

Federal Motor Vehicle Safety Standards

Altogether the U.S. Federal government has created 60 federal motor vehicle safety standards. Of these 37 apply to school buses. Of the 37, several were written specifically for the yellow school bus. Among them FMVSS 131, FMVSS 220, FMVSS 221 and FMVSS 222. Listed here are summary descriptions of the standards that apply to school buses. When you see the symbol below it indicates the FMVSS was developed specifically for school buses. Click on the FMVSS designation to see the most recent edition of the regulation.



Several federal motor vehicle safety standards were developed with direct, though not necessarily exclusive, application to school buses. These are listed below with a brief description of the regulation. Whenever a school bus appears adjacent to the regulation that denotes the regulation was developed specifically for school bus application.

Standard No. 111: Rearview Mirrors

This standard specifies requirements for the performance and location of inside and outside rearview mirrors on motor vehicles. Establishes requirements for "cross view" mirror to see in front of and alongside the bus, and that the driver clearly see specific areas to the ground along the sides and around the front of the school bus. The purpose of this standard is to reduce the number of deaths and injuries that occur when the driver of a motor vehicle does not have a clear and reasonably unobstructed view to the rear. The requirements for school buses were revised for driver visibility in front of and along both sides of school buses. [Webmaster note: This standard was originally adopted on August 26, 1976. It has been amended ten times since; the last amendment became effective on September 24, 1998.]

Application:

Passenger cars, multipurpose passenger vehicles, trucks, buses, school buses, and motorcycles

Standard No. 126: Electronic Stability Control

This standard establishes requirement for Electronic Stability Control Systems (ESCs) on all multipurpose passenger vehicles, trucks, and buses with a gross vehicle weight rating of 4,536 Kg (10,000 pounds) or less by 2012. ESC systems use automatic computer-controlled braking of individual wheels to assist the driver in maintaining control in critical driving situations in which the vehicle is beginning to lose directional stability at the rear wheels (spin out) or directional control at the front wheels (plow out). This standard was developed as part of a comprehensive plan for reducing the serious risk of rollover crashes and the risk of death and serious injury in those crashes.

Application:

Passenger cars, multipurpose passenger vehicles, trucks, and buses with a gross vehicle weight rating of 4,536 Kg (10,000 pounds) or less.



Standard No. 131: School Bus Pedestrian Safety Devices

This standard establishes requirements for devices that can be installed on school buses to improve the safety of pedestrians in the vicinity of stopped school buses. The purpose of this standard is to reduce deaths and injuries by minimizing the likelihood of vehicles passing a stopped school bus and striking pedestrians in the vicinity of the bus.

Application:

School buses

Standard No. 208: Occupant Crash Protection

This standard specifies performance requirements for the protection of vehicle occupants in crashes. The purpose of this standard is to reduce the number of deaths of vehicle occupants, and the severity of injuries, by specifying vehicle crashworthiness requirements in terms of forces and accelerations measured on a variety of anthropomorphic dummies in test crashes, and static airbag deployment tests. This standard also specifies equipment requirements for active and passive restraint systems.

Application:

Passenger cars, trucks, buses, and multipurpose passenger vehicles with a GVWR of 3,855 kg (8,500 lb) or less and an UVW of 2,495 kg (5,500 lb) or less, except for walk-in van-type trucks or vehicles designed to be sold exclusively to the U. S. Postal Service

Standard No. 209: Seat Belt Assemblies

This revised standard, effective Oct. 21, 2005 with a manufacturer compliance date of Feb. 22, 2006, specifies requirements for seat belt assemblies. Seat belt assemblies are devices such as straps, webbing, or similar material, as well as to all necessary buckles and other fasteners and all hardware designed for installing the assembly in a motor vehicle, and to the installation, usage, and maintenance instructions for the assembly. The purpose of this standard is to ensure that the hardware of seat belt assemblies shall be designed to prevent attachment bolts and other parts from becoming disengaged from the vehicle while in service.

Application:

Passenger cars, multipurpose passenger vehicles, trucks, and buses

Standard No. 210: Seat Belt Assembly Anchorages

This standard establishes requirements for seat belt assembly anchorages to ensure their proper location for effective occupant restraint and to reduce the likelihood of their failure during a vehicle impact.

Application:

Any component, other than the webbing or straps, involved in transferring seat belt loads to the vehicle structure in passenger cars, multipurpose passenger vehicles, trucks, and buses

Standard No. 213: Child Restraint Systems

This standard specifies requirements for child restraint systems used in motor vehicles and aircraft for the purpose of reducing the number of children killed or injured in motor vehicle crashes and in aircraft.

Application:

Passenger cars, multipurpose passenger vehicles, trucks and buses, and child restraint systems for use in motor vehicles and aircraft

Standard No. 217: Bus Emergency Exits and Window Retention and Release

This standard establishes requirements for the retention of windows other than windshields in buses, and establishes operating forces, opening dimensions, and markings for bus emergency exits. The purpose of this standard is to minimize the likelihood of occupants being thrown from the bus and to provide a means of readily accessible emergency egress. *[Webmaster note: This standard was originally adopted May 10, 1972. It has been amended 15 times since, the last amendment became effective on May 5, 1995.]*

Application:

Buses, including school buses

**Standard No. 220: School Bus Rollover Protection**

This standard establishes performance requirements for school bus rollover protection. The purpose of this standard is to reduce the number of deaths and the severity of injuries that result from failure of the school bus body structure to withstand forces encountered in rollover crashes. *[Webmaster note: This standard was originally adopted on January 27, 1976. It has been amended twice since, the last amendment became effective May 27, 1998.]*

Application:

School buses

**Standard No. 221: School Bus Body Joint Strength**

This standard establishes requirements for the strength of the body panel joints in school bus bodies. The purpose of this standard is to reduce deaths and injuries resulting from the structural collapse of school bus bodies during crashes. *[Webmaster note: This standard was originally adopted on August 26, 1976.]*

Application:

School buses with GVWR of more than 4,536 kg (10,000 lb)

**Standard No. 222: School Bus Passenger Seating and Crash Protection**

This standard establishes occupant protection requirements for school bus passenger seating, restraining barriers, and wheelchair anchorages. The purpose of this standard is to reduce the number of deaths and the severity of injuries that result from the impact of school bus occupants against structures within the vehicle during crashes and sudden driving maneuvers. This standard provides increased protection to passengers

through a series of interior changes known as "compartmentalization" -- meaning high-backed, well-padded, and well-constructed seats. This standard only applies to school buses and covers all styles of school bus. *[Webmaster note: This standard was originally adopted on January 28, 1976. It has been amended eleven times since, the last amendment became effective on May 27, 1998.]*

Application:

School buses

Standard No. 225: Child Restraint Anchorage Systems

This standard establishes requirements for child restraint anchorage systems to ensure their proper location and strength for the effective securing of child restraints. The purpose of this standard is to reduce the likelihood of the anchorage systems' failure, and to increase the likelihood that child restraints are properly secured and thus more fully achieve their potential effectiveness in motor vehicles. *[Webmaster note: This standard was adopted on September 1, 1999. In the future, vehicles will be equipped with child restraint anchorage systems that are standardized and independent of the vehicle seat belts.]*

Application:

Except for shuttle buses, this standard applies to passenger cars, trucks and multipurpose passenger vehicles with a GVWR of 3,855 kg (8,500 lb) or less, except walk-in van-type vehicles and vehicles manufactured to be sold exclusively to the U.S. Postal Service; and to buses (including school buses) with a GVWR of 4,536 kg (10,000 lb) or less

Standard No. 301: Fuel System Integrity

This standard specifies requirements for the integrity of motor vehicle fuel systems. Its purpose is to reduce deaths and injuries occurring from fires that result from fuel spillage during and after motor vehicle crashes. *[Webmaster note: This standard was originally adopted on October 15, 1975. It has been amended seven times since, the last amended became effective May 27, 1998.]*

Application:

Passenger cars, multipurpose passenger vehicles, trucks, school buses and other buses with a GVWR of 4,536 kg (10,000 lb) or less

Standard No. 304: Compressed Natural Gas Fuel System Integrity

This standard specifies requirements for the integrity of CNG motor vehicle fuel systems. The purpose of this standard is to reduce deaths and injuries occurring from fires that result from fuel leakage during and after motor vehicle crashes.

Application:

Passenger cars, multipurpose passenger vehicles, trucks, school buses and other buses with a GVWR of 4,536 kg (10,000 lb) or less that use CNG as a motor fuel and to each container designed to store CNG as motor fuel on-board any motor vehicle.

Standard No. 403/404:

FMVSS 403 Platform Lift Systems for Motor Vehicles;

FMVSS 404 Platform Lift Installations on Motor Vehicles

This companion set of federal motor vehicle safety standards consists of an equipment standard specifying requirements for platform lifts; and a vehicle standard for all vehicles equipped with such lifts. The new equipment standard will require platform lift manufacturers to ensure that their lifts meet minimum platform dimensions and maximum size limits on platform protrusions and gaps between the platform and either the vehicle floor or the ground. The standard also requires handrails, a threshold warning signal, and retaining

barriers for lifts. Performance tests are specified for wheelchair retention on the platform, lift strength, and platform slip resistance. A set of interlocks is prescribed to prevent accidental movement of a lift and the vehicle on which the lift is installed. The vehicle standard will require vehicle manufacturers who install lifts to use lifts meeting the equipment standard, to install them in accordance with the lift manufacturer's instructions, and to ensure that specific information is made available to lift users. The purpose of the two standards is to prevent injuries and fatalities during lift operation and to promote the uniformity of Federal standards and guidelines for platform lifts. *(Webmaster note: The effective date of this rule is December 27, 2004.*

Application: This standard applies to platform lifts designed to carry passengers into and out of motor vehicles, including school buses, multipurpose passenger vehicles, transit buses, motor coaches,

School Bus Types

There are seven vehicle types that can be manufactured to federal motor vehicle safety standards for school buses. Plus one style of vehicle that is often used for school transportation purposes, but does not meet the applicable FMVSS. The following chart describes each of these types and styles of vehicle.



Type A

The **Type A** school bus consists of a bus body constructed upon a cutaway front-section vehicle with a left side driver's door, designed for carrying more than 10 persons. This definition includes two classifications: [Type A-1](#), with a Gross Vehicle Weight Rating (GVWR) of 10,000 pounds or less, and a [Type A-2](#), with a GVWR of 10,000 pounds or more. Type A school buses meet all Federal Motor Vehicle Safety Standards for school buses.

The **Type B** school bus consists of a bus body constructed and installed upon a front-section vehicle chassis, or stripped chassis, with a gross vehicle weight rating of more than 10,000 pounds, designed for carrying more than 10 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. Type B school buses meet all Federal Motor Vehicle Safety Standards for school buses.



Type B

The **Type C** school bus, also known as a "conventional," is a body installed upon a flat-back cowl chassis with a gross vehicle weight rating of more than 10,000 pounds, designed for carrying more than 10 persons. The entire engine is in front of the windshield and the entrance door is behind the front wheels. Type C school buses meet all Federal Motor Vehicle Safety Standards for school buses.



Type C



Type D

The **Type D** school bus, also known as a transit-style, 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 10,000 pounds, and designed for carrying more than 10 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 meet all Federal Motor Vehicle Safety Standards for school buses. *[Editor's note: Type D school buses are referred to as RE for "rear-engine," and FC for "forward control."]*



MFSAB

A **Multifunction School Activity Bus** is a vehicle sold for purposes that do not include transportation between home and school for K-12 students. Since they are not intended to be used for picking up or discharging students on public roadways MFSAB are exempt from the traffic control requirements and devices - stop arm, flashing lights - designed to control traffic. While the MFSABs are exempt from the traffic control requirements, they are required to comply with all school bus crashworthiness standards, all other requirements in the school bus crash avoidance and conspicuity safety standards, and all post-crash school bus standards. Schools and school districts are specifically prohibited from using MFSABs to transport school children in regular route school bus transportation service.

An **Allowable Alternate Vehicle** meets all federal school bus crashworthiness standards, but does not meet conspicuity regulations or traffic control standards, i.e. flashing red lights, school bus yellow paint, and left side stop arm.



AAV



A **school van** is a regular van converted to full school bus specifications. Major alterations are made to the vehicle including cutting the roof off and welding in a full roll cage, along with dozens of other major alterations. When complete, the vehicle rides like a regular van, but meets the Federal Motor Vehicle Safety Standards for school buses.

School Van

A **non-conforming van** is a vehicle which does not conform to the applicable Federal Motor Vehicle Safety Standards for school buses. Most 15-passenger vans are little more than cargo vehicles converted to passenger application. Most do not even have the basic safety features of traditional passenger vehicles.



Non-conforming Van

School Bus Weights

School Bus Type	Gross Vehicle Weight Rating*
Type A1	GVWR of less than 10,000 lbs.
Type A2	GVWR of more than 10,000 lbs. A popular style Type A introduced in 2004 was rated at 14,000 lbs. GVWR.
Type B	GVWR of more than 10,000 lbs.
Type C	GVWR of more than 10,000 lbs. Type C school buses typically range between 23,500 lbs. to 29,500 lbs GVWR, depending on seating capacity.
Type D	GVWR of more than 10,000 lbs. Type D school buses typically range between 25,000 lbs. to 36,000 lbs. GVWR, depending on seating capacity.

* Gross vehicle weight rating (GVWR) is the estimated total weight of a school bus that is loaded to capacity, including the weight of the vehicle itself plus fuel, passengers, and other miscellaneous items such as extra aftermarket parts.

Source: <http://www.stnonline.com/stn/faq/schoolbustypes.htm>