

MULTIFUNCTIONAL SCHOOL ACTIVITY BUS (MFSAB) SPECIFICATIONS

DEFINITION:

A Multifunctional School Activity Bus (MFSAB) is a school bus constructed to Federal Motor Vehicle Safety Standards (FMVSS) and Mississippi Minimum School Bus Specifications. It must be purchased or leased as a new bus and shall only be used for extracurricular activities. THESE BUSES SHALL NOT BE USED TO TRANSPORT STUDENTS TO AND FROM HOME, SCHOOL BUS STOPS, OR BETWEEN SCHOOLS FOR THE PURPOSE OF ATTENDANCE.

The following exceptions to the Mississippi Minimum Specifications for School Buses for regular route buses shall be allowed for Multifunction School Activity Buses.

COLOR:

The local education agency (LEA) with school board approval may determine the color of the activity bus. The color scheme may utilize any combination of up to THREE colors. This combination may be in addition to the white roof. The color National School Bus Yellow (SBMTC-008 Publication) shall not be used as a part of the color scheme.

The local education agency and/or vendors shall submit preliminary color and graphic schemes to the Mississippi Department of Education, Pupil Transportation Division for approval prior to the purchase or manufacture of a Multifunctional School Activity Bus (MFSAB).

IDENTIFICATION:

- A. The bus body shall bear the words "ACTIVITY BUS" in a contrasting color at least 8 inches high in the area where "school bus" is normally positioned. Lettering and numbering shall conform to FMVSS and Mississippi Minimum Specifications and shall meet reflectivity standards. Bus numbering on this bus may be of a contrasting color.
- B. The name of the school district, or school shall be displayed in at least five-inch letters on both sides of the bus in the beltline area. If a school system elects to put the name of the school in the beltline, the school system shall be displayed on both sides of the bus in the rear skirt area with a minimum of 3" letters. NO SIGNS shall be applied to any area of the bus including the bumpers. Mascot logos may be placed on the bus with approval from the Mississippi Department of Education, Pupil Transportation Division.
- C. No signs, logos, or other items that obstruct visibility shall be displayed on the windows of the bus. No full wraps are allowed, and no decals shall cover reflective safety material.

- D. Full or modified wrapping of existing regular route school buses purchased to transport students between home and school as a Multifunction School Activity Buses are not allowed.

INSPECTIONS:

Inspections by qualified technicians at the LEA shall be performed on all Multifunctional School Activity Buses (MFSAB) as required by state law and the rules and regulations of the Mississippi State Board of Education.

LIGHTING AND WARNING DEVICES:

All Multifunctional School Activity Buses (MFSAB) shall meet state and federal standards for normal school bus lighting and warning device requirements with the following exceptions:

- A. Multifunctional School Activity Buses (MFSAB) shall not be equipped with alternately flashing amber or red signal lamps used for loading and unloading students.
- B. Multifunctional School Activity Buses (MFSAB) shall not be equipped with stop arm signals or crossing control arms.

REGULATIONS:

These buses shall be owned by the LEA or leased from private school bus transportation contractors. All Mississippi laws, rules of the State Board of Education, and other applicable regulations pertaining to the operation of school buses and certification of school bus drivers shall apply to Multifunctional School Activity Buses.

ALTERNATIVE POWER SPECIFICATIONS

INTRODUCTION

This section is designed to be used as an overview of the alternative fuels being utilized for school transportation. It is not designed to replace current applicable federal, state, manufacturing or safety specifications that may exceed requirements within this section. There may be advancements in engineering and improvements in equipment fabrication methods and operating practices that differ from those specifically called for in this section. Such deviations or improvements may provide safety and may meet the intent of, and be compatible with, this section. Entities wishing to purchase alternative fuel school buses should use this section only as a starting point. More detailed specifications, including specific design and performance criteria and safety specifications, should be researched by prospective purchasers of alternative fuel school buses.

GENERAL REQUIREMENTS

Alternative power school buses shall meet all the specifications in this manual and the specific requirements for the type of alternate power systems listed below:

1. Chassis shall meet all specifications previously mentioned in BUS CHASSIS SPECIFICATIONS.
2. Chassis shall meet all applicable Federal Motor Vehicle Safety Standards (FMVSS).
3. The fuel system integrity shall meet the specified leakage performance standards when impacted by a moving contoured barrier in accordance with test conditions specified in FMVSS No. 301, *Fuel System Integrity*, or FMVSS No. 303, *Fuel System Integrity of Compressed Natural Gas Vehicles*, as applicable.
4. Original equipment manufacturers (OEMs) and conversion systems using compressed natural gas (CNG) shall comply with National Fire Protection Association (NFPA) Specification 52 2013, *Compressed Natural Gas Vehicular Fuel Systems*. Fuel systems using liquefied petroleum gas (LPG) shall comply with NFPA Specification 58 2014, *Liquefied Petroleum Gases Engine Fuel Systems*.
5. Fuel tank(s) for vehicles of less than 54 passenger capacity powered by LPG or CNG shall have a minimum 40-gallon capacity. Fuel tank(s) for vehicles of 54 or more passenger capacity powered by LPG or CNG shall have a minimum 60-gallon capacity.

6. Natural gas-powered buses may be equipped with an interior/exterior gas detection system. All natural gas-powered buses may be equipped with an automatic or manual fire detection and suppression system.
7. All materials and assemblies used to transfer or store alternative fuels shall be installed outside the passenger/driver compartment.
8. All Types C and D buses using alternative fuels shall meet the same base requirements of BUS CHASSIS SPECIFICATIONS for passenger load.
9. The total weight shall not exceed the vehicle's GVWR when loaded to rated capacity.
10. The manufacturer supplying the alternative fuel equipment must provide the owner and operator with adequate training and certification in fueling procedures, scheduled maintenance, troubleshooting and repair of alternative fuel equipment.
11. All fueling equipment shall be designed specifically for fueling motor vehicles and shall be certified by the manufacturer as meeting all applicable federal, state and industry standards.
12. All on-board fuel supply containers shall meet all appropriate requirements of the American Society for Mechanical Engineering (ASME) code, U.S. Department of Transportation (DOT) regulations or applicable FMVSSs and NFPA standards.
13. All fuel supply containers shall be securely mounted to withstand a static force of eight times their weight in any direction.
14. All safety devices that discharge to the atmosphere shall be vented to the outside of the vehicle. The discharge line from the safety relief valve on all school buses shall be located in a manner appropriate to the characteristics of the alternative fuel. Discharge lines shall not pass through the passenger compartment.
15. CNG buses shall have a positive, quick-acting ($\frac{1}{4}$ turn) shut-off control valve shall be installed in each gaseous fuel supply line, as close as possible to the fuel supply containers. The valve controls shall be placed in a location easily operable from the exterior of the vehicle. The location of the valve controls shall be clearly marked on the exterior surface of the bus.
16. An electrical grounding system shall be required for grounding of the fuel system during maintenance-related venting.
17. Fuel systems identified as compatible with biodiesel must be provided with components compatible with biodiesel conforming to the specifications of ASTM 6751, *Biodiesel Standard*.

18. High Voltage-Powered Vehicles: Buses utilizing a high voltage propulsion system (more than 48 nominal volts) shall meet the requirements of FMVSS 305, *Electric Powered Vehicles: Electrolyte Spillage and Electrical Shock Protection*, except for the following:

- a. The propulsion power source (batteries, fuel cells, etc.) shall be located outside the passenger compartment.
- b. The propulsion power source enclosure shall be constructed to conform to the power source manufacturer's requirements and recommendations.
- c. Due to the much larger size and quantities of the propulsion power sources on larger vehicles, buses over 10,000 lbs. are permitted to exceed the 5.0-liter spillage constraint of Section S5.1, Electrolyte damage from propulsion batteries and the requirements to statically rotate the vehicle on its longitudinal axis post-test.