Georgia Department of Education

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"Educating Georgia's Future"

Summary of Changes Approved by Pupil Transportation Advisory Committee for 2017 Georgia School Bus Specifications

Key

Blue text = rationale for recommended edits/additions to 2010 Georgia School Bus Specifications

Red text w/yellow highlight = recommended edits/additions to 2017 Georgia School Bus Specifications

1. Page 84 in current specs-Lighting

   Rationale-in order to enhance the safety and reliability of lighting on the exterior of the school bus the recommendation to change all exterior lighting to LED type fixtures. This will also decrease the number of light failures and will increase the brightness of 8-way warning lights and stop-arm lights. Therefore, increasing the distance that school buses may be seen during loading and unloading

. **Lighting – Lamps and Signals** -

Full exterior lighting shall be LED and furnished to comply with the Motor Vehicle Laws and Regulations of the State of Georgia and with Federal Regulations.

Back-Up Lights - Two back-up lights shall be provided, one on each side of the rear of the bus body. These lamps shall be a minimum of 3 1/2 inches and will be wired so that the lights are activated when the transmission is in reverse. Lamps shall be LED.

Clearance and Marker Lights - Combination clearance and marker lights shall be installed at each of the four roof corners. The two front lights shall be amber in color; the two rear lights shall be red in color. A cluster of three lights shall be mounted between the clearance and marker lights in the front and the rear of the bus at the roofline. Lamps shall be LED.

Lights with a removable lens shall be armor type, or recessed.

Eight Way Warning Lights - The body shall be equipped with four eight-way warning lights and four amber warning lights. These lights are to be a minimum of thirty-eight (38) square inches of lighted surface area meeting current SAE Specifications. Lamps shall be LED.

2. Pages 51-52 in current specs-Engines

Rationale-The industry has changed drastically since 2010 and due to higher EPA standards, many engines are no longer offered. The offering of propane, CNG, and gasoline powered engines are reflected in the changes and are in line with current demands of LEAs.

Type C Conventional Chassis: Series or Model Number

Minimum Engine Size

NOTE: The differential ratio used should be determined by the road speed of the vehicle.

(The Vehicle shall be capable of attaining a road speed of 55 MPH.)

DESIGNED SEATING CAPACITY	24-72			
Manufacturer	*Propane*	*Gasoline*	*Diesel*	*CNG*
International /PB105	*PSI 8.8 L*	*PSI 8.8 L*	*Cummins ISB 6.7*	

Bluebird *Vision*	*Ford 6.8 L*	Ford 6.8L	*Cummins* *ISB 6.7*	Ford 6.8L
Thomas *Freightliner/* *C-2*	GM 8.0 L V-8		*Cummins* *ISB 6.7*	Cummins ISB 6.7 L

*** Test Engine**

Type D Transit Chassis: Series or Model Number

Minimum Engine Size

NOTE: The differential ratio used should be determined by the road speed of the vehicle.

(The Vehicle shall be capable of attaining a road speed of 55 MPH.)

Des. Seating Capacity	35-72			***Des. Seating Capacity***	73 - 90		
Manufacturer		*Diesel*				*Diesel*	*CNG*
International		*Cummins* *ISB 6.7* *ISB L9*					
Bluebird		*Cummins* *ISB 6.7*				*Cummins* *ISB 6.7* *9.0 L*	Cummins ISL-G L9N
Thomas		*ISB 6.7*				*ISB 6.7* *9.0L*	

*NOTE: Any engine within the 73 – 90 capacity can be used in the 35 – 72 capacity Transit Chassis *Test Engine*

3. Page 67 in current 2010 specs-Chassis Design

   Rationale-the committee recommends that we move to a performance specification in the design of the bus chassis. This is reflected throughout the specifications for all Types of Buses (A, B, C, D) to use Federal Motor Vehicle Safety Standards in our Design Specifications. As these FMVSS standards are updated and with a letter of assurance from school bus manufacturers would ensure that Ga Specifications are meeting or exceeding Federal Standards.

   Construction -The school bus shall be constructed in a manner that meets or exceeds all applicable FMVSS Standards

4. Page 80 in current specs-Heater

   Rationale-the committee recommends that we move to a performance specification in the HVAC section of the specifications. This includes the addition of a rear heater in each bus and uses FMVSS as the basis.

   A rear under seat heater and a heat booster pump of all metal construction is required on all B, C, and D buses.

5. Page 47 in current specs-Warranty Items

   Rationale-the recommended changes reflect updates in electronic modules that have been added to the engine since the specifications were updated. This chart also reflects the addition of warrantable items that are on propane and gasoline engines.

   Engine Warranty: Engines in Type B, C and D buses shall be covered by a WRITTEN WARRANTY Provided by the School Bus Manufacturer for five years, 150,000 miles, 100% parts , labor, and diagnostics Manufacturers' warranty shall begin for each vehicle on the actual in-service date by the school district.

   Note The LEA may want to negotiate that a Road Technician would be provided at no cost to the LEA to take care of warranty issues, recalls, and other service bulletins. This would be applicable to all 3 warranties (Engine, Emissions, and Transmissions).

   A minimum listing of what shall be covered under the engine/chassis warranty is listed below:

All Engine Electronic Senders for Gauges	Harness, Transmission to ECU
All Engine Electronic Sensors for the ECU	Harness, Transmission to Engine

All Heater Hose Pipe and Fittings	High Pressure Oil Lines and Seals
All Water Pipes and Seals	High Pressure Oil Pump
Belt Tensioner	Injector Pressure Regulator
Bolts, Cylinder Head	Intake Grid Heater
Bus Chassis Alternator	Intake Throttle Valve
Camshaft and Camshaft Seal(s)	Lifter Cover and Gasket(s)
Camshaft Cover and Gasket(s)	Lifter, Valve
Carrier Assembly, Rocker Shaft	Manifold Assembly, Exhaust
Charge Air Cooler, hoses and piping	Manifold Assembly, Intake
Completer Engine Harness for Electronic Senders	Oil Cooler and Gaskets/Seals
Complete Engine Harness for Electronic Sensors	Oil Filter Base and Gasket
Complete Turbo Charger Assembly including Actuator	Oil Pan and Gasket
Coolant Filter Base and Gasket(s)	Oil Pressure Rail Assembly
Crankshaft	Oil Pressure Regulator Valve
Cylinder Head	Oil Pump Assembly and Gasket
Cylinder head Injector Tube	Oil Supply Lines and Seals
ECU/ECM and/or Programming	Pedal Assembly, Accelerator
EGR cooler, hoses, and lines	Pipe/Clamp/Gasket, Intake Manifold to Turbo Charger
EGR Valve	Piston Rings
EGR Valve Cooler	Piston/Pin/Lock
EGR Valve Cooler, Hoses and Lines	Push Rods
Engine Block Assembly	Radiator, and surge tank
Engine Starter Assembly	Regulator, Exhaust Back Pressure
Expansion Plugs	Rocker Arms and Bushings
Fan Clutch	Rocker Cover and Gasket(s)
Flywheel, Flywheel Housing	Rod/Cap, Connecting

Fuel Injector Holder	Rod/Main Bearings
Fuel Injector Unit and Injector "O" Rings	Seal, Front Engine Crankshaft
Fuel Regulator Valve	Seal, Rear Engine Crankshaft
Fuel Supply Pump and gasket (in tank and on engine)	Sleeve, Cylinder
Fuel Transfer Pump	Thermostat Housing
Gasket, Cylinder Head	Timing Cover and Gasket(s)
Gasket, Exhaust Manifold	Timing Gears/Injection Pump Gears
Glow Plug Harness	Valve Guides and Seals
Glow Plug Relay(s)	Valve Spring/Dampener/Lock
Glow Plugs	Valve/Valve Seat, Exhaust
Harness, Communication Between Engine/ECU/Transmission	Valve/Valve Seat, Intake
	Vibration Dampener and Pulleys
	Water Pump and Gasket(s)

6. Pages 57-58 In current specs -Transmission Warranty

Rationale-The recommended changes are proposed to eliminate confusion from the LEA personnel as to that is part of the transmission warranty and what is engine transmission. With the addition of electronic modules that communicate with engine components there is some confusion as to who warrants the modules when they are not communicating and resulting in failures.

Transmission Warranty on parts and labor will be 5 years150,000 miles, 100 percent parts, labor, and diagnostics. Warranty implementation will begin **on in-service date of the school bus.**

The warranty shall cover as a minimum:

Cables, sensors, harness, shifter, shifter cable, and TCM. A road technician may be provided at no cost to the LEA to resolve any transmission warranty issues.

Manufacturer	Transmissions available
Blue Bird	Allison 2500 Allison 3000 Eaton Procision Ford 6R140
IC	Allison 2500 Allison 3000 Eaton Procision
Thomas	Allison 2300 Allison 3000

7. Pages-84-85 in current specs -Automatic Doors

Rationale-The recommended addition of a 3-position door switch would enable the driver to stop the bus and activate the 8-way warning lights and stop arm without opening the door. This would increase the overall safety of students loading and unloading. The driver would be able to delay the door opening until all approaching traffic has stopped therefore decreasing the chances of an accident. In many cases students view the door opening as their signal to load/unload.

. Four lights are to be mounted on the front of the body above the windshield and four lights are to be mounted at the rear of the body above the rear windows. Warning lights are to be operated by a 3-position door switch in the following manner:

Position 1-Door is closed and lights are off

Position 2-Activate red lights, stop arm and crossing control arm extended with the door remaining closed.

Position 3-Red lights remain activated, door opens, stop arm and crossing control arm remain activated.

8. Pages 19 and 69 in current specs- Body Design

Rationale-in order to increase the overall safety design of the bus the committee recommends that we require all manufacturers to comply with the Kentucky Pole Test. This Test is used to test the integrity of the roof panels during an intrusion. It requires a more vigorous securement of panel so they do not fail during intrusions.

Kentucky Pole Test- All bus manufacturers shall certify that the bus body construction meets or exceeds all testing standards of the Kentucky Pole Test

9. Page 77 in current specs-Glass

Rationale-in order to ensure that Ga specifications are meeting or exceeding the National Standards and to standardize specifications the committee recommends that language about glass design etc. be eliminated and replaced with all applicable FMVSS standards.

Glass - All glass shall meet FMVSS 205

10. Page 52 of current specs-Emissions

Rationale-since the 2010 specifications were adopted the new emission devices have started to have failures and the committee recommended that we add an emissions warranty section for clarification. This would enable the LEA to define what expenses they would be responsible for and those that are covered under the manufacturer's warranty.

Emissions-All emission control devices including Diesel Oxidation Catalyst and Diesel Particulate Traps shall be warranted for a period of 5 years/100,000 miles. This warranty shall cover the following items at a minimum:

Sensors, Harnesses, CRD, DEF, hoses, tanks, SCR, and DPF.