

section applies only where flashing red signals are used as required in s.346.48, Stats.

(13) **COOPERATION WITH OFFICERS.** Drivers, school boards, transportation supervisors, and vehicle owners shall cooperate at all times with authorized division of motor vehicle personnel in carrying out inspection of equipment, or examination of driver pursuant to law or to divisional rules.

(14) **STANDING IN VEHICLE PROHIBITED.** Driver shall not require or allow any passenger to stand while the vehicle is in motion except while a passenger is going to a door or seat just prior to stopping or immediately after loading. This does not apply to chaperones or monitors in the performance of their duties. Driver shall not permit any passenger to sit anywhere except in seats provided.

(15) **STOPPING AT RAILROAD CROSSINGS.** The driver of a bus required to stop at a railroad crossing by s. 346.45, Stats., shall come to a full stop at a distance of not less than 15 feet nor more than 50 feet before crossing at grade any track of a railroad. The hazard warning lights shall be used when the bus is slowing for the stop and shall remain on until the vehicle has resumed normal speed. While the vehicle is so stopped, the driver shall open the service door and listen and look in both directions along such track for any approaching train and for signals indicating the approach of a train. After stopping and upon proceeding when it is safe to do so, the driver of such vehicle shall cross only in such gear of the vehicle as will make it unnecessary to manually shift gears while traversing the crossing and he shall not shift gears while traversing the crossing. The door shall remain open until the front wheels of the bus have cleared the first set of tracks for each required stop. If the bus is a school van not equipped with a service door controlled from the driver's seat, opening of the service door is not required provided the driver lowers the window to the left and provided that the service door glass is kept free of frost and fog.

(16) **SPEED LIMITATIONS.** (a) The speed limit for school buses is as follows:

1. 45 miles per hour on town or county designated highways unless posted at a lower speed or conditions requiring a lower speed exist for safe operation.

2. 55 miles per hour on state and federal designated highways unless posted at a lower speed or conditions requiring a lower speed exist for safe operation.

3. Legal posted limits in municipalities.

(18) **COMPLIANCE WITH DRIVER'S INSTRUCTIONS.** School bus passengers shall comply with all orders given by school bus drivers in carrying out said driver's responsibilities under Wis. Adm. Code sections MVD 17.07(3), (4), (11), (12), and (14).

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77; am. (15) and r. (17), Register, February, 1979, No. 278, eff. 3-1-79.

MVD 17.08 Employer requirements. (1) It is the employer's responsibility to determine that qualified personnel operate the vehicle according to safe practices and that the vehicle is qualified for pupil transportation.

(a) Each employer shall maintain an employment file for each school bus driver which shall be kept available for local inspection. The employment file shall be maintained for as long as the driver is employed and for a period of one year thereafter. The file may be kept for a longer period of time at the option of the employer. The employment record shall contain:

1. A copy of the employee's application for employment stating previous work experience, a list of all accidents in which the applicant was involved in the previous 3 years and a statement in detail of the facts surrounding any denial, revocation or suspension of any license or permit to operate a motor vehicle or a statement that nothing of this type has occurred.

2. A copy of the employee's driving record as furnished by the employee.

3. A copy of the employee's physical qualification. This may be a copy of the doctor's report used to secure a school bus operator's license.

4. A record of training related to operation of a school bus. This record shall indicate:

a. The date of the training.

b. The subject matter covered.

c. A copy of any test.

d. The instructor actually presenting the program, if a formal program, or if the program is individualized instruction, this should be indicated.

5. Nothing in the employment file requirement restricts the employer from requiring additional information as a condition of employment.

(b) The employer or owner of a school bus shall have a maintenance record (file) for each school bus. The maintenance record shall be kept at the principal repair facility used for any particular school bus. If the vehicle owner does not operate a repair facility the records shall be kept current and at a location accessible for inspection. The file shall be maintained for the life of the bus. The file shall contain:

1. Identification of the vehicle including make, model, VIN, and fleet number, if any.

2. A record of repairs performed including the date and nature.

3. A record of the lubrication and preventive maintenance performed including date and nature.

4. The initial inspection and a copy of the latest inspection performed by state employees.

(c) All records required in (a) and (b) shall be open for inspection and presented to the administrator of motor vehicles or agent upon demand. The motor vehicle administrator may periodically authorize deletion or destruction of material contained in the file.

(d) A driver's written report of a vehicle defect or unsafe vehicle as determined during a pre-trip inspection or during vehicle operation shall be maintained for a period of 7 calendar days after repair.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

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MVD 17.09 Out of service. (1) Any vehicle that is found to be in such condition that is unsafe for use as a school bus will have an "Out of Service" sticker attached to the upper glass in the service door and the vehicle cannot be used as a school bus while such sticker is displayed.

(2) A vehicle with an "Out of Service" sticker displayed shall be re-inspected and the sticker removed by an agent of the department of transportation prior to re-use as a school bus.

(3) It shall be illegal for any person other than an agent of the department of transportation to remove an "Out of Service" sticker unless the vehicle has the base school bus registration removed and is re-registered with some other base plate and converted to meet the requirements of MVD 17.10.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77; am. (2) and (3), Register, February, 1979, No. 278, eff. 3-1-79.

MVD 17.10 Requirements to convert a school bus. (1) Every vehicle identified as a school bus by color, signs and lights which is converted from a school bus to some other type of vehicle shall comply with the following requirements:

(a) Repaint the entire vehicle to a color other than glossy yellow or any color commonly referred to as yellow.

(b) Remove the flashing red lights from the vehicle. The units shall be physically removed from the vehicle. The mere disconnection, covering and/or repainting of the flashing red lights does not comply with this requirement.

(c) Remove the stop signal arm.

(d) Remove the sign identifying the vehicle as a school bus.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

MVD 17.11 Adoption of standards. (1) Pursuant to s. 227.025 Stats., the attorney general and the revisor of statutes have consented to the incorporation by reference of the following standards. Copies of the references are on file in the offices of the department of transportation, the secretary of state, and the revisor of statutes.

(a) Society of Automotive Engineers (SAE), 400 Commonwealth Drive, Warrendale, PA, 15096. The standards are noted in the SAE Handbook, 1976 edition, which may be purchased from SAE. Any standard or recommended practice shall be treated as an approved standard and shall not be advisory in nature.

1. SAE J20e—Coolant System Hoses. SAE standard approved January 1944 and last revised by nonmetallic materials committee January 1974.

2. SAE J366b—Exterior Sound Level for Heavy trucks and Buses. SAE standard approved July 1969 and last revised April 1973.

3. SAE J579c—Sealed Beam Headlamp Units for Motor Vehicles. SAE standard approved January 1940 and last revised by lighting committee December 1974.

4. SAE J585d—Tail Lamps (Rear Position Light). SAE standard approved March 1918 and last revised by lighting committee August 1970.

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5. SAE J586c—Stop Lamps. SAE standard approved February 1927 and last revised by lighting committee August 1970.

6. SAE J587e—License Plate Lamps. SAE standard approved March 1918 and last revised by lighting committee January 1973.

7. SAE J588e—Turn Signal Lamps. SAE standard approved February 1927 and last revised by lighting committee August 1970, editorial change September 1970.

8. SAE J592e—Clearance, Side Marker, and Identification Lamps. SAE standard approved January 1937 and last revised by lighting committee July 1972.

9. SAE J593e—Backup Lamps. SAE standard approved August 1947 and last revised March 1974.

10. SAE J726b—Air Cleaner Test Code. SAE recommended practice approved January 1941 and last revised by the engine committee February 1970.

11. SAE J887a—School Bus Red Signal Lamps. SAE standard approved July 1964 and last revised February 1975.

12. SAE J914a—Side Turn Signal Lamps. SAE recommended practice approved February 1965 and last revised August 1973.

(b) Federal Motor Vehicle Safety Standards (FMVSS), as published by the U.S. Department of Transportation, National Highway Traffic Safety Administration, Washington, D.C. 20590. These standards are revised periodically. The date of the latest revision is shown. These standards can be purchased from the U.S. Government Printing Office, Washington, D.C. 20402.

1. FMVSS 103—Windshield Defrosting and Defogging Systems—Passenger Cars, Multipurpose Passenger Vehicles, Trucks, and Buses. FMVSS approved April, 1968 and last revised July 1975, effective date of September 1975.

2. FMVSS 104—Windshield Wiping and Washing Systems—Passenger Cars, Multipurpose Passenger Vehicles, Trucks, and Buses. FMVSS approved April 1968 and effective date of January 1969.

3. FMVSS 108—Lamps, Reflective Devices, and Associated Equipment—Passenger Cars, Multipurpose Passenger Vehicles, Trucks, Buses, Trailers, and Motorcycles. FMVSS approved October 1970 and last revised December 1975, effective date of January 1972 (except as noted in the rule).

4. FMVSS 111—Rearview Mirrors—Passenger Cars, Multipurpose Passenger Vehicles, Trucks, and Buses. FMVSS approved February 1967 and last revised August 1975, effective date of February 1976.

5. FMVSS 125—Warning Devices. FMVSS approved March 1972 and last revised August 1974, effective date of January 1974.

6. FMVSS 205—Glazing Materials—Passenger Cars, Multipurpose Vehicles, Motorcycles, Trucks, and Buses. FMVSS approved June 1972 and last revised November 1972, effective date April 1973 (except as noted in the rule), reissued June 1972.

7. FMVSS 208—Occupant Crash Protection in Passenger Cars, Multipurpose Passenger Vehicles, Trucks, and Buses. FMVSS approved March 1971 and last revised July 1975, effective date of August 1975.

8. FMVSS 209—Seat Belt Assemblies—Passenger Cars, Multipurpose Passenger Vehicles, Trucks, and Buses. FMVSS approved February 1967 and last revised August 1973, effective date of March 1967.

9. FMVSS 210—Seat Belt Assembly Anchorages—Passenger Cars, Multipurpose Passenger Vehicles, Trucks, and Buses. FMVSS approved November 1970 and effective date of January 1972.

10. FMVSS 217—Bus Window Retention and Release. FMVSS approved May 1972 and last revised October 1975, effective date of September 1973.

11. FMVSS 220—School Bus Rollover Protection. FMVSS approved January 1976 and effective date of October 1976.

12. FMVSS 221—School Bus Body Joint Strength. FMVSS approved January 1976 and effective date of October 1976.

13. FMVSS 222—School Bus Seating and Crash Protection. FMVSS approved January 1976 and effective date of October 1976.

14. FMVSS 301—Fuel System Integrity. FMVSS approved August 1973 and last revised August 1975, effective date of September 1975.

15. FMVSS 302—Flammability of Interior Materials—Passenger Cars, Multipurpose Passenger Vehicles, Trucks, and Buses. FMVSS approved January 1971 and last revised September 1975, effective date of September 1972.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77; am. (1) (intro.), Register, February, 1979, No. 278, eff. 3-1-79.

MVD 17.12 Air cleaner. (1) Each engine of each bus shall be equipped with an air cleaner mounted outside the passenger compartment. The air cleaner shall meet the requirements for the SAE Air Cleaner Test Code J726b. The air cleaner shall have all components in the proper location.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

MVD 17.13 Aisle. (1) Minimum clearance for all aisles leading to emergency door zone shall be 12 inches when measured at any point between the seats.

(2) Minimum distance between stanchion or barrier at rear of entrance stepwell and engine cover in transit or metropolitan type vehicles shall be 14 inches measured at floor level.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

MVD 17.14 Battery. (1) The storage battery shall have a cranking performance rating equal to or greater than the cubic inch displacement of the engine, and shall have a reserve capacity rating equal to the electrical load in amperes based on the following chart.

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AMPERE DRAW

SUGGESTED METHOD FOR ESTIMATING GENERATOR OR ALTERNATOR CAPACITY

Equipment	Number of Units	Current Draw (Amperes)
Constant Load		(average)
Ignition.....		2.50
Head lamps (Type 2 dual lower beam)	2	8.40
Tail lights	2	1.18
Clearance lights	4	2.36
Cluster lights.....	6	3.54
Body instrument panel.....	1	0.80
Primary front heater motors	2	24.00
Primary defroster motor	1	12.00
Supplementary front heater motor.....	1	12.00
Supplementary defroster motor.....	1	12.00
Underseat heater motors.....	2	10.50
Underseat heater motor	1	8.50
Defroster fan motor	1	3.50
Windshield wipers.....		14.00
Fuel pump		3.00
Emergency door buzzer.....		1.00
Intermittent Load		
Flasher motor.....		2.90
Alternately flashing signal lamps.....	2	11.60
Step-well and 6 interior dome lights.....		5.64
Individual additional dome lights.....		0.94
Stop (brake) lights.....	4	6.60
Turn signals.....	2	2.36

To determine the electrical load (in amperes) for a typical school bus, the following formula is recommended:

$$\text{Constant load} + 35\% \text{ of intermittent load} = \text{total load.}$$

(2) The alternator or generator shall have a capacity that meets or exceeds the minimum requirement for reserve capacity rating of the battery.

History: Cr. Register, June 1977, No. 258, eff. 7-1-77.

MVD 17.15 Battery carrier. (1) All batteries shall be securely attached in a manner to prevent dislocation in the event of an accident. When mounted outside of the engine compartment the battery shall be contained in a closed, drained, weather-tight and vented compartment in the body skirt, which shall retain the battery in the event of upset or roll-over of the vehicle. The battery compartment door or cover shall be secured by a latch. The cables to the battery shall not be spliced.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

MVD 17.16 Book racks. (1) Book racks, if installed, shall be provided above side windows. They shall not extend forward of the front seat or across or above emergency door.

(a) Book racks made of expanded, punched, or woven metal are not permitted.

(b) Racks shall be free of projections or sharp edges likely to cause injury.

(c) Book racks are permitted only in vehicles with minimum 72" head room.

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(d) Book racks installed in vehicles manufactured after January 1, 1978 shall have the vertical edge running parallel with the roof line (front to rear) padded.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

MVD 17.17 Brakes. (1) All vehicles shall meet federal brake standards in effect at the time of manufacture.

(2) All braking systems must be maintained to comply with the federal standards in effect at time of manufacture.

(3) (a) A vehicle using air or vacuum in operation of brake system shall be equipped with an illuminated gauge accurate to within 10% and visible to the driver.

(b) The gauge shall be installed to indicate air pressure or vacuum in the tank.

(4) (a) In addition to the gauges required in (3) above, vehicle shall be equipped with audible or visible warning signal which will give continuous warning to driver when air pressure in braking system is 60 psi (pounds per square inch) or less; or when vacuum in braking system is 8 inches of mercury or less.

(5) All vehicles except those manufactured on an automobile chassis equipped with air or vacuum assist brakes shall be equipped with a tank having a capacity of not less than 1,000 cu. in., a gauge, a low pressure warning system, and a check valve or pressure protective valve to protect the brake system. No accessory shall be operated from the air or vacuum reserve tank.

(6) Any vehicle used as a school bus must be equipped with a power assist brake system.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

MVD 17.18 Bumpers. (1) **FRONT.** (a) For vehicles 10,000 pounds G.V.W.R. and over. 1. The front bumper shall not be constructed of wood. It shall have not less than an 8 inch face and shall extend to protect the outer edges of the fenders.

2. It shall be of sufficient strength to permit pushing another vehicle of equal gross weight without distortion.

(2) **REAR.** (a) For vehicles 10,000 pounds G.V.W.R. and over. 1. The rear bumper shall not be constructed of wood. It shall have not less than an 8 inch face. It shall wrap around the rear corners of the body to a point 12 inches forward as measured from the face of the bumper.

2. It shall be attached directly to the chassis frame and shall be of sufficient strength to permit the bus to be pushed by another vehicle without causing permanent deformation.

3. The rear bumper shall extend beyond the rearmost part of the body surface at least 1 inch, measured at the floor line.

4. There shall be no open space between the bumper and body of more than ½ inch. This standard can be met by the use of protective material.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77; am. (1) (a) and (2) (a), renum. (1) (b) to be (1) (a) 2., (2) (b) to (d) to be (2) (a) 2. to 4., Register, February, 1979, No. 278, eff. 3-1-79.

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MVD 17.19 Capacity. (1) Capacity shall be determined by the following minimum requirements: (a) Students through the 12th grade shall be allotted 13" rump space.

(b) An adult shall be allotted 17" rump space with a tolerance of 1" per position.

(2) There shall be displayed on the inside of the vehicle directly over the windshield on the right side, a sign indicating where applicable:

- (a) The maximum pupil passenger capacity.
- (b) The adult seating capacity.
- (c) The wheel chair capacity.

(3) The size of the letters and numerals shall be large enough to permit them to be read by passengers. Transportation of passengers in excess of the number designated on such sign is prohibited. Vehicles built on an automobile chassis are exempt from the requirements of (2).

(4) The total available seating per seat shall determine the capacity (passenger carrying capacity) of the vehicle. If a vehicle has seating that can temporarily be deactivated (folded down) without the use of special tools, such seating shall be counted in determining the total passenger carrying capacity. Fold down seats or reclining seats will not be acceptable with the adoption of this rule except in vehicles manufactured on an automobile chassis.

(5) All passengers aboard a school bus shall be seated in a permanently mounted seat. This does not apply to persons transported in wheel chairs.

(6) A bus may not transport more persons than allowed by actual seat measurement.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

MVD 17.20 Color. (1) School buses having a passenger carrying capacity of 7 or more including the driver shall be painted national school bus glossy yellow according to specifications available from general services administration (Federal Standard No. 595a, Glossy Yellow Enamel, No. 13432) with the exception of trim, bumpers and wheels. Grills may be bright metal or when painted shall be painted yellow.

(2) Wheels and trim, except where supplied by the manufacturer chrome plated or of a similar finish (aluminum, silver, zinc, etc.), and bumpers, shall be black (Federal Standard No. 595a, Black Enamel, No. 17038).

(3) The following are designated as trim and shall be painted black:

- (a) Rub rails
- (b) Stop arm mounting brackets

(4) The following may be designated as trim or body components and if painted shall be either black or yellow:

- (a) Door handles
- (b) Grab handles

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- (c) Window sash, seals, gaskets and bands on exposed edges
- (d) Door seals and gaskets
- (e) Mirror frame and mounting brackets
- (f) Lamp flanges and housings
- (g) Reflector frames and flanges
- (h) Windshield wiper arms
- (i) Snow rails
- (j) License frame and mounting brackets

(5) The body manufacturer's name may appear in 2 places on the exterior of the vehicle. Each name cannot exceed 75 square inches. Name plate may be any color.

(6) Each school bus body manufacturer of any body-on-chassis type of vehicle shall submit a basic paint scheme with one alternate (if desired) to the department of transportation for approval. This annual report is due by December 15 for those vehicles to be marketed in Wisconsin during the following calendar year. Revisions in the declared paint scheme by a manufacturer will require the department's approval prior to its introduction into Wisconsin for any purpose. This is required for each size of vehicle. The annual report to the department shall indicate the color of the specific items enumerated in subsection (4). Pictures and schematics in addition to the narrative may be submitted to illustrate the manufacturers' plans for meeting Wisconsin color requirements.

(7) Any repainting may reduce areas painted black relating to manufacturer's identification.

(8) Painting requirements are optional for vehicles transporting handicapped adults exclusively.

(9) Painting on interior shall be solid color.

(10) Retro reflective material is permitted on rub rails, snow rails, SCHOOL BUS lettering, and bumpers or other locations approved by the department of transportation.

History: Cr. Register, June, 1977, No. 268, eff. 7-1-77; am. (6) and (10), Register, February, 1979, No. 278, eff. 3-1-79.

MVD 17.21 Construction. (1) Construction shall be of prime commercial quality steel or other metal or other material with strength at least equivalent of all-steel as certified by bus body manufacturer. All such construction materials shall be fire-resistant.

(2) Construction shall provide a reasonably dustproof, weathertight and fume proof unit. Openings between the chassis and passenger compartment shall be sealed to prevent fumes or exhaust gas from entering the bus body.

(3) The bus body shall comply with FMVSS 220, rollover protection.

(4) Floor or sub-floor shall be of prime commercial quality steel of at least 14 gauge or other metal or other material at least equal in strength

to 14 gauge steel. If plywood is used in addition to other flooring material it shall be exterior grade at least $\frac{3}{8}$ inch thick. Floor shall be level from front to back and from side to side except in wheel housing, toe-board, and driver's seat platform areas.

(5) For vehicles of 10,000 pounds G.V.W.R. or more, the bus body shall comply with FMVSS 221, strength of structural joints of school bus bodies. (a) It is the intent of this section to insure that all joints within bus bodies which employ discrete fasteners, specifically those which join panels to panels achieve a significant portion of the strength of the parent metal, so that all available panel materials are capable of serving as part of the structure.

(6) All metal used in construction of bus body shall be zinc- or aluminum-coated or treated by equivalent process before bus is constructed. (Included are such items as structural members, inside and outside panels, floor panels and floor sill; excluded are the door handles, grab handles, stanchions, interior decorative parts, and other interior plated parts).

(7) Annually between December 1 and December 15, school bus manufacturers shall certify to the department of transportation that all school buses manufactured for sale in Wisconsin in the following calendar year will comply with MVD 17.21.

(8) Every school bus body manufacturer shall stamp the letters "WI" either preceding or following the body identification number to indicate that the bus body was built to meet Wisconsin school bus construction standards. This subsection does not apply to vehicles in use as school buses prior to March 1, 1979.

(9) Vehicles manufactured on an automobile chassis are exempt from above requirements.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77; am. (7), renum. (8) to be (9), cr. (8), Register, February, 1979, No. 278, eff. 3-1-79.

MVD 17.22 Defroster. (1) All defrosting equipment shall meet FMVSS 103 and shall keep the windshield, the window to the left of the driver and the glass in the service door clear of fog and frost. Defroster outlets shall not be restricted in any way.

(2) Fans may be used in addition to defrosters, but must be mounted so as not to obstruct the driver's view.

(3) Any exposed fan blade shall have a shroud.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

MVD 17.23 Drive shaft. (1) Each segment of the drive shaft shall be equipped with a suitable guard to prevent accident or injury in the event of its fracture or disconnection.

(2) This section does not apply to vehicles manufactured on an automobile chassis.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

MVD 17.24 Emergency warning equipment. (1) Each school bus shall be equipped with three bidirectional emergency triangles that conform to the requirements of FMVSS 125. Buses first placed into operation after March 1, 1974 shall comply with these requirements and all

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buses shall comply by July 1, 1978. Oil burning pot flares shall not be carried after July 1, 1978.

(2) All emergency equipment shall be kept in suitable fasteners or containers in a readily accessible place in the driver's compartment.

(3) Emergency equipment may be locked or kept in a locked compartment provided it is not locked when passengers are being transported.

(4) This shall not preclude the carrying of additional emergency equipment provided it meets the requirements of this section.

(5) Vehicles manufactured on an automobile chassis are exempt from requirements of this section.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

MVD 17.25 Emergency exit. (1) Each school bus shall be provided with emergency exits that comply with FMVSS 217 and the following requirements. Vehicles built on an automobile chassis are exempt.

(2) (a) It shall be devised so as to be opened from the inside and outside.

(b) The aisle to the emergency door shall be kept clear of obstructions.

(c) No steps shall lead to the emergency door.

(d) The upper and lower portion of the central rear emergency door shall be equipped with approved safety glass, the exposed area of which shall be not less than 400 square inches in the upper portion and not less than 280 square inches in the lower portion. The left side emergency door shall be equipped with safety glass in the upper portion and the lower portion shall be of at least the same gauge metal as the body. The emergency door shall be hinged on the right side if it is in the rear of the bus and on the front side if it is in the left side and shall open only outward. Control from the driver's seat shall not be permitted.

(e) The emergency door shall be equipped with a slide-bar, camoperated latch which shall have a minimum stroke of one inch. The latch shall be equipped with a suitable electric plunger-type switch connected with a distinctive audible signal automatically operated which shall clearly indicate the unlatching of this door and no cutoff switch shall be installed in the circuit. The switch shall be enclosed in a metal case, and wires leading from the switch shall be concealed in the body. The switch shall be so installed that the plunger contacts the farthest edge of the slide bar in such a manner that any movement of the slide bar will immediately close the circuit and activate the signal. The door latch shall be equipped with an interior handle which shall be capable of quick release but shall be protected against accidental release. It shall lift up to release the latch. The outside handle shall be such as to minimize hitching and shall be a non-detachable device.

(3) If locks are installed on the emergency door they shall include a device to prevent the activating of the starter mechanism of the vehicle engine while any door is locked. An audio alarm shall indicate to the driver when any door lock is in the locked position while the ignition

switch is in the "on" position. Any locking device on a school bus manufactured after July 1, 1977 or installed on any school bus after July 1, 1977 must comply with these requirements.

(4) A rear emergency window at least 16 inches in height and as wide as practicable shall be provided in any bus where the emergency door is not in the rear. The rear window shall be designed so as to be opened from either the inside or the outside. It shall be hinged at the top and assure against accidental closing in an emergency. A positive latch on the inside shall provide for quick release but offer protection against accidental release. The outside handle shall be non-detachable and designed to minimize hitching.

(a) The inside of each emergency window or door shall have the designation "Emergency Exit." Concise operating instructions shall be located within 6 inches of the release mechanism. When a release mechanism is not located within an occupant space of an adjacent seat, a label meeting the requirements of FMVSS 217 that indicates the location of the nearest mechanism shall be placed within that occupant space. If the exit has no adjacent seat, the marking must meet the legibility requirements of FMVSS 217 for occupants standing in the aisle location nearest the emergency exit. The outside of the emergency door shall be clearly marked "Emergency Door" or "Emergency Exit" in letters 2 inches high at the top of the door. An arrow at least 6 inches long and $\frac{3}{4}$ inch in width indicating the direction the release mechanism should be turned to open the door shall be painted in black on the yellow background. The outside of the emergency window shall be labeled "Emergency Exit" in letters at least 2 inches high, directly above the window.

(b) A distinctive audible signal automatically operated shall clearly indicate to the driver the unlatching of any emergency window and no cutoff switch shall be installed in the circuit.

(5) The area on the inside above the emergency door must be covered with padding at least 2 inches high the entire width of door opening.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77; am. (4) (a), Register, February, 1979, No. 278, eff. 3-1-79.

MVD 17.26 Exhaust system. (1) The exhaust system which includes the exhaust manifolds, joining gaskets, piping leading from the exhaust manifold, the muffler (s) and tail pipe (s) shall not enter the bus body at any location and shall be attached or suspended from the chassis frame. The exhaust system pipes shall be of non-flexible 16 gauge steel or equivalent. The exhaust system pipes shall extend to, but not beyond, the rear limit of the bumper or to the body limits on the left side of the bus behind the driver's compartment, except that in all cases in which the fuel tank is located on the left side of the bus, the exhaust system pipes shall extend to, but not beyond, the rear limit of the bumper. The complete exhaust system shall be tightly connected and free from leaks and shall be properly insulated from the electrical wirings or any combustible part of the bus. The exhaust system shall not pass within 12 inches of the fuel tank and its connection, or any flexible brake system hose unless a suitable heat baffle is used in which case a minimum exhaust system separation of 1.5 inches shall be maintained to the fuel tank, its fittings, and any flexible brake system hoses.

(2) The total vehicle noise level shall not exceed 88 dbA when tested in accordance with SAE J366a.

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(3) Vehicles manufactured on an automobile chassis need not be equipped with heat baffle required in (1) above.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77; am. (1), Register, February, 1979, No. 278, eff. 3-1-79.

MVD 17.27 Fire extinguisher. (1) Each bus shall be equipped with fire extinguishers mounted in full view in the driver's compartment or mounted inside a compartment in the driver's area if the compartment is in plain view and is labeled "Fire Extinguisher" in red letters to indicate its location.

(2) Fire extinguishers may be locked or kept in a locked compartment provided it is not locked when passengers are being transported.

(3) Any fire extinguisher purchased after July 1, 1977 shall be dry powder cartridge activated. The fire extinguisher shall be 10 BC rating or a combination of 2 extinguishers with a total of at least 10 BC rating. All new buses manufactured after January 1, 1978 shall comply with these requirements.

(4) All extinguishers must be kept fully charged and sealed.

(5) Vehicles built on an automobile chassis are exempt from this standard.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77; am. (1), Register, February, 1979, No. 278, eff. 3-1-79.

MVD 17.28 First aid kit. (1) Each school bus shall carry a first aid kit. The container shall be a Grade A metal, moisture and dust proof kit. Kit shall be mounted in full view in driver's compartment or it may be placed in an enclosed, unlocked compartment in the driver's area providing the compartment is labeled "FIRST AID KIT" or marked with a red cross emblem in plain view indicating the location of the kit. It shall be removable without the use of any tools or keys.

(2) A school bus manufactured after January 1, 1978 with a passenger carrying capacity of 8 or more persons shall have a 24 unit kit containing the following:

Adhesive bandage, 1-inch	2 packets
Bandage compress, 2-inch	3 packets
Bandage compress, 4-inch	8 packets
Gauze bandage, 4-inch	2 packets
Gauze compress, 3-inch x 3-inch	2 packets
Gauze compress, 24-inch x 24-inch minimum	2 packets
Triangular bandage, 40-inch	2 packets
Wire splint	2 packets
Tongue depressor or bite bar	1 packet

(3) School buses manufactured prior to January 1, 1978 may comply with these requirements or may carry the 16 unit kit with the following:

Adhesive bandage, 1-inch	2 packets
Bandage compress, 2-inch	2 packets
Bandage compress, 4-inch	4 packets
Gauze bandage, 4-inch	2 packets
Gauze compress, 3-inch x 3-inch	2 packets
Gauze compress, 24-inch x 24-inch minimum	1 packet
Triangular bandage, 40-inch	2 packets
Wire splint	1 packet

All 16 unit kits shall carry these items after January 1, 1978.

(4) A school bus with a passenger carrying capacity of 7 or less persons shall have a 10 unit kit containing the following:

Adhesive bandage, 1-inch	2 packets
Bandage compress, 2-inch	2 packets
Bandage compress, 4-inch	4 packets
Gauze compress, 24-inch x 24-inch minimum	1 packet
Triangular bandage, 40-inch	1 packet

(5) A privately owned, family type vehicle with a passenger carrying capacity of fewer than 7 persons may carry the kit in the locked luggage compartment (trunk) of the vehicle.

(6) All units shall be in a sanitized package.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77; am. (2), (3) and (4), Register, February, 1979, No. 278, eff. 3-1-79.

MVD 17.29 Fenders. Protection for wheels shall be provided by fenders or suitable body construction. Outer edge of the tires shall be within the fender line.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

MVD 17.30 Floor covering. (1) The floor in the underseat, driver's compartment, step-well and the toeboard areas including the tops of the wheel housings, shall be covered with a fire-resistant material which complies with FMVSS 302.

(2) Vehicles under 10,000 pounds G.V.W.R. shall secure floor covering so it cannot shift and edges or seams must be secured.

(3) Vehicles over 10,000 pounds G.V.W.R., the floor covering in the aisle, step-well and entrance shall be of a non-skid, fire-resistant, rib-type which complies with FMVSS 302. The floor covering shall not contain cracks and shall be securely bonded or fastened to the floor. All seams shall be sealed.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

MVD 17.31 Frame. (1) Frame or equivalent shall be of such design as to correspond at least to standard practice for trucks of same general load characteristics which are used for severe service.

(2) Alterations can be made to the frame side members only by the chassis or body manufacturer.

(3) Holes in top or bottom flanges of frame side rails shall not be permitted except as provided in original chassis frame. There shall be no welding to frame side rails except by chassis or body manufacturer.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

MVD 17.32 Fuel tank and fuel system integrity. (1) All fuel systems shall comply with FMVSS 301.

(2) All fuel systems and tanks must be maintained free of leaks. Any additions or alterations must be made to comply with (1).

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(3) All fuel lines must be fastened securely in a manner that will prevent wear.

History: Cr. Register, June, 1977, No. 268, eff. 7-1-77.

MVD 17.33 Heaters. (1) An inside temperature of not less than 50° fahrenheit at average minimum January temperatures as established by the U.S. department of commerce, weather bureau, for the area in which the vehicle is to be operated shall be maintained throughout the bus.

(2) All heaters shall bear a name plate which shall indicate the heater rating in accordance with the standard code for testing and rating automotive bus hot water heating and ventilating equipment, said plate to be affixed by the heater manufacturer which shall constitute certification that the heater performance is as shown on the plate.

(3) Heater hose shall conform to SAE J20c and shall be adequately supported to guard against excessive wear or abrasion and shall not interfere with or restrict the operation of any engine function. Heater lines inside the passenger compartment shall be shielded to prevent accidental contact by driver or passengers.

(4) Vehicles under 10,000 pounds G.V.W.R. need not comply with (2) above.

History: Cr. Register, June, 1977, No. 268, eff. 7-1-77.

MVD 17.34 Horn. (1) Bus shall be equipped with standard make horn(s) in good working order and capable of emitting sound audible under normal traffic conditions from a distance of not less than 200 feet.

History: Cr. Register, June, 1977, No. 268, eff. 7-1-77.

MVD 17.35 Inside height. (1) Inside body height shall be nominal 72 inches or more, measured metal to metal, at any point on longitudinal center line from front vertical bow to rear vertical bow.

(2) This section does not apply to vehicles under 10,000 pounds G.V.W.R.

History: Cr. Register, June, 1977, No. 268, eff. 7-1-77.

MVD 17.36 Insulation. (1) Ceilings and walls shall be insulated to reduce heat transfer with material that meets FMVSS 302.

(2) This section does not apply to vehicles manufactured on an automobile chassis.

History: Cr. Register, June, 1977, No. 268, eff. 7-1-77.

MVD 17.37 Instruments-gauges. (1) The bus shall be equipped with the following non-glare illuminated instruments to indicate malfunctions and gauges to indicate a measure or capacity. They shall be mounted in such a manner that each is clearly visible to the seated driver.

(a) Air pressure or vacuum, where air or vacuum brakes are used with low energy supply warning system.

(b) Ammeter or voltmeter.

(c) Fuel.

(d) Odometer.

(e) Oil Pressure.

(f) Water temperature.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

MVD 17.38 Interior. (1) Interior of bus shall be free of all unnecessary projections likely to cause injury. This standard requires inner lining on ceilings and walls.

(2) Rearward metal panels shall be lapped over forward panels to reduce likelihood of injury in the event of separation. Exposed edges of all interior panels shall be beaded, hemmed or flanged.

(3) All vehicles must meet FMVSS 302 requirements for flammability of interior materials.

(4) No projections from the ceiling will be allowed in the entrance way or aisle. All speakers must be flush mounted except in the driver's compartment.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

MVD 17.39 Ladder. (1) No school bus shall have a ladder attached to its interior or exterior while in motion.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

MVD 17.40 Lights, lamps and reflectors. (1) The following lights, lamps and reflectors are required on a school bus. Each lamp shall be operational (in working condition) and meet the requirements of FMVSS 108.

(a) *Alternating red flashing lamps.* 1. Bus shall be equipped with 2 red warning lamps at rear of vehicle and 2 red warning lamps at front of vehicle, which shall be controlled by manually actuated switch and shall flash alternately at rate of 60 to 120 cycles per minute. No brake or door operated switch shall be permitted. "On" period shall be long enough to permit bulb filament to come up to full brightness.

2. Red warning lamps shall be seal beam type, or other improved type, not less than 5 inches in diameter and visible from a distance of at least 500 feet along the axis of the vehicle in bright sunlight.

3. There shall be visible or audible means of giving clear and unmistakable indication to driver when signaling system is turned on.

4. Installation. a. Each red warning signal lamp shall be mounted with its axis substantially parallel to longitudinal axis of vehicle.

5. Front and rear red warning signal lamps shall be spaced as far apart laterally as practicable, but in no case shall spacing between lamp centers be less than 3 feet.

6. Location of front red warning signal lamps shall be such that they can be clearly distinguished when headlamps are lighted on lower beam.

7. Red warning signal lamps shall be mounted at front above windshield and at rear so that lower edge of lens is not lower than top line of side window openings.

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8. Vision of front signal lamps to front and rear signal lamps to rear shall be unobstructed by any part of vehicle from 5° above to 10° below horizontal and from 30° to right and 30° to left of centerline of vehicle.

9. The area around the lens of each alternately flashing red signal lamp and extending outward approximately 3 inches shall be painted black on all school buses. In installations where there is no flat vertical portion of body immediately surrounding entire lens of lamp, circular or square band of black approximately 3 inches wide, immediately below and to both sides of lens, shall be painted on body or roof area against which red warning signal lamp is seen. This standard shall not apply to vehicles not specifically manufactured as school buses and which have red warning signal lamps mounted above the roof top. Red warning signal lamps on such vehicles shall be equipped with black hoods at least 3 inches long.

10. Hoods. Except as provided in 9. above, red warning signal lamps may be equipped with hoods to shield from rays of sun for improved visibility.

11. Lamps shall meet the requirements of SAE J887a.

12. School buses painted other than glossy yellow are prohibited from having the flashing lights mounted on the vehicle.

(b) *Back up lamps.* Two back up lamps shall be provided and shall conform to SAE J593e.

(c) *Clearance lamps.* 1. There shall be 2 red clearance lamps on the rear and 2 amber clearance lamps on the front, mounted as high and wide as practicable to indicate it's extreme width.

2. Vehicles less than 80 inches wide are exempt from this requirement.

(d) *Direction (turn signal) lamps.* 1. There shall be at or near the front, facing forward, one amber turn signal light on each side of the vertical centerline mounted at the same height, as wide as practicable. The vehicle may be equipped with signals mounted in the body. If not equipped with body mounted front turn signals, double faced signals shall be installed either on the fender or hood and shall not extend beyond the outer edge of the fender but shall be as wide as practicable. Mounting shall not be higher than the bottom of the windshield or lower than the headlamps. This subdivision does not apply to vehicles of less than 10,000 pounds G.V.W.R. provided the vehicle meets the requirement of s. 347.15, Stats.

2. There shall be on the rear, one red or amber signal on each side of the vertical centerline as wide as practicable mounted at the same height. These shall be independent of any other light.

3. Rear turn signals shall be mounted no less than 15 inches nor more than 83 inches above the roadway.

4. Signals shall comply with SAE J588e.

5. An auxiliary side mounted signal shall be installed on the sides of the body at approximately seat level, rub rail height just to the rear of the service door on the right side and approximately opposite the driver's seat on the left side. These shall operate in conjunction with the turn signals. This applies to school buses of 30 or more feet in length. These lamps shall meet SAE J914a.

(e) *Hazard warning lights.* 1. Each bus shall be equipped with a four-way hazard operating unit which shall operate independently of the ignition or equivalent switch and when activated shall cause the turn signal lamps to flash simultaneously.

(f) *Headlamp.* Headlamp shall comply with SAE J579c. There shall be either:

1. Two white, 7½ inch, Type II sealed beam units, or
2. Two white, 5¾ inch, Type I, and Two white, 5¾ inch, Type II sealed beam units, or
3. Two white, 4 x 6½ inch, Type IA and Two white, 4 x 6½ inch, Type IIA sealed beam units.

(g) *High beam indicator.* 1. Each bus shall be equipped with a light designed to indicate when the high beam headlamps are lit and located to be visible to the driver.

(h) *Identification lamps.* 1. Each bus, 80 or more inches wide shall be equipped with 3 amber identification lamps to the front and 3 red identification lamps to the rear with lamp centers no less than 6 inches nor more than 12 inches apart. No part of the front lamp or mountings shall be below the top of the vehicle windshield.

(i) *Intermediate side marker lamps.* Each bus required by FMVSS 108 to be equipped with intermediate side marker lamps shall be so equipped with lamps meeting SAE J592e mounted no less than 15 inches above the road surface and at or near mid-point between the front and rear side marker lamps.

(j) *License plate lamp.* Each bus shall have a lamp to illuminate the rear license plate. The lamp shall meet the standards of SAE J587e.

(k) *Side marker lights.* Each bus shall be equipped with side marker lights. One amber located on the side as far forward and one red as far rearward as practicable. Lamps shall conform to SAE J592e.

(l) *Stop lamp.* There shall be 2 red stop lamps meeting the requirements of SAE J586c mounted on the rear, one on each side of the vertical centerline at the same height and as far apart as practicable. Vehicles of 10,000 pounds G.V.W.R. or more shall be equipped with lamps of a minimum of 7 inch diameter. The stop lamps shall activate upon application of the service brakes.

(m) *Tail lamps.* There shall be two red tail lamps meeting the requirements of SAE J585d mounted on the rear, one on each side of the vertical centerline at the same height and as far apart as practicable. The tail lamps shall activate in conjunction with the headlamps.

(n) *Reflectors.* 1. There shall be mounted on the bus, reflex reflectors located as follows:

- a. On the rear, 2 red equally spaced as far apart from the center as practicable.
- b. On the side, 2 reflectors; one amber at or near the front and one red at or near the rear.
- c. On the side of vehicles 30 or more feet in length, one amber reflector located at or near the center.

2. Each reflector shall be mounted no less than 15 inches nor more than 60 inches above the road surface.

(o) Retro-reflective tape or sheeting may be used on a school bus as additional warning device. It may cover the rub and snow rails, rear bumper, and the words "School Bus" on the rear.

(p) Replacement. Any lamp, light, or reflector shall be replaced only with a unit meeting the standards of this section.

(2) A strobe light, the use of which is permitted under s. 347.25 (2), Stats., is an optional piece of equipment to be used at the operator's discretion. The unit shall only be installed and used on a school bus that is painted the yellow and black color scheme and shall comply with the following requirements:

(a) The strobe light shall be of solid state construction. It shall emit a white light by flashing, not rotating, 360° around the vertical axis. The unit shall be so designed that when properly mounted on the roof there shall be no strobe source directly visible to the driver of an automobile within 500 feet of the school bus. A manufacturer may certify to the department of transportation that a particular unit or model meets the requirements of this section and s. 347.25 (2), Stats. Such certification may be used by the department for information purposes when requested by prospective purchasers.

(b) The strobe light shall be capable of operating continuously without any significant change in the flash rate under all operating conditions or weather extremes experienced in this state. The flash rate shall be no less than 60 nor more than 120 per minute. The double flash effect shall be counted as a single flash.

(c) The electronic power supply circuit shall provide a minimum of 10 joules to the strobe tube. The flash shall be so designed that there is a double flash or pulsing of the flash tube. The effect will produce an apparent double flash with an interval before another double flash. The double flash may have different intensities with the first flash having the highest intensity. A singular or steady flash, even though within the specified flash rate, does not meet the above requirements.

(d) The strobe light shall be permanently mounted on the centerline of the bus roof at or near the center when measured from the foremost to the rearmost edge of the roof, except that a tolerance of one foot from the exact center when measured on the centerline is permissible. No strobe unit may extend more than 6-½ inches above the roof where it is mounted. School buses manufactured prior to January 1, 1979 may utilize a wiring system that lies flush with and on the exterior roof. No school bus manufactured after that date may have external wiring.

(e) The unit shall be wired with an independent switch with an indicator light in the driver's compartment showing when the light is in operation.

History: Cr. Register, June, 1977, No. 268, eff. 7-1-77; am. (1) (d) 1. and (2), Register, February, 1979, No. 278, eff. 3-1-79.

MVD 17.41 Mirrors. (1) Interior clear view mirror shall be at least 6 by 30 inches overall. If not metal backed and framed, mirror shall be of laminated plate safety glass. It shall have rounded corners and protected edges.

(2) Two exterior clear view rearview mirrors meeting the requirements of FMVSS 111 shall be provided, one to left and one to right of driver. Area of each mirror shall be not less than 50 square inches overall. Each mirror shall be firmly supported and adjustable to give driver clear views past left rear and right rear of bus. The right outside mirror mounts shall include a side angle adjustable convex mirror to provide an additional close-in field of vision located so as not to reduce the visual field of the flat surfaced mirror below 50 square inches, or as an option, have a front mounted mirror; these shall provide a view from the service door rearward.

(3) Mirrors which are cracked, broken or clouded shall be replaced.

(4) At least one clear view mirror not less than 7 inches in diameter shall be mounted in such a manner that the driver may observe a reflection of the road from the front bumper forward to a point where direct observation is possible.

(5) Vehicles having a G.V.W.R. of less than 10,000 pounds need not comply with size requirements in (1) and (2).

(6) Vehicles manufactured on an automobile chassis need not comply with (4) or size requirements in (1) and (2). One outside rearview mirror is required for these vehicles.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

MVD 17.42 Mounting of body. (1) The chassis frame, for body-on-chassis type buses shall extend to the rear edge of the rear body cross member. The body shall be attached to the chassis frame in such a manner as to prevent separation of the body from the chassis under severe impact. Insulating material used at body to frame contact points shall be so attached that it will remain in position under any anticipated maintenance or bus operating conditions.

(2) Any body attachment device when installed shall be securely fastened and maintained with proper tension.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77

MVD 17.44 Rub rails. (1) There shall be one rub rail located approximately at seat level which shall extend from the rear side of the service door completely around the bus body, except at the emergency door or rear compartment, to a point of curvature near the front of the body on the left side. On a vehicle of less than 10,000 pounds G.V.W.R. the rub rail need not extend around the rear corners of the bus.

(2) There shall be one rub rail located between the floor line and 9 inches above the floor line. It shall extend over the same longitudinal distance as the upper rub rail, except where it meets the wheel housing, and which may terminate at the radii of the right and left rear corners.

(3) Rub rails shall be constructed of 16 gauge longitudinally corrugated or ribbed steel of 4 inch minimum width, flange to flange. Each rub rail flange shall be attached at each body post.

(4) Rub rails shall be applied outside body or outside body posts. Pressed-in or snap-on rails are not permitted.

(5) Rub rails applied to transit type buses with engine in the rear may terminate at forward edge of engine compartment.

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(6) This section does not apply to vehicles manufactured on an automobile chassis.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77

MVD17.45 Seating. (1) All seats shall meet the requirements of FMVSS 222 and 302.

(2) All seats shall be forward facing and securely fastened to that part or parts of the body which support them. Passenger seat cushion retention system shall be employed to prevent passenger seat cushions from disengaging from seat frames in event of accident. There shall be a minimum 24 inches space between the forward surface of a seat back and the rear surface of the seat or barrier ahead measured across the seat cushion without depressing any surface.

(3) The forward most seat on the right side of the bus shall be located so as not to interfere with the driver's vision.

(4) The minimum distance between the steering wheel and the back rest of the driver's seat shall be 11 inches. The operator's seat shall be rigidly positioned, shall have vertical adjustment and fore and aft adjustment of not less than 4 inches, without the use of tools or other devices. It shall have adjustments to meet the needs of the driver. A vehicle of less than 10,000 pounds G.V.W.R. need not have a vertical adjustment feature.

(5) A minimum of 36 inches of headroom for the sitting position above the top of the undepressed cushion line of all seats shall be provided. Measurement shall be made vertically not more than 11 inches from the side wall at cushion height and at the fore and aft center of cushion.

(6) The backs of seats of similar size shall be of the same width at the top and of the same height from the floor and shall slant at the same angle with the floor. The top corners, and at least 10 inches of the top of the back surface of the seat backs shall be padded sufficiently to reduce the likelihood of injury upon impact. Seat backs in school buses shall not recline. Modifications of reclining seats to deactivate this feature are prohibited.

(7) The requirements of FMVSS 222 do not apply to school buses used exclusively to transport persons as provided in s. 340.01 (56) (a) 4, Stats.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77; am. (4) and (5), cr. (7), Register, February, 1979, No. 278, eff. 3-1-79.

MVD 17.46 Seat belt. (1) A seat belt installation shall be provided for the driver conforming to:

- (a) FMVSS 208, seat belt installation.
- (b) FMVSS 209, seat belt assemblies.
- (c) FMVSS 210, seat belt assembly anchorages.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77

MVD 17.47 Service door. (1) Service door shall be under control of driver and so designed as to prevent accidental opening. When hand lever is used, no parts shall come together so as to shear or crush fingers.

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(2) Service door shall be located on right side of bus and within view of driver.

(3) Service door shall have minimum horizontal opening of 24 inches and minimum vertical opening of 68 inches.

(4) Service door shall be a split type, sedan type, or jack-knife type. (Split type door includes any sectioned door which divides and opens inward or outward). If one section of split type door opens inward and other opens outward, front section shall open outward.

(5) Lower, as well as upper, panels shall be of safety glass. Bottom of lower glass panel shall not be more than 35 inches from ground when bus is unloaded. Top of upper glass panel shall not be more than 6 inches from top of door. Upper glass must be hermetically sealed.

(6) Any lock used in conjunction with the service door must be constructed to insure that the lock is not in the locked position while transporting passengers.

(7) Vehicles having a G.V.W.R. of less than 10,000 pounds need not comply with (3) and (5).

(8) Vehicles manufactured on an automobile chassis are exempt from the above requirements.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77

MVD 17.48 Signs and lettering. (1) Only signs and lettering approved by state law or regulation shall appear on or in the bus.

(2) Body shall bear words "School Bus" in black letters at least 8 inches high and one-inch stroke on both front and rear of body or on yellow signs attached thereto. Such lettering shall be placed above rear window and windshield as high as possible without impairment to visibility. This lettering shall only appear on vehicles painted school bus colors and meeting all the requirements of MVD 17, except vehicles operated by a common carrier as defined under s. 340.05 (56) (b) (3), Stats.

(3) A bus may have 4 fleet numbers, but must have at least 2 located as follows:

(a) One located on the front of the vehicle.

(b) One located on rear of the vehicle.

(c) The other 2 may be put on either side.

(d) Fleet numbers must be 3 inches to 6 inches high with one-half inch brush stroke.

(e) Fleet numbers are prohibited in the black area around the alternately flashing red lights.

(4) Name and address (and telephone number, if desired) of owner or operator shall be displayed below window line in yellow panel to the rear of, and as close as possible to the service door in letters not less than 2 inches high nor more than 3 inches high by 1/4 inch stroke. If desired, this marking may also be painted on the left side of the bus below the driver's window. Owner's decals may be used to comply with this subsection provided they do not violate the provisions of this subsection.

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(5) Name of school or school bus firm may appear on sides of bus between the seat line rub rail and the bottom window line in contrasting yellow or black letters not more than 10 inches high.

(6) A placard, decal or other device, not to exceed 90 square inches in size, to identify bus to small children, may be attached to bus.

(7) The registration card or photocopy shall be displayed in the driver's compartment as required by s. 341.11 (4), Stats. and must be mounted in a holder so card can be read without removal.

(8) Passenger capacity must appear on inside of vehicle above windshield so it can be easily read. It shall indicate seated passengers and also number of wheel chair passengers, if applicable.

(9) The following signs are the only other decals, stickers, or lettering that may appear on the bus.

(a) No smoking, eating or drinking, (maximum 2 inch high letters).

(b) Any signs required by the federal bureau of motor carrier safety or national highway traffic safety administration.

(c) Identification as to location of emergency equipment.

(d) Seat belt use required in this vehicle.

(e) Seating chart, (maximum size 8-1/2 x 11 inches).

(f) Rules pertaining to passenger conduct, (maximum 8-1/2 x 11 inches).

(g) Any decal denoting membership in an association dealing with school transportation. This shall be placed within 12 inches to the rear of service door and below window line. It cannot exceed 36 square inches.

(h) A sign indicating type of fuel used.

(10) Emergency door lettering shall comply with FMVSS 217.

(11) Vehicles manufactured on an automobile chassis may, but need not comply with the provisions of this section.

(12) In addition to any other sign or decal permitted or required on a school bus, the following signing designating routes to students is optional:

(a) An additional metal holder may be mounted on the forward side of the right rear view mirror bracket. The holder shall not be larger than the size of the mirror. The holder shall be used for the purpose of displaying a number not to exceed four numerals. The holder may be constructed of aluminum stock. If the holder is painted it shall be painted black. The holder shall be mounted in a lengthwise (up and down) position similar to the rear view mirror. The holder may be offset from the center so as not to increase the area of the "blind spot" observable by the driver.

(b) An additional metal holder may be mounted on the right side of the bus immediately to the rear of the service door and beneath the foremost window. The holder shall not exceed the dimensions specified in par. (a). The holder shall not project on the side of the bus by more than

the thickness of the metal. The holder shall not have any sharp edges capable of injuring persons near the bus. The holder may be constructed of aluminum stock. If painted it shall be painted to conform to the paint immediately adjacent to it. If a combination of black and yellow is covered by the holder, the paint shall accurately reflect what is covered. If a rub rail is covered, this portion must be black, if it is painted. Any other portion shall be yellow if the holder is painted. The signing used in this holder shall be black print on a yellow background consisting of the following:

1. A route number corresponding to the route number identified on the mirror bracket holder.

2. School or schools to which this particular bus is transporting students.

(c) The holder permitted in par. (b) shall not be used for any other purposes than for the identification of bus routing.

(d) This subsection shall take effect July 1, 1979.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77; cr. (12), Register, February, 1979, No. 278, eff. 7-1-79.

MVD 17.49 Steering. (1) No changes shall be made in steering apparatus which are not approved by chassis manufacturer.

(2) There shall be a clearance of at least 2 inches between steering wheel and cowl, instrument panel, windshield, or any other surface.

(3) Steering components shall not be loose, worn or binding and steering stops must be adjusted so tire does not rub at any point. Steering wheel lash cannot exceed 1/8 turn.

MVD 17.50 Steps. (1) First step at service door shall be not more than 16 inches from ground.

(2) Riser of upper step at service door shall be not more than 15 inches. When more than 2 steps are used, risers must be within 1/2 inch of equal height except that, where plywood floor is used on steel, differential may be increased by thickness of plywood used.

(3) Steps shall be enclosed to prevent accumulation of ice and snow. The entranceway shall be equipped with a stepwell light.

(4) Steps shall not protrude beyond side body line.

(5) Grab handle not less than 10 inches in length shall be provided in unobstructed location inside doorway.

(6) Surface of steps shall be of non-skid material or construction.

(7) There shall be one stirrup step or one bumper step and suitably located handle on each side of front of body to provide easy accessibility for cleaning windshield and lamps.

(8) Vehicles having a G.V.W.R. under 10,000 pounds need not comply with (3), (4), and (7).

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77; am. (3), Register, February, 1979, No. 278, eff. 3-1-79.

MVD 17.51 Stop signal arm. (1) Stop signal arm shall be required on every school bus.

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(2) The stop signal arm shall be service door controlled on all school buses manufactured after January 1, 1978.

(3) The following specifications shall govern installation and operation of the stop signal arms:

(a) It shall be a metal octagon shaped sign at least 18 inches wide and 18 inches long exclusive of mounting bracket. All sheet metal parts shall be 16 gauge or heavier.

(b) It shall have the word "STOP" on both sides in white letters at least 6 inches high and 7/8 inch wide on a bright red background. The outer edge shall have a white border at least 1/2 inch wide. All other parts of the assembly shall be painted black.

(c) It shall be equipped with 2 four-inch or larger, double faced alternating flashing red lamps to be mounted near the perimeter of the sign with a minimum of 12 inches spacing between lamp centers. These lamps shall be wired to the circuit of the flashing red warning lamps mounted on the front and rear of the bus and shall have 32 candle power bulbs.

(4) Reflectorizing of the sign shall be optional.

(5) Stop signal arm shall be mounted on the left side of bus as close to the driver's window as practicable.

(6) The stop signal arm shall be installed in such a manner that it can not be activated unless the alternately flashing red lamps are in operation.

(7) The foregoing requirements for installation and operation of stop signal arms shall not apply to school buses which are operated only on highways, streets or in areas where use of the flashing red warning lights is not permitted, nor to vehicles painted other than glossy yellow and not identified by school bus signs.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

MVD 17.52 Sunshield. (1) Interior adjustable sun visor not less than 6 by 16 inches in size shall be installed above windshield.

(2) Vehicles having a G.V.W.R. under 10,000 pounds need not comply with size requirement in (1).

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

MVD 17.53 Suspension system. (1) All suspension system components shall be maintained to meet manufacturer's G.V.W.R. and G.A.W.R. ratings.

(2) The vehicle shall be equipped with front and rear double-acting shock absorbers compatible with manufacturer's rated axle capacity except for those suspension systems which do not require shock absorbers and have been so approved by the motor vehicle administrator.

(3) Shock absorbers and all mountings shall be maintained free of leaks and in good working order.

(4) Springs or suspension assemblies shall be of ample resiliency under all load conditions and of adequate strength to sustain loaded bus without evidence of overload and designed to carry their proportional

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share of gross vehicle weight in accordance with manufacturer's G.A.W.R.

(5) No bus may be operated with any broken spring leafs or worn, loose, mislocated shackles or "U" bolts.

History: Cr. Register, June, 1977, No. 268, eff. 7-1-77.

MVD 17.54 Tires. (1) Front tires shall have tread depth of at least 4/32 inch and rear tires shall have tread depth of at least 2/32 inch around the entire periphery measured at 2 points no less than 15 inches apart in any major tread groove.

(2) No school bus shall be operated with regrooved, recapped, or re-treaded tires on the front wheels.

(3) No school bus shall be operated with cuts or chunks missing exposing the cord, recaps peeled loose or off, or showing an indication of ply separation.

(4) Tires of different size or ply rating may be used except that all tires on an axle must be the same size and ply rating.

(5) All tires shall be maintained to meet the manufacturer's G.A.W.R. and G.V.W.R.

History: Cr. Register, June, 1977, No. 268, eff. 7-1-77.

MVD 17.55 Windows. (1) The glazing in windows to the right and left of driver shall be identified by the designation AS 1 or AS 2. The rearmost windows (in the rear) shall be designated AS 1 or AS 2 except that the lower glazed portion of the emergency door may be designated AS 8. Any other side push-out or kick-out windows may be identified with glazing designated as AS 1, AS 2, AS 3, AS 4, AS 5, AS 12, or AS 13. Side windows not easily removable shall be identified as AS 1, AS 2, or AS 3. Replacement glazing shall comply with these requirements.

(2) On vehicles of 10,000 pounds G.V.W.R. or more, the window to the driver's immediate left and the window immediately to the rear of the service door shall be hermetically sealed glass with an insulating air space.

(3) Each full side window shall provide a vertical opening of at least 9 but not more than 12 inches, obtained by lowering the top portion of the window. The driver's window may be of a sliding forward/rearward construction. A vehicle of less than 10,000 pounds G.V.W.R. having windows which do not open from the top shall have no more than a 5 inch wide opening.

(4) All windows shall operate freely. The side window latches shall be capable of holding the window securely in place in all positions.

(5) All exposed edges shall be banded or ground.

(6) A school bus may be equipped with push-out type window for emergency exit. These shall be hinged at the top. These windows shall be identified as an emergency exit with concise operating instructions located within 6 inches of the release mechanism or other location as detailed in FMVSS 217.

(7) A distinctive audible signal automatically operated shall clearly indicate to the driver the unlatching of an emergency window when the

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ignition is in the "ON" position. No cut-off shall be installed in the circuit.

(8) Vehicles built on an automobile chassis are exempt from (2) through (7).

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

MVD 17.56 Windshield. (1) The glass in the windshield shall be laminated safety glass identified by the designation AS 1. This mark shall be visible and legible. The glass shall be of such quality as to prevent distortion of view in any direction. The glass shall meet the requirements of FMVSS 205.

(2) Windshields may be tinted.

(3) The windshield shall be unobstructed.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

MVD 17.57 Windshield washer. (1) Every bus shall be equipped with a windshield washer system that will provide fluid for the windshield wipers to effectively clean the windshield.

(2) The washer shall be maintained and operational.

(3) All washer systems shall comply with FMVSS 104.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

MVD 17.58 Windshield wipers. Every bus shall be equipped with 2 windshield wipers (mechanism, arms, blades). The system shall have at least 2 speeds.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

MVD 17.59 Wiring. (1) All circuits shall be protected by a circuit breaker or fuse of sufficient rating to handle the current load.

(2) All buses constructed with alternately flashing lights shall be wired for an 8 light system.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

MVD 17.80 General requirements for orthopedic buses. (1) Vehicles constructed for transporting handicapped persons shall comply with current Wisconsin statutes and rules, except for modifications necessary for the installation of special equipment. Such modifications or exceptions are set forth in this section.

(2) Any school bus used for transporting handicapped persons in wheel chairs shall be equipped with a side ramp or lift located on right side of body, with no attachment to the exterior of the body, but completely contained and securely fastened within the perimeter of the school bus body when not in operation.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77; am. (2), Register, February, 1979, No. 278, eff. 3-1-79.

MVD 17.81 Special service opening. (1) There shall be an enclosed door opening located on the right side of bus body and far enough to the rear so that any forward mounted door, when fully opened, will not obstruct or interfere with the normal operation of the regular service door.

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(2) All floor sections around this special opening shall be reinforced to conform to floor construction throughout the bus body.

(3) A device shall be provided to hold doors in a wide-open position of at least 90°.

(4) Door materials and structural strength shall be equivalent to conventional service and emergency doors.

(5) Each door shall have a glass window.

(6) The door shall be equipped with a device that will actuate an audible or visual signal located in the driver's compartment when door is not securely closed and latched and may deactivate when door is fully opened.

(7) Door panel shall enclose the complete opening in the body made necessary by the installation of a side ramp or power lift.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77

MVD 17.82 Power lift. (1) Lifting mechanism shall have a minimum capacity of 700 pounds.

(2) All power lift mechanism shall be enclosed.

(3) Power lift may be mounted to chassis frame.

(4) Lift platform edges shall be designed to prevent wheel chairs and attendant's feet from becoming entangled during raising and lowering process. Platform ends shall have full-width shields which extend above floor level when platform is in full-lowered position. A means of adjustment shall be provided on each end of platform to make possible any minor adjustments necessary to eliminate binding that may occur with use and wear.

(5) Adjacent under-floor areas, three sides of those lifts which lower through the floor shall be closed off with shields when platform is in lowered position.

(6) Platform floor surface shall be covered with non-skid material. Edges of platform and adjacent floor shall be finished and all seams covered with molding as required for bus floor. Flexible seals designed to keep out dirt, water and fumes when in a locked position shall be installed along platform edges.

(7) Platform shall lock mechanically in the up position and the lock shall function with the doors open or shut.

(8) Up and down limits shall be controlled by limit switch or by-pass valve.

(9) Positioning power lift shall be controlled by switches which give the operator instant and positive control to move, stop, or reverse the lift travel at will.

(10) With the exception of floor molding, no metal screws are to be used in fabrication of platform assembly.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77; am. (7), Register, February, 1979, No. 278, eff. 3-1-79.

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MVD 17.83 Ramps. Floor ramp shall be covered with non-skid material.

History: Cr. Register, June, 1977, No. 268, eff. 7-1-77.

MVD 17.84 Stanchions, chains, and modesty panels. (1) Barriers shall be finished in accordance with FMVSS 222, school bus passenger seating and crash protection. A heavy duty padded modesty panel type enclosure is to be installed at the front of the floor platform power type lift. If a barrier required by FMVSS 222 is not located at the rear of the floor platform power type lift, a heavy duty padded modesty panel type enclosure is to be provided. These enclosures are to extend into the bus the full width of the floor opening.

(2) A covered chain shall be installed at the inboard side of the elevator power type lift to protect the bus occupants from the lift opening.

(3) All inside and rear facing surfaces except the platform surface of a lift shall be padded.

History: Cr. Register, June, 1977, No. 268, eff. 7-1-77.

MVD 17.85 Wheel chair fasteners. (1) Each wheel chair shall be secured to the vehicle with a fastening device with sufficient strength to:

(a) Retain the chair in the event the vehicle overturns.

(b) Prevent the chair from moving.

(c) To prevent the chair's wheels from leaving the floor in the event of a sudden stop or start.

(2) The device may be either a metal locking unit that secures the wheel chair to the wall or floor or a webbing belt system that accomplishes the same purpose.

(3) There shall be no wheel chair attachment to any door.

(4) A webbing belt system shall: (a) Be secured to the vehicle at not less than 2 points with bolts, nuts, and lock washers or self-locking nuts; and

(b) have a bolt fastening the webbing or webbing mount bracket to vehicle, of not less than $\frac{3}{8}$ inch in diameter for each bolt.

(c) Where mounting bolts do not pierce the vehicle frame, sub-frame, body posts, or equivalent metal structure, a reinforcement plate or washer not less than 1/16 inch thick by 2-1/2 inches in diameter is required. In no event shall interior paneling constitute anchorage for a point of securement.

(5) A webbing belt used to secure the wheel chair to the body frame shall not be used to also secure the passenger to the wheel chair.

History: Cr. Register, June, 1977, No. 268, eff. 7-1-77.

MVD 17.86 Seats and restraints. (1) Seat frames may be equipped with device to which belts or restraining harnesses can be attached.

(2) Every occupant shall be secured to the wheel chair while being transported.

(3) Aisle facing seats are permitted over the wheel housing provided they are equipped with a device to prevent a passenger from sliding off either end.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

MVD 17.87 Special light(s). A light or lights shall be located in the special door area to illuminate the platform and approach area outside the door.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

MVD 17.95 General requirements. (1) **REPLACEMENT ITEMS.** (a) Any item if covered by a standard in this rule shall, upon replacement, be replaced with an item meeting the original standard. Any modification of a school bus shall be made to conform to federal and state regulations at the time of modification.

(2) **VEHICLES PROHIBITED.** (a) No panel truck shall be used as a school bus. No station wagon having a wood body shall be used as a school bus.

(3) **ENFORCEMENT POLICY.** (a) The enforcement policy of the division of motor vehicles shall take into consideration the age, condition, and equipment of vehicles before granting approval for their continued use. Division of motor vehicles shall prohibit the use of any vehicle for school transportation purposes which is deemed to be unsafe or unfit for such service.

(b) In construing and enforcing the provisions of this chapter, the act, omission or failure of any officer, agent, servant or other person acting for or employed by the registered owner or the lessee of the bus, whoever has control, done within the scope of his employment is deemed to be the act, omission or failure of such registered owner or lessee. This shall not apply to violations of chapter 346, Wis. Stats.

(4) **INSPECTION.** (a) Upon notification by the department of transportation, or the department of public instruction, or any public school official, the owner or operator shall present all school buses for inspection at the time and place designated. No bus shall be operated in pupil transportation until it has been approved for such operation by the department of transportation.

(5) **PENALTIES.** (a) Violations of any provision of chapter MVD 17 shall be prosecuted under the governing statute. Where no penalty is provided the violation shall be prosecuted as set forth in s. 341.04 (3), Stats.

(6) **APPLICABILITY.** (a) All buses put into operation as school buses in this state on March 1, 1979 shall comply with the provisions of this chapter.

(b) Except as provided in par. (c), buses placed in service as school buses in Wisconsin prior to March 1, 1979 shall comply with the administrative code in effect at the time they were first put in such service.

(c) Buses put into service as school buses in Wisconsin prior to March 1, 1979 may comply with any or all of the provisions of this chapter in effect on March 1, 1979.

(d) A vehicle shall not be used in pupil transportation if it is not certified to the federal government as meeting all the requirements for a

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school bus unless exempt. Vehicles manufactured after April 1, 1977 must meet the federal standards established for school buses. The failure of the purchaser to declare its intended use shall not be a reason for permitting such use in pupil transportation. All vehicles manufactured after April 1, 1977 shall be certified by the manufacturer to the federal government as meeting all the requirements of a school bus if used as a school bus in Wisconsin.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77; am. (4) (a), (6) (a) and (6) (b), r. and recr. (6) (a) and (c), Register, February, 1979, No. 278, eff. 3-1-79.

MVD 17.96 Applicability. (1) The National Motor Vehicle Safety Act of 1966 stipulates that a state may not initiate or retain a regulation which differs from a federal motor vehicle safety standard. In case of conflict between the Wisconsin and federal regulations, the federal standard shall prevail.

(2) Each person or vehicle shall be subject to standards, if applicable in the following progression. (a) Federal Law.

(b) Federal Standards.

(c) Wisconsin Statutes.

(d) Wisconsin Rules including MVD 5.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.

MVD 17.97 Severability. (1) Should any section, paragraph, phrase, sentence or clause of this chapter be declared invalid or unconstitutional, the remainder of this chapter shall not be affected thereby.

History: Cr. Register, June, 1977, No. 258, eff. 7-1-77.