch) for air disc brakes.
4. Steering axles: Lining with a thickness less than 1/4 inch at the shoe center for drum brakes, less than 1/8 inch for air disc brakes.
5. Missing brake on any axle.
6. Mismatch across any steering axle of:
 - a. Air chamber sizes.
 - b. Slack adjuster length.



Out-of-the-box brake pads

C Parking Brake System

Point of rejection:

No brakes on the school bus are applied upon actuation of parking brake control, including driveline hand controlled parking brakes.

D Brake Drums or Rotors

Point of rejection:

With any external crack or cracks that open upon brake application (do not confuse short hairline heat check cracks with flexural cracks).



PART 2: BUS CHASSIS INSPECTION



Brake Hose

Points of rejection:

1. Hose with any damage extending through the outer reinforcement ply. (Rubber impregnated fabric cover is not reinforcement ply.) (Thermoplastic nylon may have braid reinforcement or color difference between cover and inner tube.) Exposure of second color is cause for rejection.
2. Bulge or swelling when air pressure is applied.
3. Any audible leaks.
4. Two hoses improperly joined (such as a splice made by sliding the hose ends over a piece of tubing and clamping the hose to the tube).
5. Air hose cracked, broken, or crimped.

Brake Tubing

Points of rejection:

1. Any audible leak.
2. Tubing cracked, damaged by heat, broken, or crimped.

Low Pressure Warning Device

Point of rejection:

Missing, inoperative, or does not operate at 60 psi and below, or 1/2 inch the governor cutout pressure, whichever is less.

Air Compressor

Points of rejection:

1. Compressor drive belts in condition of impending or probable failure.
2. Loose compressor mounting bolts.
3. Cracked, broken, or loose pulley.
4. Cracked or broken mounting brackets, braces, or adapters.

Hydraulic Brakes

Note: Brake adjustment must be less than those limits specified below (dimensions are in inches):

CLAMP-TYPE BRAKE CHAMBER DATA		
TYPE	OUTSIDE DIAMETER	BRAKE ADJUSTMENT LIMIT
6	4 1/2	1 1/4
9	5 1/4	1 3/8
12	5 11/16	1 3/8
16	6 3/8	1 3/4
20	6 25/32	1 3/4
24	7 7/32	1 3/4
30	8 3/32	2
36	9	2 1/4

"LONG STROKE" CLAMP-TYPE BRAKE CHAMBER DATA		
TYPE	OUTSIDE DIAMETER	BRAKE ADJUSTMENT LIMIT
16	6 3/8	2.0
20	6 25/32	2.0
24	7 7/32	2.0
24*	7 7/32	2.0
30	8 3/32	2.5

*For 3" maximum stroke type 24 chamber

DD-3 BRAKE CHAMBER DATA		
TYPE	OUTSIDE DIAMETER	BRAKE ADJUSTMENT LIMIT
30	8 1/8	2 1/4

Note: This chamber has three (3) air lines and is found on motor coaches.

WEDGE BRAKE DATA
The combined movement of both brake shoe lining scribe marks shall not exceed 1/8 inch (3.18 mm).

PART 2: BUS CHASSIS INSPECTION



A Failure Indicator Lamp (if equipped)

Apply the parking brake and turn the ignition to start, or verify lamp operation by other means indicated by vehicle manufacturer that the brake system failure indicator lamp is operable. This lamp is required by Federal Motor Vehicle System Standards (FMVSS) on every passenger vehicle manufactured on or after January 1, 1968, and on other types of motor vehicles manufactured on/after September 1, 1975.

Point of rejection:
Lamp fails to function.

B Service Brake

Drive vehicle back-and-forth (forward/reverse) to determine that the brakes stop the vehicle with no excessive pulling to the right or left.

Points of rejection:

1. Vehicle fails to stop, fails to indicate braking action, and fails to hold the vehicle.
2. Any evidence of excessive pulling to the right or left.

C Brake System Integrity

While in the vehicle, place foot on the brake pedal with a force of 25 lbs. and check to see that the pedal height can be maintained for 15 seconds. Check for illumination of the failure indicator lamp.

Points of rejection:

1. Brake pedal height cannot be maintained for 15 seconds.
2. Failure indicator lamp illuminates.

D Brake Pedal Reserve

Depress brake pedal with 25 lbs. of force. Measure the distance from floor to bottom of brake pedal. A one-inch brake block and two-inch brake block, or a ruler, must be used for this check. Engine must be running when checking power-assisted brakes.

Point of rejection:

Upon first application, power-assisted brakes do not have at least one inch clearance from bottom of brake pedal to floor and hydraulic or mechanical brakes do not have a two-inch clearance from bottom of brake to the floor.

E Brake Power Unit (if equipped)

With engine stopped, apply service brake several times to destroy vacuum in system. Depress brake pedal with 25 lbs. of force and start engine while maintaining force. Brake pedal should fall slightly under force when engine starts.

Point of rejection:

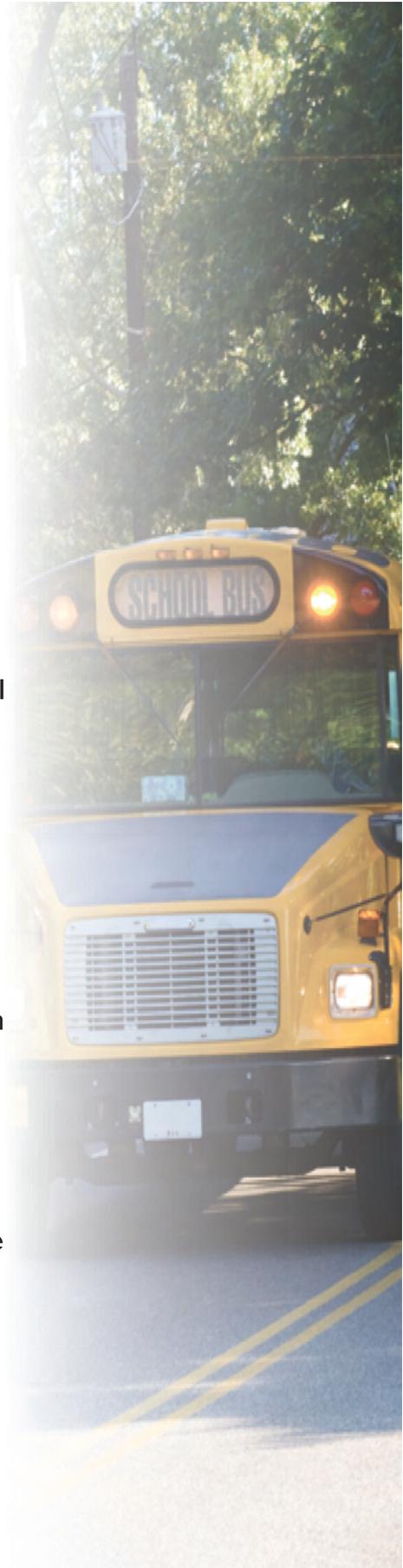
Service brake pedal does not fall slightly when engine is started while pressure is maintained on pedal.

F Master Cylinder

Check the master cylinder for fluid and leakage. Use caution to ensure that the gasket is reusable and no dirt gets into the reservoir.

Points of rejection:

1. The fluid level is more than 3/4 inch below top of reservoir.
2. Any leakage in master cylinder.





G Hydraulic Wheel Cylinders and Lines on Hoses

Check to see that vehicle is equipped with brakes as required by law, with no evidence of wheel cylinder leakage and no brakes are disconnected or inoperative. This will necessitate the inspector being under the vehicle. Inspect hydraulic hoses and tubes for leaks, cracks, chafing, splicing, flattened or restricted sections, and improper supports.

Points of rejection:

1. Leakage in the wheel cylinders, master cylinder, brake lines, or hoses.
2. Hoses or tubing leak are cracked, chafed, or flattened.
3. Hoses or tubing are restricted or insecurely fastened.
4. Brake line has been spliced.

H Drum

Remove at least one wheel and drum assembly for inspection of linings on brake drum. Check the friction surface of drums for substantial cracks extending to open edge of drum. Short hairline heat cracks should not be considered. Check for cracks on outside of drum, mechanical damage, and condition. Measure inside diameter of drum.

Points of rejection:

1. Substantial cracks on the friction surface extending to open edge.
2. External cracks.
3. Evidence of mechanical damage other than wear.
4. Friction surface is contaminated with oil, grease, or brake fluid.

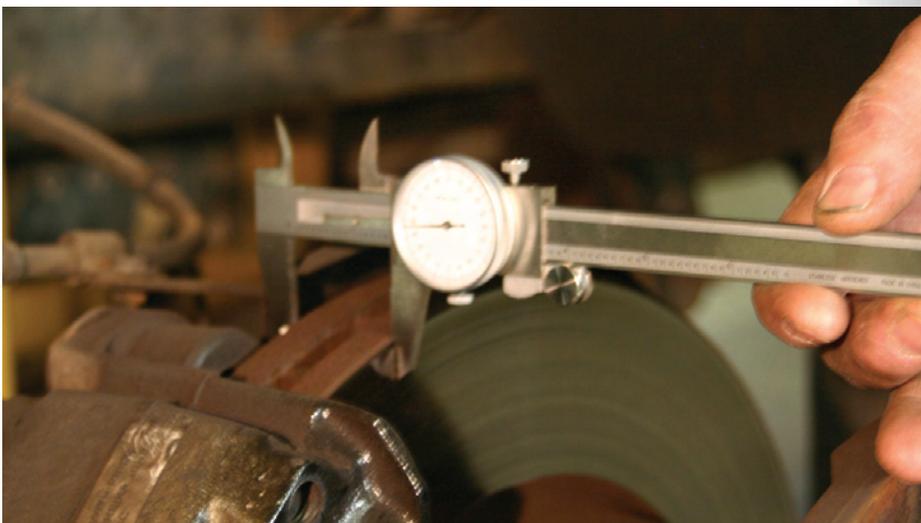
Check to determine if inside drum diameter is greater than maximum diameter stamped on the drum. For unmarked drums maximum diameter is .090 inch (2.3 mm) greater than original drum diameter for 14 1/8 inches or smaller drums. For larger drums the maximum diameter cannot be greater than 120 inch (3 mm) over the original diameter.

I Disc Brakes

Remove at least one wheel and caliper assembly for inspection of pads and rotor assembly. Check the friction surface of rotor for substantial cracks extending to the open edge of rotor. Check for cracks on outside of rotor for mechanical damage and condition. Measure thickness of rotor.

Points of rejection:

1. Substantial cracks of the friction surface extending to open edge.
2. Any external cracks.
3. Evidence of mechanical damage other than the normal wear.
4. Friction surface is contaminated with oil, grease or brake fluid.
5. If rotor thickness is less than the minimum standard stamped on assembly.



Measuring rotor thickness



PART 2: BUS CHASSIS INSPECTION



Drum Linings and Disc Pads

Check the condition of linings, rods, and pads. On bonded linings and pads, measure lining or pad thickness at the thinnest point. On riveted linings and pads, inspect for loose or missing rivets. Also measure lining or pad thickness above rivet head at thinnest point. On wire-backed linings and pads, inspect for wire exposed in the friction surface. On all linings and pads, check for broken or cracked linings or pads, parts of lining or pads not firmly attached to shoe, and for contamination and excessively uneven lining wear.

Points of rejection:

1. At thinnest point, is less than 3/16 inch on bonded linings or pads.
2. Any rivets are loose or missing.
3. Rivet lining/pad is less than 1/32 inch at rivet head's thinnest point.
4. Wire is visible in the friction surface on wire-backed linings or pads.
5. Lining or pad is broken, cracked or not firmly and completely attached to shoe. Friction surface is contaminated with oil or grease.
6. Lining or pad wear is extremely uneven.

Mechanical (brake parts)

Check the condition of the following components: worn pins, missing or defective cotter pins, broken or missing springs, worn cables, clevises, couplings, rods, and anchor pins. Next check for frozen, rusted, or inoperative connections, missing springs, clips, and defective grease retainers. Check pedal shaft and bearings for high friction, wear, and misalignment. Inspect for restriction of shoe movement at backing plate for bend between brake shoe and anchor pins.

Points of rejection:

1. Mechanical parts missing, broken, or badly worn.
2. Pedal, linkage, or brake components have excessive friction.
3. Pedal levers are improperly positioned or misaligned.

L Emergency Brake System

Apply the emergency operating control fully or release air pressure from the spring break actuators using the manual control valve. Observe locking and holding feature of the actuating mechanism. Observe operating mechanism for bottoming before brakes are fully applied. Observe to determine if spring brakes apply when control valve is manually operated. Inspect for worn, missing, or defective cotter pins, springs, rods, yokes, coupling or anchor pins, and cables. Observe if mechanism releases brake when release control is operated.

Points of rejection:

1. Operating mechanism fails to hold brakes in applied position without manual effort.
2. Operating mechanism bottoms before brakes are fully applied.
3. Spring brakes fail to apply when control valve is operated.
4. Mechanical parts are missing, broken or badly worn, or pull cables are badly worn, stretched, frayed, or not operating freely.
5. Brakes do not fully release when release control is operated.

M Parking-Brake

Set the parking brake firmly to determine reserve travel of the hand lever or foot pedal.



▶ PART 2: BUS CHASSIS INSPECTION



Inspect band type parking brake on propeller (drive) shaft for presence of oil or grease, condition of lining, and tightness.

Points of rejection:

1. No lever reserve "travel."
2. Lining is worn to less than 1/32 inch at the center of the shoe
3. Lining is worn through to steel band.
4. Lining fails to make proper contact with the drum when brake is applied.

Anti-Lock Brake System (ABS)



All school buses are required to be equipped with ABS brakes if they are air brake equipped and manufactured in 1998 or later or manufactured with hydraulic brakes in 1999 or later.

ABS Self-Test: Ignition turned on, amber light comes on, then flashes twice and remains on for several seconds before going out.

Points of rejection:

1. Failure indicator lamp fails to function.
2. ABS warning light does not come on with ignition, does not flash, fails to go off or comes on again at any other time.

Exhaust System

A school bus does not pass inspection if any of the following exhaust deficiencies exist.

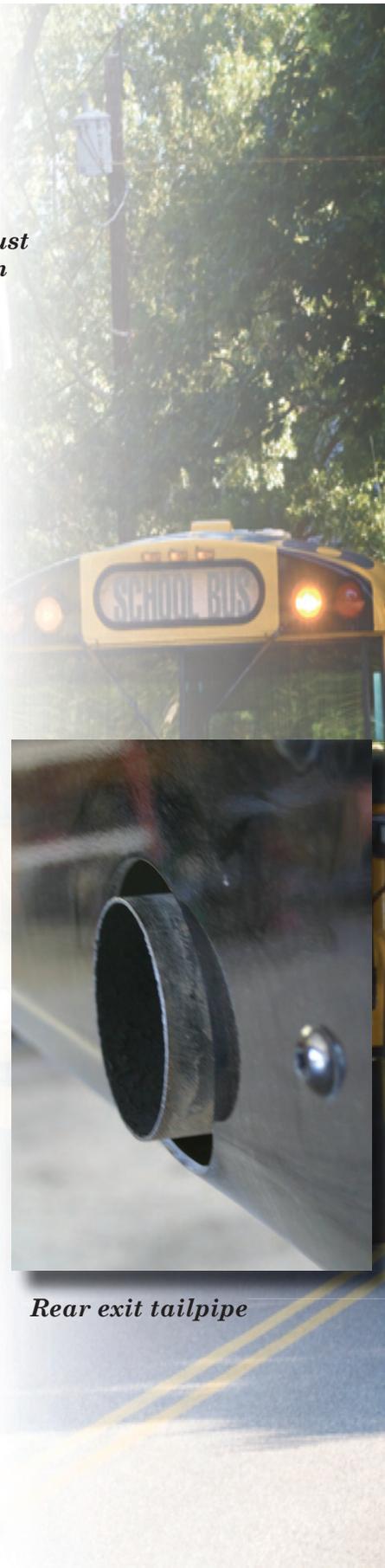
- A** Any exhaust system determined to be leaking at a point forward of or directly below the school bus body is cause for rejection.





Exhaust system

- B** Exhaust system does not meet original equipment manufacturer's (OEM) specifications for mounting brackets.
- C** The tailpipe may be flush with, but not extend out more than two (2) inches beyond the perimeter of, the body for side-exit pipe or the bumper for rear exit pipe.
- D** The tailpipe must exit to the left of the emergency exit door in the rear of the vehicle or to the left side of the bus in front of or behind the rear drive axle. The tailpipe exit location on all Types A-1 or B-1 buses may be according to the manufacturer's standard. The tailpipe must not exit beneath any fuel filler location or beneath any emergency door.
- E** No part of the exhaust system of any school bus must be so located as would be likely to result in burning, charring, or damaging the electrical wiring, fuel supply, or any combustible part of the school bus.



Rear exit tailpipe

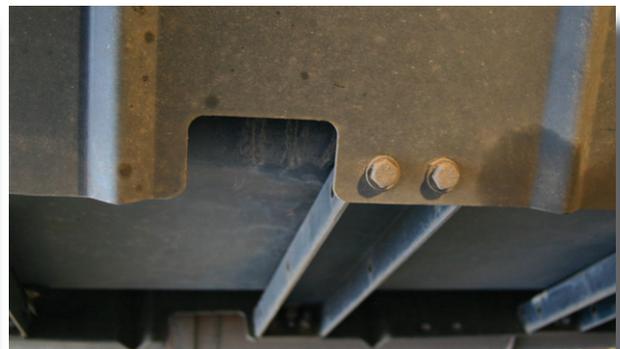
Fuel System

Points of rejection:

1. A fuel system with a visible leak at any point.
2. A fuel tank filler cap missing.
3. A fuel tank not securely attached to the school bus by reason of loose, broken or missing mounting bolts or brackets.
4. Fuel tank integrity cage-missing or loose mounting bolt(s); structural cracks or cracked welds.
5. Fuel lines not secured with fasteners.



Fuel door in good condition



Fuel tank securely mounted

Steering

A school bus does not pass inspection if any of the following deficiencies are found in the steering mechanism.

- A** Steering Wheel Free Play (on vehicles equipped with power steering, the engine must be running)

Note: Steering wheel free play must not exceed the requirements listed below:

Steering Wheel Diameter	Manual System Movement	Power System Movement
16" (41 cm)	2" (5.1 cm)	4 1/2" (11.5 cm)
18" (46 cm)	2 1/4" (5.4 cm)	4 3/4" (12 cm)
20" (51 cm)	2 1/2" (6.4 cm)	5 1/4" (13.5 cm)
22" (56 cm)	2 3/4" (7 cm)	5 3/4" (14.5 cm)

Note: This chamber has three (3) air lines and is found on motor coaches.

Points of rejection:

1. Steering Column
 - a. Any absence or looseness of U bolt(s) or positioning part(s).
 - b. Worn, faulty or obviously weld-repaired universal joint(s).
 - c. Steering wheel not properly secured.
2. Front Axle Beam and all steering components other than steering column
 - a. Any crack(s).
 - b. Any obvious welded repairs(s).

▶ PART 2: BUS CHASSIS INSPECTION



B Steering Gear Box

Points of rejection:

1. Any mounting bolt(s) loose or missing.
2. Any crack(s) in gear box or mounting brackets.

C Pitman Arm

Points of rejection:

1. Any looseness of the pitman arm on the steering gear output shaft.
2. Power Steering. Auxiliary power assist cylinder loose.
3. Ball and Socket Joints



Pitman arm

D Tie Rods and Drag Links

Points of rejection:

1. Loose clamp(s) or clamp bolt(s) on tie rods or drag links.
2. Any looseness in any threaded joint.

3. Nut(s) loose or missing on tie rods pitman arm, drag link, steering arm, or tie rod arm.
4. **Steering System.** Any modification or other condition that interferes with free movement of any steering component.

Suspension

A school bus does not pass inspection if any of the following deficiencies are found.

- A** Any U bolt(s), spring hanger(s), or other axle positioning part(s)

Point of rejection:

Cracked, broken, loose, or missing part(s), resulting in shifting of an axle from its normal position. (After a turn, lateral axle displacement is normal with some suspensions. Forward or rearward operation in a straight line will cause the axle to return to alignment).

- B** Spring Assembly

Points of rejection:

1. Any leaves in a leaf spring assembly broken or missing.
2. Any broken main leaf in a leaf spring assembly. (Includes assembly with more than one main spring.)
3. Coil spring broken.
4. Rubber spring missing.
5. One or more leaves displaced in a manner that could result in with a tire, rim, brake drum, or frame.
6. Broken torsion bar spring in a torsion bar suspension.



7. Deflated air suspension, i.e., system failure, leak, etc.

Frame Members

A school bus does not pass inspection if any of the following deficiencies are found in the frame.

Points of rejection:

1. Any cracked, broken, loose, or sagging frame member.
2. Any loose or missing fasteners including fasteners attaching functional components such as engine, transmission, steering gear, suspension, and body parts.
3. Tire and Wheel Clearance. Any condition, including loading, that causes the body or frame to be in contact with a tire or any part of the wheel assemblies.

Tires, Wheels & Rims

- A** Any tire on the steering axle of a school bus

Points of rejection:

1. With less than 4/32 inch tread when measured at any point on a major tread groove.
2. Has body ply or belt material exposed through the tread or sidewall.
3. Has any tread or sidewall separation.
4. Has a cut where the ply or belt material is exposed.
5. Marked "Not for Highway Use" or displaying other marking which would exclude use on steering axle.



6. A tube-type radial tire without radial tube stem markings. These include a red band around the tube stem, the word "radial" embossed in metal stems, or the word "radial" molded in rubber stems.
7. Mixing bias and radial tires on the same axle.
8. Tire flap protrudes through valve slot in rim and touches stem.
9. Re-grooved tire.
10. Boot, blowout patch, or other ply repair.
11. Weight carried exceeds tire load limit. This includes overloaded tire resulting from low air pressure.
12. Tire is flat or has noticeable leak (e.g., can be heard or felt).
13. Recapped or retreaded tire(s).
14. So mounted or inflated that it comes in contact with any part of the vehicle.



Measuring tire tread depth



PART 2: BUS CHASSIS INSPECTION



B All tires other than those found on the rear axle of a school bus

Points of rejection:

1. Weight carried exceeds tire load limit. This includes overloaded tire resulting from low air pressure.
2. Tire is flat or has noticeable leak (e.g., can be heard or felt).
3. Has body ply or belt material exposed through the tread or sidewall.
4. Has any tread or sidewall separation.
5. Has a cut where the ply or belt material is exposed.
6. So mounted or inflated that it comes in contact with any part of the vehicle. (This includes a tire that contacts its mate.)
7. Marked "Not for Highway Use" or otherwise marked and having like meaning.
8. With less than 2/32 inch tread when measured at any point on a major tread groove.

C Wheels and rims

Points of rejection:

1. Lock or side ring: Bent, broken, improperly seated, sprung, or mismatched ring(s).
2. Wheels and rims cracked, broken, or have elongated bolt holes.
3. Fasteners (both spoke and disc wheels): Any loose, missing, broken, cracked, stripped, or otherwise ineffective fasteners.
4. Welds:
 - a. Any crack in welds attaching tubeless demountable rim to adapter.
 - b. Any welded repair other than disc to rim attachment on steel disc wheel(s) mounted on the steering axle.



Aisle

PART

3

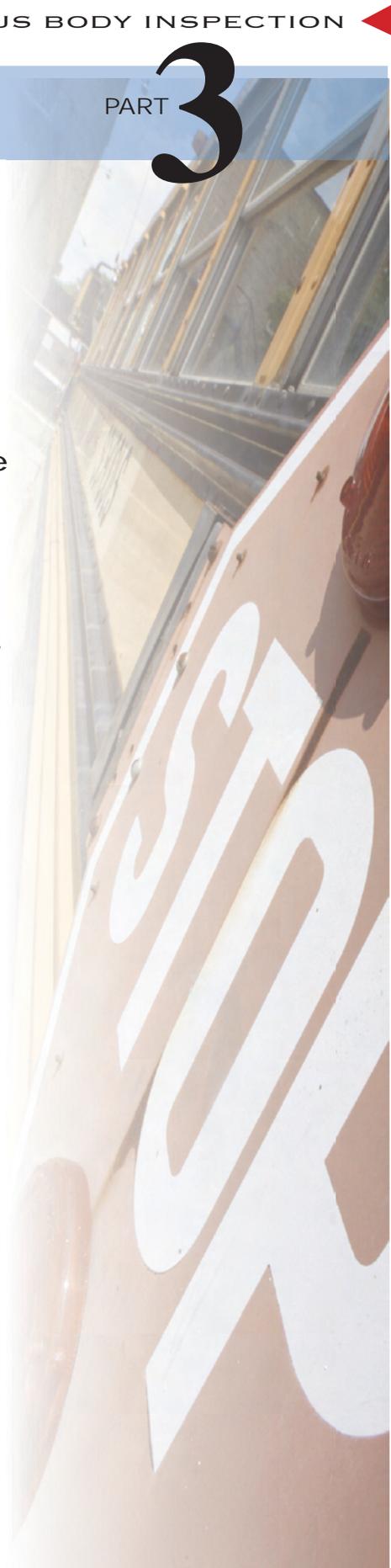
All emergency exit doors must be accessible by a 12-inch minimum aisle. The aisle must be unobstructed at all times by any type of barrier, seat, wheelchair or tiedown, unless a flip seat is installed and occupied. A flip seat in the unoccupied (up) position must not obstruct the 12-inch minimum aisle to any side emergency exit door.

Points of rejection:

1. Obstructions and modifications that reduce required access to emergency door or exits.
2. Floor covering is degraded to the extent it is a tripping/falling hazard.



Aisle without obstructions or tripping hazards



Back-up Warning Alarm

The back-up warning alarm is required on 1997 or newer buses.

Point of rejection:
Back-up warning alarm is not operable.

Battery

The body manufacturer must securely attach the battery on a slide-out or swing-out tray in a closed, vented compartment in the body skirt so that the battery is accessible for convenient servicing from the outside. The battery compartment door or cover must be hinged at the front or top and must be secured by an adequate and conveniently operated latch or other type fastener.

Battery cables installed by the body manufacturer must meet chassis manufacturer and SAE (Society of Automotive Engineers) requirements. Battery cables must be long enough to allow the battery tray to fully extend.

Point of rejection:
Battery improperly secured.

Bumper

School buses must be equipped with a front bumper that extends beyond the forward-most part of the body, grille, hood and fenders and to the outer edges of the fenders at the bumper's top line. The front bumper, except breakaway bumper ends, must be strong enough to permit pushing a vehicle of equal gross vehicle weight without permanent distortion to the bumper, chassis or body.

Tow eyes or hooks must be furnished and attached so that they do not project beyond the front bumper. (Type A buses are exempt from this requirement for front tow hooks or eyes due to built-in crush zones.)

The rear bumper on Type A-1 buses must be at least 8 inches wide (high). Rear bumpers on Types A-2, B, C and D buses must be at least 9 1/2 inches wide (high). The rear bumper must wrap around the back corners of the bus. It must extend forward at least 12 inches, measured from the rear-most point of the body at the floor line, and must be mounted flush with the sides of the body or protected with an end panel. The bumper must be attached to the chassis frame in such a manner that it may be removed. It must be braced to resist deformation of the bumper resulting from impact from the rear or the side. It must be designed to discourage hitching of rides by an individual.

The bottom of the rear bumper must not be more than 30 inches above ground level.





Points of rejection:

1. Mounting bolts are loose or missing.
2. Bumper has structural cracks.



Front bumper

Crossing Control Arm



School buses may be equipped with a crossing control arm mounted on the right side of the front bumper. When opened, this arm must extend in a line parallel to the body side and aligned with the right front wheel. The end of the arm must be rounded.

The crossing control arm must extend simultaneously with the stop signal arm(s), activated by stop signal arm controls. When extended, the crossing control arm must extend at least 70 inches (measured from the bumper at the arm assembly attachment point). It must not extend past the end of the bumper when in the stowed position.



Point of rejection:
Does not function as designed.

Defroster

Defrosting and defogging equipment must direct a sufficient flow of heated air onto the windshield, the window to the left of the driver, and the glass in the viewing area directly to the right of the driver, to eliminate frost, fog and snow.

Auxiliary fans are not considered defrosting or defogging systems. Portable heaters cannot be used.

Point of rejection:
Does not perform as required by OEM specification.

Door (Service)

The entrance door must be a split-type door and must open outward. It must be located on the right side of the bus, opposite and within direct view of the driver. The door must have a minimum horizontal opening of 24 inches and a minimum vertical opening of 68 inches. It must be under the driver's control. When a hand lever is used, no part must come together that will shear or crush fingers.

The door must function as required by OEM specification.



PART 3: BUS BODY INSPECTION



Points of rejection:

1. Door opening mechanism inoperable.
2. Red loading light switch malfunctions.
3. Door will not securely close.



Door hand lever



Entrance door release

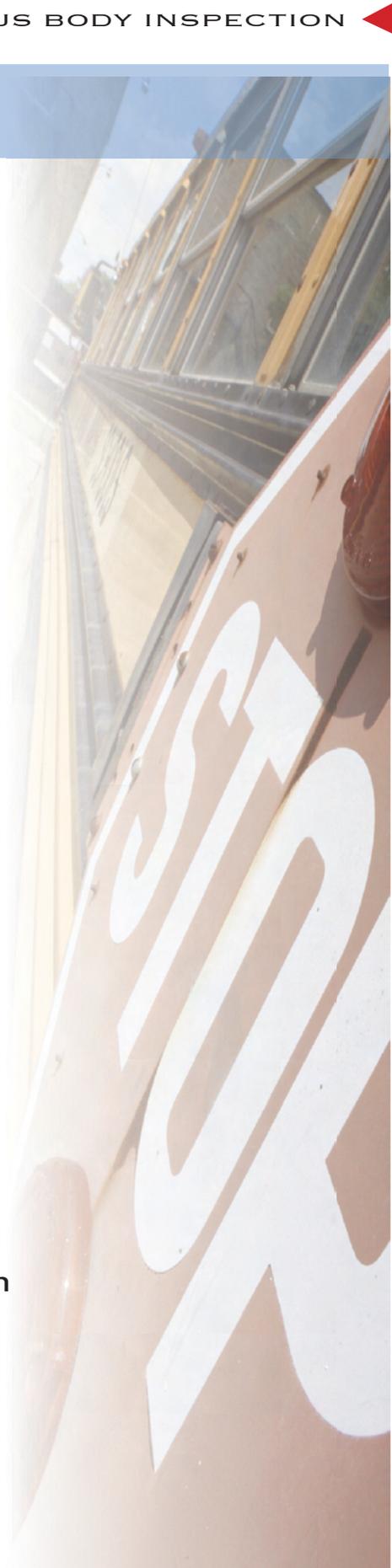
Emergency Exits

All exits must comply with the operating requirements of Federal Motor Vehicle Safety Standard (FMVSS) #217. FMVSS 217 requires the following:

- A** Emergency door and all exits must open and close as designed.
- B** All warning buzzers must function when the ignition is on and the exits are opened.
- C** The words "Emergency Door" must be clearly visible in 2-inch letters directly above the door.
- D** A padded header must be in place above the emergency door (for buses manufactured after January 1, 1986).

Points of rejection:

1. Blocked exits
2. Emergency door requires excess force or will not open
3. Warning buzzers do not function
4. Emergency Door is padlocked
5. Optional door interlock system does not function as designed. Engine cannot crank with rear door locked.
6. Side emergency escape windows do not open or warning buzzers do not function
7. Roof escape hatches are missing or inoperable. Warning buzzers do not function
8. Door hold open devices do not function on (1997 and newer models).
9. Emergency door(s) have a padlock and hasp that may be inadvertently locked with students on board.



PART 3: BUS BODY INSPECTION



Roof escape hatch



Side emergency escape window



Emergency door from inside



Emergency door unlocked

Emergency Equipment

All buses must be equipped with the following items:

A Fire Extinguisher

The bus must be equipped with at least one UL-approved pressurized dry chemical fire extinguisher. The extinguisher must have a rating of 2-A:10-BC or greater. The extinguisher must be secured in a mounted bracket in the driver's compartment and must be readily accessible to the driver and to passengers. A pressure gauge must be mounted on the extinguisher and must be easily read without moving the extinguisher from its mounted position.

Points of rejection:

1. Insufficient size or missing.
2. Over or undercharged (gauge must be in the green "safe" range).



Fire extinguisher mounted in driver's compartment





B First Aid and Body Fluid Cleanup Kits

The bus must have a removable, moisture-proof and dust-proof first aid kit in an accessible place in the driver's compartment. The kit must be mounted and identified as a first aid kit. Its location must be marked. Suggested contents include:

- 2- 1 inch x 2 1/2 yards of adhesive tape rolls
- 24- sterile gauze pads (3 x 3 inches)
- 100- 3/4 x 3 inches adhesive bandages
- 8- 2 inch bandage compress
- 10- 3 inch bandage compress
- 2- 2 inch x 6 feet sterile gauze roller bandages
- 2- non-sterile triangular bandages, minimum 39 x 35 x 54 Inches with two safety pins
- 3- sterile gauze pads 36 x 36 inches
- 3- sterile eye pads
- 1- rounded-end scissors
- 1- pair medical examination gloves
- 1- mouth-to-mouth airway

The bus must have a removable, moisture-proof body fluid clean-up kit in an accessible place in the driver's compartment. It must be mounted and identified as a body fluid clean-up kit.

First aid and body fluid cleanup kits must meet OEM specifications.

Points of rejection:

1. Kits are missing or items missing from the kit.
2. Kits are not accessible from the driver compartment.



A first aid kit

C Warning Devices

Each school bus must contain at least three reflecting triangle road-warning devices mounted in an accessible place.

Points of rejection:

1. One or more missing reflectors
2. Reflectors malfunction or have broken or missing components.

D Seatbelt Cutter

All buses equipped for transporting students with special needs must have a seatbelt cutter mounted within reach of a belted driver (for buses manufactured on or after April 1, 1993).

Point of rejection:

Seatbelt cutter is missing.



Floors



Floors must be covered with a permanently-bonded floor covering. Floors cannot have visible holes in the aisle, around seat legs, or soft spots in the aisle. No floor repairs can extrude above the level of the original flooring.

Points of rejection:

1. Floor covering is loose and may create a tripping or falling hazard.
2. Flooring material is rusted or deteriorated to the point that seat securement is weakened.



Floor covering in good condition

Heaters & Heater Hoses

The heater must be hot water and/or combustion type. If only one heater is used, it must be fresh air or combination fresh air and recirculation type. If more than one heater is used, additional heaters may be recirculating air type.

Heater hoses must be adequately supported to guard against excessive wear due to vibration. The hoses must not dangle or rub against the chassis or any sharp edges and must not interfere with or restrict the operation of any engine function.

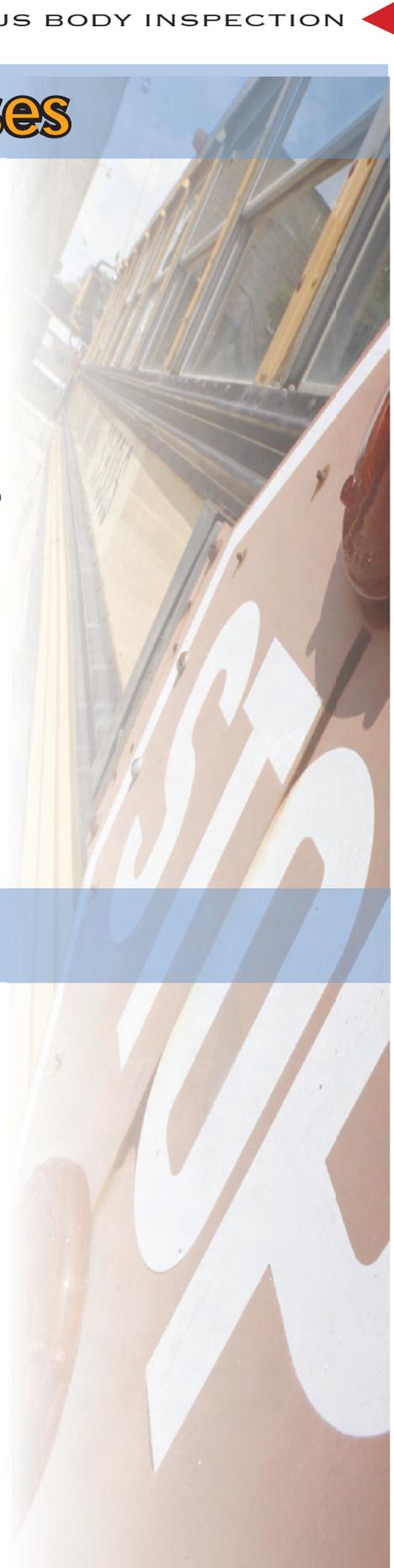
Points of rejection:

1. Heater does not function as designed.
2. Heater hoses are inadequately supported.

Horn

Point of rejection:

Horn does not function as designed.



Lettering



The bus body must bear the words “School Bus” or “Activity Bus” in letters at least eight (8) inches high. The lettering must be readily visible from a distance of 500 feet under normal atmospheric conditions. (Exception: “motor coach” buses manufactured prior to April 1, 1977 used for auxiliary transportation.)

All emergency exits must be clearly marked and the designed capacity of the bus must be posted in a conspicuous place.

Points of rejection:

1. Lettering or paint faded to the degree that it is not recognizable from 500 feet under normal conditions.
2. Emergency exits not clearly marked.



Front and back lettering

Interior

The interior of the bus must be free of all unnecessary projections to minimize the potential for injury. Open luggage shelves, or racks are prohibited in buses manufactured on or after April 1, 1993. (Exception: Air conditioning units are excepted.)

At least one handrail must be installed to assist passengers during entry or exit. All handrails must be free of snagging hazards and must comply with mandatory recalls.

Points of rejection:

1. Unnecessary projections exist.
2. No handrail, or handrail with snagging hazards.

Lamps & Signals

Interior lamps which illuminate the aisle and the stepwell must be provided. The stepwell lamp must be illuminated by an entrance door-operated switch, to illuminate only when headlamps and clearance lamps are on and the entrance door is open.

School buses must have alternately flashing signal lamps (except for multi-function school activity buses). The bus must have two (2) red lamps at the rear of the vehicle and two (2) red lamps at the front of the vehicle. Red lamps must flash at any time the stop signal arm is extended.



PART 3: BUS BODY INSPECTION



The bus body must be equipped with amber rear turn signal lamps that are at least seven (7) inches in diameter (if round) or at least 38 square inches of illuminated area (if not round). These lamps must meet the requirements of FMVSS #108. Buses must also be equipped with amber side-mounted turn signal lamps mounted rearward of the stop signal arm (on the left side) and rearward of the entrance door (on the right side).

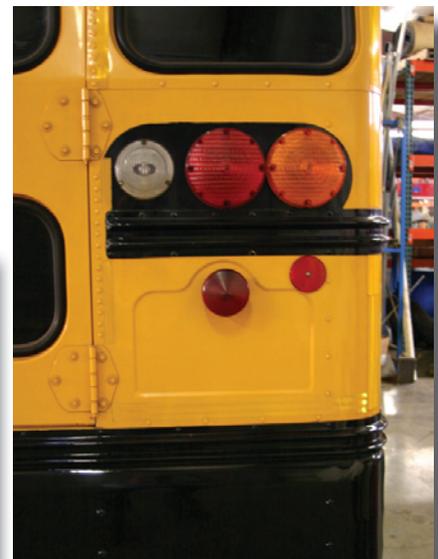
Buses must be equipped with four (4) combination red stop/tail lamps. Stop lamps must be activated by the service brakes and must emit a steady light when illuminated.

Buses must be equipped with two (2) white rear back-up lamps that meet the requirements of FMVSS #108.

Point of rejection:
Lamps and signals do not operate as designed.



Front lamps and signals



Rear turn signal lamps

Mirrors

All mirrors must conform to the OEM specifications for the year of manufacture. All mirrors must be easily adjustable but rigidly mounted to reduce vibration. All mirror surfaces must be free of cracks or chips.

Points of rejection:

1. Mirror surfaces cracked or chipped.
2. Loose mirror mounts.



Mirror surface in good condition



Driver's side mirror



Body Mounts

All body mounts must meet OEM specifications.

Point of rejection:
Missing bolts or fasteners.

Seats & Restraining Barriers

A Passenger Seats and Barriers

All seat cushion latches must be present. Each seat leg must be secured to the floor by at least two (2) bolts, washers, and nuts. Flange-head nuts may be used in lieu of nuts and washers, or seats may be track-mounted in conformance with FMVSS #222. All seat frames attached to the seat rail must be fastened with two (2) bolts, washers, and nut or flange-head nuts. All covering material must be free of cuts and no exposed metal frame components may extrude from the seat frame.

All school buses must be equipped with restraining barriers that conform to the requirements of FMVSS #222. All buses manufactured on or after April 1, 1993 must have restraining barrier and passenger seat covering materials that enable them to meet the criteria contained in the School Bus Seat Upholstery Fire Block Test. All buses manufactured prior to this date use covering material that meets FMVSS #302.





Points of rejection:

1. Any cuts in the upholstery that exposes seat foam.
2. Any missing mounting bolt(s).
3. Foam padding is degraded to the point that the metal seat frame can be felt by pressing on the covering.
4. Any exposed metal.
5. Seats repaired with non-specified material.
6. Passenger Seat Belts (Required on buses under 10,000 pounds Gross Vehicle Weight Rating (GVWR). Optional equipment for buses over 10,000 pounds. Must meet OEM specifications with no cuts, tears, and functioning buckles.



A passenger seat in unacceptable condition



A passenger seat showing exposed seat foam





B Driver's Seat and Barriers

The driver's seat supplied by the body manufacturer must be a high back seat. It must be securely mounted with upholstery intact. The seat back must be adjustable to 15 degrees minimum, without requiring the use of tools. All seat adjustment hardware must be operable.

All buses manufactured on or after April 1, 1993 must be equipped with a Type 2 lap/shoulder belt. Buses older than this must be equipped with a lap-type belt. The lap/shoulder belt must be designed to allow for easy adjustment in order to fit properly and to effectively protect drivers.

Points of rejection:

1. Driver's seat has missing or broken mounting hardware.
2. Driver's seatbelt has cuts or tears.
3. Buckles do not function as designed.



Driver's Seatbelt in good condition

Stop Signal Arm

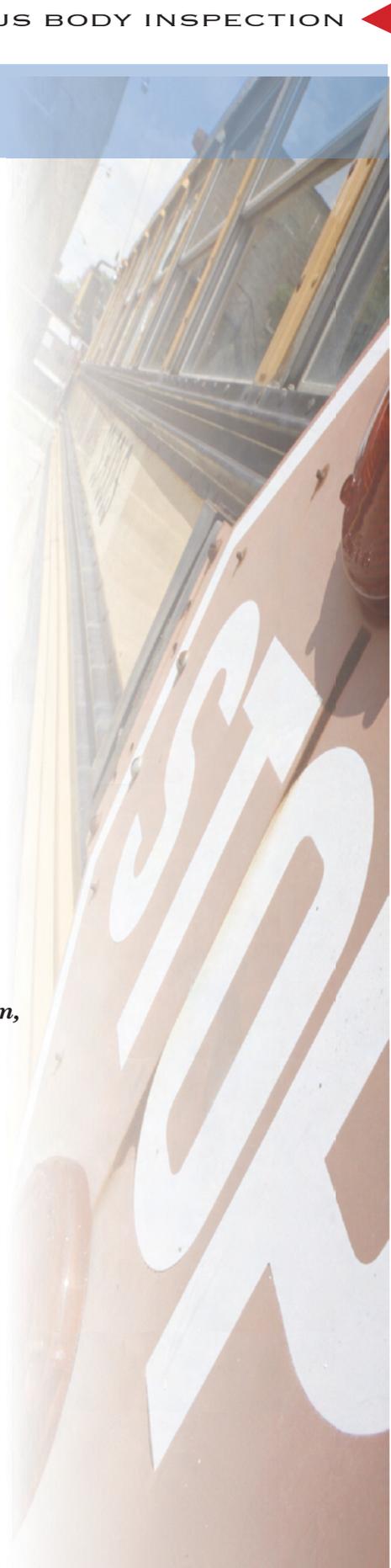
The stop signal arm(s) must be operable as designed.

Points of rejection

1. Any missing or cracked lens.
2. Any flashing lights that are not operable.
3. Lettering or paint faded to the degree that it is not recognizable from 500 feet under normal conditions.
4. Stop arm will not extend when red loading lights are operating.



Stop signal arm, extended



Interior Sun Shield (visor)



On Type A buses, the sun shield (visor) must be installed by the chassis manufacturer. For Types B, C and D buses, an interior adjustable transparent sun shield, with a finished edge and dimensions not less than 6 x 30 inches, must be installed in a position convenient for use by the driver.

Point of rejection:

Sun shield does not function as designed.

Wiring

All wiring must conform to the current standards of the Society of Automotive Engineers (SAE). All wiring and fasteners must be free of cuts or wear to the insulation that may result in an electrical fire.

Each wire passing through metal openings must be protected by a grommet. Wires not enclosed within the body must be fastened securely at intervals of not more than 18 inches.

Point of rejection:

Wiring and fasteners show cuts or wear to the insulation.

Specially-Equipped School Buses

A specially equipped school bus is any school bus that is designed, equipped and/or modified to accommodate students with special transportation needs.

A Wheelchair lifts

Any school bus to be used to transport children who use a wheelchair or other mobile positioning device, or who require life-support equipment that prohibits use of the regular service entrance, must be equipped with a power lift, unless a ramp is needed for unusual circumstances related to passenger needs.

All power lifts must perform as designed by the OEM. The ramp area must not impede access to the emergency exits.

Points of rejection:

1. Lift platform roll stop does not function as designed.
2. Hydraulic lines have a visible leak.

B Securement and restraint system for wheelchair/mobility aid

The term securement system refers to the devices that anchor the wheelchair to the vehicle. The term restraint system refers to the equipment that is intended to limit the movement of the wheelchair occupant in a crash or sudden maneuver.





All wheelchair/mobility aid systems on buses manufactured on or after April 1, 1993 must be forward facing with a four-point anchorage system. This system must include an integral lap/shoulder occupant restraint system.

Points of rejection:

1. Incorrect securement and restraint system for the date of manufacture of the bus.
2. Securement aids and restraint system straps have cuts or tears.
3. Securement floor plates have loose or missing fasteners.

Windshield & Other Glass



School bus windshields and other glass must be marked “DOT Approved” (Department of Transportation).

Common items to check include the following:

1. Inspect all glass for outright breakage.
2. Inspect for cracks in critical area.
3. Inspect for star breakage or shot damage in critical area.
4. Inspect windshields/windows for hazardous cracks, chips, sharp edges.
5. Inspect for windows that are broken, have exposed sharp edges or are cracked or separated allowing one piece of glass to be moved relative to another.
6. Inspect side windows for operation. Inspect for any non-transparent material, such as plywood, etc., being used to replace glass.

Points of rejection:

Windshield or other glass is broken or has hazardous cracks, chips, or sharp edges.

Any side window fails to operate as designed.



ANNUAL SCHOOL BUS INSPECTION REPORT

Note: This report must be kept on file at the school district for 5 years.

County of school: _____

School District: _____

Tag No.

Bus No.

Mileage

Date

#	ITEMS INSPECTED	Result	Pass/Fail	Repair Date*
1.	Service Brake			
2.	Parking Brake			
3.	Emergency Brake			
4.	Brake Hoses, Tubing			
5.	Brake Shoes & Pads			
6.	Low Pressure & Warning			
7.	Air Compressor			
8.	Air Supply Tank			
9.	Compressor Cut Out			
10.	Slack Adjustors			
11.	Brake Drums, Rotors			
12.	Hydraulic Brakes			
13.	Master Cylinder			
14.	Brake Vacuum System			
15.	Brake Controls			
16.	Axle, Column, Nuts			
17.	Tie Rods, Gear Box			
18.	Steering Fluid			
19.	Spring, Assembly			
20.	Torque, Radius, Track			
21.	Suspension, Shocks			
22.	Axle Assembly			
23.	Shackles, U-Bolts			
24.	Frame, Subframe			
25.	Bumpers			
26.	Fuel Tank			
27.	Fuel Tank Cage			
28.	Fuel Tank Cap			
29.	Exhaust & Tail Pipes			
30.	Muffler			
31.	Brackets, Clamps, Bolts			
32.	Tires			
33.	Wheels and Rims			
34.	Batttery & Clamps			
35.	Steering Wheel			

#	ITEMS INSPECTED	Result	Pass/Fail	Repair Date*
36.	Service Door			
37.	Clutch, Gas Pedal			
38.	Transmiss. Controls			
39.	Heater/Defroster			
40.	W. Wiper & Washer			
41.	Speedometer/Gauges			
42.	Horn			
43.	Hi/Low Beam Lights			
44.	Warn. Light, Buzzer			
45.	Turn Signal Lights			
46.	Brake & Tail Lights			
47.	Red & Amber Lights			
48.	"Stop Sign" Arm			
49.	Crossing Arm			
50.	Clearance Lights			
51.	Strobe Light			
52.	Reflectors			
53.	Crossover Mirrors			
54.	Exterior Mirrors			
55.	Interior Mirror			
56.	Windows and Glass			
57.	Lettering			
58.	Floor & Covering			
59.	Driver Seat			
60.	Driver Seat Belt			
61.	Passenger Seats			
62.	Passenger Seat Belts			
63.	Emergency Exits			
64.	First Aid Kit			
65.	Body Fluid Kit			
66.	Fire Extinguisher			
67.	Emergency Reflector			
68.	Wheelchair Lift			
69.	Wheelchair Tiedowns			
70.	Interlock System			

NAME OF INSPECTION FACILITY: _____

ADDRESS, CITY, ZIP CODE: _____

(PRINT) NAME OF INSPECTOR: _____

SIGNATURE OF INSPECTOR:

**Attach documentation of repairs.*