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4501-5-01 General provisions.

(A) Except as otherwise provided in paragraphs (O)(2)(a) to (O)(2)(f) of this rule, all school buses for which bids are issued, bid on or after the effective date of this rule, shall conform to the rules in this chapter. These rules also cancel all existing "Approved Equal" certification and all construction approvals or waivers.

(B) School buses shall be manufactured and maintained as specified in rules 4501-5-02 and 4501-5-03 of the Administrative Code as applicable for the type of school bus. Any manufacturer, dealer or owner wishing to install any equipment or product other than those specified in rules 4501-5-02 and 4501-5-03 of the Administrative Code, including equipment or products the manufacturer, dealer or owner believes are equivalent or superior to equipment or products specified in those rules shall have prior approval, in writing, from the director. Requests for permission to install shall comply with rule 4501-5-04 of the Administrative Code.

(C) A manufacturer's and/or dealer's failure to comply with any of the rules in this chapter and all national highway traffic safety administration recalls may result in the suspension of authorization for sale and/or use of the chassis and/or body in the state of Ohio until such discrepancy is corrected by the manufacturer or responsible representative and written approval is issued by the department.

(D) Each manufacturer shall file a statement of compliance within thirty days after the effective date of this rule. The statement shall certify that all products and components manufactured for use in school buses sold for use in Ohio, as defined in division (F) of section 4511.01 of the Revised Code, will meet all rules in this chapter.

(E) Specifications shall be filed with the director in duplicate by the school bus chassis and/or body manufacturer that will meet the standards in this chapter. Specifications being submitted by the manufacturers shall also include any sales brochures and pertinent literature. When new models are introduced, specifications shall be filed with the director.

(F) Pre-delivery inspection shall be conducted by both body and chassis manufacturers to assure the bus being delivered is in satisfactory operating order (all components) and meets all applicable federal and Ohio standards. This predelivery inspection shall be according to the specific instructions of the purchaser and to the purchaser's satisfaction.

(G) The bus shall be delivered clean inside and out.

(H) Body and chassis manufacturers shall provide a written document specifying warranty provisions and enumerating major parts and equipment covered under warranty. Bus body and chassis dealers shall be responsible for providing full warranty service.

(I) The chassis manufacturer shall provide for service at the body plant location after the body is mounted and prior to delivery to the purchaser. At the time of delivery, the chassis dealer shall provide to the purchaser the following documents:

(1) Line set tickets.

(2) Predelivery service check list.

(3) Predelivery check-out form by the chassis manufacturer or designated agent.

(4) Warranty book and statement of warranty.

(J) Any changes in design or equipment by school bus owners after receipt of the school bus must have prior approval in writing from the director of the department.

(K) School buses equipped with equipment or products that have been approved by the director pursuant to rule 4501-5-04 of the Administrative Code shall comply with the installation and operation requirements as approved. If equipment or products that have been approved by the director pursuant to rule 4501-5-04 of the Administrative Code are to be installed by other than the manufacturer or dealer at the original time of sale, permission shall be obtained in accordance with rule 4501-5-04 of the Administrative Code.

(L) School bus definitions

(1) A "Type A School Bus" is a conversion bus constructed utilizing a cutaway front-section vehicle with a left side driver's door. This definition shall include two classifications:

(a) Type A-1, with a gross vehicle weight rating (GVWR) of fourteen thousand five hundred pounds or less,

(b) Type A-II, with a gross vehicle weight rating (GVWR) of fourteen thousand five hundred one pounds or more.

(2) A "Type B School Bus" is constructed utilizing a stripped chassis, with a gross vehicle weight rating of more than ten thousand pounds, designed for carrying more than ten 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.

(3) A "Type C School Bus" is a body installed upon a flat back cowl chassis with a gross vehicle weight rating of more than ten thousand pounds, designed for carrying more than ten persons, including the driver. All of the engine is in front of the windshield and the entrance door is behind the front wheels.

(4) A "Type D School 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 ten thousand pounds and designed for carrying more than ten persons, including the driver. The engine may be behind the windshield and beside the driver's seat, 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.

(M) All body and chassis manufacturers shall provide a current up-to-date parts and service repair manual(s) for each body and chassis. This is not to be interpreted as an owner's manual. If the school bus owner is ordering more than one of the same body and chassis then only one parts and service manual would be required.

(N) All chassis and body replacement parts shall be readily available for a minimum of fifteen years.

(O) Compliance, maintenance

(1) The responsibility for compliance with these rules and/or national highway traffic safety administration recalls lies with the school bus owner. A manufacturer's and/or dealer's failure to comply with any of the rules in this chapter and all national highway traffic safety administration

recalls may result in the suspension of authorization for sale and/or use of the chassis and/or body in the state of Ohio until such discrepancy is corrected by the manufacturer or the responsible representative and written approval is issued by the department.

(2) School bus owners shall maintain all school buses in such condition that they continue to meet Ohio school bus construction standards as follows and federal motor vehicle safety standards (FMVSS) in effect on the bid date, or if the bid date is unknown, on the manufacture date until such standards or specifications are subsequently repealed or reduced:

(a) For school buses with a bid date, or if bid date is unknown, with a manufacture date on or after August 16, 2007, but before the effective date of this rule, the Ohio department of public safety Ohio school bus construction standards, effective August 16, 2007.

(b) For school buses with a bid date, or if bid date is unknown, with a manufacture date on or after September 1, 2003 but before August 16, 2007, the Ohio department of public safety Ohio school bus construction standards, effective September 1, 2003.

(c) For school buses with a bid date, or if bid date is unknown, with a manufacture date on or after September 1, 1998 but before September 1, 2003, the Ohio department of public safety Ohio school bus construction standards, effective September 1, 1998.

(d) For school buses with a bid date, or if bid date is unknown, with a manufacture date on or after January 1, 1990 but before September 1, 1998, the Ohio department of education school bus minimum construction standards, effective January 1, 1990.

(e) For school buses with a bid date, or if bid date is unknown, with a manufacture date on or after July 1, 1988 but before January 1, 1990, the Ohio department of education school bus minimum construction standards, effective July 1, 1988.

(f) For school buses with a bid date, or if bid date is unknown, with a manufacture date on or after April 1, 1978 but before July 1, 1988, the Ohio department of education school bus minimum construction standards, effective April 1, 1978.

(3) A complete and accurate copy of the Ohio school bus construction standards as indicated above will be deposited in each of five depository libraries designated by the state library board or may be obtained by contacting: the Ohio state highway patrol office of licensing and commercial standards, Ohio department of public safety, 1970 West Broad Street, Columbus, Ohio 43223.

(P) All school bus body and chassis manufacturers shall immediately notify the director and the superintendent of public instruction of any safety-related product recalls.

(Q) Any composite materials used in school bus construction shall meet or exceed all applicable FMVSS in strength and durability.

(R) Material approved for incorporation by reference

The following are contact sites for the material incorporated by reference in Chapter 4501-5 of the Administrative Code: Except as otherwise provided in paragraphs (O)(2)(a) to (O)(2)(f) of this rule, the versions of all federal regulations and other texts incorporated by reference throughout Chapter 4501-5 of the Administrative Code are those in effect on the effective date of this rule.

(1) Federal motor vehicle safety standards (FMVSS), U.S. department of transportation-national highway traffic safety administration (DOT-NHTSA), 400 7th street SW, Washington DC 20590. For the purpose of this chapter references to federal motor vehicle safety standards (FMVSS) are to the standards set forth in the Code of Federal Regulations printed as of October 1, 2007, published by the office of the federal register, national archives and records administration.

Obtained via government printing website:http://www.gpoaccess.gov/nara

Telephone: (202) 366-4000

(2) Society of automotive engineers (SAE), SAE International

Obtained via: SAE world headquarters, 400 Commonwealth drive, Warrendale, PA 15096

Telephone: (724) 776-4841, website: http://www.sae.org

For the purpose of this chapter, references to SAE standards are to those set forth in the "2008 Society of Automotive Engineers (SAE) Handbook" as published by the society of automotive engineers, Inc., Warrendale, Pennsylvania, USA.

(3) American society for testing and materials (ASTM)

Obtained via: ASTM international, 100 Barr Harbor Drive PO Box C700, West Conshohocken, PA 19428-2959

Telephone: (610) 832-9585, website:http://www.astm.org

(4) Federal motor carrier safety regulations (FMCSR)

Obtained via: government printing office, 400 7th Street SW, Washington DC 20590

Telephone: (202) 366-2519, website:http://fmcsa.dot.gov

(5) National school transportation specification and procedures, Missouri safety center, Central Missouri state university, Warrensburg, Missouri 64093

Telephone: (660) 543-4830

For the purpose of this chapter, references to national school transportation specifications and procedures are to the standards set forth in the May 2005 "National School Transportation Specifications and Procedures" as published by the Missouri safety center, Warrensburg, MO. 64093

(6) Ohio Revised Code

Obtained via: http://codes.ohio.gov/

(S) Definitions:

As used in this chapter of the Administrative Code:

(1) "Department" means the department of public safety.

(2) "Director" means the director of the department of public safety or his designee.

(3) "Manufacturer's rated seating capacity" means the theoretical passenger capacity that a vehicle would have if it were constructed with the maximum number of seating positions according to standard seating plans: also known as "designed seating capacity."

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4501-5-02 School bus construction standards.

These standards apply to any school bus used to transport school children to and from school and/or school related activities and events.

(A) Access steps. (except "Type A" buses)

(1) Steps shall be installed on each side of the school bus to allow access to windshield for cleaning.

(2) Grab handles shall be securely mounted in a suitable position to assist in using the steps.

(3) In lieu of steps installed on each side, the steps are permitted in or on the front bumper if the windshield can be accessible for cleaning from that position.

(B) Aisle.

(1) Minimum width of aisle shall be twelve inches at floor level.

(2) Minimum width of aisle between seats shall be twelve inches at seat level and fourteen inches at top of seat back.

(3) The aisle shall not be less than twelve inches wide between any two objects from the service doors to the aisle in the passenger area from floor to ceiling.

(4) Hold-down fastening devices used on inside engine cover shall be designed to prevent hooking or catching on shoes or clothing.

(C) Axles and suspensions.

(1) The front and rear axles, including suspension assemblies, and all frame-toground components, shall have a gross axle weight rating when measured at the ground at least equal to that portion of the load as would be imposed by the chassis manufacturer's maximum gross vehicle weight rating.

(2) Heavy-duty double-acting shock absorbers compatible with the manufacturer's rated axle capacity shall be installed on the front and rear of the school bus chassis.

(3) Suspension assemblies as specified shall maintain/control stability of school bus under all conditions.

(D) Battery.

(1) "Type B, C and D" buses:

(a) A battery or batteries of at least eight hundred cold cranking amperes for a gasoline powered engine.

(b) A battery or batteries of at least one thousand two hundred fifty cold cranking amperes for a diesel powered engine.

(2) "Type A I and A II" buses:

(a) A battery or batteries of at least six hundred cold cranking amperes for a gasoline powered engine.

(b) A battery or batteries of at least one thousand cold cranking amperes for a diesel powered engine.

(3) A battery or batteries of at least one thousand two hundred cold cranking amperes if equipped with a lift.

(4) One-piece non-spliced battery cables shall be provided by the chassis manufacturer. All cables shall conform to society of automotive engineers standard J541 with respect to electrical resistance.

(5) "Type A I and A II" buses may have the battery/batteries either under the hood, enclosed under the steps at the left side drivers door, or mounted as a "Type B, C or D" bus. Batteries for "Types B, C, and D" buses shall be mounted in the body skirt by the body manufacturer. Rear engine buses may have batteries mounted in engine compartment.

(6) A drawer-type pull-out tray shall be installed whenever the battery/batteries are mounted in the body fender shirt. The batteries shall be enclosed by a compartment constructed of mill-applied zinc coated steel, or other acid resistant material, provided with drain ports, hold-down carrier mounted so as to avoid blocking filler ports, and latching device to prevent accidental opening. Drawer assembly shall be covered with acid-resistant paint or material. Rust proofing shall be applied to battery box. Battery tray shall be equipped with a positive locking device to keep tray from sliding completely out to prevent battery from being dropped.

(E) Body construction.

(1) All construction components (except door handles, grab handles, interior decorative parts, other interior plated parts, and components heavier than twelve-gauge), shall be of prime commercial quality mill-applied zinc coated steel, other anti-corrosive coating or composite materials. Components must meet or exceed current strength and durability and all applicable Federal Motor Vehicle Safety Standards. The zinc plating shall be one hundred twenty grams per meter square minimum coating weight (grade sixty) or equivalent applied by either hot dipping or electroplating. All such construction materials shall be fire resistant.

(2) All metal surfaces that will be painted shall be chemically cleaned, etched, zinc-phosphate coated, and zinc-chromate or epoxy-primed, or conditioned by equivalent process.

(3) In providing for the requirements in paragraphs (E)(1) and (E)(2) of this rule, particular attention shall be given to lapped surfaces, welded connections of structural members, cut edges, punched or drilled holed areas in sheet metal, closed or box sections, unvented or undrained areas, and surfaces subject to abrasion during vehicle operation.

(4) Upon final assembly of the bus body and after mounting body upon chassis, the total unit strength of the school bus shall meet or exceed all strength criteria as established by Federal Motor Vehicle Safety Standards (FMVSS) sections 571.220 and 571.221, 49CFR571.220 and 49CFR 571.221.

(5) Body construction shall provide a dustproof and watertight unit.

(6) Floor.

(a) The floor shall be not less than fourteen-gauge mill, corrosive resistant coated steel or composite materials. If zinc plated, the plating shall be one hundred twenty grams per meter square minimum coating weight (grade sixty) or equivalent applied by either hot dipping or electroplating.

(b) A fuel access plate shall be installed for easy access to fuel gauge mechanism. ("Type A" buses excluded)

(7) Rub rails.

(a) Manufacturers shall install one rub rail at approximately seat level, except for the opening for engine compartment side door in a rear engine bus. This rail shall extend from the main vertical post behind the service door to the forward-most vertical post on the left side of the body, including left side emergency door. (Rear emergency door exempted)

(b) A second rub rail shall be installed at approximately the floor line and cover the same longitudinal area as the seat level rail, except at wheel housings, and needs only to extend to the radii of right and left rear corners.

(c) All rub rails shall be attached at each body post and all other upright structural members.

(d) Each rub rail shall be four inches or more in width in its finished form and shall be constructed of sixteen gauge metal or other material of equivalent strength suitable to help protect body side panels from damage.

(e) All rub rails shall be mounted outside of body panels.

(f) Additional external rub rails are permissible if they form an integral part of the body construction and meet the fastening requirements.

(8) If the ceiling is so constructed to contain lap joints, the forward panel shall be lapped by the rear panel and the exposed edges shall be beaded, hemmed, flanged or otherwise treated to minimize sharp edges.

(9) All body components shall be designed and constructed so as to avoid the entrapment of moisture.

(F) Brakes.

All braking systems and components shall meet or exceed the minimum requirements specified in applicable Federal Motor Vehicle Safety Standards 571.105 or 571.121 and the following:

(1) Air or hydraulic brake systems are acceptable. If brakes are air actuated, they shall be of the cam drum type on front and rear wheels, disc front and drum rear or four wheel disc. Brakes that are hydraulically actuated, shall be disc front and drum rear or four wheel disc. Only split type systems are acceptable.

(2) All air brake systems shall have both visual and audible warning systems that activate as required by Federal Motor Vehicle Safety Standards 571.121. Hydraulic brake systems that utilize hydraulic power assist shall have both visual and audible warning systems that activate as required by Federal Motor Vehicle Safety Standards 571.105.

(3) The gauges shall display the air pressure in five pound increments.

(4) Air compressors that supply air to brakes must have sufficient rated capacity that meets or exceeds Federal Motor Vehicle Safety Standards 571.121 (minimum of thirteen cubic feet per minute) and shall be pressure oil fed. Clean air to all compressors shall be supplied and filtered through engine air cleaner.

(5) Separate compressors that supply air to accessories only and not braking systems, shall be a minimum of nine and one half cubic feet per minute.

(6) All air supplied from the air tanks shall be taken at or above the center line of the air tank to avoid contaminates entering the braking system or air operated accessories.

(7) All school buses equipped with air brakes shall require a desiccant type air dryer with a renewable or replaceable desiccant cartridge (filter). Dryer shall incorporate an automatic purge and drain cycle with heating element.

(G) Bumpers.

(1) Front bumper for all buses having a GVWR of twenty-one thousand five hundred pounds or less shall be manufacturers standard. ("Type A" buses)

(2) Front bumper for all buses having a GVWR greater than twenty-one thousand five hundred pounds rating:

(a) Bumper shall be at least three-sixteenths of an inch thick pressed steel channel, one-piece construction, with a minimum width of eight inches after forming. Materials other than pressed steel may be used if equivalent in strength and durability of pressed steel.

(b) Bumper shall be contoured to offer maximum protection of fender lines without permitting snagging or hooking.

(c) Bumper shall be attached to the frame and extended forward of grille, head lamps, fender, or hood sections and extend the entire width of the bus to provide maximum protection.

(d) The bumper shall be of sufficient strength to permit lifting the bus with a bumper type lift for servicing

(e) All shall have sufficient strength to permit pushing a vehicle of equal weight without permanent distortion to bumper, chassis, or body.

(3) Rear bumper.

(a) Bumper shall be of sufficient strength to permit lifting the bus with a bumper type lift for servicing and shall be one piece, heavy-duty type of pressed steel channel, at least three-sixteenths inch of thickness. Materials other than pressed steel may be used if equivalent in strength and durability of pressed steel.

(b) "Type B,C and D" buses rear bumper shall be a minimum of eight inches in height after forming. "Type A" buses rear bumper shall be a minimum of nine and one-half inches in height after forming.

(c) Bumper shall be wrapped around back corners of bus and extend forward at least twelve inches, measured from rear-most point of body at floor line. Rear bumper shall also protect rear corners of body by extending beyond the body exterior side panels. The bend of the rear bumper at the rear body corners shall be sufficient to allow the entire contour of the forward end of the rear bumper to extend no more than one inch beyond the body line of the exterior side panels.

(d) Bumper shall be fastened to chassis frame side rails in such a manner as to develop full strength of bumper section from rear or side impact. Bracing materials shall have an impact ratio comparable to that of bumper material and shall be fastened at the ends and radii of the bumper, attached to the side of the frame only and not to the body at any point.

(e) Bumper shall extend beyond rear-most part of body surface at least one inch, measured at floor line.

(f) No spaces, projections, or cutouts that will permit a handhold are permitted.

(g) Front ends of the bumper shall be enclosed by endcaps or other protective metal or shall have the ends rounded or tucked in and shall be free from sharp edges or projections likely to cause injury or snagging.

(h) A rubber or metal strip shall be installed to close any opening exceeding one-fourth inch between rear bumper and body metal.

(i) The bumper vertical distance between the bottom of the bumper and the ground shall not exceed thirty inches when the vehicle is empty.

(H) Clutch – chassis using manual transmission shall be equipped with a clutch which shall have a rated capacity in a range from equal to the maximum net engine torque up to ten per cent greater than the maximum net engine torque.

(I) Color.

(1) Bumpers shall be black.

(2) Cowl, fender and body shall be painted national school bus yellow.

(3) Hood shall be painted non-reflective national school bus yellow or flat black.

(4) Frame shall be painted black.

(5) Grille may be painted national school bus yellow, black or may be chrome or anodized aluminum in finish.

Rear engine bus grille area/s shall be national school bus yellow.

(6) Wheels, spokes and rims shall be black, and/or gray.

(7) All lettering and numbering on exterior shall be black.

(8) Background area and optional hoods for warning lights shall be black.

(9) Required rub rails shall be black, optional rub rails may be color of body or black.

(J) Cooling system.

(1) The cooling system radiator shall be of sufficient capacity to cool the engine at all speeds in all gears. Thermostatic controls shall keep the engine at the manufacturer's recommended operating temperature.

(2) Permanent anti-freeze shall be compatible with the cooling system and engine.

(3) The cooling system shall be equipped with a coolant recovery or a deaeration system. The system shall be of sufficient size to allow for the added expansion from the added coolant needed for the body heating system. The cooling system shall have a means of checking the coolant without having to remove the radiator cap.

(4) If equipped with an automatic transmission, shall have a heavy duty cooling system to provide additional cooling required by the automatic transmission.

(5) A fan/s shall be installed to aid the cooling system.

(6) On vehicles requiring hoses or extensions to a coolant recovery system from the radiator, the hose or extension shall be so designed to permit adding coolant without trapping air.

(7) The manufacturer shall add the required amount of appropriate antifreeze to protect the cooling system to minus twenty degrees fahrenheit tested at normal engine temperature.

(K) Defroster.

(1) Defroster system shall meet or exceed society of automotive engineers standard J381 performance requirements without use of auxiliary fan.

(2) The defroster system shall be of sufficient capacity to keep windshield area, left front side window to rear of the driver's vision, and service door glass area free of condensation or ice under all possible combinations of pupil load and climatic conditions.

(3) Defroster system shall be capable of providing at least sixty per cent fresh air.

(4) Two adjustable six-inch auxiliary defroster fans shielded with small mesh metal or polypropylene guards shall be installed. Only one adjustable six-inch auxiliary defroster fan is required for "Type A" buses.

(a) Fan/s shall be mounted to complement the defroster system.

(b) Each auxiliary defroster fan/s shall be controlled individually by a multi-speed switch.

(c) The switch shall be located within easy reach of the driver while seated.

(L) Drive shaft and differential.

(1) Drive shafts and universal joints are to be original equipment manufacturer standard.

(2) Metal drive shaft guards are required for each drive shaft section extending lengthwise under the floor of the passenger compartment to prevent projecting through the floor or dropping to the ground if broken. The drive shaft guard shall be at the end of the shaft which is provided with a sliding connection (spline or other such device) to prevent whipping of the shaft in event of failure thereof or any of its component parts.

(3) The rear axle ratio shall be compatible with engine, transmission, and tire size.

(M) Driver's seat.

(1) Minimum distance between steering wheel and back rest of driver's seat shall be eleven inches. Driver's seat shall have vertical adjustment of not less than four inches and horizontal adjustment of not less than four inches.

(2) The driver's seat and driver's area shall have a restraining barrier meeting Federal Motor Vehicle Safety Standards 571.222 positioned immediately behind the driver's area.

(3) The driver's seat upholstery shall meet Federal Motor Vehicle Safety Standards 571.302 (Flammability of interior materials).

(4) A emergency locking retractor-type seat belt for driver shall be installed. Belts shall be equipped with protective boots of sufficient quality and strength to keep it retracted and off the floor and within easy reach of the driver. Belt shall be adjustable on one side only and keep the driver from sliding sideways under the belt.

(5) Belt and emergency locking retractor upper torso restraint shall be installed in compliance with current federal and society of automotive engineers standards.

(6) An emergency locking retractor upper torso restraint shall be provided and shall work in unison with the seat belts.

(N) Electrical system.

(1) Alternator.

(a) Minimum of a one hundred forty five ampere alternator on all "Type A" buses.

(b) Minimum of a one hundred eighty ampere alternator on all other buses.

(c) Output must be approximately sixty amperes or more at engine manufactures recommended idle speed.

(2) Alternator shall be driven with matched pulleys and matched belts or a single multiple-grooved serpentine belt.

(3) Manufacturer shall provide an adequate electric power source terminal for bus body power connection.

(4) All wiring shall conform to current society of automotive engineers standards.

(O) Emergency equipment.

(1) All shall be mounted in an easily accessible location.

(2) Bus shall be equipped with at least one dry-chemical-type fire extinguisher of at least five-pound capacity, 3A – 40 B.C. rating, located outside of the passenger area, mounted in a quick release-type bracket and easily accessible by the driver. The extinguisher shall be equipped with a dial-type graduated gauge which indicates loss of pressure. Fire extinguisher shall be of the type that permits the dry-chemical base to be refilled by ordinary procedures.

(3) First aid kits shall be dustproof, plainly labeled, mounted in a location easily accessible to the driver, located outside of the passenger area, and securely mounted in a metal or plastic container.

(4) Minimum units for the school bus shall be as follows: A sixteen-unit kit shall be used on buses less than fifty designed maximum capacity. A twenty-four unit kit is required for buses of fifty or more designed maximum capacity.

(a) Contents of sixteen-unit first aid kit:

(i) Three units – one-inch adhesive compress

(ii) Two units – two-inch bandage compress

(iii) One unit – three-inch bandage compress

(iv) One unit – four-inch bandage compress

(v) One unit – three-inch x three-inch plain gauze pads

(vi) One unit – four-inch gauze roller bandage

(vii) Two units – plain absorbent gauze – one-half square yard

(viii) Two units – plain absorbent gauze – twenty-four inch x seventy-two inch

(ix) Three units – Triangular bandages

(b) Contents of twenty-four-unit first aid kit:

(i) Four units – one-inch adhesive compress

(ii) Three units – two-inch bandage compress

(iii) Two units – three-inch bandage compress

(iv) One unit – four-inch bandage compress

(v) One unit – three-inchx3 inch plain gauze pads

(vi) Two units – four-inch gauze roller bandage

(vii) Four units – plain absorbent gauze – one-half square yard

(viii) Three units – plain absorbent gauze – twenty-four inch x seventy-two inch

(ix) Four Units – triangular bandages

Note: The first aid kit may be installed at time of manufacture by the manufacturer, installed by dealer, or installed by the owner/operator of the school bus.

(5) Three triangle reflectors with weighted stands shall be properly encased for easy storage. The triangle reflectors shall meet Federal Motor Vehicle Safety Standards 571.125. The storage container shall be mounted to prevent movement and shall be mounted within easy access of the driver.

(6) Six thirty-minute fusees shall be encased for easy storage. The storage container shall be mounted to prevent movement and shall be mounted within easy access of the driver. The fusees shall not be stored in the passenger area.

(7) One body fluid kit shall be required. The kit shall contain the following items:

(a) Effective chlorine absorbent deodorant.

(b) Effective germicidal detergent. If detergent contains alcohol, no more than one fluid ounce is permitted in a single-use disposable container.

(c) Single-use, disposable bag.

(d) Single-use, disposable scraper.

(e) Minimum of one pair of disposable, single-use, effective protective gloves.

(f) Effective hand rinse. If hand rinse contains alcohol, no more than one-half fluid ounce is permitted in a single-use disposable container.

(g) The body fluid clean-up kit shall be easily accessible to the driver in the area of the first aid kit and shall be securely mounted in a metal or plastic container.

(h) If alcohol is included, the body fluid clean-up kit shall not contain more than one and one-half fluid ounces of alcohol.

Note: The body fluid kit may be installed at time of manufacture, installed by dealer or the owner/operator of the school bus.

(P) Emergency exits.

Any installed emergency exit shall comply with the design and performance requirements of Federal Motor Vehicle Safety Standards 571.217 applicable to that type of exit, regardless of whether or not that exit is required by Federal Motor Vehicle Safety Standards 571.217. Additional exits are allowed in addition of the minimum required by this rule.

(1) Emergency doors.

(a) Emergency doors shall meet Federal Motor Vehicle Safety Standards 571.217. An interior handle shall be provided to pull the door shut from the inside which may be used as a protection against accidental release.

(b) When the fastening device is not in the position that causes the emergency door to be closed, a continuous warning sound shall be audible at the driver's seating position and in the vicinity of the emergency door and the dome lights (driver's dome light excluded) shall illuminate with the ignition switch in any position.

(c) Exterior door handle shall be of permanent hitch-proof design and mounted with enough clearance to permit opening without touching door surface.

(d) All emergency door openings shall be completely weather-stripped.

(e) There shall be no step-type mechanism in the use of the emergency door.

(f) There shall be a head bumper pad installed on the inside at the top of the emergency exit frame. This pad shall be approximately four inches in width and extend across the entire top of the emergency exit opening and shall meet Federal Motor Vehicle Safety Standards 571.302 for flammability standards of interior materials.

(2) Rear emergency door.

(a) On all buses, except rear-engine design, an emergency door shall be located in the rear of the school bus body and centered with respect to the body.

(b) Emergency door shall have a minimum horizontal opening of twenty-four inches and a minimum vertical opening of forty-eight inches measured from floor level.

(c) Rear emergency door shall be hinged on right side and shall open outward.

(d) The rear emergency door shall contain upper and lower glass panels. Glass in emergency door shall provide maximum area of visibility for safe operation of school bus.

(3) Left side emergency door.

(a) On all rear-engine school buses, a left side emergency door shall be installed.

(b) If a door sill or heater line extends above the floor line, a ramp shall be provided covering the area over which a foot must pass as an individual exits through the door.

(4) Emergency side window exits.

(a) Emergency window shall display the words "emergency exit" at the top of or above the emergency window exit in the interior of the bus.

(b) Emergency windows, when not fully latched, shall activate a continuous warning sound that shall be audible in driver's compartment and activate all dome lights (driver's dome lights excluded). Warning sound and dome lights shall be operational with the ignition switch in any position.

(5) Emergency window, rear-engine buses.

(a) An emergency window shall be installed above the engine compartment.

(b) Window shall be hinged from top and provided with a device to ensure against accidental closing when open.

(c) Emergency window in rear shall be equipped with a latch on the inside, and also be equipped with a handle of hitch-proof design which will permit opening from the outside.

(d) Emergency window shall display the words "emergency exit" at the top of or above the emergency window exit in the interior of the bus.

(e) Emergency window, when not fully latched, shall activate a continuous warning sound that shall be audible in the driver's compartment and all dome lights shall activate (driver dome lights excluded). Warning sound and dome lights will be operational with the ignition switch in any position.

(6) Emergency roof exits.

(a) A continuous warning sound that shall be audible in the driver's compartment and all dome lights shall activate when the hatch is opened in the escape position (driver dome lights excluded). Warning sound and dome lights shall be operational with ignition switch in any position.

(b) If a bus is not manufactured with a static vent, the emergency roof exit shall be a static-type with exhaust vent.

(7) Number of emergency roof exits required.

(a) One roof hatch is required for a bus with a manufacturer's rated seating capacity of one to forty-five.

(b) Two roof hatches are required for a bus with a manufacturer's rated seating capacity of forty-six and above.

(Q) Engine speed governor shall be installed on all buses. Setting shall comply with manufacturer's maximum recommended governed speed. A revolution per minute limiter in lieu of the engine speed governor is acceptable.

(R) Exhaust system.

(1) Exhaust pipe, muffler or a diesel particulate filter in lieu of the muffler, and tailpipe shall be outside bus body and attached to chassis.

(2) Muffler shall be heavy-duty truck type of aluminized or stainless steel or ceramic coated to offer maximum resistance to corrosion or oxidation.

(3) All exhaust pipes and tailpipes shall be constructed of sixteen gauge or greater aluminized steel tubing or stainless steel tubing. Short sections of flexible pipe may be used between the exhaust manifold/s and the exhaust pipe to allow flexing of the exhaust system during vehicle operation.

(4) Diameter of tailpipe shall not be reduced after it leaves the muffler.

(5) The tailpipe shall extend to but not beyond one inch of the rear bumper. The rear end of tailpipe must be located at least twenty inches to the right or left of the center line of the chassis.

(6) The tail pipe may go through the bumper.

(7) An optional left side discharge exhaust system is permitted. If a left side discharge, the tailpipe shall be located at least three inches and not more than eighteen inches in front of the rear wheel opening and angled down at a forty-five degree angle six inches from the end of the pipe. The discharge shall extend to the edge of the body.

(8) Right side discharge exhaust systems are not permitted.

(9) The exhaust system on a gas-powered chassis shall be insulated from the fuel tank and fuel tank connections by a securely attached metal shield at any point where it is twelve inches or less from the fuel tank.

(S) Fenders.

(1) Total spread at outer edges of front fenders, measured at fender line, shall exceed total spread of front tires when front wheels are in straight ahead position.

(2) Front fenders shall be braced and free from any body attachment. Trailing edge of front fender shall extend to bottom of front body section. Fender extensions are acceptable.

(3) Chassis sheet metal shall not extend beyond rear face of cowl.

(T) Floor covering.

(1) All floor covering shall meet Federal Motor Vehicle Safety Standards 571.302

(standard for flammability of interior materials) and be permanently bonded to the floor and must not crack or lose its adhesive power when vehicle is subjected to sudden changes in temperature. Bonding or adhesive material shall be waterproof and recommended by the manufacturer of the floor covering material.

(2) Underseat areas shall have a fire-resistant floor covering, having a minimum overall thickness of one-eighth inch. The entire joint between the floor covering and the wall of the school bus body shall be covered with a fitted, rust-free metal or composite molding or reformed interior panel.

(3) Driver's compartment floor area shall provide sure footing when wet and be of the same quality material as the underseat floor covering. The driver's compartment floor covering shall be permanently bonded to the floor.

(a) Exception – On "Type A" buses, the driver's compartment floor area shall be manufacturer's standard. It shall be permanently bonded to the floor.

(4) Center aisle covering shall be fire-resistant, non-skid and wear-resistant. If ribbed, minimum thickness shall be one hundred eighty-seven thousandths inch measured from the top of the ribs.

(5) If the bus is equipped with a manual transmission, an inspection plate shall be installed for easy servicing of the clutch and transmission. The plate shall be installed above the regular floor covering when possible and shall not be undercoated.

(6) Brake, gear shift, and accelerator boots shall be installed.

(7) Metal, composite molding, bonding or non-metal welding shall cover all floor-covering joints.

(8) Molding around the wheel-well and floor covering shall be provided to seal floor covering with the wheel well.

(9) A fuel access plate shall be installed for easy access to fuel gauge mechanism and shall be installed above the regular floor covering when possible. The access plate shall not be undercoated. Panel shall be sealed to prevent any leakage or moisture. Diamond plate may be used as an access panel.("Type A" buses excluded)

(10) Floor covering on top step landing shall be one piece.

(U) Frame.

(1) Frame shall be designed to correspond with or exceed standard practice performance criteria for trucks of same general load specifications used for highway service.

(2) Chassis frame shall extend to rear edge of rear body cross member.

(3) Frame side members shall be one-piece construction with the following exceptions:

(a) Extension of these members shall be designed, furnished, and guaranteed by chassis or body manufacturer. Installation shall be guaranteed by the company installing the extension. Extension of frame lengths shall not be for the purpose of extending wheel base.

(b) No holes shall be permitted in the chassis rails except those drilled at the chassis plant or authorized by the frame manufacturer.

(4) Welding to chassis rails is permitted only when guaranteed by the company making the modifications and authorized by the frame manufacturer.

(V) Fuel fill opening shall be in the body skirt and shall be equipped with a hinged cover held closed by a spring or other conveniently operated device. The mechanism that holds this cover closed shall be sufficient to keep it closed under severe operating conditions. The fuel fill opening shall be large enough to permit the entire pump nozzle to pass through the opening and reach the fill neck of the fuel tank.

(1) Exception – On "Type A" buses, the fuel fill opening shall be manufacturer's standard.

(W) Fuel System.

All fuel tank specifications shall conform to Federal Motor Vehicle Safety Standards 571.301 (fuel system integrity). In addition:

(1) Fuel tank shall have a minimum capacity of thirty-three gallons with a thirty gallon actual draw, for buses up to and including fifty-nine passengers. School buses of sixty passengers and above shall have a minimum capacity of sixty gallons with a fifty-five gallon actual draw. It shall be filled and vented outside of the body. Construction will prevent the spillage or drainage of fuel on any part of the exhaust system.

Exception – On "Type B" buses the fuel tank shall have a minimum capacity of thirty gallons with a twenty-five gallon actual draw.

(2) Fuel filter with replaceable element shall be installed. A flexible connection which is gasoline and oil-proof shall be provided at the engine end of the fuel line.

(3) In addition to the fuel filter, all diesel fueled engines shall have a water separator installed between fuel tank and the injector pumps. The fuel/water separator may be incorporated with the fuel filter but the fuel/water separator shall not serve as the fuel filter.

(4) Drain plug of at least one-fourth inch pipe thread shall be located in center of bottom of fuel tank.

(X) Glass.

(1) All glass shall be manufactured and maintained as follows:

Glass table

Location Glass type Rating

Service door Laminated AS 1 or AS 2

Emergency door Tempered or laminated AS 2 or AS 3

Emergency window Tempered or laminated AS 2 or AS 3

Windshield Laminated AS 1

Driver's side glass Laminated AS 1 or AS 2

All other glass in passenger's area Tempered or laminated AS 2 or AS 3

Exception- On "Type A" buses the driver's door glass shall be manufacturer's standard.

All other glass not noted in table shall meet Federal Motor Vehicle Safety Standard 571.205 Glazing Materials.

(Y) Heaters.

(1) Heating systems shall provide evenly distributed heat throughout the bus body and provide defrosting for windshield, drivers side window and service door.

(2) Buses shall be equipped with hot water heaters capable of maintaining inside temperature of fifty degrees fahrenheit using an ambient temperature of zero degrees to ten degrees fahrenheit.

(3) Buses shall be equipped with a front heater.

(4) Hot water heaters shall display the name plate rating in accordance with the standard code for testing and rating automotive bus hot water heater and ventilating equipment.

(5) All heater fans shall be independently controlled by multi-speed switches.

(6) All hot water lines inside the driver's/passenger's area shall be enclosed.

(7) Heater cores and fans shall be completely encased, but designed to permit servicing heating assembly by removing all or part of the case.

(8) Heater hose installation in the engine compartment shall include two shut-off valves able to shut off coolant completely when necessary.

(a) One shut-off valve shall be mounted between the water pump inlet and heater hose connection.

(b) One shut-off valve shall be mounted between the motor block and the heater hose connection.

(9) There shall be a heater water-flow regulating valve installed for convenient operation when the driver is in a normal seated position.

(Z) Hood on all vehicle types or an interior engine cover on "Type D" buses shall have a device to secure the hood or engine cover, when in the open position, to prevent accidental closing.

(AA) Horns.

Buses shall be equipped with a horn/s of standard make capable of producing complex sound in band of audio frequencies from two hundred fifty to two thousand hertz and having total sound level of one hundred to one hundred twenty decibels within these frequency limits when measured at fifty feet from the vehicle

(BB) Instruments and instrument panel.

(1) Chassis shall be equipped with the following instruments and gauges. Lights in lieu of gauges are not acceptable.

(a) Speedometer.

(b) Odometer which will give accrued mileage up to nine hundred ninety nine thousand nine hundred ninety nine.

(c) A voltmeter with a graduated scale of sixteen volts. Voltmeter shall show the battery voltage. It shall be off when the ignition switch is in the off position.

(d) Oil pressure gauge.

(e) Water temperature gauge.

(f) Fuel gauge.

(g) Air brake systems shall have independent gauges indicating air pressure in the primary and secondary air tanks.

(h) Rear engine buses shall be equipped with a tachometer.

(2) All buses shall have a warning system consisting of a light and optional audible warning to notify driver of low engine oil pressure, low engine coolant level, and coolant overheating. System shall not automatically shut off engine.

(3) All instruments shall be easily accessible for maintenance and repair.

(4) The above instruments and gauges shall be mounted on instrument panel in such a manner that each is clearly visible to driver in a seated position. The visibility of the instruments must comply with Federal Motor Vehicle Safety Standard 571.101.

(5) All instruments/gauges required by Federal Motor Vehicle Safety Standards to be illuminated shall be illuminated.

(CC) Insulation.

(1) Bus body shall be fully insulated in the roof and all body panels to deaden sound, reduce vibrations and heat transfer. Insulation, one-inch minimum thickness, in addition to the usual sprayed on material, shall be a fiberglass or equal material and fire-resistant.

(2) A plywood floor shall be applied on top of the steel floor. Floor covering shall be applied on top of the plywood. Plywood shall be five-eighths inch five-ply type CD exterior grade. Plywood shall extend to fire-wall and under the driver's seat. Plywood shall be sanded and vacuumed before covering is applied. Waterproof sealing material shall be applied to seams in the sections of plywood floor. Plywood shall be four feet by eight feet sections, pieced only as necessary. Waterproof sealing applied on top of the plywood to hold the floor covering is considered as one method of sealing the seams in the plywood floor.

(3) Option to plywood floor: Equivalent material applied to top of steel floor may be used to replace plywood, provided it has equal or greater insulation R-value, sound abatement, deterioration-resistant and moisture-resistant properties.

(DD) Interior.

(1) Interior of the school bus shall be free of all projections.

(2) All school buses shall require inner lining on ceiling and walls and shall include sound abatement package in the driver area.

(3) The interior sound level at the driver's seating position shall not exceed ninety decibels when measured in accordance with test procedures found in 49 CFR 393.94(C).

(EE) Inside body height shall be seventy-two inches or more measured from floor to ceiling at any point on longitudinal center line from the beginning of the aisle of the passenger compartment to the end of the aisle.

For "Type A" buses, the inside body height shall be sixty-eight inches or more measured from floor to ceiling at any point on longitudinal center line from the beginning of the aisle of the passenger compartment to the end of the aisle.

(FF) Lamps, signals and backing warning device.

(1) All lamps herein listed and their installation shall conform to current standards and recommendations of the society of automotive engineers and meet Federal Motor Vehicle Safety Standard 571.108.

(2) Construction of components:

(a) Directional signal, stop light, taillight, marker light, clearance light, identification light, back up light and reflector lenses shall meet applicable society of automotive engineers standards.

(b) All exterior lamp sockets shall be zinc-plated or chromated steel, or other suitable non-corrosive materials such as plastic or stainless steel.

(c) Alternately flashing warning signal lamps, body-mounted directional signals and stop lamps shall be grounded.

(3) When the ignition switch is in the off position, the hazard warning, stop light, marker lights, headlamps, passenger dome lights and emergency exit audible warnings shall be operational.

(4) The service door step-well light shall automatically operate when the headlights are in operation and be activated by a switch controlled by the service door. The light shall be a minimum of six candlepower.

(5) High beams are to be controlled by a column mounted dimmer switch.

(6) Interior dome lights.

(a) Passenger dome lights when activated shall adequately and uniformly illuminate aisleway to three to four foot candles.

(b) Each dome light shall have a minimum candle power of fifteen.

(c) All dome lights shall be equipped with clear/white shatter-proof lenses.

(d) Passenger dome lights shall be controlled by a switch in the driver's console. Power shall be provided when the ignition switch is in the "On" or "Accessory" position and shall be on a protected circuit.

(e) A separate driver dome light shall be provided and controlled by a single switch in the driver's console.

(7) Directional signals.

(a) Side and rear directional signals shall be wired to operate properly with the front directional signals.

(b) Manufacturer shall install required signal lamps to the directional signal control switch so all directional signal lamps shall be operative. The directional signal system shall be installed on an integral part of the hazard warning signal switch activated by an independent switch furnished.

(c) Direction signals, when illuminated, shall be amber in color and shall meet society of automotive engineers specifications.

(d) Rear directional signals shall have a minimum of thirty-eight square inches of illuminated surface each. The rear directional signals shall be identical in shape, size and location.

(8) Backing warning devices.

(a) Two back up lights are required and shall be mounted on or below the belt line on the school bus body. Back up lights shall conform to Federal Motor Vehicle Safety Standard 571.108.

(b) All school buses shall be equipped with an audible electrical warning device, automatically actuated when the bus is in reverse gear. Device shall be one hundred seven decibels or more, meeting society of automotive engineers J994.

(i) Device shall be installed in an area on or behind the rear axle.

(9) Stop/Tail Lights.

(a) Each bus shall have two combination stop/tail lamps as required in Federal Motor Vehicle Safety Standard 571.108. These two lamps shall be identical in shape and size.

(b) In addition to the two stop/tail lamps required by Federal Motor Vehicle Safety Standard 571.108, each bus shall be equipped with two combination stop/tail lamps with a minimum illuminated surface area of thirty-eight square inches, emitting red light plainly visible from a distance of five hundred feet to the rear. These lamps shall be as high as practical but below the window line and spaced as far apart laterally as practicable, but not less than three feet. Measurements shall be taken from lamp centers. These additional two lamps shall be identical in shape and size.

(10) A white light shall be installed to illuminate the area on the body near the left lower brake/tail lamp to illuminate the state identification number.

This light may be incorporated into the lower left brake/tail lamp.

(11) All school bus body lamps and reflectors shall comply with Federal Motor Vehicle Safety Standard 571.108.

Reflectors shall not be combined with any other lamp or items of associated equipment. (exception – front amber reflectors may be incorporated into a front lamp

(12) All marker, clearance and identity lamps shall conform to society of automotive engineers standards for the type of lamp.

These lamps shall be activated by the chassis headlight switch.

(13) Alternately flashing warning signal lamps.

(a) Each school bus shall be equipped with a system of four red signal lamps and four amber signal lamps. Both red and amber lamps shall be installed in accordance with Federal Motor Vehicle Safety Standard 571.108 and the Society of Automotive Engineers J887.

(i) There shall be a system in place to allow the deactivation of the amber signal lamps without the need to open the service door or placing the ignition switch in the off position.

(ii) These lamps shall alternately flash at a designated rate from sixty to one hundred twenty cycles per minute.

(b) Operation of alternately flashing warning signal lamps, stop signal arm and optional crossing control arm.

(i) Power for these devices shall be provided when the ignition switch is in the on position.

An optional master switch may be installed for these devices. If installed, a green pilot light shall illuminate to indicate the system is ready for operation.

(ii) With the service door closed and the manual momentary (amber) start switch activated and released, the amber pilot light and amber warning lamps shall flash.

(iii) When the service door is moved toward the open position, the amber pilot light and the amber warning lamps shall turn off and the red pilot light and red warning lamps shall flash.

(iv) The stop signal arm and, if installed, the crossing control arm shall automatically extend when the red warning lamps flash.

The stop arm signal lamps shall flash when extended.

(v) When the service door is closed, the red warning lights shall deactivate, the stop signal arm and, if installed, crossing control arm shall retract.

(vi) With the service door open and the manual momentary (amber) start switch activated and released, the red pilot light and the red warning lamps shall flash and the stop signal arm and, if equipped, the crossing control arm shall extend.

The stop signal arm lamps shall flash when extended.

(vii) The service door switch that activates the red warning lamps shall be located in a position by a cover or guard that will prevent the switch from being activated or deactivated by persons boarding or leaving the bus.

(viii) An emergency override system for activating the red warning lamps and extending the stop signal arm shall be installed.

(a) A red colored or red outlined emergency override switch shall be installed. This switch shall be marked with the words "Emergency warning lights" (abbreviation is acceptable). This shall be the only red colored or red outlined switch on the switch panel.

(b) When the emergency override system is activated, the red pilot light and the red warning lamps shall flash and the stop signal arm shall extend with the door in any position.

(i) The stop signal arm lamps shall flash when extended.

(c) The system shall be operational with the ignition switch in any position.

(d) Power for the system shall be on a protected circuit.

(c) Hoods may be installed above the lamps. If installed, all the lamps shall have hoods.

(GG) Length of a school bus shall not exceed forty-five feet, excluding safety devices/bumpers.

(HH) Markings – body shall display the following identification (in black lettering):

(1) "School Bus" at least eight inches high on both the front and rear of the body. Lettering shall be placed as high as possible without impairment of visibility. The "School Bus" marking shall be on a background of retro reflective national school bus yellow material. The material shall be the

same quality and type as Federal Motor Vehicle Safety Standards requires for the marking of emergency exits.

(2) "Stop" on the rear of the bus in letters not less than ten inches centered on the metal panel of the rear emergency door or for rear engine buses, centered on the rear of the bus.

(3) Name of the private school, school district or the school bus owner or operator shall appear on both sides of the vehicle at the belt line and be at least five inches high.

(4) The county in which the private school or the school district resides shall appear on both sides of the vehicle in a minimum of three-inch letters, unless the name of the city or exempted village appears as a part of the school district or private school name.

(5) When required by Federal Motor Carrier Safety Regulations (FMVSR), the ownership of the school bus (company name, city, state and USDOT number as required by FMVSR) shall appear on both sides of the bus. The right side markings shall be to the rear of the service door below the floor rub rail. The left side markings shall be in the area of the stop signal arm below the floor rub rail. The markings shall be in two inch high letters. Only the information required by FMVSR shall be displayed. For the purpose of this rule, Federal Motor Carrier Safety Regulations 390.21 effective June 2, 2000.

(6) Local school bus numbers approximately five inches high and shall be located as follows:

(a) On body near the service door.

(b) On the body, near the right lower tail light.

(c) On the left side of the body in the area of the driver's window.

(d) Visible to the front, in an area designated by the operator.

(7) Buses shall be marked with reflectorized material as follows: All reflectorized material shall be a retro reflective material which meets Federal Motor Vehicle Safety Standards for marking of emergency exits. In addition:

(a) All reflective material shall be able to retain at least fifty per cent of the reflective values for a minimum of seven years.

(b) All reflective material shall be warranted against peeling, cracking, separation and lifting due to weather conditions, pressure, and mechanical washing for a minimum of seven years.

(c) Reflective yellow material two inches in width (& 177; one quarter inch) shall be applied to both corners of the rear of the bus and extend from the bumper vertically up to the top of the rear windows.

(d) All emergency doors and windows shall be outlined in yellow only. Emergency roof exits shall be outline in either red, yellow or white around the outside perimeter with reflective material as required by Federal Motor Vehicle Safety Standard 571.217.

(e) Both sides of the bus body shall be marked with retro reflective national school bus yellow material, extending the length of the body (passenger area) and located (vertically) below the window line. This marking shall be at least one and three quarter inch in width and run parallel

with the rub rails. This material may be placed as a background for the required name of the school district, company name operating the bus or private school name.

(f) Three seven by fourteen-inch wide pieces of white to white-silver in color reflective material shall be applied to the front and rear of the bus to accommodate the state identification and local bus numbers as follows:

(i) State identification number on the front of the vehicle shall be placed on a seven by fourteen-inch piece of reflective material which shall be applied and centered on the front bumper. If the bumper is manufactured with the holes in the center for two hooks, the seven by fourteen-inch piece of material may be located on the driver's side of the bumper. If the bumper is less that six inches in height, a seven by fourteen-inch plate will be permanently attached to the bumper to accommodate the seven by fourteen-inch reflective material.

(ii) In the rear, the state identification number and the local number shall be placed on individual seven by fourteen-inch pieces of reflective material which shall be applied and centered on the flat surface near the left and right lower taillights as the bus body design will allow.

(II) Mirrors.

(1) The buses shall be equipped with mirrors meeting the requirements of Federal Motor Vehicle Safety Standard 571.111 for school buses.

(2) Interior rear view mirror shall be a minimum of six by thirty inches.

Exception – "Type A" – Six by sixteen inches

(3) All exterior mirrors shall be heated and fully adjustable.

(4) Mirror assemblies shall be warranted one hundred per cent replacement coverage for thirty-six months against rust and corrosion, and against any reduction in clarity of view due to discoloration or other deterioration of the lens.

(JJ) Mounting of body on chassis.

(1) Isolators shall be placed between the frame and body main cross-sill and intermediate members. The isolators shall be at least one-fourth inch thick and shall be attached to chassis frame or body members in a fashion to prevent the isolators from shifting, separating or displacement of the isolators under severe operating conditions.

(2) Bus body shall be attached to chassis frame in such a manner as to prevent shifting or separation of the body from the chassis under severe operating conditions.

(3) Body front shall be attached and sealed to the chassis cowl in such a manner as to prevent entry of moisture.

(KK) Mud flaps – All buses shall be equipped with mud flaps at all wheel positions. The mud flaps shall be installed as close as practical to the wheel. Length shall be in accordance with section 5577.11 of the Revised Code. For the purpose of this rule, the length requirements of section 5577.11 of the Revised Code are as effective September 1, 2000.

(LL) Noise suppression switch.

(1) Shall be installed within easy reach of the driver in a seated position.

(2) Switch shall be an on/off type.

(3) Shall deactivate factory installed devices that produce noise. (Exception – devices installed during the manufacture of the chassis/cowl also two way communication systems)

(a) AM/FM radios

(b) Heaters

(c) Air conditioner fans

(d) Fans

(e) Defrosters

(4) This switch shall not deactivate safety systems, such as windshield wipers or lighting systems.

(MM) Oil filter of replaceable element or cartridge type shall be provided and shall be connected by flexible high-pressure type hose with wire braid reinforcement that will withstand pressure and heat if it is not of built-in or engine-mounted design. Hose shall meet society of automotive engineers J1019.

(NN) Openings created in mounting of bus body to chassis shall be sealed by manufacturer to prevent entrance of gases, dust or moisture into passenger and driver's compartments. All openings made by the manufacturer in the floorboard and fire-wall shall be sealed by the manufacturer to prevent gases from entering the driver's compartment. Boots for the accelerator pedal, gearshift, and emergency brake, when required, shall be supplied by the manufacturer.

(OO) Paint standard.

(1) Paint finish coats to bus body, hood, cowl, and all attaching sheet metal and fiberglass parts shall be warranted for sixty months with no mileage limit, one hundred per cent parts and labor, for adhesion and color retention.

(2) Paint shall be applied for a total dry thickness at a minimum of one and eight tenths mils over all painted surfaces.

(3) Body exterior.

All exterior body and chassis sheet metal including fiberglass shall be painted with polyurethane paint or equivalent.

(4) All interior panels, walls, and roof surfaces shall be painted.

May be unpainted finished metal/plastic.

(PP) Passenger seats.

(1) All seating and restraining barrier design and construction must meet the provisions of Federal Motor Vehicle Safety Standard 571.222. In addition, all seat back barriers must be a minimum of twenty-eight inches in height, as measured from the intersection of the forward surface of the seat back and the unpressed surface of the seat cushion. The top surface of the restraining barriers shall be the same height as the top surfaces of the seat backs

(2) All seats shall have a minimum depth of fifteen inches.

(3) Seats shall be mounted so as to provide a minimum of thirty-six inches headroom for sitting position above the top of unpressed cushion line of all seats. Measurement shall be made vertically not more than seven inches from side wall at cushion height and at fore and aft center of cushion.

(4) Seat construction.

(a) Seat, seat back cushion, seat bottom and restraining barrier shall be covered with flame-barrier fire-retardant seating material. Such material must pass the "Fire Block" test.

(i) The flame will not spread to seat back in front of the fire.

(ii) The flames on the rear seat will self-extinguish.

(iii) The flame-barrier, fire retardant seating material will successfully prevent the underlying padding material from being exposed to the flames.

(b) All seat backs and rails shall be covered with energy-absorbing padding material as required by Federal Motor Vehicle Safety Standard 571.222.

(c) Backs of all seats shall be the same width at the top and same height from the floor, also slanting at the same angle.

(QQ) Power train.

(1) Diesel engines.

Diesel engines

Passengers Minimum horse power Minimum torque Maximum revolutions per minute

10-48 160 350 foot/pounds 3000

49-54 165 350 foot/pounds 3000

55-59 175 400 foot/pounds 3000

60-84 185 400 foot/pounds 3000

(2) Gasoline engine.

Gasoline engine

Passengers Minimum horse power Minimum torque Maximum revolutions per minute

10-48 160 275 foot/pounds 3800

49-54 180 290 foot/pounds 3800

55-59 180 290 foot/pounds 3800

60-84 190 310 foot/pounds 3800

(3) All diesel engines shall be equipped with a turbocharger and air to air intercooler.

(4) All diesel engines shall be equipped with a block heater. Heater shall be a minimum of seven hundred fifty watts.

(5) Dry type air cleaner with an air filter restriction indicator is required.

(6) Engine shall be equipped with a fast idle (air, electronic, or manual) throttle.

(RR) School safety zone decal

(1) The decal shall be approximately seven inches by seven inches. At the top of the decal shall be the word "NOTICE", underlined, and immediately below the word "NOTICE" the symbol for no handgun allowed. Below the no handgun symbol, the decal shall state in black lettering on a white background "Unless Otherwise Authorized By Law, Pursuant to Ohio Revised Code Section 2923.122, No Person Shall Knowingly Possess, Have Under The Person's Control, Convey Or Attempt To Convey A Deadly Weapon Or Dangerous Ordnance Onto A School Bus (School Safety Zone)."

(2) No other markings, symbols or lettering are allowed on the decal.

(3) The location of the decal shall be on the flat metal surface just above the seat rub rail to the immediate left of the service door. The right edge of the decal shall be within two inches of the end of the rub rail.

(SS) Service door.

(1) Service door shall be outward-opening, split-type on all buses. Service door shall be air, electric, or manually-operated. Door shall be under the control of the driver and designed to afford easy release and prevent accidental opening.

(2) Service door shall be located on right side of bus opposite the driver and within the driver's direct view.

(3) Service door entrance shall have minimum horizontal opening of twenty-four inches and minimum vertical opening of sixty-eight inches.

(4) Glass in service door shall provide maximum area of visibility for operation of the bus.

(5) All edges of service door shall be sealed by a flexible material to prevent air from entering the door entrance when closed.

(6) There shall be no safety rail or handholds mounted on the inside of the service door.

(7) Only one handle or handhold may be placed on the outside of the service door.

(8) There shall be a head bumper pad installed on the inside at the top of the service door frame. This pad shall be approximately four inches in width and extend across the entire top of the service door opening and shall meet Federal Motor Vehicle Safety Standard 571.302 for flammability standards of interior materials.

(9) Service door shall have suitable access for easy lubrication.

(10) Manual service door.

(a) When a manual lever is used, no parts shall come together so as to shear or crush fingers. Lever shall be equipped with an approved safety latch to prevent accidental opening which will lock in the over-center position when door is fully opened. Manually operated doors shall require no more than twenty-five pounds of pull to close and may be hydraulically assisted.

(b) Manual door control mechanism shall be heavy-duty bearing type, adjustable for wear, non-corrosive, anodized steel, or equivalent.

(11) On power-operated service doors, the emergency release valve, switch or device to release the service door must be placed above the required head bumper or at the same height to the immediate left or right of the service door and must be clearly labeled.

(a) When the switch or lever is in the released position, it will override door control in driver's area making it non-operational in any of the door control positions.

(b) Whenever the switch or lever is placed in the released position, it will allow the service door to be opened or closed freely.

(c) This switch and distribution block that control eight light warning system shall be securely fastened near the door control valve and shall be easily accessible for service and repair.

(TT) Service door steps.

(1) The first step of the service door shall be not less than six inches and not more than sixteen inches from the ground.

(2) Service door entrance shall be equipped with step risers that do not exceed ten inches. Risers in each case shall be approximately equal.

(3) Steps shall be enclosed to prevent accumulation of ice and snow.

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

(5) Grab handles of maximum length, but not less than ten inches long, shall be installed on both sides of the interior step-well area. These handles shall be stainless steel clad. Both grab handles shall be securely fastened and designed so as to prevent clothing or any other item from being caught.

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

(a) Steps shall be covered with a covering material which shall have non-skid characteristics. Step covering shall have a turned-down nosing of a contrasting color of either white, yellow, or bright orange.

(b) Step covering shall be securely fastened to the steps in a manner that will minimize tripping. This requires that the heads of mounting screws or bolts be below the top surface of the step tread.

(7) The service door steps shall have a restraining barrier that is in compliance with Federal Motor Vehicle Safety Standard 571.222 positioned between the stairwell and the passenger compartment. This barrier shall be equipped with a modesty panel.

(UU) Steering system.

(1) All school buses shall be equipped with heavy-duty, truck-type integral power steering.

(2) Steering mechanism shall provide for easy adjustment for lost motion.

(3) No changes shall be made in the steering mechanism unless approved by manufacturer.

(4) There shall be a clearance of at least two inches between steering wheel and any other surface or control.

(VV) Stop Signal Arm.

The stop signal arm(s) shall comply with the requirements of Federal Motor Vehicle Safety Standard 571.131 (School bus pedestrian devices).

(WW) Sun visor.

The school bus shall be equipped with at least one interior adjustable transparent sun visor, folding type, which is a minimum of six by thirty inches in size. If only one sun visor is installed, it shall be positioned for use by the driver.

Exception – "Type A" shall be manufacturer's standard.

(XX) Tires, rims, and wheels.

(1) Manufacturer or authorized dealer shall balance all wheels and make necessary alignments prior to delivery.

(2) Dual rear tires and wheels shall be provided.

(3) All tires on a given axle shall be of same size, construction, and capacity.

(4) All shall be equipped with tubeless radial tires of proper size and load range for chassis gross vehicle weight ratings and body combinations as required by Federal Motor Vehicle Safety Standard 571.120.

(5) Disc wheels shall be used.

(YY) Tow hooks.

(1) Two rear tow hooks shall be installed, with the hooks and their mounting of sufficient strength to tow the vehicle at the vehicle's curb weight.

(2) Two front tow hooks may be installed, with the hooks and their mounting of sufficient strength to tow the vehicle at the vehicle's curb weight.

(ZZ) Transmission.

(1) Manufacturer shall furnish an automatic transmission unless the school bus owner specifies a manual transmission.

(2) Automatic transmissions shall have at least three forward gears, neutral, and reverse.

(3) The torque rating of the automatic transmission shall meet or exceed the maximum torque output of the engine.

(4) Manual transmissions shall be full synchromesh in all forward gears except first and reverse. Manual transmissions shall conform to the following designed maximum chassis capacities.

(a) Ten through forty-nine passenger bus requires a minimum of four forward speeds and one reverse.

(b) Fifty and above passenger bus requires a minimum of five forward speeds and one reverse.

(AAA) Vehicle identification plates – All chassis serial number identification plates shall be attached to the bus and be clearly identifiable and legible for the entire life of the bus.

(BBB) Wheel-housings.

(1) Wheel-house shall be attached to floor components in such a manner to prevent water, dust or fumes from entering the bus body.

(2) Wheel-house openings shall allow for easy tire removal and service.

(3) Inside height of wheel-housing above floor line shall not exceed ten inches.

(4) Wheel-housing shall provide clearance to permit the installation of tire chains per society of automotive engineers standard J683.

(CCC) Width – Overall width of a bus shall not exceed one hundred and two inches, excluding mirrors.

(DDD) Windows.

(1) Driver's side window shall be capable of opening and be equipped with a lock-type closure.

Exception – "Type A" buses shall be manufacturer's standard.

(2) Each side window in the passenger area shall be double sash and provide unobstructed emergency opening at least nine inches high and twenty-two inches wide, obtained by lowering the upper sash.

If the bus body design does not allow for all windows to meet the width dimension requirement, up to two side windows per side in the passenger area may be less than the twenty-two inches. They may or not open.

(3) Individual windows shall not have a vertical opening greater than twelve inches. Stops shall be installed where needed to obtain this dimension.

(EEE) Windshield washers.

(1) The windshield washer fluid reservoir shall have a minimum capacity of two quarts in a rigid plastic container. It shall be mounted outside the interior of the bus and in a position readily accessible for refilling,

(2) Windshield washer shall incorporate a check valve in supply line. Check valve will not allow washer fluid to drain back into washer tank when not in use.

(FFF) Windshield wipers.

(1) Will be equipped with two heavy-duty windshield wipers.

(2) Windshield wipers to be operated by one or more electric motors.

(3) Windshield wipers shall be controlled with one switch. Switch shall provide multi-speed operation and shall incorporate an intermittent position.

(4) Wipers shall be wet arm type.

(5) The windshield wiper motor or motors shall have sufficient power and the wiper arms and blades shall be of sufficient length to provide the largest cleaning area possible.

(6) Wiper blades shall be a minimum of sixteen inches in length. The blade holders shall be the type that permits replacement of only the rubber blade.

(7) The left side windshield wiper shall be so positioned that the approximate center of the wiped area will be directly in front of the driver in a normal seated position. The right side windshield wiper shall be so positioned that the wiped area will provide the driver with maximum vision to the right in a normal seated position.

(GGG) Wiring.

(1) All wiring shall conform to current society of automotive engineers standards. Wiring diagrams must be made available to school bus owners.

(2) All wires shall be coded and numbered as required by the "National School Transportation Specifications and Procedures" May 2005 edition.

(3) Wiring shall be arranged in at least six circuits, as follows:

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

(b) Clearance and step-well lamps.

(c) Dome lamps.

(d) Starter motor.

(e) Ignition and emergency door signal.

(f) Turn signal lamps.

(g) Alternately flashing red and amber signal lamps. Any of the above circuits may be subdivided into additional independent circuits.

(4) Each body circuit shall be color coded and a diagram of the circuits shall be attached to the body in a readily accessible location.

(5) Short circuit protective devices shall be provided for each major circuit and all other electrical functions, except starter motor and ignition circuits.

(6) All wires within body shall be insulated and protected by a covering which will protect them from external damage and minimize dangers from short circuits. Whenever wires pass through body members, additional protection in the form of an appropriate type of insert shall be provided.

(7) Wires not enclosed within body shell shall be fastened securely at intervals of not more than twenty-four inches.

(8) All joints shall be soldered or joined by equally effective connectors.

(HHH) If the bus is used to transport pupils with disabilities, the bus shall also meet all applicable paragraphs of rule 4501-5-08 of the Administrative Code.

Replaces: 4501-5-02, parts of 4501-5-03, -04, -05, and -06

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4501-5-03 School buses used to transport pupils with special needs.

(A) General requirements.

(1) All school buses designed or used for transporting pupils with special transportation needs shall comply with rules 4501-5-01 to 4501-5-3 of the Administrative Code, when applicable.

(2) All school buses designed or used for transporting pupils having special transportation needs shall comply with school bus FMVSS as applicable to their gross vehicle weight rating category.

(3) School buses used for the transportation of pupils with special needs that require the use of a wheelchair and/or other mobile seating devices which prohibit use of the regular service entrance shall be equipped with a power lift.

(4) The lift shall be located on the right side of the body, in no way attached to the exterior sides of the bus. When not extended, the lift shall be confined within the perimeter of the school bus body. Buses equipped with a lift shall not have passenger seats installed directly across the aisleway from the lift.

(5) All school buses transporting pupils with special needs shall be equipped with an electronic communication system. The electronic communication system shall be capable of constant contact with the school or dispatch point. This equipment may be excluded from the bus manufacturer's bid and purchased separately.

(B) All aisles leading from the wheelchair area to an emergency door shall be a minimum of thirty inches in width to permit passage of a wheelchair/mobile seating device or mobility aid.

(C) School buses designed for the transportation of pupils with special needs in the state of Ohio, shall have wheelchair securement and occupant restraint systems that comply with SAE J2249 installed as specified in FMVSS 571.222, Sections 5.4.1 to 5.4.4 at each wheelchair location.

(D) Securement system for mobile seating device and occupant.

(1) The designated area for the wheelchair/mobile seating devices shall be a minimum of fifty inches longitudinally by thirty inches laterally. The designated area shall be free of all obstructions pursuant to FMVSS 571.222.

(2) All buses equipped with attachment points securement devices and/or wheelchair securement systems shall also be equipped with a durable webbing cutter having a full width hand-grip and protected blade. The cutter must be appropriately stored in the driver's compartment to the left of the driver. This equipment may be excluded from the bus manufacturer's bid and purchased separately.

(3) All securement system attachments or coupling hardware not permanently attached shall be designed to prohibit accidental disconnecting.

(4) All attachment or coupling systems designed to be connected or disconnected frequently shall be accessible and operable without the use of tools or other mechanical assistance.

(5) No mobile seating device securement system hardware shall be placed so that a mobile seating device can be placed blocking access to lift door or emergency door(s). (Exception is track hardware)

(6) Detailed instructions, including a parts list, regarding installation and use of the system shall be provided with each vehicle equipped with an occupant securement system.

(7) Detailed instruction, including a diagram regarding the proper placement and position of the system including correct belt angles, shall be provided with each vehicle equipped with an occupant securement system.

(E) Flexibility in seat spacing and floor plan layout to accommodate special devices shall be permitted. Altered vehicles are required to meet all federal and state standards applicable to the gross vehicle weight category and designed maximum capacity.

(F) Special service entrance.

(1) The special service entrance door(s) shall be at any convenient point on the right curb side of the bus. When the special service entrance is located forward of the rear wheels, the special service entrance door(s), in the open position, shall not obstruct the regular service entrance.

(2) The opening may extend below the floor through the bottom of the body skirt. If such an opening is used, reinforcements shall be installed at the front and rear of the floor opening to support the floor and give the same strength as other floor openings.

(3) The opening, with doors open, shall be of sufficient width and depth to allow the passage of wheelchairs/mobile seating devices and mobility aids. The minimum clear opening shall be fifty-six inches in height

(4) A drip molding shall be installed above the opening to effectively divert water from the opening. Door posts and headers for the special service entrance shall be reinforced sufficiently to provide support and strength equivalent to the areas of the side of the bus not used for service doors. A head bumper pad shall be installed above the special service entrance and/or on the lift frame.

(G) Special service entrance doors.

(1) A single door or double door may be used

(2) All doors shall open outwardly. The special service entrance doors shall have a positive fastening device/s to hold doors in the open position and door bumpers to prevent door-to-body contact.

(3) All doors shall be weather-sealed. Buses with double doors shall be so constructed that a flange on the forward door overlaps the edge of the rear door when closed.

(4) 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-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. These locking devices shall afford maximum safety when the doors are in the closed position.

(5) The door and hinge mechanism shall be of a strength that is greater than, or equivalent to, the emergency door exit. 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.

(6) Each door shall have a window compatible within one inch of the lower line of adjacent sash. The window shall be installed to provide a dustproof/watertight fit.

(7) The special service entrance shall be equipped with a device that will actuate a green flashing visible signal located in the driver's compartment when the door or doors are not securely closed and the ignition is in on position.

(H) Adequate lighting of the lift area shall be provided. The lighting shall be at least in compliance with FMVSS 571.404

(I) The light(s) used to illuminate the interior and exterior of the lift area shall be activated when the lift door is open.

(J) Power lift.

The lift and installation shall comply with the requirements set forth in FVMSS 571.403 (platform lift systems for motor vehicles) and FMVSS 571.404 (platform lift installations in motor vehicles).

(1) Design

(a) The lifting mechanism and platform shall be able to lift a minimum payload of eight hundred pounds.

(b) Lifts installed in all school buses shall be fully automatic, including folding and unfolding of the platform.

(2) Controls shall be provided that enable the operator to activate the lift mechanism from either inside or outside of the bus.

(3) A circuit breaker shall be installed between the power source and the lift motor.It shall be located as close to the power source as possible, but not within the passenger/driver compartment.

(4) School buses for the transportation of children with disabilities delivered to the state of Ohio after the effective date of this rule shall have the lift installed by the body manufacturer or authorized agent. The installation shall be certified and the documentation shall be provided by the installer. It shall be the responsibility of the installer to ensure the levelness of the vehicle after installation. The location of the lift shall not adversely affect the legal axle loading, the maneuverability, structural, or the safe operation of the vehicle in which it is installed.

(5) When the special service entrance is installed adjacent to the stepwell or has a seat or wheelchair position directly in front of or behind the special service entrance, a barrier panel shall be installed. The barrier panel shall prevent the possibility of a body limb from becoming entangled in the lift mechanism. The barrier panel may be flush to the outside wall of the bus or at a dimension that will prohibit a passenger from coming in contact with the lift mechanism. The panel may be constructed of aluminum or polycarbonate. The end of the barrier panel exposed to the passenger compartment shall be secured to a padded stanchion extending from the floor to the ceiling. The stanchion shall be attached to the roof bow or a reinforced panel in the ceiling. If the barrier panel is used in conjunction with a padded stanchion and modesty panel, it shall extend approximately six inches above the lift platform and extend beyond the stationary frame or the most inner part of the lift exposed to the passenger compartment. If the barrier panel is a separate installation, it shall be constructed of the same materials and extend from the floor to approximately six inches above the lift platform and extend beyond the stationary frame or the most inner part of the lift exposed to the passenger compartment. The barrier panel shall be in compliance with FMVSS 571.302 and 571.222.

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4501-5-04 Evaluation of new equipment or changes to existing equipment on school buses.

(A) Application – This rule shall apply to any manufacturer, dealer or owner of a school bus who wishes to incorporate or install any equipment or product other than those specified in rules 4501-5-01 to 4501-5-03 of the Administrative Code, including equipment or products the manufacturer, dealer or owner believes are equivalent or superior to equipment or products specified in those rules.

(B) Permission – Prior to the installation of new or additional equipment or products, or changes to any existing equipment on a school bus, the school bus manufacturer, dealer or owner shall request permission, in writing, from the director This request shall include, but is not limited to,

(1) A complete description of the item, including:

(a) Photographs or illustrations.

(b) Diagrams and/or informational pamphlets.

(c) Schematics, technical data, specifications, dimensions.

(d) Results of testing by an independent testing facility or laboratory specific to the product being tested.

(e) If the manufacturer, dealer or owner believes the equipment or product is equivalent or superior to those included in the specifications set forth in rules 4501-5-01 to 4501-5-03 of the Administrative Code, a statement explaining how this determination was made.

(2) If practical, actual models or samples of the equipment or product should be submitted.

(3) Complete cost estimates for the new or additional product, or equipment, including initial, cost and cost of installation, labor, maintenance, and continued use.

(4) An explanation of the expected benefits.

(5) A statement of the effect, whether positive or negative, the new or additional product, or equipment, will have on other construction standards contained in rules 4501-5-01 to 4501-5-03 of the Administrative Code, as well as on any other rules governing pupil transportation adopted by the department of public safety or the department of education.

(C) Upon receipt of a request for permission submitted pursuant to paragraph (B) of this rule, the department may take any of the following actions:

(1) Immediately approve or deny the request.

(2) Ask for additional information.

(3) Order field testing to be conducted in accordance with paragraph (D) of this rule.

(4) Seek guidance from the Ohio school bus construction standards advisory committee at the committee's next quarterly meeting. The committee shall make recommendations to the department regarding the action to be taken in response to the request.

(D) The department may order field testing of any new or additional equipment or products as part of the process of evaluating a request for permission submitted pursuant to paragraph (B) of this rule. The length and extent of the field test shall be determined by the department based on the nature of the product being tested, but shall be conducted on no fewer than three school buses. If a field test is being conducted pursuant to a request submitted by a school bus manufacturer, the manufacturer will be expected to maintain, adjust, and modify the equipment or product at no cost to the school bus owner. At the conclusion of the field test, an evaluation of the equipment or product shall be submitted on a form provided by the department by at least three school bus drivers, one school bus mechanic, and one school transportation director.

(E) The department shall either approve or deny the request for permission submitted pursuant to paragraph (B) of this rule after considering the materials submitted in support of the request, any recommendations made by the Ohio school bus construction standards committee, the results of any field tests conducted, and any other information available to the department. The manufacturer or the school owner will be notified in writing of the director's decision. If the request for permission is denied, the school bus manufacturer,

dealer or owner may appeal the denial in writing to the director. The director's decision on such appeal shall be final.

(F) Removal Based upon any information which may become available to the department regarding any equipment or products that have been approved pursuant to this rule for use on school buses, the director may remove such equipment or products from service. The manufacturer, dealer or the school owner will be notified in writing of the director's decision.

(1) Any item deleted from service shall be removed from the bus, unless written permission to retain it is given by the director.

(2) Any item which, at any time is determined to present a potential hazard to occupants of the school bus or other persons or property, shall be immediately removed from the school bus and any ongoing field test terminated.

(G) The department shall maintain a list of all equipment or products that have been approved pursuant to this rule for use in school buses. This list shall be made available upon request in writing to: the "Ohio State Highway Patrol Office of Licensing and Commercial Standards, Ohio Department of Public Safety, 1970 West Broad Street, Columbus, Ohio 43223."

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