NEBRASKA DEPARTMENT
OF EDUCATION

RULE 92

REGULATIONS GOVERNING THE MINIMUM EQUIPMENT STANDARDS AND SAFETY INSPECTION CRITERIA FOR PUPIL TRANSPORTATION VEHICLES

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TITLE 92 - NEBRASKA DEPARTMENT OF EDUCATION
CHAPTER 92 - REGULATIONS GOVERNING THE MINIMUM EQUIPMENT STANDARDS AND SAFETY INSPECTION CRITERIA FOR PUPIL TRANSPORTATION VEHICLES

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001.02 Statutory Authority. This Chapter is adopted pursuant to Section 79-318(13) of the Revised Statutes of Nebraska (R.R.S.)

> "The State Board of Education shall: . . . (13) with the advice of the Department of Motor Vehicles, adopt and promulgate rules and regulations containing reasonable standards, not inconsistent with existing statutes, governing: (a) the general design, equipment, color, operation, and maintenance of any vehicle with the manufacturer's rated seating capacity of eleven or more passengers, used for the transportation of school children; and (b) the equipment, operation and maintenance of any vehicle with a capacity of ten or less passengers, used for the transportation of school children, when such vehicles are either owned or operated, or owned and operated by any school district or privately owned or operated under contract with any school district in this state. Similar rules and regulations shall be adopted and promulgated for operators of such vehicles as provided in 79-607."

And pursuant to Section 79-602 of the Revised Statutes of Nebraska (R.R.S.) which states, in part:

> "All school boards, the governing authority of any nonpublic school in this state, and all independent contractors who or which provide student transportation services for such board and governing authorities and for military installations shall cause all pupil transportation vehicles used for the transportation of students to be inspected before school opens in the fall and each eighty days during that part of the year when school is in session by a motor vehicle mechanic appointed by the board or governing authority having jurisdiction over such students, except that any pupil transportation vehicle that has been inspected under rules and regulations of the Public Service Commission shall be exempted from the provisions of this section. The mechanic shall thoroughly inspect every vehicle used for the transportation of students as to brakes, lights, windshield wipers, window glass, tires, doors, heaters, defrosting equipment, steering gear, exhaust system, and the mechanical condition of every part of such pupil transportation vehicle to ensure compliance with the minimum allowable safety criteria established pursuant to section 79-607 and subdivision (13) of section 79-318. Within five days after such inspection, the mechanic shall make a report of his or her inspection in writing on regular forms provided by the State Department of Education which shall show if the vehicle met the minimum allowable safety criteria for use. Any item not meeting such criteria shall be brought into compliance prior to the vehicle being used to transport students. One copy of the mechanic's report shall be filed with the board or governing authority and, if the school contracts with an independent contractor to provide transportation services, one copy with the independent contractor. The chief administrative officer of each school district shall annually certify, by a written verification statement, to the State Department of Education that the inspection required pursuant to this section have been performed. Such verification statement shall be sent to the department no later than June 30.
>
> In addition to the inspection requirements prescribed in this section, the driver of each pupil transportation vehicle shall make daily inspections of such vehicle to ensure that all lights and equipment are fully operational or repaired before his or her daily route. Reports of such daily inspections shall be kept by the driver in the vehicle and filed weekly with the head mechanic or administrator in charge of the transportation system. If the inspection reveals any significant defect in the lights

or equipment, the driver shall immediately report the defect to the head mechanic or administrator in charge of the transportation system."

001.03 Scope and Application. This Chapter presents:

001.03A The minimum equipment standards required on all vehicles utilized to transport public and nonpublic school students. The following regulations, when addressing subject matter regulated by the Federal Motor Vehicle Safety Standards, (FMVSS), 49 CFR 571.101 et seq., (see Appendix H) are identical to or additional requirements beyond what is addressed in the FMVSS. Should conflicts be found or arise between the following regulations and the FMVSS, as to the same aspect of performance of a motor vehicle or motor vehicle equipment, the FMVSS or any other applicable provision of federal law or regulation shall supersede these regulations. References incorporated herein are available for viewing at the Nebraska Department of Education, 301 Centennial Mall South, 6th Floor, Lincoln, Nebraska 68509.

001.03B The safety inspection criteria required for all vehicles utilized to transport public and non-public school students.

001.04 Related Regulation. An additional regulation promulgated by the Nebraska Department of Education dealing with pupil transportation is Rule 91, Regulations Governing Driver Qualifications and Operational Procedures for Pupil Transportation Vehicles. In addition, Nebraska Department of Motor Vehicles has promulgated Title 247 Nebraska Administrative Code, Chapter 7, Rules and Regulations Pertaining to the Vision and Medical Requirements for Class A and B Licenses, Learner's and School Permits and School Bus Driver's Permits.

001.05 Penalty Provisions. According to Section 79-603 of the Revised Statutes of Nebraska (R.R.S.)

"Any person who violates any provision of section 79-602 or who drives, moves, or causes or knowingly permits to be moved on any highway any vehicle or vehicles which exceed the limitations as to the safety features provided in such section for which a penalty is not elsewhere provided shall be guilty of a Class III misdemeanor."

And pursuant to Section 79-607 of the Revised Statutes of Nebraska (R.R.S):

"Any officer or employee of any school district who violates any of the traffic rules or regulations or fails to include obligations to comply with the traffic rules and regulations in any contract executed by him or her on behalf of a school district shall be guilty of a Class V misdemeanor and shall, upon conviction thereof, be subject to removal from office or employment. Any person operating a school bus under contract with a school district who fails to comply with any of such traffic rules and regulations shall be guilty of breach of contract, and such contract shall be canceled after notice and hearing by the responsible officers of such school district;"

001.06 Effective date and Implementation Date. Regardless of the effective date of this Chapter, the implementation (operative) date will be ninety (90) days after its effective date. Prior to that date, the provisions of 92 NAC 92 effective March 7, 2004 shall remain in effect. School buses and activity buses manufactured on or after this Chapter's implementation date shall meet or exceed the equipment standards in Sections 005 and 006. See also "Vehicle Purchase and Use" at Section 003.01. Regulations concerning small vehicles' equipment (Section 007), additional required equipment for vehicles used

with mobile seating devices (Section 008), and vehicle inspection criteria (Sections 009 – 012) apply as of the implementation date regardless of the date of manufacture of such vehicles.

002 Definitions.

002.01 Activity Bus shall be a motor vehicle with motive power, except a trailer, designed or modified by the manufacturer, distributor or dealer for carrying eleven (11) or more passengers, excluding the driver, meeting or exceeding this Chapter (except as provided in to Section 003.02 of this Chapter) which at any time would be used to carry children, pupils and school personnel exclusively on a school activity trip provided that such transportation service is sponsored and approved by the local school governing board. This includes Multi-Function School Activity Bus as defined in 49 CFR 571.3.

002.02 Activity Trip shall mean the transportation of children, pupils and school personnel to and from a given location to a second or subsequent location or locations without stopping to load or unload children on the public highways for the purpose of transporting students to any event sanctioned, authorized or sponsored by the school district or the school's governing board.

002.03 Coach Bus shall mean a vehicle which does not meet the chassis and body minimum equipment standards in this Chapter and which is not designed primarily for the transportation of pupils to and from school and school related activities, but as a commercial motor vehicle for carrying eleven (11) or more passengers as a part of the operation of a common or contract carrier, as those terms are defined in Section 75-302 R.R.S., and which has front doors only, high back seats, under-the-floor storage and no rear emergency exit. Such buses are also commonly known as "motor coaches" or "over-the-road coaches."

002.04 Federal Motor Vehicles Safety Standards (FMVSS) 49 CFR 571. Shall mean~~s~~ the construction standards developed and enforced by the National Highway Traffic Safety Administration (NHTSA) that apply to all new motor vehicles and items of motor vehicle safety equipment.

002.05 School Bus shall mean a motor vehicle with motive power, except a trailer, designed or modified by the manufacturer, distributor or dealer for carrying eleven (11) or more passengers, excluding the driver, meeting or exceeding the requirements of this Chapter which at any time is used to carry pupils, and school personnel exclusively. Such transportation service must be sponsored and approved by the local school governing board. Vehicles that only carry pupils along with other passengers as a part of the operation of a common carrier under the jurisdiction of United States Department of Transportation or Nebraska Public Service Commission are not included within the definition of school bus.

002.05A Type A School/Activity Bus is a conversion or body constructed upon a van-type compact truck or a front-section vehicle with a left side driver's door and designed for carrying more than ten (10) persons. This definition includes Type A-1, with a Gross Vehicle Weight Rating (GVWR) of 14,500 pounds or less and Type A-2, with a GVWR of greater than 14,500 pounds and less than or equal to 21,500 pounds.

002.05B Type B School/Activity Bus is a conversion or body constructed and installed upon a van or front-section vehicle chassis, or stripped chassis. This definition includes Type B-1, with a GVWR of less than 10,000 pounds and Type B-2 with a GVWR of more than 10,000 pounds. This vehicle is designed for carrying more than ten (10) persons. Part of the engine is beneath and/or behind the windshield and beside the

driver's seat. The entrance door is behind the front wheels.

002.05C Type C School/Activity Bus is a body installed upon a flat back cowl chassis with a GVWR of more than 21,500 pounds, and designed for carrying more than ten (10) persons. All of the engine is in front of the windshield and the entrance door is behind the front wheels.

002.05D Type D School/Activity Bus is a body installed upon a chassis with the engine mounted in the front, midship, or rear, with a gross vehicle weight rating of more than 10,000 pounds, and designed for carrying more than ten (10) persons. The engine may be behind the windshield and beside the driver's seat, it may be at the rear of the bus, behind the rear wheels, or midship between the front and rear axles. The entrance door is ahead of the front wheels.

002.06 Small Vehicle shall be a motor vehicle with motive power, except a trailer, designed or modified by the manufacturer, distributor or dealer for carrying ten (10) or less passengers, excluding the driver, meeting or exceeding Nebraska Department of Education minimum standards for small vehicles which at any time would be used to carry pupils exclusively. Such transportation service must be sponsored and approved by the local school governing board. If the seating capacity of the vehicle has been reduced to meet the definition of a small vehicle, the manufacturer, distributor, or dealer shall recertify the vehicle if required by 49 CFR 567.7. (See Appendix M.) The preceding definition is not intended to include private motor vehicles used exclusively to carry members of the owner's household. Capacity shall be posted inside the vehicle in a conspicuous location.

002.06A Effective three (3) years after the implementation date of this Chapter, vehicles that have an original manufacturer's vehicle type classification label under 49 CFR 567.4 of "bus" and that have an original manufacturer's designated seating capacity of 15 persons maximum, (e.g. 15-passenger vans), shall not qualify as a small vehicle regardless of alteration or modification that reduces the seating capacity to that of less than ten passengers, excluding the driver.

002.07 Pupil Transportation Vehicle is any vehicle utilized to carry school children as sponsored and approved by the local school governing board and conforms to the Nebraska Department of Education definitions of pupil transportation vehicles listed as School Bus, Activity Bus, and Small Vehicle in this Chapter, or complies with the provisions applicable to coach buses in Section 003.04 of this Chapter.

003 Responsibility of the Schools.

003.01 Vehicle Purchase and Use. Schools shall use only school buses and activity buses or equipment which comply with the minimum equipment standards in effect on the date the vehicles were manufactured. Vehicles with manufacturer's rated seating capacity of eleven or more passengers manufactured prior to April 1, 1977, shall not qualify as a pupil transportation vehicle and shall not be used for pupil transportation unless a "coach bus" used as provided in Section 003.04

003.01A Schools may purchase and use vehicles that have certain chassis or body equipment that comply with the standards applicable to the vehicle on the date of the vehicle's manufacture, while having other certain chassis or body equipment that instead comply with the standards concerning such equipment in effect on a later, but only if the school files a written assurance statement with NDE that: (i) describes which chassis or body equipment on the vehicle complies with the standards in effect on the

later date but not on the date of manufacture; and (ii) after inquiring of its board appointed mechanic or other individual it deems qualified, the school is satisfied that no safety hazards or dangerous conditions are created by having a combination of such equipment.

003.02 Activity Buses. Activity Buses, when used exclusively for an activity trip or trips, are exempt from the following requirements of this Chapter:

003.02A Section 005.07 (color)

003.02B Section 006.18C (alternating flashing signal lamps)

003.02C Section 006.28 (stop signal arm)

003.03 Equipment Provisions Applying to Use of a School Bus for Purposes of Transportation Other Than To And From School. Section 60-6,175(6) R.R.S. provides that "When a school bus is being operated upon a highway for purposes other than the actual transportation of children either to or from school, all markings thereon indicating school bus shall be covered or concealed. The stop signal arm and system of alternately flashing stop warning lights shall not be operable through the usual controls."

003.04 Use of Coach Buses By Schools. Schools may charter or contract for the use of coach buses, as provided in Section 79-602 R.R.S., if such vehicles have been inspected or are subject to inspection under the rules and regulations of the Public Service Commission, Carrier Enforcement Division of the State Patrol, or the Division of Motor Carrier Services pursuant to Sections 75-363 through 75-369.07 R.R.S. Schools may own and operate coach buses for use on student activity trips if: (1) such vehicles are exempt from the inspection under Section 79-602 R.R.S., or (2) if such vehicles are not exempt from inspection under Section 79-602 R.R.S., if the school board or governing authority has such a vehicle inspected before school opens in the Fall and each eighty (80) days during that part of the year when school is in session by a motor vehicle mechanic it has appointed. The mechanic shall thoroughly inspect every vehicle as to brakes, lights, windshield wipers, window glass, tires, doors, heaters, defrosting equipment, steering gear, and exhaust system for compliance with the criteria prescribed for these items in Sections 009 and 010 of this Chapter. Within five (5) days after such inspection, the mechanic shall make a report of his or her inspection in writing on forms provided by the Department of Education to the local school board or governing authority, and the Board or governing authority shall cause any deficiencies to be corrected.

003.05 Compliance with Minimum Allowable Safety Criteria. As provided in Section 79-602 R.R.S., the school's appointed mechanics shall inspect and assure that pupil transportation vehicles meet the minimum allowable safety criteria. Any item not meeting such criteria shall be brought into compliance prior to the vehicle being used to transport students.

004 Chassis and Body Delivery Requirements.

004.01 The body and chassis manufacturer shall provide the following materials and information for direct delivery to the customer:

004.01A Line set tickets for each individual unit.

004.01B A copy of the pre-delivery service performed and verified by a checkout form for each individual unit.

004.01C Warranty book and statement of warranty for each individual unit.

005 School Bus and Activity Bus Chassis Minimum Equipment Standards.

005.01 Air Cleaner. A dry element type air cleaner shall be provided.

005.01A All diesel engine air filters shall include a latch-type restriction indicator that retains the maximum restriction developed during operation of the engine. The indicator should include a reset control so the indicator can be returned to zero when desired.

005.02 Axles. The front and rear axle and suspension systems shall have a gross axle weight rating at ground commensurate with the respective front and rear weight loads of the bus loaded to the rated passenger capacity.

005.03 Brakes.

005.03A School bus chassis with a manufacturer's rated capacity of 72 passengers or greater shall be equipped with full compressed air brakes.

005.03B Brakes - General.

005.03B1 The chassis brake system shall conform to the provisions of FMVSS No. 105, *Hydraulic and Electric Brake Systems,* No. 106*, Brake Hoses,* and No.121, *Air Brake Systems,* as applicable.

005.03B2 The anti-lock brake system (ABS), provided in accordance with FMVSS No. 105, *Hydraulic and Electric Brake Systems* or No. 121 *Air Brake Systems*, shall provide wheel speed sensors for each front wheel and for each wheel on at least one (1) rear axle. The system shall provide anti-lock braking performance for each wheel equipped with sensors. (Four Channel System).

005.03B4 All brake systems shall be designed to permit visual inspection of brake lining wear without removal of any chassis component(s).

005.03B5 The brake lines, booster-assist lines, and control cables shall be protected from excessive heat, vibration and corrosion and installed in a manner which prevents chafing.

005.03B6 The parking brake system for either air or hydraulic service brake systems may be of a power assisted design. If a power assisted design is present, the power parking brake actuator shall be a push-pull device located on the instrument panel within seated reach of the 5th percentile female driver. As an option, the parking brake may be set by placing the automatic transmission shift control mechanism in the “park” position. (Type A buses are exempt).

005.03B7 The power-operated parking brake system may be interlocked to the engine key switch. Once the parking brake has been set the ignition switch turned to the “off” position, the parking brake cannot be released until the key switch is turned back to the “on” position.

005.03C Hydraulic Brakes.

005.0C1 Buses using a hydraulic-assist brake shall be equipped with audible and visible warning signals that provide a continuous warning to the driver of a loss of fluid flow from the primary source and of a failure of the back-up pump system.

005.03D Air Brakes.

005.03D1 The air pressure supply system shall include a desiccant-type air dryer installed according to the manufacturers' recommendations. The air pressure storage tank system may incorporate an automatic drain valve.

005.03D2 The chassis manufacturer shall provide an accessory outlet for air-operated systems installed by the body manufacturer. This outlet shall include a pressure protection valve.

005.03D3 For air brake systems, an air pressure gauge shall be provided in the instrument panel capable of complying with Commercial Driver's License (CDL) pre-trip inspection requirements.

005.03D4 All air brake-equipped buses shall be equipped with a service brake interlock. The parking brake cannot be released until the brake pedal is depressed.

005.03D5 Air brake systems shall include a system for anti-compounding of the service brakes and parking brakes.

005.03D6 Air brakes shall have both a visible and audible warning device whenever the air pressure falls below the level where warnings are required under FMVSS No. 121, *Air Brake Systems*.

005.04 Bumper, Front.

005.04A All school buses shall be equipped with a front bumper. The front bumper shall be furnished by the chassis manufacturer as part of the chassis for all types of chassis unless there is a specific arrangement between the chassis manufacturer and body manufacturer that the body manufacturer will furnish the front bumper.

005.04B In all buses except Type A-1 buses, the front bumper shall be equivalent in strength and durability to pressed steel channel, at least 3/16 inch thickness and not less than 8 inch wide (high). It shall extend beyond forward-most part of the body, grille, hood, and fenders and shall extend to outer edges of the fenders at the bumper's top line.

Type A-1 buses having a GVWR of 14,500 pounds or less may be equipped with an Original Equipment Manufacturer (OEM) supplied bumper. The front bumper shall be of sufficient strength to permit being pushed by another vehicle on a smooth surface with a 5 degree grade, without permanent distortion.

005.04C The front bumper, except breakaway bumper ends, shall be of sufficient strength to permit pushing a vehicle of equal gross vehicle weight without permanent

distortion to the bumper, chassis or body.

005.04D Tow eyes or hooks shall be furnished and attached so they do not project beyond the front bumper. Tow eyes or hooks attached to the chassis frame shall be furnished by the chassis manufacturer. This installation shall be in accordance with the chassis manufacturer's specifications. (Type A buses are exempt.) (See Section 006.32).

005.04E The bumper shall be designed or reinforced so that it will not deform when the bus is lifted by a chain that is passed under the bumper (or through the bumper if holes are provided for this purpose) and attached to both tow eyes. For the purpose of meeting this standard, the bus shall be empty and positioned on a level, hard surface and both tow eyes shall share the load equally.

005.05 Certification.

005.05A Upon request by the Nebraska Department of Education, chassis manufacturers will certify that their product meets or exceeds all applicable Federal and State of Nebraska rules and regulations in effect at the time of construction.

005.06 Clutch.

005.06A Clutch torque capacity shall be equal to or greater than the engine torque output.

005.06B A starter interlock shall be installed to prevent actuation of the starter if the clutch pedal is not depressed.

005.07 Color. (Activity buses are exempt.)

005.07A Chassis, including wheels and the bumpers, shall be painted silver, gray, white, yellow or black as received from the manufacturer.

005.07B Cowl hood and fenders shall be painted National School Bus Yellow.

005.07C Grille may be chrome, anodized aluminum finish or painted National School Bus Yellow (as described in the School Bus Manufacturers Technical Council publication "National School Bus Yellow Color Standard," SBMTC-008). (See Appendix A)

005.08 Cooling System.

005.08A The cooling system radiator shall be of sufficient capacity to cool the motor at all speeds in all gears. Thermostatic controls shall be high temperature type.

005.08B The cooling system fan shall be of heavy-duty reinforced type with clutch type drive. The clutch must automatically control fan.

005.08C The chassis cooling system shall be equipped with heavy-duty truck type water pump.

005.08D Permanent base anti-freeze shall be provided by the chassis manufacturer to protect the cooling system to a minimum of -40 degrees F when tested at normal

engine temperature.

005.09 Drive Shaft.

005.09A The drive shaft shall be protected by a metal guard or guards of steel or equivalent strength around circumference of the drive shaft to prevent it from whipping through floor or dropping to ground if broken.

005.10 Electrical System.

005.10A Battery.

005.10A1 The storage batteries shall have minimum cold cranking capacity rating (cold cranking amps) equal to the cranking current required for 30 seconds at 0 degrees Fahrenheit and a minimum reserve capacity rating of 120 minutes at 25 amps.

005.10A2 All batteries are to be secured in a sliding tray in the body. Chassis manufacturers shall mount the battery temporarily on the chassis frame, except that van conversion or cutaway front-section chassis may be secured in accordance with the manufacturer's standard configuration. In these cases, the final location of the battery and the appropriate cable lengths shall be agreed upon mutually by the chassis and body manufacturer.

005.10B Alternator.

005.10B1 All Type A-2 and Type B buses with a GVWR of 15,000 lbs or less shall have a minimum 130-amp alternator.

005.10B2 Type A-2 and Type B buses over 15,000 lbs GVWR and all Type C and Type D buses shall be equipped with a heavy-duty truck or bus-type alternator meeting Society of Automotive Engineers (SAE) J-180, having a minimum output rating of 130-amp or higher, and shall produce a minimum current output of 50 percent of the rating at engine idle speed.

005.10B3 Buses equipped with accessories such as an electrically powered wheelchair lift or air conditioning shall be equipped with a device that monitors the electrical system voltage and advances the engine idle speed when the voltage drops to, or below, a pre-set level.

005.10B4 A belt alternator drive shall be capable of handling the rated capacity of the alternator with no detrimental effect on any other driven components. (See School Bus Manufacturer Technical Council's "School Bus Technical Reference" for estimating required alternator capacity.)

005.10B5 A direct drive alternator is permissible in lieu of a belt driven alternator.

005.10C Electrical Components. Materials in all electrical components shall contain no mercury.

005.10D Wiring.

005.10D1 All wiring shall conform to current applicable recommended practices of the Society of Automotive Engineers (SAE).

005.10D2 All wiring shall use color and at least one other method of identification. The other method shall be either a number code or name code, and each chassis shall be delivered with a wiring diagram that illustrates the wiring of the chassis.

005.10D3 The chassis manufacturer shall install a readily accessible terminal strip or plug on the body side of the cowl or in an accessible location in the engine compartment of vehicles designed without a cowl. The strip or plug shall contain the following terminals for the body connections:

005.10D3a Main 100 amp body circuit;

005.10D3b Tail lamps;

005.10D3c Right turn signal;

005.10D3d Left turn signal;

005.10D3e Stop lamps;

005.10D3f Back-up lamps; and

005.10D3g Instrument panel lights (rheostat controlled by headlamp switch).

005.10E Circuits.

005.10E1 An appropriate identifying diagram (color plus a name or number code) for all chassis electrical circuits shall be provided to the body manufacturer for distribution to the end user.

005.10E2 The headlight system must be wired separately from the electronic controlled body solenoid/module.

005.10F Daytime Running Lamps (DRL). A Daytime Running Lamps system shall be provided.

005.11 Exhaust System.

005.11A Exhaust pipe, muffler, and tailpipe shall be outside the bus body compartment and attached to chassis, so as not to damage any other chassis component.

005.11B Tailpipe shall be constructed of corrosion resistant tubing of 16-gauge steel or equivalent.

005.11C Chassis manufacturers shall furnish an exhaust system with tailpipe of sufficient length to exit the rear of the bus or at the left side of the bus body no more

than 18 inches forward of the front edge of the rear wheel house opening. If designed to exit at the rear of the bus, the tailpipe shall extend at least five (5) inches beyond the end of the chassis frame. If designed to exit to the side of the bus, the tailpipe shall extend at least 48.5 inches (51.5 inches if the body is to be 102 inches wide) outboard from the chassis centerline.

005.11C1 On Types C and D vehicles, the tailpipe shall not exit beneath a fuel fill or emergency door exit.

005.11C2 Type A and B chassis may be furnished with the manufacturer's standard tailpipe configuration.

005.11D Exhaust system on a chassis shall be adequately insulated from fuel system.

005.11E The muffler shall be constructed of corrosion-resistant material.

005.12 Fenders, Front - Type C Vehicles.

005.12A Total spread of outer edges of front fenders, measured at fender line, shall exceed the total spread of front tires when front wheels are in a straight ahead position.

005.12B Front fenders shall be braced and free from any body attachment. Rear bottom edge of front fender shall extend to the bottom of the front body section.

005.13 Frame.

005.13A Frame lengths shall be established in accordance with the design criteria for the complete vehicle.

005.13B Any secondary manufacturer that modifies the original chassis frame shall provide a warranty at least equal to the warranty offered by the original equipment manufacturer (OEM), and shall certify that the modification and other parts or equipment affected by the modification shall be free from defects in material and workmanship under normal use and service intended by the OEM.

005.13C Holes in top or bottom flanges or, side units of the frame, and welding to the frame shall not be permitted except as provided or accepted by the chassis manufacturer.

005.13D Frames shall not be modified for the purpose of extending the wheelbase.

005.14 Fuel Tank.

005.14A Fuel tank or tanks having a minimum 30 gallon capacity shall be provided by the chassis manufacturer. The tanks shall be filled and vented to the outside of the body and the fuel filter should be placed in a location where accidental fuel spillage will not drip or drain on any part of the exhaust system.

005.14B Fuel lines shall be mounted to the chassis frame in such a manner that the frame provides the maximum possible protection from damage.

005.14C The fuel system shall comply with FMVSS No. 301, *Fuel System Integrity*.

005.14D Fuel tank(s) may be mounted between the chassis frame rails or outboard of the frame rails on either the left or right side of the vehicle. The actual draw capacity of each fuel tank shall be a minimum of 83% of the tank capacity.

005.14E Installation of alternative fuel systems, including fuel tanks and piping from tank to engine, shall comply with all applicable fire codes.

005.14E1 Installation of Liquefied Petroleum Gas (LPG) tanks shall comply with National Fire Protection Association (NFPA) 58.

005.14E2 Installation of Compressed Natural Gas (CNG) containers shall comply with FMVSS No. 304, *Compressed Natural Gas Fuel Container Integrity.*

005.14E3 The CNG Fuel System shall comply with FMVSS No. 303, *Fuel System Integrity of Compressed Natural Gas Vehicles.*

005.15 Fuel Alternative. School transportation vehicles may use alternative fuel systems. The fuel system integrity shall meet the specified leakage performance standards when impacted by a moving contoured barrier in accordance with test conditions specified in FMVSS No. 301 or FMVSS No. 303, as applicable.

005.15A Original equipment manufacturers (OEMs) and conversion systems using compressed natural gas (CNG) shall comply with National Fire Protection Association (NFPA) Standard 52A "Compressed Natural Gas Vehicular Fuel Systems" in effect at the time of installation. Fuel systems using liquefied petroleum gas (LPG) shall comply with NFPA Standard 58A "Liquefied Petroleum Gases Engine Fuel Systems" in effect at the time of installation.

005.15B All alternative fuel buses shall be capable of traveling not less than 200 miles with a full load, except those powered by electricity which shall travel not less than 80 miles.

005.15C Natural gas powered buses shall be equipped with an interior/exterior gas detection system. All natural gas powered buses shall be equipped with an automatic or manual fire detection and suppression system.

005.15D All materials and assemblies used to transfer or store alternative fuels shall be installed outside the passenger/driver compartment.

005.15E All Type C and D buses using alternative fuel shall meet the same base requirements of BUS CHASSIS STANDARDS for Power and Gradeability i.e., at least one published net horsepower per each 185 pounds of GVWR.

005.15F The total weight shall not exceed the GVWR when loaded to rated capacity.

005.15G The manufacturer supplying the alternative fuel equipment must provide the owner and operator with adequate training and certification in fueling procedures, scheduled maintenance, troubleshooting, and repair of alternative fuel equipment.

005.15H All fueling equipment shall be designed specifically for fueling motor vehicles and shall be certified by the manufacturer as meeting all applicable federal, state and

industry standards.

005.15I All on-board fuel supply containers shall meet all appropriate requirements of the American Society Mechanical Engineers (ASME) code, United States Department of Transportation (DOT) regulations, or applicable FMVSS and NFPA Standards.

005.15J All fuel supply containers shall be securely mounted to withstand a static force of eight times their weight in any direction.

005.15K All safety devices that discharge to the atmosphere shall be vented to the outside of the vehicle. The discharge line from the safety relief valve on all school buses shall be located in a manner appropriate to the characteristics of the alternative fuel. Discharge line shall not pass through the passenger compartment.

005.15L A positive quick acting (1/4 turn) shut-off control valve shall be installed in each gaseous fuel supply lines as close to the fuel supply containers as possible. The controls for this valve shall be placed in a location easily operable from the exterior of the vehicle. The location of the valve control shall be clearly marked on the exterior surface of the bus.

005.15M An electrical grounding system shall be required for grounding of the fuel system during maintenance related venting.

005.15N Bio-Diesel must conform to the specifications of ASTM 6751, *Biodiesel Standard*.

005.16 Governor. The engine and road speed governors may be installed to limit engine speed to a maximum revolutions per minute as recommended by the engine manufacturer and road speed at a maximum state speed limit or tachometer shall be installed so engine speed may be known to driver.

005.17 Heating System. The chassis engine shall have plugged openings for the purpose of supplying hot water for the bus heating system. The opening shall be suitable for attaching 3/4 inch pipe thread/hose connector. The engine shall be capable of supplying coolant having a temperature of at least 170 degrees Fahrenheit at the engine cooling thermostat opening temperature. The coolant flow rate shall be 50 pounds per minute at the return end of 30 feet of one inch inside diameter automotive hot water heater hose. (School Bus Manufacturer's Technical Council (SBMTC) C-001).

005.18 Horn. The bus shall be equipped with a horn(s) of standard make. Each horn shall be capable of producing complex sounds in bands of audio frequencies between approximately 250 and 2,000 cycles per second and tested in accordance with Society of Automotive Engineers (SAE) J-377.

005.19 Instruments and Instrument Panel.

005.19A Chassis shall be equipped with the instruments and gauges listed below (lights in lieu of gauges are not acceptable):

005.19A1 Speedometer.

005.19A2 Odometer which will give accrued mileage, (to seven digits) including tenths of miles.

005.19A3 Voltmeter: An ammeter with graduated charge and discharge indications, is permitted in lieu of voltmeter; however, when used, the ammeter wiring must be compatible with the current flow of the system. (Exempt from Type A Bus.)

005.19A4 Oil-pressure gauge.

005.19A5 Water-temperature indicator.

005.19A6 Fuel gauge.

005.19A7 Upper-beam headlamp indicator.

005.19A8 Brake Air Pressure Gauge (air brakes): Brake indicator lamp (vacuum/hydraulic brakes) or brake indicator lamp (hydraulic/hydraulic).

005.19A9 Turn signal Indicator.

005.19A10 Tachometer. (Exempt from Type A Buses.)

005.19A11 Glow-plug indicator light where appropriate.

005.19B All instruments shall be easily accessible for maintenance and repair.

005.19C The instruments and gauges shall be mounted on instrument panel in such manner that each is clearly visible to driver in normal seated position.

005.19D Instruments and controls must be illuminated as required by FMVSS No. 101, *Controls and Displays.*

005.19E Multi-Function Gauge (MFG).

005.19E1 The driver must be able to manually select any displayable function of the gauge on a MFG whenever desired.

005.19E2 Whenever an out-of-limits condition that would be displayed on one or more functions of a MFG occurs, the MFG controller shall automatically display this condition on the instrument cluster. This shall be in the form of an illuminated telltale warning lamp as well as having the MFG automatically display the out-of-limits indications. If two or more functions displayed on the MFG go out of limits simultaneously, then the MFG shall sequence automatically between those functions continuously until the condition(s) are corrected.

005.19E3 The use of a MFG does not relieve the need for audible warning devices, where required.

005.20 Oil Filter. An oil filter with a replaceable element shall be provided and connected by flexible oil lines if it is not a built-in or an engine-mounted design. Oil filter shall have a capacity in accordance with the engine manufacturer's recommendations.

005.21 Openings. All openings in floorboard or firewall between chassis and passenger

carrying compartment, such as for gearshift lever and auxiliary brake lever, shall be sealed.

005.22 Passenger Load.

005.22A Average calculated Gross Vehicle Weight (GVW) is the sum of average weight, plus average body weight, plus 150 pounds for driver's weight, plus total seated pupil weight (based on 120 pounds per pupil).

005.22B Actual gross vehicle weight (GVW) is the sum of the chassis weight plus the body weight, plus the driver's weight, plus total seated pupil weight.

005.22B1 For the purposes of calculation, the driver's weight is 150 pounds and the pupil weight is 120 pounds per pupil.

005.22C Actual gross vehicle weight (GVW) shall not exceed the chassis manufacturer's gross vehicle weight rating (GVWR) for the chassis, nor shall the actual weight carried on any axle exceed the chassis manufacturer's Gross Axle Weight Rating (GAWR).

005.23 Retarder System. Retarder system, if used, shall limit the speed of the fully loaded school bus at 19.0 mph on a 7% grade for 3.6 miles.

005.24 Shock Absorbers. A bus shall be equipped with double-acting shock absorbers compatible with manufacturer's rated axle capacity at each wheel location.

005.25 Springs and Suspension Systems.

005.25A The capacity of springs or suspension assemblies shall be commensurate with the chassis manufacturer's GVWR.

005.25B Rear leaf springs shall be of a progressive rate or multi-stage design. Front Leaf springs shall have a stationary eye at one end and shall be protected by a wrapped leaf, in addition to the main leaf.

005.26 Steering Gear.

005.26A The steering gear shall be approved by the chassis manufacturer and designed to ensure safe and accurate performance when vehicle is operated with maximum load and at maximum speed.

005.26B If external adjustments are required, steering mechanism shall be accessible to make adjustments.

005.26C No changes shall be made in steering apparatus which are not approved by chassis manufacturer.

005.26D There shall be clearance of at least two (2) inches between steering wheel and cowl instrument panel, windshield, or any other surface.

005.26E Power steering is required and shall be of the integral type with integral valves.

005.26F The steering system shall be designed to provide a means for lubrication of all wear-points which are not permanently lubricated.

005.27 Throttle. The force required to operate the throttle shall not exceed 16 pounds throughout the full range of accelerator pedal travel.

005.28 Tires and Rims.

005.28A Tires and rims of the proper size and tires with a load rating commensurate with chassis manufacturer's gross vehicle weight rating shall be provided. The use of multipiece rims and/or tube-type tires shall not be permitted on any school bus ordered after December 31, 1995 .

005.28B Dual rear tires shall be provided on Type A-2, Type B, Type C and Type D school buses.

005.28C All tires on a bus shall be of the same size. The load range of the tires shall meet or exceed the GVWR, as required by FMVSS No. 120, *Tire Selection and Rims for Motor Vehicles Other than Passenger Cars with a GVWR of More Than 10,000 Pounds*.

005.28D If the bus is equipped with a spare tire and rim assembly, it shall be of the same size as those mounted on the bus.

005.28E Chains or snow tires shall be supplied if required by local regulation or warranted by circumstances.

005.28F Recapped tires are permissible as replacements on equipment now in operation for use on rear wheels only.

005.28G Front tires with a tread depth of less than 4/32 inches and rear tires with a tread depth of less than 2/32 inches shall be removed from normal operating conditions.

005.28H If a tire carrier is utilized, it shall be mounted in an accessible location outside of the passenger compartment.

005. 29 Transmission.

005.29A Automatic transmissions shall have no fewer then three (3) forward speeds and one (1) reverse speed. Mechanical shift selectors shall provide a detent between each gear position when the gear selector quadrant and shift selector are not steering-column mounted.

005.29B In manual transmissions, second gear and higher shall be synchronized, except when incompatible with engine power. A minimum of three (3) forward speeds and one (1) reverse speed shall be provided.

005.29C A transmission interlock, controlled by application of the service brake, shall be installed to prohibit accidental engagement of the automatic transmission.

005.30 Turning Radius.

005.30A Chassis with a wheel base of 264 inches or less shall have a right and left turn radius of not more than 42½ feet, curb to curb measurement.

005.30B Chassis with a wheelbase of 265 inches or more shall have a right and left turning radius of not more than 44½ feet, curb to curb measurement.

005.31 Undercoating. The chassis manufacturer or their agent shall coat the undersides of steel or metallic-constructed front fenders with a rust-proofing compound for which compound manufacturers have issued notarized certification of compliance to chassis builder that the compound meets or exceeds all performance and qualitative requirements of paragraph 3.4 of Federal Specification TT-C-520B, using modified tests.

006 School Bus and Activity Bus Body Minimum Equipment Standards.

006.01 Aisle.

006.01A Aisle shall be unobstructed at all times by any type of barrier, seat, wheelchair or tie down, unless a flip seat is installed and occupied.

006.01B Minimum clearance of aisle or passageway between seat rows leading to side emergency doors shall be a minimum of 12 inches at seat level.

006.01C The seat backs shall be slanted sufficiently to give aisle clearance of 15 inches at tops of seat backs.

006.02 Back-up Warning Alarm. An automatic audible alarm shall be installed behind the rear axle and shall comply with the published Backup Alarm Standards -Society of Automotive Engineers (SAE J994B), providing a minimum of 112 dBA or shall have a variable volume feature that allows the alarm to vary from 87 dBA to 112 dBA sound level, staying at least 5 dBA above the ambient noise level.

006.03 Battery.

006.03A The battery is to be furnished by the chassis manufacturer.

006.03B The body manufacturer shall securely attach the battery on a slide-out tray in a closed, vented compartment in the body skirt, so that the battery is accessible for convenient servicing from the outside. The battery compartment door or cover shall be hinged at the front or top, and be secured by a latch or other type fastener. Battery cables installed by the body manufacturer shall meet chassis manufacturer and SAE requirements.

006.03C If the bus is equipped with a battery shut-off switch, the switch is to be placed in a location not readily accessible to the driver or passengers.

006.04 Body Sizes.

006.04A The overall width of the school bus shall not exceed 102 inches, excluding accessories.

006.04B Bodies for conventional body-on-chassis type buses shall conform to all applicable provisions of the Federal Motor Vehicle Safety Standards (FMVSS).

006.04C The overall length of the school bus (body and chassis) shall not exceed 45 feet, excluding accessories.

006.04D The minimum inside body height shall be 72 inches measured at any point on longitudinal center line from front vertical bow to rear vertical bow. (Type A buses are exempt.)

006.05 Bumpers.

006.05A Front Bumpers. On a Type D school bus, if the chassis manufacturer does not provide a front bumper, it shall be provided by the body manufacturer. The bumper will conform to the standards described in Section 005.04 of this Chapter.

006.05B Rear Bumpers. Type A-1 bus bumpers shall be a minimum of 8 inches wide (high) and Type A-2, B, C, and D buses bumper shall be a minimum of 9 ½ inches wide. The bumper shall be of sufficient strength to permit being pushed by another vehicle without permanent distortion.

006.05B1 The bumper shall be wrapped around back corners of bus. It shall extend forward at least 12 inches, measured from rearmost point of body at floor line and shall be flush-mounted to the body sides or protected with an end panel.

006.05B2 The bumper shall be attached to chassis frame in such a manner that it may be removed. It shall be braced to resist deformation of the bumper resulting from impact from the rear and side.

006.05B3 The bumper shall extend at least 1 inch beyond rearmost part of body surface measured at the floor line.

006.05B4 The bottom of the rear bumper shall not be more than 30 inches above ground level.

006.06 Certification.

006.06A Body manufacturers shall, upon request of the Department of Education, certify that its product meets or exceeds all applicable Federal and State of Nebraska rules and regulations in effect on the date of manufacture.

006.06B Vendors of school buses shall certify, in writing, to the school bus purchaser that their product meets or exceeds all applicable Federal and State of Nebraska rules and regulations in effect at the corresponding date of manufacture; or in the alternative, the vendor shall provide to the purchaser a description of what equipment complies instead with minimum chassis and/or body standards in effect on a later date in accordance with Section 003.01A of this Chapter.

006.07 Color. (Activity buses are exempt.)

006.07A The school bus body shall be painted National School Bus Yellow as specified and described in the School Bus Manufacturers Technical Council publication “National School Bus Yellow Color Standard” (SBMTC-008) (See Appendix A).

006.07B The body exterior paint trim shall be black.

006.07C Optionally the roof of the bus may be painted white except that front and rear

roof caps shall remain National School Bus Yellow**.**

006.07D Retro Reflective Sheeting (See Appendix F)

006.07D1 Front and rear bumper shall be marked diagonally 45 degrees down to centerline of pavement with 2 inch wide strips of non-contrasting reflective material.

006.07D2 Rear of bus body shall be marked with strips of reflective National School Bus Yellow material to outline the perimeter of the back of the bus using material which conforms with the requirements of FMVSS No. 131, *School Bus Pedestrian Safety Devices* in effect on date of manufacture. The perimeter marking of rear emergency exits and/or the use of reflective "SCHOOL BUS" signs partially accomplish the objective of this requirement. To complete the perimeter marking of the back of the bus, strips of at least 1 3/4 inches reflective National School Bus Yellow material shall be applied horizontally above the rear windows and above the rear bumper extending from the rear emergency exit perimeter marking outward to the left and right rear corners of the bus; and vertical strips shall be applied at the corners connecting these horizontal strips.

006.07D3 "SCHOOL BUS" signs, if not of lighted design, shall be marked with reflective National School Bus Yellow material comprising background for lettering of the front and/or rear "SCHOOL BUS" signs.

006.07D4 Sides of bus body shall be marked with reflective National School Bus Yellow Material at least 1 3/4 inches in width, extending the length of the bus body and located (vertically) between the floor line and the beltline.

006.08 Communications. School bus shall be equipped with a two way communication system which can be used at any point on the vehicle's route. The system can be after-market provided.

006.09 Construction.

006.09A Construction shall provide a reasonable dustproof and watertight unit.

006.09A1 Buses shall meet FVMSS 220, *Rollover Protection and* FMVSS 221, *Body Joint Strength.*

006.09A2 For buses manufactured on or after the implementation date of this Rule**:**

006.09A2a Buses shall pass the “Side Intrusion Test.” The bus body shall be constructed to withstand an intrusion force equal to the curb weight of the vehicle; but shall not exceed 20,000 pounds, whichever is less. Each vehicle shall be capable of meeting this requirement when tested in accordance with the procedures set forth below.

The complete body structure, or a representative seven-body section mock up with seats installed, shall be load-tested at a location 24-inches plus or minus two inches above the floor line, with a maximum 10-inch diameter cylinder, 48 inches long, mounted in a horizontal plane.

The cylinder shall be statically loaded to the required force of curb weight or 20,000 pounds, whichever is less, in a horizontal plane with the load applied from the exterior toward the interior of the test structure. Once the minimum load has been applied, the penetration of the loading cylinder into the passenger compartment shall not exceed a maximum of ten inches from its original point of contract. There can be no separation of lapped panels or construction joints. Punctures, tears or brakes in the external panels are acceptable but are not permitted on any adjacent interior panel.

Body companies shall certify compliance with this intrusion requirement, including test results, if requested by the Nebraska Department of Education.

006.09B If floor insulation is requested by the local school district or governing authority, it shall be either 5 ply nominal 5/8 inch thick plywood, or a material of equal or greater strength and insulation R-value and it shall equal or exceed properties of exterior-type Douglas fir plywood, C-D Grade, as specified in standard PSI-83 issued by U.S. Department of Commerce (1983). All exposed edges shall be sealed. Type A buses shall be equipped with nominal ½ inch thick plywood meeting above requirements. Equivalent material may be used to replace plywood, provided it has equal or greater insulation R-value, sound abatement, deterioration-resistant and moisture-resistant properties.

006.10 Defrosters. (Also see Section 006.14 Heaters)

006.10A All school buses shall be equipped with defrosters with sufficient flow of heated air to keep windshield, window to left of driver and glass in entrance door clear of fog, frost and snow. The defrosting system shall conform to SAE J381.

006.10B The defroster and defogging system shall be capable of furnishing heated, outside ambient air except that part of the system furnishing additional air to the windshield, entrance door and step well may be of the recirculating air type.

006.10C Auxiliary fans are not considered defrosting or defogging systems.

006.10D Portable heaters shall not be used.

006.11 Doors.

006.11A Entrance Door.

006.11A1 Entrance door shall be in the driver's control, designed as to afford easy release and provide a positive latching device on manual operating door so as to prevent accidental opening. Manual door controls shall not require more than 25 pounds of force to operate at any point throughout the range of operation, as tested on a 10 percent grade both uphill and downhill.

006.11A2 Entrance door shall be located on right side of bus opposite driver within direct view of driver.

006.11A3 Entrance door shall have a minimum horizontal opening of 24

inches and a minimum vertical opening of 68 inches.
006.11A4 Entrance door shall be of split type and shall open outward.

006.11A5 All entrance door glass shall be made of safety glass. Bottom of lower glass panel shall not be more than 10 inches from the top surface of the bottom step. Top of upper glass panel shall not be more than 3 inches from the top of door.

006.11A6 Vertical closing edges shall be equipped with flexible material.

006.11A7 Power operated doors must be equipped with an emergency release valve, switch or device placed above or to the immediate left or right of the service door and clearly labeled.

006.11A8 Padding at the top of edge of each door opening shall be 3 inches wide and 1 inch thick and extend full width of the door opening

006.11B Emergency Exits.

006.11B1 All installed emergency exits shall comply with the design and performance requirements of FMVSS No. 217, *Bus Emergency Exits and Window Retention and Release*.

006.11B1a The upper portion of the emergency door shall be equipped with safety glazing, the exposed area of which shall be at least 400 square inches. The lower portion of the rear emergency door~~s~~ on Types A-2, B, C, and D vehicles shall be equipped with a minimum of 350 square inches of safety glazing.

006.11B1b There shall be no steps leading to an emergency door except on Types C and D all-wheel drive buses.

006.11B1c The emergency door(s) shall be equipped with padding at the top edge of each door opening. Padding shall be at least three inches wide and one-inch thick, and shall extend the full width of the door opening.

006.11B1d There shall be no obstruction higher than ¼ inch across the bottom of any emergency door opening.

006.11B1e The rear emergency window shall have an assisted lifting device that will aid in lifting and holding the rear emergency window open.

006.11B2a Types A, B, C, and D buses shall be equipped with a total number of emergency exits as follows for the indicated capacities of the buses. Exits required by FMVSS 217 may be included to comprise the total number of exits specified.

Passengers	Exits
up to 42	1 emergency exit per side and 1 roof hatch
43 to 78	2 emergency exits per side and 2 roof hatches

79 to 90 3 emergency exits per side and 2 roof hatches

006.11B2b Side emergency exit windows when installed may be vertically hinged on the forward side of the window. No side emergency exit window will be located above the stop arm.

006.12 Emergency Equipment. All buses shall be equipped with emergency equipment as listed in this section. Any of the following emergency equipment may be mounted in an enclosed compartment, provided the compartment is labeled in not less than one-inch letters, identifying each piece of equipment contained therein.

006.12A Fire Extinguisher. The bus shall be equipped with at least one (1) Underwriter's Laboratory Inc. (UL) approved pressurized, dry chemical-type fire extinguisher, with hose, mounted and secured in a bracket located in the driver's compartment readily accessible to the driver and passengers. A pressure gauge shall be mounted on the extinguisher shall be easily read without moving the extinguisher from its mounted position.

006.12A1 The fire extinguisher shall have a total rating of 2-A:10-BC or greater. The operating mechanism shall be sealed with a type of seal that will not interfere with use of the fire extinguisher.

006.12B First Aid Kit. The bus shall have at least one removable, moisture proof and dustproof first aid kit in an accessible place in the driver's compartment. It shall be properly mounted and clearly identified as a first aid kit. The location for the first aid kit shall be marked. Contents of the first aid kit are listed in Appendix B of this Chapter.

006.12B1 All school bus bodies with a manufacturer's rated seating capacity of thirty (30) or less shall be equipped with one (1) first aid kit.

006.12B2 All school bus bodies with a manufacturer's rated seating capacity greater than thirty (30) shall be equipped with two (2) first aid kits.

006.12B3 When two (2) first aid kits are carried on the bus, one (1) kit shall be mounted over the rear exit door and the other in the driver's compartment.

006.12C Body Fluid Clean-up Kit. Each bus shall have a removable and moisture proof body fluid clean-up kit. It shall be securely mounted and identified as a body fluid clean-up kit. (Required contents of kit are listed in Appendix C of this Chapter.)

006.12D Warning Devices. The school bus shall carry three (3) retroreflective triangle road warning devices that meet the requirements of FMVSS No. 125, *Warning Devices.* They shall be mounted in an accessible place.

006.13 Floor, Covering.

006.13A Floor in the under seat area, including tops of wheel housings, driver's compartment, and toe board, shall be covered with an elastomer floor covering, having a minimum overall thickness of .125 inch and a calculated burn rate of 0.1 or less, using the test methods, procedures and formulas listed in FMVSS No. 302, *Flammability of Interior Materials*. The floor under the driver's seat in all Type A buses may be manufacturer's standard flooring and floor covering.

006.13B Floor covering in aisle shall be ribbed or other pattern of elastomer and have a calculated burn rate of 0.1 or less using the test methods, procedures, and formulas listed in FMVSS No. 302, *Flammability of Interior Materials*. Minimum overall thickness shall be 3/16th in. measured from tops of ribs.

006.13C Floor covering must be permanently bonded to floor and must not crack when subjected to sudden changes in temperature. Bonding or adhesive material shall be waterproof and shall be of type recommended by manufacturer of floor-covering material. All seams must be sealed with waterproof sealer.

006.13D A flush-mounted, screw-down plate that is secured and sealed shall be provided to access the fuel tank sending unit and or fuel pump. (This plate shall not be installed under flooring material. (Type A Buses are exempt.)

006.14 Heaters. (See Section 006.10 Defrosters)

006.14A Heaters shall be of hot water type and/or combustion type.

006.14B If only one heater is used, it shall be the fresh air type or the combination fresh air and recirculating air type. One heater shall be installed near the right front entrance.

006.14C If more than one hot water heater is used, additional heaters may be of recirculating air type.

006.14D The heating system shall be capable of maintaining bus interior temperatures as specified in Society of Automotive Engineers (SAE) test procedure J2233.

006.14E Optional: Auxiliary fuel-fired heating systems are permitted, provided they comply with the following:

006.14E1 The auxiliary heating system fuel shall utilize the same type fuel as specified for the vehicle engine.

006.14E2 Heater(s) may be direct hot air or connected to the engine's coolant system.

006.14E3 An auxiliary heating system, when connected to the engine's coolant system, may be used to preheat the engine coolant or preheat and add supplementary heat to the bus's heating system.

006.14E4 Auxiliary heating systems shall be installed pursuant to the manufacturer's recommendations and shall not direct exhaust in such a manner that will endanger bus passengers.

006.14E5 The auxiliary heating system shall be low voltage.

006.14E6 Auxiliary heating systems shall comply with FMVSS No. 301, *Fuel system integrity* and all other applicable FMVSS in effect on date of manufacture, as well as SAE test procedures.

006.14E7 All combustion heaters shall be in compliance with current Federal Motor Carrier Safety Regulations.

006.14F All heaters installed by body manufacturers shall bear a nameplate that indicates the heater rating in accordance School Bus Manufacture Technical Council SBMTC-001. The plate shall be affixed by heater manufacturer and shall constitute certification that the heater performance is as shown on the plate.

006.14G Heater hoses shall be adequately supported to guard against excessive wear due to vibration. The hoses shall not dangle or rub against the chassis or sharp edges and shall not interfere with or restrict the operation of any engine function, such as the spark advance of an automatic distributor. Heater hose shall conform to the standards of the Society of Automotive Engineers (SAE) Standard J20c. Heater lines on the interior of the bus shall be shielded to prevent scalding of the driver or passengers.

006.14H Each hot water system installed by a body manufacturer shall include one shut-off valve in the pressure line and one shut-off valve in the return line with both valves at the engine in an accessible location, except that on all Type A and B buses the valves may be installed in another accessible location.

006.14I There shall be a water flow regulating valve installed in the pressure line for convenient operation by the driver while seated.

006. 14J Accessible bleeder valves shall be installed in an appropriate place in the return lines of body company-installed heaters to remove air from the heater lines.

006.14K Access panels shall be provided to make heater motors, cores, and fans readily accessible for service. Outside access panel may be provided for the driver's heater.

006.15 Identification.

006.15A Body shall bear words "SCHOOL BUS" in black letters at least 8 inches high on both front and rear of body or on signs attached thereto. Lettering shall be placed as high as possible without impairment of its visibility. Lettering shall conform to "Series B" of Standard Alphabets for Highway Signs of the Federal Highway Administration (See 23 CFR 655.601). "SCHOOL BUS" lettering shall have a reflective background or may be illuminated by backlighting. Activity buses may instead bear lettering identifying the school, school district, school mascot and/or school logos at these locations.

006.15B Required lettering and numbering is:

006.15B1 District, school, company name or owner of the bus displayed at the beltline.

006.15B2 If the bus has a district or other identification number, it shall be displayed on the sides, on the rear, and on the front.

006.15C Other lettering, numbering or symbols which may be displayed on the exterior of the bus shall be limited to:

006.15C1 Bus identification number on the top of the bus, in addition to required numbering on the sides, rear, and front;

006.15C2 The location of the battery(ies) identified by the word “BATTERY” or “BATTERIES” on the battery compartment door in two-inch lettering;

006.15C3 Symbols or letters not to exceed 64 square inches of total display within 36 inches of the service door, displaying information for identification by the pupils of the bus or route served.

006.15C4 Manufacturer, dealer or school identification or mascots/logos;

006.15C5 Symbols identifying the bus as equipped for or transporting pupils with special needs;

006.15C6 Lettering on the rear of the bus relating to school bus flashing signal lamps or railroad stop procedures; and

006.15C7 Identification of fuel type in two-inch lettering adjacent to the fuel filler opening.

006.16 Insulation.

006.16A The school bus body shall be fully insulated in the roof and all body panels to deaden sound, reduce vibrations, and reduce the transfer of heat.

006.16B The school bus body side walls and ceilings shall be insulated with a fire resistant material of a type approved by Underwriters Laboratories Inc., and which has a thermal insulation R value of 5.5 at least equivalent to 1½ inch thickness of fiber glass in addition to the usual sprayed-on material. All insulation shall be firmly installed so that it will retain its original position.

006.16C For floor insulation, see Section 006.09B of this Chapter.

006.17 Interior.

006.17A Interior of school bus body shall have steel or equivalent strength material, inner linings on ceilings and walls and be free of all unnecessary projections, which includes attendant hand rails, to minimize the potential for injury. This standard requires inner lining on ceilings and walls. If ceiling is constructed to contain lapped joints, forward panel shall be lapped by rear panel and exposed edges shall be beaded, hemmed, flanged, or otherwise treated to minimize sharp edges.

006.17B The driver's area forward of the foremost padded barriers will permit the mounting of required emergency equipment and vehicle operation equipment.

006.17C Every school bus shall be constructed so that the noise level taken at the ear of the occupant nearest to the primary vehicle noise source shall not exceed 85 dBA when tested according to the procedure found in Appendix E of this Chapter.

006.18 Lamps and Signals.

006.18A Interior lamps shall be provided which adequately illuminate aisle and stepwell. Stepwell light shall be illuminated by a service door operated switch, to illuminate only when headlights and clearance lights are on and service door is open.

006.18B Body instrument panel lights shall be controlled by an independent rheostat switch or may be controlled by the rheostat that operates the gauge lighting.

006.18C School Bus Alternately Flashing Signal Lamps. (Activity buses are exempt.)

006.18C1 Bus shall be equipped with two (2) red lamps at the rear of vehicle and two (2) red lamps at the front of the vehicle.

006.18C2 In addition to the four red lamps described above, four (4) amber lamps shall be installed so that one (1) amber lamp is located no further than three (3) inches from each red signal lamp, at same level, but closer to vertical centerline of bus. The system of red and amber signal lamps shall be wired so that automatically energized (with amber lamps being automatically de-energized) when stop signal arm is extended or when bus service door is opened. An amber pilot light and a red pilot light shall be installed adjacent to the driver controls for the flashing signal lamp to indicate to the driver which lamp system is activated.

006.18C3 Red lamps shall flash at any time the stop signal arm is extended.

006.18C4 All flashers for alternately flashing red and amber signal lamps shall be enclosed in the body in a readily accessible location.

006.18D Turn Signal and Stop/Tail Lamps.

006.18D1 Bus body shall be equipped with amber rear turn signal lamps that are at least seven (7) inches in diameter or if a shape other than round, a minimum 38 square inches of illuminated area and meet FMVSS No. 108, *Lamps, Reflective Devices, and Associated Equipment*. These signals must be connected to the chassis hazard warning switch to cause simultaneous flashing of turn signal lamps when needed as vehicular traffic hazard warning. Turn signal lamps are to be placed so that their centerline shall be a maximum of twelve (12) inches below the rear window. Type A-1 conversion vehicle lamps must be at least 21 square inches in lens area and be in manufacturer's standard color.

006.18D2 Buses shall be equipped with amber side-mounted turn signal lights. The turn signal light on the left side shall be mounted rearward of the stop signal arm and the turn signal on the right side shall be mounted rearward of the service door.

006.18D3 Buses shall be equipped with four (4) combination red stop/tail lamps:

006.18D3a Two (2) combination lamps with a minimum diameter of seven (7) inches, or if a shape other than round, a minimum 38 square inches of illuminated area shall be mounted on the rear of the bus just inside the turn signals.

006.18D3b Two combination lamps with a minimum diameter of 4 inches, or if a shape other than round, a minimum 12 square inches of illuminated area shall be placed on the rear of the body between the beltline and the floor line. Rear license plate lamp may be combined with one lower tail lamp. Stop lamps shall be activated by the service brakes and shall emit a steady light when illuminated. (Type A-1 buses with bodies supplied by chassis manufacturer may be equipped with manufacturer's standard stop and tail lamps.)

006.18D3c On buses equipped with a monitor for the front and rear lamps of the school bus, the monitor shall be mounted in full view of the driver. If the full circuit current passes through the monitor, each circuit shall be protected by a fuse or circuit breaker, or an electronic protection device, against any short circuit or intermittent shorts.

006.18D3d The bus body shall be equipped with 2 white rear backup lamps that are at least 4 inches in diameter or, if a shape other than round, a minimum of 12 square inches of illuminated area and shall meet FMVSS No. 108, *Lamps, Reflective Devices and Associated Equipment*. If backup lamps are placed on the same horizontal line as the brake lamps and turn signal lamps, they shall be to the inside.

006.18E Clearance-Marker and Identification Lamps.

006.18E1 The body shall be equipped with two (2) red clearance lights at the rear and two (2) amber clearance lights at the front mounted as high as possible on permanent structure of bus in such a manner as to indicate extreme width of body.

006.18E2 All buses over 30 feet long shall be equipped with one amber intermediate side marker light on each side located midway between the front and rear clearance lights.

006.18E3 The bus shall be equipped with three (3) amber identification lights on the front and three (3) red identification lights on the rear. Each individual light within such group or cluster shall be evenly spaced not less than six (6) inches nor more than 12 inches apart along a horizontal line near the top roof edge of the vehicle.

006.18F A white flashing strobe light shall be installed on the roof of a school or activity bus, not to exceed 1/3 the body length forward from the rear of the roof edge. The light shall have a single clear lens emitting light 360 degrees around its vertical axis. A manual switch and a pilot light shall be included to indicate when light is in operation.

006.18G Backup Lamps. Bus body shall be equipped with two (2) white rear backup lamp signals that are at least four (4) inches diameter or, if a shape other than round, a

minimum of 13 square inches of illuminated area, meeting FMVSS 108, *Lamps, Reflective Devices, and Associated Equipment*. If backup lamps are placed on the same line as the brake lights and turn signals, they shall be to the inside.

006.18H Reflex Reflectors.

006.18H1 The bus shall be equipped with two (2) amber reflectors: One on each side of body located approximately at floor level and back of the door on the right side and at a similar forward position on the left side.

006.18H2 The bus shall be equipped with four (4) red reflectors: One (1) on each side as far to the rear as possible and two (2) on the rear as far apart as practicable.

006.18H3 All buses over 30 feet long shall be equipped with additional intermediate amber reflectors which shall be located at or near the midpoint between the front and rear side reflector.

006.18H4 The reflectors are to be mounted at a height of not less than 15 inches nor more than 60 inches above the ground on which the vehicle stands.

006.18I License Plate Lamp. Bus shall be equipped with rear license plate illuminator. This lamp may be combined with one (1) of tail lamps.

006.19 Metal Treatment.

006.19A All metal used in construction of bus body shall be zinc or aluminum coated or treated by equivalent process before bus is constructed. This includes, but is not limited to such items as structural members, inside and outside panels, floor panels, and floor sills. Excluded are such items as door handles, grab handles, stanchions, interior decorative parts, and other interior plated parts.

006.19B All metal parts that will be painted shall be (in addition to above requirements) chemically cleaned, etched, zinc-phosphate coated, and zinc- chromate or epoxy-primed or conditioned by equivalent process.

006.19C In providing for these requirements, particular attention shall be given to lapped surfaces, welded connections or structural members, cut edges, punched or drilled hole areas in sheet metal, closed or box sections, unvented or undrained areas, and surfaces subjected to abrasion during vehicle operation.

006.20 Mirrors.

006.20A Interior mirror shall be either clear view laminated glass or clear view glass bonded to a backing which retains the glass in the event of breakage. Mirror shall have rounded corners and protected edges. All Type A buses shall have a minimum of a 6" x 16" mirror and Type B, C, and D buses shall have a minimum of a 6" x 30" mirror.

006.20B Each bus shall be equipped with a system of exterior mirrors meeting the requirements of FMVSS No.111*, Rearview Mirrors.* The right side rear view mirror shall not be obscured by the unwiped portion of the windshield.

006.20C This system of mirrors shall be easily adjustable, but be rigidly braced so as

to reduce vibration.

006.20D Heated external mirrors may be used. Remote controlled external rear view mirrors may be used.

006.21 Mounting.

006.21A Chassis frame shall support the rear body cross member. Bus body shall be attached to chassis frame at each main floor sill, except where chassis components interfere, in such manner as to prevent shifting or separation of body from chassis under severe operating conditions.

006.21B Insulating material shall be installed at all contact points between the body and chassis frame on Type A-2, B, C and D buses, and shall be secured to chassis frame or body to prevent shifting, separation, or displacement of the isolators under severe operating conditions.

006.22 Rub Rails.

006. 22A There shall be one (1) rub rail located on each side of the bus approximately at seat level or no more than 8 inches above the seat cushion level. They shall extend from rear side of the entrance door completely around bus body (except for emergency door or any maintenance access door) to a point of curvature near outside cowl on the left side.

006.22B There shall be one (1) additional rub rail located on each side at, or no more than ten (10) inches above the floor line. The rub rail shall cover the same longitudinal area as upper rub rail, except at the wheel housings, and shall extend only to radii of right and left rear corners.

006.22C There shall be a rub rail or equivalent bracing located horizontally at the bottom of the side skirts.

006.22D Rub rails above the floor line shall be attached at each body post and all other upright structural members.

006.22E Rub rails shall be four (4) inches or more in width, shall be of 16 gauge steel, or equivalent strength material, and shall be constructed in corrugated or ribbed fashion.

006.22F Both rub rails shall be applied outside the body or outside the body posts. Pressed-in or snap-on rub rails do not satisfy this requirement.

006.22F1 For Type A-1 buses using the body provided by the chassis manufacturer or for Types A-2, B, C, and D buses using the rear luggage or the rear engine compartment, rub rails need not extend around the rear corners.

006.23 Seat Belts/Occupant Protection Systems.

006.23A A Type 2 lap belt/shoulder harness seat belt shall be provided for the driver and must meet FMVSS in effect on date of manufacture.

006.23A1 In addition, the assembly shall be equipped with an emergency locking retractor for the continuous belt system. On all buses except Type A equipped with standard chassis manufacturer's driver's seat, the lap portion of the belt shall be guided or anchored so as to prevent the driver from sliding sideways under it.

006.23A2 Each bus shall be equipped with a durable webbing cutter (belt cutter) having a full width handgrip and a protected, replaceable or non-corrodible blade. The belt cutter shall be mounted in a location accessible to the seated driver.

006.23B Type A buses shall have seat belts/occupant protection systems for all passengers and shall comply with FMVSS in effect on date of manufacture. In Type A buses, children shall be required to use child passenger restraint systems or occupant protection systems as required by Section 60-6,267 R.R.S.

006.24 Seats and Restraining Barriers.

006.24A All seats shall have a minimum depth of 15 inches and must comply with all requirements of FMVSS No. 222, *School Bus Passenger Seating and Crash Protection*. School bus design capacities shall be in accordance with 49 CFR, Part 571.3 and FMVSS No. 222.

006.24A1 Each seat leg shall be secured to the floor by a minimum of two bolts, washers and nuts. Flange-head nuts may be used in lieu of nuts and washers, or seats may be track-mounted in conformance with FMVSS No. 222, *School Bus Passenger Seating and Crash Protection*. If track seating is installed, the manufacturer shall supply minimum and maximum seat spacing dimensions applicable to the bus, which comply with FMVSS No. 222. This information shall be on a label permanently affixed to the bus.

006.24A2 All seat frames shall be fastened to the seat rail with a minimum of two (2) bolts, washers and nuts or flange-headed nuts.

006.24A3 No bus shall be equipped with jump seats, portable seats, or other auxiliary seating.

006.24A4 All restraining barriers, upholstered areas, driver and passenger seats, including seat bottom, shall be covered with a material that meets the criteria contained in the School Bus Seat Upholstery Fire Block Test. (See Appendix D of this Chapter.)

006.24A5 Seat belts/occupant protection systems installed by retrofits must be installed on seats that meet FMVSS No. 222.

006.24A6 All school buses (including Type A) shall be equipped with restraining barriers which conform to FMVSS No. 222.

006.24B The driver's seat supplied by the body company shall be a high back seat with a head restraint to accommodate a 95th percentile adult male, as defined in FMVSS No. 208*, Occupant Crash Protection,* and with a minimum seat back adjustable to 15 degrees. The driver's seat shall be secured with nuts, bolts, and washers or

flanged-head nuts.

006.24B1 Type A buses may utilize the standard driver's seat provided by the chassis manufacturer.

006.24B2 A Type 2 lap belt/shoulder harness seat belt shall be provided for the driver. The assembly shall be equipped with an emergency locking retractor for the continuous belt system. On all buses except Type A equipped with a standard chassis manufacturer's driver's seat, the lap portion of the belt system shall be guided or anchored to prevent the driver from sliding sideways under it. The lap belt/shoulder harness seat belt shall be designed to allow for adjustment in order to fit and to protect drivers varying in size from 5th percentile adult female to 95th percentile adult male.

006.25 Seat Barrier. The right hand seat barrier shall include a modesty panel from barrier to floor and comply with Federal Motor Vehicle Safety Standards in effect on date of manufacture.

006.26 Steps.

006.26A First step at service door shall be not less than 10 inches and not more than 14 inches from ground, based on standard chassis specifications. Type D buses shall have the first step at the service door 12 inches to 16 inches from the ground. On chassis modifications which may result in increased ground clearance (such as four-wheel drive) an auxiliary step may be provided to compensate for the increase in ground-to-first-step clearance. The auxiliary step is not required to be enclosed.

006.26B Step risers shall not exceed a height of 10 inches, however, with plywood floor on steel, the differential may be increased by thickness of plywood used.

006.26C Steps shall be enclosed to prevent accumulation of ice and snow.

006.26D Steps shall not protrude beyond side body line.

006.26E At least one (1) handrail shall be installed. The handrail(s) shall assist passengers during entry or exit, and be of such design to prevent entanglement.

006.26F All steps, including floor line platform area, shall be covered with 3/16 inch rubber floor covering or other material equal in wear and abrasion resistance to top grade rubber.

006.26G The step covering shall be permanently bonded to a durable backing material that is resistant to corrosion.

006.26H Steps, including the floor line platform area, shall have a 1 ½" nosing that contrasts in color by at least 70 percent measured in accordance with the contrasting color specifications in 36 CFR, Part 1192 Americans with Disabilities Act regulations (ADA), Accessibility Guidelines for Transportation Vehicles.

006.26I Step treads shall have the following characteristics:

006.26I1 Abrasion resistance: Step tread material weight loss shall not exceed .40 percent, as tested under ASTM D-4060, *Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser.*

006.26I2 Weathering resistance: Step treads shall not break, crack, or check after ozone exposure (7 days at 40 phm at 40 degreees C) and weatherometer exposure (*ASTM D=750 Standard Test Method for Rubber Deterioration in Carbon-Arc Weathering Apparatus,* 7 days).

006.26I3 Flame resistance: Step tread shall have a calculated burn rate of .01 or less using the test methods, procedures and formulas listed in FMVSS No. 302, *Flammability of Interior Materials*.

006.27 Stirrup Steps. There may be one or more folding stirrup steps or recessed foothold and suitably located handles on each side of the front of the body for easy accessibility for cleaning the windshield and lamps. Steps are permitted in or on the front bumper, in lieu of the stirrup steps, if the windshield and lamps are easily accessible for cleaning from that position.

006.28 Stop Signal Arm. The stop signal arm(s) shall comply with the requirements of FMVSS No. 131, *School Bus Pedestrian Safety Devices*. (Activity buses are exempt.)

006.29 Storage Compartment. A storage container for tools, tire chains, and/or tow chains may be located either inside or outside the passenger compartment. If inside, it shall have a cover capable of being securely latched and fastened to the floor. (The seat cushion may not serve this purpose.)

006.30 Sun Shield.

006.30A On Type B, C and D buses, an interior transparent, adjustable, sun shield shall be installed that is not less than 6 inches wide and 30 inches long with a finished edge.

006.30B On Type A buses, the sun shield shall be installed according to the manufacturer's standard.

006.31 Traction Assisting Devices.

006. 31A Where required or used, sanders shall:

006. 31A1 be of hopper cartridge - valve type,

006. 31A2 have metal hopper with all interior surfaces treated to prevent condensation of moisture,

006. 3A3 be of at least 100 pound (grit) capacity,

006. 3A4 have cover on filler opening of hopper, which screws into place, sealing unit airtight,

006. 31A5 have discharge tubes extending to front of each rear wheel under fender,

006. 31A6 have non-clogging discharge tubes with slush-proof, nonfreezing rubber nozzles,

006. 31A7 be operated by electric switch with telltale pilot light mounted on instrument panel so as to be exclusively controlled by the driver,
006. 31A8 be exclusively driver controlled,

006. 31A9 have a gauge to indicate that the hopper needs refilling when it is down to one-quarter full.

006. 31B Automatic traction chains may be installed.

006.32 Tow Hooks. Tow eyes, hooks or other devices shall be furnished on the rear and attached so they do not project beyond the rear bumper. Tow eyes or hooks for attachment to the rear of the chassis frame shall be furnished by either the chassis or body manufacturer. The installation shall be in accordance with the chassis manufacturer's specifications. (Type A buses are exempt.)

006.33 Trash Container. When used, the trash container shall be secured by a holding device. It shall be installed in an accessible location in the driver's compartment, not obstructing passenger use of the service door.

006.34 Undercoating.

006.34A Entire underside of bus body, including floor sections, cross member and below floor line side panels, shall be coated with rust-proofing compound for which material manufacturer has issued notarized certification of compliance to the bus body builder that compound meets or exceeds all performance and qualitative requirements of paragraph 3.4 of Federal Specification TT-C-520b 1963 using modified test procedures for following requirements:

006.34A1 Salt spray resistance-pass test modified to 5% salt and 1000 hours.

006.34A2 Abrasion resistance-pass.

006.34A3 Fire resistance-pass.

006. 34B Test panels are to be prepared in accordance with paragraph 4.6.12 of Federal Specification TT-C-520b with modified procedure requiring that tests be made on a 48-hour air cured film at thickness recommended by material manufacturer.

006. 34C Undercoating material shall be applied with suitable airless or conventional spray equipment to recommended film thickness and shall show no evidence of voids in cured film.

006.35 Ventilation.

006.35A Body shall be equipped with suitable, controlled ventilating system of sufficient capacity to maintain proper quantity of air under operating conditions without opening of windows except in extremely warm weather.

006.35B Static-type non-closable exhaust roof ventilator shall be installed in low-pressure area of roof.

006.35C Roof hatches designed to provide ventilation in all types of weather conditions may be provided.

06.35D Auxiliary fans shall meet the following requirements:

006.35D1 Fans for the left and right sides shall be placed in a location where they can be adjusted to maximum effectiveness.

006.35D2 Fans shall be in a location where they do not obstruct vision to any mirror. Type A buses may be equipped with one fan.

006.35D3 These fans shall be a nominal six-inch diameter.

006.35D4 Fan blades shall be covered with a protective cage. Each fan shall be controlled by a separate switch.

006.36 Wheel Housings.

006.36A Wheel house openings shall allow for tire removal and service.

006.36B Wheel housings shall be attached to floor sheets in such manner as to prevent any dust, fumes or water from entering the body. Wheelhousings shall be constructed of at least 16-guage steel.

006.36C Inside height of wheel housings above floor line shall not exceed 12 inches.

006.36D Wheel housings shall provide clearance for installation and use of tire chains on single and dual (if so equipped) power-driving wheels.

006.36E No part of a raised wheel housing shall extend into the emergency door opening.

006.37 Windows. Each full side window, other than emergency exits designated to comply with FMVSS No. 217*, Bus Emergency Exits and Window Retention and Release*, shall provide an unobstructed opening at least 9 inches high but not more than 13 inches high and at least 22 inches wide, obtained by lowering of the window. One side window on each side of the bus may be less than 22 inches wide.

006.38 Windshield Washers. A windshield washer system which conforms to FMVSS Standard 104, *Windshield Wiping and Washing Systems,* shall be provided.

006.39 Windshield Wipers. A two-speed or variable speed windshield wiping system, with an intermittent feature, which meet the requirements of FMVSS No. 104*, Windshield Wiping and Washing Systems,* shall be provided and shall be operated by a single switch.

006.40 Wiring.

006.40A All wiring shall conform to The Society of Automotive Engineers (SAE) Standards.

006.40B Circuits.

006.40B1 Wiring shall be arranged in circuits as required with each circuit protected by a fuse or a circuit breaker. A system of color and number coding shall be used and an appropriate identifying diagram shall be provided to the

end user along with the wiring diagram provided by the chassis manufacturer. The wiring diagrams shall be specific to the bus model supplied and include any changes to wiring made by the body manufacturer. Chassis wiring diagrams shall also be supplied to the end user. A system of color and number coding shall be used on buses. The following body interconnecting circuits shall be color coded as noted:

FUNCTION	COLOR
Left Rear Directional Light	Yellow
Right Rear Directional Light	Dark Green
Stoplights	Red
Back-up Lights	Blue
Taillights	Brown
Ground	White
Ignition Feed, Primary Feed	Black

The color of the cables shall correspond to SAE J 1128.

006.40B2 Wiring shall be arranged in at least six (6) regular circuits as follows:

006.40B2a Head, tail, stop (brake) and instrument panel lamps.

006.40B2b Clearance and step well lamps shall be actuated when service door is open.

006.40B2c Dome lamps.

006.40B2d Ignition and emergency door signal.

006.40B2e Turn signal lamps.

006.40B2f Alternately flashing signal lamps.

006.40B3 Any of above combination circuits may be subdivided into additional independent circuits.

006.40B4 Heaters and defrosters shall be wired on an independent circuit.

006.40B5 Each body circuit shall be coded by number or letter on a diagram of circuits and shall be attached to the body in readily accessible location.

006.40B6 All other electrical functions (such as sanders and electric-type windshield wipers) shall be provided with independent and properly protected circuits.

006.40C Wires not enclosed within body shall be fastened securely at intervals of not more than 18 inches. All joints shall be soldered or joined by equal effective connectors which shall be water-resistant and corrosion-resistant.

006.40D All wiring shall have an amperage capacity exceeding the design load by at least 25 percent. All wiring splices are to be noted as splices on the wiring diagram.

006.40E A body wiring diagram sized to be easily read, shall be furnished with each

bus body or affixed in an area convenient to the electrical accessory control panel.

006.40F The body power wire shall be attached to a separate terminal on the chassis.

006.40G All wires passing through metal openings shall be protected by a grommet.

007 Small Vehicle (General) Minimum Equipment Standards.

007.01 Construction.

007.01A The small vehicle shall be of closed integral body type.

007.01B The small vehicle shall have a wheel base of 100 inches or more.

007.01C Body shall be all steel or of a metal at least equivalent in strength to steel.

007.01D Body interior such as headliner, interior door, and side panels shall be lined with a protective material.

007.02 Equipment. The small vehicle shall be equipped with:

007.02A Four-wheel brakes properly adjusted to efficiently stop vehicle when fully loaded.

007.02B Park brake adequate to hold vehicle when stopped on incline.

007.02C Two windshield wipers.

007.02D Rearview mirrors - one inside and one outside on left side, one outside on right.

007.02E Two tail lights.

007.02F Two stop lights.

007.02G Multiple beam halogen headlights (including indicator light).

007.02H Switch to raise or lower headlight beam.

007.02I Directional signals - front and rear (including indicator lights).

007.02J Adequate horn.

007.02K Interior adjustable sun shield.

007.02L Adequate heater and defroster.

007.02M Laminated safety glass in the windshield and tempered safety glass in other windows is permissible.

007.02N Seat belts/occupant protection systems for the driver and all passengers. Child passenger restraint systems shall be provided for passengers as required by Sections 60-6,266 and 60-6,267 R.R.S.

007.02O Two way electronic voice communication system which can be used at any point on the vehicle's route. This may be after market provided.

007.03 Safety Equipment.

007.03A The small vehicle shall be equipped with one (1) dry chemical type fire extinguisher with a minimum capacity of 2 ½ pounds (approved by Underwriters Laboratories, Inc.) with at least a total rating of 2A10-B:C.

007.03B The small vehicle shall be equipped with one first aid kit. (See Appendix B.)

007.03C The small vehicle shall have a removable and moisture proof body fluid clean-up kit. It shall be identified as a body fluid clean-up kit. (See Appendix C.)

007.03D The small vehicle shall carry three (3) red and orange emergency reflective triangles, in compliance with Federal Motor Vehicle Safety Standards (FMVSS) No. 125, *Warning Devices*.

007.03E Small vehicles, when used to transport handicapped children, must be equipped with support or restraining devices that meet the requirements of Federal Motor Vehicle Safety Standards (FMVSS) in effect on date of manufacture.

008 Additional Required Equipment For Vehicles Used With Mobile Seating Devices.

008.01 General Requirements. Pupil transportation vehicles designed for transporting children with special transportation needs shall comply with 2005 National School Transportation Specifications & Procedures and with Federal Motor Vehicle Safety Standards (FMVSS) applicable to their Gross Vehicle Weight Rating (GVWR) category. In addition, any pupil transportation vehicle to be used for the transportation of children who are confined to a wheelchair or other mobile positioning device, or who require life support equipment which prohibits use of the regular service entrance, shall be equipped with a power lift, unless a ramp is needed for unusual circumstances related to passenger needs.

008.02 Emergency Exit. All school and activity buses equipped with a power lift shall provide a 30-inch aisle leading from any wheelchair/mobility aid position to at least one emergency door. A wheelchair securement position shall never be located directly in front of a power lift door location. When provided, the lift service door is considered an emergency exit.

008.03 Communications. All pupil transportation vehicles which are used to transport individuals with disabilities shall be equipped with a two way electronic voice communication system which can be used at any point in the vehicles' route. This system may be after market provided.

008.04 Glazing. Tinted glazing may be installed in all doors, windows, and windshields consistent with federal, state, and local regulations.

008.05 Identification. Vehicles with power lifts used for transporting individuals with disabilities shall display the International Symbol of Accessibility below the window line. Such emblems shall be white on blue background, shall not exceed 12 inches in size, and shall be of a high-intensity reflectorized material meeting Federal Highway Administration (FHWA) FP-85 Standards.

008.06 Passenger Capacity Rating. In determining the passenger capacity of a school transportation vehicle for purposes other than actual passenger load (i.e., vehicle classification, or various billing/reimbursement models), any location in a vehicle intended for securement of an occupied wheelchair/mobility aid during vehicle operations may be regarded as four designated seating positions. Similarly, each lift area may be regarded as four designated seating positions. (Small vehicles are exempt.)

008.07 Power Lifts and Ramps. On all vehicles other than small vehicles, power lift shall be located on the right side of the vehicle body when not extended. The lift may be located on the left side of the bus if used to deliver individuals to the left side of one way streets.

008.07A All vehicles covered by this specification shall provide a level-change mechanism or boarding device (e.g., lift or ramp) complying with paragraphs 8.07E through 8.07U of this Section and sufficient clearances to permit a wheelchair or other mobility aid user to reach a securement location.

008.07B Vehicle Lift. The design load of the lift shall be at least 800 pounds. Working parts, such as cables, pulleys, and shafts, which can be expected to wear, and upon which the lift depends for support of the load, shall have a safety factor of at least six, based on the ultimate strength of the material. Nonworking parts, such as platform, frame, and attachment hardware which would not be expected to wear, shall have a safety factor of at least three, based on the ultimate strength of the material.

008.07C Lift Capacity. The lifting mechanism and platform shall be able to operate effectively with a wheelchair and occupant mass of at least 800 pounds.

008.07D Lift Controls. (See 49 CFR 571.402, S6.7, *Control Systems)*

008.07E Emergency Operation. See 49 CFR 571.403, S6.9, *Backup Operation*)

008.07F Power or Equipment Failure. (See 49 CFR 571.403, S6.2.2 *Maximum Platform Velocity*).

008.07G Platform Barriers. (See 49 CFR 571.403, S6.4.7, *Wheelchair Retention*).

008.07H Platform Surface. (See 49 CFR 571.403,, S6.4.2, S6.4.3, *Platform Requirements*).

008.07I Platform Gaps. (See 49 CFR 571.403, S6.4.4, *Gaps, Transitions and Openings*).

008.07J Platform Deflection. (See 49 CFR 571.403, S6.4.5, *Platform Deflection*).

008.07K Platform Movement. (See 49 CFR 571.403,S6.4.5 *Maximum Platform Acceleration*).

008.07L Boarding Direction. The lift shall permit both inboard and outboard facing of wheelchair and mobility aid users.

008.07M Use by Standees. Lifts shall accommodate persons using walkers, crutches, cane or braces, or who otherwise have difficulty using steps. The platform may be

marked to indicate a preferred standing position.

008.07N Handrails. (See 49 CFR 571.403, S6.4.9, *Handrails*).

008.07O Circuit Breaker. A resetable circuit breaker shall be installed between power source and lift motor if electrical power is used. It shall be located as close to the power source as possible, but not within the passenger/driver compartment.

008.07P Excessive Pressure. (See 49 CFR 571.403, S6.8, *Jacking Prevention*).

008.07Q Documentation. The following information shall be provided with each vehicle equipped with a lift.

008.07Q1 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.)

008.07Q2 Detailed instructions regarding use of the lift are readily visible when the lift door is open, including a diagram showing the proper placement and positioning of wheelchair/mobility aids on lift.

008.07R Training Materials. The lift manufacturer shall make available training materials to ensure the proper use and maintenance of the lift. These may include instructional videos, classroom curriculum, system test results, or other related materials.

008.07S Identification and Certification. Each lift shall be permanently and legibly marked or incorporate a non-removable label or tag which states that it conforms to all applicable requirements of the 2005 National School Transportation Specifications & Procedures. In addition, the lift manufacturer, or an authorized representative, upon request of the original titled purchaser, shall provide a notarized Certificate of Conformance, either original or photo copied, which states that the lift system meets all the applicable requirements of the 2005 National School Transportation Specifications & Procedures.

008.07T Vehicle Ramp.

008.07T1 If a ramp is used, it shall be of sufficient strength and rigidity to support the special device, occupant, and attendant(s). It shall be equipped with a protective flange on each longitudinal side to keep special device on the ramp.

008.07T2 Floor of ramp shall be of non-skid material.

008.07T3 Ramp shall be equipped with handles and be of weight and design to permit one (1) person to put ramp in place and return it to its storage place.

008.07T4 Ramps installed in raised floor buses by manufacturers may be used for emergency evacuation purposes. They shall not be used as a substitute for a lift when a lift is capable of servicing the need.

008.08 Regular Service Entrance.

008.08A On power-lift equipped vehicles, step shall be the full width of the step well, excluding the thickness of doors in open position.

008.08B A device shall be provided to assist passengers during entry or exit. This device shall allow for easy grasping or holding and shall have no openings or pinch points which might entangle clothing, accessories or limbs.

008.09 Restraining Devices.

008.09A On power-lift equipped vehicles, seat frames may be equipped with attachments or devices to which belts, restraining harnesses or other devices may be attached. Attachment framework or anchorage devices, if installed, shall conform to FMVSS No. 210, *Seat Belt Assembly Anchorages*.

008.09B Seat belt assemblies, if installed, shall conform to FMVSS No. 209, *Seat Belt Assemblies*.

008.09C Child restraint systems, which are used to facilitate the transportation of children who in other modes of transportation would be required to use a child, infant, or booster seat, shall conform to FMVSS No. 213, *Child Restraint Systems*.

008.10 Seating Arrangements. Flexibility in seat spacing to accommodate special devices shall be permitted to meet passenger requirements.

008.11 Securement and Restraint System for Wheelchair/Mobility Aid and Occupant. For purposes of better understanding the various aspects and components of this section, the term "securement and tiedown" and the phrases "securement system" or "tiedown system" are used exclusively in reference to the device(s) which anchor the wheelchair to the vehicle. The term "restraint" or the phrase "restraint system" are used exclusively in reference to the equipment that is intended to limit the movement of the wheelchair occupant in a crash or sudden maneuver. The term "wheelchair tiedown" and "occupant restraint system" (WTORS) is used to refer to the total system that secures the wheelchair and restrains the wheelchair occupant.

008.11A Wheelchair Tiedown and Occupant Restraint System (WTORS) general requirements:

008.11A1 A wheelchair and occupant restraint system installed in specially equipped school buses shall be designed, installed, and operated for use with forward-facing wheelchair-seated passengers and shall comply with applicable requirements of FMVSS 222, *School Bus Passenger Seating and Crash Protection*, and SAE J2249.

008.11A2 The WTORS, including the anchorage track, floor plates, pockets or other anchorages, shall be provided by the same manufacturer or shall be certified to be compatible by manufacturers of all equipment/systems used.

008.11A3 Wheelchair securement positions shall be located such that wheelchairs and their occupants do not block access to the lift door.

008.11A4 A device for storage of the WTORS shall be provided. When the system is not in use, the storage device shall allow for clean storage of the system, shall keep the system securely contained within the passenger compartment, shall provide reasonable protection from vandalism, and shall

enable the system to be readily accessed for use.

008.11A5 The WTORS, including the storage device, shall meet the flammability standards established in FMVSS No. 302, *Flammability of Interior Materials*.

008.11A6 The following information shall be provided with each vehicle equipped with a securement and restraint system:

008.11A6a A phone number where information can be obtained about installation, repair and parts.

008.11A6b 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.

008.11A7 Wheelchair Securement/Tiedown (See 49 CFR 571.403, S5.4.3, S5.4.4). 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.

008.11A8 Occupant restraint system (See 49 CFR 571.403, S5.4.3, S5.4.4).

008.12 Special Light. Doorways in which lifts are installed, shall have, when lift is to be used, at least 2 foot-candles of illumination measured on the floor of the vehicle immediately adjacent to the lift, and on the lift, when deployed at the vehicle floor level.

008.13 Special Service Entrance.

008.13A Power lift equipped bodies shall have a special service entrance to accommodate the power lift.

Exception: If the lift is designed to operate within the regular service entrance, and is capable of stowing such that the regular service entrance is not blocked in any way, and that persons entering or exiting the vehicle are not impeded in any way, a special service entrance shall not be required.

008.13B The special service entrance and door shall be located on the right side of the vehicle and shall be designed so as not to obstruct the regular service entrance. (Small vehicles are exempt.)

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

008.13C The opening may extend below the door 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.

008.13D A drip molding shall be installed above the opening to effectively direct water

from entrance.

008.13E Door posts and headers from 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.

008.14 Special Service Entrance Doors.

008.14A A single door or double doors may be used for the special service entrance.

008.14B A single door shall be hinged to the forward side of the entrance unless doing so would obstruct the regular service entrance. If, due to the above condition, the door is hinged to the rearward side of the doorway, the door shall utilize a safety mechanism which 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 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.

008.14C All doors shall have positive fastening devices to hold doors in the open position.

008.14D All doors shall be weather sealed.

008.14E 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 be of a strength that is greater than or equivalent to the strength of the emergency exit door.

008.14F Door materials, panels and structural strength shall be equivalent to the conventional service and emergency doors. Color, rub rail extensions, lettering and other exterior features shall match adjacent sections of the body.

008.14G Each door shall have windows set in a waterproof manner that is visually similar in size and location to adjacent non-door windows. Glazing shall be of same type and tinting (if applicable) as standard fixed glass in other body locations.

008.14H 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/are not securely closed and ignition is in "on" position.

008.14I A switch shall be installed so that the lifting mechanism will not operate when the lift platform door(s) is/are closed.

008.14J Special service entrance doors shall be equipped with padding at the top edge of the door opening. Pad shall be at least three inches wide and one inch thick and extend the full width of the door opening.

008.15 Support Equipment and Accessories.

008.15A Each specially equipped vehicle which is set up to accommodate wheelchair/mobility aids or other assistive or restraint devices which utilize belts, shall contain at least one (1) belt cutter properly secured in a location within reach of the driver while belted into his/her driver's seat. The belt cutter shall be designed to eliminate the possibility of the operator or others being cut during use.

008.15B Special equipment or supplies which are used on the bus for mobility assistance, health support, or safety purposes shall meet any local, federal, or engineering standards which may apply, including requirements for proper identification. Equipment which may be used for these purposes includes, but is not limited to:

008.15B1 Wheelchairs and other mobile seating devices.

008.15B2 Crutches, walkers, canes, and other ambulating devices.

008.15B3 Medical Support Equipment. This may include respiratory devices such as oxygen bottles (which should be no larger than 22 cubic feet for liquid oxygen and 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.

008.15C All portable equipment and special accessory items including equipment in section 008.15B, shall be secured at the mounting location to withstand a pulling force of five times the weight of the item, or shall be retained in an enclosed, latched compartment. The compartment shall be capable of withstanding forces applied to its interior equal to five times the weight of its contents without failure to the box's integrity and securement to the bus. Exception: If these standards provide specific requirements for securement of a particular type of equipment, the specific standard shall prevail (i.e., wheelchairs).

009 Safety Inspection Process for Pupil Transportation Vehicles.

009.01 Schools shall inspect and assure that pupil transportation vehicles meet the minimum allowable safety criteria pursuant to Section 79-602 R.R.S.

009.01A All pupil transportation vehicles used for the transportation of pupils shall be inspected before school opens in the fall and each eighty days during the time period school is in session. Any item not meeting such criteria shall be brought into compliance prior to the vehicle being used to transport pupils.

009.01A1 Inspections shall be conducted by a motor vehicle mechanic appointed by the school board or governing authority.

009.01A2 A mechanic's inspection report for each vehicle shall be on file with the school. (See Appendix L)

009.01A3 The chief administrative officer of each school district shall annually certify to the Department of Education that inspections pursuant to section 79-602 R.R.S. have been performed.

010 Minimum Safety Inspection Criteria for School and Activity Buses.

010.01 These criteria are the minimum inspection standards for school buses. These criteria are not intended to replace, modify, or alter the vehicle manufacturer's recommended preventative maintenance schedule. These inspections are to be performed as required by Section 79-602 R.R.S. (See Section 009.01).

010.01A Brake System.

010.01A1 Adjustment. All brake adjustments shall not be beyond the adjustment limit as indicated in the Brake Adjustment Table (See Appendix I.)

010.01A2 Air System. Brakes shall recover air pressure as recommended by bus manufacturer and shall maintain pressure in the following situations:

010.01A2a The leakage rate (brakes released) exceeds 2psi/minute.

010.01A2b The leakage rate (brakes applied) exceeds 3 psi/minute.

010.01A3 Hydraulic Brake System.

010.01A3a The master cylinder reservoir shall not be below the minimum level and there shall be no leaks of fluid in the master cylinder unit or system.

010.01A3b The pedal reserve shall maintain original equipment manufacturer designed height and travel requirements.

010.01A3c The power assist unit shall function as designed by the original equipment manufacturer.

010.01A4 Brake Components. (Air and Hydraulic).

010.01A4a Brake Hoses/Tubing.

010.01A4a1 There shall be no brake hose with any damage extending through the outer reinforcement ply.

010.01A4a2 There shall be no bulge or swelling when brakes are applied.

010.01A4a3 There shall be no restriction due to cracked, broken or crimped line/hose.

010.01A4a4 All line, tubing, hose, or connection shall be constructed to meet all applicable manufacturing codes and standards as recommended by original equipment manufacturer.

010.01A5 Brake Lining.

010.01A5a There shall be no lining/pad worn beyond the

recommended replacement measurement or no wear marks.

010.01A5b The lining pad shall not be broken; shall be firmly attached to shoe or plate; shall not be contaminated with oil or grease.

010.01A5c The brake lining shall make contact with drum and shall not be frozen, binding, or uneven.

010.01A6 The parking brake shall be present and working as designed by the original equipment manufacturer.

010.01A7 Brake drum/rotor shall not be cracked, improperly mounted or worn beyond manufacturer's discard specifications. Short hairline heat check cracks should not be confused with flexural cracks.

010.01B Steering System.

010.01B1 There shall be no modification or other condition that interferes with the free movement of any steering component. (See Appendix J)

010.01B2 All U-bolt(s) or positioning parts shall be properly tightened and in place.

010.010B3 There shall be no worn or faulty, or repair-welded universal joint(s).

010.01B4 The steering wheel shall be properly secured.

010.01B5 The front axle beam shall have no crack(s) or obvious welded repair.

010.01B6 Steering Gear Box.

010.01B6a There shall be no loose or missing mounting bolt(s).

010.01B6b There shall be no crack(s) in the gear box or in the mounting brackets.

010.01B6c There shall be no obvious welded repair of the steering gear box.

010.01B7 Pitman Arm. There shall be no obvious welded repair or looseness of the Pitman Arm on the steering gear output shaft.

010.01B8 Power Steering. The auxiliary power assist cylinder must be properly secured. The power steering pump must be in proper operating condition.

010.01B9 Ball and Socket Joints.

010.01B9a There shall be no movement under steering load of a nut stud.

010.01B9b There shall be no motion, other than rotational, between any linkage member and its attachment point of more than 1/8 inch measured with hand pressure only.

010.01B9c There shall be no obvious welded repair.

010.01B10 Rods and Drags Links. There shall be no looseness in any threaded joint or loose clamp(s) or clamp bolts(s) on tie rod or drag links.

010.01B11 Nuts. There shall be no loose or missing fasteners on tie rod, Pitman Arm, drag link, steering arm or tie rod arm.

010.01B12 Hoses and Fluids. All fluid control devices shall be in operational condition. There shall be no leaks and reservoir shall not be empty.

010.01C Suspension Components.

010.01C1 Axle Parts/Members.

010.01C1a All U-bolts or other spring to axle clamp bolt(s) shall have no cracks or be broken, loose or missing.

010.01C1b There shall be no spring hanger(s), or other axle positioning parts which are cracked, broken, loose, or missing that results in shifting of an axle from its normal position.

010.01C1c There shall be no worn or improperly assembled U bolt, shock, king pin, ball joint, strut, air bag and positioning component which is beyond the original equipment manufacturer's specifications.

010.01C1d There shall be no broken or missing spring hangers or assembly part or leaf.

010.01C1e Coil springs shall be intact.

010.01D Bus Chassis/Frame/Unibody.

010.01D1 Frame.

010.01D1a The frame side rail shall not be cracked, loose, sagging or broken.

010.01D1b There shall be no bending or no evidence of damage to the frame resulting from a collision.

010.01D1c There shall be no worn or loose mounting hole(s) in the frame.

010.01D2 Cross Members. No cross members, outrigger or other structural support shall be cracked, missing, deformed or have rust holes.

010.01D3 Outriggers/Body Support. There shall be no missing, broken, shifted, or corroded part of the frame that would affect the safe operation of the bus.

010.01D4 Bumpers. All bumpers shall be securely attached.

010.01E Exhaust System. There shall be no part of the exhaust system that is leaking or discharging fumes under the passenger or engine compartment.

010.01E1 Fuel Container/Connection.

010.01E1a Fuel tank(s) and any part of the fuel system shall be securely attached to the vehicle according to original equipment manufacturer specifications.

010.01E1b There shall be no fuel leak in the system at any point.

010.01F Drive Shaft. The drive shaft guard shall be securely attached and not bent.

010.01G Differential. There shall be no cracks in the housing.

010.01H Universal Joint(s). There shall be no worn or faulty, or obviously repair-welded universal joints(s).

010.01I Engine.

010.01I1 Engine Components. All critical components shall function as designed by the original equipment manufacturer's specifications.

010.01I2 Leaks in Engine. There shall be no fluid leaks that would affect the safe operation of the engine.

010.01J Tires, Wheels, and Hubs. Tires, wheels, and hubs shall be of proper type as recommended by the original equipment manufacturer specifications. All shall be of proper load range, size and not be mismatched.

010.01J1 Tire Tread Depth. Any rear tire worn to less than 2/32 inch shall be replaced. On the front tire, 4/32 inch shall be the limit.

010.01J2 Tire Sidewall.

010.01J2a A tire shall be replaced if any sidewall is cut, worn, or damaged so that the plycord is exposed.

010.01J2b A tire shall be replaced if a bump, bulge or knot is observed or if there is tread separation.

010.01J2c Tire inflation. No tire shall be flat or have a noticeable leak.

010.01J3 Wheels/Rim/Spiders.

010.01J3a No nuts, bolts, studs, lugs shall be missing, damaged, or loose.

010.01J3b Wheel/rims shall not be cracked, improperly seated, damaged, or welded.

010.01J3c Hub. King pin play shall not exceed ¼ inch or excessive wheel bearing.

010.01K Aisle. The aisle shall have adequate clearance between seats. There shall be no objects blocking the aisle or any exit.

010.01L Electrical System. The electrical system shall function properly. There shall be no wires or electrical component that is charred or shows evidence of being burnt or exposed.

010.01L1 Battery. The battery shall be secured into the proper position according to the original equipment manufacturer. Battery cables shall not be broken and/or terminals corroded. The battery shall function properly by activating the starter. There shall be no leakage out of the battery.

010.01M Windshield Wipers. The windshield wiper assembly shall be complete, undamaged, and operative. Windshield washer shall be operative and the system capable of cleaning an effective wash area.

010.01N Bus Body Interior.

010.01N1 Panels. Panels (ceiling, side, wheel well) shall be secured and not protruding. There shall be no sharp edges exposed which may cause injuries.

010.01N2 Floors. Floor pan and inner panels shall not have excessive perforated area or openings.

010.01N3 Step Well. No part of the step well or support structure shall be damaged. Handrail shall be intact and will not have any protruding edges.

010.01N4 Step Treads. Step treads shall be intact and have no condition that would present a tripping hazard for passengers.

010.01N5 Seats/Seat Barrier.

010.01N5a All seats and barriers shall be properly secured.

010.01N5b Seats and barrier material shall have no cuts. There shall be no defects that compromise the integrity of occupant protection and compartmentalization.

010.01N5c Seat spacing shall comply with FMVSS No. 222*, School Bus Passenger Seating and Crash Protection*.

010.01N5d If seat belts/occupant protection systems are provided or required, they shall comply with FMVSS No. 209*, Seat Belt Assemblies* and 210, *Seat Belt Assembly Anchorages.*

010.01N5e Driver's Seat. The driver's seat shall be adjustable or hold proper adjustment. No parts of the driver's safety restraint assembly shall be missing or improperly installed or defective.

010.01N6 Doors.

010.01N6a Entrance Doors.

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010.01N6a1 The entrance door shall open and close properly according to the original equipment manufacturer's specifications.

010.01N6a2 The entrance door control handle shall lock in the closed position.

010.01N6a3 The bus shall be equipped with a padlock or similar non-original equipment manufacturer locking device on the entrance door. (Excludes vehicles equipped with an interlock system)

010.01N6b Emergency Exits.

010.01N6b1 The emergency door shall open freely and completely as designed by the original equipment manufacturer.

010.01N6b2 The door(s) warning devices shall be operational. A door-hold-open device shall be present and operational.

010.01N6b3 The bus shall be equipped with a padlock or locking device on the emergency door(s) or roof hatch . (Excludes vehicles equipped with an interlock system.)

010.01O Windows.

010.01O1 All windows shall be intact. All window glass or glazing shall not be broken through or missing.

010.01O2 All windows shall be of the approved type as specified by the original equipment manufacturer.

010.01O3 Each windshield shall be free of discoloration and other damage in the area extending upward from the height of the topmost portion of the steering wheel, but not including a two-inch border at the top and a one-inch border at each side of the windshield or each panel thereof.

010.01O3a The following windshield discoloration or damage is permissible:

010.01O3a1 Coloring or tinting applied during manufacture for reduction of glare;

010.01O3a2 Any crack not over 1/4 inch long, if not intersected by any other crack;

010.01O3a3 Any damaged area which can be covered by a disc ¾ inch in diameter, if not closer than three (3) inches to any other such damaged area.

010.01O4 The driver's side area window(s) shall have no chips, clouding or cracks that obscure the driver's vision.

010.01O5 All emergency exit windows shall open properly and shall be properly labeled inside and outside of the bus.

010.01O6 The number of emergency exit window/roof latches shall comply with Section 006.11B of this Chapter.

010.01O7 If equipped, audible warning devices on emergency exits shall be operational.

010.01P Heating and Defrosters.

010.01P1 The interior heaters shall be operational.

010.01P2 The defroster shall be operational.

010.01Q Bus Body Exterior.

010.01Q1 Panels, Rub Rails, Trim. There shall be no school bus body part that is loose, torn, dislocated, or protruding from the surface of the bus.

010.01Q2 Compartment Doors. All doors on the bus body (engine, battery, storage) shall be secured tightly.

010.01Q3 Mirrors. All mirrors shall be securely intact, not discolored, and able to hold a set adjustment.

010.01R Lights, Lamps and Signals.

010.01R1 The horn shall function as designed.

010.01R2 All turn signal lights and indicators shall function as designed.

010.01R3 All lights shall be properly installed, have no cracks on the lenses and function as designed.

010.01R4 Back-up lamps and alarms shall function when the vehicle is placed in reverse.

010.01R5 Gauges/Brake Warning. All critical brake, telltale lamp,

buzzer and gauges shall function as designed by original equipment manufacturer.

010.01R6 Stop arm and optional crossing device. The stop arm and any crossing device (if equipped) shall function as designed.

010.01S Emergency Equipment.

010.01S1 The fire extinguisher shall:

010.01S1a be dry-chemical type. There shall be at least one (1) 5 pound extinguisher or two (2) 2 1/2 pound extinguishers (approved by Underwriters Laboratories Inc.), with at least a total rating of 2A10-B:C.

010.01S1b be present, fully charged and operable. Each fire extinguisher shall be inspected annually, have documentation of inspection on file with the school and have a inspection tag showing the most recent inspection date affixed to it.

010.01S1c be accessible to driver and be securely fastened.

010.01S2 The first aid kit/s.

010.01S2a There shall be at least one kit present on buses with capacity of 30 passengers or less.

010.01S2a1 At least two (2) kits shall be on buses with a capacity of more than 30 passengers.

010.01S2b The kits shall be securely fastened, accessible, and visible to everyone on the bus.

010.01S2c The kits shall contain the items listed in Appendix B of this Chapter.

010.01S3 Vehicles shall have one (1) body fluid clean-up kit which will contain the items listed in Appendix C of this Chapter.

010.01S4 Vehicles shall have (3) red and orange emergency reflective triangles.

010.01S5 A belt cutter shall be located and secured in the driver compartment of the bus.

011 Minimum Safety Inspection Criteria for Small Vehicles.

011.01 Body interior shall be lined with upholstered material on head liner, door, and side panels.

011.02 Brakes shall be four-wheel brakes properly adjusted.

011.03 Parking brake shall be capable of holding the vehicle on an incline.

011.04 Two (2) windshield wipers shall be provided and operable.

011.05 Three (3) mirrors (two exterior and one interior) shall be provided and they shall not be cracked or broken.

011.06 Tail lights, stop lights, headlights, and directional signals shall be provided and operable with no broken or cracked lenses.

011.07 A horn shall be provided and operable.

011.08 A sunshield shall be provided for the driver and be operable.

011.09 Heater/defroster shall be provided and be operable.

011.10 Unbroken and uncracked safety glass shall be in all windows.

011.11 Seat belts and child passenger restraint systems for driver and all passengers shall be provided as required by Sections 60-6,265 through 60-6,267 R.R.S.

011.12 One (1) fire extinguisher shall be provided. It shall be a dry chemical type of 2 ½ pounds, size approved by Underwriters Laboratories, Inc., with a total rating of 1A10-B:C.

011.13 One (1) first aid kit shall be provided which includes the items as listed in Appendix B of this Chapter.

011.14 Body Fluid Clean-up Kit shall be provided and contain the items as listed in Appendix C of this Chapter.

011.15 Emergency reflective triangles shall be provided.

012 Minimum Safety Inspection Criteria for Vehicles for Transporting Children In Mobile Seating Devices.

012.01 Vehicles must generally comply with minimum standards and inspection criteria established for school buses and small vehicles, but with the modifications as listed below:

012.01A Special service entrance doors, and positive fastening devices that function properly and a red flashing signal that functions properly.

012.01B A power lift that is covered with non-skid materials. (Exception - a ramp may be substituted.)

012.01C A steel ramp provided with a restraining device to prohibit mobile device from rolling off platform.

012.01D Fastening devices for mobile devices that attach securely to floor or walls.

012.01E Restraining devices shall be provided.

012.01F A light inside the vehicle which functions properly.

012.01G Grab handles shall be provided that are installed properly.

012.01H Restraining devices for handicapped transport shall be available that meet FMVSS 213, *Hood Latch System*.

APPENDIX A DESCRIPTION OF NATIONAL SCHOOL BUS YELLOW

The color known as National School Bus Yellow was designated as such by the 1939 National Conference on School Bus Standards. The National Bureau of Standards of the U.S. Department of Commerce assisted in developing this color and its color metric specifications.

At the 1980 conference, the colors in use were reviewed. A color standard was selected, slightly different from above, and specific tolerances were chosen. These tolerances will ensure a continuity of appearance from bus to bus, and within the same bus when different elements are finished or refinished at different times.

When it was determined that the use of lead and chromium in paint was a health hazard, the National Bureau of Standards of the U.S. Department of Commerce assisted the S.B.M.I. in developing their color standard No. SBMI-008, which further defined the tolerances to permit better definition of the color. Specifications for the standard color, with light and dark tolerances are shown below in tabular form.

COLORMETRIC (CIE) DATA

DESCRIPTION	REFLECTANCE Y	CHROMATICITY X	Y
Centroid	41.5%	.5139	.4434
V+ Light Limit	42.9%	.5139	.4427
V- Dark Limit	39.8%	.5133	.4422
H+ Green Limit	41.6%	.5123	.4368
H- Red Limit	41.7%	.5168	.4489
C+ Vivid Limit	41.5%	.5188	.4457
C- Weak Limit	41.5%	.5095	.4405

APPENDIX B – CONTENTS OF A FIRST AID KIT

UNITS	ITEM
3	Sterile gauze compress (36” x 36”)
2	Non-sterile triangular bandage (40” x 36” x 54”) with 2 safety pins
24	Sterile gauze pads (3” x 3”)
2	Adhesive Tape (1” X 2 ½ yards)
2	Sterile gauze roller bandage (2” x 6’)
12	Bandage compress (3”)
12	Bandage compress (“2”)
1	Bandage scissors (4”)
3	Sterile eye pads
100	Adhesive bandage (3/4” x 3”)
1	Moisture and dustproof kit of sufficient capacity to contain Materials of the first aid kit
1	Pair of medical examination gloves
1	Mouth to mouth airway

APPENDIX C – CONTENTS OF A BODY FLUID CLEAN-UP KIT

UNITS	ITEMS
1	Absorbent Pack - 5 oz.
2	Plastic disposable gloves
1	Scoop
1	Scraper
2	Plastic trash bag with tie (Minimum 12 in. x 12 in.) 1 Red-biohazard and 1 black
1	Disinfectant - 8 oz.
1	Disposable Environmental Protection Agency (EPA) registered germicidal towels
1	Benzalkonium Chloride towelette
1	Antiseptic biohand cleaner - 4 oz.
1	Moisture and dustproof kit of sufficient capacity to contain materials of the body fluid clean-up kit

APPENDIX D – SCHOOL BUS SEAT UPHOLSTERY FIRE BLOCK TEST

A. TEST CHAMBER

Cross Section

The suggested test chamber is same cross section as bus body in which seats are used with rear section on each end. If bus section is not used, cross section to be 91" ± 1" in width x 75" ± 3" in height. There shall be a door, which does not provide ventilation, in the center of each end of the test chamber. The doors shall be 38" ± 3" in width and 53" ± 3" in height and include a latch to keep the doors closed during the test. See Figure 1.

Length

Length of chamber shall allow 3 rows of seats at the minimum spacing recommended by the installer or required by Federal Motor Vehicle Safety Standards. See Figure 1, Detail A.

In order that different types of seats may be tested in the same chamber, a length tolerance of plus 45" is allowed.

Ventilation

One ventilation opening shall be in each end of the test chamber and shall be 325 square inches ± 25 square inches. The bottom of the opening shall be 30" ± 3" above the chamber floor. Ventilation openings shall be on the same side of the test chamber. See Figure 1.

There shall be no ventilation openings along the length of the test chamber.

A forced air ventilation system may not be used.

Baffles shall be used to prevent wind from blowing directly into the ventilation openings.

Camera View Area

An opening covered with glass shall be provided at the midpoint of the chamber length for camera viewing. The opening shall allow the camera to view the seat parallel to the seat width. See Figure 1.

APPENDIX D - SCHOOL BUS SEAT UPHOLSTERY FIRE BLOCK TEST

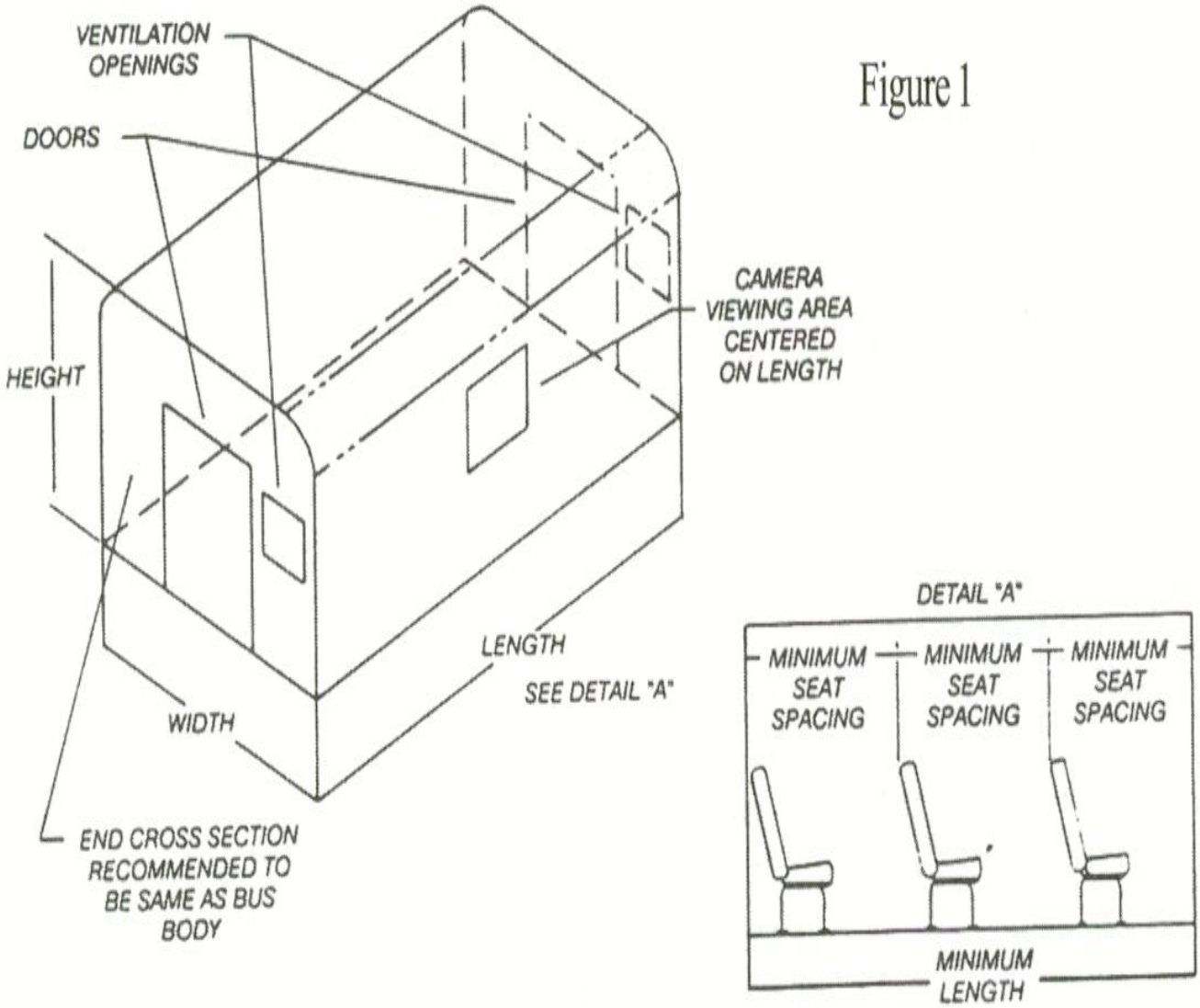


Figure 1

APPENDIX D – SCHOOL BUS SEAT UPHOLSTERY FIRE BLOCK TEST

B. TEST SAMPLE

Sample shall be fully-assembled seat.

Record the weight of all padding upholstery prior to assembly. Record the weight of the fully assembled seat.

IGNITION

A paper grocery bag whose dimensions are approximately 7" x 11" x 18" is used to contain double sheets of newsprint (black print only, approximately 22" x 28"). The total combined weight of bag and newspaper shall be 7 oz. + .5 oz.

TEST PROCEDURE

1. Install three (3) seats in test chamber at minimum spacing per installer recommendation of FMVSS requirement. Seats shall be perpendicular to the dimension indicated as "length" in Figure 1 Detail A. Install so that seat frames will not fall during test. Seat width shall be determined so that maximum passenger capacity per row (2 seats) for the seat style shall be tested.

2. For each test, position ignition source in the following positions outlined. Widest seat in the center row shall be tested.

   Position A

   Position ignition source with 18" dimension in contact with seat cushion and touching seat back. Center bag on top of cushion. See Figure 2.

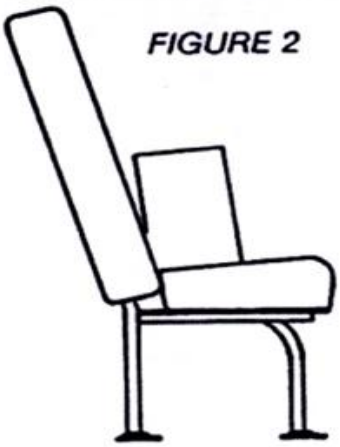


FIGURE 2

APPENDIX D – SCHOOL BUS SEAT UPHOLSTERY FIRE BLOCK TEST

Position B

Position ignition source on floor behind seat with 18" dimension on floor and parallel to seat width centered on width so that rear of bag does not extend rear of seat back.
See Figure 3.

Position C

Position ignition source on floor on aisle side of seat with 18" dimension on floor and perpendicular to seat width touching seat leg with centerline of bag at center of seat back. See Figure 4

APPENDIX D - SCHOOL BUS SEAT UPHOLSTERY FIRE BLOCK TEST

3. A wooden match shall be used to light the ignition source. Time the test beginning where the ignition source is on fire until all flame is out.

4. After each ignition source position test, weigh seat assembly including loose materials on the seat. Do not include loose material which has fallen off the seat onto the floor.

C. PERFORMANCE CRITERIA

For each ignition source position test, the seat tested must meet all of the following criteria. A new seat specimen may be used for each ignition source position test.

1. Maximum time from ignition to flameout shall be 8 minutes.

2. Flame shall not spread to any other seat with ignition source in Position A and Position C.

3. Weight loss may not exceed 10% of pretest weight of padding and upholstery.

APPENDIX E - NOISE TEST PROCEDURES

A. The vehicle is located so that no other vehicle or signboard, building, hill, or other large reflecting surface is within 15.2 m (50 feet) of the occupant's seating position.

B. All vehicle doors, windows, and ventilators are closed.

C. All power-operated accessories are turned off.

D. The driver is in the normal seated driving position and the person conducting the test is the only other person in the vehicle.

E. A sound level meter is used that is set at the "A-weighting fast" meter response and meets the requirements of:

1. The American National Standards Institute, Standard ANSI S1.4-1971. "Specifications for Sound Level Meters," for Type 1 Meters; or

2. The International Electrotechnical Commission (IEC), Publication No. 179 (1973). "Precision Sound Level Meters".

F. The microphone is located so that is points vertically upward 6 inches to the right and directly in line with and on the same plane as the occupant's ear adjacent to the primary noise source.

G. If the motor vehicle's engine radiator fan drive is equipped with a clutch or similar device that automatically either reduces the rotational speed of the fan or completely disengages the fan from its power source in response to reduced engine cooling loads, the vehicle may be parked before testing with its engine running at high idle or any other speed the operator chooses for sufficient time, but not more than 10 minutes, to permit the engine radiator fan to automatically disengage.

H. With the vehicle's transmission in neutral gear, the engine is accelerated to:

1. Its maximum governed speed, if it is equipped with an engine governor, or

2. Its speed at its maximum rated horsepower, if it is not equipped with an engine governor, and the engine is stabilized at that speed.

I. The A-weighted sound level reading on the sound level meter for the stabilized engine speed condition referred to in H.1. or H.2. above is observed and, if it has not been influenced by extraneous noise sources, is recorded.

APPENDIX E - NOISE TEST PROCEDURES

J. The vehicle's engine speed is returned to idle and the procedures set out in paragraphs H. and I. are repeated until two maximum sound levels within 2 dbA of each other are recorded, the two maximum sound level readings are then averaged; and

K. The average obtained in accordance with paragraph J., with a value of 2 dbA subtracted therefrom to allow for variations in the test conditions and in the capabilities of meters, is the vehicle's interior sound level at the driver's seating position for the purposes of determining compliance with the requirements of this test procedure.

APPENDIX F - RETRO REFLECTIVE SHEETING

DAYTIME COLOR SPECIFICATION PROPOSAL

The daytime color of the RETRO REFLECTIVE sheeting used to enhance school bus safety requires different color tolerances in order to assure optimum safety benefit as well as to be consistent with the color of the school bus.

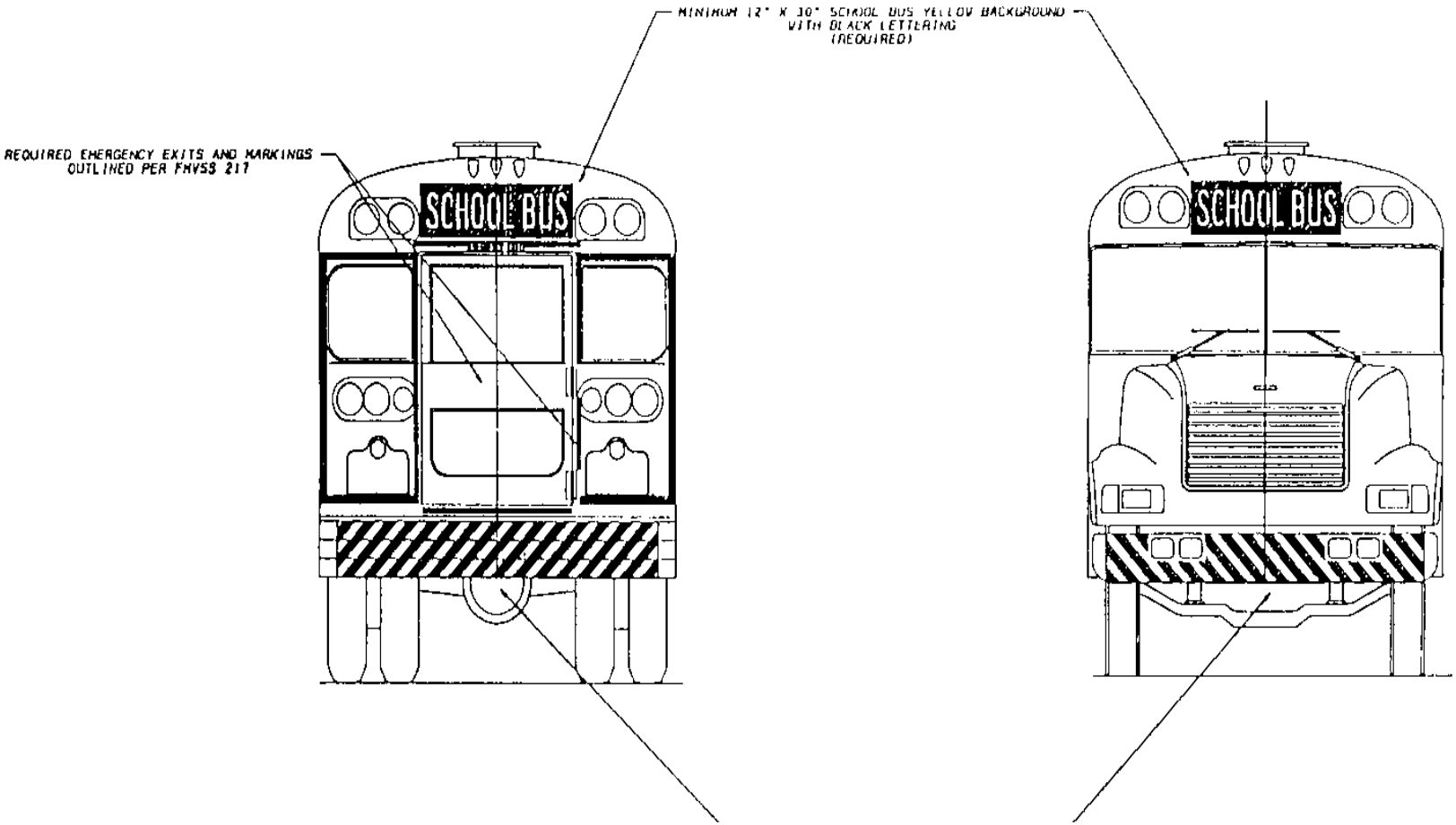
The color of the RETRO REFLECTIVE sheeting shall conform to the table below when samples applied to aluminum test panels are measured as specified in ASTM E1164. For colorimetric measurements, material is illuminated by Standard Illuminant D65 at an angle of 45 degrees with the normal to the surface the observations are made in the direction of the normal (45/0 degree geometry). The inverse (0/45 degree geometry) with the illuminant at the normal to the surface and the observations at 45 degrees with the normal to the surface may also be used. For materials which are directionally sensitive (e.g. prismatic sheeting), the colorimetric measurements are made using circumferential illumination and viewing and the various measurements are averaged. Calculations shall be done in accordance with ASTM E308 using the CIE 1931 (2 degree) Standard Observer.

RETRO REFLECTIVE SHEETING DAYTIME COLOR
CHROMATICITY COORDINATES OF CORNER POINTS
DETERMINING THE PERMITTED COLOR AREA

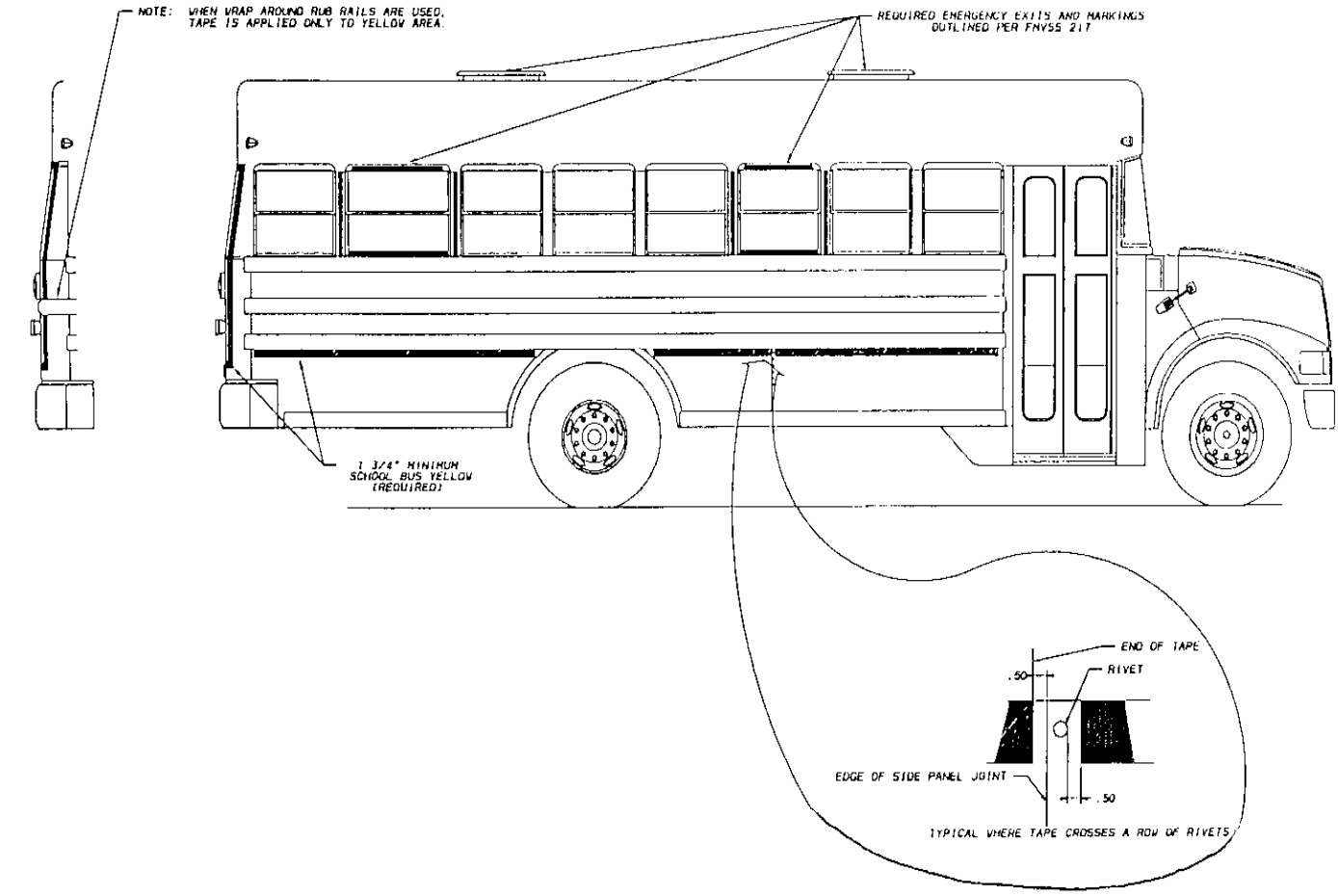
Yellow	X	0.484	0.513	0.517	0.544
	Y	0.455	0.426	0.482	0.455

Luminance Factor (Y%)	Minimum	10.0
	Maximum	36.0

APPENDIX F - RETRO REFLECTIVE SHEETING



APPENDIX F - RETRO REFLECTIVE SHEETING



PLACEMENT OF RETROREFLECTIVE MARKINGS

APPENDIX G – REFERENCE LIST

Reference	Section
American National Standards Institute 1430 Broadway New York, NY 10018	Appendix E
School Bus Manufacturers Institute Division of Truck Body & Equipment Association 4907 Cordell Avenue Bethesda, MD 20814 (301) 652-8004	006.15
ASME International Three Park Avenue Newy York, NY 10016-5990 (212) 591-7740 http://www.asme.org	005.15
School Bus Manufacturer's Technical Council Nat'l Association of State Directors of Pupil Transportation 116 Howe Drive Dover, DE 19901	005.07, 005.10, 005.17, 006.07
Society of Automotive Engineers (SAE) 400 Commonwealth Drive Warrendale, PA 15096 (4120 776-4841	005.10, 005.18, 006.02, 006.10, 006.15, 006.19, 006.40, 006.41
Underwriters Laboratories, Inc. 333 Pfingsten Road Northbrook, IL 60062	006.15, 006.17, 007.04, 010.01, 011.12
National School Transportation Specification & Procedures Missouri Safety Center Central Missouri State University Humphreys Suite 201 Warrensburg, MO 64093 (660) 543-4830	008.01, 008.07, 008.11, Appendix E
National Fire Protection Agency Batterymark Park P.O. Box 9101 Quincy, MA 02269	005.14, 005.15

APPENDIX G – REFERENCE LIST (con't)

Reference	Section
Document Engineering Co. Federal Specification TT-C520B Van Nuys, CA 91405	005.31, 006.35
U.S. Department of Commerce Office of Product Standards Policy National Bureau of Standards Washington, D.C. 20231	006.09
Department of Transportation Federal Highway Administration 400 Seventh St. S.W. Washington, D.C. 20590 http://www.fhwa.dot.gov/	002.05, 005.15, 008.04
International Electrotechnical Commission 3, rue de Varembe` P.O. Box 131 CH – 1211 GENEVA 20 Switzerland http://www.iec.ch/	Appendix E
ASTM International 100 Barr Harbor Dr. PO Box C700 West Conshohocken, PA 19428-2959 http://www.astm.org	Appendix F

APPENDIX H – FEDERAL MOTOR VEHICLE SAFETY STANDARDS AND REGULATIONS

49 CFR 571 - (Revised as of November 1, 2006)

101	Controls and displays.
102	Transmission shift lever sequence, starter interlock, and transmission braking effect.
103	Windshield defrosting and defogging systems.
104	Windshield wiping and washing systems.
105	Hydraulic and electric brake systems.
106	Brake Hoses.
108	Lamps, reflective devices, and associated equipment.
109	New pneumatic tires - passenger cars.
110	Tire selection and rims for passenger cars.
111	Rearview mirrors.
113	Hood latch systems.
116	Motor vehicle brake fluids.
117	Retreaded pneumatic tires.
118	Power-operated window, partition, and roof panel systems.
119	New pneumatic tires for vehicles other than passenger cars.
120	Tire selection and rims for motor vehicles other than passenger cars.
121	Air brake systems.
124	Accelerator control system.
125	Warning devices.
131	School Bus Pedestrian Safety Devices.
205	Glazing materials.
206	Door locks and door retention components.
207	Seating systems.
208	Occupant crash protection.
209	Seat belt assemblies.
210	Seat Belt assembly anchorages.
212	Windshield mounting.
213	Child Restraint Systems.
217	Bus emergency exits and window retention and release.
219	Windshield zone intrusion.
220	School bus rollover protection.
221	School bus body joint strength.
222	School bus passenger seating and crash protection.
301	Fuel system integrity.
302	Flammability of interior materials.
404	Platform lift installations in motor vehicles.

As found in “Federal Motor Vehicle Safety Standards and Regulations; with Amendments and Interpretations,” U.S. Department of Transportation, National Highway Traffic Safety Administration, Washington, D.C. 20590, U.S. Government Printing Office.
These documents can also be found at: http://www.nhtsa.dot.gov/cars/rules/import/FMVSS/index.html

APPENDIX I – DIRECTORY OF ACRONYMS

ADA	Americans with Disabilities Act
ABS	Anti-lock Brake System
ASTM	American Society of Testing and Materials (ASTM International)
ASME	American Society of Mechanical Engineers
CDL	Commercial Driver's License
CFR	Code of Federal Regulations
CNG	Compressed Natural Gas
DOT or USDOT	United States Department of Transportation
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FMVSS	Federal Motor Vehicle Safety Standards
GVW	Gross Vehicle Weight
GVWR	Gross Vehicle Weight Rating
LPG	Liquefied Petroleum Gas
MFG	Multi-Function Gauge
NFPA	National Fire Protection Association
OEM	Original Equipment Manufacturer
R.R.S.	Revised Statutes of Nebraska
SAE	Society of Automotive Engineers
SBMTC	School Bus Manufacturer's Technical Council
UL	Underwriters Laboratories, Inc.
WTORS	Wheelchair Tiedown and Occupant Restraint System

APPENDIX J - BRAKE ADJUSTMENT INSPECTION CRITERIA

CLAMP TYPE BRAKE CHAMBER DATA		
TYPE	OUTSIDE DIAMETER	BRAKE ADJUSTMENT LIMIT
6	4 1/2	1 1/4
9	5 1/4	1 3/8
12	5 11/16	1 3/8
16	6 3/8	1 3/4
20	6 25/32	1 3/4
24	7 7/32	1 3/4
30	8 3/32	2
36	9	2 1/4

"LONG STROKE" CLAMP TYPE BRAKE CHAMBER DATA		
TYPE	OUTSIDE DIAMETER	BRAKE ADJUSTMENT LIMIT
16	6 3/8	2.0
20	6 25/32	2.0
24	7 7/32	2.0
24+	7 7/32	2.5
30	8 3/32	2.5
* For 3" maximum stroke type 24 chambers		

TIE ROD PISTON BRAKE CHAMBER DATA		
SIZE	OUTSIDE DIAMETER	BRAKE ADJUSTMENT LIMIT
30	6 1/2 (165mm)	2.5 (64mm)

BOLT TYPE BRAKE CHAMBER DATA		
TYPE	OUTSIDE DIAMETER	BRAKE ADJUSTMENT LIMIT
A	6 15/16	1 3/8
B	9 3/16	1 3/4
C	8 1/16	1 3/4
D	5 1/4	1 1/4
E	6 3/16	1 3/8
F	11	2 1/4
G	9 7/8	2

APPENDIX J - BRAKE ADJUSTMENT INSPECTION CRITERIA

ROTO CHAMBER DATA		
TYPE	OUTSIDE DIAMETER	BRAKE ADJUSTMENT LIMIT
9	4 9/32	1 1/2
12	4 13/16	1 1/2
16	5 13/32	2
20	5 15/16	2
24	6 13/32	2
30	1 1/16	2 1/4
36	7 5/8	2 3/4
50	8 7/8	3

DD-3 BRAKE CHAMBER DATA		
TYPE	OUTSIDE DIAMETER	BRAKE ADJUSTMENT LIMIT
30	8 1/8	2 1/4
NOTE: This chamber has three air lines and is found on motor coaches.		

WEDGE BRAKE DATA
The combined movement of both brake shoe lining scribe marks shall not exceed 1/8 inch (3.18 mm)

APPENDIX K - STEERING WHEEL FREE PLAY

The steering wheel free play shall not exceed the requirements listed below:

Steering Wheel Diameter	Manual System Movement 30N	Power System Movement 45N
16” (41 cm)	2” (5.1 cm)	4 1/2” (11.5 cm)
18” (46 cm)	2 1/4” (5.4 cm)	4 3/4 “ (12 cm)
20” (51 cm)	2 1/2” (6.4 cm)	5 1/4” (13.5 cm)
22” (56 cm)	2 3/4” (7 cm)	5 3/4” (14.5 cm)

APPENDIX L - MECHANIC'S PUPIL TRANSPORTATION VEHICLE INSPECTION REPORT

This form is to kept in your school records and made available upon request.
This Checklist Indicates Compliance with Rule 92 Inspection Criteria

District/System:			County District #:	
Vehicle Year:	Make of Chassis:	Make of Body:	Capacity:	VIN No:

	First Quarter Date:		Second Quarter Date:		Third Quarter Date:		Fourth Quarter Date:	
	Approved		Approved		Approved		Approved	
Brakes	Yes	No	Yes	No	Yes	No	Yes	No
Steering	Yes	No	Yes	No	Yes	No	Yes	No
Suspension Components	Yes	No	Yes	No	Yes	No	Yes	No
Bus Chassis/Frame	Yes	No	Yes	No	Yes	No	Yes	No
Exhaust System	Yes	No	Yes	No	Yes	No	Yes	No
Drive Shaft/Differential	Yes	No	Yes	No	Yes	No	Yes	No
Engine	Yes	No	Yes	No	Yes	No	Yes	No
Tires	Yes	No	Yes	No	Yes	No	Yes	No
Electrical System	Yes	No	Yes	No	Yes	No	Yes	No
Windshield Wipers	Yes	No	Yes	No	Yes	No	Yes	No
Bus Interior and Seats (buses only)	Yes	No	Yes	No	Yes	No	Yes	No
Doors	Yes	No	Yes	No	Yes	No	Yes	No
Emergency Door/Hatches (buses only)	Yes	No	Yes	No	Yes	No	Yes	No
Windows	Yes	No	Yes	No	Yes	No	Yes	No
Heaters, Defrosters	Yes	No	Yes	No	Yes	No	Yes	No
Mirrors and Bus Exterior	Yes	No	Yes	No	Yes	No	Yes	No
Lights, Lamps, Signals	Yes	No	Yes	No	Yes	No	Yes	No
Stop Signal Arm (buses only)	Yes	No	Yes	No	Yes	No	Yes	No
Emergency Equipment:								
Fire Extinguisher	Yes	No	Yes	No	Yes	No	Yes	No
First Aid/Body Fluid Kit	Yes	No	Yes	No	Yes	No	Yes	No
Emergency Reflection	Yes	No	Yes	No	Yes	No	Yes	No

APPENDIX L - MECHANIC'S PUPIL TRANSPORTATION VEHICLE INSPECTION REPORT

First Quarter □Approved □Not Approved

DESCRIPTION OF ITEMS NOT APPROVED: _____

_____

_____

This pupil transportation vehicle was inspected by: (Signed)_____ Date:_____
School Appointed Mechanic

Date non-compliant items were corrected: _____

(Signed)_____
School Appointed Mechanic

Second Quarter □Approved □Not Approved

DESCRIPTION OF ITEMS NOT APPROVED: _____

_____

_____

This pupil transportation vehicle was inspected by: (Signed)_____ Date: _____
School Appointed Mechanic

Date non-compliant items were corrected: _____

(Signed)_____
School Appointed Mechanic

Third Quarter □Approved □Not Approved

DESCRIPTION OF ITEMS NOT APPROVED: _____

_____

_____

This pupil transportation vehicle was inspected by: (Signed)_____ Date:_____
School Appointed Mechanic

Date non-compliant items were corrected: _____

(Signed)_____
School Appointed Mechanic

Fourth Quarter □Approved □Not Approved

DESCRIPTION OF ITEMS NOT APPROVED: _____

_____

_____

This pupil transportation vehicle was inspected by: (Signed)_____ Date:_____
School Appointed Mechanic

Date non-compliant items were corrected: _____

(Signed)_____
School Appointed Mechanic

APPENDIX M

CODE OF FEDERAL REGULATIONS 49 CFR 567.7 and 49 CFR 567.3

[Code of Federal Regulations]
[Title 49, Volume 6]
[Revised as of October 1, 2006]
From the U.S. Government Printing Office via GPO Access
[Page 189-190]

TITLE 49--TRANSPORTATION

CHAPTER V--NATIONAL HIGHWAY TRAFFIC
SAFETY ADMINISTRATION, DEPARTMENT
OF TRANSPORTATION

PART 567 CERTIFICATION

Sec. 567.7 Requirements for persons who alter certified vehicles.

(a) With respect to the vehicle alterations it performs, an alterer:

(1) Has a duty to determine continued conformity of the altered vehicle with applicable Federal motor vehicle safety, Bumper, and Theft Prevention standards, and

(2) Assumes legal responsibility for all duties and liabilities for certification under the Vehicle Safety Act.

(b) The vehicle manufacturer's certification label and any information labels shall remain affixed to the vehicle and the alterer shall affix to the vehicle an additional label in the manner and location specified in Sec.567.4, in a manner that does not obscure any previously applied labels, and containing the following information:

(1) The statement: ``This vehicle was altered by (individual or corporate name) in month and year in which alterations were completed)and as altered it conforms to all applicable Federal Motor Vehicle Safety, Bumper and Theft Prevention Standards affected by the alteration and in effect in (month, year)." The second date shall be no earlier than the date of manufacture of the certified vehicle (as specified on the certification label), and no later than the date alterations were completed.

(2) If the gross vehicle weight rating or any of the gross axle weight ratings of the Vehicle as altered are different from those shown on the original certification label, the modified values shall be provided in the form specified in Sec. 567.4(g)(3) and (4).

(3) If the vehicle as altered has a different type classification from that shown on the original certification label, the type as modified shall be provided.

Sec. 567.3 Definitions.

Altered vehicle means a completed vehicle previously certified in accordance with Sec. 567.4 or Sec. 567.5 that has been altered other than by the addition, substitution, or removal of readily attachable components, such as mirrors or tire and rim assemblies, or by minor finishing operations such as painting, before the first purchase of the vehicle other than for resale, in such a manner as may affect the conformity of the vehicle with one or more Federal Motor Vehicle Safety Standard(s) or the validity of the vehicle's stated weight ratings or vehicle type classification.

Alterer means a person who alters by addition, substitution, or removal of components (other than readily attachable components) a certified vehicle before the first purchase of the vehicle other than for resale.