OHIO SCHOOL BUS INSPECTION MANUAL 2010

PREPARED BY:

OHIO STATE HIGHWAY PATROL
LICENSING AND COMMERCIAL STANDARDS

Prepared 01-10

Ohio State Highway Patrol Web Site: www.statepatrol.ohio.gov

ATTENTION: SCHOOL ADMINISTRATORS

This manual is a reference manual for your transportation personnel.

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Foreword

This Ohio School Bus Inspection Manual is developed to serve as a guide for inspectors, mechanics, and other persons responsible for ensuring the safe transportation of Ohio's school children and persons attending programs offered by community boards of mental health and county boards of developmental disabilities.

Every effort has been made to update given inspection procedures in accordance with the development of new technologies. Please be aware that although every reasonable effort has been made to ensure the accuracy of this inspection manual, it is possible that errors may be discovered or specific information for individual components may be missing. Inspection personnel should refer to the applicable Ohio School Bus Construction Standards, individual manufacturer's specifications, or appropriate service manuals for specific component information.

All school buses are to be maintained without any defects. This is not only at inspections, but at any time school buses are used for pupil transportation.

The school or company administrator is responsible for the school bus to be prepared and ready for the annual inspection as outlined in this manual.

SECTION A

PROCEDURE FOR OBTAINING IDENTIFICATION NUMBERS

All buses must first pass inspection by the State Highway Patrol before the school bus is used for pupil transportation. Inspections will not be conducted at dealerships. Inspectors shall not inspect a bus until titled in the name of the private pupil transportation company or school. In-transit/dealer plates or temporary tags shall not be used to transport students.

School Bus Owners - When a school bus is newly acquired and ready to be inspected, contact your local Motor Vehicle Inspector for an inspection date. Assure the title is in the owner's name. It is the responsibility of the owner to assure their bus meets all the Ohio School Bus Construction Standards. The title and school bus will be presented to the inspector on the assigned date. When the bus successfully passes the inspection and with current inspection decals affixed to the bus, the bus may be operated for 30 days. During the 30 day period, the bus may be operated without an ID number. A copy of the school bus inspection shall be carried on the bus until the ID number is issued. The school/company does not forward any paper work to Licensing and Commercial Standards (LCS).

The Bureau of Motor Vehicles processes the issuance of ID numbers. Follow the directions on the next page to process the request for the ID numbers. The owner of the bus will be notified by mail of the assigned ID number.

Mail the request for registration in only **once**. If after thirty days the ID number is not return to your school/company, contact your motor vehicle inspection team for assistance.

The identification number assigned must be placed on the bus as required by regulation.

OHIO DEPARTMENT OF PUBLIC SAFETY
EDUCATION · SERVICE · PROTECTION

- Administration
- **Bureau of Motor Vehicles**
- Emergency Management Agency
- Emergency Medical Services Division
- Office of Criminal Justice Services
- Ohio Homeland Security
- Ohio Investigative Unit
- Ohio State Highway Patrol

Ted Strickland, Governor
Henry Guzmán, Director
Mike Rankin
Registrar

Bureau of Motor Vehicles
1970 West Broad Street
P.O. Box 16520
Columbus, Ohio 43216-6520
(614) 752-7600
www.bmv.ohio.gov

August 1, 2007

Dear Registrant:

Please note that School Bus Registrations will be issued by the Ohio Bureau of Motor Vehicles effective August 1, 2007. Previously, Identification Numbers were issued through the Ohio State Highway Patrol. These Registrations may be obtained only through the mail and **not** at any local license agency. There is no additional fee for this Registration and no renewal is required. Your Bus Identification Number will be noted at the top of the School Bus Registration that will be returned to you by mail to the operator address noted on the submitted School Bus Inspection Form (HP-32C).

To receive a Bus Identification Number and a School Bus Registration you must submit a School Bus Inspection Form (HP-32C), issued by the Ohio State Highway Patrol with newly required Tax Identification Number (also used for titling) to the address below:

OHIO BUREAU OF MOTOR VEHICLES
REGISTRATION SECTION
PO BOX 16521
COLUMBUS, OH 43216-6521

Please allow 10 business days excluding mail time for processing.

Thank you for the opportunity to assist you. If we may be of any further assistance regarding School Bus Registrations issuance, please contact us at Ohio Bureau of Motor Vehicles, Registration Section, P.O. Box 16521, Columbus, Ohio 43216-6521, or call 1-800-589-8247.

Sincerely,

Mike Rankin

MIKE RANKIN
REGISTRAR

MR: WFF: bb

Mission Statement
"to save lives, reduce injuries and economic loss, to administer Ohio's motor vehicle laws and to preserve the safety and well being of all citizens with the most cost-effective and service-oriented methods available."

CANCELLATION OF IDENTIFICATION NUMBERS

When a bus is sold or removed from service, the following procedure is to be followed:

- Complete the Request for Cancellation of School Bus Identification Numbers form (HP-32E) and mail to the State Highway Patrol, LCS, 1970 W. Broad Street, 4th Floor, Columbus, Ohio 43223.
- The HP 32E may be obtained from the State Highway Patrol or on-line at the Ohio of Department of Education's web site and the Ohio School Bus Mechanics Association's web site.

PREPARING the SCHOOL BUS for SALE/TRADE

- Remove the assigned identification numbers from front and rear of bus.
- Remove the owners name from both sides of bus.
- Remove inspection decals from both sides of bus.

SCHOOL BUS DEFINITION

Section 4511.01 (F) of the Ohio Revised Code

"School bus" means every bus designed for carrying more than nine passengers which is owned by a public, private, or governmental agency or institution of learning and operated for the transportation of children to or from a school session or a school function, or owned by a private person and operated for compensation for the transportation of children to or from a school session or a school function, provided "school bus" does not include a bus operated by a municipally owned transportation system, a mass transit company operating exclusively within the territorial limits of a municipal corporation, or within such limits and the territorial limits of municipal corporations immediately contiguous to such municipal corporation, nor a common passenger carrier certified by the public utilities commission unless such bus is devoted exclusively to the transportation of children to and from a school session or a school function, and "school bus" does not include a van or bus used by a licensed child day-care center or type A family day-care home to transport children from the child day-care center or type A family day-care home to a school if the van or bus does not have more than fifteen children in the van or bus at any time.

DEFINITION OF SCHOOL BUS TYPES

A **"Type A School Bus**" is a conversion bus constructed utilizing a cutaway front-section vehicle with a left side driver's door. This definition shall include two classifications: Type A-I, with a Gross Vehicle Weight Rating (GVWR) of 14,500 pounds or less; and Type A-II, with a (GVWR) of 14,501 pounds or more.

A "**Type B School Bus**" is constructed utilizing a stripped chassis, with a gross vehicle weight rating of more than ten thousand pounds, designed for carrying more than ten persons. Part of the engine is beneath and/or behind the windshield and beside the driver's seat. The entrance door is behind the front wheels.

A "**Type C School Bus**" is a body installed upon a flat-back cowl chassis with a gross vehicle weight rating of more than ten thousand pounds, designed for carrying more than ten persons. All of the engine is in front of the windshield and the entrance door is behind the front wheels. Type C school buses are referred to as "conventional" buses.

A "**Type D School Bus**" is a body installed upon a chassis, with the engine mounted in the front, midship, or rear, with a gross vehicle weight rating of more than ten thousand pounds, designed for carrying more than ten persons. The engine may be behind the windshield and beside the driver's seat; it may be at the rear of the bus, behind the rear wheels; or midship between the front and rear axles. The entrance door is ahead of the front wheels. Type D school buses are referred to as "transit style" RE: for "rear-engine", or FC for "forward control".

CHANGES IN SCHOOL BUS DESIGN OR EQUIPMENT

Any changes in design, equipment or additional equipment on a bus by a school/ company after receipt of the school bus must have prior approval in writing from the Director, Department of Public Safety, Division of Highway Patrol, Licensing and Commercial Standards section, 1970 W. Broad Street, 4th floor, Columbus, Ohio 43223. Schools/companies shall be responsible for any unauthorized items on the school bus.

ANNUAL INSPECTION SCHEDULE AND BUS PREPARATION

It is requested that mechanics be present so minor repairs may be made at the time of inspection. This may eliminate re-inspection at a later date. Repairs made at the scene will not be carried as a re-inspection.

Before buses are presented for inspection, the following procedures must be followed. If not, the bus will not be inspected at the scheduled date and location.

1. Interior and exterior of the bus including undercarriage must be **clean** with all inspection decals removed.

2. Exterior of the engine must be **clean**.

3. All components on the bus must be in working condition. Optional equipment, when installed, must work.

4. Letter of approval for any equipment not permitted by construction standards or not on the approved option list must be presented to the inspecting officer.

5. The Vehicle Identification Number of each vehicle shall appear clearly and indelibly upon either a part of the vehicle, other than the glazing, that is not designed to be removed except for repair or upon a separate plate or label that is permanently affixed to such a part.

6. **All administrators are responsible for having buses ready for inspection.**

Each school bus shall be in compliance with this inspection manual, Ohio School Bus Construction Standards and Ohio Revised Code sections 4511.76 and 4513.02. All school buses shall meet all applicable State and Federal safety standards. Any defect/violation must be repaired prior to the issuance of an inspection decal. **All defects/violations will be recorded at the time of inspection regardless if the defect/violation is repaired during the inspection.**

Any school bus owned by the school/company and still registered through the school bus program shall receive an inspection during the annual inspection. If a school bus is not presented for an annual inspection, the bus will be entered as if an annual inspection was completed but rated as “not presented for inspection”.

INSPECTION SEQUENCE

A logical inspection sequence must be used to inspect a bus with a minimum amount of lost time and steps. The inspector should check all components in one location before moving to the next to reduce retracing steps.

It is imperative that all buses be inspected using the same criteria. A uniform inspection process should be developed and followed so that defects/violations can be readily identified. The same sequence should be followed to ensure an accurate and thorough inspection report.

The sequence of inspection should be:

1. Exterior.
2. Interior.
3. Engine Compartment.
4. Undercarriage/ Brakes.
5. The HP 32, either paper or computerized, shall be completed. A summary report will be provided to the school/company representative at the time of inspection by paper report, electronic transfer, or e-mail.

Special attention needs to be taken when inspecting school buses used to transport special need pupils and school buses operating on other types of fuel other than gasoline or diesel fuel (Propane, Compressed Gas or Hybrid).

When following this sequence, the inspector shall view surrounding areas to check specific components.

Inspectors should look for such things as water and oil leaks, cracked or rusted-out sheet metal or frame members, crimped or damaged hoses or metal lines, and other items in the immediate area. When checking the undercarriage and wheels, the bus will be chocked and an inspector should be behind the wheel.

DECAL VALIDATION AND PLACEMENT

Decals are to be placed only on buses that pass the annual inspection. The inspector will validate the decals by punching out the month in which the annual inspection is conducted. One validation decal is to be placed on each side of the bus attached at the height of the owner name rail. Right side – in the area of the

service door. Left side – in the area of the driver's window. Decals are not transferable and shall be removed when the bus changes ownership. All school buses shall meet all applicable State and Federal safety standards prior to receiving an inspection decal. Decals are valid until next scheduled annual inspection unless the bus fails a spot or special inspection.

SPOT INSPECTIONS

A minimum of one spot inspection shall be conducted on each bus during the school year. The same procedure shall be adopted regarding the completion of the HP-32 as with the annual inspection.

CRASH INSPECTIONS

All school buses involved in a crash shall be inspected as soon as possible. All buses involved in any crash should be reported to the local inspection team or local LCS district office within two business days. If the crash results in disabling damage to the bus, the inspection decals shall be removed and shall be re-inspected after the bus is repaired.

OTHER USES OF SCHOOL BUS

In July 1991, the Ohio Attorney General issued an opinion that privately owned school buses may be used for other purposes when not being used to transport students. Some examples are: hauling Christmas trees, transporting adults for hire, or leasing the bus for a special event, such as sports. However, when the school bus is being used for other purposes, it must abide by all regulations pertaining to that use. As an example, if the bus is going to be used to transport adults for hire, it would be required to be registered as a commercial motor vehicle and follow all applicable Federal and State Commercial Motor Vehicle Regulations. Use of the eight-way flashing lights is not permitted when the vehicle is not being used as a school bus.

If a school bus is operating under regulation by the Public Utilities Commission of Ohio (P.U.C.O.), the operation must comply with the applicable rules and regulations of the PUCO. If involved in interstate operations, the operation must comply with all applicable rules and regulations of the Federal Motor Carrier Safety Administration.

SECTION B

School Bus Inspection Procedures

I. EXTERIOR

A. Front Bumper and Attachments

1. Shall be painted black. Bumper shall not be rusted, cut, broken or have protruding metal. Bumper shall not be altered. Shall be securely mounted.

2. Buses manufactured after 07/01/1988 will have a front bumper at least three-sixteenths of an inch pressed steel, channel one-piece construction, and a minimum of eight inches in width after forming. Some 1984-85 GM and Chevrolet buses may have front bumpers less than 3/16 inch thick, these are permitted. * Type A exemption, factory standard.

B. Rear Bumper and Attachments

1. Shall be painted black. Bumper shall not be rusted, cut, broken or have protruding metal. Bumper shall not be altered. Shall be securely mounted.

C. School Bus Markings

1. Identification numbers

a) Numbers shall be lettered with black paint or pre-cut decals.

b) All numbers shall be not less than six inches high and each stroke shall be not less than 9/16 inches in width.

c) Number on the front of the bus shall be displayed on the center of the bumper. If the bumper is manufactured with holes in the center for tow hooks, the I.D. number may be placed on the driver’s side of the bumper. Black numbers

shall be on a white or proper reflective background as construction standards dictate for year of bus. If bumper is less than six inches in height or designed so numbers will not be legible, a plate may be permanently attached to the bumper.

d) Number on the rear shall be on the body near the left tail light.

e) As of 09/01/1998, the ID numbers must be placed on a reflective background.

2. “SCHOOL BUS”

   a) Shall not be less than eight inches (8”) high, located above windshield and above rear emergency door or exit (Section 4511.77 of the Ohio Revised Code).
   b) Placed on a reflective background after 12/09.

3. “STOP”

   a) Shall not be less than ten inches (10) high, centered on rear of bus or rear emergency door (Section 4511.77 of the Ohio Revised Code).

4. “STATE LAW”

   a) Shall be approximately five inches (5”) high, located below the word “STOP” centered on the rear of the bus or rear emergency door (Not required after 9/1/1998).

5. “Emergency Door”

   a) Shall appear outside and inside designated opening in letters two inches (2”) high. The inside marking shall be on the frame or directly above the door or on the top edge of the window glass. The outside marking shall be at one of the following locations:

(1) Top of door frame.

(2) Directly above the door.

(3) Top edge of the door glass.

(4) Centered on the metal portion of the door directly above the required “STOP”. This location is only allowed if the markings maintain their required size for both “STOP” and “Emergency Door”.

(5) “Emergency Exit” shall be used on rear emergency window required for rear engine school buses.

6. Inspect for proper size and location of lettering.

a) School district/company or school at least five inches in height. It is recommended the lettering be block lettering with a 9/16 inch brush stroke.

b) When required, county of operation at least three inches in height. It is recommended the lettering be block lettering with a 9/16 inch brush stroke.

c) Ownership of vehicle, two inches at service door. (This is now optional.)

7. District assigned bus numbers shall be approximately five inches (5”) in height and placed:

a) On body near the entrance door;

b) On body near the right lower tail light;

c) On left side in area of driver’s window;

d) On front area designated by owner.

8. Route number bracket and inserts may be mounted on entrance side of bus, but will not be mounted or displayed in any window.

9. School Safety Zone Decal shall be displayed to the left of the service door just above the seat level rub rail. Shall be placed as close as possible to the service door as the bus design will allow.

10. No other markings, lettering, symbols, bumper stickers, window decals or decorations are authorized on or in the school bus except the School Safety Zone decal and authorized optional decals and lettering. (School bus company logo on mud flaps permitted, no advertisement)

D. Reflectorized Material

1. All reflective material must not be faded, peeling, cracking, separating and/or lifting.

E. Emergency Door

1. Shall open to maximum width (90 degrees) without catching or binding.

2. A device which produces a continuous warning sound shall be installed in the driver's compartment and at the emergency door on all buses and be activated after the door or handle is slightly moved. Buses bid after 09/01/1998 require the dome lights to activate with the warning sound on emergency door.

3. Rubber seals or gasket required around doors shall be in good condition.

4. No item such as brooms, shovels, etc., shall be permitted in the emergency opening.

5. Door stop (strap) shall be in good condition. (Buses manufactured before 05/02/1994).

6. Emergency doors shall have a positive door opening device to hold door in the open position (On buses manufactured on or after 05/02/1994).

7. The door shall be outlined with reflective material as required by FMVSS 571.217 (On buses manufactured on or after 05/02/1994). Shall be yellow in color.

F. Emergency Exit Window

1. Emergency window shall bear words “EMERGENCY EXIT” in letters at least two inches high both inside and outside the window. (Applies to buses bid after 01/01/1990).

2. Emergency exit windows shall have reflective outlining as required by FMVSS 571.217 (On buses manufactured on or after 05/02/1994). Shall be yellow in color.

3. No item such as brooms, shovels, etc., shall be permitted in the emergency window opening.

G. Emergency Roof Exit

1. Emergency roof exits shall have reflective outlining as required by FMVSS 571.217 (On buses manufactured on or after 05/02/1994). May be white, red or yellow in color.

H. Body Sheet Metal and Paint

1. No body panels or rub rails shall protrude beyond the normal contour of the school bus body.

2. Body sheet metal shall have no holes due to rust or damage. All holes are to be repaired by use of panels, covering plate or body putty depending upon type and amount of damage. All repairs must maintain the structural integrity of the bus.

3. Holes cut or drilled for installation of equipment shall be utilized for that purpose or covered.

4. Normal usage and age of bus shall be taken into consideration with regards to paint condition. Hoods requiring refinishing shall

be painted with non-reflective National School Bus Yellow or flat black paint.

I. Glass and Mounting

1. Windows/Windshield

a) Frames around glass shall be secure.

b) Cracks in the windows shall not be over one (1) inch in length.

c) Windows must be operational.

d) Shall be free of chips or cracks that could create a hazard or impair the driver's vision.

(1) Example: Windshield wiper blade scratches. Judgment of the inspector shall determine approval.

e) Windshield, original or replacement, may have a sun screen strip at top that meets manufacturer's specifications. (AS 1 line)

f) Windshield shall be securely mounted.

g) Discoloration on windshield/windows shall not be more than one and one-half inch and shall not obstruct driver's view to mirrors or roadway.

h) Buses must have tempered or laminated glass in windows behind the driver. The glass must be marked and meet FMVSS standard 571.205 for glazing.

J. Directional Signals

1. Shall be operative and securely mounted (front, rear and side body).

2. Shall be amber in color and may be with or without arrows.

3. Lens shall not be cracked or broken.

4. Shall flash not less than 60 or more than 120 times per minute with the engine operating under normal conditions.

5. Turn signals shall be self-canceling.

6. Shall be visible from five hundred feet distance on a clear day.

7. Four-way emergency hazard switch shall be installed with the directional signals and operative on all units.

8. No intrusive audible indication of turn signal in use.

K. Back-up Lamps

1. The lamps shall be controlled by an automatic switch on the reverse gear on buses manufactured after 01/01/2006.

2. If controlled by a manual switch, an indicator light is required when back-up lights are in use.

3. Backing lights shall be mounted on the rear of bus no higher than the stoplights.

4. Additional backing lights may be mounted in compliance with guidelines established under optional equipment.

L. Backing Warning Systems

1. Audible electric warning device shall be required on buses bid after 07/01/1988. (107 decibels or more)

2. Optional flashing “backing” light box shall be located on the left rear side of bus as high as possible under window (Mounting will vary with position of left rear stop light and turn signal). If

installed, the optional light box shall be mounted in contact with bus body panel (either flat or ribbed).

M. Stop and Tail Lamps

1. Two small combination stop/tail lamps are required.

2. Two additional 7-inch round or optional shaped stop/tail lamps are required.

   a) Tail lamps to be operated in connection with head lamp switch.

   b) Stop lamps must be operative with brake pedal.

3. Red lens not to be cracked, broken or discolored.

4. Must be visible from five hundred feet to the rear on a clear day.

5. White lamp shall illuminate registration number and may be combined with the tail light.

N. Flashing Warning Signal Lamps (Student Pick-up Lamps)

- Stop Signal Arm is required on buses manufactured after 05/01/1979.

- Yellow flashers are required on buses manufactured 04/01/1978.

1. With the master switch on (when required), service door closed and engine running, activate the sequence switch. The amber lights should start to flash.

2. Open the door, the amber lights shall stop flashing and red lights and stop signal arm shall be activated automatically.

3. Close the door and <u>all</u> the warning devices shall deactivate.

4. Turn off the master control switch, if installed.

5. Turn on the override (fail-safe) switch (shall be red in color or older buses out lined in red). The red lights and stop arm shall once again be activated. On buses manufactured on or after 09/01/1998 shall activate with the ignition switch in any position.

6. The stop arm, when activated, shall extend to 90 degrees from the body of the bus. The lights shall flash on the stop arm signal.

O. Clearance, Marker, Identification Lamps

1. Shall operate properly. Faded, cracked or discolored lenses shall be replaced.

P. White Strobe Light (Optional)

1. Strobe light, if installed, must be mounted on rear third of school bus roof and centered.

2. Strobe light must have separate and independent manually operated control switch.

3. Strobe light must be white in color when illuminated.

4. Strobe light must project a flashing beam signal throughout 360 degrees on the horizontal plane passing through the center of the light source.

5. The flash rate when observed from a fixed position shall be between 60 and 240 flashes per minute.

Q. Reflectors

1. Reflectors shall be properly mounted. Faded, cracked or discolored reflectors shall be replaced.

R. Headlamp Assembly

1. Two required with upper and lower beams. Four lamps permissible.

2. Headlights shall be properly aimed. No broken or cracked lens.

3. Parking lights shall be wired to operate on the headlamp switch.

II. INTERIOR

A. Service Door Assembly/Entrance/Handrails

1. No broken or cracked glass permitted in the entrance door.

2. Door shall fit properly and open freely.

3. Weather stripping shall be in good condition.

4. Door shall be outward opening split type on all buses (Bid after 09/01/1998). * Exception – Sedan type door on certain type “A” buses.

5. Manual control handle shall be operative. The manual control handle shall be equipped with a safety latch to prevent accidental opening which will also lock in the over-center position when door is fully open.

6. Stepwell lamp shall light automatically when marker lights are on and the service door is open.

7. Stepwell area shall be reasonably free from rust and corrosion. If the stepwell area has been weakened to the extent that a hazard exists it must be repaired/replaced.

8. Shall be equipped with a securely fastened handrail. Buses manufactured after 07/01/1988 shall be equipped with grab handles on both sides of the interior step well area.

9. Handrail Inspection Procedure - From outside the school bus entrance door the inspector shall drop the nut end of the handrail

inspection tool (1/2” nut measuring 3/4” across the flats, tied to a 1/8” diameter nylon or cotton string 36” in length with a single overhand knot) into the crevice formed where the lower end of the handrail is attached to the lower area of the step well. The tool shall then be pulled toward the outside of the school bus through the crevice while the inspector is standing outside the bus service entrance on the ground. Reject the vehicle if the tool gets caught, the nut separates from the drawstring, or the drawstring material breaks. If the tool pulls freely through the crevice without catching in the handrail, the vehicle will not be rejected.

10. Service door keyed lock shall operate properly if installed.

11. Handrails shall be free of any obstructions or items which interfere with the use of the handrail.

B. Driver’s Seat

1. Base of seat must be securely attached to metal floor.

2. The adjustable seat shall be secure in any position, no movement.

3. No broken tubing or protruding pieces of metal around the seat.

4. An operational driver’s locking type retractor seat belt and upper torso restraint system required. Locking retractor belt shall be equipped with protective boot of sufficient strength to keep belt retracted and off floor (On buses bid on or after 01/01/1990).

5. Covers, cushions, or back supports may be approved by local school officials for use on the bus. If approved, the outside cover shall be of fire retardant material and be securely attached to the seat.

6. All upholstery shall meet FMVSS 571.302 (Flammability).

C. Steering system

1. Grasp steering wheel and pull upward. Shaft shall not have excessive movement per manufacturer's specifications.

2. Check steering lash by turning steering wheel left and then right until resistance is met. This may indicate loose universal joints or excessive play in gear box.

3. Chart for maximum lash allowed:

Steering Wheel Diameter	Manual System	Power System
16" or less	2"	4-1/2"
18"	2-1/4"	4-3/4"
20"	2-1/2"	5-1/4"
22"	2-3/4"	5-3/4"

D. Clutch Operation

1. Pedal linkage shall be free of obstructions.

2. Shall work easily.

3. Pedal blocks or adjustable pedals, if used, shall be installed by manufacturer after 01/01/1991.

E. Instruments and Switches

1. Dashboard instrument panel

   a) All gauges shall be operative.

   b) Unused gauges shall be painted black.

   c) Indicator lights are required to show operation of turn signals and the four-way hazard flashers.

   d) Dashboard instruments shall be illuminated.

2. Control panel switches.

    a) All switches shall be marked.

    b) Any unused switch must be removed or painted black without markings.

F. Horn(s)

1. Shall be operative, capable of emitting a complex sound audible, under normal conditions, from a distance of not less than two hundred feet.

G. Windshield Wipers/Washers

1. Must be operative.

2. Wiper blades that could damage windshield or do not wipe the windshield clean shall be replaced.

3. Windshield washers are required to operate properly.

H. Defroster and Auxiliary Fans

1. Defroster system is required.

2. Two adjustable auxiliary fans operated on separate switches are required (on Type A school buses only one fan required).

3. All fans shall work at all selected speeds.

I. Heater(s)

1. Check heaters one at a time with waterlines open. All heaters shall operate properly.

2. Heater cores shall be clean with no leaks or obstructions to block flow of air or hit heater fan.

J. Mirrors

1. Refer to applicable year of the Ohio School Bus Construction Standards for mirror requirements.

2. Driver shall have an unobstructed view of all exterior and interior mirrors.

3. All mirrors shall be fully adjustable and securely mounted to reduce vibration.

4. All exterior rear view mirrors shall be heated after 07/01/1988. After 01/01/1990, all exterior mirrors shall be heated.

5. No cracks, breaks, or discoloration that causes view obstructions are permitted as viewed from the driver's seated position.

K. Sun Visor

1. Shall be adjustable and transparent.

2. A right side sun visor which is at least six inches by sixteen inches (6" x 16") in size is optional.

3. Sun visor shall not interfere with driver's vision of rear view mirror.

L. Emergency Equipment

1. Emergency equipment shall be securely located outside the passenger area and readily accessible to the driver. The equipment shall not interfere with passengers or the operation of the vehicle.

2. Six thirty (30) minute fusses and three (3) triangle reflectors with weighted stands are required on all school buses.

3. A dry chemical type fire extinguisher at least five pounds in capacity is required with a visible gauge and a rating of 10 B.C. prior to 04/01/1978 and 20 B.C. till 09/01/1998 and 40 B.C. after 09/01/1998.

4. Check for proper classification and annual inspection tag.

5. Observe visible gauge to determine whether extinguisher is pressurized.

M. First Aid Kit

1. First aid kit shall be securely mounted and be easily accessible to the driver.

2. The interior of the case shall be clean and shall contain all items in accordance with applicable Ohio School Bus Construction Standards.

3. All contents in the kit must meet the following requirements:

   - Minimum requirements for 9 through 24 passengers (16 unit kit).

(1)	3 Units	1” Adhesive Compress
(2)	2 Units	2” Bandage Compress
(3)	1 Unit	3” Bandage Compress
(4)	1 Unit	4” Bandage Compress
(5)	1 Unit	3” x 3” Plain Gauze pads
(6)	1 Unit	4” Gauze Roller Bandage
(7)	2 Units	Plain Absorbent Gauze - 1/2 Square yard
(8)	2 Units	Plain Absorbent Gauze - 24” x 72”
(9)	3 Units	Triangular Bandages

   - Minimum requirements for greater than 24 passengers (24 unit kit).

(10)	4 Units	1” Adhesive Compress
(11)	3 Units	2” Bandage Compress
(12)	2 Units	3” Bandage Compress
(13)	1 Unit	4” Bandage Compress
(14)	1 Unit	3” (3” x 3”) Plain Gauze Pads

(15)	2 Units	4” Gauze Roller Bandage
(16)	4 Units	Plain Absorbent Gauze - 1/2 square yard
(17)	3 Units	Plain Absorbent Gauze - 24” x 72”
(18)	4 Units	Triangular Bandages

4. Body fluid cleanup kit. Aerosol cans are not to be included as part of this kit. Other contents shall meet requirements of applicable Ohio School Bus Construction Standards.

   a) The kit shall contain the following:

      (1) Effective chlorine absorbent deodorant.

      (2) Effective germicidal detergent (if detergent contains alcohol, no more than one fluid ounce is permitted in a single use disposable container).

      (3) Disposal bag (Single use disposable).

      (4) Scraper (Single use disposable).

      (5) Effective protective gloves (Minimum of one pair) (Single use disposable).

      (6) Effective hand rinse.

         (a) If hand rinse contains alcohol, no more than one half fluid ounce is permitted in a single use disposable container.

      (7) Individually wrapped antiseptic towelettes are acceptable.

   b) The body fluid clean-up kit shall be easily accessible to the driver in the area of the first aid kit, and shall be securely mounted in a plastic or metal container.

N. Cleanliness

1. Seat assignment markings are permitted, shall not cover emergency exit markings.

2. All trash containers must be secured in the driver's area and shall not obstruct any aisleway to any entrance or exit. Shall not interfere with any handrail.

3. No flammable fluids, poisons or aerosol cans are permitted inside the school bus.

4. All buses shall be kept clean inside and out.

5. Only items necessary for the operation of the school bus (route slips, schedules, limited cleaning supplies, etc.) may be stored/carrier on the bus. No oils, fuels or anti-freeze.

O. Floor and Floor Covering

1. Shall be sound in construction and meet applicable Ohio School Bus Construction Standards.

2. Brake and clutch boots shall not be worn. If the size of the opening is larger than required for component, such as emergency brake or gear shift, boot shall be used to prevent dirt or contaminants from entering the passenger compartment.

3. Spot floor covering is permitted where needed to cover worn areas. One piece floor covering is not required to run full length of the bus. Loose pieces of carpet or other covering shall not be permitted.

4. Floor covering shall cover all floor base except where inspection plates are used and exposed.

P. Ceiling

1. No protruding objects are permitted that may cause injury (includes radio speakers).

2. No book racks or hangers allowed.

Q. Seats

1. Passenger seats and stanchions

a) Seat backs and cushions shall be firmly attached to the frame, and must be checked to make sure they are secure.

b) Metal seat frames - seat covering shall have no sharp edges protruding.

c) Any kit designed to repair seats equal to or better than original equipment is acceptable. Tape shall not be used as a seat repair.

d) Seat frame shall be securely fastened to the floor and/or side mounting rail. Some foot pads may have an extra hole without a fastener.

e) Ensure that the bottom seat cushion is secured.

f) All types of buses bid after 01/01/1991 shall have a full FMVSS 222 barrier on both sides.

g) Stanchions shall be padded to within at least three inches of the bus ceiling and floor.

h) On Type “A” buses, wheelchair positions and fastening devices are not permitted immediately opposite the lift entrance in order to have easy access in case of emergency.

i) Safety belts are required for all seating positions on school buses with a GVWR of 10,000 lbs. or less.

R. Emergency Exits

1. Emergency Door.

a) A device which produces a continuous warning sound shall be installed in the driver's compartment on all buses and at the emergency door since 1996 (FMVSS requirement) and be activated after the door or handle is slightly moved. Buses bid after 09/01/1998 require the dome lights to activate with the warning sound on emergency door. (Back up lights may illuminate also (optional))

b) Operation instructions for opening of door shall be lettered or decaled on inside of emergency door.

c) No permanent or temporary obstruction shall be present so as to reduce the emergency door opening.

d) Inside latch shall be protected against accidental opening. It is not mandatory to have a guard over the handle if latch is designed to protect against accidental opening.

e) A separate interior handle shall be provided for the purpose of pulling the door closed from the inside. Handle guard may be used as interior handle.

f) No locking devices are permitted on emergency door except locking systems that prevent the engine from starting, when in a locked position.

2. Emergency Windows

a) Shall be operative without excessive force.

b) A device which produces a continuous warning sound located in the driver's compartment shall sound when emergency window is opened. All buses bid after 09/01/1998 shall have the interior dome lights activate along with the audio warning device.

c) Handle or handles shall be permanently installed.

d) Weather stripping around emergency window exit shall be in good condition.

e) No item such as brooms, shovels, etc., shall be permitted in the emergency opening.

f) Child seats shall not block the emergency exit opening.

g) Emergency window shall bear words “EMERGENCY EXIT” in letters at least two inches high both inside and outside the window (Applies to buses bid after 01/01/1990).

h) Operating instructions shall be lettered or decaled at the emergency window in compliance with FMVSS 571.217.

3. Emergency Roof Exit

a) Shall open to maximum width without catching or binding.

b) A device which produces a continuous warning sound located in the driver’s compartment shall sound when the hatch is open to the escape position (Buses bid after 07/01/1988). All buses bid after 09/01/1998 shall have the interior dome lights activate along with the audio warning device.

c) Operation instructions for opening of hatch shall be lettered or decaled on the inside of the hatch.

III. ENGINE COMPARTMENT

A. Hood Assemblies

1. Hood assemblies should operate properly.

2. When equipped with a hinge spring or bar and latch assembly, the hood shall stay in the raised position.

3. No frayed, broken or damaged components on hood assemblies.

4. Grille color should be maintained as manufactured. If painted, shall be national school bus yellow. Chrome or corrosion resistant materials are permitted. All rear engine grilles shall be national school bus yellow. Hoods requiring refinishing shall be painted with non-reflective National School Bus Yellow or flat black paint.

B. Firewall

1. Holes through the firewall are permitted so wiring and various body components may enter the passenger compartment. Unused holes shall be plugged.

2. If diameter of hole or opening is larger than required for the component or wiring, fire resistant material such as plastic putty, grommets, or metal shall be used to prevent air, or contaminants from entering the passenger compartment.

C. Engine/Drive Train Components

Engine running and water lines open.

1. Shall not have any visible fluid leaks.

2. Belts

   a) Shall be adjusted to the proper tension according to manufacturer's specifications.

   b) Shall be free of cracks, frays, chunking and tears.

3. Accessory mounting brackets

   a) Compressor, alternator, etc.

   b) Shall be secure and free of cracks or breaks.

4. Radiator

a) Shall be securely mounted.

b) No leaks.

c) Radiator cap shall be present and fit properly.

5. Exhaust Manifolds

a) Shall be no cracks or leaks.

6. Engine and transmission mounts

a) Shall be secure and in good condition.

7. Hoses

a) No leaks permitted.

8. Wiring

a) Insulation shall not be cracked, worn, chaffing, or frayed.

b) Electrical tape may be used to protect wiring where insulation has worn.

c) Grommets or appropriate material shall be used to protect wires passing through chassis firewall unless wiring is in a fibrous loom.

d) Wiring shall have no loose connections such as terminals or junctions.

e) All wiring shall be secured to chassis components.

9. No missing bolts/fasteners or components as manufactured.

D. Fuel System

1. Fuel pump, fuel lines and filter system - no leaks, check with engine running.

2. Exhaust system shall be insulated from fuel tank and fuel tank connections on gasoline engines.

3. Fittings securely connected.

4. Carburetor and Diesel Pumps

    a) No leaks.

5. Air cleaner

    a) Securely fastened.

    b) Inspect for air filter element.

IV. UNDERCARRIAGE/BRAKES

A. Frame

1. No cracked, broken, loose, sagging frame members or separation from the main frame.

B. Batteries

1. Shall be securely mounted.

2. Terminals and connections clean and free of corrosion.

C. Front Axle Assembly

1. Springs (front & rear)

    a) No leaf shall be broken, cracked or missing.

    b) Shackle bolts shall be present and in good condition.

2. King pins – **A minimum of twenty percent of the total bus fleet shall be inspected.**

a) Eliminate all wheel bearing play by applying service brakes.

b) With front end lifted, grasp tire at top and bottom and attempt to move in and out to detect looseness (A pry bar may be necessary).

c) Measure the movement at the top or bottom of the tire at the outer circumference.

d) Reject vehicle if movement is in excess of manufacturer's specifications (Normally 1/4").

3. Steering gear box

a) Shall have no leaks.

b) Shall be securely mounted. No welding on steering system permitted.

4. Tie rod ends, crossbar, and drag links

a) Looseness at the steering linkage pivot points can be visually detected during movement of the vehicle steering wheel during a dry park test.

b) Apply vertical hand pressure at tie rod and drag link sockets to check for movement. Reject vehicle if any movement is found in the joint (Refer to manufacturer's specifications).

c) Check crossbar for structural damage and crossbar clamps for secure mounting.

5. Steering and Suspension (Type A & B buses)

a) Checking these components is rather detailed and proper adjustment will be left to the local mechanic, however, any indication of excessive wear should warrant further checking of the complete assembly by a mechanic.

D. Shock Absorbers (front and rear)

1. Must be properly mounted to the frame and axle.

2. Seals shall not leak.

E. Rear Axle Assembly

1. Axle and housing

a) No oil leaks.

b) No cracks in housing.

2. Differential

a) Check for oil leaks.

b) If questionable, due to apparent oil leaks, level shall be checked.

F. Springs, Torsion Bars and Torque Rods

1. Visually inspect for broken leaf springs, coil springs, torque rod, or torsion bar damage. Inspect spring shackles, bushings, “U” bolts, spring center bolts, and remaining suspension members.

2. Reject vehicle if springs, torque rods, torsion bars or other suspension members are broken or shifted.

3. Reject vehicle if shackles and/or “U” bolts are worn or loose or spring center bolt is broken or sheared.

G. Air Suspension *

1. With the entire system drained of air following the manufacturer's recommended procedures, start the engine and observe the air pressure at which air begins to flow into the suspension system and lift the vehicle.

2. With the system fully charged, inspect for any audible leakage at the bellows, connections or hoses.

3. Reject if air begins to flow into the suspension system below 55 p.s.i.

4. Reject if there is any audible leakage in the air suspension system.

*** CAUTION: INSPECTOR SHOULD NOT USE A CREEPER OR OTHERWISE LIE UNDERNEATH THE VEHICLE DURING INSPECTION BECAUSE THERE MAY NOT BE SUFFICIENT ROOM WHEN AIR IS DRAINED FROM THE BELLOWS. VEHICLE SHALL BE PROPERLY JACKED OR POSITIONED OVER A PIT.**

H. Brakes

1. Pedal

   a) Pedal blocks or adjustable pedals, if used, shall be installed only by manufacturer on buses bid after 01/01/1991.

2. Brake lines

   a) No cuts or breaks in the line.

   b) No lines shall be in contact with the exhaust system or chassis components.

   c) No evidence of leaks, crimping, rust or excessive wear.

   d) No frayed lines or rubbing against other components.

3. Brake hoses

    a) No hose with any damage extending through the outer reinforcement ply. Thermoplastic nylon may have braid reinforcement or color difference between cover and inner tube. Exposure of second color is cause for rejection.

    b) No bulge or swelling when pressure is applied.

    c) No audible or visible leaks.

    d) No improper joints (such as a splice made by sliding the hose ends over a piece of tubing and clamping the hose to the tube).

    e) No brake lines or hoses that are broken or crimped.

4. Brake linings or pads

    a) Linings may be checked through drum inspection slots.

    b) Lining or pad should be firmly attached to the shoe.

    c) Not saturated with oil, grease, or brake fluid.

    d) Minimum lining thickness:

        (1) Non-steering axle

            (a) Drum - 1/4 inch

            (b) Disc - 1/8 inch

        (2) Steering axle

            (a) Drum - 3/16 inch

            (b) Disc - 1/8 inch

(3) Type “A” bus 10,000 GVWR or less

(a) Drum - 2/32 inch

(b) Disc - 2/32 inch

5. Brake drums or rotors

a) Any external cracks that open when brakes are applied (Do not confuse short hairline internal check cracks with flexural cracks).

b) Any portion of the drum or rotor missing or in danger of falling away.

6. Hydraulic, vacuum assist, or hydraulic assist

a) Should be able to maintain brake pedal height under moderate foot force (40-60 pounds) for one minute without pumping.

b) With vehicle in stopped position and brake pedal depressed under moderate foot force (40-60 pounds) there should be a minimum of one-third of the total available pedal travel (manufacturer’s specification) remaining on non-powered systems.

c) Inspect calipers for leakage, loose support key, retaining screw, or torn dust boots.

d) Electric hydraulic brake assist motor must be heard when brake pedal is depressed with engine off.

e) Hydraulic brake systems shall have visible and audible warning signal to indicate loss of pressure (Buses bid after 01/01/1988).

f) Check for any fluid leaks on wheel cylinders, master cylinders, hydrovac, and hose connections on buses using vacuum assisted brakes. Check for brake fluid around the brake booster - between the booster and firewall.

g) If bus is equipped with air or vacuum assist, it shall have a visible warning signal and gauge to indicate any loss of air or vacuum. Buzzer shall be installed in combination with the gauge and warning signal on air operated brake systems. Buzzer must be loud enough to be heard over engine noise.

7. Air brake

a) Air brake adjustment cannot be checked by feel of the pedal.

b) Check for air leaks from reservoirs, chambers, valves, connections and lines.

(1) Start engine and build pressure to full pressure until air compressor cuts out, stop engine, check for one minute; without a brake application, there should not be a pressure drop on gauge or audible leaks.

(2) Start engine and build pressure to full pressure until air compressor cuts out, stop engine, make a brake application and hold down for one minute; there should not be a pressure drop on gauge or audible leaks.

c) Quick release valve, when installed, shall be operative.

d) Visible and audible warning system shall activate prior to the air pressure gauge dropping below 60 p.s.i. The audible warning must be loud enough to be heard over engine noise.

e) Check all moisture ejection valves for leaks and proper operation. This valve is not required if the bus is equipped with an air dryer.

f) Check air dryer and after cooler for leaks and proper operation. Buses manufactured after 07/01/1988 shall be equipped with an air dryer.

g) A manufactured discharge of air during brake checks is acceptable.

h) All buses shall be inspected to ensure that the slack adjusters are in proper adjustment.

i) All air tanks shall be securely mounted.

j) Drain valve shall operate with hand pressure.

k) Safety and check valves shall be operative. A random sample of buses, a minimum of twenty percent of the total bus fleet, shall be inspected to ensure that air supply components are operating properly.

l) Moisture ejectors required unless equipped with air dryer system. Alcohol evaporators are permitted. Air dryer systems are required after 07/01/1988.

m) Check air compressor for frayed, chunking or loose belts, loose mounting bolts, cracked or loose pulley or mounting brackets and braces, and excessive oil leaking from compressor.

n) Air pressure build-up time. Fully charge the system to governed cut out. Pump the service brake pedal to lower the system air pressure to below 80p.s.i. using the dash gauges. With the engine operating at the manufacturer's maximum recommended governed speed, time from the time the air pressure gauges passes 85 p.s.i. to the time it passes 100 p.s.i. The time should not exceed 40 seconds. If the school contests the results, contact the manufacturer for the system's build up time per Federal Motor Vehicle Safety Standards 571.121 S5.1.1. If the system fails the manufacturer's build up time, repairs are needed.

8. Parking brake

    a) The parking brake shall hold the vehicle on any grade on which it is operated, under all conditions of loading, and on a surface free from snow, ice, or loose material. With the exception of vehicles equipped with drive shaft parking brakes, **Spot check -** apply and put in gear with engine at idle. Vehicle should not move.

    b) Any bus bid after 09/01/1998 will have a red indicator light.

    c) Buses with air brakes may have the parking brake set automatically below 40 p.s.i. It shall not set higher than 40 p.s.i.

    d) If parking brake pop off valve does not set automatically, test the spring brake. With the gauges at zero, start the bus; place the bus in gear at idle. The spring brake shall hold the bus in place without the pop off valve pulled setting the parking brake.

9. Parking brake assembly on drive shaft

    a) Check brake lining to ensure not covered in grease and is intact.

    b) Assembly shall be properly mounted with no loose bolts or nuts.

    c) The parking brake shall hold the vehicle on any grade on which it is operated, under all conditions of loading, on a surface free from snow, ice, or loose material.

I. Exhaust System

1. When checking exhaust system, do not stop flow of exhaust through the pipe by placing an obstruction in the pipe.

2. Exhaust system shall be in good condition including hangers and clamps. No holes, cracks, splits or gaps permitted in system that would allow exhaust gases to escape.

3. Allow engine to reach normal operating temperature to seal the O ring on the manifold pipe before checking the system.

4. One 1/8” drainage hole may (not required) be drilled in the bottom of the muffler.

5. Tail pipe diameter shall not be reduced in size when leaving the muffler.

6. On rear discharge exhaust, the tail pipe shall extend to the edge of the bumper but not more than one inch beyond bumper. The tailpipe may pass through the bumper.

7. Optional left side exit must be at least three inches (3”) and not more than eighteen inches (18”) in front of the rear wheel and bent downward at a 45 degree angle six inches (6”) from the end of the pipe. Tail pipe shall extend to edge of body.

8. Flexible pipe for gas and diesel engines is permitted.

9. No part of the exhaust system shall be so located as would be likely to result in burning, charring or damaging the electrical wiring, the fuel supply, or any combustible part of the bus.

J. Fuel Tank and Shield

1. Tank shall not be rusted or damaged.

2. No leaks.

3. Securely mounted.

4. Fuel cap required with gasket in good condition.

5. Filler hose shall be in good condition.

6. Tank shall be shielded when any part of the exhaust system is adjacent to the tank on gasoline, propane or natural gas powered buses. No shield is required on diesel powered buses.

K. Tires, Rims and Wheels

1. Tires shall have a tread depth of not less than 4/32 inch for steering axle and not less than 2/32 inch for rear tires, measured anywhere on any major groove. Check tire condition. All valve stems shall be capped.

2. No retreads, recapped, regrooved, patched or plugged tires are permitted on the steering axle. No regrooved tires allowed on a bus.

3. All lugs shall be present & properly tightened.

4. Tires shall be properly inflated. Refer to tire manufacture rating and school bus manufacturers recommended inflation pressure.

5. Tires rated as a snow tire only are not permitted on steering axle.

6. Rims and wheels shall be black and/or natural iron gray in color and shall not be bent or twisted. Color of wheels to be uniform per bus.

7. All tires per axle shall be the same size (height). Buses bid prior to 07/01/1988 may have bias-ply or radial tires. No mixing of bias-ply and radial tires permitted.

    a) Buses bid prior to 07/01/1988 may have tubeless radial tires on the steering axle and tubed radial tires on the rear axle in order to upgrade steering axle rims.

    b) Buses bid after 07/01/1988 shall have tubeless radial tires.

8. Load rating of tires shall meet or exceed manufacture’s rating.

L. Body and Mounting Pads

1. Body shall be securely fastened (J-Bolts, or spring clamps).

2. Mounting pads or insulating material shall be held in place between floor sills and chassis frame and must be of good quality.

M. Drive-line, Universal Joints

1. No evidence of misalignment or unusual noises.

2. There shall be a drive shaft guard for each section of drive shaft.

3. Carrier bearings and universal joints shall not have play in excess of manufacturer's specifications.

V. SCHOOL BUSES USED TO TRANSPORT SPECIAL NEED PUPILS

A. Aisles

1. All aisles leading from the wheelchair area to an emergency door and the lift shall be of sufficient width, minimum of thirty inches, to permit passage of maximum size wheelchair.

B. Fastening Devices

1. Wheelchair securing devices shall be provided and attached to the floor or walls or both to enable securing of wheelchairs in the vehicle. The devices must be of the type that require human intervention to unlatch or disengage. Restraint devices for wheelchairs, car seats, care chairs, etc. shall be installed according to restraint manufacturer's instructions.

2. Additional fastening devices may be needed to restrain the student due to the many different chair configurations. Devices not in use shall be stored or secured.

C. Heaters

1. An additional heater(s) may be installed in the rear portion of the bus behind the wheelwells. Auxiliary fuel-fired heaters are permitted.

D. Identification

1. Buses with wheelchair lifts used for transporting physically handicapped children may display universal handicap symbols located below the window line. Such emblems shall be white on blue, shall not exceed twelve inches in size, and may be reflective.

E. Occupant Restraint – Wheelchairs

1. A system of positive occupant restraint shall be provided that secures the occupant.

2. The lap belt shall be attached to the vehicle or to the wheelchair securing fastening devices.

3. The upper torso restraint shall be provided and attached to the vehicle and/or the wheelchair securing fastening devices on vehicles manufactured after 09/01/1998.

F. Power Lift

1. Lift shall be confined within the perimeter of the school bus body when not extended and shall not be attached to the exterior of the bus. Lift shall be securely mounted with no missing or loose fasteners. No hydraulic leaks.

2. When the lift platform is in the fully up position, it shall be locked in position mechanically by means other than a support lug on the door on buses bid after 07/01/1988.

3. Controls shall be provided that enable the operator to activate the lift mechanism from inside and outside of the bus.

4. Lift travel shall allow the lift platform to rest securely on the ground.

5. All edges of the platform shall be designed to restrain wheelchair and operator's feet from becoming entangled during the raising and lowering process. Protective shields shall be in place and operable.

6. Platform shall be fitted on both sides with full-width shields which extend above the floor line of the lift platform. The bus or platform shall be designed to prevent the wheel chair from rolling off the rear of the platform.

7. A restraining device shall be affixed to the outer edge (curb end) of the platform that will prohibit the wheelchair from rolling off the platform when the lift is in any position other than fully extended to ground level.

8. A self-adjusting skid-resistant plate shall be installed on the outer edge of the platform to minimize the incline from the lift platform to the ground level. This plate, if so designed, may also suffice as the restraining device explained in paragraph (G) (7) of this rule. The lift platform must be skid-resistant.

9. A current interruption device shall be installed between the power source and lift motor if electrical power is used.

10. Rapid descent of lift is not acceptable.

11. An actuating switch shall be installed in the circuit to prevent the lift mechanism from operating when doors are closed.

12. Lift structure must have adequate padding and barriers for passengers' protection.

13. All lifts installed after 07/01/2005 shall meet FMVSS 403/404 (interlock systems). The lift shall not operate with the lift door closed and the bus shall not be able to be moved with the lift in operation.

G. Regular Service Entrance

1. An additional fold-out step may be provided which will provide for the step level to be no more than six inches to ground level.

H. Seating Arrangements

1. Flexibility in seat spacing to accommodate special devices shall be permitted due to the constant changing of passenger requirements.

2. Effective 03/01/1994, there shall be no passenger seats installed directly across the aisleway from the lift mechanism.

3. No mobile seating devices shall be secured which blocks access to the lift door or emergency exit on buses manufactured on or after 09/01/1998.

I. Special Light

1. Lights shall be placed inside the bus to sufficiently illuminate lift area and shall be activated when door is open.

J. Special Service Entrance

1. A head bumper pad shall be installed above lift door and or on lift frame.

K. Special Service Entrance Doors

1. All doors shall have positive fastening devices to hold doors in the open position and door bumpers to prevent door-to-body contact.

2. All doors shall have weather seals that are in good condition.

3. On buses bid after 07/01/1988, doors shall be equipped with a device that will actuate a green flashing visible signal located in the driver’s compartment when the door is open and ignition is in “on” position.

L. Other

1. All school buses which transport special need pupils shall be equipped with two-way communication devices.

2. Battery box and fuel tank may be relocated by the manufacturer to provide equal weight distribution to compensate for power lift weight.

VI. PROPANE FUEL SYSTEM

Our inspection procedure should focus on safety rather than installation procedure for the conversion. The inspecting officer obviously should point out and require corrections in installations that are safety related.

A. General – The system shall be maintained to the manufacturer's specifications.

1. All school buses equipped with dual fuel carburetor equipment using liquefied petroleum or natural gas shall be operated in the L.P.G., natural gas and gasoline mode.

2. All devices used in the propane system subject to container pressure shall have a design pressure of at least 250 p.s.i. The inspecting officer should visually check for markings (except carburetor).

3. Visually check for grommets around all electrical wiring and control cables passing through metal.

4. Visually check for fusing of wiring under dashboard.

5. Visually check fittings for signs of wear, leaking, tightness or undo stress (Oil residue around fitting often indicates leaks. Use soap leak detector to check if necessary).

B. Tanks

1. Visually check the manual 80% liquid level gauge and float gauge. Require replacement if not working properly. Liquid level gauge should open and close using finger pressure - check using gloves.

2. Check data plate on tank
   - Tanks shall be marked. Markings shall be on a metal nameplate attached to the container so located as to remain visible after the container is installed. The data plate shall include:

     a) Service for which the container is designed: Liquefied Petroleum Gas or Propane.

     b) Name and address of container supplier or trade name of container.

     c) Water capacity of container in pounds or US gallons.

     d) Design pressure in p.s.i.

     e) The wording, “This container shall not contain a product having a vapor pressure in excess of p.s.i. at 100 degrees F.”

     f) Outside surface area in square feet.

     g) Relief valve of 312 p.s.i. working pressure after March 23, 1981.

3. Visually check tank mounting for looseness, signs of movement, bolts, nuts, brackets, and corrosion.

4. Visually check road clearance of tank, it should not be lower than stepwell.

5. Check for shield if tank or any of its fixed parts are within six (6) inches of exhaust system. The brackets and bolts are not to be considered a part of the tank. Exhaust system shall not be supported by tank bracket. The shield may be closer than six (6) inches.

6. Check relief vent piping. Must be mounted securely enough to withstand 312 p.s.i. discharge (Top vent is permissible).

C. Fuel Lines

1. Check fuel lines for security, strain, wear, rubbing, vibration and grommets or bulkhead fittings. Check fuel line routing.

2. Fuel lines shall be secured at approximately two foot intervals.

3. Fuel lines routed through structural members shall be protected by grommets or bulkhead fittings. Bulkhead fittings are preferred.

4. Fuel lines shall be stainless steel, wire braid reinforced and labeled at 10 foot intervals either Liquefied Petroleum Gas or Propane Gas, 350 p.s.i. working pressure, 1750 p.s.i. burst pressure.

5. Automatic lock-off solenoid valve should be checked by converting from one fuel to the other with the dashboard mounted switch with engine running.

6. Hydrostatic relief valve must be installed in fuel line between tank and fuel filter lock off.

D. Fueling Compartment

1. Remote fill type shall be securely locked by key.

2. Direct fill shall be securely locked - key not necessary.

3. Fuel inlet line fitting shall have a cap covering.

E. Relief Valve

1. Relief valve should be located on same side of bus as the fuel supply tank. The vent line should be no longer than approximately two feet and run so a 45 degree angle is produced.
   - Note: Due to different type vent installations the inspecting officer must be flexible - safety is the key. Preferred is the 45 degree angle with a wire mesh protective type cover. To minimize the possibility of the entrance of water or dirt into the lines, the relief valve or its discharge piping must be protected with some type of raincap.

F. Automatic Shut Off

1. Check for operation - designed to prevent flow of gasoline when the ignition is in the off position or the bus is operating on propane.

G. Decals Stating “Powered by Propane”

1. Decals shall be affixed to school bus body within two inches (2”) of the fueling opening or on fueling opening door, under hood, and on rear bumper, curb side. Lettering shall state “POWERED BY PROPANE.”

H. Other

1. Make a visual check to make sure the lock-off valve has not been omitted on the gasoline supply line.

2. Make sure the electronic solenoid is not wired direct. It must go through a fuse.

3. Visually check for gasoline leaks at the carburetor. **Very important.**

VII. COMPRESSED NATURAL GAS (CNG)

- Our inspection procedure should focus on safety rather than installation procedure for the conversion. The inspecting officer should point out and require corrections in installations that are safety related.

A. General - The system shall be maintained to the manufacturer’s specifications.

1. All school buses equipped with dual fuel equipment shall be operated in both the natural gas and gasoline mode during inspection.

2. All devices used in the CNG system shall meet the appropriate ratings.

3. The CNG system consists of high pressure equipment: storage cylinders or tanks, fuel lines, regulator(s), solenoids, mixer, check valve, switches or levers, and fuel gauge.

4. School bus is to have appropriate signs or decals inside and outside to identify operation by natural gas.

5. Equipment is to be securely mounted and appropriately protected.

B. Fuel Cylinders - Visually check for:

1. Protective paint coating.

2. Mountings for looseness, signs of movement, and corrosion.

3. Looseness or wear of bolts and brackets.

4. Proper label “CNG USE ONLY”; or “FOR CNG ONLY” (decals or stencil).

5. DOT markings (2400 p.s.i.).

6. Valve guards or expanded steel grating.

7. Minimum of four inches (4”) clearance from tail pipe.

8. Minimum of eight (8”) clearance from muffler or manifold exhaust.

9. Clearance: cylinder shall not hang below the center line of the drive shaft.

C. Fuel Lines - Visually check for:

1. Signs of movement, vibration, looseness, wear, corrosion or stress.

2. Grommets around the fuel lines where passing through frame.

3. Mountings with rubberized clamps at no more than twenty four inch (24”) intervals.

4. Check all fittings with soap and water solution or electronic natural gas detector.

D. Decals

- Decals stating “Powered by Compressed Natural Gas” shall be affixed to the school bus body within two inches (2”) of the fueling opening or on fueling opening door, under the hood, and on rear bumper curb side.

1. Cylinder I.D. data.

2. Instructions for mechanics in engine compartment.

E. Manual Shut-Off Valve

1. Visually check for easy identification and access.

F. Automatic Shut-Off

1. Engine should be started and solenoids checked by converting from one fuel to the other.

SCHOOL BUS INSPECTION REPORT HP 32

Purpose

To record the results of an inspection of the physical condition of school buses used to transport students to and from school and school functions.

Use

Only if the computerized school bus inspection is not available.

Complete a paper copy for all new buses inspected.

The Form

Check only the items that fail to meet the Ohio School Bus Construction Standards, inspection items listed in this manual and violations of other state/federal rules and regulations.

DATE - Date of inspection.

SCHOOL - School and/or company name of bus inspected.

ID NUMBER - Five digit number assigned by Licensing and Commercial Standards.

DISTRICT - District where the bus is assigned.

LOCAL BUS # - Number assigned by local school district.

MILEAGE - The current odometer reading.

R - Check this box if odometer was replaced.

CHASSIS, BODY, LETTERING, REAR, and FRONT - Check only items that need correction or repair.

Describe in Comments the violation of any item checked.

TYPE OF INSPECTION

Annual - School bus inspections scheduled by the inspection team - buses are prepared for inspection and free of defects.

Spot - An unannounced inspection completed after the annual inspection. All school buses shall receive a minimum of one spot inspection during each school year. Shaded areas on the form indicate items that must be checked during a spot inspection.

Re-Inspection - An inspection completed when a school bus has failed a previous inspection.

New - An inspection completed after a bus is purchased and before it is put into service.

Crash – An inspection completed for any bus involved in any type of crash.

Special - An inspection completed for reasons other than listed above, i.e., school bus involved in a complaint, unusual incident, etc.

Check the appropriate type of inspection.

RECALLS - Check if all recalls were completed prior to inspection.

Bus displays valid inspection decal and permitted to transport children. Check with Yes or No.

If new inspection, check caption stating: Bus has passed inspection and may be operated for 30 days without displaying an identification number.

INSPECTED BY - Signature and unit number of officer/inspector conducting original inspection.

SCHOOL BUS RATING SYSTEM

Check the appropriate overall rating of the bus **prior** to any repairs.

No Defects
Minor Defects
Out-of-Service Defects

Disposition

If directly entered into the computerized school bus inspection program, the paper HP-32 will not be completed. A copy of the School Bus Inspection Summary Report will be supplied to the school system's superintendent or the private owner or designee. Summary Report may be issued electronically, by e-mail or paper.

All new school buses will be inspected using the paper HP-32 and follow the disposition below.

One copy of the HP 32 will be retained by the inspector until an ID number is assigned, then enter the new inspection into the computerized school bus inspection program.

A second copy will be given to the school system's superintendent or the private owner or designee upon completion of the inspection. This form shall serve notice if the bus can or cannot be used to transport children. Once the bus has passed the inspection, this copy will be carried in the bus while in operation until identification number is assigned by the Bureau of Motor Vehicles. (Valid for only 30 days)

Use template or a printed copy of the template.

Enter the HP-32 information directly onto the template and print copies as needed. If the computer is not available, a hand-written HP-32 is permitted.

AIR BRAKE SYSTEMS CHECKS

AIR BRAKE SUPPLY LINE/ CHECK AND INVERSION VALVE TEST PROCEDURE

1. Chock wheels, start engine and charge system to governor cutout, around 120 p.s.i.
2. Shut off engine and push in yellow button to release parking brake; gauges will drop a small amount. Check air gauges; if either indicates a continued loss of pressure, check system for leaks. If any leaks, repair and restart test.
3. Apply and hold service brakes by fully depressing brake pedal and again check for pressure tightness by watching both gauges. If any leaks, repair and restart test.
4. Release service brakes.
5. With one inspector watching the gauges, the other inspector locates the wet tank (Normally the first tank downstream from the air compressor) petcock and opens it to drain the tank pressure. (CHECK VALVE TEST) * Note – newer buses air brake systems may not have a conventional type wet tank to drain.
6. When the wet tank is drained, if either gauge indicates a pressure drop, stop the test, make repairs and restart test.
7. Locate and drain the primary reservoir. (Rear brakes).
8. The primary gauge will drop to zero.
9. The secondary gauge may or may not follow the primary gauge as it drops depending on type of air brake system. If the secondary gauge drops, it shall stop no lower than 70 p.s.i. If it continues below 70 p.s.i., stop the test, make repairs and restart the test. (SUPPLY LINE/ DOUBLE CHECK VALVE TEST)
10. If the check valves are okay, check the operation of the inversion (SR-1, spring brake modulating) valve by applying and releasing the foot valve (primary reservoir empty). The front and rear brakes should apply and release as the service brake pedal is applied and released. The rear brakes are being applied by air exhausting from the spring brake chamber through the spring brake inversion valve.
11. If the rear brakes do not apply, stop the test, make repairs, restart test. (INVERSION VALVE TEST) NOTE: Pressure will drop in the secondary reservoir each time the brakes are applied and released. With continued brake valve cycling, the yellow button on the dash may pop out and the parking brakes will apply automatically.
12. On some vehicles built after March 1, 1998, there are two control lines going to the rear axle relay valve from the foot valve. One comes from the primary circuit and one comes from the secondary circuit of the foot valve. There is also an internal or an external double check valve at the relay. NOTE: Secondary service line pressure may leak out of the primary service port or reservoir drain if open, at control line pressures up to 20 p.s.i. when the primary signal is not present. While performing the above inspections, if air starts leaking from the drained primary reservoir above 20 p.s.i., stop the test, make repairs, and restart test. (REAR BRAKE RELAY DOUBLE CHECK VALVE TEST). Close the primary tank petcock.
13. Start engine and charge the system.
14. Open the secondary tank (front brakes) petcock and drain to zero pressure. The primary gauge may or may not follow the secondary gauge as it drops depending on type of air brake system. If the primary gauge drops, it shall stop no lower than 70 p.s.i. If it continues below 70 p.s.i., stop the test, make repairs and restart the test. (SUPPLY LINE/ DOUBLE CHECK VALVE TEST).

NOTE – There are exceptions to the above testing procedure. If any doubt, contact the manufacturer of the brake system for proper testing procedures.

ABS “CHUFF” TEST

1. Ignition switch in the “off” position and air system charged.

2. Depress foot brake and hold.

3. Turn ignition switch to “on” but do not start bus.

4. Listen for the “chuff”
    a. Should be a single, sharp “chuff” of air pressure from each modulator.

AIR BRAKE SLACK ADJUSTMENT

SAFETY FIRST – Bus wheels shall be chocked.

Position yourself away from the brakes when the service brakes are applied. Brake chambers may explode, especially upon brake applications.

First, ensure that the air system is between 90 p.s.i. and 100 p.s.i.

Measuring push rod travel is basically a four step process

1. Note size and type of air chamber.

2. With brakes released, service and emergency, mark push rods.

3. Measure distance of push rod travel (stroke) with service brakes applied.

4. Compare measurement to the appropriate table on the following pages.

Clamp type brake chamber data

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Type	Outside diameter	Adjustment limit
6	4-1/2	1-1/4
9	5-1/4	1-3/8
12	5-11/16	1-3/8
16	6-3/8	1-3/4
20	6-25/32	1-3/4
24	7-7/32	1-3/4
30	8-3/32	2
36	9	2-1/4

'Long stroke' clamp type brake chamber data

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Type	Outside diameter	Adjustment limit
12	5-11/16	1.75
16	6-3/8	2.0
20	6-25/32	2.0
24	7-7/32	2.0
24*	7-7/32	2.5
30	8-3/32	2.5
For 3" maximum stroke type 24 chambers.		

Tie rod style piston brake chamber data

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Size	Outside diameter	Adjustment limit
30	6-1/2 (165mm)	2.5 (64mm)

Bolt type brake chamber data

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Type	Outside diameter	Adjustment limit
A	6-15/16	1-3/8
B	9-3/16	1-3/4
C	8-1/16	1-3/4
D	5-1/4	1-1/4
E	6-3/16	1-3/8
F	11	2-1/4
G	9-7/8	2

Rotochamber data

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Type	Outside diameter	Adjustment limit
9	4-9/32	1-1/2
12	4-13/16	1-1/2
16	5-13/32	2
20	5-15/16	2
24	6-13/32	2
30	7-1/16	2-1/4
36	7-5/8	2-3/4
50	8-7/8	3

DD-3 brake chamber data

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Type	Outside diameter	Adjustment limit
30*	8-1/8	2-1/4
* This chamber has three air lines and is found on motor coaches.		

OHIO SCHOOL BUS OUT OF SERVICE CRITERIA

All items on a school bus must be in compliance with Ohio School Bus Construction Standards. Any optional equipment installed on the bus must be approved equipment, used and/or stored within the guidelines established by the Ohio School Bus Construction Standards and/or the Department of Education operational rules.

All school buses shall be maintained a safe condition and comply with all Ohio School Bus Construction Standards. Any out of service violations/defects found during an inspection of the school bus contained in this list will immediately place the school bus out of service until repairs are completed. The Ohio State Highway Patrol may require a re-inspection of the school bus prior to returning to service if out-of-service violations are found. In any case, no school bus shall be operated without repair of all out-of-service violations.

<u>During annual and new inspections, any defect/violation, minor or out of service, will prohibit the issuance of the safety decal.</u>

The following items must be in compliance to continue to display the safety decal during spot and special inspections:

A. Barriers

1. Ineffective padding (if disputed, inspector may request barrier cover removal to aid in inspection.

2. No modifications, rust, broken bolts or welds.

3. Not secure to floor and/or side wall.

B. Batteries

1. Shall be securely mounted.

2. No objects in battery area resting on or may cause short across terminals or to ground.

C. Body Sheet Metal

1. Body panels or rub rails shall not protrude beyond the normal contour of the school bus body.

2. No sharp edges or projections.

3. Free of any holes that allows air infiltration into passenger compartment (Except manufacturer’s ventilation passages).

D. Brakes

E. No defective brake on the vehicle. A defective brake includes any brake that meets one of the following:

1. General

a. Absence of effective braking action upon application of the service brakes (Such as brake linings failing to move or contacting braking surface upon application).

b. Missing or broken mechanical components including: shoes; linings; pads; springs; anchor pins; cam rollers; pushrods, and air chamber mounting bolts.

c. Loose brake components including air chambers and cam shaft support brackets.

d. Brake linings or pads which are: cracked, missing or loose; oil seepage into or out of the brake lining/drum interface area; any lining below manufacturer's recommended thickness.

2. Air Brakes

a. Any audible air leak in any part of the air system (Examples – air doors, air operated stop signs, air suspensions).

b. Any visible loss of air pressure by the air gauges.

c. Inoperative air gauges.

d. Mismatched air chamber sizes on individual axles.

e. Any brake outside the brake adjustment limit (A brake found at the adjustment limit is not a violation).

f. Low pressure warning device missing, inoperative or does not operate at 55 p.s.i. and below (Both audible and visual must work with engine running).

g. Any damage to a hose extending through the outer reinforcement ply.

h. Bulge/swelling of a hose when air pressure is applied.

i. Two hoses improperly joined such as a splice made by sliding the hose ends over a piece of tubing and clamping the hose to the tube.

j. Air compressor

a) Loose compressor mounting bolts.

b) Cracked, broken or loose pulley.

c) Cracked or broken mounting brackets, braces or adapter.

k. Air Reservoir (Tanks)

a) Not properly secured; separated from its original attachment points.

b) Any inoperative drain valve.

c) If tanks drained, any inoperative safety component (check valve, double check valve, and inversion valve). No air lost as described in the School Bus Inspection Manual during test.

3. Hydraulic Brakes

   a. Any fluid leak in the hydraulic system.

   b. Power assist motor inoperable.

   c. No pedal reserve with engine running (manufacturer specification).

   d. Master Cylinder less than ¼ full.

   e. Swelling brake hose under application of pressure.

   f. Hose abraded (chafed) through outer cover-to-fabric layer.

   g. Fluid lines or connections restricted, crimped, cracked, or broken.

   h. Brake failure light/low fluid warning light on and/or inoperative.

4. Parking Brake

   a. Inoperative.

   b. Will not hold vehicle when applied with engine running at idle and in low gear (Do not test drive shaft parking brake in this matter).

   c. Parking brake assembly on drive shaft to be free of grease and properly mounted with no loose bolts or nuts.

   d. Any wheel equipped with an parking brake inoperative.

   e. Spring brakes do not set before complete loss of air pressure (air brake).

F. Brake Drums or Rotors (Discs)

   a. Drums with any external crack or cracks that open upon brake application.

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

G. Bumpers

1. Missing or not securely mounted.

2. Shall not be broken or have protruding metal.

3. Rear bumper shall not have any spaces, projections, or cutouts that will permit a handhold (Exception - a ¼ inch space around the tail pipe if it passes through the bumper is permitted).

4. Front ends of rear bumper shall be enclosed per school bus construction standards.

H. Doors – Service, Lift, and/or Type A Left Driver's door

1. Inoperative.
2. Unable to be opened to maximum opening without catching or binding.
3. Will not close securely.

I. Drawstring - No catch points on handrails or within stairwell including service door.

J. Drive Train Components

1. All mounts, engine/transmission, shall be free of defect.
2. All bolts/nuts shall be in place in all mounts securing engine/transmission.

K. Emergency Exits

1. Rear/Side Door
   a. Inoperative.
   b. Unable to be opened completely without catching or binding.
   c. Continuous warning device and, if required, dome lights inoperative.
   d. Obstructions reducing size of opening (FMVSS standard).
   e. Improperly or not marked inside and outside (Includes reflective markings if required).
   f. No locking devices except approved systems that also prevent the engine from starting.
2. Emergency Windows
   a. Inoperative
   b. Unable to be opened completely without catching or binding.
   c. Continuous warning devices in excess of 25% of the windows inoperative.
   d. Improperly or not marked inside and out (Includes reflective markings if required).
   e. Over 50% missing operating instructions.

f. Obstructions reducing size of opening (Seat backs excluded if opening meets FMVSS standards and School Bus Construction Standards).

3. Roof Hatches

a. Inoperative

b. Unable to be opened completely without catching or binding.

c. Continuous warning devices in excess of 50% inoperative.

d. Improperly marked or not marked inside and out (Includes reflective markings if required).

e. Over 50% missing operating instructions.

f. Obstructions reducing size of opening.

L. Emergency Equipment – All must be present and operational (Fusses, triangles and fire extinguisher).

1. Not secured.
2. Fire extinguisher with improper rating and/or classification.
3. Fire extinguisher missing current annual inspection tag or tag expired.
4. Fire Extinguisher not completely charged.

M. Exhaust System

1. Leaking (includes exhaust manifolds).
2. System not securely attached by hangers/clamps.
3. Tail pipe not extended to the edge of body.
4. Tail pipe not positioned as required in construction standards.
5. Parts of the system located which would likely result in burning, charring or damaging the electrical wiring, the fuel supply, or any combustible part of bus.

N. Fluid Leaks (engine, radiator, drive train, hydraulic systems (lifts), heater systems)

1. Onto exhaust system.
2. Pooling onto ground.
3. Into interior of bus.

O. Fuel System

1. Any leak in any part of fuel system.
2. Fuel cap missing or defective.
3. Fuel tanks rusted or damaged (Surface rust excluded).

4. Fuel tanks not properly mounted.
5. Fuel tanks fail to meet Federal Motor Vehicle Safety Standard 571.301.

P. Glass and Mounting

1. Improperly secured or mounted.
2. Any cracks or chips over one inch in length (No chips or cracks in service door).
3. Chips or cracks that could create a hazard or impairs the driver's vision.
4. Discoloration more than 1 ½ inch from edge.
5. Discoloration shall not obstruct driver's view to mirrors or roadway.
6. Improper glass for its location (tempered/laminated).

Q. Horn

1. Horn button not located as OEM (center of steering wheel).
2. Inoperative.

R. Interior

1. Floor - no bumps or waves (Plywood needs to be solid).
2. Trim strips unsecured.
3. Aisle trim unsecured.
4. Stairwell treads unsecured (No trip points).
5. No sharp projections or jagged/protruding edges.
6. Side walls - no holes either by rust or damage.
7. Driver's area
    a. No unsecured brooms, snow brush, etc.
    b. No throw rugs.
8. No pressurized containers or aerosols.
9. No flammable cleaning materials (Alcohol, turpentine, gasoline).
    a. Name brand window cleaning products in limited quantities allowed.

S. Lettering/Markings

1. School Bus lettering front and rear not in compliance.
2. Stop lettering (rear door) not in compliance.
3. Missing reflective markings on rear of bus when required.
4. Extended stop sign improperly marked.

T. Lights

1. LED lamps
    a. More than 50% of LED inoperative in any lamp.
2. Headlights - any (either a low and high beam) inoperative.
3. Turn Signals
    a. Front and/or Rear inoperative.
4. Brake Lamps
    a. In excess of 25% inoperative.
5. 8-Way Flashing Lamps
    a. Any lamp (amber or red) or system is inoperative.
    b. Inoperative 8-Way System (Must work both through the sequence switch and the override (fail-safe) switch).
    c. Any part of a LED lamp inoperative.
6. Tail Lamps
    a. In excess of 25% inoperative.
7. Clearance/ID Lamps
    a. In excess of 50% total inoperative.
    b. No more than 2 of the 5 on the front or rear inoperative.
8. Stop Sign Lights
    a. Any light inoperative.
    b. Any part of a LED lamp inoperative.
9. Back-up Lamps
    a. In excess of 50% inoperative.
    b. Inoperative audible back up alarm.
10. Interior Lights
    a. In excess of 20% of interior dome lights inoperative.
11. Instrument Panel (Dash Lights) as required by FMVSS 571.101 inoperative.
12. Pilot Light (amber, red warning lights, lift warning light)
    a. Inoperative pilot light when required by Construction Standards.

U. Mirrors

1. Not in compliance with Construction Standards and FMVSS

2. No cracks, breaks or discoloration are permitted which cause view obstructions.

V. Minor Violations

1. Minor violations not repaired or not repaired in a timely fashion may cause the vehicle to be placed out of service.

W. Power lifts

1. Securely mounted with no loose bolts/nuts.

2. No hydraulic leaks.

3. When lift platform is in the fully up position, it shall lock into place (Lift platform shall not rest against lift door).

4. Inoperative green flashing visible signal which indicates lift door is open when required by construction standards.

5. Installations after 7-1-2005 which fail to have operational interlock systems as required by FMVSS 571.403/404.

X. Seats

1. Ineffective padding on passenger seats (if disputed, inspector may request seat cover be removed to aid inspection).

2. Seat Frames-no modifications, rust, busted bolts, broken welds.

3. Seats not secure to floor and/or side wall.

4. Seat backs not secure to seat frame.

5. Seatbelts improperly attached and/or inoperative.

6. In excess of 20% of seat covers torn or cut.

7. In excess of 20% of the seat bottoms not secured.

8. Drivers seat not secure.

9. Inoperative seat belt assembly.

Y. Steering Mechanism

1. Steering Wheel free play – when any of the values meet or exceed as detailed in the School Bus Inspection Manual.

2. Steering Column

   a. Any absence or looseness of U-bolts or positioning part(s).

   b. Any obviously welded repair of an universal joint.

   c. Steering wheel not properly secured.

3. Front axle beam and all steering components will be free of any cracks or any obvious welded repairs.

4. Steering Gear Box

    a. Any mounting bolt(s) loose or missing.

    b. Any crack(s) in gearbox or mounting brackets.

    c. Any obvious welded repair.

5. Pitman Arm

    a. Any looseness of the pitman arm on the steering gear output shaft.

    b. Any obvious welded repair.

6. Power Steering auxiliary power assist cylinder loose.

7. Ball and Socket Joints

    a. Any movement under steering load of a stud nut.

    b. Any motion, other than rotational, between any linkage member and its attachment point of more than 1/8 inch measured with hand pressure only.

    c. Any obvious welded repair.

8. Tie Rods and Drag Links

    a. Loose clamp or clamp bolt on tie rods or drag links.

    b. Any looseness in any threaded joint.

9. Nuts – Any loose or missing on tie rods, pitman arm, drag link, steering arm, or tie rod.

10. Any modification or other condition that interferes with free movement of any steering component.

11. King Pins outside manufacturer's specifications.

Z. Suspension

1. Axle Parts/Members

    a. Any U-bolt or other spring to axle clamp bolt cracked, broken, loose or missing.

    b. Any spring hanger, or other axle positioning part cracked, broken, loose, or missing resulting in shifting of an axle from its normal position.

2. Spring Assembly

    a. One-fourth or more of the leaves in any spring assembly broken.

b. Any leaf or portion of any leaf in any spring assembly is missing or separated.

c. Any broken main leaf in a leaf spring.

d. One or more leaves displaced in a manner that could result in contact with a tire, rim, brake component, or frame.

e. Coil Spring broken

f. Rubber spring missing

g. Broken torsion bar spring in torsion bar suspension

3. Air Suspension

a. Deflated.

b. Any air leak.

4. Composite Springs

a. Intersecting cracks of any length.

b. A crack that extends beyond ¾ the length of the spring.

5. Torque, Radius or Tracking Components

a. Any part of a torque, radius, or tracking component assembly or any part used for attaching same to the vehicle frame or axle that is cracked, loose, broken or missing.

6. Shock Absorbers

a. Improperly mounted to either the frame or the axle.

b. Missing.

AA. Tires

1. General

a. Minimum Tread Depth

a) Front tires – below 4/32 inch when measured in any two adjacent major tire groves at any location on the tire.

b) Rear tires – below 2/32 inch when measured in any two adjacent major tread grooves at 3 separate locations on tire.

b. Tire is flat or has noticeable leak.

c. So mounted or inflated that it comes into contact with any part of the vehicle.

d. Visually observable bump, bulge or knot apparently related to tread or sidewall separation.

e. Weight carried exceeds tire load limit.

f. Any foreign object puncturing the tire.

2. Front Tire

a. Has any part of the breaker strip or casing ply showing in the tread.

b. When sidewall is cut, worn, or damaged to the extent that the ply cord is exposed.

c. Labeled “Not for Highway Use” or carrying other markings which would exclude use on steering axles.

d. No retreaded, recapped or regroved tires.

e. Has 25% or less of the maximum inflation pressure marked on the tire sidewall.

3. Rear Tire

a. Bias Ply – when more than one ply is exposed in the tread area or sidewall or when the exposed area of the top ply exceeds 2 square inches

b. Radial Ply – when two or more plies are exposed in the tread area or damaged cords are evident in the sidewall or when the exposed area exceeds 2 square inches in the sidewall.

c. Seventy-five percent or more of the tread width loose or missing in excess of 12 inches in circumference.

d. Regroved tire in use.

e. Has 50% or less of the maximum inflation pressure marked on the tire sidewall.

BB. Undercarriage

1. Metal floor, including stairwell, not solid (No rust or holes).

2. If undercoated, must meet FMVSS.

3. Frame

a. No cracks one and one-half inches or longer in frame siderail web which is directed toward bottom flange.

b. Any crack extending from the frame siderail web around the radius and into the bottom flange.

c. No loose or missing cross members, bolts, body tie downs, body pads (All attachments must be secure).

d. Any cracked, loose, sagging, or broken frame siderail permitting shifting of the body onto moving parts or other condition indicating an imminent collapse of the frame.

e. Any cracked, loose or broken frame member adversely affecting support of functional components such as steering gear, engine, transmission, body parts or suspension.

f. One inch or longer crack in siderail bottom flange.

4. Any condition that causes the body or frame to be in contact with a tire or any part of the wheel assemblies.

5. Any frame modification/repair not certified/approved by the frame manufacturer.

CC. Wheels, Rims and Hubs

1. Any loose or missing lug nuts.

2. Lock or side ring - Bent, broken, cracked, improperly seated, sprung or mismatched ring(s).

3. Rims - Any circumferential crack except an intentional manufactured crack at a valve stem.

4. Spoke Wheel Cracks

a. Two or more cracks more than 1 inch long across a spoke or hub section.

b. Two or more web areas with cracks.

c. Cracks at three or more spokes on tubeless demountable adapters.

5. Any axle bearing (hub) cap is missing or broken allowing an open view into hub assembly.

6. Smoking from wheel hub assembly due to bearing failure.

DD. Windshield Wipers

1. Either inoperative.

2. Either missing.

3. Either with damaged parts that render them ineffective.

EE.Wiring

1. No missing insulation.

2. When passing through body members, additional protection in the form of grommets or an appropriate type of material shall be provided.

3. No charred, burnt, chaffed or damaged wires.

4. Any wiring not OEM must be protected by fuse, circuit breaker or equivalent protection device.