# 2022

# INDIANA STATE POLICE

# SCHOOL BUS INSPECTION MANUAL

The following Indiana State Police School Bus Inspection Manual is provided for your use and should be kept up to date and utilized as necessary. Every effort has been made to provide you with a comprehensive informational resource with specific inspection procedures unique to the school bus inspection program.

A major responsibility of any professional organization is to develop and disseminate written policies, procedures, and regulations to help guide its employees in achieving the agency's mission. This manual has been written to assist you in providing the most concise and professional service to the citizens of Indiana with regards to the inspection of school buses and multiple function school activity buses operated within the State of Indiana.

Douglas G. Carter
Superintendent

# TABLE of CONTENTS

Preface……..i

Indiana School Bus Inspection Procedure……ii

Basic Inspection Procedures ..... 1-1 thru 69-1

Optional Equipment Inspection Procedures ……...70-1 thru 91-1

Vehicles for Transporting Children with Disabilities ..... 92-1 thru 101-1

Rented, leased, or borrowed buses ..... 102-1

General Requirements…….103-1

Inspection Laws……..104-1

Definitions……..….105-1 thru 105-20

School Bus Types…….....106-1 thru 106-2

Index..... …....107-1 thru 107-2

# PREFACE

This manual has been developed as an inspection guide for Indiana State Police employees who inspect school buses and multiple function school activity buses operated within the State of Indiana. It has been designed in an effort to establish a standardized inspection procedure which will benefit the State Police Inspector and provide essential information to school transportation and maintenance personnel. We hope this manual provides a better understanding of the methods and procedures used to determine compliance with the State School Bus Committee standards. These inspection procedures cover certain safety-related systems common to most school buses and multiple function school activity buses, regardless of manufacture. These procedures, if followed, will help provide the safest mode of transportation for students, help prevent the occurrence of crashes and injuries, and hopefully lower the cost of operation and maintenance for those school systems governed by this program. While all school and multiple function school activity buses require regular maintenance, Indiana law requires the State Police Department to perform an annual inspection on all buses and a semi-annual inspection on buses at least 12 years old to ensure safe operation.

Any State Police inspection should not be considered a substitute for the manufacturer's recommended periodic maintenance or specifications. The specifications contained within this manual ***are minimum requirements*** to determine compliance. It should not be used to prohibit a bus owner from updating an older bus to meet or exceed newer minimum specifications.

It is important to note that this manual should not be considered infallible or complete in its present form. It is the Department's intent to have this manual updated regularly. Comments, corrections, and/or additions are welcomed and should be referred to the Indiana State Police Commercial Vehicle Enforcement Division office.

## (INSPECTOR'S NOTE :)

This manual may not cover every defect which may be encountered on every school bus or multiple function school activity bus. Therefore, it is the duty and responsibility of the individual inspector to order repaired or place out-of-service any bus that has a defect or condition which may jeopardize the safe operation of the bus and/or the safety of the passengers. Defects or conditions not covered in these pages should be reported to the Commercial Vehicle Enforcement Division for inclusion in future updates.

# INDIANA STATE POLICE SCHOOL BUS INSPECTION PROCEDURE

1. Trooper will choose inspection site
2. Chock drive tires
3. Turn engine off
4. Give driver instructions
5. Load bus information on electronic tablet
6. Inspect exterior
    - Stop arm & lights
    - Exterior condition
    - Battery box
    - Tires/Wheels
    - Lettering & reflective material
    - Engine compartment
    - Wheelchair lift (if applicable)
7. Inspect chassis (under bus)
    - Suspension
    - Steering
    - Braking system
    - Drive line
    - Exhaust
    - Fuel system
    - Frame
8. Inspect interior
    - Control panel (heaters, fans, gauges, brake warning system, etc)
    - Seats
    - Emergency equipment
    - Emergency exits
    - Lettering
    - Flooring
    - Cleanliness
    - Lights
    - Vehicle/Driver documents
    - Windshield wipers and washers
9. Complete inspection
    - Document violations (if any) on electronic device
    - Affix appropriate inspection decal
    - Notify school personnel of all out-of-service and ordered repaired conditions
10. Upload data from tablet to state inspection website

**Detailed inspection criteria may be found in the Indiana State Police School Bus Inspection Manual*

# BASIC INSPECTION PROCEDURES

# ALTERNATOR

**PROCEDURES / SPECIFICATIONS:**

1. Inspect alternator for proper mount and belt condition if applicable.

   A. Alternator must meet minimum manufacture specifications.

   B. Alternator belt requirements are per manufacture specification.

**ORDERED REPAIRED IF:**

1. Alternator is loose or improperly mounted.
2. Drive belt is missing or deteriorated.
3. See Notes: Any defect the inspector deems a violation not listed

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. All Types 575 IAC 1-9-24

# BACK - UP LIGHTS

**PROCEDURES / SPECIFICATIONS:**

1. Buses shall be equipped with at least two (2) white back up lights; 2 additional auxiliary back up lights are allowed for a total of 4 back up lights.

2. Back-up lights should function when the gear selecting mechanism is in reverse. (Note: If equipped with the optional safety feature, back up lights may operate when the rear door is open.)

3. Inspect back-up lights for cracked, broken or missing lenses.

**ORDERED REPAIRED IF:**

1. Required back-up lights do not function.

2. Required number of back-up lights is not installed (2 required, additional 2 auxiliary allowed; 4 max).

3. Any back-up light lens is cracked, broken, faded or missing.

4. LED type lights have 25% or more of the pixels inoperable in any one light.

5. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. All Types. 575 IAC 1-9-49

# BATTERY and BATTERY COMPARTMENT

**PROCEDURES / SPECIFICATIONS:**

1. Each bus shall be equipped with a securely mounted battery (or batteries) located under the hood or in its own compartment.

2. Cables must be tight with no exposed wiring.

**ORDER REPAIRED IF:**

1. Battery tray needs lubrication

2. Any battery is leaking.

3. Any battery is loose in its mounting.

4. Battery terminals are excessively corroded.

5. Cables are loose.

6. Any battery cell cap is missing.

7. Battery compartment door is not securely fastened.

8. Battery compartment floor is weakened from rust.

9. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. Battery will not activate the starting motor.

2. Wiring is exposed.

3. Battery compartment door will not open. Key must be available if battery door is locked.

4. Battery compartment floor is deteriorated to point battery could fall from vehicle.

**REFERENCES:**

1. All Types 575 IAC 1-9-6

# BODY CLAMPS

**PROCEDURES / SPECIFICATIONS:**

1. Check body clamps at upper frame rails.

**ORDER REPAIRED IF:**

1. Any body clamp is loose.
2. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. Any body clamp is broken or missing.

**REFERENCES:**

1. All Types 575 IAC 1-9-18

# BRAKES
## (MINIMUM SCHOOL BUS BRAKE INSPECTION STANDARDS)

1. A school bus or multi-function school activity bus **will not pass** the brake inspection if it has **one (1) or more** of the following defects or deficiencies:

   A. **Service Brakes:**

      1. Absence of braking action on any axle required to have brakes upon application of the service brakes (such as missing brakes or brake shoe(s) failing to move upon application of a wedge, S-cam, or disc brake.)

      2. Missing or broken mechanical components including shoes, lining, pads, springs, anchor pins, spiders, cam rollers, push-rods, and air chamber mounting bolts.

      3. Loose brake components including air chambers, spiders, and cam shaft support brackets.

      4. Audible air leak at brake chamber (Example: ruptured diaphragm, loose chamber clamp, etc.)

      5. Any brake past the readjustment limit shall be cause for rejection.

         A. Stroke shall be measured with the engine off and the reservoir pressure of 90 to 100 PSI with the brakes fully applied. Measurements shall be made in 1/8 inch increments.

         B. The maximum stroke at which brakes should be readjusted is given below.

**BOLT- TYPE BRAKE CHAMBER DATA:**

| Area | Effective Area (Sq. In.) | Outside Diameter (In.) | Maximum Stroke At Which Brakes Need Readjusted |
|---|---|---|---|
| A | 12 | 6 15/16 | 1 3/8 |
| B | 24 | 9 3/16 | 1 3/4 |
| C | 16 | 8 1/16 | 1 3/4 |
| D | 6 | 5 1/4 | 1 1/4 |
| E | 9 | 6 3/16 | 1 3/8 |
| F | 36 | 11 | 2 1/4 |
| G | 30 | 9 7/8 | 2 |

## ROTOCHAMBER DATA

| Area | Effective Area (Sq. In.) | Outside Diameter (In.) | Maximum Stroke At Which Brakes Need Readjusted |
|---|---|---|---|
| 9 | 9 | 4 9/32 | 1 1/2 |
| 12 | 12 | 4 13/16 | 1 1/2 |
| 16 | 16 | 5 13/32 | 2 |
| 20 | 20 | 5 15/16 | 2 |
| 24 | 24 | 6 13/32 | 2 |
| 30 | 30 | 7 1/16 | 2 1/4 |
| 36 | 36 | 7 5/8 | 2 3/4 |
| 50 | 50 | 8 7/8 | 3 |

## CLAMP TYPE BRAKE CHAMBER DATA

| Area | Effective Area (Sq. In.) | Outside Diameter (In.) | Maximum Stroke At Which Brakes Need Readjusted |
|---|---|---|---|
| 6 | 6 | 4 1/2 | 1 1/4 |
| 9 | 9 | 5 1/4 | 1 3/8 |
| 12 | 12 | 5 11/16 | 1 3/8 |
| 16 | 16 | 6 3/8 | 1 3/4 |
| 20 | 20 | 6 25/32 | 1 3/4 |
| 24 | 24 | 7 7/32 | 1 3/4 |
| 30 | 30 | 8 3/32 | 2 |
| 36 | 36 | 9 | 2 1/4 |

## LONG STROKE CLAMP TYPE BRAKE CHAMBER DATA

| Area | Effective Area (Sq.In.) | Outside Diameter (In.) | Maximum Stroke at Which Brakes Need Adjustment |
|---|---|---|---|
| 12 | 12 | 5 11/16 | 1 3/4 |
| 16 | 16 | 6 3/8 | 2 |
| 20 (2 ½ rated stroke) | 20 | 6 25/32 | 2 |
| 20 (3 rated stroke) | 20 | 6 25/32 | 2 1/2 |
| 24 (2 ½ rated stroke) | 24 | 7 7/32 | 2 |
| 24 (3 rated stroke) | 24 | 7 7/32 | 2 1/2 |
| 30 | 30 | 8 3/32 | 2 1/2 |

**Service Brakes: Continued**

6. Brake lining or pads:

   a. If the lining or pad is not firmly attached to the shoe.

   b. If they are saturated with oil, grease, or brake fluid.

   c. If the lining has a thickness less than 3/16 inch measured at the center of the pad for disc brakes, less than 1/4 inch at shoe center for drum brakes.

   d. A Type A bus with lining or pad thickness measuring 3/32 inch or less at any point.

   e. Lining cracks or voids that exceed 1/16" in width observable on the edge of the lining.

   f. Crack that exceeds 1 ½" in length.

7. Missing brakes on any axle required to have brakes.

8. Mismatched air chamber sizes (excluding long stroke vs. regular stroke, and clamp versus roto, however a bolt chamber with any other is a mismatch).

B. **Parking Brake System:**

1. No brakes on the vehicle or combination are applied upon actuation of the parking brake control, including driveline hand controlled parking brakes.

C. **Brake Drums or Rotors:**

1. With any external crack or cracks that open upon brake application. **(NOTE: Do not confuse short hairline heat check cracks with flexural cracks.)**

2. Any portion of the drum or rotor is missing or in danger of falling away.

3. Brake lining areas may be protected by adequate dust covers

D. **Brake Hose/Tubing:**

1. A hose with any damage extending through the outer reinforcement ply.
   a. Rubber impregnated fabric cover is not a reinforcement ply.
   b. Thermo-plastic nylon may have braid reinforcement or color difference between the cover and inner tube. Exposure of second color is an out of service condition.

2. Bulge or swelling when air pressure is applied.

3. Any audible leak.

**SERVICE BRAKES: Continued**

4. Two (2) hoses improperly joined, such as a splice made by sliding the hose ends over a piece of tubing and clamping the hose to the tube.

5. Air hose is cracked, broken, or crimped in such a manner as to restrict air flow.

6. Any audible leak at other than a proper connection.

7. Cracked tubing, damaged by heat, broken or crimped in such a manner as to restrict air flow.

**E. Air Pressure Gauge**:

1. Inoperative of defective primary of secondary gauge.

F. **Low Pressure Warning Device (Air Brakes):**

1. Missing, inoperative, or does not operate continuously if either the primary or secondary reservoir is at 55 PSI and below, or 1/2 governor cut-out pressure, whichever is less.

**G. Air Loss Rate:**

1. If the time required to build-up pressure from the level after one (1) brake application to governor cut-out pressure is more than 30 seconds.

   a. **Procedure:** Fully charge the air system to governor cut-off pressure;

   b. Make one (1) full brake application and note the air reading on the gauge;

   c. Continue to reduce the air pressure to at least 10 PSI below the governor cut-in pressure; and

   d. Release the brake and run the engine at the manufacture's maximum recommended RPM and determine the time required to increase the air pressure from the level achieved after one (1) brake application to the governor cut-out pressure.

**H. Air Reservoir (Tank):**

1. An air reservoir (tank) separated at either end from the attachment point(s) allowing movement of more than 1 inch in any direction.

I. **Air Compressor:**

1. Compressor drive belts are in a condition of impending or probable failure.

2. Loose compressor mounting bolts.

3. Cracked, broken or loose pulley.

4. Cracked or broken mounting brackets, braces or adapters

**SERVICE BRAKES: Continued**

J. **Air Tanks:**

1. Mounting devices such as straps, brackets, or other hardware is broken, missing or loose.

2. Drain cocks are inoperative.

3. Contaminants in tanks. (i.e. water, oil or debris.)

**K. Hydraulic Brakes: (Including power assist over hydraulic and engine drive hydraulic booster)**

1. The fluid level in any master cylinder reservoir is less than ¼ full or below minimum marking.

2. 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.

3. Any observable seepage, bulge or swelling on a brake hose under application pressure.

4. Any observable leaking hydraulic fluid in the brake system upon full application.

5. No pedal travel reserve with engine running upon full brake application.

6. Brake power assist unit is inoperative.

7. Hydraulic power brake (HPB) unit is inoperative.

8. Brake failure warning system is missing, inoperative, disconnected, defective or activated while the engine is running with or without brake application.

9. The hydraulic brake backup system is inoperative.

L. **Vacuum Systems:**

1. Any vacuum system which has insufficient vacuum reserve to permit one (1) full brake application after the engine is shut off.

2. Any vacuum system which has vacuum hose(s) or line(s) restricted, abraded (chafed) through the outer cover to cord ply, crimped, cracked, broken or has collapse of vacuum hose(s) when vacuum is applied.

3. Any vacuum system lacks an operative low-vacuum warning device as required.

**M. Performance-Based Brake Test (PBBT)**

Failing to develop a total brake force as a percentage of gross vehicle or combination weight of 43.5 or more on an approved PBBT.

**NOTE:** The out-of-service notice will be satisfactorily completed: (1) If an approved PBBT is available the vehicle shall be retested on an approved PBBT and achieve a total brake force as a percentage of gross vehicle or combination weight of 43.5 or more; or (2) If an approved PBBT is unavailable, each of the brake fault areas identified on the inspection report shall be inspected and repaired.

**N. Wheel Removal:**

1. **NOTE: If the brake components can be adequately inspected through inspection ports in dust covers, and there is no obvious brake problems observed, wheel removal is not necessary to complete the inspection.**

**O. School Bus Brake and Kingpin Inspection Certificate:**

1. A School Bus Brake and Kingpin Inspection Certificate which certifies that the minimum school bus brake inspection standards (**minimum standard is certified every 6 months**) have been met and shall be required to prove compliance with the above mentioned standards.

2. The standard Indiana State Police Brake/Kingpin Inspection Certification form **must remain** with the bus at all times.

**REFERENCES:**

1. All Types 575 IAC 1-9-9
2. North American Standard Out-of-Service Criteria

INDIANA STATE POLICE
SCHOOL BUS **BRAKE AND KINGPIN** INSPECTION CERTIFICATE

Owner's Name: _____ Phone Number: _____

Owner's Address: _____

Bus Number: _____ Chassis Make: _____

Chassis Year: _____ Chassis VIN Number: _____

***I swear and affirm under the penalties for perjury that the above- described bus was inspected and found in compliance on the date indicated. The brakes and Kingpins on the above vehicle meet or exceed the criteria set forth in the Minimum School Bus Brake and Kingpins Inspection Standards (MINIMUM STANDARD IS CERTIFIED EVERY 6 MONTHS) as well as all manufacturer specifications.***

| DATE | MILEAGE | BRAKES | KINGPINS R | KINGPINS L | INSPECTOR'S NAME | INSPECTOR'S SIGNATURE |
|---|---|---|---|---|---|---|
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**A copy of this completed form <u>MUST</u> remain with the bus indicated above. (Revised 12-12)**

# BRAKES
# (GENERAL REQUIREMENTS)

**PROCEDURES / SPECIFICATIONS:**

1. Each school bus operated in Indiana must pass the minimum school bus brake inspection standards.

2. Each school/multiple function school activity bus must have in the bus, the standard Indiana State Police Brake/Kingpin inspection form that certifies that the brake and kingpin inspection was performed **within six (6) months of any inspection of the bus.**

3. Each school bus must be equipped with brakes adequate to control the movement of, and to stop and hold the vehicle.

4. The system must include two (2) separate means of applying the brakes.

   A. **Buses Manufactured After 07-01-88:**

      1. Type B.....Must have full compressed air or hydraulic system.

      2. Type C.....Must have full compressed air or hydraulic system.

      3. Type D.....Must have full compressed air or hydraulic system.

      **(NOTE: If an air system is used on any Type B, C or D bus, alcohol evaporators or injectors are prohibited.)**

**REFERENCES:**

| | | | |
|---|---|---|---|
| 3. | All Types | 575 IAC | 1-9-9 |
| 4. | All Types | Indiana Code | 9-19-3 |
| 5. | All Types | FMVSS | 105, 106, 121 |
| 6. | All Types | FMCSA | 393 |

# BRAKES
# (AIR SYSTEM)

**PROCEDURES / SPECIFICATIONS:**

1. All air brake systems shall be inspected in the following manner:

   A. Inspect in accordance with the minimum school bus brake inspection certification.

   B. Measure push-rod travel on all brakes.

   C. Inspect the low air-pressure warning device in the following manner:

      1. Turn the engine off and then turn the ignition key to the "on" position.

      2. Deplete the air reserve by pumping the brake pedal.

      3. When the air-pressure gauge reaches 55 PSI (or one-half the governor cut off pressure, whichever is less) check for proper operation of the audible or visible warning device.

   D. Inspect the brake lines and hoses for cracks, bulges, abrasions (chafing) or any air leaks.

   E. Inspect the brake chambers for different size on the same axle.

**ORDER REPAIRED IF:**

1. Any push-rod travel measures less than 1/4 inch beyond the readjustment limit.

2. ABS warning light is illuminated.

3. Air leak at proper connection.

4. Any brake lining or pad which measures less than 3/32 inch.

5. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. There is no brake certification form the certification is expired or is not signed within the six-month requirement.

2. Any push-rod travel measures 1/4 inch or more beyond the readjustment limit, or if any two (2) brakes measure less than 1/4 inch beyond the readjustment limit.

3. The required low air-pressure warning device fails to operate properly

4. Any brake line or hose is abraded (chafed), cracked, bulging, or leaking (leaking at other than a proper connection).

**BRAKES AIR SYSTEM OUT OF SERVICE: Continued**

5. There are different size brake chambers on the same axle. (excluding long stroke vs. regular stroke, and clamp versus roto, however, a bolt chamber with any other is a mismatch)

**6.** Any portion of the drum or rotor (discs) missing or in danger of falling away.

**7.** Drums with any external crack or cracks that open upon brake application. **(NOTE: Do not confuse short hairline heat check cracks with flexural cracks.)**

8. There is any defect which the inspector feels would adversely affect the ability of the vehicle to stop safely.

9. There is any defect not in compliance with the minimum school bus brake inspection standards.

10. Failing to score a 43.5 or more on PBBT

**REFERENCES:**

| | | | |
|---|---|---|---|
| 1. | All Types | 575 IAC | 1-9-9 |
| 2. | All Types | Indiana Code | 9-19-3 |
| 3. | All Types | FMVSS | 105, 106, 121 |
| 4. | All Types | FMCSA | 393 |

# BRAKES
# (HYDRAULIC SYSTEM)

**PROCEDURES / SPECIFICATIONS:**

1. All hydraulic brake systems (without power assist permitted in buses rated at 32 passengers or less), shall be inspected in the following manner:

   A. Inspect in accordance with the minimum school bus brake inspection certification.

   B. Inspect the brake pedal operation and pedal reserve with the engine running, using normal foot pressure. **Note: Indicate soft or spongy pedal on the inspection form if applicable.**

   C. Inspect the brake lines and hoses for cracks, bulges, abrasions (chafing) or any leakage of brake fluid.

   D. **Bosch Pin Slide Brake** *only* check the caliper bolts, if they are loose, missing or broken. Also observe for any fluid that may have leak.

   E. Buses with vacuum systems must be equipped with a vacuum gauge.

   F. Inspect the low vacuum light or buzzer.

   G. A visible or audible signal must operate when the vacuum gauge drops below eight (8) inches of mercury.

   H. Buses with the ABS (Antilock Brake System) manufactured after March 1, 1999 shall be equipped with an ABS malfunction indicator system that meets the requirements of FMVSS 105. This would require an indicator lamp in clear view of the driver.

   I. Inspect for electric motor operation on buses with hydraulic system-electric assist in the following manner:

      1. With the engine off, depress the brake pedal; and

      2. Listen for activation of the electric motor.

**OPTIONAL:**

Dust covers maybe used on the bus as optional equipment.

**BRAKES HYDRAULIC SYSTEM: Continued**

**ORDER REPAIRED IF:**

1. Any brake line or hose has bulged.
2. Any brake lining or pad which measures less than 3/32 inch.
3. ABS warning light is illuminated.
4. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. There is no brake certification, or the certification has expired or is not signed.
2. If the bolts for the brake caliper are loose, missing or broken off
3. The brake pedal has no pedal reserve.
4. Any brake hose is abraded (chafed) through the outer covering to the fabric layer.
5. There is brake fluid leaking at any point.
6. The low vacuum gauge, if required, is missing or inoperative.
7. There is no low vacuum device at eight (8) inches of vacuum or below.
8. The electric power assist motor fails to operate.
9. Any brake lining or pad which measures 1/32 inch or less.
10. There is any metal-to-metal contact (including rivet heads) between the brake shoe or plate and the brake drum or rotor.
11. There is any defect not in compliance with the minimum school bus brake inspection standards.
12. There is any defect, which the inspector feels would adversely affect the ability of the vehicle to stop safely.
13. Failing to score a 43.5 or more on PBBT.

**REFERENCES:**

| | | | |
|---|---|---|---|
| 1. | All Types | 575 IAC | 1-9-9 |
| 2. | All Types | Indiana Code | 9-19-3 |
| 3. | All Types | FMVSS | 105, 106, 121 |
| 4. | All Types | FMCSA | 393 |

# BRAKES
# (MASTER CYLINDER)

**PROCEDURES / SPECIFICATIONS:**

1. Inspect the master cylinder for secure mounting and proper fluid level.

**ORDER REPAIRED IF:**

1. The master cylinder is loose or insecurely mounted.
2. The fluid level is less than fifty (50) percent of capacity.
3. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. The master cylinder is leaking at any point.
2. The master cylinder fluid level is less than twenty-five (25) percent of capacity.

**REFERENCES:**

| | | | |
|---|---|---|---|
| **1.** | All Types | 575 IAC | 1-9-9 |
| **2.** | All Types | Indiana Code | 9-19-3 |
| **3.** | All Types | FMVSS | 105, 106, 121 |
| **4.** | All Types | FMCSA | 393 |

# BRAKES
# (PARKING)

**PROCEDURES / SPECIFICATIONS:**

1. Each bus must be equipped with an operable parking brake.

2. Inspection of the parking brake shall be conducted in the following manner:

   A. Instruct the driver to set the parking brake.

   B. Instruct the driver to attempt to move the bus forward in second gear.

   C. The bus should not move during moderate acceleration.

3. **NOTE: The inspector should use caution when conducting this test as the bus may lurch forward without warning.**

**ORDER REPAIRED IF:**

1. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. The parking brake cannot be adjusted to function properly.

2. The parking brake fails to hold the bus during the testing procedure.

**REFERENCES:**

| | | | |
|---|---|---|---|
| **1.** | All Types | 575 IAC | 1-9-9 |
| **2.** | All Types | Indiana Code | 9-19-3 |
| **3.** | All Types | FMVSS | 105, 106, 121 |
| **4.** | All Types | FMCSA | 393 |

# BUMPERS

**PROCEDURES / SPECIFICATIONS:**

1. Each bus must be equipped with front and rear bumpers which meet or exceed manufacturer's original equipment specifications.

2. Bumpers on buses must be at least 3/16 inches in thickness.

3. The front bumper must extend to the outer edge of the fenders.

4. Front and rear bumpers must be black.

5. Inspect for holes in bumpers (other than holes or openings made by the manufacturer).

6. Inspect for unapproved writing, decals, lettering or signs on front or rear bumpers.

7. Inspect for proper mounting:

    a. Must be attached to prevent the hitching of rides.
    b. Must detach easily from the chassis frame.

8. Must be braced for front, side or rear impact.

9. A trailer hitch is not permitted.

**OPTIONAL:**

1. Yellow bus numbers may be painted on front or rear bumpers.

2. Manufacturer's logo is acceptable on rear bumper.

3. Black abrasive tape may be applied to the top of the front bumper.

4. One (1) or two (2) fog lamps may be permanently mounted on the front bumper.

**ORDER REPAIRED IF:**

1. The front bumper does not extend to the edge of the fenders.

2. The front or rear bumper is not properly attached, missing, torn, loose, or altered.

3. Bumpers are not black.

4. Bumpers have any unapproved writing, decals, lettering or signs.

5. There are holes, slots or brackets on the rear bumper which may be used as a step.

6. Bumper thickness measures less than 3/16ths of an inch.
7. See Notes: Any violation the inspector deems a violation not listed.

**BUMPERS: Continued**

**OUT-OF-SERVICE IF:**

1. A trailer hitch is attached.

2. A bumper does not meet manufactures specifications.

**REFERENCES:**

**(Front Bumpers)**

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-9-10 |
| 3. All Types | FMCSA | 393.203 |

**(Rear Bumpers)**

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-9-11 |
| 2. All Types | FMCSA | 393.203 |

**(Optional Fog Lamps)**

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-9-46 |

# CHILD ALERT NOTIFICATION SYSTEM

**PROCEDURES/SPECIFICATIONS:**

1. A child alert notification is required on every bus manufactured after January 1, 2015, and is optional on all buses manufactured prior to January 1, 2015.

2. The device must not effect or interfere with any other existing operating or electrical component (e.g., turn signals, brake lights, stop signal arm, etc.)

3. The device must permit the driver complete control of the ignition switch and not interfere with engine operation or shutdown.

4. When the ignition switch is in the ON or ACCESSORY positions the device must be in stand-by mode and silent. The device may have an indicator light within normal view of the driver indicating the device is operational and in stand-by mode.

5. The indicator light, if equipped must be labeled and identified.

6. When the ignition is turned OFF a timer must be automatically set. The amount of delay may not exceed two minutes and may be programmable up to the maximum limit. The device may emit a reminder tone or signal during delay period.

7. When the time delay expires and the driver has not activated the reset switch or turned the ignition to the ON or ACCESSORY position, the device must activate the horn. The horn must sound intermittently and continuously until the reset switch is pressed or electrical power is restored with the ignition switch.

8. The reset switch must be a push button type. A key re-set is prohibited. An override (bypass) capability is prohibited.

9. The re-set switch must be mounted on the interior rear of the bus behind the rearmost seat or wheelchair location.

**ORDER REPAIRED IF:**

1. If the device interferes with any operating or electrical component.

2. The indicator light, if equipped is not labeled

3. The amount of time delay exceeds two minutes.

4. The timer does not automatically set.

5. If the horn fails to work intermittently and continuously after the time delay has expired.

6. The reset switch is not of a push-button type, requires a key, or has an override (bypass) capability.

7. The re-set switch is not properly located at the rear of the bus.

**CHILD ALERT NOTIFICATION SYSTEM: Continued**

**ORDERED REPAIRED IF: Continued**

8. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. Manufactured after January 1, 2015 and is not equipped with a child alert notification system.

**REFERENCES:**

1. 575 IAC 1-9-15

# CLEARANCE LIGHTS

**PROCEDURES/SPECIFICATIONS:**

1. Inspect for cluster of three (3) amber clearance lights on the top *front* of the bus.
2. Inspect for cluster of three (3) red clearance lights on the top of *rear* of the bus.

**ORDER REPAIRED IF:**

1. Any clearance light is missing, cracked, faded, wrong color, or inoperative.
2. LED type lights have 25% or more of the pixels inoperable in any one light.
3. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

| | | |
|---|---|---|
| 1. All buses | Indiana Code | 9-19-6-7 |
| 2. All Types | 575 IAC | 1-9-47 |

# CROSS MEMBERS

**PROCEDURES / SPECIFICATIONS:**

1. Inspect all cross members for rusting.

2. Inspect all cross members for cracks or breaks, particularly at the engine and transmission supports.

**ORDER REPAIRED IF:**

1. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. Any cross member is cracked or broken.

2. Any cross member is rusted sufficiently to weaken floor supports.

3. Any cross member is rusted sufficiently to weaken support of the engine or transmission.

**REFERENCES:**

| | | | |
|---|---|---|---|
| 1. | All Types | 575 IAC | 1-9-79 |
| 2. | All Types | 575 IAC | 1-9-54 |
| 3. | All Types | FMCSA | 393.203 |

# DEFROSTERS

**PROCEDURES / SPECIFICATIONS:**

1. Each bus shall be equipped with a defroster and defogging system which must keep the windshield, the window to the left of the driver, and the glass entrance door clear of fog, frost, ice or snow.

**ORDER REPAIRED IF:**

1. The defroster system is not working properly.

2. A defroster motor is inoperative at any speed.
3. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. Defroster is inoperative.

**REFERENCES:**

| | | | |
|---|---|---|---|
| 1. | All Types | 575 IAC | 1-9-21 |

# DIFFERENTIAL/HUBS

**PROCEDURES / SPECIFICATIONS:**

1. Inspect for lubricant leaks at differential, pinion seal and hubs, and wheel seals.

**ORDER REPAIRED IF:**

1. There are any leaks from the differential, pinion seal, hubs, or wheel seals.
2. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. All Types FMCSA 396.5

# DOME LIGHT

**PROCEDURES / SPECIFICATIONS:**

1. Each bus must be equipped with interior dome lights adequate to illuminate the aisle and step-well.

**ORDER REPAIRED IF:**

1. Any dome light is inoperative.
2. Any dome light lens is missing.
3. Any dome light lens is cracked, broken or not securely mounted.
4. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. All Types 575 IAC 1-9-47

# DRIVE SHAFT

**PROCEDURES / SPECIFICATIONS:**

1. Inspect metal safety loops on each section of the drive shaft.

2. Inspect for play in universal joints and carrier bearings by moving the shaft up and down and from side to side.

**ORDER REPAIRED IF:**

1. Any section of the drive shaft is not protected with a metal safety loop.
2. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. Yokes: any visible crack in a yoke end, any yoke mounting hardware loose, horizontal or vertical movement of slip joint yoke great than half (1/2) inch, any loose, broken or missing end fitting fastener.

2. Universal Joint: any independent vertical movement between opposing yoke ends great than one eight (1/8) inch, any missing universal joint bearing cap, any missing, broken or loose universal joint bearing cap.

3. Center/carrier bearing: any broken or loose center/carrier bearing bracket, bolts or mounting hardware, any center bearing bracket crack equaling fifty (50) percent or more of the original width, more than one half (1/2) inch vertical movement of the shaft in the center bearing carrier (rubber).

4. Driveshaft Tube: any original metal crack in the shaft tube greater than one quarter (1/4) inch in length, obvious cracked weld at shaft tube end, any shaft tube with obvious twist.

**REFERENCES:**

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-9-23 |
| 2. All Types | FMCSA | 396.3 (OOS Criteria) |

# DRIVER'S SEAT and BELT

**PROCEDURES / SPECIFICATIONS:**

1. Each bus must be equipped with a driver's seat which is securely mounted and capable of supporting the driver in a seated position.

2. For Type A bus the driver's seat and seatbelt must meet manufacturer's standards.

3. For Type B, C, and D a locking retractor seatbelt must be provided for driver.

4. The belt must be booted to keep the buckle and button latch off the floor and within easy reach of the driver.

5. Seatbelt must prevent driver from sliding sideways under the belt.

6. There must be at least eleven (11) inches between steering wheel and back of driver's seat.

7. Seat must be securely attached to the floor and have at least four (4) inch fore-and- aft adjustment.

8. Vertical seat adjustment must be at least three (3) inches.

**ORDER REPAIRED IF:**

1. Not equipped with a driver's seat which is securely mounted and capable of supporting the driver in a seated position.

2. Type A bus driver's seat and seatbelt do not meet manufacturer's standards.

3. Type B, C, and D does not have a locking retractor seatbelt for driver.

4. The belt is not booted to keep the buckle and button latch off the floor and within easy reach of the driver.

5. Seatbelt does not prevent driver from sliding sideways under the belt.

6. There is not at least eleven (11) inches between steering wheel and back of driver's seat.

7. Vertical seat adjustment must be at least three (3) inches.

8. See Notes: Any violation the inspector deems a violation not listed.

**DRIVERS SEAT and BELT: Continued**

**OUT-OF-SERVICE IF:**

1. If seatbelt is missing or inoperable.

2. Seat is not securely attached to the floor and does not have at least four (4) inch fore-and- aft adjustment.

3. The seat belt assembly has cuts, rips, tears, worn or brittle to the point where it is ineffective.

**REFERENCES:**

1. All Types 575 IAC 1-9-65

# EMERGENCY DOOR

**PROCEDURES / SPECIFICATIONS:**

1. Inspect all emergency doors for ease of operation, condition of seals and lubrication of hinges.

2. Inspect emergency doors for two (2) inch high lettering which reads "EMERGENCY DOOR". This lettering must be located directly above both the inside and outside of the emergency door.

3. Inspect for an audible signal, activated by the ignition switch, to alert the driver that the emergency door is open.

4. Each emergency door must have operating instructions explaining operation of that door.

5. Each emergency door must be equipped with a device to prevent accidental release (handle guard).

6. Must have padding covering the full width of the top of the emergency door opening.

7. Buses who have a chassis manufactured date after **05-02-94:**

   A. Each emergency door shall be outlined on the outside of the bus with yellow reflective tape one (1) inch in width. **(NOTE: On certain buses there are metal seams, rivets or insufficient space to locate the reflective tape beneath the rear emergency door. For these types of circumstances, the reflective tape may be placed on the bumper. Nominal two (2) inch reflective tape may be used in these situations.)**

   B. Shall be equipped with a positive door opening device that;

      1. bears the weight of the door;

      2. keeps the door from closing past a point at which the door is perpendicular to the side of the bus body, regardless of the body's orientation; and

      3. provides a means for release or override.

**OPTIONAL:**

1. An anti-vandalism/security device may be installed providing;

   A. the device prevents the bus ignition system from activating if the emergency door is locked or inoperable from either the inside or outside of the bus; and

   B. contains an audible warning device to alert the driver and prevent the engine from shutting off if the door lock is closed after the engine is started.

**EMERGENCY DOOR: Continued**

**ORDER REPAIRED IF:**

1. Lettering is missing or improper (Two (2) inch high letters EMERGENCY DOOR directly above the inside and outside of door, and operating instructions on how to open door.)

2. Excessive effort is needed to open the emergency door.

3. The handle guard is missing or bent.

4. Rubber seals are missing or loose.

5. Door glass is chipped, or cracked.

6. Required padding is missing.

7. If bus manufactured after 5-2-1994, one (1) inch reflective tape is not applied to the door outline, is missing, or badly faded (two (2) is permissible on bumper below door if insufficient space on body.

8. If bus manufactured after 5-2-1994, positive door opening device is missing or fails to operate properly.

9. The “anti-vandalism” device fails to operate.

10. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. There is no audible signal when the emergency door is open and ignition switch is on.

2. Door glass is missing.

4. The “anti-vandalism” audible warning device fails to operate.

5. Emergency door is not securely fastened to body.

**REFERENCES:**

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-9-22 |
| 5. All Types | FMVSS | 217 |

**(Optional Anti-Vandalism Device)**

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-9-22 |

# ENGINE DRIVE BELTS

**PROCEDURES / SPECIFICATIONS:**

1. Inspect condition of all engine drive belts, including fan, alternator, compressor, power steering, water pump and air pump belts (if so equipped with an air pump).

   **NOTE: Additional information is contained in the "Alternator" section of this manual.**

**ORDER REPAIRED IF:**

1. Any belt is badly chaffed, cracked, broken or missing.
2. Any belt is improperly adjusted.
3. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

| | | | |
|---|---|---|---|
| 1. | All Types | 575 IAC | 1-9-24 |
| 2. | All Types | FMCSA | 396.3 |

# ENGINE / TRANSMISSION

**PROCEDURES / SPECIFICATIONS:**

1. Inspect for engine oil leaks around and under the engine. (NOTE DISCHARGE FROM BLOW- BY TUBE IS NORMAL)

2. Inspect for general cleanliness of the engine compartment.

3. Inspect for loose, broken or missing motor mounts.

4. Inspect for pollution control equipment (if bus was originally equipped with such equipment).

5. Inspect for fluid leaks under transmission and around transmission housing.

**ORDER REPAIRED IF:**

1. A dripping oil or fluid leak.

2. The engine has excessive oil or grime build-up, or if there is dirt or fluid standing on the engine (i.e. oil, coolant, etc.).

3. There are loose motor mounts.

4. There is a significant fluid leak from the transmission.
5. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. There are missing or broken motor mounts.

2. There is a significant leak from the engine or transmission onto the exhaust system which could potentially cause a fire.

**REFERENCES:**

1. All Types FMCSA 396.5

# EXHAUST SYSTEM

## PROCEDURES / SPECIFICATIONS:

**(NOTE: First perform a visual inspection. If leaks are suspected, then inspect the exhaust system for leaks with the engine idling at operating temperature, and the system unrestricted)**

1. Inspect exhaust pipe, muffler and tailpipe for proper support and secure attachment with hangers and clamps.

2. Inspect for heat shields at every point where the exhaust system passes within twelve (12) inches of the fuel tank or tank connectors. **(Does not apply to diesel fueled buses)**

3. The size (diameter) of the tailpipe cannot be reduced from that which was the manufacturer's original equipment.

4. The size (diameter) of the tailpipe cannot be reduced from the diameter of the outlet opening of the rear of the muffler.

5. The tailpipe must extend to, but not beyond, the rear bumper or the outer edge of the body line.

6. The tailpipe is prohibited from exiting beneath an emergency door.

7. There shall be no flexible tubing used in the tailpipe.

8. Inspect for patching on the exhaust system.

## OPTIONAL:

1. A one (1) piece bellows-type pipe that extends from the manifold to the muffler may be used in the exhaust system.

## ORDER REPAIRED IF:

1. Any part is missing, including originally equipped heat shields.

2. Any component has deteriorated and allows the escape of exhaust gases (with the engine idling and the system unrestricted).

3. Any exhaust leak can be felt with the bare hand six (6) inches from the leak in any direction (with the engine idling and the system unrestricted).

4. Any components are patched in an unsatisfactory manner.

5. Any hanger, clamp or bracket is missing, loose or broken.

**EXHAUST SYSTEM ORDER REPAIRED: Continued**

6. Tailpipe does not extend to or extends more than 1” beyond the perimeter of the bus body/bumper.

7. Any flexible tubing is used in the tailpipe.

8. Any part of the exhaust system passes within twelve (12) inches of a fuel tank or line and there is no metal shield.

9. Tailpipe has been reduced in a size (diameter) from the rear of the muffler.

10. The exhaust system is not properly installed.

11. Any tailpipe exits beneath an emergency door.
12. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. Exhaust leak exceeding one (1) inch measurable in any direction or half (½) inch in diameter.

**REFERENCES:**

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-9-32 |
| 2. All Types | FMCSA | 393.83 |

# EXTERIOR CONDITION

**PROCEDURES / SPECIFICATIONS:**

1. Inspect exterior bus body for indications of rusting or body rust-through.

2. Inspect exterior for rivets, bolts, body panels, rub rails or other body parts which are loose or damaged.

3. Inspect for correct National School Bus Yellow color.
   **(Bus hood may be painted a low luster shade of National School Bus Yellow to prevent glare.)**

4. Exterior trim must be painted black (rub rails must be painted black 4-6" wide).

5. Inspect bus body for any paint which is badly faded or peeling.

6. Inspect bus body for any unauthorized exterior attachments or optional equipment not specified within this manual.

**ORDER REPAIRED IF:**

1. The bus body has rust or rusted through areas which may weaken the body.

2. The bus body has loose, damaged or improperly aligned body parts. These would include rivets, bolts, and body panels and/or rub rails.

3. The bus is not painted National School Bus Yellow.

4. Trim color is other than black.

5. Any paint is badly faded or peeling.

6. There are unauthorized attachments to the exterior of the bus.

7. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. There is body damage which could cause injury to persons near the bus (e.g. jagged metal edges, etc.)((Exigent circumstance can be taken into consideration to allow the bus to return home in a post crash inspection if bus is out of its district)).

2. Any body surface protrudes beyond the normal limits of the body structure.

**REFERENCES:**

1. All Types 575 IAC 1-9-16

# EXTERIOR MIRRORS
## (WALK - CROSSOVER)

**PROCEDURES / SPECIFICATIONS:**

1. There shall be one (1) exterior rear view mirror mounted on the left side and one (1) exterior rear view mirror mounted on the right side of the driver.

2. The total area of the mirror shall not be less than fifty (50) square inches and shall be firmly supported and adjustable.

3. Walk-crossover mirror(s) shall be so mounted on the front of the bus so that a complete view of the front of the bus (indirectly) shall be possible from one (1) foot forward and 23 1/2 inches above the ground.

4. The mirror(s) shall be eight (8) inches convex with an overall width of 7 1/2 inches reflective area.

5. Buses are required to have four (4) crossover mirrors on all buses.

6. The backs and bracket supports must be black or stainless steel.

7. **NOTE: Elliptical or hemispherical mirrors may be substituted on a two (2) for one (1) basis if indirect visibility requirements are met.**

**ORDER REPAIRED IF:**

1. Mirror or mirror backs that are loose or improperly mounted.

2. Mirrors do not meet minimum specifications for indirect visibility as set out in Indiana's minimum specifications for school buses.

3. Reflective surface is discolored.

4. Backs and brackets are not black or stainless steel.
6. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. Mountings are broken or bent badly enough to inhibit proper adjustment.

2. Reflective glass is cracked, broken, or missing.

**EXTERIOR MIRRORS REFERENCES:**

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-9-55 |
| 2. All Types | FMVSS | 111 |

# FIRE EXTINGUISHER

**PROCEDURES / SPECIFICATIONS:**

1. All buses shall have a securely mounted dry chemical fire extinguisher with a UL rating of not less than 2A 10-B-C and equipped with a pressure gauge.

2. The fire extinguisher must be readily accessible to the driver.

3. If equipped with a hose, it must be a flexible hose.

**OPTIONAL:**

1. An engine compartment fire extinguisher that has been approved by Underwriters Laboratories, Inc., may be used.

   a. The cylinder of the fire extinguisher must be placed in the driver's compartment.

   b. Lines from the cylinder must pass through the fire wall of the bus to each side of the engine.

   c. A discharge head must be placed on the end of each line.

   d. A pull cable that connects the cylinder to the discharge valve must be controlled from the driver control panel.

   e. The cable must be identified on the panel with the words "PULL FOR ENGINE FIRE ONLY".

   f. A gauge attached to the cylinder must indicate pounds per square inch.

**ORDER REPAIRED IF:**

1. Not of proper size according to manufacture specification.

2. Not fully charged.

3. Has no visible pressure gauge.

4. Not securely mounted.

5. Not readily accessible to the driver.

7. The fire extinguisher does not have a flexible hose (if required).

**FIRE EXTINGUSHER Continued:**

**ORDERED REPAIRED IF: Continued**

8. The optional engine compartment fire extinguisher system does not meet the above criteria.

9. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. The fire extinguisher is missing.

**REFERENCES:**

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-9-27 |

**(Optional Engine Compartment Fire Extinguisher)**

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-9-30 |

# FIREWALL

**PROCEDURES / SPECIFICATIONS:**

1. Inspect firewall for holes or other openings to passenger/driver compartment.

**ORDER REPAIRED IF:**

1. Any openings are not sealed or plugged.
2. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. All Types 575 IAC 1-9-57

# FIRST AID KIT

**PROCEDURES / SPECIFICATIONS:**

1. Each school bus must carry a dustproof, detachable first-aid kit that does not have sharp protrusions and does not require tools to open.

2. The kit must be mounted in plain view, in a bulkhead or storage compartment, on the inside of the bus and in a location that is accessible to the driver. If the first-aid kit is located in the bulkhead, it must be secured and the cover of the bulkhead or storage compartment must be clearly labeled "Emergency Equipment".

3. Contents must be replaced in accordance with the first-aid kit manufacturer's suggestions.

4. A ten (10) unit kit minimum must contain the items listed as follows:

| Item | No. Per Pkg. |
|---|---|
| Adhesive bandages | One (1) package, containing a total of sixteen (16) bandages in assorted sizes, including 3/4" x 3", 1" x 3", and 2" x 3"; or<br>Three (3) packages, including one (1) package each of sixteen (16) bandages sized 3/4" x 3"; sixteen (16) bandages sized 1" x 3"; and six (6) bandages sized 2" x 3" |
| Adhesive tape (cloth based med. 1x5”) | 1 roll |
| Blunt scissor | 1 |
| Bulk gauze pad (sterile 3x3”) | 6 |
| Bulk gauze stretch material (nonsterile 2x5”) | 4 |
| Bulk oval eye gauze pad (sterile) | 3 |
| Triangular bandage | 2 |
| LABEL INSTRUCTION | 1 |

**OPTIONAL:**

1. A dustproof, detachable bodily fluid spill kit that is commercially produced or by the school corporation, may be included provided that they contain the materials as described in the “minimum contents” section identified below.

2. The bodily fluid spill kit must be securely mounted on the inside of the bus, in an accessible location in the drivers’ compartment.

3. Minimum contents of the kit should include the following items as recommended by the Indiana State Board of Health;

   A. Gloves; (rubber or plastic)

   B. Bleach or appropriate disinfectant (dry, chlorine absorbent, etc.)

**FIRST AID KIT: Continued**

C. Leak proof bags.

D. Soap and paper towels.

**ORDER REPAIRED IF:**

1. The first aid or bodily fluid (optional) kit is not in a dustproof, detachable container, has sharp protrusions, or requires tools to open.

2. The first aid or bodily fluid (optional) kit is not securely mounted, inside, in a location accessible to the driver in plain view, or if in a bulkhead or storage compartment, is not secured, or the cover of the bulkhead/storage compartment is not clearly labeled "Emergency Equipment."

3. Contents are not replaced in accordance with the manufacturer's suggestions.

4. The first aid kit is not complete: One (1) package adhesive bandages; containing a total of sixteen (16) bandages in assorted sizes, including 3/4" x 3", 1" x 3", and 2" x 3"; or Three (3) packages, including one (1) package each of sixteen (16) bandages sized 3/4" x 3"; sixteen (16) bandages sized 1" x 3"; and six (6) bandages sized 2" x 3", 1 roll 1"x5yd, 1 blunt scissor, 6 3x3" gauze pads (sterile), 4 2"x5yd gauze stretch material (nonsterile), 3 oval eye pads (sterile), 2 triangular bandages, 1 instruction.

5. The bodily fluid kit (optional) does not contain 1 pair of rubber or plastic gloves, bleach or appropriate disinfectant (dry, chlorine absorbent, etc.), leak proof bags, soap and paper towels.

6. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. First aid kit is missing.

**REFERENCES:**

1. All Types 575 IAC 1-9-28

**(Optional Bodily Fluid Spill Kit)**

1. All Types 575 IAC 1-9-26

# FLOOR COVERING

**PROCEDURES / SPECIFICATIONS:**

1. On every bus, the floors under the seats, on top of the wheel housings and in the driver's compartment, must be covered with a fire-resistant covering.

2. The aisles must be covered with fire-resistant, wear-resistant, non-skid, ribbed rubber, or equivalent floor covering.

3. All floor covering must be water-resistant and permanently bonded to the floor.

4. Any aisle strips must be rustproof.

5. A yellow or white prohibited area line must be inserted in the aisle covering behind the driver's area.

6. A sign at the front of the bus must indicate that occupancy forward of the line or insert is prohibited.

7. One or two inspection plates may be installed to make the fuel system's connections accessible.

8. The inspection plates must be mounted flush with the floor.

**ORDER REPAIRED IF:**

1. The flooring is improper.

2. Floor covering is missing, cut, loose, buckled, bulging, or not secure.

3. There are holes in the floor.

4. Prohibited area line is missing or improper.

5. Prohibited area sign is missing or obscured.

6. The inspection plates do not meet the above standards.

7. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. The inspection plates allow exhaust or outside air into the bus body.

**REFERENCES:**

1. All Types 575 IAC 1-9-33

# FLOORS

**PROCEDURES / SPECIFICATIONS:**

1. Inspect floor in passenger and driver compartment for holes or deterioration.

**ORDER REPAIRED IF:**

1. There are any holes in the floor.
2. There are weak areas due to deterioration.
3. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. Floor sags or buckles substantially when stood upon. **(NOTE: Check under bus to verify deterioration.)**

**REFERENCES:**

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-9-33 |
| 2. All Types | FMCSA | 393.84 |

# FRAME

**PROCEDURES / SPECIFICATIONS:**

1. Inspect front and rear spring hanger supports for loose or missing rivets or bolts.

2. Inspect for any damage to frame due to rusting, cracking or accident.

3. Inspect for any welding on frame. (Frame welding must be certified, in writing, by chassis or body manufacturer.)

4. A trailer hitch is not permitted on school and special purpose buses.

**ORDER REPAIRED IF:**

1. There are loose or missing bolts or rivets where front and rear spring hangers are attached to the frame.

2. Uncertified welds appear on the frame.

3. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. Frame is deteriorated, cracked, broken or severely bent.

2. A trailer hitch is attached to the frame.

**REFERENCES:**

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-9-34 |
| 2. All Types | FMCSA | 393.201 |

# FUEL SYSTEM

**PROCEDURES / SPECIFICATIONS:**

1. Inspect fuel system for secure attachment.

1. Inspect for loose or deteriorated lines and hoses.

2. All fuel tanks must meet or exceed all manufactures specifications.

3. All fuel tanks must be securely mounted, vented and filled outside the body of the bus.

4. Diesel powered buses may have either a fuel water separator with a site bowl or warning indicator on the instrument panel. (Type A Buses exempt.)

**ORDER REPAIRED IF:**

1. Fuel pump is not securely mounted.

2. Lines or hoses are loose or deteriorated or not properly secured.

3. The fuel tank vent pipe is not secured.

4. The water fuel separator or instrument panel indicator is not present when required. (Not required on Type A diesel buses)

5. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. There is fuel leaking from any point on in the fuel system.

2. The tank is not properly secured.

3. Tank cap is missing.

**REFERENCES:**

| | | | |
|---|---|---|---|
| 1. | All Types | 575 IAC | 1-9-35 |
| 2. | All Types | FMCSA | 393.65-69 |

# GRILL/ AIR INTAKE VENT

**PROCEDURES / SPECIFICATIONS:**

1. The grill on each bus shall be either school bus yellow, chrome-plated or black. Manufactures specs may be gray.

**ORDER REPAIRED IF:**

1. The grill has any exposed edges that may cause injury.
2. The grill is missing.
3. The grill is not an approved color (NSB Yellow, Chrome, Black, or Gray)
4. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. All Types 575 IAC 1-9-16

# HEADLIGHTS

**PROCEDURES / SPECIFICATIONS:**

1. Each bus must be equipped with at least two (2) white headlights, mounted on each side of the front of the bus.

2. The system must have high beam and low beam capabilities.

3. A control switch must be mounted in the driver's compartment within easy reach of the driver.

**OPTIONAL:**

1. Alternating flashing headlights may be installed on new or existing buses to indicate that a school bus is stopped.

2. The alternating flashing headlights should use the existing white headlights installed on the bus.

3. Headlights may **flash alternately** from low to high beam **only during simultaneous *activation*** of the red warning flashers and stop signal arm. The headlights must return to normal operation upon deactivation of red warning flashers and stop signal arm.

**ORDER REPAIRED IF:**

1. Any headlight is inoperative.

2. The headlight dimmer switch fails to operate properly.

3. The optional flashing headlights do not flash in an alternating manner.

4. The optional flashing headlights do not activate with the red warning lights of the eight (8) light warning systems.

5. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. Both lamps are inoperative on low beam.

2. Both lamps are inoperative on high beam.

3. The optional alternating flashing headlights do not deactivate simultaneously when the red warning lights and stop signal arm are deactivated.

**HEADLIGHTS Continued**

**REFERENCES:**

| | | |
|---|---|---|
| 1. All Types | Indiana Code | 9-19-6-3 |
| 2. All Types | 575 IAC | 1-9-46 |

**(Optional Alternating Flashing Headlights)**

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-9-48 |

# HEATERS

**PROCEDURES / SPECIFICATIONS:**

1. Each bus shall be equipped with heaters which are capable of maintaining a minimum inside temperature of 40 degrees Fahrenheit.

2. Each bus shall be equipped with an independent motor for each heater.

3. Heater hoses which run inside the driver/passenger compartment must be encased in a protective covering.

**ORDER REPAIRED IF:**

1. A heater motor is not operating properly.

2. Any heater hose inside the bus is not covered with a protective covering.

3. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. Any heater is loose or broken from its mounting.

2. Any fluid leaks from the heater or hoses into the bus interior.

**REFERENCES:**

1. All Types 575 IAC 1-9-38

# HOOD LATCH

**PROCEDURES / SPECIFICATIONS:**

1. Inspect for proper opening, closing and latching.

**ORDER REPAIRED IF:**

1. The latch does not secure the hood tightly.
2. The latch is not properly aligned, is loose or badly rusted.
3. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. The latch mechanism is missing.

**REFERENCES:**

1. All Types FMCSA 393.203

# HORN

**PROCEDURES / SPECIFICATIONS:**

1. Each bus must be equipped with an audible horn which complies with the requirements of the FMCSR Part 393.81.

4. The horn button must be within easy reach of the driver.

5. If equipped with an air horn, see Air Horn under optional equipment.

**ORDER REPAIRED IF:**

1. The horn does not operate at all.

2. The horn is not audible.

3. The horn is not within easy reach of the driver.

4. Required horn is not present.

5. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

| | | |
|---|---|---|
| 1. All Types | FMCSR | Part 393.81 |
| 2. All Types | 575 IAC | 1-9-40 |

# HYBRID ELECTRIC SCHOOL BUS

**PROCEDURES/SPECIFICATIONS:**

1. New or existing school buses may be equipped with a Hybrid Electric Conversion System

2. The system must be installed by a qualified manufacturer.

3. The system must not cause any difference in the operation of the bus.

4. A control panel will be installed in the driver's area of the bus which will consist of:

    a) On/Off switch
    b) Switch must be labeled in drivers' area
    c) LED light capable of emitting a green and red color
    d) Ground Fault Circuit Interrupter (GFCI)
    e) Standard instructions of what each LED light indications

5. The system must be mounted and properly secured to the existing frame of the bus.

6. The complete system is to be mounted underneath the bus.

7. The system will be encased in galvanized steel.

8. The steel case must be marked with a Flammable Decal.

9. Any wiring that is connected to the system **MUST be wrapped/concealed in orange conduit**. Except the ground wire(s) that are connected to the frame.

10. The school bus is to be marked with the proper approved decals located on the front, back and both sides of the bus indicating the bus is Hybrid Electric.

11. Cooling module must have an operable fan and be cooled with antifreeze.

**ORDER REPAIRED IF:**

1. Not marked on the front, sides and back indicating Hybrid Electric Bus.

2. Any section of the drive shaft is not protected with a metal safety loop or if there is excessive up and down movement at any universal joint.

3. Cables are a color other than orange.

4. Chaffing of any wiring.

5. Steel encasing the system is not marked with a Flammable Decal.

**HYBRID ELECTRIC SCHOOL BUS: Continued**

**ORDER REPAIRED IF: Continued**

6. See Notes: Any violation the inspector deems a violation not listed.

**OUT OF SERVICE IF:**

1. Not installed by qualified manufacturer, not secured to frame, not encased in galvanized steel.
2. System effects the operation of School Bus.
3. There is any defect which the inspector feels would adversely affect the ability of the vehicle to stop safely.

**REFERENCES:**

1. All Types 575 IAC 1-9-6

# INNER FENDERS

**PROCEDURES / SPECIFICATIONS:**

1. Inspect inner fenders for evidence of damage, rust-through, or metal fatigue.
2. Check inner fenders for secure attachment to the frame.

**ORDER REPAIRED IF:**

1. There is evidence of damage or rust-through.
2. There is evidence of metal fatigue.
3. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. Inner fenders are loose from body or mounting brackets.

**REFERENCES:**

1. All Types 575 IAC 1-9-81

# INSTRUMENTATION

**PROCEDURES / SPECIFICATIONS:**

1. Each bus must be equipped with the following instruments and gauges which are in operating condition and visible to the driver:

   A. Speedometer.

   B. Odometer (with tenths of a mile indicator).

   C. Fuel gauge.

   D. High beam headlight indicator.

   E. Brake indicator light or gauge (air or hydraulic).

   F. Air pressure gauge.

   G. Brake warning light.

   H. DEF gauge if equipped.

**ORDER REPAIRED IF:**

1. Any required instrument or gauge is missing. (Speedometer, Odometer, Fuel Gauge, High beam, Brake indicator light or gauge, air pressure gauge, brake warning light, DEF Gauge)

2. Any required instrument or gauge is inoperative. (Speedometer, Odometer, Fuel Gauge, High beam, Brake indicator light or gauge, air pressure gauge, brake warning light, DEF Gauge)

3. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. All Types 575 IAC 1-9-24

# INTERIOR CONDITION

**PROCEDURES / SPECIFICATIONS:**

1. Inspect bus for objects blocking aisles or exits (i.e. brooms, trash containers, coolers etc.).
2. Inspect for protrusions which have sharp edges and/or corners.
3. Inspect for loose or unprotected wiring in passenger area.
4. Inspect for excessive dirt or debris in the interior of the bus.
5. Inspect to ensure there are no loose items that would create a hazard.
6. A driver's name tag and assigned seat designators are allowed but they may not exceed fifty-four (54) square inches.
7. Rule and Policy signs are allowed to be posted on the bulk head but may not cover other required markings.

**ORDER REPAIRED IF:**

1. There are objects blocking aisles or exits.
2. Any interior protrusions have sharp edges or corners.
3. There is loose or unprotected wiring in passenger area.
4. There is debris in the bus (needs cleaned/includes dirt).
5. There are loose items that would create a hazard. (broom, scraper, items on dash, etc.)
6. Drivers name tag or assigned seat designators, or any unauthorized items exceed fifty-four (54) square inches.
7. Non safety related signs/decorations posted.
8. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. Interior is excessively dirty. (Excessive trash or dirt that would jeopardize the safety of students)

**REFERENCES:**

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-9-22 |
| 2. All Types | 575 IAC | 1-9-43 |
| 3. All Types | 575 IAC | 1-9-66 |
| 4. All Types | Indiana Code | 9-21-12-18 |

# INTERIOR MIRRORS

**PROCEDURES / SPECIFICATIONS:**

1. Each bus must be equipped with an interior rearview mirror with rounded corners and banded or protected edges.

2. The interior rearview mirror on a Type A bus must be at least six (6) inches by sixteen (16) inches overall.

3. The interior rearview mirror on a Type B, C, or D bus must be at least six (6) inches by thirty (30) inches overall.

**ORDER REPAIRED IF:**

1. The interior rearview mirror is missing, cracked or discolored.

2. The edges of the interior rearview mirror are not banded or protected.

3. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

| | | | |
|---|---|---|---|
| 1. | All Types | 575 IAC | 1-9-55 |
| 2. | All Types | FMVSS | 111 |
| 3. | All Types | Indiana Code | 9-19-12-1 |

# LETTERING

**PROCEDURES / SPECIFICATIONS:**

1. The following is a breakdown of the permissible lettering allowed on buses:

**Front:**

1. Lettering must display the words "SCHOOL BUS" centered above the windshield with, at a minimum, eight (8) inch high letters.

2. The bus number may appear on the front bumper in yellow.

**Sides:**

1. Lettering on the sides of the bus shall be black in color.

2. Letters shall not be more than six (6) or less than four (4) inches in height.

3. Lettering shall list the name of the school corporation or agency, or any other governmentally permitted lettering on both sides.

4. The driver's name may appear on the right side of the bus providing;

   A. letters are in black;

   B. letters are of series B type and are no more than two (2) inches in height;

   C. placed on the exterior right side of the bus behind the service door; and

   D. located midway between the window line and the floor line.

5. The bus number may appear on the exterior of the roof in black series B numerals.

6. The bus number numerals may not be more than three (3) feet high and three (3) inches wide.

7. An interchangeable placard frame to display bus numbers may be used providing;

   A. it is located only on the passenger side of the bus underneath the first window rear of the service door;

   B. the frame and placard shall be National School Bus Yellow with black numbers conforming to the appropriate administrative rules on lettering and identification; and

   C. the frame shall not exceed 4 x 9 x 3/8 inches.

**Rear:**

1. Lettering on the rear of the bus must display the words "SCHOOL BUS" centered above the rear door.

**LETTERING: Continued**

2. The lettering indicating "SCHOOL BUS" must be at least eight (8) inches high and must be black in color.

3. The words "EMERGENCY DOOR" will be in two (2) inch high letters.

4. The words "EMERGENCY DOOR" will be located between the top of the emergency door and the words "SCHOOL BUS".

5. The school corporation name, assigned by Dept. of Education, must be placed on the rear emergency door midway between the top and bottom of the door of all buses with a body build date of January 1, 2016 or after. The characters must be at least two (2) inches high and may be on two (2) consecutive lines. On Type D school buses the school corporation name must appear in a corresponding location on the engine access cover. (Required for a bus with a body build date of January 1, 2016 or after, optional for all other buses in the fleet). Buses with a body build date of July 1, 2012 to December 31, 2015 are required to have the School Corp Code if not equipped with School Corp Name

6. School buses that have a body build date of January 1, 2016, or after, special purpose buses, and MFSAB's must have a decal on the rear bumper stating "Vehicle Stops at Railroad Crossings"
   a) The decal must be in a color that contrasts with the color of the bumper.
   b) Maximum decal size must not exceed 150 square inches.
   c) Company name, logo, or other commercial advertisement on the decal is prohibited.
   d) The decal may contain symbols or pictures of standard railroad signage (cross bucks).

**OPTIONAL:**

1. A lighted "SCHOOL BUS" sign may be used in lieu of the painted sign on the front and rear of the bus.

2. The lamp used to light the sign must operate.

**ORDER REPAIRED IF:**

1. The lettering "SCHOOL BUS" is not in the front centered above the windshield with a minimum of eight (8) inch high letters.

2. Lettering on the sides: are any color other than black, or more than six (6) or less than four (4) inches in height.

3. The optional drivers name is: anywhere other than the right side of the bus, behind the service door, located midway between the window and floor line.

4. The optional drivers name is not black in color, not series B type, or larger than two (2) inches in height.

5. The optional bus number on the roof is not black in color or series B type.

6. The optional interchangeable placard frame to display bus numbers is not located on the passenger side underneath the first window rear of the service door.

**LETTERING: Continued**

**ORDER REPAIRED IF: Continued**

7. The optional interchangeable placard and frame is not National School Bus Yellow with black numbers
8. Any required lettering is missing or faded.
9. Any unauthorized lettering or markings are present on the body.
10. The optional lamp used to light the "SCHOOL BUS" sign is inoperative.
11. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. All Types 575 IAC 1-9-16

# MARKER LIGHTS

**PROCEDURES / SPECIFICATIONS:**

1. Inspect bus for one (1) amber marker light on each corner of the bus in line with the front three (3) clearance lights.

2. Inspect bus for one (1) amber marker light located midway between the front and rear marker lights.

3. There shall be one (1) amber marker light on each side of the bus when it exceeds thirty (30) feet in length.

4. Inspect bus for one (1) red marker light on each corner of the bus in line with the rear three (3) clearance lights.

**ORDER REPAIRED IF:**

1. Any marker light or lens is missing, cracked, faded, wrong color, or inoperative.

2. LED type lights have 25% or more of the pixels inoperative in any one light.

3. See Notes: Any violation the inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

| | | | |
|---|---|---|---|
| 1. | All Types | Indiana Code | 9-19-6-7 |
| 2. | All Types | Indiana Code | 9-19-6-8 |
| 3. | All Types | 575 IAC | 1-9-47 |

# NOISE SUPPRESSION SWITCH

**PROCEDURES/SPECIFICATIONS:**

1. All buses with a body build date of January 1, 2006 must be equipped with a noise suppression switch.

2. Switch must be designed to disable interior noise-producing accessories.

    a. Radios or radio speakers (NOT including 2 way radios)
    b. Defroster fans
    c. Passenger heater fans
    d. Powered roof ventilators
    e. Any other noise-producing device

3. Type A buses are exempt for a cutaway front section chassis and with bodies manufactured by a company other than the manufactured chassis. *However, chassis manufacturer-supplied radios are not exempt.*

4. The switch must be on/off type. (All noise must be suppressed when the switch is in the ON position)

5. The switch shall be accessible to driver in a seated position

6. Switch must be identified to clearly state its purpose and to distinguish it from the other switches.

**ORDER REPAIRED IF:**

1. Switch does not simultaneously disable interior noise-producing accessories such as radios or speakers, NOT including 2 way radios, defroster fans, passenger heater fans, powered roof ventilators, or any other noise- producing device. EXEMPTION Type A buses - OEM accessories not including two-way, AM/FM, Satellite, or similar.

2. The switch is not on/off type (All noise must be suppressed when the switch is in the ON position).

3. The switch is not accessible to driver in a seated position.

4. Switch is not identified to clearly state its purpose and to distinguish it from the other switches.

**OUT-OF-SERVICE:**

1. The bus with a body build date of January 1, 2006 is not equipped with the noise suppression switch.

**REFERENCES:**

1. All Types 575 IAC 1-9-56

# PASSENGER SEATS

**PROCEDURES / SPECIFICATIONS:**

1. Inspect all passenger seats for secure attachment to floor and/or seat rail.

2. Inspect for loose seat backs and bottoms.

3. Inspect for sharp edges and protrusions.

4. Inspect for upholstery and padding for rips and tear's.

   A. Rips or tear's less than two (2) inches can be taped with seat repair tape.

   B. Rips or tear's two (2) or more inches in length must be repaired with a vinyl repair kit, sewn or replaced.

5. Seats must provide at least a 24 inch knee space.

6. Buses may have seatbelts installed. If seatbelts are retrofitted, inspect the installation to see that it meets the manufactures specifications. **(The seat frame and floor must be properly re-enforced).**

7. Inspect seatbelt assembly and anchorage attachment.

8. Inspect flip seats at side emergency door to insure unassisted retraction.

8. Inspect for required distance (measured at the floor line, from the rear of the last seat to the outside rear of the bus body).

   A. Buses have the following distance requirements:

      1. Type A and B . . . . . 6 inches
      2. Type C and D . . . . . .8 inches

**OPTIONAL: (Child Restraint Seats)**

1. A passenger seat that incorporates a child restraint seat may be used.

   a. The integrated child restraint seat must meet applicable Federal Motor Vehicle Safety Standards.

   b. The seat upholstery must be a fire block material that meets or exceeds the Boston Burn Bag test.

**ORDER REPAIRED IF:**

1. Any seat is loose from the floor or seat rail.

2. Any seat back or bottom is loose.

**PASSENGER SEATS ORDER REPAIRED: Continued**

3. Any required padding is missing.
4. There are any sharp edges or protrusions.
5. Upholstery or padding is ripped, torn, or improperly repaired.
6. Rear seats are too close to the body.
7. Seatbelt installation does not meet the manufactures specifications.
8. Seatbelts are badly worn, broken or not anchored securely.
9. The optional child restraint seat does not meet the appropriate criteria.
10. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. Jump seats or portable seats are present.
2. Any seat is broken or not attached to the floor.
3. Flip seat does not stay in the upright position when no passengers are seated.

**REFERENCES:**

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-9-66 |
| 8. FMVSS | 222 | |

**(Optional Child Restraint Seat)**

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-5.5-11 |

# PEDALS
## (ACCELERATOR, CLUTCH and BRAKE)

**PROCEDURES / SPECIFICATIONS:**

1. Each accelerator, clutch, and brake pedal on a bus must be covered with a grooved rubber covering or as it came from the original manufacturer.

2. **No attachments or modifications shall be used to increase pedal height**.

**ORDER REPAIRED IF:**

1. The accelerator, clutch or brake pedal is without grooved rubber coverings if required.

2. Any pedal has been modified to increase pedal height.

3. See Notes: Any defect inspector deems a violation not listed

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

# POWER STEERING UNIT

**PROCEDURES / SPECIFICATIONS:**

1. Inspect power steering unit for leaks, loose lines, hoses or fittings and secure mounting to the frame.
2. Inspect the fluid level.

**ORDER REPAIRED IF:**

1. Power steering unit leaks at any point.
2. There are loose lines, fittings, or hoses.
3. The unit is not securely mounted to the frame.
4. See Notes: Any defect inspector deems a violation not listed

**OUT-OF-SERVICE IF:**

1. The required power steering unit is not present.
2. There is a severe leak from any point.

**REFERENCES:**

| | | | |
|---|---|---|---|
| 1. | All Types | 575 IAC | 1-9-71 |
| 2. | All Types | FMCSA | 393.209 |

# REFLECTIVE MATERIAL/REFLECTORS

**PROCEDURES / SPECIFICATIONS:**

1. Reflective material must be applied to the body of a school bus to make it more visible.

2. It must be of a color to match National School Bus Yellow, federal standard number 595a, for a special purpose bus or white per FMVSSS 108 for a MFSAB.

3. It must be at least one (1) inches wide on the rear of the bus and at least two (2) inches wide on the sides of the bus, but not more than six (6) inches wide.

4. The reflective material must be placed only on the following locations on the school bus:

   A. The front or rear, or both, of the school bus between the warning lamps.

   B. Each side beltline, seat line, or floor line or all three (3).

   C. The rear of the bus outlining the emergency door.

   D. Across the rear of the bus directly above the rear bumper.

   E. Black reflective tape is allowed on bumpers.

4. The lettering must be black, non-reflective and in conformance with size and style requirements specified in 575 IAC 1-9-16.

5. Inspect bus for two (2) amber reflectors, one (1) on each side of the bus near the front.

6. Inspect bus for two (2) red reflectors, one (1) on each side of the bus near the rear.

7. Inspect bus for two (2) red reflectors on the rear of the bus (one to each side).

8. See Notes: Any defect inspector deems a violation not listed.

**ORDER REPAIRED IF:**

1. The reflective material is placed anywhere other than on the front and rear, or both, of the bus between the warning lamps; each side beltline, seat line, or floor line or all three (3) the rear of the bus outlining the emergency door, or across the rear of the bus directly above the rear bumper.

2. The reflective material is less than one (1) inches wide on the rear and less than two (2) inches wide on the sides or more than six (6) inches wide.

4. The reflective material is not National School Bus Yellow or white if on an MFSAB, or Black if on a bumper.

**REFELECTIVE MATERIAL/REFLECTORS: Continued**

**ORDER REPAIRED IF: Continued**

5. Any reflector is missing, cracked, faded, or the wrong color.

6. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

| | | | |
|---|---|---|---|
| 1. | All Types | 575 IAC | 1-9-50 |
| 2. | All Types | 575 IAC | 1-9-61 |

# SEAT BELT CUTTER

**PROCEDURES/SPECIFICATIONS**:

1. All buses are to be equipped with a seat belt cutter.

2. The seat belt cutter shall a full width handgrip, designed with a protective blade to minimize risk to the operator or others during use:

3. The seat belt cutter shall be located within view the driver's view and reach at all times while the driver is seated in the driver's seat.

4. The seat belt cutter shall be secured using a positive fastening method. (Must effectively hold seat belt cutter in the event of a collision, done in a workmanship like manner, and easily releasable when needed.)

**ORDER REPAIRED IF:**

1. The seat belt cutter is not located within the driver's view and reach.

2. The seat belt cutter is not secured using a positive fastening method.

3. The seat belt cutter is contained in a compartment.

4. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. There is no seat belt cutter in the vehicle

2. The seat belt cutter does not have a full width handgrip, with a protective blade to minimize risk.

**REFERENCES:**

| | | |
|---|---|---|
| 1. All Types | 575 | IAC 1-9-7 |

# SERVICE DOOR

**PROCEDURES / SPECIFICATIONS:**

1. Each bus must be equipped with a split-type, fold-type or sedan-type service door, which is on the side of the bus opposite of the driver and within his/her view.

2. The service door may be manually or power operated.

3. The controls must be located close to the driver's seat.

4. The door must be equipped with seals adequate to prevent rain and snow from entering the step-well area.

5. The service door must have flexible material covering the vertical closing edge(s).

6. The service door must have protective interior padding covering the full width of the opening at the top of the door. The padding must be three (3) inches wide and one (1) inch thick.

**OPTIONAL:**

1. An anti-vandalism/security device may be installed providing;

   A. the device is designed, manufactured or approved by the School Bus Committee;

   B. designed so that the door can only be locked from the outside;

   C. if operated electrically, a manual operative mode must be present in case of a power failure.

2. Black is an acceptable option for the service door color.

**ORDER REPAIRED IF:**

1. Any door seals are missing, damaged, or torn.

2. Protective padding is missing or damaged.

3. The "anti-vandalism" device fails to operate.

4. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. The service door does not open or close properly.

2. The "anti-vandalism" audible warning device fails to operate.

**REFERENCES:**

1. All Types 575 IAC 1-9-22

# SHOCK ABSORBERS

**PROCEDURES / SPECIFICATIONS:**

1. All buses shall be equipped with front and rear double-acting shock absorbers.

2. Inspect for loose, cracked, or broken mountings, missing grommets, bushings and for leaking shock absorbers.

**ORDER REPAIRED IF:**

1. There are any loose, broken, or missing mountings.

2. Any shock absorber is leaking fluid.

3. Rubber bushings are missing, damaged or deteriorated.

4. Any shock absorber is broken or missing.

5. See Notes: Any defect inspector deems a violation not listed

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. All Types 575 IAC 1-9-67

# SPRINGS

**PROCEDURES / SPECIFICATIONS:**

1. Inspect leaf springs, coil springs, torque rods and torsion bars.

2. Inspect spring shackles, bushings, “U” bolts, spring center bolts and other components.

3. Inspect alignment of leaf spring stacks.

**ORDER REPAIRED IF:**

1. One (1) leaf spring is broken under the first two (2) leaves.

2. Any leaf spring extends more than 1/4 inch beyond the vertical alignment of the spring stack.
3.

. Any spring hanger bushings or torque leaf bushings are worn, loose, broken or missing.
4. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. Any broken main leaf in a leaf spring.

2. Two (2) leaf springs (other than the top two (2) leaves) are broken.

3. Coil springs, torque rods or torsion bars are broken or missing.

4. Shackles are worn, loose, broken, cracked or missing.

5. “U” bolts are loose, broken, or missing.

6. Center bolt is loose, cracked, sheared or missing.

**REFERENCES:**

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-9-69 |
| 2. All Types | FMCSA | 393.207 |

# STANCHIONS, GUARDRAILS, GUARD PANELS and BARRIERS

**PROCEDURES / SPECIFICATIONS:**

1. Inspect stanchions, guardrails, guard panels and barriers in the following manner.

**ORDER REPAIRED IF:**

1. Stanchions, guardrails, guard panels or barriers are insecurely attached.
2. Padding, foam backing or vinyl covering is torn or missing from a stanchion, guardrail, guard panel or barrier.
3. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-9-54 |
| 2. All Types | FMVSS | 222 |

# STEERING ASSEMBLY

**PROCEDURES / SPECIFICATIONS:**

**(NOTE: All steering assembly inspection procedures should be performed with the engine running)**

1. The steering gear must be approved by the chassis manufacturer and assure safe performance. Power steering is required.

2. With weight on all wheels, inspect the tie rod ends by:

   A. Instructing the driver to rock the steering wheel back and forth sharply to move the steering components.

   B. Observing for play at any point in the tie rod ends, drag link or other steering component.

3. Inspect turn stops by:

   A. Observing for shinny spots and/or signs of wear on the sides of tires, drag links, shock absorbers or brake lines.

4. Inspect steering shaft and gear box by:

   A. Instructing the driver to rock the steering wheel back and forth.

   B. Observing for looseness where the steering gear box is mounted to the frame.

5. Inspect for cracks or welding repairs on any steering component.

6. Observe for excessive steering lash.
   **(NOTE: If excessive steering lash is observed, inspect in the following manner :)**

   A. Place steering axle wheels in a straight ahead position;

   B. Turn the steering wheel until movement is observed at the left road wheel; and

   C. Measure the steering wheel movement from starting position to wheel movement position.

**ORDER REPAIRED IF:**

1. Play can be measured at one (1) location on any steering component.
   **(NOTE: On General Motors Type G-30 vans, up to 1/4 inch movement in the idler arm is within the manufactures specifications. If the inspector is not sure if the movement is within the manufactures guidelines, have the idler arm inspected by a certified mechanic or authorized dealer to certify that it meets the required specification).**

2. There is movement at any spring loaded drag link or the rod end (using hand pressure).

3. Power steering is inoperative.

## STEERING ASSEMBLY ORDER REPAIRED: Continued

4. Turn stops are missing or improperly adjusted.

5. Steering wheel lash (if measured) exceeds for:

A. **POWER STEERING:**

| | Steering Wheel Diameter | Maximum Lash |
|---|---|---|
| b. | 16” Wheel (or less) | 4 1/2” |
| c. | 18” Wheel | 4 3/4” |
| d. | 20” Wheel | 5 1/4” |
| e. | 22” Wheel | 5 3/4” |

6. See Notes: Any defect inspector deems a violation not listed.

## OUT-OF-SERVICE IF:

1. There is lateral steering shaft movement.

2. There is pitman arm movement on output shaft.

3. Any steering component jams or inhibits safe movement.

4. Tie rod end movement is greater than 1/8 inch (rotational movement is acceptable).

5. There is movement in a spring loaded drag link greater than 1/8 inch.

6. Steering box is loose on the frame.

7. There are any cracks in any steering component.

8. There are obvious welded repairs to the steering box, pitman arm, ball joints or other steering components.

## REFERENCES:

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-9-71 |
| 2. All Types | FMCSA | 393.209 |

# STEERING WHEEL

**PROCEDURES / SPECIFICATIONS:**

1. Each bus must be equipped with a steering wheel, which conforms to original equipment specifications.
2. There can be no attachments to the steering wheel.
3. The steering wheel cannot have excessive cracks, which expose the inner metal brace.

**ORDER REPAIRED IF:**

1. Does not conform to original specifications.
2. There are attachments to the wheel.
3. There are cracks which expose the inner metal brace.
4. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-9-71 |
| 2. All Types | FMCSA | 393.209 |

# STEPS, STEP - WELL LIGHT, And STEP - WELL AREA

**PROCEDURES / SPECIFICATIONS:**

1. Inspect entrance steps for any steps protruding beyond the side of the bus body.

2. All entrance steps shall be covered with rubber tread firmly bonded to metal.

3. Entrance steps must have white edging.

4. Inspect steps for structural weakness (i.e. rust, sagging, holes, etc.).

5. A grab handle of not less than thirty (30) inches in length must be mounted in an unobstructed location inside the service doorway.

6. Each bus must be equipped with a step-well light capable of illuminating the step-well area.

7. Inspect the handrail for snagging problems.

8. If repairs have been made to the handrail, inspect to ensure that repairs have been made as required by NHTSA's recall campaign. If the inspector is not sure, use a string-nut assembly to check the handrail for snagging.

**OPTIONAL: (Criminal Trespass Decal):**

1. A decal warning about criminal trespass on a school may be placed on the face of a step riser.

2. The decal must meet the following specifications:

   A. Must be one line not to exceed the width of the riser.

   B. Must be in block style letters, not less than two (2) inches and not more than four (4) inches in height.

   C. Lettering must be in a color that contrasts with its background.

**ORDER REPAIRED IF:**

1. Step covering is loose, buckled, or made of a material other than rubber (i.e. rugs, carpets, mats, etc.).

2. Step-well area is weakened.

3. Steps do not have a 1 1/2" nosing that contrasts in color by 70% per 36CFR, 1192 ADA, Accessibility Guidelines for Transportation Vehicles.

4. Grab handle is loose or missing.

5. Step-well light is missing or inoperative.

**ORDERED REPAIRED IF: Continued**

6. Step-well light lens is missing.

7. Optional Criminal Trespass decal is not placed on the face of a step riser, exceeds the width of the riser, is more than 1 line, not in block style letters, letters are smaller than two (2) inches or larger than four (4) inches, or letters are not in a color that contrasts with its background.

8. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. Any part of the step-well or support structure is rusted through.

2. Handrail repairs have not been made or the handrail fails the string-nut test.

**REFERENCES:**

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-9-20 |
| 2. All Types | 575 IAC | 1-9-47 |
| 3. All Types | 575 IAC | 1-9-70 |
| 4. All Types | 575 IAC | 1-9-87 |

# STIRRUP STEPS

**PROCEDURES / SPECIFICATIONS:**

1. Each Type B, C, and D bus shall be equipped with one (1) stirrup step and one (1) handle located on each side of the front of the body cowl.

**ORDER REPAIRED IF:**

1. Any stirrup step or handle is broken, lose or missing.

2. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. Adopted previously under 575 IAC 1-2.5-48, 1-3-59 and 1-4-59

# STOP ARM and LIGHTS

**PROCEDURES / SPECIFICATIONS:**

1. Each bus shall be equipped with a stop signal device (stop arm), which is located on the driver's side and mechanically controlled by the driver.

2. The word "STOP" must appear on both sides in six (6) inch high letters.

3. The stop arm must be in compliance with FMVSS 131.

4. Buses shall be equipped with an octagon-shaped, reflectorized, red stop arm with white lettering.

5. Buses shall be equipped as follows:

   A. When the eight (8) light system is activated, the amber warning lights must flash first.

   B. The amber lights must turn off, the red lights must flash, and the stop arm signal must be activated with its lamp turned on, when the service door is opened.

   C. All lights must turn off and the stop arm must be deactivated when the service door is closed.

   D. Light emitting diode (LED) Type lighting is permitted in the 8-way warning system.

   E. Clear lens are permitted on the 8-way warning system providing that the lights are yellow or red in their respective location.

**OPTIONAL: (Rear Stop Arm Device)**

1. Each school bus may have an additional rear stop signal device, installed to indicate that the bus is stopped.

2. The additional device must meet the following specifications:

   A. The device must meet the same minimum specifications.

   B. When two (2) stop signal devices are installed on a school bus, the rearmost stop signal device must not contain any lettering, symbols, or markings on the forward side.

   C. The rearmost stop signal device shall be red in color and non-reflectorized on the forward side (in accordance with FMVSS 131, S. 5. 2. 3).

   D. If added to the school bus, the stop signal device when extended must be located on the left side of the bus, but not more than eight (8) feet from the rear of the bus.

   E. The device must be mounted at the same height as the device that is located immediately below the driver's window.

   F. An additional stop arm device may be installed on Type A school buses.

**STOP ARM: Continued**

**OPTIONAL: (School Bus Crossing Arm)**

1. The school bus crossing arm must meet or exceed SAE J1133 specifications.

2. The crossing arm shall be activated by the stop arm switch.

3. The crossing arm blade must be a moveable barrier which is at least five (5) feet six (6) inches in length when activated and extended perpendicular to the school bus front bumper, plus or minus 5 degrees.

4. The crossing arm blade must be fabricated from a 1/4 inch aluminum rod and formed into a closed loop to eliminate spearing ends.

5. The crossing arm blade must have prominent yellow color tubing on the end of the rod itself for better visibility.

6. The entire crossing arm blade may be prominent yellow color tubing.

7. The crossing arm blade must operate with vacuum, air or electric units.

**OPTIONAL: (LED Stop Arm)**

1. A light emitting diode (LED) stop arm may be installed on new or existing school buses in lieu of the reflectorized stop arm to indicate that the bus is stopped.

2. The LED device must meet the following specifications:

   A. The LED stop arm must meet the same minimum specifications.

   B. When using a rear mounted signal arm, it must be the same type and style as the forward signal arm.

**OPTIONAL: (Wind Guard)**

1. A wind guard may be installed to prevent the stop signal device from whipping in the wind.

**OPTIONAL: (Stop Arm Camera)**

1. A stop arm camera may be installed inside or outside, and on either side, and must be mounted to allow the capture of the image of the stop arm extended with red lights flashing, image of the rear license plate of passing vehicle, and include up to 2 lanes of traffic to left or right or both sides of the bus.

2. Outside cameras may not extend more than 6 inches out from the side of the bus.

**STOP ARM: Continued**

3. Inside cameras must be attached to not interfere with the drivers view.

4. Camera must not be driver activated nor operate in a manner that distracts the driver.

5. Recording equipment may not interfere with the movement of the driver, passenger, or access to emergency equipment.

**ORDER REPAIRED IF:**

1. The stop arm lights do not flash alternately

2. The stop arm has faded or lost reflectivity.

3. The front of the optional rear stop arm device has any lettering, symbols or markings.

4. LED type lights have 25% to 49% pixels inoperable in any one light. (NOTE: one letter in the word "STOP" equals one light)

5. The front and rear stop arms are not the same type or style.

6. The front of the optional rear stop arm device is painted any color other than red or is covered with a reflectorized material.

7. Any optional rear stop arm device or school bus crossing arm criteria is not met.

8. The optional wind guard device interferes with the operation of the stop arm.

9. There is air leak at the stop arm air bladder that does not affect the air braking system.

10. A stop arm camera installed so as to not allow the capture of the image of the stop arm extended with red lights flashing, image of the rear license plate of passing vehicle, and include up to 2 lanes of traffic to left or right or both sides of the bus.

11. Outside camera extending more than 6 inches out from the side of the bus.

12. Inside camera attached that interferes with the drivers view.

13. Camera that can be activated by driver or operates in a manner that distracts the driver.

14. Recording equipment interferes with the movement of the driver, passenger, or access to emergency equipment.

15. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. Any stop arm light is inoperative.

**STOP ARM: Continued**

**OUT-OF-SERVICE IF: Continued:**

2. Stop arm lights do not flash.

3. Stop arm does not fully extend to a right angle to the bus.

4. Stop arm does not function properly.

5. There are no OOS criteria for the optional school bus crossing arm.

6. LED type lights have 50% or more pixels inoperable in one light. (NOTE: one letter in the word "STOP" equals one light.)

**REFERENCES:**

| | | | |
|---|---|---|---|
| 1. | All Types | 575 IAC | 1-9-14 |
| 2. | All Types | 575 IAC | 1-9-48 |
| 3. | All Types | 575 IAC | 1-9-51 |
| 4. | All Types | FMVSS | 571.131 |

# SUN VISORS

**PROCEDURES / SPECIFICATIONS:**

1. Type A buses must be equipped with a sun visor which meets manufacturers specifications.

2. Each Type B, C, and D bus must be equipped with an adjustable transparent sun visor which measures at least six (6) inches by thirty (30) inches.

**ORDER REPAIRED IF:**

1. Sun visor is missing, cracked or broken.

2. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. All Types 575 IAC 1-9-73

# SUSPENSION

**PROCEDURES / SPECIFICATIONS:**

Each school/special purpose bus must have in the bus, the standard Indiana State Police Brake/Kingpin inspection form that certifies that the brake and kingpin inspection was performed **within six (6) months of any inspection of the bus.**

1. Inspect the kingpins for excessive play by:

   A. Lifting the vehicle by placing a jack under the front axle.

   B. Instructing the driver to apply and hold the service (foot) brake to eliminate wheel bearing movement.

   C. Insert pry bar in bottom opening of wheel (care must be used to avoid damage to valve stems, brake hoses or other components).

   D. Lift pry bar and measure movement at the bottom of the tire at the outer circumference.

   E. Repeat procedure for each side of the steering axle.

2. Inspect the wheel bearings for loose or rough bearings and brake drag by:

   A. Lifting the vehicle by placing a jack under the front axle.

   B. Grabbing the front tire at the top and bottom and rocking vigorously in and out.

   C. Measure movement between the drum or disc and the backing plate. **(NOTE: Wheel bearing movement may not be as detectable on disc brakes due to pad pressure on rotors)**

   D. Spin each front wheel and look for drag due to improper brake adjustment or indication of wheel bearing damage.

3. Inspect suspension ball joints (upper and lower) by:

   A. Lifting the front of the vehicle by placing a jack under the lower control arm. **(NOTE: DO NOT place the jack under any steering component which may be bent or distorted)**

   B. Raise the vehicle until the tire is approximately three (3) inches above the pavement or floor.

   C. To check vertical movement, position the pry bar under the tire and with a lifting motion sufficient to overcome the weight of the wheel assembly, move the wheel up and down.

   D. Observe for movement in the ball joint relative to its socket and/or movement in ball joint wear indicator.

**SUSPENSION: Continued**

E. To check horizontal movement, grasp the tire and wheel assembly at the top and bottom and move in and out to detect looseness.

F. Observe for movement in or deterioration of upper or lower control arm bushings.

**ORDER REPAIRED IF:**

1. Rough or damaged bearings or excessive brake drag is indicated.
2. Vertical or horizontal ball joint movement is more than 1/8 inch but less than 1/4 inch.
3. There is any movement indicating wear or deterioration in a control arm bushing.
4. There is an air leak from any hose, line, tank, bag, or other component of an air suspension system.
5. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. There is no brake/king pin certification form, the certification is expired or is not signed within the six-month requirement.
2. Kingpin movement measured at bottom of tire is greater than:

| Wheel Size | Movement |
|---|---|
| 16” | 1/4” |
| 17” to 18” | 3/8” |
| Over 18” | 1/2” |

3. Movement between drum or rotor and backing plate exceeds 1/8 inch.
4. There is horizontal or vertical ball joint movement of 1/4 inch or more.

**REFERENCES:**

1. All Types FMCSA 393.207
2. All Types AAMA Handbook 1996 Section 4

# TAILLIGHTS/BRAKE LIGHTS

**PROCEDURES / SPECIFICATIONS:**

1. Check the rear of each bus for proper placement of taillights and brake lights.

2. Check the rear of each bus for the required size and number of taillights and brake lights.

3. Light Emitting Diode (LED) type is permitted.

4. Taillights and brakes lights must be the same type (standard or LED)

5. Buses shall be equipped as follows:

   A. Type A buses shall;

      1. Have two (2) four (4) inch combination brake and taillights; and

      2. Have two (2) seven (7) inch red combination brake and taillights.

   B. Type B, C, and D buses shall;

      1. Have two (2) 3 3/4 inch red combination brake and taillights; and

      2. Have two (2) seven (7) inch red combination brake and taillights.

6. Buses may be equipped with light emitting diode (LED) type lighting.

**ORDER REPAIRED IF:**

1. Any lens is cracked, missing, faded or of the wrong color.

2. One (1) taillight or one (1) brake light does not function.

3. Does not have four combination red brake lamps, two with minimum 38 sq inch illuminated (7" round), and two with a minimum of 12 sq inches illuminated area (4" round), mounted on the rear of the body between the belt line and floor line.

4. Does not have two tail and brake lamps 3 ¾" and two tail and brake lamps 7" round or 38 square inches of illuminated area, normally visible for 500 feet.

5. Tail Lamps not mounted at least 40" from the center of the lamp to ground.

6. Tail Lamps not placed below the window line.

7. Tail Lamps not spaced at least 5 feet apart.

8. Taillights are not the same on both sides (either LED or standard)

**TAILLIGHTS/BRAKE LIGHTS REFERENCES: Continued**

**ORDERED REPAIRED IF: Continued**

9. LED type lights have 25% to 49% pixels inoperable in any one light.

10. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. Two (2) or more taillights or brake lights do not function (LED lights are considered non-functional if 50% or more pixels are inoperable in one light.)

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-9-49 |
| 2. All Types | FMCSA | 393.11 |

# TIRES

**PROCEDURES / SPECIFICATIONS:**

1. All tires on any given vehicle should be of the same or equivalent size, ply rating and construction.
2. Front tires shall have no less than 4/32 of an inch of tread depth.
3. Rear tires shall have no less than 2/32 of an inch of tread depth.
4. Check valve stems for cracks or any signs of wear or damage.
5. Regrooved or retread tires on the front or single rear wheels are prohibited.
6. Flat tires are prohibited.
7. No tire shall be so worn that the tread wear indicators contact the roadway.

   **NOTE: When the dual wheels are removed from the rear, a single wide tire may be used providing the rim meets or exceeds eleven (11) inches in width. Any bus manufactured after July 1, 1988 is prohibited from having the dual wheels removed and a single wheel equivalence installed.**

**OPTIONAL: (Tires)**

1. Radial, mud or snow tires may be used.
2. A spare tire may be carried if it is not mounted within the passenger compartment.

**OPTIONAL: (Tire Chains)**

1. Automatic or manual tire chains may be used on the bus tires.

**OPTIONAL: (Tire Overspray Guard)**

1. Tire overspray guards, such as mud flaps and overspray systems, may be used.

**ORDER REPAIRED IF:**

1. Any tire has low air pressure.
2. Tires are not of the same equivalent size, ply rating and construction.
3. Any front tire has less than 4/32 inch tread depth when measured in any two adjacent major grooves.
4. Any rear tire has less than 2/32 inch tread depth when measured in any two adjacent major grooves.

**TIRE ORDER REPAIRED: Continued**

5. Tires on the same axle are of different construction. (Bias and radial tires cannot be used on the same axle).

6. Outside diameters of both tires on dual wheels are not within 1/2 inch of each other.

7. The tires on dual wheels are touching.

8. The optional spare tire is mounted within the passenger compartment.

9. The optional tire chains are loose on tires.

10. Any mud flaps or other devices are loose.

11. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. Tires are cut, weathered, cracked, have lumps, or breaks that expose the cord.

2. Tires with visible bumps, bulges, or knots indicating partial failure or separation of the tire structure.

3. Any tire is flat.

4. Any front tire has less than 2/32 inch tread depth when measured in any two adjacent major grooves.

5. Any rear tire has less than 1/32 inch tread depth when measured in any two adjacent major grooves.

6. Recapped or regrooved tires are present on the steering axle of any vehicle.

7. Tires are worn so as to expose wear bar indicators, contacting the roadway surface in any two (2) major tread groups at three (3) locations spaced equally around the tire.

8. There are plugs on any steering axle tire.

9. There are no OOS criteria for the optional spare tire, tire chains or overspray guards.

**REFERENCES:**

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-9-76 |
| 2. All Types | FMCSA | 393.75 |

**(Optional Tire Chains)**

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-9-75 |

# TURN SIGNALS

**PROCEDURES / SPECIFICATIONS:**

1. Type A buses:

   A. The rear of the bus must have amber turn signals that meet SAE standards.

   B. The rear turn signal lamps centerline must be at least eight (8) inches below the rear windows.

   C. The front and rear turn signals must be mounted as high as practical and placed as wide apart as practical, but not less than three (3) feet.

2. Type B, C and D buses:

   A. The front and rear of the bus must have amber turn signals that meet SAE standards.

   B. These signals must be independent units and must be equipped with a four (4) way hazard warning switch that causes simultaneous flashing of turn signal lamps when needed as a hazard warning.

   C. The operating switch must be self canceling.

3. All buses must have the same type of LED or standard type, per light set. (e.g.. if left rear turn signal is LED the right rear turn signal must be LED, however the brake lights can be standard type.)

**ORDER REPAIRED IF:**

1. Turn signals are not properly mounted.
2. A lens is cracked, missing or wrong color.
3. Switch not self-canceling.
4. Any front turn signal does not function properly.
5. LED type lights have 25% to 49% of the pixels inoperable in any one light.
6. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. Any rear turn signal does not function properly.
2. LED type lights have 50% or more of the pixels inoperable in any one rear light.

**REFERENCE:**

1. All Types 575 IAC 1-9-49

# WARNING LIGHTS
**(FRONT and REAR)**

**PROCEDURES / SPECIFICATIONS:**

1. Buses must:

   A. Have two (2) red warning lights on the front and rear.

   B. Have two (2) amber lights placed beside the red warning lights on the front and the rear of the bus. The amber lights must be closer to the center of the bus than the red lights.

   C. The amber lights must be manually activated and must automatically deactivate when the service door is opened.

   D. Have red warning lights that are activated automatically when the service door is opened.

   E. Have all warning lights deactivated when the service door is closed.

   F. Have a visible or audible means of alerting the driver that the system is activated.

   G. Have warning lights spaced sixty (60) inches apart.

   H. Have front lights mounted horizontally above the windshield.

   I. Clear lenses may be used with red or yellow lights in system.

   J. LED Type lights are acceptable in the 8-way warning system

   K. Warning lights must be of the same type LED or Standard

   L. Rear lights mounted horizontally so that the lower edge of the lens is not lower than the top of the side windows.

   M. Have an area around the warning lights, which is painted black.

   N. Ensure that all warning lights (red and amber) reach their full brilliance during each cycle.

**ORDER REPAIRED IF:**

1. Any lens is cracked, broken or discolored.

2. The area around any warning light is not painted black.

3. Black paint is faded.

4. Any lens is in the wrong location.

5. The master switch is not identified by a decal or other lettering.

**WARNING LIGHTS ORDER REPAIRED: Continued**

6. Led lights have 25% to 49 % of pixels inoperable.

7. Lights are not of the same type (LED or standard).

8. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. Warning lights fail to operate correctly.

2. There is not 2 amber and 2 red seven inch front warning lamps horizontally mounted at least 60" apart, above the windshield. (Amber lights must be mounted in between the red)

3. There is not 2 amber and 2 red seven inch rear warning lamps horizontally mounted at least 60" apart, above the top of the side windows. (Amber lights must be mounted in between the red)

4. Visible or audible signal does not function properly.

5. LED lights have 50% or more of the pixels inoperable.

**REFERENCES:**

1. All Types 575 IAC 1-9-48

# WARNING TRIANGLES

**PROCEDURES / SPECIFICATIONS:**

1. Each bus must have three (3) red reflective triangles

**ORDER REPAIRED IF:**

1. Required warning devices are not present.
2. Any emergency device is in poor condition.
3. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

| | | | |
|---|---|---|---|
| 1. | All Types | 575 IAC | 1-9-29 |
| 2. | All Types | FMCSA | 393.95 |

# WHEELS

**PROCEDURES / SPECIFICATIONS:**

1. Wheels must be painted black. (NOTE: MFSAB are permitted factory wheels. EX: chrome, white, etc.)
2. Rims must be painted black or gray.
3. Hub caps or chrome accessories on wheels are not permitted. (Exception: MFSAB's)
4. Check the rims closely for signs of being loose, cracked or bent.
5. Check for loose, damaged or missing wheel bolts, nuts or lugs.

**ORDER REPAIRED IF:**

1. Rims and wheels are painted any other color than black or gray. (MFSAB's are exempt)
2. Rims are bent or loose.
3. One (1) nut, bolt or lug is missing, loose or broken.
4. There are chrome hub caps or chrome accessories on any wheel.
5. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. Rim or wheel discs have visible cracks, elongated bolt holes or any indication of repair by welding.
2. Two (2) or more lug nuts are loose or missing.

**REFERENCES:**

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-9-16 |
| 2. All Types | FMCSA | 393.205 |

# WINDSHIELD WASHERS

**PROCEDURES / SPECIFICATIONS:**

1. Each bus must be equipped with windshield washers as standard equipment.

2. Washers may be electrically or manually activated.

3. Washers must be properly adjusted and of sufficient power to direct washer fluid spray onto the windshield.

**OPTIONAL: (Windshield Washer Fluid Heater)**

1. A windshield washer fluid heater may be used.

2. The heater unit must not be installed in the passenger compartment of the school bus.

**ORDER REPAIRED IF:**

1. Washers do not function properly in any manner.

2. If the heater unit is installed in the passenger compartment of the school bus.

3. Reservoir is empty.

4. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-9-84 |
| 2. All Types | 575 IAC | 1-9-85 |

# WINDSHIELD WIPERS

**PROCEDURES / SPECIFICATIONS:**

1. Each bus must be equipped with windshield wipers with two (2) speeds or variable speed capability.

2. Wipers must be capable of providing a clear view to the driver.

3. Buses shall adhere to the following:

   A. Type A buses must have one (1) motor operating their wipers.

   B. Type B, C, and D buses may have two (2) motors operating their wipers (may have only one motor).

**OPTIONAL:**

1. Heated windshield wipers may be used.

**ORDER REPAIRED IF:**

1. Wiper motors are not of sufficient power to operate the wiper blades.

2. Wiper blades fail to contact the windshield properly.

3. Wiper blades are torn, cracked, brittle or otherwise deteriorated.

4. Wipers do not provide a clear view for the driver.

5. Wiper blades do not park in the proper position, obstructing the view of the driver.

6. Heated windshield wipers do not function properly.

7. See Notes: Any defect inspector deems a violation.

**OUT-OF-SERVICE IF:**

1. Wipers fail to function.

4. A wiper arm or blade is missing.

**REFERENCES:**

1. All Types 575 IAC 1-9-85

# WINDSHIELD, WINDOWS and GLASS

**PROCEDURES / SPECIFICATIONS:**

1. **Windshield:**
   A. Each bus must have a windshield of approved safety glass with a visible, permanent marking indicating approval.

   B. Type B, C, and D buses must have a horizontal gradient (tinted) band across the top of the windshield.

   C. Plastic glazing materials are not permitted in the windshield, or the windows to the immediate left or right of the driver or in any rear window used for driver visibility.

2. **Windows:**
   A. All glass in windows must be of approved safety glass.

   B. Approved plastic glazing may be used except in prohibited locations. (See windshield above).

   C. Each full size window when opened must provide an unobstructed opening at least nine (9) inches high and twenty-two (22) inches wide.

   D. All side emergency windows must have the words "EMERGENCY EXIT" placed directly above or on the top or bottom of each window on the inside of the bus.

   E. Type I buses must have (after January 1, 2015) :

      1. At least one (1) push-out split-sash window installed near the center of each side of the bus.

   F. Type II buses may have:

      1. Push out split sash windows.

   G. Transit type buses must have:

      1. Must have at least three (3) push-out windows on each side of the bus, as equally spaced as possible.

   H. Type D buses must:

      1. Be designed so that if the emergency door is located on the left side of the bus, the rear window of the bus shall be designed and operate as an emergency push-out window.

   I. Type B and C buses must:

      1. Have at least one (1) push-out split-sash emergency window near the center of the bus on each side NOTE**: Type D buses with rear engines must have only one (1) emergency window on each side of the bus.**

   J. All buses manufactured after **05-02-94** (chassis manufactured date) must meet the following:

**WINDSHIELD, WINDOWS AND GLASS: Continued**

1. All emergency windows must be outlined on the outside of the bus with yellow reflective tape one (1) inch in width.

2. Buses using emergency exit windows to meet FMVSS #217 (additional emergency exit area) shall have a system that when the release mechanism is opened, and the vehicle's ignition is in the on position, a continuous warning shall be audible at the driver's seating position and in the vicinity of that emergency exit.

K. Buses ordered after **09-01-95** must meet the following:

1. In addition to the requirements of FMVSS #217, buses will be required to have the following exits:

   a. Type B and C buses must have one (1) push-out emergency window exit on each side.

   b. Type D rear engine buses must have one (1) push-out emergency window exit on each side.

   c. Type D front engine buses must have two (2) push-out emergency window exits on each side.

   d. The emergency window exits must be installed near the center of the passenger compartment when the bus capacity does not require additional emergency exits in FMVSS #217.

   e. Emergency window exits may not be installed in adjacent window sections or adjacent to any side emergency door.

   f. A vertical hinged emergency window may be installed; however, a sliding emergency window exit may not be installed.

   g. All emergency exits must be outlined with yellow one (1) inch reflective tape.

3. **Glass:**

   A. All glazing materials (whether glass or plastic) must meet or exceed federal specifications, which were in effect when the bus was manufactured.

**OPTIONAL: (Windows)**

1. Frost-free windows may be installed.

2. Windows and the windshield may be tinted but must comply with IC 9-19-19-4.

3. No person shall drive any motor vehicle with a windshield, side wing, or side windows that is part of a front door, or rear window which is tinted to the extent or manufactured in such a way, that the occupants of the vehicle cannot be easily identified through the window.

4. Windows may not be covered on Special Purpose Buses that are vinyl wrapped.

**WINDSHIELD, WINDOWS AND GLASS: Continued**

**ORDER REPAIRED IF:**

1. There is unapproved glazing material installed in the bus.

2. There are intersecting cracks in the windshield area covered by the wipers.

3. There are any breaks, nicks or chips larger than 3/4 inch in diameter in the area covered by the wipers on the drivers' side.

4. There is any cracked glass to the immediate right or left of the driver.

5. There are any decals or stickers, except those required by law, in the windshield or in the windows to the immediate right or left of the driver.

6. There is cloudiness which extends two (2) inches from the top or side of any glass; or more than three (3) inches from the bottom of the windshield; or more than five (5) inches from the bottom of any window.

7. Any emergency window is too difficult to open.

8. Any required reflective tape is applied in the wrong location, missing, and wrong width or badly faded.

9. If the words "EMERGENCY EXIT" does not appear on the top or bottom of the window or directly above each emergency exit window on the inside of the bus.
10. If the emergency window instructions are illegible or missing. Must be within 6 inches of the release handle
11. If any window does not meet the optional criteria; vinyl wrap covers windows, tint not in compliance with IC 9-19-19-4
12. See Notes: Any defect inspector deems a violation.

**OUT-OF-SERVICE IF:**

1. Any glass or glazing is broken through or missing.

2. Any glass or glazing is cracked, chipped, clouded or distorted badly enough to prohibit a clear view from within the bus.

3. Any emergency window will not open.

4. Audible warning device, when required, is not working properly. Buzzers are required after 5-2-94

5. Emergency windows are not installed when required (Pre-2015 Type A1's are exempt).

**REFERENCES:**

| | | | |
|---|---|---|---|
| 1. | All Types | 575 | IAC 1-9-83 |
| 2. | All Types | FMVSS | 571.217 |
| 3. | All Types | Indiana Code | 9-19-19-4 |

# WIRING

**PROCEDURES / SPECIFICATIONS:**

1. Inspect all wiring for loose, broken or frayed wires.
2. Inspect wiring for proper installation and securement.
3. Inspect for wiring grommets and other protection against chafing.

**ORDER REPAIRED IF:**

1. There are loose, broken or frayed wires.
2. Any wiring grommets are missing.
3. See Notes: Any defect inspector deems a violation.

**OUT-OF-SERVICE IF:**

1. Insulation is missing from any wire.

**REFERENCES:**

1. All Types 575 IAC 1-9-87

# AIR CONDITIONING
**(OPTIONAL)**

**PROCEDURES / SPECIFICATIONS:**

1. Air conditioning may be installed per manufactures standards.
2. Inoperable air conditioning that does not pose a safety hazard to students may remain intact.

**ORDER REPAIRED IF:**

1. There is no rejection criterion for air conditioning.
2. See Notes: Any defect inspector deems a violation.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. All Types 575 IAC 1-9-1

# AIR HORN
## (OPTIONAL)

**PROCEDURES / SPECIFICATIONS:**

1. An air horn may be installed on type A, B and C buses if the horn is installed under the hood. It may also be installed under the body of the bus.

2. An air horn may be installed on a type D bus if it is installed within the perimeter of the sheet metal of the body.

**ORDER REPAIRED IF:**

1. The air horn is not properly mounted.

2. See Notes: Any violation inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. All Types 575 IAC 1-9-40

# ANTI - VANDALISM DEVICE
**(OPTIONAL)**

**PROCEDURES / SPECIFICATIONS:**

1. An anti-vandalism device may be installed on the service and/or emergency door.

2. If placed on the emergency door, the device must prevent the bus ignition system from activating if the emergency door is locked or inoperable from either the inside or outside of the bus.

3. The device must audibly alert the driver and prevent the engine from shutting off if the door lock is closed after the engine has been started.

4. If the device is locked prior to starting the engine, it will keep the ignition system from operating.

5. If placed on the service door, the device must be designed, manufactured and approved by the School Bus Committee so that the door can only be locked from the outside.

6. The device may be operated electrically, but a manual operative mode must be present in case of a power failure.

**ORDER REPAIRED IF:**

1. The anti-vandalism device fails to operate.

2. See Notes: Any violation inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. The audible warning device fails to operate.

**REFERENCES:**

1. All Types 575 IAC 1-9-22

# AUXILIARY FANS
**(OPTIONAL)**

**PROCEDURES / SPECIFICATIONS:**

1. Auxiliary fans must be placed in an accessible location.
2. Each auxiliary fan must be at least six (6) inches in diameter.
3. A protective cage must cover the fan blades.

**ORDER REPAIRED IF:**

1. The fan is not in an accessible location.
2. The fan is not at least six (6) inches in diameter.
3. The fan does not have a protective cover.
4. Fan strikes the protective cage.
5. Fan is loosely attached or wobbles.
6. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. All Types 575 IAC 1-9-21

# BACK - UP WARNING ALARM
**(OPTIONAL)**

**PROCEDURES / SPECIFICATIONS:**

1. An automatic alarm may be installed behind the rear axle.

2. It must comply with the Society of Automotive Engineers Back-Up Alarm Standards (SAE 994b) that specifies 97 plus/minus 4 DBA for vehicles with rubber tires.

**ORDER REPAIRED IF:**

1. The back – up warning alarm is not installed behind the rear axle.

2. The back – up warning alarm is not 97 DBA (+/- 4 DBA)

3. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. All Types 575 IAC 1-9-5

# COMMUNICATION SYSTEM
**(OPTIONAL)**

**PROCEDURES / SPECIFICATIONS:**

1. A one-way or two-way radio communication system may be installed in the bus.

2. Its controls must be accessible to the driver.

3. The system must be designed and installed to prevent injuries to the driver or passengers in the event of a sudden stop.

**ORDER REPAIRED IF:**

1. The communication system controls are not accessible to the driver.

2. The communication system is mounted in a manner that would cause injuries in the event of a sudden stop.

3. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. All Types 575 IAC 1-9-17

# EMERGENCY BLANKET
## (OPTIONAL)

**PROCEDURES/SPECIFICATIONS:**

1. An emergency blanket is permissible.

2. The finished size must be a minimum of thirty (30) inches by ninety-six (96) inches with hand holds (loops or openings) on each side.

3. The blanket must be stowed in a labeled container and secured in driver's area.

4. The blanket must be constructed of fire resistant material which meets Federal Aviation Administration specification 14 CFR 25.853.

**ORDER REPAIRED IF:**

1. The emergency blanket is not a minimum of thirty (30) inches by ninety-six (96) inches with hand holds (loops or openings) on each side.

2. The emergency blanket is not stowed in a labeled container and secured in the driver's area.

3. The emergency blanket is not constructed of fire resistant material that meets Federal Aviation Administration Spec 14 CFR 25.853.

4. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

| | | | |
|---|---|---|---|
| 1. | All Types | 575 IAC | 1-9-25 |
| 2 | All Types | FAA | 14 CFR 25.853 |

# EMERGENCY EXIT (ROOF VENTILATOR)
**(OPTIONAL)**

**PROCEDURES / SPECIFICATIONS:**

1. An adjustable roof ventilator emergency exit may be installed if it is hinged and has a handle to provide an emergency exit.

2. On buses manufactured after **05-02-94**, chassis manufacture date, must have the roof ventilator emergency exit outlined on the outside of the bus with yellow or white reflective tape one (1) inch in width.

3. An emergency buzzer is not required on the roof hatch, but may have one as optional equipment.

**ORDER REPAIRED IF:**

1. The reflective tape is applied in the wrong location, is missing, wrong width or badly faded.

2. Outside exit not outlined with yellow or white 1" in width reflective tape (after chassis manufactured date of 05-02-94)

3. If equipped the emergency warning buzzer does not sound.

4. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. The handle is missing or unit will not open.

**REFERENCES:**

1. All Types 575 IAC 1-9-80

# FOG LAMPS (OPTIONAL)

**PROCEDURES / SPECIFICATIONS:**

1. One (1) or two (2) fog lamps may be permanently mounted on the front bumper of the bus.

2. The lamps must be no lower than twelve (12) nor higher than thirty (30) inches above the ground when measured from the center of the lamp.

3. If two (2) lamps are mounted, each must be no more than fifteen (15) inches from the center of the front bumper when measured horizontally.

4. Lamps must be both horizontally and vertically adjustable.

5. Lamps must adequately illuminate the area in front of the bus.

6. Lamps and all wiring must meet or exceed the SAE standards for "Electric head Lamps for Motor Vehicles" or "Sealed beam Lamp Units for Motor Vehicles".

7. Lamps must be controlled by an independent switch and powered by an independent fuse and/or breaker.

**ORDER REPAIRED IF:**

1. The fog lamp or lamps are not permanently mounted.

2. The fog lamps are lower than twelve (12) or higher than thirty (30) inches above the ground.

3. If equipped with two (2) fog lamps they are mounted more than fifteen (15) inches from the center of front bumper.

4. Fog lamps are not horizontally or vertically adjustable.

5. Fog lamps do not adequately illuminate the front of the bus.

6. Fog lamps do not meet or exceed the SAE standards for "Electric head Lamps for Motor Vehicles" or "Sealed beam Lamp Units for Motor Vehicles".

7. Fog lamps are not controlled by an independent switch, or powered by and independent fuse and/or breaker.

8. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. All Types 575 IAC 1-9-46

# FUELS - PERMISSIBLE
**(OPTIONAL)**

**PROCEDURES / SPECIFICATIONS:**

1. The following fuels may be used:

   A. Diesel.

   B. Liquefied Petroleum (LP).

   C. Compressed Natural Gas (CNG).

   D. Gasoline or a combination of dual fuels.

2. A maximum of two (2) CNG containers may be installed behind a school bus rear axle. This installation shall not exceed the total of six (6) fuel containers permitted.

3. The area between the axles is to be utilized first.

4. The CNG container must comply with FMVSS #304, Compressed Natural Gas Containers.

5. In addition to the labeling requirements of FMVSS #304, each CNG fuel container shall;

   A. Show the container's maximum fill pressure at or near the fill receptacle;

   B. Identify the type of construction; and

   C. Display the following statement pertaining to the inspection and maintenance:

      1. This container shall be visually inspected after an accident or fire or at least every twelve (12) months for damage or deterioration in accordance with the applicable Compressed Gas Association guidelines.

6. Guidelines for the installation and use of LP, CNG and dual fuel systems are available from the Division of School Safety in the Department of Education.

7. Any CNG or LP fuel system that is no longer in use must be removed.

**ORDER REPAIRED IF:**

1. The CNG container does not have proper labeling.

2. An unused LP or CNG system has not been removed.

3. See Notes: Any defect inspector deems a violation not listed.

**FUELS PERMISSIBLE: Continued**

**OUT-OF-SERVICE IF:**

1. Fuel leaks from any point in the system are detected.

2. The tank is not properly secured.

3. More than two (2) CNG containers are installed behind the rear axle.

4. The bus has more than six (6) fuel containers installed.

**REFERENCES:**

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-9-35 |
| 2. All Types | FMVSS | 571.304 |
| 3. All Types | FMCSA | 393.65-69 |

# MIRRORS
**(OPTIONAL)**

**PROCEDURES / SPECIFICATIONS:**

1. Exterior heated mirrors and wide angle rear window lenses may be placed on the bus.

2. Remote-controlled exterior mirrors and a spherical convex mirror may be placed on the bus.

3. A spherical convex mirror may be used as a supplement to any existing driving mirror system **but not as a replacement.**

**ORDER REPAIRED IF:**

1. The mirrors do not meet the outside mirror standard as set forth in 575 IAC 1-2-49.

2. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. All Types 575 IAC 1-9-55

# MONITORING SYSTEM for LIGHTS
**(OPTIONAL)**

**PROCEDURES / SPECIFICATIONS:**

1. A driver may use a monitoring system to indicate whether the bus lights are working correctly as long as the system does not monitor only the electrical currents and its travel to the lamp.

2. The system must be accessible from the driver's seat.

**ORDER REPAIRED IF:**

1. The monitoring system does not meet the above criteria.

2. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. All Types 575 IAC 1-9-48

# RADIOS /MEDIA DEVICES
**(OPTIONAL)**

**PROCEDURES / SPECIFICATIONS:**

1. A conventional radio and/or media devices may be installed with the permission of the local governing body.

2. Each system must be designed and installed in such a way as to prevent injuries to the driver and the passengers in the event of a sudden stop.

3. Radio and/or media device speakers may be installed under the seats but must not obstruct the seats or the aisle.

4. There must be no sharp corners or protrusions.

5. It is prohibited for any auxiliary interior speaker to be located forward of the second passenger window section.

**ORDER REPAIRED IF:**

1. There are any sharp protrusions.

2. Any aisle is blocked or obstructed by installation of the system and/or speakers.

3. Any auxiliary interior speaker is located forward of the second passenger window section.

4. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. All Types 575 IAC 1-9-59

# REAR SPOILER
**(OPTIONAL)**

**PROCEDURES / SPECIFICATIONS:**

1. An air flow vent may be used that is designed to direct oncoming air against the rear of the school bus to assist in the cleanliness and visibility to the rear of the school bus.

2. The air flow vent must be installed on the top rear of the bus body and contained within the width of the bus body.

3. No portion of the device shall obstruct vision of the buses warning and stop lamps, “school bus” sign between the lamps, or marker lights.

4. The device must be school bus yellow.

5. The device must be adjustable.

**ORDER REPAIRED IF:**

1. The air flow device is improperly mounted.

2. The device is not adjustable.

3. The device is not National School Bus Yellow.

4. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. The air flow device obstructs the vision of warning and/or stop lamps, “school bus” sign and/or a marker and/or clearance lamp.

**REFERENCES:**

1. All Types 575 IAC 1-9-16

# ROOF COLOR
**(OPTIONAL)**

**PROCEDURES / SPECIFICATIONS:**

1. The roof color may be painted white providing it does not extend below the drip rails on the sides of the body.

2. The front and rear roof caps shall remain National School Bus Yellow.

**ORDER REPAIRED IF:**

1. The roof color is not National School Bus Yellow or white.

2. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. There is any white paint on the face caps where the words “school bus” or warning lights are located.

**REFERENCES:**

1. All Types 575 IAC 1-9-16

# SAFETY DETECTION SYSTEM
**(OPTIONAL)**

**PROCEDURES / SPECIFICATIONS:**

1. The safety detection system must be designed to warn drivers of moving objects (children) within areas considered most dangerous around a school bus.

2. The safety detection system must be designed to monitor and warn school bus drivers of moving objects during loading and unloading sequences by:

   A. Operating when the school bus is at a complete stop;

   B. Activated by extending the stop arm; and

   C. Remaining active by the extension of the stop arm and deactivated when the school bus resumes motion.

3. The safety detection system must contain both an audible and visible alarm.

4. The audible alarm must be volume adjustable to compensate for background noise variations.

5. The visible alarm must be capable of illumination during day and night lighting conditions.

6. The safety detection system must be FCC approved and operated automatically.

**ORDER REPAIRED IF:**

1. The safety detection system does not operate automatically when the bus is at a complete stop, with the stop arm extended.

2. The safety detection system does not deactivate when school bus resumes motion.

3. The safety detection system does not contain and audible alarm with volume adjustment and visual alarm capable of illumination during day and night conditions.

4. The safety detection system is not FCC approved.

5. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. All Types 575 IAC 1-9-63

# SPEAKERS - INTERNAL / EXTERNAL
**(OPTIONAL)**

**PROCEDURES / SPECIFICATIONS:**

1. Internal and external speakers that are used for communication may be installed on the bus with the permission of the local governing body.

   A. The internal speakers must be designed and installed to prevent injury and must have no sharp corners or protrusions.

   B. External speakers must not extend beyond the bus body or obstruct visibility of the flashing warning lights, clearance lights, or any identifying lights or lettering

**ORDER REPAIRED IF:**

1. The speakers are installed in a fashion that could cause injury.

2. There are sharp corners or protrusions on internal speakers.

3. External speakers extend beyond the bus body, or obstruct the visibility of the flashing warning lights, clearance lights, or any identifying lights or lettering.

4. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. All Types 575 IAC 1-9-45

# STROBE LIGHTS/ROOF
**(OPTIONAL)**

**PROCEDURES / SPECIFICATIONS:**

1. A white strobe, meeting SAE standards may be installed.

2. The strobe light must be mounted along the longitudinal centerline of the bus roof, in an area between the point directly above the rear axle and rearmost portion of the bus.

3. The strobe light must be installed to the rear of any emergency roof hatch.

4. A strobe light will be controlled by a switch that is independent of the ignition system.

**ORDER REPAIRED IF:**

1. The strobe light is not mounted on the top of the center of the bus, between the rear wheels and the rear of the bus.

2. The strobe light is not white.

3. The strobe light is inoperative.

4. The strobe light is not controlled by a switch that is independent of the ignition system.

5. The strobe light candlepower is not at least eight hundred (800) on a horizontal plane and at least twenty percent (20%) of horizontal light measured at +/- seven and one-half (7 ½) degrees at the vertical plane. The intensity of light visible to the human eye must be measured in accordance with the Blondell-Rae equation for intensity.

6. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. All Types 575 IAC 1-9-52

# TRASH CONTAINER
**(OPTIONAL)**

**PROCEDURES/SPECIFICATIONS:**

1. A trash container is permissible.

2. The container must be polyethylene or equivalent material.

3. The container must be no greater than a fourteen (14) quart capacity.

4. It must be secured by a holding device designed to prevent movement and allow for easy removal and replacement.

5. The container must be installed in the driver's area and not obstruct entry or egress of the passenger service door or aisle. A second container may be located behind the rear most seat adjacent to the rear of the bus body. (NOTE: A second container is not allowed on a rear engine class D or a handicap bus with a rear lift)

**ORDER REPAIRED IF:**

1. The trash container is not polyethylene or equivalent material

2. The trash container is greater than a fourteen (14) quart capacity.

3. The trash container is not secured to prevent movement and does not allow for easy removal and replacement

4. A trash container is located rearmost seats of a rear engine bus or at the back of a wheel chair equipped bus.

5. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. The trash container obstructs the passenger service door, aisle, or rear emergency door.

**REFERENCES:**

1. All Types 575 IAC 1-7-1

# VIDEO / AUDIO MONITORING SYSTEMS
**(OPTIONAL)**

**PROCEDURES / SPECIFICATIONS:**

1. Video and audio monitoring systems may be installed with the permission of the local governing body.

2. There must be no sharp corners or sharp protrusions on any video or audio monitoring equipment.

3. Midship mounted cameras may not be mounted in the head impact zone and may not hang down more than 4 inches from the inside of the bus roof.

4. A camera that is mounted in the front bulkhead must not impede full access to emergency equipment, or interfere with the drivers view.

5. A camera that is mounted on the windshield or dash shall not interfere with the driver's view when seated in a normal driving position.

6. Recording equipment must be mounted in such a manner as to not interfere with the movement of the driver, passengers or full access to emergency equipment.

**ORDER REPAIRED IF:**

1. There are sharp corners or protrusions on any video/audio monitoring equipment.

2. Midship camera hangs down more than four (4) inches from the inside of the bus roof.

3. A camera or any recording equipment blocks the drivers view.

4. A camera or any recording equipment blocks access to any emergency equipment.

5. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. All Types 575 IAC 1-9-13

# Vehicles for Transporting Children with Disabilities
# GENERAL REQUIREMENTS

**PROCEDURES / SPECIFICATIONS:**

1. A bus constructed and designed for transporting handicapped children must comply with the standards outlined in 575 IAC 1-1 through 1-4.

2. Modification to some of the standards is necessary to accommodate the special equipment necessary to transport handicapped students.

3. Any school bus used to transport a child confined to a wheelchair or other device that prohibits the use of the regular passenger service door, must be equipped with a power lift.

4. If a special unloading device is needed for unusual circumstances, a waiver from the State School Bus Committee is required.

5. A bus transporting more than two (2) wheelchair confined students must have at least a 100 amp alternator.

6. All special needs children must be properly and appropriately restrained for safe transportation. Special needs children means children defined under IC 20-1-6-1.

7. The Federal Motor Vehicle Safety Standards referred to in this rule are found in 49 CFR chapter 4 **(10-01-89 edition)** part 571, and are herein incorporated and made a part of this rule by reference.

8. Copies of these federal standards are on file with the Department of Education or may be obtained from the U.S. Government Printing Office in Washington, D.C.

**ORDER REPAIRED IF:**

1. See Notes: Any defect inspector deems a violation not listed.

**REFERENCES:**

1. 575 IAC 1-5.5-1 Section 2

# AISLES

**(Vehicles for transporting children with disabilities)**

**PROCEDURES / SPECIFICATIONS:**

1. The aisle leading from the wheelchair area to all emergency doors must be thirty (30) inches wide.

**ORDER REPAIRED IF:**

1. The aisle to the emergency exit in a bus used to transport wheelchair students is not thirty (30) inches wide.

2. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. 575 IAC 1-5.5-2 Section 2

# PANELS

**(Vehicles for transporting children with disabilities)**

**PROCEDURES / SPECIFICATIONS:**

1. A bus with wheelchair spaces located in the front of the bus must have padded protection panels behind the driver's platform and in back of the front step-well.

**ORDER REPAIRED IF:**

1. A bus with wheelchair spaces locate in the front portion of the bus does not have padded protection panels behind the driver's platform and in back of the front step well.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. 575 IAC 1-5.5-10 Section 10

# POWER LIFT

**(Vehicles for transporting children with disabilities)**

**PROCEDURES / SPECIFICATIONS:**

1The lifting mechanism must be able to lift a minimum load of 800 pounds.

2It must have a battery that when the bus engine is off, will sustain the electrical demand of the lift through four (4) complete full-load cycles, and restart the bus engine.

3The lift must be located on the right side of the bus body.

4It must have manual controls in the event of a power failure and not permit the platform to fall if the power fails while the lift is in operation.

5The lift must have controls that enable the operator to activate the lift while standing on the platform.

6The lift must have a clear horizontal opening and platform large enough to accommodate a thirty (30) inch wide wheelchair on the bus.

7The lift must be confined within the perimeter of the bus body when not in use.

8It must mechanically lock when the lift is in the upright position by means other than a support or lug on the door. It must move smoothly and rest solidly on the ground.

9The lift must have sides at least one and one-half (1 ½) inches high on the platform.

10It must be designed to prevent the operator from being entangled in the lift during raising and lowering of the platform.

11The surface of the platform must be skid-resistant and have a self-adjusting skid-resistant incline plate on the outer edge to facilitate movement from the ground to the platform.

12. The power lift may have a handrail and must have a plate or panel on the outer edge to prevent a wheelchair from rolling off when the platform is raised.

13. The crossbar on the top left must be padded if the lift is equipped with such a device.

14. If the powerlift is removed the special service entrance door must still be operable, and no seats can be placed in front of the special service entrance door.

**ORDER REPAIRED IF:**

1. The lifting mechanism does not lift a minimum load of eight hundred (800) pounds.

2. Does not have a battery that is capable, with the engine off to complete 4 full load cycles and restart the bus.

3. Not located on the right side of the bus body.

**POWER LIFT: Continued**
**ORDERED REPAIRED IF: Continued**

4. Does not have manual controls in the event of a power failure.

5. Does not have controls that enable the operator to activate the lift while standing on the platform.

6. Does not have a circuit breaker of fuse connecting the lift motor to the power source.

7. Does not have a clear horizontal opening and platform large enough to accommodate a thirty (30) inch wide wheelchair.

8. Is not confined within the body of the bus when not in use.

9. Cannot mechanically lock lift in the upright position by means other than a support or lug on the door.

10. Does not move smoothly or rest solidly on the ground.

11. Does not have at least one and one-half (1 ½) inch sides on the platform.

12. Platform is not skid resistant.

13. Does not have a self-adjusting, skid resistant inclined plate on the outer edge to facilitate movement from the ground to the platform.

14. If equipped with a crossbar, does not have padding on the crossbar.

15. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. The lifting mechanism permits the platform to fall in the event of a power failure

2. Does not have limit switches or bypass valves to prevent excess pressure from building in the hydraulic system when the platform is upright or extended.

3. Is not designed to prevent the operator from being entangled in the lift during operation.

4. Does not have a plate or panel on the outer edge to prevent a wheelchair from rolling off when in use.

5. If the power lift is removed and the special service entrance door is rendered inoperable and or seats are placed in front of special service entrance door.

**REFERENCES:**

1. 575 IAC 1-5.5-5

# REGULAR SERVICE DOOR

**(Vehicles for transporting children with disabilities)**

**PROCEDURES / SPECIFICATIONS:**

1. There must be three (3) riser steps approximately equal in height in the entrance well of Type C and D buses.

   A. The first step must not be less than ten (10) inches or more than fourteen (14) inches from the ground based on standard chassis specifications.

   B. An additional fold-out lower step may be provided to make the lowest step no more than six (6) inches from the ground.

2. A bus constructed for the transportation of handicapped children must have grab handles located on each side of the regular service door.

**ORDER REPAIRED IF:**

1. On a Type C or D bus there are not three equally spaced riser steps.

2. On a Type C or D but the first step is less than ten (10) inches or more than sixteen (16) inches from the ground.

3. If equipped with the additional fold out lower step is more than six (6) inches from the ground.

4. Not equipped with grab handles located on each side of the regular service door.

5. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. All Types 575 IAC 1-5.5-6

# SPECIAL LIFT AREA LIGHT

**(Vehicles for transporting children with disabilities)**

**PROCEDURES / SPECIFICATIONS:**

1. In addition to the regular dome lights, and the light attached to the lift, the bus must have two (2) lights mounted over the special service entrance door that are operable from the door area and illuminate the special service door area.

**ORDER REPAIRED IF:**

1. Not equipped with two lights mounted over the special service entrance door that are operable from the door area and illuminate the special service entrance door area.

2. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. All Types 575 IAC 1-5.5-7

# SPECIAL SERVICE DOOR

**(Vehicles for transporting children with disabilities)**

**PROCEDURES / SPECIFICATIONS:**

1. Bus bodies may have a special service entrance to accommodate a wheelchair lift.

2. The entrance must be on the right side of the bus and located so the doors, when open, do not obstruct the right front regular service door.

3. If the entrance extends below the floor line of the body skirt, reinforcements must be installed at the front and rear of the floor opening to support the floor and give the same strength as other floor openings.

4. The entrance must be wide enough to accommodate a mechanical lift, lift accessories, and the lift platform.

5. A drip molding must be installed above the opening that diverts water from the entrance.

6. All doors must open outward and must have an opening wide enough to permit proper operation of a lift. The door may not exceed forty-three (43) inches in width.

7. If the special service entrance opening is more than forty-three (43) inches wide, two (2) doors must be used and must be equipped with fastening devices to hold the door open. The doors shall also be weather sealed.

8. Buses with two (2) doors must have a flange on the forward door that overlaps the edge of the rear when closed. Power doors may be used, but the design must provide for manual operation from inside the bus.

9. The door must have a switch that prevents the power lift from operating when the platform door is closed.

10. If manually operated dual doors are used, the rear door must have at least a one-point fastening device that fastens to the header. The forward mounted door must have at least three (3) fastening devices, which fasten to the header, the floor line of the body, and the rear door. The doors must have windows that are set in rubber and within one (1) inch of the lower line of the adjacent sash.

11. There must be a device in the driver's compartment that activates a red flashing visible signal when the ignition is on and the special service door is not securely closed.

**ORDER REPAIRED IF:**

1. Is not located on the right side of the bus

2. When opened the doors obstruct the regular service door.

**SPECIAL SERVICE DOOR: Continued**
**ORDER REPAIRED if: Continued**

3. Does not have drip molding diverting water located above the opening.

4. Opening is not wide enough to accommodate a mechanical left, accessories and platform.

5. Does not have interior padding at least 3 (1) inches wide and one (1) inch thick coverings the full width of the top of the door opening.

6. Does not have a fastening device to hold it open

7. Is not weather sealed.

8. Single door is wider than forty three (43) inches.

9. Double doors do not have a flange on the forward door that overlaps the rear door.

10. Power door does not have ability for manual operation from inside.

11. Manually operated rear dual door does not have at least a one-point fastening device to header.

12. Manually operated forward dual door does not have at least three fastening devices, fastening to the header, floor line of the body and rear door.

13. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE if:**

1. Does not have the proper support if the opening extends below the floor line

2. Does not have reinforced door posts and headers.

3. Door opens inward.

4. No switch preventing the power lift from being operated while the door is closed.

Not equipped with a red flashing visible signal in the drivers compartment indicating the special service door is not secured when the ignition is on.

**REFERENCES:**

| | | | |
|---|---|---|---|
| 1. | 575 | IAC 1-5.5-8 | Section 8 |
| 2. | 575 | IAC 1-5.5-9 | Section 9 |

# WHEELCHAIR AND OCCUPANT RESTRAINT SYSTEMS

**(Vehicles for transporting children with disabilities)**

**PROCEDURES / SPECIFICATIONS:**

1. A strap-type wheelchair securement system must be provided that meets the following requirements:
   (1) Anchors to the floor of the bus at four (4) or more places.
   (2) Attaches to the wheelchair at a minimum of two (2) front and two (2) rear securement points.
   (3) Complies with Society of Automotive Engineers Recommended Practice J-2249.
   (4) A wheelchair that weighs two hundred (200) pounds or greater, transported on a school bus, ten thousand (10,000) pounds or less in gross vehicle weight, must be secured with more than two (2) rear tie down straps.
   (5) A wheelchair that weighs two hundred fifty (250) pounds or greater, transported on a school bus exceeding ten thousand (10,000) pounds in gross vehicle weight, must be secured with more than two (2) rear tie down straps.

2. An occupant restraint system must be provided for each wheelchair occupant that complies with Society of Automotive Engineers Recommended Practice J-2249 such that it meets the following requirements:
   (1) Includes upper and lower torso restraints.
   (2) Has been tested at thirty (30) miles per hour and twenty (20) G frontal impact conditions which have been verified by the manufacturer of the occupant restraint system.
   (3) If the occupant restraining devices are incorporated in the wheelchair restraining devices, the load imposed on the anchorage system is the sum of the loads specified for the wheelchair restraint devices and the occupant restraint system.
   (4) Has a lap belt attached to the wheelchair or tie down system at an angle of forty-five (45) degrees or greater to the horizontal.
   (5) Has a shoulder belt attached to the tie down strap at or below the hip point of the occupant, or has a shoulder belt attached to the lap belt.
   (6) Has the upper end of the shoulder belt attached to the vehicle at or above the height of the occupant's shoulder.
   (7) Does not transfer occupant forces to the wheelchair.

3. Static load tests must be as follows:
   (1) Conducted with appropriate size washers and steel plating or with actual tie down/restraint washers and backing plates on
   the underside of sheet metal floors to adequately distribute the applied loads.
   (2) Verified by the school bus manufacturer or other engineering test facility.

**ORDER REPAIRED if:**

1. See Notes: Any defect inspector deems a violation not listed.

**WHEELCHAIR and OCCUPANT RESTRAINT SYSTEMS: Continued:**

**OUT-OF-SERVICE if:**

1. Strap-type wheelchairs do not anchor to the floor at four (4) or more places.
2. Strap-type wheelchairs do not attach to the wheelchair at a minimum of two (2) front and two (2) rear securement points.
3. Securement does not comply with SAE J-2249.
4. A wheelchair that weighs over two hundred (200) pounds on a bus with a GVWR of ten thousand (10,000) pounds or less is not capable of being secured by more than two (2) rear tied downs.
5. A wheelchair that weighs over two hundred fifty (250) pounds on a bus with a GVWR over ten thousand (10,000) pounds is not capable of being secured by more than two (2) rear tie downs.
6. The occupant restraint system does not meet the SAE J-2249 Standards, by not having upper and lower torso restraints,
7. The occupant restraint system does not meet the SAE J-2249 Standard by not having manufacture verification of crash testing,
8. The occupant restraint system does not meet the SAE J-2249 Standard by the load imposed on the anchorage system is the sum of the loads specified for the wheelchair and occupant restraint devices,
9. The occupant restraint system does not meet the SAE J-2249 Standard by having a lap belt attached to the wheelchair or tie down system at an angle of or greater than forty-five degrees horizontal.
10. The occupant restraint system does not meet the SAE J-2249 Standard by having a shoulder belt attached to the tie down strap at or below the hip point of the occupant or has a shoulder belt attached to the hip belt.
11. The occupant restraint system does not meet the SAE J-2249 Standard by having the upper end of the shoulder belt attached to the vehicle at or above the height of the occupants shoulder.
12. The occupant restraint system does not meet the SAE J-2249 Standard by not transferring occupant forces to the wheelchair.

**REFERENCES:**

1. All Types 575 IAC 1-5.5-4

# WHEELCHAIRS

**(Vehicles for transporting children with disabilities)**

**PROCEDURES / SPECIFICATIONS:**

1. A wheelchair must be adequately secured during transportation.

2. An occupied wheelchair must face forward.

3. Occupied three-wheeled cart-type units and other stroller-type devices may not be transported in a school bus unless there is impact test evidence to demonstrate that the unit can be secured under impact loading conditions appropriate to the vehicle being used. **NOTE: This applies to all three-wheeled cart-type units and other stroller-type devices regardless of when the school bus was manufactured or placed in-service. Effective July 1, 1990.**

   1. Additional rear tie down straps are required when:
      a) wheelchair weighs 200 pounds or greater and transported on a school bus 10,000 pounds or less GVWR
      b) wheelchair weighs 250 pounds or greater and transported in a school bus over 10,000 pounds in GVWR

5. The distance between the rearmost part of a secured wheelchair and the outside rear of the bus must be at least six (6) inches on Type A and B buses. The distance must be eight (8) inches on Type C and D buses.

**ORDER REPAIRED IF:**

1. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. A wheel chair is not adequately secured during transportation.

2. During transportation an occupied wheelchair is not facing forward.

3. During transportation an occupied three-wheel cart type or other stroller type without evidence of crash testing to demonstrate unit can be secured under impact loading conditions using a four (4) point strap type tie down.

4. The rear most part of a secured wheelchair and the outside rear of the bus is less than six (6) inches on Type A and B buses, or eight (8) inches on Type C and D buses.

**REFERENCES:**

1. 575 IAC 1-5.5-3 Section 3

# Child Safety Seat or Restraint System
**(All Vehicles)**

**PROCEDURES / SPECIFICATIONS:**

1. Any passenger seat that has a child safety seat or restraint system attached to must have a reinforced frame, and meet the requirements of FMVSS 208, 209, and 210

2. The seat behind a seat that has a child restraint system that is secured using a portable seat mount (e.g. cam wrap belt for a safety vest, Star seat, Pro Tech seat etc) must be kept empty or occupied by a child who is also in a child safety restraint system.

3. All child safety seats or restraint systems used in a school bus must be secured to a bus seat in a manner prescribed and approved by the manufacturer.

4. Children below the grade of kindergarten:

    a. The use of a lap belt alone is not appropriate.
    b. Beginning January 1, 2018 must be transported in a child safety restraint

5. Any child safety seat, restraint system, or seat belt assembly check to ensure the material is free of cuts, rips, tears, worn or brittle.

6. Any child safety seat, restraint system, or seat belt assembly check to sure the buckle assembly latches and unlatches appropriately.

**ORDERED REPAIRED if:**

1. See Notes: Any defect inspector deems a violation not listed.

**OUT OF SERVICE if:**

1. Any child safety seat of restraint system attached to a passenger seat that does not have a reinforced frame and/or does not meet the requirements of FMVSS 208, 209, 210.

2. Any child safety seat, restrain system, or seat belt assembly has cuts, rips, tears, worn or brittle to the point where it is ineffective.

3. Any child safety seat, restraint system, or seatbelt buckle assembly that does not latch or unlatch properly.

**REFERENCES:**

| | | |
|---|---|---|
| 1. All Types | 575 IAC | 1-5.5-11 |
| 2. All Types | FMVSS | 571.208, 209, 210 |

# RENTED, LEASED or BORROWED BUSES

A school bus may be rented, leased or borrowed in the State of Indiana, however to ensure compliance the following guidelines must be followed:

The registered owner of the bus must ensure compliance with this manual as well as ensure the vehicle is properly registered, insured and inspected by the Indiana State Police, annually, and semi annually if applicable.

The user of the bus must also ensure compliance with this manual as well as ensure the vehicle is properly registered, insured and inspected by Indiana State Police, annually and semi annually if applicable.

If rented, leased, or borrowed longer than 30 days the bus must be marked, and entered into in the Indiana State Police School Bus Inspection Database with the renting, leasing, borrowing schools name.

**ORDERED REPAIRED if:**

1. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

| | | | |
|---|---|---|---|
| 1. | All Types | 575 IAC | 1-1-1 |
| 2. | All Types | FMCSR | 390.21 |

# GENERAL REQUIREMENTS

**PROCEDURES / SPECIFICATIONS:**

1. ***Any deviation*** from the standards (optional equipment) identified in this manual **must** be approved by the Department of Education.

2. If the Department of Education denies a request to place additional equipment on the bus, an appeal may be made to the State School Bus Committee.

**ORDERED REPAIRED if:**

1. See Notes: Any defect inspector deems a violation not listed.

**OUT-OF-SERVICE IF:**

1. No OOS criteria.

**REFERENCES:**

1. 575 IAC 1-1-4
2. 575 IAC 1-1-6

# INSPECTION LAWS

**IC 20-27-7-1**
**Annual inspection of buses**

The state police department shall annually inspect all special purpose buses and school buses, including those operated by a nonpublic school to transport students. The inspection of a school bus must determine whether the school bus complies with the safety requirements prescribed for school bus construction and equipment in the rules of the committee

**IC 20-27-7-2**
**Inspection time**

The owner of a school bus or special purpose bus shall present the school bus or special purpose bus for the inspection required under section 1 of this chapter at the date, time, and place designated by the state police department.

**IC 20-27-7-3**
**Certificate of inspection**

If the inspection required under section 1 of this chapter reveals that a school bus meets all safety requirements, the inspecting officer shall issue to the owner of the school bus a certificate that the school bus has been inspected and that it complies with the safety requirements. Except as provided in sections 5 through 7 of this chapter, a certificate of inspection issued under this section is valid until September 30 of the school year following the school year for which the certificate is issued.

**IC 20-27-7-4**
**Certificate of inspection display**

A school bus may not be used to transport passengers unless a valid certificate of inspection issued under section 3 of this chapter is displayed as viewed from the outside on the lower left corner of the windshield of the school bus. However, if the left corner position obstructs the school bus driver's view, the inspection sticker may be positioned on the bottom of the windshield so as to minimize the obstruction to the school bus driver's view.

**IC 20-27-7-5**
**Certificate of inspection upon transfer of ownership**

A school bus that is sold or has the ownership transferred to a new owner must be presented for an inspection under section 2 of this chapter before the school bus may be used to transport passengers. If the school bus meets the requirements specified under section 3 of this chapter, the state police department shall issue a new certificate of inspection for the school bus. A certificate of inspection issued under this section is valid until September 30 of the school year following the school year for which the certificate is issued.

**IC 20-27-7-6**
**Inspection of buses older than 12 years**

In addition to the inspection required under section 1 of this chapter, a school bus that was manufactured at least twelve (12) years before the year for which a certificate of inspection is being sought must be presented for inspection not less than five (5) months nor more than seven (7) months after the inspection required under section 1 of this chapter is completed. If the school bus meets the requirements specified in section 3 of this chapter, the state police department shall issue a new certificate of inspection for the school bus. A certificate of inspection issued for a school bus described in this section is valid for seven (7) months after the date the certificate is issued.

**IC 20-27-7-7**
**Certificate of inspection after damage by accident**

If a school bus has received damage in an accident that has put the school bus out of service because of passenger safety concerns, the school bus must be presented for an inspection under section 2 of this chapter before the school bus may be used to transport passengers. If the school bus meets the requirements specified in section 3 of this chapter, the state police department shall issue a new certificate of inspection for the school bus. A certificate of inspection issued under this section is valid until September 30 of the school year following the school year for which the certificate is issued.

**IC 20-27-7-8**
**Inspection requirements**

The inspection of a special purpose bus shall consist of an inspection to determine the existence and condition of the vehicle's:

(1) brakes;
(2) lights (headlamps, tail lamps, brake lights, clearance lights, and turn signals);
(3) steering and suspension;
(4) exhaust systems;
(5) general body condition; and
(6) tires.

**IC 20-27-7-9**
**Bus maintenance**

A school bus or special purpose bus must be maintained to meet the minimum standards set forth by the committee when transporting passengers.

**IC 20-27-7-10**
**Temporary certificate of inspection due to material defect**

If the inspection of a special purpose bus or a school bus performed under this chapter reveals any material defect that renders the school bus unsafe and in noncompliance with any safety requirements established by the committee or with the safety requirements of this chapter, the inspecting officer shall issue a temporary certificate of inspection for the special purpose bus or school bus. The following apply to a temporary certificate of inspection issued under this section:

(1) The certificate shall be displayed as viewed from the outside in the lower left corner of the windshield of the special purpose bus or school bus. However, if the left corner position obstructs the driver's view, the temporary certificate of inspection may be positioned on the bottom of the windshield so as to minimize the obstruction to the driver's view.

(2) The certificate is valid for thirty (30) days.

**IC 20-27-7-11**
**Temporary certificate of inspection; repair**

Upon being issued a temporary certificate of inspection under section 10 of this chapter, the owner of a special purpose bus or school bus shall have the special purpose bus or school bus repaired to meet the minimum standards under this chapter. After having the special purpose bus or school bus repaired to meet the minimum standards under this chapter, the owner of the special purpose bus or school bus shall present the special purpose bus or school bus for an inspection under section 2 of this chapter.

**IC 20-27-7-12**
**Certificate of inspection after repair**

If after being repaired under section 11 of this chapter a special purpose bus or school bus meets the minimum standards under this chapter, the state police department shall issue a certificate of inspection under section 3 of this chapter.

**IC 20-27-7-13**
**Out-of-service order and certificate; issuance**

If:

(1) after being repaired under section 11 of this chapter a special purpose bus or school bus does not meet the minimum standards under this chapter; or

(2) a special purpose bus or school bus does not comply with the safety requirements for school bus construction and equipment established by the rules of the committee and the noncompliance is a serious safety critical violation, as determined by the committee;

the state police department shall issue an out-of-service order and certificate for the special purpose bus or school bus. The driver of the special purpose bus or school bus at the time of the inspection shall be notified of the out-of-service order and a copy shall be made available on the Internet web site of the state police department for the governing body of the school corporation that controls the operation of the special purpose bus or school bus.

**IC 20-27-7-14**
**Display of out-of-service certificate**

An out-of-service certificate issued under section 13 of this chapter shall be displayed as viewed from the outside in the lower left corner of the windshield of the special purpose bus or school bus for which the certificate is issued. However, if the left corner position obstructs the driver's view, the out-of-service certificate may be positioned on the bottom of the windshield so as to minimize the obstruction to the driver's view. The out-of-service certificate may be removed only by the state police department following an inspection that verifies that the special purpose bus or school bus meets the minimum standards under this chapter.

**IC 20-27-7-14.5**
**Prohibition of use of special purpose bus or school bus until defects are corrected**

(1) an out-of-service order and an out-of-service certificate have been issued under section 13 of this chapter; and

(2) the out-of-service certificate has been displayed or positioned as set forth in section 14 of this chapter; the affected special purpose bus or school bus may not be used to transport passengers until all defects have been corrected.

**IC 20-27-7-15**
**Out-of-service order; appeal**

(a) An out-of-service order may be appealed to the committee not more than five (5) days after service of the order.

(b) Not more than ten (10) days after an appeal, the committee shall review the order and decide the matter.

(c) The committee may:
(1) uphold;
(2) modify; or
(3) set aside;
the order.

(d) While an out-of-service order is appealed, the order remains in full force until set aside or modified by the committee.

**IC 20-27-7-19**
**Violation**

A person who knowingly, intentionally, or recklessly violates this chapter commits a Class C misdemeanor.

**OUT OF SERVICE if:**

1. The bus is not inspected per Indiana State Law, including but not limited to failing to appear for a scheduled inspection.

# Definitions

## INTRODUCTION

This glossary was developed with three purposes in mind:

1. To provide easy access to the definition of terms used or referenced within the document;

2. To consolidate, in one resource, the acronyms, abbreviations and standard terms commonly used in school transportation; and

3. To promote consistency throughout the state by providing standard definitions.

## TERMS AND DEFINITIONS

**Access panel:** A body panel which must be moved or removed to provide access to one or more serviceable components.

**Accessibility:** The ability of vehicles or facilities to accommodate people with mobility impairments.

**Accident:** A loss involving personal injury or property as follows:
1. A motor vehicle collision involving a school bus or a MFSAB, resulting in any personal injury or death or any disabling damage to one or more motor vehicles requiring the vehicle(s) to be transported away from the scene by a tow truck or other vehicle;

2. A collision involving any vehicle with any student at any time during the loading or unloading process of the school bus or MFSAB; or

3. An injury to any student, driver or passenger inside the school bus or MFSAB.
(See also *Crash, school bus*)

**Preventable:** A crash that could have been prevented by reasonable action on the part of the school bus driver.

**Reportable:** A crash required to be reported under FMCSR (i.e., a crash involving a CMV on a public road in which there is a fatality or an injury treated away from the scene, or that requires a vehicle to be towed from the scene).

**Activity trip:** The transportation of students to any event sanctioned for student attendance or authorized by an officer, employee or agent of a public or private school, other than to-and-from school transportation. (See also *Field trip*.)

**ADA:** The Americans with Disabilities Act, PL 101-336, 42 USC 12101, *et seq.* When referenced in regard to student transportation, ADA generally refers to the specifications of 49 USC 38, Americans with Disabilities Act Accessibility Specification for Transportation Vehicles.

**Adaptive device:** Any item or piece of equipment used to increase, maintain or improve functional capabilities of children with disabilities; also known as *assistive technology device.*

**Advanced EGR:** A-EGR; An exhaust gas recirculation system (EGR) utilizing advanced electronic fuel management systems combined with proprietary piston bowl design and twin turbo air management systems.

**Alcohol:** The intoxicating agent in beverage alcohol, ethyl alcohol, or other low molecular weight alcohols, including methyl and isopropyl alcohol.

**Allowable alternate vehicle:** A vehicle designed for carrying eleven or more people, including the driver, which meets all the Federal Motor Vehicle Safety Standards applicable to school buses except 49 CFR 571.108 and 571.131. (See also under *Multifunction school activity bus* under *Bus.)*

**Alternately flashing signal lamps:** A system of red or red and amber signal lamps mounted horizontally both front and rear, intended to identify a vehicle as a school bus and to inform other users of the highway that the bus is about to stop or is stopped to load or unload children. The system of red and amber signal lamps are available in either sequential or non-sequential operation. Also known as school bus warning lamps, pupil warning lights, eight-light warning systems, alternately flashing warning bus safety light, school bus signal lamp, alternately flashing school bus warning lights.

> **Sequential Operation:** The system of red and amber signal lamps is designed to operate in sequence. Amber signal lamps must be activated before the red signal lamps can be activated. (Amber lamps are deactivated when the red lamps are activated.)
>
> **Non-Sequential Operation:** The system of red and amber signal lamps is designed so that red lamps are activated whenever the entrance doors are opened, regardless of whether the amber lamps have been activated.

**Alternative-fuel vehicle (AFV):** A vehicle designed to operate on an energy source other than petroleum-based gasoline or diesel fuel. Such fuels include, but are not limited to, CNG, LNG, LPG and electricity.

**Bi-fuel:** A vehicle designed to operate on two different fuels, but not simultaneously.

**Dual fuel:** A vehicle designed to operate on a mixture of two different fuels.

**Hybrid power:** The use of two or more power sources to provide the motive force for the vehicle (e.g., electricity to drive the wheels with internal combustion to supplement the battery).

**Anchorage point:** The point of attachment of a securement system or occupant restraint to the vehicle structure.
263

**Antilock brakes:** Brake systems with sensors that automatically control the degree of wheel slip during braking and that relieve brake pressure on wheels that are about to lock up. Also known as *ABS.*

**Aspect ratio:** Percentage used to express the ratio of a tire's height to its width; also known as *tire profil*e.

**Attendant:** A person assigned to assist one or more individual students with special needs on a school bus or school vehicle. (See also *monito*r.)

**Biodiesel:** Vehicle fuel made from plant or animal matter and used alone or mixed with diesel fuel in engines. B100, or "neat biodiesel," refers to the pure form. Biodiesel can be mixed with petro diesel in any proportion, but the most common form is B20, which is 20% biodiesel and 80% petro diesel. Biodiesel, as defined in ASTM D 6751, is registered with the US EPA as a fuel and a fuel additive under Section 211(b) of the Clean Air Act.

**Boarding:** The process of loading passengers into a school bus.

**Body fluids cleanup kit:** Package of materials including, but not limited to, latex gloves, disposal bag and absorbent material, used to clean up spills of potentially infected bodily fluids, under OSHA's Blood borne Pathogens regulations and Universal Precautions practices; also known as *hygiene kit*.

**Booster seat:** A firm platform, used with a lap-shoulder belt, which raises the child so that the height of his thighs and shoulders are closer to those of an adult and which helps route both portions of the lap shoulder belt to fit the smaller body; also called *belt-positioning booster.*

**Brake:** A device or mechanism used to retard and stop the speed of a moving vehicle or to prevent the movement of a stopped vehicle.

> **Brake fade:** A condition that occurs as brakes become less effective.
>
> **Emergency brake:** A mechanism designed to stop a motor vehicle after a failure of the service brake system.
>
> **Foundation brake:** An assembly of the non-rotational components of a brake including its mechanism for developing a frictional force.
>
> **Retarder:** An auxiliary braking device used to reduce brake wear and/or improve braking performance.
>
> **Rust Jacking:**
>
> **Service brake:** The primary mechanism designed to retard and stop a moving vehicle.
>
> **Parking brake:** A mechanism designed to prevent the movement of a stationary motor vehicle.

**Bus:** A motor vehicle with motive power, except a trailer, designed for carrying more than ten (10) persons, including the driver.

> **Activity bus:** A bus owned, leased or contracted by a school district and regularly used to transport students on field trips, athletic trips or other curricular or extracurricular activities, but not used for to-and-from school transportation; must meet all FMVSSs for school buses.
>
> **Charter bus:** A bus that is operated under a short-term contract with a school district or other sponsor who has acquired the exclusive use of the vehicle at a fixed charge to transport students to a school-related event.

**DOT bus:** A school bus that meets the FMCSR standards for interstate transportation set forth in 49 CFR 390.

**Intercity bus:** A large bus with front doors only, high-back seats and under-floor luggage storage for high-speed, long distance trips; also known as *motorcoach* and *over-the-road coac*h.

**Nonconforming bus:** Any vehicle designed to carry more than ten (10) passengers, including the driver that is used to transport students to or from school or school-related activities and that does not meet the federal standards specific to school buses.

**School bus:** A bus owned, leased, contracted to or operated by a school or school district and regularly used to transport students to and from school or school-related activities, but not including a charter bus or transit bus. A school bus must meet all applicable FMVSSs and is readily identified by alternately flashing lamps, National School Bus Yellow paint, and the legend "School Bus," except as may be provided for the multifunction school activity bus.

**Type A:** A Type "A" school bus is a conversion or bus constructed utilizing a cutaway front-section vehicle with a left side driver's door. This definition includes two classifications: Type A-1, with a Gross Vehicle Weight Rating (GVWR) of 14,500 pounds or less; and Type A-2, with a GVWR greater than 14,500 and less than or equal to 21,500 pounds.

**Type B:** A Type "B" school bus is constructed utilizing a stripped chassis. The entrance door is behind the front wheels. This definition includes two classifications: Type B-1, with a GVWR of 10,000 pounds or less; and Type B-2, with a GVWR greater than 10,000 pounds.

**Type C:** A Type "C" school bus is constructed utilizing a chassis with a hood and front fender assembly. The entrance door is behind the front wheels; also known as a *conventional school bu*s. This type also includes cutaway truck chassis or truck chassis with cab with or without a left side door and a GVWR greater than 21,500 pounds.

**Type D:** A Type "D" school bus is constructed utilizing a stripped chassis. The entrance door is ahead of the front wheels; also known as *rear* or *front engine transit style school bus*.

**Multifunction School Activity Bus (MFSAB**): "A school bus whose purposes do not include transporting students to and from home or school bus stops," as defined in 49 CFR 571.3. This subcategory of school bus meets all FMVSS for school buses except the traffic control requirements (alternately flashing signal and stop arm).

**Specially equipped:** A school bus designed, equipped, or modified to accommodate students with special needs.

**School activity bus:** Any motor coach other than a school bus or transit bus used for the transportation of any students enrolled in a public or private school at or below the 12th grade level, to or from school-related activities.

**Transit bus:** A bus designed for frequent stops, with front and back-center doors and low-back seating, operated on a fixed schedule and route to provide public transportation by indiscriminately taking on passengers at designated bus stops.

**Bus body:** The portion of a bus that encloses the occupant space exclusive of the bumpers, the chassis, frame, and any structure forward of the forward-most point of the windshield mounting.

**CAA:** Clean Air Act; also known as CAAA, the Clean Air Act Amendments of 1990.

**Cam Wrap:** A seat-mounted system for attaching a safety harness to a school bus seat**.**

**Capacity** (See *Seating capacit*y.)

**Captive:** Refers to a non-removable attachment, part or fitting on a securement system.

**Carrier:** Any public school district, any public or private educational institution providing preschool, elementary or secondary education, or any person, firm or corporation under contract to such a district or institution, engaged in transporting students.

**CDL:** Commercial Drivers License.

**CFR:** Code of Federal Regulations.

**Chassis:** Vehicle frame with all operating parts, including engine frame, transmission, wheels and brakes.

**Chassis starting interlock circuit:** A device which prevents the engine of a bus from starting if any of the emergency exits are locked or not fully closed and latched.

**Clean diesel:** A combination of improved emission controls and cleaner-burning diesel fuel (see *ULSD)* that significantly reduces the pollutants from diesel engines. Can refer to new vehicles that meet EPA's 2007 standards or to older vehicles retrofitted with emission control technology.

**CMV:** Commercial Motor Vehicle. A motor vehicle defined in 49 CFR 390.5.

**CMVSA:** Commercial Motor Vehicle Safety Act of 1986; among other things, authorization for CDL.

**CNG:** Compressed natural gas.

**Communicable disease:** Any illness that can be transmitted from one person to another, including most common childhood diseases, the common cold and serious illnesses, such as hepatitis and AIDS.

**Continuum of services:** The range of possible options, from least restrictive to most restrictive, available to students with disabilities for transportation services.

**Conspicuity:** The ability of an object to be noticed and recognized without any confusion or ambiguity (SAE J1967).

**Crash, school bus:** (1) A motor vehicle collision involving a school bus with or without a student on board, resulting in any personal injury or death or any disabling damage to one or more motor vehicles requiring the vehicle(s) to be transported away from the scene by a tow truck or other vehicle; or (2) A collision involving any vehicle with any student or with a school bus at any time during the loading or unloading process. (See also *Accident.*)

> **Preventable:** A crash that could have been prevented by reasonable action on the part of the school bus driver.
>
> **Reportable:** A crash required to be reported under FMCSR (i.e., a crash involving a CMV on a public road in which there is a fatality or an injury treated away from the scene, or that requires a vehicle to be towed from the scene).

**Crossing arm:** A device attached to the front bumper of a school bus that is activated during loading and unloading and designed to force the students to walk far enough away from the front of the bus to be seen by the driver; also known as *crossing control arm.*

**CSRS:** Child Safety Restraint System; a device (other than lap or lap/shoulder seatbelts) meeting the requirements of FMVSS No. 213, designed for use in a motor vehicle to restrain, seat or position a child who weighs 30 kg (66 lbs) or less; also known as *child safety seat* and *car sea*t.

**Curb cut:** Area where the street curb has been cut and sloped to allow the sidewalk to lead smoothly to the roadway.

**Curb weight:** The weight of a motor vehicle with standard equipment, maximum capacity of engine fuel, oil, and coolant and, if applicable, air conditioning and additional weight of optional engine, but without passengers.

**Danger zone:** A twelve-foot area immediately surrounding the stopped school bus.

**Deadhead:** Movement of a bus without passengers (e.g., from school to bus yard).

**Deadtime:** The period between arriving at an activity trip destination and leaving the destination for the trip home; also known as *waiting time* and *stand-by tim*e.

**Decibel (dB):** A unit used to express the relative intensity of a sound as it is heard by the human ear. The decibel measuring scale is logarithmic. Zero (0 dB) on the scale is the lowest sound level that a normal ear can detect under very quiet ("laboratory" conditions) and is referred to as the "threshold" of human hearing. On a logarithmic scale, 10 decibels are 10 times more intense, 20 decibels are 100 times more intense, and 30 decibels are 1,000 times more intense than 1 decibel.

**Decibel "A-Weighted" (dBA):** The scale for measuring sound in decibels that assigns weights to different frequency ranges to reduce the effects of low and high frequencies in order to simulate human hearing.

**DEF:** Diesel Exhaust Fluid; the reactant necessary for the functionality of the SCR system. It is prepared by dissolving solid urea to create 32.5% solution in water. DEF breaks down into ammonia (NH3) and reacts with NOx in the SCR system to produce Nitrogen (N2) and water (H2O).

**DOC:** Diesel oxygenation catalyst. Devices that use a chemical process to break down pollutants in the exhaust stream of diesel engines into less harmful components.

**DOT:** United States Department of Transportation.

**DOT driver:** A driver who meets the FMCSR standards, set forth in 49 CFR 391.

**Double run:** One bus making two trips over the same route each morning and afternoon (e.g., first picking up high school students and then returning for elementary students).

**Downtime:** The period when a vehicle is not in service (e.g., due to mechanical failure or scheduled maintenance).

**DPF:** Diesel particulate filter; ceramic devices that collect particulate matter in the exhaust stream of diesel engines. The high temperature of the exhaust heats the ceramic structure and allows the particles inside to break down (or oxidize) into less harmful components.

**In-service:** Training provided annually, or more often, to school bus-certified drivers.

**Pre-service:** Training provided to driver applicants prior to school bus certification and/or transporting students.

**Driver qualifications:** Restrictions of state and federal law which determine a person's eligibility to become a school bus driver (e.g., age limits, physical condition, criminal record, driving history, etc).

**DRL:** Daytime running lamps; head lamps that operate automatically at a reduced voltage during the day to increase the vehicle's visibility; also known as *daytime running lights*.

**Drug:** Any substance other than alcohol considered to be a controlled substance listed on schedules I through V in 21 CFR 1308.

**Dry run:** A trip on a route without student passengers for driver training or familiarization of the route.

**Dual brake system** (See *Split brake syste*m.)

**Dual fuel system** (See *Alternative fue*l.)

**DVIR:** Driver vehicle inspection report. Federal, state or local approved form for reporting results of pre-trip
and post-trip inspections; also known as *daily vehicle inspection report* and *pre-trip inspection for*m.

**Dynamic testing:** The process of subjecting vehicle, mobility aid, or mobility aid/securement system components to a simulated crash condition.

**EDR:** Event Data Recorder; a device which records vehicle functions (e.g. speed change during a crash).

**EGR:** Exhaust Gas Recirculation; A type of in-cylinder NOx reducing technology that involves the reintroduction
of metered quantities of cooled exhaust gas back into the cylinder as it fills with air,
displacing some of the air volume and hence some of the oxygen. Replacing a proportion of this oxygen reduces the NOx formed during combustion.

**EHA:** The Education for all Handicapped Children Act passed in 1975 as P.L.94-142. (See also *IDEA.*)

**EPA:** The United States Environmental Protection Agency.

**Early bus:** A bus scheduled to run prior to the regular morning run (e.g. to take children to day care programs located in schools).

**Effective date:** The date at which a regulation or standard takes effect, on or after which compliance is legally required.

**Electronic voice communication system:** A means by which the driver of a vehicle can communicate with a dispatcher or other person at a remote location (e.g., two-way radio, cellular phone).

**Emergency roof exit:** An opening in the roof of the bus meeting the requirements of FMVSS No. 217 which provides emergency egress and sometimes ventilation; also known as *roof hatc*h.

**Emergency response plan:** A detailed approach to identifying and responding to potential accidents involving hazardous substances; required for every community by the Emergency Planning and Right-to-Know Act of 1986.

**EOBR:** Electronic on-board recorders; an electronic device that collects, stores, and displays data relative to driver and vehicle performance, including such elements as location, time, speed, and distance traveled.

**Ethanol:** Grain alcohol, distilled from fermented organic matter and used as a vehicle fuel.

**Extraboard driver** (See *Substitute drive*r).

**Field trip:** The transportation of students to an event or destination which is an extension of classroom activity (i.e., a part of the curriculum). A field trip is one type of *activity trip*.

**First aid:** Emergency treatment given to an ill or injured person before regular medical help is available.

**Fixed route:** Transportation service that runs on regular, prescheduled routes, usually with bus schedules and designated bus stops.

**FMCSA:** Federal Motor Carrier Safety Administration; an agency of the U.S. Department of Transportation; formerly the Office of Motor Carrier Highway Safety within the Federal Highway Administration.

**FMCSR:** Federal Motor Carrier Safety Regulations, 49 CFR 383, 390-397, and 399; motor vehicle safety and construction standards under FMCSA that apply to commercial motor vehicles and drivers transporting passengers in interstate commerce.

**FMVSS:** Federal Motor Vehicle Safety Standards, 49 CFR 571; construction standards developed and enforced by NHTSA that apply to all new motor vehicles and items of motor vehicle safety equipment.

**Forward control bus:** a school bus in which more than half of the engine length is rearward of the foremost point of the windshield base and the steering wheel hub is in the forward quarter of the vehicle length; also known as *transit-styl*e. (See also *School bus, type D.*)

**Forward-facing:** Installation of a seat (fixed bus seat or secured mobile seating device) in such a way that the seat and its occupant face the front of the vehicle when secured.

**Four-point tiedown:** A securement system in which four strap assemblies attach to the wheelchair frame at four separate points and anchor to the vehicle floor at four separate points.

**FSS:** Fire suppressant system; a fire extinguisher system installed in the engine compartment of a vehicle and activated automatically in response to a fire sensor or manually in response to an alarm.

**Fuel injection:** System that uses no carburetor but sprays fuel directly into cylinders or into the intake manifold.

**Glazing**: The glass or glass-like portion of a window.

> **Laminated glass:** Any glazing material that consists of one or more sheets of glass and an inboard-facing surface sheet of plastic, the components being held together by intervening plies of plastic interlayer or by the self-bonding characteristic of the inboard plastic layer.
>
> **Safety glass:** Glazing material constructed, treated or combined with other materials so as to reduce, in comparison with ordinary glass, the likelihood of injury to persons as a result of contact with the glass, either broken or unbroken.
>
> **Tempered glass:** Glazing which consists of glass that has been tempered to meet the properties of safety glass.

**GAWR:** Gross axle weight rating; the value specified by the manufacturer as the load-carrying capacity of a single axle system, as measured at the tire-ground interfaces.

**GPS:** Global Positioning System; a satellite tracking system that enables a receiver to compute the position and speed of a vehicle.

**GVWR:** Gross vehicle weight rating; the value specified by the vehicle manufacturer as the load-carrying capacity of a single vehicle as measured at the tire-ground interfaces. For school buses, NHTSA has defined in Title 49 CFR, Section 567.4(g)(3), the minimum occupant weight allowance as 120 pounds per passenger times the number of the vehicle's designated seating positions and 150 pounds for the driver.

**GVW:** Gross vehicle weight; the actual weight of the fully loaded vehicle, including all cargo, fluids, passengers and optional equipment as measured by a scale.

**Handrail inspection tool:** A device formed by tying a half-inch hex nut to a 36-inch cord, used to inspect school bus handrails and other areas for possible snagging hazards.

**Hazard lamps:** Lamps that flash simultaneously to the front and rear on the right and left sides of a vehicle, used to indicate caution; also known as *four-way flasher*s.

**Head protection zone:** The empty space above and in front of each school bus passenger seat which is not occupied by side wall, window or door structure, the dimensions of which are detailed in FMVSS No. 222.

**Head Start:** A program initiated in 1965 to provide comprehensive child development services to preschool children of predominantly low-income families.

**Headsign**: A sign above the windshield of the bus which can be changed from *School Bus* to other wording, such as *Charter*.

**Highway:** Any public highway, road, street, alley, parkway or other place open to public motor vehicle travel.

**Horsepower:** The measurement of an engine's ability to do work. One horsepower is the ability to lift 33,000 pounds one foot in one minute.

**Hours of service:** The consecutive or cumulative period of time that a commercial driver may be on duty; for details see reference in the sub-section, "Transportation Other Than To and From School" in the OPERATIONS section of this document.

**HOV:** High Occupancy Vehicle; a vehicle that can carry two or more passengers.

**Impact test:** A simulated crash condition which evaluates the ability of a vehicle or any component or device to withstand crash forces; also known as *sled test* and *crash test*.

**Injury incident, school bus:** Any non-crash event resulting in injury to a person while in the bus or while boarding/leaving the bus.

**Inspection:** A close examination of a motor vehicle performed in accordance with local, state and/or federal requirements by an authorized agent of the local, state or federal government.

**Integrated restraint system:** A system in which the occupant restraint for an individual in a wheelchair/mobility aid connects directly to, and is dependent upon, the rear strap assemblies of the mobility aid's securement system.

**International symbol of accessibility:** A white emblem on blue background used to indicate that a vehicle can accommodate individuals with disabilities.

**ITP:** Individualized Transportation Plan; a plan established to transport a student with a defined disability.

**Kneeling bus:** A bus on which the front or rear end is lowered to allow easier access for passengers with disabilities.

**Lap belt:** A Type 1 belt assembly meeting the requirements of FMVSS No. 209 and intended to limit movement of the pelvis.

**Lap/shoulder belt:** A Type 2 belt assembly meeting the requirements of FMVSS No. 209 and intended to limit the movement of the pelvis and upper torso.

**Lap tray:** An accessory for a wheelchair or other mobile seating device, to offer support and convenience for the occupant.

**LATCH system: L**ower **A**nchors and **T**ethers for **Ch**ildren system; incorporates standardized hardware in vehicle seats including the lower anchorages and the upper tether anchorage. It is designed to allow installation of CSRS without using the vehicle's seat belt system. All CSRSs sold in the US after 2002 are required to be LATCH compatible.

**LED:** Light emitting diode; an electronic semiconductor device that emits light when an electric current passes through it. LEDs are commonly used in lamps and digital displays.

**Left:** Left position is determined from the normal driving position as seated in the driver's seat looking in the direction of forward travel.

**Lift** (See *Power lift*.)

**Live time:** The time when students are in the bus, beginning when the first passenger boards and ending when the last passenger leaves.

**LNG:** Liquefied Natural Gas.

**Load:** To pick up students at a designated bus stop or at school.

**Load factor:** The ratio of passengers actually carried to the vehicle's passenger capacity.

**Loading zone:** Any area where students are boarding or leaving a school bus.

**Low-floor vehicle:** A bus in which the floor and entrance are closer to the ground, for easier access by students with disabilities or pre-schoolers.

**Longitudinal:** Parallel to the longitudinal centerline of the vehicle, front to rear.

**LPG:** Liquefied Petroleum Gas; also known as *propan*e.

**Manufacturer:** Any person engaged in the manufacturing or assembling of motor vehicles or items of motor vehicle equipment, including any person importing motor vehicle equipment for resale.

**Medical support equipment:** Portable equipment used by students to maintain life functions, such as oxygen bottles, intravenous or fluid drainage apparatus.

**Medically fragile:** Refers to students who require specialized technological health care procedures for life support and/or health support.

**MFSAB (**See *Multifunction school activity bus* under *Bus*.)

**Minibus:** A small school bus, usually a Type A-1 or A-2 or Type B-1 or B-2.

**Minivan:** A multi-purpose vehicle (MPV) designed to carry seven to ten passengers.

**Mirrors:** The system of mirrors required to be installed on school buses in accordance with FMVSS No. 111 and applicable state laws.

> **Crossview:** Convex mirrors mounted on the front of the school bus and designed for student detection during loading and unloading, also known as *System B mirror*s and including *elliptical, quadri-spherical, banana, or standard convex* mirrors.
>
> **Driving:** Flat and convex mirrors mounted on each side of the bus designed for viewing the road along the sides to the rear while driving; also known as *rearview, double nickel, west coast, or System A* mirrors.

**Mobility aid:** A wheelchair, walker, crutch, cane or other device that is used to support and help convey a person with a physical disability.

**Mobile Seating Device:** A mobility aid designed to support a person in the seated position.

**Modesty panel:** A panel located in front of a seat or row of seats to preserve the modesty of the passengers, usually supported by a stanchion and cross bar, and does not meet the performance standards of a *barrier* as defined in FMVSS No. 222. Also, a short panel which extends from the bottom of a *barrier* to or near to the floor for the purpose of reducing the draft from the entrance door—also known as *kick pane*l.

**Monitor:** A person assigned to assist the school bus driver to control behavior of students in the bus and/or to ensure the safety of students getting on and off the bus and to check the loading zone before the driver pulls out. (See also *Attendant*.)

**Motor carrier or carrier:** The registered owner, lessee, licensee or bailee of any vehicle who operates or directs the operations of any such vehicle on either a for-hire or a not-for-hire basis.

**MPV:** Multipurpose Passenger Vehicle; any vehicle with a seating capacity of ten or fewer, including the driver, which is built on a truck chassis or with special features for occasional off-road use.

**National school bus yellow:** The color defined in the publication "National School Bus Color Standard" SBMTC-008.

**Neutral safety switch:** A device which prevents the bus from starting unless the transmission is in neutral gear or the clutch is depressed.

**NGV:** Natural Gas Vehicle.

**NHTSA:** National Highway Traffic Safety Administration; an agency of the U.S. Department of Transportation.

**NIST:** National Institute of Standards and Technology.

**NOx:** Oxides of Nitrogen; a regulated diesel emission which is a collective term for gaseous emissions composed of nitrogen and oxygen.

**Nominal dimension:** A dimension which exists in name only (e.g. 5/8" plywood, which is actually 19/32" thick, but is 5/8" nominal thickness). The variation between the actual dimension and the nominal dimension is the result of manufacturing practices and tolerances.

**Non-conforming van:** A vehicle smaller than a bus, designed to carry seven to ten passengers including the driver, and used to transport students, that does not meet FMVSS for school buses.

**NSBY:** National School Bus Yellow: (See also SBMTC-008 for colorimetric specifications.)

**NTSB:** National Transportation Safety Board, an independent federal agency authorized by Congress to investigate accidents and to issue safety recommendations.

**Occupant:** A person who occupies space inside a school bus; refers to both passenger and drive.

**OEM:** Original Equipment Manufacturer.

**On-board monitoring system:** Computerized tracking of driver and vehicle performance, including speed, fuel consumption, etc. (See also *EOBR*.)

**OSEP:** Office of Special Education Programs; an agency of the U.S. Department of Education.

**OSERS:** Office of Special Education and Rehabilitative Services; an agency of the U.S. Department of Education.

**OSHA:** Occupational Safety and Health Administration, an agency of the U.S. Department of Labor.

**OTETA:** The Omnibus Transportation Employees Testing Act of 1991, requiring drivers holding CDLs to participate in a drug and alcohol testing program.

**Out of Servic**e: The removal of a school bus from passenger service due to a defective condition.

**Overall vehicle width:** The nominal design dimension of the widest part of the vehicle, exclusive of signal lamps, marker lamps, outside rearview mirrors, flexible fender extensions and mud flaps, determined with the doors and windows closed and the wheels in the straight-ahead position.

**Overhang:** The distance from the center of the rear axle to the rearmost end of the body or from the center of the front axle to the forward edge of the front bumper.

**P. A. system:** A public address system which allows the driver of a bus to communicate with persons inside and/or outside the bus through a speaker installed on the inside and/or outside of the bus; also known as *external loudspeake*r.

**Parallel restraint system:** A system in which the occupant restraint lap belt anchors directly to the floor track or plates, and is independent of the wheelchair/mobility aid securement system.

**Parking Pawl:** A device fitted to a motor vehicle's automatic transmission designed to engage when the transmission shift lever selector is placed in the PARK position. The parking pawl locks the transmission's output shaft, stopping the shaft (and thus the driven wheels) from rotating.

**Part B:** Refers to the section of IDEA (20 USC 1400 *et. Seq.*) applicable to special education and related services for children with disabilities and to the implementing regulations at 34 CFR 300.

**Part HC:** Refers to the section of the IDEA related to early intervention services for infants and toddlers and to the implementing regulations at 34 CFR 303. Formerly referred to as Part H.

**Particulate trap:** A device on diesel buses to clean the exhaust of particulate matter. (See also *DPF*.)

**Passenger:** A person who rides in a school bus but does not operate it. (See also *Occupant*.)

**Passenger compartment:** Space within the school bus interior measured from a point 30 inches ahead of the forward most passenger seating reference point (SRP) rearward to the inside surface of the rear end of the bus at the center of the rear emergency exit.

**Passenger Endorsement:** A designation (*P*) on a CDL that indicates the driver is qualified to drive a commercial passenger vehicle. Must accompany an *S* endorsement.

**Positive-locking:** A design feature of the mobility aid securement and occupant restraint system where the attachment and anchoring hardware cannot be inadvertently released or disengaged once properly installed.

**Post-trip interior inspection:** A check of the interior of the bus by the driver at the end of the run to ensure that no children or student belongings have been left behind.

**Postural support:** A seat, belt or other component used to support a child with disabilities in a desired position but not designed or intended to provide occupant restraint in a crash; also known as *positioning devic*e.

**Power cut-off switch:** A device that cancels all power from the vehicle batteries.

**Power lift:** A mechanized platform designed to provide access to a vehicle for an occupied mobility aid/wheelchair; also known as a *wheelchair lif*t.

**Powertrain:** The group of components used to transmit engine power to the wheels; includes engine, transmission, universal joints, driveshaft, drive axles and gears; also known as *drivetrai*n.

**Pre-school:** Refers to a child between the ages of three and five years who is not yet in kindergarten or to a program serving children in that age range.

**Pre-trip inspection:** A systematic inspection of the bus by the driver before every trip or shift to ensure that the bus is in safe operating condition. The same procedure performed after the trip/shift is the *posttrip inspectio*n.

**Pupil** (See *Student*.)

**Pusher:** A school bus in which the engine is mounted in the rear of the vehicle; also known as *rear engine bu*s. (See also *School bus, Type D*.)

**Push out window:** A bus window that is hinged at the top or front to enable the window to be swung upward or outward relative to the side of the bus and to provide a means of emergency egress from the bus; also known as *emergency windo*w.

**Railroad crossing:** The intersection of a highway, street or roadway and railroad tracks; also known as *grade crossin*g.

**Ramp:** An inclined plane for use between the ground and the floor of the vehicle to permit access by persons in wheelchairs/mobility aids.

**Reflective:** Refers to the property of materials that cause them, when they are illuminated, to reflect the light to some extent.

**Remanufactured:** Refers to a vehicle component that has been structurally restored.

**Restraining barrier:** An assembly similar to a seat back located immediately in front of a single school bus passenger seat or row of seats to provide crash protection in accordance with FMVSS No. 222; also known as *barrier, crash barrier* and *seat barrie*r.

**Restraint system:** A generic term for one or more devices intended to secure and protect a passenger with or without a mobility aid in a vehicle, including lap belts, lap/shoulder belts, child safety seats, safety vests, etc.

**Restraint/securement system** (See *Securement and restraint syste*m).

**Retractor, automatic-locking:** A retractor incorporating adjustment by means of a positive self-locking mechanism which is capable of withstanding restraint forces.

**Retractor, emergency-locking:** A retractor that incorporates adjustment by means of a locking mechanism that is activated by vehicle acceleration, webbing movement relative to the vehicle, or automatic action during an emergency, and that is capable of withstanding restraint forces.

**Retro reflective:** Refers to material that is designed to direct light back to its source.

**Right:** Right position is determined from the normal driving position as seated in the driver's seat looking in the forward direction of travel.

**Rim:** The part of the wheel on which the tire is mounted and supported.

**Roof hatch** (See *emergency roof exit*.)

**Running gear:** The wheels, axles, springs, frames and other carrying parts of the vehicle.

**SAE:** Society of Automotive Engineers; the leading standards-writing organization for the automotive industry.

**Safety vest/harness:** A combination pelvic and upper torso child restraint system that consists primarily of flexible material, such as straps, webbing or similar material, and that does not include a rigid seating structure for the child. Can be used with a cam wrap on a school bus seat or with a tether in other vehicles.

**School:** An educational institution for children at the pre-primary, primary, elementary, or secondary level, including nursery schools and Head Start programs, but not including day care programs.

**School bus equipment:** Equipment designed primarily as a system, part or component of a school bus, or any similar part or component manufactured or sold for replacement or as an accessory or addition to a school bus.

**School bus stop:** An area on the street or highway designated by school officials for picking up and discharging students.

**School bus traffic warning lamps: (**See *alternately flashing signal lamps*.)

**School endorsement:** A designation (*S)* on a CDL that indicates the driver is licensed to operate a school bus.

**School vehicle:** Any vehicle owned, leased, contracted to or operated by a school or school district and regularly used to transport students to and from school or school-related activities. Includes school buses, activity buses, vans and passenger cars, but does not include transit or charter buses.

**SCR:** Selective catalyst reduction; A type of NOx reducing technology which uses a chemical reductant (diesel exhaust fluid, or DEF) injected into the exhaust stream where it transforms into ammonia and reacts with NOx on a catalyst, converting the NOx to nitrogen gas and water vapor. The reducing agent needs to be periodically replenished.

**Seat:** A device designed and installed to provide seating accommodations.

> **Activity seat:** A seat designed for passenger comfort with contoured seats and backs with the result that passengers' positions are distinctly separate; characterized by fixed seat backs; may have arm rests and head rests; can be manufactured to meet FMVSS No. 222.
>
> **Bench seat:** A seat designed to accommodate more than one passenger with no apparent partitioning between positions, which is characterized by fixed legs and a fixed back (e.g., the standard school bus seat which meets FMVSS No. 222).
>
> **Davenport seat:** A bench seat that extends from side wall to side wall at the rearmost seating position in the bus; not permitted in school buses.
>
> **Flex seat:** A type of bench seat equipped with lap/shoulder seat belts that can be reconfigured so that the number of seating positions on the seat can change. An example is a seat that can be reconfigured to accommodate either three smaller students or two larger students; also known as *flexible seating systems* or *flexible occupancy seats*.
>
> **Flip seat:** A school bus bench seat designed so that the cushion flips up when the seat is not occupied, similar to a theater seat; used to provide aisle clearance, as required by FVMSS No. 217, when a passenger seat is located adjacent to a side emergency door.
>
> **Integrated child safety seat:** A child safety seat meeting the requirements of FMVSS No. 213 which is built into, and thus an integral part of, a bench seat.
>
> **Jump seat:** A seat designed to fold down to provide supplemental seating in a bus (e.g., in the aisle, in front of the door or along the side wall); not permitted in school buses.
>
> **Reclining seat:** An activity seat with a reclining seat back; not permitted in school buses.
>
> **Seat belt ready seat:** A bench seat meeting the requirements of FMVSS No. 222, the frame of which is designed for the installation of lap belts or CSRS attachment devices under FMVSS 210.

**Seat belt:** A passenger restraint system incorporating lap belts or lap/shoulder belts and meeting the requirements of FMVSS Nos. 209 and 210.

**Seating capacity:** The number of designated seating positions provided in a vehicle, including the driver's position. In determining vehicle classification, each wheelchair securement location shall be counted as four (4) designated seating positions.

**Designed seating capacity:** The theoretical passenger capacity that a vehicle would have if it were constructed with the maximum number of seating positions according to standard seating plans; also known as *manufacturer's seating capacit*y.

**Equipped Seating Capacity:** The number of designated seating positions provided in a new bus per manufacturers' body/seating plan.

**Reduced capacity:** The capacity that is achieved when one or more seats are removed from the standard design during or after manufacture of the vehicle.

**Seating position:** The space on a school bus bench seat designated for one student. The number of such positions per seat is determined by dividing the width of the seat by 15" and rounding to the nearest whole number, as described in FMVSS No. 222.

**Seating reference point:** The manufacturer's design point, with coordinates relative to the vehicle structure, which establishes the rearmost normal driving or riding position of each designated seating position and simulates the position of the pivot center of the human torso and thigh.

**Securement points:** Locations on the base or seat frame of the wheelchair/mobility aid where the securement system should be attached.

**Securement system:** The means of securing a mobile seating device to a vehicle in accordance with FMVSS No. 222, including all necessary buckles, anchors, webbing/straps and other fasteners.

**Securement and restraint system:** The total system which secures and restrains both a wheelchair/mobility aid and its occupant; also known as *WTOR*S.

**Sensor:** An electronic device installed on a school bus for the purpose of detecting animate objects in the loading zone; also known as *object detection syste*m.

**Shuttle:** A trip run back and forth over a short route (e.g., between two schools).

**Skid plate:** Stout metal plate attached to the underside of a vehicle to protect the oil pan, transmission, step well or fuel tank from scraping on rocks, curbs and road surface.

**Slack adjuster:** Adjustable device connected to the brake chamber pushrod that transmits brake application force and compensates for lining wear.

**Special education:** Specially designed instruction to meet the unique needs of a child with disabilities.

**Specially equipped school bus:** Any school bus designed, equipped or modified to accommodate students with special needs.

**Split-brake system:** A service brake system with two separate hydraulic circuits which, upon failure of either, retains full or partial braking ability.

**Stanchion:** An upright post or bar, usually installed from floor to ceiling in a bus, that provides support for other structural members and/or provides a hand-hold for passengers.

**Stop arm:** A device in the form of a red octagon extending outward from the side of a school bus to signal that the bus has stopped to load or unload passengers and meeting FMVSS No. 131; also known as *stop semaphore* and *stop signal arm*.

**Stopping distance:** Braking distance plus reaction distance.

> **Braking distance:** The distance a vehicle travels between the time the brakes are applied and the time forward motion ceases.
>
> **Reaction distance:** Distance a vehicle travels during the time it takes for a driver to recognize the need to stop and to apply the brakes.

**Strobe light:** A bright short duration light that flashes as a result of an electronic discharge of electricity through a gas.

**Student:** Any child who attends a school, as previously defined.

**Surrogate wheelchair:** A wheelchair device which is subjected to impact tests to test securement and restraint systems.

**Suspension system:** The components of the vehicle that transmit the load of the vehicle's weight from the chassis framework to the ground, including the springs, axles, wheels, tires and related connecting components.

**Temperature control system:** The means of heating or cooling the interior of the vehicle.

**Tether:** An upper anchor strap used in addition to a seat belt to hold certain types of restraint devices in place.

**Tie down system** (See *Securement syste*m.)

**Tire:** The continuous solid or pneumatic rubber elastomeric cushion encircling a wheel intended for contact with the road.

> **Bias ply:** A pneumatic tire in which the ply cords extending to the beads are laid at alternate angles substantially less than 90 degrees to the centerline of the tire.
>
> **Low profile:** A tire that has a section height that is less than 85 percent of its nominal section width (e.g., a tire with an aspect ratio of less than 0.85).
>
> **Radial:** A pneumatic tire in which the ply cords which extend to the beads are laid substantially at 90 degrees to the centerline of the tread.
>
> **Retread:** A worn tire casing to which tread rubber has been affixed to extend the usable life of the tire; also known as *re-capped* or *retreaded tir*e.
>
> **Siped:** A tire which has been scored or cut perpendicular to the direction of rotation (across the tread) to improve traction.

**Snow:** A tire with an obvious aggressive or lug-type tread across the entire width that is designed to be self-cleaning.

**Studded:** A tire to which metal protrusions have been added to improve traction.

**Tire cords:** The strands forming the reinforcement structure in a tire.

**To-and-from school:** Transportation from home to school and from school to home; also transportation from school to school or from school to job training site.

**Tow devices:** Attachments on the chassis frame for use in retrieving a stuck vehicle and/or for towing the vehicle backwards or forwards; also known as *tow eye*s, *tow hooks* or *towing attachment points*.

**Track seating:** A seating system in which seating units, including mobility aids, are secured to the vehicle structure by attaching them to tracks on the vehicle floor.

**Traffic lights:** Traffic signals which control the flow of traffic at intersections.

**Transverse:** Perpendicular to the longitudinal centerline of the vehicle (i.e., from side to side).

**Turbocharger:** a device which uses the pressure of exhaust gases to drive a turbine that, in turn, pressurizes air normally drawn into the engine's chambers.

**Two-way radi**o: Electronic communication system which uses a designated airway for transmission between a bus and a base station.

**ULSD:** Ultra-low sulfur diesel; Diesel fuel that has a sulfur content of not more than 15 ppm (parts per million). Regular diesel fuel has a sulfur content of 200 ppm.

**Unload:** To discharge passengers from a school bus.

**Unloaded vehicle weight:** The weight of a vehicle with maximum capacity of all fluids necessary for operation, but without cargo or occupants or accessories that are ordinarily removed from the vehicle when they are not in use.

**Universal precautions:** Method of infection control designed to protect the individual from exposure to disease, which requires that all bodily fluids and secretions are treated as though they were infectious.

**Vapor lock:** Boiling or vaporization of fuel in the lines from excessive heat, which interferes with liquid fuel movement and in some cases stops the flow.

**Vehicle miles:** The aggregate number of miles a vehicle travels in a given period.

**Video system:** A means of monitoring student behavior in a school bus. The system includes one or more video cameras to tape activity. Camera housing units mounted in each bus appear to hold a camera, whether or not one is actually in place; also known as *surveillanc*e.

**VIN:** Vehicle Identification Number; a series of Arabic numbers and Roman letters (not including the letter's I or O) which is assigned to a motor vehicle for identification purposes.

**Viscosity:** A measure of internal resistance to flow or motion offered by a fluid lubricant.

**WC-19:** A voluntary industry standard that establishes minimum design and performance requirements for wheelchairs that are occupied by users traveling in motor vehicles. The standard applies to a wide range of wheelchair types and styles, including manual wheelchairs, powerbase wheelchairs, three wheeled scooters, tilt-in-place wheelchairs and specialized mobile seating bases with removable seating inserts.

**Weight distribution:** The distribution proportion of the vehicle load divided between the front and rear axles.

**Wheel:** A rotating load-carrying member between the tire and the hub, usually consisting of two major parts—the rim and the wheel disc—which may be integral, permanently attached or detachable.

**Ball seat nut mounting:** A wheel mounting system wherein the wheel centering is provided by the wheel mounting studs and the ball seat nuts which, when properly tightened, assure the centering alignment of the wheel.

**Disc:** The part of the wheel which is the supporting member between the hub and the rim.

**Disc wheel:** A permanent combination of a rim and wheel disc.

**Hub:** The rotating outer member of the axle assembly which provides for wheel disc mounting.

**Locking ring:** A removable, split rim ring that holds the rim flange in place on a multi-piece rim.

**Piloted hub mounting:** A wheel mounting system wherein the wheel centering is provided by a close fit between the wheel disc and the hub.

**Rim:** The part of the wheel on which the tire is mounted and supported.

**Spoke wheel:** A rotating member which provides for mounting and support of one or two demountable rims; also known as *wheel for demountable rim*.

**Wheelbase:** The distance between the centerline of the front axle and the centerline of the rear axle.

**Wheelchair:** A seating system comprised of at least a frame, a seat and wheels that is designed to provide support and mobility for a person with physical disabilities. For the purpose of this standard, this term encompasses standard manual wheelchairs, powered wheelchairs, power-based wheelchairs, three-wheel scooter-type wheelchairs and specialized seating bases; also known as *mobile seating device*.

**Wheelchair lift** (See *Power lift*.)

# SCHOOL BUS TYPES

**Type A School Bus** - A conversion or body constructed upon a van-type or cutaway front-section vehicle with a left side driver's door, designed for carrying more than ten (10) persons. The term includes two (2) classifications:

1. Type A-1, with a gross vehicle weight rating of ten thousand (10,000) pounds and under; and

2. Type A-2, with a gross vehicle weight rating over ten thousand (10,000) pounds

**Type B School Bus** - A conversion or body constructed and installed upon a van or front-section vehicle chassis or stripped chassis with a gross vehicle weight rating of more than ten thousand (10,000) pounds and designed for carrying more than ten (10) persons. Part of the engine is beneath and/or behind the windshield and beside the driver's seat. The entrance door is behind the front wheels

**Type C School Bus** - A body installed upon a flat back cowl chassis with a gross vehicle weight rating of more than ten thousand (10,000) pounds and designed for carrying more than ten (10) persons. The entire engine is in front of the windshield. The entrance door is behind the front wheels

**Type D School Bus** – A body installed upon a chassis with the engine mounted in the front, midship, or rear with a gross vehicle weight rating of more than ten thousand (10,000) pounds and designed for carrying more than ten (10) persons. The engine may be behind the windshield and beside the driver's seat, at the rear of the bus, behind the rear wheels, or midship between the front and rear axles. The entrance door is ahead of the front wheels

# INDEX


| | SECTION# |
|---|---|
| Accelerator | 47 |
| Air Brakes | 7 |
| Air Compressor | 5 |
| Air Conditioning | 72 |
| Air Flow Vent | 85 |
| Air Horn | 73 |
| Air Intake Vent | 33 |
| Air Pressure Gauge | 5, 40 |
| Air Suspension | 61 |
| Air Tanks | 5 |
| Aisles | 29, 41, 93 |
| Alternator | 1, 21, 92 |
| Anti-Vandalism Device | 20, 51, 74 |
| Back-Up Lights | 2 |
| Back-Up Warning Alarm | 76 |
| Ball Joints | 55, 61 |
| Barriers | 54 |
| Battery | 3, 95 |
| Belts (engine) | 21 |
| Body Clamps | 4 |
| Bolt Type Brake Chamber Adjustment Limits | 5 |
| Brake and Kingpin Inspection Certificate | 5, 6, 61 |
| Brake Drums/Rotors | 5 |
| Brake Hoses | 5, 7, 61 |
| Brake Indicator Light or Gauge | 40 |
| Brake Lights | 62 |
| Brake Linings and Pads | 5 |
| Brake Pedal | 7, 8, 47 |
| Brooms | 41 |
| Bumpers | 11, 49 |
| Bushings (spring assembly) | 52, 53, 61 |
| Child Alert Notification System | 12 |
| Clamp Type Brake Chamber Adjustment Limits | 5 |
| Clearance Lights | 13, 85, 88 |
| Clutch | 47 |
| Color | 5, 13, 24, 25, 33, 38, 42, 43, 44, 49, 51, 59, 62, 64, 65, 67, 85, 86 |
| Compressed Natural Gas (fuel) | 81 |
| Cross Members | 14 |
| Crossing Arm | 59 |
| DEF Gauge | 40 |
| Defrosters | 15 |
| Diesel Fuel | 23, 32, 81 |
| Differential | 16 |
| Dome Lights | 17 |
| Drag Link | 55 |
| Drive Shaft | 18, 38 |
| Driver’s Seat and Belt | 19 |





| | |
|---|---|
| Emergency Blanket | 78 |

Emergency Door 20, 23, 43, 46, 70, 74, 87, 90, 93
Emergency Exits 70, 79, 93
Engine 5, 7, 8, 12, 14, 20, 21, 22, 23, 26, 43, 55, 70, 74, 90, 95, 99
Exhaust 22, 23, 29
Fans (auxiliary) 75
Fenders 11, 39
Fire Extinguisher 26
Firewall 27
First Aid Kit 28, 50
Floor Covering 29
Floors 29, 30
Fog Lamps 11, 80
Frame 4, 11, 31, 38, 39, 55
Fuel Gauge 40
Fuel Hoses 32
Fuel Pump 32
Fuel Tanks 32
Fuels (permissible) 81
Gasoline 81
General Requirements 1
Glass 15, 20, 25, 70
Grill 33
Grommets 52, 71
Guard Panels 54
Guardrails 54
Vehicles for Transporting Children with Disabilities
- Aisles 93
- Battery 95
- General Requirements 92
- Grab Handles 96
- Power Lift 92, 95, 98
- Regular Service Door 96, 98
- Seat Restraining Devices 101
- Special Lift Area Light 97
- Special Service Door 98
- Wheelchairs 99, 100

Headlights 34
Heated Exterior Mirrors 82
Heaters 35
High Beam Headlight Indicator 40
Hood Latch 36
Horn 37
Hybrid Electric System 38
Hydraulic Brakes 5, 8
Kingpins 5, 61
Leaf Springs 53
Lettering 11, 20, 43, 59, 65, 88
Long Stroke Clamp Type Brake Chamber Adjustment Limits 5
Low Air Warning Light 40

LP Gas (fuel) 81
Lug Nuts 67
Marker Lights 44, 85
Mirrors (crossover/exterior) 25
Mirrors (interior) 42
Mud Flaps 63
Muffler 23
Multi-Media Devices 84
Noise Suppression Switch 45
Odometer 40
Oil / Fluid Leak 22
Parking Brake System 5, 10
Pinion Seals 16
Pitman Arm 55
Positive Door Opening Device 20
Power Steering 48
Prohibited Area Line 29
Prohibited Area Sign 29
Radios (AM/FM) 45, 84
Rear Spoiler 85
Reflective Material. Reflectors 49
Remote Control Exterior Mirrors 82
Rims 67
Roof Color 86
Roof Hatch 79
Rotochamber Brake Adjustment Limits 5
Rub Rails 24
Safety Detection System 87
Seat Belt Cutter 50
Seats (passenger) 46
Service Brakes 5
Service Door 51
Shackles (spring assembly) 53
Shocks 52
Spare Tire 63
Speakers 45, 84, 88
Speedometer 40
Spherical Convex Mirrors 82
Springs 53
Stanchions 54
Steering Gear Box 55
Steering Lash 55
Steering Wheel 56
Steps 57
Stepwell 57
Stirrup Steps 58
Stop Arm 59
Strobe Light 89
Sun Visors 59
Taillights 62

Tailpipe 22
Tie Rods/Ends 55
Tires 63
Transmission 14, 22
Trash Container 41, 90
Turn Signals 64
Two-Way Radio 77
U-bolts (spring assembly) 53
Vacuum Brakes 5
Video Cameras 91
Warning Light (8-way) Monitoring System 83
Warning Lights (8-way system) 65
Warning Triangles 66
Wheel Bearings 61
Wheel Seals 16
Wheels 67
Wide Angle Rearview Mirrors 82
Wind Guard 59
Windows 70
Windshield Washers 68
Windshield Wipers 69
Windshield 70
Wiring 71