



STATE OF FLORIDA SCHOOL BUS SAFETY INSPECTION MANUAL 2020 Edition Effective October 2020 (This Page Intentionally Left Blank)

PREFACE

The purpose of this manual is to standardize safety inspection criteria for school bus inspectors, technicians, maintenance supervisors and transportation directors to ensure that maintenance personnel know which components to inspect, how to inspect each component, and how to identify which items are in need of repair and which defects constitute an out-of-service condition. The Florida School Bus Safety Inspection form 2020-IF, which is incorporated by reference in rule 6A-3.0171, Florida Administrative Code (F.A.C.), correlates inspection items with those found in this manual. A copy of form 2020-IF is found on page 173 of this manual.

While this manual clarifies many issues pertaining to school bus safety inspections, it will not answer all technical questions. Please refer to the school bus manufacturer and equipment suppliers for inspection procedures as appropriate. In all instances, trained personnel must exercise professional judgment and remember that safety is the foremost consideration when inspecting school buses in Florida.

Sources used in preparing this manual include *Florida School Bus Specifications*, *National School Transportation Specifications and Procedures*, *Federal Motor Vehicle Safety Standards* (FMVSS), manufacturers' maintenance and shop service manuals, other states' inspection standards and other industry standards for maintenance and repair procedures.

SPECIFICATIONS NOTES

- 1. The school district may upgrade school buses to current specifications and revise inspection procedures according to the applicable specifications.
- 2. Inspection procedures for pilot test items approved by the Florida Department of Education (FDOE) and the Florida Association for Pupil Transportation (FAPT) School Bus Specifications Subcommittee may not be covered in this manual. Please refer to the school bus manufacturer and/or the equipment suppliers for inspection procedures for these items.
- 3. All Florida specifications correspond to the dates vehicles were ordered or to the procurement invitation to bid (ITB) under which vehicles were purchased. Actual production dates cannot always be used to determine applicable specifications due to lag-time between ordering and build dates. If specification questions arise, please consult the proper specification manual.
- All FMVSS dates listed in this manual refer to the chassis build date. Any public school bus not meeting all applicable FMVSS must be removed from service until all non-compliance items are corrected.
- 5. Section 1006.25, Florida Statutes (F.S.), requires that all school buses transporting public school students meet applicable federal motor vehicle safety standards and other specifications as prescribed by the F.A.C.

The inspection form and manual were first approved by the FAPT, incorporated by reference, and made part of the F.A.C. in November 1994. All school transportation providers regulated under s.1006.22, F.S., and rule 6A-3.0171, F.A.C., shall implement this manual. Please provide any comments regarding this manual to the following email address or telephone number listed below:

FAPT School Bus Inspection Committee Attn: School Transportation Management Section Florida Department of Education schtrans@fldoe.org 850-245-9795

INSTRUCTIONS

This manual must be used in conjunction with the Florida School Bus Safety Inspection Form 2020-IF (page 173) when inspecting school buses, as required by rule 6A-3.0171, F.A.C. Districts are encouraged to ensure that copies of all applicable *Florida School Bus Specifications* manuals are available for use by inspectors. These manuals may be found at http://www.fldoe.org/schools/healthy-schools/transportation/.

Instructions on proper completion of the state inspection form and repair order form; and proper use of the *Florida School Bus Safety Inspection Manual* are as follows:

Florida School Bus Safety Inspection Form

1. <u>Heading</u>

Fill in completely, including the bus type (school bus or Multi-Function School Activity Bus MFSAB), propulsion type (electric, alternative fuel, conventional fuel), local bus number, mileage, repair order number (RO#), date of inspection, chassis/body manufacturer, seating capacity, model year of bus and shop location (if district has more than one shop).

- 2. Status Code Indicators
 - a) A " $\sqrt{}$ " (check mark) indicates that the items inspected meet all requirements of this manual and are in proper working order.
 - b) An "X" denotes a type of defect that does not affect the safe operation of the bus. Repair the item prior to returning the bus to service (if in district policy) or put a note on the form and repair the item within a reasonable amount of time.
 - c) The letter "O" indicates safety-related defects. Repairs of this nature are required prior to placing the bus back in service.
- 3. Status Code Column

Place a status code indicator ($\sqrt{, X \text{ or O}}$) indicating the inspection results for each row in this column as each row is inspected. See page 175 for an inspection form with the examples described below:

- a) Section A Inside Bus, Item 2, "Registration and Insurance Card," is okay; therefore, A.2. is marked with a check ($\sqrt{}$).
- b) Section B Outside Bus, Item 2 is marked with an "X" for a nonfunctional clearance light. Identify the deficiency by placing a circle around the words "clearance light" and providing a brief description in the comments for B.2.
- c) Section D Underneath Bus, Item 13, "Wheels and Tires" is marked with an "O" for R/F tire tread depth and low air pressure, which are both out-of-service conditions. Note how the deficiencies are correctly identified and the actual measurements are recorded in the space provided near the bottom of the form.

4. Inspection Items Column

All items on the form are to be inspected. Items in **bold** print are the main areas to be inspected. All other items pertain to the main areas.

Example: **"Section A-Inside Bus," Item "1. Emergency Equipment"** covers such items to be inspected as the fire extinguisher, first aid kit, body fluid cleanup kit and roadside reflectors. Inspection procedures for A-1 are found in the inspection manual.

5. Comments Column

This column must indicate the nature of the problem, with the item circled in the "Inspection Items" column. See example on page 175.

6. Technician's Initials Column

The repairing technician or inspector is required to place their initials in the corresponding "Tech Initials" box to indicate the repairs are complete or reference a repair order number that documents and addresses the concern.

- 7. Section E, "Lubrication and Maintenance" is optional and provided for the district's convenience.
- 8. The "Comments" space on the back page of the form may be used to provide additional information related to the inspection. When writing additional comments, the inspector should label each comment with the corresponding section and number. Document any deficiency not covered on the form in this space. See example on page 175.
- 9. Enter the tread depth and air pressure of each tire in the space provided at the bottom of the form. Measure the tread depth according to the procedures in this manual. Record the initial air pressure reading prior to any necessary adjustment.
- 10. The inspector must sign and print his/her name on the inspection form to indicate the inspection is complete.
- 11. The "Inspector's Certification Number" must be the seven-digit FDOE-assigned number shown on the inspector's certificate.
- 12. "Service Manager's or Delegate's Initials," "Inspector Certification Number" and "Bus Returned to Service Date" are required to document the service manager's or delegate's approval to return the bus to service. Anyone performing this task must be certified through the State of Florida School Bus Safety Inspector Program as a Level 1 School Bus Safety Inspector, Level 2 School Bus Safety Inspector/Trainer or Level 3 Supervisor.

Repair Order Form

- 1. Verify all repairs noted on the inspection form on a repair order, including complete parts information and labor descriptions (see example repair order on page 178).
- 2. The technician who makes the correction should initial the repair order in the "Tech Initials" box corresponding to the item corrected.
- 3. It is recommended that the inspection form and associated repair order be kept together in the vehicle record.

State of Florida School Bus Safety Inspection Manual

The State of Florida School Bus Safety Inspection Manual provides detailed information and instructions corresponding to the individual items listed on the state inspection form.

On the following pages, the subject matter is in the upper left-hand corner of each page by section and subsection, such as "Section A-Inside Bus," then 1. Emergency Equipment. There are three columns on each page headed "Inspection Procedures," "Repair (or note)" and "Out-of-service." The columns should be completed as follows:

1. Inspection Procedures

This column outlines the methods to inspect each component for presence, condition, operation, mounting and specifications.

2. Repair (or) note

This column is for documenting non-safety related deficiencies found meeting the repair or note failure criteria. A repair or note item is okay currently, but may need repair soon.

3. Out-of-service

This column describes deficiencies that, if found, would place the bus out-of-service. Out-of-service items must be repaired prior to placing the bus back in service.

Role of the School Bus Safety Inspector

The role of the school bus safety inspector is to identify and document deficiencies on buses according to the procedures and criteria described within this manual. Results of those inspections are to be reviewed by the district service manager, who shall make the final determination regarding whether buses are safe or unsafe to operate, unless this authority has been specifically delegated to another individual.

TABLE OF CONTENTS

| Preface | i |
|----------------------|-----|
| Specifications Notes | ii |
| Instructions | iii |

A. INSIDE BUS

| 1. | Emergency Equipment | 1 | | | |
|-----|--|----|--|--|--|
| 2. | Registration and Insurance Card | | | | |
| 3. | Shifter, Noise Abatement Switch and Neutral Safety Switch | | | | |
| 4. | Engine Controls | | | | |
| 5. | Gauges, Indicators, Dash and Switch Panel Lights, Engine Warning Lights/ | | | | |
| | Buzzers and Anti-lock Brake System (ABS) Warning Light | 11 | | | |
| 6. | Air Brake System | 14 | | | |
| 7. | Hydraulic Brakes | 20 | | | |
| 8. | Windshield Wipers and Washers | 33 | | | |
| 9. | Heaters, Defrosters, Auxiliary Dash or Header Fan(s) | 34 | | | |
| 10. | Dome and Step Well Lights | 37 | | | |
| 11. | Service Door | 38 | | | |
| 12. | Horns | 40 | | | |
| 13. | Mirror Adjustment and Condition | 41 | | | |
| 14. | Driver's Seat and Seat Belt | 44 | | | |
| 15. | Passenger Seats | 45 | | | |
| 16. | Emergency Doors, Windows, Hatches and Passenger Check System | 50 | | | |
| 17. | Windshield, Side and Rear Windows | 53 | | | |
| 18. | Wheelchair Lift, Door and Securement System | 56 | | | |
| 19. | Two-Way Radio Operation | 59 | | | |
| 20. | Interior Wiring, Cab Hoses and Fire Wall Seals | 60 | | | |
| 21. | General Condition of Bus Interior | 61 | | | |

B. OUTSIDE BUS

| 1. | Headlights, Turn Signals, Hazard, Brake, Tail, Backup Lights, Backup Alarm | |
|----|---|----|
| | and Park Lights | 67 |
| 2. | Clearance, Side Marker, Identification (ID) Lights, Reflectors and Strobe Light | 73 |
| 3. | Pupil Warning Lights | 75 |
| 4. | Stop Arm(s) and Student Crossing Arm | 77 |
| 5. | General Condition of Bus Exterior | 79 |

C. ENGINE COMPARTMENT

| 1. | Steering | 85 |
|----|----------------------------------|-----|
| 2. | Batteries | 94 |
| 3. | Fluid Levels and Condition | 98 |
| 4. | Belts and All Hoses | 102 |
| 5. | Accessory Mounting and Condition | 105 |
| 6. | Wiring | 107 |
| 7. | Fuel System and Lines | 108 |
| 8. | Radiator | 109 |

D. UNDERNEATH BUS

| 1. | Front Suspension | 111 |
|-----|---|-----|
| 2. | Front Brakes | 118 |
| 3. | Engine Mounts, Transmission Mounts and Starter Mounting | 128 |
| 4. | Transmission | 129 |
| 5. | Fluid Leaks | 131 |
| 6. | Fuel and Diesel Exhaust Fluid Tank | 133 |
| 7. | Brake Equipment | 135 |
| 8. | Driveline | 137 |
| 9. | Rear Suspension | 140 |
| 10. | Rear Brakes | 145 |
| 11. | Body Securement and Structure | 154 |
| 12. | Exhaust System | 156 |
| 13. | Wheels and Tires | 158 |

| E. LUBRICATION and MAINTENANCE (Optional) | | |
|---|---|-----|
| F. ROA | AD TEST | |
| 1. | Brake Performance | 165 |
| 2. | Engine, Transmission and Driveline | 167 |
| 3. | Steering and Handling | 168 |
| Chart a | nd Figure Contents | 171 |
| Statuto | ry Requirement for Safe Transportation of Students | 172 |
| State B | oard of Education Rule on School District Responsibilities for the Safe | |
| Transpo | ortation of Students | 172 |
| Florida | School Bus Safety Inspection Form | 173 |
| Florida | School Bus Safety Inspection Form, example | 175 |
| Repair | Order | 177 |
| Repair | Order, example | 178 |
| School | Bus Safety Inspection Certification Program | 179 |
| School | Bus Safety Inspection Recertification Program | 183 |
| District | Online Test Administrator Guidelines and Requirements | 184 |
| District | Online Test Administrator Application | 185 |
| State of | f Florida, School Bus Safety Inspector Application | 186 |
| 2020 Ta | able of Changes | 188 |

Α.

INSIDE BUS
1. Emergency Equipment

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|---|--|
| a. Fire Extinguisher | | |
| Check for the presence of a fire extinguisher and for the following: | | No fire extinguisher is on bus. |
| 1) Pressure: Check gauge. | | Pressure is above or below the green zone. |
| Tag (Inspection Date): Check for the presence of inspection sticker or tag and inspection date. | Inspection sticker or tag will expire before next scheduled inspection. | Tag or sticker is missing or does not verify inspection was performed within the previous 12 months. Exception: Buses less than one year old with original fire extinguisher do not need a tag or sticker. |
| Mounting: Check for accessibility and secure mounting. | Bracket mount is loose. | Fire extinguisher is not accessible to driver, not mounted securely or mounted in a lockable compartment not equipped with an operational ignition-warning buzzer or interlock. |
| Rating: Check for proper Underwriters Laboratory (UL) rating. | | Rating is less than 2A-10BC. |
| | (Continued on Next Page) | |

A. INSIDE BUS 1. Emergency Equipment

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--|--|
| Nozzle/hose: Check for loose or damaged parts. | | Hose or nozzle is loose, missing or there is excessive damage to any part of the extinguisher. |
| Safety Pin: Check for presence of safety pin and breakable, non- reusable tamper seal | | Safety pin is missing and/or tamper seal is broken. |
| | | Tamper seal cannot be broken by hand or is reusable (can be opened and resealed without destroying the seal). |
| b. First Aid Kit | | |
| Kit box and condition: A moisture and dust-proof kit box is required for buses built since 1985. | | Kit is not present; kit box is not moisture-proof and dust-proof, will not stay latched and/or cannot be opened. |
| Check for the presence of a breakable, non-reusable tamper seal for buses built since September 1995. | Tamper seal is broken, missing or reusable (can be opened and resealed without destroying the seal). | Tamper seal cannot be broken by hand. |
| Mounting: Check accessibility and mounting of kit. Kit should be mounted in the driver's area in such a manner that it can be easily detached and made portable. | | Kit is not secured, not mounted in the driver's compartment, not easily detached or mounted in a lockable compartment not equipped with an operational ignition-warning buzzer or interlock. |
| NOTE: Must check kit contents if seal is broken or missing (also see the NOTE on page 3). | (Continued on Page 4) | |

CHART 1: FIRST AID KITS

BUSES MANUFACTURED FROM 1985 TO PRESENT

| DESCRIPTION | QUANTITY |
|---|-----------|
| 1" bandage compress (e.g., Band-Aid) | 2 pkgs. |
| 40" triangular bandage with two safety pins | 1 pkg. |
| | 6 pkgs. |
| 4" X 4" sterile gauze pads | of 2 each |
| 2" rolled bandages 6 yards in length | 1 pkg. |
| 1" roll adhesive tape 2-1/2 yards in length | 1 roll |
| Eye dressing packet | 2 pkgs. |

CHART 1a: BODY FLUID CLEANUP KIT

| DESCRIPTION | QUANTITY |
|---|----------|
| An Environmental Protection Agency | |
| (EPA)-registered germicide (tuberculocidal) | |
| disinfectant | 1 |
| A fully disposable wiping cloth | 1 |
| A water-resistant spatula | 1 |
| Step-by-step directions | 1 |
| Odor-counteracting absorbent material | 1 |
| Latex gloves | 2 pairs |
| Towelettes | 1 pkg. |
| A discard bag (non-labeled paper bag with | |
| plastic liner and twist tie). This bag shall be | |
| approximately 4x6x14 inch and be of a non- | |
| safety color (i.e., not red, orange or yellow). | 1 |

Note: In addition to scheduled inspections, all first aid and body fluid cleanup kits should be opened and inspected annually to check the condition and presence of contents according to A.1. b. and c.

A. INSIDE BUS 1. Emergency Equipment

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--|---|
| Contents: Check that all contents are intact, have not deteriorated and are sterile. (For contents list, see chart 1, page 3) | Bandages are missing or incomplete. | Contents are incomplete (except bandages), improper type or not usable due to contamination, age or deterioration. |
| c. Body Fluid Cleanup Kit | | |
| Kit box and condition: Buses manufactured since 1992 require a sealed kit. | | Kit is not present or not sealed, or box will not stay latched or cannot be opened. |
| Check for the presence of a breakable, non-reusable tamper seal for all buses manufactured since September 1995. | Tamper seal is broken, missing or reusable (can be opened and resealed without destroying the seal). | Tamper seal cannot be broken by hand. |
| Mounting: Check accessibility and mounting of kit. Kit should be mounted in the driver's area in such a manner that it can be easily detached and made portable. | | Kit is not secured, not mounted in the driver's compartment, not easily detached without the use of tools, or mounted in a lockable compartment that is not equipped with an operational ignition-warning buzzer or interlock. |
| Contents: Check that all contents are intact, have not deteriorated and are sealed. (For contents list, see chart 1a, page 3.) | | Contents are incomplete or not usable due to age and deterioration. |
| Note: Must check kit contents if seal is broken or missing (also see the note on page 3). | (Continued on Next Page) | |

A. INSIDE BUS 1. Emergency Equipment

| | Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|----|--|--|---|
| d. | Reflectors | | |
| | Check for proper quantity, type and condition of emergency roadside reflectors. | | Not equipped with three self-standing, 17-inch triangular reflectors or any of the reflectors, or storage box is unusable due to age, damage or deterioration. |
| : | Check accessibility, mounting and condition of storage box. Must be securely mounted in driver's area. | | Storage box is broken, will not remain latched, is not easily accessible, is not securely mounted forward of the passenger compartment, or mounted in a lockable compartment that is not equipped with an operational ignition warning buzzer or inter- lock. |
| : | Check for the presence of a breakable, non-reusable tamper seal for buses manufactured since September 1995. | Tamper seal is broken, missing or reusable (can be opened and resealed without destroying the seal). | Tamper seal cannot be broken by hand. |

A. INSIDE BUS2. Registration and Insurance Card

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|----------------------|--|
| a. Registration | | |
| Check for a valid Florida registration certificate. | | Registration certificate is expired, missing or illegible. |
| b. Insurance Card | | |
| Check for a valid insurance card. | | Insurance card is invalid, missing or illegible. |
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- 3. Shifter, Noise Abatement Switch and Neutral Safety Switch

| | Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|----|---|--|---|
| a. | Shifter - Automatic Transmission | | |
| | 1) Check that shifter operates easily. | Transmission gear selector does not shift easily into all gear ranges. | Shifter will not select all gear ranges. |
| | Check that correct transmission gear range is indicated. | Indicator is slightly misaligned, but correctly indicates the gear range selected. | Indicator indicates the wrong gear range selected. |
| | Check that shifter has a functional detent mechanism and handle (ball, knob or "T" type). | Shifter handle is loose. | Detent or handle is nonfunctional or missing. |
| b. | Shifter - With Shifter Park Brake Option (if equipped). Same as above plus: | | |
| | Check that parking brake applies when shifter is placed in "P" (park) position | | Rear spring brake does not apply when shifter is in the "P" (park) position. |
| | poolion | | Rear spring brake applies automatically in any gear range except the "P" (park) position. |
| | | | |
| | | | |
| | | (Continued on Next Page) | |

- A. INSIDE BUS
 3. Shifter, Noise Abatement Switch and Neutral Safety Switch

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|---|--|
| c. Noise Abatement Switch (Required on buses manufactured since 2002) | | |
| Inspect for proper operation. Switch must deactivate all non-safety-essential noise-making equipment. | Switch is not clearly labeled or not of an alternate color. | Switch/System does not work or does not deactivate required items such as AM/FM radio and CD player, heaters, defrosters, fans and air conditioners. |
| | | Switch/System deactivates safety-essential items such as windshield wipers and lighting systems. |
| d. Neutral Safety Switch | | |
| Check to determine that automatic transmission bus has a functional neutral safety switch that will allow the starter to operate only in park or neutral. | | The starter will engage when automatic transmission is in any gear other than park or neutral. |
| | | |

A. INSIDE BUS 4. Engine Controls

| | Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|----|--|--------------------------|---|
| a. | Key/Ignition Switch | | |
| | Check that ignition switch operates with a key only. | | Key sticks in the switch, switch can be operated without a key or bus is equipped with a push button or non-original equipment manufacturer (OEM) starting device. |
| | Must be mounted securely in the Original OEM location. | | Switch is loose or not mounted in the OEM location. |
| | Must freely select to all positions, i.e., start, run, off and accessory position. | | Switch does not function properly in start, run, off or accessory position; is intermittent in any position; or sticks in or between any positions. |
| | | (Continued on Next Page) | |

A. INSIDE BUS 4. Engine Controls

| | Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|----|--|--|---|
| b. | Accelerator | | |
| | Check condition of pedal assembly, mounting and securement. | Pedal cover worn but not causing a slippery pedal condition. | Pedal cover is worn badly or missing. Pedal assembly is modified or not mounted securely in the OEM location. |
| | Inspect pedal assembly, wiring and connectors for condition and loose or missing hardware. Mechanical linkage must have dual (two) return springs. | | Pedal assembly is not operating properly; wiring is loose, damaged or improperly routed; hardware is loose or missing; or mechanical type of linkage is loose, damaged or not equipped with dual return springs |
| | Check for smooth operation of pedal assembly and linkage in the accelerating and coast position. | | Accelerator control and/or linkage sticks or does not operate freely. |
| | | | |
| | | | |

5. Gauges, Indicators, Dash and Switch Panel Lights, Engine Warning Lights/Buzzers and ABS Warning Light

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|---|---|
| a. Gauges | | |
| From the driver's position, check the visibility, OEM location, readability, operation, accuracy and condition of the following gauges: | | |
| 1) Speedometer and odometer | Odometer is unreadable, does not work or is not working properly. | Speedometer is unreadable, damaged, does not function or is confirmed to be inaccurate. |
| 2) Engine oil pressure, temperature and transmission temperature | Oil pressure or temperature gauge is inaccurate or difficult to read. | Oil pressure or engine and transmission temperature gauge is unreadable, damaged or does not function. |
| 3) Fuel | Fuel gauge is inaccurate or difficult to read. | Fuel gauge is unreadable, damaged or does not function. |
| 4) Voltmeter or ammeter | Voltmeter or ammeter is inaccurate, damaged or difficult to read. | Voltmeter or ammeter does not work or does not indicate that alternator is charging. Refer to C.5.f. on page 106. |
| | (Continued on Next Page) | |

5. Gauges, Indicators, Dash and Switch Panel Lights, Engine Warning Lights/Buzzers and ABS Warning Light

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|---|--|
| 5) Air pressure or vacuum. | | Air pressure or vacuum gauge(s) are inaccurate, unreadable or not working. Air pressure gauge must read within plus or minus seven pounds per square inch (psi) (single gauge) at 100 psi. |
| Diesel exhaust fluid (DEF) level gauge. | DEF gauge is inaccurate, damaged or difficult to read. | DEF gauge does not work or is not present. |
| b. Indicators, Dash Lights and Switch Panel Lighting | | |
| Check operation of indicators, dash lights and switch panel lighting. | Any illuminated indicator, dash item or switch does not light except for items listed to the right in the "Out-of-Service" column. Dimmer control (if equipped) does not function properly. | Any one of the following fails to illuminate: 1) Air or vacuum gauge or associated low warning lights 2) High-beam headlight indicator 3) Left/right turn signal and four-way hazard dash indicators 4) Speedometer 5) Shift Indicator All dash or control panel lights are inoperative. |
| | (Continued on Next Page) | |

5. Gauges, Indicators, Dash and Switch Panel Lights, Engine Warning Lights/Buzzers and ABS Warning Light

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|----------------------|---|
| c. Engine/Transmission Warning Lights and Buzzer | | |
| Check for presence and operation of the following warning lights and audible alarms: | | |
| Coolant temperature dash warning light and alarm on diesel buses | | Coolant temperature dash warning light and/or alarm is inoperative. |
| Transmission temperature dash warning light and alarm | | Transmission temperature light and/or alarm is inoperative. |
| Low oil pressure, dash warning light and alarm on diesel buses | | Low oil pressure, dash warning light and/or alarm is inoperative. |
| d. ABS Warning Light | | Any of the above lights are on, indicating a critical mechanical condition. |
| Check condition of ABS warning lamp and system (if equipped). Refer to applicable vehicle technical publication for test | | Lamp fails to turn on during initial startup sequence. |
| procedures and diagnostic information. | | Lamp fails to turn off. |
| | | specifications. |

Note: Chock bus wheels when inspection procedures require the service, parking and/or emergency brakes to be in the released position.

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--------------------------|--|
| a. Gauge(s) | | |
| Check for presence of two air pressure gauges or a single gauge with dual needles. One gauge or needle should indicate air pressure available to the front air brake system, and the other should indicate air pressure available to the rear air brake system. Both gauges must be accurate to within plus or minus 7 psi at a system pressure of 100 psi. | | Any gauge is missing or unreadable. Gauge is not accurate to within plus or minus 7 psi at a system pressure of 100 psi. Any gauge is not in OEM location. More than 15-psi difference in dual air brake system (dual gauges) with system built up to full pressure (100-125 psi). |
| b. Buildup | | |
| Drain air reservoir thoroughly before making this check. Check the time required for air pressure to build up from 85 to 100 psi with engine at approximately 1,200 revolutions per minute (RPM). | | Air pressure buildup time from 85 to 100 psi at fast idle is greater than 40 seconds. |
| Note: If air brake gauge(s) failed inspection step a. of this section, make necessary repairs prior to performing the test in step b. | | |
| | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--|---|
| c. Governor | | |
| Check air brake system governor operation. While building up system air pressure, note pressure at which governor cuts out (compressor quits compressing). With engine still running, pump brakes to lower air pressure until compressor cuts in (starts compressing again). Note pressure. | Cut-out pressure is below 120 psi (for buses equipped with air dryer). | Cut-out pressure is too low (below 100 psi) or too high (above 130 psi). Difference between governor cut-out and cut- in pressure exceeds 30 psi. |
| Note: If gauge(s) failed previous check for accuracy, do not perform this check until gauge(s) are repaired. | | |
| d. Park/Emergency Brake | | |
| Check condition, mounting and location of park/emergency brake valve, proper release and application of park/emergency brake and interlock(s) operation (if equipped). | Valve labeling is missing or unreadable. | Valve not mounted securely in original position; knob is missing, broken or cracked; park/emergency brake does not release and/or apply properly; or interlock(s) (if equipped) do not function properly. |
| With parking/emergency brake applied and service brake released, apply engine torque by placing transmission selector in "Drive" (D) and briefly accelerate the engine to approximately 1200 RPM. Vehicle should not move forward. | | Vehicle moves forward upon applying engine torque with park/emergency brake applied and service brake released. |
| NOTE: If a bus is equipped with a rear diesel engine and an Allison World transmission, perform this test at approximately 900 RPM. | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--------------------------|---|
| e. Adjustment Drain water from air reservoir(s). With engine off, wheels chocked, service and park/emergency brakes released and system air pressure at 100 psi or above: Note air pressure. Apply service brakes firmly and release immediately. Note air pressure drop resulting from brake application. Note: If gauge(s) failed previous check for accuracy, do not perform this check until | Repair (or note) ir: | System pressure drop upon service brake application is greater than 15 psi. Note: If pressure drop exceeds 15 psi, mark item A. 6. "Out-of-Service" and follow the inspection procedures in sections D. 2., "Front Brake," pages 118-127, and D. 10, "Rear Brake," pages 145-153, in this manual. Note: Adjust Manual Slack Adjuster (MSA)- equipped brakes at every required inspection. |
| after repairs. Note: Pressure drop exceeding 15 psi indicates brakes may be out of adjustment, foundation brake hardware may be worn out or damaged, and/or there is excessive water in the air reservoir(s). Note: Do NOT manually adjust automatic slack adjuster (ASA) type brakes during inspections. See sections D.2. "Front Brake," pages 118-127, and D.10. "Rear Brake," pages 145-153, for additional information. | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--|--|
| f. Air Leaks | | |
| 1) Build up air system to at least 100 psi | | |
| Shut off engine, chock wheels an release the parking brake. | | |
| With service and parking brakes i released position, check for a pressure drop for one minute. Not pressure drop, if any. | Pressure drops less than two psi per minute. | Pressure drops two or more psi per minute. |
| Firmly apply and hold service brake Check for air pressure drop for on minute. Note pressure drop, if any. | Pressure drops less than three psi per minute. | Pressure drops three or more psi per minute. |
| 5) During both checks, listen for an audible air leaks. | / | There is any audible air leak in the air brake system. |
| Note: If gauge(s) failed previous check fo accuracy, do not perform this test unt gauge(s) is repaired. | r I | |
| | | |
| | | |
| | | |
| | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--------------------------|---|
| g. Low Air Warning | | |
| Check operation of low-air warning buzzer and light by building air pressure to 100-125 psi. Shut down engine and perform the following procedure: | | Light or buzzer is inoperative. |
| Turn ignition to the on position and pump brake pedal to drop air pressure. The low-air warning buzzer <u>and</u> light must not activate above 75 psi and must activate by 50 psi. | | While dropping the air pressure, light and/or buzzer activates above 75 psi or fails to activate by 50 psi. |
| Start engine and build up air pressure. The low-air warning buzzer <u>and</u> light must deactivate by 75 psi. | | While building pressure, light and/or buzzer continues to activate above 75 psi. |
| Note: If gauge(s) failed previous check for accuracy, do not perform this check until gauge(s) is repaired. | | |
| | | |
| | | |
| | (Continued on Next Page) | |

| h. Park/Emergency Brake Valve Pop-OutWhile dropping air pressure, va automatically "pops out" above 50 psi or f to "pop out" above 50 psi or f to "pop out" between 50 and 15 psi.i. Service Brake PedalRubber cover pad is worn, but not causing a alipsery pedal condition.Rubber cover pad is missing or badly worn Any part of pedal and assembly is damag loose, missing or modified. | Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--|--|--|
| | Inspection Procedures: h. Park/Emergency Brake Valve Pop-Out Check for emergency activation of park/emergency brake valve by dropping air pressure (starting with at least 60 psi in air system) and noting pressure at which valve "pops out." i. Service Brake Pedal Check service brake pedal assembly for adjustment, mounting, condition, operation and rubber cover pad. Check for presence of prohibited modifications and/or extender block. | Repair (or note) if: Rubber cover pad is worn, but not causing a slippery pedal condition. | Out-of-Service if: While dropping air pressure, valve automatically "pops out" above 50 psi or fails to "pop out" between 50 and 15 psi. Rubber cover pad is missing or badly worn. Any part of pedal and assembly is damaged loose, missing or modified. Pedal has any type of extender block. |

Note: Several inspection procedures outlined in this manual require the service, parking and/or emergency brakes in the released position. When performing these checks, bus wheels must be chocked to prevent the bus from moving.

| | Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|-------|---|----------------------|--------------------|
| Note: | If bus is not equipped with hydraulic brakes, proceed to page 33. | | |
| Note: | See page 131 for definitions of fluid "leaks" and "seepage." | | |

Since there are four distinct types of hydraulic brake systems in use on Florida school buses, this manual will cover each system individually. It is imperative that you know the type of system you will be inspecting to ensure that the proper inspection procedure is used.

The four types of systems are:

- **a**. Standard Vacuum Assisted Hydraulic Brakes (see page 21)
- b. Hydraulic Power Assisted Hydraulic Brake with Accumulator Backup (see page 24)
- c. Hydraulic Power Assisted Hydraulic Brakes with Electric Pump Backup and Driveshaft Parking Brake Systems (see page 27)

d. Hydraulic Power Assisted Hydraulic Brakes with Spring Set (hydraulically released) Parking Brakes (Ford Maxi-brake(s))(see page 29)

(Continued on Next Page)

| | Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|----|--|--------------------------|---|
| a. | Standard Vacuum Assisted Hydraulic Brakes. Inspect for: | | |
| | Any visible seepage or leaks in the hydraulic brake system. | | Any seepage or leaks are found. |
| | NOTE: See page 131 for definitions of fluid "leaks" and "seepage." | | |
| | a) Brake pedal reserve (distance from floor) upon firm brake application (engine running). | | Brake pedal (reserve) is less than one inch from floor. |
| | b) Brake pedal fade (pedal falls to floor when held down with engine running and with engine off) indicating brake system leak. | | Any brake pedal fade is felt. |
| | a) Vacuum gauge operation (if equipped) and low vacuum indicator light and buzzer (if equipped) with full vacuum below eight inches of mercury (hg). | | Vacuum gauge (if equipped) is inoperative, inaccurate or not clearly visible. Low vacuum indicator light and buzzer do not come on below eight inches of mercury (hg). |
| | | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--------------------------|---|
| b) Brake warning light illumination with ignition key in start position. Check to ensure brake failure warning light is not on during normal operation (with and without brakes applied). | | Brake failure warning light does not activate when key is moved to the start position. Brake failure warning light comes on (or stays on) during normal operation (with or without brakes applied). |
| c) Vacuum drop while engine is off and brakes are not applied. | | Vacuum reserve drops while engine is off. |
| 4) Vacuum Assist Booster Operation | | |
| With engine off, apply brakes several times to exhaust vacuum. Depress and hold the brake pedal down while starting the engine. Pedal should fall away slightly, indicating increased pressure being applied by the assist unit. | | Vacuum assist system malfunctions (pedal does not fall away slightly when engine is started.) |
| 5) Sufficient reserve in the vacuum system to allow at least one power- assisted brake application. Check this by turning the engine off and applying the brakes. | | Vacuum reserve is insufficient to allow at least one brake application. |
| | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|---|--|
| All brake hardware components inside bus for secure mounting, routing and condition, including: | | Brake pedal assembly, push-rod and clevis or emergency brake control assembly is insecurely mounted; poorly routed; has loose, missing or worn hardware; or is damaged. |
| a) Brake pedal assembly and rubber cover (if originally equipped). | Rubber cover is worn, but not causing a slippery pedal condition. | Rubber cover pad is missing or badly worn. Any part of pedal and assembly is damaged, loose, missing or modified. Pedal has any type of extender block. |
| b) Emergency brake control assembly. | | Emergency brake control is hard to operate or does not latch and release properly. |
| 7) Parking Brake Operation With parking brake applied and service brake released, apply engine torque by placing transmission selector in "D" and briefly accelerate the engine to approximately 1,200 RPM. Vehicle should not move forward. | | Vehicle moves forward upon applying engine torque with park brake applied and service brake released. |
| | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--------------------------|---|
| b. Hydraulic Power Assisted Hydraulic Brakes with Accumulator Backup. Inspect for: | | |
| Visible seepage or leaks in the brake or hydraulic assist systems. | | Any brake or hydraulic assist fluid is seeping or leaking. |
| Note: See page 131 for definitions of fluid "leaks" and "seepage." | | |
| a) Brake pedal reserve (distance from floor) upon one firm brake application (engine off, accumulator depleted). | | Brake pedal does not have at least a one and a half inch of reserve distance from floor. |
| b) Brake pedal fade (test for at least one and a half minutes with the engine off). Firmly apply brake pedal and hold. | | Pedal falls to floor (fades) when held down (engine off), indicating a brake system leak. |
| Brake warning light illumination with ignition key in start position. Check to ensure brake failure warning light is not on during normal operation (with and without brakes applied). | | Brake failure warning light does not activate when key is turned to the start position or stays on during normal operation. |
| | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--------------------------|---|
| 4) Power assist check: | | |
| a) With engine off, apply the foot brake several times, and then hold the brake pedal down. | | |
| b) Start the engine. | | |
| c) The pedal should fall away, then push back, against your foot. | | Power assist unit is malfunctioning (pedal does not fall away or push back). |
| d) Listen for engine drive belt squeal. | | Engine drive belt is squealing. |
| e) Release brake pedal. | | |
| f) Turn engine off. | | |
| g) Depress brake pedal. Accumulator should hold enough pressure to allow two assisted brake applications. | | Accumulator will not hold enough pressure for two brake applications. |
| All brake hardware components inside bus for secure mounting, routing and condition, including: | | Brake pedal assembly, push-rod, clevis or emergency brake control assembly is insecurely mounted; poorly routed; has loose, missing or worn hardware; or is damaged. |
| | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|---|--|
| a) Brake pedal assembly and rubber cover pad (if originally equipped). | Rubber cover pad is worn, but not causing a slippery pedal condition. | Rubber cover pad is missing or badly worn. Any part of pedal and assembly is damaged, loose, missing or modified. Pedal has any type of extender block. |
| b) Emergency brake control assembly. | | Emergency brake control is hard to operate or does not latch and release properly. |
| 6) Parking Brake Operation | | |
| With parking brake applied and service brake released, apply engine torque by placing transmission selector in "D" and briefly accelerate the engine to approximately 1,200 RPM. Vehicle should not move forward. | | Vehicle moves forward upon applying engine torque with park brake applied and service brake released. |
| | (Continued on Next Page) | |
| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--------------------------|---|
| c. Hydraulic Power Assisted Hydraulic Brakes with electric pump backup and driveshaft parking brake system. Inspect for: | | |
| Visible seepage or leaks in the brake or hydraulic assist system. | | Any brake or hydraulic assist fluid is seeping or leaking. |
| NOTE: See page 131 for definitions of fluid "leaks" and "seepage." | | The brake system does not pass all tests in chart 2, page 31. |
| Brake warning and backup systems using the appropriate chassis manufacturer's procedure in chart 2, page 31. | | Brake pedal reserve is less than one inch from floor. |
| a) Brake pedal distance from floor (reserve) upon one firm brake application with engine off and hydraulic boost depleted. | | Any brake pedal fade is felt. |
| b) Brake pedal fade (continues to fall to floor after initial firm application) with engine off. | | Brake pedal assembly, push-rod, clevis or emergency brake control assembly is insecurely mounted; poorly routed; has loose, missing or worn hardware; or is damaged. |
| All brake hardware components inside bus for secure mounting, routing and condition, including: | (Continued on Next Page) | |
| | (Continued on Next Faye) | I |

| | Inspection Procedures: | Repair (or note) if: | Out-of-Service if: | | | |
|----|--|---|--|--|--|--|
| | a) Brake pedal assembly and rubber cover pad (if originally equipped). | Rubber cover pad is worn, but not causing a slippery pedal condition. | Rubber cover pad is missing or badly worn. Any part of pedal and assembly is damaged, loose, missing or modified. Pedal has any type of extender block. | | | |
| | b) Emergency brake control assembly. | | Emergency brake control is hard to operate or does not latch and release properly. | | | |
| 5) | Parking Brake Operation | | | | | |
| | With parking brake applied and service brake released, apply engine torque by placing transmission selector in "D" and briefly accelerate the engine to approximately 1,200 RPM. Vehicle should not move forward. | | Vehicle moves forward upon applying engine torque with park brake applied and service brake released. | | | |
| | | | | | | |
| | | | | | | |
| | | (Continued on Next Page) | | | | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--------------------------|--|
| d. Hydraulic Power Assisted Hydraulic Brakes with Spring Set (hydraulically released) Parking Brakes (Ford Maxi brake). Inspect for: | | |
| Visible seepage or leaks in the brake or power assist system. | | Any brake or hydraulic assist fluid is seeping or leaking. |
| NOTE: See page 131 for definitions of fluid "leaks" and "seepage." | | |
| Brake warning and backup system using chart 3, page 32. | | The brake systems do not pass all tests in chart 3, page 32. |
| Brake pedal travel: Push brake pedal down as far as possible. | | Brake pedal travels more than halfway down. |
| Brake pedal fade (pedal falls away to floor when held down with engine running and with engine off, indicating brake system leaks). | | Any brake pedal fade is felt. |
| 5) Parking Brake Operation | | |
| a) With engine running, release the parking brake. | | |
| b) Check to be sure brakes are released (bus will move). | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--|---|
| c) Turn engine off.d) System must maintain pressure (keep parking brake released) for | | Parking brake system will not hold pressure (i.e., release brakes) for at least five minutes. |
| at least five minutes. e) With parking brake applied and service brake released, apply engine torque by placing transmission selector in "D" and briefly accelerate the engine to approximately 1,200 RPM. Vehicle should not move forward. | | Vehicle moves forward upon applying engine torque with park brake applied and service brake released. |
| 6) Check all brake hardware and components inside the bus for secure mounting, routing and condition, including: a) Brake pedal assembly and rubber cover pad (if originally equipped). | Rubber cover pad is worn but not causing a slippery pedal condition. | Brake pedal assembly, push-rod, clevis or emergency brake control assembly is insecurely mounted; poorly routed; has loose, missing or worn hardware; or is damaged. Rubber cover pad is missing or badly worn. Any part of pedal and assembly is damaged, loose, missing or modified. Pedal has any type of extender block. |
| b) Emergency brake control assembly. | | Emergency brake control is hard to operate or does not latch and release properly. |

CHART 2

| | WARNING L | IGHTS/BL | IZZER | | Brake Failure Warning System Checks | | | | |
|------|---|---------------------------|--|--------|---|--|--|--|--|
| | Normal | Operatio | n | | INTERNATION | AL/NAVISTAR | | | |
| | | | Indicator | | | | | | |
| | MODE | Brak | e Brake | Buzzer | CONDITION | NORMAL OPERATION | | | |
| | MODE | Lan | Motor | | PARK BRA | AKE LIGHT | | | |
| | | , | Lamp | | Key switch in start position with | | | | |
| FORD | 1a. Engine Off/Ignition Off brake applied | ^{/no} Off | Off | Off | park brake released - (bulb check). | Light on | | | |
| | applied | аке Off | On | On | Key switch on with park brake | Light on | | | |
| | 2. Engine Off/Ignition On or s | ant On | On | On | BRAKE PRES | | | | |
| | 3. Engine On, with or with brake applied | out Off | Off | Off | Key switch off. | Light off. Electric hydraulic | | | |
| | | | | | | brakes are applied. | | | |
| | | | | | Key switch in on position. | Light on and electric hydraulic | | | |
| | | No | ormal Operatio | 'n | Engine not running (pump and bulb check). | pump operation (some vehicles). See Navistar manual. | | | |
| | MODE | Brake Warning Light | Brake Brake Electric Warning Hydraulic Light Boost | | | Light on and electric hydraulic pump operates when service brakes are applied. | | | |
| GMC | 1. Engine off/ignition off A. No brake applied | Off | Off | Off | Key switch in on position and engine operating with service brakes applied. | Light off | | | |
| - | Engine off/ignition on, with or without brake applied (bulb check). | On | On | On | Key switch in start position. | Light comes on momentarily and electric hydraulic pump operates. | | | |
| | Engine off/ignition on. Start with or without brake applied. | On | Off | On | Key switch in on position and engine operating with service brakes applied. | Light off | | | |
| | 4. Engine on, with or without brake applied. | | Off | Off | | | | | |

CHART 3 FORD HYDRAULIC, MAXI BRAKE SYSTEM NORMAL BRAKE SYSTEM CONDITIONS

| | CONTROLS | | | | | | | | | | | RES | ULTS | | | | | | | | | | |
|----|----------|----|-------|-------|----|--------|---|-----------------|-------|-----------|-----------|-------------|------|-------|--------------|-----|-----|---------------|----|------|-------|---|---|
| EN | GINE | | IGNIT | ION | SE | RVIC | E | E PARKING BRAKE | | | SER BR | VICE AKE | * | ELECT | LECTRIC PUMP | | | PARKING BRAKE | | | | | |
| | | | | | В | RAK | E | OF | F | 10 | N | LIG | ίΗT | LIG | HT | BUZ | ZER | LIG | HT | **BL | JZZER | | |
| OF | ON | OF | 0 | START | OF | о | 0 | RELEA | ASED | APPL | IED | OF | 0 | OF | 0 | OF | 0 | OF | 0 | OF | ON | | |
| F | | F | N | | F | r | N | PARTIALLY | FULLY | PARTIALLY | FULLY | F | FN | FN | N | F | N | F | Ν | F | N | F | 2 |
| Х | | х | | | х | | | | х | or | х | х | | х | | Х | | х | | х | | | |
| Х | | Х | | | | | Х | | Х | or | Х | Х | | | Х | | Х | Х | | Х | | | |
| Х | | | | х | х | o r | Х | | | | х | | х | | Х | | Х | | Х | | Х | | |
| | Х | | х | | х | o r | Х | | | | х | х | | х | | Х | | | Х | х | | | |
| | Х | | х | | х | o r | Х | Х | | | | х | | х | | Х | | | Х | х | | | |
| | Х | | х | | х | o r | Х | | х | | | х | | х | | Х | | х | | х | | | |
| | Х | | Х | | х | o r | Х | | | X | | Х | | х | | Х | | х | | | Х | | |
| | Х | | Х | | х | o r | Х | | | | Х | Х | | Х | | Х | | | | Х | | | |

* Whenever the ignition switch is in the start position, the Hydro-Max electric pump will cycle momentarily.

** Parking brake buzzer will sound momentarily during application of the parking brake in cold ambient conditions.

A. INSIDE BUS 8. Windshield Wipers and Washers

| | Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|----|--|---|---|
| a. | Operation | | |
| | Inspect both wipers for: | | |
| | Swept area field of view and effectiveness of wiping. | | |
| | Proper operation on high and low speeds, intermittent function (if equipped), condition, and mounting of switches and knobs. | Wiper does not operate on low speed, intermittent function (if equipped) does not work properly or wiper goes past perimeter of glass. | Any wiper does not operate properly at high speed or switches or knobs are missing or loose. |
| | Condition and mounting of wiper motors and linkage. | | Either wiper motor or linkage is visibly damaged, loose or excessively worn. |
| | 4) Proper washer operation. | Washer nozzle is misadjusted. | Windshield washer is inoperable. |
| b. | Park | | |
| | Inspect for parked position of wipers when turned off (electric) or when manually parked (air). | | Electric wipers do not automatically return to parked position out of the driver's line of sight when turned off, or air wipers cannot be manually parked out of the driver's line of sight |
| C. | Blades | | sight. |
| | Inspect blades for condition, mounting and tension. | Poor cleaning of windshield. | Either blade is missing, damaged, deteriorated, loose, does not hold proper tension against windshield or does not effectively clear driver's field of vision. |

- A. INSIDE BUS
 9. Heaters, Defrosters, Auxiliary Dash or Header Fan(s)

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: | | | | |
|---|---|---|--|--|--|--|
| Inspection Procedures: a. Heaters Inspect heater system for performance, operation and condition. NOTE: See page 131 for definitions of fluid "leaks" and "seepage." | Repair (or note) if: Coolant control valve is hard to operate. Any blower does not work on all speeds, is noisy or vibrates, or switches are loose or improperly labeled. | Out-of-Service if: System is not producing heat. Any blower is extremely noisy, indicating imminent failure, or system wiring and connections are loose, damaged or chafed, creating an electrical short or high resistance. Heater hoses are cracked, swollen or badly chafed, or there is any coolant leakage inside | | | | |
| | | the bus. Hose and/or component shielding is missing or does not completely cover hoses/components in a manner that protects passengers from contact with hot surfaces and prevents spraying of coolant in the event of a hose/component failure. Any portion of heating system within passenger area creates sharp edges, projections or other hazards to passengers. | | | | |
| | (Continued on Next Page) | | | | | |

- A. INSIDE BUS
 9. Heaters, Defrosters, Auxiliary Dash or Header Fan(s)

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: | | | | |
|--|---|--|--|--|--|--|
| b. Defrosters | | | | | | |
| Inspect defroster system for performance, operation and condition. | Any blower does not work on low speed or is noisy or vibrates, or switches are loose or improperly labeled. | Any blower is extremely noisy, indicating imminent failure, or system wiring and connections are loose, damaged or chafed, creating an electrical short or high resistance. Airflow is not present at all defroster outlets, or system does not produce adequate heat. Any defroster blower does not work on high speed | | | | |
| | Any ductwork or diffusers are loose or damaged, but can still effectively route airflow. | Any ductwork or diffusers are damaged, rendering them ineffective. | | | | |
| | | Any portion of defroster system within passenger area creates sharp edges, projections or other hazards to passengers. | | | | |
| | Fresh air control (if equipped) does not function. | | | | | |
| | | | | | | |
| | | | | | | |
| | (Continued on Next Page) | | | | | |

- A. INSIDE BUS
 9. Heaters, Defrosters, Auxiliary Dash or Header Fan(s)

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: | | | |
|--|--|---|--|--|--|
| c. Auxiliary Dash Fan (if equipped) | | | | | |
| Inspect fan for performance, operation and condition. | Fan does not work on low speed, is noisy or vibrates, or switches are loose or improperly labeled. | Fan is extremely noisy, indicating imminent failure or wiring or connections are loose, damaged or chafed, creating an electrical | | | |
| Note: Dash fan may be squirrel cage type and header-mounted on some buses. | | short or high resistance. | | | |
| | | Fan is missing, loose, or will not stay adjusted. | | | |
| | | Protective cage is missing, loose or damaged. | | | |
| | | Fan does not operate. | | | |
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Α.

INSIDE BUS
10. Dome and Step Well Lights

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|---|--|
| Dome and Step Well Lights | | |
| Check passenger and driver dome lights for condition and operation. A driver dome light | Any lens is cracked or dirty. | Any lens is broken or missing, exposing light bulb or fixture. |
| has been required since September 1995. | Any single passenger dome light is not working. | Two or more passenger dome lights are not working. |
| | Dome light switch is loosely mounted. | Any driver's compartment dome light is not working. |
| Check step well lights for condition and operation. | Step well light is on when door is closed. | Step well light does not activate when clearance lights are on and the service door is |
| | Lens is cracked or dirty. | |
| | | |
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A. INSIDE BUS 11. Service Door

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--------------------------|--|
| a. Operation | | |
| Check service door assembly for operation, adjustment, condition, mounting and fit. | | Service door binds, will not open a minimum of 24 inches or is unsecured in the closed position. |
| | | Manual door control requires more than 25 pounds of effort to open or close. |
| | | Manual door control will not lock open over center, or closed latching mechanism is inoperative. |
| | | Service door emergency release does not function properly. |
| | | Service door opens or closes at an excessive rate and force or too slowly. |
| | | Air door system leaks air. |
| | | Glass is broken, cracked or has been replaced with material other than laminated or tempered safety glass. |
| | | Door glass is fogged more than one inch in from edges, or visibility through the glass is poor. |
| | (Continued on Next Page) | Door is equipped with a locking system that is not OEM factory approved. |

A. INSIDE BUS 11. Service Door

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|---|---|
| | | Door assembly is damaged, not securely mounted or has excessively worn hinges, pins, bearings/bushings or other components. |
| | Door does not seal properly or seals are damaged, ripped or deteriorated. | Door seals are not present. |
| b. Overhead Pad | | |
| Check bus for a padded safety cushion directly above the inside of the service door. Pad is required to be a minimum of three inches wide. | Pad is loose or cover has minor damage or wear. | Pad is missing or cover has excessive damage or wear, exposing foam. |
| | | |

A. INSIDE BUS

12. Horns

A. INSIDE BUS 13. Mirror Adjustment and Condition

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--|---|
| a. Rear-View Mirror System (Traffic Mirrors) | | |
| Check exterior (flat and convex) rear-view mirrors for specifications, condition and adjustment. | Electrically controlled mirror (if applicable) is not operating properly and can still be adjusted manually. | Any required rear-view mirror is not present. Rear-view mirrors cannot be adjusted. Any mirror is cracked, broken or has reflective surface deterioration; view is diminished; or any damage is visible. Any mirror does not meet applicable specifications. Any rear-view mirror is out of adjustment. (If in doubt, consult with operations supervisors and/or driver trainers). |
| | (Continued on Next Page) | |

A. INSIDE BUS 13. Mirror Adjustment and Condition

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--------------------------|--|
| b. Cross/Side-View Mirror System (Cross- walk Mirrors) | | |
| Check cross-walk/side-view mirrors for applicable specifications, condition and adjustment. | | Any required cross-walk/side-view mirror is not present. Any mirror is cracked, broken or has reflective surface deterioration; view is diminished; or any damage is visible. Any mirror does not meet applicable specifications. Any cross-walk/side-view mirror is out of adjustment, i.e., mirrors do not provide driver with an indirect view of the area at ground level from the front bumper forward, including the entire width of the bus and around the left and right front corners so that the driver can see by direct vision, and/or does not provide driver with indirect vision of the area at ground level, to include the tires and service entrance on all types of buses so that view overlaps with the rear-view mirror system. (If in doubt, consult with operations supervisors and/or driver trainers). |
| | (Continued on Next Page) | |

A. INSIDE BUS 13. Mirror Adjustment and Condition

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|----------------------|---|
| c. Interior Mirror | | |
| Check interior mirror for specifications, condition and adjustment. | | Interior mirror is not present. Mirror is cracked, broken or has reflective surface deterioration; or view is diminished by distortion, stickers or other items. Interior rearview mirror is not at least 6 inches x 30 inches (except Type A, which shall be a minimum of 50 square inches). Mirror does not have rounded corners and protected edges. Mirror or mounting/adjusting system is loose or cannot be adjusted by the driver. |

A. INSIDE BUS 14. Driver's Seat and Seat Belt

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--|--|
| Driver's Seat and Belt | | |
| Inspect driver's seat and belt for specifications, condition, mounting and operation. | Seat adjustments are stiff but still operational. | Driver's seat will not adjust up, down, forward, and back (see note), and lock in position with driver in the seated, belted position; seat back will not tilt and lock into position; or adjustment hardware is loose, missing or damaged. |
| Buses manufactured since 1989 require high back seat with cloth insert and a three-point shoulder harness/lap belt assembly. | Seat upholstery or foam is deteriorated or damaged. | Seat assembly is unstable, cracked, damaged or loose at floor; mounting hardware is missing or not OEM or equivalent; or seat bottom or back is loose, or frame is exposed due to deterioration of upholstery or foam |
| Buses manufactured since 2009 require bright orange or lime green seat belt webbing. | Driver's seat belt webbing is incorrect color (not bright orange or lime green for buses manufactured since 2009, or bright orange for buses manufactured since 2020) | |
| Air suspension seat required on all air brake equipped buses since September 1995. | | If equipped, seat suspension system is leaking air. |
| The chassis manufacturer's standard seat is acceptable for Type A buses. | | Wrong type of seat, not meeting specifications, has been installed. |
| Note: The seat must have a minimum of seven (7) inches fore and aft travel and a minimum of four (4) inches up and down travel. For complete driver's seat specifications, please see page III-3 of the <i>2020 Florida School Bus Specifications</i> manual. | Driver's seat belt retractor cover is loose or missing. | Driver's seat belt is missing; is wrong type (i.e., not manufacturer's standard for year, make and model of bus); belt guides are insecure, damaged or not operating properly; belt is loose or routed improperly or does not extend or retract freely; buckle-and-tongue assembly does not latch or release properly; or seat belt is frayed or damaged. |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--------------------------|--|
| a. Frames | | |
| Inspect passenger seat frames for condition, hardware and modifications. | | Any seat frame tubing or welds are broken or cracked; any frame has been repaired, modified or reinforced using non-OEM approved hardware or methods or projections; or sharp edges exist. |
| Check for presence of non-OEM seat frames. | | Any non-OEM seat frames have been installed. |
| b. Mounting | | |
| Inspect condition of passenger seat mounting. | | Mounting at floor or seat rail is loose; components are cracked, broken or damaged; or any fasteners are missing, damaged or not OEM or equivalent. |
| | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--------------------------|--|
| c. Backs/Restraining Barriers/Modesty Panels/Padding | | |
| Inspect seat back, restraining barriers, modesty panels and padding for specifications and condition. Up to early 2007 models: Standard | | Any bus manufactured since April 1977 does not have a properly spaced and padded restraining barrier/modesty panel forward of any passenger seat without another seat directly ahead. |
| height padded seat backs, approximately 24 inches high measured from the seat bottom cushion. | | Any modesty panel is missing, excessively loose or damaged, causing sharp edges or pinch points. |
| Early 2007 to present year models: High-back padded seat backs, approximately 28 inches high measured from the seat bottom cushion. | | Original thickness or density of any seat back or restraining barrier foam has been reduced due to wear, damage, deterioration or other factors so that there is no padding between any portion of seat back frame and covering. |
| High Back STD Back Approx. 24" Approx. 28" | | Any seat back or restraining barrier foam is the wrong type (i.e., not manufacturer standard for year, make and model of bus). |
| | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--------------------------|---|
| d. Bottoms | | |
| Inspect seat bottoms for securement and condition. | | Any seat bottom is not attached to its seat frame, or tilt-up bottoms will not latch or stay latched in the closed position. |
| Inspect automatic retracting seat bottom at side emergency door for proper operation, if equipped. Must have clear access to emergency door, with a minimum aisle width of 12 inches between seats. | | Original thickness or density of any seat bottom cushion is reduced due to wear, damage, deterioration or other factors so that there is no padding between any portion of seat bottom frame and covering. Any seat bottom has a protruding edge or its plawood is broken |
| | | Any automatically retracting seat bottom will not fold down, automatically retract and stay in position when not occupied, or there is less than a 12-inch aisle width between the seat and the side emergency door. |
| | | |
| | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--------------------------|---|
| e. Cuts and other upholstery damage | | |
| Inspect seat upholstery for condition and specifications. | | Any portion of seat bottom or back upholstery is missing, cut, torn, ripped or improperly |
| Note: Fire-blocking seat material has been required since 1989. Starting September 1995, seat material must be blue in color. | | Any upholstery is non-fire-blocking type for buses built since 1989. |
| Note: Punctures where no material is missing and no foam is exposed shall not be cause for removing bus from service. | | |
| f. Optional Integrated Child Seating | | |
| Check the condition and operation of the seating system. | | The integrated system does not function according to the manufacturer's operational procedures or any of the same out-of-service conditions exist that are applicable to regular passenger seats. |
| | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|---|---|
| g. Passenger Securement Devices (if equipped) | | |
| All buses equipped with two or three-point passenger securement systems shall be equipped with FMVSS No. 210 compliant seat frames and FMVSS No. 209 compliant belt assemblies in all passenger-seating positions. Check type, condition and operation of passenger securement devices. | Each two-part belt assembly is not separately color-coded. Belts are knotted or misrouted, or retractor covers are damaged or loose. | Belts will not latch, stay latched or unlatch properly or are the wrong type, missing, broken, mismatched, improperly installed or excessively frayed. |
| Note: All buses ordered after January 1, 2001, must be equipped with seat belts at all seating positions. Type A buses built since April 1, 1977, must have a functional seat belt at each passenger position. | | |
| h. Webbing Cutter | | |
| Check for presence, type, condition and mounting of the required webbing cutter. It must be mounted in a location accessible to the driver from a seated, belted position and be easily detachable. | | Any required webbing cutter is missing, broken, unusable, improperly mounted or difficult to remove. Wrong type of webbing cutter. |
| Note: Lift-equipped buses or buses using other assistive/restraining devices containing webbing must have a second webbing cutter properly mounted in a location determined by the school district. | | |

A. INSIDE BUS 16. Emergency Doors, Windows, Hatches and Passenger Check System

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--|---|
| Inspection Procedures: a. Operation Inspect for operation and condition of rear emergency exit door and side emergency exit door (if equipped), door hold-open feature (for buses built after November 1993), emergency exit windows and emergency exit roof hatches. | Repair (or note) if: | Out-of-Service if: Any emergency exit does not operate smoothly and easily to open and close fully, from the inside and outside when unlatching, opening, closing and latching (windows from inside only). Door (or rear window on rear engine (RE) buses) hold-open feature does not secure the exit in the fully open position. |
| | Any emergency exit handle, guard or latch mounting hardware is slightly loose. | Any emergency exit handle, guard, latch or mounting hardware is missing, or latching mechanism does not operate smoothly and secure the exit in the closed position. |
| | Powered roof hatch ventilator (if equipped) does not work properly. | Roof hatch is insecure in the ventilation position. |
| | | Any emergency exit is equipped with any type of a hasp, lock or any other locking device, except for an OEM interlock system. |
| | | Bus will start with any emergency door (or rear window on RE buses) locked. |
| | Roof hatch seal is damaged or dislodged. | Any emergency exit door does not seal off the entire opening when latched closed. |
| | (Continued on Next Page) | |

A. INSIDE BUS 16. Emergency Doors, Windows, Hatches and Passenger Check System

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|------------------------------|---|
| b. Buzzers | | |
| Check emergency exit door(s) and window warning buzzers. | | Buzzer warning system for emergency door (or rear window on RE buses) or any exit window does not function, gives false alarms or is not audible in the driver's compartment. Buzzer operation is intermittent. |
| c. Labeling and Pad | | |
| Inspect for identification labels and operating instruction labels, for emergency doors, windows, roof hatches and hold-open device (if required). | | All emergency exits are not clearly labeled "Emergency Door" or "Emergency Exit" on the inside and outside of the bus. The operating instruction labels for any emergency door (or rear window on RE buses), or roof hatch are not present on the inside of the bus (or outside, if required by applicable specifications). The operating instruction label for the emergency door hold-open device is not |
| | | visible from both the inside and outside of the bus (if required). |
| 2) Inspect emergency door header pad. | Door pad is ripped or loose. | Door pad is missing or has a protruding edge. |
| | (Continued on Next Page) | |

A. INSIDE BUS 16. Emergency Doors, Windows, Hatches and Passenger Check System

| | Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|----|--|--|---|
| d. | Post-Trip Passenger Check System (if equipped) | | |
| | Check for proper operation of post-trip passenger check system according to manufacturer's specifications. | If equipped, post-trip passenger check system does not operate according to specifications, but requires disarming at rear of bus. | If equipped, post-trip passenger check system is inoperative. |
| | Note: Post-Trip Passenger Check System required on buses manufactured since 2005. | | |
| | Note: Post-Trip Passenger Check System, on buses manufactured since 2020, requires an indicator light in view of the driver that illuminates when the system is armed. | | |
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- A. INSIDE BUS 17. Windshield, Side and Rear Windows

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--------------------------|---|
| Inspection Procedures: a. Glass Cracks Inspect windshield and all windows for cracks and other damage. Note: Windshield must be laminated safety glass. All other windows can be made from laminated or tempered safety glass. | Repair (or note) if: | Out-of-Service if: Windshield has any cracks, chips or damage that obstructs the driver's view. Any windshield or other laminated safety glass window is cracked greater than two inches in length, or any laminated glass crack or splinter creates a sharp surface that could cause injury when touched. |
| | | Any tempered safety glass is cracked. Any window rearward of the windshield is not laminated, tempered or equivalent safety glass. |
| | | Any glass is missing. |
| | (Continued on Next Page) | |
| | | |

- A. INSIDE BUS 17. Windshield, Side and Rear Windows

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--------------------------|---|
| b. Fogging, Tinting and Visibility | | |
| Check windshield and windows for fogging, reduced visibility or improper level of tinting. | | Any glass is fogged more than two inches in from any outer edge. |
| Note: Vehicle safety technologies, as defined in <u>49 CFR § 393.5</u> (i.e., camera), and mounted in accordance with <u>49 CFR §</u> <u>393.60</u> , are not cause to place a school bus out-of-service. | | Any windshield or window fogging or clouding results in reduced visibility of a mirror. Any tinting on the windshield or windows to either side of the driver in the driver's compartment (including service door) is not 70 percent light transmitting or clearer. Any tinted windows behind the driver's compartment are not 28 percent light transmitting or clearer. Visibility is reduced for any reason. |
| | (Continued on Next Page) | |

- A. INSIDE BUS 17. Windshield, Side and Rear Windows

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|---|---|
| c. Latches and Window Operation | | |
| Check latches and windows for condition and operation. | Any window latch is difficult to operate, or any window does not move up and down freely. | Any window will not move fully up and down or will not stay closed. Any window has loose, damaged or protruding hardware in the passenger compartment. |
| d. Visor | | |
| Check sun visors for condition and operation. | | Sun visor is cracked or damaged, cannot be adjusted or will not stay in position.Visibility is reduced for any reason (clouded, dirty or has foreign objects or decals affixed).Sun visor is missing. |
| | | |

A. INSIDE BUS 18. Wheelchair Power Lift, Door and Securement System

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--|---|
| Wheelchair Power Lift, Door and Securement System | | |
| Operate lift through complete cycle and inspect for proper operation according to manufacturer's specifications; inspect overall general condition, safety features including park brake interlock, manual backup system, fluid leakage/seepage, mounting, roll stop operation, warning light, buzzer operation and overall mechanical condition. Note: See page 131 for definitions of fluid "leaks" and "seepage." | Dome light at inside lift area is inoperative. Lift door or latch does not operate smoothly. White light at exterior lift area (if originally equipped) is inoperative. | Lift door warning buzzer or light does not operate. Lift door latches, weather stripping or securement system is damaged or loose. Door switch (to prevent lift operation when the lift door is closed) or other safety override features do not function, including park brake interlock. Lift does not properly deploy, lower, raise or retract; jerks; binds; or jacks the vehicle when fully lowered. Inboard and outboard roll stops or handrails do not deploy and retract reliably to the proper positions. Lift will not stay in the fully retracted position (falls against door). Lift safety belt (if originally equipped) is damaged or missing. |
| | (Continued on Next Page) | Lift safety interlock system is not operating according to manufacturer's specifications. |

A. INSIDE BUS18. Wheelchair Power Lift, Door and Securement System

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|-----------------------------|--|
| | | There is side play in excess of two inches in the lift mechanism when the platform is extended. |
| Note: See page 131 for definitions of fluid "loaks" and "soonage " | Hydraulic fluid is seeping. | Hydraulic fluid is leaking. |
| leaks allu seepaye. | | Lift is not securely mounted to the vehicle. |
| | | Lift on buses manufactured in 1989 or later is not equipped with frame padding. |
| | | Any part of the lift mechanism or hardware is damaged, missing or unsecure, including cams, clips, pins, rollers, platform fasteners and control head, cables and wiring. |
| | | Manual backup system does not function properly. |
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| | (Continued on Next Page) | |

A. INSIDE BUS
18. Wheelchair Power Lift, Door and Securement System

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--|---|
| Inspect wheelchair and occupant securement (tie-down) system for proper operation, condition, mounting, type and location. | Track contains dirt/debris, but occupant securement straps and wheel chair tie-down straps can still be easily attached to or detached from the track. | Track contains excessive dirt or debris. Wheelchair tie-down track or fasteners are loose, broken, corroded or improper type (i.e., lag bolts, sheet metal screws). |
| Note: Beginning in 2008, each 50-inch section of tie-down track may consist of two pieces of track, with neither piece less than 16 inches long, and must extend the full length of the wheelchair position, with no gaps. For buses manufactured in 2020 and later, please consult applicable | Optional below-chair rail lighting for wheelchair securement area (if equipped) is inoperative. | Any 50-inch wheelchair position has more than two pieces of track, or any piece of track is shorter than 16 inches. On buses manufactured before 2008, any wheelchair position does not have continuous one-piece, 50-inch tracks. |
| specification manual for information concerning passenger securement system on buses transporting students with exceptionalities. | | Wheelchair or occupant securement straps are broken or frayed, cannot be easily attached to or detached from track, or will not operate. |
| Note: Buses equipped with lifts and other | | Securement system for buses built between October 1983 and November 1989 is not a side-facing, track-and-belt system meeting Florida specifications. |
| webbing must have a second webbing cutter properly mounted in a location determined by the school district. | | Securement system (for buses built after November 1989) is not a forward-facing wheelchair and occupant securement system meeting Florida specifications. |
| Check for presence, proper type, proper mounting and condition of a second durable webbing cutter. | | Any required webbing cutter is missing, broken, unusable, improperly mounted, difficult to remove or of incorrect type. |

A. INSIDE BUS 19. Two-Way Radio Operation

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|-------------------------------------|---|
| Two-Way Radio Operation (if equipped) | | |
| Inspect radio and antenna for condition, mounting, location and routing of wiring, and perform function check. | Radio will not transmit or receive. | Driver has to move out of the normal driving position to operate radio. |
| | Mounting is loose. | Wiring or connectors are routed or installed incorrectly, or there is the possibility of an electrical short circuit due to unsecured or damaged wiring. |
| | | Any part of radio, external speaker, microphone or wiring interferes with driver's controls or blocks any of the driver's view through any portion of windshield or other window. |
| | | |
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| | | |

A. INSIDE BUS 20. Interior Wiring, Cab Hoses and Fire Wall Seals

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--|--|
| a. Interior Wiring | | |
| Inspect visible wiring and connectors for mounting, condition, chafing, abrasion, corrosion, loose connections and improper repairs | | Any wire or connector is cut, chafed, missing insulation, routed against sharp edges or interferes with driver's controls. |
| b. Cab Hoses | | Any wiring is exposed within the passenger compartment. |
| Inspect all hoses for leaks, condition, routing, abrasion and presence of heater hose shielding. (See page 131 for definitions of fluid "leaks" and "seepage") | Any hose inside the bus is seeping lubricant or coolant. | Any hose is leaking, cut, chafed, routed against sharp edges or interferes with driver's controls. |
| | | Any heater hose inside the bus is not shielded in a manner to prevent spraying of coolant in the event of a hose failure. |
| C. Filewall Seals | | |
| Inspect firewall for any holes, cracks, unsealed openings and deteriorated or missing sound deadening/insulation material. | Sound deadening/insulation material is missing, unsecured or deteriorated. | There is any open hole or unsealed area in the firewall. |
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A. INSIDE BUS 21. General Condition of Bus Interior

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|---|--|
| a. Floor | | |
| Inspect floor covering, plywood sub-floor (if installed), aisle and cove molding strips, and | Floor covering material is loose, deteriorated or cracked. | There are any unsealed holes or cracks through the floor to underside of bus. |
| loose or missing fasteners, and/or holes and cracks. | Plywood is soft. | Aisle is not equipped with 12-inch wide ribbed rubber. |
| | | Any aisle or front-area-molding strip is not securely fastened to floor, or any aisle or cove molding presents a sharp edge or protrusion. |
| | | Any damage, wear or condition of the floor covering material and moldings presents a tripping hazard. |
| b. Stepwell | | |
| Check specifications and condition of step well and tread. | Step tread is not sealed at inside edge where it meets next step. | Step well tread and jointing edge at aisle are not flush and securely adhered. |
| | | Step well tread ribs/nubs on top surface at leading edge are worn smooth more than four inches in width. |
| | | Step well support structure is not secure or is broken, or step well is rusted through. |
| | | |
| | (Continued on Next Page) | |

A. INSIDE BUS 21. General Condition of Bus Interior

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--------------------------|---|
| Check stepwell area for added (non-OEM) items/equipment or any other condition that could create snagging points. If anything is suspect, perform the National Highway Traffic Safety Administration (NHTSA) string-and-nut test as described in the <i>National School</i> <i>Transportation Specifications and Procedures</i> and found in this publication on page 65. | | Any Type C or D bus manufactured since December 1990 is not equipped with a three- step riser with full-width steps. Step warning decals are missing or unreadable (flat floor-equipped buses only). Any non-OEM items have been added or other condition exists that could cause snagging. |
| c. Grab Rail(s) | | |
| Check for presence and secure mounting of entrance grab rail(s). | | Grab rails are missing or not securely mounted. |
| Check grab rails for any condition that could create snagging points. If anything is suspect, perform the NHTSA string-and-nut test as described in the National School Transportation Specifications and Procedures, and found in this publication on page 65. | | Lift-equipped buses do not have a left and right side grab rail at the entrance step well. Grab rails fail NHTSA string-and-nut test. |
| | (Continued on Next Page) | |
A. INSIDE BUS 21. General Condition of Bus Interior

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--|---|
| d. Paneling and Trim | | |
| Check front, sides, rear, ceiling and driver's area paneling and trim pieces for secure fastening, projections, sharp edges, pinch points and condition. | There are loose or missing fasteners on any maintenance access panel. | Sharp edges, pinch points, excessive rust, loose fasteners or projections from paneling exist that could cause injury to passengers or driver. |
| | | There are any non-flush-mounted speakers (except trim rings) or any other unauthorized items affixed to the interior paneling of the bus in the passenger area. |
| | There are graffiti, unauthorized stickers, missing paint or mildew on interior panels. | There is inappropriate graffiti that requires immediate attention, subject to district policy. |
| e. Broom Mounting | | |
| Check securement and location of broom. | | Broom is not securely mounted in the driver's compartment. |
| | | |
| | | |
| | (Continued on Next Page) | |

A. INSIDE BUS 21. General Condition of Bus Interior

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|---|--|
| f. Loose Objects and Cleanliness | | |
| Check to see that all objects within the bus are secured. | | Loose objects such as trashcans, clothing or cleaning supplies are present that are not in a secured compartment or container. |
| Check cleanliness of bus. | | There is excessive dirt or trash on the floor, causing a slippery condition. |
| Check for the presence of aerosol containers and non-aerosol liquid containers. | Trash not emptied from trash can or floor not swept. | Any aerosol cans or other containers with flammable or volatile contents are present. |
| | | Any unlabeled liquid container is present. |
| g. Dog House/Engine Cover | | Note: An exception to flammable or volatile contents mentioned above is granted (at the district's discretion) to facilitate the use of alcohol-based hand sanitizer. The dispenser must be mounted in accordance with the "New Technology and Equipment" language in the 2020 Florida School Bus Specifications. |
| Inspect dog house/engine cover seals, soundproofing, weather stripping, prop-rod | Soundproofing is not present or is loose or deteriorated. | Seals or weather stripping are leaking and allowing air/fumes into driver's compartment. |
| | | Prop-rod does not safely support the dog house/engine cover. |
| | | Latches are hard to operate or do not secure the dog house/engine cover properly. |

| CHART 4 |
|--|
| NUT-AND-STRING TEST |
| The Handrail Inspection Tool and Procedure |

The inspection tool is inexpensive, and the procedure for detecting potentially fatal handrail designs is quite simple. The inspection tool is a standard one-half inch hex nut, measuring three-quarters of an inch across the flats. This nut is tied to a one-eighth inch thick cotton cord measuring 36 inches in length with overhand knots. The drawstring should have a minimum length of 30 inches when tied to the nut and attached so that a pull of at least 10 pounds does not separate the nut from, or break, the drawstring.

Steps to conduct a handrail inspection are:

- Stand on the ground outside of the bus;
- Drop the inspection tool between the handrail and step well wall, simulating the typical way students exit the bus;
- Draw the inspection tool through the handrail in a smooth, continuous slow motion; and
- Repeat this procedure a minimum of three times.

Note: It is important to drop the inspection tool over the handrail in such a way as to simulate a child exiting the bus. This is a drop-and-drag test. Do not create a snagging situation by placing the nut in an area that would not be exposed to a drawstring or other articles.

Inspection Results:

Take the bus out of service and repair it if the inspection tool catches or snags anywhere on the handrail. If the nut separates from the drawstring or the drawstring breaks, reassemble the tool and retest. If the inspection tool pulls freely without catching or snagging, the bus should not be rejected.



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1. Headlights, Turn Signals, Hazard, Brake, Tail, Backup Lights, Backup Alarm and Park Lights

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--|---|
| NOTE: When checking LED lights, if 75 percent or more of the LED elements illuminate, the light is considered good. If less than 75 percent of the LED elements illuminate, the light must be replaced. | | Less than 75 percent of the LED elements illuminate. |
| a. Headlights | | |
| Check both headlights for brightness, operation, condition and visible misaiming. Check high-beam indicator operation and | Left and right headlights are of different types (conventional, halogen or LED). | Either headlight fails to function on low and high beam, any lens or sealed beam is fogged or cracked, or light is dim. |
| neadlight switch. | | High beam indicator is inoperative. |
| | | Dimmer switch sticks, is hard to operate or fails to function. |
| | | Headlight switch is damaged or not securely mounted, or the knob is missing. |
| | | Headlight operation is intermittent. |
| | | Upon visible inspection, there is any obvious misaiming of headlights. |
| If equipped, check Daytime Running Lamps (DRL) or Full-Time Lights (FTL) for proper | DRL or FTL system does not work according to specifications. | |
| | (Continued on Next Page) | |
| | | |

1. Headlights, Turn Signals, Hazard, Brake, Tail, Backup Lights, Backup Alarm and Park Lights

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|----------------------------------|--|
| b. Turn Signals | | |
| Check turn signals for operation, condition and specifications (see charts 6 and 7 on pages 83 and 84). | Any turn signal lens is cracked. | Any turn signal fails to function, does not flash or is dim. Turn signals do not flash 60 to 120 times per minute. Any required side-mounted turn signal(s) are not present per applicable Florida School Bus Specifications. Any turn signal is not amber in color. Any turn signal lens is damaged, darkened, faded or dirty, affecting visibility or color of the light, or white light is visible. Turn signal switch does not function properly, |
| | | will not maintain selected position, or does not cancel and return to neutral position. Turn signal dash indicators fail to function or do not properly indicate position of turn signal switch and operation of signal. |
| | (Continued on Next Page) | |

1. Headlights, Turn Signals, Hazard, Brake, Tail, Backup Lights, Backup Alarm and Park Lights

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|---|--|
| c. Hazard Lights | | |
| Check four-way hazard lights for operation and condition. | Any lens is cracked or dirty. | Any four-way hazard light fails to function.Hazard lights do not flash 60 to 120 times per minute.Switch does not function or will not maintain the "on" position. |
| d. Brake Lights | | |
| Check brake lights for operation, condition and specifications (see chart 7, page 84). | One brake light fails to function on buses with four brake light systems. | More than one brake light fails to function on buses with four brake light systems. Either brake light fails to function on buses with two brake light systems. Brake lights stay on after brake pedal is released. |
| | (Continued on Next Page) | |

1. Headlights, Turn Signals, Hazard, Brake, Tail, Backup Lights, Backup Alarm and Park Lights

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|---|--|
| | | Any bus not equipped with two 7-inch and two 4-inch brake lights. |
| | | Any brake light is not red in color. |
| | Any brake light lens is cracked. | Any brake light lens is damaged, darkened, faded or dirty, affecting visibility or color of the light, or white light is visible. |
| e. Tail Lights | | |
| Check tail lights for operation, condition and specifications (see chart 7, page 84). | One tail light fails to function on buses with four tail light systems. | More than one tail light fails to function on buses with four brake light system. |
| | | Either tail light fails to function on buses with two brake light system. |
| | | Tail light operation is intermittent. |
| | | Any bus is not equipped with two 7-inch and two 4-inch taillights. |
| | | Any tail light is not red in color. |
| | Any tail light lens is cracked. | Any tail light lens is damaged, darkened, faded or dirty, affecting visibility or color of the light, or white light is visible. |
| | (Continued on Next Page) | |

1. Headlights, Turn Signals, Hazard, Brake, Tail, Backup Lights, Backup Alarm and Park Lights

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|---|--|
| f. Backup LightsCheck backup lights for proper operation and condition (see chart 7, page 84). | One of two backup lights does not function. Any backup lens is cracked. | Any bus is not equipped with at least one functional white backup light. Backup light(s) stays on all the time or stays on in any gear position other than reverse. |
| g. Backup Alarm | | |
| Check for presence of backup alarm (for buses manufactured since November 1990) and required decal (for buses manufactured since November 1993). Check proper operation of alarm (or variable volume alarm, if equipped) by placing transmission in reverse (engine running) and listening for alarm sound. | Decal is not visible in driver compartment in plain view of the driver. Decal is not present (for buses manufactured since November 1993). Variable volume backup alarm (if equipped) is not variable. | Backup alarm does not sound. |
| | (Continued on Next Page) | |

1. Headlights, Turn Signals, Hazard, Brake, Tail, Backup Lights, Backup Alarm and Park Lights

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|---|---|
| h. Parking Lights | | |
| Check parking lights for proper operation and condition (see charts 6 and 7, pages 83 and 84). | One front or rear parking light fails to function on buses with four front and four rear parking light systems. | More than one front or rear parking light fails to function on buses with four front and four rear parking light systems. |
| | Any parking light lens is cracked or damaged. | One front or rear parking light fails to function on buses with a two parking light system. |
| | | Any parking light lens is damaged, darkened, faded or dirty, affecting visibility or color of the light, or white light is visible. |
| | | |
| | | |
| | | |
| | | |

B. OUTSIDE BUS
2. Clearance, Side Marker, ID Lights, Reflectors and Strobe Light

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--|---|
| a. Clearance, Side Marker and ID lights | | |
| Check lights for operation, condition and location. Also check license plate light (see charts 6 and 7 on pages 83 and 84). | Any intermediate (center) side marker light fails to function. | Any front or rear top corner-mounted clearance, side marker or clearance/side marker combination light fails to function. |
| Note: When there are two lights factory- mounted at the top corners, the front is a clearance and the side is a side marker. When there is one light factory-mounted at | | Any bus over 30 feet in length is not equipped with intermediate amber side marker lights on both sides. |
| the top corners, it is a clearance/side marker combination, meeting both requirements. | | Any intermediate or front clearance, side marker, clearance/side marker combination light or ID light lens is not amber. |
| | | Any rear clearance, side marker, clearance/side marker combination light or ID lens is not red. |
| | Any clearance or ID light lens is cracked. | Any clearance, side marker, clearance/side marker combination light or ID light lens is damaged, darkened, faded or dirty, affecting visibility or color of the light, or white light is visible. |
| | One or two ID lights (but not all ID lights) on the front or rear of the bus fail to function. | All ID lights on either the front or the rear of the bus are inoperative. |
| | License plate light is inoperative. | |
| | (Continued on Next Page) | |

B. OUTSIDE BUS
2. Clearance, Side Marker, ID Lights, Reflectors and Strobe Light

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--------------------------------------|--|
| b. Reflectors | | |
| Check reflectors for condition and location (see charts 6 and 7 on pages 83 and 84). | Any reflector is damaged or cracked. | Any required reflectors are missing. |
| Note: Reflectors are required as follows: 1) Buses over 30 feet in length: two red on rear, one red on each side at rear, one intermediate amber on each side, one amber at front and one amber front of cowl on each side. 2) Buses under 30 feet in length: same, except intermediate amber reflectors are not required. | | Any required reflector is faded, significantly affecting its original color. |
| c. Strobe Light | | |
| Check roof-mounted white flashing strobe light for operation, location and condition. | | Any bus manufactured since December 1990 is not equipped with a roof-mounted white flashing strobe light mounted in the center of the roof approximately 48 inches from the rear of the bus. |
| | | The strobe light on any bus built prior to December 1990 is not mounted in the center of the rear part of the roof. |
| | | Strobe light does not function. |
| | (Continued on Next Page) | |

B. OUTSIDE BUS 3. Pupil Warning Lights

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|---|---|
| Pupil Warning Lights | | |
| Check pupil warning lights for operation and condition according to manufacturer's specifications (see charts 6 and 7 on pages 83 and 84). | Either of the two pupil warning pilot lights fail to function. | Any pupil warning light fails to function or is dim. Front and rear amber and red lights do not |
| Note: See chart 5, page 76, for function checks. Pupil warning light hoods in the front and rear of the bus have not been required since September 1993. Strobing LED bulbs have been required on buses since 2020. | Any pupil warning light lens is damaged but no white light is visible. | alternately flash (side to side). Any outer pupil warning light is not red, inner pupil warning light is not amber, or pupil warning light is not OEM or equivalent. Any pupil warning light lens is damaged and white light is visible. Any pupil warning light lens is obstructed, misaimed, dirty, darkened or faded, affecting the color of the light or reducing the visibility to less than 500 feet in bright sunlight. |
| | | Pupil warning lights fail to function according to all conditions in chart 5, page 76. |

CHART 5 EIGHT-LIGHT WARNING SYSTEM

- NOTE: System may not be designed in such a way that the operator is required to actuate controls in a particular sequence to achieve the desired combination of conditions.
- EXAMPLE: If the driver places the three-position switch in the amber position with the master switch on, he should not have to move the three-position switch to red or open the service door to deactivate the amber warning lights. The driver must be able to deactivate the amber warning lights by going directly from the amber to the off position.

WITH MASTER SWITCH, CONTROL SWITCH and SERVICE DOOR IN THE FOLLOWING POSITIONS: CONDITION OF STOP ARM(S), STOP ARM LIGHTS, AMBER WARNING LIGHTS AND RED WARNING LIGHTS MUST BE:

| | | | | - | | | |
|----|---|--|-----------------------------|----------------------------------|---|------------------------------------|-------------------|
| | MASTER SWITCH POSITION (ON or OFF) | CONTROL SWITCH POSITION (three-positions: OFF, AMBER or RED) | SERVICE DOOR POSITION | STOP ARMS, STOP ARM LIGHTS | AMBER WARNING and PILOT LIGHTS | RED WARNING and PILOT LIGHTS | *AUDIBLE ALARM |
| 1) | ON | OFF | CLOSED | RETRACTED, OFF | OFF | OFF | OFF |
| 2) | ON | OFF | OPEN | RETRACTED, OFF | OFF | ON | ON |
| 3) | ON | AMBER | CLOSED | RETRACTED, OFF | ON | OFF | OFF |
| 4) | ON | AMBER | OPEN | RETRACTED, OFF | OFF | ON | ON |
| 5) | ON | RED | CLOSED | EXTENDED, ON | OFF | ON | OFF |
| 6) | ON | RED | OPEN | EXTENDED, ON | OFF | ON | OFF |
| 7) | OFF | ANY POSITION | ANY POSITION | RETRACTED, OFF | OFF | OFF | OFF |

* Note: Effective September 1, 1992.

B. OUTSIDE BUS4. Stop Arm(s) and Student Crossing Arm

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|---|--|
| a. Stop Arm(s) | | |
| Check stop arm(s) for specifications, operation and condition. (See chart 6, page 83). | Any wiring is not properly routed and secured. Hinges or bushings are not adequately lubricated. Stop arm extends more than or less than 90 degrees (plus or minus five degrees). | Any wires or ground strap(s) are broken. Any stop arm light fails to function or lights do not flash 60 to 120 times per minute in an alternating pattern. Stop arm does not extend or retract, or is slow to extend or retract. Any stop arm has an air or vacuum leak or is loosely mounted, or components are badly worn. Any stop arm paint or decal is significantly faded or discolored. Stop arm does not operate according to all the conditions in chart 5, page 76. Stop arm(s) not of proper type and specifications: Octagonal (since September 1, 1985) Alternately flashing red lights |
| | (Continued on Next Page) | |

B. OUTSIDE BUS4. Stop Arm(s) and Student Crossing Arm

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|---|--|
| Check that rear stop-arm decal is not present on forward side of arm on buses built after | | 3) High intensity reflectivity (since December 1990) 4) Dual stop arms required on all modified Type B and Type C 47-passenger capacity and up and all Type D since December 1990 A stop arm decal has been installed on the forward side of the rear stop arm for buses built after September 1, 1993 |
| September 1, 1995. | | built after September 1, 1995. |
| b. Student Crossing Arm (if equipped) | | |
| Check front bumper-mounted student crossing arm for specifications, operation and | Crossing arm extends more or less than 90 degrees (plus or minus five degrees). | Not equipped with student crossing arm, for buses manufactured since December 1992. |
| | Hinges or bushings are not adequately lubricated. | Crossing arm does not extend or retract, or is slow to extend or retract. |
| Note: For crossing arm and stop arm requirements, see Federal Motor Vehicle Safety Standard (FMVSS) 131. | | Any crossing arm has an air or vacuum leak, is loosely mounted or has badly worn components. |
| | | |
| | | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|---|--|
| a. Mirrors | | |
| Check all exterior mirrors, mounts and brackets for tightness and condition. See specifications for required fasteners and hardware. Note: Exterior mirror fasteners, mounts and bracketry must be non-corrosive material on buses manufactured since 2020. | | Mirror mounts or bracket(s) are bent, broken, not secured, or have loose or missing fasteners. Any exterior mirror is broken, cracked or loose in the frame, or reflective surface is faded or deteriorated. |
| b. Bumpers Check bumpers for mounting, condition and color, and check body seal on rear bumper. | Bumper is not black. Bumper is equipped with any unauthorized stickers or decals. | Bumper is significantly bent or has protruding metal. Bumper, mounts or braces are bent, broken, not secured, or have loose or missing fasteners. Diagonal reflective striping (if equipped) is missing, significantly damaged or not reflective. Front bumper on buses built since October 1000 is not a culture the ellow the secure of a culture to ellow the secure of the secur |
| | (Continued on Next Page) | Rear bumper to body seal is damaged or missing. |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|---|---|
| c. Body Damage | | |
| Check body exterior for damage, scratches, dents, etc. | Body has small dents, scratches, etc. | Any body part is damaged or dislocated, creating a protrusion or sharp edge. |
| | Body has small rust spots or water leaks. | Body panels, rivets or other components are damaged or corroded so that joint strength or body structural integrity is compromised |
| d. Paint | | body structural integrity is compromised. |
| Check paint on school bus body, trim and wheels for required coloration and condition. | Paint is faded, discolored or damaged. | Paint is not National School Bus Yellow (except white roof). Trim, rub rails, warning light boods or background are not black. Stud |
| Note: See 2020 Florida School Bus Specifications for Multi-Function School Activity Bus (MFSAB) paint scheme requirements. | | piloted disk wheels and spoke hub-mounted wheels are not black, or hub-piloted wheels are not National School Bus Yellow. |
| e. Reflective Markings (if equipped) | | |
| Check reflective markings for coloration, reflectivity and condition. Reflective markings on buses have been required since September 1995. | Reflective markings other than those around any emergency exit as required by FMVSS No. 217 are faded, discolored, damaged or peeling. | Any required reflective markings are missing, significantly faded or discolored around any emergency exit door, window or roof hatch. |
| Check for presence of reflective markings around any emergency exit door, window or roof hatch as required by FMVSS No. 217 (for buses purchased after November 1993). | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|---|---|
| f. Lettering Check all lettering for required type, size, location and color (see charts 6 and 7 on pages 83 and 84). Note: See applicable Florida school bus specifications for lettering requirements. | Bus is not equipped with following lettering: 1) Eight-inch "SCHOOL BUS" on front and rear. 2) "<u>Name</u> District Schools" on left and right sides of body in six-inch letters.* 3) Local bus number on rear, both sides and front in six-inch minimum lettering. | Bus is not equipped with the following: 1) Handicapped symbol on front and rear of wheelchair lift-equipped buses. 2) Minimum two-inch lettering "Emergency Door" at top or above emergency exit door. 3) Emergency exit windows and roof hatches labeled "Emergency Exit." 4) Fuel type lettering is not present on buses. |
| | Any required lettering is not clearly readable. Any required lettering is not black (except handicapped symbol, local bus number if located on bumper, and/or emergency door hold-open device labeling). Exterior emergency hatch operating instructions are not clearly readable. *As an alternative, the name of charter school may be affixed (see 2020 Florida School Bus Specification Manual). | There is not at least one local bus number and district name present on the exterior. Any required handicapped symbol is not reflective, white on blue background, and a minimum of six inches by six inches. |
| | (Continued on Next Page) | |

| Repair (or note) if: | Out-of-Service if: |
|---|--|
| | |
| | Emergency door is hard to open fully from outside of bus. |
| | Emergency door latch mechanism requires more than 40 pounds to release. |
| | Emergency door handle is mounted to allow "hitching" onto the bus. |
| | |
| Hood is misaligned. | Hood cannot be opened as designed. |
| Hood hinges are stiff or damaged, but remain operational. | Safety latch is damaged or stiff, or does not secure the hood. |
| | Hood prop rod(s) or hold-open feature does not function properly. |
| | |
| Exterior of bus is dirty. | Bus is dirty to the point that visibility through any window or mirror, or brightness of any light, is significantly reduced. |
| | |
| | Repair (or note) if: Hood is misaligned. Hood hinges are stiff or damaged, but remain operational. Exterior of bus is dirty. |



CHART 6 MINIMUM LETTERING AND LIGHTING REQUIREMENTS

- A. Clearance and Side Marker Lights (one intermediate on buses 30 feet or longer).
- BB. Stop Arm(s)
- C. Front Turn Signals and Parking Lamps
- F. Pupil Warning Lights--Dual (side by side, amber and red)
- G. Reflectors, one at rear body side panel, one near front of body and one intermediate (only on buses 30 feet or longer) on both sides
- I. Emergency Exit Lettering
- J. Double-Faced Flashing Red Lights
- K. "School Bus" Lettering (front and rear) (see specifications)

- L. (Name of District) District Schools (both sides)*
- M. Local Bus Number (both sides and front and back)
- N. Universal Handicapped Symbol (lift buses)
- O. Identification Lamps
- S. Battery Box
- U. Pupil Crossing Arm
- Y. Rear-View Mirror System (see specifications)
- Z. Cross/Side View Mirror System (see specifications)

*As an alternative, the name of charter school may be affixed (see 2020 Florida School Bus Specification Manual).

CHART 7

- A. Clearance and Side Marker Lights
- B. Seven-Inch Brake/Tail/Parking Lights
- C. Seven-Inch Turn Signals (amber)
- E. Four-Inch Brake/Tail/Parking Lights
- F. Pupil Warning Lights--Dual (side-by-side amber and red)
- G. Reflectors
- H. License Plate Lamp (one minimum)

- I. Emergency Door and Exit Lettering
- K. "School Bus" Lettering (front and rear) (see specifications)
- L. (Name of District) District Schools (both sides) *
- M. Local Bus Number (both sides and front Z. and back)
- N. Universal Handicapped Symbol (liftequipped buses)
- O. Identification Lamps

- P. Backup Lights
- R. Fuel Door and Fuel Type Lettering
- T. Wheelchair Lift Landing Light
- Y. Rear View Mirror System
- Cross/Side View Mirror System
- AA. Roof-Mounted White Strobe Light
- CC. Rear Door Lettering (see specifications)

*As an alternative, the name of charter school may be affixed (see 2020 Florida School Bus Specification Manual).

C. ENGINE COMPARTMENT

1. Steering

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|---|--|
| a. Steering Wheel, Play and Assist | | |
| Check condition of the steering wheel. | Steering wheel OEM covering has minor wear, cracks or looseness not exposing metal reinforcement. | Any portion of the OEM covering is loose, deteriorated, cracked or missing, exposing metal steering wheel reinforcement or interfering with usage. |
| Check for play in the steering system at the steering wheel using the following procedures: 1) Visual check: From inside bus with engine running, rotate steering wheel lightly from side to side until motion can be observed at tires. Measure the free play (lash) at steering wheel outer diameter. This procedure must be performed with the vehicle on the around. | | Steering wheel is loose on column. Steering wheel or covering is non-OEM design. Free play (lash) exceeds amounts specified in chart 8, page 86. |
| To check power assist operation, run engine at fast idle, turn steering wheel a full right and left turn, and feel for binding, jamming or belt slippage. | | Power assist is inadequate, or there is binding, jamming or belt slippage. |
| | (Continued on Page 87) | |

CHART 8

STEERING WHEEL PLAY (LASH) MEASUREMENTS

Figure 1

Steering Wheel Size

15 inches – 1-3/4" (4.4 cm) 16 inches - 2" (5.1 cm) 18 inches – 2-1/4" (5.7 cm) 20 inches – 2-1/2" (6.4 cm) 22 inches – 2-3/4" (7.0 cm)

Figure 2

Wheel (rim) Size:

16 inches or less - 1/4" (6.5 mm) 17 to 18 inches - 3/8" (9.5 mm) Over 18 inches - 1/2" (13 mm)





STEERING LINKAGE PLAY - TOP VIEW

C. ENGINE COMPARTMENT 1. Steering

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--|---|
| b. Column | | |
| Check steering column inside bus for up-and- down play (parallel to shaft), side-to-side play (perpendicular to shaft) and proper mounting. | Any column shaft yoke, coupler or joint dust boot is torn. | Column side-to-side play exceeds 1/4 inch or up-and-down play exceeds one inch. |
| | | Column assembly mounting (including floor mounting plate) or fasteners are loose. |
| | | Tilt/telescopic assembly (if equipped) will not stay locked in position. |
| | | Steering column shaft U-joint inside the bus (if equipped) is loose, damaged or noisy after lubrication. |
| | | Firewall or floor rubber boot is torn, ripped or missing. |
| | | Steering column shaft U-joints, couplers, slide yokes, pinch bolts, etc., are loose, worn, damaged, have excessive play, or have loose or missing fasteners. |
| | | Any column shaft yoke, coupler or joint dust boot is missing. |
| c. Steering Gear Box and other external components | | |
| Check condition of the steering system using the following procedures with the vehicle on the ground (not suspended): | (Continued on Next Page) | Steering gear box is loose on frame or any fasteners are loose or missing. |

C. ENGINE COMPARTMENT

1. Steering

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--------------------------|--|
| Inspection Procedures: With engine running, have assistant move steering wheel back and forth repeatedly to load steering components. Observe the following external steering and related suspension and frame components for looseness while assistant works the steering (also see specific procedures under each component): | Repair (or note) if: | Out-of-Service if: There is any binding in steering gear box. Frame braces or cross-members are cracked, loose or missing fasteners. Any axle or suspension/steering component is loose or worn beyond specifications prescribed elsewhere in this manual. |
| hardware b) Column U-joints, couplers, slide yokes (as equipped) c) Coupling at gear box d) Gear box e) Pitman arm f) Drag link g) Steering knuckle or arms h) Tie rod ends i) Idler arm (as equipped) j) Vehicle frame cross-members and frame braces, including associated rivets and fasteners for looseness and condition | | |
| | (Continued on Next Page) | |

C. ENGINE COMPARTMENT

1. Steering

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|---|--|
| 3) Have an assistant carefully rotate the steering wheel all the way to the left, then all the way to the right, to check the steering stops and power steering pressure relief valve. | | Tire contacts any part of the bus frame, suspension, steering or other components. |
| d. Fitman Arm | | |
| Check the Pitman arm for looseness or misalignment at sector shaft splines and looseness at all joints. Check looseness of | Pitman arm grease fitting (if equipped) is loose or missing. | Any play is observed between Pitman arm and sector shaft. |
| pinch bolt and fasteners and condition of | | Pinch bolt at sector shaft is loose or missing. |
| Pitman arm. | | Pitman arm to steering sector shaft marks are misaligned. |
| | | Pitman arm ball joint (if equipped) has more than 1/16 inch axial play (i.e., in-and-out play between the ball stud and socket; see figure 6, page 93). |
| | | Pitman arm ball joint nut or cotter pin is loose or missing. |
| | | Pitman arm is cracked or damaged. |
| | | |
| | (Continued on Page 01) | |
| | (Continued on Page 91) | |





TIGHTENING STEERING COLUMN JOINT BOLTS

WARNING: FAILURE TO MAINTAIN THE STEERING SYSTEM IN PROPER CONDITION CAN CAUSE REDUCED STEERING FUNCTION, RESULTING IN PERSONAL INJURY AND PROPERTY DAMAGE.

It is recommended that steering column joint bolts be checked for tightness every 50,000 miles or annually, whichever occurs first. **DO NOT OVERTIGHTEN THEM.**

C. ENGINE COMPARTMENT

1. Steering

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|---|--|
| e. Drag Link | | |
| Check the drag link ends, shaft and fasteners for looseness and condition. | Any grease fitting is loose, missing or will not take grease. | Drag link ball stud is loose in Pitman arm or upper steering arm. |
| | Drag link needs lubrication. | Any nut or cotter pin is loose or missing. |
| | Drag link dust boots are cut, damaged or | Drag link shaft is damaged or bent. |
| | missing. | Drag link ends axial or horizontal play exceeds 1/16 inch (See figure 6, page 93). |
| | | Horizontal socket type (adjustable) drag link end has more than 1/16 inch axial or lateral play. |
| | | |
| f. Steering Arm | | |
| Check upper steering arm (Ackerman arm) and left and right side lower steering arms for | | Any steering arm is bent, cracked or damaged. |
| sectrement and condition. | | Any steering arm attachment point is loose, or any fasteners or cotter pins are missing. |
| Check condition and securement of steering stops and lock nuts. | | Either steering stop or lock is loose, damaged or missing. |
| | (Continued on Next Page) | |

C. ENGINE COMPARTMENT 1. Steering

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: | | |
|---|--|--|--|--|
| g. Tie Rod and Ends Check tie rod, tie rod ends, dust boots, clamps and fasteners for looseness, damage and condition. | Tie rod end dust boots are cut, damaged or missing. Tie rod end needs lubrication. Any tie rod end grease fitting is loose, missing or will not take grease. | Tie rod to end clamps or fasteners are stripped, missing, loose or improperly positioned for proper clearance. Any tie rod or end is bent, cracked or damaged. Tie rod ends axial or horizontal play exceeds 1/16 inch. (See figure 6, page 93). Tie rod end ball stud is loose in steering arm or idler arm, has missing or loose fasteners, or bas missing or loose fasteners, or bas missing or loose fasteners, | | |
| h. Idler Arm | | | | |
| Check idler arm assembly (as equipped) for looseness, damage and condition. | Idler arm needs lubrication. Idler arm grease fitting is loose, missing or will not take grease. | Idler arm is cracked or damaged, or cotter pin is missing. Idler arm up-and-down play is greater than 1/4 inch total (1/8 inch either direction). (See figure 7, page 93.) | | |

Figure 6 - Checking the Rod and Drag Link End Movement Figure 7 - Checking Idler Movement, Typical



- A. Movement in the axial direction must be less than 1/16 inch.
- B. Tie rod/drag link free to rotate within steering arm socket.
- 1. Tie rod/drag link end
- 2. Steering arm



C. ENGINE COMPARTMENT

2. Batteries

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: | | |
|---|--|--|--|--|
| a. Battery Box, Door and Tray | | | | |
| Check battery box, door and tray for operation, condition and securement. | Battery slide tray is corroded, dirty or hard to slide in and out. | Battery slide tray or box is loose, corroded or damaged, reducing securement of the batteries, or door does not open or will not stay latched. | | |
| b. Hold-down | | Battery slide tray does not slide in and out or tray lock, or stop is missing or nonfunctional. | | |
| Check for tightness, condition and type of battery hold-down. | | Hold-down assembly is not OEM design, missing, loose, corroded or damaged, | | |
| c. Battery Terminals | | reducing securement of the batteries. | | |
| Check cable terminals for cleanliness, tightness and condition. | | Any cable terminal is loose, damaged, corroded or has missing terminal insulator (if | | |
| d. Battery Cables | | | | |
| Check cable assemblies for routing, securement, condition and size. | Battery cable length or battery mounting restricts access to battery/batteries for | Cable or insulation is cracked, damaged or corroded. | | |
| | servicing. | Cable is misrouted, unsecured or missing protective grommets, loom or other means of protection from chafing against any metal, sharp edge or hot surface. | | |
| | (Continued on Next Page) | Cable is smaller than original equipment size. | | |

C. ENGINE COMPARTMENT

2. Batteries

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: | | |
|---|---|---|--|--|
| | | Cable appears to be too small in diameter or of excessive length (see chart 9, page 96). Flat braided engine ground cable is frayed or corroded, or ends are not secure. | | |
| e. Cleanliness | | | | |
| Check cleanliness of battery or batteries. | Battery top or sides are corroded, greasy, dirty or wet with electrolyte. | Batteries and compartment are excessively dirty or corroded. | | |
| f. Load Test | | | | |
| Perform battery load test on battery/batteries to check condition. Check battery/batteries for proper type and load rating. | Battery cable length or battery mounting restricts access to battery/batteries for testing. | Battery/batteries are of insufficient cold cranking amp (CCA) rating. | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

CHART 9

CHARGING SYSTEMS CABLE SIZE CHART

| | RATED | RECOMMENDED MINIMUM CHARGING CABLE GAUGE SIZE | | | | | | | |
|------------------------------------|-------------------------|---|----------|-----------|------------|------------|------------|------------|------------|
| OUTP SYSTEM IN VOLTAGE AMPEI | OUTPUT IN AMPERES | OUTPUT IN AMPERES | 4 -7 FT. | 7 -10 FT. | 10 -13 FT. | 13 -16 FT. | 16 -19 FT. | 19 -22 FT. | 22 -28 FT. |
| | 0 - 20 | 14 | 12 | 12 | 10 | 10 | 8 | 8 | 8 |
| 12 VOLT | 20 - 35 | 12 | 10 | 8 | 8 | 6 | 6 | 6 | 4 |
| | 35 - 50 | 10 | 8 | 8 | 6 | 6 | 4 | 4 | 4 |
| | 50 - 65 | 8 | 8 | 6 | 4 | 4 | 4 | 4 | 2 |
| | 65 - 85 | 6 | 6 | 4 | 4 | 2 | 2 | 2 | 0 |
| | 85 - 105 | 6 | 6 | 4 | 2 | 2 | 2 | 2 | 0 |
| | 105 - 125 | 4 | 4 | 4 | 2 | 2 | 0 | 0 | 0 |
| | 125 - 150 | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 00 |

Maximum difference between battery voltage and alternator voltage is 0.5 volt for 12-volt systems at full-rated output.

Maximum voltage drop in the sensing (#2-terminal) lead must not exceed 0.2 volt for 12-volt three-wire systems.

Cable gauge size calculation above takes into account terminal-connection resistance.

Note: When an insulated (no frame ground) charging system is installed, the length of the return circuit must be included to obtain total circuit length and determine the proper wire size.

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C. ENGINE COMPARTMENT 3. Fluid Levels and Condition

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: | | |
|---|--------------------------|---|--|--|
| | | | | |
| a. Brake Fluid | | | | |
| Check brake fluid and brake power-assist hydraulic fluid (if equipped) for level and condition. | | Level of brake fluid in either side of master cylinder reservoir is lower than one-quarter of an inch from top or below "add" mark. | | |
| | | Brake fluid or power-assist fluid shows evidence of excessive water, oil or dirt contamination. | | |
| b. Power Steering Fluid | | Brake power-assist hydraulic fluid is below cold "add" mark. | | |
| | | | | |
| Check power steering fluid level and condition. | | Power steering fluid shows evidence of excessive water, oil or dirt contamination. | | |
| | | Power steering fluid is below cold "add" mark. | | |
| | | No oil is observed on dipstick. | | |
| c. Oil | | | | |
| Check engine oil level and condition. | | Dipstick is missing. | | |
| | | Engine oil level is below the "add" mark or above "full" mark. | | |
| | (Continued on Next Page) | There is evidence of fuel or water contamination in the oil. | | |
C. ENGINE COMPARTMENT

3. Fluid Levels and Condition

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--|--|
| d. Transmission Fluid | | |
| Check transmission fluid level and condition. | | Dipstick is missing, broken or the incorrect type. |
| | | Transmission fluid is below the "add" mark or above the "full" mark. |
| | Transmission fluid shows need of servicing (discoloration or smell). | Transmission fluid shows evidence of excessive dirt, metal or coolant contamination. |
| e. Windshield Washer Reservoir and Fluid | | |
| Check windshield washer fluid reservoir and cap for condition, mounting and fluid level. | Reservoir is loose, washer fluid level is low and/or cap is damaged. | Reservoir is missing, leaking or empty, and/or cap is missing. |
| | | |
| | | |
| | (Continued on Next Page) | |

C. ENGINE COMPARTMENT 3. Fluid Levels and Condition

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--|--|
| f. Coolant Check engine coolant level, condition and freeze protection. Note: Follow manufacturer's recommendations for checking coolant | Coolant level is below the "full" mark. Coolant shows evidence of excessive oil, dirt | Coolant level is below the "add" mark or cannot be seen in the reservoir or radiator with cap removed. |
| recommendations for checking coolant condition, PH and additive package. Note: Use caution when opening a hot cooling system. | contamination, or rust and corrosion. Coolant freeze protection is minus 20 degrees Fahrenheit or lower (see chart 10, page 101). Coolant pH level is too high or too low, or coolant additive package has depleted to an unacceptable level. | |
| | | |

CHART 10

| Freezing-Points of Antifreeze Solutions | | | |
|---|------------|---------|----------------|
| SOLU | ITION | PR01 | FECTION |
| Percentage | Percentage | | |
| of | of | | |
| Antifreeze | Water | Celsius | Fahrenheit |
| 0% | 0% | 0 | 32 |
| 10% | 90% | -3 | 27 |
| 12% | 88% | -4 | 25 |
| 14% | 86% | -5 | 23 |
| 16% | 84% | -6 | 21 |
| 18% | 82% | -7 | 19 |
| 20% | 80% | -8 | 18 |
| 24% | 76% | -10 | 14 |
| 28% | 72% | -13 | 9 |
| 30% | 70% | -15 | 5 |
| 32% | 68% | -16 | 3 |
| 36% | 64% | -20 | -4 |
| 40% | 60% | -24 | -11 |
| 44% | 56% | -28 | -18 |
| 48% | 52% | -33 | -27 |
| 50% | 50% | -37 | -35 |
| 52% | 48% | -39 | -38 |
| 56% | 44% | -45 | -49 |
| 60% | 40% | -51 | -60 |

| | | Boiling Points of Antifreeze Solutions at Various Pressures | | | | |
|---|-----|--|--------|-----|-------|-----|
| | | Pressure in Pounds per Square Inch (PSI) | | | (PSI) | |
| | | 0 PSI 8 PSI 12 PSI 16 PSI 20 PSI | | | | |
| | 0% | 212 | 233 | 242 | 252 | 260 |
| Percentage | 33% | 220 | 240 | 253 | 260 | 268 |
| Of Antifreeze | 44% | 224 | 245 | 257 | 265 | 272 |
| Solution | 50% | 226 | 248 | 259 | 267 | 275 |
| | 60% | 231 | 253 | 264 | 273 | 280 |
| Boiling Points in Degrees Fahrenheit (°F) | | | t (°F) | | | |

Note: Technicians should test engine coolant properties during every inspection using a coolant test-strip kit. Consult the OEM for recommended test kits and procedures.

C. ENGINE COMPARTMENT

4. Belts and All Hoses

| | Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|----|--|---|--|
| a. | Belt(s) | | |
| | 1) Tightness | | |
| | Visually and physically check all drive belts for proper tension. If available, use a tension gauge (see figure 9, page 103). If a gauge is not available, use a ruler to measure the deflection of the belt(s) up and down at the widest point between the drive and driven pulley(a) (age figure 10, page | Any belt exceeds tension reading recommended by manufacturer. Using ruler method, any belt has less than half | Any belt tensioner (automatic or manual) does not apply proper tension to belt. Tension on any belt is too loose (based on specifications of type tension gauge used). Tension of any belt (using ruler method) is too |
| | 2) Condition | pressure is applied (see figure 10, page 103). | than three-quarter inch deflection). |
| | Inspect belt(s) for presence, glazing, oil contamination, dry rotting, cuts and separation of plies. Check belts for twisting or distortion. | Any belt is glazed. | Any belt is missing, oil-saturated, dry-rotted or cut, or plies of belt(s) are separated. Any belt is twisted or distorted. |
| | Routing and Alignment Inspect belt(s) for correct routing, alignment and contact with objects other than pulleys. | Any belt is slightly misaligned. | Belt misalignment is excessive and could result in failure. Any belt is making contact with objects other |
| | | (Continued on Page 104) | than pulley(s). Any belt is routed incorrectly. |

CHECKING BELT TENSION AFTER TIGHTENING

Figure 9 - Checking Belt Tension (Gauge Method) Figure 10 - Measuring Belt Tension (Ruler Method) Figure 10 - Measuring Belt Tension (Ruler Method)

C. ENGINE COMPARTMENT

4. Belts and All Hoses

| | | Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|----|----|--|--|---|
| b. | Но | se(s) | | |
| | 1) | Clamps and Connections | | |
| | | Visually and physically check that hose connections or clamp(s) are tight. | Any hose connection or clamp is loose or overtightened. | Any hose connection or clamp is stripped, damaged or overtightened, causing hose damage beyond the outer cover. |
| | | Note: References to hoses include all types of hoses located in the engine compartment and related components, including power steering, coolant, air compressor intake, vacuum, brake hydraulic assist, engine oil and transmission hoses. | Any hose connection (other than brake) is seeping. | Any brake hose is seeping or leaking. |
| | 2) | Condition | | |
| | | Inspect all hoses for cuts, abrasions and wear, oil saturation, dry rotting and ballooning. | | Any hose is cut, abraded, worn, oil-saturated, dry-rotted or ballooned to the point that failure is likely. |
| | 3) | Routing | | |
| | | Inspect routing and securement of all hoses. | Any hose is misrouted or unsecured so that heat, abrasion or other damage is possible. | Any hose is misrouted or unsecured so that heat, abrasion or other damage is likely. |

C. ENGINE COMPARTMENT 5. Accessory Mounting and Condition

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|---|--|
| a. Air Cleaner | | |
| Check air intake system, housing, lid, piping, gaskets, seals and clamps for leaks, securement and condition. If equipped, record air filter restriction gauge measurement. | Any portion of air intake system has minor dents or damage that is not causing air leaks. | There are intake system leaks; loose, missing or damaged components; or other conditions that could allow dust or dirt damage to internal engine parts. |
| Note: If air leaks are suspect, inspect for dirt/dust tracking through air cleaner assembly and intake piping. | Air filter restriction gauge is not working properly. | Air filter restriction exceeds manufacturer's specifications. |
| b. Power Steering Pump | | |
| Check securement and condition of power steering pump. | | Any portion of the power steering pump, mounting brackets or fasteners is cracked, damaged, loose or missing. |
| c. Air Compressor and Filter | | |
| Check securement and condition of air compressor and filter assembly. | Air compressor external air filter (if equipped) is dirty. | Any portion of the air compressor, mounting brackets, fasteners or compressor air-filter system is cracked, damaged, loose or missing. |
| | (Continued on Next Page) | |

C. ENGINE COMPARTMENT 5. Accessory Mounting and Condition

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--|--|
| d. Water Pump | | |
| Check condition of water pump and pulley. | There is evidence of coolant seepage from water pump, seal, gasket surface or weep | Water pump is noisy, bearing is damaged or coolant is leaking. |
| Note: See page 131 for definitions of fluid "leaks" and "seepage." | hole. | Water pump fasteners are loose, damaged or missing to the point that failure or leaks could occur. |
| e. Fan | | |
| Check fan blades, hub and fan clutch | | Fan has any cracked, bent or broken blades. |
| assembly for securement and condition. | | Any portion of fan mounting is loose. |
| | | Fan clutch is worn or seized. |
| f. Alternator | | |
| Check securement and condition of alternator assembly. | Alternator is noisy. | Any of the alternator, mounting brackets or fasteners are cracked, loose or missing. |
| | | Alternator is not charging. |
| | | |
| | | |
| | | |
| | | |

C. ENGINE COMPARTMENT

6. Wiring

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|---|--|
| Inspection Procedures: Routing and Condition Check routing, securement and condition of all wiring and any electrical cable in the engine compartment and related areas. | Repair (or note) if: There is any slightly loose, damaged or corroded wiring connector or terminal end. Any repair has been made using improper gauge wiring. | Out-of-Service if: Any wiring is misrouted, unsecured or missing protective grommets, loom or other means of protection from chafing against any metal, sharp edge or hot surfaces. There are any burnt wires, or any wires are missing insulation (other than ground straps). |
| | | |
| | | |

C. ENGINE COMPARTMENT 7. Fuel System and Lines

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--|--|
| | | |
| Fuel System and Lines | | |
| Visually check the condition, operation and securement of all fuel system components, including fuel lines and routing in the engine compartment | There is evidence of dirt, algae or water in a fuel water separator. | There is any unsecured, poorly routed or loose fuel line or hose that could cause fire due to abrasion or heat damage. |
| | | Any fuel system connection is stripped, loose, cracked or leaking. |
| | | Any fuel system component is damaged or not mounted securely. |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

C. ENGINE COMPARTMENT

8. Radiator

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--|---|
| a. Radiator and Reservoir | | |
| Check radiator and reservoir assemblies for mounting, securement and condition. | Any portion of the radiator, reservoir or mounting system is cracked or damaged, or has loose or missing fasteners not causing | Any portion of the radiator, reservoir or mounting system is cracked, damaged or has loose or missing fasteners, causing leaks or |
| b. Cap | leaks of failure. | tallure. |
| Check condition of radiator cap and perform pressure test. | Radiator cap is hard to open or close. | Radiator cap is missing. |
| WARNING: ALWAYS USE PROPER PROCEDURES WHEN REMOVING A RADIATOR CAP. | Radiator cap leaks down slowly at rated pressure. | Radiator cap is the incorrect type or pressure rating, or fails pressure test. |
| c. Fan Shroud | | |
| Check fan shroud for mounting and condition. | | Fan shroud is missing, loose or has excessive damage that may interfere with the cooling fan. |
| | | |
| | | |
| | | |

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| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|---|---|
| a. Front Wheel Bearings Inspect front wheel bearings and related components for condition and proper adjustment of bearings. With front wheels | Oil or grease is seeping from hub bearing caps. | Oil or grease is leaking from hub bearing caps. |
| raised, grasp tire and attempt to rock wheel and move in and out to check for play. Spin tire to check for noise and condition of bearings. | Note: See page 131 for definitions of fluid "leaks" and "seepage." | Wheel bearing endplay exceeds manufacturer's specifications of 0.010-inch maximum, measured at the hub. |
| Note: To correctly identify the source of any play or to determine if the play is in wheel bearings, have an assistant press and hold the foot brake pedal (ensuring the front brakes are engaged) while rechecking play. If movement disappears with brakes applied, then the play was in the wheel bearings. | | Any noise, binding or roughness is discovered in bearings. |
| b. I-Beam | | |
| Inspect I-beam axle assembly. | | I-beam has been heated, cut or modified, or is cracked or damaged. |
| | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--|---|
| c. Kingpins | | |
| Inspect kingpin assemblies for condition and play as follows: | End cap O-rings or bolts are loose or missing. | Locking pin is backing out or missing. |
| Note: Wheel bearings must be adjusted properly (or wheel bearing play must be eliminated by locking brakes) before checking kingpins. Do not tighten kingpin lock (if equipped) or grease kingpins before inspecting. | | |
| 1) With front wheels raised, use a pry bar for leverage, and attempt to move the wheel in and out at the top and bottom (see figure 11, page 117). | | Kingpin movement is more than 1/4 inch measured at outside edge of tire (see figure 11, page 117). |
| Place a pry bar under wheel and lift tire straight up and down to determine condition of thrust bearing. | | Vertical (up and down) play in kingpin assembly is greater than 0.060 inch (see figure 12, page 117), and/or thrust bearing is damaged or missing. |
| | | Note: If play is beyond specifications, wear may be in the kingpin, axle eye, thrust bearing and/or kingpin bushings. |
| | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--------------------------|--|
| d. Shackles | | |
| Inspect condition of shackles, spring hangers and pinch bolts. | | Any front spring shackle or hanger is cracked, broken or has significant side wear at spring eye. Any front spring shackle or hanger is worn or pinch bolt is stripped or missing so that spring |
| | | pin cannot be clamped tightly. |
| e. Spring Mounts | | |
| Inspect spring mount bracket(s) for condition | | Any front spring mount is cracked or broken. |
| and sectrement. | | Any front spring mount-to-frame fastener is loose or missing. |
| | | Frame is cracked at any spring mounting location. |
| | | |
| | | |
| | | |
| | | |
| | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--|---|
| f. Pins and BushingsInspect pins and bushings as follows: | | |
| Note: Do not grease pins and bushings before inspecting. | | |
| Inspect front spring pins and bushings for wear and lubrication. Check for wear with front axle loaded. Insert pry bar between spring eye and fixed point at frame and pull down. Measure total free play in pins and bushings (see figure 13, page 117). g. A-Frames and Bushings | Any spring pin assembly will not accept lubrication, or zerk (grease) fitting is damaged or missing. | Total free play (up and down) of pins and bushings exceeds 1/4 inch (two-pin type) or 1/8 inch (one-pin type). (See figure 13, page 117.) Inner sleeve or rubber bushing-type spring pin assembly or assemblies are worn through, or rubber bushing is excessively worn (rubber is compacted or deteriorated, resulting in free play between rubber and spring eye or inner sleeve). |
| Inspect A-frames and bushings for condition and securement. | Rubber bushing(s) are split, deteriorated or extruded from suspension joints. | Rubber bushing(s) are worn excessively or missing.Any A-frame assembly is bent, damaged or broken, or any fasteners or brackets are loose or missing.Any A-frame, bushing or pivot arm has more than 0.05-inch free play at pivot point. |
| | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|---|---|
| h. Ball Joints | | |
| Inspect ball joint(s) for condition, securement and lubrication. | Zerk (grease) fitting is missing or damaged, or ball joint will not take lubrication. | Any ball joint has more than 3/32-inch axial play. |
| | | Any ball joint nut is loose or missing, or cotter pin is missing. |
| | | Ball joint to A-frame mounting is cracked, loose or has been welded. |
| i. U-Bolts | | |
| Inspect spring U-bolts for condition and securement. | Any U-bolt is misaligned. | There is rust underneath U-bolt nuts, indicating possibility of looseness. |
| | | Any U-bolt, seating plate, shock mount bracket or fastener is loose, missing, cracked |
| j. Shock Absorbers | | or surpped. |
| Inspect shocks for condition and securement. | | Any shock is leaking fluid. |
| Note: A very small amount of fluid staining at the shock-piston shaft seal area is | | Any shock mounting or fastener is loose, missing, cracked or broken. |
| shaft seal. This does not indicate a leaking | | Any shock is broken. |
| SNOCK. Note: See page 131 for definitions of fluid "leaks" and "seepage." | | Any shock fails to function. |
| | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|---|--|
| k. Springs Inspect front springs for condition, securement and alignment. | There are any loose, missing, broken or worn spring clips. Any leaf spring or air-suspension ride height is less than manufacturer's specifications. Either front spring saddle (if equipped) is worn or missing. Rubber bumper is missing. | Any spring leaf is broken, cracked or missing. Spring eye is worn or spread such that bushings are loose in spring eye. Any coil spring(s) is non-OEM, broken or insecurely mounted, or non-OEM blocks or spacers are installed. There is any misalignment of spring leaves or other evidence that center pin is loose or broken. Either front coil or leaf spring is worn so that rubber frame bumper is damaged or worn due to frequent bottoming of front suspension. Any alignment wedge is loose or damaged. |
| I. Wheel Seals Check for condition and leakage. Note: See page 131 for definitions of fluid "leaks" and "seepage." | Either front wheel seal is seeping. | On any air bag type spring assembly, air bag is damaged or leaking. Either front wheel seal is damaged or leaking. |



Figure 12 - Spindle Thrust Bearing Check

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--------------------------|---|
| a. Brake Hoses | | |
| Inspect air and hydraulic front brake flexible hoses for condition, securement and routing. | | Any front hydraulic brake flex hose or connection is seeping or leaking fluid, or any |
| Note: See page 131 for definitions of fluid "leaks" and "seepage." | | Any front brake flex hose is kinked, collapsed, bulging, has damaged plies/cord or is damaged below outer covering. Any front brake flex hose supporting brackets are damaged or have loose fasteners. Any front brake flex hose is rubbing against other components or is improperly routed. |
| b. Lines | | |
| Inspect air and hydraulic brakes lines for routing, securement and condition. | | Any brake line is bent, crimped or damaged significantly, restricting air pressure or hydraulic fluid. |
| Note: See page 131 for definitions of fluid "leaks" and "seepage." | | Any hydraulic brake line or connection is seeping or leaking fluid, or any air brake line is leaking air pressure. |
| | | Any brake line is rubbing against other components or is improperly routed. |
| | (Continued on Next Page) | Any brake line is not of OEM material, size or type. |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--------------------------|--|
| c. Chambers Inspect front brake chamber assemblies for securement, condition and proper size. | | Any front brake chamber, mounting bracket or hardware is cracked, bent, broken or missing. Any front brake chamber or mounting fastener is damaged, loose, missing or of the wrong type. Either front chamber is not OEM size and stroke length. |
| d. Slack Adjusters Inspect slack adjusters and S-cam assemblies for wear, condition, operation and securement. Note: See section D.2.k., pages 124-125 (brake adjustment), for procedure to check operation of ASAs. | (Oentinued on Neut Deve) | Any portion of slack adjuster or S-cam is missing, broken, cracked or worn beyond limits (see figure 14 on page 125 and figure 15 on page 126). S-cam snap ring is missing. Slack adjuster has frozen or stripped worn gear or ratchet assembly. |
| | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|---|---|
| e. Push-Rods | | |
| Inspect push-rod assemblies for condition, securement and alignment. | | Any portion of push-rod assembly (locknut, push-rod, clevis, pin or cotter pin) is loose, missing or damaged. |
| | | Push-rod is rubbing against body of chamber, or chamber is misaligned. |
| | | Push-rods on left and right sides are not mounted in identical (same) slack adjuster location hole, resulting in same effective slack adjuster length. |
| f. Linings | | |
| Inspect linings and foundation brake hardware for contamination, wear, damage | There is a significant difference in lining thickness between the left and right sides. | Any foundation brake assembly does not have at least one lining inspection hole. |
| and securement. | | For riveted-type shoes, front brake lining is less than 3/16 inch thick (Q-type) or 1/4 inch (Q-plus-type) above shoe table at the center of the shoe. |
| | (Continued on Next Page) | For bonded-type shoes, front brake lining is worn to within 1/16 inch of shoe table at the center of the shoe. |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|---|--|
| | | Front brake lining is worn to within 1/16 inch of any rivet. |
| | | Lining is broken, cracked or loose on shoe. |
| | | Lining is not proper size. |
| | | Friction surface is contaminated with oil, grease or brake fluid. |
| | | There is any shimming material between lining and shoe. |
| | | Shoe table or webbing is cracked or damaged. |
| | | There is any loose, damaged or missing foundation brake hardware within the drum. |
| g. Disc Brake Pads | | |
| Inspect disc brake pads for contamination, wear, damage and securement. | There is significant difference in pad thickness between the left and right sides of the bus. | Pad surface is contaminated, cracked, broken or missing. |
| | | Thickness of friction material is less than 1/8 inch. |
| | | Pad wear is uneven end-to-end exceeding 3/32 inch. |
| | (Continued on Next Page) | Difference between the inboard and outboard pads on one side is greater than 1/8 inch. |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--------------------------|---|
| h. Drums | | |
| Inspect front brake drum(s) for condition and size. | | There is any crack (other than heat checks) in any drum. There is more than 0.060 inch wear in drum friction surface (inside diameter is more than 0.120 inch over original). |
| i. Rotors | | There is any grease, oil or brake fluid on inside of drum.Drum is not mounted securely to hub, or fasteners are loose.Drum is not centered on hub causing it to be more than 0.010 inch out of round |
| Inspect brake rotor(s) for mounting, thickness and condition. | | Rotor mounting is not secure or has run out beyond manufacturer's specifications, causing a pulsating brake pedal. Rotor has cracks (other than heat checks) or other mechanical defects, or is contaminated with oil, grease or brake fluid. Rotor thickness is less than manufacturer's specifications stamped on rotor. |
| | (Continued on Next Page) | Any rotor friction surface is significantly grooved or damaged. |

D. UNDERNEATH BUS 2. Front Brakes

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--------------------------|--|
| j. Wheel Cylinders or Calipers Inspect wheel cylinders or calipers for seepage, leaks, mounting and condition. Note: See page 131 for definitions of fluid "leaks" and "seepage." | | Any wheel cylinder or caliper is seeping, leaking, not securely mounted, or has loose or missing fasteners. There is uneven lining or pad wear, rotor or drum damage, evidence of dragging or other evidence that any wheel cylinder or caliper may be sticking. |
| | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--------------------------|--|
| k. Adjust Brakes | | |
| Any brakes (air or hydraulic) without automatic adjusting capabilities must be adjusted at each inspection using the following procedure: | | Any condition prevents proper adjustment of manual adjusting brakes. |
| a) Tighten brake adjuster until wheel locks up. | | |
| b) Back off brake adjuster until there is a very slight drag on friction surfaces. | | |
| 2) For all MSA-equipped S-cam brakes, each brake chamber push-rod travel must be measured and brakes must be adjusted at every required inspection at all wheel positions (see figure 15, page 126). Push-rod travel must not exceed limits shown in chart 11 on page 127. | | Any MSA-equipped S-cam cannot be adjusted to bring push-rod travel within limits shown in chart 11 on page 127 of this manual. |
| | (Continued on Next Page) | |

_

2. Front Brakes

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|----------------------|--|
| 3) Do <u>not</u> adjust ASA-equipped brakes. Push-rod travel must be measured and must not exceed limits shown in chart 11 on page 127. If the push-rod travel measurement exceeds the limits, the foundation brakes, slack adjusters, push-rods and chambers must all be inspected and repaired or replaced, if found defective. <u>Correctly installed and properly working ASAs</u> <u>should keep the brakes in adjustment</u> <u>throughout the life of the linings</u> . | | Any ASA is damaged or malfunctioning, or push-rod travel exceeds the limits shown in chart 11, page 127. |

Figure 14

Maximum .04 inch, up-and-down

S-cam Bushing Up-and-Down Play



S-cam In-and-Out Play

Figure 15

PROCEDURE FOR MEASURING PUSH-ROD TRAVEL

Brake chamber push-rod travel shall not exceed maximum stroke specifications. Performance of the brake push-rod travel inspection requires full application of the brake, with a minimum of 80 to 90 psi of air pressure application.

CAUTION: Chock wheels before commencing this inspection, as vehicle emergency brake(s) must be off.



Note: Refer to chart 11, page 127 for maximum push-rod travel (stroke) at which brake adjustment is required.

| CHART 11 Dimensions in inches | | | | |
|----------------------------------|-------------------|---|---|---|
| | Туре | Maximum Stroke | Maximum stroke with brakes adjusted | Maximum stroke at which brakes should be adjusted |
| | 6 | 1-5/8 | | 1-1/4 |
| | 9 | 1-3/4 | | 1-3/8 |
| CLAMP TYPE BRAKE CHAMBER | 12 | 1-3/4 | | 1-3/8 |
| | 16 | 2-1/4 | Should be as short as | 1-3/4 |
| | 20 | 2-1/4 | dragging | 1-3/4 |
| | 24 | 2-1/4 | aragging | 1-3/4 |
| | 30 | 2-1/2 | | 2 |
| | 36 | 3 | | 2-1/4 |
| | | | | |
| | 16 | 2-1/2 | | 2 |
| "I ONC STROKE" CLAMD TYPE | | 2-1/2 | 1/2Should be as short as possible without brakes dragging | 2 |
| BRAKE CHAMBER | 24 | 2-1/2 | | 2 |
| | 24 | 3 | | 2-1/2 |
| | 30 | 3-3/8 | | 2-1/2 |
| | 0 | 2 | | 1 5/9 |
| | 12 | 2 | _ | 1-5/8 |
| | 12 | 22 | - | 2 |
| | 20 | 2-1/2 | Should be as short as | 2 |
| ROTOCHAMBER | IBER 20 2-1/2 pos | possible without brakes | 2 | |
| | 30 | 3 | dragging | 2-1/2 |
| | 36 | 3-1/2 | - | 2-3/4 |
| | 50 | 4 | - | 3-1/4 |
| | 00 | Ţ | | 0 1/4 |
| | 12 | 1-3/8 | | 1-3/8 |
| | 16 | 1-1/2 | Should be as short as | 1-3/4 |
| AIR DISC BRAKES | 20 | 1-5/8 | possible without brakes | 1-3/4 |
| | 24 | 1-3/4 | dragging | 1-3/4 |
| | 30 | 1-7/8 | | 2 |

D. UNDERNEATH BUS 3. Engine Mounts, Transmission Mounts and Starter Mounting

| Repair (or note) if: | Out-of-Service if: |
|----------------------|--|
| | |
| | Any mounting fasteners are loose, missing o broken. |
| | Any mount is cracked or has deteriorated rubber. |
| | |
| | Any starter-mounting bolt, stud or nut is loose damaged, broken or missing. |
| | Starter is damaged or loose. |
| | Any starter cables are loose or bare, or any positive cable could short to ground. |
| | |
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| | |
| | |
| | Repair (or note) if: |

4. Transmission

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--|--|
| a. Transmission Bolts | | |
| Inspect transmission assembly and mounting fasteners for condition and securement. | Any transmission assembly fastener is loose, missing or damaged. | Transmission is not mounted securely to flywheel housing. |
| b. Linkage | | There is any indication that any torque converter bolt is loose or missing. |
| Inspect transmission linkage for routing, condition and securement. | Modulator, Throttle Valve (TV) cable or vacuum hose is routed where it is subject to excessive heat or abrasion. | Linkage is bent, damaged, binding or severely misadjusted. |
| | Any linkage hardware or fasteners are loose. | Any linkage hardware or fasteners are missing, or linkage is damaged, causing a sticking or binding condition. |
| | Modulator or TV cable is exposed, or casing is damaged. | Vacuum-modulator hose is leaking or not connected. |
| c. Lines | Vacuum modulator hose is deteriorated or loose. | |
| Inspect transmission lines for securement, routing and condition. | Any transmission line is unsecured. | Any transmission line is improper type, crimped, improperly routed, damaged or leaking. |
| | (Continued on Next Page) | |

4. Transmission

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--|--|
| d. Filter Inspect transmission external filter assembly (if equipped) for securement and condition. | | External filter or base is loose or leaking. |
| e. Cooler | | |
| Inspect transmission cooler (as equipped) for securement and condition. | Mounting of external transmission cooler (if equipped) is not secured or has loose or missing fasteners. | Transmission cooler is cracked or damaged, or hoses and connections are leaking. |
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| | (Continued on Next Page) | |

5. Fluid Leaks

Note: Leaks and Seepage are types of fluid loss defined as follows:

"Leak" is enough fluid loss to cause dripping fluid. Leaking fluid can also be slung from rotating assemblies. "Seepage" is fluid loss that may cause dampness or staining, but not dripping or slung fluid.

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--|---|
| a. Oil | | |
| Inspect for engine oil leaks at all locations and determine severity. | Engine oil is seeping or slightly leaking onto any location except exhaust system. | Engine oil leakage is excessive. |
| | Engine oil leakage is causing deterioration of any rubber parts, such as steering linkage boots, hoses, etc. | |
| | There is a drip shield installed to divert leaking oil from the exhaust system. | Engine oil is dripping, slinging or being blown onto any portion of exhaust system. |
| b. Coolant | | |
| Inspect all locations for coolant leaks. | There is coolant seeping at radiator, hoses, engine oil cooler, thermostat housing, head gaskets, freeze plugs, reservoir, water pump or other locations. | Coolant leakage is excessive. |
| | (Continued on Next Page) | |

5. Fluid Leaks

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--|--|
| c. Transmission | | |
| Inspect for transmission fluid leaks at all locations and determine severity. | Transmission fluid is seeping or slightly leaking onto any location <u>except</u> exhaust system. | Transmission fluid leakage is excessive. |
| Note: See page 131 for definitions of fluid "leaks" and "seepage." | Transmission fluid is causing deterioration of any rubber parts, such as steering linkage boots, hoses, etc. | Transmission fluid is dripping on any portion of exhaust system. |
| d. Power Steering | | |
| Inspect for power steering fluid leaks at all locations and determine severity. | Power steering fluid is seeping. | Power steering fluid is leaking. |
| | Power steering fluid is causing deterioration of any rubber parts, such as steering linkage boots, hoses, etc. | Power steering reservoir cap or dipstick is missing. |
| e. DEF | | |
| Inspect for DEF fluid leaks at all locations and determine severity. | DEF fluid is seeping. | DEF fluid is leaking. |
| | | |
| | | |
| | | |

6. Fuel and DEF Tank

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--------------------------|--|
| a. Leaks | | |
| Inspect fuel and DEF tank assembly for leaks. | | There is any fuel or DEF leakage from the |
| Note: See page 131 for definitions of fluid "leaks" and "seepage." | | or cap is missing. |
| | | Any tank is cracked. |
| | | Any hose connection is loose at the tank. |
| b. Mounting | | |
| Inspect fuel and DEF tank mounting system and barrier (if equipped) for securement and condition. | | Any portion of tank mounting system (including support brackets, retaining straps and chassis frame) is missing, loose, cracked or broken. |
| | | Any tank mounting fasteners are loose or missing. |
| | | Barrier assembly (if required) is damaged, insecurely mounted or missing. |
| | | |
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| | | |
| | | |
| | (Continued on Next Page) | |

6. Fuel and DEF Tank

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|----------------------|---|
| c. Hoses | | |
| Inspect all fuel and DEF system lines, hoses and under-bus components for routing, secure mounting and condition. | | Any line or hose is unsecured or improperly routed, or subject to excessive heat or abrasion. |
| Note: See page 131 for definitions of fluid "leaks" and "seepage." | | Any line or hose is deteriorated or damaged (including cracks or any damage that may cause seepage or leaks), or clamps are loose or missing. |
| | | Any fuel or DEF system filter, water separator or other component is insecurely mounted, cracked or damaged. |
| d. Wiring | | |
| Inspect fuel tank and DEF sending unit wiring for securement, routing and condition. | | Any portion of sending unit wiring (including ground) or connections is unsecured, missing insulation or routed, subject to excessive heat or abrasion. |
| | | |
| | | |
| | | |
| | | |
D. UNDERNEATH BUS 7. Brake Equipment

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--------------------------------------|--|
| a. Brake Lines | | |
| Inspect all brake hoses, lines and connections for routing, securement and condition. | Any brake hose or line is unsecured. | There is any audible air leak or visible hydraulic brake fluid seepage or leak. |
| Note: See page 131 for definitions of fluid "leaks" and "seepage." | | Any brake line or hose is improperly routed, or subject to excessive heat or abrasion. |
| Note: External layer weather cracking shall not be a sole cause for rejection. | | Any brake line or hose is deteriorated or damaged to the point that failure could occur (i.e., frayed, thin wall; rubber contaminated with oil; crimped). |
| | | Any brake line or hose connection is loose. |
| b. Brake Valves | | |
| Inspect all brake system valves for securement and condition. | | There are any audible air leaks or visible hydraulic fluid leaks or seepage from any brake valve. |
| | | Any brake valve is not mounted securely, or is cracked or damaged. |
| c. Reservoir Mounting | | |
| Inspect reservoirs (air and vacuum tanks) for securement and condition. | | Any reservoir mounting, brackets, straps or fasteners are cracked, loose or missing. |
| | | |
| | (Continued on Next Page) | |

D. UNDERNEATH BUS 7. Brake Equipment

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|---|---|
| d. Bleed Reservoirs | | |
| With air system fully charged, check manual operation of safety pressure relief valve. | | Safety relief valve leaks or does not release pressure. |
| Partially open manual petcock valve on the first (wet) tank. | | |
| Allow draining of any moisture (water) or contamination. | There is moisture in reservoir (desiccant-type dryer only). | There is excessive sludge or oil contamination in the reservoir (more than eight fluid ounces). |
| | | Reservoir leaks due to corrosion or is cracked. |
| e. Anti-lock Brake System (ABS) | | |
| Perform a visual inspection of all ABS components, including wiring, connectors and controllers. | | Visual inspection reveals that ABS components are loose, damaged, missing, improperly routed or non-operational. |
| | | Note: Wiring from ABS controller(s) to wheel speed sensor(s) that has been abraded or otherwise damaged, exposing any wire conductor or grounding sheath, may cause failure of the antilock brake system. This damage is considered severe. |

8. Driveline

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|---|---|
| a. Drive shafts | | |
| Inspect drive shafts for condition. | Any driveshaft balancing weight (if originally equipped) is missing. | Any driveshaft is bent or seriously dented. |
| | Driveshaft is assembled out of phase. | There are cracks or other damage that could cause structural failure. |
| b. U-Joints | | |
| Prior to lubrication, inspect U-joints or constant velocity (CV) joints (if equipped) for condition, phasing (alignment of joints), lubrication and presence of all hardware. | U-joints or CV joints are insufficiently lubricated, or grease fitting is missing, clogged or inaccessible. | There is any missing hardware or fasteners in any U-joint or CV joint assembly. Any U-joint has significant cross-shaft-to-bearing cup play, or CV joint has significant play. Any U-joint or CV joint shows evidence of significant rusting of bearings. Any bearing cup is loose in yoke. Any U-joint is cracked or broken. |
| | (Continued on Next Page) | |

8. Driveline

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|---|---|
| c. Yokes | | |
| Inspect driveshaft yokes for condition and | Driveshaft splines are not lubricated. | Any yoke has significant play in splines. |
| lubrication. | Dust cap on yoke is missing. | Any yoke is cracked or damaged. |
| | Grease fitting is missing or clogged. | |
| | Cork washer in dust cap is missing. | |
| | | |
| d. Hanger Bearings | | |
| Inspect hanger bearings and rubber insulators for condition and securement. | Hanger bearing rubber insulator is deteriorated, damaged or oil-soaked. | Bearing outer race is loose in insulator, or inner race is loose on shaft. |
| | Hanger bearing support is misaligned. | There is significant play in hanger bearing. |
| | | There is any loose, missing or damaged hardware or fasteners in the hanger bearing or support assembly. |
| e. Guards | | |
| Inspect for presence and condition of driveshaft guards. | Any driveshaft guard is bent or damaged. | Any driveshaft guard is missing or has loose or damaged mounting fasteners. |
| | | |
| | (Continued on Next Page) | |

8. Driveline

| f. Driveshaft Parking Brake Inspect driveshaft parking brake assembly for condition, mounting, securement and | |
|---|---|
| Inspect driveshaft parking brake assembly for condition, mounting, securement and | |
| adjustment of linings, drum, linkage and all other related hardware. | Lining is worn down to 2/32 inch from top of rivet head. Lining is contaminated with grease or oil. Lining is broken, cracked or loose. Drum is cracked or has excessive heat damage or scoring of friction surface. Any actuating or mounting hardware or fastener is damaged, loose or missing. Parking brake is not adjusted per manufacturer's specifications. |
| | |

9. Rear Suspension

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|---|--|
| a. Axle Housing | | |
| Inspect axle housing for condition and leakage. | Axle housing is seeping lubricant. | Any portion of axle housing is cracked or bent. |
| Note: See page 131 for definitions of fluid "leaks" and "seepage." | | Any portion of axle housing is leaking lubricant due to cracks, porous metal or defective welds. |
| | | There is any leakage at or around axle housing ends. |
| b. Vent | | |
| Inspect condition of axle housing vent. | Vent cap is clogged. | Axle vent is not functional or is missing. |
| | Vent hose (if originally equipped) is cracked or missing. | |
| c. Differential | | |
| Inspect differential assembly for condition, lubricant level and leakage. | Lubricant level is low. | Differential gaskets or seals are leaking. |
| Note: See page 131 for definitions of fluid | Differential gaskets or seals are seeping. | There is no lubricant in the differential. |
| Teaks" and "seepage." | | Any external differential hardware or fasteners are loose or missing. |
| | (Continued on Neut Dens) | Differential pinion yoke nut is loose or has endplay or side play exceeding manufacturer's specifications. |
| | (Continued on Next Page) | |

D. UNDERNEATH BUS 9. Rear Suspension

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|---|---|
| d. Springs | | |
| Inspect rear springs for condition, securement and alignment. | There are any loose, missing, broken or worn spring clips. | Any leaf spring is broken or missing. |
| | Any leaf spring or air-suspension ride height is less than manufacturer's specifications. | On any type spring assembly, airbag is damaged or leaking, or air lines and valving are damaged or leaking. |
| | | Air ride pivot pins and bushings are loose. |
| | | There is any misalignment of spring leaves or other evidence that centering pin is loose or broken. |
| | Rubber frame bumper is missing. | Either rear leaf spring is worn to the point that suspension bottoming has damaged rubber frame bumper. |
| e. U-Bolts | | |
| Inspect spring U-bolts for condition and securement. | Any U-bolt is misaligned. | There is rust underneath U-bolt nuts, indicating possibility of looseness. |
| | | Any U-bolt, U-bolt seating plate, shock mount bracket or nut is loose, missing, cracked or stripped. |
| | | |
| | (Continued on Next Page) | |

9. Rear Suspension

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--------------------------|--|
| f. Shock Absorbers | | |
| Inspect rear shocks for condition and securement. Note: See page 131 for definitions of fluid "leaks" and "seepage." Note: A very small amount of fluid staining at the shock-piston shaft seal area is | | Any shock is broken.Any shock fails to function.Any shock mounting or fastener is loose, missing, cracked or broken.Any shock is leaking fluid. |
| normal due to the wiping function of the shaft seal. This does not indicate a leaking shock. | | |
| g. Shackles | | |
| Inspect rear suspension shackles, spring hangers and hanger pinch bolts for condition and securement. | | Any rear spring shackle or hanger is cracked or broken. |
| | | Any rear spring shackle/hanger is worn, or any pinch bolt is stripped/missing, preventing the spring pin from being clamped tightly. |
| | | |
| | (Continued on Next Page) | |

D. UNDERNEATH BUS 9. Rear Suspension

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|---|---|
| h. Pins and Bushings | | |
| h. Pins and Bushings Inspect rear spring pins and bushings for wear and lubrication. See figure 13, page 117, for shackle-type system on checking play in pins and bushings. For other types of pin and bushing configurations, see manufacturer's service manual. | Any spring pin assembly will not accept lubrication, or grease fitting is damaged or missing. | Inner sleeve on rubber-type spring pin assemblies is worn through, or rubber bushing is excessively worn (rubber is compacted or deteriorated, resulting in free play between rubber and spring eye or inner sleeve). Rear spring pin bushing (metal-type bushing) is worn through. Total free play (up and down) of pin and bushing exceeds 1/8 inch for single pin type. On system using two pins and bushings, combined free play exceeds 1/4 inch. |
| | | |
| | (Continued on Next Page) | |

D. UNDERNEATH BUS 9. Rear Suspension

| Inspection Procedures: | Repair (or Note) if: | Out-of-Service if: |
|--|---|---|
| i. Hangers | | |
| Inspect hangers for mounting and condition. | | Any spring hanger or bracket is cracked or broken, or any mounting fastener is loose or |
| j. Seals | | missing. |
| Inspect rear wheel seals for condition and leakage. | There is seepage of oil or grease around axle flange or wheel seal. | Either rear wheel seal or axle flange is damaged or leaking. |
| Note: See page 131 for definitions of fluid "leaks" and "seepage." | | Any axle flange stud or nut is loose or missing. |
| k. Wheel Bearings | | |
| Inspect rear wheel bearings for condition and proper adjustment of bearings. | | There is any detectable looseness or roughness in rear wheel bearings. |
| Raise rear wheels (wheels unloaded) and release parking brake. | | |
| Grasp tire and attempt to rock wheel assembly to check for movement. | | |
| Note: Rear wheel bearing in-out play should be 0.000 inches. | | |
| | | |
| | | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--------------------------|--|
| Inspection Procedures: a. Hoses Inspect rear brake flexible hoses for condition, securement and routing. Note: See page 131 for definitions of fluid "leaks" and "seepage." b. Lines Inspect air and hydraulic brake lines for routing, securement and condition. Note: See page 131 for definitions of fluid "leaks" and "seepage." | Repair (or note) if: | Out-of-Service if: Any rear brake flex hose or connection is seeping, leaking fluid or leaking air pressure. Any rear brake flex hose is kinked, collapsed, bulging, has damaged plies or is damaged below outer covering. Any rear brake flex hose supporting brackets are damaged or have loose fasteners. Any rear brake flex hose is rubbing on or routed against other components. Any brake line is bent, crimped or damaged, restricting air pressure or hydraulic fluid. Any brake line or connection is seeping or leaking hydraulic fluid or leaking air pressure. Any brake line is not of OEM material, size or type. |
| | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--------------------------|---|
| c. Chambers | | |
| Inspect rear brake chamber assemblies for securement, condition and proper size. | | Any rear chamber-mounting bracket or hardware is cracked, bent, broken or missing. |
| | | Any rear brake chamber or mounting fastener is damaged, loose, missing or of the wrong type. |
| | | Either rear chamber is not OEM size and stroke length. |
| d. Slack Adjusters | | |
| Inspect slack adjusters and S-cam assemblies for wear, condition, operation and securement. | | Any portion of slack adjuster or S-cam is missing, broken, cracked, worn beyond limits or improperly installed. |
| Note: See section D.10.k, pages 152-153, on brake adjustment for procedure to check operation of ASA. | | S-cam shaft and/or S-cam bushing total wear (up and down) is greater than 0.040 inch (see figure 14, page 125). |
| | | S-cam in-and-out endplay is more than 0.060 inch (see figure 14, page 125). |
| | | S-cam snap ring is missing. |
| | | Slack adjuster has frozen or stripped worm gear or ratchet assembly. |
| | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--------------------------|---|
| e. Push-Rods | | |
| e. Push-Rods Inspect push-rod assemblies for condition, securement and alignment. | | Any portion of push-rod assembly (locknut, push-rod, clevis, pin or cotter pin) is loose, missing or damaged. Push-rod is rubbing against body of chamber, or chamber is misaligned. Push-rods on left and right sides are not mounted in identical (same) slack adjuster location hole, resulting in same effective slack adjuster length. |
| | | |
| | (Continued on Next Page) | |

D. UNDERNEATH BUS 10. Rear Brakes

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|---|--|
| f. Linings | | |
| Inspect linings and foundation brake hardware for contamination, wear, damage and securement. | There is a significant difference in lining thickness between the left and right sides. Rear brake lining is less than five-sixteenths (5/16) inch thick at center of shoe [on brake blocks with original three-fourths (3/4) inch thickness]. | Any foundation brake assembly does not have at least one lining inspection hole. For riveted-type shoes, rear brake lining is less than 1/4 inch thick at center of shoe [on brake blocks with original 3/4 inch thickness]. Rear brake lining is worn to within 1/16 inch of any rivet. For bonded type shoes, rear brake lining is worn to within 1/16 inch of shoe table (at center of shoe). Lining is broken, cracked or loose on shoe. Lining is not proper size. Friction surface is contaminated with oil, and the state of the state o |
| | | There is any shimming material between lining and shoe. |
| | | Shoe table or webbing is cracked or damaged. |
| | (Continued on Next Page) | There is any loose, damaged or missing foundation brake hardware within the drum. |

D. UNDERNEATH BUS 10. Rear Brakes

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|---|---|
| g. Disc Brake Pads | | |
| Inspect disc brake pads for contamination, wear, damage and securement. | There is a significant difference in pad thickness between the left and right sides of the bus. | Pad surface is contaminated, cracked, broken or missing. Thickness of friction material is less than 1/8 inch. Pad wear is uneven end to end exceeding 3/32 inches. Difference between the inboard and outboard pads is greater than 1/8 inch. |
| | (Continued on Next Page) | |

| h. Drums Inspect rear brake drum(s) for condition and oversize. | |
|---|--|
| Inspect rear brake drum(s) for condition and oversize. | |
| | There is any crack (other than heat checks) in drum. There is more than 0.060-inch wear in drum friction surface (inside diameter is more than 0.120 inch greater than original). There is any grease, oil or brake fluid on inside of drum. Drum is not mounted securely to hub, or fasteners are loose. Drum is not centered on hub, causing it to be more than 0.010 inch out of round. |
| (Continued on Net | xt Page) |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--|---|
| i. Rotors | | |
| Inspect rear brake rotor(s) for mounting, thickness and condition. | | Rotor is not secured or has run out beyond manufacturer's specifications, causing a pulsating brake pedal. |
| | | Rotor has cracks (other than heat checks) or other mechanical defects or is contaminated with oil, grease or brake fluid. |
| | | Rotor thickness is less than manufacturer's specifications as stamped on rotor. |
| | | Any rotor friction surface is significantly grooved or damaged. |
| j. Wheel Cylinders or Calipers | | |
| Inspect wheel cylinder(s) or caliper(s) for seepage, leaks, mounting and condition. | Any wheel cylinder or caliper dust boot is damaged or missing. | Any wheel cylinder or caliper is seeping, leaking, insecurely mounted or has loose or missing fasteners. |
| Note: See page 131 for definitions of fluid "leaks" and "seepage." | | There is uneven lining or pad wear, rotor or drum damage, evidence of dragging or other evidence that any wheel cylinder or caliper may be sticking. |
| | (Continued on Next Page) | |
| | | l |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--------------------------|---|
| k. Adjust Brakes | | |
| Any brakes (air or hydraulic) without automatic adjusting capabilities must be adjusted at each inspection using the following procedure: | | Any damage or condition prevents proper adjustment of manual adjusting brakes. |
| a) Tighten brake adjuster until wheel locks up. | | |
| b) Back off brake adjuster until there is very slight drag on friction surfaces. | | |
| MSA-equipped brakes must be adjusted at every required inspection at all wheel positions (see figure 15, page 126). Push-rod travel must not exceed limits shown in chart 11 on page 127. | | Any MSA-equipped brakes cannot be adjusted to bring push-rod travel within limits shown in chart 11 on page 127 of this manual. |
| | | |
| | | |
| | | |
| | (Continued on Next Page) | |

D. UNDERNEATH BUS 10. Rear Brakes

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|----------------------|--|
| 3) Do <u>not</u> adjust brakes equipped with ASAs. Push-rod travel must be measured and must not exceed limits shown in chart 11 on page 127. If the push-rod travel measurement exceeds the limits, the foundation brakes, slack adjusters, push-rods and chambers must all be inspected and repaired or replaced, if found defective. <u>Correctly installed and properly working ASAs should keep the brakes in adjustment throughout the life of the linings.</u> | | Any ASA is damaged or malfunctioning, or push-rod travel exceeds the limits shown in chart 11 on page 127. |

D. UNDERNEATH BUS 11. Body Securement and Structure

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|---|---|
| a. Body Hold-downs Inspect for securement and condition of all body hold-downs, chassis cowl mounts and frame pads. Body hold-downs include any J-bolt, U-bolt or clamp-type hold-down used to secure body to chassis frame. | One or two body hold-downs are loose or misaligned, or there are any cracks or stripped fasteners at floor securement points. Padding between frame rails and floor sills is misaligned. | Any OEM-installed body hold-down or cowl mount is missing. Three or more body hold-downs are loose, cracked, stripped, misaligned or have missing hardware. |
| b. Floor Inspect condition of floor structure, sills and braces. | There are any minor cracks in floor sills, braces or welds. | There are any holes or cracks in floor sheet metal, creating an opening to the passenger compartment. Entire cross-section of any floor sill or brace is broken. |
| | | There is any broken weld or mounting of a floor sill or brace, resulting in complete separation of more than one foot in length. There is any broken weld or loose mounting of the floor bracing, K-member, etc., at the front under the driver, center and step well areas (or "cab" area). |
| | (Continued on Next Page) | |

D. UNDERNEATH BUS 11. Body Securement and Structure

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|---|--|
| c. Outriggers | | |
| Inspect body outriggers and hardware for condition and securement. | | Any OEM-installed outrigger is missing, or body outrigger is cracked or has loose or missing hardware. |
| d. Braces | | |
| Inspect for condition and securement of all chassis and body braces. | There are any minor cracks in bracing underneath the body. | Any bumper brace is broken, cracked or missing. |
| e. Skirts | | |
| Inspect body skirts (and luggage compartments, if equipped) for securement and condition. | Body skirt, skirt brace or luggage compartment has minor cracks, broken sheet metal or mounting points. | Luggage compartment door-latch, hinge or lock is sticking, damaged or malfunctioning. |
| f. Mud Flaps | | |
| If equipped, inspect mud flaps according to manufacturer's specifications. | Any mud flap is missing. | Any mud flap is loose or damaged and may detach while bus is in route. |
| g. Frame Rails | | |
| Inspect condition of chassis frame rails, cross members and all hardware | | There is any crack in either frame rail or any cross-member. |
| | | There is any loose or missing rivet or other fastener securing a cross-member to the frame. |

| D. UNDERNEATH BUS 12. Exhaust System | | |
|--|--|---|
| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
| a. Exhaust Leaks | | |
| Inspect for condition and securement. With engine running at operating temperature, inspect exhaust system for leaks. | There is any physical damage to exhaust system, not restricting flow or causing leaks. | Any leakage is audible or can be felt around any portion of the exhaust system, including manifold, pipe sections or any junction |
| b. Mounting | | |
| Inspect mounting of the exhaust system. | Any exhaust system hanger is not securely mounted or any exhaust pipe or clamp is loose. | Any exhaust hanger is missing, broken or detached from exhaust system or frame mounting point. |
| c. Mufflers and Diesel Particulate Filter (DPF) | | |
| Inspect condition of the muffler and DPF. | | The muffler or DPF is leaking, restricted or |
| d. DEF Components | | damaged. |
| Inspect DEF components. | | DEF tank lines or injector is loose, |
| e. Tailpipe | | damaged or leaking fluid. |
| Inspect condition of tailpipe and ensure that it extends beyond the rear bumper and exits to the left of the left frame rail (for buses manufactured since 1998). If equipped with regenerative-type exhaust system or for type D rear engine buses, see model year specifications for tailpipe exceptions. | The tailpipe is cracked. There is other significant physical damage to the tailpipe. | The tailpipe is leaking, or does not extend to at least the rear outer surface of the rear bumper, or the tailpipe extends more than two inches beyond the rear outer surface of the rear bumper (see figure 16 on page 157), or the tailpipe does not exit to the left of the left frame rail. |

Figure 16

Tailpipe Length



Two inches

Note: The end of the tailpipe (see vertical line touching rearmost point of tailpipe in illustration at left) must extend beyond the rear outer surface of the bumper for a distance no more than two inches.

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--------------------------|---|
| a. Tread Depth | | |
| Inspect and measure all tires for tread depth and record measurements on inspection form. | | Tread depth of any tire is less than: Front: 4/32 inch Rear: 2/32 inch Tread depth is measured at three points spaced equally around the circumference of the tire in the same major tread groove. Do not measure at wear bars. Measurements for all three points must fall below the limits listed above before tire is required to be taken out of service. Measurements shall be taken at the most worn major tread groove of the tire. There is evidence of any regrooved tire. |
| | | There is evidence that any tire has been regrooved using a procedure not approved by tire manufacturer or dealer. |
| | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--|---|
| b. Pressure | | |
| With tires cold, check pressures of all tires and record measurements on the inspection form. | Any valve cap is missing. | Pressure in any tire is less than 20 percent below the maximum cold inflation pressure stated on sidewall of the tire. Pressure in any tire is more than 5 percent above the maximum cold inflation pressure stated on sidewall of the tire. |
| | | There is a difference of more than 20 percent in pressure between any tires on a particular axle. |
| c. Damage | | |
| Inspect for damage to wheels and tires. | There is foreign material in the tire tread that could cause damage or loss of air pressure. | There are any cuts, abrasions or other damage to tire sidewall, resulting in exposed or damaged cord. |
| | | There is any evidence of separation, bulges (other than normal manufacturer bulge) or other damage within the carcass of the tire. |
| Note: Weather cracking shall not be a sole cause for rejection. | | Any cracks run around the bead or sidewall of the tire. |
| | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--|---|
| | | Retreaded tires have any separation of the tire tread from the tire carcass that could result in tire or tread failure. Any valve stem is damaged or misaligned so that tire cannot be filled with air. Any damage exists to the lock ring assembly or groove of a multi-piece rim that could cause the lock ring not to seat fully. |
| | | There are any cracks or breaks at the lugholes or any other part of a rim or cast spoke. |
| | There are minor dents or bends in a rim. | There are any dents, bends or non-OEM welds to a rim. |
| d. Matching | | |
| Inspect for matching of tire construction, design, size and load rating on each axle. | | There is mismatching of inner and outer dual tire diameters greater than 3/8 inch. |
| | | There is any tire marked for use other than highway use. |
| | | Any tire is not of proper type, size and minimum load rating according to Florida Specifications. |
| | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|---|--|
| o Alignmont | | Not all tires on an axle are of same type (i.e., lug or rib) and size. Radial and bias ply tires are intermixed on the same axle. |
| e. Aigiment | | |
| Inspect tires for evidence of proper alignment. | Any tire is feather-edged, cupped or has uneven tread wear. | Tires/wheels are grossly misaligned, affecting steering control. |
| | Lateral run-out of any tire/rim assembly exceeds 1/4 inch. | |
| f. Wheel Hardware | | |
| Inspect for presence, type, condition and securement of all wheel hardware. | | There is improper matching of rims and lock rings. |
| Check for proper spacing of rear dual wheels and tires (proper spacer width). | | There is evidence of slippage of wheel assembly on cast spoke hub. |
| | | Stud holes are elongated. |
| | | Any wheel nut, stud or clamp is loose, or there is rust or corrosion, indicating possible looseness. |
| | (Continued on Next Page) | |

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|----------------------|--|
| Inspect for correct wheel color. Stud- piloted and spoke wheels are to be painted black. Hub-piloted wheels are to be painted National School | | Any wheel, nut, stud or clamp is broken, stripped or missing. Any improper spacer is installed between dual wheels. Any bus built since October 1987 is not equipped with disc-type (Budd) wheels. Wheel(s) not painted the correct color. |
| Bus Yellow. 4) Inspect for correct wheel type. Note: Hub-pilot and stud-pilot wheels are not interchangeable. | | Incorrect wheel is installed on any axle or hub. |
| | | |

E. LUBRICATION AND MAINTENANCE (OPTIONAL)

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--------------------------|--|--------------------|
| | This section of the form is for the convenience of school districts. School districts should implement their own lubrication and maintenance policies and procedures. | |
| | | |
| (Continued on Next Page) | | |

E. LUBRICATION AND MAINTENANCE (OPTIONAL)

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|------------------------|--|--------------------|
| | This section of the form is for the convenience of school districts. School districts should implement their own lubrication and maintenance policies and procedures. | |
| | | |
| | | |
| | | |
| | | |

F. ROAD TEST

1. Brake Performance

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|--|--|
| a. Parking Brake | | |
| Check for proper operation of parking brake as follows: | | |
| Apply parking brake. Place automatic transmission gear selector in drive and speed up the engine to approximately 1,200 RPM. Vehicle should not move forward. | Note: Buses equipped with Rear Diesel Engine and Allison World Transmission should be checked at approximately 900 RPM. | Vehicle moves forward. |
| b. Stopping Distance and Equalization | | |
| Stopping distance measurement methods. | | |
| The following stopping distance requirements should be met when stopping the vehicle on a level, dry, smooth, hard surface that is free of loose material from a speed of 20 mph: | | |
| a) Stopping distance can be determined by use of a decelerometer in accordance with procedures outlined in <u>49 CFR § 393.52</u>. | (Continued on Next Page) | Decelerometer reading is not within specifications set forth in <u>49 CFR § 393.52</u> for buses with GVWR of 10,000 pounds or less (Type A bus) or buses with GVWR of 10,001 pounds or more (Type C and D buses). |

F. ROAD TEST

1. Brake Performance

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|--|--|
| <u>OR</u> | | |
| b) Stopping distance (at 20 mph from point of brake pedal application) maximum of 25 feet for buses with GVWR of 10,000 pounds or less (Type A bus) and maximum of 35 feet for buses with GVWR of 10,001 pounds or more (Type C and D buses). | | Distance to stop is greater than 25 feet for buses with GVWR of 10,000 pounds or less (Type A bus), and distance to stop is greater than 35 feet for buses with GVWR of 10,001 pounds or more (Type C and D buses). |
| c) Check for tire flat spotting before and after conducting this test. Note: Use of either decelerometer measurement or stopping distance measurement is acceptable. Lockup of brakes is discouraged, as it may cause extended stopping distances and tire damage (flat spotting). | Flat spotting noted, but does not exceed minimum tread depths noted on page 158 of this manual. | Flat spotting exceeds minimum tread depths noted on page 158 of this manual. Flat spotting causes any tire to fail inspection (follow measuring procedures beginning on page 158 of this manual). |
| 2) Equalization test. | | |
| Check for excessive brake pulling during the stopping distance test. (Note: Pull is excessive if steering pulls sharply and/or bus will not stop within a lane 12 feet wide). | Bus pulls, but stops, within a lane 12 feet wide. Note: Remove hands from steering wheel while conducting the brake equalization test. | Bus pulls sharply and will not stop within a lane 12 feet wide. |

F. ROAD TEST 2. Engine, Transmission and Driveline

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|----------------------|---|
| a. Engine Performance & Governor Check for starting, color and quantity of exhaust smoke, proper idle, stalling, missing/skipping or hesitation, performance when accelerating and shutdown of engine. | | Engine will not start, is difficult to start or will not shut down. Engine hesitates upon acceleration, stalls, misfires or performs poorly. Any engine/emissions system warning lights or alarms are on, indicating a mechanical safety condition. |
| b. Automatic Transmission | | |
| Check operation of shifter and transmission. | | Up and down shifting is excessive, or shifts are hard. Transmission will not shift up and down through all gears. Transmission is slipping or noisy. Shift points are not within manufacturer's specifications. |

F. ROAD TEST 3. Steering and Handling

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|--|---|--|
| a. Free Play | | |
| Check for free play in steering. | | There is excessive wandering or shimmy due to free play in steering. |
| | | Bus wanders and requires excessive steering correction or effort to maintain straight-ahead driving. |
| b. Power Assist | | |
| Check power steering assist effort when | | There is no power assist. |
| turning to the left or right. | | Bus is hard to turn to the left or right. |
| | | There is jerking in the steering wheel when turning to the left or right. |
| c. Turning Radius | | |
| Check and compare the left turning radius to the right turning radius. | There is a minor difference between the left turning radius and the right turning radius. | There is a significant difference between the left turning radius and the right turning radius. |
| | (Continued on Next Page) | |

F. ROAD TEST 3. Steering and Handling

| Inspection Procedures: | Repair (or note) if: | Out-of-Service if: |
|---|---|--|
| d. Steering Column Check up-and-down movement of steering column. | | Up-and-down movement is greater than one inch. |
| e. Tracking | | |
| Check vehicle steering recovery from left and right turns, wandering on rough or crowned roads, and tracking and pulling when driving straight ahead (not when stopping). | There is poor recovery on turns. | There is no recovery on turns. Bus does not track properly (front and rear wheels are not in line). |
| | There is minor pulling in the steering. | Bus wanders and requires excessive steering correction or effort to maintain straight-ahead driving. |

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CHART AND FIGURE CONTENTS

| CHART NUMBER | DESCRIPTION | PAGE NUMBER |
|--------------|----------------------------------|-------------|
| 1 | First Aid Kit Contents | 3 |
| 1a. | Body Fluid Cleanup Kit | 3 |
| 2 | Brake Failure Warning | 31 |
| 3 | Ford Hydraulic Brake-Maxi System | 32 |
| 4 | Nut and String Test | 65 |
| 5 | Pupil Eight-Light Warning System | 76 |
| 6 | Lettering & Lights-Front of Bus | 83 |
| 7 | Lettering & Lights-Rear of Bus | 84 |
| 8 | Steering Wheel Lash Play | 86 |
| 9 | Charging System Cable Size Chart | 96 |
| 10 | Antifreeze Tables | 101 |
| 11 | Air Brake Push-Rod Travel | 127 |
| | | |

| FIGURE NUMBER | DESCRIPTION | PAGE NUMBER |
|---------------|-------------------------------------|-------------|
| 1 | Steering Wheel Size | 86 |
| 2 | Wheel Size | 86 |
| 3 | Column Yoke/Joint | 90 |
| 4 | Rag Joint | 90 |
| 5 | Column Shell Coupling | 90 |
| 6 | Checking Tie Rod Ends | 93 |
| 7 | Checking Idler Arm | 93 |
| 8 | Not used | |
| 9 | Belt Tension-Gauge Method | 103 |
| 10 | Belt Tension-Ruler Method | 103 |
| 11 | Checking Kingpins | 117 |
| 12 | Checking Front Axle Thrust Bearing | 117 |
| 13 | Checking Spring Pin and Bushing | 117 |
| 14 | S-cam Bushing Wear | 125 |
| 15 | Measuring Air Brake Push-Rod Travel | 126 |
| 16 | Tailpipe Length | 157 |

STATUTORY REQUIREMENT FOR SAFE TRANSPORTATION OF STUDENTS

1006.22 Safety and health of students being transported - Maximum regard for safety and adequate protection of health are primary requirements that must be observed by school boards in routing buses, appointing drivers, providing and operating equipment, in accordance with all requirements of law and rules of the State Board of Education in providing transportation pursuant to s. 1006.21, Florida Statutes:[subsections (1) through (9) and (12) and (13) omitted]. (10) Each district school board shall designate and adopt a specific plan for adequate examination, maintenance and repair of transportation equipment. Examination of the mechanical and safety condition of each school bus must be made as required pursuant to rule of the State Board of Education. The State Board of Education shall base the rule on student safety considerations.

(11) The district school superintendent shall notify the district school board of any school bus that does not meet all requirements of law and rule of the State Board of Education and the district school board shall, if such school bus is in an unsafe condition, withdraw it from use as a school bus until the bus meets the requirements. The department may inspect or have inspected any school bus to determine whether the bus meets requirements of law and rules of the State Board of Education. The department may, after due notice to a district school board that any school bus does not meet certain requirements of law and rules of the State Board of Education, rule that the bus must be withdrawn from use as a school bus, this ruling to be effective immediately or upon a date specified in the ruling, whereupon the district school board shall withdraw same from use as a school bus until it meets requirements of law and rules of the State Board of Education and rules of the State Board of Education and rules of the State Board of Education, rule that the bus must be withdrawn from use as a school bus until it meets requirements of law and rules of the State Board of Education and until the department has officially revoked the pertinent ruling. Notwithstanding any other provisions of this chapter, general-purpose urban transit systems are declared qualified to transport children to and from school (subsections (1) through (9) and (12) and (13) omitted).

STATE BOARD OF EDUCATION RULE ON SCHOOL DISTRICT RESPONSIBILITIES FOR THE SAFE TRANSPORTATION OF STUDENTS

6A-3.0171 Responsibilities of School Districts for Student Transportation.

Each school board shall exercise specific powers and responsibilities, as follows:

(8) Inspection and maintenance of school buses.

(a) To provide, after considering recommendations of the superintendent, adequate storage, maintenance and inspection procedures for all buses owned by the school board, and to assure that all contract buses in use in the district are properly inspected and maintained in accordance with law and rules of the State Board of Education.

(b) The inspection shall be conducted in accordance with procedures and include all items listed in the State of Florida School Bus Safety Inspection Manual, 2020 Edition (<u>http://www.flrules.org/Gateway/reference.asp?No=Ref-07934</u>) and documented on the Florida School Bus Safety Inspection Form (2020-IF)

(<u>http://www.flrules.org/Gateway/reference.asp?No=Ref-07935</u>), effective March 2020. The manual and form 2020-IF are hereby incorporated by reference and made a part of this rule. These documents may be obtained from the Department's website at: <u>http://fldoe.org/core/fileparse.php/7585/urlt/0085485-floridaschoolbussafetyinspectionmanual-1.pdf</u> and may also be obtained from the School Transportation Management Section, Department of Education, 325 West Gaines Street, Tallahassee, Florida 32399, at a cost not to exceed actual production and distribution cost.

(c) Inspection of buses shall be scheduled and performed at a maximum interval of thirty (30) school days. Any bus that is removed from service or deadlined so as to disrupt the safety inspection schedule shall be inspected prior to being returned to service. All deficiencies discovered during the safety inspection shall be noted on the inspection form (2020-IF). Follow-up repairs of all safety related items shall be made before the bus is returned to service and shall be documented.

(d) School bus inspections shall be conducted by technicians certified as school bus safety inspectors in accordance with the State of Florida School Bus Safety Inspection Manual, 2020 Edition. The State of Florida School Bus Safety Inspector Application (Form 2020-SI) (<u>http://www.flrules.org/Gateway/reference.asp?No=Ref-07936</u>), effective October 2020, and the District Online Test Administrator Application (Form 2020-TA) (<u>http://www.flrules.org/Gateway/reference.asp?No=Ref-07936</u>), effective October 2020, and the District October 2020, are hereby incorporated by reference and made part of this rule. These documents may be obtained from the Department's website at: http://fldoe.org/core/fileparse.php/7585/urlt/0085485-

<u>floridaschoolbussafetyinspectionmanual-1.pdf</u> and may also be obtained from the School Transportation Management Section, Department of Education, 325 West Gaines Street, Tallahassee, Florida 32399, at a cost not to exceed actual production and distribution cost. The requirement that inspections be performed by a certified Florida School Bus Safety Inspector may be waived for a period not to exceed six (6) months when an emergency condition exists, upon written notification to the Commissioner of Education by the district superintendent.

(e) No person shall knowingly render inoperative or reduce compliance of any school bus equipment required to meet Federal Motor Vehicle Safety Standards applicable at the time of manufacture (subsections (1) through (7) and (9) and (10) omitted).

| Type School Bus | FLORI | DA SCHOOL BUS SAF | FETY INSPECTION FOR | Μ | Propulsion Electric Alternative Fuel |
|--------------------|-------|-------------------|---------------------|---|--|
| MFSAB | Bus# | Mileage | RO# | | Conventional Fuel |

Date_

Chassis/Body

Model Year

School District_

Shop Location

Capacity_

| Status C | $\frac{1}{2}$ odes: $\frac{1}{2}$ = item is OK; X = item needs repair or as noted; | <u>O = out of service;</u> | <u>N/A = Not</u> |
|----------------|--|--|-------------------|
| Status Code | INSPECTION ITEMS | COMMENTS (Note Specific Deficiencies) | Tech. Initials |
| A. INSIC | E BUS | | b |
| | Emergency Equipment - Fire Ext. (pressure/tag/mount), First Aid Kit, Body Fluid Cleanup Kit and Reflectors | | |
| | 2. Registration and Insurance Card | | |
| | 3. Neutral Safety Switch, Shifter and Noise Abatement Switch | | |
| | 4. Engine Controls - Key Switch, Accelerator and Engine Shutdown | | |
| | 5. Gauges, Indicators, Dash and Switch Panel Lights, Engine Warning Lights/ Buzzers and ABS Warning Light | | |
| | Air Brake System - Gauge(s), Build-Up, Governor, Park Brake, Adjustment, Air Leaks, Low Air Warning, PP-1 Pop-Off and Pedal | | |
| | Hydraulic Brakes - Warning Light, Gauge, Pedal Travel and Fade, Power Assist and Park Brake | | |
| | 8. Windshield Wipers and Washers - Operation, Park and Blades | | |
| | 9. Heaters, Defrosters, Auxiliary Dash or Header Fan(s) | | |
| | 10. Dome and Step Well Lights | | |
| | 11. Service Door - Operation, Control and Overhead Pad | | |
| | 12. Horns | | |
| | 13. Mirror Adjustment and Condition - Rear vision, Cross-view, Side-view and Interior | | |
| | 14. Driver's Seat and Seat Belt | | |
| | Passenger Seats - Frames, Mounting, Pads, Cuts, Bottoms, Modesty Panels, Stanchions. Restraining Barriers, Passenger Securement Devices & Webbing Cutter | | |
| | 16. Emergency Doors, Windows, Hatches and Passenger Check System Operation, Buzzers, Labeling and Overhead Pad | | |
| | 17. Windshield, Side and Rear Windows - Cracks, Fogging, Latches and Visor | | |
| | 18. Wheelchair Lift, Door and Securement System - (if equipped) | | |
| | 19. Two-Way Radio Operation - (if equipped) | | |
| | 20. Interior Wiring, Cab Hoses and Fire Wall Seals | | |
| | 21. General Condition of Bus Interior - Floor, Step well, Grab Rail(s), Paneling, Broom Mounting, Loose Objects Secured and Engine Cover | | |
| B. OUTS | IDE BUS | | |
| | 1. Headlights, Turn Signals, Hazard, Brake, Tail, Backup | | |
| | Lights, Backup Alarm and Park Lights | | |
| | 2. Clearance, Side Marker, ID Lights, Reflectors and Strobe Light | | |
| | 3. Tupi warning Lights | | |
| | 4. Stop Arm(s) and Student Crossing Arm - Winng, Air of Vacuum Leak and Deca | | |
| | S. General Condition of Bus Exterior - Mirrors, Bumpers, Body Damage, Paint Reflective Marking, Lettering, Emergency Door, Engine Hood and Cleanliness | | |
| C. ENGI | NE COMPARTMENT | | |
| | Steering - Play, Column, Steering Gear Box Mounting, Pitman Arm, Drag Link, Steering Arm, Tie Rod & Ends and Idler Arm | | |
| | 2. Batteries - Hold Down, Terminals, Cables, Cleanliness, Slide Tray and Load Test | | |
| | 3. Fluid Levels and Condition - Brake, Power Steering, Oil, Transmission, Windshield Washer, Coolant (Antifreeze °F) | | |
| | 4. Belts and All Hoses - Tightness, Condition, Routing and Belt Alignment | | |
| | 5. Accessory Mounting and Condition – Power Steering Pump, Air Compressor and | | |
| | Filter, Water Pump, Fan, Alternator and Air Cleaner (Restriction gauge, if equipped) | | |
| | 6. Wiring - Routing and Condition | | |
| | 7. Fuel System and Lines | | |
| | 8. Radiator - Mounting, Cap, Reservoir and Fan Shroud | | |

| Status Code | | MS | | (Note S | COMMENTS Specific Deficien | cies) Tech. |
|----------------|---|--|--------------------------------|------------|-------------------------------|--------------|
| D. UND | ERNEATH BUS | | | | | |
| | Front Suspension - I-Beam, U-Bolts, Springs, Spr Bushings, Shocks, Kingpins, Wheel Bearings, Sea Joints | ring Mounts, Shackle ls, A-Frames, Bushir | es, Pins and ngs and Ball | | | |
| | Front Brakes - Hoses, Lines, Chambers, Slack Ad Rotors and Wheel Cylinders or Calipers. Check an Do Not Adjust ASA-Equipped Brakes. Disc Brakes | ljusters, Push-rods, l d Adjust MSA-Equip | ∟inings, Drums, ped Brakes. | | | |
| | 3. Engine Mounts, Transmission Mounts and Star | | | | | |
| | 4. Transmission - Bolts, Linkage, Lines, Filter and C | ooler | | | | |
| | 5. Fluid Leaks - Oil, Coolant, Transmission and Powe | er Steering | | | | |
| | 6. Fuel and DEF Tank - Leaks, Mounting, Hoses, Wi | ring and cap | | | | |
| | 7. Brake Equipment – ABS, Lines, Valves, Reservoi | r Mounting and Blee | d Reservoirs | | | |
| | 8. Driveline - Shafts, U-Joints, Yokes, Hanger Bearin | igs, Guards Drivesha | aft and Park brake | | | |
| | Rear Suspension - Axle Housing, Vent, Differentia Shackles, Pins and Bushings, Hangers, Seals and | al, Springs, U-Bolts, Wheel Bearings | Shocks, Spring | | | |
| | 10.Rear Brakes - Hoses, Lines, Chambers, Slack Adj Rotors and Wheel Cylinders or Calipers. Check an Do Not Adjust ASA-Equipped Brakes. Disc Brakes | usters, Push-rods, L d Adjust MSA-Equip | inings, Drums, ped Brakes. | | | |
| | 11.Body Securement and Structure - Hold Downs, F Skirts, Mud Flaps and Chassis Frame Rails | Floor, Outriggers, Br | aces, | | | |
| | 12. Exhaust System - Leaks, Mounting, Muffler, Tailp | ipe and DEF, DPF S | ystem | | | |
| | 13. Wheels and Tires - Tread Depth, Pressure, Dama and Wheel Hardware | ge, Matching, Alignr | nent | | | |
| E. LUBR | RICATION & MAINTENANCE (OPTIONAL) | | | | | _ |
| | 1. Change Oil and Replace Oil Filter(s) | Qts. | | | | |
| | 2. Replace Fuel Filter(s) Primary/Secondary and D | orain Separator | | | | |
| | 3. Replace Transmission Filter(s) | Qts. | | | | |
| | 4. Replace Air Compressor Filter (if applicable) | | | | | |
| | 5. Replace Power Steering Filter | Pts. | | | | |
| | 6. Replace Engine Air Cleaner Filter | | | | | |
| | 7. Replace Coolant Filter (if applicable) | | | | | |
| | 8. Test Starting and Charging System | Amps \ | olts | | | |
| | 9. Lubricate Chassis and Body | Lbs. | | | | |
| | 10. Air Conditioning If equipped, perform A/C system | preventive mainten | ance | | | |
| F. ROAI | D TEST | | | | | |
| | 1. Brake Performance - Park Brake, Stopping Distar | nce and Equalization | | | | |
| | 2. Engine, Transmission and Driveline - Engine Pe | rformance, Governo | r and Shifting | | | |
| | 3. Steering and Handling -Free Play, Power Assist, | Column, Tracking ar | id Turning Radius | | | |
| Comme | ents: | Tread Depth | Air Pressure | Trea | d Depth | Air Pressure |
| | | | | RRO | /32 | PSI |
| | | RF /32 | PSI | RRI | /32 | PSI |
| | | | 501 | LRI | /32 | PSI |
| | | LF /32 | P5I | LRO | /32 | P51 |
| NOTE: Fo | llow the manufacturer's inspection and maintenanc | e procedures for a | ny equipment not n | oted on th | is form. | |
| Inspector | 's Signature: | Inspector Cer | tification Number: | | | |
| Inspector | 's Printed Name: | | | | | |
| Service M | lanager or Delegate's Initials: Printed N | lame: | | Bus Returi | ned to Service | Date: |

Service Manager or Delegate's Inspector Certification Number: _____-____

| Туре | FLORIDA SC | CHOOL BUS SAFETY | INSPECTION FORM | Propulsion |
|---------------------|--------------|------------------|-----------------|-------------------|
| School Bus <u>X</u> | | | | Electric |
| MFSAB | Bus#_04-1234 | Mileage_96,000 | RO#_Y-43219-R | Conventional Fuel |

Date 8/20/2016 Chassis/Body

IC/Thomas/BB

School District-Sunny County

Capacity

Shop Location-Beaches

77

Model Year 2004

Status Codes: ✓ = item is OK; X = item needs repair or as noted; N/A = NotO = out of service; COMMENTS Status Tech. **INSPECTION ITEMS** Code (Note Specific Deficiencies) Initials A. INSIDE BUS 1. Emergency Equipment - Fire Ext. (pressure/tag/mount), First Aid Kit, ~ Body Fluid Cleanup Kit and Reflectors 1 2. Registration and Insurance Card 3. Neutral Safety Switch, Shifter and Noise Abatement Switch 4. Engine Controls - Key Switch, Accelerator and Engine Shutdown 1 5. Gauges, Indicators, Dash and Switch Panel Lights, Engine Warning Lights/ Buzzers and ABS Warning Light 6. Air Brake System - Gauge(s), Build-Up, Governor, Park Brake, Adjustment, Air Leaks, Low Air Warning, PP-1 Pop-Off and Pedal 7. Hydraulic Brakes - Warning Light, Gauge, Pedal Travel and N/A Fade, Power Assist and Park Brake 8. Windshield Wipers and Washers - Operation, Park and Blades 9. Heaters, Defrosters, Auxiliary Dash or Header Fan(s) ~ 10. Dome and Step Well Lights 11. Service Door - Operation, Control and Overhead Pad 12. Horns 13. Mirror Adjustment and Condition - Rear vision, Cross-view, Side-view and Interior 14. Driver's Seat and Seat Belt 15. Passenger Seats - Frames, Mounting, Pads, Cuts, Bottoms, Modesty Panels, Stanchions, Restraining Barriers, Passenger Securement Devices, & Webbing Cutter 16. Emergency Doors, Windows, Hatches and Passenger Check System Operation, Buzzers, Labeling and Overhead Pad 17. Windshield, Side and Rear Windows - Cracks, Fogging, Latches and Visor N/A 18. Wheelchair Lift, Door and Securement System - (if equipped) 19. Two-Way Radio Operation - (if equipped) 20. Interior Wiring, Cab Hoses and Fire Wall Seals 21. General Condition of Bus Interior - Floor, Step well, Grab Rail(s), Paneling, Broom Mounting, Loose Objects Secured and Engine Cover **B. OUTSIDE BUS** 1. Headlights, Turn Signals, Hazard, Brake, Tail, Backup Lights, Backup Alarm and Park Lights 2. Clearance Side Marker, ID Lights, Reflectors and Strobe Light LF corner not working RM Х 3. Pupil Warning Lights 4. Stop Arm(s) and Student Crossing Arm - Wiring, Air or Vacuum Leak and Decal 5. General Condition of Bus Exterior - Mirrors, Bumpers, Body Damage, Paint Reflective Marking, Lettering, Emergency Door, Engine Hood and Cleanliness C. ENGINE COMPARTMENT 1. Steering - Play, Column, Steering Gear Box Mounting, Pitman Arm, Drag Link, Steering Arm, Tie Rod & Ends and Idler Arm 1 2. Batteries - Hold Down, Terminals, Cables, Cleanliness, Slide Tray and Load Test 3. Fluid Levels and Condition - Brake, Power Steering, Oil, Transmission, Windshield Washer, Coolant (Antifreeze °F) 4. Belts and All Hoses - Tightness Condition, Routing and Belt Alignment X/O X-main belt, O-A/C belt RM 5. Accessory Mounting and Condition - Power Steering Pump, Air Compressor and Filter, Water Pump, Fan, Alternator and Air Cleaner (Restriction gauge, if equipped) (H_2O) 6. Wiring - Routing and Condition 7. Fuel System and Lines 8. Radiator - Mounting, Cap, Reservoir and Fan Shroud

| Status Code | INSPECTION ITE | INSPECTION ITEMS | | | | | | | |
|-------------------|---|--|-------------------------------|----------------------|-------------------|---------|--|--|--|
| D. UNDERNEATH BUS | | | | | | | | | |
| ~ | Front Suspension - I-Beam, U-Bolts, Springs, Spr Bushings, Shocks, Kingpins, Wheel Bearings, Sea Joints | ring Mounts, Shackle ls, A-Frames, Bushir | es, Pins and ngs and Ball | | | | | | |
| 0 | Front Brakes - Hoses, Lines, Chambers, Slack Ac Rotors and Wheel Cylinders or Calipers. Check an Do Not Adjust ASA-Equipped Brakes. Disc Brakes | inings, D rums, ped Brakes. | Less thar | n ¼ inch (Q Plus) | JM | | | | |
| ✓ | 3. Engine Mounts, Transmission Mounts and Star | ter Mounting | | | | | | | |
| ✓ | 4. Transmission - Bolts, Linkage, Lines, Filter and C | ooler | | | | | | | |
| ✓ | 5. Fluid Leaks - Oil, Coolant, Transmission and Pow | er Steering | | | | | | | |
| ✓ | 6. Fuel and DEF Tank - Leaks, Mounting, Hoses, Wi | ring and cap | | | | | | | |
| Х | 7. Brake Equipment – ABS, Lines, Valves, Reservoi | r Mounting and Blee | d Reservoirs | Bleed tan | iks | JM | | | |
| ✓ | 8. Driveline - Shafts, U-Joints, Yokes, Hanger Bearin | igs, Guards Drivesha | aft and Park brake | | | | | | |
| ✓ | Rear Suspension - Axle Housing, Vent, Differentia Shackles, Pins and Bushings, Hangers, Seals and | al, Springs, U-Bolts, Wheel Bearings | Shocks, Spring | | | | | | |
| 1 | 10. Rear Brakes - Hoses, Lines, Chambers, Slack Adj Rotors and Wheel Cylinders or Calipers. Check an Do Not Adjust ASA-Equipped Brakes. Disc Brakes | usters, Push-rods, L d Adjust MSA-Equip | inings, Drums, ped Brakes. | | | | | | |
| ✓ | 11.Body Securement and Structure - Hold Downs, I Skirts, Mud Flaps and Chassis Frame Rails | Floor, Outriggers, Bra | aces, | | | | | | |
| ✓ | 12. Exhaust System - Leaks, Mounting, Muffler, Tailp | ipe and DEF, DPF S | ystem | | | | | | |
| 0 | 13. Wheels and Tires - Tread Depth, Pressure, Dama and Wheel Hardware | ige, Matching, Alignr | nent | R/F 1/32 pressure | inch, and low air | RM | | | |
| E. LUBR | RICATION & MAINTENANCE (OPTIONAL) | | | | | | | | |
| х | 1. Change Oil and Replace Oil Filter(s) | Qts | 28 | | | JM | | | |
| Х | 2. Replace Fuel Filter(s) Primary/Secondary and D | Prain Separator | | | | JM | | | |
| N/A | 3. Replace Transmission Filter(s) | Qts | | | | | | | |
| N/A | 4. Replace Air Compressor Filter (if applicable) | | | | | | | | |
| N/A | 5. Replace Power Steering Filter | Pts. | | | | | | | |
| N/A | 6. Replace Engine Air Cleaner Filter | | | | | | | | |
| N/A | 7. Replace Coolant Filter (if applicable) | | | | | | | | |
| Х | 8. Test Starting and Charging System | Amps <u>105</u> Vo | olts 15.2 | | | JM | | | |
| Х | 9. Lubricate Chassis and Body | Lbs. | 1/2 | | | RM | | | |
| х | 10.Air Conditioning If equipped, perform A/C system according to manufacturer recommendations and o | preventive maintena | ance | | | JM | | | |
| F. ROAD |) TEST | • | | | | | | | |
| 1 | 1. Brake Performance - Park Brake, Stopping Distar | nce and Equalization | | | | | | | |
| √ | 2. Engine, Transmission and Driveline - Engine Pe | | | | | | | | |
| × | 3. Steering and Handling -Free Play, Power Assist, | Column, Tracking ar | nd Turning Radius | | | | | | |
| Comme | ents: Needs rear brakes soon | Air Pressure | Trea | d Depth A | ir Pressure | | | | |
| D.13. E | excessive front tire wear | | RRO | 6/32 | 100 PSI | | | | |
| | | RF 1/32 | 50 PSI | RRI | 6/32 | 100 PSI | | | |
| | | | | LRI | 6/32 | 100 PSI | | | |
| | | LF 8/32 | 90 PSI | LRO | 6/32 | 100 PSI | | | |

NOTE: Follow the manufacturer's inspection and maintenance procedures for any equipment not noted on this form.

Service Manager or Delegate's Inspector Certification Number: ____099_-0040_____

Repair Order

| Vehicle Number Mileage Description of Vehicle | | | | | | De | scription | of Veh | icle | | | Repair Order | r # | | |
|---|--------------------|--------------|----------|------|----------|-------------|-----------|--------|------|------------|------------|---------------|------------------------|------|------|
| | | | | | Make | | Year | Reg |]. | Lift | A/C | | | | |
| Date: | | | | | Organiz | ation Name: | L | | | | 1 | Safe Ye | ety Inspectes () No (| tion | |
| Route/Driver: | | | | | · | | | | _ So | chool D | istrict | Inspected By | /: | | |
| Repairs Needed: | | | | | | | | | | | | Out-of-servic | e Date: | | |
| | | | | | | | | | | | | In Service Da | ate: | | |
| Quantity | Pai | rts | Est. C | Cost | Tech. | | | | | Repairs | | | | Ti | me |
| - | | | | | Init. | | | | | • | | | | Hrs. | 1/10 |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | |
| | Co | ost Subtotal | | | | | | | | | | Total M | an-Hours | | |
| Quantity | Tires and Batterie | es | <u>8</u> | | Filters | Mileage | Yes | No | Tun | e/Up-Front | /Wheels-Oi | il | Mileage | Yes | No |
| | | | | | Fuel/Oil | | | | Tur | ne-Up | | | | | |
| | | | | | Air | | | | Frt. | Wheels | | | | | |
| | | | | | Coolant | | | | Oil | Change | | | | | |
| | | | | | Trans | | | | | | | | | | |
| | | Total | | | | | | | | | | | | | |

Repair Order, Example

| Vehicle | e Number | Mile | eage | | | Des | cription (| of Veh | icle | | _ | Repair Orde | r # | | |
|-----------------------------------|-----------------------------|----------------------|--------|-------------------------|------------------|--------------------------------------|------------|---------|-------|-------------|------------|-------------------|------------------------|------|------|
| 04 | 04-1234 96,000 ^M | | | Make IC/Tho r | nas/ BB | Year 2004 | Reg |). X | Lift | A/C x | Y | ⁄43219-I-F | R | | |
| Date: | 00/00 | 1004.0 | | | Organiz | Organization Name: Safety Inspec | | | | | | ety Inspect | ion | | |
| Devite /Driv | 08/20/ | /2016 | | | | | | | | | | S(X) NO | () | | |
| Roule/DI | Ver: 1 E /D atty / E | | - | | | Sunshi | ne Scr | | JISIN | ICL | | Inspected By | y: • Maaba | nin | |
| | | sus Driver | | | | | | | | | | JUE | | nic | |
| Repairs Needed: See inspection | | | | | n form o | dated 08/20/ | 2016 | | | | | Out-of-servic | ce Date:)8/20/2016 | 6 | |
| | | | | | | | | | | | | In Service D C | ate:)8/21/2016 | 6 | |
| Quantity | Par | ts | Est. C | Cost | Tech. | ech. Repairs | | | | Т | me | | | | |
| | | | | - | Init. | | - | | | | | | | Hrs. | 1/10 |
| 1 | 1157 Bulb | | | 67 | RM | Replaced Bu | b | | | | | | | 0 | 1 |
| 1 | 187439CI oi | l filter | 8 | 50 | RM | Replaced Filt | er | | | | | | | 0 | 1 |
| 1 | LF 3949 oil 1 | filter | 14 | 50 | RM | Replaced Filt | er | | | | | | | 0 | 1 |
| 1 | 1872526CI f | uel filter | 7 | 82 | RM | Replaced Filt | er | | | | | | | 0 | 1 |
| 1 | PH79 fuel fil | ter | 5 | 32 | RM | Replaced Filt | er | | | | | | | 0 | 1 |
| 1 | 1875921CI f | uel filter | 4 | 90 | RM | Replaced Filt | er | | | | - | | | 0 | 1 |
| 14 | Quarts of Oi | | 11 | 40 | RM | Changed Oil | | | | | | | | 0 | 2 |
| 1/2 | Pounds of g | rease | 1 | 50 | RM | Lubricated Cl | nassis | | | | | | | 0 | 1 |
| 1.0 | Labor, Mech (@12/hr.) | nanic | 12 | 00 | JM | Inspection Ac | ljustmer | nts an | d Re | pairs | | | | 1 | 0 |
| 1.3 | Labor, Helpe | Əľ (@8.5/hr.) | 11 | 05 | RM | Inspection Ac | ljustmer | nts an | d Re | pairs | | | | 0 | 1 |
| 1.0 | Tire (see co | st below) | | | RM | Change R/F | Tire | | | | | | | 0 | 3 |
| | Co | st Subtotal | 77 | 66 | | | | | | | | Total N | lan-Hours | 2 | 3 |
| Quantity | Tires and Batter | ies | - | - | Filters | Mileage | Yes | No | Tune | e/Up-Front/ | Wheels-Oil | | Mileage | Yes | No |
| 1 | 11Rx22.5 ne | ew tire | 197 | 00 | Fuel/Oil | 96,000 | Х | | Tun | ie-Up | | | | | Х |
| | | | | | Air | | | Х | Frt. | Wheels | | | | | Х |
| | | | | | H ₂ 0 | H ₂ 0 X Oil Change 96,000 | | | | Х | | | | | |
| | | | | | Trans | Trans | | | | | | | | | |
| Cost Total 274 66 | | | | 66 | | | _ | | | | | | | | |

School Bus Safety Inspection Certification Program

This program shall meet the requirements of rule 6A-3.0171, F.A.C. Technicians performing school bus inspections shall certify as School Bus Safety Inspectors. The certification shall be in effect until the end of the fifth fiscal year (June 30) from the certification date stated on the certificate. For example, a certificate issued on June 29, 2020, is valid through June 30, 2025. Certifications renewed during the fifth fiscal year shall be in effect for an additional five fiscal years. The qualifications, training and testing requirements for certification are as follows:

A. Level 1 Certified School Bus Safety Inspector

- 1) <u>Qualifications Requirements:</u>
 - a) Candidates must document at least two years of journeyman-level mechanical experience in the repair and maintenance of motor vehicles in the areas of automotive, truck, heavy equipment, or bus; or successful course completion in vehicle maintenance and repair from an accredited school. The required mechanical experience is defined as "hands-on" or "wrench-turning" experience.
 - b) Candidates must submit a State of Florida, School Bus Safety Inspector Application (form 2020-SI) to the inspector-trainer for the two-day class; to the district test administrator prior to the online test; and to the FDOE test administrator prior to the hands-on test.
 - c) Candidates' current employers shall classify them as journeyman-level mechanics/technicians. This classification must be in the form of an official job description and shall be kept on file at the local school district. In cases where candidates are working as journeyman-level mechanics/technicians without the proper classification, they may have their employer submit a letter to the School Transportation Management Section (STMS) of the FDOE requesting a waiver of the job description requirement.
- 2) <u>Training Requirements:</u>
 - a) School bus safety inspector candidates shall attend a minimum two-day training program conducted by a certified school bus safety inspector-trainer.
 - b) Candidates should be thoroughly familiar with the current edition of the *State of Florida School Bus Safety Inspection Manual* prior to attending a training class.
 - c) Candidates shall train/practice performing school bus inspections on several school buses prior to hands-on testing, using the procedures and information learned in the training class.
- 3) <u>Testing Requirements:</u>
 - a) Testing consists of two parts, a 100-question online knowledge test and a hands-on application test.
 - b) FDOE-approved test administrators will conduct online testing.
 - c) The STMS will administer the hands-on testing in the field.
 - d) Candidates shall pass both tests to certify as a State of Florida School Bus Safety Inspector.

- 4) Written (online) Test:
 - a) All written test questions correspond to material in the inspection manual.
 - b) Candidates have 90 minutes to take the test.
 - c) The minimum passing score is 80 percent. The passing score shall be valid for one year.
 - d) This test is an **open-book** test. Candidates may use the *State of Florida School Bus Safety Inspection Manual* during the 100-question online test.
 - e) Prior to hands-on testing, a candidate should pass the online test.
- 5) <u>Hands-on Test</u>:
 - a) FDOE will provide the time, date and location of each regionally scheduled hands-on testing class to school district transportation departments.
 - b) Candidates will be required to perform actual physical inspections of school buses and should dress accordingly. All needed equipment will be provided at the test site.
 - c) Candidates must bring a current *State of Florida School Bus Safety Inspection Manual* and a valid driver's license to the test site.
 - d) Candidates should use the information learned in their training class, the inspection manual and their professional knowledge while taking the hands-on inspection test.
 - e) Candidates have 90 minutes to perform the test (inspection). The hands-on test does not require inspection of all items on the form. A complete inspection may take longer due to equipment and location variables.
 - f) The test bus will have a minimum of nine specific and pre-determined deficiencies that the candidate must identify and properly describe on the inspection form. The specific deficiencies may be either existing or created by the test administrator.
 - g) Each of the nine deficiencies counts as 10 points.
 - A properly completed inspection form counts as 10 points. The candidate can make a maximum of three mistakes on the form. Examples of some common mistakes are:
 1) Odometer reading not recorded;
 - 2) A blank in the Status Code column; and
 - 3) Failure to clearly identify or describe any of the nine specific deficiencies.
 - i) The minimum passing score is 90 percent.
 - j) The employer listed on the State of Florida School Bus Safety Inspector Application (form 2020-SI) will receive certification status of each candidate.

B. Level 2 Certified School Bus Safety Inspector/Trainer

1) <u>Qualifications Requirements:</u>

Requirements include all the requirements listed in Section A. Level 1. Certified School Safety Bus Inspector, plus the following additional items:

- a) Candidates should be thoroughly knowledgeable of the contents of the current edition of the State of Florida School Bus Safety Inspection Manual.
- b) Candidates must possess skills and abilities required to present school bus inspection training material in a manner that facilitates learning and must exhibit leadership qualities and above-average professionalism in the performance of their duties.
- c) Candidates must submit a copy of their completed State of Florida School Bus Safety Inspector Application (form 2020-SI) to the FDOE trainer at the time of the train-thetrainer class.

2) <u>Training Requirements:</u>

- a) Trainer candidates must attend a two-day, FDOE-sponsored train-the-trainer class, testing session and periodic update training sessions.
- b) Candidates will receive intense training and detailed inspection program information from the FDOE trainer in the following specific areas:
 - 1) Training techniques
 - 2) Purpose of the program and applicable laws and State Board of Education rules
 - 3) How to use the inspection manual and the inspection form
 - 4) Recertification program
 - 5) Inspection, repair-or-note, and out-of-service criteria
- 3) <u>Testing Requirements:</u>
 - a) See "Section A." Trainers must meet the same testing requirements as an inspector.
 - b) Additional testing requirements include performance-based scoring at the two-day train-the-trainer class in which trainer candidates will be required to conduct simulated training classes.
 - c) FDOE will schedule periodic train-the-trainer update classes. Trainers are strongly encouraged to attend.

4) <u>Duties:</u>

- a) Trainers must ensure that inspector-testing candidates meet all requirements.
- b) Trainers must sign the State of Florida School Bus Safety Inspector Application (form 2020-SI) to verify that inspector candidates have received appropriate training.
- c) Trainers will occasionally conduct inspection training for school districts, charter schools and private transportation providers that do not otherwise have trainers available to them.

C. Level 3 Supervisor

This new classification, which becomes effective June 30, 2021, is for a supervisor who manages the school bus inspection process. The candidate will not be qualified to complete a school bus inspection, but must pass the School Bus Safety Inspector 100-question test in order to demonstrate the understanding required to approve documents indicating a proper safety inspection has been completed and the bus is safe to return to service.

| Classification Levels | Min. 2 years Technical Experience | Classified as Journeyman | Written Test Passed | Hands-on Test Passed | Update Course Attended |
|--------------------------|---|--------------------------|------------------------|----------------------------|------------------------------|
| 1. Inspector | Х | X (1) | X (2) | Х | (4) |
| 2. Trainer | Х | X (1) | X (2), (3) | Х | (4) |
| 3. Supervisor | N/A | N/A | X (2) | N/A | (4) |

Inspector Classification Requirements

- 1) Requirements specified in Section A
- 2) 100-question online test
- 3) There is no written test for trainer candidates. Trainer candidates will receive a score during the two-day train-the-trainer class.
- 4) 30-question online recertification test

Note: A trainer must provide the candidate with inspection manual revision information and sign the State of Florida School Bus Safety Inspector Application (form 2020-SI) prior to testing.

School Bus Safety Inspection Recertification Program

School bus safety inspectors, inspector-trainers and supervisor-inspectors must recertify during the fifth fiscal year of certification. Following are the qualifications, eligibility and testing requirements for recertification:

- 1. <u>Qualifications Requirements:</u>
- a) Recertification must take place between July 1 and June 30 of the fifth full fiscal year following the date of original certification or subsequent recertification. For example, if an inspector certified in January 2020, he/she would need to recertify anytime between July 1, 2024, and June 30, 2025. If an inspector certified in August 2020, recertification would be required before June 30, 2026. Note: Recertification candidates are encouraged to begin recertification study and testing early in the fiscal year during which recertification is required.
- b) Inspector-trainers must ensure that recertification candidates obtain manual revision information and that candidates have thoroughly studied this information prior to testing. Trainers must sign the State of Florida School Bus Safety Inspector Application (form 2020-SI) to file with the school district transportation department.

2. Eligibility Requirements:

Inspectors who fail to recertify by the expiration date on their certificate must not inspect buses until recertified (see items (g) and (h) below).

- 3. <u>Testing Requirements:</u>
- a) Testing consists of a 30-question online test.
- b) The test consists of questions based on revised and non-revised inspection criteria from the *Florida School Bus Safety Inspection Manual*.
- c) District test administrators will conduct online testing.
- d) This test is an **open-book** test. Candidates may use the *State of Florida School Bus Safety Inspection Manual* during the 30-question online test.
- e) The candidate must provide the test administrator with a valid driver license and a completed State of Florida School Bus Safety Inspector Application (form 2020-SI) with an email address, if available.
- f) Recertification candidates will have 30 minutes to take the test.
- g) Recertification candidates can take the test as many times as necessary to achieve a passing score.
- h) If an inspector fails to recertify before his/her current certification expires, he/she MUST NOT inspect buses. If an inspector fails to recertify prior to the expiration date of his/her last certification, he/she will be required to take the 100-question online test and pass a hands-on test to recertify.
- i) The minimum passing score for the online recertification test is 80 percent.
- j) The online test program will provide the candidate with a score immediately. The current employer listed on the State of Florida School Bus Safety Inspector Application (form 2020-SI) will receive the certificate by mail.

District Online Test Administrator Guidelines and Requirements

- 1. District Online Test Administrator Guidelines
 - a) The candidate must present a photo ID and a copy of the State of Florida School Bus Safety Inspector Application (form 2020-SI).
 - b) The candidate may not bring in cell phones, cameras or other electronic devices.
 - c) This is an open-book test, and the candidate may only use the *Florida School Bus Safety Inspection Manual.*
 - d) The candidate may not attempt to access a web browser, text messaging, email, or any other communication or stored information from the testing computer.
 - e) There will be no talking during the test session or leaving seats without permission. This is to prevent distractions to candidates.
 - f) The test administrator must maintain visual contact with the candidate at all times.
 - g) The test administrator should offer a restroom break to the candidate prior to beginning the online test and emphasize that the clock will not stop during the test.
 - h) The candidate has up to 90 minutes to complete the certification test.
 - i) The candidate has up to 30 minutes to complete the recertification test.
 - j) The candidate can have a drink such as bottled water if permitted in the test facility.
- 2. District Online Test Administrator Requirements
 - a) The district test administrator shall be a qualified school district driver trainer or other person in leadership.
 - b) The test administrator can be an employee of the school district, but ideally not in the transportation fleet maintenance department.
 - c) Private or non-school district government entities may also have online test administrators following the same criteria as school districts.
 - d) Test administrators must complete and submit a form 2020-TA, District Online Test Administrator Application, to FDOE for approval.

DISTRICT ONLINE TEST ADMINISTRATOR APPLICATION

To submit a request for qualification, this application must be completed by the school district or organization. Under provisions of rule 6A-3.0171, Florida Administrative Code (F.A.C.), successful applicants will be qualified to administer the State of Florida School Bus Safety Inspector online test. Test administrators will be in direct contact with Florida Department of Education (FDOE) to coordinate all certification testing for the school district or organization. Test administrators may assist other school districts or organizations that do not have a test administrator. Applicants must submit this application to the FDOE, School Transportation Management Section. The superintendent of schools or an executive manager for any other type of organization must sign this application.

PLEASE PRINT OR TYPE

| Employer: | |
|---|---|
| Name: | Date: |
| Job Title: | |
| Address: | |
| Telephone Number:Othe | r Telephone Number: |
| Email address: | |
| Applicant's Signature: | Date: |
| I certify that the person listed above meets the requirement I agree to work cooperatively to provide testing opportunities have a test administrator or to fulfill testing requests made b | Ints to be a School Bus Safety Inspector Test Administrator for (organization or school district). Is requested by other organizations or school districts that do not y the School Transportation Management Section of the FDOE. |
| Superintendent or Authorized Signature: | Date: |
| Please send com | pleted application to: |
| Florida Depart | ment of Education |
| School Transportation | on Management Section |
| 325 West Gaine | s Street, Room 834 |
| Tallahassee, F | lorida 32399-0400 |
| 850-245 | 5-9935 FAX |
| 850-245- | 9795 Phone |
| schtrans | s@fldoe.org |

State of Florida, School Bus Safety **Inspector Application**



| | | Applicant Inform | ation | |
|--|-------------------------------|---|---|--------------------------------|
| Full Name: | | | | Date of Birth: |
| | Last | First | M.I. | |
| Address: | Street Address | | | Apartment/Unit # |
| | City | | State | ZIP Code |
| Phone: | | Email | | |
| Driver Licen | se No s Oply) | Online Tes | t Score and Date: | |
| (Eddt o Digit | 3 Only) | Application Lev | vel | |
| Inspector | 1 | Supervisor □ | | Trainer□ |
| The Applicar | t must document journey | Employment His man level mechanical experience or a ce an accredited scho | Story ertificate of completion in vehic ol. | le maintenance and repair from |
| Current Employer: | | | Pho | ne: |
| Address: | | | Job Ti | tle: |
| Supervisor: | | | | |
| Employed From: Previous | | To: | | |
| | | | Pno | ne |
| Supervisor | | | 300 11 | ue |
| From: | | To: | | |
| | _ | Attestation and Sig | natures | |
| I attest that m | / answers are true and co | omplete to the best of my knowledge. | | |
| Applicant's Signature: | | | Dat | e: |
| <i>I attest that th</i> Trainer's Signature: | e above listed applicant h | as met all of the mandatory training requ | irements Dat | e: |
| <i>I attest that th</i> Transportat | e above applicant meets on | all applicable qualifications and requirem | ents described in rule 6A-3.01 | 71 F.A.C. |
| Director's Signature: | | | Dat | e: |
| Certified B (FDOE OFF | y: CIAL) | Certification Number: | Da Ce | te rtified: |

Hands-On-Test Date:

Hands-On-Test Score:

TABLE OF CHANGES (Changes to Manual from 2017 to 2020)

| ITEMS | SECTIONS | PAGES |
|---|---|------------|
| Inspection manual cover page redesigned | Cover page | |
| Inspection form number changed. Refer to manufacturer specs. | Preface | i |
| Specifications Notes revised | Item 3 | ii |
| Inspection Form instructions revised | 1 st paragraph & 1. <u>Heading</u> | |
| Inspection Form instructions revised | 12. Service Mgrs. Initials | iv |
| Criteria for emergency equipment tamper-proof seal revised | A.1.a.b.c.d. | 2, 4, 5 |
| Added "gear selector" to repair (or note) criteria | A.3.a.1. | 7 |
| Accelerator pedal and linkage revised. Compare 2017 to 2020. | A.4.b.2.3 | 10 |
| "High" deleted from Engine/Trans. Warning Lights and Buzzers | A.5.c.1.2. | 13 |
| Added "@100 psi" and "psi" to Air Brake System | A.6.a. | 14 |
| Relocated park/emergency brake test note | A.6.d. | 15 |
| Relocated air brake adjustment notes | A.6.e. | 16 |
| Changed 70 psi to 75 psi | A.6.g. | 18 |
| Added "nozzle" and deleted "slightly" in repair (or note) criteria | A.8.a.4. | 33 |
| Added "Windshield washer is inoperable" to out-of-service criteria | A.8.a.4. | 33 |
| Added "if equipped" to inspection procedures; deleted "is not | A Q Q | 20 |
| present" in out-of-service criteria | A.9.C. | 30 |
| Replaced "air" with "service" in out-of-service criteria (see specs) | A.11.a. | 38 |
| Added "applicable" to inspection procedure and deleted note | A.13.b. | 42 |
| Deleted "1" from Type A-1 since designation is now only Type A | A.13.c. | 43 |
| Revised driver's seat language. Compare 2017 manual to 2020 | A 14 | 11 |
| manual concerning seat operation and seat belt retractor cover. | A.14. | 44 |
| Replaced "crash" with "restraining" to reflect spec manual | A 15 c | 46 |
| language | A. 15.C. | 40 |
| Deleted obsolete note regarding seat color | A.15.e. | 48 |
| Added "Note:" to bolded language; added "belted" to section i | A.15.h.i. | 49 |
| Revised Post-Trip Passenger Check System extensively. | A 16 d | 52 |
| Compare 2017 manual to 2020 manual concerning changes. | A. 10.d. | 52 |
| Added note specific to vehicle safety technologies (i.e., camera) | A.17.b. | 54 |
| Added "Power" to "Wheelchair Lift" to reflect spec manual | Δ 18 1 | 56 57 58 |
| language | 7.10.1. | 00, 07, 00 |
| Added "including park brake interlock" to inspection procedure | A.18.1. | 56 |
| Corrected note date concerning 50-inch track. Expanded note to | A 18 2 | 58 |
| include buses manufactured in 2020 and later. | 7.10.2 | |
| Changed out-of-service criteria to address inappropriate graffiti | A.21.d | 63 |
| Added note to grant exception to nonflammables so alcohol-based | A.21.f. | 64 |
| nand sanitizer dispenser may be mounted in the bus. | P.1 c | 67 |
| Deleted LED-related out-of-service criteria | B.1.a. | 67 |
| Added "If equipped" and "Full-Time Lights" to "Daytime Running Lamps to reflect language in the specification manual | B.1.a. | 67 |
| Deleted obsolete language from out-of-service criteria in the brake | | |
| light and tail light sections | B.1.d.e. | 70 |
| Changed "sticker" to "decal" to reflect spec manual language | B.1.g. | 71 |
| Added to "according to manufacturer's specifications" to | | 75 |
| inspection criteria; deleted "lights or interior" from repair (or note) | В.3. | 15 |
| added "more than or less than" | D.4 - | 77 |
| | в.4.а. | 11 |

| ITEMS | SECTIONS | PAGES |
|---|-------------------------|------------------|
| Added "See specifications for required fasteners and hardware" | B.5.a. | 79 |
| Changed district school name letters and bus numbers from four to six inch. | B.5.f. | 81 |
| Deleted last part of sentence containing dates in repair (or note) column. | B.5.f. | 81 |
| Added * indicating 2020 specs allowing name of charter school. | B5.f. | 81 |
| Deleted last part of sentences containing dates from out-of- service column. | B.5.f. | 81 |
| Added "dust boot" | C.1.c.2.a. | 88 |
| Added numerical fraction of inch "1/16 inch" | C.1.d.e.g.h. | 89, 91, 92 |
| Added "cable" to inspection procedures criteria for battery terminals; added "cable, terminal insulator and (if equipped)" to out-of-service criteria | C.2.c. | 94 |
| Added repair (or note) criteria to battery cables | C.2.d. | 94 |
| Battery Load Test information revised and moved to page 95 from page 97 | C.2.g. | 95 |
| Battery test chart 10 deleted from page 97 | Chart 10 | Deleted |
| Deleted "engine oil level is below the full mark" from repair (or note) column | C.3.c. | 98 |
| Deleted "transmission fluid level is below the full mark" from repair (or note) column | C.3.d. | 99 |
| Added "and/" and "damaged" to windshield washer repair (or note) column, deleted "missing" from repair (or note) column | C.3.e. | 99 |
| Added "and/or cap is missing" to out-of-service column | C.3.e. | 99 |
| Changed chart number from 11 to 10 in repair (or note) column | C.3.f. | 101 |
| Deleted section g. DEF inspection procedure, repair (note), out-of- service columns, page 100 | C.3.g. | Deleted |
| Added "if equipped" inspection procedure column | C.5.a. | 105 |
| Deleted "and/or fan" from out-of-service column | C.5.d. | 106 |
| Deleted "worn or" and "or loose" from out-of-service column | C.5.e. | 106 |
| Deleted "radiator cap leaks down slowly at rated pressure" from repair (or note) column | C.8.b. | 109 |
| Added numerical fractions, i.e. "(1/4)" to out-of-service column | D.1.c.f.h. | 112, 114, 115 |
| Added numerical fractions, i.e. "(1/4)" to out-of-service column | D.2.f.g. | 120, 121 |
| Deleted "any wheel cylinder or caliper dust boot is damaged or missing" from repair (or note) column | D.2.j. | 123 |
| Changed chart numbers in inspection procedures and out-of- service columns | D.2.k.2.3. | 124, 125 |
| Changed air brake chamber chart number from 13 to 11 | Air brake chamber chart | 127 |
| Changed "Slacks" to "Slack Adjusters" in inspection procedure column | D.10.d. | 146 |
| Added numerical fractions, i.e., "(1/4)" to out-of-service column | D.10.f.g. | 148, 149 |
| Deleted "any wheel cylinder or caliper dust boot is damaged or missing" from repair (or note) column | D.10.j. | 151 |
| Changed chart numbers in inspection procedures and out-of- service columns | D.10.k.2.3. | 152, 153 |

| Added "if equipped," deleted "for required," added "according to manufacturer's specification's" and deleted "and splash shielding on buses with skirt mounted A/C condensers" in inspection procedure column | D.11.f. | 155 |
|--|--|-----------------------|
| Deleted "2008," added "model year" in inspection procedure column | D.12.e. | 156 |
| Deleted "any single point of the most worn major tread groove" language in the out-of-service column | D.13.a | 158 |
| Added "any valve cap is missing" to repair (or note) column | D.13.b. | 159 |
| Deleted "any valve cap is missing" from repair (or note) column | D.13.c. | 160 |
| Deleted 2017-IF, added 2020-IF | Inspection form | 173, 174 |
| Deleted 2017-IF example, added 2020-IF example | Inspection form example | 175, 176 |
| Changed certification program information to reflect 2020 revisions: job description to be kept on file at local school district, online written test valid for one year, note that inspection may take longer than 90 minutes, reclassified level 3 supervisor | School Bus Safety Inspection Certification Program | 179, 180, 181, 182 |
| Changed recertification program information to reflect 2020 revision | School Bus Safety Inspection Recertification Program | 183 |
| Deleted blank page 184 | Blank page | Deleted |
| Renumbered District Online Test Administrator Guidelines and Requirements from page 185 to 184, changed date to 2020 | Online test administrator guidelines | 184 |
| Renumbered District Online Test Administrator Application from page186 to 185, changed form ID number to 2020-TA | Online test administrator application | 185 |
| Deleted two page State of Florida School Bus Safety Inspector application from pages 186 and 187, Added one page State of Florida School Bus Safety Inspector application on page 186 | School bus safety inspector application | 186 |
| Renumbered 2020 Inspection Manual Table of Changes from 189,190 and 191, to pages 187,188 and 189 | Table of changes | 187, 188, 189 |
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