

STATE OF MICHIGAN



# SCHOOL BUS INSPECTION MANUAL

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SCHOOL BUS INSPECTION UNIT

Revision Date: September 2019

Revision Number 2.0



## INTRODUCTION

The purpose of the Commercial Vehicle Enforcement Division School Bus Inspection Manual is to provide guidance for the inspection of public and non-public school buses and pupil transportation vehicles. This document provides Commercial Vehicle Enforcement Division Vehicle Safety Inspectors with the criteria for the issuance of a red or yellow tag to a school bus to ensure the safety of pupil transportation in Michigan. The Michigan Department of State Police reserves the right to make changes in the manual when safety concerns have been identified or resolved.

Vehicles are to be maintained in a safe operating condition at all times. All maintenance and repairs shall be performed using parts and repair procedures that meet or exceed the applicable Federal Motor Vehicle Safety Standard. Each school bus inspection cycle runs September 1 through August 31.

### **THE MICHIGAN PUPIL TRANSPORTATION ACT (PA 187) REQUIRES:**

***MCL 257.1810 (1)*** Each school bus owned or operated by a public or private nonpublic school, an agent of a school, a private business, or a unit of government for the transportation of pupils to or from school or school-related events shall meet or exceed the federal motor vehicle safety standards applicable to the construction and sale of that school bus and for all seating positions in that vehicle. A school or an agent of a school may transport pupils with disabilities in mobile seating devices in accordance with federal standards specifically applicable to such pupils, their wheelchairs, and related wheelchair securement and occupant protection systems.

***MCL 257.1839 (4)*** Any public or private entity that owns or uses a school bus for pupil transportation shall identify itself to the department of state police so an inspection can be scheduled. If an entity has had school buses inspected in the previous year, it is considered to have identified itself. If an entity stops pupil transportation in one year and restarts pupil transportation in a later year, it must identify itself to the department of state police as requiring inspection before restarting pupil transportation. An entity is considered to have identified itself by notifying a person of the Department of State Police responsible for conducting inspections under this act.

***MCL 257.1839 (5)*** When an inspection is scheduled by the Department of State Police, an entity shall identify to the state police inspector all of the school buses that it intends to use for pupil transportation in that school year. Any school bus that is not submitted for inspection shall be rejected and have a red sticker affixed pursuant to section 41.

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The following reference documents have been used throughout the School Bus Inspection Manual:

[Act 187 of 1990 Michigan Pupil Transportation Act \(MCLA 257.1801– 1877\)](#)

[ACT 300 Michigan Motor Vehicle Code \(MCLA 257.1 - 923\)](#)

[ACT 300 Michigan Motor Vehicle Code \(MCLA 257.683 - 714 Equipment\)](#)

[49 CFR Code of Federal Regulations](#)

[49 CFR Part 393 Federal Motor Carrier Safety Standards](#)

[49 CFR Part 571 Federal Motor Vehicle Safety Standards](#)

[49 CFR Part 38 Americans with Disabilities Act \(ADA\)](#)

[National School Transportation Specifications and Procedures](#)

Questions regarding the inspection procedure and the use of the inspection manual may be directed to the commander of the State Support Section of the Michigan State Police Commercial Vehicle Enforcement Division, 7150 Harris Drive, Dimondale, Michigan, 48821, or by calling 517-284-3250.



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## 1.0 BODY AND SHEET METAL

### a) Body Condition Exterior: General

The body of the vehicle including the floor pan, roof bows, body panels, rub rails and braces shall be free from excessive rust, aligned and properly fastened to the frame with appropriate spacers and connectors. [49 CFR 571.220](#), [571.221](#), [571.222](#), [MCLA 257.1811](#).

#### **(1) Condition Yellow Tag:**

- (a) Non-manufactured hole larger than a nickel.
- (b) Floor has holes left from bolts being removed.
- (c) Three or more or two adjacent body spacers missing.
- (d) Body fasteners missing, loose or broken.
- (e) Body repair does not meet or exceed original design.

#### **(2) Condition Red Tag:**

- (a) School bus body part is loose, torn, dislocated, or protruding from the surface of the bus, creating a hazard.
- (b) Body component is rusted through, cracked or broken affecting structural integrity of the vehicle.
- (c) Engine, battery or other doors not properly secured.
- (d) Step well or support structure is damaged.
- (e) Fender has been removed.

### Hood

#### **(1) Condition Yellow Tag:**

- (a) One hood attachment point broken.

#### **(2) Condition Red Tag:**

- (a) More than one hood attachment point broken.
- (b) Safety catch or cable is broken on forward facing hood.

### Undercoating [MCL 257.1811 \(4\)](#)

#### **(1) Condition Yellow Tag:**

- (a) Repair – Not undercoated as required.

#### **(2) Condition Red Tag:**

- (a) New buses only - vehicle has not been undercoated as required.

### b) Body Condition Interior: General [MCL 257.1811 \(4\);\(5\);\(8\)](#)

The interior of the vehicle shall be free from sharp, protruding objects or trip hazards likely to cause injury.

#### **(1) Condition Yellow Tag:**

- (a) Floor, including wheel housing, aisle or step well not covered in a slip resistant surface/hazardous condition or in a condition presenting a hazard.

#### **(2) Condition Red Tag:**

- (a) Panel (ceiling, side, wheel well, etc.) protruding, having sharp edges, or not secured.
- (b) Floor pan or inner panels have openings to the exterior of the vehicle.
- (c) Floor or body panel with opening through to the exterior of the vehicle.



c) Defrosters: General

Defrosting and defogging systems shall ensure driver visibility under adverse weather conditions. The device or auxiliary fans must keep the windshield, window at driver's left, and the glass in the service door clear of fog, frost, and snow.

**(1) Condition Red Tag:**

- (a) Defrosting or defogging system, including any stepwell heater, fails to operate as designed.

d) Heaters: General

Heaters installed in a school bus must function as designed and intended.

**(1) Condition Yellow Tag:**

- (a) Heater core, heater hoses, heater tubing or heater fittings are leaking.
- (b) Installed heater inoperative.

**(2) Condition Red Tag:**

- (a) Any heater, heater fuel, electric or hot water component that creates a safety hazard.

e) Overhead Storage (257.1811) (49 CFR 571.222)

Any overhead storage compartment must comply with Impact Zone Requirements of [571.222](#). Book racks shall not be installed in a school bus.

**(1) Condition Yellow Tag:**

- (a) Overhead storage - Latches not working as designed.

**(2) Condition Red Tag:**

- (a) Overhead storage - Installation does not meet head protection requirements of 571.222.
- (b) Overhead storage - Storage compartment not completely enclosed and equipped with latching door.
- (c) Overhead storage - Corners and edges not rounded with a minimum radius of one inch or padded equivalent to door header padding.
- (d) Overhead storage - Not attached to the bus sufficiently to withstand a force equal to 20 times the maximum rated capacity of the compartment.
- (e) 1.9.6 Overhead storage - Protrusion(s) greater than 1/4 inch.

## 2.0 BRAKE SYSTEM

Every school bus shall be equipped with brakes acting on all wheels. All brakes with which a school bus is equipped must at all times be capable of operating. The brake system shall comply with federal specifications applicable for the specific year of the vehicle.

[MCLA 257.1810](#)

**(1) Condition Yellow Tag:**

- (a) ABS light that fails to come on or go off per manufacturer's design.
- (b) Brake pedal height adjustment mechanism fails to function as designed. \*
- (c) Electronic Stability Control System, if equipped, does not function as designed.

**\*NOTE:** If brake pedal height adjustment mechanism is totally disabled (switch removed), no defect exists.

**(2) Condition Red Tag:**

- (a) Absence of effective braking action upon application of the service brakes (such as any brake lining/pad failing to move or contact braking surface upon application).

NOTE: Brake Adjustment Limits. Bring reservoir pressure between 90 – 100 psi, turn engine off and then fully apply the brakes. All brake measurements shall be made in 1/8-inch increments.

**(1) Condition Red Tag:**

- (a) One (or more) brake at 1/4 inch or more beyond the adjustment limit.

(Example: Type 30 clamp air chamber pushrod measured at 2-1/4 inches would be one defective brake). (393.47(e))

- (i) Wedge brake with combined brake lining movement of both top and bottom shoes exceeding 1/8 inch.

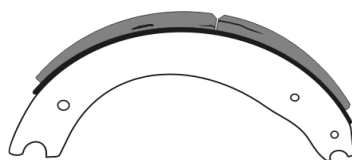
a) Drum (Cam – Type and Wedge) Air Brakes

**(1) Condition Red Tag:**

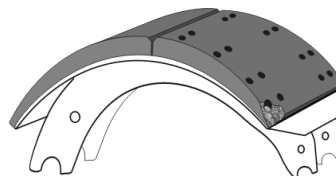
- (a) Missing or broken brake shoe, lining, return spring (shoe or chamber), anchor pin, spider, cam roller, camshaft, pushrod, yoke, clevis pin, brake adjuster, parking brake spring, or air chamber mounting bolt.
- (b) Loose air chamber, spider, or camshaft support bracket.
- (c) Brake parts defective or worn beyond specifications.
- (d) Defective Lining Conditions:
  - (i) Brake Lining - Lining cracks or voids that exceed 1/16 inch in width observable on the edge of the lining.
  - (ii) Brake Lining - Portion of a lining segment missing such that a fastening device (rivet or bolt) is exposed when viewing the lining from the edge.
  - (iii) Brake Lining - Crack that exceeds 1 – 1/2 inch in length.
  - (iv) Brake Lining - Loose lining segment. (Approximately 1/16 inch or more movement.)
  - (v) Brake Lining - Complete lining segment missing.
  - (vi) Brake Lining - Friction surface of the brake drum and the brake friction material contaminated with oil, grease, or brake fluid. \*

\*NOTE: Refer to “Tire, Wheels, and Hubs” if wheel seal is actively leaking.

- (vii) Brake Lining - Lining thickness less than 1/4 inch or worn into the wear indicator if lining is so marked, measured at the shoe center.



*Cracks or voids that exceed 1/16" in width. Cracks that exceed 1-1/2" in length.*



*Portion of lining missing that exposes a fastening device.*





- (e) Mismatched air chamber sizes.

\*NOTE: Mismatched air chamber size excludes long stroke air chamber versus regular stroke air chamber and excludes differences in design type such as type 20 clamp versus type 20 roto-chamber. A bolt chamber with any other chamber type is a mismatch.

- (f) Mismatched brake adjuster length.

- (g) Vehicle manufactured after October 20, 1994 not equipped with automatic slack adjusters.

- (h) Spring Brake Chambers.

- (i) Non-manufactured holes or cracks in the spring brake housing section of a parking brake.

- (i) Parking Brakes (Air or hydraulic)

- (i) No brakes applied upon actuation of the parking brake control(s) - parking brake applied, engine started, shifter in DRIVE, accelerate to 1,100 rpm; parking brake does not hold. (See Page 34, Paragraph 18 for proper testing procedure)

- (j) Dash valve fails to auto activate parking brake prior to depletion of air supply (0 psi)

- (k) Brake Drums or Rotors (Discs)

- (i) Brake drum - Portion of the drum has an external crack or has crack that opens upon brake application. \*

\*NOTE: Do not confuse short hairline heat check cracks with flexural cracks.

- (ii) Brake drum worn beyond maximum diameter.

- (iii) Rotor (disc) with a crack exceeding 1" to the open edge of the friction surface and passes completely through the rotor to the center vent from either side or completely through a solid rotor.

- (iv) A Rotor surface is worn below minimum thickness.

- (v) Portion of the drum or rotor (discs) missing or in danger of falling away.

- (l) Brake Hose/Tubing difference between cover and inner tube.

- (i) Brake hose/tubing - Damage extending through the outer reinforcement ply.

- (ii) Brake hose/tubing - Exposure of the second color.

- (iii) Brake hose/tubing - Bulge/swelling when air pressure is applied.

- (iv) Audible air leak at Air Chamber.

- (v) Brake hose/tubing - Improperly joined such as a splice made by sliding the hose ends over a piece of tubing and clamping the hose to the tube.

- (vi) Brake hose/tubing - Damaged by heat, broken or crimped restricting air flow.

\*NOTE: Rubber impregnated fabric cover is not a reinforcement ply.

\*NOTE: Thermoplastic nylon tube may have braid reinforcement or color

- (m) Air Pressure Gauge

- (i) Air pressure gauge - Inoperative or defective primary or secondary air pressure



gauge.

(n) Low Air Pressure Warning Device

- (i) Low air pressure warning device missing, inoperative, or does not operate continuously if either the primary or secondary reservoir is 55 psi and below, or 1/2 of the governor cut-out pressure, whichever is less.

\*Note: **Condition Yellow Tag:** If either an audible or visual warning device is not operational.  
(Low Air Warning) Audible or visual only operative

(o) Air Loss Rate

- (i) Air leak in either the primary or secondary reservoir and pressure is not maintained when:
  1. Reservoir Pressure is 90 psi (minimum).
  2. Service brakes are fully applied.
  3. Air leaks, with brake applied or released, that exceed 3 psi per minute of air loss.

(p) Air Reservoir (Tank)

- (i) Air reservoir (tank) not secured at either end from the attachment point(s), allowing movement of more than one inch in any direction.
- (ii) Air tank mounting that does not meet the requirements of [257.1813](#).

(q) Air Compressor (Normally to be inspected when readily visible or when conditions suggest compressor problems).

- (i) Compressor - Loose compressor mounting bolts.
- (ii) Compressor - Cracked, broken, or loose pulley.
- (iii) Compressor - Cracked or broken mounting brackets, braces, or adapters.
- (iv) Compressor - Proper build up time 50-90 psi within three minutes at fast idle; 1,100 rpm for diesel engines and 1,500 rpm for all other fuels.

(r) Air Dryer (if equipped), or moisture ejectors.

- (i) Air dryer or moisture ejectors that fail to exhaust or function per manufacturer's specification.

(s) Valves.

- (i) Valves - Check valve, or system protection valve, not holding.
- (ii) Valves - High pressure relief valve missing.
- (ii) Valves - Inversion valve (brake modulating valve) not working as designed.
- (iv) Valves - A **Condition Yellow Tag** exists if any valve is improperly mounted but is in proper working condition.

b) Hydraulic Brakes

**(1) Condition Yellow Tag:**

- (a) Hydraulic brakes - ABS light that fails to come on or go off per manufacturer's design.

**(2) Condition Red Tag:**

- (a) Hydraulic brakes - The fluid level in master cylinder reservoir is less the 1/4 full or below minimum marking.

\*NOTE: Normally to be inspected when readily visible or problems are apparent.

- (b) Hydraulic or vacuum lines, hoses or connections are restricted, crimped, broken or damaged through the outer reinforcement ply.

\*NOTE: Rubber impregnated fabric cover is not a reinforcement ply.

- (c) Hydraulic brakes - Observable seepage, bulge or swelling on a brake hose under application pressure.
- (d) Hydraulic brakes - Observable leaking hydraulic fluid in the brake system upon full brake application.
- (e) Hydraulic brakes - No pedal travel reserve with engine running upon full brake application.
- (f) Hydraulic brakes - Brake power assist unit is inoperative.
- (g) Hydraulic brakes - Hydraulic power brake (HPB) unit is inoperative.
- (h) Hydraulic brakes - Brake warning system is missing, inoperative, disconnected, defective, or activated while engine is running with or without brake application.
- (i) Hydraulic brakes - Hydraulic brake backup system is inoperative.

## c) Vacuum Brakes

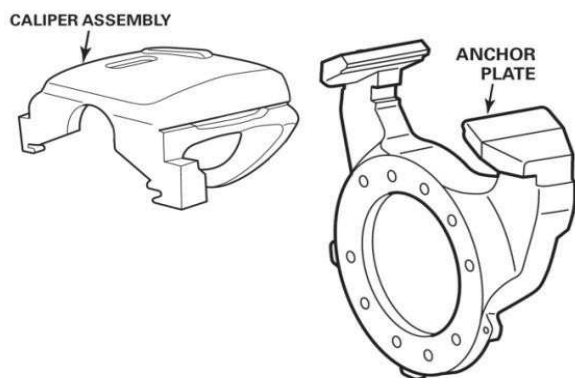
### (1) Condition Red Tag:

- (a) Vacuum brakes - Insufficient vacuum reserve to permit one full brake application after engine is shut off.
- (b) Vacuum brakes - Vacuum hose(s) or line(s) restricted, abraded (chafed) through outer cover-to-cord ply, crimped, cracked, broken, or has collapse of vacuum hose(s) when vacuum is applied.

## d) Hydraulic and Electric Brakes

### (1) Condition Red Tag:

- (a) Hydraulic or electric brakes - Missing or broken caliper, brake pad, shoe, or lining.
- (b) Hydraulic or electric brakes - Movement of the caliper within the anchor plate, in the direction of wheel rotation, exceeds 1/8 inches.



- (c) Hydraulic or electric brakes - Rotor or drum has evidence of metal to metal contact on the friction surface.
- (d) Hydraulic or electric brakes - Rotor has severe rusting on the rotor friction surface on either side (light rusting on the friction surface is normal).
- (e) Hydraulic or electric brakes - Friction surface of the brake rotor and the brake friction material are contaminated by oil, grease, or brake fluid.

\*NOTE: Refer to "Tire, Wheels, and Hubs" if wheel seal is actively leaking.

- (f) Hydraulic or electric brakes - Lining or pad with a thickness 1/8 inch or less for disc or drum brakes.



## 3.0 CHASSIS AND FRAME

### Frame, Cross Members, Outriggers, Body Support and Bumpers: General

#### **(1) Condition Yellow Tag:**

- (a) Missing or loose bolts on motor mount cross members.
- (b) Cross member cracked not affecting structural integrity.

#### **(2) Condition Red Tag:**

- (a) Missing or loose bolts on motor mount cross members sufficient to allow cross member to shift or move.
- (b) Crack 1 1/2 inch or longer in frame side rail which is directed toward the bottom flange.
- (c) Crack extending from the frame side rail web around the radius and into the bottom flange.
- (d) Cracked, loose, sagging or broken frame side rail.
- (e) Obvious bend or damage resulting from a collision.
- (f) Worn or loose mounting hole.
- (g) Cross member, outrigger or other structural support cracked (etc.), missing or deformed.
- (h) Missing, broken, shifted or corroded (component) part that would affect the safe operation of the vehicle.
- (i) Bumper missing or not secured.

## 4.0 EMERGENCY EXITS AND AISLES

### a) Emergency Exits: General

All emergency exits shall comply with the standards identified in [571.217](#) and [257.1811 \(6\)\(a\) and \(b\)](#).

#### **(1) Condition Yellow Tag:**

- (a) Type I school bus does not have glass in both the upper and lower portion of the central rear emergency exit. Effective date August 15, 2006.
- (b) Prop-rod is missing or fails to hold door in open position.
- (c) Rear engine transit type bus exit opening assist cylinder fails to operate.
- (d) Emergency door seal is missing, loose, or doesn't make contact.
- (e) Operating instructions and or emergency exit identification is missing, or ineffective.
- (f) Required window audible warning device that fails to function properly.

#### **(2) Condition Red Tag:**

- (a) Emergency door exit egress is reduced to less than 24"x 45" for a Type II bus, or 22"x 48" for a Type I bus.
- (b) Emergency door, roof hatch or window does not open freely or completely as designed.
- (c) Required door(s) or rear exit window audible warning device fails to properly function.
- (d) Piano hinges on emergency exit doors. [257.1811](#).
- (e) Emergency exit fitted with locks or lock hasps or similar non-OEM locking device. (Excludes interlock system).
- (f) Emergency exit interlock system fails to operate as designed.
- (g) Vehicle lacks the required number of emergency exits as defined in [571.217](#)



b) Aisles: General [257.1811\(10\)](#)

**(1) Condition Red Tag:**

- (a) Aisle does not have the required clearance.
- (b) Objects blocking aisle or exits.
- (c) Baggage, article, equipment or medical supplies not secured in a manner that assures unrestricted access to all exits.
- (d) Baggage, broom, window scraper, trash receptacle or other article or equipment not secured in a manner that protects all occupants from injury.

## 5.0 ENGINE AND DRIVE TRAIN

a) Engine: General

**(1) Condition Yellow Tag:**

- (a) Defective motor mount.

b) Engine and Drive Train: General

**(1) Condition Red Tag:**

- (a) Drive shaft guard is loose, missing or broken.
- (b) Engine - shifted from normal position.
- (c) Engine - Critical component fails to function as designed.
- (d) Engine - Fluid leak affecting safe operation of the engine.
- (e) Engine- Cracked differential housing.

## 6.0 EXHAUST SYSTEM

a) Exhaust: General

The tailpipe shall exit to the left or right of the emergency exit door at the rear of the school bus or to the left (driver) side of the school bus either behind the rear drive axle or no more than 40" to the front of the rear axle when installed on a Type I school bus. Tailpipe shall not exit below a fuel fill or emergency door exit.

**(1) Condition Yellow Tag:**

- (a) Exhaust - Heat shield (if required) is missing or improper.
- (b) Exhaust - Clamp or bracket is loose or broken not resulting in compromised system integrity or securement or exhaust manifold bolts missing or broken without causing a leak. [257.707\(3\)](#)
- (c) Exhaust - Leak resulting from rust or a crack. (Some exhaust leaking around a proper connection is expected) [257.707\(2\)](#)

**(2) Condition Red Tag:**

- (a) Exhaust - Loose, cracked or leaking manifold connection. (Some exhaust leaking around a proper connection is expected) [257.707\(2\)](#)
- (b) Exhaust - Exhaust system that passes through the occupant compartment.
- (c) Exhaust - Exhaust system discharging under the chassis. Down spout (when used) located more than six inches forward of the rear most part of the bus, or side of the bus.
- (d) Exhaust - Exhaust system located as to be likely to result in burning, charring, or damaging the electrical wiring, the fuel supply, or any combustible part of the motor vehicle.
- (e) Exhaust - Petroleum based product leaking or leaks on the exhaust system. (IE: fire hazard)
- (f) Exhaust - Clamp or bracket is loose or broken resulting in compromised system

integrity or securement.

- (g) Exhaust - Installation fails to meet SBIM General requirements.

## 7.0 FUEL SYSTEMS

### Fuel Systems:

#### **(1) Condition Red Tag:**

- (a) Any fuel system with evidence of an unrepaired leak at any point.
- (b) A fuel tank not securely attached to the vehicle.
- (c) A fuel system that fails to comply with [257.1829](#).
- (d) Any fuel tank impact protection cage that fails to comply with FMVSS 301.
- (e) Any fuel door interlock system failure, if so equipped.

## 8.0 GLASS

### a) Glass: General

All glass or plastic used in the vehicle must comply with applicable federal and state specifications. All glass shall be mounted using a full periphery of glazing material. Any unmarked glass must have documentation for use in the specific position.

[571.205](#), [571.217](#), [571.219](#), [257.1827](#), [257.708a](#), [257.709](#).

#### **(1) Condition Yellow Tag:**

- (a) Glass - Glazed surfaces containing stickers not permitted by law
- (b) Glass - Unauthorized tinting material which limits vision
- (c) Glass - Cracks, chips or discoloration over 1 - inch

#### **(2) Condition Red Tag:**

- (a) Glass - Glass or glazing broken or missing.
- (b) Glass - Glass not of approved type.
- (c) Non-transparent material is used to replace glass
- (d) Sharp or exposed edges of glass
- (e) Windshield has discoloration or other damage within a portion extending upward from the topmost portion of the steering wheel, but not including a two-inch border at the top and a one-inch border at each side of the windshield or each panel thereof, except as follows:
  - (i) Color or tint applied by the manufacturer for the reduction of glare;
  - (ii) Any crack that is not intersected by any other cracks;
  - (iii) Damaged area that can be covered by a disc  $\frac{3}{4}$  inch in diameter, if not closer than three inches to any other such damaged area;
- (f) Window within driver's operational field of view having chips, clouding, cracks, non-transparent material, or after-market tinting that obscures the driver's vision. (Includes rear emergency door glass and first passenger window)

### b) Wipers and Washers: General

- i) Windshield wipers and washers shall comply with [571.103](#) and [571.104](#).

#### **(1) Condition Yellow Tag:**

- (a) Washers are inoperative.
- (b) Wipers - One speed inoperative.

#### **(2) Condition Red Tag:**

- (a) Wipers fail to clean windshield or are inoperative.



- c) Forward Facing Cameras: General [257.1823](#)  
Forward facing cameras mounted on the interior of the windshield shall be mounted in the following locations; the uppermost driver's side corner, the uppermost passenger side corner, or as close to the upper center of the windshield as possible just inside the wiper sweep area. Interior forward facing cameras shall not be mounted near the bottom of the windshield or the dash and shall not obstruct the viewing area of the driver or create a blind spot for the seated driver.
- (1) Condition Yellow Tag:**  
(a) Any forward facing camera not properly secured to the windshield or cowl above the windshield.
- (2) Condition Red Tag:**  
(a) Any forward facing camera mounted on or near the windshield creating a visual blind spot for the driver.  
(b) Any forward facing camera mounted on the dash area causing a visual blind spot for the driver.

## **9.0 LIGHTING AND ELECTRICAL [257.683-704](#)**

- a) Lighting Systems: General  
All vehicles shall be equipped with lamps that provide adequate illumination of the roadway and enhance conspicuity of motor vehicles so that their presence is perceived, and signals understood, in daylight, darkness and other conditions of reduced visibility. The location, number and color of all exterior lamps and signals shall be in conformance with current Federal Motor Vehicle Safety Standards found in [Part 571](#) and in section 697, 698 of the Michigan Vehicle Code, 1949 PA 300, [257.698](#). LED lamps shall not be noted as defective if the lighting diodes illuminated meet the lighting standard. [257.697](#)
- b) Headlamps ([257.684](#), [257.685](#), [257.695](#), [257.698](#))  
**(1) Condition Yellow Tag:**  
(a) One or both high beam inoperative.  
(b) One low beam inoperative.
- (2) Condition Red Tag:**  
(a) Both low beams are inoperative.
- c) Turn Signal Lamps and Indicators  
The turn signal operating unit on each vehicle shall be self-canceling by steering wheel rotation and capable of cancellation by a manually operated control. [571.108](#)  
**(1) Condition Yellow Tag:**  
(a) Turn signal that fails to cancel by steering wheel rotation.
- (2) Condition Red Tag:**  
(a) Any turn signal lamp is inoperative.
- d) Hazard Lamps [571.108](#) [257.698a](#), [257.1815](#)  
**(1) Condition Red Tag:**  
(a) Any lamp inoperative in the 4-way hazard warning system.
- e) Backup Lamps  
Vehicles shall conform to the SAE Standard J593c Backup Lamps 2-68. [571.108 S5.3.1.5](#),



[257.698\(3\)](#)

**(1) Condition Yellow Tag:**

- (a) Any inoperable backup lamp. (vehicle equipped with more than one back up lamp)

**(2) Condition Red Tag:**

- (a) All backup lamps inoperative.

f) Tail Lamps /Stop Lamps

Vehicles less than 80 inches width whose GVWR is 10,000 pounds or less, shall be equipped with a high-mounted stop lamp as required by [571.108](#), [257.1815](#), [257.686](#), [257.697b](#).

**(1) Condition Yellow Tag:**

- (a) Only one stop or tail lamp operative per side.

**(2) Condition Red Tag:**

- (a) No operative stop lamps or tail lamps
- (b) Vehicles less than 80 inches and under 10,000 pounds GVWR, with no high mounted stop lamp.
- (c) Any tail or stop light that fails to comply with 49 CFR 571 or [257.698](#).

g) Clearance, Identification, Marker and Strobe Lamps [571.108](#), [257.688](#), [257.698](#), [257.1815](#), [257.1831](#).

**(1) Condition Yellow Tag:**

- (a) More than three clearance lamps; or combination of side marker and/or identification lamps are missing or fail to function.

**(2) Condition Red Tag:**

- (a) Roof mounted Strobe lamps not mounted in accordance with [257.1831](#).

h) Exterior Lens/Color [257.689](#) [257.690](#), [257.691](#), [257.1815](#)

**(1) Condition Yellow Tag:**

- (a) Exterior lens missing on any lamp.
- (b) Wrong color of illumination on vehicle.

i) Instrument Panel Lighting

**(1) Condition Yellow Tag:**

- (a) Inadequate instrument panel illumination. At a minimum, the gauges/indicators listed below shall be adequately illuminated.

\*Speedometer, air gauges, voltmeter, turn-signal indicators, and coolant temperature.

j) School Bus Signal Lamps: General

Each school bus shall be equipped with a system of either four red signal lamps that conform to SAE Standard J887 or both red and amber lamps installed in accordance with SAE Standard J887; except that each amber signal lamp shall be located near each red signal lamp, at the same level, but closer to the vertical centerline of the bus. The system of red and amber signal lights shall be wired so that the amber lights are energized manually, and the red lights are automatically energized, with the amber lights being automatically de-energized, when the school bus service door is opened. [257.1817](#), [257.1819](#)





k) Four and Eight Light Systems

**(1) Condition Yellow Tag:**

- (a) Four and eight light systems - Indicator light inoperative.
- (b) Four and eight light systems - Red/Yellow system indicator lamps inoperative.

**(2) Condition Red Tag:**

- (a) Four and eight light systems - Red overhead flashing lamps are connected to service door or brakes.
- (b) Four and eight light systems - Overhead flasher lamp is inoperative.
- (c) Four and eight light systems - Overhead flasher does not alternate or operate sequentially as required.
- (d) Four and eight light systems - Crossing gate wired into a four-light system.
- (e) Four and eight light systems - Light system with less than equivalent to a 7" signal.

\*NOTE: Lamps indicating alternating flashing light operation shall be visible to the driver when in a normal seated position; [257.1817](#). An exterior light monitor board is not required.

l) Stop Arm/Crossing Control Devices

Each school bus shall be equipped with a stop signal arm meeting the requirement of [571.131](#) S5.1 through S5.5.

**(1) Condition Yellow Tag:**

- (a) Stop arm - One lamp burned out.
- (b) Stop arm - Lamps flash when sign is in closed position.
- (c) Crossing control device – If equipped, crossing control device fails to properly function.
- (d) Crossing control arm length less than 70" (measured from the bumper at the arm assembly attachment point) when in the extended position.

**(2) Condition Red Tag:**

- (a) Stop arm - Stop arm will not extend or retract.
- (b) Stop arm - Both red lamps are inoperable or out of sequence.
- (c) Stop arm - Sign is defaced and unreadable.
- (d) Stop arm - A series of LED lamps fail to illuminate rendering a portion of the sign unreadable.
- (e) Stop arm - Stop sign extends when amber lamps are activated.
- (f) Stop arm - Mounting of a stop arm sign fails to comply with Federal Motor Vehicle Safety Standards.

m) Electrical: General

All wiring shall conform to current applicable recommended SAE practices.

**(1) Condition Red Tag:**

- (a) Electrical - Required wire or electrical component charred or showing evidence of being burnt.
- (b) Electrical - Wiring is exposed or loose.

n) Alternator

**(1) Condition Yellow Tag:**

- (a) Alternator - Belts are worn, loose, or missing.
- (b) Alternator - Less than 100 ampere rating. [257.1811\(9\)](#).



- o) Battery
  - (1) **Condition Yellow Tag:**
    - (a) Battery - Less than cranking capacity 500 CCA for gasoline engines, 900 CCA for diesel engine [257.1811 \(9\)](#).
  - (2) **Condition Red Tag:**
    - (a) Battery - Wiring is exposed or loose.
    - (b) Battery - Battery will not activate the starter.
    - (c) Battery - Battery not secured.
  
- p) Neutral Safety Switch
  - (1) **Condition Red Tag:**
    - (a) Engine starter operative when the transmission shift position is in a forward or reverse drive position. (Applies to automatic transmissions only) [571.102](#).
  
- q) Horn [257.706](#)
  - (1) **Condition Yellow Tag:**
    - (a) Horn - Horn operation intermittent.
  - (2) **Condition Red Tag:**
    - (a) Horn - Horn button fails to be located and function as designed.
    - (b) Horn - Fails to operate.
  
- r) Reverse Beeper – (School buses used for Head Start and Early Head Start transportation)
  - (1) **Condition Red Tag:**
    - (a) Reverse beeper – When required, not equipped with reverse beeper. [1310.12](#)
  
- s) Flashing Advisory Sign [257.1812](#)
  - (1) **Condition Yellow Tag:**
    - (a) Flashing advisory sign, if equipped, does not meet the requirement of Public Act 187.

## 10.0 MIRRORS

- a) Mirrors: General

All vehicles shall comply with the unobstructed vision requirement specified in [571.111](#).

  - (1) **Condition Yellow Tag:**
    - (a) Mirror – Mirror not mounted on a stable support.
    - (b) Mirror – Mirror cracked or clouded to the extent that rear vision is obscured.
  - (2) **Condition Red Tag:**
    - (a) Mirror – Required mirror missing or broken.
    - (b) Mirror – Fails to meet the field of vision standards of [257.1823](#).
    - (c) Mirror – Mirror has sharp edges.
    - (d) Mirror – Mirror will not hold a set adjustment.
    - (e) Mirror – Driver interior mirror fails to comply with [257.1823](#).



- b) Sun Visors  
Sun visors should not be bent, broken or loose. Visors should be capable of remaining in a set position.

**(1) Condition Yellow Tag:**

- (a) Broken sun visor.

## 11.0 MISCELLANEOUS EQUIPMENT

- a) Add on Equipment:

**(1) Condition Red Tag:**

- (a) Add on equipment presents a safety hazard.

- b) First Aid Kits, Fusees, Reflective Triangles and Fire Extinguisher [257.1825](#), [257.681](#)

**(1) Condition Yellow Tag:**

- (a) First aid kit is missing, or not securely fastened.
- (b) Fusees, or reflective triangles missing, inaccessible or not secured in driver's area.

**(2) Condition Red Tag:**

- (a) Required fire extinguisher is missing, not of proper type, size, not fully charged, has no pressure gauge, is not secured or is not accessible to the driver.

- c) State Issued Decal(s)/Registration

**(1) Condition Red Tag:**

- (a) Vehicle placed out-of-service or sold that displays any MSP decal. [257.1841](#)
- (b) No valid registration or proof of insurance, when required.

- d) Child Safety Check System (if equipped)

**(1) Condition Yellow Tag:**

- (a) System fails to function in accordance with manufacturer's design.

## 12.0 PAINT AND MARKINGS

### Paint: General

- a) A school bus used to transport pupils to and from school and/or school related events shall be painted in compliance with [257.1833](#).

**(1) Condition Yellow Tag:**

- (a) Required lettering or background faded to the extent of ineffectiveness.

**(2) Condition Red Tag:**

- (a) School bus as defined painted in a color configuration other than specified.
- (b) School name improperly painted on the vehicle.
- (c) Multifunction school activity bus painted in the color configuration specified in [257.1833](#).

- b) Markings: General

Animal pictures, cartoon figures, and similar insignia may be affixed to the bus in a temporary manner. [257.1833](#)

**(1) Condition Red Tag:**

- (a) Insignia, advertisement, stickers or markings other than allowable by statute.



## 13.0 PROHIBITED VEHICLES

- a) All vehicles eleven passengers or more must be built to school bus specifications. [257.1807](#)
  - (1) Condition Red Tag:**
    - (a) Vehicle used for the transportation of pupils to or from school or school related events - eleven passengers or more - not built to school bus specifications.
- b) Motor Coach:
  - (1) Condition Red Tag:**
    - (a) School, as defined in Public Act 451, owns a motor coach used for the transportation of pupils to or from school or any school-related event.
- c) Multifunction School Activity Bus (MFSAB):
  - (1) Condition Red Tag:**
    - (a) MFSAB not built to the Federal Motor Carrier Safety Standards defined in 49 CFR and manufactured after September 2, 2003.

## 14.0 SEATS AND BARRIERS

- a) Passenger Seating: General

Each vehicle shall meet or exceed the federal motor vehicle safety standards applicable to the construction and sale of that vehicle and for all seating positions in that vehicle. A school may transport pupils with disabilities in mobile seating devices in accordance with federal standards specifically applicable to such pupils. [571.222](#), [257.1810](#)
- b) Stanchions – (when required)
  - (1) Condition Yellow Tag:**
    - (a) Stanchion - Looseness is detected, or fastening parts are missing.
    - (b) Stanchion - Padding is missing.
  - (2) Condition Red Tag:**
    - (a) Stanchion is missing or presents a snagging hazard.
- c) Seat Frames and Barriers
  - (1) Condition Yellow Tag:**
    - (a) Seat bottom assembly can be detached from frame.
    - (b) Seat bottom assembly not in a lowered and latched (or secured) position.  
\*Note: Except those in front of an emergency side exit door.
  - (2) Condition Red Tag:**
    - (a) Non-manufacturer installed seating next to any lift gate door.\*  
\*Note: Seat barrier may be next to any lift gate door.
    - (b) Seat or barrier not properly secured.
    - (c) Seat - Seat Frame broken or loose from floor or sidewall.
    - (d) Metal seat assembly back broken.
    - (e) Any cracked or broken seat bottom.
    - (f) Seat or barrier spacing fails to comply with [571.222](#).
- d) Seat Foam and Upholstery [571.222](#).
  - (1) Condition Yellow Tag:**
    - (a) Seat foam is not symmetrical on each seat. (Questionable seats will be physically checked before being tagged)



- (b) Tear, cut, or hole in a seat cover exceeds three inches.

**(2) Condition Red Tag:**

- (a) Seat back not protected by foam.
- (b) Seat - Foam split or displaced leaving top bar exposed.
- (c) Seat - Missing seat back or seat bottom cover.
- (d) Seat - Seat or barrier material defective - integrity of occupant protection and compartmentalization compromised.

e) Driver Seat and Seat Belt

**(1) Condition Yellow Tag:**

- (a) Driver seat - Seat anchor bolts not securely fastened to the floor.
- (b) Driver seat - Sheet metal and back is loose.
- (c) Driver seat - Seat belt webbing is frayed, split, or torn.
- (d) Buckles do not properly operate.
- (e) Belt anchorages are loose or badly corroded.
- (f) Driver seat - Belt mounting surfaces are badly deformed, damaged or corroded.

**(2) Condition Red Tag:**

- (a) Driver seat - Frame is loose, broken or cracked.
- (b) Driver seat - Mismatched seat and seat belt assembly.
- (c) Driver seat - Seatbelt fails to adjust or hold proper adjustment.
- (d) Driver seat - Part of the driver's safety restraint assembly is missing, not properly installed or defective preventing proper securement.
- (e) Driver seat - Manufacturer installed air bag not functioning as designed.

## **15.0 SERVICE DOOR**

a) Service Door: General

**(1) Condition Yellow Tag:**

- (a) Service door - Flexible material on vertical closing is defective.
- (b) Service door - Not maintained as manufactured.

**(2) Condition Red Tag:**

- (a) Service door - Door fails to operate manually.
- (b) Service door - Door does not open or properly close.
- (c) Service door - Door control handle does not lock in the closed position.
- (d) Service door - Door is equipped with a padlock or similar non-OEM locking device.  
(Excludes vehicles equipped with an interlock system)

b) Handrails Service Door: General

**(1) Condition Red Tag:**

- (a) Handrail - Required handrail missing.
- (b) Handrail improperly installed or loose.
- (c) Handrail fails the nut/drawstring test.

## **16.0 SPECIAL NEEDS EQUIPMENT**

a) Wheelchair Tie down and Occupant Restraint System (WTORS): General

The WTORS shall be designed, installed, and operated to accommodate passengers in a forward-facing orientation and shall comply with all applicable requirements.



**(1) Condition Red Tag:**

- (a) Any vehicle manufactured after 1/17/94 with a side facing securement system. [571.222](#) S5.4.1.2

All vehicles retrofitted shall comply with all applicable requirements and standards. [571.222](#) S5.4.1 through S5.4.4, [49 CFR 38.21](#) Mobility devices shall be affixed to the vehicle in such a manner that no exit or aisle is blocked in the vehicle. The WTORS system shall be complete as dynamically tested by the manufacturer. Installation shall be in compliance with manufacturer's recommendations and shall meet all the requirements of [571.222](#).

**(1) Condition Red Tag:**

- (a) WTORS Special Needs - Non-compliant retrofitting of a vehicle. [571.222](#)
- (b) Special Needs - Device installed that impedes any aisle or exit. [571.217](#)
- (c) Special Needs - Oxygen cylinder secured to a wheelchair that impedes access to any exit.
- (d) Special Needs – (When in use) any mismatched or missing securement system part; anchor point, anchorage, end fitting, belt, strap, fasteners, four-point tie down, four-point strap type tie down, or wheelchair lockdown device or system.
- (e) Special Needs - Wheelchair securement improperly installed, missing, loose, or damaged.

All securement and restraint system hardware and components shall be free of sharp or jagged areas and shall be of a non-corrosive material or treated to resist corrosion in accordance with [571.201](#), [571.209](#).

**(2) Condition Red Tag:**

- (a) Special Needs - Component having any sharp or jagged edge.
- (b) Special Needs - Use of a bungee cord in the WTORS system.
- (c) Special Needs - Securement, seat belt assembly, tracking or tie down device using a bungee cord when WTORS is in use.

Each WTORS location shall consist of minimum of four anchorage points. Two points shall be located in front and two in the rear. The anchorage shall be attached to the floor of the vehicle.

**(1) Condition Red Tag:**

- (a) Less than four anchorage points for any wheelchair tie down. [571.222](#) S5.4.1.2

Each WTORS device (webbing or strap assembly) shall provide a means of adjustment to remove slack. The system should not allow for more than a 2" movement in any direction under normal driving conditions. [49 CFR 38.23](#).

**(2) Condition Red Tag:**

- (a) Special Needs - When in use any frayed, rusted, cut, or inoperable slack adjuster.

All buses equipped with attachment points securement devices and/or wheelchair securement system shall also be equipped with a durable webbing cutter having a full width hand-grip and protected blade. The cutter must be appropriately stored in the driver's compartment within the driver's reach.

**(3) Condition Red Tag:**

- (a) Special Needs - No belt cutter accessible to the driver and/or aide as noted.

b) Aisles: General

All school buses equipped with a power lift or a lift door shall provide a 30" aisle leading from any wheelchair/mobility aid position to at least one emergency exit and the lift area. [ADA](#)



## [Accessibility Guidelines A4.2.1 \(3\)](#)

### **(1) Condition Red Tag:**

- (a) Special Needs - Aisle width less than 30" if equipped with a lift or lift door.
- (b) Special Needs - No access to both the lift and at least one emergency exit.

No wheelchair station or component thereof can impede any aisle or the exit of any individual transported in the vehicle.

### **(2) Condition Red Tag:**

- (a) Special Needs - Impeding an emergency exit.
- (b) Special Needs - Station securement system in aisle way.

### c) Seating for Vehicles with Special Adaptive Equipment: General

All vehicles shall maintain compartmentalization where normal seating positions are present [571.222](#).

#### **(1) Condition Red Tag:**

- (a) Compartmentalization is incomplete, or a barrier or stanchion is removed.
- (b) Improper seat spacing.
- (c) Any seat that is rear or side facing that fails to comply with all the provisions of [571.222](#).

All seating and securement systems shall meet the federal standards for school bus passenger seating and crash protection, seat belt assemblies, seat belt assembly anchorages, and child restraint systems where applicable. (49 CFR 571.222, 209, 210, 213, 225, Head Start Regulations)

Seating adjacent to special needs lift doors is prohibited. \*NOTE: See Seats and Barriers. If special needs lift is removed, door shall be secured with high grade bolt in locking mechanism.

#### **(2) Condition Red Tag:**

- (a) Seat belt, car seat and/or harness that fail to meet Federal Motor Vehicle Safety Standards.
- (b) Bungee cord used as securement of a person, car seat, seat belt, or harness.

### d) Power Lifts and Ramps: General

No vehicle shall have a lift door where a lift is pending installation or removed when the door is not closed, sealed, and the handle removed.

#### **(1) Condition Red Tag:**

- (a) Special Needs - Door not sealed and secured per manufacturer's instructions.
- (b) Special Needs - Door not secured to prevent opening.

Installation of all lifts in new and retrofitted vehicles shall be in compliance with all written manufacturer specifications. All equipment shall be used as dynamically tested. Maintenance of the equipment shall be per manufacturer's specifications. [ADA Accessibility Guidelines 192.23](#), [49 CFR 38.23](#), [49 CFR 37](#).

#### **(2) Condition Yellow Tag:**

- (a) Special Needs – Lift -Required components are improperly mounted.
- (b) Special Needs – Lift - Incomplete installation of lift equipment.
- (c) Special Needs – Lift - Lift door cannot be secured in the open position.
- (d) Special Needs – Lift - Lift door seal is loose or missing.



**(3) Condition Red Tag:**

- (a) Special Needs – Lift installation damaged the structural integrity of the vehicle.
- (b) Special Needs – Lift - Any working part missing or inoperative (cables, pulleys, shaft, etc.).
- (c) Special Needs – Lift - Any broken weld or damaged pivot point.
- (d) Special Needs – Lift - Wheelchair lift does not function as designed or is inoperative.

e) Lift Design and Operation: General

The design load of the lift shall be at least 600 pounds. The lifting mechanism and platform shall be capable of lifting a minimum of 800 pounds. The lift shall not fold while the lift is in motion from the surface of the ground to vehicle level. The lift shall deploy to all levels, ground, curb, and intermediate positions. The lift shall incorporate an emergency method of deploying to ground level with a lift occupant and raising and stowing the empty lift if the power to the lift fails. Lift design shall prevent excessive pressure that could damage the lift system when the platform is fully lowered or raised. Lift design shall prevent any jacking of the vehicle.

[49 CFR 38.23](#)

**(1) Condition Yellow Tag:**

- (a) 16.6.10 Special Needs – Lift – Lift fails to function as designed / not compromising the integrity of the lift.

**(2) Condition Red Tag:**

- (a) Special Needs – Lift - Wheelchair lift does not function as designed or is inoperative.
- (b) Special Needs – Lift - Any hydraulic line leaking during lift operation.
- (c) Special Needs – Lift - Lift folds while in motion.
- (d) Special Needs – Lift - Manual over ride system missing or inoperative.
- (e) Special Needs – Lift - Lift system damaged due to excessive loads.
- (f) Special Needs – Lift - Lift jacks vehicle in any position loaded or unloaded.

Controls shall be provided that enables the operator to activate the lift mechanism from either inside or outside the vehicle. All controls and emergency operation shall be ADA compliant and complete as provided by the manufacturer. Interlock systems (required as of April 1, 2005) combined in the control shall prove appropriate mechanisms or systems to ensure the vehicle cannot be moved when the lift is deployed. [571.403](#)

**(1) Condition Red Tag:**

- (a) Special Needs – Lift - Controls missing or inoperative from inside or outside of the vehicle.
- (b) Special Needs – Lift - Incomplete controls as provided by manufacturer.
- (c) Special Needs – Lift - Interlock system fails to operate as designed.

f) Platform and Platform Gaps: General

The surface of the platform shall be free of any protrusions over 1/4" high. All platforms shall be slip resistant.

**(1) Condition Red Tag:**

- (a) Special Needs – Lift - Platform surface has any protrusion that exceeds 1/4".

The platform surface shall have a minimum of 30" clear width measured from 2" above the platform surface to 30" above the surface of the platform. The clear length of the platform shall be a minimum of 48" measured 2" above the platform to 30" above the surface of the platform.



## 571.403

### **(1) Condition Red Tag:**

- (a) Special Needs – Lift - Platform size less than 30x48 when measured 2” above surface.

Any openings between the platform surface and the raised barriers shall not exceed 5/8” in width. A gap between the lift and bus body shall not be greater than 1/2” in width.

### **(1) Condition Red Tag:**

- (a) Special Needs – Lift - Gap between surface and raised barriers in excess of 5/8”
- (b) Special Needs – Lift - Gap between lift and body greater than 1/2”

### g) Barriers: General

The lift platform shall be equipped with barriers to prevent any of the wheels of a wheelchair or mobility aid from rolling off the platform during its operation. A moveable barrier or inherent design feature shall prevent a wheelchair or mobility aid from rolling off the edge closest to the vehicle until the platform is in its fully raised position. The loading edge barrier which functions as a loading ramp at ground level, shall be sufficient when raised or closed, or a supplementary system shall be provided, to prevent a power wheelchair or mobility device from riding over or defeating it. The lift shall permit both inboard and outboard facing wheelchairs and mobility aid users. (49 CFR 38)

### **(1) Condition Red Tag:**

- (a) Special Needs – Lift - Lift gate lip does not lock when lift is in the air.
- (b) Special Needs – Lift - Incomplete or insufficient barriers to prevent roll off in any direction.
- (c) Special Needs – Lift - Lift gate lip does not automatically release when lift is on the ground.

### h) Handrails: General

Handrails shall move in tandem with the lift and shall be graspable and provide support to standees throughout the entire lift operation.

### **(1) Condition Red Tag:**

- (a) Special Needs – Lift - Handrails fail to move in tandem with the lift or fail to provide support for standees.

Handrails shall be capable of withstanding a force of 100 pounds concentrated at any point on the handrail.

### **(1) Condition Red Tag:**

- (a) Special Needs – Lift - Damage to handrails due to excessive force.

### i) Medical Support Equipment: General

### **(1) Condition Red Tag:**

- (a) Special Needs – Equipment carried in the vehicle that is not properly secured, creating a hazard.



## 17.0 STEERING

### a) Steering: General

#### Steering Shaft and Travel

##### (1) **Condition Yellow Tag:**

- (a) Steering - Steering stops allow tire to rub on frame, metal or other chassis part.
- (b) Steering - Missing steering stop.

##### (2) **Condition Red Tag:**

- (a) Steering - Any fabric joint or steering gear where the direct connection between the two halves is not continuous.
- (b) Steering - Front wheels are incapable of being turned to right and left; steering stops without binding or interference.
- (c) Steering - Any modification or other condition that interferes with free movement of any steering component.

Steering Wheel Free Play: When any of these values (inch movement or degrees) are met or exceeded. For power steering systems, engine must be running. For power systems, if the steering wheel movement exceeds 45 degrees before the steering axle tires move, proceed as follows:

Rock the steering wheel left to right between points of power steering value resistance. If that motion exceeds 30 degrees or the inch movement values shown for manual steering, the vehicle will be red tagged.

##### (3) **Condition Red Tag:**

- (a) Steering – Excessive Steering wheel free play (exceeds standard).

<u>Steering Wheel Diameter</u>	<u>Manual System Movement 30</u>	<u>or</u>	<u>Power System Movement *45</u>
	<u>degrees</u>		<u>degrees</u>
16"	4-1/2"		6-3/4"
18"	4-3/4"		7-1/8"
19"	5"		7-1/2"
20"	5-1/4"		7-7/8"
21"	5-1/2"		8-1/4"
22"	5-3/4"		8-5/8"

### c) Steering Column

##### (1) **Condition Red Tag:**

- (a) Steering column - Absence or looseness of U-bolt(s) or positioning part(s).
- (b) Steering column - Worn, faulty, or obvious repair-welded universal joint(s).
- (c) Steering column - Steering components not properly secured.
- (d) Steering column - Telescopic steering column does not lock into position.
- (e) Steering column - Tilt steering column does not lock in at least one position.

### d) Front Axle Beam and All Steering Components other than Steering Column, Including Hub

##### (1) **Condition Red Tag:**

- (a) Steering components - Any crack(s).
- (b) Steering components - Any obvious welded repair.



- e) Steering Gear Box/Rack & Pinion
  - (1) **Condition Yellow Tag:**
    - (a) Steering Gear Box/Rack & Pinion - Torn Boot
  - (2) **Condition Red Tag:**
    - (a) Steering Gear Box/Rack & Pinion - Mounting bolt(s) loose or missing.
    - (b) Steering Gear Box/Rack & Pinion - Crack in gearbox or mounting brackets.
    - (c) Steering Gear Box/Rack & Pinion - Obvious welded repair.
    - (d) Steering Gear Box/Rack & Pinion - Looseness of the yoke-coupling to the steering gear input shaft.
- f) Pitman Arm
  - (1) **Condition Red Tag:**
    - (a) Pitman Arm – Any movement of the Pitman arm on the steering gear output shaft.
    - (b) Pitman Arm – Any obvious welded repair.
- g) Power Steering
  - (1) **Condition Red Tag:**
    - (a) Power steering - Auxiliary power assist cylinder loose.
    - (b) Power steering - Power steering pump inoperable.
    - (c) Power steering - Faulty fluid control device, leak or empty reservoir.
- h) Ball and Socket Joints
  - (1) **Condition Red Tag:**
    - (a) Ball and socket joint - Movement of a stud nut when under steering load.
    - (b) Ball and socket joint - Motion, exceeding 1/8 inch (other than rotational) between any linkage member and its attachment point.
    - (c) Ball and socket joint – Obvious welded repair.
- i) Tie Rods and Drag Links
  - (1) **Condition Yellow Tag:**
    - (a) Tie Rod/Drag Link - Motion between any linkage member and its attachment point exceeding 1/16 inch, but less than 1/8 inch (other than rotational) measured using hand pressure.
  - (2) **Condition Red Tag:**
    - (a) Tie Rod/Drag Link – Motion (other than rotational) between any linkage member and its attachment exceeds 1/8 inch measured using hand pressure.
    - (b) Tie Rod/Drag Link - Loose clamp(s) or clamp bolt(s) on tie rods or drag links.
    - (c) Tie Rod/Drag Link - Looseness in any threaded joint.
- j) Nuts, Cotter Pins or other Devices
  - (1) **Condition Red Tag:**
    - (a) Loose or missing fasteners on tie rod, Pitman arm, drag link, steering arm, or tie rod arm.
- k) Front Wheel Bearings
  - (1) **Condition Red Tag:**
    - (a) Excessive wheel bearing play that exceeds OEM specifications.



l) King Pin

**(1) Condition Red Tag:**

- (a) King Pin - If measurement is found to be in excess of 1/4 inch.
- (b) King Pin - Collapsed thrush washer and/or bearing.

## 18.0 SUSPENSION

a) Suspension: General

Axle Parts/Members

**(1) Condition Yellow Tag:**

- (a) Suspension - Loose shock absorber attachment point.
- (b) Suspension - Excessive wear – any bushing.
- (c) Suspension - Ball joint seals cut or cracked (other than superficial surface cracks).

**(2) Condition Red Tag:**

- (a) Suspension - U-bolt(s) or other spring to axle clamp bolt(s) cracked, broken, loose, or missing.
- (b) Suspension - Axle, axle housing, spring hanger(s), or other axle positioning parts(s) cracked, broken, loose, or missing resulting in shifting of an axle from its normal position.
- (c) Suspension – Worn/improperly assembled U-bolt, shock, king pin, ball joint, strut.
- (d) Suspension - Ball joint or kingpin bent or damaged.
- (e) Suspension - Stabilizer bars not connected.
- (f) Suspension - Springs broken.
- (g) Suspension - Coil springs extended by spacers.
- (h) Suspension - Shock absorber mountings or shackles not securely attached.
- (i) Suspension - Rubber bushings cracked, extruded out from or missing from suspension joint.
- (j) Suspension - Radius rods missing or damaged.

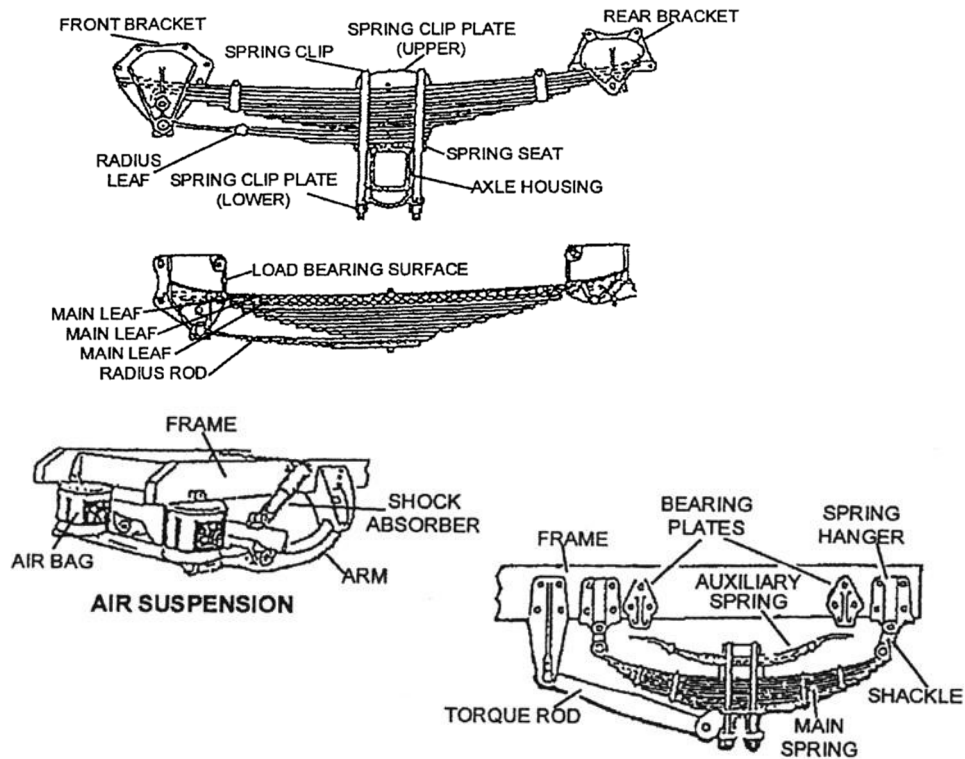
b) Spring Assembly

**(1) Condition Yellow Tag:**

- (a) Spring assembly - Less than one-fourth of the leaves in any spring assembly broken.

**(2) Condition Red Tag:**

- (a) Spring assembly - One-fourth or more of the leaves in any spring assembly broken.
- (b) Spring assembly - Coil spring broken.
- (c) Spring assembly - Leaf or portion of any leaf in any spring assembly is missing or separated.
- (d) Spring assembly – Broken main leaf in a leaf spring.



c) Air Suspension

(1) **Condition Yellow Tag:**

- (a) Audible air leak emanating from one or more air spring/bag(s). \*

\*NOTE: See 2.0 (n) Air Loss rate.

(2) **Condition Red Tag:**

- (a) Deflated air suspension (one or more deflated air spring/bag). \*
- (b) Air spring/bag is missing or is detached at the top or bottom.

\*NOTE: Deflated aftermarket/secondary air bag suspension in addition to a primary leaf/coil spring suspension does not result in a Red Tag violation.

## 19.0 TIRE, WHEEL AND HUB

a) Tires: General Condition

Tires shall be free from chunking, bumps, knots, or bulges evidencing cord, ply or tread separation from the casing.

(1) **Condition Red Tag:**

- (a) Tire - Sidewall cut, worn or damaged to the extent that the ply cord is exposed. [49 CFR 570.62 \(c\), \(d\)](#)
- (b) Tire - Observable bump, bulge or knot related to sidewall or tread separation.
- (c) Tire - Unrepaired fabric break or any fabric break that has been repaired with a blowout patch.
- (d) Visible boot, rim crack, ply repair, or plugged sidewall.

The tread shall not be less than 4/32 of an inch on each steer tire of any vehicle, not less than 2/32 inches on all other tires. Tires shall be properly inflated.



**(1) Condition Red Tag:**

- (a) Tire - Any tire worn less than 2/32 inch on the rear axle (4/32 on steering axle) when measured in any two adjacent major tread grooves at three locations spaced evenly around the circumference of the tire at the area of greatest wear. 49 CFR 570.62 (1).
- (b) Tire - Tire is flat or has a noticeable (e.g. can be heard or felt) leak, or has fifty (50) percent or less of the maximum inflation pressure marked on the tire sidewall.  
**\*NOTE:** Measure tire air pressure only if there is evidence the tire is under-inflated.

b) Valve stems, wheels and safety stops.

**(1) Condition Yellow Tag:**

- (a) Tire improperly mounted on valve stem safety stop.
- (b) Safety stop is missing or damaged.

c) Recapped, re-grooved, retreaded, reinforcement repairs to front-mounted tires and tires marked "Not for Highway Use" or labeled with specific restrictions.

**(1) Condition Red Tag:**

- (a) Tire recapped, re-grooved or recut below the original grooved depth.
- (b) Tire marked for restricted use.
- (c) Reinforcement repair to cord body on front-mounted tires.

d) Tire size and manufacturer specifications.

**(1) Condition Red Tag:**

- (a) Radial and bias type tires on the same axle.
- (b) Mixed size tires on same axle.
- (c) Tire - So mounted or inflated so that it comes in contact with any part of the vehicle or its mate in a dual set.

e) Spare tires.

**(1) Condition Red Tag:**

- (a) Type I School Bus - spare inside passenger compartment.
- (b) Type II School Bus - loose spare tire inside passenger compartment.

f) Wheels and Rims

A tire rim, wheel disc or spider shall have no visible cracks, elongated bolt holes, or indication of in-service repair by welding.

**(1) Condition Red Tag:**

- (a) Welded repair on wheels or spokes.
- (b) Rims, spacers and/or rings bent, sprung, cracked, improperly seated, damaged or mismatched.
- (c) Wheels/Rims - No gap at split ring ends.

Cast wheels shall not be cracked or show evidence of excessive wear in the clamp area.

**(2) Condition Red Tag:**

- (a) Cast Wheels - The casting is cracked or there is evidence of wear in the clamping area.

g) Disc wheels.

**(1) Conditional Yellow Tag:**

- (a) Installed wheel nut torque indicator colors other than the standard color.



**(2) Condition Red Tag:**

- (a) Disc Wheels - Stud holes are out of round.
- (b) Disc Wheels - Cracks between the hand holes and/or the stud holes in the disc.

All wheel nuts and clamps shall be in place and tight. Wheel nut torque indicators, if installed, shall be the standard grey color.

**(3) Condition Red Tag:**

- (a) Disc Wheels - Clamps or nuts are loose, damaged or missing.

h) Hub\*

**(1) Condition Yellow Tag:**

- (a) Hub - Evidence of actively leaking wheel seal.

**(2) Condition Red Tag:**

- (a) Hub - Excessive wheel bearing play that exceeds OEM specifications.

\*NOTE: Refer to the applicable contaminated friction material criterion in "Brake Systems," when condition is present.

## **20.0 PROCEDURAL**

**(1) Condition Red Tag:**

- (a) Vehicle Not Presented for Inspection.
- (b) Exceed 60 Day Yellow Tag Repair Time Period



## CLAMP TYPE BRAKE CHAMBER DATA

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

## LONG STROKE CLAMP TYPE BRAKE CHAMBER DATA

Type	Outside Diameter	Brake Adjustment Limit	Full Defect Limit
12	5 11/16	1 3/4	2
16	6 3/8	2	2 1/4
20 (2 1/2" Stroke)	6 25/32	2	2 1/4
20 (3" Stroke)	6 25/32	2 1/2	2 3/4
24 (2 1/2" Stroke)	7 7/32	2	2 1/4
24 (3" Stroke)	7 7/32	2 1/2	2 3/4
30	8 3/32	2 1/2	2 3/4





## AIR BRAKE SYSTEM TEST PROCEDURE

1. System at full pressure, engine stopped, parking brakes released, and ignition key in the "on" position.
2. Confirm the yellow ABS light illuminates on and then turns off.
3. With the parking brake released, press and hold the brake pedal down for one minute. Listen for service brake air leaks and watch the air gauges. Vehicle should not lose more than 3 psi per minute.
4. With service brakes applied, check the front brake adjustment.
5. Move under the vehicle. With service brakes applied, check the rear brake adjustment.
6. Confirm installation of a "pop-off" valve on the wet tank.
7. Have a colleague observe the air gauges.
8. Drain the wet tank and confirm there is no air loss in the primary and secondary systems.
9. Drain the secondary air reservoir. Confirm the audible and visual low air warning device is operative when reservoir is 55 psi (or 1/2 of the governor cutout pressure) and below.
10. Build air pressure until compressor cutout is reached (Build up time must meet manufacturer time requirements).
11. Shut engine off (parking brakes must be released).
12. Drain the primary air reservoir. Confirm the audible and visual low air warning device is operative when reservoir is 55psi (or 1/2 of the governor cut-out pressure) and below.
13. Press the brake pedal down to confirm Spring Brake Valve (modulating valve) functions properly (air exhausts causing rear brakes to apply).
14. Build air pressure until compressor cut-out is reached, ignition key in "off" position.
15. Drain the primary service reservoir completely.
16. Open secondary reservoir manual drain valve creating a bleed rate of 20-50 psi/min.\*
17. Note the pressure at which the parking control automatically "trips". Vehicle Inspector will enter this number on the inspection form.
18. With the parking brakes applied, start the engine and place the shifter into drive. Press on the accelerator pedal until the engine RPM reaches 1100 for buses equipped with torque converted automatic transmissions. For buses equipped with a dual clutch transmission, press the accelerator pedal until the engine reaches 900 RPM. (Equivalent engine torque) The result of either test is that the parking brake should hold, not allowing the vehicle to move. \*

\*Failure of the parking control valve to automatically "trip" prior to depletion of secondary reservoir air supply is a RED tag violation.

## School Bus Exterior Mirror Adjustment

FMVSS [49 CFR 571.111 S9-S94\(a\) & S13-S13.3\(g\)](#)  
& PA-187 Section [MCL 257.1823](#)

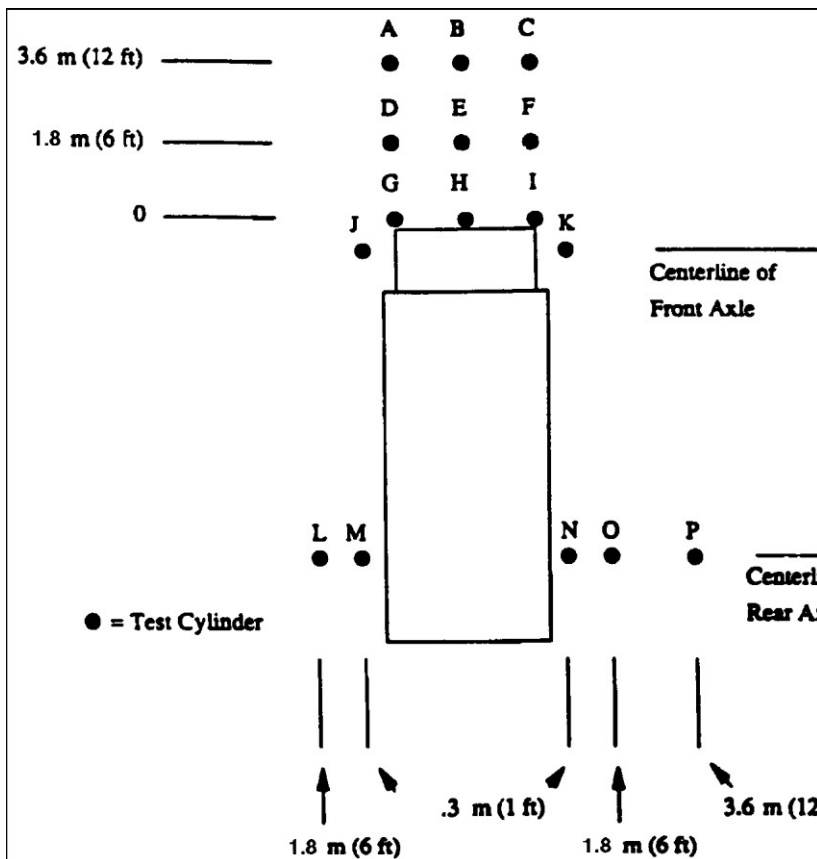
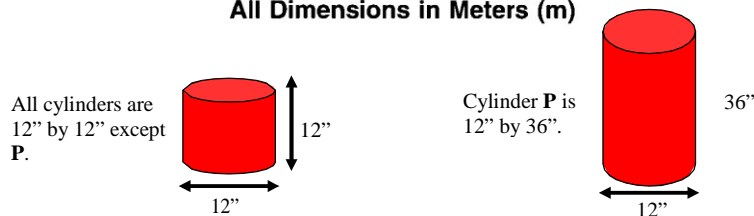


Figure 2.—Location of Test Cylinders for School Bus Field-of-View  
All Dimensions in Meters (m)





The content of the School Bus Inspection Manual is a continuing project between the Michigan State Police and members of the Michigan Association for Pupil Transportation (MAPT). The following individuals are to be recognized for their contributions to school bus safety.

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