

A close-up, slightly blurred photograph of the front of a school bus. The words "SCHOOL BUS" are prominently displayed in large, bold, black letters on a white rectangular sign mounted on the front of the bus. Above the sign, three small, dark, horn-like structures are visible. On either side of the sign are large, round headlights. The background is a dark, overcast sky. The entire image is overlaid with a semi-transparent blue filter.

**SCHOOL BUS**

# **2019 OKLAHOMA SCHOOL BUS INSPECTION GUIDE**

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OKLAHOMA STATE DEPARTMENT OF  
**EDUCATION**  
— CHAMPION EXCELLENCE —

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## Sources of Standards

### National Congress on School Transportation, National School Transportation Specifications & Procedure

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 to other state agencies having statewide responsibilities for 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 manufactures 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](http://www.nhtsa.dot.gov).

## Oklahoma Administrative Code

### 210:30-5-6(b)(c) School Buses

#### (b) School Bus Inspections

A driver shall perform a daily pre-trip safety inspection of the vehicle, the report shall cover at least the following parts and accessories: service brakes, parking brake, steering mechanism, lighting devices and reflectors, tires, horn, windshield wipers, all mirrors, wheels and rims, emergency equipment and gauges.

1. The driver shall make a daily written report describing the condition of the bus and listing any deficiencies. This report is to remain on file with the chief administrative officer of the local school district or designee of the chief administrative officer for a period of ninety (90) days.
2. A driver shall perform a daily post-trip inspection of the interior passenger area of the vehicle to ensure that no pupils remain on the vehicle after the end of the route.

3. A school district shall have each school bus mechanically inspected annually by an inspector approved by the Oklahoma State Department of Education.
4. At least twice during each school year, each pupil who is transported in a school vehicle shall be instructed in safe riding practices, and participate in emergency evacuation drills. This instruction should be conducted during the first two weeks of each semester.

### **(c) School Bus Inspector Qualifications**

1. Any person licensed to inspect school buses by the Department of Public Safety under the Motor Vehicle Laws of Oklahoma prior to July 1, 2001, may be qualified to perform annual school bus inspections until July 1, 2014.
2. Any person not meeting the qualifications as prescribed in (1) of this subsection may be qualified to perform the annual school bus inspection by submitting proof to the Oklahoma State Department of Education that they meet one or more of the following qualifications:
  - a. Two years' experience as an automotive technician and certification by the Association for Automotive Service Excellence (ASE) in medium-heavy truck brake, transit bus brake, school bus brake, medium-heavy truck preventive maintenance inspection, or transit bus preventive maintenance inspection; or
  - b. Any person qualified to perform inspections under the Federal Motor Carrier Safety Act, appendix G, and accompanying regulations at 49 CFR 396.19 will be qualified to inspect any school bus except for the brakes. Persons qualified to inspect brakes under 49 CFR 396.25 shall be qualified to inspect the brakes on any school bus; or
  - c. Successful completion of an Inspector's Training Course approved by the Oklahoma State Department of Education.

## **Inspector Responsibilities**

Inspectors shall be responsible for the following:

- Maintain their certification and have available upon request.
- Properly and thoroughly conduct the inspection of all vehicles in accordance with the official rules. (see Sources of Standards section above)
- Complete and sign the annual inspection form including SDE inspector number.
- Have adequate knowledge of the current official rules.
- Surrender his/her inspector license/certification upon receiving notice of suspension or revocation by SDE.

## **Inspection Records**

Every district shall keep the inspection records for all district CMV vehicles at least 14 months per FMCSA 396.21(b)(1).

Only school buses by federal definition

## Brake Systems

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 mechanism designed to stop a motor vehicle after a failure 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 primary brake system used for slowing and stopping a vehicle.

### Air Drum Brake System

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:

- 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 or cam).
- Missing/loose or broken mechanical components including: shoes, lining pads, springs, anchor pins, spiders, cam rollers, “s” cam bracket, push rods, air chamber, and mounting bolts.
- The air brake system cannot lose more than 3 psi in 60 seconds with the service brake applied.
- Readjustment limits. The maximum stroke at which brake should be readjusted is given below. Any brake 25 % (1/4 inch), or more past the readjustment limit or any two brakes less than 25% 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

Recommend at least one wheel and drum assembly per axle 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:

- Lining or pad is not firmly attached to the shoe.
- Saturated with oil or grease.
- Non-steering axles: Lining with a thickness of less than 1/4 inch at the shoe center for air drum brakes.

- Steering axles: Lining with a thickness less than  $\frac{1}{4}$  inch at the shoe center for drum brakes.
- Missing brake on any axle.
- Mismatch across any steering axle of:
  - a. Air chamber sizes.
  - b. Slack adjuster length.

Check to determine if inside drum diameter is greater than maximum diameter stamped on 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 (3mm) over the original diameter.

### **C. Parking Brake System**

Each commercial motor vehicle must be equipped with a parking brake system that meets the applicable requirements of §393.41

#### **Points of rejection:**

- Brakes on the school bus are not applied upon actuation of parking brake control.
- The air brake system cannot lose more than 2 psi in 60 seconds with the parking brake released.
- A leak beyond 2 psi static and 3 psi applied in 60 seconds.

### **D. Brake Drum**

#### **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).

### **E. Brake Hose**

#### **Points of rejection:**

- Hose with any damage extending through the outer reinforcement ply. (Rubber impregnated fabric cover is not reinforcement ply.) Exposure of second color is cause for rejection.
- Bulge or swelling when air pressure is applied.
- Any leaks.
- Two rubber hoses joined/spliced from frame to brake chambers.
- Air hose cracked, broken, or crimped.

### **F. Brake Tubing**

Thermoplastic nylon may have braid reinforcement or color difference between cover and inner tube.

**Points of rejection:**

- Any leak beyond specification for air loss.
- Tubing cracked, damaged by heat, broken, or crimped.

**G. Low Pressure Warning Device****Point of rejection:**

- Inoperable warning signal that is audible and visible to a person in the normal driving position and provides a continuous warning to the driver whenever the air pressure in the service reservoir system is at 379 kPa (55 psi) and below, or one-half of the compressor governor cutout pressure, whichever is less.

**H. Air Compressor****Points of rejection:**

- Compressor drive belts in condition of impending or probable failure.
- Loose compressor mounting bolts.
- Cracked, broken, or loose pulley.
- Cracked or broken mounting brackets, braces, or adapters.
- The governor cut-in pressure is required to be 30 psi less than the cut-out psi.
- Air pressure should build from 85 to 100 psi within 45 seconds. Use high-idle or engine should be revved to 1,200 rpm.

**Air Disc Brakes**

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

**A. Service Brakes****Points of rejection:**

- Absence of braking action on any axle required to have brakes upon application of the service brakes.
- Missing/loose or broken mechanical components including: calipers, pads, brake chamber, spider and mounting bolts.
- The air brake system cannot lose more than 3 psi in 60 seconds with the brakes applied.

**B. Brake Pads**

Recommend remove at least one wheel and caliper assembly per axle 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:**

- Substantial cracks of the friction surface extending to open edge.
- Any external cracks or bluing.
- Evidence of mechanical damage other than the normal wear.
- Friction surface is contaminated with oil or grease.
- If rotor thickness is less than the minimum standard stamped on assembly.

**C. Disc Pads**

Check the condition of pads. 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:**

- At thinnest point on steer axle, is less than 1/4 inch on pads.
- At thinnest point on drive axle, is less than 1/8 inch on pads.
- Pad is broken, cracked, or not firmly and completely attached to shoe. Friction surface is contaminated with oil or grease.
- Pad wear is extremely uneven.

**D. Parking Brake System**

Each commercial motor vehicle must be equipped with a parking brake system that meets the applicable requirements of §393.41

**Point of rejection:**

- No brakes on the school bus are applied upon actuation of parking brake control.

**E. Brake Hose****Points of rejection:**

- Hose with any damage extending through the outer reinforcement ply. (Rubber impregnated fabric cover is not reinforcement ply.) Exposure of second color is cause for rejection.
- Bulge or swelling when air pressure is applied.
- Any leaks.
- Two rubber hoses joined/spliced from frame to brake chambers.
- Air hose cracked, broken, or crimped.

**F. Brake Tubing**

Thermoplastic nylon may have braid reinforcement or color difference between cover and inner tube.



**Points of rejection:**

- Any leak beyond specification for air loss. A leak beyond 2 psi static and 3 psi applied in 60 seconds.
- Tubing cracked, damaged by heat, broken, or crimped.

**G. Low Pressure Warning Device / Emergency Brake Engagement****Points of rejection:**

- Must have audible warning and light that comes on at or before 60 psi or  $\frac{1}{2}$  the governor cutout pressure, whichever is less.
- Does not actuate the park brake with approximately 30 psi remaining.

**H. Air Compressor****Points of rejection:**

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

Section 571.121. Standard No. 121; Air brake systems.

S5.1.1.1 Air compressor cut-in pressure. The air compressor governor cut-in pressure for each bus shall be 85 p.s.i. or greater.

S5.1.1 Air compressor. An air compressor of sufficient capacity to increase air pressure in the supply and service reservoirs from 85 psi to 100 psi when the engine is operating at the vehicle manufacturer's maximum recommended r.p.m. within a time, in seconds, determined by the quotient (Actual reservoir capacity  $\times$  25)/ Required reservoir capacity.

**Hydraulic Brakes****A. Failure Indicator Lamp**

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 to determine that the brakes stop the vehicle with no excessive pulling to the right or left. Should meet the requirements listed in 49CFR 393.52

**Points of rejection:**

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

**C. Brake System Integrity**

With engine running, pump the brake pedal three times and hold with a force of 25lbs 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:**

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

**D. Brake Pedal Reserve**

With the engine off, depress brake pedal with 25lbs. 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.

**Points 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.
- Power assisted booster motor is inoperable.

**E. Brake Power Unit (if equipped)**

With engine stopped, apply service brake several times to destroy vacuum in system. Depress brake pedal with 25lbs. 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.

**Point of rejection:**

- Any leakage of brake fluid.

**G. Hydraulic Wheel Cylinders, Lines and 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:

- Leakage in the wheel cylinders, master cylinder, brake lines, or hoses.
- Hoses or tubing leak are cracked, chafed, or flattened.
- Brake line has been spliced.

## H. Drum

Recommend 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:

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

Check to determine if inside drum diameter is greater than maximum diameter stamped on 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 (3mm) over the original diameter.

## I. Disc Brakes

Recommend removing at least one wheel and caliper assembly per axle 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:

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



Figure 1

## J. 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:**

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

**K. Mechanical (brake parts)**

Recommend removing at least one wheel and caliper assembly per axle for inspection of pads and drum or rotor assembly. 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:**

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

**L. Parking-Brake/Emergency Brake**

Set the parking brake firmly to determine reserve travel of the hand lever or foot pedal. Inspect band type parking brake on propeller (drive) shaft for presence of oil or grease, condition of lining, and tightness.

**Points of rejection:**

- No lever reserve "travel."
- Lining is worn to less than 1/32 inch at the center of the shoe.
- Lining is worn through to steel band.
- Lining fails to make proper contact with the drum when brake is applied.
- Dash Brake light indicator fails when brake sets.
- Brake will not hold with the engine revved.

## 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:

- Failure indicator lamp fails to function.
- After self-check and ABS turns off. Light should not activate during test drive at road speed.
- During a drive test no brakes can lock up when activated.

## DEF System

### Points of rejection:

- A DEF system with a visible leak at any point.
- A DEF tank filler cap missing.
- A DEF tank not securely attached to the school bus by reason of loose, broken or missing mounting bolts or brackets.
- DEF lines not secured with fasteners.

## Exhaust System

### Points of rejection:

- 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 does not meet original equipment manufacturers (OEM) specifications for mounting brackets.
- The tailpipe will 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.
- The tailpipe must exit as per OEM specifications and meet Oklahoma School Bus standards at time of manufacture. The tailpipe must not exit beneath any fuel filler location or beneath any emergency door.
- 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.
- No part of the exhaust system shall be temporarily repaired with wrap or patches.

## Fuel System

### Points of rejection:

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

## 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 ½" (11.5 cm)
18" (46 cm)	2 ¼" (5.4 cm)	4 ¾" (12 cm)
20" (51 cm)	2 ½" (6.4 cm)	5 ¼" (13.5 cm)
22" (56 cm)	2 ¾" (7 cm)	5 ¾" (14.5 cm)

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

### Points of rejection:

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

## **B. Steering Gear Box**

### **Points of rejection:**

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

## **C. Pitman Arm**

### **Points of rejection:**

- Any looseness of the pitman arm on the steering gear output shaft.
- Power steering, auxiliary power assist cylinder loose.
- Ball and Socket Joints loose.

## **D. Tie Rods and Drag Links**

### **Points of rejection:**

- Loose clamp(s) or clamp bolt(s) on tie rods or drag links.
- Any looseness in any threaded joint.
- Nut(s) loose or missing on tie rods, pitman arm, drag link, or steering arm.
- Steering System. Any modification or other condition that interferes with free movement or any steering component.

## **E. Wheel Bearings**

With front end of vehicle raised, move wheels relative to the spindle, either by grasping the top and bottom of tire or by using a bar for leverage. Bearing maladjustment, wear is determined by the relative movement between brake drum (or disc) and backing plate (or splash shield).

### **Point of rejection:**

- Relative movement between drum and backing plate is not at OEM specifications.

## **F. Kingpins/Balljoints**

With front end of vehicle raised, move wheels relative to the spindle, either by grasping the top and bottom of tire or by using a bar for leverage. Wear is determined by any movement, check OEM specifications.

### **Point of rejection:**

- Relative movement between spindle and axle and exceeding OEM specifications.

## **G. Power Steering System**

### **Point of rejection:**

- Does not meet the standards of 49CFR 393.209 (2) (e).



## Suspension

### Front Suspension

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

With front end of vehicle raised, wear is determined by any movement in the shackle pins and/or bushings, refer to OEM specifications and procedures.

#### A. Any U bolts(s), spring hanger(s), or other axle positioning part(s)

##### Point of rejection:

- Cracked, broken, loose, or missing/worn 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:

- Leaf springs. No leaf spring shall be cracked, broken, missing, nor shifted out of position.
- Coil springs. No coil spring shall be cracked or broken.
- Rubber spring missing.
- One or more leaves displaced in a manner that could result in contact with a tire, brake drum, or frame.
- Torsion bar. No torsion bar or torsion bar suspension shall be cracked or broken.
- Axles. No axle positioning part shall be cracked, broken, loose or missing. All axles must be in proper alignment.
- Deflated air suspension, i.e., system failure, airbags.
- Loose, broken, worn or missing shackle pins and/or bushings.

#### C. Shock Absorbers

Inspect shock absorbers to see if they are missing, disconnected or broken. Check for cracks in frame and that the body is mounted securely with no welding.

##### Point of rejection:

- Any shock absorber that is absent, disconnected, leaking or broken.

### Rear Suspension

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

With rear end of vehicle raised, wear is determined by any movement in the wheel ends, shackle pins and/or bushings. Check air suspension including bags and leveling valve. If a problem is found, refer to OEM specifications and procedures.

## **A. Any U bolts(s), spring hanger(s), or other axle positioning part(s)**

### **Point of rejection:**

- Cracked, broken, loose, or missing/worn 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:**

- Leaf springs. No leaf spring shall be cracked, broken, or missing nor shifted out of position.
- Coil springs. No coil spring shall be cracked or broken.
- Rubber spring missing.
- Axles. No axle positioning part shall be cracked, broken, loose or missing. All axles must be in proper alignment.
- One or more leaves displaced in a manner that could result in contact with a tire, brake drum, or frame.
- Torsion bar. No torsion bar or torsion bar suspension shall be cracked or broken.
- Deflated air suspension, i.e., system failure, airbags and mounting, loose/leaking leveling valve.
- Air suspensions. The air pressure regulator valve shall not allow air into the suspension system until at least 55 psi is in the braking system. The vehicle shall be level (not tilting to the left or right). Air leakage shall not be greater than 3 psi in a 5-minute time period when the vehicle's air pressure gauge shows normal operating pressure.
- Loose, broken, worn or missing shackle pins and/or bushings.

## **C. Shock Absorbers**

Inspect shock absorbers to see if they are missing, disconnected or broken. Check for cracks in frame and that body is mounted securely with no welding.

### **Points of rejection:**

- Any shock absorber that is absent, disconnected, leaking or broken.

## **Frame Members**

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

### **Points of rejection:**

- Any cracked, broken, loose, or sagging frame member.
- Any loose or missing fasteners including fasteners attaching functional components such as engine, transmission, steering gear, suspension, and body parts.
- Bolts or brackets securing the cab or the body of the vehicle to the frame must not be loose, broken, or missing.

- 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.
- The frame rail flanges between the axles shall not be bent, cut or notched, except as specified by the manufacturer.
- Parts and accessories shall not be welded to the frame or chassis of a commercial motor vehicle except in accordance with the vehicle manufacturer's recommendations. Any welded repair of the frame must also be in accordance with the vehicle manufacturer's recommendations.
- No holes shall be drilled in the top or bottom rail flanges, except as specified by the manufacturer.

## **Tires, Wheels, Rims & Splash Guard**

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

#### **Points of rejection:**

- With less than 4/32 inch tread when measured in the shallowest groove.
- Has body ply or belt material exposed through the tread or sidewall.
- Has any tread or sidewall separation.
- Has a cut where the ply or belt material is exposed.
- Marked "Not for Highway Use" or displaying other marking which would exclude use on steering axle.
- Mixing bias and radial tires on the same axle.
- Tire flap protrudes through valve slot in rim and touches stem.
- Re-grooved tire.
- Boot, blowout patch, or other ply repair.
- Weight carried exceeds tire load limit. This includes overloaded tire resulting from low air pressure.
- Tire is flat or has noticeable leak (e.g., can be heard or felt).
- Recapped or retreaded tire(s).
- So mounted or inflated that it comes in contact with any part of the vehicle.

### **B. Any tire(s) other than those found on the steer axle of a school bus**

#### **Points of rejection:**

- Weight carried exceeds tire load limit. This includes overloaded tire resulting from low air pressure.
- Tire is flat or has noticeable leak (e.g., can be heard or felt).
- Has body ply or belt material exposed through the tread or sidewall.
- Has any tread or sidewall separation.

- Has a cut where the ply or belt material is exposed.
- So mounted or inflated that it comes in contact with any part of the vehicle. (This includes a tire that contacts its mate.)
- Marked “Not for Highway Use” or otherwise marked and having like meaning.
- With less than 2/32 inch tread when measured at the shallowest groove.

### **C. Wheels and rims**

#### **Points of rejection:**

- Wheels and rims cracked, broken, or have elongated bolt holes.
- Fasteners (both spoke and disc wheels): Any loose, missing, broken, cracked, stripped, or otherwise ineffective fasteners.
- 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.

### **D. Splash guards**

Must be present on the rear wheels.

#### **Points of rejection:**

- Ripped, torn, damaged or missing splash guards.
- Length and width should ensure coverage of rear tires.

## **Aisle**

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 tie down, 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.

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:**

- Obstructions and modifications that reduce required access to emergency door or exits.
- Floor covering is degraded/loose to the extent it is a tripping/falling hazard.
- Flooring material is rusted or deteriorated to the point that seat securement is weakened.

## 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. Battery cables must not be frayed with insulation intact. Ensure cables/battery connections are tight and free of corrosion/debris.

### Points of rejection:

- Battery improperly secured.
- Cable is frayed/damaged insulation.
- Battery casing damaged.

## 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 ½ 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.

### Points of rejection:

- Mounting bolts are loose or missing.
- Bumper has structural cracks.
- Bumper does not meet OEM specs.

## Defroster/Heater & Heater Hoses

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, 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.

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.

Filters should be clean and free of debris.

### Points of rejection:

- Heater does not function as designed.
- Heater hoses are inadequately supported.
- Leakage at any point in the system.
- Does not perform as required by OEM specification.

## Door (Service)

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. If equipped with air, door mechanism should be checked for pressure to ensure students aren't injured if caught in door.

### Points of rejection:

- Door opening mechanism inoperable.
- Door will not securely close.
- Hinges/pins damaged/cracked.
- Door glass and rubber seal must be present in good condition, free of cracks and debris.
- Fails to open with emergency release lever/switch.
- If equipped with air, must not have air leak.

## Emergency Exits

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

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

### Points of rejection:

- Blocked exits.
- Emergency door requires excess force or will not open.
- Warning buzzers do not function.
- Optional door interlock system does not function as designed. Engine can crank with rear door locked.
- Side emergency escape windows do not open or warning buzzers do not function.
- Roof escape hatches are missing or inoperable. Warning buzzers do not function.
- Door hold open devices do not function on (1997 and newer models).
- Emergency door(s) have a padlock and/or hasp.

## Emergency Equipment

All buses must be equipped with the following items:

### A. Fire Extinguisher

The bus must be equipped with at least on 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:

- Insufficient size/type or missing.
- Over or undercharged (gauge must be in the green “safe” range).
- Extinguisher is not mounted securely/accessible.

### 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 ½ yards of adhesive tape rolls
- 24-sterile gauze pads (3 x 3 inches)
- 100- ¾ x 3 inches adhesive bandages
- 8- 2inch bandage compress
- 2- 2 inch x 6 feet sterile gauze roller bandages
- 2- non-sterile triangular bandages, minimum 39 xx 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 clean-up kits must meet OEM specifications.

**Points of rejection:**

- Kits are missing or contain contaminated or expired items.
- Kits are not accessible from the driver compartment or mounted securely.

**C. Warning Devices**

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

**Points of rejection:**

- One or more missing reflectors.
- Reflectors malfunction or have broken or missing components.
- Case not mounted securely.

**D. Seatbelt Cutter**

All buses equipped for transporting students must have a seatbelt cutter mounted within reach of a belted driver.

**Point of rejection:**

- No seatbelt cutter present and within easy reach of the driver.

## **E. Fuses**

If buses are equipped with fuses, a minimum of three spares will be carried. If equipped with breakers or relays this does not apply.

Fuse box should close securely, be water tight and latch properly. Fuse box should be free of debris.

### **Points of rejection:**

- Missing the minimum of three spare fuses if required.
- Door doesn't close/latch properly.

## **Horn**

Every bus, truck, truck-tractor, and every driven motor vehicle in driveaway-towaway operations shall be equipped with a horn and actuating element which shall be in such condition as to give an adequate and reliable warning signal.

### **Points of rejection:**

- Horn does not function as designed per OEM specifications.
- Horn actuator is not within easy reach of driver.

## **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 accepted.)

At least two handrails must be installed (exception: buses manufactured prior to 2015) to assist passengers during entry or exit. All handrails must be free of snagging hazards.

### **Points of rejection:**

- Unnecessary projections exist.
- No handrail, or handrail with snagging hazards.

## **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. The vehicles seating capacity, GVWR, and height, which shall be placed in a conspicuous exterior location on the driver's entry side of the bus close enough to the entry door for the driver to easily see the information.

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

### **Points of rejection:**

- Lettering or paint faded to the degree that it is not recognizable from 500 feet under normal conditions.

- Emergency exits not clearly marked.
- Does not meet Oklahoma School Bus Specifications.

## 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, chips or discoloration that obstruct the driver's view. Mirrors should be free of debris and contain no illegal stickers/obstructions.

### Points of rejection:

- Mirror surfaces cracked, chipped or discolored to the point of obstructing driver visibility.
- Loose or unsecured mirror mounts or brackets.
- Loose or unsecured mirror glue/stripping.

## 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 not 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 material that enable those 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.

Seat belts should be inspected for damage or replacement.

### Points of rejection:

- Any cuts in the upholstery that exposes seat foam.
- Any missing mounting bolt(s).
- Foam padding is missing/degraded to the point that the metal seat frame can be felt by pressing on the covering.
- Any exposed metal.
- Seats repaired with non-specified material.
- Passenger Seat Belts if equipped do not meet OEM specifications to include but not limited to no cuts, tears, and functioning buckles.

## 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:

- Driver's seat has missing or broken mounting hardware.
- Driver's seatbelt has cuts or tears.
- Belt/buckles do not function as designed per OEM specifications.

## Signals, Lamps & Reflective Tape

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.

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 first 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 (2) white rear back-up lamps that meet the requirements of FMVSS #108.

School buses have special markings and lighting in order to assure their identity.

Check the function of the following:

All other dash illuminations	Indicator lamp for headlamps	Special light by lifts
All other Interior Lights	License plate lamps	Step well light
Amber flasher lamps	Red flasher lamps	Stop lamps
Brake warning lights	Reflective tape	Strobe lights
Clearance lamps	Reflectors	Tail lamps
Headlamps	Reverse or backup lights	Turn signal lights
Indicator for flasher lamps	Side marker lights	

**Points of rejection:**

- Lamps and signals do not operate as designed.
- Any light/lamp that doesn't meet or exceed OEM specifications.
- Red and amber student loading lamps do not alternate properly.
- Lamp has cracked, broken or missing lens and not free of debris.
- Reflective tape is excessively damaged or missing (if originally equipped) and doesn't reflect properly.
- Emergency exits not properly outlined with reflective tape.

**Stop Signal Arm**

The stop signal arm(s) must be operable as designed. They should be clean and clear of debris. Should be able to move freely when actuated with normal resistance.

**Points of rejection:**

- Any missing or cracked lens.
- Any flashing lights that are not operable or do not alternate.
- Lettering or paint faded to the degree that is no recognizable from 500 feet under normal conditions.
- Stop arm will not extend when red loading lights are operating.
- If air operated, must not have air leaks.
- Broken hinges.
- Weak or broken return spring or cable.
- Stop arm is operated in a manner other than the flashing red lamp circuit.
- Should be mounted securely, clean and clear of debris.

**Student 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 arms(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.

**Points of rejection:**

- Does not function as designed per OEM specifications.

- Not securely mounted and/or doesn't stow correctly.
- Missing or loose fittings.

## Sun Shield (interior)

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.

### Points of rejection:

- Sun shield does not function as designed.
- Is not securely mounted and/or does not securely close.
- Contains breaks, cracks and obstructions.

## Switches and Gauges

All switches/control buttons and/or knobs should be activated to check for proper operations.

### Points of rejection:

- Switch does not properly start/stop the correct device as intended.
- Switch is missing, broken or does not hold its tension.
- Gauges inoperable.
- If equipped with illumination, must illuminate properly.

## Vehicle Driver Controls

All remaining pedals/controls/shifters should be activated to check for proper operations.

### Points of rejection:

- Control does not properly start/stop the correct device as intended.
- Control is missing, broken or out of adjustment.

## Wheelchair Lifts

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.

**Points of rejection:**

- Lift platform roll stop does not function as designed when operated normally or manually.
- Hydraulic system has a visible leak.
- Missing manual pump handle.
- Doors do not remain securely open when loading/unloading.

**B. Securement and restraint system for wheelchair/mobility aid**

The term securement system refers to the devices that anchor the wheelchair 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:**

- Securement aids, restraint, storage device and school bus evacuation blanket has cuts, tears, inadequate or missing.
- Securement floor plates/tracking have loose or missing fasteners.
- Incorrect securement and restraint system for the date of manufacture of the bus.
- Securement aids do not store properly when not in use.
- Straps do not buckle correctly or retractor mechanism does not retract/extend properly.

**Windshield & Other Glass**

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

Common items to check include the following:

- Inspect all glass for outright breakage.
- Inspect for cracks in critical area.
- Inspect for star breakage or shot damage in critical area.
- Inspect windshields/windows for hazardous cracks, chips, sharp edges.
- 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.
- 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.



## Windshield Wipers

Check to see if vehicle is equipped with a windshield wiper or wipers adequate for cleaning rain, snow or other moisture from windshield. Vehicle must have the same number of wipers as originally equipped.

Turn the wipers on, check operation of the wipers and check location of the controls.

Lift wiper blade or blades, inspect rubber elements to see if they are torn or ripped and check metal parts for damage and construction.

### Points of rejection:

- Any wiper that does not operate properly or is improperly adjusted and isn't clean.
- Any part of the rubber element is torn more than  $\frac{1}{4}$  inch.
- Metal parts of wiper blades or arms are damaged or come in contact with the windshield.

## Wiring

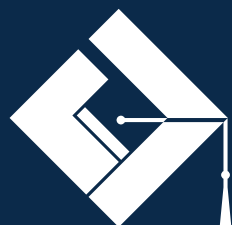
All wiring must conform to the current standards of the Society of Automotive Engineers (SAE). All wiring and fasteners must be free of cuts or wear to the insulation that may result in an electrical fire.

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.

### Points of rejection:

- Wiring and fasteners show cuts or wear to the insulation.
- Missing grommet if passing through metal openings.
- Visible signs of electrical damage.
- If equipped with a child check alarm:
  - a. Alarm does not activate when child check alarm is active.
  - b. Alarm does not deactivate when reset.
  - c. Alarm not operating as intended.





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