



FLORIDA DEPARTMENT OF
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STATE OF FLORIDA SCHOOL BUS SAFETY INSPECTION MANUAL OUTLINE OF CHANGES STUDY GUIDE

2017 vs 2008

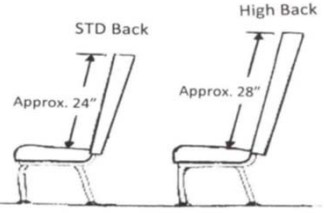
2017 FLORIDA SCHOOL BUS INSPECTION MANUAL DETAILED LIST OF CHANGES

(Changes to Manual from 2008 to 2017)

SECTION	PAGES	Item	Action	New/Revised Text (2017)	Old/Removed Text (2008)
Specifications Notes	II	Specifications Notes	Revised		
Instructions	III	Inspection Form instructions	Revised		
TOC	VI - VIII	Table of contents repaginated	Revised		
A. 1. a. b. c. d.	1, 2, 3, 4, 5	INSIDE BUS, First Aid Kit	Moved Repair Criteria to OOS	OOS Criteria: Tamperproof seal cannot be broken	Repair Criteria: Tamper-proof seal material cannot be broken
A. 1	N/A	INSIDE BUS, First Aid Kit	Deleted Chart		1969 to 1984 first aid kit contents chart
A. 1.b.3) & A. 1.c.3)	3	INSIDE BUS, First Aid Kit & Body Fluid Kit	Revised Note	Note: In addition to scheduled inspections, all first aid and body fluid cleanup kits should be opened and inspected annually to check the condition and presence of contents according to A 1.b. & c.	NOTE: All first aid and body fluid cleanup kits should be opened and inspected annually to check the condition and presence of contents. Contents should be checked for any signs of deterioration or contamination. All incorrect, missing, deteriorated, or contaminated contents should be replaced and the boxes resealed
A. 1. c.	4	INSIDE BUS, Body Fluid Kit	Revised Procedure	1) Kit box and condition: Buses manufactured since 1992 require a sealed kit. Check for the presence of a breakable, non-reusable tamper seal for all buses manufactured since September 1995. 2) Mounting: Check accessibility and mounting of kit. Kit should be mounted in the driver's area in such a manner that it can be easily detached and made portable. 3) Contents: Check that all contents are intact, have not deteriorated and are sealed. (For contents list, see chart 1a, page 3.)	Check kit container for condition, mounting, and contents (starting November 1992). Check for the presence of a tamper-proof seal (starting September 1995). See Chart 1a, page 3, for list of required contents.
A. 1. c.	4	INSIDE BUS, Body Fluid Kit	New and Revised OOS Criteria	Tamper seal cannot be broken. Kit is not secured, not mounted in the driver's compartment, not easily detached without the use of tools, or mounted in a lockable compartment that is not equipped with an operational ignition-warning buzzer or interlock. Contents are incomplete or not usable due to age and deterioration.	Body Fluid Cleanup kit is not present. Kit is not secured, is loosely mounted or is not removable without the use of tools. Contents not of the proper type, incomplete, or missing.
A. 1. d.	5	INSIDE BUS, Reflectors	New and Revised OOS Criteria	Not equipped with three self-standing, 17-inch triangular reflectors or any of the reflectors, or box is unusable due to age, damage or deterioration. Storage box is broken, will not remain latched, is not easily accessible, is not securely mounted forward of the passenger compartment, or mounted in a lockable compartment, or is not equipped with an operational ignition warning buzzer or interlock. Tamper seal cannot be broken	Unauthorized ignitable road fuses are present. Bus manufactured prior to January 1975 is not equipped with self-standing dual three (3) inch diameter reflectors or later type. Bus manufactured starting January 1975 is not equipped with self-standing, triangular, 17" tall reflectors. Any of the reflectors are broken, deformed or unusable. Fewer than three (3) reflectors are present. Storage box is broken or will not remain closed. Box is not accessible or is not securely mounted forward of the passenger compartment. Reflectors are mounted in any lockable compartment, which is not equipped with an operational warning buzzer, or ignition inter lock.


SECTION	PAGES	Item	Action	New/Revised Text (2017)	Old/Removed Text (2008)
A.2.b.	6	INSIDE BUS, Insurance Card	New OOS Criteria	Insurance card is invalid, missing or is illegible.	Insurance card is invalid or missing (note).
A. 3. c D.4.f. F. 2. b. 2)	N/A	INSIDE BUS, Shifter-Standard Transmission UNDERNEATH BUS, Clutch ROAD TEST, Manual transmission	Deleted Items		Standard Transmission Procedures and Criteria Deleted from Inspection Manual
A. 3. c	8	INSIDE BUS, Noise Abatement Switch (Required on buses manufactured since 2002)	New and Revised Procedure & Criteria	Procedure: Inspect for proper operation. Switch must deactivate all non-safety-essential noisemaking equipment. Repair Criteria: Switch is not clearly labeled or not of an alternate color. OOS Criteria: Switch/System does not work or does not deactivate required items such as AM/FM radio and CD player, heaters, defrosters, fans and air conditioners. Switch/System deactivates safety-essential items such as windshield wipers and lighting systems	Procedure: Inspect for proper operation. Repair Criteria: Switch is not clearly labeled (repair). OOS Criteria: Switch / System is not working.
A. 4. b. & d.	N/A	INSIDE BUS, Engine Controls	Deleted Item		Engine Choke & Shutdown Procedures and Criteria Deleted from Inspection Manual
A. 4. b. 2)	10	INSIDE BUS, Engine Controls, Accelerator	New and Revised Procedure & Criteria	Procedure: 1) Check condition of pedal assembly, mounting and securement. 2) Inspect pedal assembly, wiring, connectors and linkage for condition and loose or missing hardware. Mechanical linkage type must have dual (two) return springs. 3) Check for smooth operation of pedal assembly and linkage in the accelerating and coast position Repair Criteria: Pedal cover worn but not causing a slippery pedal condition. OOS Criteria: Pedal cover is worn badly or missing. Pedal assembly is modified or not mounted securely in the OEM location. Pedal assembly is not operating properly; wiring is loose, damaged or improperly routed; hardware is loose or missing; or mechanical type linkage is loose, damaged or not equipped with dual return springs. Accelerator control and/or linkage sticks or does not operate freely.	Procedure:- 1) Check that accelerator pedal, control design, and mounting securement are OEM 2) Inspect pedal assembly and linkage for loose or missing hardware. External type must have dual (two) return springs 3) Check for smooth operation of pedal assembly and linkage in the accelerating and coast position. 4) Inspect for unauthorized built-up pedal, e.g., wooden blocks installed on pedal. Repair Criteria:- Pedal cover (as originally equipped) is worn out (Repair) OOS Criteria:- Pedal and assembly are not mounted securely. Pedal control design, and mounting not OEM. Loose or missing hardware. Missing one spring or not equipped with dual return springs (external type). Accelerator control and/or linkage sticks or does not operate freely. Pedal is built up with extender block(s) or not of OEM design.
A. 5. a. 6)	12	INSIDE BUS, Gauges	New Item	Procedure: Diesel exhaust fluid (DEF) level gauge. Repair Criteria: DEF gauge is inaccurate, damaged or difficult to read. OOS Criteria: DEF gauge does not work or is not present.	
A. 5. c.	13	INSIDE BUS, Engine/Transmission Warning Lights and Buzzer	New OOS Criteria	Any of the above lights are on, indicating a critical mechanical condition	

SECTION	PAGES	Item	Action	New/Revised Text (2017)	Old/Removed Text (2008)
A. 6.d. & h.	15 & 19	INSIDE BUS, Air Brake System, Park/Emergency Brake	Items Merged	Pop-off changed to Park/Emergency brake pop-out	
A. 6.i. A. 7. 6) a.	19, 23, 26, 28, 30	INSIDE BUS, Service Brake Pedal	Revised Repiar Criteria	Rubber cover pad is worn, but not causing a slippery pedal condition	Rubber cover pad is worn (repair).
A. 7. 6) a.	23, 26, 28, 30	INSIDE BUS, Hydraulic Brakes	Moved Repiar Criteria to OOS	Brake pedal assembly, push rod and clevis or emergency brake control assembly is insecurely mounted; poorly routed; has loose, missing or worn hardware; or is damaged.	Brake system components are not routed properly (repair).
A. 8. a. 4)	33	INSIDE BUS, Windshield Wipers and Washers	Revised Repiar Criteria	Washer is slightly misadjusted	Washer does not operate or is misadjusted (repair).
A.9.a., b. & c.	34, 35 & 36	INSIDE BUS, Heaters, Defrosters, External Dash Fan(s)	Moved Repiar Criteria to OOS, Added OOS Criteria	Repair Criteria: Coolant control valve is hard to operate. Any blower does not work on all speeds, is noisy or vibrates, or switches are loose or improperly labeled. OOS Criteria: System is not producing heat. Any blower is extremely noisy, indicating imminent failure or system wiring and connections are loose, damaged or chafed, creating an electrical short or high resistance. Heater hoses are cracked, swollen or badly chafed, or there is any coolant leakage inside the bus. Hose and/or component shielding is missing or does not completely cover hoses/components in a manner that protects passengers from contact with hot surfaces and prevents spraying of coolant in the event of a hose/component failure.	Repair Criteria: Not producing adequate heat (including any auxiliary heat; repair). Coolant control valve hard to operate (repair). Heater blowers do not work on all speeds, are noisy, or vibrate (repair). Blower switches are damaged, loose, or blower operates intermittently (repair). OOS Criteria: Heater cores, hoses, or valve leaks (including any auxiliary heater). Heater hoses are cracked, swollen, or badly chafed. Shielding is missing (starting November 1980) or does not completely cover hoses.
A.10	37	INSIDE BUS, Stepwell Light	New Repiar Criteria	Lens is cracked or dirty.	
A. 11. a.	38, 39	INSIDE BUS, Service Door	Revised Procedures, Moved Repiar Criteria to OOS, New OOS Criteria	Operation and Control Procedures Combined Moved to OOS Air door system leaks air. Revised and Added to OOS Door assembly is damaged, not securely mounted or has excessively worn hinges, pins, bearings/bushings or other components.	Door does not seal properly or seals are damaged, ripped, or deteriorated (repair).

SECTION	PAGES	Item	Action	New/Revised Text (2017)	Old/Removed Text (2008)
A. 12.	40	INSIDE BUS, Horns	Procedures Revised, OOS Criteria Added	<p>Procedure: Check for operation of both horns while rotating steering wheel left and right</p> <p>OOS Criteria: Either horn is inoperative or both horns sound the same note. Horns are not audible at 500 feet. Horn button is not mounted in OEM location. Horn button sticks or horn button operates intermittently, such as when steering wheel is rotated.</p>	<p>Procedure:- Check for operation of both horns and for location and condition of horn switch.</p> <p>OOS Criteria: Either horn is inoperative. Horns are not audible at 500 feet. Horn button is not mounted in OEM location. Horn button sticks, or horn button operates intermittently such as when steering wheel is rotated.</p>
A. 13. a.	41	INSIDE BUS, Mirrors	Revised Repair and OOS Criteria	<p>Repair Criteria: Electrically controlled mirror (if applicable) is not operating properly and can still be adjusted</p> <p>OOS Criteria: Any rear-view mirror is out of adjustment (If in doubt, consult with operations supervisors and/or driver trainers).</p>	<p>Repair Criteria: Electrically controlled mirror is not operating properly (if applicable).</p> <p>OOS Criteria: Either mirror is out of adjustment (does not give driver a clear view down to lower- outside edge of rear tire at ground level, on both sides to the rear).</p>
A. 13. b. .	42	INSIDE BUS, Mirrors	Revised OOS Criteria	<p>Any cross-walk/side-view mirror is out of adjustment. i.e., mirrors do not provide driver with an indirect view of the area at ground level from the front bumper forward, the entire width of the bus and around the left and right front corners to the point that the driver can see by direct vision and/or does not provide driver with indirect vision of the area at ground level to include the tires and service entrance on all types of buses to the point that view overlaps with the rear-view mirror system. (If in doubt, consult with operations supervisors and/or driver trainers).</p>	<p>No blind-spot" convex crosswalk mirrors do not provide driver with indirect vision (of the area at ground level) from the front bumper forward, and the entire width of the bus, to a point where the driver can see by direct vision. Convex mirror system does not provide driver with indirect vision of the area (at ground level) around the left and right front corners of the bus to include the tires and service entrance, on all types of buses, to a point where it overlaps with the rear vision mirror system.</p>
A. 13. c.	43	INSIDE BUS, Mirrors	Revised OOS Criteria	<p>Mirror or mounting/adjusting system is loose or cannot be adjusted by the driver.</p>	<p>Mirror or mounting system is loose.</p>
A. 14.	44	INSIDE BUS, Driver's Seat and Seat Belt	Repair Criteria Moved to OOS	<p>OOS Criteria: Seat suspension system is leaking air. Seat frame is exposed due to deterioration of Upholstery or foam</p>	<p>Repair Criteria: Seat air suspension system (if equipped) is leaking air (repair) Seat frame is exposed due to deterioration of upholstery or foam (repair).</p>
A. 15. b.	45	INSIDE BUS, Passenger Seats, Mounting	Revised OOS Criteria	<p>Mounting at floor or seat rail is loose; components are cracked, broken or damaged; or any fasteners are missing, damaged or not OEM or equivalent.</p>	<p>Seat mounting at floor or seat rail is loose. Seat mounting fasteners are not OEM or equivalent</p>
A. 15. c.	46	INSIDE BUS, Passenger Seats, Backs/Crash Barriers/Padding	Revised OOS Criteria, Diagram Added	<p>Any bus manufactured starting April 1977 does not have a properly spaced and padded crash barrier forward of any passenger seat without another seat directly ahead (exception: Pre-1990 Type A Bus).</p> 	<p>Any bus manufactured April 1977 to present does not have a padded crash barrier in front of any passenger seat that does not have another seat in front of it (exception: pre-1990 Type A Bus)</p>

SECTION	PAGES	Item	Action	New/Revised Text (2017)	Old/Removed Text (2008)
A. 15. d.	47	INSIDE BUS, Passenger Seats, Bottoms	Revised OOS Criteria	Any seat bottom is not attached to its seat frame; or tilt-up bottoms will not latch or stay latched in the closed position. Original thickness or density of any seat bottom cushion is reduced due to wear, damage, deterioration or other factors so that there is no padding between any portion of seat bottom frame and covering.	Any seat bottom is not securely attached to its seat frame. Any seat bottom padding or cushion is significantly deteriorated or damaged.
A. 15. e.	48	INSIDE BUS, Passenger Seats, Cuts and other upholstery damage	Deleted Repair Criteria and Revised OOS Criteria	OOS Criteria: Any portion of seat bottom or back upholstery is missing, cut, torn, ripped or improperly repaired, exposing foam. Any upholstery is non-fire-blocking type for buses built since 1989	Repair Criteria: Seat upholstery is cut, torn, or ripped less than six (6) inches (buses manufactured before November 1989) (repair) Any passenger seat upholstery is not blue in color (starting September 1995) (repair). OOS Criteria: Any portion of seat back or bottom upholstery is missing or repaired improperly, exposing foam. Seat upholstery is not properly repaired. Seat upholstery is cut, torn, or ripped more than six (6) inches (pre-November 1989 buses). Any upholstery has been replaced with non-fire blocking type (starting November 1989). Any portion of seat bottom or back upholstery is cut, torn, or ripped (buses manufactured starting November 1989). Any fire-blocking seat fabric is repaired using procedures that are not approved (starting November 1989)
A. 15. i.	49	INSIDE BUS, Passenger Seats, Webbing Cutter	New Note, Revised OOS Criteria	NOTE: Lift equipped buses or buses using other assistive/restraining devices containing webbing must have a second webbing cutter properly mounted in a location determined by the school district. OOS Criteria: Any required webbing cutter is missing, broken, unusable, improperly mounted or difficult to remove. Wrong type of webbing cutter.	OOS Criteria: No durable webbing cutter is present, or webbing cutter is broken or unusable Webbing cutter is not securely mounted in driver's compartment within easy reach of a seated and belted in driver, or cutter is difficult to remove. Wrong type of webbing cutter.
A. 16. a.		INSIDE BUS, Emergency Exits	Deleted Repair Criteria		Rear door opens too far, damaging lights (repair).
A. 16. b	51	INSIDE BUS, Emergency Exits, Buzzers	Moved Repair Criteria to OOS	OOS Criteria: Buzzer warning system for emergency door (or rear window on RE buses) or any exit window does not function, gives false alarms or is not audible in the driver's compartment	Repair Criteria: Buzzer gives false alarms (repair).
A. 16. c. 1)	51	A. 16.c.1) INSIDE BUS, Emergency Exits, Labeling and Pad THIS CHANGED IS PENDING FURTHER REVIEW	Moved Repair Criteria to OOS, Revised OOS Criteria	The operating instruction labels for any emergency door (or rear window on RE buses), or roof hatch are not present on the inside of the bus (or outside, if required by applicable specifications).	Repair Criteria: Any emergency hatch does not have clearly labeled operating instructions on the outside of the hatch (repair). OOS Criteria: Any emergency exit window does not have clearly labeled operating instructions on the inside of the window
A. 16. d.	52	INSIDE BUS, Post-Trip Passenger Check System	New OOS Criteria	Buses built starting 2005 are not equipped with a post trip passenger check system	

SECTION	PAGES	Item	Action	New/Revised Text (2017)	Old/Removed Text (2008)
A. 17. a.	53	INSIDE BUS, Windshield, Side and Rear Windows, Glass	Note Added	NOTE: Windshield must be laminated safety glass. All other windows can be made from laminated or tempered safety glass.	
A. 17. b.	54	INSIDE BUS, Windshield, Fogging, Tinting and Visibility	Deleted Repair Criteria, New OOS Criteria	OOS Criteria: Visibility is reduced for any reason.	Repair Criteria: Glass fogged less than two (2) inches in from any outer edge (note).
A. 17. c.	55	INSIDE BUS, Windshield, Side and Rear Windows, Latches and Window Operation	Moved Repair Criteria to OOS	Any window will not move fully up and down or will not stay closed.	Repair Criteria: Any window will not stay closed (repair). OOS Criteria: Any window will not move (full travel) up and down.
A. 18.1)	56	INSIDE BUS, Wheelchair lift	Revised Procedure, Moved Repair Criteria to Revised OOS	Procedure: Operate lift through complete cycle and inspect for proper operation, condition, safety features, manual backup system, fluid leakage/seepage, mounting, roll stop operation, warning light, buzzer operation and overall mechanical condition. OOS Criteria: Any part of the lift mechanism or hardware is damaged, missing or unsecure, including cams, clips, pins, rollers, platform fasteners and control head, cables and wiring.	Procedure: Operate lift through complete cycle and inspect for proper operation, condition, safety features, manual backup system, fluid seepage or leaks, mounting, barrier operation, warning light, buzzer operation, and overall mechanical condition. Repair Criteria: Lift control cable or wiring is damaged or routed improperly (repair).
A.18.2)	58	INSIDE BUS, Wheelchair lift	New Note and Repair Criteria	NOTE: Starting in 1989, each 50-inch section of tie-down track may consist of two pieces of track with neither piece less than 16 inches long and must extend the full length of the wheelchair position with no gaps. Repair Criteria Optional below chair rail lighting for wheelchair securement area (if equipped) is inoperative.	
A.18.3)	58	INSIDE BUS, Wheelchair lift	New Note	NOTE: Buses equipped with lifts and other assistive/restraining devices containing webbing must have a second webbing cutter properly mounted in a location determined by the school district.	
A. 19.	59	INSIDE BUS, 2-Way Radio	New OOS Criteria	Any part of radio, external speaker, microphone or wiring interferes with driver's controls or blocks any of the driver's view through any portion of windshield or other window.	
A. 20.a	60	INSIDE BUS, Interior Wiring	Revised Repair Criteria and Moved to OOS	OOS Criteria: Any wiring is exposed within the passenger compartment	Repair Criteria: Wiring or connectors are unsecured, corroded, or improperly routed (repair).

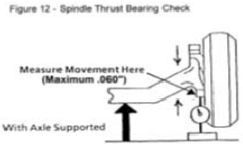
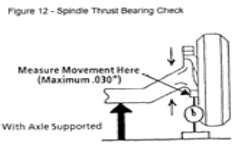
SECTION	PAGES	Item	Action	New/Revised Text (2017)	Old/Removed Text (2008)
A. 20.b	60	INSIDE BUS, Cab Hoses	Repiar Critrea Revised and Moved to OOS	OOS Criteria: Any hose is leaking, cut, chafed, routed against sharp edges or interferes with driver's controls	Repair Criteria: Hose is weathered, cracked, abraded, or routed improperly (note)
A. 21. b.	61, 62	INSIDE BUS, Stepwell	New OOS Criteria	Any non-OEM items have been added or other condition exists that could cause snagging.	
A. 21. c.	62	INSIDE BUS, Grab rails	Revised Procedure, Repair Criteria Deleted	Procedure: Check grab rails for any condition that could create snagging points. If anything is suspect, perform the NHTSA string-and-nut test as described in the National School Transportation Specifications and Procedures See page 65.	Handrail(s) has not been modified as required (repair).
A.21.d.	63	INSIDE BUS, Paneling and Trim	New OOS Criteria	There is excessive graffiti or mildew inside the bus.	
A. 21. f.	64	INSIDE BUS, General Condition of Bus Interior, Loose Objects and Cleanliness	New Repair and OOS Criteria	Repair Cr Trash not emptied from trash can or floor not swept. Added to OOS There is excessive dirt or trash on the floor causing it to be slippery	
A.21.	65	INSIDE BUS, General Condition of Bus Interior, Grab rails	New Chart		
B. 1.	67	OUTSIDE BUS, LED Type Lights	New Note, Deleted Repair Criteria, and Revised OOS Critrea	NOTE: When checking LED type lights, If 75 percent or more of the LED elements illuminate, the light is considered good. If less than 75 percent of the LED elements illuminate, the light must be replaced. OOS Criteria Less than 75 percent of the LED elements illuminate.	Repair Criteria: Any single LED element does not work (if equipped) OOS Criteria: 25% or more of the LED elements in any LED type light are not working.
B.1.b	68	OUTSIDE BUS, Turn Signals	Revised OOS Critreia	Any required side-mounted turn signal(s) are not present per applicable Florida School Bus Specifications	Bus is manufactured since December 1990 (any Type C bus over 29 capacity or any Type D bus) and is not equipped with sidemounted turn signals.
B.1.d., e. & h.	69, 70 & 72	OUTSIDE BUS, Brake (Tail, Parking) Lights	Revised Repair and OOS Criteria	Repair Critreia: One brake (tail, parking) light fails to function on buses with four brake light systems. OOS Criteria: More than one brake (tail, parking) light fails to function on buses with four brake light system	Repair Criteria: One brake (tail, parking) light on either or both sides fail to function (four (4) brake (tail, parking) light systems only) (repair). OOS Criteria: Both brake (tail, parking) lights on one side fail to function (four (4) brake (tail, parking) light system).

SECTION	PAGES	Item	Action	New/Revised Text (2017)	Old/Removed Text (2008)
B. 1. h.	72	OUTSIDE BUS, Parking Lights	New OOS Criteria	Any parking light lens is damaged, has darkened, faded or is dirty affecting visibility or color of the light or white light is visible	
B. 2. a.	73	OUTSIDE BUS, Clearance, Side Marker and ID lights	New Note, Revised Repair and OOS Criteria	NOTE: When there are two lights factory mounted at the top corners, the front is a clearance and the side is a side marker. When there is one light factory mounted at the top corners, it is a clearance/side marker combination, meeting both requirements. Repair Criteria Any clearance or ID light lens is cracked. OOS Criteria Any clearance, side marker, clearance/side marker combination light or ID light lens is damaged, has darkened, faded or is dirty affecting visibility or color of the light or white light is visible.	Repair Criteria Any clearance light switch (on buses manufactured prior to September 1985) is hard to operate, sticks, or knob is missing (repair). Any clearance or ID light lens is damaged or white light is visible (repair).
B.2.b	74	OUTSIDE BUS, Reflectors	Revised OOS Criteria	Any required reflector is faded, significantly affecting its original color.	Any required red reflector is faded, significantly affecting its original color.
B. 4. a.	77	OUTSIDE BUS, Stop Arms	Revised Repair Criteria	Any wiring is not properly routed and secured.	Wiring ground strap is loose or not properly routed and secured (repair).
B. 4. a. & b.	77 & 78	OUTSIDE BUS, Stop Arms, Crossing Arm	Repar Critrea Revised and Moved to OOS	Any stop arm (crossing arm) has an air or vacuum leak, is loosely mounted or components are badly worn.	Stop arm (crossing arm) assembly or blade mounting is loose (repair).
B. 5. a.	79	OUTSIDE BUS, Mirrors	Revised OOS Critreia	Any exterior mirror is broken, cracked, loose in the frame or reflective surface is faded or deteriorated.	Any exterior mirror is broken, cracked, loose in the frame-
B. 5. b.	79	OUTSIDE BUS, Bumpers	Revised Repiar Critrea and Moved to OOS	Rear bumper to body seal is damaged or missing.	Rear bumper body seal (if equipped) is damaged or missing (note).
B. 5. i.	82	OUTSIDE BUS, Cleanliness	Revised OOS Critreia	Bus is dirty to the point that visibility through any window or mirror or brightness of any light is significantly reduced.	Bus is dirty to the point visibility through any window or light lens is significantly reduced
B.5	84	CHART 7 MINIMUM LETTERING AND LIGHTING REQUIREMENTS	Revised Legend	R. Fuel Door and Fuel Type Lettering	

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C. 1. a.	85	ENGINE COMPARTMENT, Steering Wheel, Play and Assist	Revised Repair and OOS Criteria	Repair Criteria: Steering wheel OEM covering has minor wear, cracks or looseness not exposing metal reinforcement. OOS Criteria: Any portion of the OEM covering is loose, deteriorated, cracked or missing, exposing metal steering wheel reinforcement or interfering with usage	Repair Criteria: Steering wheel OEM covering is loose, deteriorated, or cracked (repair). OOS Criteria: OEM covering is loose, deteriorated, cracked, or missing exposing metal steering wheel reinforcement.
C.1.b.	87	ENGINE COMPARTMENT, Steering Gear Box and other external components	Revised Repair and OOS Criteria	Repair Criteria: Any column shaft yoke, coupler or joint dust boot is torn. OOS Criteria: Any column shaft yoke, coupler or joint dust boot is missing.	Repair Criteria: Pot joint (shell coupling) rubber is damaged or torn (repair). OOS Criteria: Pot joint, if equipped (shell coupling; See Figure 5, page 91), is loose. Pot joint (shell coupling) rubber is damaged. Pot joint (shell coupling) rubber is missing.
C.1.g.	92	ENGINE COMPARTMENT, Tie Rod Ends	Revised OOS Criteria	Any tie rod or end is bent, cracked or damaged.	Any tie rod or end is cracked or damaged.
C. 2.	94	ENGINE COMPARTMENT, Battery Box, Door and Tray	Revised Procedure and OOS Criteria	Procedure: Check battery box, door and tray for operation, condition and securement. OOS Criteria: Battery slide tray or box is loose, corroded or damaged reducing securement of the batteries or door does not open or will not stay latched.	Procedure: Check battery tray for operation, condition, and securement. OOS Criteria: Battery slide tray or box is damaged or deteriorated, reducing security of battery or batteries.
C.2.			Deleted OOS Criteria		Holddown is a flexible strap or other nonrigid design
C.2.c.	94	ENGINE COMPARTMENT, Terminals	Revised OOS Criteria	Any terminal is loose, damaged, corroded or has missing hardware or insulation.	Any terminal is loose, damaged, corroded, or has missing hardware. Any positive terminal has missing insulation.
C.2.e.	95	ENGINE COMPARTMENT, Cleanliness	Revised OOS Criteria	Batteries and compartment are excessively dirty or corroded.	Battery is cracked or damaged.
C. 3. c.	98	ENGINE COMPARTMENT, Fluid Levels and Conditions, Oil	Moved Repair Criteria to OOS, New Repair Criteria	Repair Criteria: Engine oil level is below the "full" mark. OOS Criteria: Engine oil level is below the "add" mark or above "full" mark.	Repair Criteria: Engine oil is below "Add" mark (repair).
C. 3. d.	99	ENGINE COMPARTMENT, Fluid Levels and Conditions, Transmission	Revised Repair and OOS Criteria	Repair Criteria: Transmission fluid level is below the "Full" mark. OOS Criteria: Dipstick is missing, broken or the incorrect type. Transmission fluid is below the "Add" mark or above the "Full" mark. Transmission fluid shows evidence of excessive dirt, metal or coolant contamination.	Repair Criteria: Transmission fluid is below "Add" mark, or the wrong dipstick is installed (repair). OOS Criteria: From: Transmission fluid is not present on dipstick. Transmission fluid is above the full mark (overfilled). Transmission fluid shows evidence of engine coolant contamination. Dipstick is missing or broken.

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C.3.e.	99	ENGINE COMPARTMENT, Fluid Levels and Conditions, Windshield Washer Fluid	Revised Repair Criteria, New OOS Criteria	<p>Repair Criteria: Reservoir level is low or cap is missing.</p> <p>OOS Criteria: Reservoir is empty.</p>	<p>Repair Criteria Reservoir level is low (note). Windshield washer does not spray windshield (repair).</p>																																																																																																																																																																																																																																																																																																																																																											
C.3.f	100	ENGINE COMPARTMENT, Fluid Levels and Conditions, Coolant	New Note, Revised OOS Criteria	<p>Note: Use caution when opening a hot cooling system</p> <p>OOS Criteria Coolant level is below the "Add" mark or cannot be seen in the reservoir or radiator with cap removed.</p>	<p>OOS Criteria: Coolant cannot be seen in reservoir or in radiator tank with cap removed.</p>																																																																																																																																																																																																																																																																																																																																																											
C.3.f	101	C.3.f. ENGINE COMPARTMENT, Coolant	Replaced Chart 11, New Note	<p>Note: Technicians should test engine coolant properties during every inspection using a coolant-test-strip kit. Consult the Original Equipment Manufacturer (OEM) for recommended test kits and procedures</p> <div style="display: flex; justify-content: space-around;"> <table border="1" style="font-size: 8px;"> <caption>Freezing Points of Antifreeze Solutions</caption> <thead> <tr> <th>Percentage of Antifreeze Solution</th> <th>Freezing Point (°F)</th> <th>Freezing Point (°C)</th> </tr> </thead> <tbody> <tr><td>0%</td><td>32</td><td>0</td></tr> <tr><td>1%</td><td>29</td><td>-1</td></tr> <tr><td>2%</td><td>26</td><td>-3</td></tr> <tr><td>3%</td><td>23</td><td>-5</td></tr> <tr><td>4%</td><td>20</td><td>-7</td></tr> <tr><td>5%</td><td>17</td><td>-9</td></tr> <tr><td>6%</td><td>14</td><td>-10</td></tr> <tr><td>7%</td><td>11</td><td>-11</td></tr> <tr><td>8%</td><td>8</td><td>-13</td></tr> <tr><td>9%</td><td>5</td><td>-15</td></tr> <tr><td>10%</td><td>2</td><td>-18</td></tr> <tr><td>11%</td><td>-1</td><td>-20</td></tr> <tr><td>12%</td><td>-4</td><td>-22</td></tr> 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<tr><td>60%</td><td>231</td><td>253</td><td>264</td><td>273</td><td>280</td></tr> </tbody> </table> </div>	Percentage of Antifreeze Solution	Freezing Point (°F)	Freezing Point 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of Antifreeze Solution	Pressure in Pounds per Square Inch (PSI)					0 PSI	8 PSI	12 PSI	16 PSI	20 PSI	0%	212	233	242	252	258	33%	220	240	253	260	268	44%	224	245	257	265	272	50%	226	248	259	267	275	60%	231	253	264	273	280	
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C.3.g	100	ENGINE COMPARTMENT, Fluid Levels and Conditions, DEF	New Item	<p>Procedure: Check DEF fluid level.</p> <p>Repair Criteria Reservoir level is low</p> <p>OOS Criteria: Reservoir is empty.</p>																																																																																																																																																																																																																																																																																																																																																												
C.4.b.1)	104	ENGINE COMPARTMENT, Hose Clamps	New Repair and Revised OOS Criteria	<p>Repair Criteria: Any hose connection (other than brake) is seeping.</p> <p>OOS Criteria Any hose connection or clamp is stripped, damaged or over tightened causing hose damage beyond the outer cover. Any brake hose is seeping or leaking.</p>	<p>OOS Criteria: Any hose connection or clamp is stripped or damaged.</p>																																																																																																																																																																																																																																																																																																																																																											
C.4.b.3)	104	ENGINE COMPARTMENT, Hose Routing	Revised Repair and OOS Criteria	<p>Repair Criteria: Any hose is misrouted or unsecured so that heat, abrasion or other damage is possible.</p> <p>OOS Criteria: Any hose is misrouted or unsecured so that heat, abrasion or other damage is likely.</p>	<p>Repair Criteria: Any hose is misrouted or unsecured so that heat damage, abrasion, or cuts could cause long term failure (repair).</p> <p>OOS Criteria: Any hose is misrouted or unsecured so that heat damage, abrasion, or cuts could cause imminent failure.</p>																																																																																																																																																																																																																																																																																																																																																											

SECTION	PAGES	Item	Action	New/Revised Text (2017)	Old/Removed Text (2008)
C. 5. a.	105	ENGINE COMPARTMENT, Air Cleaner	Deleted Repair Criteria, Revised OOS Criteria	OOS Criteria: There are intake system leaks, loose, missing or damaged components or other condition that could allow dust or dirt damage to internal engine parts.	Repair Criteria: There are any worn or damaged seals or gaskets (repair). OOS Criteria: There is any air or vacuum leaks or missing or damaged components that could cause dust/dirt damage to internal engine parts. (dusting down piston rings and cylinders).
C. 5. d.		ENGINE COMPARTMENT, Water pump	Deleted Repair Criteria		Water pump fasteners are loose, damaged, or missing (repair).
C. 6.	107	ENGINE COMPARTMENT, Wiring	Revised Repair and OOS Criteria	Repair Criteria: There is any slightly loose, damaged or corroded wiring connector or terminal end. Any repair has been made using improper gauge wiring. OOS Criteria: Any wiring is misrouted, unsecured or missing protective grommets, loom or other means of protection from chafing against any metal, sharp edge or hot surfaces. There are any burnt wires or any wires are missing insulation (other than ground straps).	Repair Criteria: There is any loose, damaged, or corroded wiring connector or terminal end (repair). Any repair has been made using improper gauge wiring (repair; see Chart 12, page 113). OOS Criteria: There is any unsecured or poorly routed wiring that could cause potential short or fire due to abrasion or heat damage. There are any burnt wires or missing insulation (other than ground straps).
C. 8. a.	109	ENGINE COMPARTMENT, Radiator and Reservoir	Deleted Repair Criteria, Revised OOS Criteria	OOS Criteria: Any portion of the radiator, reservoir or mounting system is cracked, damaged or has loose or missing fasteners causing leaks or failure.	Repair Criteria: Any portion of radiator or mounting system is cracked, damaged, or has loose or missing fasteners not causing leaks or failure (repair) OOS Criteria: Any portion of radiator or mounting system is cracked, damaged, or has loose or missing fasteners causing leaks or failure.
C. 8. b.	109	ENGINE COMPARTMENT, Radiator Cap	Moved Repair Criteria to OOS	OOS Criteria: Radiator cap is the incorrect type	Repair Criteria: Radiator cap is of the wrong pressure rating or is the wrong type of cap (closed/open cooling system) (repair).
C. 8. d.	109	ENGINE COMPARTMENT, Fan Shroud	Revised Repair Criteria and Moved to OOS	OOS Criteria: Fan shroud is missing, loose or has excessive damage that may interfere with the cooling fan.	Repair Criteria: Any portion of fan shroud or shroud mounting is cracked, damaged, or has loose, or missing fasteners (repair).
D. 1. a.		UNDERNEATH BUS Front Suspension, Front Wheel Bearings	Deleted OOS Criteria		Dust cover or fasteners are missing or loose.
D. 1. c.		UNDERNEATH BUS Front Suspension, Kingpins	Deleted Repair Criteria		Locking pin is loose (repair).

SECTION	PAGES	Item	Action	New/Revised Text (2017)	Old/Removed Text (2008)
D. 1. f.	114	UNDERNEATH BUS, Pins and Bushings	New Note	NOTE: Do not grease pins and bushings before inspecting	
D. 1. k.	116	UNDERNEATH BUS, Springs	Revised Repair Criteria	Any leaf spring or air-suspension ride height is less than manufacturer's specifications.	Any coil or leaf spring has flattened, and ride height is less than manufacturer's specifications (repair).
D. 1.	117	UNDERNEATH BUS, Front Suspension, Figure 12, Spindle Thrust Bearing Check	Revised Figure	0.060" 	0.030" 
D. 2. b.	118	UNDERNEATH BUS, Brake Lines	Deleted Repair and New OOS Criteria	OOS Criteria: Any brake line is rubbing against other components or improperly routed.	Repair Criteria: Brake line bracket(s) or securement system is loose or missing (repair).
D. 2. g. D.10.g	121 149	UNDERNEATH BUS, Front Brakes, Disc Brake Pads UNDERNEATH BUS, Rear Brakes, Disc Brake Pads	New Items	Procedure: Inspect disc brake pads for contamination, wear, damage and securement Repair Criteria: There is significant difference in pad thickness from between the left and right sides of the bus. OOS Criteria: Pad surface is contaminated, cracked, broken or missing. Thickness of friction material is less than 1/8-inch. Pad wear is uneven end-to-end exceeding 3/32-inch. Difference between the inboard and outboard pads on one side is greater than 1/8-inch.	
D. 2. k.1).	124	UNDERNEATH BUS Front Brakes, Adjust Brakes	Revised Procedure and OOS Criteria	Procedure: Any brakes (air or hydraulic) without automatic adjusting capabilities must be adjusted at each inspection using the following procedure: a) Tighten brake adjuster until wheel locks up. b) Back off brake adjuster until there is a very slight drag on friction surfaces. OOS Criteria: Any condition prevents proper adjustment of manual adjusting brakes	Procedure: 1) For air wedge brakes or hydraulic drum brakes, adjust front brakes at every monthly inspection as follows:- a) Brakes must be adjusted until brake drum does not turn.- b) Back off brake adjustment until there is slight drag on drum surface (0.020" clearance between lining and drum).- OOS Criteria: There is any damage or condition, which prevents proper adjustment of air wedge or hydraulic drum brakes.
D. 3. b.		UNDERNEATH BUS Engine Mounts, Transmission Mounts and Starter Mounting	Deleted Part of Procedure and Criteria		Procedure: Check for presence of heat shield (if equipped). Repair Criteria: Heat shield (if equipped) is loose (repair). OOS Criteria: Heat shield looseness or damage could short positive terminal to ground. Heat shield (if equipped) is missing or damaged.

SECTION	PAGES	Item	Action	New/Revised Text (2017)	Old/Removed Text (2008)
D.4.d.	130	UNDERNEATH BUS, Transmission Filter	Removed Repair Criteria, Added OOS Criteria	OOS Criteria: External filter or base is loose or leaking.	Repair Criteria: External filter mounting is insecure or has loose or missing fasteners (repair). Filter canister is damaged (repair).
D.4.e.	130	UNDERNEATH BUS, Transmission Cooler	Revised OOS Criteria	Transmission cooler including cracked, damaged or leaking hoses and connections	Transmission cooler, including all hose connections, is cracked or damaged.
D. 5. a.	131	UNDERNEATH BUS, Fluid Leaks, Oil	New OOS Criteria	Engine oil leakage is excessive.	
D. 5. c.	132	UNDERNEATH BUS, Fluid Leaks, Transmission	New OOS Criteria	Transmission fluid leakage is excessive.	
D. 5. e.	132	UNDERNEATH BUS, Fluid Leaks, DEF	New Item	Procedure: Inspect for DEF fluid leaks at all locations and determine severity. Repair Criteria: DEF fluid is seeping. OOS Criteria: DEF fluid is leaking.	
D.6.a., b., c., d.	133 & 134	UNDERNEATH BUS, Fuel and DEF Tank	Revised Procedure and OOS Criteria, Deleted Repair Criteria	fuel and DEF tank	fuel tank Repair Criteria: Any wiring or connection has damaged or missing insulation (repair)
D. 7. e.		UNDERNEATH BUS, ABS	Deleted Repair Criteria		Wiring or other components have been damaged, or are routed or located subject to abrasion or excessive heat, but ABS is operating normally (repair).
D. 8. a.		UNDERNEATH BUS, Driveshaft	Deleted Repair Criteria		There is any foreign matter wrapped around driveshaft (repair).
D. 9. c.	140	UNDERNEATH BUS, Differential	Moved Repair Criteria to OOS	OOS Criteria: Differential gaskets or seals are leaking	Repair Criteria: Differential gaskets or seals are leaking
D.9.f.	142	UNDERNEATH BUS, Shock Absorbers	New Note	NOTE: A very small amount of fluid staining at the shock-piston shaft seal area is normal due to the wiping function of the shaft seal. This does not indicate a leaking shock.	

SECTION	PAGES	Item	Action	New/Revised Text (2017)	Old/Removed Text (2008)
D. 10. d.	146	UNDERNEATH BUS, Slack Adjuster	Revised OOS Criteria	Any portion of slack adjuster or S-cam is missing, broken, cracked or worn beyond limits or not properly installed.	Any portion of slack adjuster or S-cam is missing, broken, cracked, or badly worn.
D. 11. e.	155	UNDERNEATH BUS, Skirts	Moved Repair Criteria to OOS	OOS Criteria: Luggage compartment door-latch, hinge or lock is sticking, damaged or malfunctioning.	Repair Criteria: Luggage compartment door latch, hinge, or lock is sticking, damaged, or malfunctioning (repair).
D. 11.	155	UNDERNEATH BUS, Mud Flaps	New Item	Procedure: Inspect for required mud flaps and splash shielding on buses with skirt mounted A/C condensers Repair Criteria: Any mud flap is missing. OOS Criteria Any mud flap is loose or damaged and may detach while bus is in route.	
D.12.c.	156	UNDERNEATH BUS, Exhaust	Revised Procedure and OOS Criteria, Deleted Repair Criteria	Procedure: Inspect condition of the muffler and DPF OOS Criteria: The muffler or DPF is leaking, restricted or damaged.	The muffler is cracked (repair). There is other significant physical damage to the muffler (note).
D.12.d.	156	UNDERNEATH BUS, DEF Components	New Item	Procedure Inspect DEF components OOS Criteria DEF tank lines or injector is loose, damaged or leaking fluid,	
F. 2. a.	167	ROAD TEST, Engine Performance & Governor	Deleted Repair Criteria, Revised OOS Criteria	OOS Criteria: Any engine/emissions system warning lights or alarms are on, indicating a mechanical safety condition.	Repair Criteria: Rough or low idle of engine (repair). Engine exhaust gas color indicates engine is in poor mechanical condition (heavy black, blue, or white smoke) (repair).

Credit and appreciation for this study guide goes to Louis Knebel of Broward District Schools.