

Proposed Changes to

Kentucky Minimum Specification for School Buses - 2015 Edition

Page 20, BATTERY: All batteries shall be mounted in a ~~skirt-mounted~~ sliding/roller tray accessible through body skirt. All battery cables shall be securely routed to the left frame rail location without crossing over the top of any frame member. Routing and clamping of conductors shall be pre-engineered to the point of termination outside the left frame rail. Both battery cables shall attach to the battery posts, or battery terminals, with a bolted connector. Manufacturers shall coordinate with the Department of Education, Pupil Transportation Section, for approval of location.

Reason for change: This allows batteries to be chassis mounted as well as body mounted.

Page 21, Engine

- ~~1) A primary fuel filter and water separator, located between the tank and engine transfer pump. The filter shall be OEM installed and approved~~
- ~~2) Filter shall be Racor Model 330, thirty (30) micron spin-on, Racor Model 490, thirty (30) micron spin-on or prior approved equal. The Pupil Transportation Branch at the pilot inspection shall approve the location.~~
- ~~3) If the fuel system includes a fuel return line to the tank, a secondary fuel filtration, in addition to the Racor Model 330 thirty (30) micron, shall be the manufacturer's standard for engine protection.~~
- 5) All primary and secondary fuel filter/water separators systems shall be chassis OEM or engine Manufacturer approved and installed.

Reason for change: Auxiliary fuel filtration systems are no longer available because they slow fuel flow and make compliance with Clean Air Regulations more difficult.

Page 47, SOLENOID SWITCH

The bus body electrical system shall be equipped with a continuous-duty solenoid switch or heavy duty relays of adequate capacity to handle the body electrical load.

Reason for change: A solenoid or relays are functionally equal.

Page 48. NOISE SUPPRESSION SWITCH

All Kentucky school buses shall include a "Noise Suppression Switch" within easy access of the driver. The Switch shall turn off noise producing accessories to include heater blowers, defroster

fans, auxiliary fans and radios if so equipped. The system shall include a switch and solenoid or heavy duty relays. The label may be abbreviated "Noise Supp".

Reason for change: A solenoid or relays are functionally equal.

Page 56. CLEARANCE LAMPS

The body shall be equipped with armored (unless flush mounted) clearance and mid-body lamps. These lamps shall be manufactured by Grote, Weldon or Sound Off Inc., LED lamps, minimum of four (4) candlepower, or prior approved equal. These lamps are to be mounted at the highest and widest position on the corners.

Reason for change: Allows the use of flush mount Clearance lights.

Page 56. BACK-UP LAMPS

The school bus body manufacturer shall install two (2) back-up lamps, located on the left and right rear of the body as far outboard and as low as is practical. These back-up lights shall be Weldon, Grote, Sound-Off Signal L.E.D. lights or prior approved equal. In addition to these lights there shall be an additional lighting system behind the rear axle. The system shall be a White, six-lamp, L.E.D light wired to the back up light circuit. mounted on the chassis frame rail cross member immediately behind the axle. This light shall be pointed down to illuminate the area to the under and outside the rear wheels. The light shall be wired into the back up lamp circuit. This light shall be a high intensity focused LED white light Eluminator Model 600w WWL or prior approved equal. The system shall illuminate a rectangular area on both sides of the vehicle beginning twenty-nine(29) inches aft of the center point of the rear axle. This area shall extend outward from the vehicle sides twenty-four (24) inches and rearward thirty(30) inches with no point within this area having illumination of less than three (3) foot candles as tested on a bare concrete surface.

Reason for change: Clarifies the design parameters for the auxiliary backup light and allows multiple vendors for this light.

Page 70. SEAT PLACEMENT

~~Body company manufacturers shall be responsible for the positioning of the school bus seats and body sections in such a manner to allow pupil seat backs to be positioned approximately tangent to push out the window post. It is the intent of this requirement to provide for a reasonable clear area for emergency egress through the push-out windows. A reasonable clear area will be defined as requiring the ellipsoid, as defined in FMVSS 217 to pass through the lower window area with the plane of the major axis in a horizontal position, indexed front to rear~~

Reason for change: This standard is no longer needed. It was written when the standard window was 18 by 22 and top hinged. Windows are now 24 by 22 and side hinged.

Page 104. **INTEGRATED CHILD CARRIER SEATS**

Local districts may have integrated child seats factory installed on new buses. The standard seating plan shall be altered by the Body Company and forwarded to and the Pupil Transportation Branch to be recorded at the time the order is placed. This altered and approved

floor plan will be forwarded to the district as a part of the normal order confirmation process. Districts may use either C.E. White CR seats or, the IMMI Safe Guard with Integrated Child Restraint System seats, or SynTec S3c convertible seats as a part of a complete seating package designed and certified by the school bus body company as meeting all applicable FMVSS Standards. Only the original equipment manufacturer or their representatives will install these systems.

Reason for change: Allows additional vendor for this option.

Page 104. **Propane Powered Chassis Modifications Supplement**

Forward

The Kentucky Minimum Specifications for School Buses is the primary specification for all school buses in the Commonwealth pursuant to KRS 156.153. This document is supplemental to that specification and is applicable to Propane Powered buses only. All provisions of the primary specification shall be adhered to unless specifically mentioned in this supplement. This specification is for new propane powered school buses only and does not allow for the modification of any existing school bus.

Warranty

All propane components shall be warranted for three years, unlimited miles. In addition, all normal warranties listed in the Kentucky Minimum Specifications for School Buses shall not be compromised by the propane systems.

Compliance with FMVSS

All propane powered buses shall be in full compliance with all applicable Federal Motor Vehicle Safety standards.

Propane Powered Chassis Modification

A propane fueled engine may be installed on sixty-six (66) and seventy-two(72) passenger type C and Seventy-eight (78) passenger type D, FE school buses as a local district purchase option. These propane powered buses shall be designed to improve fuel economy while decreasing emissions.

All propane powers buses shall be equipped clearly marked in one inch block letters to enable first responders to readily identify the vehicle as being fueled by propane.

All propane systems shall be factory installed by the Original Equipment Manufacture on new buses only.

The propane powered chassis shall comply with all specifications for a Type C school bus with the following exceptions and additions:

Engine

1. A Ford 6.8L V-10 or a GM 8.0L engine shall be the standard engine for this application.
2. Minimum-330 horsepower, 450 ft/lbs torque.
3. Coolant shall be the engine manufactures standard and all heating systems shall be filled with the same coolant.
4. The oil filter shall be the engine manufactures standard oil filter.
5. The propane powered bus does not require supplemental fuel filtration fuel systems, drain plugs, overflow tubes, top mount fuel sender, fuel sender access plate or other parts normally associated with liquid fuel systems.

Fuel tanks

1. Minimum 70 gallon mounted between the vehicle frame rails and shielded under the bus.
2. Optional 100 gallon mounted between the vehicle frame rails and shielded under the bus.

Propane Identification

A propane vehicle emblem or label shall be affixed to the rear bumper. An emblem or label shall also be affixed to the right side of the bus rearward of the entrance door and to the left side of the bus aft of the driver's window. LIQUIFIED PETROLEUM GAS ONLY sign shall be affixed above the fuel fill door in minimum one inch block letters. The fuel door shall be lockable. Cut off valves to the tanks shall be clearly labeled.

Transmission

A propane fueled bus shall use a Ford 6R140 or an Allison 2300 series transmission. Transmission shall be filled with TES 295 fluid.

Warranty

All propane systems shall be factory installed and backed by a three year unlimited mileage warranty on components related to the fuel system (tanks, valves, injectors) all other warranties shall be as stated in the Kentucky Minimum Specifications, Section I parts 1-2.

Reason for change: Allows local districts the option of purchasing propane powered buses if they wish.