

be readily accessed for use.

5. The WTORS, including the storage device, shall meet the flammability standards established in FMVSS No. 302, *Flammability of Interior Materials*.
6. The following information shall be provided with each vehicle equipped with a securement and restraint system:
 - a. A phone number where information can be obtained about installation, repair and parts. (Detailed written instructions and a parts list shall be available upon request.)
 - b. Detailed instructions regarding use, including a diagram showing the proper placement of the wheelchair/mobility aids and positioning of securement devices and occupant restraints, including correct belt angles.
7. The WTORS manufacturer shall make training materials available to ensure the proper use and maintenance of the WTORS. These may include instructional videos, classroom curriculum, system test results or other related materials.

B. Wheelchair Securement/Tiedown: (See 49 CFR 571.403, S5.4.1, S5.4.2.)

Each wheelchair position in a specially equipped school bus shall have a minimum clear floor area of 30 inches laterally by 48 inches longitudinally. Additional floor area may be required for some wheelchairs. Consultation between the user and the manufacturer is recommended to ensure that adequate area is provided.

- C. Occupant restraint system: (See 49 CFR 571.403, S5.4.3, S5.4.4.) If the upper torso belt anchorage is higher than 44 inches measured from the vehicle floor, an adjustment device, as part of the occupant restraint system, shall be supplied.

SPECIAL LIGHT

Doorways in which lifts are installed shall be equipped with a special light that provides a minimum of two foot-candles of illumination measured on the floor of the bus immediately adjacent to the lift during lift operation. This lighting shall be LED.

SPECIAL SERVICE ENTRANCE

- A. Power lift-equipped bodies shall have a special service entrance to accommodate the power lift.

Exception: A special service entrance shall not be required if the lift is designed to operate within the regular service entrance, is capable of stowing such that the

regular service entrance is not blocked in any way and a person entering or exiting the bus is not impeded in any way.

- B. The special service entrance and door shall be located on the right side of the bus and shall be designed so as not to obstruct the regular service entrance.

Exception: A special service entrance and door may be located on the left side of the bus only if the bus is used only to deliver students to the left side of one-way streets and its use is limited to that function.

- C. The opening may extend below the floor through the bottom of the body skirt. If such an opening is used, reinforcements shall be installed at the front and rear of the floor opening to support the floor and give the same strength as other floor openings.
- D. A drip molding shall be installed above special service entrance to effectively divert water from the entrance.
- E. Door posts and headers at the special service entrance shall be reinforced sufficiently to provide support and strength equivalent to the areas of the side of the bus not used for special service entrance.

SPECIAL SERVICE ENTRANCE DOORS

- A. A single door or double doors may be used for the special service entrance.
- B. A single door shall be hinged to the forward side of the entrance unless this would obstruct the regular service entrance. If the door is hinged to the rearward side of the doorway, the door shall utilize a safety mechanism that will prevent the door from swinging open should the primary door latch fail. If double doors are used, the system shall be designed to prevent the door(s) from being blown open by the aerodynamic forces created by the forward motion of the bus, and/or shall incorporate a safety mechanism to provide secondary protection should the primary latching mechanism(s) fail.
- C. All doors shall have positive fastening devices to hold doors in the "open" position when the special service entrance is in use.
- D. All doors shall be weather sealed.
- E. When manually operated dual doors are provided, the rear door shall have at least a one-point fastening device to the header. The forward-mounted door shall have at least three one-point fastening devices. One shall be to the header, one to the floor line of the body, and the other shall be into the rear door. The door and hinge mechanism shall have strength that is greater than, or equivalent to, the strength of the emergency exit door.

- F. Door materials, panels and structural components shall have strength equivalent to the conventional service and emergency doors. Color, rub rail extensions, lettering and other exterior features shall match adjacent sections of the body.
- G. Each door shall have windows set in a waterproof manner that are visually similar in size and location to adjacent non-door windows. Glazing shall be of the same type and tinting (if applicable) as standard fixed glass in other body locations.
- H. Door(s) shall be equipped with a device that will actuate an audible or flashing signal located in the driver's compartment when door(s) is not securely closed, and the ignition is in the "on" position.
- I. A switch shall be installed so that the lift mechanism will not operate when the lift platform door(s) is closed.
- J. Special service entrance doors shall be equipped with padding at the top edge of the door opening. The padding shall be at least three inches wide and one inch thick and shall extend the full width of the door opening.

SUPPORT EQUIPMENT AND ACCESSORIES

- A. In addition to the webbing cutter required in the BUS BODY AND CHASSIS section, each specially equipped school bus that is set up to accommodate wheelchairs or other assistive or restraint devices with webbing attached shall contain an additional webbing cutter properly secured in a location to be determined by the purchaser. The webbing cutter shall meet the requirements listed in the BUS BODY AND CHASSIS section, seats and restraining barriers, paragraph E.
- B. Special equipment or supplies that are used in the bus for mobility assistance, health support or safety purposes shall meet local, federal and engineering standards that may apply, including requirements for proper identification. Equipment that may be used for these purposes includes, but is not limited to:
 - 1. Wheelchairs and other mobile seating devices (See subsection on Securement and Restraint System for Wheelchairs and Wheelchair-seated Occupants.)
 - 2. Crutches, walkers, canes and other ambulating devices to assist ambulation
 - 3. Medical support equipment: This may include respiratory devices, such as oxygen bottles (which should be no larger than 38 cubic feet for compressed gas) or ventilators. Tanks and valves should be located and positioned to protect them from direct sunlight, bus heater vents or other heat sources. Other equipment may include intravenous and fluid drainage apparatus.

- C. Each specially equipped school bus that is set up to accommodate wheelchairs or other assistive restraint devices should be equipped with an emergency evacuation device that is certified and tested to withstand at least a 300-pound load when used as an emergency stretcher or drag. This evacuation device shall be properly secured to the bus in a location to be determined by the purchaser.
- D. If transporting oxygen, refer to AMD Standard 003.

TECHNOLOGY AND EQUIPMENT, NEW

It is the intent of these specifications to accommodate new technologies and equipment that will better facilitate the transportation of students with special needs. New technology and equipment are acceptable for use in specially equipped vehicles if:

- A. Items do not compromise the effectiveness or integrity of any major safety system. (Examples of safety systems include, but are not limited to, compartmentalization, the eight-lamp warning system, emergency exits and the approved color scheme.)
- B. Items do not diminish the safety of the bus interior.
- C. Items do not create additional risk to students who are boarding or exiting the bus or are in or near the school bus loading zone.
- D. Items do not require undue additional activity and/or responsibility for the driver.
- E. Items generally increase efficiency and/or safety of the bus, generally provide for a safer or more pleasant experience for the occupants and pedestrians in the vicinity of the bus and/or generally assist the driver and makes his/her many tasks easier to perform.

PUPIL TRANSPORTATION SERVICE VEHICLES

Pupil transportation service vehicles shall be standard production models and shall be equipped with adequate springs, axles, tires, and other load carrying components to meet GVWR requirements. Optional equipment may be purchased for service vehicles provided they appear as part of the specifications used by the respective school districts in soliciting bids on service vehicles.